



# SAR TEST REPORT

**Applicant** Huawei Technologies Co., Ltd.  
**FCC ID** QISBLA-L29  
**Product** Smart Phone  
**Model** BLA-L29  
**Report No.** RHA1709-0085SAR01R1  
**Issue Date** October 17, 2017

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **IEEE 1528- 2013, ANSI/ IEEE C95.1-1992**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

*Jiang peng Lan*

*Performed by: Jiangpeng Lan*

*Kai Xu*

*Approved by: Kai Xu*

**TA Technology (Shanghai) Co., Ltd.**

*No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China*

*TEL: +86-021-50791141/2/3*

*FAX: +86-021-50791141/2/3-8000*

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# 1 Test Laboratory

## 1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above. This report must not be used by the client to claim product certification, approval, or endorsement by any government agencies.

## 1.2 Test facility

### **CNAS (accreditation number: L2264)**

TA Technology (Shanghai) Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS).

### **FCC (Designation number: CN1179, Test Firm Registration Number: 446626)**

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

### **IC (recognition number is 8510A)**

TA Technology (Shanghai) Co., Ltd. has been listed by industry Canada to perform electromagnetic emission measurement.

### **VCCI (recognition number is C-4595, T-2154, R-4113, G-10766)**

TA Technology (Shanghai) Co., Ltd. has been listed by industry Japan to perform electromagnetic emission measurement.

### **A2LA (Certificate Number: 3857.01)**

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

### 1.3 Testing Location

Company: TA Technology (Shanghai) Co., Ltd.  
Address: No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China  
City: Shanghai  
Post code: 201201  
Country: P. R. China  
Contact: Xu Kai  
Telephone: +86-021-50791141/2/3  
Fax: +86-021-50791141/2/3-8000  
Website: <http://www.ta-shanghai.com>  
E-mail: [xukai@ta-shanghai.com](mailto:xukai@ta-shanghai.com)

### 1.4 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 $\Omega$
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

## 2 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for the EUT are as follows:

Table 2.1: Highest Reported SAR [Main Antenna (Antenna 1)]

Mode	Highest Reported SAR (W/kg)			
	1g SAR Head	1g SAR Body-worn (Separation 15mm)	1g SAR Hotspot (Separation 10mm)	Product Specific 10-g SAR (Separation 0mm/6mm)
GSM 850	0.342	0.473	0.891	NA
GSM 1900	0.181	0.289	0.599	1.527
WCDMA Band II	0.230	0.503	1.089	2.537
WCDMA Band IV	0.351	0.875	0.774	2.699
WCDMA Band V	0.333	0.371	0.532	NA
LTE FDD 2	0.228	0.540	0.682	2.304
LTE FDD 4	0.292	0.859	0.490	2.597
LTE FDD 5	0.273	0.262	0.393	NA
LTE FDD 7	0.255	0.310	0.603	NA
LTE FDD 12	0.251	0.221	0.294	NA
LTE FDD 17	0.242	0.220	0.296	NA
LTE FDD 26	0.249	0.334	0.464	NA
LTE TDD 38	0.217	0.189	0.452	NA
LTE TDD 41	0.227	0.246	0.440	NA
Date of Testing:	September 10, 2017~ September 27, 2017			
Note: The device is in compliance with SAR for Uncontrolled Environment /General Population exposure limits (1.6 W/kg and 4.0 W/kg) specified in ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013.				

Table 2.2: Highest Reported SAR [Sub Antenna (Antenna 2)]

Mode	Highest Reported SAR (W/kg)			
	1g SAR Head	1g SAR Body-worn (Separation 15mm)	1g SAR Hotspot (Separation 10mm)	Product Specific 10-g SAR (Separation 0mm/6mm)
GSM 850	0.801	0.252	0.297	NA
GSM 1900	0.686	0.154	0.203	NA
WCDMA Band II	0.670	0.303	0.277	NA
WCDMA Band IV	0.676	0.325	0.363	NA
WCDMA Band V	0.836	0.315	0.282	NA
LTE FDD 2	0.929	0.237	0.302	NA
LTE FDD 4	0.656	0.208	0.252	NA
LTE FDD 5	0.745	0.257	0.253	NA
LTE FDD 7	0.720	0.132	0.149	NA
LTE FDD 12	0.774	0.194	0.253	NA
LTE FDD 17	0.782	0.142	0.205	NA
LTE FDD 26	0.726	0.257	0.215	NA
LTE TDD 38	1.060	0.185	0.184	NA
LTE TDD 41	0.884	0.249	0.285	NA
Date of Testing:	September 10, 2017~ September 27, 2017			
<p>Note: The device is in compliance with SAR for Uncontrolled Environment /General Population exposure limits (1.6 W/kg and 4.0 W/kg) specified in ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013.</p>				

Table 2.1: Highest Reported SAR (Wi-Fi /BT Antenna)

Mode	Highest Reported SAR (W/kg)			
	1g SAR Head	1g SAR Body-worn (Separation 15mm)	1g SAR Hotspot (Separation 10mm)	Product Specific 10-g SAR (Separation 0mm/6mm)
Wi-Fi (2.4G) Antenna 1	0.582	0.209	0.524	NA
Wi-Fi (2.4G) Antenna 2	0.224	0.256	0.630	NA
Wi-Fi (5G) Antenna 1	0.538	0.261	0.231	0.488
Wi-Fi (5G) Antenna 2	0.445	0.399	0.159	0.318
Bluetooth	0.312	NA	0.055	NA
Date of Testing:	September 10, 2017~ September 27, 2017			
Note: The device is in compliance with SAR for Uncontrolled Environment /General Population exposure limits (1.6 W/kg and 4.0 W/kg) specified in ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013.				

Table 2.3: Highest Simultaneous Transmission SAR

Exposure Configuration	1g SAR Head	1g SAR Body-worn (Separation 15mm)	1g SAR Hotspot (Separation 10mm)	Product Specific 10-g SAR (Separation 0mm)
Highest Simultaneous Transmission SAR (W/kg)	1.594	1.485	1.752	3.945
Note: 1. The detail for simultaneous transmission consideration is described in chapter 10.4.				



### 3 Description of Equipment under Test

#### Client Information

<b>Applicant</b>	Huawei Technologies Co., Ltd.
<b>Applicant address</b>	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.China.
<b>Manufacturer</b>	Huawei Technologies Co., Ltd.
<b>Manufacturer address</b>	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.China.

**General Technologies**

Application Purpose:	Original Grant
EUT Stage	Identical Prototype
Model:	BLA-L29
IMEI:	SIM 1: 866219030003866 SIM 2: 866219030014863
Hardware Version:	HL1BLAM
Software Version:	BLA-L29 8.0.0.69(C432)
Antenna Type:	Internal Antenna
Device Class:	B
Wi-Fi Hotspot	Wi-Fi 2.4G Wi-Fi 5G U-NII-1&U-NII-3
Power Class:	GSM 850:4 GSM 1900:1 UMTS Band II/IV/V:3 LTE FDD 2/4/5/7/12/17/26:3 LTE TDD 38/41:3
Power Level	GSM 850:level 5 GSM 1900:level 0 UMTS Band II/IV/V:all up bits LTE FDD 2/4/5/7/12/17/26:max power LTE TDD 38/41:max power
EUT Accessory	
Battery 1	Manufacturer: SCUD (FUJIAN) Electronics Co., Ltd Model: HB436486ECW Power Rating: DC 3.82V, 3900mAh, Li-ion
Battery 2	Manufacturer: Sunwoda Electronic Co., LTD Model: HB436486ECW Power Rating: DC 3.82V, 3900mAh, Li-ion
Battery 3	Manufacturer: Desay Battery Co., Ltd. Model: HB436486ECW Power Rating: DC 3.82V, 3900mAh, Li-ion
Earphone 1	Manufacturer: JIANGXI LIANCHUANG HONGSHENG ELECTRONIC CO., LTD Model: MEND1632B729000
Earphone 2	Manufacturer: BOLUO COUNTY QUANCHENG ELECTRONIC CO., LTD Model: 1311-3301-6001-TC-296
Earphone 3	Manufacturer: Goer Tek Inc Model: WINDY-C
Earphone 4	Manufacturer: MERRY ELECTRONICS (SHENZHEN) CO., LTD. Model: L99EP003-CS-H



Earphone 5	Manufacturer: JIANGXI LIANCHUANG HONGSHENG ELECTRONIC CO., LTD Model: MEND1632B729001
Earphone 6	Manufacturer: BOLUO COUNTY QUANCHENG ELECTRONIC CO., LTD Model: 1311-3301-6001-TC-305

**Wireless Technology and Frequency Range**

Wireless Technology		Modulation	Operating mode	Tx (MHz)
GSM	850	Voice(GMSK) GPRS(GMSK) EGPRS(GMSK,8PSK)	<input type="checkbox"/> Multi-slot Class:8-1UP <input type="checkbox"/> Multi-slot Class:10-2UP <input checked="" type="checkbox"/> Multi-slot Class:12-4UP <input type="checkbox"/> Multi-slot Class:33-4UP	824 ~ 849
	1900			1850 ~ 1910
Does this device support DTM (Dual Transfer Mode)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
UMTS	Band II	QPSK	HSDPA UE Category:24 HSUPA UE Category:6 DC-HSDPA UE Category:24 HSPA+ Category:24	1850 ~ 1910
	Band IV			1710 ~ 1755
	Band V			824 ~ 849
LTE	FDD 2	QPSK, 16QAM, 64QAM	Category 18	1850 ~ 1910
	FDD 4			1710 ~ 1755
	FDD 5			824 ~ 849
	FDD 7			2500 ~ 2570
	FDD 12			699 ~ 716
	FDD 17			704 ~ 716
	FDD 26			814 ~ 849
	TDD 38			2570 ~ 2620
	TDD 41			2545 ~ 2655
Does this device support Carrier Aggregation (CA) <input checked="" type="checkbox"/> Yes downlink only <input type="checkbox"/> No				
Does this device support SV-LTE (1xRTT-LTE)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
BT	2.4G	Version 4.2 LE		2402 ~2480
Wi-Fi	2.4G	DSSS, OFDM	802.11b/g/n (HT20)	2402 ~2472
	5G	OFDM	802.11a/n 20M/40M/ ac 20M/40M/80M	5150 ~ 5350 5470 ~ 5850
Does this device support MIMO <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
NFC	13.56MHz			



## 4 Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE 1528- 2013, ANSI/IEEE C95.1-1992, the following FCC Published RF exposure KDB procedures:

248227 D01 802.11 Wi-Fi SAR v02r02  
447498 D01 General RF Exposure Guidance v06  
616217 D04 SAR for laptop and tablets v01r02  
648474 D04 Handset SAR v01r03  
690783 D01 SAR Listings on Grants v01r03  
865664 D01 SAR measurement 100 MHz to 6 GHz v01r04  
865664 D02 RF Exposure Reporting v01r02  
941225 D01 3G SAR Procedures v03r01  
941225 D05 SAR for LTE Devices v02r05  
941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02  
941225 D06 Hotspot Mode v02r01

## 5 Operational Conditions during Test

### 5.1 Test Positions

#### 5.1.1 Against Phantom Head

Measurements were made in “cheek” and “tilt” positions on both the left hand and right hand sides of the phantom.

The positions used in the measurements were according to IEEE 1528 - 2013 "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques".

#### 5.1.2 Body Worn Configuration

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations.

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration. Per FCC KDB Publication 648474 D04, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is  $> 1.2$  W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented. Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

### 5.1.3 Phablet SAR test considerations

For smart phones, with a display diagonal dimension  $> 15.0$  cm or an overall diagonal dimension  $> 16.0$  cm, that can provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets and support voice calls next to the ear, unless it is confirmed otherwise through KDB inquiries, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance.

- a) The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.
- b) The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at  $\leq 25$  mm from that surface or edge, in direct contact with a flat phantom, for Product Specific 10-g SAR according to the body-equivalent tissue dielectric parameters in KDB Publication 865664 D01 to address interactive hand use exposure conditions. The 1-g SAR at 5 mm for UMPC mini-tablets is not required. When hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR  $> 1.2$  W/kg; however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold. The normal tablet procedures in KDB Publication 616217 are required when the overall diagonal dimension of the device is  $> 20.0$  cm. Hotspot mode SAR is not required when normal tablet procedures are applied. Extremity 10-g SAR is also not required for the front (top) surface of larger form factor full size tablets. The more conservative normal tablet SAR results can be used to support phablet mode Product Specific 10-g SAR.
- c) The simultaneous transmission operating configurations applicable to voice and data transmissions for both phone and mini-tablet modes must be taken into consideration separately for 1-g and 10-g SAR to determine the simultaneous transmission SAR test exclusion and measurement requirements for the relevant wireless modes and exposure conditions.

## 5.2 Measurement Variability

Per FCC KDB Publication 865664 D01, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media were required for SAR measurements in a frequency band, the variability measurement procedures were applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. These additional measurements were repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR Measurement Variability was assessed using the following procedures for each frequency band:

- 1) When the original highest measured SAR is  $\geq 0.80$  W/kg, the measurement was repeated once.
- 2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was  $> 1.20$  or when the original or repeated measurement was  $\geq 1.45$  W/kg (~ 10% from the 1-g SAR limit).
- 3) A third repeated measurement was performed only if the original, first or second repeated measurement was  $\geq 1.5$  W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is  $> 1.20$ .
- 4) Repeated measurements are not required when the original highest measured SAR is  $< 0.80$  W/kg

The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.

## 5.3 Test Configuration

### 5.3.1 GSM Test Configuration

According to specification 3GPP TS 51.010, the maximum power of the GSM can do the power reduction for the multi-slot. The allowed power reduction in the multi-slot configuration is as following:

Output power of reductions:

**Table 5.1: The allowed power reduction in the multi-slot configuration**

Number of timeslots in uplink assignment	Permissible nominal reduction of maximum output power,(dB)
1	0
2	0 to 3,0
3	1,8 to 4,8
4	3,0 to 6,0

### 5.3.2 3G Test Configuration

#### 3G SAR Test Reduction Procedure

In the following procedures, the mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode.<sup>3</sup> This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

#### 5.3.2.1 WCDMA Test Configuration

##### Output power Verification

Maximum output power is verified on the high, middle and low channels according to procedures described in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all “1’s” for WCDMA/HSDPA or by applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HSDPA, HSPA) are required in the SAR report. All configurations that are not supported by the handset or cannot be measured due to technical or equipment limitations must be clearly identified.

##### Head SAR

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure.

##### Body-Worn Accessory SAR

SAR for body-worn accessory configurations is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreading code or DPDCHn, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When more than 2 DPDCHn are supported by the handset, it may be necessary to configure additional DPDCHn using FTM (Factory Test Mode) or other chipset based test approaches with parameters similar to those used in 384 kbps and 768 kbps RMC.



**Handsets with Release 5 HSDPA**

The 3G SAR test reduction procedure is applied to HSDPA body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSDPA using the HSDPA body SAR procedures in the “Release 5 HSDPA Data Devices” section of this document, for the highest reported SAR body-worn accessory exposure configuration in 12.2 kbps RMC. Handsets with both HSDPA and HSUPA are tested according to Release 6 HSPA test procedures.

HSDPA should be configured according to the UE category of a test device. The number of HSDSCH/ HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms with a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors( $\beta_c$ ,  $\beta_d$ ), and HS-DPCCH power offset parameters ( $\Delta_{ACK}$ ,  $\Delta_{NACK}$ ,  $\Delta_{CQI}$ ) should be set according to values indicated in the Table below. The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

**Table 5.2: Subtests for UMTS Release 5 HSDPA**

Sub-set	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{hs}$ (note 1, note 2)	CM(dB) (note 3)	MPR(dB)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (note 4)	15/15 (note 4)	64	12/15 (note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note1:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$   
 Note2: CM=1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ .  
 Note3: For subtest 2 the  $\beta_c/\beta_d$  ratio of 12/15 for the TFC during the measurement period(TF1,TF0) is achieved by setting the signaled gain factors for the reference TFC (TFC1,TF1) to  $\beta_c = 11/15$  and  $\beta_d = 15/15$ .

**HSUPA Test Configuration**

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSPA using the HSPA body SAR procedures in the “Release 6 HSPA Data Devices” section of this document, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When VOIP is applicable for next to the ear head exposure in HSPA, the 3G SAR test reduction procedure is applied to HSPA with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body-worn accessory measurements is tested for next to the ear head exposure.

Due to inner loop power control requirements in HSPA, a communication test set is required for output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSPA are configured according to the  $\beta$  values indicated in Table 2 and other applicable procedures described in the ‘WCDMA Handset’ and ‘Release 5 HSDPA Data Devices’ sections of this document

**Table 5.3: Sub-Test 5 Setup for Release 6 HSUPA**

Sub-set	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{hs}^{(1)}$	$\beta_{ec}$	$\beta_{ed}$	$\beta_{ed}$ (SF)	$\beta_{ed}$ (codes)	CM <sup>(2)</sup> (dB)	MPR (dB)	AG <sup>(4)</sup> Index	E-TFCI
1	11/15 <sup>(3)</sup>	15/15 <sup>(3)</sup>	64	11/15 <sup>(3)</sup>	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}$ 47/15 $\beta_{ed2}$ 47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 <sup>(4)</sup>	15/15 <sup>(4)</sup>	64	15/15 <sup>(4)</sup>	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1:  $\Delta_{ACK}, \Delta_{NACK}$  and  $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$ .

Note 2: CM = 1 for  $\beta_c/\beta_d = 12/15, \beta_{hs}/\beta_c = 24/15$ . For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the  $\beta_c/\beta_d$  ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 10/15$  and  $\beta_d = 15/15$ .

Note 4: For subtest 5 the  $\beta_c/\beta_d$  ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 14/15$  and  $\beta_d = 15/15$ .

Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Figure 5.1g.

Note 6:  $\beta_{ed}$  can not be set directly; it is set by Absolute Grant Value.

**Table 5.4: HSUPA UE category**

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCH TTI (ms)	Minimum Spreading Factor	Maximum E-DCH Transport Block Bits	Max Rate (Mbps)
1	1	4	10	4	7110	0.7296
2	2	8	2	4	2798	1.4592
	2	4	10	4	14484	
3	2	4	10	4	14484	1.4592
4	2	8	2	2	5772	2.9185
	2	4	10	2	20000	2.00
5	2	4	10	2	20000	2.00
6 (No DPDCH)	4	8	2	2 SF2 & 2 SF4	11484	5.76
	4	4	10		20000	2.00
7 (No DPDCH)	4	8	2	2 SF2 & 2 SF4	22996	?
	4	4	10		20000	?

NOTE: When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4.  
 UE Categories 1 to 6 supports QPSK only. UE Category 7 supports QPSK and 16QAM. (TS25.306-7.3.0)

## HSPA, HSPA+ and DC-HSDPA Test Configuration

Measurement is required for HSPA, HSPA+ or DC-HSDPA, a KDB inquiry is required to confirm that the wireless mode configurations in the test setup have remained stable throughout the SAR measurements.<sup>35</sup> Without prior KDB confirmation to determine the SAR results are acceptable, a PBA is required for TCB approval.

SAR test exclusion for HSPA, HSPA+ and DC-HSDPA is determined according to the following:

1) The HSPA procedures are applied to configure 3GPP Rel. 6 HSPA devices in the required sub-test mode(s) to determine SAR test exclusion.

2) SAR is required for Rel. 7 HSPA+ when SAR is required for Rel. 6 HSPA; otherwise, the 3G SAR test reduction procedure is applied to (uplink) HSPA+ with 12.2 kbps RMC as the primary mode.<sup>36</sup> Power is measured for HSPA+ that supports uplink 16 QAM according to configurations in Table C.11.1.4 of 3GPP TS 34.121-1 to determine SAR test reduction.

3) SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.

4) Regardless of whether a PBA is required, the following information must be verified and included in the SAR report for devices supporting HSPA, HSPA+ or DC-HSDPA: a) The output power measurement results and applicable release version(s) of 3GPP TS 34.121.

i) Power measurement difficulties due to test equipment setup or availability must be resolved between the grantee and its test lab.

b) The power measurement results are in agreement with the individual device implementation and specifications. When Enhanced MPR (E-MPR) applies, the normal MPR targets may be modified according to the Cubic Metric (CM) measured by the device, which must be taken into consideration.

c) The UE category, operating parameters, such as the  $\beta$  and  $\Delta$  values used to configure the device for testing, power setback procedures described in 3GPP TS 34.121 for the power measurements, and HSPA/HSPA+ channel conditions (active and stable) for the entire duration of the measurement according to the required E-TFCl and AG index values.

5) When SAR measurement is required, the test configurations, procedures and power measurement results must be clearly described to confirm that the required test parameters are used, including E-TFCl and AG index stability and output power conditions.

**Table 5.5: HS-DSCH UE category**

**Table 5.1a: FDD HS-DSCH physical layer categories**

HS-DSCH category	Maximum number of HS-DSCH codes received	Minimum inter-TTI interval	Maximum number of bits of an HS-DSCH transport block received within an HS-DSCH TTI NOTE 1	Total number of soft channel bits	Supported modulations without MIMO operation or dual cell operation	Supported modulations with MIMO operation and without dual cell operation	Supported modulations with dual cell operation
Category 1	5	3	7298	19200	QPSK, 16QAM	Not applicable (MIMO not supported)	Not applicable (dual cell operation not supported)
Category 2	5	3	7298	28800			
Category 3	5	2	7298	28800			
Category 4	5	2	7298	38400			
Category 5	5	1	7298	57600			
Category 6	5	1	7298	67200			
Category 7	10	1	14411	115200			
Category 8	10	1	14411	134400			
Category 9	15	1	20251	172800			
Category 10	15	1	27952	172800			
Category 11	5	2	3630	14400	QPSK	Not applicable (dual cell operation not supported)	
Category 12	5	1	3630	28800	QPSK, 16QAM, 64QAM		
Category 13	15	1	35280	259200			
Category 14	15	1	42192	259200	QPSK, 16QAM		
Category 15	15	1	23370	345600			
Category 16	15	1	27952	345600	QPSK, 16QAM, 64QAM		-
Category 17 NOTE 2	15	1	35280	259200			
			23370	345600	-		QPSK, 16QAM
Category 18 NOTE 3	15	1	42192	259200	QPSK, 16QAM, 64QAM		-
			27952	345600	-		QPSK, 16QAM
Category 19	15	1	35280	518400	QPSK, 16QAM, 64QAM		
Category 20	15	1	42192	518400			
Category 21	15	1	23370	345600	-	-	QPSK, 16QAM
Category 22	15	1	27952	345600			
Category 23	15	1	35280	518400			
Category 24	15	1	42192	518400			QPSK, 16QAM, 64QAM

**5.3.3 LTE Test Configuration**

LTE modes were tested according to FCC KDB 941225 D05 publication. Please see notes after the tabulated SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 was used for LTE output power measurements and SAR testing. Max power control was used so the UE transmits with maximum output power during SAR testing. SAR must be measured with the maximum TTI (transmit time interval) supported by the device in each LTE configuration.

**A) Spectrum Plots for RB Configurations**

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

**B) MPR**

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

**C) A-MPR**

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

**D) Largest channel bandwidth standalone SAR test requirements**

## 1) QPSK with 1 RB allocation

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is  $\leq 0.8$  W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is  $> 1.45$  W/kg, SAR is required for all three RB offset configurations for that required test channel.

## 2) QPSK with 50% RB allocation

The procedures required for 1 RB allocation in 1) are applied to measure the SAR for QPSK with 50% RB allocation.

## 3) QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in 1) and 2) are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.

## 4) Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in above sections to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is  $> \frac{1}{2}$  dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is  $> 1.45$  W/kg.

**E) Other channel bandwidth standalone SAR test requirements**

For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is  $> \frac{1}{2}$  dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the *reported* SAR of a configuration for the largest channel bandwidth is  $> 1.45$  W/kg.

### 5.3.4 TDD LTE specification

For Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

TDD LTE Band supports 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special subframe configurations.

Figure 4.2-1: Frame structure type 2

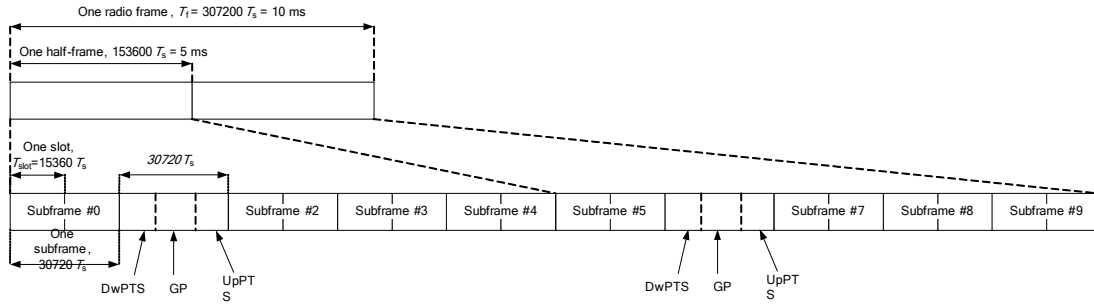


Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$			$7680 \cdot T_s$		
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-		
9	$13168 \cdot T_s$			-	-	-

**Table 4.2-2: Uplink-downlink configurations**

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

According to Figure 4.2-1, one radio frame is configured by 10 subframes, which consist of Uplink-subframe, Downlink-subframe and Special subframe. For TDD-LTE, the Duty Cycle should be calculated on Uplink-subframes and Special subframes, due to Special subframe containing both Uplink transmissions. So for one radio frame, Duty Cycle can be calculated with formula as below. The count of Uplink subframes are according to Table 4.2-2:

$$\text{Duty cycle} = \frac{(30720Ts * \text{Ups} + \text{Uplink Component} * \text{Specials})}{(307200Ts)}$$

About the uplink component of Special subframes, we can figure out by Table 4.2-1:

$$\text{Uplink Component} = \text{UpPTS}$$

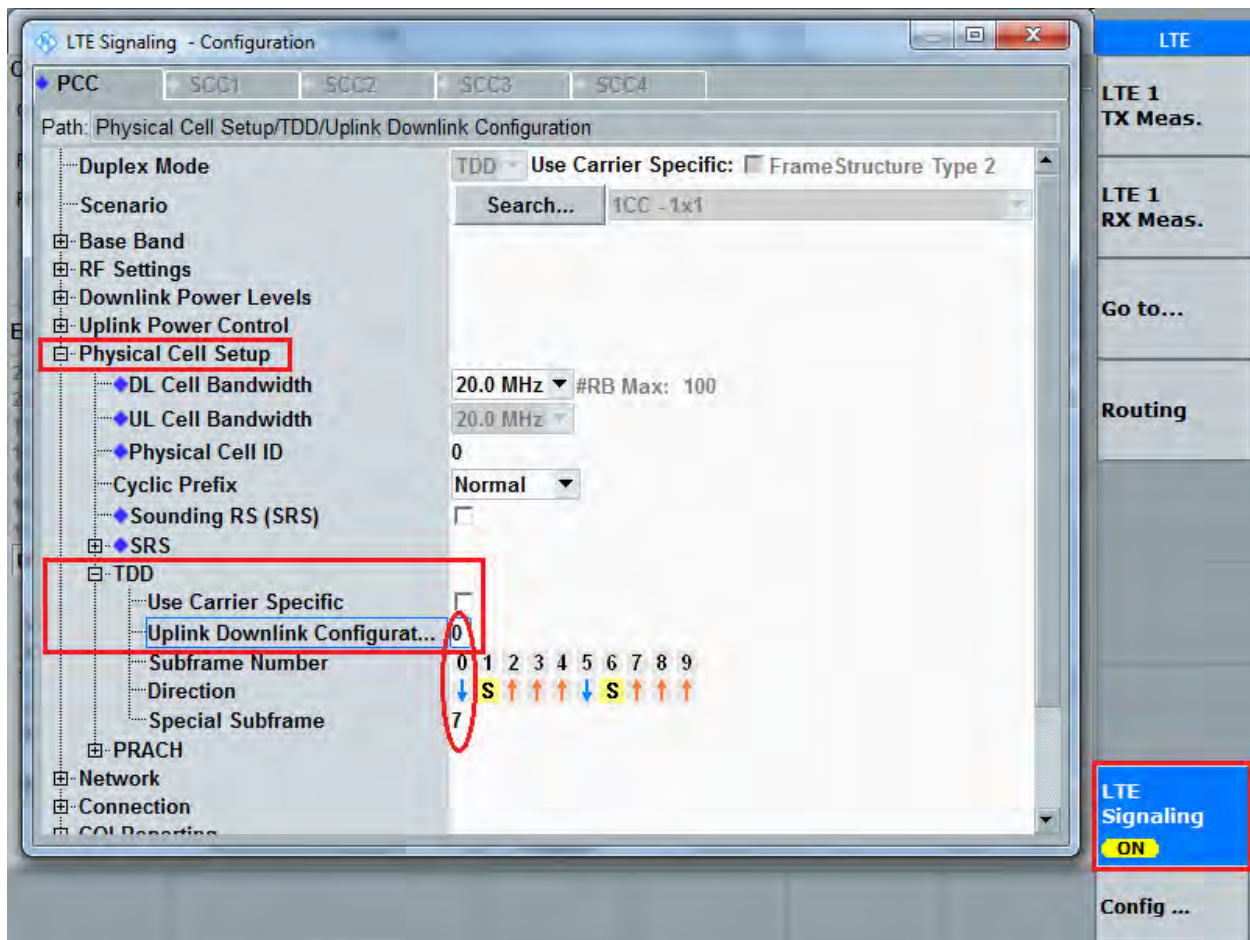
In conclusion, for the TDD LTE Band, Duty Cycle can be calculated with formula as below .all these sets are ok when we test, or we can set as below.

$$\text{Duty cycle} = \frac{[(30720Ts * \text{Ups}) + \text{UpPTS} * \text{Specials}]}{(307200Ts)}$$

And we can get different Duty cycles under different configurations:

Uplink-downlink configuration	Subframe number			Configuration of special subframe							
				Normal cyclic prefix in downlink				Extended cyclic prefix in downlink			
	D	S	U	Normal cyclic prefix in uplink		Extended cyclic prefix in uplink		Normal cyclic prefix in uplink		Extended cyclic prefix in uplink	
				configuration 0~4	configuration 5~9	configuration 0~4	configuration 5~9	configuration 0~3	configuration 4~7	configuration 0~3	configuration 4~7
0	2	2	6	61.43%	62.85%	61.67%	63.33%	61.43%	62.85%	61.67%	63.33%
1	4	2	4	41.43%	42.85%	41.67%	43.33%	41.43%	42.85%	41.67%	43.33%
2	6	2	2	21.43%	22.85%	21.67%	23.33%	21.43%	22.85%	21.67%	23.33%
3	6	1	3	30.71%	31.43%	30.83%	31.67%	30.71%	31.43%	30.83%	31.67%
4	7	1	2	20.71%	21.43%	20.83%	21.67%	20.71%	21.43%	20.83%	21.67%
5	8	1	1	10.71%	11.43%	10.83%	11.67%	10.71%	11.43%	10.83%	11.67%
6	3	2	5	51.43%	52.85%	51.67%	53.33%	51.43%	52.85%	51.67%	53.33%

SAR test Plan: For TDD LTE, SAR should be tested with the highest transmission duty factor (63.33%) using Uplink-downlink configuration 0 and Special subframe configuration 7 for Frame structure type



### 5.3.5 Wi-Fi Test Configuration

SAR test reduction for 802.11 Wi-Fi transmission mode configurations are considered separately for DSSS and OFDM. An initial test position is determined to reduce the number of tests required for certain exposure configurations with multiple test positions. An initial test configuration is determined for each frequency band and aggregated band according to maximum output power, channel bandwidth, wireless mode configurations and other operating parameters to streamline the measurement requirements. For 2.4 GHz DSSS, either the initial test position or DSSS procedure is applied to reduce the number of SAR tests; these are mutually exclusive. For OFDM, an initial test position is only applicable to next to the ear, UMPC mini-tablet and hotspot mode configurations, which is tested using the initial test configuration to facilitate test reduction. For other exposure conditions with a fixed test position, SAR test reduction is determined using only the initial test configuration.

The multiple test positions require SAR measurements in head, hotspot mode or UMPC mini-tablet configurations may be reduced according to the highest reported SAR determined using the *initial test position(s)* by applying the DSSS or OFDM SAR measurement procedures in the required wireless mode test configuration(s). The *initial test position(s)* is measured using the highest measured maximum output power channel in the required wireless mode test configuration(s). When the *reported SAR* for the *initial test position* is:

- $\leq 0.4$  W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and wireless mode combination within the frequency band or aggregated band. DSSS and OFDM configurations are considered separately according to



the required SAR procedures.

- 0.4 W/kg, SAR is repeated using the same wireless mode test configuration tested in the *initial test position* to measure the subsequent next closet/smallest test separation distance and maximum coupling test position, on the highest maximum output power channel, until the *reported SAR* is  $\leq 0.8$  W/kg or all required test positions are tested.
  - ✧ For subsequent test positions with equivalent test separation distance or when exposure is dominated by coupling conditions, the position for maximum coupling condition should be tested.
  - ✧ When it is unclear, all equivalent conditions must be tested.
- For all positions/configurations tested using the *initial test position* and subsequent test positions, when the *reported SAR* is  $> 0.8$  W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the *reported SAR* is  $\leq 1.2$  W/kg or all required test channels are considered.
  - ✧ The additional power measurements required for this step should be limited to those necessary for identifying subsequent highest output power channels to apply the test reduction.

To determine the initial test position, Area Scans were performed to determine the position with the Maximum Value of SAR (measured). The position that produced the highest Maximum Value of SAR is considered the worst case position; thus used as the initial test position.

A Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement. This RF signal utilized in SAR measurement has almost 100% duty cycle and its crest factor is 1.

### 5.3.6 BT Test Configuration

For BT SAR testing, BT engineering testing software installed on the EUT can provide continuous transmitting RF signal with maximum output power. And the CBT control the EUT operating with hopping off and data rate set for 3DH5. This RF signal utilized in SAR measurement has almost 100% duty cycle and its crest factor is 1.

### 5.3.7 Downlink LTE CA specification

The device supports downlink Rel. 13 LTE carrier aggregation only. It supports a maximum of 2 carriers in the downlink. Other Release 13 features are not supported, including Uplink Carrier Aggregation, Enhanced SC-FDMA and Uplink MIMO etc.

Intra-band contiguous CA configurations

E-UTRA CA configuration / Bandwidth combination set						
E-UTRA CA configuration	Component carriers in order of increasing carrier frequency				Maximum aggregated bandwidth [MHz]	Bandwidth combination set
	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]		
CA_2C	5	20			40	0
	10	15, 20				
	15	10, 15, 20				
	20	5, 10, 15, 20				
CA_5B	5, 10	10			20	0
	10	5				
CA_7C	15	15			40	0
	20	20				
	10	20			40	1
	15	15, 20				
	20	10, 15, 20			40	2
	15	10, 15				
20	15, 20					
CA_12B	5	5, 10			15	0
CA_38C	15	15			40	0
	20	20				
	20	10, 15	20			
	20	20	10, 15			
CA_41C	10	20			40	0
	15	15, 20				
	20	10, 15, 20				
	5, 10	20			40	1
	15	15, 20				
	20	5, 10, 15, 20				
	10	15, 20			40	2
	15	10, 15, 20				
	20	10, 15, 20				
	10	20			40	3
20	20					
CA_41D	10	20	15		60	0



	10	15, 20	20		
	15	20	10, 15		
	15	10, 15, 20	20		
	20	15, 20	10		
	20	10, 15, 20	15, 20		

NOTE 1: The CA configuration refers to an operating band and a CA bandwidth class specified in Table 5.6A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.  
 NOTE 2: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal.  
 NOTE 3: Uplink CA configurations are the configurations supported by the present release of specifications.

**Inter-band CA configurations**

E-UTRA CA Configuration	E-UTRA Bands	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	Maximum aggregated bandwidth [MHz]	Bandwidth combination set
CA_2A-5A	2			Yes	Yes	Yes	Yes	30	0
	5			Yes	Yes				
	2			Yes	Yes			20	1
	5			Yes	Yes				
CA_2A-12A	2			Yes	Yes	Yes	Yes	30	0
	12			Yes	Yes				
	2			Yes	Yes	Yes	Yes	30	1
	12		Yes	Yes	Yes				
	2			Yes	Yes			20	2
	12			Yes	Yes				
CA_2A-12B	2			Yes	Yes	Yes	Yes	35	0
	12	See CA_12B Bandwidth Combination Set 0 in table 5.4.2A.1-1							
CA_2A-17A	2			Yes	Yes			20	0
	17			Yes	Yes				
CA_4A-5A	4			Yes	Yes			20	0
	5			Yes	Yes				
	4			Yes	Yes	Yes	Yes	30	1
	5			Yes	Yes				
CA_4A-12A	4	Yes	Yes	Yes	Yes			20	0
	12			Yes	Yes				
	4	Yes	Yes	Yes	Yes	Yes	Yes	30	1
	12			Yes	Yes				
	4			Yes	Yes	Yes	Yes	30	2
	12		Yes	Yes	Yes				
	4			Yes	Yes			20	3
	12			Yes	Yes				
4			Yes	Yes	Yes	Yes	30	4	



	12			Yes	Yes				
	4			Yes	Yes	Yes			
	12			Yes				20	5
CA_4A-12B	4			Yes	Yes	Yes	Yes	35	0
	12	See CA_12B Bandwidth Combination Set 0 in Table 5.4.2A.1-1							
CA_4A-17A	4			Yes	Yes			20	0
	17			Yes	Yes				
CA_5A-7A	5	Yes	Yes	Yes	Yes			30	0
	7				Yes	Yes	Yes		
	5			Yes	Yes			30	1
	7				Yes	Yes	Yes		
CA_7A-12A	7			Yes	Yes	Yes	Yes	30	0
	12			Yes	Yes				

## Note:

- 1) For the inter-band CA combinations, Except CA\_4A-12A, CA\_4A-12B, CA\_4A-17A, B12/B17 cannot be PCC, other the listed bands above can be used as PCC or SCC.
- 2) The channel spacing and aggregated channel bandwidth for CA are identical to the associated specification in 3GPP TS 36.101 V13.5.0 (2016-09).
- 3) The reference test frequencies for CA refers to 3GPP TS 36.508 V13.1.0(2016-09)

### 5.3.8 Dynamic Antenna Switching for 2G/3G/4G Antennas

The device supports the dynamic antenna switching function to optimize transmission efficiency for wide range frequency operations. It has two 2G/3G/4G Tx antennas (Main Antenna and Secondary Antenna). It can transmit from either Main Antenna (Ant1) or Secondary Antenna (Ant 2).

The device used a DPDT (Double Pole Double Throw) switch to achieve a dynamic antenna switching which is based on the antennas RSSI (Received Signal Strength Indication) comparison and Switch Algorithm. The antenna switching threshold is set to a fixed value (3 dB). The software will choose the Antenna with better RSSI as the main operating Tx antenna by comparing the RSSI between Ant1 and Ant 2. When the RSSI of Ant2 is 3 dB higher than Ant1, then the Ant2 will be chosen as the main operating Tx antenna. The switching will refer to all of the 2G/3G/4G operation bands.

The fixture is as below:

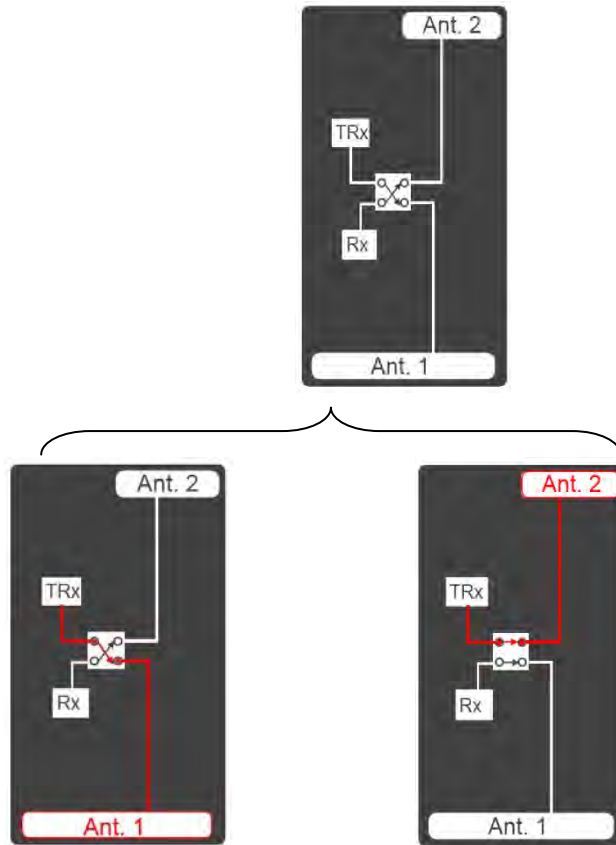


Fig 5.3.8-1 The Main Antenna (Ant1) and Secondary Antenna (Ant 2) support the same 2G/3G/4G operating bands. They have the same RF access.

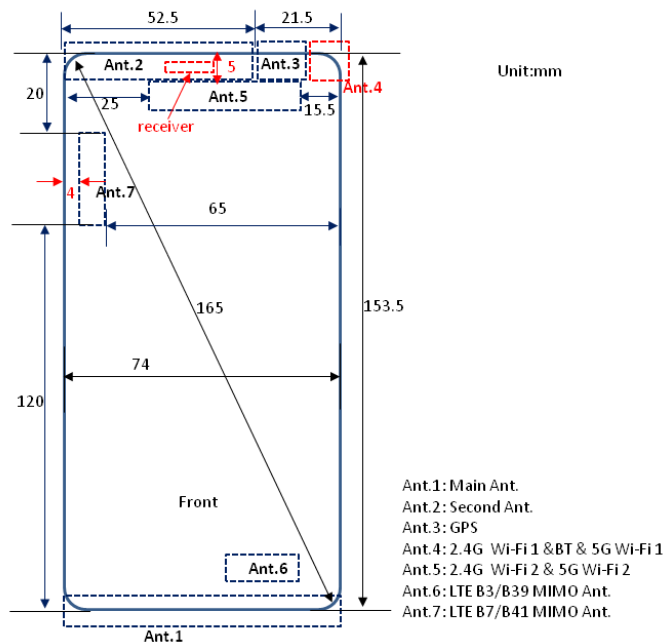


Fig 5.3.8-2 The Main Antenna (Ant1) and Secondary Antenna (Ant 2) support the same 2G/3G/4G operating bands. Main antenna (Ant1) and Secondary antenna (Ant 2) can't transmit simultaneously which will be chosen based on the RSSI. Only one antenna can be used for 2G/3G/4G transmission at a time. Ant.6 and Ant.7 can only support Rx function, Ant.6 supports DL LTE 4\*4 MIMO (Band LTE



B3 and LTE B39), Ant.7 supports DL LTE 4\*4 MIMO (Band LTE B7 and LTE B41).

For Dynamic antenna switching SAR test, set the Main Antenna / Secondary Antenna to the MAX transmit power level respectively and test the SAR respectively in all applicable RF exposure conditions. Some AT commands or test scripts are supplied to fix the DPDT operation state and choose the antenna, so that only one TX antenna (the Main Antenna or Secondary Antenna) is chosen at a time. All independent antennas and modems will be completely covered by the appropriate SAR measurements and all simultaneous transmission possibilities will be fully considered.

### 5.3.9 Dynamic Antenna Switching and WIFI CDD Techniques for WIFI Antennas

#### 5.3.9.1 WiFi dynamic switching

The device also supports the dynamic antenna switching function for 802.11b 2.4G WiFi .The device has two Wi-Fi Tx antennas (Main Wi-Fi &BT antenna and Sub WiFi Antenna). The 802.11b Wi-Fi dynamic switching is based on diversity technology. In 802.11b diversity mode, Wi-Fi function is able to judge the one of the two paths with the higher RSSI and select it as the Tx/Rx path dynamically in order to gain the best performance. The switch status hasn't any influence to RF conducted parameters. 802.11b Main Wi-Fi antenna and 802.11b Sub Wi-Fi Antenna can not transmit simultaneously.

**Switch condition:** Select the path based on higher RSSI of the antennas. Just the emission path is switched between two fixed antennas.

For 802.11b Wi-Fi SAR test, set the Main Wi-Fi Antenna / Sub Wi-Fi Antenna to the MAX transmit power level respectively and test the SAR respectively in all applicable RF exposure conditions per KDB248227D01. Only one Wi-Fi TX antenna is chosen at a time.It is conservative enough to ensure the SAR compliance.

#### 5.3.9.2 802.11g/a WIFI CDD Techniques and 802.11 n/ac MIMO

CDD is able to be adopted in the product when Wi-Fi working in 802.11g/a mode.

CDD is a kind of transmit diversity mechanism implemented by applying a different phase delay (cyclic phase delay) for each OFDM subcarrier.

It is used in spatial multiplexing to increase diversity between the two spatial paths.

In CDD mode, both of the Wi-Fi Tx antennas are transmitting the same information with the same datarate, at the same channel and the same time.

CDD means it is not one but two paths of Wi-Fi transmitting as the same time.

For 802.11n/ac modes, the device supports both Wi-Fi MIMO mode and Wi-Fi SISO mode. In Wi-Fi SISO mode, only one antenna transmit at a time, it can be the main Wi-Fi antenna or the sub Wi-Fi antenna. In Wi-Fi MIMO mode, two Wi-Fi antenna transmit at the same time.

Wireless technology	Supporting Bands and Modes
WLAN SISO	WiFi 2.4G 802.11b/11g/11n, WiFi 5G 802.11a/11n/11ac
WLAN MIMO	WiFi 2.4G 802.11n, WiFi 5G 802.11n/11ac
WLAN CDD	WiFi 2.4G 802.11g, WiFi 5G 802.11a

For 802.11g/a WIFI CDD and 802.11n/ac Wi-Fi MIMO SAR test, only the scenario two Wi-Fi antenna transmitting at the same time are supported and need to be considered. The common Initial Test Position and OFDM Initial Test Configuration Procedures per KDB 248227D01 are applied for 2.4G Wi-Fi 802.11g/n and 5G Wi-Fi 802.11a/n/ac SAR test respectively in all applicable RF exposure conditions.

### 5.3.10 Proximity Sensor Configuration

This device uses one sensor chip and two proximity sensors (metallic electrode) to reduce the maximum output power in selected wireless mode and operating configurations to ensure SAR compliance. The two sensors are applied to one same 2G/3G/4G main antenna. One proximity sensor shares the same metallic electrode with the 2G/3G/4G main antenna and the other is a floating metal sheet, which has a minor offset from the main antenna. The two proximity sensors (metallic electrode) are called as proximity sensor channel-1 and proximity sensor channel-2. The sensors implementation can identify and facilitate triggering different max power levels for different scenarios including the device held by hand (Extremity) and different exposure test positions test positions (Front side/Back side/Bottom side) when the device is closed to a user's body. The main purpose for the implementation is to distinguish the scenarios of Body and Extremity, minimize triggering associated with power reduction for different scenarios and provide enhanced user experience.

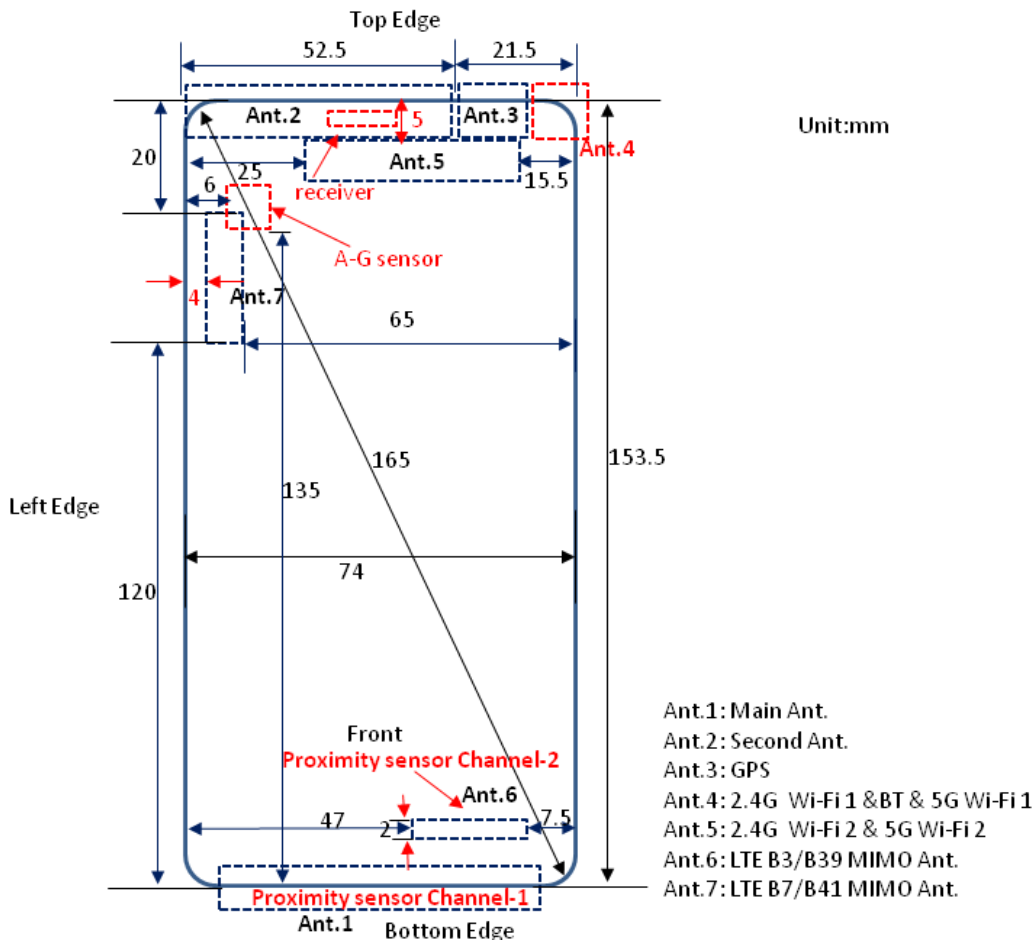


Fig 5.3.10-1 The location of the proximity sensor channel-1 and proximity sensor channel-2

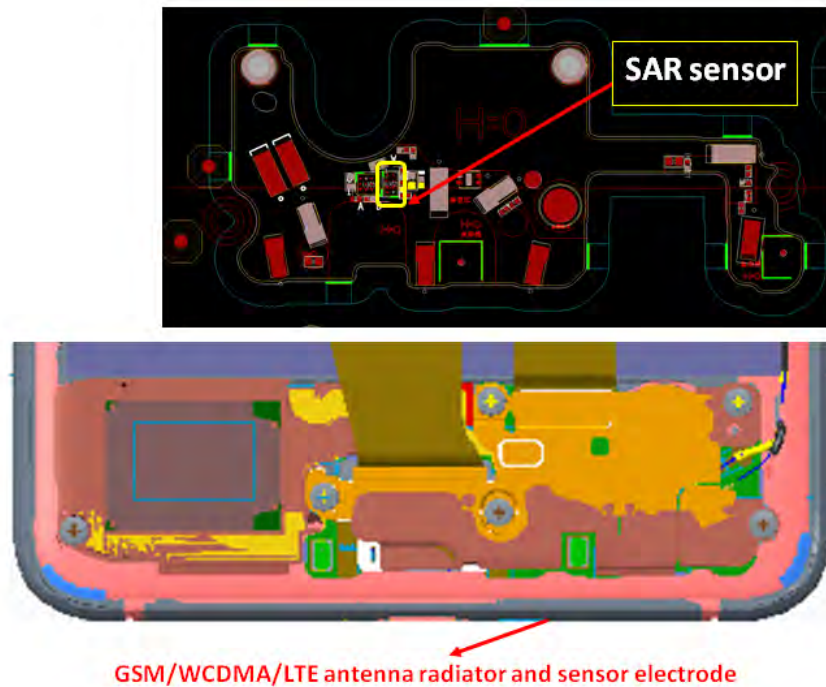


Fig. 5.3.10-2 The picture of the SAR sensor

The two sensors power reduction implementation is applied to the same 2G/3G/4G main antenna. Capacitive proximity sensor shares a metallic electrode with the GSM, WCDMA and LTE antenna radiator as proximity sensor channel-1 and uses a MIMO antenna (Ant.6) at the same time as proximity sensor channel-2. The two metallic electrode and SAR sensor chip work as a sensor.

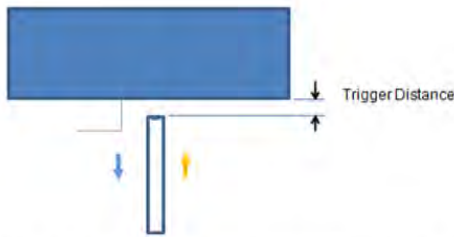
**Antenna/Sensor-to-DUT sides separation distances**

Tx Antenna	Antenna/Sensor-to- DUT sides separation distances					
	Front side	Back side	Left side	Right side	Top side	Bottom side
2G&3G&4G Main Ant	NA	NA	NA	NA	153.5mm	NA
2G&3G&4G Second Ant	NA	NA	NA	21.5mm	NA	153.5mm
2.4G wifi1&BT&5G wifi1	NA	NA	64mm	NA	NA	153.5mm
2.4G wifi2&5G wifi2	NA	NA	25mm	15.5mm	5mm	141.4mm
<i>proximity sensor channel-1</i>	NA	NA	NA	NA	153.5mm	NA
<i>proximity sensor channel-2</i>	6.5mm	NA	47mm	7.5mm	142.5mm	5.5mm
GPS antenna	Only receive signal, so it was not figured out in the following pictures					

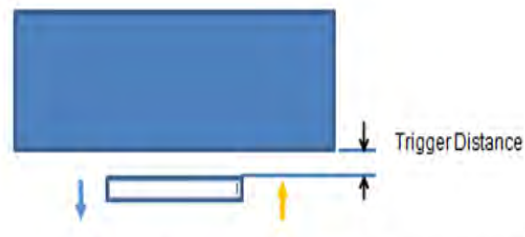
1) Proximity sensor triggering distances **(Per KDB616217 §6.2)**

Proximity sensor triggering distance testing was performed as the EUT moving further away from the phantom were both assessed.





Picture: Proximity sensor triggering distances assessment Bottom Side



Picture: Proximity sensor triggering distances assessment Front Side and Back side

**Fig 5.3.10-3 proximity sensor triggering distances assesment**

① Table: Summary of Trigger Distances

Main 2G&3G&4G Antenna	Trigger distance – bottom edge		Trigger distance – back side		Trigger distance – front side	
	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom	Moving toward phantom	Moving from phantom
WCDMA B2	9mm	9mm	8mm	8mm	7mm	7mm
WCDMA B4	9mm	9mm	8mm	8mm	7mm	7mm
LTE B2	9mm	9mm	8mm	8mm	7mm	7mm
LTE B4	9mm	9mm	8mm	8mm	7mm	7mm
LTE B7	9mm	9mm	8mm	8mm	7mm	7mm

② Table: Reduced power (Moving toward phantom)

Main 2G&3G&4G Antenna	Position	Power Reduction Status (dBm)										
		20	17	14	12	11	10	9	8	7	6	5
WCDMA B2	Bottom edge	23.7	23.7	23.7	23.7	23.7	23.7	22.8	22.8	22.8	22.8	22.8
WCDMA B4	Bottom edge	23.5	23.5	23.5	23.5	23.5	23.5	21.0	21.0	21.0	21.0	21.0
LTE B2	Bottom edge	23.7	23.7	23.7	23.7	23.7	23.7	22.6	22.6	22.6	22.6	22.6
LTE B4	Bottom edge	23.6	23.6	23.6	23.6	23.6	23.6	21.3	21.3	21.3	21.3	21.3
LTE B7	Bottom edge	23.6	23.6	23.6	23.6	23.6	23.6	22.0	22.0	22.0	22.0	22.0
/	/	20	17	14	11	10	9	8	7	6	5	4
WCDMA B2	Back side	23.7	23.7	23.7	23.7	23.7	23.7	22.8	22.8	22.8	22.8	22.8
WCDMA B4	Back side	23.5	23.5	23.5	23.5	23.5	23.5	21.0	21.0	21.0	21.0	21.0
LTE B2	Back side	23.7	23.7	23.7	23.7	23.7	23.7	22.6	22.6	22.6	22.6	22.6
LTE B4	Back side	23.6	23.6	23.6	23.6	23.6	23.6	21.3	21.3	21.3	21.3	21.3
LTE B7	Back side	23.6	23.6	23.6	23.6	23.6	23.6	22.0	22.0	22.0	22.0	22.0
/	/	20	17	14	11	9	8	7	6	5	4	3
WCDMA B2	Front side	23.7	23.7	23.7	23.7	23.7	23.7	22.8	22.8	22.8	22.8	22.8
WCDMA B4	Front side	23.5	23.5	23.5	23.5	23.5	23.5	21.0	21.0	21.0	21.0	21.0
LTE B2	Front side	23.7	23.7	23.7	23.7	23.7	23.7	22.6	22.6	22.6	22.6	22.6
LTE B4	Front side	23.6	23.6	23.6	23.6	23.6	23.6	21.3	21.3	21.3	21.3	21.3
LTE B7	Front side	23.6	23.6	23.6	23.6	23.6	23.6	22.0	22.0	22.0	22.0	22.0

③ Table: Full power (Moving from phantom)

Main 2G&3G&4 G Antenna	Position	Power Reduction Status (dBm)											
		23	20	17	14	11	10	9	8	6	3	0	
WCDMA B2	Bottom edge	23.7	23.7	23.7	23.7	23.7	23.7	23.7	22.8	22.8	22.8	22.8	22.8
WCDMA B4	Bottom edge	23.5	23.5	23.5	23.5	23.5	23.5	23.5	21.0	21.0	21.0	21.0	21.0
LTE B2	Bottom edge	23.7	23.7	23.7	23.7	23.7	23.7	23.7	22.6	22.6	22.6	22.6	22.6
LTE B4	Bottom edge	23.6	23.6	23.6	23.6	23.6	23.6	23.6	21.3	21.3	21.3	21.3	21.3
LTE B7	Bottom edge	23.6	23.6	23.6	23.6	23.6	23.6	23.6	22.0	22.0	22.0	22.0	22.0
/	/	22	19	16	13	10	9	8	7	6	3	0	
WCDMA B2	Back side	23.7	23.7	23.7	23.7	23.7	23.7	23.7	22.8	22.8	22.8	22.8	22.8
WCDMA B4	Back side	23.5	23.5	23.5	23.5	23.5	23.5	23.5	21.0	21.0	21.0	21.0	21.0
LTE B2	Back side	23.7	23.7	23.7	23.7	23.7	23.7	23.7	22.6	22.6	22.6	22.6	22.6
LTE B4	Back side	23.6	23.6	23.6	23.6	23.6	23.6	23.6	21.3	21.3	21.3	21.3	21.3
LTE B7	Back side	23.6	23.6	23.6	23.6	23.6	23.6	23.6	22.0	22.0	22.0	22.0	22.0
/	/	21	18	15	12	9	8	7	6	5	3	0	
WCDMA B2	Front side	23.7	23.7	23.7	23.7	23.7	23.7	23.7	22.8	22.8	22.8	22.8	22.8
WCDMA B4	Front side	23.5	23.5	23.5	23.5	23.5	23.5	23.5	21.0	21.0	21.0	21.0	21.0
LTE B2	Front side	23.7	23.7	23.7	23.7	23.7	23.7	23.7	22.6	22.6	22.6	22.6	22.6
LTE B4	Front side	23.6	23.6	23.6	23.6	23.6	23.6	23.6	21.3	21.3	21.3	21.3	21.3
LTE B7	Front side	23.6	23.6	23.6	23.6	23.6	23.6	23.6	22.0	22.0	22.0	22.0	22.0

Note: 1) SAR tests with proximity sensor power reduction are only required for back, front and bottom side of main antenna with WCDMA B2/B4 and LTE B2/B4/B7. For the other sides or other frequency bands of the device, the proximity sensor is not triggered. Therefore, the proximity sensor coverage is not evaluated on these orientations.

2) proximity sensor coverage (Per KDB616217 §6.3)

a) All the sides/edges (bottom side, front side and back side of the device) is positioned at a test separation distance less than or equal to the distance required for sensor triggering, with both the antenna and sensor pad located at least 20 mm laterally outside the edge (boundary) of the phantom, along the direction of maximum antenna and sensor offset.

Each applicable edge should be positioned perpendicularly to the phantom to determine sensor coverage. For antennas and/or sensors located near the corner of a tablet, both adjacent edges must be considered.

b) The similar sequence of steps applied to determine sensor triggering distance in 1) are used to verify the sensor coverage by moving the DUT (sensor and antenna) horizontally toward the phantom while maintaining the same vertical separation between the side or edge and the phantom.

c) After the exact location where triggering of power reduction is determined, with respect to the sensor and antenna, the DUT movement should be continued, in 3 mm increments, until both the sensor and antenna(s) are fully under the phantom and at least 20 mm inside the phantom edge.

d) The process is then repeated from the opposite direction, starting at the other end of the maximum antenna and sensor offset, by rotating the DUT 180° along the vertical axis.

e) The triggering points should be documented graphically, with the antenna and sensor clearly

identified, along with all relevant dimensions.

f) If the subsequently measured peak SAR location for the antenna is not between the triggering points, established by the sensor coverage tests from opposite ends of the antenna and sensor, additional SAR tests may be required for conditions where only part of the surface or edge of the DUT corresponding to the antenna is in proximity to the user and the sensor may not be triggering as desired.

The plane coordinate system on the DUT as below:

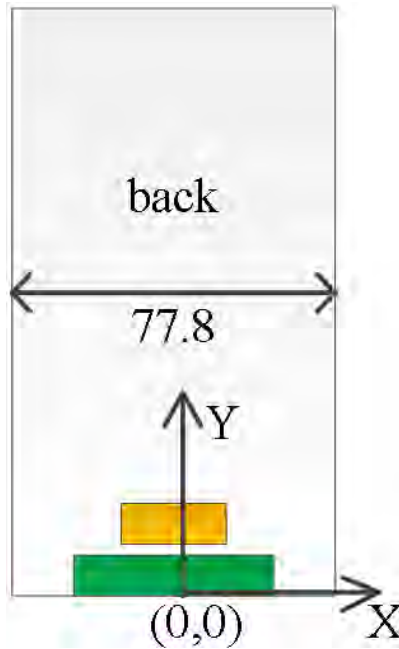


Fig 5.3.10-4 Plane coordinate system definition on the DUT

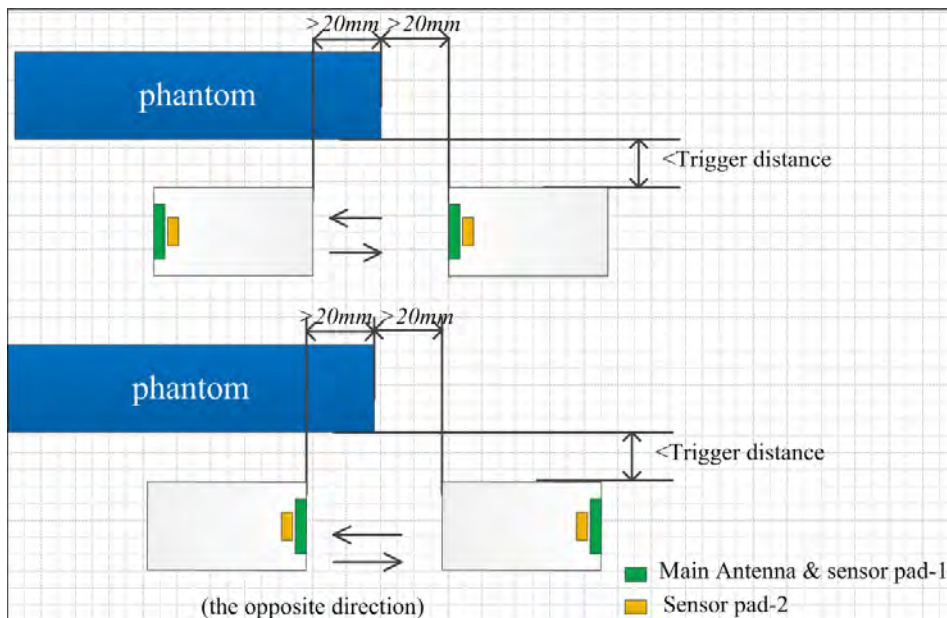
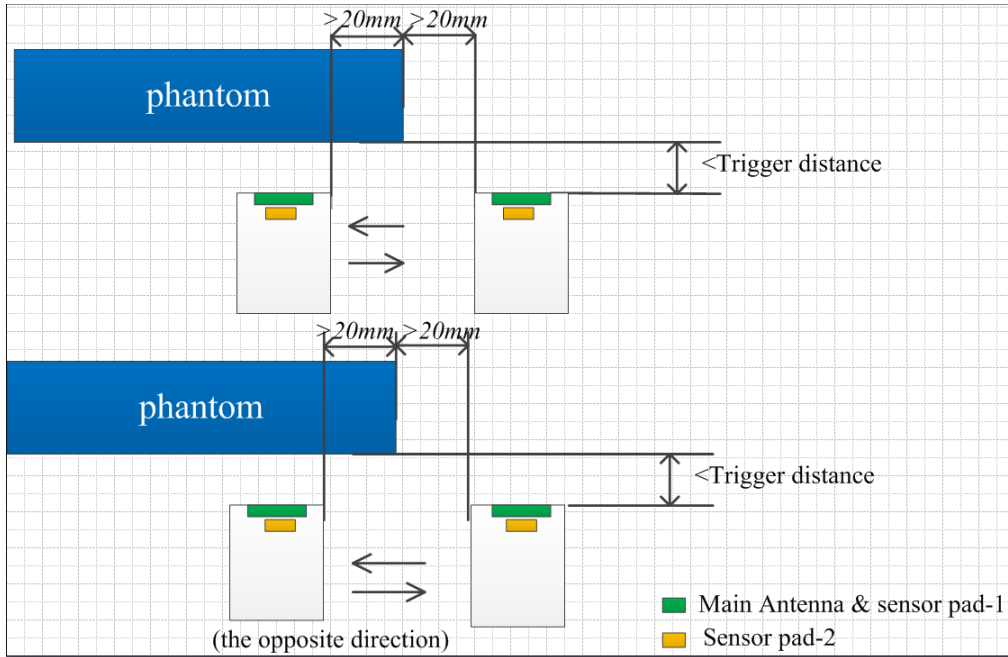


Fig 5.3.10-5 proximity sensor coverage assesment (Front side/back side)



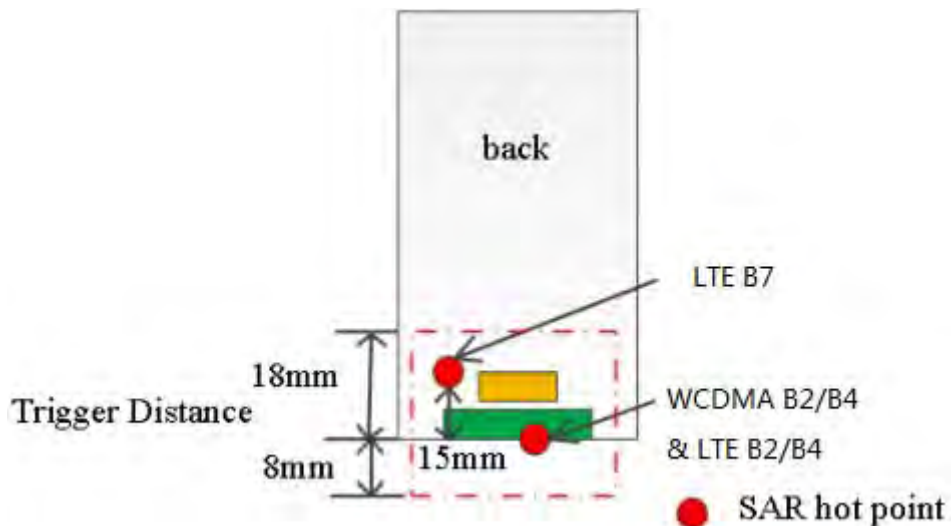
**Fig 5.3.10-6 proximity sensor coverage assesment (Bottom edge)**

The validation data for determining proximity sensor coverage is as below:

Note 1: During the sensor coverage validation below, the DUT is positioned at a test separation distance less than or equal to the distance required for sensor triggering (0mm for the lowest power stage level).

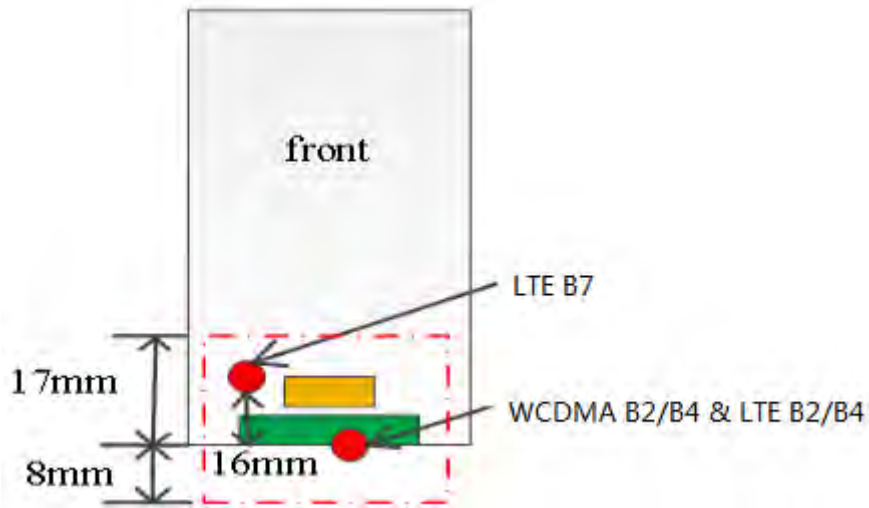
Note 2: In the following validation data graphs, the relative coordinates (Unit: mm) is used to show the sensor coverage distance of triggering points:

① **proximity sensor coverage assesment results(Back side) :**



**Conclusion:** As the subsequently measured peak SAR location for the antenna is between the triggering points, additional SAR tests is not required for conditions for the back side.

② **proximity sensor coverage assesment results(Front side) :**



**Conclusion:** As the subsequently measured peak SAR location for the antenna is between the triggering points, additional SAR tests is not required for conditions for the front side.

③ **proximity sensor coverage assesment results(Bottom edge) :**

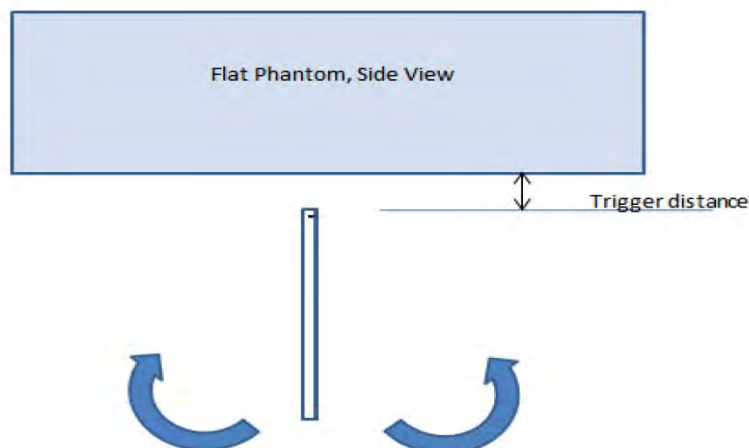


**Conclusion:** As the subsequently measured peak SAR location for the antenna is between the triggering points, additional SAR tests is not required for conditions for the bottom side.

3) **Tilt angle influences to proximity sensor triggering** (Per KDB616217 §6.4)

The DUT was positioned directly below the flat phantom at the minimum measured trigger distance with Bottom side parallel to the base of the flat phantom for each band.

The EUT was rotated about Bottom side for angles up to +/- 45°. If the output power increased during the rotation the DUT was moved 1mm toward the phantom and the rotation repeated. This procedure was repeated until the power remained reduced for all angles up to +/- 45°.



**Fig 5.3.10-7 proximity sensor coverage assesment (Bottom side)**

**Table: Summary of Tablet Tilt Angle Influence to Proximity Sensor Triggering (Bottom side)**

Main 2G&3G&4G Antenna	Minimum trigger distance at which power reduction was maintained over ±45°	Power Reduction Status										
		-45°	-35°	-25°	-15°	-5°	0°	5°	15°	25°	35°	45°
WCDMA B1	9mm	on	on	on	on	on	on	on	on	on	on	on
WCDMA B4	9mm	on	on	on	on	on	on	on	on	on	on	on
LTE B2	9mm	on	on	on	on	on	on	on	on	on	on	on
LTE B4	9mm	on	on	on	on	on	on	on	on	on	on	on
LTE B7	9mm	on	on	on	on	on	on	on	on	on	on	on

**Conclusion:** As is shown from the validation data, it can be ensured that the proximity sensor can be valid triggered for the DUT tilt coverage exposure condition (WCDMA B2/B4, LTE B2/B4/B7 with Main 2G&3G&4G Antenna).

**4) Summary SAR test Plan for Proximity sensor power reduction**

Per KDB616217, to ensure all production units are compliant, the smallest separation distance determined by the sensor triggering and sensor coverage for normal and tilt positions for all usage conditions, minus 1 mm, must be used as the test separation distance for **additional SAR testing** with sensor off.

For this device, 6mm is used as themore conservative test separation distance for **additional SAR testing** with sensor off.

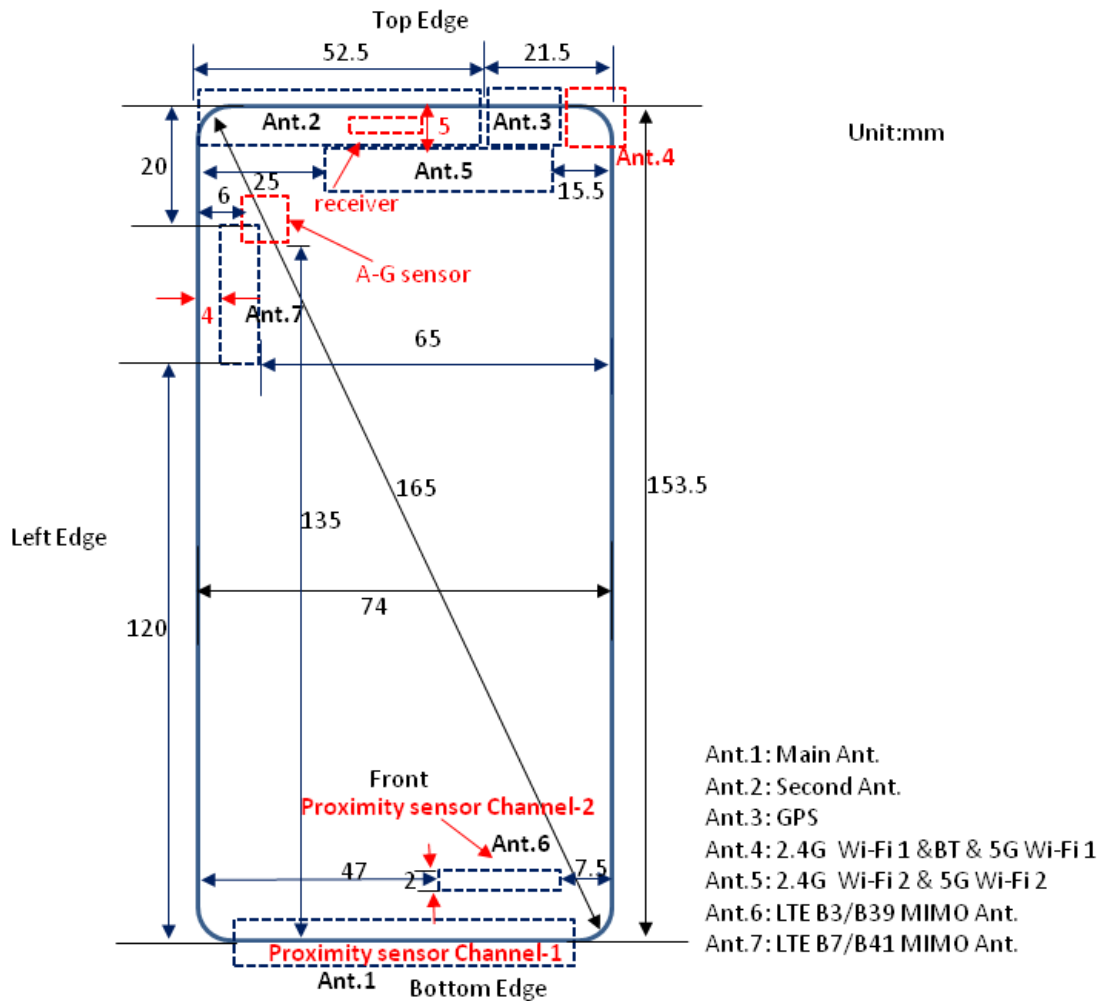
**5.3.11 A-G Sensor & An Audio Receiver Detection Configuration**

The device supporting the Accelerometer & Gyroscope sensor & an audio receiver detection mechanism. The audioreceiver is used to determine head or body scenario. The A-G sensor is used just to determine proximity to Left or Right head scenario and is differ from capacitance sensor. The relevant power levels is set for 2G&3G&4G and Wi-Fi antennas accordingly.

**Table1: Summary of A-G sensor &an audio receiver detection mechanism**

Antenna	Receiver on (Left head scenario)	Receiver on (Right head scenario)	Receiver on (Unknown Left or right scenario)	Receiver off (Body/other scenario)
2G&3G&4G second ant	Power Level A1	Power Level B1	Power Level Min (A1:B1)	Power Level C1
2G&3G&4G main ant	Power Level A2	Power Level B2	Power Level Min (A2:B2)	Power Level C2
WiFi Ant	Power Level A3	Power Level B3	Power Level Min (A3:B3)	Power Level C3

**Note:** A-G is the abbreviation of Accelerometer & Gyroscope.

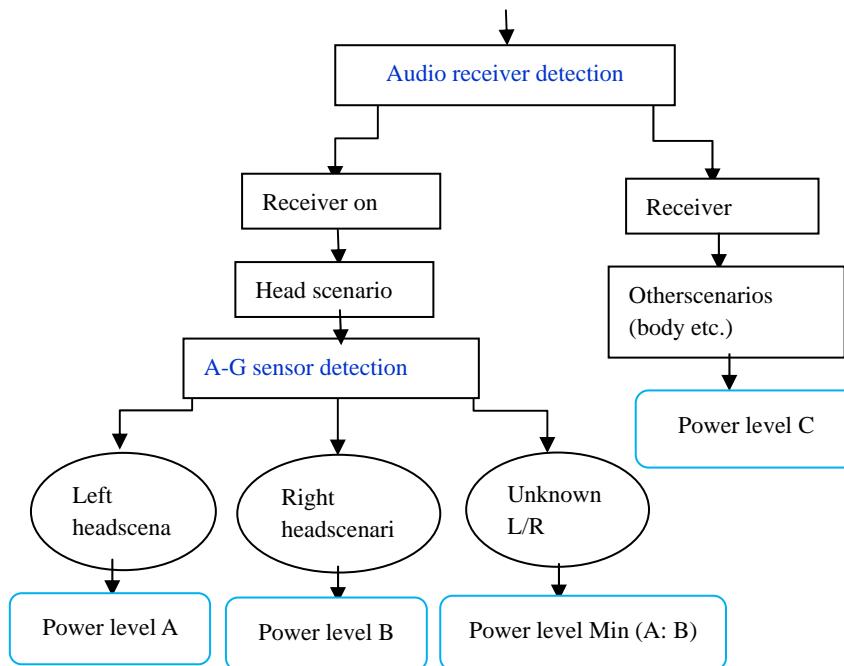


**Fig 5.3.11-1 The location of the antennas and A-G sensor & Audio Receiver**

**5.3.11.1 The A-G sensor & an audio receiver detection is accomplished by voice call from the modem is shown as below:**

- a) When the modem works, it will detect the state of receiver. If the audio receiver is off, it is considered not as Held to Head (ear) scenario and regarded as other scenarios (Body etc.). The power level C is applied.
- b) When the modem chip detects that the state of the audio receiver is on, at this time it is considered as Held to Head (ear) scenario. Then the modem chip reads the information of the A-G sensor which state it is on, Left head scenario, Right head scenario or Unknown L/R head, and the relevant power A,B or min (A:B) will be applied.

Note: The power level A, B and C can be set to the same or different.



**Fig 5.3.11-2 A-G sensor & receiver detection**

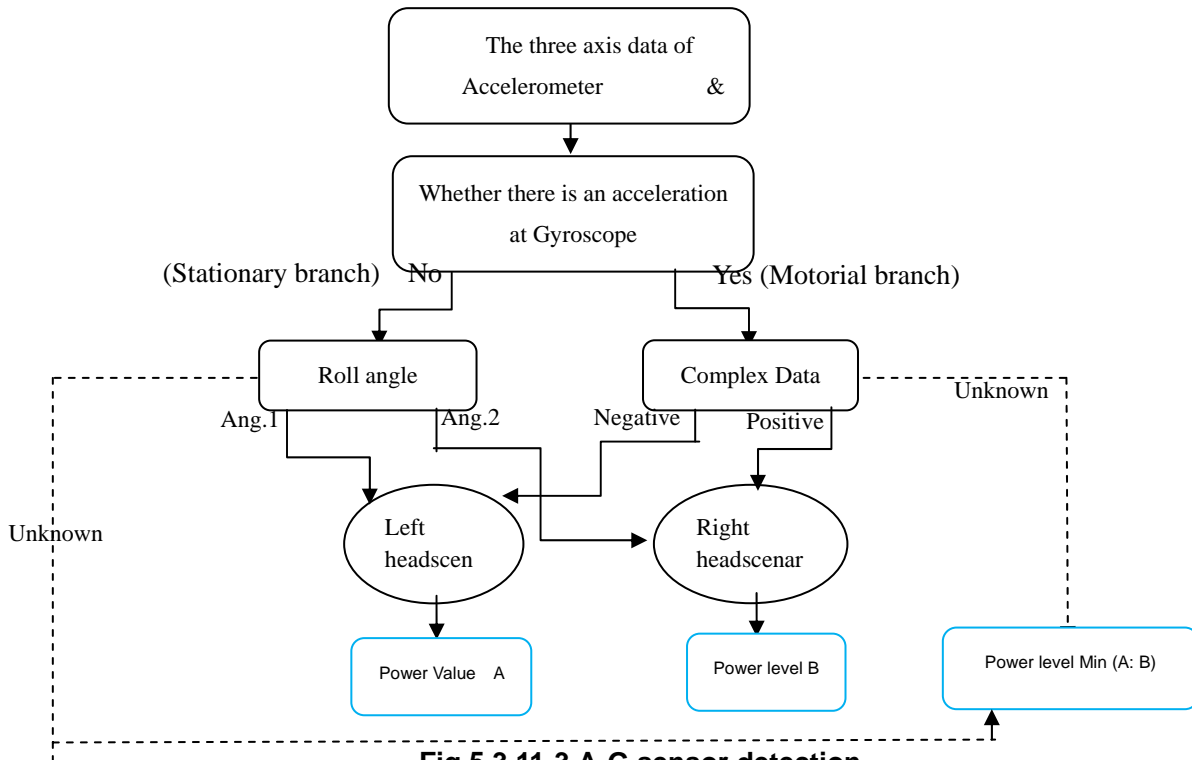
**5.3.11.2 Audio Receiver detection mechanism clarifications**

- a) When there is a voice call (including VOIP&VOLTE) and the modem chip detects that the Headset is unconnected and speaker is off, then the audio receiver is triggered and it is considered as Held to ear scenario (Head). Then the A-G sensor detects whether it is left head or right head.
- b) When there is a voice call, but the headset is connected or speaker mode is on, the audio receiver will not work. It is considered as other scenarios (Body etc.) and the Power C will be applied.
- c) When there is a data mode, the audio receiver will not work. It is considered as other scenarios (Body etc.) and the Power C will be applied.

**5.3.11.3 The logic of A-G sensor detection is shown as below:**

- a) When there is a call under the state of receiver on, the phone is answered and put near to the head. At this time, it is defined as Motorial branch, the Complex Datagives the information ofwhich scenario Phone is at.Namely, Negative is Left head scenario, Positive is Right head scenario, and the relevant power level A, B will be applied. Also, if it is can't read the Complex Data information, the power level min (A, B) will be applied and it is thought as unknown.
- b) When the phone is at head side, it is going on Stationary branch to modify. At this time, the rollangle gives the information of which scenario Phone is at. Namely, Ang.1 is Left head scenario, Ang.2 is Right head scenario, and the relevant power level A, B will be applied. Also, if it is can't read the roll angle information or the roll angle is out of the range of judgment, the power level min (A, B) will be applied and it is thought as unknown.





**Fig 5.3.11-3 A-G sensor detection**

**NORM:** Sum Vector of 3 axis of GYRO

**Complex Data:** GYRO X-Vector\* GYRO Z-Vector\* NORM

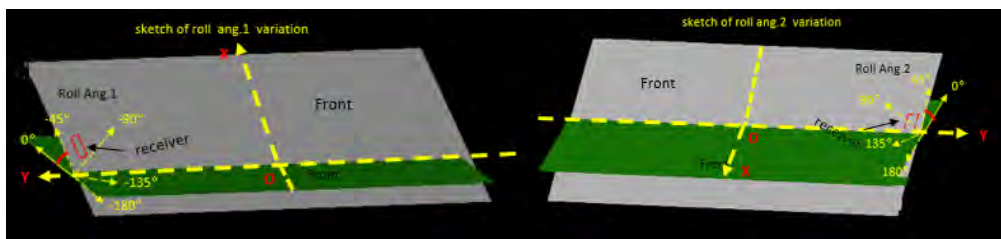
**Roll angle:** The data merge of 3-axis of Accelerometer & Gyroscopeto the earth-surface inertial reference frame.

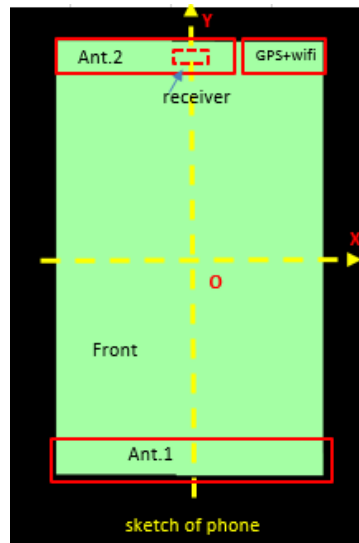
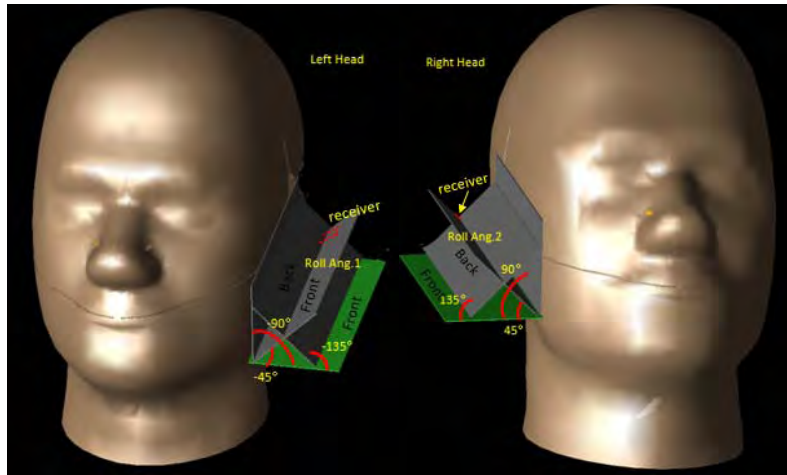
The sketch of Roll angle is marked as **Fig 5.3.11-4**. **The Roll angel is considered as the angel rotation around OY axis and the**

**reference is earth-surface horizontal plane.** The Roll angle is the angle between the Green plane and Dark plane shown as **Fig 5.3.11-4**. Also the sketch of Roll angle at head side is given.

**Ang.1:** -45°~-135°

**Ang.2:** 45°~135°





**Fig 5.3.11-4Sketch of phone roll angel**

If the Phone is no any movement during answering the call. At this time it is can't read the Complex Data information, the power level min (A, B) will be applied and it is thought as unknown.

If there is any failure on the A-G sensor hardware, the sensor information data will not be reported. At this time, the power level min (A, B) will be applied and it is also thought as unknown state.

The device offers Power- back off Parameters to meet different applied SAR scenarios. These Parameters control max output power of main modem for 2G/3G/4G bands and WIFI. The A-G sensor only works in voice and receiver on mode (Headset unconnected and speaker mode off), like GSM, CDMA 1X, VOLTE, WCDMA, and VOIP. (VOLTE and VOIP based on the operation of different telecom carriers services .When users take voice services like above, Power back off will be applied immediately according to different A-G sensor state. And if other third party software applications such as VOIP software can also trigger receiver, TX power can also be reduced according to different A-G sensor state.)

The power-back off of device will give result to reduce the conductive power and then transmit through internal antenna.

Power back-offtable:



ANT2 power back-off(dB)	GSM 850	GSM 1900	WCDMA B2	WCDMA B4	WCDMA B5	LTE B2	LTE B4	LTE B5	LTE B7	LTE B12	LTE B17	LTE B26	LTE B38	LTE B41
Rec on for left head	3.5	1	5	4	3.5	4.5	4.5	3	2.5	1	1	4	2	1.5
Rec on for right head	4	4	7.5	7	4	7	7	3.5	7.5	1	1	3.5	8	7.5
Rec off for body	0	0	2	0	0	2	1	0	2.5	0	0	0	0	0
simultaneous	3	3	3	3	3	3	3	3	3	3	3	3	4	3
<b>ANT1 power back-off(dB)</b>														
Hotspot off	0	0	0	0	0	0	0	0	1.5	0	0	0	0	0
Hotspot on	0	4	5.5	6	0	5	5.5	0	1	0	0	0	0	0
0mm	0	0	1	2.5	0	1	2.5	0	1.5	0	0	0	0	0

#### 5.3.11.4 Based on the power reduction information above, for SAR test:

1) The Main Antenna and Second Antenna are set to the Max transmit power level respectively and test the SAR respectively in all applicable RF exposure conditions. Some AT commands or test scripts are supplied to fix the operation state and choose the antenna so that only one TX antenna is chosen and tested at a time.

2) **For conducted power test:** Both the full power and reduced power measurement results will be tested and provided in the SAR report to validate the power reduction function works

#### 3) For Head SAR test:

According to the real usage scenario, standalone Head SAR should be evaluated with audio receiver on:

a) **For left head scenario,** standalone Head SAR should be tested at power level A1/A2/A3 for 2G&3G&4G second ant, 2G&3G&4G main ant, WiFi Ant respectively

b) **For Right head scenario,** standalone Head SAR should be tested at power level B1/B2/B3 for 2G&3G&4G second ant, 2G&3G&4G main ant, WiFi Ant respectively

c) **For Unknown L/R head scenario,** the conservative SAR test results should be used for SAR compliance.

As the audio receiver only works in voice mode when the user is making a call in head scenario, and the lack of the third-party VoIP server and the unstandardized VOIP operating characteristics, so we're planning to do the Head SAR test of LTE DATA, WCDMA RMC mode through triggering the audio receiver on by test scripts in order to simulate the users' scene (LTE VOIP, WCDMA VOIP or data mode simultaneous Transmission with VoWifi) for Head SAR test of UMTS, LTE.

The test scripts function is only used to trigger audio receiver on and simulate voice and VOIP usage scene. It can be ensured that the unmodified settings in production units, including maximum output power, amplifier gain and other RF performance or tuning parameters, are used for SAR measurement. We can guarantee that the TX power and SAR value level during the test is the same as the actual user scenarios.

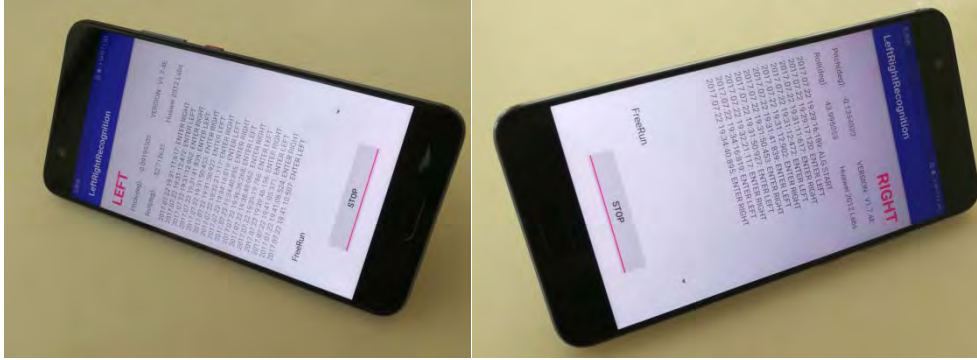
As the Phone is at horizontal plane, namely Roll angle is 0°, when it is test for head scenario, no matter left head or right head. The unknown scenario information will be read at the most time which will trigger the minimum power of A and B, and it cannot get the real left head or right head SAR data. As is be considered, when the Phone is connected with simulate base station:

a. For the left head Scenario, turning the Phone at any Roll angle during -45°~-135° to trigger the left head Scenario power, then put the phone at test Phantom to go the test.

b. For the right head Scenario, turning the Phone at any Roll angle during 45°~-135° to trigger the right head Scenario power, then put the phone at test Phantom to go the test.

c. Also, an APK will be supplied to show the Scenario at the phone screen to ensure the results correctly during the test. The APK is only used to display the Scenario of Phone. At the left head Scenario it will show "left head" and at the right head Scenario it will show "Right head" at the Phone Screen. (shown as Fig 5.3.11-5)

i) Turn the Phone to the Roll angle range. At the left head Scenario it will show "left head" and at the right head Scenario it will show "Right" at the Phone Screen:



ii) Then if the phone is put to the horizontal plane below the Head SAR phantom, the DUT status is still stable as below. So the DUT can be set to the correct status (Left Head or right head Scenario) during the SAR test:

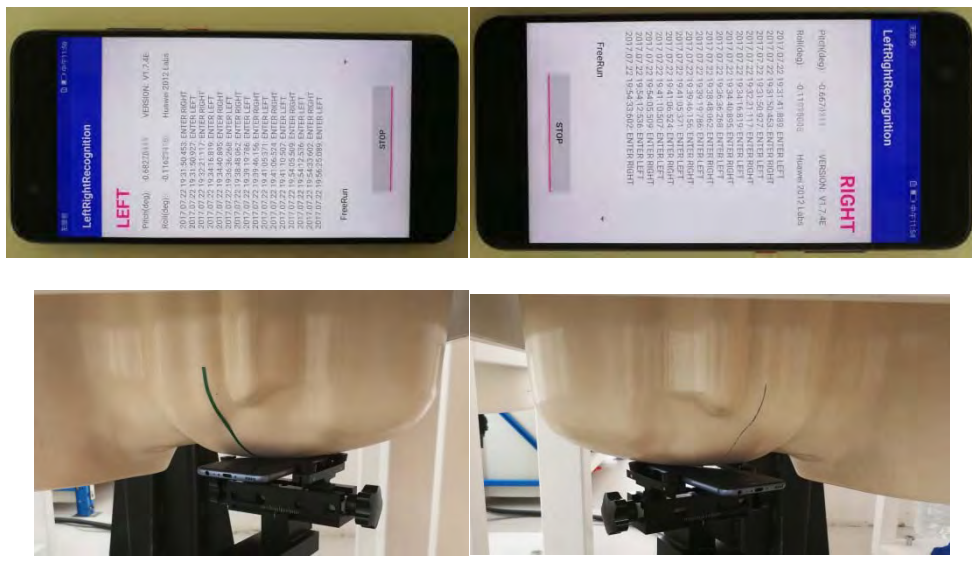


Fig 5.3.11-5 Test setup for left and right Head test Scenario

**d) For Body / Product Specific 10-g SAR test:**

Standalone SAR should be evaluated at power level C1/C2/C3 with Audio Receiver off for 2G&3G&4G second ant, 2G&3G&4G main ant, Wi-Fi Ant respectively.

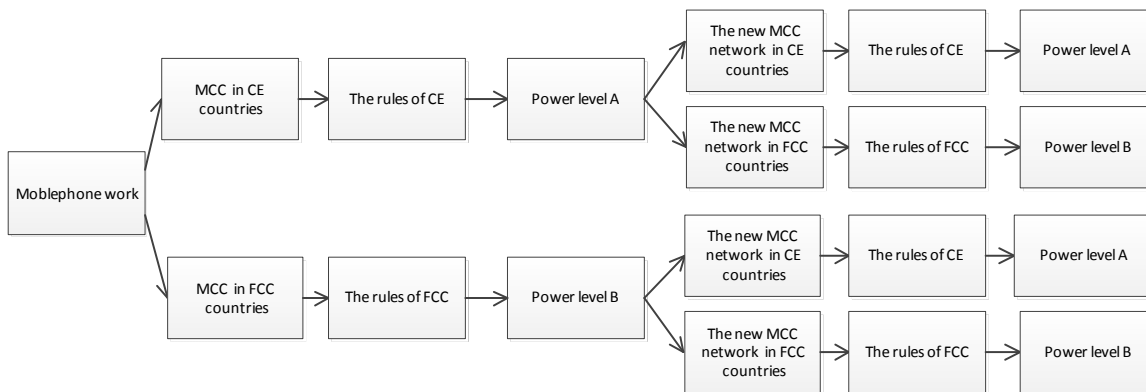
### 5.3.12 Country Code Detection Mechanism

The device uses the mobile country code (MCC) to indicate whether the users in CE countries or FCC countries. The selection between CE countries and FCC countries power levels is based on the country code detection mechanism. It can determine the countries where users are and set the relevant power level for 4G and WiFi antennas accordingly.

**Table 1: Summary of country code detection mechanism**

Antenna	MCC OF CE COUNTRY (CE standard)	MCC OF FCC COUNTRY (FCC standard)
4G second ant (LTE B7)	Power Level A1	Power Level B1
4G main ant (LTE B7)	Power Level A2	Power Level B2

The countries on detection is accomplished by operator network as figure below shows:



The software of the device has information of CE and FCC countries so that to detect where the users are. If the users are in CE countries, the power level A is applied. If the users are in FCC countries, the power level B is applied.

Note:

- The power level A and B can be set to the same or different.
- The device distinguishes different countries by MCC information. If we are close to a country border and the phone switches to a neighboring network the power reduction will follow the newest registered MCC information.
- The default status when the device doesn't know the MCC information will be set to the Lower Power Level between A and B.

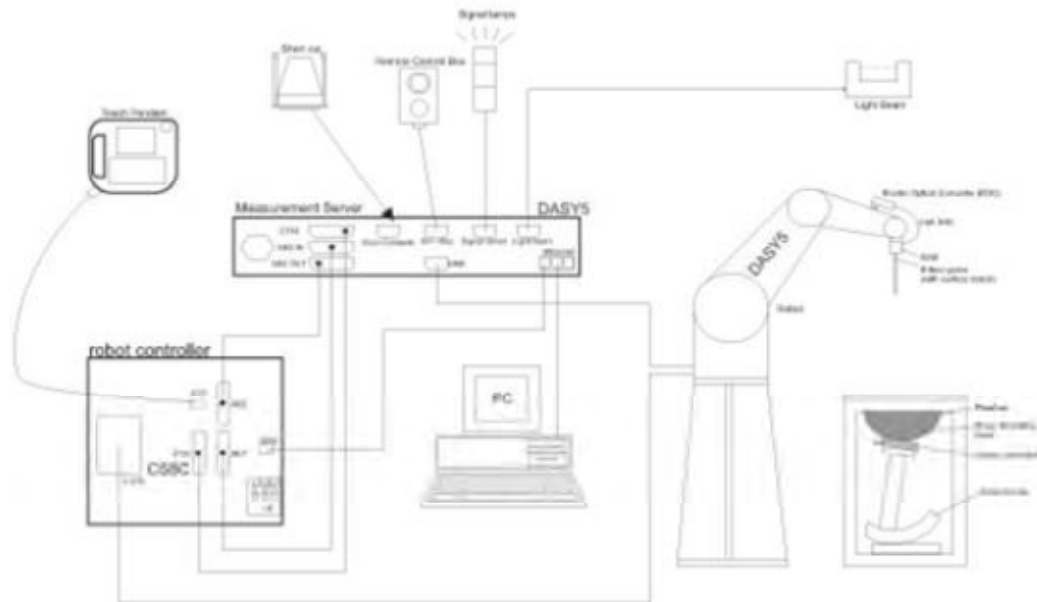
**For SAR test:**

- Standalone FCC SAR of 4G second antis evaluated at power level B1;
- Standalone FCC SAR of 4G main antis evaluated at power level B2.

## 6 SAR Measurements System Configuration

### 6.1 SAR Measurement Set-up

The DASY system for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

## 6.2 DASY5 E-field Probe System

The SAR measurements were conducted with the dosimetric probe EX3DV4 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

### EX3DV4 Probe Specification

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available
Frequency	10 MHz to > 6 GHz Linearity: $\pm 0.2$ dB (30 MHz to 6 GHz)
Directivity	$\pm 0.3$ dB in HSL (rotation around probe axis) $\pm 0.5$ dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 $\mu$ W/g to > 100 mW/g Linearity: $\pm 0.2$ dB (noise: typically < 1 $\mu$ W/g)
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure Scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.



### E-field Probe Calibration

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than  $\pm 10\%$ . The spherical isotropy was evaluated and found to be better than  $\pm 0.25$ dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies below 1 GHz, and in a wave guide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The measured free space E-field in the medium correlates to temperature rise in a dielectric medium. For temperature correlation calibration a RF transparent thermistor-based

temperature probe is used in conjunction with the E-field probe.

$$SAR=C\Delta T/\Delta t$$

Where:  $\Delta t$  = Exposure time (30 seconds),  
 C = Heat capacity of tissue (brain or muscle),  
 $\Delta T$  = Temperature increase due to RF exposure.

Or

$$SAR=IEI^2\sigma/\rho$$

Where:  $\sigma$  = Simulated tissue conductivity,  
 $\rho$  = Tissue density (kg/m<sup>3</sup>).

### 6.3 SAR Measurement Procedure

#### Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

#### Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01 SAR measurement 100 MHz to 6 GHz.

	≤3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: ΔxArea, ΔyArea	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	



### Zoom Scan

Zoom scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01 SAR measurement 100 MHz to 6 GHz.

			≤3GHz	> 3 GHz
Maximum zoom scan spatial resolution: $\Delta x_{zoom}$ $\Delta y_{zoom}$			≤2GHz: ≤8mm 2 – 3GHz: ≤5mm*	3 – 4GHz: ≤5mm* 4 – 6GHz: ≤4mm*
Maximum zoom scan spatial resolution, normal to phantom surface	Uniform grid: $\Delta z_{zoom}(n)$		≤5mm	3 – 4GHz: ≤4mm 4 – 5GHz: ≤3mm 5 – 6GHz: ≤2mm
	Graded grid	$\Delta z_{zoom}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface	≤4mm	3 – 4GHz: ≤3mm 4 – 5GHz: ≤2.5mm 5 – 6GHz: ≤2mm
		$\Delta z_{zoom}(n > 1)$ : between subsequent points	≤1.5• $\Delta z_{zoom}(n-1)$	
Minimum zoom scan volume	X, y, z		≥30mm	3 – 4GHz: ≥28mm 4 – 5GHz: ≥25mm 5 – 6GHz: ≥22mm
<p>Note: <math>\delta</math> is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.</p> <p>* When zoom scan is required and the <u>reported</u> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is ≤ 1.4W/kg, ≤8mm, ≤7mm and ≤5mm zoom scan resolution may be applied, respectively, for 2GHz to 3GHz, 3GHz to 4GHz and 4GHz to 6GHz.</p>				

### Volume Scan Procedures

The volume scan is used to assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

### Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASYS measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.

## 7 Main Test Equipment

Name of Equipment	Manufacturer	Type/Model	Serial Number	Last Cal.	Cal. Due Date
Network analyzer	Agilent	E5071B	MY42404014	2017-05-20	2018-05-19
Dielectric Probe Kit	HP	85070E	US44020115	2017-05-20	2018-05-19
Power meter	Agilent	E4417A	GB41291714	2017-05-21	2018-05-20
Power sensor	Agilent	N8481H	MY50350004	2017-05-21	2018-05-20
Power sensor	Agilent	E9327A	US40441622	2017-05-20	2018-05-19
Dual directional coupler	Agilent	778D-012	50519	2017-05-21	2018-05-20
Dual directional coupler	Agilent	777D	50146	2017-05-20	2018-05-19
Amplifier	INDEXSAR	IXA-020	0401	2017-05-20	2018-05-19
Wideband radio communication tester	R&S	CMW 500	113645	2017-05-20	2018-05-19
BT Base Station Simulator	R&S	CBT	100271	2017-05-14	2018-05-13
E-field Probe	SPEAG	EX3DV4	3677	2017-01-23	2018-01-22
E-field Probe	SPEAG	EX3DV4	7351	2016-12-20	2017-12-19
DAE	SPEAG	DAE4	1291	2017-01-19	2018-01-18
DAE	SPEAG	DAE4	918	2017-06-26	2018-06-25
Validation Kit 750MHz	SPEAG	D750V3	1045	2017-08-27	2020-08-26
Validation Kit 835MHz	SPEAG	D835V2	4d020	2017-08-28	2020-08-27
Validation Kit 1750MHz	SPEAG	D1750V2	1033	2017-01-10	2020-01-09
Validation Kit 1900MHz	SPEAG	D1900V2	5d060	2017-08-26	2020-08-25
Validation Kit 2450MHz	SPEAG	D2450V2	786	2017-08-29	2020-08-28
Validation Kit 2600MHz	SPEAG	D2600V2	1025	2014-12-08	2017-12-07
Validation Kit 5GHz	SPEAG	D5GHzV2	1151	2017-01-05	2020-01-04
Temperature Probe	Tianjin jinming	JM222	AA1009129	2017-05-20	2018-05-19
Hygrothermograph	Anymetr	NT-311	20150731	2017-05-17	2018-05-16

## 8 Tissue Dielectric Parameter Measurements & System Verification

### 8.1 Tissue Verification

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within ± 2°C of the temperature when the tissue parameters are characterized. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 3 – 4 days of use; or earlier if the dielectric parameters can become out of tolerance.

#### Target values

Frequency (MHz)	Water (%)	Salt (%)	Sugar (%)	Glycol (%)	Preventol (%)	Cellulose (%)	$\epsilon_r$	$\sigma$ (s/m)	
Head	750	41.448	1.452	56	0	0.1	1.0	41.9	0.89
	835	41.45	1.45	56	0	0.1	1.0	41.5	0.90
	1750	55.24	0.31	0	44.45	0	0	40.1	1.37
	1900	55.242	0.306	0	44.452	0	0	40.0	1.40
	2450	62.7	0.5	0	36.8	0	0	39.2	1.80
	2600	55.242	0.306	0	44.452	0	0	39.0	1.96
Body	750	52.49	1.41	45	0	0.1	1.0	55.5	0.96
	835	52.5	1.4	45	0	0.1	1.0	55.2	0.97
	1750	69.91	0.12	0	29.97	0	0	53.4	1.49
	1900	69.91	0.13	0	29.96	0	0	53.3	1.52
	2450	73.2	0.1	0	26.7	0	0	52.7	1.95
	2600	72.6	0.1	0	27.3	0	0	52.5	2.16
Frequency (MHz)	Water (%)	Diethylenglycol monohexylether			Triton X-100		$\epsilon_r$	$\sigma$ (s/m)	
Head	5250	65.53	17.24			17.23		35.9	4.71
	5600	65.53	17.24			17.23		35.5	5.07
	5750	65.53	17.24			17.23		35.4	5.22
Body	5250	72.52	13.74			13.74		48.9	5.36
	5600	72.52	13.74			13.74		48.5	5.77
	5750	72.52	13.74			13.74		48.3	5.94

**Measurements results**

Frequency (MHz)	Test Date	Temp °C	Measured Dielectric Parameters		Target Dielectric Parameters		Limit (Within ±5%)		
			$\epsilon_r$	$\sigma$ (s/m)	$\epsilon_r$	$\sigma$ (s/m)	Dev $\epsilon_r$ (%)	Dev $\sigma$ (%)	
750	Head	9/15/2017	21.5	42.3	0.88	41.9	0.89	0.95	-1.12
		9/20/2017	21.5	42.0	0.87	41.9	0.89	0.24	-2.25
	Body	9/14/2017	21.5	56.9	0.95	55.5	0.96	2.52	-1.04
		9/19/2017	21.5	54.5	0.96	55.5	0.96	-1.80	0.00
835	Head	9/12/2017	21.5	41.4	0.88	41.5	0.90	-0.24	-2.22
		9/16/2017	21.5	41.3	0.87	41.5	0.90	-0.48	-3.33
	Body	9/13/2017	21.5	54.2	0.96	55.2	0.97	-1.81	-1.03
		9/18/2017	21.5	54.6	0.95	55.2	0.97	-1.09	-2.06
1750	Head	9/11/2017	21.5	40.2	1.34	40.1	1.37	0.25	-2.19
		9/21/2017	21.5	40.1	1.34	40.1	1.37	0.00	-2.19
	Body	9/10/2017	21.5	51.9	1.46	53.4	1.49	-2.81	-2.01
		9/15/2017	21.5	52.5	1.51	53.4	1.49	-1.69	1.34
		9/17/2017	21.5	53.1	1.50	53.4	1.49	-0.56	0.67
1900	Head	9/20/2017	21.5	40.1	1.41	40.0	1.40	0.25	0.71
		9/26/2017	21.5	40.2	1.43	40.0	1.40	0.50	2.14
		9/27/2017	21.5	40.1	1.41	40.0	1.40	0.25	0.71
	Body	9/21/2017	21.5	52.6	1.51	53.3	1.52	-1.31	-0.66
		9/22/2017	21.5	53.3	1.51	53.3	1.52	0.00	-0.66
		9/24/2017	21.5	52.8	1.51	53.3	1.52	-0.94	-0.66
2450	Head	9/25/2017	21.5	38.6	1.81	39.2	1.80	-1.53	0.56
	Body	9/23/2017	21.5	52.5	1.98	52.7	1.95	-0.38	1.54
2600	Head	9/16/2017	21.5	38.2	2.01	39.0	1.96	-2.05	2.55
		9/17/2017	21.5	38.4	1.94	39.0	1.96	-1.54	-1.02
		9/18/2017	21.5	38.2	2.01	39.0	1.96	-2.05	2.55
	Body	9/15/2017	21.5	51.5	2.23	52.5	2.16	-1.90	3.24
		9/18/2017	21.5	51.7	2.21	52.5	2.16	-1.52	2.31



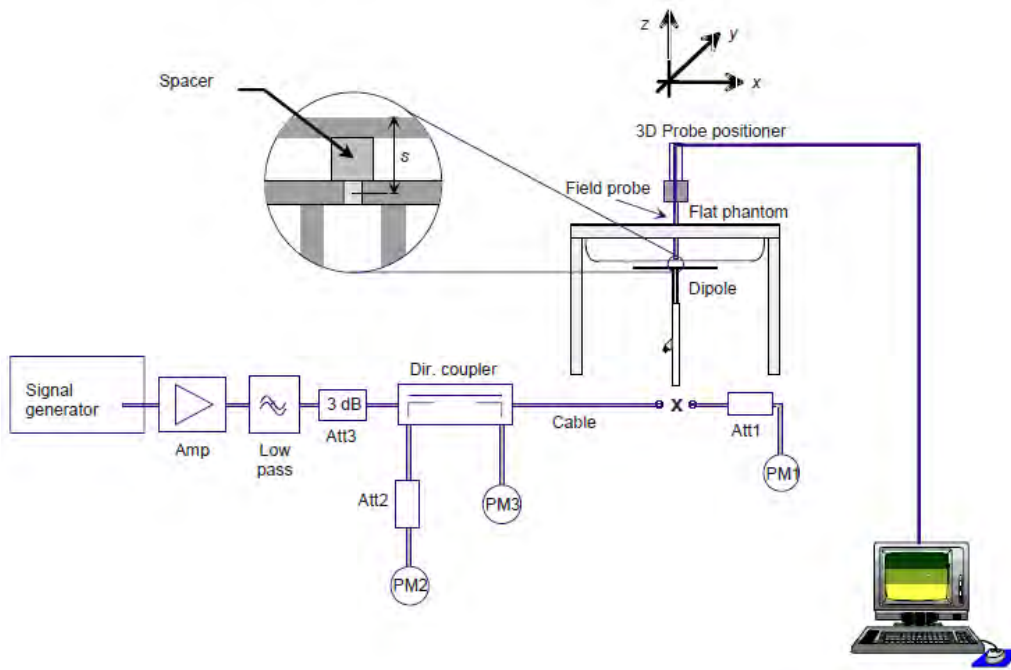
		9/19/2017	21.5	51.8	2.20	52.5	2.16	-1.33	1.85
5250	Head	9/24/2017	21.5	35.5	4.80	35.9	4.71	-1.11	1.91
	Body	9/22/2017	21.5	48.1	5.32	48.9	5.36	-1.64	-0.75
5600	Head	9/24/2017	21.5	34.2	5.21	35.5	5.07	-3.66	2.76
	Body	9/23/2017	21.5	47.9	5.78	48.5	5.77	-1.24	0.17
5750	Head	9/25/2017	21.5	34.9	5.21	35.4	5.22	-1.41	-0.19
	Body	9/26/2017	21.5	47.6	6.14	48.3	5.94	-1.45	3.37

Note: The depth of tissue-equivalent liquid in a phantom must be  $\geq 15.0$  cm for SAR measurements  $\leq 3$  GHz and  $\geq 10.0$  cm for measurements  $> 3$  GHz.

## 8.2 System Performance Check

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulates were measured using the dielectric probe kit and the network analyzer. A system check measurement for every day was made following the determination of the dielectric parameters of the Tissue simulates, using the dipole validation kit. The dipole antenna was placed under the flat section of the twin SAM phantom.

System check is performed regularly on all frequency bands where tests are performed with the DASYS system.



Picture 1 System Performance Check setup



Picture 2 Setup Photo

**Justification for Extended SAR Dipole Calibrations**

Usage of SAR dipoles calibrated less than 3 years ago but more than 1 year ago were confirmed in maintaining return loss ( $< -20$  dB, within 20% of prior calibration) and impedance (within 5 ohm from prior calibration) requirements per extended calibrations in KDB 865664 D01:

Dipole		Date of Measurement	Return Loss(dB)	$\Delta$ %	Impedance ( $\Omega$ )	$\Delta\Omega$
Dipole D2600V2 SN: 1025	Head Liquid	12/8/2014	-24.2	/	49.7	/
		12/7/2015	-23.9	1.2%	50.4	0.7 $\Omega$
		12/6/2016	-23.3	2.6%	50.7	-0.3 $\Omega$
	Body Liquid	12/8/2014	-23.6	/	46.6	/
		12/7/2015	-24.0	1.7%	47.2	0.6 $\Omega$
		12/6/2016	-24.4	-1.6%	47.1	0.1 $\Omega$

**System Check results**

Frequency (MHz)	Test Date	Temp $^{\circ}\text{C}$	250mW/ 100mW Measured SAR <sub>1g/10g</sub> (W/kg)	1W Normalized SAR <sub>1g/10g</sub> (W/kg)	1W Target SAR <sub>1g/10g</sub> (W/kg)	$\Delta$ % (Limit $\pm 10\%$ )	Plot No.	
750	Head	9/15/2017	21.5	2.13 (1g)	8.52	8.34	2.16	1
		9/20/2017	21.5	2.10 (1g)	8.40	8.34	0.72	2
	Body	9/14/2017	21.5	2.22 (1g)	8.88	8.78	1.14	3
		9/19/2017	21.5	2.17 (1g)	8.68	8.78	-1.14	4
835	Head	9/12/2017	21.5	2.44 (1g)	9.76	9.45	3.28	5
		9/16/2017	21.5	2.46 (1g)	9.84	9.45	4.13	6
	Body	9/13/2017	21.5	2.41 (1g)	9.64	9.75	-1.13	7
		9/18/2017	21.5	2.42 (1g)	9.68	9.75	-0.72	8
1750	Head	9/11/2017	21.5	8.95 (1g)	35.80	37.20	-3.76	9
		9/21/2017	21.5	9.11 (1g)	36.44	37.20	-2.04	10
	Body	9/10/2017	21.5	9.24 (1g)	36.96	37.60	-1.70	11
			21.5	4.90 (10g)	19.60	20.1	-2.49	
		9/15/2017	21.5	9.40 (1g)	37.60	37.60	0.00	12
			21.5	5.22 (10g)	20.88	20.1	3.88	
1900	Head	9/20/2017	21.5	9.88 (1g)	39.52	40.10	-1.45	14
		9/26/2017	21.5	9.85 (1g)	39.40	40.10	-1.75	15
		9/27/2017	21.5	10.55 (1g)	42.20	40.10	5.24	16



	Body	9/21/2017	21.5	9.93 (1g)	39.72	39.50	0.56	17
			21.5	5.25 (10g)	21.00	20.8	0.96	
		9/22/2017	21.5	9.82 (1g)	39.28	39.50	-0.56	18
		9/24/2017	21.5	9.91 (1g)	39.64	39.50	0.35	19
21.5	5.23 (10g)		20.92	20.8	0.58			
2450	Head	9/25/2017	21.5	13.70 (1g)	54.80	52.60	4.18	20
	Body	9/23/2017	21.5	12.50 (1g)	50.00	50.80	-1.57	21
2600	Head	9/16/2017	21.5	13.90 (1g)	55.60	56.90	-2.28	22
		9/17/2017	21.5	13.88 (1g)	55.52	56.90	-2.43	23
		9/18/2017	21.5	13.90 (1g)	55.60	56.90	-2.28	24
	Body	9/15/2017	21.5	13.50 (1g)	54.00	56.40	-4.26	25
		9/18/2017	21.5	13.55 (1g)	54.20	56.40	-3.90	26
		9/19/2017	21.5	13.89 (1g)	55.56	56.40	-1.49	27
5250	Head	9/24/2017	21.5	7.87 (1g)	78.7	78.40	0.38	28
	Body	9/22/2017	21.5	7.46 (1g)	74.6	75.60	-1.32	29
			21.5	2.26 (10g)	22.6	21.4	5.61	
5600	Head	9/24/2017	21.5	7.67 (1g)	76.7	81.50	-5.89	30
	Body	9/23/2017	21.5	8.10 (1g)	81	80.20	1.00	31
			21.5	2.11 (10g)	21.1	22.3	-5.38	
5750	Head	9/25/2017	21.5	7.66 (1g)	76.6	80.50	-4.84	32
	Body	9/26/2017	21.5	7.15 (1g)	71.5	74.60	-4.16	33
Note: Target Values used derive from the calibration certificate Data Storage and Evaluation.								



## 9 Normal and Maximum Output Power

KDB 447498 D01 at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.

### 9.1 GSM Mode

(Antenna 1)

GSM 850 (REC On/Off)		Burst Average			Division Factors (dB)	Frame-Average			Burst Tune-up Limit (dBm)
		Power(dBm)				Power(dBm)			
Tx Channel		128	190	251		128	190	251	
Frequency(MHz)		824.2	836.6	848.8		824.2	836.6	848.8	
GSM(GMSK)		32.47	32.57	32.61	9.03	23.44	23.54	23.58	33.60
GPRS (GMSK)	1Txslot	32.38	32.52	32.60	9.03	23.35	23.49	23.57	33.60
	2Txslots	30.10	30.22	30.36	6.02	<b>24.08</b>	<b>24.20</b>	<b>24.34</b>	31.50
	3Txslots	27.83	28.07	28.11	4.26	23.57	23.81	23.85	29.50
	4Txslots	25.74	25.99	26.05	3.01	22.73	22.98	23.04	27.50
EGPRS (GMSK)	1Txslot	32.37	32.51	32.59	9.03	23.34	23.48	23.56	33.50
	2Txslots	30.08	30.20	30.34	6.02	24.06	24.18	24.32	31.50
	3Txslots	27.80	28.04	28.08	4.26	23.54	23.78	23.82	29.50
	4Txslots	25.72	25.97	26.03	3.01	22.71	22.96	23.02	27.50
EGPRS (8PSK)	1Txslot	26.53	26.77	26.60	9.03	17.50	17.74	17.57	27.50
	2Txslots	24.16	24.29	24.27	6.02	18.14	18.27	18.25	25.50
	3Txslots	22.34	22.17	22.34	4.26	18.08	17.91	18.08	23.50
	4Txslots	20.15	20.26	20.62	3.01	17.14	17.25	17.61	21.50
GSM 1900 (REC On/Off, Hotspot off)		Power(dBm)			Division Factors (dB)	Power(dBm)			Burst Tune-up Limit (dBm)
Tx Channel		512	661	810		512	661	810	
Frequency(MHz)		1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM(GMSK)		29.95	30.12	30.04	9.03	20.92	21.09	21.01	31.00
GPRS (GMSK)	1Txslot	30.20	30.19	30.26	9.03	21.17	21.16	21.23	31.00
	2Txslots	27.92	27.97	28.07	6.02	<b>21.90</b>	<b>21.95</b>	<b>22.05</b>	29.00
	3Txslots	25.74	25.75	25.90	4.26	21.48	21.49	21.64	27.00
	4Txslots	23.63	23.60	23.75	3.01	20.62	20.59	20.74	25.00
EGPRS (GMSK)	1Txslot	30.19	30.18	30.25	9.03	21.16	21.15	21.22	31.00
	2Txslots	27.90	27.95	28.05	6.02	21.88	21.93	22.03	29.00
	3Txslots	25.71	25.72	25.87	4.26	21.45	21.46	21.61	27.00
	4Txslots	23.61	23.58	23.73	3.01	20.60	20.57	20.72	25.00
EGPRS (8PSK)	1Txslot	26.07	25.93	25.95	9.03	17.04	16.90	16.92	26.50
	2Txslots	23.37	23.62	23.49	6.02	17.35	17.60	17.47	24.00
	3Txslots	21.37	21.27	21.25	4.26	17.11	17.01	16.99	22.00



	4Txslots	19.43	19.53	19.46	3.01	16.42	16.52	16.45	20.00
GSM 1900 (REC On/Off, Hotspot on)	Power(dBm)				Division Factors (dB)	Power(dBm)			Burst Tune-up Limit (dBm)
	Tx Channel	512	661	810		512	661	810	
	Frequency(MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM(GMSK)		25.97	26.03	26.05	9.03	16.94	17.00	17.02	27.00
GPRS (GMSK)	1Txslot	25.97	26.03	25.98	9.03	16.94	17.00	16.95	27.00
	2Txslots	23.96	23.99	23.94	6.02	<b>17.94</b>	<b>17.97</b>	<b>17.92</b>	25.00
	3Txslots	21.89	21.92	21.90	4.26	17.63	17.66	17.64	23.00
	4Txslots	19.88	19.97	19.83	3.01	16.87	16.96	16.82	21.00
EGPRS (GMSK)	1Txslot	25.94	26.00	25.95	9.03	16.91	16.97	16.92	27.00
	2Txslots	23.94	23.97	23.92	6.02	17.92	17.95	17.90	25.00
	3Txslots	21.88	21.91	21.89	4.26	17.62	17.65	17.63	23.00
	4Txslots	19.87	19.96	19.82	3.01	16.86	16.95	16.81	21.00
EGPRS (8PSK)	1Txslot	21.66	21.67	21.53	9.03	12.63	12.64	12.50	22.50
	2Txslots	19.47	19.48	19.57	6.02	13.45	13.46	13.55	20.00
	3Txslots	17.42	17.47	17.56	4.26	13.16	13.21	13.30	18.00
	4Txslots	14.87	14.82	14.84	3.01	11.86	11.81	11.83	16.00

Notes: The worst-case configuration and mode for SAR testing is determined to be as follows:

- GSM 850 GMSK (GPRS) mode with 2 time slots for Max power, GSM 1900 GMSK (GPRS) mode with 2 time slots for Max power, based on the output power measurements above.
- SAR is not required for EGPRS (8PSK) mode because its output power is less than that of GPRS Mode.

**(Antenna 2)**

GSM 850 (REC On+Left Head)	Burst Average			Division Factors (dB)	Frame-Average			Burst Tune-up Limit (dBm)	
	Power(dBm)				Power(dBm)				
	Tx Channel	128	190		251	128	190		251
	Frequency(MHz)	824.2	836.6	848.8		824.2	836.6	848.8	
	GSM(GMSK)	28.24	28.47	28.63	9.03	<b>19.21</b>	<b>19.44</b>	<b>19.60</b>	29.50
GPRS (GMSK)	1Txslot	28.37	28.59	28.75	9.03	19.34	19.56	19.72	29.50
	2Txslots	26.26	26.48	26.56	6.02	20.24	20.46	20.54	27.50
	3Txslots	24.07	24.31	24.48	4.26	19.81	20.05	20.22	25.00
	4Txslots	21.98	22.19	22.37	3.01	18.97	19.18	19.36	23.00
EGPRS (GMSK)	1Txslot	28.24	28.46	28.62	9.03	19.21	19.43	19.59	30.10
	2Txslots	26.17	26.39	26.47	6.02	20.15	20.37	20.45	27.50
	3Txslots	23.99	24.23	24.43	4.26	19.73	19.97	20.17	25.00
	4Txslots	21.93	22.14	22.32	3.01	18.92	19.13	19.31	23.00
EGPRS (8PSK)	1Txslot	22.40	22.39	22.46	9.03	13.37	13.36	13.43	23.50
	2Txslots	20.06	20.13	20.16	6.02	14.04	14.11	14.14	21.00



	3Txslots	18.33	18.34	18.41	4.26	14.07	14.08	14.15	19.50
	4Txslots	16.26	16.13	16.38	3.01	13.25	13.12	13.37	17.50
GSM 850 (REC On+Right Head)		Power(dBm)			Division Factors (dB)	Power(dBm)			Burst Tune-up Limit (dBm)
Tx Channel		128	190	251		128	190	251	
Frequency(MHz)		824.2	836.6	848.8		824.2	836.6	848.8	
GSM(GMSK)		27.70	27.96	28.13	9.03	<b>18.67</b>	<b>18.93</b>	<b>19.10</b>	29.00
GPRS (GMSK)	1Txslot	27.84	28.08	28.24	9.03	18.81	19.05	19.21	29.00
	2Txslots	25.68	26.01	25.91	6.02	19.66	19.99	19.89	27.00
	3Txslots	23.61	23.80	23.93	4.26	19.35	19.54	19.67	24.50
	4Txslots	21.69	21.78	21.90	3.01	18.68	18.77	18.89	22.50
EGPRS (GMSK)	1Txslot	27.74	27.98	28.14	9.03	18.71	18.95	19.11	29.60
	2Txslots	25.58	25.71	25.81	6.02	19.56	19.69	19.79	27.00
	3Txslots	23.21	23.40	23.53	4.26	18.95	19.14	19.27	24.50
	4Txslots	21.74	21.68	21.80	3.01	18.73	18.67	18.79	22.50
EGPRS (8PSK)	1Txslot	22.08	22.05	22.11	9.03	13.05	13.02	13.08	23.00
	2Txslots	19.85	19.94	20.09	6.02	13.83	13.92	14.07	20.50
	3Txslots	17.98	17.88	17.96	4.26	13.72	13.62	13.70	19.00
	4Txslots	15.62	15.77	15.88	3.01	12.61	12.76	12.87	17.00
GSM 850 (REC On+Left Head+Wi-Fi/BT)		Power(dBm)			Division Factors (dB)	Power(dBm)			Burst Tune-up Limit (dBm)
Tx Channel		128	190	251		128	190	251	
Frequency(MHz)		824.2	836.6	848.8		824.2	836.6	848.8	
GSM(GMSK)		25.30	25.54	25.72	9.03	<b>16.27</b>	<b>16.51</b>	<b>16.69</b>	26.50
GPRS (GMSK)	1Txslot	25.41	25.53	25.36	9.03	16.38	16.50	16.33	26.50
	2Txslots	23.18	23.42	23.26	6.02	17.16	17.40	17.24	24.50
	3Txslots	21.25	21.46	21.25	4.26	16.99	17.20	16.99	22.00
	4Txslots	19.11	19.33	19.09	3.01	16.10	16.32	16.08	20.00
EGPRS (GMSK)	1Txslot	25.30	25.42	25.25	9.03	16.27	16.39	16.22	27.10
	2Txslots	23.12	23.36	23.20	6.02	17.10	17.34	17.18	24.50
	3Txslots	21.16	21.37	21.16	4.26	16.90	17.11	16.90	22.00
	4Txslots	19.03	19.25	19.01	3.01	16.02	16.24	16.00	20.00
EGPRS (8PSK)	1Txslot	19.72	19.77	19.66	9.03	10.69	10.74	10.63	20.50
	2Txslots	17.15	17.14	17.38	6.02	11.13	11.12	11.36	18.00
	3Txslots	15.26	15.47	15.39	4.26	11.00	11.21	11.13	16.50
	4Txslots	13.23	13.18	13.24	3.01	10.22	10.17	10.23	14.50
GSM 850 (REC On+Right Head+Wi-Fi/BT)		Power(dBm)			Division Factors (dB)	Power(dBm)			Burst Tune-up Limit (dBm)
Tx Channel		128	190	251		128	190	251	
Frequency(MHz)		824.2	836.6	848.8		824.2	836.6	848.8	



GSM(GMSK)		24.81	25.06	25.23	9.03	<b>15.78</b>	<b>16.03</b>	<b>16.20</b>	26.00
GPRS (GMSK)	1Txslot	24.93	25.16	25.35	9.03	15.90	16.13	16.32	26.00
	2Txslots	23.17	23.10	23.23	6.02	17.15	17.08	17.21	24.00
	3Txslots	20.56	20.78	20.85	4.26	16.30	16.52	16.59	21.50
	4Txslots	18.71	18.95	19.10	3.01	15.70	15.94	16.09	19.50
EGPRS (GMSK)	1Txslot	24.82	25.05	25.24	9.03	15.79	16.02	16.21	26.60
	2Txslots	22.78	23.01	23.14	6.02	16.76	16.99	17.12	24.00
	3Txslots	20.48	20.70	20.97	4.26	16.22	16.44	16.71	21.50
	4Txslots	18.64	18.88	19.03	3.01	15.63	15.87	16.02	19.50
EGPRS (8PSK)	1Txslot	19.23	19.08	19.15	9.03	10.20	10.05	10.12	20.00
	2Txslots	17.12	17.07	17.06	6.02	11.10	11.05	11.04	17.50
	3Txslots	15.31	15.23	15.26	4.26	11.05	10.97	11.00	16.00
	4Txslots	12.55	12.74	12.78	3.01	9.54	9.73	9.77	14.00
GSM 850 (REC Off)		Power(dBm)			Division Factors (dB)	Power(dBm)			Burst Tune-up Limit (dBm)
Tx Channel		128	190	251		128	190	251	
Frequency(MHz)		824.2	836.6	848.8		824.2	836.6	848.8	
GSM(GMSK)		32.06	32.24	32.32	9.03	23.03	23.21	23.29	33.60
GPRS (GMSK)	1Txslot	32.14	32.33	32.42	9.03	23.11	23.30	23.39	33.60
	2Txslots	29.68	29.95	30.16	6.02	<b>23.66</b>	<b>23.93</b>	<b>24.14</b>	31.00
	3Txslots	27.48	27.75	27.82	4.26	23.22	23.49	23.56	28.50
	4Txslots	25.24	25.59	25.66	3.01	22.23	22.58	22.65	26.50
EGPRS (GMSK)	1Txslot	32.02	32.21	32.30	9.03	22.99	23.18	23.27	33.60
	2Txslots	29.61	29.88	30.09	6.02	23.59	23.86	24.07	31.00
	3Txslots	27.39	27.66	27.73	4.26	23.13	23.40	23.47	28.50
	4Txslots	25.18	25.53	25.60	3.01	22.17	22.52	22.59	26.50
EGPRS (8PSK)	1Txslot	25.96	26.10	26.18	9.03	16.93	17.07	17.15	27.00
	2Txslots	23.71	23.86	23.82	6.02	17.69	17.84	17.80	24.50
	3Txslots	21.87	21.92	21.94	4.26	17.61	17.66	17.68	23.00
	4Txslots	19.48	19.63	19.53	3.01	16.47	16.62	16.52	21.00
GSM 850 (REC Off+Wi-Fi/BT)		Power(dBm)			Division Factors (dB)	Power(dBm)			Burst Tune-up Limit (dBm)
Tx Channel		128	190	251		128	190	251	
Frequency(MHz)		824.2	836.6	848.8		824.2	836.6	848.8	
GSM(GMSK)		28.77	29.03	29.19	9.03	19.74	20.00	20.16	30.60
GPRS (GMSK)	1Txslot	28.83	29.09	29.24	9.03	19.80	20.06	20.21	30.60
	2Txslots	26.65	26.99	27.13	6.02	<b>20.63</b>	<b>20.97</b>	<b>21.11</b>	28.00
	3Txslots	24.51	24.74	24.95	4.26	20.25	20.48	20.69	25.50
	4Txslots	22.46	22.76	22.89	3.01	19.45	19.75	19.88	23.50
EGPRS (GMSK)	1Txslot	28.71	28.97	29.12	9.03	19.68	19.94	20.09	30.60
	2Txslots	26.58	26.92	27.06	6.02	20.56	20.90	21.04	28.00
	3Txslots	24.42	24.65	24.86	4.26	20.16	20.39	20.60	25.50
	4Txslots	22.40	22.70	22.83	3.01	19.39	19.69	19.82	23.50



EGPRS (8PSK)	1Txslot	22.96	23.21	23.14	9.03	13.93	14.18	14.11	24.00
	2Txslots	21.06	21.14	21.21	6.02	15.04	15.12	15.19	21.50
	3Txslots	18.86	19.04	19.11	4.26	14.60	14.78	14.85	20.00
	4Txslots	16.93	16.90	16.82	3.01	13.92	13.89	13.81	18.00
GSM 1900 (REC On+Left Head)		Power(dBm)			Division Factors (dB)	Power(dBm)			Burst Tune-up Limit (dBm)
Tx Channel		512	661	810		512	661	810	
Frequency(MHz)		1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM(GMSK)		29.20	29.36	29.28	9.03	<b>20.17</b>	<b>20.33</b>	<b>20.25</b>	30.00
GPRS (GMSK)	1Txslot	29.27	29.41	29.42	9.03	20.24	20.38	20.39	30.00
	2Txslots	26.83	26.89	26.93	6.02	20.81	20.87	20.91	27.00
	3Txslots	24.63	24.78	24.75	4.26	20.37	20.52	20.49	25.00
	4Txslots	22.38	22.54	22.40	3.01	19.37	19.53	19.39	23.00
EGPRS (GMSK)	1Txslot	29.16	29.30	29.31	9.03	20.13	20.27	20.28	30.00
	2Txslots	26.81	26.87	26.91	6.02	20.79	20.85	20.89	27.50
	3Txslots	24.54	24.69	24.66	4.26	20.28	20.43	20.40	25.00
	4Txslots	22.31	22.47	22.33	3.01	19.30	19.46	19.32	23.00
EGPRS (8PSK)	1Txslot	24.18	24.25	24.30	9.03	15.15	15.22	15.27	25.50
	2Txslots	22.20	22.55	22.42	6.02	16.18	16.53	16.40	23.00
	3Txslots	19.94	19.96	19.90	4.26	15.68	15.70	15.64	20.50
	4Txslots	17.70	17.72	17.66	3.01	14.69	14.71	14.65	18.50
GSM 1900 (REC On+Right Head)		Power(dBm)			Division Factors (dB)	Power(dBm)			Burst Tune-up Limit (dBm)
Tx Channel		512	661	810		512	661	810	
Frequency(MHz)		1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM(GMSK)		25.72	25.86	25.87	9.03	<b>16.69</b>	<b>16.83</b>	<b>16.84</b>	26.50
GPRS (GMSK)	1Txslot	25.88	25.99	25.90	9.03	16.85	16.96	16.87	26.50
	2Txslots	23.40	23.41	23.48	6.02	17.38	17.39	17.46	23.50
	3Txslots	21.46	21.48	21.45	4.26	17.20	17.22	17.19	21.50
	4Txslots	19.47	19.46	19.41	3.01	16.46	16.45	16.40	19.50
EGPRS (GMSK)	1Txslot	25.77	25.88	25.79	9.03	16.74	16.85	16.76	26.50
	2Txslots	23.58	23.69	23.66	6.02	17.56	17.67	17.64	24.00
	3Txslots	21.47	21.49	21.46	4.26	17.21	17.23	17.20	21.50
	4Txslots	19.40	19.49	19.44	3.01	16.39	16.48	16.43	19.50
EGPRS (8PSK)	1Txslot	21.39	21.37	21.30	9.03	12.36	12.34	12.27	22.00
	2Txslots	19.47	19.39	19.37	6.02	13.45	13.37	13.35	19.50
	3Txslots	16.91	16.91	16.95	4.26	12.65	12.65	12.69	17.00
	4Txslots	14.75	14.68	14.94	3.01	11.74	11.67	11.93	15.00
GSM 1900 (REC On+Left Head+Wi-Fi/BT)		Power(dBm)			Division Factors (dB)	Power(dBm)			Burst Tune-up Limit (dBm)
Tx Channel		512	661	810		512	661	810	



Frequency(MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8		
GSM(GMSK)	25.75	25.89	25.90	9.03	<b>16.72</b>	<b>16.86</b>	<b>16.87</b>	27.00	
GPRS (GMSK)	1Txslot	25.85	25.95	25.96	9.03	16.82	16.92	16.93	27.00
	2Txslots	23.63	23.75	23.74	6.02	17.61	17.73	17.72	24.00
	3Txslots	21.52	21.62	21.59	4.26	17.26	17.36	17.33	22.00
	4Txslots	19.52	19.57	19.50	3.01	16.51	16.56	16.49	20.00
EGPRS (GMSK)	1Txslot	25.76	25.86	25.87	9.03	16.73	16.83	16.84	27.00
	2Txslots	23.65	23.77	23.76	6.02	17.63	17.75	17.74	24.50
	3Txslots	21.44	21.54	21.51	4.26	17.18	17.28	17.25	22.00
	4Txslots	19.43	19.48	19.41	3.01	16.42	16.47	16.40	20.00
EGPRS (8PSK)	1Txslot	21.36	21.35	21.24	9.03	12.33	12.32	12.21	22.50
	2Txslots	19.26	19.27	19.38	6.02	13.24	13.25	13.36	20.00
	3Txslots	16.85	16.84	16.76	4.26	12.59	12.58	12.50	17.50
	4Txslots	14.61	14.60	14.52	3.01	11.60	11.59	11.51	15.50
GSM 1900 (REC On+Right Head+Wi-Fi/BT)		Power(dBm)			Division Factors (dB)	Power(dBm)			Burst Tune-up Limit (dBm)
Tx Channel		512	661	810		512	661	810	
Frequency(MHz)		1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM(GMSK)		22.67	22.78	22.68		9.03	<b>13.64</b>	<b>13.75</b>	
GPRS (GMSK)	1Txslot	22.66	22.85	22.74	9.03	13.63	13.82	13.71	23.50
	2Txslots	20.46	20.46	20.42	6.02	14.44	14.44	14.40	20.50
	3Txslots	18.46	18.46	18.45	4.26	14.20	14.20	14.19	18.50
	4Txslots	16.41	16.48	16.45	3.01	13.40	13.47	13.44	16.50
EGPRS (GMSK)	1Txslot	22.57	22.76	22.65	9.03	13.54	13.73	13.62	23.50
	2Txslots	20.58	20.68	20.54	6.02	14.56	14.66	14.52	21.00
	3Txslots	18.48	18.48	18.47	4.26	14.22	14.22	14.21	18.50
	4Txslots	16.42	16.49	16.46	3.01	13.41	13.48	13.45	16.50
EGPRS (8PSK)	1Txslot	18.54	18.55	18.48	9.03	9.51	9.52	9.45	19.00
	2Txslots	16.32	16.39	16.36	6.02	10.30	10.37	10.34	16.50
	3Txslots	13.85	13.88	13.90	4.26	9.59	9.62	9.64	14.00
	4Txslots	11.60	11.63	11.65	3.01	8.59	8.62	8.64	12.00
GSM 1900 (REC Off)		Power(dBm)			Division Factors (dB)	Power(dBm)			Burst Tune-up Limit (dBm)
Tx Channel		512	661	810		512	661	810	
Frequency(MHz)		1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM(GMSK)		30.44	30.64	30.71		9.03	21.41	21.61	
GPRS (GMSK)	1Txslot	30.47	27.61	30.56	9.03	21.44	18.58	21.53	31.00
	2Txslots	27.78	27.90	27.81	6.02	21.76	21.88	21.79	28.00
	3Txslots	25.41	25.56	25.53	4.26	21.15	21.30	21.27	26.00
	4Txslots	23.34	23.44	23.44	3.01	20.33	20.43	20.43	24.00
EGPRS (GMSK)	1Txslot	30.24	30.63	30.52	9.03	21.21	21.60	21.49	31.00
	2Txslots	27.84	27.98	27.91	6.02	<b>21.82</b>	<b>21.96</b>	<b>21.89</b>	28.50



	3Txslots	25.48	25.55	25.45	4.26	21.22	21.29	21.19	26.00
	4Txslots	23.26	23.37	23.49	3.01	20.25	20.36	20.48	24.00
EGPRS (8PSK)	1Txslot	25.54	25.57	25.51	9.03	16.51	16.54	16.48	26.50
	2Txslots	22.99	22.96	22.94	6.02	16.97	16.94	16.92	24.00
	3Txslots	20.98	20.99	20.89	4.26	16.72	16.73	16.63	21.50
	4Txslots	18.54	18.69	18.64	3.01	15.53	15.68	15.63	19.50
GSM 1900 (REC Off+Wi-Fi/BT)		Power(dBm)			Division Factors (dB)	Power(dBm)			Burst Tune-up Limit (dBm)
Tx Channel		512	661	810		512	661	810	
Frequency(MHz)		1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM(GMSK)		26.80	26.97	27.00	9.03	17.77	17.94	17.97	28.00
GPRS (GMSK)	1Txslot	26.78	26.92	27.05	9.03	17.75	17.89	18.02	28.00
	2Txslots	24.65	24.78	24.74	6.02	18.63	18.76	18.72	25.00
	3Txslots	22.43	22.51	22.56	4.26	18.17	18.25	18.30	23.00
	4Txslots	20.45	20.54	20.48	3.01	17.44	17.53	17.47	21.00
EGPRS (GMSK)	1Txslot	26.70	26.84	26.97	9.03	17.67	17.81	17.94	28.00
	2Txslots	24.66	24.79	24.75	6.02	<b>18.64</b>	<b>18.77</b>	<b>18.73</b>	25.50
	3Txslots	22.34	22.42	22.47	4.26	18.08	18.16	18.21	23.00
	4Txslots	20.37	20.46	20.40	3.01	17.36	17.45	17.39	21.00
EGPRS (8PSK)	1Txslot	22.36	22.40	22.37	9.03	13.33	13.37	13.34	23.50
	2Txslots	20.37	20.32	20.16	6.02	14.35	14.30	14.14	21.00
	3Txslots	18.34	18.41	18.04	4.26	14.08	14.15	13.78	18.50
	4Txslots	16.05	15.96	15.83	3.01	13.04	12.95	12.82	16.50

Notes: The worst-case configuration and mode for SAR testing is determined to be as follows:

1. GSM 850 GMSK (GPRS) mode with 2 time slots for Max power, GSM 1900 GMSK (EGPRS) mode with 2 time slots for Max power, based on the output power measurements above.
2. SAR is not required for EGPRS (8PSK) mode because its output power is less than that of GPRS Mode.

## 9.2 WCDMA Mode

The following tests were completed according to the test requirements outlined in the 3GPP TS34.121 specification.

### (Antenna 1)

WCDMA		Band II(dBm) (REC On/Off, Hotspot Off)				Band II(dBm) (REC On/Off, Hotspot On)				Band II(dBm) (Hotspot Off+Sensor On)			
Tx Channel		9262	9400	9538	Tune-up	9262	9400	9538	Tune-up	9262	9400	9538	Tune-up
Frequency(MHz)		1852.4	1880	1907.6	Limit	1852.4	1880	1907.6	Limit	1852.4	1880	1907.6	Limit
RMC	12.2kbps	23.78	23.74	23.68	24.50	18.05	18.13	18.07	19.00	22.66	22.84	22.81	23.50
AMR	12.2kbps	23.72	23.68	23.62	24.50	17.99	18.07	18.01	19.00	22.60	22.78	22.75	23.50
HSDPA	Sub 1	23.21	23.17	23.11	24.00	17.48	17.56	17.50	18.50	22.09	22.27	22.24	23.00
	Sub 2	22.73	22.69	22.63	23.50	17.00	17.08	17.02	18.00	21.61	21.79	21.76	22.50
	Sub 3	22.22	22.18	22.12	23.00	16.49	16.57	16.51	17.50	21.10	21.28	21.25	22.00
	Sub 4	22.21	22.17	22.11	23.00	16.48	16.56	16.50	17.50	21.09	21.27	21.24	22.00
HSUPA	Sub 1	22.20	22.16	22.10	23.00	16.47	16.55	16.49	17.50	21.08	21.26	21.23	22.00
	Sub 2	19.33	19.29	19.23	20.00	13.60	13.68	13.62	14.50	18.21	18.39	18.36	19.00
	Sub 3	20.18	20.14	20.24	21.00	14.45	14.53	14.63	15.50	19.06	19.24	19.37	20.00
	Sub 4	19.28	19.24	19.21	20.00	13.55	13.63	13.60	14.50	18.16	18.34	18.34	19.00
	Sub 5	21.76	21.72	21.66	22.50	16.03	16.11	16.05	17.00	20.64	20.82	20.79	21.50
DC-HSDPA	Sub 1	23.25	23.17	23.11	24.00	17.52	17.56	17.50	18.50	22.13	22.27	22.24	23.00
	Sub 2	22.74	22.66	22.60	23.50	17.01	17.05	16.99	18.00	21.62	21.76	21.73	22.50
	Sub 3	22.29	22.21	22.15	23.00	16.56	16.60	16.54	17.50	21.17	21.31	21.28	22.00
	Sub 4	22.28	22.30	22.13	23.00	16.55	16.69	16.52	17.50	21.16	21.40	21.26	22.00
WCDMA		Band IV(dBm) (REC On/Off, Hotspot Off)				Band IV(dBm) (REC On/Off, Hotspot On)				Band IV(dBm) (Hotspot Off+Sensor On)			
Tx Channel		1312	1413	1513	Tune-up	1312	1413	1513	Tune-up	1312	1413	1513	Tune-up
Frequency(MHz)		1712.4	1732.6	1752.6	Limit	1712.4	1732.6	1752.6	Limit	1712.4	1732.6	1752.6	Limit
RMC	12.2kbps	23.68	23.69	23.72	24.50	17.55	17.57	17.51	18.50	21.08	21.06	21.04	22.00
AMR	12.2kbps	23.62	23.63	23.66	24.50	17.49	17.51	17.45	18.50	21.02	21.00	20.98	22.00
HSDPA	Sub 1	23.01	23.02	23.05	24.00	16.98	17.00	16.94	18.00	20.51	20.49	20.47	21.50
	Sub 2	22.53	22.54	22.57	23.50	16.50	16.52	16.46	17.50	20.03	20.01	19.99	21.00
	Sub 3	22.02	22.03	22.06	23.00	15.99	16.01	15.95	17.00	19.52	19.50	19.48	20.50
	Sub 4	22.01	22.02	22.05	23.00	15.98	16.00	15.94	17.00	19.51	19.49	19.47	20.50
HSUPA	Sub 1	22.00	22.01	22.04	23.00	15.97	15.99	15.93	17.00	19.50	19.48	19.46	20.50
	Sub 2	19.13	19.14	19.17	20.00	13.10	13.12	13.06	14.00	16.63	16.61	16.59	17.50
	Sub 3	19.98	19.99	20.18	21.00	13.95	13.97	14.07	15.00	17.48	17.46	17.60	18.50
	Sub 4	19.08	19.09	19.15	20.00	13.05	13.07	13.04	14.00	16.58	16.56	16.57	17.50
	Sub 5	21.56	21.57	21.60	22.50	15.53	15.55	15.49	16.50	19.06	19.04	19.02	20.00
DC-HSDPA	Sub 1	23.05	23.02	23.05	24.00	17.02	17.00	16.94	18.00	20.55	20.49	20.47	21.50
	Sub 2	22.54	22.51	22.54	23.50	16.51	16.49	16.43	17.50	20.04	19.98	19.96	21.00
	Sub 3	22.09	22.06	22.09	23.00	16.06	16.04	15.98	17.00	19.59	19.53	19.51	20.50





		Sub 4	22.08	22.15	22.07	23.00	16.05	16.13	15.96	17.00	19.58	19.62	19.49	20.50
WCDMA		Band V(dBm) (REC On/Off, Hotspot Off)												
Tx Channel		4132			4183			4233			Tune-up Limit			
Frequency(MHz)		826.4			836.6			846.6						
RMC	12.2kbps	23.27			23.25			23.17			24.50			
AMR	12.2kbps	23.21			23.19			23.11			24.50			
HSDPA	Sub 1	22.70			22.68			22.60			24.00			
	Sub 2	22.22			22.20			22.12			23.50			
	Sub 3	21.71			21.69			21.61			23.00			
	Sub 4	21.70			21.68			21.60			23.00			
HSUPA	Sub 1	21.69			21.67			21.59			23.00			
	Sub 2	19.82			19.80			19.72			21.00			
	Sub 3	20.67			20.65			20.73			22.00			
	Sub 4	20.27			20.25			20.20			21.50			
	Sub 5	21.25			21.23			21.15			22.50			
DC-HSDPA	Sub 1	22.74			22.68			22.60			24.00			
	Sub 2	22.23			22.17			22.09			23.50			
	Sub 3	21.78			21.72			21.64			23.00			
	Sub 4	21.77			21.81			21.62			23.00			

Note: 1. Per KDB 941225 D01, SAR for Head / Hotspot / Body-worn exposure is measured using a 12.2 kbps AMR with TPC bits configured to all "1's".

2. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq$  ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq$  1.2 W/kg, SAR measurement is not required for the secondary mode.



(Antenna 2)

WCDMA		Band II(dBm) (REC On+Left Head)				Band II(dBm) (REC On+Right Head)				Band II(dBm) (REC On+Left Head+Wi-Fi/BT)			
Tx Channel		9262	9400	9538	Tune-up	9262	9400	9538	Tune-up	9262	9400	9538	Tune-up
Frequency(MHz)		1852.4	1880	1907.6	Limit	1852.4	1880	1907.6	Limit	1852.4	1880	1907.6	Limit
RMC	12.2kbps	18.69	18.72	18.71	19.50	15.75	15.84	15.90	17.00	14.89	14.81	15.04	16.50
AMR	12.2kbps	18.63	18.66	18.65	19.50	15.69	15.78	15.84	17.00	14.83	14.75	14.98	16.50
HSDPA	Sub 1	18.62	18.65	18.64	19.50	15.68	15.77	15.83	17.00	14.82	14.74	14.97	16.50
	Sub 2	17.64	17.67	17.66	18.50	14.70	14.79	14.85	16.00	13.84	13.76	13.99	15.50
	Sub 3	17.13	17.16	17.15	18.00	14.19	14.28	14.34	15.50	13.33	13.25	13.48	15.00
	Sub 4	17.12	17.15	17.14	18.00	14.18	14.27	14.33	15.50	13.32	13.24	13.47	15.00
HSUPA	Sub 1	17.11	17.14	17.13	18.00	14.17	14.26	14.32	15.50	13.31	13.23	13.46	15.00
	Sub 2	14.74	14.77	14.76	15.50	11.80	11.89	11.95	13.00	10.94	10.86	11.09	12.50
	Sub 3	15.09	15.12	15.27	16.00	12.15	12.24	12.46	13.50	11.29	11.21	11.60	13.00
	Sub 4	14.69	14.72	14.74	15.50	11.75	11.84	11.93	13.00	10.89	10.81	11.07	12.50
	Sub 5	17.17	17.20	17.19	18.00	14.23	14.32	14.38	15.50	13.37	13.29	13.52	15.00
DC-HSDPA	Sub 1	18.66	18.65	18.64	19.50	15.72	15.77	15.83	17.00	14.86	14.74	14.97	16.50
	Sub 2	17.65	17.64	17.63	18.50	14.71	14.76	14.82	16.00	13.85	13.73	13.96	15.50
	Sub 3	17.20	17.19	17.18	18.00	14.26	14.31	14.37	15.50	13.40	13.28	13.51	15.00
	Sub 4	17.19	17.28	17.16	18.00	14.25	14.40	14.35	15.50	13.39	13.37	13.49	15.00
WCDMA		Band II(dBm) (REC On+Right Head+Wi-Fi/BT)				Band II(dBm) (REC Off)				Band II(dBm) (REC Off+Wi-Fi/BT)			
Tx Channel		9262	9400	9538	Tune-up	9262	9400	9538	Tune-up	9262	9400	9538	Tune-up
Frequency(MHz)		1852.4	1880	1907.6	Limit	1852.4	1880	1907.6	Limit	1852.4	1880	1907.6	Limit
RMC	12.2kbps	12.44	12.51	12.52	14.00	21.66	21.71	21.74	22.50	20.66	20.70	20.50	21.50
AMR	12.2kbps	12.38	12.45	12.46	14.00	21.60	21.65	21.68	22.50	20.60	20.64	20.44	21.50
HSDPA	Sub 1	12.37	12.44	12.45	14.00	21.59	21.64	21.67	22.50	20.59	20.63	20.43	21.50
	Sub 2	11.39	11.46	11.47	13.00	20.61	20.66	20.69	21.50	19.61	19.65	19.45	20.50
	Sub 3	10.88	10.95	10.96	12.50	20.10	20.15	20.18	21.00	19.10	19.14	18.94	20.00
	Sub 4	10.87	10.94	10.95	12.50	20.09	20.14	20.17	21.00	19.09	19.13	18.93	20.00
HSUPA	Sub 1	10.86	10.93	10.94	12.50	20.08	20.13	20.16	21.00	19.08	19.12	18.92	20.00
	Sub 2	8.49	8.56	8.57	10.00	17.71	17.76	17.79	18.50	16.71	16.75	16.55	17.50
	Sub 3	8.84	8.91	9.08	10.50	18.06	18.11	18.30	19.00	17.06	17.10	17.06	18.00
	Sub 4	8.44	8.51	8.55	10.00	17.66	17.71	17.77	18.50	16.66	16.70	16.53	17.50
	Sub 5	10.92	10.99	11.00	12.50	20.14	20.19	20.22	21.00	19.14	19.18	18.98	20.00
DC-HSDPA	Sub 1	12.41	12.44	12.45	14.00	21.63	21.64	21.67	22.50	20.63	20.63	20.43	21.50
	Sub 2	11.40	11.43	11.44	13.00	20.62	20.63	20.66	21.50	19.62	19.62	19.42	20.50
	Sub 3	10.95	10.98	10.99	12.50	20.17	20.18	20.21	21.00	19.17	19.17	18.97	20.00
	Sub 4	10.94	11.07	10.97	12.50	20.16	20.27	20.19	21.00	19.16	19.26	18.95	20.00



WCDMA		Band IV(dBm) (REC On+Left Head)				Band IV(dBm) (REC On+Right Head)				Band IV(dBm) (REC On+Left Head+Wi-Fi/BT)			
Tx Channel		1312	1413	1513	Tune-up	1312	1413	1513	Tune-up	1312	1413	1513	Tune-up
Frequency(MHz)		1712.4	1732.6	1752.6	Limit	1712.4	1732.6	1752.6	Limit	1712.4	1732.6	1752.6	Limit
RMC	12.2kbps	20.12	20.13	19.97	20.50	17.18	17.07	17.04	17.50	17.12	17.14	17.09	17.50
AMR	12.2kbps	20.06	20.07	19.91	20.50	17.12	17.01	16.98	17.50	17.06	17.08	17.03	17.50
HSDPA	Sub 1	20.05	20.06	19.90	20.50	17.11	17.00	16.97	17.50	17.05	17.07	17.02	17.50
	Sub 2	19.57	19.58	19.42	20.00	16.63	16.52	16.49	17.00	16.57	16.59	16.54	17.00
	Sub 3	18.56	18.57	18.41	19.00	15.62	15.51	15.48	16.00	15.56	15.58	15.53	16.00
	Sub 4	18.55	18.56	18.40	19.00	15.61	15.50	15.47	16.00	15.55	15.57	15.52	16.00
HSUPA	Sub 1	18.54	18.55	18.39	19.00	15.60	15.49	15.46	16.00	15.54	15.56	15.51	16.00
	Sub 2	16.17	16.18	16.02	16.50	13.23	13.12	13.09	13.50	13.17	13.19	13.14	13.50
	Sub 3	17.02	17.03	17.03	17.50	14.08	13.97	14.10	14.50	14.02	14.04	14.15	14.50
	Sub 4	16.12	16.13	16.00	16.50	13.18	13.07	13.07	13.50	13.12	13.14	13.12	13.50
	Sub 5	18.60	18.61	18.45	19.00	15.66	15.55	15.52	16.00	15.60	15.62	15.57	16.00
DC-HSDPA	Sub 1	20.09	20.06	19.90	20.50	17.15	17.00	16.97	17.50	17.09	17.07	17.02	17.50
	Sub 2	19.58	19.55	19.39	20.00	16.64	16.49	16.46	17.00	16.58	16.56	16.51	17.00
	Sub 3	18.63	18.60	18.44	19.00	15.69	15.54	15.51	16.00	15.63	15.61	15.56	16.00
	Sub 4	18.62	18.69	18.42	19.00	15.68	15.63	15.49	16.00	15.62	15.70	15.54	16.00
WCDMA		Band IV(dBm) (REC On+Right Head+Wi-Fi/BT)				Band IV(dBm) (REC Off)				Band IV(dBm) (REC Off+Wi-Fi/BT)			
Tx Channel		1312	1413	1513	Tune-up	1312	1413	1513	Tune-up	1312	1413	1513	Tune-up
Frequency(MHz)		1712.4	1732.6	1752.6	Limit	1712.4	1732.6	1752.6	Limit	1712.4	1732.6	1752.6	Limit
RMC	12.2kbps	14.99	14.81	14.22	15.00	24.16	24.03	24.02	24.50	21.08	21.11	20.97	21.50
AMR	12.2kbps	14.93	14.75	14.16	15.00	24.10	23.97	23.96	24.50	21.02	21.05	20.91	21.50
HSDPA	Sub 1	14.92	14.74	14.15	15.00	24.09	23.96	23.95	24.50	21.01	21.04	20.90	21.50
	Sub 2	14.44	14.26	13.67	14.50	23.61	23.48	23.47	24.00	20.53	20.56	20.42	21.00
	Sub 3	13.43	13.25	12.66	13.50	22.60	22.47	22.46	23.00	19.52	19.55	19.41	20.00
	Sub 4	13.42	13.24	12.65	13.50	22.59	22.46	22.45	23.00	19.51	19.54	19.40	20.00
HSUPA	Sub 1	13.41	13.23	12.64	13.50	22.58	22.45	22.44	23.00	19.50	19.53	19.39	20.00
	Sub 2	11.04	10.86	10.27	11.00	20.21	20.08	20.07	20.50	17.13	17.16	17.02	17.50
	Sub 3	11.89	11.71	11.28	12.00	21.06	20.93	21.08	21.50	17.98	18.01	18.03	18.50
	Sub 4	10.99	10.81	10.25	11.00	20.16	20.03	20.05	20.50	17.08	17.11	17.00	17.50
	Sub 5	13.47	13.29	12.70	13.50	22.64	22.51	22.50	23.00	19.56	19.59	19.45	20.00
DC-HSDPA	Sub 1	14.96	14.74	14.15	15.00	24.13	23.96	23.95	24.50	21.05	21.04	20.90	21.50
	Sub 2	14.45	14.23	13.64	14.50	23.62	23.45	23.44	24.00	20.54	20.53	20.39	21.00
	Sub 3	13.50	13.28	12.69	13.50	22.67	22.50	22.49	23.00	19.59	19.58	19.44	20.00
	Sub 4	13.49	13.37	12.67	13.50	22.66	22.59	22.47	23.00	19.58	19.67	19.42	20.00
WCDMA		Band V(dBm) (REC On+Left Head)				Band V(dBm) (REC On+Right Head)				Band V(dBm) (REC On+Left Head+Wi-Fi/BT)			
Tx Channel		4132	4183	4233	Tune-up	4132	4183	4233	Tune-up	4132	4183	4233	Tune-up
Frequency(MHz)		826.4	836.6	846.6	Limit	826.4	836.6	846.6	Limit	826.4	836.6	846.6	Limit
RMC	12.2kbps	19.48	19.53	19.56	20.50	18.95	19.07	19.06	20.00	16.52	16.62	16.59	17.50



AMR	12.2kbps	19.42	19.47	19.50	20.50	18.89	19.01	19.00	20.00	16.46	16.51	16.53	17.50
HSDPA	Sub 1	19.41	19.46	19.49	20.50	18.38	18.50	18.49	19.50	15.95	16.00	16.02	17.00
	Sub 2	18.93	18.98	19.01	20.00	17.90	18.02	18.01	19.00	15.47	15.52	15.54	16.50
	Sub 3	17.92	17.97	18.00	19.00	17.39	17.51	17.50	18.50	14.96	15.01	15.03	16.00
	Sub 4	17.91	17.96	17.99	19.00	17.38	17.50	17.49	18.50	14.95	15.00	15.02	16.00
HSUPA	Sub 1	17.90	17.95	17.98	19.00	17.87	17.99	17.98	19.00	15.44	15.49	15.51	16.50
	Sub 2	15.53	15.58	15.61	16.50	16.00	16.12	16.11	17.00	13.57	13.62	13.64	14.50
	Sub 3	16.38	16.43	16.62	17.50	15.85	15.97	16.12	17.00	13.42	13.47	13.65	14.50
	Sub 4	15.48	15.53	15.59	16.50	14.95	15.07	15.09	16.00	12.52	12.57	12.62	13.50
	Sub 5	17.96	18.01	18.04	19.00	17.93	18.05	18.04	19.00	15.50	15.55	15.57	16.50
DC-HSDPA	Sub 1	19.45	19.46	19.49	20.50	18.42	18.50	18.49	19.50	15.99	16.00	16.02	17.00
	Sub 2	18.94	18.95	18.98	20.00	17.91	17.99	17.98	19.00	15.48	15.49	15.51	16.50
	Sub 3	17.99	18.00	18.03	19.00	17.46	17.54	17.53	18.50	15.03	15.04	15.06	16.00
	Sub 4	17.98	18.09	18.01	19.00	17.45	17.63	17.51	18.50	15.02	15.13	15.04	16.00
WCDMA		Band V(dBm) (REC On+Right Head+Wi-Fi/BT)				Band V(dBm) (REC Off)				Band V(dBm) (REC Off+Wi-Fi/BT)			
Tx Channel		4132	4183	4233	Tune-up Limit	4132	4183	4233	Tune-up Limit	4132	4183	4233	Tune-up Limit
Frequency(MHz)		826.4	836.6	846.6		826.4	836.6	846.6		826.4	836.6	846.6	
RMC	12.2kbps	15.96	16.08	16.06	17.00	23.08	23.12	23.07	24.00	20.04	20.09	20.06	21.00
AMR	12.2kbps	15.90	16.02	16.00	17.00	23.02	23.06	23.01	24.00	19.98	20.03	20.00	21.00
HSDPA	Sub 1	15.39	15.51	15.49	16.50	22.51	22.55	22.50	23.50	19.47	19.52	19.49	20.50
	Sub 2	14.91	15.03	15.01	16.00	22.03	22.07	22.02	23.00	18.99	19.04	19.01	20.00
	Sub 3	14.40	14.52	14.50	15.50	21.52	21.56	21.51	22.50	18.48	18.53	18.50	19.50
	Sub 4	14.39	14.51	14.49	15.50	21.51	21.55	21.50	22.50	18.47	18.52	18.49	19.50
HSUPA	Sub 1	14.88	15.00	14.98	16.00	22.00	22.04	21.99	23.00	18.96	19.01	18.98	20.00
	Sub 2	13.01	13.13	13.11	14.00	20.13	20.17	20.12	21.00	17.09	17.14	17.11	18.00
	Sub 3	12.86	12.98	13.12	14.00	19.98	20.02	20.13	21.00	16.94	16.99	17.12	18.00
	Sub 4	11.96	12.08	12.09	13.00	19.08	19.12	19.10	20.00	16.04	16.09	16.09	17.00
	Sub 5	14.94	15.06	15.04	16.00	22.06	22.10	22.05	23.00	19.02	19.07	19.04	20.00
DC-HSDPA	Sub 1	15.43	15.51	15.49	16.50	22.55	22.55	22.50	23.50	19.51	19.52	19.49	20.50
	Sub 2	14.92	15.00	14.98	16.00	22.04	22.04	21.99	23.00	19.00	19.01	18.98	20.00
	Sub 3	14.47	14.55	14.53	15.50	21.59	21.59	21.54	22.50	18.55	18.56	18.53	19.50
	Sub 4	14.46	14.64	14.51	15.50	21.58	21.68	21.52	22.50	18.54	18.65	18.51	19.50

Note: 1. Per KDB 941225 D01, SAR for Head / Hotspot / Body-worn exposure is measured using a 12.2 kbps AMR with TPC bits configured to all "1's".

2. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode.

### 9.3 LTE Mode

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3**

Modulation	Channel bandwidth / Transmission bandwidth (N <sub>RB</sub> )						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

(Antenna 1)

LTE FDD Band 2 (REC On/Off, Hotspot Off)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	23.72	23.81	23.76	24.00
		1	2	23.56	23.77	23.56	24.00
		1	5	23.75	23.70	23.70	24.00
		3	0	23.71	23.84	23.76	24.00
		3	2	23.62	23.72	23.58	24.00
		3	3	23.64	23.71	23.69	24.00
		6	0	22.59	22.70	22.74	23.00
	16QAM	1	0	22.69	22.82	22.73	23.00
		1	2	22.56	22.62	22.65	23.00
		1	5	22.77	22.90	22.79	23.00
		3	0	22.47	22.60	21.55	23.00
		3	2	22.62	22.55	22.63	23.00
		3	3	22.51	22.64	22.63	23.00
		6	0	21.70	21.68	21.71	22.00
	64QAM	1	0	22.40	22.21	22.12	22.50
		1	2	22.35	22.06	22.01	22.50
		1	5	22.34	22.12	22.07	22.50
		3	0	21.69	21.68	22.20	22.50
		3	2	21.60	21.62	22.32	22.50
		3	3	21.68	21.74	22.23	22.50
		6	0	20.67	20.83	21.38	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	23.74	23.85	23.79	24.00
		1	7	23.59	23.82	23.60	24.00
		1	14	23.78	23.75	23.74	24.00



		8	0	22.81	22.96	22.89	23.00	
		8	4	22.74	22.82	22.70	23.00	
		8	7	22.74	22.82	22.79	23.00	
		15	0	22.62	22.74	22.77	23.00	
	16QAM	1	0	22.72	22.84	22.76	23.00	
		1	7	22.59	22.67	22.69	23.00	
		1	14	22.79	22.94	22.82	23.00	
		8	0	21.58	21.73	20.67	22.00	
		8	4	21.73	21.68	21.75	22.00	
		8	7	21.61	21.76	21.76	22.00	
	64QAM	15	0	21.73	21.72	21.74	22.00	
		1	0	22.43	22.23	22.15	22.50	
		1	7	22.38	22.11	22.05	22.50	
		1	14	22.36	22.16	22.10	22.50	
		8	0	20.80	20.81	21.32	21.50	
		8	4	20.71	20.75	21.44	21.50	
		8	7	20.78	20.86	21.36	21.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18625/1852.5	18900/1880	19175/1907.5	
	5MHz	QPSK	1	0	23.71	23.83	23.75	24.00
			1	13	23.57	23.78	23.57	24.00
1			24	23.75	23.70	23.70	24.00	
12			0	22.78	22.91	22.85	23.00	
12			6	22.72	22.78	22.65	23.00	
12			13	22.72	22.80	22.75	23.00	
25			0	22.60	22.73	22.75	23.00	
16QAM		1	0	22.69	22.80	22.73	23.00	
		1	13	22.56	22.65	22.66	23.00	
		1	24	22.76	22.92	22.78	23.00	
		12	0	21.56	21.69	20.64	22.00	
		12	6	21.70	21.63	21.71	22.00	
		12	13	21.58	21.71	21.72	22.00	
		25	0	21.71	21.68	21.69	22.00	
64QAM		1	0	22.40	22.19	22.12	22.50	
		1	13	22.35	22.09	22.02	22.50	
		1	24	22.33	22.14	22.06	22.50	
		12	0	20.78	20.77	21.29	21.50	
		12	6	20.68	20.70	21.40	21.50	
		12	13	20.75	20.81	21.32	21.50	
		25	0	20.68	20.83	21.36	21.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	23.73	23.84	23.78	24.00
		1	25	23.60	23.83	23.61	24.00
		1	49	23.77	23.74	23.73	24.00
		25	0	22.81	22.96	22.89	23.00
		25	13	22.75	22.83	22.69	23.00
		25	25	22.74	22.84	22.80	23.00
		50	0	22.68	22.75	22.79	23.00
	16QAM	1	0	22.71	22.83	22.75	23.00
		1	25	22.59	22.69	22.69	23.00
		1	49	22.79	22.94	22.81	23.00
		25	0	21.59	21.74	20.68	22.00
		25	13	21.72	21.67	21.74	22.00
		25	25	21.61	21.76	21.76	22.00
		50	0	21.74	21.73	21.73	22.00
	64QAM	1	0	22.42	22.22	22.14	22.50
		1	25	22.38	22.13	22.05	22.50
		1	49	22.36	22.16	22.09	22.50
		25	0	20.81	20.82	21.33	21.50
		25	13	20.70	20.74	21.43	21.50
		25	25	20.78	20.86	21.36	21.50
		50	0	20.71	20.88	21.40	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	23.72	23.80	23.76	24.00
		1	38	23.58	23.82	23.58	24.00
		1	74	23.74	23.69	23.69	24.00
		36	0	22.79	22.92	22.86	23.00
		36	18	22.72	22.78	22.65	23.00
		36	39	22.71	22.81	22.76	23.00
		75	0	22.66	22.71	22.74	23.00
	16QAM	1	0	22.66	22.81	22.73	23.00
		1	38	22.57	22.66	22.67	23.00
		1	74	22.76	22.90	22.78	23.00
		36	0	21.56	21.72	20.65	22.00
		36	18	21.69	21.62	21.70	22.00
		36	39	21.59	21.72	21.73	22.00
		75	0	21.71	21.68	21.69	22.00
	64QAM	1	0	22.37	22.20	22.12	22.50
		1	38	22.36	22.10	22.03	22.50
		1	74	22.33	22.12	22.06	22.50
		36	0	20.78	20.80	21.30	21.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
				36	18	20.67	
36	39	20.76	20.82	21.33	21.50		
75	0	20.68	20.83	21.36	21.50		
20MHz	QPSK	1	0	23.69	23.76	23.73	24.00
		1	50	23.57	23.78	23.56	24.00
		1	99	23.72	23.68	23.66	24.00
		50	0	22.76	22.87	22.82	23.00
		50	25	22.70	22.74	22.62	23.00
		50	50	22.68	22.76	22.72	23.00
		100	0	22.63	22.66	22.70	23.00
	16QAM	1	0	22.64	22.77	22.68	23.00
		1	50	22.53	22.64	22.63	23.00
		1	99	22.74	22.87	22.76	23.00
		50	0	21.53	21.68	20.62	22.00
		50	25	21.66	21.60	21.67	22.00
		50	50	21.56	21.67	21.69	22.00
		100	0	21.69	21.64	21.66	22.00
	64QAM	1	0	22.35	22.16	22.07	22.50
		1	50	22.32	22.08	21.99	22.50
		1	99	22.31	22.09	22.04	22.50
		50	0	20.75	20.76	21.27	21.50
		50	25	20.64	20.67	21.36	21.50
		50	50	20.73	20.77	21.29	21.50
		100	0	20.66	20.79	21.33	21.50

LTE FDD Band 2 (REC On/Off, Hotspot On)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	18.85	18.81	18.81	19.00
		1	2	18.59	18.87	18.69	19.00
		1	5	18.70	18.62	18.72	19.00
		3	0	18.72	18.86	18.77	19.00
		3	2	18.71	18.80	18.80	19.00
		3	3	18.79	18.78	18.74	19.00
		6	0	18.69	18.77	18.70	19.00
	16QAM	1	0	18.72	18.80	18.72	19.00
		1	2	18.76	18.82	18.61	19.00
		1	5	18.79	18.72	18.62	19.00
		3	0	18.77	18.67	18.77	19.00
		3	2	18.65	18.77	18.73	19.00





		3	3	18.67	18.78	18.75	19.00
		6	0	18.73	18.77	18.72	19.00
	64QAM	1	0	18.89	18.72	18.78	19.00
		1	2	18.59	18.57	18.67	19.00
		1	5	18.74	18.66	18.64	19.00
		3	0	18.72	18.68	18.63	19.00
		3	2	18.66	18.72	18.74	19.00
		3	3	18.66	18.69	18.69	19.00
		6	0	18.65	18.75	18.75	19.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	18.82	18.77	18.78	19.00
		1	7	18.58	18.83	18.67	19.00
		1	14	18.68	18.61	18.69	19.00
		8	0	18.69	18.81	18.73	19.00
		8	4	18.69	18.76	18.77	19.00
		8	7	18.76	18.73	18.70	19.00
		15	0	18.66	18.72	18.66	19.00
	16QAM	1	0	18.70	18.76	18.67	19.00
		1	7	18.72	18.80	18.57	19.00
		1	14	18.77	18.69	18.60	19.00
		8	0	18.74	18.63	18.74	19.00
		8	4	18.62	18.75	18.70	19.00
		8	7	18.64	18.73	18.71	19.00
		15	0	18.71	18.73	18.69	19.00
	64QAM	1	0	18.87	18.68	18.73	19.00
		1	7	18.55	18.55	18.63	19.00
		1	14	18.72	18.63	18.62	19.00
		8	0	18.69	18.64	18.60	19.00
		8	4	18.63	18.70	18.71	19.00
		8	7	18.63	18.64	18.65	19.00
		15	0	18.63	18.71	18.72	19.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	18.79	18.75	18.74	19.00
		1	13	18.56	18.79	18.64	19.00
		1	24	18.65	18.56	18.65	19.00
		12	0	18.66	18.76	18.69	19.00
		12	6	18.67	18.72	18.72	19.00
		12	13	18.74	18.71	18.66	19.00
		25	0	18.64	18.71	18.64	19.00
	16QAM	1	0	18.67	18.72	18.64	19.00
		1	13	18.69	18.78	18.54	19.00



		1	24	18.74	18.67	18.56	19.00
		12	0	18.72	18.59	18.71	19.00
		12	6	18.59	18.70	18.66	19.00
		12	13	18.61	18.68	18.67	19.00
		25	0	18.69	18.69	18.64	19.00
	64QAM	1	0	18.84	18.64	18.70	19.00
		1	13	18.52	18.53	18.60	19.00
		1	24	18.69	18.61	18.58	19.00
		12	0	18.67	18.60	18.57	19.00
		12	6	18.60	18.65	18.67	19.00
		12	13	18.60	18.59	18.61	19.00
		25	0	18.61	18.67	18.67	19.00
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
18650/1855					18900/1880	19150/1905	
10MHz	QPSK	1	0	18.81	18.76	18.77	19.00
		1	25	18.59	18.84	18.68	19.00
		1	49	18.67	18.60	18.68	19.00
		25	0	18.69	18.81	18.73	19.00
		25	13	18.70	18.77	18.76	19.00
		25	25	18.76	18.75	18.71	19.00
		50	0	18.72	18.73	18.68	19.00
	16QAM	1	0	18.69	18.75	18.66	19.00
		1	25	18.72	18.82	18.57	19.00
		1	49	18.77	18.69	18.59	19.00
		25	0	18.75	18.64	18.75	19.00
		25	13	18.61	18.74	18.69	19.00
		25	25	18.64	18.73	18.71	19.00
		50	0	18.72	18.74	18.68	19.00
	64QAM	1	0	18.86	18.67	18.72	19.00
		1	25	18.55	18.57	18.63	19.00
		1	49	18.72	18.63	18.61	19.00
		25	0	18.70	18.65	18.61	19.00
		25	13	18.62	18.69	18.70	19.00
		25	25	18.63	18.64	18.65	19.00
		50	0	18.64	18.72	18.71	19.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	18.80	18.72	18.75	19.00
		1	38	18.57	18.83	18.65	19.00
		1	74	18.64	18.55	18.64	19.00
		36	0	18.67	18.77	18.70	19.00
		36	18	18.67	18.72	18.72	19.00
		36	39	18.73	18.72	18.67	19.00



	16QAM	75	0	18.70	18.69	18.63	19.00
		1	0	18.64	18.73	18.64	19.00
		1	38	18.70	18.79	18.55	19.00
		1	74	18.74	18.65	18.56	19.00
		36	0	18.72	18.62	18.72	19.00
		36	18	18.58	18.69	18.65	19.00
		36	39	18.62	18.69	18.68	19.00
	75	0	18.69	18.69	18.64	19.00	
	64QAM	1	0	18.81	18.65	18.70	19.00
		1	38	18.53	18.54	18.61	19.00
		1	74	18.69	18.59	18.58	19.00
		36	0	18.67	18.63	18.58	19.00
		36	18	18.59	18.64	18.66	19.00
		36	39	18.61	18.60	18.62	19.00
75		0	18.61	18.67	18.67	19.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	18.77	18.68	18.72	19.00
		1	50	18.56	18.79	18.63	19.00
		1	99	18.62	18.54	18.61	19.00
		50	0	18.64	18.72	18.66	19.00
		50	25	18.65	18.68	18.69	19.00
		50	50	18.70	18.67	18.63	19.00
		100	0	18.67	18.64	18.59	19.00
	16QAM	1	0	18.62	18.69	18.59	19.00
		1	50	18.66	18.77	18.51	19.00
		1	99	18.72	18.62	18.54	19.00
		50	0	18.69	18.58	18.69	19.00
		50	25	18.55	18.67	18.62	19.00
		50	50	18.59	18.64	18.64	19.00
		100	0	18.67	18.65	18.61	19.00
	64QAM	1	0	18.79	18.61	18.65	19.00
		1	50	18.49	18.52	18.57	19.00
		1	99	18.67	18.56	18.56	19.00
		50	0	18.64	18.59	18.55	19.00
		50	25	18.56	18.62	18.63	19.00
		50	50	18.58	18.55	18.58	19.00
		100	0	18.59	18.63	18.64	19.00



LTE FDD Band 2 (Hotspot Off+Sensor On)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	22.60	22.61	22.55	23.00
		1	2	22.41	22.59	22.47	23.00
		1	5	22.59	22.51	22.48	23.00
		3	0	22.58	22.75	22.59	23.00
		3	2	22.54	22.64	22.58	23.00
		3	3	22.57	22.57	22.65	23.00
		6	0	22.54	22.59	22.61	23.00
	16QAM	1	0	22.47	22.51	22.52	23.00
		1	2	22.29	22.56	22.53	23.00
		1	5	22.42	22.47	22.49	23.00
		3	0	22.48	22.46	22.62	23.00
		3	2	22.47	22.43	22.55	23.00
		3	3	22.43	22.52	22.48	23.00
		6	0	21.36	21.59	21.58	22.00
	64QAM	1	0	22.11	22.18	22.13	22.50
		1	2	22.24	22.04	22.28	22.50
		1	5	22.12	22.10	22.21	22.50
		3	0	22.17	22.13	22.12	22.50
		3	2	22.12	22.08	22.14	22.50
		3	3	22.09	22.14	22.18	22.50
		6	0	21.21	21.28	21.28	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	22.62	22.65	22.58	23.00
		1	7	22.44	22.64	22.51	23.00
		1	14	22.62	22.56	22.52	23.00
		8	0	22.58	22.77	22.62	23.00
		8	4	22.56	22.64	22.60	23.00
		8	7	22.57	22.58	22.65	23.00
		15	0	22.57	22.63	22.64	23.00
	16QAM	1	0	22.50	22.53	22.55	23.00
		1	7	22.32	22.61	22.57	23.00
		1	14	22.44	22.51	22.52	23.00
		8	0	21.59	21.59	21.74	22.00
		8	4	21.58	21.56	21.67	22.00
		8	7	21.53	21.64	21.61	22.00
		15	0	21.39	21.63	21.61	22.00
	64QAM	1	0	22.14	22.20	22.16	22.50
		1	7	22.17	21.99	22.22	22.50



		1	14	22.04	22.04	22.24	22.50
		8	0	21.18	21.16	21.14	21.50
		8	4	21.13	21.11	21.16	21.50
		8	7	21.09	21.16	21.21	21.50
		15	0	21.14	21.22	21.21	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	22.59	22.63	22.54	23.00
		1	13	22.42	22.60	22.48	23.00
		1	24	22.59	22.51	22.48	23.00
		12	0	22.55	22.72	22.58	23.00
		12	6	22.54	22.60	22.55	23.00
		12	13	22.55	22.56	22.61	23.00
		25	0	22.55	22.62	22.62	23.00
	16QAM	1	0	22.47	22.49	22.52	23.00
		1	13	22.29	22.59	22.54	23.00
		1	24	22.41	22.49	22.48	23.00
		12	0	21.57	21.55	21.71	22.00
		12	6	21.55	21.51	21.63	22.00
		12	13	21.50	21.59	21.57	22.00
		25	0	21.37	21.59	21.56	22.00
	64QAM	1	0	22.11	22.16	22.13	22.50
		1	13	22.24	22.07	22.29	22.50
		1	24	22.11	22.12	22.30	22.50
		12	0	21.26	21.22	21.21	21.50
		12	6	21.20	21.16	21.22	21.50
		12	13	21.16	21.21	21.27	21.50
		25	0	21.22	21.28	21.26	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	22.61	22.64	22.57	23.00
		1	25	22.45	22.65	22.52	23.00
		1	49	22.61	22.55	22.51	23.00
		25	0	22.58	22.77	22.62	23.00
		25	13	22.57	22.65	22.59	23.00
		25	25	22.57	22.60	22.66	23.00
		50	0	22.63	22.64	22.66	23.00
	16QAM	1	0	22.49	22.52	22.54	23.00
		1	25	22.32	22.63	22.57	23.00
		1	49	22.44	22.51	22.51	23.00
		25	0	21.60	21.60	21.75	22.00
		25	13	21.57	21.55	21.66	22.00
		25	25	21.53	21.64	21.61	22.00



	64QAM	50	0	21.40	21.64	21.60	22.00
		1	0	22.13	22.19	22.15	22.50
		1	25	22.17	22.01	22.22	22.50
		1	49	22.04	22.04	22.23	22.50
		25	0	21.19	21.17	21.15	21.50
		25	13	21.12	21.10	21.15	21.50
		25	25	21.09	21.16	21.21	21.50
		50	0	21.15	21.23	21.20	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	22.60	22.60	22.55	23.00
		1	38	22.43	22.64	22.49	23.00
		1	74	22.58	22.50	22.47	23.00
		36	0	22.56	22.73	22.59	23.00
		36	18	22.54	22.60	22.55	23.00
		36	39	22.54	22.57	22.62	23.00
		75	0	22.61	22.60	22.61	23.00
	16QAM	1	0	22.44	22.50	22.52	23.00
		1	38	22.30	22.60	22.55	23.00
		1	74	22.41	22.47	22.48	23.00
		36	0	21.57	21.58	21.72	22.00
		36	18	21.54	21.50	21.62	22.00
		36	39	21.51	21.60	21.58	22.00
		75	0	21.37	21.59	21.56	22.00
	64QAM	1	0	22.08	22.17	22.13	22.50
		1	38	22.25	22.08	22.30	22.50
		1	74	22.11	22.10	22.30	22.50
		36	0	21.26	21.25	21.22	21.50
		36	18	21.19	21.15	21.21	21.50
		36	39	21.17	21.22	21.28	21.50
		75	0	21.22	21.28	21.26	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	22.57	22.56	22.52	23.00
		1	50	22.42	22.60	22.47	23.00
		1	99	22.56	22.49	22.44	23.00
		50	0	22.53	22.68	22.55	23.00
		50	25	22.52	22.56	22.52	23.00
		50	50	22.51	22.52	22.58	23.00
		100	0	22.58	22.55	22.57	23.00
	16QAM	1	0	22.42	22.46	22.47	23.00
		1	50	22.26	22.58	22.51	23.00
		1	99	22.39	22.44	22.46	23.00



		50	0	21.54	21.54	21.69	22.00
		50	25	21.51	21.48	21.59	22.00
		50	50	21.48	21.55	21.54	22.00
		100	0	21.35	21.55	21.53	22.00
	64QAM	1	0	22.06	22.13	22.08	22.50
		1	50	22.21	22.06	22.26	22.50
		1	99	22.09	22.07	22.28	22.50
		50	0	21.23	21.21	21.19	21.50
		50	25	21.16	21.13	21.18	21.50
		50	50	21.14	21.17	21.24	21.50
	100	0	21.20	21.24	21.23	21.50	

LTE FDD Band 4 (REC On/Off, Hotspot Off)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	23.66	23.63	23.57	24.00
		1	2	23.53	23.42	23.43	24.00
		1	5	23.31	23.28	23.44	24.00
		3	0	23.44	23.44	23.35	24.00
		3	2	23.32	23.35	23.39	24.00
		3	3	23.33	23.30	23.50	24.00
		6	0	22.49	22.41	22.45	23.00
	16QAM	1	0	22.77	22.66	22.84	23.00
		1	2	22.58	22.36	22.59	23.00
		1	5	22.58	22.40	22.54	23.00
		3	0	22.45	22.29	22.14	23.00
		3	2	22.38	22.29	22.05	23.00
		3	3	22.30	22.26	21.96	23.00
		6	0	21.19	21.24	20.96	22.00
	64QAM	1	0	22.02	22.18	22.09	22.50
		1	2	21.94	22.27	21.99	22.50
		1	5	21.96	21.91	21.86	22.50
		3	0	21.61	21.49	21.52	22.50
		3	2	21.43	21.42	21.43	22.50
		3	3	21.46	21.35	21.39	22.50
		6	0	20.58	20.60	20.56	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
3MHz	QPSK			19965/1711.5	20175/1732.5	20385/1753.5	
		1	0	23.68	23.67	23.60	24.00
		1	7	23.56	23.47	23.47	24.00
		1	14	23.34	23.33	23.48	24.00
		8	0	22.54	22.56	22.48	23.00



		8	4	22.44	22.45	22.51	23.00	
		8	7	22.43	22.41	22.60	23.00	
		15	0	22.52	22.45	22.48	23.00	
	16QAM		1	0	22.80	22.68	22.87	23.00
			1	7	22.61	22.41	22.63	23.00
			1	14	22.60	22.44	22.57	23.00
			8	0	21.56	21.42	21.26	22.00
			8	4	21.49	21.42	21.17	22.00
			8	7	21.40	21.38	21.09	22.00
	64QAM		15	0	21.22	21.28	20.99	22.00
			1	0	22.05	22.20	22.12	22.50
			1	7	21.97	22.32	22.03	22.50
			1	14	21.98	21.95	21.89	22.50
			8	0	20.72	20.62	20.64	21.00
			8	4	20.54	20.55	20.55	21.00
8			7	20.56	20.47	20.52	21.00	
		15	0	20.61	20.64	20.59	21.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				19975/1712.5	20175/1732.5	20375/1752.5		
5MHz	QPSK	1	0	23.65	23.65	23.56	24.00	
		1	13	23.54	23.43	23.44	24.00	
		1	24	23.31	23.28	23.44	24.00	
		12	0	22.51	22.51	22.44	23.00	
		12	6	22.42	22.41	22.46	23.00	
		12	13	22.41	22.39	22.56	23.00	
		25	0	22.50	22.44	22.46	23.00	
	16QAM		1	0	22.77	22.64	22.84	23.00
			1	13	22.58	22.39	22.60	23.00
			1	24	22.57	22.42	22.53	23.00
			12	0	21.54	21.38	21.23	22.00
			12	6	21.46	21.37	21.13	22.00
			12	13	21.37	21.33	21.05	22.00
			25	0	21.20	21.24	20.94	22.00
	64QAM		1	0	22.02	22.16	22.09	22.50
			1	13	21.94	22.30	22.00	22.50
			1	24	21.95	21.93	21.85	22.50
			12	0	20.70	20.58	20.61	21.00
			12	6	20.51	20.50	20.51	21.00
			12	13	20.53	20.42	20.48	21.00
			25	0	20.59	20.60	20.54	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20000/1715	20175/1732.5	20350/1750		
10MHz	QPSK	1	0	23.67	23.66	23.59	24.00	





		1	25	23.57	23.48	23.48	24.00	
		1	49	23.33	23.32	23.47	24.00	
		25	0	22.54	22.56	22.48	23.00	
		25	13	22.45	22.46	22.50	23.00	
		25	25	22.43	22.43	22.61	23.00	
		50	0	22.58	22.46	22.50	23.00	
	16QAM	1	0	22.79	22.67	22.86	23.00	
		1	25	22.61	22.43	22.63	23.00	
		1	49	22.60	22.44	22.56	23.00	
		25	0	21.57	21.43	21.27	22.00	
		25	13	21.48	21.41	21.16	22.00	
		25	25	21.40	21.38	21.09	22.00	
	64QAM	50	0	21.23	21.29	20.98	22.00	
		1	0	22.04	22.19	22.11	22.50	
		1	25	21.97	22.34	22.03	22.50	
		1	49	21.98	21.95	21.88	22.50	
		25	0	20.73	20.63	20.65	21.00	
		25	13	20.53	20.54	20.54	21.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20025/1717.5	20175/1732.5	20325/1747.5	
	15MHz	QPSK	1	0	23.66	23.62	23.57	24.00
1			38	23.55	23.47	23.45	24.00	
1			74	23.30	23.27	23.43	24.00	
36			0	22.52	22.52	22.45	23.00	
36			18	22.42	22.41	22.46	23.00	
36			39	22.40	22.40	22.57	23.00	
75			0	22.56	22.42	22.45	23.00	
16QAM		1	0	22.74	22.65	22.84	23.00	
		1	38	22.59	22.40	22.61	23.00	
		1	74	22.57	22.40	22.53	23.00	
		36	0	21.54	21.41	21.24	22.00	
		36	18	21.45	21.36	21.12	22.00	
		36	39	21.38	21.34	21.06	22.00	
		75	0	21.20	21.24	20.94	22.00	
64QAM		1	0	21.99	22.17	22.09	22.50	
		1	38	21.95	22.31	22.01	22.50	
		1	74	21.95	21.91	21.85	22.50	
		36	0	20.70	20.61	20.62	21.00	
		36	18	20.50	20.49	20.50	21.00	
		36	39	20.54	20.43	20.49	21.00	
		75	0	20.59	20.60	20.54	21.00	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	23.63	23.58	23.54	24.00
		1	50	23.54	23.43	23.43	24.00
		1	99	23.28	23.26	23.40	24.00
		50	0	22.49	22.47	22.41	23.00
		50	25	22.40	22.37	22.43	23.00
		50	50	22.37	22.35	22.53	23.00
		100	0	22.52	22.37	22.41	23.00
	16QAM	1	0	22.72	22.61	22.79	23.00
		1	50	22.55	22.38	22.57	23.00
		1	99	22.55	22.37	22.51	23.00
		50	0	21.51	21.37	21.21	22.00
		50	25	21.42	21.34	21.09	22.00
		50	50	21.35	21.29	21.02	22.00
		100	0	21.18	21.20	20.91	22.00
	64QAM	1	0	21.97	22.13	22.04	22.50
		1	50	21.91	22.29	21.97	22.50
		1	99	21.93	21.88	21.83	22.50
		50	0	20.67	20.57	20.59	21.00
		50	25	20.47	20.47	20.47	21.00
		50	50	20.51	20.38	20.45	21.00
		100	0	20.57	20.56	20.51	21.00

LTE FDD Band 4 (REC On/Off, Hotspot On)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	18.40	18.22	18.24	18.50
		1	2	18.07	18.15	18.04	18.50
		1	5	18.03	18.04	18.00	18.50
		3	0	18.11	18.12	18.05	18.50
		3	2	18.05	18.05	18.02	18.50
		3	3	17.95	17.99	18.18	18.50
		6	0	18.00	18.05	18.04	18.50
	16QAM	1	0	18.29	18.34	18.26	18.50
		1	2	18.14	17.96	18.22	18.50
		1	5	18.24	17.96	18.12	18.50
		3	0	18.10	18.03	18.08	18.50
		3	2	18.05	18.01	17.93	18.50
		3	3	17.89	17.89	17.92	18.50
		6	0	17.97	17.97	17.90	18.50
	64QAM	1	0	18.15	18.20	18.12	18.50



		1	2	17.89	17.71	17.97	18.50
		1	5	18.07	17.79	17.95	18.50
		3	0	17.91	17.84	17.89	18.50
		3	2	17.98	17.94	17.86	18.50
		3	3	17.91	17.91	17.94	18.50
		6	0	17.94	17.94	17.87	18.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	18.38	18.19	18.22	18.50
		1	7	18.05	18.10	18.01	18.50
		1	14	18.02	18.04	17.98	18.50
		8	0	18.08	18.07	18.01	18.50
		8	4	18.02	18.00	18.00	18.50
		8	7	17.92	17.92	18.13	18.50
		15	0	17.91	17.99	17.98	18.50
	16QAM	1	0	18.28	18.31	18.22	18.50
		1	7	18.10	17.92	18.18	18.50
		1	14	18.22	17.93	18.11	18.50
		8	0	18.06	17.98	18.04	18.50
		8	4	18.03	18.00	17.91	18.50
		8	7	17.86	17.84	17.88	18.50
		15	0	17.94	17.92	17.88	18.50
	64QAM	1	0	18.14	18.17	18.08	18.50
		1	7	17.85	17.67	17.93	18.50
		1	14	18.05	17.76	17.94	18.50
		8	0	17.87	17.79	17.85	18.50
		8	4	17.96	17.93	17.84	18.50
		8	7	17.88	17.86	17.90	18.50
		15	0	17.91	17.89	17.85	18.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	18.35	18.17	18.18	18.50
		1	13	18.03	18.06	17.98	18.50
		1	24	17.99	17.99	17.94	18.50
		12	0	18.05	18.02	17.97	18.50
		12	6	18.00	17.96	17.95	18.50
		12	13	17.90	17.90	18.09	18.50
		25	0	17.89	17.98	17.96	18.50
	16QAM	1	0	18.25	18.27	18.19	18.50
		1	13	18.07	17.90	18.15	18.50
		1	24	18.19	17.91	18.07	18.50
		12	0	18.04	17.94	18.01	18.50
		12	6	18.00	17.95	17.87	18.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20000/1715	20175/1732.5	20350/1750		
	64QAM	12	13	17.83	17.79	17.84	18.50	
		25	0	17.92	17.88	17.83	18.50	
		1	0	18.11	18.13	18.05	18.50	
		1	13	17.82	17.65	17.90	18.50	
		1	24	18.02	17.74	17.90	18.50	
		12	0	17.85	17.75	17.82	18.50	
		12	6	17.93	17.88	17.80	18.50	
		12	13	17.85	17.81	17.86	18.50	
		25	0	17.89	17.85	17.80	18.50	
10MHz	QPSK	1	0	18.37	18.18	18.21	18.50	
		1	25	18.06	18.11	18.02	18.50	
		1	49	18.01	18.03	17.97	18.50	
		25	0	18.08	18.07	18.01	18.50	
		25	13	18.03	18.01	17.99	18.50	
		25	25	17.92	17.94	18.14	18.50	
		50	0	17.97	18.00	18.00	18.50	
	16QAM	1	0	18.27	18.30	18.21	18.50	
		1	25	18.10	17.94	18.18	18.50	
		1	49	18.22	17.93	18.10	18.50	
		25	0	18.07	17.99	18.05	18.50	
		25	13	18.02	17.99	17.90	18.50	
		25	25	17.86	17.84	17.88	18.50	
		50	0	17.95	17.93	17.87	18.50	
	64QAM	1	0	18.13	18.16	18.07	18.50	
		1	25	17.85	17.69	17.93	18.50	
		1	49	18.05	17.76	17.93	18.50	
		25	0	17.88	17.80	17.86	18.50	
		25	13	17.95	17.92	17.83	18.50	
		25	25	17.88	17.86	17.90	18.50	
		50	0	17.92	17.90	17.84	18.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20025/1717.5	20175/1732.5	20325/1747.5	
	15MHz	QPSK	1	0	18.36	18.14	18.19	18.50
1			38	18.04	18.10	17.99	18.50	
1			74	17.98	17.98	17.93	18.50	
36			0	18.06	18.03	17.98	18.50	
36			18	18.00	17.96	17.95	18.50	
36			39	17.89	17.91	18.10	18.50	
75			0	17.95	17.96	17.95	18.50	
16QAM		1	0	18.22	18.28	18.19	18.50	
		1	38	18.08	17.91	18.16	18.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20050/1720	20175/1732.5	20300/1745		
		1	74	18.19	17.89	18.07	18.50	
		36	0	18.04	17.97	18.02	18.50	
		36	18	17.99	17.94	17.86	18.50	
		36	39	17.84	17.80	17.85	18.50	
		75	0	17.92	17.88	17.83	18.50	
	64QAM	1	0	18.08	18.14	18.05	18.50	
		1	38	17.83	17.66	17.91	18.50	
		1	74	18.02	17.72	17.90	18.50	
		36	0	17.85	17.78	17.83	18.50	
		36	18	17.92	17.87	17.79	18.50	
		36	39	17.86	17.82	17.87	18.50	
		75	0	17.89	17.85	17.80	18.50	
	20MHz	QPSK	1	0	18.33	18.10	18.16	18.50
			1	50	18.03	18.06	17.97	18.50
1			99	17.96	17.97	17.90	18.50	
50			0	18.03	17.98	17.94	18.50	
50			25	17.98	17.92	17.92	18.50	
50			50	17.86	17.86	18.06	18.50	
100			0	17.92	17.91	17.91	18.50	
16QAM		1	0	18.20	18.24	18.14	18.50	
		1	50	18.04	17.89	18.12	18.50	
		1	99	18.17	17.86	18.05	18.50	
		50	0	18.01	17.93	17.99	18.50	
		50	25	17.96	17.92	17.83	18.50	
		50	50	17.81	17.75	17.81	18.50	
		100	0	17.90	17.84	17.80	18.50	
64QAM		1	0	18.06	18.10	18.00	18.50	
		1	50	17.79	17.64	17.87	18.50	
		1	99	18.00	17.69	17.88	18.50	
		50	0	17.82	17.74	17.80	18.50	
		50	25	17.89	17.85	17.76	18.50	
		50	50	17.83	17.77	17.83	18.50	
		100	0	17.87	17.81	17.77	18.50	

LTE FDD Band 4 (Hotspot Off+Sensor On)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	21.45	21.43	21.37	22.00
		1	2	21.23	21.36	21.29	22.00
		1	5	21.28	21.35	21.31	22.00



		3	0	21.33	21.31	21.29	22.00	
		3	2	21.24	21.22	21.33	22.00	
		3	3	21.19	21.15	21.39	22.00	
		6	0	21.34	21.38	21.33	22.00	
	16QAM	1	0	21.32	21.54	21.33	22.00	
		1	2	21.28	21.55	21.34	22.00	
		1	5	21.49	21.43	21.18	22.00	
		3	0	21.25	21.22	21.30	22.00	
		3	2	21.18	21.17	21.32	22.00	
		3	3	21.19	21.23	21.22	22.00	
		6	0	21.14	21.31	21.17	22.00	
		64QAM	1	0	21.23	21.17	21.16	22.00
	1		2	21.12	21.05	21.13	22.00	
	1		5	21.13	21.07	21.06	22.00	
	3		0	21.05	21.11	21.02	22.00	
	3		2	21.00	21.09	21.04	22.00	
	3		3	21.04	21.07	21.01	22.00	
	6		0	20.78	20.88	20.66	21.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					19965/1711.5	20175/1732.5	20385/1753.5	
	3MHz	QPSK	1	0	21.43	21.40	21.35	22.00
1			7	21.21	21.31	21.26	22.00	
1			14	21.27	21.35	21.29	22.00	
8			0	21.30	21.26	21.25	22.00	
8			4	21.21	21.17	21.31	22.00	
8			7	21.16	21.08	21.34	22.00	
15			0	21.25	21.32	21.27	22.00	
16QAM		1	0	21.31	21.51	21.29	22.00	
		1	7	21.24	21.51	21.30	22.00	
		1	14	21.47	21.40	21.17	22.00	
		8	0	21.21	21.17	21.26	22.00	
		8	4	21.16	21.16	21.30	22.00	
		8	7	21.16	21.18	21.18	22.00	
		15	0	21.11	21.26	21.15	22.00	
64QAM		1	0	21.22	21.14	21.12	22.00	
		1	7	21.08	21.01	21.09	22.00	
		1	14	21.11	21.04	21.05	22.00	
		8	0	20.73	20.80	20.71	21.00	
		8	4	20.68	20.80	20.73	21.00	
		8	7	20.71	20.74	20.70	21.00	
		15	0	20.75	20.83	20.64	21.00	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	21.40	21.38	21.31	22.00
		1	13	21.19	21.27	21.23	22.00
		1	24	21.24	21.30	21.25	22.00
		12	0	21.27	21.21	21.21	22.00
		12	6	21.19	21.13	21.26	22.00
		12	13	21.14	21.06	21.30	22.00
		25	0	21.23	21.31	21.25	22.00
	16QAM	1	0	21.28	21.47	21.26	22.00
		1	13	21.21	21.49	21.27	22.00
		1	24	21.44	21.38	21.13	22.00
		12	0	21.19	21.13	21.23	22.00
		12	6	21.13	21.11	21.26	22.00
		12	13	21.13	21.13	21.14	22.00
		25	0	21.09	21.22	21.10	22.00
	64QAM	1	0	21.19	21.10	21.09	22.00
		1	13	21.05	20.99	21.06	22.00
		1	24	21.08	21.02	21.01	22.00
		12	0	20.71	20.76	20.68	21.00
		12	6	20.65	20.75	20.69	21.00
		12	13	20.68	20.69	20.66	21.00
		25	0	20.73	20.79	20.59	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	21.42	21.39	21.34	22.00
		1	25	21.22	21.32	21.27	22.00
		1	49	21.26	21.34	21.28	22.00
		25	0	21.30	21.26	21.25	22.00
		25	13	21.22	21.18	21.30	22.00
		25	25	21.16	21.10	21.35	22.00
		50	0	21.31	21.33	21.29	22.00
	16QAM	1	0	21.30	21.50	21.28	22.00
		1	25	21.24	21.53	21.30	22.00
		1	49	21.47	21.40	21.16	22.00
		25	0	21.22	21.18	21.27	22.00
		25	13	21.15	21.15	21.29	22.00
		25	25	21.16	21.18	21.18	22.00
		50	0	21.12	21.27	21.14	22.00
	64QAM	1	0	21.21	21.13	21.11	22.00
		1	25	21.08	21.03	21.09	22.00
		1	49	21.11	21.04	21.04	22.00
		25	0	20.74	20.81	20.72	21.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20025/1717.5	20175/1732.5	20325/1747.5		
		25	13	20.67	20.79	20.72	21.00	
		25	25	20.71	20.74	20.70	21.00	
		50	0	20.76	20.84	20.63	21.00	
15MHz	QPSK	1	0	21.41	21.35	21.32	22.00	
		1	38	21.20	21.31	21.24	22.00	
		1	74	21.23	21.29	21.24	22.00	
		36	0	21.28	21.22	21.22	22.00	
		36	18	21.19	21.13	21.26	22.00	
		36	39	21.13	21.07	21.31	22.00	
		75	0	21.29	21.29	21.24	22.00	
	16QAM	1	0	21.25	21.48	21.26	22.00	
		1	38	21.22	21.50	21.28	22.00	
		1	74	21.44	21.36	21.13	22.00	
		36	0	21.19	21.16	21.24	22.00	
		36	18	21.12	21.10	21.25	22.00	
		36	39	21.14	21.14	21.15	22.00	
		75	0	21.09	21.22	21.10	22.00	
	64QAM	1	0	21.16	21.11	21.09	22.00	
		1	38	21.06	21.00	21.07	22.00	
		1	74	21.08	21.00	21.01	22.00	
		36	0	20.71	20.79	20.69	21.00	
		36	18	20.64	20.74	20.68	21.00	
		36	39	20.69	20.70	20.67	21.00	
		75	0	20.73	20.79	20.59	21.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20050/1720	20175/1732.5	20300/1745	
	20MHz	QPSK	1	0	21.38	21.31	21.29	22.00
1			50	21.19	21.27	21.22	22.00	
1			99	21.21	21.28	21.21	22.00	
50			0	21.25	21.17	21.18	22.00	
50			25	21.17	21.09	21.23	22.00	
50			50	21.10	21.02	21.27	22.00	
100			0	21.26	21.24	21.20	22.00	
16QAM		1	0	21.23	21.44	21.21	22.00	
		1	50	21.18	21.48	21.24	22.00	
		1	99	21.42	21.33	21.11	22.00	
		50	0	21.16	21.12	21.21	22.00	
		50	25	21.09	21.08	21.22	22.00	
		50	50	21.11	21.09	21.11	22.00	
		100	0	21.07	21.18	21.07	22.00	
64QAM		1	0	21.14	21.07	21.04	22.00	





		1	50	21.02	20.98	21.03	22.00
		1	99	21.06	20.97	20.99	22.00
		50	0	20.68	20.75	20.66	21.00
		50	25	20.61	20.72	20.65	21.00
		50	50	20.66	20.65	20.63	21.00
		100	0	20.71	20.75	20.56	21.00

LTE FDD Band 5 (REC On/Off)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	23.16	23.10	23.07	24.00
		1	2	23.13	22.96	23.02	24.00
		1	5	23.04	23.10	23.09	24.00
		3	0	23.09	23.11	23.01	24.00
		3	2	23.07	23.15	23.08	24.00
		3	3	22.98	23.10	22.98	24.00
		6	0	21.97	22.07	22.07	23.00
	16QAM	1	0	22.15	22.23	22.28	23.00
		1	2	22.08	22.02	22.23	23.00
		1	5	22.06	22.09	22.18	23.00
		3	0	21.88	21.91	21.89	23.00
		3	2	21.94	21.93	21.93	23.00
		3	3	21.96	21.93	21.99	23.00
		6	0	21.06	20.99	20.98	22.00
	64QAM	1	0	22.18	22.09	22.02	22.50
		1	2	21.93	21.79	21.70	22.50
		1	5	21.88	22.18	22.05	22.50
		3	0	21.62	21.68	21.56	22.50
		3	2	21.60	21.69	21.64	22.50
		3	3	21.60	21.70	21.68	22.50
		6	0	20.73	20.81	20.69	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20415/825.5	20525/836.5	20635/847.5	
3MHz	QPSK	1	0	23.17	23.13	23.09	24.00
		1	7	23.17	23.02	23.07	24.00
		1	14	23.06	23.14	23.12	24.00
		8	0	22.19	22.23	22.14	23.00
		8	4	22.20	22.26	22.19	23.00
		8	7	22.08	22.23	22.09	23.00
		15	0	22.06	22.12	22.12	23.00
	16QAM	1	0	22.17	22.24	22.30	23.00
		1	7	22.11	22.09	22.27	23.00



		1	14	22.08	22.13	22.20	23.00
		8	0	21.00	21.05	21.02	22.00
		8	4	21.04	21.05	21.04	22.00
		8	7	21.06	21.05	21.12	22.00
		15	0	21.10	21.04	21.00	22.00
	64QAM	1	0	22.20	22.10	22.04	22.50
		1	7	21.96	21.86	21.74	22.50
		1	14	21.90	22.22	22.07	22.50
		8	0	20.74	20.82	20.69	21.00
		8	4	20.70	20.81	20.75	21.00
		8	7	20.70	20.82	20.81	21.00
		15	0	20.77	20.86	20.71	21.00
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
20425/826.5					20525/836.5	20625/846.5	
5MHz	QPSK	1	0	23.16	23.09	23.07	24.00
		1	13	23.15	23.01	23.04	24.00
		1	24	23.03	23.09	23.08	24.00
		12	0	22.17	22.19	22.11	23.00
		12	6	22.17	22.21	22.15	23.00
		12	13	22.05	22.20	22.05	23.00
		25	0	22.04	22.08	22.07	23.00
	16QAM	1	0	22.12	22.22	22.28	23.00
		1	13	22.09	22.06	22.25	23.00
		1	24	22.05	22.09	22.17	23.00
		12	0	20.97	21.03	20.99	22.00
		12	6	21.01	21.00	21.00	22.00
		12	13	21.04	21.01	21.09	22.00
		25	0	21.07	20.99	20.96	22.00
	64QAM	1	0	22.15	22.08	22.02	22.50
		1	13	21.94	21.83	21.72	22.50
		1	24	21.87	22.18	22.04	22.50
		12	0	20.71	20.80	20.66	21.00
		12	6	20.67	20.76	20.71	21.00
		12	13	20.68	20.78	20.78	21.00
		25	0	20.74	20.81	20.67	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20450/829	20525/836.5	20600/844	
10MHz	QPSK	1	0	23.13	23.05	23.04	24.00
		1	25	23.14	22.97	23.02	24.00
		1	49	23.01	23.08	23.05	24.00
		25	0	22.14	22.14	22.07	23.00
		25	13	22.15	22.17	22.12	23.00
		25	25	22.02	22.15	22.01	23.00



	16QAM	50	0	22.01	22.03	22.02	23.00
		1	0	22.10	22.18	22.23	23.00
		1	25	22.05	22.04	22.21	23.00
		1	49	22.03	22.06	22.15	23.00
		25	0	20.94	20.99	20.96	22.00
		25	13	20.98	20.98	20.97	22.00
		25	25	21.01	20.96	21.05	22.00
		50	0	21.05	20.95	20.93	22.00
	64QAM	1	0	22.13	22.04	21.97	22.50
		1	25	21.90	21.81	21.68	22.50
		1	49	21.85	22.15	22.02	22.50
		25	0	20.68	20.76	20.63	21.00
		25	13	20.64	20.74	20.68	21.00
		25	25	20.65	20.73	20.74	21.00
		50	0	20.72	20.77	20.64	21.00

LTE FDD Band 7 (REC On/Off, Hotspot Off)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	23.63	23.62	23.41	24.00
		1	13	23.58	23.41	23.29	24.00
		1	24	23.62	23.48	23.45	24.00
		12	0	22.56	22.51	22.42	23.00
		12	6	22.51	22.50	22.36	23.00
		12	13	22.56	22.48	22.48	23.00
		25	0	22.51	22.57	22.47	23.00
	16QAM	1	0	22.56	22.91	22.71	23.00
		1	13	22.51	22.74	22.41	23.00
		1	24	22.69	22.79	22.64	23.00
		12	0	21.51	21.44	21.47	22.00
		12	6	21.45	21.40	21.33	22.00
		12	13	21.47	21.42	21.53	22.00
		25	0	21.50	21.48	21.27	22.00
	64QAM	1	0	21.72	21.94	21.99	22.00
		1	13	21.67	21.86	21.56	22.00
		1	24	21.83	21.85	21.79	22.00
		12	0	20.73	20.65	20.46	21.00
		12	6	20.66	20.75	20.56	21.00
		12	13	20.55	20.67	20.52	21.00
		25	0	20.65	20.75	20.57	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	



10MHz	QPSK	1	0	23.65	23.63	23.44	24.00
		1	25	23.61	23.46	23.33	24.00
		1	49	23.64	23.52	23.48	24.00
		25	0	22.59	22.56	22.46	23.00
		25	13	22.54	22.55	22.40	23.00
		25	25	22.58	22.52	22.53	23.00
		50	0	22.59	22.59	22.51	23.00
	16QAM	1	0	22.58	22.94	22.73	23.00
		1	25	22.54	22.78	22.44	23.00
		1	49	22.72	22.81	22.67	23.00
		25	0	21.54	21.49	21.51	22.00
		25	13	21.47	21.44	21.36	22.00
		25	25	21.50	21.47	21.57	22.00
		50	0	21.53	21.53	21.31	22.00
	64QAM	1	0	21.74	21.97	22.01	22.00
		1	25	21.70	21.90	21.59	22.00
		1	49	21.86	21.87	21.82	22.00
		25	0	20.76	20.70	20.50	21.00
		25	13	20.68	20.79	20.59	21.00
		25	25	20.58	20.72	20.56	21.00
		50	0	20.68	20.80	20.61	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	23.64	23.59	23.42	24.00
		1	38	23.59	23.45	23.30	24.00
		1	74	23.61	23.47	23.44	24.00
		36	0	22.57	22.52	22.43	23.00
		36	18	22.51	22.50	22.36	23.00
		36	39	22.55	22.49	22.49	23.00
		75	0	22.57	22.55	22.46	23.00
	16QAM	1	0	22.53	22.92	22.71	23.00
		1	38	22.52	22.75	22.42	23.00
		1	74	22.69	22.77	22.64	23.00
		36	0	21.51	21.47	21.48	22.00
		36	18	21.44	21.39	21.32	22.00
		36	39	21.48	21.43	21.54	22.00
		75	0	21.50	21.48	21.27	22.00
	64QAM	1	0	21.69	21.95	21.99	22.00
		1	38	21.68	21.87	21.57	22.00
		1	74	21.83	21.83	21.79	22.00
		36	0	20.73	20.68	20.47	21.00
		36	18	20.65	20.74	20.55	21.00
		36	39	20.56	20.68	20.53	21.00



Bandwidth	Modulation	75	0	20.65	20.75	20.57	21.00
		RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	23.61	23.55	23.39	24.00
		1	50	23.58	23.41	23.28	24.00
		1	99	23.59	23.46	23.41	24.00
		50	0	22.54	22.47	22.39	23.00
		50	25	22.49	22.46	22.33	23.00
		50	50	22.52	22.44	22.45	23.00
		100	0	22.54	22.50	22.42	23.00
	16QAM	1	0	22.51	22.88	22.66	23.00
		1	50	22.48	22.73	22.38	23.00
		1	99	22.67	22.74	22.62	23.00
		50	0	21.48	21.43	21.45	22.00
		50	25	21.41	21.37	21.29	22.00
		50	50	21.45	21.38	21.50	22.00
		100	0	21.48	21.44	21.24	22.00
	64QAM	1	0	21.67	21.91	21.94	22.00
		1	50	21.64	21.85	21.53	22.00
		1	99	21.81	21.80	21.77	22.00
		50	0	20.70	20.64	20.44	21.00
		50	25	20.62	20.72	20.52	21.00
		50	50	20.53	20.63	20.49	21.00
		100	0	20.63	20.71	20.54	21.00

LTE FDD Band 7 (REC On/Off, Hotspot On)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	22.35	22.40	22.36	23.00
		1	13	22.40	22.23	22.23	23.00
		1	24	22.44	22.29	22.40	23.00
		12	0	22.50	22.39	22.35	23.00
		12	6	22.45	22.35	22.31	23.00
		12	13	22.39	22.40	22.25	23.00
		25	0	22.54	22.41	22.35	23.00
	16QAM	1	0	22.26	22.40	22.29	23.00
		1	13	22.29	22.27	22.30	23.00
		1	24	22.24	22.44	22.26	23.00
		12	0	21.56	21.49	21.46	22.00
		12	6	21.53	21.53	21.49	22.00
		12	13	21.48	21.45	21.45	22.00
		25	0	21.47	21.56	21.51	22.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20800/2505	21100/2535	21400/2565		
	64QAM	1	0	21.51	21.65	21.62	22.00	
		1	13	21.69	21.67	21.62	22.00	
		1	24	21.53	21.73	21.64	22.00	
		12	0	20.69	20.62	20.50	21.00	
		12	6	20.55	20.55	20.51	21.00	
		12	13	20.58	20.55	20.52	21.00	
		25	0	20.61	20.63	20.61	21.00	
10MHz	QPSK	1	0	22.37	22.41	22.39	23.00	
		1	25	22.43	22.28	22.27	23.00	
		1	49	22.46	22.33	22.43	23.00	
		25	0	22.53	22.44	22.39	23.00	
		25	13	22.48	22.40	22.35	23.00	
		25	25	22.41	22.44	22.30	23.00	
		50	0	22.62	22.43	22.39	23.00	
	16QAM	1	0	22.28	22.43	22.31	23.00	
		1	25	22.32	22.31	22.33	23.00	
		1	49	22.27	22.46	22.29	23.00	
		25	0	21.59	21.54	21.50	22.00	
		25	13	21.55	21.57	21.52	22.00	
		25	25	21.51	21.50	21.49	22.00	
		50	0	21.50	21.61	21.55	22.00	
	64QAM	1	0	21.53	21.68	21.64	22.00	
		1	25	21.72	21.71	21.65	22.00	
		1	49	21.56	21.75	21.67	22.00	
		25	0	20.72	20.67	20.54	21.00	
		25	13	20.57	20.59	20.54	21.00	
		25	25	20.61	20.60	20.56	21.00	
		50	0	20.64	20.68	20.65	21.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20825/2507.5	21100/2535	21375/2562.5	
	15MHz	QPSK	1	0	22.36	22.37	22.37	23.00
			1	38	22.41	22.27	22.24	23.00
			1	74	22.43	22.28	22.39	23.00
			36	0	22.51	22.40	22.36	23.00
			36	18	22.45	22.35	22.31	23.00
36			39	22.38	22.41	22.26	23.00	
75			0	22.60	22.39	22.34	23.00	
16QAM		1	0	22.23	22.41	22.29	23.00	
		1	38	22.30	22.28	22.31	23.00	
		1	74	22.24	22.42	22.26	23.00	
		36	0	21.56	21.52	21.47	22.00	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
		36	18	21.52	21.52	21.48	22.00
		36	39	21.49	21.46	21.46	22.00
		75	0	21.47	21.56	21.51	22.00
	64QAM	1	0	21.48	21.66	21.62	22.00
		1	38	21.70	21.68	21.63	22.00
		1	74	21.53	21.71	21.64	22.00
		36	0	20.69	20.65	20.51	21.00
		36	18	20.54	20.54	20.50	21.00
		36	39	20.59	20.56	20.53	21.00
		75	0	20.61	20.63	20.61	21.00
20MHz	QPSK	1	0	22.33	22.33	22.34	23.00
		1	50	22.40	22.23	22.22	23.00
		1	99	22.41	22.27	22.36	23.00
		50	0	22.48	22.35	22.32	23.00
		50	25	22.43	22.31	22.28	23.00
		50	50	22.35	22.36	22.22	23.00
		100	0	22.57	22.34	22.30	23.00
	16QAM	1	0	22.21	22.37	22.24	23.00
		1	50	22.26	22.26	22.27	23.00
		1	99	22.22	22.39	22.24	23.00
		50	0	21.53	21.48	21.44	22.00
		50	25	21.49	21.50	21.45	22.00
		50	50	21.46	21.41	21.42	22.00
		100	0	21.45	21.52	21.48	22.00
	64QAM	1	0	21.46	21.62	21.57	22.00
		1	50	21.66	21.66	21.59	22.00
		1	99	21.51	21.68	21.62	22.00
		50	0	20.66	20.61	20.48	21.00
		50	25	20.51	20.52	20.47	21.00
		50	50	20.56	20.51	20.49	21.00
		100	0	20.59	20.59	20.58	21.00

LTE FDD Band 7 (Hotspot Off+Sensor On)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	22.01	21.96	21.83	22.50
		1	13	21.86	21.91	21.75	22.50
		1	24	22.01	21.81	21.91	22.50
		12	0	21.95	21.91	21.83	22.50
		12	6	21.89	21.87	21.84	22.50



		12	13	21.93	21.93	21.91	22.50
		25	0	21.87	21.93	21.91	22.50
	16QAM	1	0	22.03	21.68	21.91	22.50
		1	13	21.89	21.95	21.81	22.50
		1	24	21.90	21.81	21.79	22.50
		12	0	21.42	21.28	21.30	22.00
		12	6	21.37	21.38	21.21	22.00
		12	13	21.40	21.32	21.26	22.00
		25	0	21.38	21.42	21.23	22.00
	64QAM	1	0	21.63	21.20	21.45	22.00
		1	13	21.54	21.14	21.25	22.00
		1	24	21.59	21.24	21.35	22.00
		12	0	20.59	20.49	20.38	21.00
		12	6	20.57	20.59	20.39	21.00
12		13	20.57	20.59	20.50	21.00	
25		0	20.56	20.56	20.58	21.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	22.03	21.97	21.86	22.50
		1	25	21.89	21.96	21.79	22.50
		1	49	22.03	21.85	21.94	22.50
		25	0	21.98	21.96	21.87	22.50
		25	13	21.92	21.92	21.88	22.50
		25	25	21.95	21.97	21.96	22.50
		50	0	21.95	21.95	21.95	22.50
	16QAM	1	0	22.05	21.71	21.93	22.50
		1	25	21.92	21.99	21.84	22.50
		1	49	21.93	21.83	21.82	22.50
		25	0	21.45	21.33	21.34	22.00
		25	13	21.39	21.42	21.24	22.00
		25	25	21.43	21.37	21.30	22.00
		50	0	21.41	21.47	21.27	22.00
	64QAM	1	0	21.65	21.23	21.47	22.00
		1	25	21.57	21.18	21.28	22.00
		1	49	21.62	21.26	21.38	22.00
		25	0	20.62	20.54	20.42	21.00
		25	13	20.59	20.63	20.42	21.00
		25	25	20.60	20.64	20.54	21.00
		50	0	20.59	20.61	20.62	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	22.02	21.93	21.84	22.50
		1	38	21.87	21.95	21.76	22.50





		1	74	22.00	21.80	21.90	22.50	
		36	0	21.96	21.92	21.84	22.50	
		36	18	21.89	21.87	21.84	22.50	
		36	39	21.92	21.94	21.92	22.50	
		75	0	21.93	21.91	21.90	22.50	
	16QAM	1	0	22.00	21.69	21.91	22.50	
		1	38	21.90	21.96	21.82	22.50	
		1	74	21.90	21.79	21.79	22.50	
		36	0	21.42	21.31	21.31	22.00	
		36	18	21.36	21.37	21.20	22.00	
		36	39	21.41	21.33	21.27	22.00	
		75	0	21.38	21.42	21.23	22.00	
	64QAM	1	0	21.60	21.21	21.45	22.00	
		1	38	21.55	21.15	21.26	22.00	
		1	74	21.59	21.22	21.35	22.00	
		36	0	20.59	20.52	20.39	21.00	
		36	18	20.56	20.58	20.38	21.00	
		36	39	20.58	20.60	20.51	21.00	
		75	0	20.56	20.56	20.58	21.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	21.99	21.89	21.81	22.50	
		1	50	21.86	21.91	21.74	22.50	
		1	99	21.98	21.79	21.87	22.50	
		50	0	21.93	21.87	21.80	22.50	
		50	25	21.87	21.83	21.81	22.50	
		50	50	21.89	21.89	21.88	22.50	
		100	0	21.90	21.86	21.86	22.50	
	16QAM	1	0	21.98	21.65	21.86	22.50	
		1	50	21.86	21.94	21.78	22.50	
		1	99	21.88	21.76	21.77	22.50	
		50	0	21.39	21.27	21.28	22.00	
		50	25	21.33	21.35	21.17	22.00	
		50	50	21.38	21.28	21.23	22.00	
		100	0	21.36	21.38	21.20	22.00	
	64QAM	1	0	21.58	21.17	21.40	22.00	
		1	50	21.51	21.13	21.22	22.00	
		1	99	21.57	21.19	21.33	22.00	
		50	0	20.56	20.48	20.36	21.00	
		50	25	20.53	20.56	20.35	21.00	
		50	50	20.55	20.55	20.47	21.00	
		100	0	20.54	20.52	20.55	21.00	



LTE FDD Band 12 (REC On/Off)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	23.44	23.50	23.50	24.00
		1	2	23.36	23.47	23.56	24.00
		1	5	23.48	23.56	23.56	24.00
		3	0	23.48	23.56	23.51	24.00
		3	2	23.50	23.62	23.62	24.00
		3	3	23.59	23.52	23.59	24.00
		6	0	22.42	22.63	22.59	23.00
	16QAM	1	0	22.62	22.85	22.85	23.00
		1	2	22.59	22.63	23.00	23.00
		1	5	22.62	22.91	22.94	23.00
		3	0	22.39	22.43	22.44	23.00
		3	2	22.52	22.43	22.52	23.00
		3	3	22.49	22.43	22.49	23.00
		6	0	21.49	21.51	21.62	22.00
	64QAM	1	0	22.14	22.22	22.14	22.50
		1	2	22.28	21.99	22.15	22.50
		1	5	22.19	22.22	22.14	22.50
		3	0	21.60	21.55	21.57	22.50
		3	2	21.54	21.62	21.62	22.50
		3	3	21.60	21.68	21.68	22.50
		6	0	20.68	20.71	20.76	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23025/700.5	23095/707.5	23165/714.5	
3MHz	QPSK	1	0	23.45	23.53	23.52	24.00
		1	7	23.40	23.53	23.61	24.00
		1	14	23.50	23.60	23.59	24.00
		8	0	22.58	22.68	22.64	23.00
		8	4	22.63	22.73	22.73	23.00
		8	7	22.69	22.65	22.70	23.00
		15	0	22.51	22.68	22.64	23.00
	16QAM	1	0	22.64	22.86	22.87	23.00
		1	7	22.62	22.70	22.84	23.00
		1	14	22.64	22.95	22.96	23.00
		8	0	21.51	21.57	21.57	22.00
		8	4	21.62	21.55	21.63	22.00
		8	7	21.59	21.55	21.62	22.00
		15	0	21.53	21.56	21.64	22.00
	64QAM	1	0	22.16	22.23	22.16	22.50
1		7	22.31	22.06	22.19	22.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				23035/701.5	23095/707.5	23155/713.5		
		1	14	22.21	22.26	22.16	22.50	
		8	0	20.72	20.69	20.70	21.00	
		8	4	20.64	20.74	20.73	21.00	
		8	7	20.70	20.80	20.81	21.00	
		15	0	20.72	20.76	20.78	21.00	
5MHz	QPSK	1	0	23.44	23.49	23.50	24.00	
		1	13	23.38	23.52	23.58	24.00	
		1	24	23.47	23.55	23.55	24.00	
		12	0	22.56	22.64	22.61	23.00	
		12	6	22.60	22.68	22.69	23.00	
		12	13	22.66	22.62	22.66	23.00	
		25	0	22.49	22.64	22.59	23.00	
	16QAM	1	0	22.59	22.84	22.85	23.00	
		1	13	22.60	22.67	22.82	23.00	
		1	24	22.61	22.91	22.93	23.00	
		12	0	21.48	21.55	21.54	22.00	
		12	6	21.59	21.50	21.59	22.00	
		12	13	21.57	21.51	21.59	22.00	
		25	0	21.50	21.51	21.60	22.00	
	64QAM	1	0	22.11	22.21	22.14	22.50	
		1	13	22.29	22.03	22.17	22.50	
		1	24	22.18	22.22	22.13	22.50	
		12	0	20.69	20.67	20.67	21.00	
		12	6	20.61	20.69	20.69	21.00	
		12	13	20.68	20.76	20.78	21.00	
		25	0	20.69	20.71	20.74	21.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					23060/704	23095/707.5	23130/711	
	10MHz	QPSK	1	0	23.41	23.45	23.47	24.00
1			25	23.37	23.48	23.56	24.00	
1			49	23.45	23.54	23.52	24.00	
25			0	22.53	22.59	22.57	23.00	
25			13	22.58	22.64	22.66	23.00	
25			25	22.63	22.57	22.62	23.00	
50			0	22.46	22.59	22.55	23.00	
16QAM		1	0	22.57	22.80	22.80	23.00	
		1	25	22.56	22.65	22.88	23.00	
		1	49	22.59	22.88	22.91	23.00	
		25	0	21.45	21.51	21.51	22.00	
		25	13	21.56	21.48	21.56	22.00	
		25	25	21.54	21.46	21.55	22.00	



	64QAM	50	0	21.48	21.47	21.57	22.00
		1	0	22.09	22.17	22.09	22.50
		1	25	22.25	22.01	22.13	22.50
		1	49	22.16	22.19	22.11	22.50
		25	0	20.66	20.63	20.64	21.00
		25	13	20.58	20.67	20.66	21.00
		25	25	20.65	20.71	20.74	21.00
		50	0	20.67	20.67	20.71	21.00

LTE FDD Band 17 (REC On/Off)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	23.57	23.48	23.35	24.00
		1	13	23.42	23.56	23.41	24.00
		1	24	23.48	23.47	23.53	24.00
		12	0	22.60	22.69	22.59	23.00
		12	6	22.53	22.65	22.61	23.00
		12	13	22.58	22.56	22.58	23.00
		25	0	22.54	22.68	22.69	23.00
	16QAM	1	0	22.63	22.64	22.69	23.00
		1	13	22.50	22.41	21.50	23.00
		1	24	22.68	22.51	22.64	23.00
		12	0	21.56	21.63	21.56	22.00
		12	6	21.55	21.59	21.55	22.00
		12	13	21.59	21.65	21.60	22.00
		25	0	21.51	21.51	21.56	22.00
	64QAM	1	0	21.57	21.55	21.71	22.00
		1	13	21.91	21.76	21.79	22.00
		1	24	21.68	21.71	21.84	22.00
		12	0	20.79	20.83	20.74	21.00
		12	6	20.76	20.85	20.60	21.00
		12	13	20.69	20.77	20.64	21.00
		25	0	20.69	20.75	20.78	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23780/709	23790/710	23800/711	
10MHz	QPSK	1	0	23.54	23.44	23.32	24.00
		1	25	23.41	23.52	23.39	24.00
		1	49	23.46	23.46	23.50	24.00
		25	0	22.57	22.64	22.55	23.00
		25	13	22.51	22.61	22.58	23.00
		25	25	22.55	22.51	22.54	23.00
		50	0	22.51	22.63	22.65	23.00



	16QAM	1	0	22.61	22.60	22.64	23.00
		1	25	22.46	22.39	21.46	23.00
		1	49	22.66	22.48	22.62	23.00
		25	0	21.53	21.59	21.53	22.00
		25	13	21.52	21.57	21.52	22.00
		25	25	21.56	21.60	21.56	22.00
		50	0	21.49	21.47	21.53	22.00
	64QAM	1	0	21.55	21.51	21.66	22.00
		1	25	21.97	21.74	21.75	22.00
		1	49	21.66	21.68	21.82	22.00
		25	0	20.76	20.79	20.71	21.00
		25	13	20.73	20.83	20.57	21.00
		25	25	20.66	20.72	20.60	21.00
		50	0	20.67	20.71	20.75	21.00

LTE FDD Band 26 (REC On/Off)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26697/814.7	26865/831.5	27033/848.3	
1.4MHz	QPSK	1	0	23.09	23.12	23.13	24.00
		1	2	23.16	23.15	23.12	24.00
		1	5	23.10	23.03	23.13	24.00
		3	0	22.26	22.23	22.24	23.00
		3	2	22.16	22.43	22.06	23.00
		3	3	22.22	22.15	22.08	23.00
		6	0	22.06	22.21	22.05	23.00
	16QAM	1	0	22.22	22.36	22.41	23.00
		1	2	22.29	22.33	22.33	23.00
		1	5	22.23	22.39	22.47	23.00
		3	0	21.15	21.25	21.28	22.00
		3	2	21.10	21.22	20.85	22.00
		3	3	21.19	21.08	20.98	22.00
		6	0	21.05	21.09	20.94	22.00
	64QAM	1	0	21.51	21.35	21.40	22.00
		1	2	21.53	21.48	21.48	22.00
		1	5	21.53	21.75	21.83	22.00
		3	0	20.68	20.62	20.65	21.00
		3	2	20.55	20.57	20.20	21.00
		3	3	20.62	20.68	20.58	21.00
		6	0	20.59	20.59	20.44	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26705/815.5	26865/831.5	27025/847.5	
3MHz	QPSK	1	0	23.06	23.10	23.09	24.00



		1	7	23.14	23.11	23.09	24.00	
		1	14	23.07	22.98	23.09	24.00	
		8	0	22.23	22.18	22.20	23.00	
		8	4	22.14	22.39	22.01	23.00	
		8	7	22.20	22.13	22.04	23.00	
		15	0	22.04	22.20	22.03	23.00	
	16QAM	1	0	22.19	22.32	22.38	23.00	
		1	7	22.26	22.31	22.30	23.00	
		1	14	22.20	22.37	22.43	23.00	
		8	0	21.13	21.21	21.25	22.00	
		8	4	21.07	21.17	20.81	22.00	
		8	7	21.16	21.03	20.94	22.00	
	64QAM	15	0	21.03	21.05	20.89	22.00	
		1	0	21.48	21.31	21.37	22.00	
		1	7	21.50	21.46	21.45	22.00	
		1	14	21.50	21.73	21.79	22.00	
		8	0	20.66	20.58	20.62	21.00	
		8	4	20.52	20.52	20.16	21.00	
		8	7	20.59	20.63	20.54	21.00	
	<b>Bandwidth</b>	<b>Modulation</b>	<b>RB size</b>	<b>RB offset</b>	<b>Channel/Frequency (MHz)</b>			<b>Tune-up Limit</b>
					26715/816.5	26865/831.5	27015/846.5	
<b>5MHz</b>		QPSK	1	0	23.08	23.11	23.12	24.00
			1	13	23.17	23.16	23.13	24.00
			1	24	23.09	23.02	23.12	24.00
			12	0	22.26	22.23	22.24	23.00
			12	6	22.17	22.44	22.05	23.00
			12	13	22.22	22.17	22.09	23.00
			25	0	22.12	22.22	22.07	23.00
		16QAM	1	0	22.21	22.35	22.40	23.00
			1	13	22.29	22.35	22.33	23.00
			1	24	22.23	22.39	22.46	23.00
			12	0	21.16	21.26	21.29	22.00
			12	6	21.09	21.21	20.84	22.00
			12	13	21.19	21.08	20.98	22.00
			25	0	21.06	21.10	20.93	22.00
		64QAM	1	0	21.50	21.34	21.39	22.00
			1	13	21.53	21.50	21.48	22.00
			1	24	21.53	21.75	21.82	22.00
			12	0	20.69	20.63	20.66	21.00
			12	6	20.54	20.56	20.19	21.00
	12		13	20.62	20.68	20.58	21.00	
	25		0	20.60	20.60	20.43	21.00	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26750/820	26865/831.5	26990/844	
10MHz	QPSK	1	0	23.07	23.07	23.10	24.00
		1	25	23.15	23.15	23.10	24.00
		1	49	23.06	22.97	23.08	24.00
		25	0	22.24	22.19	22.21	23.00
		25	13	22.14	22.39	22.01	23.00
		25	25	22.19	22.14	22.05	23.00
		50	0	22.10	22.18	22.02	23.00
	16QAM	1	0	22.16	22.33	22.38	23.00
		1	25	22.27	22.32	22.31	23.00
		1	49	22.20	22.35	22.43	23.00
		25	0	21.13	21.24	21.26	22.00
		25	13	21.06	21.16	20.80	22.00
		25	25	21.17	21.04	20.95	22.00
		50	0	21.03	21.05	20.89	22.00
	64QAM	1	0	21.45	21.32	21.37	22.00
		1	25	21.51	21.47	21.46	22.00
		1	49	21.50	21.71	21.79	22.00
		25	0	20.66	20.61	20.63	21.00
		25	13	20.51	20.51	20.15	21.00
		25	25	20.60	20.64	20.55	21.00
		50	0	20.57	20.55	20.39	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26775/822.5	26865/831.5	26965/841.5	
15MHz	QPSK	1	0	23.04	23.03	23.07	24.00
		1	38	23.14	23.11	23.08	24.00
		1	74	23.04	22.96	23.05	24.00
		36	0	22.21	22.14	22.17	23.00
		36	18	22.12	22.35	21.98	23.00
		36	39	22.16	22.09	22.01	23.00
		75	0	22.07	22.13	21.98	23.00
	16QAM	1	0	22.14	22.29	22.33	23.00
		1	38	22.23	22.30	22.27	23.00
		1	74	22.18	22.32	22.41	23.00
		36	0	21.10	21.20	21.23	22.00
		36	18	21.03	21.14	20.77	22.00
		36	39	21.14	20.99	20.91	22.00
		75	0	21.01	21.01	20.86	22.00
	64QAM	1	0	21.43	21.28	21.32	22.00
		1	38	21.47	21.45	21.42	22.00
		1	74	21.48	21.68	21.77	22.00



		36	0	20.63	20.57	20.60	21.00
		36	18	20.48	20.49	20.12	21.00
		36	39	20.57	20.59	20.51	21.00
		75	0	20.55	20.51	20.36	21.00

LTE TDD Band 38 (REC On/Off)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	22.90	22.99	23.09	24.00
		1	13	23.02	22.84	23.07	24.00
		1	24	22.97	23.03	23.14	24.00
		12	0	22.14	22.17	22.20	23.00
		12	6	22.10	22.18	22.15	23.00
		12	13	22.14	22.09	22.18	23.00
		25	0	22.09	22.14	22.16	23.00
	16QAM	1	0	22.14	22.11	22.02	23.00
		1	13	22.35	21.93	22.19	23.00
		1	24	22.19	22.26	22.29	23.00
		12	0	20.99	21.22	21.01	22.00
		12	6	21.12	21.04	20.99	22.00
		12	13	21.08	21.32	21.07	22.00
		25	0	20.99	21.13	21.09	22.00
	64QAM	1	0	21.93	22.02	22.02	22.50
		1	13	21.57	21.85	22.19	22.50
		1	24	22.09	22.25	22.29	22.50
		12	0	20.50	20.52	20.51	21.00
		12	6	20.53	20.38	20.49	21.00
		12	13	20.59	20.55	20.57	21.00
		25	0	20.46	20.54	20.59	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	22.92	23.00	23.12	24.00
		1	25	23.05	22.89	23.11	24.00
		1	49	22.99	23.07	23.17	24.00
		25	0	22.17	22.22	22.24	23.00
		25	13	22.13	22.23	22.19	23.00
		25	25	22.16	22.13	22.23	23.00
		50	0	22.17	22.16	22.20	23.00
	16QAM	1	0	22.16	22.14	22.04	23.00
		1	25	22.38	21.97	22.22	23.00
		1	49	22.22	22.28	22.32	23.00
		25	0	21.02	21.27	21.05	22.00





		25	13	21.14	21.08	21.02	22.00
		25	25	21.11	21.37	21.11	22.00
		50	0	21.02	21.18	21.13	22.00
	64QAM	1	0	21.95	22.05	22.04	22.50
		1	25	21.60	21.89	22.22	22.50
		1	49	22.12	22.27	22.32	22.50
		25	0	20.53	20.57	20.55	21.00
		25	13	20.55	20.42	20.52	21.00
		25	25	20.62	20.60	20.61	21.00
		50	0	20.49	20.59	20.63	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	22.91	22.96	23.10	24.00
		1	38	23.03	22.88	23.08	24.00
		1	74	22.96	23.02	23.13	24.00
		36	0	22.15	22.18	22.21	23.00
		36	18	22.10	22.18	22.15	23.00
		36	39	22.13	22.10	22.19	23.00
		75	0	22.15	22.12	22.15	23.00
	16QAM	1	0	22.11	22.12	22.02	23.00
		1	38	22.36	21.94	22.20	23.00
		1	74	22.19	22.24	22.29	23.00
		36	0	20.99	21.25	21.02	22.00
		36	18	21.11	21.03	20.98	22.00
		36	39	21.09	21.33	21.08	22.00
		75	0	20.99	21.13	21.09	22.00
	64QAM	1	0	21.90	22.03	22.02	22.50
		1	38	21.58	21.86	22.20	22.50
		1	74	22.09	22.23	22.29	22.50
		36	0	20.50	20.55	20.52	21.00
		36	18	20.52	20.37	20.48	21.00
		36	39	20.60	20.56	20.58	21.00
		75	0	20.46	20.54	20.59	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	22.88	22.92	23.07	24.00
		1	50	23.02	22.84	23.06	24.00
		1	99	22.94	23.01	23.10	24.00
		50	0	22.12	22.13	22.17	23.00
		50	25	22.08	22.14	22.12	23.00
		50	50	22.10	22.05	22.15	23.00
		100	0	22.12	22.07	22.11	23.00
	16QAM	1	0	22.09	22.08	21.97	23.00



		1	50	22.32	21.92	22.16	23.00
		1	99	22.17	22.21	22.27	23.00
		50	0	20.96	21.21	20.99	22.00
		50	25	21.08	21.01	20.95	22.00
		50	50	21.06	21.28	21.04	22.00
		100	0	20.97	21.09	21.06	22.00
	64QAM	1	0	21.88	21.99	21.97	22.50
		1	50	21.54	21.84	22.16	22.50
		1	99	22.07	22.20	22.27	22.50
		50	0	20.47	20.51	20.49	21.00
		50	25	20.49	20.35	20.45	21.00
		50	50	20.57	20.51	20.54	21.00
		100	0	20.44	20.50	20.56	21.00

LTE TDD Band 41 (REC On/Off)				Conducted Power(dBm)				
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				40165/2547.5	40690/2600	41215/2652.5		
5MHz	QPSK	1	0	23.19	23.12	23.19	24.00	
		1	13	23.01	23.07	23.22	24.00	
		1	24	23.16	23.21	23.37	24.00	
		12	0	22.19	22.10	22.34	23.00	
		12	6	22.09	22.15	22.37	23.00	
		12	13	22.22	22.42	22.35	23.00	
		25	0	21.97	22.21	22.31	23.00	
	16QAM	1	0	22.39	22.39	22.17	23.00	
		1	13	21.87	21.95	22.12	23.00	
		1	24	22.25	22.17	22.36	23.00	
		12	0	21.17	21.08	21.21	22.00	
		12	6	21.11	21.04	21.21	22.00	
		12	13	21.07	21.12	21.26	22.00	
		25	0	21.12	21.13	21.24	22.00	
	64QAM	1	0	22.06	22.06	22.03	22.50	
		1	13	21.21	21.29	21.91	22.50	
		1	24	21.86	21.78	21.94	22.50	
		12	0	20.66	20.57	20.79	21.00	
		12	6	20.64	20.57	20.72	21.00	
		12	13	20.59	20.64	20.65	21.00	
		25	0	20.54	20.55	20.70	21.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					40190/2550	40690/2600	41190/2650	
	10MHz	QPSK	1	0	23.21	23.13	23.22	24.00
1			25	23.04	23.12	23.26	24.00	



		1	49	23.18	23.25	23.40	24.00	
		25	0	22.22	22.15	22.38	23.00	
		25	13	22.12	22.20	22.41	23.00	
		25	25	22.24	22.46	22.40	23.00	
		50	0	22.05	22.23	22.35	23.00	
	16QAM	1	0	22.41	22.42	22.19	23.00	
		1	25	21.90	21.99	22.15	23.00	
		1	49	22.28	22.19	22.39	23.00	
		25	0	21.20	21.13	21.25	22.00	
		25	13	21.13	21.08	21.24	22.00	
		25	25	21.10	21.17	21.30	22.00	
		50	0	21.15	21.18	21.28	22.00	
	64QAM	1	0	22.08	22.09	22.05	22.50	
		1	25	21.24	21.33	21.94	22.50	
		1	49	21.89	21.80	21.97	22.50	
		25	0	20.69	20.62	20.83	21.00	
		25	13	20.66	20.61	20.75	21.00	
		25	25	20.62	20.69	20.69	21.00	
		50	0	20.57	20.60	20.74	21.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					40215/2552.5	40690/2600	41165/2647.5	
15MHz	QPSK	1	0	23.20	23.09	23.20	24.00	
		1	38	23.02	23.11	23.23	24.00	
		1	74	23.15	23.20	23.36	24.00	
		36	0	22.20	22.11	22.35	23.00	
		36	18	22.09	22.15	22.37	23.00	
		36	39	22.21	22.43	22.36	23.00	
		75	0	22.03	22.19	22.30	23.00	
	16QAM	1	0	22.36	22.40	22.17	23.00	
		1	38	21.88	21.96	22.13	23.00	
		1	74	22.25	22.15	22.36	23.00	
		36	0	21.17	21.11	21.22	22.00	
		36	18	21.10	21.03	21.20	22.00	
		36	39	21.08	21.13	21.27	22.00	
		75	0	21.12	21.13	21.24	22.00	
	64QAM	1	0	22.03	22.07	22.03	22.50	
		1	38	21.22	21.30	21.92	22.50	
		1	74	21.86	21.76	21.94	22.50	
		36	0	20.66	20.60	20.80	21.00	
		36	18	20.63	20.56	20.71	21.00	
		36	39	20.60	20.65	20.66	21.00	
		75	0	20.54	20.55	20.70	21.00	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40240/2555	40690/2600	41140/2645	
20MHz	QPSK	1	0	23.17	23.05	23.17	24.00
		1	50	23.01	23.07	23.21	24.00
		1	99	23.13	23.19	23.33	24.00
		50	0	22.17	22.06	22.31	23.00
		50	25	22.07	22.11	22.34	23.00
		50	50	22.18	22.38	22.32	23.00
		100	0	22.00	22.14	22.26	23.00
	16QAM	1	0	22.34	22.36	22.12	23.00
		1	50	21.84	21.94	22.09	23.00
		1	99	22.23	22.12	22.34	23.00
		50	0	21.14	21.07	21.19	22.00
		50	25	21.07	21.01	21.17	22.00
		50	50	21.05	21.08	21.23	22.00
		100	0	21.10	21.09	21.21	22.00
	64QAM	1	0	22.01	22.03	21.98	22.50
		1	50	21.18	21.28	21.88	22.50
		1	99	21.84	21.73	21.92	22.50
		50	0	20.63	20.56	20.77	21.00
		50	25	20.60	20.54	20.68	21.00
		50	50	20.57	20.60	20.62	21.00
		100	0	20.52	20.51	20.67	21.00



DL LTE CA Class	PCC						SCC			Power(dBm)			Tune-up Limit (dBm)
	PCC Band	PCC Bandwidth (MHz)	PCC UL RB size	PCC UL RB offset	PCC UL Channel	PCC DL Channel	SCC Band	SCC Bandwidth (MHz)	SCC DL Channel	Standalone	CA active	Delta	
CA_2C	2	5	1	13	18808	808	2	20	925	23.75	23.77	-0.02	24.00
	2	10	1	25	18806	806	2	20	950	23.77	23.82	-0.05	24.00
	2	15	1	38	18803	803	2	20	974	23.77	23.78	-0.01	24.00
	2	20	1	50	18801	801	2	20	999	23.75	23.80	-0.05	24.00
CA_5B	5	5	1	13	20428	2428	5	10	2500	23.11	23.13	-0.02	24.00
	5	10	1	25	20450	2450	5	10	2549	23.16	23.19	-0.03	24.00
CA_7C	7	10	1	0	20805	2805	7	20	2949	23.60	23.70	-0.10	24.00
	7	15	1	0	20828	2828	7	20	2999	23.59	23.64	-0.05	24.00
	7	20	1	0	20850	2850	7	20	3048	23.56	23.57	-0.01	24.00
CA_12B	12	5	1	13	23058	5058	12	10	5130	23.51	23.54	-0.03	24.00
CA_38C	38	15	1	74	38025	38025	38	15	38175	23.11	23.19	-0.08	24.00
	38	20	1	99	37952	37952	38	20	38150	23.19	23.23	-0.04	24.00
CA_41C	41	5	1	24	41023	41023	41	20	41140	23.35	23.39	-0.04	24.00
	41	10	1	49	40996	40996	41	20	41140	23.38	23.36	0.02	24.00
	41	15	1	74	40969	40969	41	20	41140	23.34	23.41	-0.07	24.00
	41	20	1	99	40942	40942	41	20	41140	23.31	23.35	-0.04	24.00
CA_2A-5A	2	5	1	13	18900	900	5	10	2525	23.78	23.77	0.01	24.00
	2	10	1	25	18900	900	5	10	2525	23.83	23.91	-0.08	24.00
	2	15	1	38	18900	900	5	10	2525	23.82	23.79	0.03	24.00
	2	20	1	50	18900	900	5	10	2525	23.78	23.74	0.04	24.00
	5	5	1	13	20425	2425	2	20	700	23.15	23.22	-0.07	24.00
	5	10	1	25	20450	2450	2	20	700	23.14	23.24	-0.10	24.00
CA_2A-12A	2	5	1	13	18900	900	12	10	5095	23.78	23.74	0.04	24.00
	2	10	1	25	18900	900	12	10	5095	23.83	23.90	-0.07	24.00
	2	15	1	38	18900	900	12	10	5095	23.82	23.79	0.03	24.00
	2	20	1	50	18900	900	12	10	5095	23.78	23.77	0.01	24.00
	12	5	1	13	23155	5155	2	20	1100	23.58	23.61	-0.03	24.00
	12	10	1	25	23130	5130	2	20	1100	23.56	23.59	-0.03	24.00
CA_2A-17A	2	5	1	13	18900	900	17	10	5790	23.78	23.75	0.03	24.00
	2	10	1	25	18900	900	17	10	5790	23.83	23.84	-0.01	24.00
	17	5	1	0	23755	5755	2	20	700	23.57	23.63	-0.06	24.00
	17	10	1	0	23780	5780	2	20	700	23.54	23.61	-0.07	24.00
CA_4A-5A	4	5	1	0	19975	1975	5	10	2450	23.65	23.62	0.03	24.00
	4	10	1	0	20000	2000	5	10	2450	23.67	23.69	-0.02	24.00
	4	15	1	0	20025	2025	5	10	2450	23.66	23.71	-0.05	24.00
	4	20	1	0	20050	2050	5	10	2450	23.63	23.69	-0.06	24.00
	5	5	1	13	20425	2425	4	20	2050	23.15	23.21	-0.06	24.00
	5	10	1	25	20450	2450	4	20	2050	23.14	23.19	-0.05	24.00
CA_4A-12A	4	1.4	1	0	19957	1957	12	10	5060	23.66	23.72	-0.06	24.00



	4	3	1	0	19965	1965	12	10	5060	23.68	23.71	-0.03	24.00
	4	5	1	0	19975	1975	12	10	5060	23.65	23.61	0.04	24.00
	4	10	1	0	20000	2000	12	10	5060	23.67	23.66	0.01	24.00
	4	15	1	0	20025	2025	12	10	5060	23.66	23.51	0.15	24.00
	4	20	1	0	20050	2050	12	10	5060	23.63	23.74	-0.11	24.00
CA_4A-17A	4	5	1	0	19975	1975	17	10	5780	23.65	23.69	-0.04	24.00
	4	10	1	0	20000	2000	17	10	5780	23.67	23.73	-0.06	24.00
CA_5A-7A	5	1.4	1	2	20407	2407	7	20	2850	23.13	23.22	-0.09	24.00
	5	3	1	7	20415	2415	7	20	2850	23.17	23.20	-0.03	24.00
	5	5	1	13	20425	2425	7	20	2850	23.15	23.21	-0.06	24.00
	5	10	1	25	20450	2450	7	20	2850	23.14	23.20	-0.06	24.00
	7	10	1	0	20800	2800	5	10	2450	23.65	23.71	-0.06	24.00
	7	15	1	0	20825	2825	5	10	2450	23.64	23.69	-0.05	24.00
7	20	1	0	20850	2850	5	10	2450	23.61	23.70	-0.09	24.00	
CA_7A-12A	7	5	1	0	20775	2775	12	10	5060	23.63	23.59	0.04	24.00
	7	10	1	0	20800	2800	12	10	5060	23.65	23.72	-0.07	24.00
	7	15	1	0	20825	2825	12	10	5060	23.64	23.66	-0.02	24.00
	7	20	1	0	20850	2850	12	10	5060	23.61	23.59	0.02	24.00
	12	5	1	13	23155	5155	7	20	3350	23.58	23.64	-0.06	24.00
	12	10	1	25	23130	5130	7	20	3350	23.56	23.52	0.04	24.00

DL LTE CA Class	PCC						SCC1			SCC2			Power(dBm)			Tune-up Limit (dBm)
	PCC Band	PCC Bandwidth (MHz)	PCC UL RB size	PCC UL RB offset	PCC UL Channel	PCC DL Channel	SCC1 Band	SCC1 Bandwidth (MHz)	SCC1 DL Channel	SCC2 Band	SCC2 Bandwidth (MHz)	SCC2 DL Channel	Standalone	CA active	Delta	
CA_2A-12B	2	5	1	13	18900	900	12	5	5048	12	10	5120	23.78	23.79	-0.01	24.00
	2	10	1	25	18900	900	12	5	5048	12	10	5120	23.83	23.86	-0.03	24.00
	2	15	1	38	18900	900	12	5	5048	12	10	5120	23.82	23.88	-0.06	24.00
	2	20	1	50	18900	900	12	5	5048	12	10	5120	23.78	23.85	-0.07	24.00
	12	5	1	13	23058	5058	12	10	5130	2	20	1100	23.51	23.58	-0.07	24.00
CA_4A-12B	4	5	1	0	19975	1975	12	5	5038	12	10	5110	23.65	23.61	0.04	24.00
	4	10	1	0	20000	2000	12	5	5038	12	10	5110	23.67	23.64	0.03	24.00
	4	15	1	0	20025	2025	12	5	5038	12	10	5110	23.66	23.65	0.01	24.00
	4	20	1	0	20050	2050	12	5	5038	12	10	5110	23.63	23.60	0.03	24.00
CA_41D	41	10	1	49	40798	40798	41	20	40942	41	20	41140	23.34	23.41	-0.07	24.00
	41	15	1	74	40771	40771	41	20	40942	41	20	41140	23.37	23.40	-0.03	24.00
	41	20	1	99	40744	40744	41	20	40942	41	20	41140	23.33	23.39	-0.06	24.00



## (Antenna 2)

LTE FDD Band 2 (REC On+Left Head)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	19.63	19.77	19.70	20.00
		1	2	19.43	19.46	19.51	20.00
		1	5	19.63	19.58	19.61	20.00
		3	0	19.47	19.57	19.69	20.00
		3	2	18.95	19.53	19.62	20.00
		3	3	19.57	19.55	19.56	20.00
		6	0	19.38	19.71	19.61	20.00
	16QAM	1	0	19.66	19.86	19.62	20.00
		1	2	19.66	19.26	19.47	20.00
		1	5	19.71	19.82	19.82	20.00
		3	0	19.52	19.52	19.58	20.00
		3	2	19.50	19.48	19.67	20.00
		3	3	19.44	19.64	19.62	20.00
		6	0	19.39	19.48	19.59	20.00
	64QAM	1	0	19.72	19.81	19.72	20.00
		1	2	19.47	19.58	19.51	20.00
		1	5	19.64	19.80	19.71	20.00
		3	0	19.48	19.48	19.56	20.00
		3	2	19.60	19.45	19.53	20.00
		3	3	19.41	19.50	19.59	20.00
		6	0	19.37	19.48	19.58	20.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	19.61	19.70	19.68	20.00
		1	7	19.43	19.46	19.50	20.00
		1	14	19.60	19.56	19.57	20.00
		8	0	19.45	19.53	19.66	20.00
		8	4	18.93	19.49	19.59	20.00
		8	7	19.53	19.51	19.53	20.00
		15	0	19.41	19.64	19.56	20.00
	16QAM	1	0	19.61	19.83	19.57	20.00
		1	7	19.63	19.25	19.44	20.00
		1	14	19.69	19.77	19.80	20.00
		8	0	19.49	19.51	19.56	20.00
		8	4	19.46	19.45	19.63	20.00
		8	7	19.42	19.60	19.59	20.00
		15	0	19.37	19.44	19.56	20.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18625/1852.5	18900/1880	19175/1907.5		
	64QAM	1	0	19.67	19.78	19.67	20.00	
		1	7	19.44	19.57	19.48	20.00	
		1	14	19.62	19.75	19.69	20.00	
		8	0	19.45	19.47	19.54	20.00	
		8	4	19.56	19.42	19.49	20.00	
		8	7	19.39	19.46	19.56	20.00	
		15	0	19.35	19.44	19.55	20.00	
5MHz	QPSK	1	0	19.58	19.68	19.64	20.00	
		1	13	19.41	19.42	19.47	20.00	
		1	24	19.57	19.51	19.53	20.00	
		12	0	19.42	19.48	19.62	20.00	
		12	6	18.91	19.45	19.54	20.00	
		12	13	19.51	19.49	19.49	20.00	
		25	0	19.39	19.63	19.54	20.00	
	16QAM	1	0	19.58	19.79	19.54	20.00	
		1	13	19.60	19.23	19.41	20.00	
		1	24	19.66	19.75	19.76	20.00	
		12	0	19.47	19.47	19.53	20.00	
		12	6	19.43	19.40	19.59	20.00	
		12	13	19.39	19.55	19.55	20.00	
		25	0	19.35	19.40	19.51	20.00	
	64QAM	1	0	19.64	19.74	19.64	20.00	
		1	13	19.41	19.55	19.45	20.00	
		1	24	19.59	19.73	19.65	20.00	
		12	0	19.43	19.43	19.51	20.00	
		12	6	19.53	19.37	19.45	20.00	
		12	13	19.36	19.41	19.52	20.00	
		25	0	19.33	19.40	19.50	20.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18650/1855	18900/1880	19150/1905	
	10MHz	QPSK	1	0	19.60	19.69	19.67	20.00
			1	25	19.44	19.47	19.51	20.00
			1	49	19.59	19.55	19.56	20.00
			25	0	19.45	19.53	19.66	20.00
			25	13	18.94	19.50	19.58	20.00
25			25	19.53	19.53	19.54	20.00	
50			0	19.47	19.65	19.58	20.00	
16QAM		1	0	19.60	19.82	19.56	20.00	
		1	25	19.63	19.27	19.44	20.00	
		1	49	19.69	19.77	19.79	20.00	
		25	0	19.50	19.52	19.57	20.00	





		25	13	19.45	19.44	19.62	20.00
		25	25	19.42	19.60	19.59	20.00
		50	0	19.38	19.45	19.55	20.00
	64QAM	1	0	19.66	19.77	19.66	20.00
		1	25	19.44	19.59	19.48	20.00
		1	49	19.62	19.75	19.68	20.00
		25	0	19.46	19.48	19.55	20.00
		25	13	19.55	19.41	19.48	20.00
		25	25	19.39	19.46	19.56	20.00
		50	0	19.36	19.45	19.54	20.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	19.59	19.65	19.65	20.00
		1	38	19.42	19.46	19.48	20.00
		1	74	19.56	19.50	19.52	20.00
		36	0	19.43	19.49	19.63	20.00
		36	18	18.91	19.45	19.54	20.00
		36	39	19.50	19.50	19.50	20.00
		75	0	19.45	19.61	19.53	20.00
	16QAM	1	0	19.55	19.80	19.54	20.00
		1	38	19.61	19.24	19.42	20.00
		1	74	19.66	19.73	19.76	20.00
		36	0	19.47	19.50	19.54	20.00
		36	18	19.42	19.39	19.58	20.00
		36	39	19.40	19.56	19.56	20.00
		75	0	19.35	19.40	19.51	20.00
	64QAM	1	0	19.61	19.75	19.64	20.00
		1	38	19.42	19.56	19.46	20.00
		1	74	19.59	19.71	19.65	20.00
		36	0	19.43	19.46	19.52	20.00
		36	18	19.52	19.36	19.44	20.00
		36	39	19.37	19.42	19.53	20.00
		75	0	19.33	19.40	19.50	20.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	19.56	19.61	19.62	20.00
		1	50	19.41	19.42	19.46	20.00
		1	99	19.54	19.49	19.49	20.00
		50	0	19.40	19.44	19.59	20.00
		50	25	18.89	19.41	19.51	20.00
		50	50	19.47	19.45	19.46	20.00
		100	0	19.42	19.56	19.49	20.00
	16QAM	1	0	19.53	19.76	19.49	20.00



		1	50	19.57	19.22	19.38	20.00
		1	99	19.64	19.70	19.74	20.00
		50	0	19.44	19.46	19.51	20.00
		50	25	19.39	19.37	19.55	20.00
		50	50	19.37	19.51	19.52	20.00
		100	0	19.33	19.36	19.48	20.00
	64QAM	1	0	19.59	19.71	19.59	20.00
		1	50	19.38	19.54	19.42	20.00
		1	99	19.57	19.68	19.63	20.00
		50	0	19.40	19.42	19.49	20.00
		50	25	19.49	19.34	19.41	20.00
		50	50	19.34	19.37	19.49	20.00
		100	0	19.31	19.36	19.47	20.00

LTE FDD Band 2 (REC On+Right Head)				Conducted Power(dBm)				
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18607/1850.7	18900/1880	19193/1909.3		
1.4MHz	QPSK	1	0	16.99	17.08	17.07	17.50	
		1	2	16.87	16.91	16.92	17.50	
		1	5	17.15	17.00	17.06	17.50	
		3	0	17.03	17.00	17.02	17.50	
		3	2	16.84	17.02	17.12	17.50	
		3	3	16.93	16.98	16.96	17.50	
		6	0	16.68	17.09	17.28	17.50	
	16QAM	1	0	17.06	17.32	17.10	17.50	
		1	2	16.96	16.51	16.40	17.50	
		1	5	17.14	17.21	16.85	17.50	
		3	0	16.79	16.84	17.11	17.50	
		3	2	16.80	16.83	17.00	17.50	
		3	3	16.87	16.95	16.92	17.50	
		6	0	16.95	16.86	17.04	17.50	
	64QAM	1	0	16.59	17.22	17.05	17.50	
		1	2	16.57	16.45	16.43	17.50	
		1	5	16.82	16.90	16.90	17.50	
		3	0	16.99	16.87	16.90	17.50	
		3	2	17.03	16.95	17.01	17.50	
		3	3	16.71	17.06	16.89	17.50	
		6	0	16.77	16.98	17.04	17.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
	3MHz	QPSK	1	0	18615/1851.5	18900/1880	19185/1908.5	17.50
			1	7	16.87	16.91	16.91	17.50



		1	14	17.12	16.98	17.02	17.50	
		8	0	17.01	16.96	16.99	17.50	
		8	4	16.82	16.98	17.09	17.50	
		8	7	16.89	16.94	16.93	17.50	
		15	0	16.71	17.02	17.23	17.50	
	16QAM	1	0	17.01	17.29	17.05	17.50	
		1	7	16.93	16.50	16.37	17.50	
		1	14	17.12	17.16	16.83	17.50	
		8	0	16.76	16.83	17.09	17.50	
		8	4	16.76	16.80	16.96	17.50	
		8	7	16.85	16.91	16.89	17.50	
		15	0	16.93	16.82	17.01	17.50	
	64QAM	1	0	16.54	17.19	17.00	17.50	
		1	7	16.54	16.44	16.40	17.50	
		1	14	16.80	16.85	16.88	17.50	
		8	0	16.96	16.86	16.88	17.50	
		8	4	16.99	16.92	16.97	17.50	
		8	7	16.69	17.02	16.86	17.50	
		15	0	16.75	16.94	17.01	17.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	16.94	16.99	17.01	17.50	
		1	13	16.85	16.87	16.88	17.50	
		1	24	17.09	16.93	16.98	17.50	
		12	0	16.98	16.91	16.95	17.50	
		12	6	16.80	16.94	17.04	17.50	
		12	13	16.87	16.92	16.89	17.50	
		25	0	16.69	17.01	17.21	17.50	
	16QAM	1	0	16.98	17.25	17.02	17.50	
		1	13	16.90	16.48	16.34	17.50	
		1	24	17.09	17.14	16.79	17.50	
		12	0	16.74	16.79	17.06	17.50	
		12	6	16.73	16.75	16.92	17.50	
		12	13	16.82	16.86	16.85	17.50	
		25	0	16.91	16.78	16.96	17.50	
	64QAM	1	0	16.51	17.15	16.97	17.50	
		1	13	16.51	16.42	16.37	17.50	
		1	24	16.77	16.83	16.84	17.50	
		12	0	16.94	16.82	16.85	17.50	
		12	6	16.96	16.87	16.93	17.50	
		12	13	16.66	16.97	16.82	17.50	
		25	0	16.73	16.90	16.96	17.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	16.96	17.00	17.04	17.50
		1	25	16.88	16.92	16.92	17.50
		1	49	17.11	16.97	17.01	17.50
		25	0	17.01	16.96	16.99	17.50
		25	13	16.83	16.99	17.08	17.50
		25	25	16.89	16.96	16.94	17.50
		50	0	16.77	17.03	17.25	17.50
	16QAM	1	0	17.00	17.28	17.04	17.50
		1	25	16.93	16.52	16.37	17.50
		1	49	17.12	17.16	16.82	17.50
		25	0	16.77	16.84	17.10	17.50
		25	13	16.75	16.79	16.95	17.50
		25	25	16.85	16.91	16.89	17.50
		50	0	16.94	16.83	17.00	17.50
	64QAM	1	0	16.53	17.18	16.99	17.50
		1	25	16.54	16.46	16.40	17.50
		1	49	16.80	16.85	16.87	17.50
		25	0	16.97	16.87	16.89	17.50
		25	13	16.98	16.91	16.96	17.50
		25	25	16.69	17.02	16.86	17.50
		50	0	16.76	16.95	17.00	17.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	16.95	16.96	17.02	17.50
		1	38	16.86	16.91	16.89	17.50
		1	74	17.08	16.92	16.97	17.50
		36	0	16.99	16.92	16.96	17.50
		36	18	16.80	16.94	17.04	17.50
		36	39	16.86	16.93	16.90	17.50
		75	0	16.75	16.99	17.20	17.50
	16QAM	1	0	16.95	17.26	17.02	17.50
		1	38	16.91	16.49	16.35	17.50
		1	74	17.09	17.12	16.79	17.50
		36	0	16.74	16.82	17.07	17.50
		36	18	16.72	16.74	16.91	17.50
		36	39	16.83	16.87	16.86	17.50
		75	0	16.91	16.78	16.96	17.50
	64QAM	1	0	16.48	17.16	16.97	17.50
		1	38	16.52	16.43	16.38	17.50
		1	74	16.77	16.81	16.84	17.50
		36	0	16.94	16.85	16.86	17.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
		36	18	16.95	16.86	16.92	17.50
		36	39	16.67	16.98	16.83	17.50
		75	0	16.73	16.90	16.96	17.50
20MHz	QPSK	1	0	16.92	16.92	16.99	17.50
		1	50	16.85	16.87	16.87	17.50
		1	99	17.06	16.91	16.94	17.50
		50	0	16.96	16.87	16.92	17.50
		50	25	16.78	16.90	17.01	17.50
		50	50	16.83	16.88	16.86	17.50
		100	0	16.72	16.94	17.16	17.50
	16QAM	1	0	16.93	17.22	16.97	17.50
		1	50	16.87	16.47	16.31	17.50
		1	99	17.07	17.09	16.77	17.50
		50	0	16.71	16.78	17.04	17.50
		50	25	16.69	16.72	16.88	17.50
		50	50	16.80	16.82	16.82	17.50
		100	0	16.89	16.74	16.93	17.50
	64QAM	1	0	16.46	17.12	16.92	17.50
		1	50	16.48	16.41	16.34	17.50
		1	99	16.75	16.78	16.82	17.50
		50	0	16.91	16.81	16.83	17.50
		50	25	16.92	16.84	16.89	17.50
		50	50	16.64	16.93	16.79	17.50
		100	0	16.71	16.86	16.93	17.50

LTE FDD Band 2 (REC On+Left Head+Wi-Fi/BT)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	16.48	16.68	16.61	17.50
		1	2	16.59	16.68	16.59	17.50
		1	5	16.65	16.79	16.84	17.50
		3	0	16.70	16.55	16.63	17.50
		3	2	16.81	16.71	16.86	17.50
		3	3	16.62	16.70	16.72	17.50
		6	0	16.71	16.59	16.83	17.50
	16QAM	1	0	16.66	15.67	16.77	17.50
		1	2	16.73	17.27	16.70	17.50
		1	5	16.84	17.29	16.71	17.50
		3	0	16.71	16.45	16.73	17.50
		3	2	16.62	16.75	16.90	17.50



		3	3	16.75	16.92	16.93	17.50
		6	0	16.79	16.54	16.73	17.50
	64QAM	1	0	16.51	16.77	16.61	17.50
		1	2	16.72	16.69	17.39	17.50
		1	5	16.62	16.85	16.65	17.50
		3	0	16.68	16.52	16.61	17.50
		3	2	16.73	16.69	16.89	17.50
		3	3	16.49	16.70	16.68	17.50
		6	0	16.71	16.52	16.77	17.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	16.46	16.61	16.59	17.50
		1	7	16.59	16.68	16.58	17.50
		1	14	16.62	16.77	16.80	17.50
		8	0	16.68	16.51	16.60	17.50
		8	4	16.79	16.67	16.83	17.50
		8	7	16.58	16.66	16.69	17.50
		15	0	16.74	16.52	16.78	17.50
	16QAM	1	0	16.61	15.64	16.72	17.50
		1	7	16.70	17.26	16.67	17.50
		1	14	16.82	17.24	16.69	17.50
		8	0	16.68	16.44	16.71	17.50
		8	4	16.58	16.72	16.86	17.50
		8	7	16.73	16.88	16.90	17.50
		15	0	16.77	16.50	16.70	17.50
	64QAM	1	0	16.46	16.74	16.56	17.50
		1	7	16.69	16.68	17.36	17.50
		1	14	16.60	16.80	16.63	17.50
		8	0	16.65	16.51	16.59	17.50
		8	4	16.69	16.66	16.85	17.50
		8	7	16.47	16.66	16.65	17.50
		15	0	16.69	16.48	16.74	17.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	16.43	16.59	16.55	17.50
		1	13	16.57	16.64	16.55	17.50
		1	24	16.59	16.72	16.76	17.50
		12	0	16.65	16.46	16.56	17.50
		12	6	16.77	16.63	16.78	17.50
		12	13	16.56	16.64	16.65	17.50
		25	0	16.72	16.51	16.76	17.50
	16QAM	1	0	16.58	15.60	16.69	17.50
		1	13	16.67	17.24	16.64	17.50



		1	24	16.79	17.22	16.65	17.50	
		12	0	16.66	16.40	16.68	17.50	
		12	6	16.55	16.67	16.82	17.50	
		12	13	16.70	16.83	16.86	17.50	
		25	0	16.75	16.46	16.65	17.50	
	64QAM	1	0	16.43	16.70	16.53	17.50	
		1	13	16.66	16.66	17.33	17.50	
		1	24	16.57	16.78	16.59	17.50	
		12	0	16.63	16.47	16.56	17.50	
		12	6	16.66	16.61	16.81	17.50	
		12	13	16.44	16.61	16.61	17.50	
		25	0	16.67	16.44	16.69	17.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	16.45	16.60	16.58	17.50	
		1	25	16.60	16.69	16.59	17.50	
		1	49	16.61	16.76	16.79	17.50	
		25	0	16.68	16.51	16.60	17.50	
		25	13	16.80	16.68	16.82	17.50	
		25	25	16.58	16.68	16.70	17.50	
		50	0	16.80	16.53	16.80	17.50	
	16QAM	1	0	16.60	15.63	16.71	17.50	
		1	25	16.70	17.28	16.67	17.50	
		1	49	16.82	17.24	16.68	17.50	
		25	0	16.69	16.45	16.72	17.50	
		25	13	16.57	16.71	16.85	17.50	
		25	25	16.73	16.88	16.90	17.50	
		50	0	16.78	16.51	16.69	17.50	
	64QAM	1	0	16.45	16.73	16.55	17.50	
		1	25	16.69	16.70	17.36	17.50	
		1	49	16.60	16.80	16.62	17.50	
		25	0	16.66	16.52	16.60	17.50	
		25	13	16.68	16.65	16.84	17.50	
		25	25	16.47	16.66	16.65	17.50	
		50	0	16.70	16.49	16.73	17.50	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18675/1857.5	18900/1880	19125/1902.5		
15MHz	QPSK	1	0	16.44	16.56	16.56	17.50	
		1	38	16.58	16.68	16.56	17.50	
		1	74	16.58	16.71	16.75	17.50	
		36	0	16.66	16.47	16.57	17.50	
		36	18	16.77	16.63	16.78	17.50	
		36	39	16.55	16.65	16.66	17.50	



	16QAM	75	0	16.78	16.49	16.75	17.50
		1	0	16.55	15.61	16.69	17.50
		1	38	16.68	17.25	16.65	17.50
		1	74	16.79	17.20	16.65	17.50
		36	0	16.66	16.43	16.69	17.50
		36	18	16.54	16.66	16.81	17.50
		36	39	16.71	16.84	16.87	17.50
		75	0	16.75	16.46	16.65	17.50
	64QAM	1	0	16.40	16.71	16.53	17.50
		1	38	16.67	16.67	17.34	17.50
		1	74	16.57	16.76	16.59	17.50
		36	0	16.63	16.50	16.57	17.50
		36	18	16.65	16.60	16.80	17.50
		36	39	16.45	16.62	16.62	17.50
75		0	16.67	16.44	16.69	17.50	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	16.41	16.52	16.53	17.45
		1	50	16.57	16.64	16.54	17.45
		1	99	16.56	16.70	16.72	17.45
		50	0	16.63	16.42	16.53	17.45
		50	25	16.75	16.59	16.75	17.45
		50	50	16.52	16.60	16.62	17.45
		100	0	16.75	16.44	16.71	17.45
	16QAM	1	0	16.53	15.57	16.64	17.45
		1	50	16.64	17.23	16.61	17.45
		1	99	16.77	17.17	16.63	17.45
		50	0	16.63	16.39	16.66	17.45
		50	25	16.51	16.64	16.78	17.45
		50	50	16.68	16.79	16.83	17.45
		100	0	16.73	16.42	16.62	17.45
	64QAM	1	0	16.38	16.67	16.48	17.45
		1	50	16.63	16.65	17.30	17.45
		1	99	16.55	16.73	16.57	17.45
		50	0	16.60	16.46	16.54	17.45
		50	25	16.62	16.58	16.77	17.45
		50	50	16.42	16.57	16.58	17.45
		100	0	16.65	16.40	16.66	17.45





LTE FDD Band 2 (REC On+Right Head+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	13.86	13.90	13.86	14.00
		1	2	12.79	13.77	13.84	14.00
		1	5	13.85	13.80	13.94	14.00
		3	0	13.71	13.92	13.76	14.00
		3	2	13.66	13.80	13.74	14.00
		3	3	13.77	13.83	13.77	14.00
		6	0	13.63	13.77	13.85	14.00
	16QAM	1	0	13.87	13.91	13.82	14.00
		1	2	13.32	13.89	13.22	14.00
		1	5	13.85	13.84	13.82	14.00
		3	0	13.72	13.76	13.77	14.00
		3	2	13.77	13.80	13.74	14.00
		3	3	13.66	13.83	13.69	14.00
		6	0	13.69	13.73	13.80	14.00
	64QAM	1	0	13.77	13.89	13.86	14.00
		1	2	13.10	13.63	13.33	14.00
		1	5	13.70	13.84	13.62	14.00
		3	0	13.67	13.70	13.76	14.00
		3	2	13.67	13.70	13.72	14.00
		3	3	13.66	13.79	13.69	14.00
		6	0	13.64	13.85	13.75	14.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	13.84	13.83	13.84	14.00
		1	7	12.79	13.77	13.83	14.00
		1	14	13.82	13.78	13.90	14.00
		8	0	13.69	13.88	13.73	14.00
		8	4	13.64	13.76	13.71	14.00
		8	7	13.73	13.79	13.74	14.00
		15	0	13.66	13.70	13.80	14.00
	16QAM	1	0	13.82	13.88	13.77	14.00
		1	7	13.29	13.88	13.19	14.00
		1	14	13.83	13.79	13.80	14.00
		8	0	13.69	13.75	13.75	14.00
		8	4	13.73	13.77	13.70	14.00
		8	7	13.64	13.79	13.66	14.00
		15	0	13.67	13.69	13.77	14.00
	64QAM	1	0	13.72	13.86	13.81	14.00
		1	7	13.07	13.62	13.30	14.00



		1	14	13.68	13.79	13.60	14.00
		8	0	13.64	13.69	13.74	14.00
		8	4	13.63	13.67	13.68	14.00
		8	7	13.64	13.75	13.66	14.00
		15	0	13.62	13.81	13.72	14.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	13.81	13.81	13.80	14.00
		1	13	12.77	13.73	13.80	14.00
		1	24	13.79	13.73	13.86	14.00
		12	0	13.66	13.83	13.69	14.00
		12	6	13.62	13.72	13.66	14.00
		12	13	13.71	13.77	13.70	14.00
		25	0	13.64	13.69	13.78	14.00
	16QAM	1	0	13.79	13.84	13.74	14.00
		1	13	13.26	13.86	13.16	14.00
		1	24	13.80	13.77	13.76	14.00
		12	0	13.67	13.71	13.72	14.00
		12	6	13.70	13.72	13.66	14.00
		12	13	13.61	13.74	13.62	14.00
		25	0	13.65	13.65	13.72	14.00
	64QAM	1	0	13.69	13.82	13.78	14.00
		1	13	13.04	13.60	13.27	14.00
		1	24	13.65	13.77	13.56	14.00
		12	0	13.62	13.65	13.71	14.00
		12	6	13.60	13.62	13.64	14.00
		12	13	13.61	13.70	13.62	14.00
		25	0	13.60	13.77	13.67	14.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	13.83	13.82	13.83	14.00
		1	25	12.80	13.78	13.84	14.00
		1	49	13.81	13.77	13.89	14.00
		25	0	13.69	13.88	13.73	14.00
		25	13	13.65	13.77	13.70	14.00
		25	25	13.73	13.81	13.75	14.00
		50	0	13.72	13.71	13.82	14.00
	16QAM	1	0	13.81	13.87	13.76	14.00
		1	25	13.29	13.90	13.19	14.00
		1	49	13.83	13.79	13.79	14.00
		25	0	13.70	13.76	13.76	14.00
		25	13	13.72	13.76	13.69	14.00
		25	25	13.64	13.79	13.66	14.00



	64QAM	50	0	13.68	13.70	13.76	14.00
		1	0	13.71	13.85	13.80	14.00
		1	25	13.07	13.64	13.30	14.00
		1	49	13.68	13.79	13.59	14.00
		25	0	13.65	13.70	13.75	14.00
		25	13	13.62	13.66	13.67	14.00
		25	25	13.64	13.75	13.66	14.00
		50	0	13.63	13.82	13.71	14.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	13.82	13.78	13.81	14.00
		1	38	12.78	13.77	13.81	14.00
		1	74	13.78	13.72	13.85	14.00
		36	0	13.67	13.84	13.70	14.00
		36	18	13.62	13.72	13.66	14.00
		36	39	13.70	13.78	13.71	14.00
		75	0	13.70	13.67	13.77	14.00
	16QAM	1	0	13.76	13.85	13.74	14.00
		1	38	13.27	13.87	13.17	14.00
		1	74	13.80	13.75	13.76	14.00
		36	0	13.67	13.74	13.73	14.00
		36	18	13.69	13.71	13.65	14.00
		36	39	13.62	13.75	13.63	14.00
		75	0	13.65	13.65	13.72	14.00
	64QAM	1	0	13.66	13.83	13.78	14.00
		1	38	13.05	13.61	13.28	14.00
		1	74	13.65	13.75	13.56	14.00
		36	0	13.62	13.68	13.72	14.00
		36	18	13.59	13.61	13.63	14.00
		36	39	13.62	13.71	13.63	14.00
		75	0	13.60	13.77	13.67	14.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	13.79	13.74	13.78	14.00
		1	50	12.77	13.73	13.79	14.00
		1	99	13.76	13.71	13.82	14.00
		50	0	13.64	13.79	13.66	14.00
		50	25	13.60	13.68	13.63	14.00
		50	50	13.67	13.73	13.67	14.00
		100	0	13.67	13.62	13.73	14.00
	16QAM	1	0	13.74	13.81	13.69	14.00
		1	50	13.23	13.85	13.13	14.00
		1	99	13.78	13.72	13.74	14.00



		50	0	13.64	13.70	13.70	14.00
		50	25	13.66	13.69	13.62	14.00
		50	50	13.59	13.70	13.59	14.00
		100	0	13.63	13.61	13.69	14.00
	64QAM	1	0	13.64	13.79	13.73	14.00
		1	50	13.01	13.59	13.24	14.00
		1	99	13.63	13.72	13.54	14.00
		50	0	13.59	13.64	13.69	14.00
		50	25	13.56	13.59	13.60	14.00
		50	50	13.59	13.66	13.59	14.00
		100	0	13.58	13.73	13.64	14.00

LTE FDD Band 2 (REC Off)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	22.12	22.24	22.17	22.50
		1	2	22.02	21.84	21.93	22.50
		1	5	22.03	22.05	22.03	22.50
		3	0	22.00	22.16	22.15	22.50
		3	2	21.89	22.10	22.12	22.50
		3	3	21.97	22.13	22.10	22.50
		6	0	21.90	22.11	22.09	22.50
	16QAM	1	0	22.23	22.22	22.19	22.50
		1	2	22.08	22.06	21.94	22.50
		1	5	21.88	22.07	21.91	22.50
		3	0	21.87	21.98	22.08	22.50
		3	2	22.01	22.00	22.01	22.50
		3	3	21.89	22.11	22.02	22.50
		6	0	21.91	22.02	22.05	22.50
	64QAM	1	0	21.91	22.11	22.31	22.50
		1	2	21.91	22.02	21.86	22.50
		1	5	22.09	22.17	22.13	22.50
		3	0	21.82	21.85	21.93	22.50
		3	2	21.77	21.82	21.82	22.50
		3	3	21.72	21.96	21.85	22.50
		6	0	21.26	21.41	21.41	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	22.08	22.16	22.12	22.50
		1	7	21.99	21.79	21.88	22.50
		1	14	21.98	21.99	21.96	22.50
		8	0	21.95	22.07	22.08	22.50



		8	4	21.84	22.01	22.05	22.50	
		8	7	21.91	22.05	22.02	22.50	
		15	0	21.85	22.02	22.00	22.50	
	16QAM		1	0	22.16	22.16	22.12	22.50
			1	7	22.02	22.01	21.88	22.50
			1	14	21.83	22.00	21.86	22.50
			8	0	21.81	21.92	22.02	22.50
			8	4	21.95	21.93	21.94	22.50
			8	7	21.84	22.02	21.95	22.50
			15	0	21.86	21.93	21.98	22.50
	64QAM		1	0	21.84	22.05	22.24	22.50
			1	7	21.85	21.97	21.80	22.50
			1	14	22.04	22.10	22.08	22.50
			8	0	21.29	21.32	21.40	21.50
			8	4	21.24	21.28	21.28	21.50
8			7	21.20	21.40	21.31	21.50	
15			0	21.21	21.32	21.34	21.50	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18625/1852.5	18900/1880	19175/1907.5		
5MHz	QPSK	1	0	22.05	22.14	22.08	22.50	
		1	13	21.97	21.75	21.85	22.50	
		1	24	21.95	21.94	21.92	22.50	
		12	0	21.92	22.02	22.04	22.50	
		12	6	21.82	21.97	22.00	22.50	
		12	13	21.89	22.03	21.98	22.50	
		25	0	21.83	22.01	21.98	22.50	
	16QAM		1	0	22.13	22.12	22.09	22.50
			1	13	21.99	21.99	21.85	22.50
			1	24	21.80	21.98	21.82	22.50
			12	0	21.79	21.88	21.99	22.50
			12	6	21.92	21.88	21.90	22.50
			12	13	21.81	21.97	21.91	22.50
			25	0	21.84	21.89	21.93	22.50
	64QAM		1	0	21.81	22.01	22.21	22.50
			1	13	21.82	21.95	21.77	22.50
			1	24	22.01	22.08	22.04	22.50
			12	0	21.27	21.28	21.37	21.50
			12	6	21.21	21.23	21.24	21.50
			12	13	21.17	21.35	21.27	21.50
			25	0	21.19	21.28	21.29	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18650/1855	18900/1880	19150/1905		
10MHz	QPSK	1	0	22.07	22.15	22.11	22.50	



		1	25	22.00	21.80	21.89	22.50	
		1	49	21.97	21.98	21.95	22.50	
		25	0	21.95	22.07	22.08	22.50	
		25	13	21.85	22.02	22.04	22.50	
		25	25	21.91	22.07	22.03	22.50	
		50	0	21.91	22.03	22.02	22.50	
	16QAM	1	0	22.15	22.15	22.11	22.50	
		1	25	22.02	22.03	21.88	22.50	
		1	49	21.83	22.00	21.85	22.50	
		25	0	21.82	21.93	22.03	22.50	
		25	13	21.94	21.92	21.93	22.50	
		25	25	21.84	22.02	21.95	22.50	
	64QAM	50	0	21.87	21.94	21.97	22.50	
		1	0	21.83	22.04	22.23	22.50	
		1	25	21.85	21.99	21.80	22.50	
		1	49	22.04	22.10	22.07	22.50	
		25	0	21.30	21.33	21.41	21.50	
		25	13	21.23	21.27	21.27	21.50	
		25	25	21.20	21.40	21.31	21.50	
		50	0	21.22	21.33	21.33	21.50	
		Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
15MHz		QPSK			18675/1857.5	18900/1880	19125/1902.5	
			1	0	22.06	22.11	22.09	22.50
			1	38	21.98	21.79	21.86	22.50
	1		74	21.94	21.93	21.91	22.50	
	36		0	21.93	22.03	22.05	22.50	
	36		18	21.82	21.97	22.00	22.50	
	36		39	21.88	22.04	21.99	22.50	
	16QAM	75	0	21.89	21.99	21.97	22.50	
		1	0	22.10	22.13	22.09	22.50	
		1	38	22.00	22.00	21.86	22.50	
		1	74	21.80	21.96	21.82	22.50	
		36	0	21.79	21.91	22.00	22.50	
		36	18	21.91	21.87	21.89	22.50	
		36	39	21.82	21.98	21.92	22.50	
	64QAM	75	0	21.84	21.89	21.93	22.50	
		1	0	21.78	22.02	22.21	22.50	
		1	38	21.83	21.96	21.78	22.50	
		1	74	22.01	22.06	22.04	22.50	
		36	0	21.27	21.31	21.38	21.50	
		36	18	21.20	21.22	21.23	21.50	
		36	39	21.18	21.36	21.28	21.50	
75	0	21.19	21.28	21.29	21.50			



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	22.03	22.07	22.06	22.50
		1	50	21.97	21.75	21.84	22.50
		1	99	21.92	21.92	21.88	22.50
		50	0	21.90	21.98	22.01	22.50
		50	25	21.80	21.93	21.97	22.50
		50	50	21.85	21.99	21.95	22.50
		100	0	21.86	21.94	21.93	22.50
	16QAM	1	0	22.08	22.09	22.04	22.50
		1	50	21.96	21.98	21.82	22.50
		1	99	21.78	21.93	21.80	22.50
		50	0	21.76	21.87	21.97	22.50
		50	25	21.88	21.85	21.86	22.50
		50	50	21.79	21.93	21.88	22.50
		100	0	21.82	21.85	21.90	22.50
	64QAM	1	0	21.76	21.98	22.16	22.50
		1	50	21.79	21.94	21.74	22.50
		1	99	21.99	22.03	22.02	22.50
		50	0	21.24	21.27	21.35	21.50
		50	25	21.17	21.20	21.20	21.50
		50	50	21.15	21.31	21.24	21.50
		100	0	21.17	21.24	21.26	21.50

LTE FDD Band 2 (REC Off+Wi-Fi/BT)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	18.95	19.14	19.07	19.50
		1	2	18.94	19.11	18.84	19.50
		1	5	18.86	19.00	18.99	19.50
		3	0	18.96	18.97	19.06	19.50
		3	2	18.91	19.00	19.08	19.50
		3	3	18.91	18.97	18.99	19.50
		6	0	18.79	19.03	18.96	19.50
	16QAM	1	0	19.08	19.10	19.16	19.50
		1	2	18.95	18.77	19.04	19.50
		1	5	19.04	19.10	19.15	19.50
		3	0	18.88	18.84	18.92	19.50
		3	2	18.83	18.95	18.99	19.50
		3	3	18.84	19.00	18.93	19.50
		6	0	18.74	18.81	18.97	19.50
	64QAM	1	0	19.06	19.13	19.12	19.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				18615/1851.5	18900/1880	19185/1908.5		
		1	2	18.90	18.84	18.94	19.50	
		1	5	18.99	19.24	19.10	19.50	
		3	0	18.90	18.97	18.95	19.50	
		3	2	18.86	18.93	18.91	19.50	
		3	3	18.82	19.00	18.94	19.50	
		6	0	18.76	18.83	18.88	19.50	
3MHz	QPSK	1	0	18.92	19.10	19.04	19.50	
		1	7	18.93	19.07	18.82	19.50	
		1	14	18.84	18.99	18.96	19.50	
		8	0	18.93	18.92	19.02	19.50	
		8	4	18.89	18.96	19.05	19.50	
		8	7	18.88	18.92	18.95	19.50	
		15	0	18.76	18.98	18.92	19.50	
	16QAM	1	0	19.06	19.06	19.11	19.50	
		1	7	18.91	18.75	19.00	19.50	
		1	14	19.02	19.07	19.13	19.50	
		8	0	18.85	18.80	18.89	19.50	
		8	4	18.80	18.93	18.96	19.50	
		8	7	18.81	18.95	18.89	19.50	
		15	0	18.72	18.77	18.94	19.50	
	64QAM	1	0	19.04	19.09	19.07	19.50	
		1	7	18.86	18.82	18.90	19.50	
		1	14	18.97	19.21	19.08	19.50	
		8	0	18.87	18.93	18.92	19.50	
		8	4	18.83	18.91	18.88	19.50	
		8	7	18.79	18.95	18.90	19.50	
		15	0	18.74	18.79	18.85	19.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18625/1852.5	18900/1880	19175/1907.5	
	5MHz	QPSK	1	0	18.89	19.08	19.00	19.50
1			13	18.91	19.03	18.79	19.50	
1			24	18.81	18.94	18.92	19.50	
12			0	18.90	18.87	18.98	19.50	
12			6	18.87	18.92	19.00	19.50	
12			13	18.86	18.90	18.91	19.50	
25			0	18.74	18.97	18.90	19.50	
16QAM		1	0	19.03	19.02	19.08	19.50	
		1	13	18.88	18.73	18.97	19.50	
		1	24	18.99	19.05	19.09	19.50	
		12	0	18.83	18.76	18.86	19.50	
		12	6	18.77	18.88	18.92	19.50	





		12	13	18.78	18.90	18.85	19.50
		25	0	18.70	18.73	18.89	19.50
	64QAM	1	0	19.01	19.05	19.04	19.50
		1	13	18.83	18.80	18.87	19.50
		1	24	18.94	19.19	19.04	19.50
		12	0	18.85	18.89	18.89	19.50
		12	6	18.80	18.86	18.84	19.50
		12	13	18.76	18.90	18.86	19.50
		25	0	18.72	18.75	18.80	19.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	18.91	19.09	19.03	19.50
		1	25	18.94	19.08	18.83	19.50
		1	49	18.83	18.98	18.95	19.50
		25	0	18.93	18.92	19.02	19.50
		25	13	18.90	18.97	19.04	19.50
		25	25	18.88	18.94	18.96	19.50
		50	0	18.82	18.99	18.94	19.50
	16QAM	1	0	19.05	19.05	19.10	19.50
		1	25	18.91	18.77	19.00	19.50
		1	49	19.02	19.07	19.12	19.50
		25	0	18.86	18.81	18.90	19.50
		25	13	18.79	18.92	18.95	19.50
		25	25	18.81	18.95	18.89	19.50
		50	0	18.73	18.78	18.93	19.50
	64QAM	1	0	19.03	19.08	19.06	19.50
		1	25	18.86	18.84	18.90	19.50
		1	49	18.97	19.21	19.07	19.50
		25	0	18.88	18.94	18.93	19.50
		25	13	18.82	18.90	18.87	19.50
		25	25	18.79	18.95	18.90	19.50
		50	0	18.75	18.80	18.84	19.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	18.90	19.05	19.01	19.50
		1	38	18.92	19.07	18.80	19.50
		1	74	18.80	18.93	18.91	19.50
		36	0	18.91	18.88	18.99	19.50
		36	18	18.87	18.92	19.00	19.50
		36	39	18.85	18.91	18.92	19.50
		75	0	18.80	18.95	18.89	19.50
	16QAM	1	0	19.00	19.03	19.08	19.50
		1	38	18.89	18.74	18.98	19.50



		1	74	18.99	19.03	19.09	19.50	
		36	0	18.83	18.79	18.87	19.50	
		36	18	18.76	18.87	18.91	19.50	
		36	39	18.79	18.91	18.86	19.50	
		75	0	18.70	18.73	18.89	19.50	
	64QAM	1	0	18.98	19.06	19.04	19.50	
		1	38	18.84	18.81	18.88	19.50	
		1	74	18.94	19.17	19.04	19.50	
		36	0	18.85	18.92	18.90	19.50	
		36	18	18.79	18.85	18.83	19.50	
		36	39	18.77	18.91	18.87	19.50	
		75	0	18.72	18.75	18.80	19.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	18.87	19.01	18.98	19.50	
		1	50	18.91	19.03	18.78	19.50	
		1	99	18.78	18.92	18.88	19.50	
		50	0	18.88	18.83	18.95	19.50	
		50	25	18.85	18.88	18.97	19.50	
		50	50	18.82	18.86	18.88	19.50	
		100	0	18.77	18.90	18.85	19.50	
	16QAM	1	0	18.98	18.99	19.03	19.50	
		1	50	18.85	18.72	18.94	19.50	
		1	99	18.97	19.00	19.07	19.50	
		50	0	18.80	18.75	18.84	19.50	
		50	25	18.73	18.85	18.88	19.50	
		50	50	18.76	18.86	18.82	19.50	
		100	0	18.68	18.69	18.86	19.50	
	64QAM	1	0	18.96	19.02	18.99	19.50	
		1	50	18.80	18.79	18.84	19.50	
		1	99	18.92	19.14	19.02	19.50	
		50	0	18.82	18.88	18.87	19.50	
		50	25	18.76	18.83	18.80	19.50	
		50	50	18.74	18.86	18.83	19.50	
		100	0	18.70	18.71	18.77	19.50	

LTE FDD Band 4 (REC On+Left Head)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	19.85	19.83	19.81	20.50
		1	2	19.73	19.66	19.59	20.50
		1	5	19.69	19.57	19.70	20.50



		3	0	19.72	19.67	19.62	20.50	
		3	2	19.71	19.72	19.72	20.50	
		3	3	19.66	19.52	19.65	20.50	
		6	0	19.51	19.69	19.59	20.50	
	16QAM	1	0	19.87	19.70	19.82	20.50	
		1	2	19.54	19.76	19.81	20.50	
		1	5	19.53	19.80	19.70	20.50	
		3	0	19.80	19.60	19.56	20.50	
		3	2	19.72	19.67	19.54	20.50	
		3	3	19.66	19.56	19.62	20.50	
	64QAM	6	0	19.67	19.56	19.58	20.50	
		1	0	19.81	19.71	19.61	20.50	
		1	2	19.55	19.64	19.81	20.50	
		1	5	19.61	19.52	19.70	20.50	
		3	0	19.78	19.56	19.51	20.50	
		3	2	19.69	19.46	19.63	20.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	19.82	19.79	19.78	20.50	
		1	7	19.72	19.62	19.57	20.50	
		1	14	19.67	19.56	19.67	20.50	
		8	0	19.69	19.62	19.58	20.50	
		8	4	19.69	19.68	19.69	20.50	
		8	7	19.63	19.47	19.61	20.50	
		15	0	19.48	19.64	19.55	20.50	
	16QAM	1	0	19.85	19.66	19.77	20.50	
		1	7	19.50	19.74	19.77	20.50	
		1	14	19.51	19.77	19.68	20.50	
		8	0	19.77	19.56	19.53	20.50	
		8	4	19.69	19.65	19.51	20.50	
		8	7	19.63	19.51	19.58	20.50	
		15	0	19.65	19.52	19.55	20.50	
	64QAM	1	0	19.79	19.67	19.56	20.50	
		1	7	19.51	19.62	19.77	20.50	
		1	14	19.59	19.49	19.68	20.50	
		8	0	19.75	19.52	19.48	20.50	
		8	4	19.66	19.44	19.60	20.50	
		8	7	19.60	19.60	19.45	20.50	
		15	0	19.64	19.50	19.56	20.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	19.79	19.77	19.74	20.50
		1	13	19.70	19.58	19.54	20.50
		1	24	19.64	19.51	19.63	20.50
		12	0	19.66	19.57	19.54	20.50
		12	6	19.67	19.64	19.64	20.50
		12	13	19.61	19.45	19.57	20.50
		25	0	19.46	19.63	19.53	20.50
	16QAM	1	0	19.82	19.62	19.74	20.50
		1	13	19.47	19.72	19.74	20.50
		1	24	19.48	19.75	19.64	20.50
		12	0	19.75	19.52	19.50	20.50
		12	6	19.66	19.60	19.47	20.50
		12	13	19.60	19.46	19.54	20.50
		25	0	19.63	19.48	19.50	20.50
	64QAM	1	0	19.76	19.63	19.53	20.50
		1	13	19.48	19.60	19.74	20.50
		1	24	19.56	19.47	19.64	20.50
		12	0	19.73	19.48	19.45	20.50
		12	6	19.63	19.39	19.56	20.50
		12	13	19.57	19.55	19.41	20.50
		25	0	19.62	19.46	19.51	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	19.81	19.78	19.77	20.50
		1	25	19.73	19.63	19.58	20.50
		1	49	19.66	19.55	19.66	20.50
		25	0	19.69	19.62	19.58	20.50
		25	13	19.70	19.69	19.68	20.50
		25	25	19.63	19.49	19.62	20.50
		50	0	19.54	19.65	19.57	20.50
	16QAM	1	0	19.84	19.65	19.76	20.50
		1	25	19.50	19.76	19.77	20.50
		1	49	19.51	19.77	19.67	20.50
		25	0	19.78	19.57	19.54	20.50
		25	13	19.68	19.64	19.50	20.50
		25	25	19.63	19.51	19.58	20.50
		50	0	19.66	19.53	19.54	20.50
	64QAM	1	0	19.78	19.66	19.55	20.50
		1	25	19.51	19.64	19.77	20.50
		1	49	19.59	19.49	19.67	20.50
		25	0	19.76	19.53	19.49	20.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20025/1717.5	20175/1732.5	20325/1747.5	
15MHz	QPSK	25	13	19.65	19.43	19.59	20.50
		25	25	19.60	19.60	19.45	20.50
		50	0	19.65	19.51	19.55	20.50
		1	0	19.80	19.74	19.75	20.50
		1	38	19.71	19.62	19.55	20.50
		1	74	19.63	19.50	19.62	20.50
		36	0	19.67	19.58	19.55	20.50
	16QAM	36	18	19.67	19.64	19.64	20.50
		36	39	19.60	19.46	19.58	20.50
		75	0	19.52	19.61	19.52	20.50
		1	0	19.79	19.63	19.74	20.50
		1	38	19.48	19.73	19.75	20.50
		1	74	19.48	19.73	19.64	20.50
		36	0	19.75	19.55	19.51	20.50
	64QAM	36	18	19.65	19.59	19.46	20.50
		36	39	19.61	19.47	19.55	20.50
		75	0	19.63	19.48	19.50	20.50
		1	0	19.73	19.64	19.53	20.50
		1	38	19.49	19.61	19.75	20.50
		1	74	19.56	19.45	19.64	20.50
		36	0	19.73	19.51	19.46	20.50
20MHz	QPSK	36	18	19.62	19.38	19.55	20.50
		36	39	19.58	19.56	19.42	20.50
		75	0	19.62	19.46	19.51	20.50
		1	0	19.77	19.70	19.72	20.50
		1	50	19.70	19.58	19.53	20.50
		1	99	19.61	19.49	19.59	20.50
		50	0	19.64	19.53	19.51	20.50
	16QAM	50	25	19.65	19.60	19.61	20.50
		50	50	19.57	19.41	19.54	20.50
		100	0	19.49	19.56	19.48	20.50
		1	0	19.77	19.59	19.69	20.50
		1	50	19.44	19.71	19.71	20.50
		1	99	19.46	19.70	19.62	20.50
		50	0	19.72	19.51	19.48	20.50
64QAM	50	25	19.62	19.57	19.43	20.50	
	50	50	19.58	19.42	19.51	20.50	
	100	0	19.61	19.44	19.47	20.50	



		1	50	19.45	19.59	19.71	20.50
		1	99	19.54	19.42	19.62	20.50
		50	0	19.70	19.47	19.43	20.50
		50	25	19.59	19.36	19.52	20.50
		50	50	19.55	19.51	19.38	20.50
		100	0	19.60	19.42	19.48	20.50

LTE FDD Band 4 (REC On+Right Head)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	17.40	17.40	17.32	18.00
		1	2	17.32	16.66	16.53	18.00
		1	5	17.23	17.11	17.02	18.00
		3	0	17.27	17.16	17.14	18.00
		3	2	17.28	17.19	17.17	18.00
		3	3	17.30	17.04	17.15	18.00
		6	0	17.04	17.24	17.16	18.00
	16QAM	1	0	17.41	17.58	17.42	18.00
		1	2	17.10	16.58	16.88	18.00
		1	5	17.30	17.40	17.38	18.00
		3	0	17.27	17.21	17.12	18.00
		3	2	17.17	17.13	17.08	18.00
		3	3	17.07	16.95	17.02	18.00
		6	0	17.13	17.09	16.99	18.00
	64QAM	1	0	17.36	17.33	17.48	18.00
		1	2	17.28	16.36	16.85	18.00
		1	5	17.36	17.09	17.18	18.00
		3	0	17.15	17.11	17.14	18.00
		3	2	17.17	17.13	17.14	18.00
		3	3	17.07	17.02	16.97	18.00
		6	0	17.10	17.10	16.95	18.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	17.38	17.33	17.30	18.00
		1	7	17.32	16.66	16.52	18.00
		1	14	17.20	17.09	16.98	18.00
		8	0	17.25	17.12	17.11	18.00
		8	4	17.26	17.15	17.14	18.00
		8	7	17.26	17.00	17.12	18.00
		15	0	17.07	17.17	17.11	18.00
	16QAM	1	0	17.36	17.55	17.37	18.00
		1	7	17.07	16.57	16.85	18.00



		1	14	17.28	17.35	17.36	18.00	
		8	0	17.24	17.20	17.10	18.00	
		8	4	17.13	17.10	17.04	18.00	
		8	7	17.05	16.91	16.99	18.00	
		15	0	17.11	17.05	16.96	18.00	
	64QAM	1	0	17.31	17.30	17.43	18.00	
		1	7	17.25	16.35	16.82	18.00	
		1	14	17.34	17.04	17.16	18.00	
		8	0	17.12	17.10	17.12	18.00	
		8	4	17.13	17.10	17.10	18.00	
		8	7	17.05	16.98	16.94	18.00	
		15	0	17.08	17.06	16.92	18.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	17.35	17.31	17.26	18.00	
		1	13	17.30	16.62	16.49	18.00	
		1	24	17.17	17.04	16.94	18.00	
		12	0	17.22	17.07	17.07	18.00	
		12	6	17.24	17.11	17.09	18.00	
		12	13	17.24	16.98	17.08	18.00	
		25	0	17.05	17.16	17.09	18.00	
	16QAM	1	0	17.33	17.51	17.34	18.00	
		1	13	17.04	16.55	16.82	18.00	
		1	24	17.25	17.33	17.32	18.00	
		12	0	17.22	17.16	17.07	18.00	
		12	6	17.10	17.05	17.00	18.00	
		12	13	17.02	16.86	16.95	18.00	
		25	0	17.09	17.01	16.91	18.00	
	64QAM	1	0	17.28	17.26	17.40	18.00	
		1	13	17.22	16.33	16.79	18.00	
		1	24	17.31	17.02	17.12	18.00	
		12	0	17.10	17.06	17.09	18.00	
		12	6	17.10	17.05	17.06	18.00	
		12	13	17.02	16.93	16.90	18.00	
		25	0	17.06	17.02	16.87	18.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20000/1715	20175/1732.5	20350/1750	
	10MHz	QPSK	1	0	17.37	17.32	17.29	18.00
1			25	17.33	16.67	16.53	18.00	
1			49	17.19	17.08	16.97	18.00	
25			0	17.25	17.12	17.11	18.00	
25			13	17.27	17.16	17.13	18.00	
25			25	17.26	17.02	17.13	18.00	



	16QAM	50	0	17.13	17.18	17.13	18.00
		1	0	17.35	17.54	17.36	18.00
		1	25	17.07	16.59	16.85	18.00
		1	49	17.28	17.35	17.35	18.00
		25	0	17.25	17.21	17.11	18.00
		25	13	17.12	17.09	17.03	18.00
		25	25	17.05	16.91	16.99	18.00
	50	0	17.12	17.06	16.95	18.00	
	64QAM	1	0	17.30	17.29	17.42	18.00
		1	25	17.25	16.37	16.82	18.00
		1	49	17.34	17.04	17.15	18.00
		25	0	17.13	17.11	17.13	18.00
		25	13	17.12	17.09	17.09	18.00
		25	25	17.05	16.98	16.94	18.00
50		0	17.09	17.07	16.91	18.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20025/1717.5	20175/1732.5	20325/1747.5	
15MHz	QPSK	1	0	17.36	17.28	17.27	18.00
		1	38	17.31	16.66	16.50	18.00
		1	74	17.16	17.03	16.93	18.00
		36	0	17.23	17.08	17.08	18.00
		36	18	17.24	17.11	17.09	18.00
		36	39	17.23	16.99	17.09	18.00
		75	0	17.11	17.14	17.08	18.00
	16QAM	1	0	17.30	17.52	17.34	18.00
		1	38	17.05	16.56	16.83	18.00
		1	74	17.25	17.31	17.32	18.00
		36	0	17.22	17.19	17.08	18.00
		36	18	17.09	17.04	16.99	18.00
		36	39	17.03	16.87	16.96	18.00
		75	0	17.09	17.01	16.91	18.00
	64QAM	1	0	17.25	17.27	17.40	18.00
		1	38	17.23	16.34	16.80	18.00
		1	74	17.31	17.00	17.12	18.00
		36	0	17.10	17.09	17.10	18.00
		36	18	17.09	17.04	17.05	18.00
		36	39	17.03	16.94	16.91	18.00
		75	0	17.06	17.02	16.87	18.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	17.33	17.24	17.24	18.00
		1	50	17.30	16.62	16.48	18.00
		1	99	17.14	17.02	16.90	18.00





		50	0	17.20	17.03	17.04	18.00
		50	25	17.22	17.07	17.06	18.00
		50	50	17.20	16.94	17.05	18.00
		100	0	17.08	17.09	17.04	18.00
	16QAM	1	0	17.28	17.48	17.29	18.00
		1	50	17.01	16.54	16.79	18.00
		1	99	17.23	17.28	17.30	18.00
		50	0	17.19	17.15	17.05	18.00
		50	25	17.06	17.02	16.96	18.00
		50	50	17.00	16.82	16.92	18.00
		100	0	17.07	16.97	16.88	18.00
	64QAM	1	0	17.23	17.23	17.35	18.00
		1	50	17.19	16.32	16.76	18.00
		1	99	17.29	16.97	17.10	18.00
		50	0	17.07	17.05	17.07	18.00
		50	25	17.06	17.02	17.02	18.00
		50	50	17.00	16.89	16.87	18.00
		100	0	17.04	16.98	16.84	18.00

LTE FDD Band 4 (REC On+Left Head+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	16.91	16.96	16.87	17.50
		1	2	16.73	16.19	16.34	17.50
		1	5	16.74	16.67	16.72	17.50
		3	0	16.72	16.70	16.53	17.50
		3	2	16.74	16.73	16.55	17.50
		3	3	16.70	16.73	16.71	17.50
		6	0	16.65	16.80	16.34	17.50
	16QAM	1	0	17.03	16.83	17.03	17.50
		1	2	16.96	16.25	16.15	17.50
		1	5	16.89	16.82	16.93	17.50
		3	0	16.74	16.80	16.78	17.50
		3	2	16.71	16.62	16.65	17.50
		3	3	16.70	16.71	16.53	17.50
		6	0	16.66	16.63	16.51	17.50
	64QAM	1	0	17.04	16.98	16.63	17.50
		1	2	16.71	15.79	16.64	17.50
		1	5	16.91	16.84	16.80	17.50
		3	0	16.73	16.64	16.77	17.50
		3	2	16.81	16.64	16.51	17.50
		3	3	16.64	16.72	16.51	17.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				19965/1711.5	20175/1732.5	20385/1753.5		
				6	0	16.68		16.54
3MHz	QPSK	1	0	16.87	16.88	16.82	17.50	
		1	7	16.70	16.14	16.29	17.50	
		1	14	16.69	16.61	16.65	17.50	
		8	0	16.67	16.61	16.46	17.50	
		8	4	16.69	16.64	16.48	17.50	
		8	7	16.64	16.65	16.63	17.50	
		15	0	16.60	16.71	16.25	17.50	
	16QAM	1	0	16.96	16.77	16.96	17.50	
		1	7	16.90	16.20	16.09	17.50	
		1	14	16.84	16.75	16.88	17.50	
		8	0	16.68	16.74	16.72	17.50	
		8	4	16.65	16.55	16.58	17.50	
		8	7	16.65	16.62	16.46	17.50	
		15	0	16.61	16.54	16.44	17.50	
	64QAM	1	0	16.97	16.92	16.56	17.50	
		1	7	16.65	15.74	16.58	17.50	
		1	14	16.86	16.77	16.75	17.50	
		8	0	16.67	16.58	16.71	17.50	
		8	4	16.75	16.57	16.44	17.50	
		8	7	16.59	16.63	16.44	17.50	
		15	0	16.63	16.45	16.49	17.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					19975/1712.5	20175/1732.5	20375/1752.5	
					5MHz			
5MHz	QPSK	1	0	16.84	16.86	16.78	17.50	
		1	13	16.68	16.10	16.26	17.50	
		1	24	16.66	16.56	16.61	17.50	
		12	0	16.64	16.56	16.42	17.50	
		12	6	16.67	16.60	16.43	17.50	
		12	13	16.62	16.63	16.59	17.50	
		25	0	16.58	16.70	16.23	17.50	
	16QAM	1	0	16.93	16.73	16.93	17.50	
		1	13	16.87	16.18	16.06	17.50	
		1	24	16.81	16.73	16.84	17.50	
		12	0	16.66	16.70	16.69	17.50	
		12	6	16.62	16.50	16.54	17.50	
		12	13	16.62	16.57	16.42	17.50	
		25	0	16.59	16.50	16.39	17.50	
	64QAM	1	0	16.94	16.88	16.53	17.50	
		1	13	16.62	15.72	16.55	17.50	
		1	24	16.83	16.75	16.71	17.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20000/1715	20175/1732.5	20350/1750		
		12	0	16.65	16.54	16.68	17.50	
		12	6	16.72	16.52	16.40	17.50	
		12	13	16.56	16.58	16.40	17.50	
		25	0	16.61	16.41	16.44	17.50	
10MHz	QPSK	1	0	16.86	16.87	16.81	17.50	
		1	25	16.71	16.15	16.30	17.50	
		1	49	16.68	16.60	16.64	17.50	
		25	0	16.67	16.61	16.46	17.50	
		25	13	16.70	16.65	16.47	17.50	
		25	25	16.64	16.67	16.64	17.50	
		50	0	16.66	16.72	16.27	17.50	
	16QAM	1	0	16.95	16.76	16.95	17.50	
		1	25	16.90	16.22	16.09	17.50	
		1	49	16.84	16.75	16.87	17.50	
		25	0	16.69	16.75	16.73	17.50	
		25	13	16.64	16.54	16.57	17.50	
		25	25	16.65	16.62	16.46	17.50	
		50	0	16.62	16.55	16.43	17.50	
	64QAM	1	0	16.96	16.91	16.55	17.50	
		1	25	16.65	15.76	16.58	17.50	
		1	49	16.86	16.77	16.74	17.50	
		25	0	16.68	16.59	16.72	17.50	
		25	13	16.74	16.56	16.43	17.50	
		25	25	16.59	16.63	16.44	17.50	
		50	0	16.64	16.46	16.48	17.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20025/1717.5	20175/1732.5	20325/1747.5	
	15MHz	QPSK	1	0	16.85	16.83	16.79	17.50
			1	38	16.69	16.14	16.27	17.50
			1	74	16.65	16.55	16.60	17.50
			36	0	16.65	16.57	16.43	17.50
			36	18	16.67	16.60	16.43	17.50
36			39	16.61	16.64	16.60	17.50	
75			0	16.64	16.68	16.22	17.50	
16QAM		1	0	16.90	16.74	16.93	17.50	
		1	38	16.88	16.19	16.07	17.50	
		1	74	16.81	16.71	16.84	17.50	
		36	0	16.66	16.73	16.70	17.50	
		36	18	16.61	16.49	16.53	17.50	
		36	39	16.63	16.58	16.43	17.50	
		75	0	16.59	16.50	16.39	17.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
	64QAM	1	0	16.91	16.89	16.53	17.50
		1	38	16.63	15.73	16.56	17.50
		1	74	16.83	16.73	16.71	17.50
		36	0	16.65	16.57	16.69	17.50
		36	18	16.71	16.51	16.39	17.50
		36	39	16.57	16.59	16.41	17.50
		75	0	16.61	16.41	16.44	17.50
20MHz	QPSK	1	0	16.82	16.79	16.76	17.50
		1	50	16.68	16.10	16.25	17.50
		1	99	16.63	16.54	16.57	17.50
		50	0	16.62	16.52	16.39	17.50
		50	25	16.65	16.56	16.40	17.50
		50	50	16.58	16.59	16.56	17.50
		100	0	16.61	16.63	16.18	17.50
	16QAM	1	0	16.88	16.70	16.88	17.50
		1	50	16.84	16.17	16.03	17.50
		1	99	16.79	16.68	16.82	17.50
		50	0	16.63	16.69	16.67	17.50
		50	25	16.58	16.47	16.50	17.50
		50	50	16.60	16.53	16.39	17.50
		100	0	16.57	16.46	16.36	17.50
	64QAM	1	0	16.89	16.85	16.48	17.50
		1	50	16.59	15.71	16.52	17.50
		1	99	16.81	16.70	16.69	17.50
		50	0	16.62	16.53	16.66	17.50
		50	25	16.68	16.49	16.36	17.50
		50	50	16.54	16.54	16.37	17.50
		100	0	16.59	16.37	16.41	17.50

LTE FDD Band 4 (REC On+Right Head+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	15.25	13.90	15.11	15.50
		1	2	14.05	14.45	15.03	15.50
		1	5	14.66	15.30	14.22	15.50
		3	0	14.94	14.62	14.82	15.50
		3	2	15.15	15.14	15.04	15.50
		3	3	14.07	15.00	15.12	15.50
		6	0	14.73	14.88	14.90	15.50
	16QAM	1	0	15.31	14.40	15.44	15.50



		1	2	14.99	14.81	15.43	15.50	
		1	5	14.83	15.23	14.75	15.50	
		3	0	14.73	14.56	14.96	15.50	
		3	2	14.20	14.89	15.39	15.50	
		3	3	13.89	15.43	15.11	15.50	
		6	0	14.69	14.83	14.73	15.50	
	64QAM	1	0	14.82	13.95	15.15	15.50	
		1	2	14.19	14.79	15.39	15.50	
		1	5	14.76	15.33	14.60	15.50	
		3	0	14.65	14.52	15.27	15.50	
		3	2	14.19	14.86	15.48	15.50	
		3	3	13.88	15.41	15.07	15.50	
	6	0	14.67	14.86	15.36	15.50		
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
19965/1711.5					20175/1732.5	20385/1753.5		
3MHz	QPSK	1	0	15.22	13.86	15.08	15.50	
		1	7	14.04	14.41	15.01	15.50	
		1	14	14.64	15.29	14.19	15.50	
		8	0	14.91	14.57	14.78	15.50	
		8	4	15.13	15.10	15.01	15.50	
		8	7	14.04	14.95	15.08	15.50	
		15	0	14.70	14.83	14.86	15.50	
	16QAM	1	0	15.49	14.36	15.39	15.50	
		1	7	14.95	14.79	15.39	15.50	
		1	14	14.81	15.20	14.73	15.50	
		8	0	14.70	14.52	14.93	15.50	
		8	4	14.17	14.87	15.36	15.50	
		8	7	13.86	15.38	15.07	15.50	
		15	0	14.67	14.79	14.70	15.50	
	64QAM	1	0	14.80	13.91	15.10	15.50	
		1	7	14.15	14.77	15.35	15.50	
		1	14	14.74	15.30	14.58	15.50	
		8	0	14.62	14.48	15.24	15.50	
		8	4	14.16	14.84	15.45	15.50	
		8	7	13.85	15.36	15.03	15.50	
		15	0	14.65	14.82	15.33	15.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					19975/1712.5	20175/1732.5	20375/1752.5	
	5MHz	QPSK	1	0	15.19	13.84	15.04	15.50
1			13	14.02	14.37	14.98	15.50	
1			24	14.61	15.24	14.15	15.50	
12			0	14.88	14.52	14.74	15.50	
12			6	15.11	15.06	14.96	15.50	



		12	13	14.02	14.93	15.04	15.50	
		25	0	14.68	14.82	14.84	15.50	
	16QAM	1	0	15.46	14.32	15.36	15.50	
		1	13	14.92	14.77	15.36	15.50	
		1	24	14.78	15.18	14.69	15.50	
		12	0	14.68	14.48	14.90	15.50	
		12	6	14.14	14.82	15.32	15.50	
		12	13	13.83	15.33	15.03	15.50	
		25	0	14.65	14.75	14.65	15.50	
		64QAM	1	0	14.77	13.87	15.07	15.50
	1		13	14.12	14.75	15.32	15.50	
	1		24	14.71	15.28	14.54	15.50	
	12		0	14.60	14.44	15.21	15.50	
	12		6	14.13	14.79	15.41	15.50	
	12		13	13.82	15.31	14.99	15.50	
	25		0	14.63	14.78	15.28	15.50	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20000/1715	20175/1732.5	20350/1750		
10MHz	QPSK	1	0	15.21	13.85	15.07	15.50	
		1	25	14.05	14.42	15.02	15.50	
		1	49	14.63	15.28	14.18	15.50	
		25	0	14.91	14.57	14.78	15.50	
		25	13	15.14	15.11	15.00	15.50	
		25	25	14.04	14.97	15.09	15.50	
		50	0	14.76	14.84	14.88	15.50	
	16QAM	1	0	15.48	14.35	15.38	15.50	
		1	25	14.95	14.81	15.39	15.50	
		1	49	14.81	15.20	14.72	15.50	
		25	0	14.71	14.53	14.94	15.50	
		25	13	14.16	14.86	15.35	15.50	
		25	25	13.86	15.38	15.07	15.50	
		50	0	14.68	14.80	14.69	15.50	
	64QAM	1	0	14.79	13.90	15.09	15.50	
		1	25	14.15	14.79	15.35	15.50	
		1	49	14.74	15.30	14.57	15.50	
		25	0	14.63	14.49	15.25	15.50	
		25	13	14.15	14.83	15.44	15.50	
		25	25	13.85	15.36	15.03	15.50	
		50	0	14.66	14.83	15.32	15.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20025/1717.5	20175/1732.5	20325/1747.5	
	15MHz	QPSK	1	0	15.20	13.81	15.05	15.50
1			38	14.03	14.41	14.99	15.50	



		1	74	14.60	15.23	14.14	15.50	
		36	0	14.89	14.53	14.75	15.50	
		36	18	15.11	15.06	14.96	15.50	
		36	39	14.01	14.94	15.05	15.50	
		75	0	14.74	14.80	14.83	15.50	
	16QAM	1	0	15.43	14.33	15.36	15.50	
		1	38	14.93	14.78	15.37	15.50	
		1	74	14.78	15.16	14.69	15.50	
		36	0	14.68	14.51	14.91	15.50	
		36	18	14.13	14.81	15.31	15.50	
		36	39	13.84	15.34	15.04	15.50	
		75	0	14.65	14.75	14.65	15.50	
	64QAM	1	0	14.74	13.88	15.07	15.50	
		1	38	14.13	14.76	15.33	15.50	
		1	74	14.71	15.26	14.54	15.50	
		36	0	14.60	14.47	15.22	15.50	
		36	18	14.12	14.78	15.40	15.50	
		36	39	13.83	15.32	15.00	15.50	
		75	0	14.63	14.78	15.28	15.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	15.17	13.77	15.02	15.50	
		1	50	14.02	14.37	14.97	15.50	
		1	99	14.58	15.22	14.11	15.50	
		50	0	14.86	14.48	14.71	15.50	
		50	25	15.09	15.02	14.93	15.50	
		50	50	13.98	14.89	15.01	15.50	
		100	0	14.71	14.75	14.79	15.50	
	16QAM	1	0	15.41	14.29	15.31	15.50	
		1	50	14.89	14.76	15.33	15.50	
		1	99	14.76	15.13	14.67	15.50	
		50	0	14.65	14.47	14.88	15.50	
		50	25	14.10	14.79	15.48	15.50	
		50	50	13.81	15.29	15.00	15.50	
		100	0	14.63	14.71	14.62	15.50	
	64QAM	1	0	14.72	13.84	15.02	15.50	
		1	50	14.09	14.74	15.49	15.50	
		1	99	14.69	15.23	14.52	15.50	
		50	0	14.57	14.43	15.19	15.50	
		50	25	14.09	14.76	15.37	15.50	
		50	50	13.80	15.27	14.96	15.50	
		100	0	14.61	14.74	15.25	15.50	



LTE FDD Band 4 (REC Off)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	23.29	23.35	23.23	23.80
		1	2	23.12	23.08	23.06	23.80
		1	5	23.18	23.12	23.02	23.80
		3	0	23.18	23.14	22.94	23.80
		3	2	23.24	23.17	23.12	23.80
		3	3	23.14	23.02	23.08	23.80
		6	0	22.95	23.26	23.07	23.80
	16QAM	1	0	23.14	23.27	23.37	23.80
		1	2	23.28	23.30	23.16	23.80
		1	5	22.88	23.36	22.94	23.80
		3	0	22.84	23.09	23.00	23.80
		3	2	23.12	23.09	23.02	23.80
		3	3	22.81	23.02	22.96	23.80
		6	0	22.24	22.20	22.09	22.80
	64QAM	1	0	22.38	22.49	22.10	22.80
		1	2	22.28	22.22	21.85	22.80
		1	5	22.35	22.23	22.14	22.80
		3	0	22.30	21.93	22.16	22.80
		3	2	22.06	21.86	22.20	22.80
		3	3	21.88	21.86	22.13	22.80
		6	0	21.04	21.25	21.30	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	23.27	23.28	23.21	23.80
		1	7	23.12	23.08	23.05	23.80
		1	14	23.15	23.10	22.98	23.80
		8	0	23.16	23.10	22.91	23.80
		8	4	23.22	23.13	23.09	23.80
		8	7	23.10	22.98	23.05	23.80
		15	0	22.98	23.19	23.02	23.80
		16QAM	1	0	23.09	23.24	23.32
	1		7	23.25	23.29	23.13	23.80
	1		14	22.86	23.31	22.92	23.80
	8		0	21.91	22.18	22.08	22.80
	8		4	22.18	22.16	22.08	22.80
	8		7	21.89	22.08	22.03	22.80
	15		0	22.22	22.16	22.06	22.80
	64QAM	1	0	22.33	22.46	22.05	22.80
		1	7	22.25	22.21	21.82	22.80





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				19975/1712.5	20175/1732.5	20375/1752.5		
		1	14	22.33	22.18	22.12	22.80	
		8	0	21.37	21.02	21.24	21.80	
		8	4	21.12	20.93	21.26	21.80	
		8	7	20.96	20.92	21.20	21.80	
		15	0	21.02	21.21	21.27	21.80	
5MHz	QPSK	1	0	23.24	23.26	23.17	23.80	
		1	13	23.10	23.04	23.02	23.80	
		1	24	23.12	23.05	22.94	23.80	
		12	0	23.13	23.05	22.87	23.80	
		12	6	23.20	23.09	23.04	23.80	
		12	13	23.08	22.96	23.01	23.80	
		25	0	22.96	23.18	23.00	23.80	
	16QAM	1	0	23.06	23.20	23.29	23.80	
		1	13	23.22	23.27	23.10	23.80	
		1	24	22.83	23.29	22.88	23.80	
		12	0	21.89	22.14	22.05	22.80	
		12	6	22.15	22.11	22.04	22.80	
		12	13	21.86	22.03	21.99	22.80	
		25	0	22.20	22.12	22.01	22.80	
	64QAM	1	0	22.30	22.42	22.02	22.80	
		1	13	22.22	22.19	21.79	22.80	
		1	24	22.30	22.16	22.08	22.80	
		12	0	21.35	20.98	21.21	21.80	
		12	6	21.09	20.88	21.22	21.80	
		12	13	20.93	20.87	21.16	21.80	
		25	0	21.00	21.17	21.22	21.80	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20000/1715	20175/1732.5	20350/1750	
	10MHz	QPSK	1	0	23.26	23.27	23.20	23.80
1			25	23.13	23.09	23.06	23.80	
1			49	23.14	23.09	22.97	23.80	
25			0	23.16	23.10	22.91	23.80	
25			13	23.23	23.14	23.08	23.80	
25			25	23.10	23.00	23.06	23.80	
50			0	23.04	23.20	23.04	23.80	
16QAM		1	0	23.08	23.23	23.31	23.80	
		1	25	23.25	23.31	23.13	23.80	
		1	49	22.86	23.31	22.91	23.80	
		25	0	21.92	22.19	22.09	22.80	
		25	13	22.17	22.15	22.07	22.80	
		25	25	21.89	22.08	22.03	22.80	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20025/1717.5	20175/1732.5	20325/1747.5		
	64QAM	50	0	22.23	22.17	22.05	22.80	
		1	0	22.32	22.45	22.04	22.80	
		1	25	22.25	22.23	21.82	22.80	
		1	49	22.33	22.18	22.11	22.80	
		25	0	21.38	21.03	21.25	21.80	
		25	13	21.11	20.92	21.25	21.80	
		25	25	20.96	20.92	21.20	21.80	
		50	0	21.03	21.22	21.26	21.80	
15MHz	QPSK	1	0	23.25	23.23	23.18	23.80	
		1	38	23.11	23.08	23.03	23.80	
		1	74	23.11	23.04	22.93	23.80	
		36	0	23.14	23.06	22.88	23.80	
		36	18	23.20	23.09	23.04	23.80	
		36	39	23.07	22.97	23.02	23.80	
		75	0	23.02	23.16	22.99	23.80	
	16QAM	1	0	23.03	23.21	23.29	23.80	
		1	38	23.23	23.28	23.11	23.80	
		1	74	22.83	23.27	22.88	23.80	
		36	0	21.89	22.17	22.06	22.80	
		36	18	22.14	22.10	22.03	22.80	
		36	39	21.87	22.04	22.00	22.80	
		75	0	22.20	22.12	22.01	22.80	
	64QAM	1	0	22.27	22.43	22.02	22.80	
		1	38	22.23	22.20	21.80	22.80	
		1	74	22.30	22.14	22.08	22.80	
		36	0	21.35	21.01	21.22	21.80	
		36	18	21.08	20.87	21.21	21.80	
		36	39	20.94	20.88	21.17	21.80	
		75	0	21.00	21.17	21.22	21.80	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20050/1720	20175/1732.5	20300/1745	
	20MHz	QPSK	1	0	23.22	23.19	23.15	23.80
1			50	23.10	23.04	23.01	23.80	
1			99	23.09	23.03	22.90	23.80	
50			0	23.11	23.01	22.84	23.80	
50			25	23.18	23.05	23.01	23.80	
50			50	23.04	22.92	22.98	23.80	
100			0	22.99	23.11	22.95	23.80	
16QAM		1	0	23.01	23.17	23.24	23.80	
		1	50	23.19	23.26	23.07	23.80	
		1	99	22.81	23.24	22.86	23.80	



		50	0	21.86	22.13	22.03	22.80
		50	25	22.11	22.08	22.00	22.80
		50	50	21.84	21.99	21.96	22.80
		100	0	22.18	22.08	21.98	22.80
	64QAM	1	0	22.25	22.39	21.97	22.80
		1	50	22.19	22.18	21.76	22.80
		1	99	22.28	22.11	22.06	22.80
		50	0	21.32	20.97	21.19	21.80
		50	25	21.05	20.85	21.18	21.80
		50	50	20.91	20.83	21.13	21.80
		100	0	20.98	21.13	21.19	21.80

LTE FDD Band 4 (REC Off+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	20.37	20.40	20.25	21.00
		1	2	19.92	20.24	20.19	21.00
		1	5	20.30	20.20	20.13	21.00
		3	0	20.12	20.23	20.20	21.00
		3	2	20.24	20.23	20.21	21.00
		3	3	20.15	20.14	20.16	21.00
		6	0	20.12	20.25	20.10	21.00
	16QAM	1	0	20.25	20.32	19.98	21.00
		1	2	19.95	19.88	19.96	21.00
		1	5	20.20	20.20	20.03	21.00
		3	0	20.12	20.25	20.13	21.00
		3	2	20.17	20.16	20.08	21.00
		3	3	20.17	20.15	20.03	21.00
		6	0	20.13	20.04	20.07	21.00
	64QAM	1	0	20.05	20.20	20.22	21.00
		1	2	20.18	20.10	20.13	21.00
		1	5	20.12	20.04	20.15	21.00
		3	0	20.19	20.15	20.10	21.00
		3	2	20.12	19.97	20.00	21.00
		3	3	20.06	20.10	19.98	21.00
		6	0	20.08	20.03	20.06	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	20.34	20.36	20.22	21.00
		1	7	19.91	20.20	20.17	21.00
		1	14	20.28	20.19	20.10	21.00
		8	0	20.09	20.18	20.16	21.00



		8	4	20.22	20.19	20.18	21.00	
		8	7	20.12	20.09	20.12	21.00	
		15	0	20.09	20.20	20.06	21.00	
	16QAM		1	0	20.23	20.28	19.93	21.00
			1	7	19.91	19.86	19.92	21.00
			1	14	20.18	20.17	20.01	21.00
			8	0	20.09	20.21	20.10	21.00
			8	4	20.14	20.14	20.05	21.00
			8	7	20.14	20.10	19.99	21.00
	64QAM		15	0	20.11	20.00	20.04	21.00
			1	0	20.03	20.16	20.17	21.00
			1	7	20.14	20.08	20.09	21.00
			1	14	20.10	20.01	20.13	21.00
			8	0	20.16	20.11	20.07	21.00
			8	4	20.09	19.95	19.97	21.00
8			7	20.03	20.05	19.94	21.00	
15	0	20.06	19.99	20.03	21.00			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				19975/1712.5	20175/1732.5	20375/1752.5		
5MHz	QPSK	1	0	20.31	20.34	20.18	21.00	
		1	13	19.89	20.16	20.14	21.00	
		1	24	20.25	20.14	20.06	21.00	
		12	0	20.06	20.13	20.12	21.00	
		12	6	20.20	20.15	20.13	21.00	
		12	13	20.10	20.07	20.08	21.00	
		25	0	20.07	20.19	20.04	21.00	
	16QAM		1	0	20.20	20.24	19.90	21.00
			1	13	19.88	19.84	19.89	21.00
			1	24	20.15	20.15	19.97	21.00
			12	0	20.07	20.17	20.07	21.00
			12	6	20.11	20.09	20.01	21.00
			12	13	20.11	20.05	19.95	21.00
			25	0	20.09	19.96	19.99	21.00
	64QAM		1	0	20.00	20.12	20.14	21.00
			1	13	20.11	20.06	20.06	21.00
			1	24	20.07	19.99	20.09	21.00
			12	0	20.14	20.07	20.04	21.00
			12	6	20.06	19.90	19.93	21.00
			12	13	20.00	20.00	19.90	21.00
			25	0	20.04	19.95	19.98	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20000/1715	20175/1732.5	20350/1750		
10MHz	QPSK	1	0	20.33	20.35	20.21	21.00	



		1	25	19.92	20.21	20.18	21.00				
		1	49	20.27	20.18	20.09	21.00				
		25	0	20.09	20.18	20.16	21.00				
		25	13	20.23	20.20	20.17	21.00				
		25	25	20.12	20.11	20.13	21.00				
		50	0	20.15	20.21	20.08	21.00				
	16QAM	1	0	20.22	20.27	19.92	21.00				
		1	25	19.91	19.88	19.92	21.00				
		1	49	20.18	20.17	20.00	21.00				
		25	0	20.10	20.22	20.11	21.00				
		25	13	20.13	20.13	20.04	21.00				
		25	25	20.14	20.10	19.99	21.00				
	64QAM	50	0	20.12	20.01	20.03	21.00				
		1	0	20.02	20.15	20.16	21.00				
		1	25	20.14	20.10	20.09	21.00				
		1	49	20.10	20.01	20.12	21.00				
		25	0	20.17	20.12	20.08	21.00				
		25	13	20.08	19.94	19.96	21.00				
	<b>Bandwidth</b>	<b>Modulation</b>	<b>RB size</b>	<b>RB offset</b>	<b>Channel/Frequency (MHz)</b>			<b>Tune-up Limit</b>			
					20025/1717.5	20175/1732.5	20325/1747.5				
					<b>15MHz</b>	QPSK	1	0	20.32	20.31	20.19
1							38	19.90	20.20	20.15	21.00
1							74	20.24	20.13	20.05	21.00
36							0	20.07	20.14	20.13	21.00
36							18	20.20	20.15	20.13	21.00
36							39	20.09	20.08	20.09	21.00
75	0	20.13	20.17	20.03			21.00				
16QAM	1	0	20.17	20.25		19.90	21.00				
	1	38	19.89	19.85		19.90	21.00				
	1	74	20.15	20.13		19.97	21.00				
	36	0	20.07	20.20		20.08	21.00				
	36	18	20.10	20.08		20.00	21.00				
	36	39	20.12	20.06		19.96	21.00				
	75	0	20.09	19.96		19.99	21.00				
64QAM	1	0	19.97	20.13		20.14	21.00				
	1	38	20.12	20.07		20.07	21.00				
	1	74	20.07	19.97		20.09	21.00				
	36	0	20.14	20.10		20.05	21.00				
	36	18	20.05	19.89		19.92	21.00				
	36	39	20.01	20.01		19.91	21.00				
	75	0	20.04	19.95		19.98	21.00				



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	20.29	20.27	20.16	21.00
		1	50	19.89	20.16	20.13	21.00
		1	99	20.22	20.12	20.02	21.00
		50	0	20.04	20.09	20.09	21.00
		50	25	20.18	20.11	20.10	21.00
		50	50	20.06	20.03	20.05	21.00
		100	0	20.10	20.12	19.99	21.00
	16QAM	1	0	20.15	20.21	19.85	21.00
		1	50	19.85	19.83	19.86	21.00
		1	99	20.13	20.10	19.95	21.00
		50	0	20.04	20.16	20.05	21.00
		50	25	20.07	20.06	19.97	21.00
		50	50	20.09	20.01	19.92	21.00
		100	0	20.07	19.92	19.96	21.00
	64QAM	1	0	19.95	20.09	20.09	21.00
		1	50	20.08	20.05	20.03	21.00
		1	99	20.05	19.94	20.07	21.00
		50	0	20.11	20.06	20.02	21.00
		50	25	20.02	19.87	19.89	21.00
		50	50	19.98	19.96	19.87	21.00
		100	0	20.02	19.91	19.95	21.00

LTE FDD Band 5 (REC On+Left Head)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	19.91	19.86	19.91	20.50
		1	2	19.81	19.75	19.76	20.50
		1	5	19.77	19.77	19.96	20.50
		3	0	19.82	19.82	19.80	20.50
		3	2	19.79	19.80	19.90	20.50
		3	3	19.77	19.76	19.71	20.50
		6	0	19.67	19.84	19.90	20.50
	16QAM	1	0	19.79	19.71	19.88	20.50
		1	2	19.83	19.84	19.73	20.50
		1	5	19.86	19.86	19.95	20.50
		3	0	19.72	19.58	19.67	20.50
		3	2	19.75	19.72	19.79	20.50
		3	3	19.65	19.71	19.63	20.50
		6	0	19.79	19.84	19.81	20.50
	64QAM	1	0	19.65	19.83	19.87	20.50



		1	2	19.82	19.43	19.88	20.50
		1	5	19.74	19.76	19.84	20.50
		3	0	19.78	19.80	19.79	20.50
		3	2	19.78	19.86	19.76	20.50
		3	3	19.63	19.70	19.66	20.50
		6	0	19.76	19.87	19.72	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20415/825.5	20525/836.5	20635/847.5	
3MHz	QPSK	1	0	19.93	19.87	19.94	20.50
		1	7	19.84	19.80	19.80	20.50
		1	14	19.79	19.81	19.99	20.50
		8	0	19.85	19.87	19.84	20.50
		8	4	19.82	19.85	19.94	20.50
		8	7	19.79	19.80	19.76	20.50
		15	0	19.75	19.86	19.94	20.50
	16QAM	1	0	19.81	19.74	19.90	20.50
		1	7	19.86	19.88	19.76	20.50
		1	14	19.89	19.88	19.98	20.50
		8	0	19.75	19.63	19.71	20.50
		8	4	19.77	19.76	19.82	20.50
		8	7	19.68	19.76	19.67	20.50
		15	0	19.82	19.89	19.85	20.50
	64QAM	1	0	19.67	19.86	19.89	20.50
		1	7	19.85	19.47	19.91	20.50
		1	14	19.77	19.78	19.87	20.50
		8	0	19.81	19.85	19.83	20.50
		8	4	19.80	19.90	19.79	20.50
		8	7	19.66	19.75	19.70	20.50
		15	0	19.79	19.92	19.76	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20425/826.5	20525/836.5	20625/846.5	
5MHz	QPSK	1	0	19.92	19.83	19.92	20.50
		1	13	19.82	19.79	19.77	20.50
		1	24	19.76	19.76	19.95	20.50
		12	0	19.83	19.83	19.81	20.50
		12	6	19.79	19.80	19.90	20.50
		12	13	19.76	19.77	19.72	20.50
		25	0	19.73	19.82	19.89	20.50
	16QAM	1	0	19.76	19.72	19.88	20.50
		1	13	19.84	19.85	19.74	20.50
		1	24	19.86	19.84	19.95	20.50
		12	0	19.72	19.61	19.68	20.50
		12	6	19.74	19.71	19.78	20.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20450/829	20525/836.5	20600/844	
	64QAM	12	13	19.66	19.72	19.64	20.50
		25	0	19.79	19.84	19.81	20.50
		1	0	19.62	19.84	19.87	20.50
		1	13	19.83	19.44	19.89	20.50
		1	24	19.74	19.74	19.84	20.50
		12	0	19.78	19.83	19.80	20.50
		12	6	19.77	19.85	19.75	20.50
		12	13	19.64	19.71	19.67	20.50
		25	0	19.76	19.87	19.72	20.50
		10MHz	QPSK	1	0	19.89	19.79
1	25			19.81	19.75	19.75	20.50
1	49			19.74	19.75	19.92	20.50
25	0			19.80	19.78	19.77	20.50
25	13			19.77	19.76	19.87	20.50
25	25			19.73	19.72	19.68	20.50
50	0			19.70	19.77	19.85	20.50
16QAM	1		0	19.74	19.68	19.83	20.50
	1		25	19.80	19.83	19.70	20.50
	1		49	19.84	19.81	19.93	20.50
	25		0	19.69	19.57	19.65	20.50
	25		13	19.71	19.69	19.75	20.50
	25		25	19.63	19.67	19.60	20.50
	50		0	19.77	19.80	19.78	20.50
64QAM	1		0	19.60	19.80	19.82	20.50
	1		25	19.79	19.42	19.85	20.50
	1		49	19.72	19.71	19.82	20.50
	25		0	19.75	19.79	19.77	20.50
	25		13	19.74	19.83	19.72	20.50
	25		25	19.61	19.66	19.63	20.50
	50		0	19.74	19.83	19.69	20.50

LTE FDD Band 5 (REC On+Right Head)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	19.34	19.38	19.33	20.00
		1	2	19.16	19.29	19.33	20.00
		1	5	19.28	19.30	19.43	20.00
		3	0	19.28	19.33	19.36	20.00
		3	2	19.26	19.32	19.39	20.00
		3	3	19.22	19.36	19.34	20.00





	16QAM	6	0	19.22	19.33	19.39	20.00
		1	0	19.22	19.04	19.44	20.00
		1	2	19.15	19.33	19.34	20.00
		1	5	19.18	19.27	19.17	20.00
		3	0	19.20	19.18	19.27	20.00
		3	2	19.33	19.23	19.27	20.00
		3	3	19.24	19.28	19.32	20.00
	6	0	19.19	19.19	19.30	20.00	
	64QAM	1	0	19.39	19.16	19.30	20.00
		1	2	19.23	19.09	19.36	20.00
		1	5	19.31	19.34	19.39	20.00
		3	0	19.25	19.25	19.27	20.00
		3	2	19.22	19.39	19.26	20.00
		3	3	19.26	19.24	19.19	20.00
6		0	19.18	19.21	19.24	20.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20415/825.5	20525/836.5	20635/847.5	
3MHz	QPSK	1	0	19.36	19.39	19.36	20.00
		1	7	19.19	19.34	19.37	20.00
		1	14	19.30	19.34	19.46	20.00
		8	0	19.31	19.38	19.40	20.00
		8	4	19.29	19.37	19.43	20.00
		8	7	19.24	19.40	19.39	20.00
		15	0	19.30	19.35	19.43	20.00
	16QAM	1	0	19.24	19.07	19.46	20.00
		1	7	19.18	19.37	19.37	20.00
		1	14	19.21	19.29	19.20	20.00
		8	0	19.23	19.23	19.31	20.00
		8	4	19.35	19.27	19.30	20.00
		8	7	19.27	19.33	19.36	20.00
		15	0	19.22	19.24	19.34	20.00
	64QAM	1	0	19.41	19.19	19.32	20.00
		1	7	19.26	19.13	19.39	20.00
		1	14	19.34	19.36	19.42	20.00
		8	0	19.28	19.30	19.31	20.00
		8	4	19.24	19.43	19.29	20.00
		8	7	19.29	19.29	19.23	20.00
		15	0	19.21	19.26	19.28	20.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20425/826.5	20525/836.5	20625/846.5	
5MHz	QPSK	1	0	19.35	19.35	19.34	20.00
		1	13	19.17	19.33	19.34	20.00
		1	24	19.27	19.29	19.42	20.00



		12	0	19.29	19.34	19.37	20.00
		12	6	19.26	19.32	19.39	20.00
		12	13	19.21	19.37	19.35	20.00
		25	0	19.28	19.31	19.38	20.00
	16QAM	1	0	19.19	19.05	19.44	20.00
		1	13	19.16	19.34	19.35	20.00
		1	24	19.18	19.25	19.17	20.00
		12	0	19.20	19.21	19.28	20.00
		12	6	19.32	19.22	19.26	20.00
		12	13	19.25	19.29	19.33	20.00
		25	0	19.19	19.19	19.30	20.00
	64QAM	1	0	19.36	19.17	19.30	20.00
		1	13	19.24	19.10	19.37	20.00
		1	24	19.31	19.32	19.39	20.00
12		0	19.25	19.28	19.28	20.00	
12		6	19.21	19.38	19.25	20.00	
12		13	19.27	19.25	19.20	20.00	
25		0	19.18	19.21	19.24	20.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20450/829	20525/836.5	20600/844	
10MHz	QPSK	1	0	19.32	19.31	19.31	20.00
		1	25	19.16	19.29	19.32	20.00
		1	49	19.25	19.28	19.39	20.00
		25	0	19.26	19.29	19.33	20.00
		25	13	19.24	19.28	19.36	20.00
		25	25	19.18	19.32	19.31	20.00
		50	0	19.25	19.26	19.34	20.00
	16QAM	1	0	19.17	19.01	19.39	20.00
		1	25	19.12	19.32	19.31	20.00
		1	49	19.16	19.22	19.15	20.00
		25	0	19.17	19.17	19.25	20.00
		25	13	19.29	19.20	19.23	20.00
		25	25	19.22	19.24	19.29	20.00
		50	0	19.17	19.15	19.27	20.00
	64QAM	1	0	19.34	19.13	19.25	20.00
		1	25	19.20	19.08	19.33	20.00
		1	49	19.29	19.29	19.37	20.00
		25	0	19.22	19.24	19.25	20.00
		25	13	19.18	19.36	19.22	20.00
		25	25	19.24	19.20	19.16	20.00
		50	0	19.16	19.17	19.21	20.00



LTE FDD Band 5 (REC On+Left Head+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	16.85	16.80	16.85	17.50
		1	2	16.75	16.69	16.70	17.50
		1	5	16.73	16.73	16.92	17.50
		3	0	16.74	16.74	16.72	17.50
		3	2	16.77	16.80	16.88	17.50
		3	3	16.81	16.80	16.75	17.50
		6	0	16.75	16.92	16.98	17.50
	16QAM	1	0	16.84	16.76	16.93	17.50
		1	2	16.59	16.60	16.49	17.50
		1	5	16.78	16.78	16.87	17.50
		3	0	16.76	16.62	16.71	17.50
		3	2	16.73	16.70	16.77	17.50
		3	3	16.74	16.80	16.72	17.50
		6	0	16.71	16.76	16.73	17.50
	64QAM	1	0	16.71	16.89	16.93	17.50
		1	2	16.77	16.38	16.83	17.50
		1	5	16.89	16.91	16.99	17.50
		3	0	16.65	16.67	16.66	17.50
		3	2	16.81	16.89	16.79	17.50
		3	3	16.72	16.79	16.75	17.50
		6	0	16.67	16.78	16.63	17.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20415/825.5	20525/836.5	20635/847.5	
3MHz	QPSK	1	0	16.87	16.81	16.88	17.50
		1	7	16.78	16.74	16.74	17.50
		1	14	16.75	16.77	16.95	17.50
		8	0	16.77	16.79	16.76	17.50
		8	4	16.80	16.85	16.92	17.50
		8	7	16.83	16.84	16.80	17.50
		15	0	16.83	16.94	17.02	17.50
	16QAM	1	0	16.86	16.79	16.95	17.50
		1	7	16.62	16.64	16.52	17.50
		1	14	16.81	16.80	16.90	17.50
		8	0	16.79	16.67	16.75	17.50
		8	4	16.75	16.74	16.80	17.50
		8	7	16.77	16.85	16.76	17.50
		15	0	16.74	16.81	16.77	17.50
	64QAM	1	0	16.73	16.92	16.95	17.50
1		7	16.80	16.42	16.86	17.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20425/826.5	20525/836.5	20625/846.5		
		1	14	16.92	16.93	17.02	17.50	
		8	0	16.68	16.72	16.70	17.50	
		8	4	16.83	16.93	16.82	17.50	
		8	7	16.75	16.84	16.79	17.50	
		15	0	16.70	16.83	16.67	17.50	
5MHz	QPSK	1	0	16.86	16.77	16.86	17.50	
		1	13	16.76	16.73	16.71	17.50	
5MHz	QPSK	1	24	16.72	16.72	16.91	17.50	
		12	0	16.75	16.75	16.73	17.50	
		12	6	16.77	16.80	16.88	17.50	
		12	13	16.80	16.81	16.76	17.50	
		25	0	16.81	16.90	16.97	17.50	
		16QAM	1	0	16.81	16.77	16.93	17.50
			1	13	16.60	16.61	16.50	17.50
	1		24	16.78	16.76	16.87	17.50	
	12		0	16.76	16.65	16.72	17.50	
	12		6	16.72	16.69	16.76	17.50	
	12		13	16.75	16.81	16.73	17.50	
	25		0	16.71	16.76	16.73	17.50	
	64QAM	1	0	16.68	16.90	16.93	17.50	
		1	13	16.78	16.39	16.84	17.50	
		1	24	16.89	16.89	16.99	17.50	
		12	0	16.65	16.70	16.67	17.50	
		12	6	16.80	16.88	16.78	17.50	
		12	13	16.73	16.80	16.76	17.50	
		25	0	16.67	16.78	16.63	17.50	
	10MHz	QPSK	1	0	16.83	16.73	16.83	17.50
			1	25	16.75	16.69	16.69	17.50
10MHz	QPSK	1	49	16.70	16.71	16.88	17.50	
		25	0	16.72	16.70	16.69	17.50	
		25	13	16.75	16.76	16.85	17.50	
		25	25	16.77	16.76	16.72	17.50	
		50	0	16.78	16.85	16.93	17.50	
		16QAM	1	0	16.79	16.73	16.88	17.50
	1		25	16.56	16.59	16.46	17.50	
	1		49	16.76	16.73	16.85	17.50	
	25		0	16.73	16.61	16.69	17.50	
	25		13	16.69	16.67	16.73	17.50	
	25		25	16.72	16.76	16.69	17.50	



	64QAM	50	0	16.69	16.72	16.70	17.50
		1	0	16.66	16.86	16.88	17.50
		1	25	16.74	16.37	16.80	17.50
		1	49	16.87	16.86	16.97	17.50
		25	0	16.62	16.66	16.64	17.50
		25	13	16.77	16.86	16.75	17.50
		25	25	16.70	16.75	16.72	17.50
		50	0	16.65	16.74	16.60	17.50

LTE FDD Band 5 (REC On+Right Head+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	16.34	16.32	16.29	17.00
		1	2	16.23	16.19	16.30	17.00
		1	5	16.18	16.20	16.40	17.00
		3	0	16.19	16.32	16.27	17.00
		3	2	16.31	16.31	16.33	17.00
		3	3	16.28	16.25	16.30	17.00
		6	0	16.16	16.33	16.33	17.00
	16QAM	1	0	16.22	15.89	16.07	17.00
		1	2	15.96	15.97	15.99	17.00
		1	5	16.18	16.19	16.01	17.00
		3	0	16.24	16.19	16.29	17.00
		3	2	16.22	16.22	16.27	17.00
		3	3	16.13	16.20	16.22	17.00
		6	0	16.29	16.29	16.31	17.00
	64QAM	1	0	16.03	16.02	16.04	17.00
		1	2	15.90	15.89	16.29	17.00
		1	5	16.23	16.14	16.29	17.00
		3	0	16.26	16.21	16.31	17.00
		3	2	16.19	16.29	16.27	17.00
		3	3	16.20	16.23	16.25	17.00
		6	0	16.22	16.17	16.22	17.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20415/825.5	20525/836.5	20635/847.5	
3MHz	QPSK	1	0	16.36	16.33	16.32	17.00
		1	7	16.26	16.24	16.34	17.00
		1	14	16.20	16.24	16.43	17.00
		8	0	16.22	16.37	16.31	17.00
		8	4	16.34	16.36	16.37	17.00
		8	7	16.30	16.29	16.35	17.00
		15	0	16.24	16.35	16.37	17.00



	16QAM	1	0	16.24	15.92	16.09	17.00
		1	7	15.99	16.01	16.02	17.00
		1	14	16.21	16.21	16.04	17.00
		8	0	16.27	16.24	16.33	17.00
		8	4	16.24	16.26	16.30	17.00
		8	7	16.16	16.25	16.26	17.00
		15	0	16.32	16.34	16.35	17.00
	64QAM	1	0	16.05	16.05	16.06	17.00
		1	7	15.93	15.93	16.32	17.00
		1	14	16.26	16.16	16.32	17.00
		8	0	16.29	16.26	16.35	17.00
		8	4	16.21	16.33	16.30	17.00
		8	7	16.23	16.28	16.29	17.00
		15	0	16.25	16.22	16.26	17.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20425/826.5	20525/836.5	20625/846.5	
5MHz	QPSK	1	0	16.35	16.29	16.30	17.00
		1	13	16.24	16.23	16.31	17.00
		1	24	16.17	16.19	16.39	17.00
		12	0	16.20	16.33	16.28	17.00
		12	6	16.31	16.31	16.33	17.00
		12	13	16.27	16.26	16.31	17.00
		25	0	16.22	16.31	16.32	17.00
	16QAM	1	0	16.19	15.90	16.07	17.00
		1	13	15.97	15.98	16.00	17.00
		1	24	16.18	16.17	16.01	17.00
		12	0	16.24	16.22	16.30	17.00
		12	6	16.21	16.21	16.26	17.00
		12	13	16.14	16.21	16.23	17.00
		25	0	16.29	16.29	16.31	17.00
	64QAM	1	0	16.00	16.03	16.04	17.00
		1	13	15.91	15.90	16.30	17.00
		1	24	16.23	16.12	16.29	17.00
		12	0	16.26	16.24	16.32	17.00
		12	6	16.18	16.28	16.26	17.00
		12	13	16.21	16.24	16.26	17.00
		25	0	16.22	16.17	16.22	17.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20450/829	20525/836.5	20600/844	
10MHz	QPSK	1	0	16.32	16.25	16.27	17.00
		1	25	16.23	16.19	16.29	17.00
		1	49	16.15	16.18	16.36	17.00
		25	0	16.17	16.28	16.24	17.00



		25	13	16.29	16.27	16.30	17.00	
		25	25	16.24	16.21	16.27	17.00	
		50	0	16.19	16.26	16.28	17.00	
	16QAM		1	0	16.17	15.86	16.02	17.00
			1	25	15.93	15.96	15.96	17.00
			1	49	16.16	16.14	15.99	17.00
			25	0	16.21	16.18	16.27	17.00
			25	13	16.18	16.19	16.23	17.00
			25	25	16.11	16.16	16.19	17.00
			50	0	16.27	16.25	16.28	17.00
	64QAM		1	0	15.98	15.99	15.99	17.00
			1	25	15.87	15.88	16.26	17.00
			1	49	16.21	16.09	16.27	17.00
			25	0	16.23	16.20	16.29	17.00
			25	13	16.15	16.26	16.23	17.00
			25	25	16.18	16.19	16.22	17.00
			50	0	16.20	16.13	16.19	17.00

LTE FDD Band 5 (REC Off)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	22.75	22.80	22.85	23.50
		1	2	22.63	22.73	22.75	23.50
		1	5	22.76	22.74	22.96	23.50
		3	0	22.82	22.85	22.76	23.50
		3	2	22.74	22.77	22.87	23.50
		3	3	22.69	22.82	22.64	23.50
		6	0	21.71	21.89	21.96	22.50
	16QAM	1	0	22.00	22.05	22.01	22.50
		1	2	22.02	21.86	21.99	22.50
		1	5	21.89	21.90	21.99	22.50
		3	0	21.68	21.63	21.68	22.50
		3	2	21.59	21.67	21.73	22.50
		3	3	21.71	21.67	21.72	22.50
		6	0	20.76	20.75	20.79	21.50
	64QAM	1	0	21.74	21.65	21.82	22.00
		1	2	21.51	21.50	21.65	22.00
		1	5	21.56	21.54	21.59	22.00
		3	0	21.66	21.58	21.73	22.00
		3	2	21.62	21.62	21.73	22.00
		3	3	21.63	21.72	21.72	22.00
		6	0	20.75	20.86	20.91	21.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20415/825.5	20525/836.5	20635/847.5	
3MHz	QPSK	1	0	22.76	22.83	22.87	23.50
		1	7	22.67	22.79	22.80	23.50
		1	14	22.78	22.78	22.99	23.50
		8	0	21.92	21.97	21.89	22.50
		8	4	21.87	21.88	21.98	22.50
		8	7	21.79	21.95	21.75	22.50
		15	0	21.80	21.94	22.01	22.50
	16QAM	1	0	22.02	22.06	22.03	22.50
		1	7	22.05	21.93	22.03	22.50
		1	14	21.91	21.94	22.01	22.50
		8	0	20.80	20.77	20.81	21.50
		8	4	20.69	20.79	20.84	21.50
		8	7	20.81	20.79	20.85	21.50
		15	0	20.80	20.80	20.81	21.50
	64QAM	1	0	21.76	21.66	21.84	22.00
		1	7	21.54	21.57	21.69	22.00
		1	14	21.58	21.58	21.61	22.00
		8	0	20.78	20.72	20.86	21.00
		8	4	20.72	20.74	20.84	21.00
		8	7	20.73	20.84	20.85	21.00
		15	0	20.79	20.91	20.93	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20425/826.5	20525/836.5	20625/846.5	
5MHz	QPSK	1	0	22.75	22.79	22.85	23.50
		1	13	22.65	22.78	22.77	23.50
		1	24	22.75	22.73	22.95	23.50
		12	0	21.90	21.93	21.86	22.50
		12	6	21.84	21.83	21.94	22.50
		12	13	21.76	21.92	21.71	22.50
		25	0	21.78	21.90	21.96	22.50
	16QAM	1	0	21.97	22.04	22.01	22.50
		1	13	22.03	21.90	22.01	22.50
		1	24	21.88	21.90	21.98	22.50
		12	0	20.77	20.75	20.78	21.50
		12	6	20.66	20.74	20.80	21.50
		12	13	20.79	20.75	20.82	21.50
		25	0	20.77	20.75	20.77	21.50
	64QAM	1	0	21.71	21.64	21.82	22.00
		1	13	21.52	21.54	21.67	22.00
		1	24	21.55	21.54	21.58	22.00
		12	0	20.75	20.70	20.83	21.00





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20450/829	20525/836.5	20600/844	
10MHz	QPSK	12	6	20.69	20.69	20.80	21.00
		12	13	20.71	20.80	20.82	21.00
		25	0	20.76	20.86	20.89	21.00
		1	0	22.72	22.75	22.82	23.50
		1	25	22.64	22.74	22.75	23.50
		1	49	22.73	22.72	22.92	23.50
		25	0	21.87	21.88	21.82	22.50
	16QAM	25	13	21.82	21.79	21.91	22.50
		25	25	21.73	21.87	21.67	22.50
		50	0	21.75	21.85	21.92	22.50
		1	0	21.95	22.00	21.96	22.50
		1	25	21.99	21.88	21.97	22.50
		1	49	21.86	21.87	21.96	22.50
		25	0	20.74	20.71	20.75	21.50
	64QAM	25	13	20.63	20.72	20.77	21.50
		25	25	20.76	20.70	20.78	21.50
		50	0	20.75	20.71	20.74	21.50
		1	0	21.69	21.60	21.77	22.00
		1	25	21.48	21.52	21.63	22.00
		1	49	21.53	21.51	21.56	22.00
		25	0	20.72	20.66	20.80	21.00
		25	13	20.66	20.67	20.77	21.00
	25	25	20.68	20.75	20.78	21.00	
	50	0	20.74	20.82	20.86	21.00	

LTE FDD Band 5 (REC Off+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	19.86	19.81	19.86	20.50
		1	2	19.75	19.69	19.70	20.50
		1	5	19.72	19.72	19.91	20.50
		3	0	19.86	19.82	19.80	20.50
		3	2	19.78	19.81	19.89	20.50
		3	3	19.87	19.79	19.81	20.50
		6	0	19.67	19.84	19.90	20.50
	16QAM	1	0	19.93	19.85	20.02	20.50
		1	2	19.84	19.85	19.74	20.50
		1	5	19.84	19.84	19.96	20.50
		3	0	19.80	19.66	19.75	20.50
		3	2	19.77	19.74	19.81	20.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20415/825.5	20525/836.5	20635/847.5	
	64QAM	3	3	19.74	19.80	19.72	20.50
		6	0	19.79	19.84	19.81	20.50
		1	0	19.68	19.86	19.90	20.50
		1	2	19.94	19.55	20.00	20.50
		1	5	19.63	19.65	19.93	20.50
		3	0	19.72	19.74	19.73	20.50
		3	2	19.74	19.82	19.72	20.50
		3	3	19.75	19.82	19.78	20.50
		6	0	19.76	19.87	19.72	20.50
3MHz	QPSK	1	0	19.88	19.82	19.89	20.50
		1	7	19.78	19.74	19.74	20.50
		1	14	19.74	19.76	19.94	20.50
		8	0	19.89	19.87	19.84	20.50
		8	4	19.81	19.86	19.93	20.50
		8	7	19.89	19.83	19.86	20.50
		15	0	19.75	19.86	19.94	20.50
	16QAM	1	0	19.95	19.88	20.04	20.50
		1	7	19.87	19.89	19.77	20.50
		1	14	19.87	19.86	19.99	20.50
		8	0	19.83	19.71	19.79	20.50
		8	4	19.79	19.78	19.84	20.50
		8	7	19.77	19.85	19.76	20.50
		15	0	19.82	19.89	19.85	20.50
	64QAM	1	0	19.70	19.89	19.92	20.50
		1	7	19.97	19.59	20.03	20.50
		1	14	19.66	19.67	19.96	20.50
		8	0	19.75	19.79	19.77	20.50
		8	4	19.76	19.86	19.75	20.50
		8	7	19.78	19.87	19.82	20.50
		15	0	19.79	19.92	19.76	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20425/826.5	20525/836.5	20625/846.5	
5MHz	QPSK	1	0	19.87	19.78	19.87	20.50
		1	13	19.76	19.73	19.71	20.50
		1	24	19.71	19.71	19.90	20.50
		12	0	19.87	19.83	19.81	20.50
		12	6	19.78	19.81	19.89	20.50
		12	13	19.86	19.80	19.82	20.50
		25	0	19.73	19.82	19.89	20.50
	16QAM	1	0	19.90	19.86	20.02	20.50
		1	13	19.85	19.86	19.75	20.50



		1	24	19.84	19.82	19.96	20.50	
		12	0	19.80	19.69	19.76	20.50	
		12	6	19.76	19.73	19.80	20.50	
		12	13	19.75	19.81	19.73	20.50	
		25	0	19.79	19.84	19.81	20.50	
	64QAM	1	0	19.65	19.87	19.90	20.50	
		1	13	19.95	19.56	20.01	20.50	
		1	24	19.63	19.63	19.93	20.50	
		12	0	19.72	19.77	19.74	20.50	
		12	6	19.73	19.81	19.71	20.50	
		12	13	19.76	19.83	19.79	20.50	
		25	0	19.76	19.87	19.72	20.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20450/829	20525/836.5	20600/844	
10MHz	QPSK	1	0	19.84	19.74	19.84	20.50	
		1	25	19.75	19.69	19.69	20.50	
		1	49	19.69	19.70	19.87	20.50	
		25	0	19.84	19.78	19.77	20.50	
		25	13	19.76	19.77	19.86	20.50	
		25	25	19.83	19.75	19.78	20.50	
		50	0	19.70	19.77	19.85	20.50	
	16QAM	1	0	19.88	19.82	19.97	20.50	
		1	25	19.81	19.84	19.71	20.50	
		1	49	19.82	19.79	19.94	20.50	
		25	0	19.77	19.65	19.73	20.50	
		25	13	19.73	19.71	19.77	20.50	
		25	25	19.72	19.76	19.69	20.50	
		50	0	19.77	19.80	19.78	20.50	
	64QAM	1	0	19.63	19.83	19.85	20.50	
		1	25	19.91	19.54	19.97	20.50	
		1	49	19.61	19.60	19.91	20.50	
		25	0	19.69	19.73	19.71	20.50	
		25	13	19.70	19.79	19.68	20.50	
		25	25	19.73	19.78	19.75	20.50	
		50	0	19.74	19.83	19.69	20.50	

LTE FDD Band 7 (REC On+Left Head)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	20.48	20.49	20.42	21.00
		1	13	20.49	20.43	20.50	21.00
		1	24	20.51	20.41	20.41	21.00



		12	0	20.44	20.44	20.28	21.00	
		12	6	20.48	20.53	20.34	21.00	
		12	13	20.54	20.34	20.31	21.00	
		25	0	20.44	20.40	20.43	21.00	
	16QAM	1	0	20.40	20.37	20.41	21.00	
		1	13	20.43	20.34	20.47	21.00	
		1	24	20.36	20.46	20.48	21.00	
		12	0	20.38	20.36	20.29	21.00	
		12	6	20.47	20.32	20.33	21.00	
		12	13	20.34	20.32	20.19	21.00	
		25	0	20.31	20.29	20.29	21.00	
		64QAM	1	0	20.53	20.39	20.36	21.00
	1		13	20.40	20.23	20.51	21.00	
	1		24	20.40	20.48	20.44	21.00	
	12		0	20.39	20.36	20.31	21.00	
	12		6	20.37	20.30	20.34	21.00	
	12		13	20.37	20.26	20.29	21.00	
	25		0	20.44	20.45	20.40	21.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20800/2505	21100/2535	21400/2565	
	10MHz	QPSK	1	0	20.50	20.50	20.45	21.00
1			25	20.52	20.48	20.54	21.00	
1			49	20.53	20.45	20.44	21.00	
25			0	20.47	20.49	20.32	21.00	
25			13	20.51	20.58	20.38	21.00	
25			25	20.56	20.38	20.36	21.00	
50			0	20.52	20.42	20.47	21.00	
16QAM		1	0	20.42	20.40	20.43	21.00	
		1	25	20.46	20.38	20.50	21.00	
		1	49	20.39	20.48	20.51	21.00	
		25	0	20.41	20.41	20.33	21.00	
		25	13	20.49	20.36	20.36	21.00	
		25	25	20.37	20.37	20.23	21.00	
		50	0	20.34	20.34	20.33	21.00	
64QAM		1	0	20.55	20.42	20.38	21.00	
		1	25	20.43	20.27	20.54	21.00	
		1	49	20.43	20.50	20.47	21.00	
		25	0	20.42	20.41	20.35	21.00	
		25	13	20.39	20.34	20.37	21.00	
		25	25	20.40	20.31	20.33	21.00	
		50	0	20.47	20.50	20.44	21.00	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	20.49	20.46	20.43	21.00
		1	38	20.50	20.47	20.51	21.00
		1	74	20.50	20.40	20.40	21.00
		36	0	20.45	20.45	20.29	21.00
		36	18	20.48	20.53	20.34	21.00
		36	39	20.53	20.35	20.32	21.00
		75	0	20.50	20.38	20.42	21.00
	16QAM	1	0	20.37	20.38	20.41	21.00
		1	38	20.44	20.35	20.48	21.00
		1	74	20.36	20.44	20.48	21.00
		36	0	20.38	20.39	20.30	21.00
		36	18	20.46	20.31	20.32	21.00
		36	39	20.35	20.33	20.20	21.00
		75	0	20.31	20.29	20.29	21.00
	64QAM	1	0	20.50	20.40	20.36	21.00
		1	38	20.41	20.24	20.52	21.00
		1	74	20.40	20.46	20.44	21.00
		36	0	20.39	20.39	20.32	21.00
		36	18	20.36	20.29	20.33	21.00
		36	39	20.38	20.27	20.30	21.00
		75	0	20.44	20.45	20.40	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	20.46	20.42	20.40	21.00
		1	50	20.49	20.43	20.49	21.00
		1	99	20.48	20.39	20.37	21.00
		50	0	20.42	20.40	20.25	21.00
		50	25	20.46	20.49	20.31	21.00
		50	50	20.50	20.30	20.28	21.00
		100	0	20.47	20.33	20.38	21.00
	16QAM	1	0	20.35	20.34	20.36	21.00
		1	50	20.40	20.33	20.44	21.00
		1	99	20.34	20.41	20.46	21.00
		50	0	20.35	20.35	20.27	21.00
		50	25	20.43	20.29	20.29	21.00
		50	50	20.32	20.28	20.16	21.00
		100	0	20.29	20.25	20.26	21.00
	64QAM	1	0	20.48	20.36	20.31	21.00
		1	50	20.37	20.22	20.48	21.00
		1	99	20.38	20.43	20.42	21.00
		50	0	20.36	20.35	20.29	21.00



		50	25	20.33	20.27	20.30	21.00
		50	50	20.35	20.22	20.26	21.00
		100	0	20.42	20.41	20.37	21.00

LTE FDD Band 7 (REC On+Right Head)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	14.48	15.10	15.35	16.00
		1	13	14.98	14.76	15.36	16.00
		1	24	15.17	15.11	15.05	16.00
		12	0	14.89	15.16	15.48	16.00
		12	6	14.99	14.93	15.34	16.00
		12	13	15.50	15.01	15.12	16.00
		25	0	14.99	14.99	15.41	16.00
	16QAM	1	0	15.09	15.12	15.46	16.00
		1	13	15.25	15.04	15.49	16.00
		1	24	15.42	15.23	15.33	16.00
		12	0	14.90	15.09	15.45	16.00
		12	6	14.96	14.92	15.23	16.00
		12	13	15.08	14.99	14.96	16.00
		25	0	14.97	14.92	15.22	16.00
	64QAM	1	0	14.83	15.00	15.43	16.00
		1	13	14.99	14.94	15.28	16.00
		1	24	15.05	15.13	15.25	16.00
		12	0	14.92	15.03	15.35	16.00
		12	6	15.00	14.72	15.20	16.00
		12	13	15.09	14.91	15.00	16.00
		25	0	15.08	14.93	15.24	16.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
10MHz	QPSK			20800/2505	21100/2535	21400/2565	
		1	0	15.01	14.81	15.40	16.00
		1	25	15.19	15.15	15.08	16.00
		1	49	14.92	15.21	15.52	16.00
		25	0	15.02	14.98	15.38	16.00
		25	13	15.52	15.05	15.17	16.00
		25	25	15.07	15.01	15.45	16.00
	50	0	15.11	15.15	15.48	16.00	
	16QAM	1	0	15.28	15.08	15.52	16.00
		1	25	15.45	15.25	15.36	16.00
		1	49	14.93	15.14	15.49	16.00
		25	0	14.98	14.96	15.26	16.00
		25	13	15.11	15.04	15.00	16.00



		25	25	15.00	14.97	15.26	16.00
		50	0	14.85	15.03	15.45	16.00
	64QAM	1	0	15.02	14.98	15.31	16.00
		1	25	15.08	15.15	15.28	16.00
		1	49	14.95	15.08	15.39	16.00
		25	0	15.02	14.76	15.23	16.00
		25	13	15.12	14.96	15.04	16.00
		25	25	15.11	14.98	15.28	16.00
		50	0	15.08	14.93	15.24	16.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	14.49	15.07	15.36	16.00
		1	38	14.99	14.80	15.37	16.00
		1	74	15.16	15.10	15.04	16.00
		36	0	14.90	15.17	15.49	16.00
		36	18	14.99	14.93	15.34	16.00
		36	39	15.49	15.02	15.13	16.00
		75	0	15.05	14.97	15.40	16.00
	16QAM	1	0	15.06	15.13	15.46	16.00
		1	38	15.26	15.05	15.50	16.00
		1	74	15.42	15.21	15.33	16.00
		36	0	14.90	15.12	15.46	16.00
		36	18	14.95	14.91	15.22	16.00
		36	39	15.09	15.00	14.97	16.00
		75	0	14.97	14.92	15.22	16.00
	64QAM	1	0	14.80	15.01	15.43	16.00
		1	38	15.00	14.95	15.29	16.00
		1	74	15.05	15.11	15.25	16.00
		36	0	14.92	15.06	15.36	16.00
		36	18	14.99	14.71	15.19	16.00
		36	39	15.10	14.92	15.01	16.00
		75	0	15.08	14.93	15.24	16.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	14.46	15.03	15.33	16.00
		1	50	14.98	14.76	15.35	16.00
		1	99	15.14	15.09	15.01	16.00
		50	0	14.87	15.12	15.45	16.00
		50	25	14.97	14.89	15.31	16.00
		50	50	15.46	14.97	15.09	16.00
		100	0	15.02	14.92	15.36	16.00
	16QAM	1	0	15.04	15.09	15.41	16.00
		1	50	15.22	15.03	15.46	16.00



		1	99	15.40	15.18	15.31	16.00
		50	0	14.87	15.08	15.43	16.00
		50	25	14.92	14.89	15.19	16.00
		50	50	15.06	14.95	14.93	16.00
		100	0	14.95	14.88	15.19	16.00
	64QAM	1	0	14.78	14.97	15.38	16.00
		1	50	14.96	14.93	15.25	16.00
		1	99	15.03	15.08	15.23	16.00
		50	0	14.89	15.02	15.33	16.00
		50	25	14.96	14.69	15.16	16.00
		50	50	15.07	14.87	14.97	16.00
		100	0	15.06	14.89	15.21	16.00

LTE FDD Band 7 (REC On+Left Head+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	17.53	17.59	17.40	18.00
		1	13	17.46	17.58	17.82	18.00
		1	24	17.58	17.52	17.50	18.00
		12	0	17.44	17.45	17.40	18.00
		12	6	17.43	17.44	17.41	18.00
		12	13	17.48	17.42	17.44	18.00
		25	0	17.31	17.52	17.36	18.00
	16QAM	1	0	17.63	17.42	17.59	18.00
		1	13	17.25	17.35	17.35	18.00
		1	24	17.57	17.74	17.52	18.00
		12	0	17.45	17.40	17.35	18.00
		12	6	17.37	17.39	17.28	18.00
		12	13	17.46	17.45	17.34	18.00
		25	0	17.30	17.42	17.26	18.00
	64QAM	1	0	17.58	17.49	17.66	18.00
		1	13	17.45	17.42	16.94	18.00
		1	24	17.79	17.63	16.71	18.00
		12	0	17.46	17.33	17.27	18.00
		12	6	17.38	17.36	17.18	18.00
		12	13	17.39	17.38	17.32	18.00
		25	0	17.40	17.44	17.38	18.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
10MHz	QPSK			20800/2505	21100/2535	21400/2565	
		1	0	17.55	17.60	17.43	18.00
		1	25	17.49	17.63	17.86	18.00
		1	49	17.60	17.56	17.53	18.00





		25	0	17.47	17.50	17.44	18.00				
		25	13	17.46	17.49	17.45	18.00				
		25	25	17.50	17.46	17.49	18.00				
		50	0	17.39	17.54	17.40	18.00				
	16QAM	1	0	17.65	17.45	17.61	18.00				
		1	25	17.28	17.39	17.38	18.00				
		1	49	17.60	17.76	17.55	18.00				
		25	0	17.48	17.45	17.39	18.00				
		25	13	17.39	17.43	17.31	18.00				
		25	25	17.49	17.50	17.38	18.00				
	64QAM	50	0	17.33	17.47	17.30	18.00				
		1	0	17.60	17.52	17.68	18.00				
		1	25	17.48	17.46	16.97	18.00				
		1	49	17.82	17.65	16.74	18.00				
		25	0	17.49	17.38	17.31	18.00				
		25	13	17.40	17.40	17.21	18.00				
		25	25	17.42	17.43	17.36	18.00				
<b>Bandwidth</b>	<b>Modulation</b>	<b>RB size</b>	<b>RB offset</b>	<b>Channel/Frequency (MHz)</b>			<b>Tune-up Limit</b>				
				20825/2507.5	21100/2535	21375/2562.5					
				<b>15MHz</b>	QPSK	1	0	17.54	17.56	17.41	18.00
						1	38	17.47	17.62	17.83	18.00
						1	74	17.57	17.51	17.49	18.00
						36	0	17.45	17.46	17.41	18.00
						36	18	17.43	17.44	17.41	18.00
						36	39	17.47	17.43	17.45	18.00
						75	0	17.37	17.50	17.35	18.00
					16QAM	1	0	17.60	17.43	17.59	18.00
						1	38	17.26	17.36	17.36	18.00
						1	74	17.57	17.72	17.52	18.00
						36	0	17.45	17.43	17.36	18.00
						36	18	17.36	17.38	17.27	18.00
						36	39	17.47	17.46	17.35	18.00
						75	0	17.30	17.42	17.26	18.00
					64QAM	1	0	17.55	17.50	17.66	18.00
1	38	17.46	17.43			16.95	18.00				
1	74	17.79	17.61			16.71	18.00				
36	0	17.46	17.36			17.28	18.00				
36	18	17.37	17.35			17.17	18.00				
36	39	17.40	17.39			17.33	18.00				
75	0	17.40	17.44			17.38	18.00				
<b>Bandwidth</b>	<b>Modulation</b>	<b>RB size</b>	<b>RB offset</b>	<b>Channel/Frequency (MHz)</b>			<b>Tune-up Limit</b>				
				20850/2510	21100/2535	21350/2560					



20MHz	QPSK	1	0	17.51	17.52	17.38	18.00
		1	50	17.46	17.58	17.81	18.00
		1	99	17.55	17.50	17.46	18.00
		50	0	17.42	17.41	17.37	18.00
		50	25	17.41	17.40	17.38	18.00
		50	50	17.44	17.38	17.41	18.00
		100	0	17.34	17.45	17.31	18.00
	16QAM	1	0	17.58	17.39	17.54	18.00
		1	50	17.22	17.34	17.32	18.00
		1	99	17.55	17.69	17.50	18.00
		50	0	17.42	17.39	17.33	18.00
		50	25	17.33	17.36	17.24	18.00
		50	50	17.44	17.41	17.31	18.00
		100	0	17.28	17.38	17.23	18.00
	64QAM	1	0	17.53	17.46	17.61	18.00
		1	50	17.42	17.41	16.91	18.00
		1	99	17.77	17.58	16.69	18.00
		50	0	17.43	17.32	17.25	18.00
		50	25	17.34	17.33	17.14	18.00
		50	50	17.37	17.34	17.29	18.00
		100	0	17.38	17.40	17.35	18.00

LTE FDD Band 7 (REC On+Right Head+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	11.69	12.11	11.96	13.00
		1	13	12.05	11.96	12.31	13.00
		1	24	12.16	11.46	11.88	13.00
		12	0	12.00	12.34	12.31	13.00
		12	6	11.97	11.85	12.29	13.00
		12	13	12.36	11.59	12.05	13.00
		25	0	12.14	12.14	12.32	13.00
	16QAM	1	0	12.08	12.47	12.26	13.00
		1	13	12.30	12.38	12.48	13.00
		1	24	12.52	12.06	12.17	13.00
		12	0	12.05	12.39	12.30	13.00
		12	6	11.99	11.90	12.31	13.00
		12	13	12.30	11.62	12.04	13.00
		25	0	12.21	12.15	12.26	13.00
	64QAM	1	0	12.09	12.18	12.28	13.00
		1	13	12.12	12.17	12.22	13.00
		1	24	12.40	11.94	12.13	13.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20800/2505	21100/2535	21400/2565		
10MHz	QPSK	12	0	12.14	11.70	12.32	13.00	
		12	6	12.08	11.75	12.33	13.00	
		12	13	12.04	11.68	12.08	13.00	
		25	0	12.24	12.01	12.30	13.00	
		1	0	11.71	12.12	11.99	13.00	
		1	25	12.08	12.01	12.35	13.00	
		1	49	12.18	11.50	11.91	13.00	
	16QAM	25	0	12.03	12.39	12.35	13.00	
		25	13	12.00	11.90	12.33	13.00	
		25	25	12.38	11.63	12.10	13.00	
		50	0	12.22	12.16	12.36	13.00	
		1	0	12.10	12.50	12.28	13.00	
		1	25	12.33	12.42	12.51	13.00	
		1	49	12.55	12.08	12.20	13.00	
	64QAM	25	0	12.08	12.44	12.34	13.00	
		25	13	12.01	11.94	12.34	13.00	
		25	25	12.33	11.67	12.08	13.00	
		50	0	12.24	12.20	12.30	13.00	
		1	0	12.11	12.21	12.30	13.00	
		1	25	12.15	12.21	12.25	13.00	
		1	49	12.43	11.96	12.16	13.00	
	15MHz	QPSK	25	0	12.17	11.75	12.36	13.00
			25	13	12.10	11.79	12.36	13.00
			25	25	12.07	11.73	12.12	13.00
			50	0	12.27	12.06	12.34	13.00
			1	0	11.70	12.08	11.97	13.00
			1	38	12.06	12.00	12.32	13.00
			1	74	12.15	11.45	11.87	13.00
16QAM		36	0	12.01	12.35	12.32	13.00	
		36	18	11.97	11.85	12.29	13.00	
		36	39	12.35	11.60	12.06	13.00	
		75	0	12.20	12.12	12.31	13.00	
		1	0	12.05	12.48	12.26	13.00	
		1	38	12.31	12.39	12.49	13.00	
		1	74	12.52	12.04	12.17	13.00	
15MHz	16QAM	36	0	12.05	12.42	12.31	13.00	
		36	18	11.98	11.89	12.30	13.00	
		36	39	12.31	11.63	12.05	13.00	
		75	0	12.21	12.15	12.26	13.00	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
	64QAM	1	0	12.06	12.19	12.28	13.00
		1	38	12.13	12.18	12.23	13.00
		1	74	12.40	11.92	12.13	13.00
		36	0	12.14	11.73	12.33	13.00
		36	18	12.07	11.74	12.32	13.00
		36	39	12.05	11.69	12.09	13.00
		75	0	12.24	12.01	12.30	13.00
20MHz	QPSK	1	0	11.67	12.04	11.94	13.00
		1	50	12.05	11.96	12.30	13.00
		1	99	12.13	11.44	11.84	13.00
		50	0	11.98	12.30	12.28	13.00
		50	25	11.95	11.81	12.26	13.00
		50	50	12.32	11.55	12.02	13.00
		100	0	12.17	12.07	12.27	13.00
	16QAM	1	0	12.03	12.44	12.21	13.00
		1	50	12.27	12.37	12.45	13.00
		1	99	12.50	12.01	12.15	13.00
		50	0	12.02	12.38	12.28	13.00
		50	25	11.95	11.87	12.27	13.00
		50	50	12.28	11.58	12.01	13.00
		100	0	12.19	12.11	12.23	13.00
	64QAM	1	0	12.04	12.15	12.23	13.00
		1	50	12.09	12.16	12.19	13.00
		1	99	12.38	11.89	12.11	13.00
		50	0	12.11	11.69	12.30	13.00
		50	25	12.04	11.72	12.29	13.00
		50	50	12.02	11.64	12.05	13.00
		100	0	12.22	11.97	12.27	13.00

LTE FDD Band 7 (REC Off)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	20.49	20.48	20.37	21.00
		1	13	20.31	20.26	20.33	21.00
		1	24	20.39	20.35	20.48	21.00
		12	0	20.43	20.40	20.36	21.00
		12	6	20.40	20.35	20.40	21.00
		12	13	20.39	20.30	20.42	21.00
		25	0	20.41	20.51	20.33	21.00
	16QAM	1	0	20.46	20.32	20.48	21.00



		1	13	20.45	20.33	20.05	21.00	
		1	24	20.46	20.32	20.39	21.00	
		12	0	20.49	20.35	20.24	21.00	
		12	6	20.35	20.25	20.28	21.00	
		12	13	20.35	20.29	20.28	21.00	
		25	0	20.32	20.36	20.33	21.00	
	64QAM	1	0	20.43	20.39	20.51	21.00	
		1	13	20.38	20.21	20.18	21.00	
		1	24	20.49	20.40	20.39	21.00	
		12	0	20.37	20.26	20.36	21.00	
		12	6	20.39	20.29	20.20	21.00	
		12	13	20.35	20.22	20.31	21.00	
		25	0	20.43	20.40	20.32	21.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
20800/2505					21100/2535	21400/2565		
10MHz	QPSK	1	0	20.51	20.49	20.40	21.00	
		1	25	20.34	20.31	20.37	21.00	
		1	49	20.41	20.39	20.51	21.00	
		25	0	20.46	20.45	20.40	21.00	
		25	13	20.43	20.40	20.44	21.00	
		25	25	20.41	20.34	20.47	21.00	
		50	0	20.49	20.53	20.37	21.00	
	16QAM	1	0	20.48	20.35	20.50	21.00	
		1	25	20.48	20.37	20.08	21.00	
		1	49	20.49	20.34	20.42	21.00	
		25	0	20.52	20.40	20.28	21.00	
		25	13	20.37	20.29	20.31	21.00	
		25	25	20.38	20.34	20.32	21.00	
		50	0	20.35	20.41	20.37	21.00	
	64QAM	1	0	20.45	20.42	20.53	21.00	
		1	25	20.41	20.25	20.21	21.00	
		1	49	20.52	20.42	20.42	21.00	
		25	0	20.40	20.31	20.40	21.00	
		25	13	20.41	20.33	20.23	21.00	
		25	25	20.38	20.27	20.35	21.00	
		50	0	20.46	20.45	20.36	21.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					20825/2507.5	21100/2535	21375/2562.5	
	15MHz	QPSK	1	0	20.50	20.45	20.38	21.00
			1	38	20.32	20.30	20.34	21.00
			1	74	20.38	20.34	20.47	21.00
			36	0	20.44	20.41	20.37	21.00
			36	18	20.40	20.35	20.40	21.00



		36	39	20.38	20.31	20.43	21.00
		75	0	20.47	20.49	20.32	21.00
	16QAM	1	0	20.43	20.33	20.48	21.00
		1	38	20.46	20.34	20.06	21.00
		1	74	20.46	20.30	20.39	21.00
		36	0	20.49	20.38	20.25	21.00
		36	18	20.34	20.24	20.27	21.00
		36	39	20.36	20.30	20.29	21.00
		75	0	20.32	20.36	20.33	21.00
	64QAM	1	0	20.40	20.40	20.51	21.00
		1	38	20.39	20.22	20.19	21.00
		1	74	20.49	20.38	20.39	21.00
		36	0	20.37	20.29	20.37	21.00
		36	18	20.38	20.28	20.19	21.00
36		39	20.36	20.23	20.32	21.00	
75		0	20.43	20.40	20.32	21.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	20.47	20.41	20.35	21.00
		1	50	20.31	20.26	20.32	21.00
		1	99	20.36	20.33	20.44	21.00
		50	0	20.41	20.36	20.33	21.00
		50	25	20.38	20.31	20.37	21.00
		50	50	20.35	20.26	20.39	21.00
		100	0	20.44	20.44	20.28	21.00
	16QAM	1	0	20.41	20.29	20.43	21.00
		1	50	20.42	20.32	20.02	21.00
		1	99	20.44	20.27	20.37	21.00
		50	0	20.46	20.34	20.22	21.00
		50	25	20.31	20.22	20.24	21.00
		50	50	20.33	20.25	20.25	21.00
		100	0	20.30	20.32	20.30	21.00
	64QAM	1	0	20.38	20.36	20.46	21.00
		1	50	20.35	20.20	20.15	21.00
		1	99	20.47	20.35	20.37	21.00
		50	0	20.34	20.25	20.34	21.00
		50	25	20.35	20.26	20.16	21.00
		50	50	20.33	20.18	20.28	21.00
		100	0	20.41	20.36	20.29	21.00



LTE FDD Band 7 (REC Off+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	17.56	17.44	17.36	18.00
		1	13	17.53	17.41	17.39	18.00
		1	24	17.45	17.47	17.45	18.00
		12	0	17.45	17.34	17.34	18.00
		12	6	17.27	17.35	17.36	18.00
		12	13	17.46	17.37	17.40	18.00
		25	0	17.44	17.41	17.32	18.00
	16QAM	1	0	17.56	17.49	17.59	18.00
		1	13	17.34	17.42	17.04	18.00
		1	24	17.56	17.29	17.50	18.00
		12	0	17.40	17.33	17.32	18.00
		12	6	17.40	17.29	17.30	18.00
		12	13	17.27	17.37	17.24	18.00
		25	0	17.30	17.35	17.30	18.00
	64QAM	1	0	17.48	17.50	17.47	18.00
		1	13	17.40	17.41	17.56	18.00
		1	24	17.42	17.39	17.49	18.00
		12	0	17.25	17.44	17.25	18.00
		12	6	17.38	17.30	17.33	18.00
		12	13	17.35	17.36	17.22	18.00
		25	0	17.29	17.34	17.21	18.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	17.58	17.45	17.39	18.00
		1	25	17.56	17.46	17.43	18.00
		1	49	17.47	17.51	17.48	18.00
		25	0	17.48	17.39	17.38	18.00
		25	13	17.30	17.40	17.40	18.00
		25	25	17.48	17.41	17.45	18.00
		50	0	17.52	17.43	17.36	18.00
	16QAM	1	0	17.58	17.52	17.61	18.00
		1	25	17.37	17.46	17.07	18.00
		1	49	17.59	17.31	17.53	18.00
		25	0	17.43	17.38	17.36	18.00
		25	13	17.42	17.33	17.33	18.00
		25	25	17.30	17.42	17.28	18.00
		50	0	17.33	17.40	17.34	18.00
	64QAM	1	0	17.50	17.53	17.49	18.00
		1	25	17.43	17.45	17.59	18.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				20825/2507.5	21100/2535	21375/2562.5		
		1	49	17.45	17.41	17.52	18.00	
		25	0	17.28	17.49	17.29	18.00	
		25	13	17.40	17.34	17.36	18.00	
		25	25	17.38	17.41	17.26	18.00	
		50	0	17.32	17.39	17.25	18.00	
15MHz	QPSK	1	0	17.57	17.41	17.37	18.00	
		1	38	17.54	17.45	17.40	18.00	
15MHz	QPSK	1	74	17.44	17.46	17.44	18.00	
		36	0	17.46	17.35	17.35	18.00	
		36	18	17.27	17.35	17.36	18.00	
		36	39	17.45	17.38	17.41	18.00	
		75	0	17.50	17.39	17.31	18.00	
		16QAM	1	0	17.53	17.50	17.59	18.00
			1	38	17.35	17.43	17.05	18.00
	1		74	17.56	17.27	17.50	18.00	
	36		0	17.40	17.36	17.33	18.00	
	36		18	17.39	17.28	17.29	18.00	
	36		39	17.28	17.38	17.25	18.00	
	75		0	17.30	17.35	17.30	18.00	
	64QAM	1	0	17.45	17.51	17.47	18.00	
		1	38	17.41	17.42	17.57	18.00	
		1	74	17.42	17.37	17.49	18.00	
		36	0	17.25	17.47	17.26	18.00	
		36	18	17.37	17.29	17.32	18.00	
		36	39	17.36	17.37	17.23	18.00	
		75	0	17.29	17.34	17.21	18.00	
	20MHz	QPSK	1	0	17.54	17.37	17.34	18.00
			1	50	17.53	17.41	17.38	18.00
20MHz	QPSK	1	99	17.42	17.45	17.41	18.00	
		50	0	17.43	17.30	17.31	18.00	
		50	25	17.25	17.31	17.33	18.00	
		50	50	17.42	17.33	17.37	18.00	
		100	0	17.47	17.34	17.27	18.00	
		16QAM	1	0	17.51	17.46	17.54	18.00
	1		50	17.31	17.41	17.01	18.00	
	1		99	17.54	17.24	17.48	18.00	
	50		0	17.37	17.32	17.30	18.00	
	50		25	17.36	17.26	17.26	18.00	
	50		50	17.25	17.33	17.21	18.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
20850/2510					21100/2535	21350/2560		





	64QAM	100	0	17.28	17.31	17.27	18.00
		1	0	17.43	17.47	17.42	18.00
		1	50	17.37	17.40	17.53	18.00
		1	99	17.40	17.34	17.47	18.00
		50	0	17.22	17.43	17.23	18.00
		50	25	17.34	17.27	17.29	18.00
		50	50	17.33	17.32	17.19	18.00
		100	0	17.27	17.30	17.18	18.00

LTE FDD Band 12 (REC On+ Left Head)				Conducted Power(dBm)				
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				23017/699.7	23095/707.5	23173/715.3		
1.4MHz	QPSK	1	0	21.87	21.88	22.04	22.50	
		1	2	21.78	21.92	21.98	22.50	
		1	5	21.98	21.96	22.00	22.50	
		3	0	21.83	21.94	21.92	22.50	
		3	2	21.95	22.10	22.10	22.50	
		3	3	22.00	22.03	22.05	22.50	
	16QAM	6	0	21.60	21.88	21.85	22.50	
		1	0	21.95	21.83	22.02	22.50	
		1	2	21.90	21.79	21.86	22.50	
		1	5	22.07	22.02	22.11	22.50	
		3	0	21.74	21.77	21.68	22.50	
		3	2	21.71	21.81	21.84	22.50	
	64QAM	3	3	21.73	21.74	21.62	22.50	
		6	0	20.82	20.84	20.79	21.50	
		1	0	21.31	21.27	21.43	21.50	
		1	2	21.37	21.39	21.35	21.50	
		1	5	21.44	21.37	21.47	21.50	
		3	0	21.13	21.22	21.36	21.50	
	3MHz	QPSK	3	2	21.35	21.31	21.36	21.50
			3	3	21.21	21.29	21.21	21.50
			6	0	20.28	20.32	20.40	20.50
1			0	21.88	21.91	22.06	22.50	
1			7	21.82	21.98	22.03	22.50	
1			14	22.00	22.00	22.03	22.50	
8			0	21.73	21.86	21.85	22.50	
8	4	21.88	22.01	22.01	22.50			
	8	7	21.90	21.96	21.96	22.50		
	15	0	21.69	21.93	21.90	22.50		



	16QAM	1	0	21.97	21.84	22.04	22.50
		1	7	21.93	21.86	21.90	22.50
		1	14	22.09	22.06	22.13	22.50
		8	0	20.86	20.91	20.81	21.50
		8	4	20.81	20.93	20.95	21.50
		8	7	20.83	20.86	20.75	21.50
		15	0	20.86	20.89	20.81	21.50
	64QAM	1	0	21.33	21.28	21.45	21.50
		1	7	21.40	21.46	21.39	21.50
		1	14	21.46	21.41	21.49	21.50
		8	0	20.25	20.36	20.49	20.50
		8	4	20.45	20.43	20.47	20.50
		8	7	20.31	20.41	20.34	20.50
		15	0	20.32	20.37	20.42	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23035/701.5	23095/707.5	23155/713.5	
5MHz	QPSK	1	0	21.87	21.87	22.04	22.50
		1	13	21.80	21.97	22.00	22.50
		1	24	21.97	21.95	21.99	22.50
		12	0	21.71	21.82	21.82	22.50
		12	6	21.85	21.96	21.97	22.50
		12	13	21.87	21.93	21.92	22.50
		25	0	21.67	21.89	21.85	22.50
	16QAM	1	0	21.92	21.82	22.02	22.50
		1	13	21.91	21.83	21.88	22.50
		1	24	22.06	22.02	22.10	22.50
		12	0	20.83	20.89	20.78	21.50
		12	6	20.78	20.88	20.91	21.50
		12	13	20.81	20.82	20.72	21.50
		25	0	20.83	20.84	20.77	21.50
	64QAM	1	0	21.28	21.26	21.43	21.50
		1	13	21.38	21.43	21.37	21.50
		1	24	21.43	21.37	21.46	21.50
		12	0	20.22	20.34	20.46	20.50
		12	6	20.42	20.38	20.43	20.50
		12	13	20.29	20.37	20.31	20.50
		25	0	20.29	20.32	20.38	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23060/704	23095/707.5	23130/711	
10MHz	QPSK	1	0	21.84	21.83	22.01	22.50
		1	25	21.79	21.93	21.98	22.50
		1	49	21.95	21.94	21.96	22.50
		25	0	21.68	21.77	21.78	22.50



		25	13	21.83	21.92	21.94	22.50	
		25	25	21.84	21.88	21.88	22.50	
		50	0	21.64	21.84	21.81	22.50	
	16QAM		1	0	21.90	21.78	21.97	22.50
			1	25	21.87	21.81	21.84	22.50
			1	49	22.04	21.99	22.08	22.50
			25	0	20.80	20.85	20.75	21.50
			25	13	20.75	20.86	20.88	21.50
			25	25	20.78	20.77	20.68	21.50
			50	0	20.81	20.80	20.74	21.50
	64QAM		1	0	21.26	21.22	21.38	21.50
			1	25	21.34	21.41	21.33	21.50
			1	49	21.41	21.34	21.44	21.50
			25	0	20.19	20.30	20.43	20.50
			25	13	20.39	20.36	20.40	20.50
			25	25	20.26	20.32	20.27	20.50
			50	0	20.27	20.28	20.35	20.50

LTE FDD Band 12 (REC On+Right Head)				Conducted Power(dBm)				
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				23017/699.7	23095/707.5	23173/715.3		
1.4MHz	QPSK	1	0	21.70	21.71	21.92	22.50	
		1	2	21.58	21.72	21.78	22.50	
		1	5	21.75	21.84	21.88	22.50	
		3	0	21.88	21.96	21.95	22.50	
		3	2	21.82	22.01	22.00	22.50	
		3	3	21.90	21.93	21.95	22.50	
		6	0	21.59	21.87	21.84	22.50	
	16QAM		1	0	21.79	21.67	21.86	22.50
			1	2	21.90	21.79	21.86	22.50
			1	5	21.81	21.76	21.95	22.50
			3	0	21.65	21.68	21.59	22.50
			3	2	21.58	21.68	21.71	22.50
			3	3	21.73	21.74	21.62	22.50
			6	0	20.74	20.76	20.71	21.50
	64QAM		1	0	21.11	21.07	21.23	21.50
			1	2	21.07	21.09	21.05	21.50
			1	5	21.11	21.04	21.14	21.50
			3	0	21.16	21.25	21.39	21.50
			3	2	21.25	21.21	21.26	21.50
			3	3	21.29	21.37	21.29	21.50
			6	0	20.31	20.35	20.43	20.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23025/700.5	23095/707.5	23165/714.5	
3MHz	QPSK	1	0	21.71	21.74	21.94	22.50
		1	7	21.62	21.78	21.83	22.50
		1	14	21.77	21.88	21.91	22.50
		8	0	21.78	21.88	21.88	22.50
		8	4	21.75	21.92	21.91	22.50
		8	7	21.80	21.86	21.86	22.50
		15	0	21.68	21.92	21.89	22.50
	16QAM	1	0	21.81	21.68	21.88	22.50
		1	7	21.93	21.86	21.90	22.50
		1	14	21.83	21.80	21.97	22.50
		8	0	20.77	20.82	20.72	21.50
		8	4	20.68	20.80	20.82	21.50
		8	7	20.83	20.86	20.75	21.50
		15	0	20.78	20.81	20.73	21.50
	64QAM	1	0	21.13	21.08	21.25	21.50
		1	7	21.10	21.16	21.09	21.50
		1	14	21.13	21.08	21.16	21.50
		8	0	20.28	20.39	20.32	20.50
		8	4	20.35	20.33	20.37	20.50
		8	7	20.39	20.49	20.42	20.50
		15	0	20.35	20.40	20.45	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
5MHz	QPSK	1	0	21.70	21.70	21.92	22.50
		1	13	21.60	21.77	21.80	22.50
		1	24	21.74	21.83	21.87	22.50
		12	0	21.76	21.84	21.85	22.50
		12	6	21.72	21.87	21.87	22.50
		12	13	21.77	21.83	21.82	22.50
		25	0	21.66	21.88	21.84	22.50
	16QAM	1	0	21.76	21.66	21.86	22.50
		1	13	21.91	21.83	21.88	22.50
		1	24	21.80	21.76	21.94	22.50
		12	0	20.74	20.80	20.69	21.50
		12	6	20.65	20.75	20.78	21.50
		12	13	20.81	20.82	20.72	21.50
		25	0	20.75	20.76	20.69	21.50
	64QAM	1	0	21.08	21.06	21.23	21.50
		1	13	21.08	21.13	21.07	21.50
		1	24	21.10	21.04	21.13	21.50
		12	0	20.25	20.37	20.49	20.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23060/704	23095/707.5	23130/711	
10MHz	QPSK	12	6	20.32	20.28	20.33	20.50
		12	13	20.37	20.45	20.39	20.50
		25	0	20.32	20.35	20.41	20.50
		1	0	21.77	21.76	21.99	22.50
		1	25	21.69	21.83	21.88	22.50
		1	49	21.82	21.92	21.94	22.50
		25	0	21.83	21.89	21.91	22.50
	16QAM	25	13	21.80	21.93	21.94	22.50
		25	25	21.84	21.88	21.88	22.50
		50	0	21.73	21.93	21.90	22.50
		1	0	21.84	21.72	21.91	22.50
		1	25	21.97	21.91	21.94	22.50
		1	49	21.88	21.83	22.02	22.50
		25	0	20.81	20.86	20.76	21.50
	64QAM	25	13	20.72	20.83	20.85	21.50
		25	25	20.88	20.87	20.78	21.50
		50	0	20.83	20.82	20.76	21.50
		1	0	21.06	21.02	21.18	21.50
		1	25	21.04	21.11	21.03	21.50
		1	49	21.08	21.01	21.11	21.50
		25	0	20.22	20.33	20.46	20.50
	25	13	20.29	20.26	20.30	20.50	
	25	25	20.34	20.40	20.35	20.50	
	50	0	20.30	20.31	20.38	20.50	

LTE FDD Band 12 (REC On+Left Head+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	18.78	18.90	19.06	19.50
		1	2	18.77	18.86	18.87	19.50
		1	5	19.06	19.02	19.05	19.50
		3	0	18.90	18.93	18.93	19.50
		3	2	18.81	18.97	18.99	19.50
		3	3	18.99	18.95	18.96	19.50
		6	0	18.80	18.95	18.90	19.50
	16QAM	1	0	18.82	18.69	18.86	19.50
		1	2	18.66	18.80	18.74	19.50
		1	5	18.74	18.85	18.82	19.50
		3	0	18.76	18.72	18.72	19.50
		3	2	18.81	18.74	18.78	19.50



		3	3	18.78	18.84	18.89	19.50
		6	0	18.86	18.82	18.85	19.50
	64QAM	1	0	18.89	18.97	18.82	19.50
		1	2	18.77	18.59	18.66	19.50
		1	5	18.70	18.75	18.69	19.50
		3	0	18.78	18.64	18.73	19.50
		3	2	18.82	18.72	18.63	19.50
		3	3	18.66	18.71	18.70	19.50
		6	0	18.74	18.80	18.72	19.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23025/700.5	23095/707.5	23165/714.5	
3MHz	QPSK	1	0	18.80	18.91	19.09	19.50
		1	7	18.80	18.91	18.91	19.50
		1	14	19.08	19.06	19.08	19.50
		8	0	18.93	18.98	18.97	19.50
		8	4	18.84	19.02	19.03	19.50
		8	7	19.01	18.99	19.01	19.50
		15	0	18.88	18.97	18.94	19.50
	16QAM	1	0	18.84	18.72	18.88	19.50
		1	7	18.69	18.84	18.77	19.50
		1	14	18.77	18.87	18.85	19.50
		8	0	18.79	18.77	18.76	19.50
		8	4	18.83	18.78	18.81	19.50
		8	7	18.81	18.89	18.93	19.50
		15	0	18.89	18.87	18.89	19.50
	64QAM	1	0	18.91	19.00	18.84	19.50
		1	7	18.80	18.63	18.69	19.50
		1	14	18.73	18.77	18.72	19.50
		8	0	18.81	18.69	18.77	19.50
		8	4	18.84	18.76	18.66	19.50
		8	7	18.69	18.76	18.74	19.50
		15	0	18.77	18.85	18.76	19.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23035/701.5	23095/707.5	23155/713.5	
5MHz	QPSK	1	0	18.79	18.87	19.07	19.50
		1	13	18.78	18.90	18.88	19.50
		1	24	19.05	19.01	19.04	19.50
		12	0	18.91	18.94	18.94	19.50
		12	6	18.81	18.97	18.99	19.50
		12	13	18.98	18.96	18.97	19.50
		25	0	18.86	18.93	18.89	19.50
	16QAM	1	0	18.79	18.70	18.86	19.50
		1	13	18.67	18.81	18.75	19.50



		1	24	18.74	18.83	18.82	19.50	
		12	0	18.76	18.75	18.73	19.50	
		12	6	18.80	18.73	18.77	19.50	
		12	13	18.79	18.85	18.90	19.50	
		25	0	18.86	18.82	18.85	19.50	
	64QAM	1	0	18.86	18.98	18.82	19.50	
		1	13	18.78	18.60	18.67	19.50	
		1	24	18.70	18.73	18.69	19.50	
		12	0	18.78	18.67	18.74	19.50	
		12	6	18.81	18.71	18.62	19.50	
		12	13	18.67	18.72	18.71	19.50	
		25	0	18.74	18.80	18.72	19.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					23060/704	23095/707.5	23130/711	
10MHz	QPSK	1	0	18.76	18.83	19.04	19.50	
		1	25	18.77	18.86	18.86	19.50	
		1	49	19.03	19.00	19.01	19.50	
		25	0	18.88	18.89	18.90	19.50	
		25	13	18.79	18.93	18.96	19.50	
		25	25	18.95	18.91	18.93	19.50	
		50	0	18.83	18.88	18.85	19.50	
	16QAM	1	0	18.77	18.66	18.81	19.50	
		1	25	18.63	18.79	18.71	19.50	
		1	49	18.72	18.80	18.80	19.50	
		25	0	18.73	18.71	18.70	19.50	
		25	13	18.77	18.71	18.74	19.50	
		25	25	18.76	18.80	18.86	19.50	
		50	0	18.84	18.78	18.82	19.50	
	64QAM	1	0	18.84	18.94	18.77	19.50	
		1	25	18.74	18.58	18.63	19.50	
		1	49	18.68	18.70	18.67	19.50	
		25	0	18.75	18.63	18.71	19.50	
		25	13	18.78	18.69	18.59	19.50	
		25	25	18.64	18.67	18.67	19.50	
		50	0	18.72	18.76	18.69	19.50	

LTE FDD Band 12 (REC On+Right Head+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	18.74	18.81	18.85	19.50
		1	2	18.66	18.75	18.76	19.50
		1	5	18.83	18.79	18.82	19.50



		3	0	18.67	18.80	18.80	19.50	
		3	2	18.63	18.81	18.82	19.50	
		3	3	18.73	18.77	18.70	19.50	
		6	0	18.68	18.81	18.76	19.50	
	16QAM	1	0	18.92	18.79	18.96	19.50	
		1	2	18.68	18.82	18.76	19.50	
		1	5	18.83	18.94	18.91	19.50	
		3	0	18.83	18.79	18.79	19.50	
		3	2	18.79	18.72	18.76	19.50	
		3	3	18.76	18.82	18.87	19.50	
	64QAM	6	0	18.77	18.73	18.76	19.50	
		1	0	18.74	18.82	18.67	19.50	
		1	2	18.80	18.62	18.69	19.50	
		1	5	18.80	18.85	18.79	19.50	
		3	0	18.94	18.80	18.89	19.50	
		3	2	18.88	18.78	18.69	19.50	
	3MHz	QPSK	3	3	18.76	18.82	18.87	19.50
			6	0	18.62	18.68	18.60	19.50
1			0	18.76	18.82	18.88	19.50	
1			7	18.69	18.80	18.80	19.50	
1			14	18.85	18.83	18.85	19.50	
8			0	18.70	18.85	18.84	19.50	
8			4	18.66	18.86	18.86	19.50	
16QAM		8	7	18.75	18.81	18.75	19.50	
		15	0	18.76	18.83	18.80	19.50	
		1	0	18.94	18.82	18.98	19.50	
		1	7	18.71	18.86	18.79	19.50	
		1	14	18.86	18.96	18.94	19.50	
		8	0	18.86	18.84	18.83	19.50	
		8	4	18.81	18.76	18.79	19.50	
64QAM		8	7	18.79	18.87	18.91	19.50	
		15	0	18.80	18.78	18.80	19.50	
		1	0	18.76	18.85	18.69	19.50	
		1	7	18.83	18.66	18.72	19.50	
	1	14	18.83	18.87	18.82	19.50		
	8	0	18.97	18.85	18.93	19.50		
	8	4	18.90	18.82	18.72	19.50		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				23025/700.5	23095/707.5	23165/714.5		
				18.69	18.72	18.74		





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23035/701.5	23095/707.5	23155/713.5	
5MHz	QPSK	1	0	18.75	18.78	18.86	19.50
		1	13	18.67	18.79	18.77	19.50
		1	24	18.82	18.78	18.81	19.50
		12	0	18.68	18.81	18.81	19.50
		12	6	18.63	18.81	18.82	19.50
		12	13	18.72	18.78	18.71	19.50
		25	0	18.74	18.79	18.75	19.50
	16QAM	1	0	18.89	18.80	18.96	19.50
		1	13	18.69	18.83	18.77	19.50
		1	24	18.83	18.92	18.91	19.50
		12	0	18.83	18.82	18.80	19.50
		12	6	18.78	18.71	18.75	19.50
		12	13	18.77	18.83	18.88	19.50
		25	0	18.77	18.73	18.76	19.50
	64QAM	1	0	18.71	18.83	18.67	19.50
		1	13	18.81	18.63	18.70	19.50
		1	24	18.80	18.83	18.79	19.50
		12	0	18.94	18.83	18.90	19.50
		12	6	18.87	18.77	18.68	19.50
		12	13	18.67	18.72	18.71	19.50
		25	0	18.62	18.68	18.60	19.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23060/704	23095/707.5	23130/711	
10MHz	QPSK	1	0	18.82	18.84	18.93	19.50
		1	25	18.76	18.85	18.85	19.50
		1	49	18.90	18.87	18.88	19.50
		25	0	18.75	18.86	18.87	19.50
		25	13	18.71	18.87	18.89	19.50
		25	25	18.79	18.83	18.77	19.50
		50	0	18.81	18.84	18.81	19.50
	16QAM	1	0	18.97	18.86	19.01	19.50
		1	25	18.75	18.91	18.83	19.50
		1	49	18.91	18.99	18.99	19.50
		25	0	18.90	18.88	18.87	19.50
		25	13	18.85	18.79	18.82	19.50
		25	25	18.84	18.88	18.94	19.50
		50	0	18.85	18.79	18.83	19.50
	64QAM	1	0	18.69	18.79	18.62	19.50
		1	25	18.77	18.61	18.66	19.50
		1	49	18.78	18.80	18.77	19.50
		25	0	18.91	18.79	18.87	19.50



		25	13	18.84	18.75	18.65	19.50
		25	25	18.64	18.67	18.67	19.50
		50	0	18.60	18.64	18.57	19.50

LTE FDD Band 12 (REC Off)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	22.81	22.82	22.85	23.50
		1	2	22.62	22.75	22.76	23.50
		1	5	22.82	22.82	22.78	23.50
		3	0	22.68	22.88	22.87	23.50
		3	2	22.68	22.90	22.92	23.50
		3	3	22.73	22.84	22.92	23.50
		6	0	21.79	21.88	21.86	22.50
	16QAM	1	0	21.98	21.90	21.90	22.50
		1	2	22.05	21.82	22.04	22.50
		1	5	21.89	21.96	21.91	22.50
		3	0	21.70	21.75	21.74	22.50
		3	2	21.71	21.75	21.76	22.50
		3	3	21.67	21.89	21.80	22.50
		6	0	20.67	21.08	20.81	21.50
	64QAM	1	0	21.29	21.29	21.33	21.50
		1	2	21.19	21.16	21.21	21.50
		1	5	21.44	21.15	21.27	21.50
		3	0	21.15	21.24	21.22	21.50
		3	2	21.33	21.18	21.22	21.50
		3	3	21.28	21.33	21.29	21.50
		6	0	20.21	20.38	20.38	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23025/700.5	23095/707.5	23165/714.5	
3MHz	QPSK	1	0	22.82	22.85	22.87	23.50
		1	7	22.66	22.81	22.81	23.50
		1	14	22.84	22.86	22.81	23.50
		8	0	21.78	22.00	22.00	22.50
		8	4	21.81	22.01	22.03	22.50
		8	7	21.83	21.97	22.03	22.50
		15	0	21.88	21.93	21.91	22.50
	16QAM	1	0	22.00	21.91	21.92	22.50
		1	7	22.08	21.89	22.08	22.50
		1	14	21.91	22.00	21.93	22.50
		8	0	20.82	20.89	20.87	21.50
		8	4	20.81	20.87	20.87	21.50



		8	7	20.77	21.01	20.93	21.50
		15	0	20.71	21.13	20.83	21.50
	64QAM	1	0	21.31	21.30	21.35	21.50
		1	7	21.22	21.23	21.25	21.50
		1	14	21.46	21.19	21.29	21.50
		8	0	20.27	20.38	20.35	20.50
		8	4	20.43	20.30	20.33	20.50
		8	7	20.38	20.45	20.42	20.50
		15	0	20.25	20.43	20.40	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23035/701.5	23095/707.5	23155/713.5	
5MHz	QPSK	1	0	22.81	22.81	22.85	23.50
		1	13	22.64	22.80	22.78	23.50
		1	24	22.81	22.81	22.77	23.50
		12	0	21.76	21.96	21.97	22.50
		12	6	21.78	21.96	21.99	22.50
		12	13	21.80	21.94	21.99	22.50
		25	0	21.86	21.89	21.86	22.50
	16QAM	1	0	21.95	21.89	21.90	22.50
		1	13	22.06	21.86	22.06	22.50
		1	24	21.88	21.96	21.90	22.50
		12	0	20.79	20.87	20.84	21.50
		12	6	20.78	20.82	20.83	21.50
		12	13	20.75	20.97	20.90	21.50
		25	0	20.68	21.08	20.79	21.50
	64QAM	1	0	21.26	21.28	21.33	21.50
		1	13	21.20	21.20	21.23	21.50
		1	24	21.43	21.15	21.26	21.50
		12	0	20.24	20.36	20.32	20.50
		12	6	20.40	20.25	20.29	20.50
		12	13	20.36	20.41	20.39	20.50
		25	0	20.22	20.38	20.36	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23060/704	23095/707.5	23130/711	
10MHz	QPSK	1	0	22.78	22.77	22.82	23.50
		1	25	22.63	22.76	22.76	23.50
		1	49	22.79	22.80	22.74	23.50
		25	0	21.73	21.91	21.93	22.50
		25	13	21.76	21.92	21.96	22.50
		25	25	21.77	21.89	21.95	22.50
		50	0	21.83	21.84	21.82	22.50
	16QAM	1	0	21.93	21.85	21.85	22.50
		1	25	22.02	21.84	22.02	22.50



		1	49	21.86	21.93	21.88	22.50
		25	0	20.76	20.83	20.81	21.50
		25	13	20.75	20.80	20.80	21.50
		25	25	20.72	20.92	20.86	21.50
		50	0	20.66	21.04	20.76	21.50
	64QAM	1	0	21.24	21.24	21.28	21.50
		1	25	21.16	21.18	21.19	21.50
		1	49	21.41	21.12	21.24	21.50
		25	0	20.21	20.32	20.29	20.50
		25	13	20.37	20.23	20.26	20.50
		25	25	20.33	20.36	20.35	20.50
		50	0	20.20	20.34	20.33	20.50

LTE FDD Band 12 (REC Off+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	19.79	19.91	19.93	20.50
		1	2	19.81	19.83	19.91	20.50
		1	5	19.93	19.90	19.93	20.50
		3	0	19.77	19.80	19.80	20.50
		3	2	19.69	19.85	19.89	20.50
		3	3	19.80	19.82	19.75	20.50
		6	0	19.75	19.86	19.75	20.50
	16QAM	1	0	19.87	19.74	19.91	20.50
		1	2	19.64	19.78	19.72	20.50
		1	5	19.79	19.90	19.87	20.50
		3	0	19.80	19.76	19.76	20.50
		3	2	19.82	19.75	19.79	20.50
		3	3	19.68	19.74	19.79	20.50
		6	0	19.76	19.72	19.75	20.50
	64QAM	1	0	19.77	19.85	19.70	20.50
		1	2	19.91	19.73	19.80	20.50
		1	5	19.81	19.86	19.80	20.50
		3	0	19.76	19.62	19.71	20.50
		3	2	19.78	19.68	19.59	20.50
		3	3	19.72	19.77	19.76	20.50
		6	0	19.66	19.72	19.64	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
3MHz	QPSK	1	0	23025/700.5	23095/707.5	23165/714.5	20.50
		1	7	19.81	19.92	19.96	20.50
		1	14	19.84	19.88	19.95	20.50
				19.95	19.94	19.96	20.50



	16QAM	8	0	19.80	19.85	19.84	20.50	
		8	4	19.72	19.90	19.93	20.50	
		8	7	19.82	19.86	19.80	20.50	
		15	0	19.83	19.88	19.79	20.50	
		1	0	19.89	19.77	19.93	20.50	
		1	7	19.67	19.82	19.75	20.50	
		1	14	19.82	19.92	19.90	20.50	
		8	0	19.83	19.81	19.80	20.50	
		8	4	19.84	19.79	19.82	20.50	
		8	7	19.71	19.79	19.83	20.50	
		15	0	19.79	19.77	19.79	20.50	
		64QAM	1	0	19.79	19.88	19.72	20.50
			1	7	19.94	19.77	19.83	20.50
			1	14	19.84	19.88	19.83	20.50
			8	0	19.79	19.67	19.75	20.50
	8		4	19.80	19.72	19.62	20.50	
	8		7	19.75	19.82	19.80	20.50	
	15		0	19.69	19.77	19.68	20.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					23035/701.5	23095/707.5	23155/713.5	
	5MHz	QPSK	1	0	19.80	19.88	19.94	20.50
1			13	19.82	19.87	19.92	20.50	
1			24	19.92	19.89	19.92	20.50	
12			0	19.78	19.81	19.81	20.50	
12			6	19.69	19.85	19.89	20.50	
12			13	19.79	19.83	19.76	20.50	
25			0	19.81	19.84	19.74	20.50	
16QAM		1	0	19.84	19.75	19.91	20.50	
		1	13	19.65	19.79	19.73	20.50	
		1	24	19.79	19.88	19.87	20.50	
		12	0	19.80	19.79	19.77	20.50	
		12	6	19.81	19.74	19.78	20.50	
		12	13	19.69	19.75	19.80	20.50	
		25	0	19.76	19.72	19.75	20.50	
64QAM		1	0	19.74	19.86	19.70	20.50	
		1	13	19.92	19.74	19.81	20.50	
		1	24	19.81	19.84	19.80	20.50	
		12	0	19.76	19.65	19.72	20.50	
		12	6	19.77	19.67	19.58	20.50	
		12	13	19.73	19.78	19.77	20.50	
		25	0	19.66	19.72	19.64	20.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23060/704	23095/707.5	23130/711	
10MHz	QPSK	1	0	19.87	19.94	20.01	20.50
		1	25	19.91	19.93	20.00	20.50
		1	49	20.00	19.98	19.99	20.50
		25	0	19.85	19.86	19.87	20.50
		25	13	19.77	19.91	19.96	20.50
		25	25	19.86	19.88	19.82	20.50
		50	0	19.88	19.89	19.80	20.50
	16QAM	1	0	19.92	19.81	19.96	20.50
		1	25	19.71	19.87	19.79	20.50
		1	49	19.87	19.95	19.95	20.50
		25	0	19.87	19.85	19.84	20.50
		25	13	19.88	19.82	19.85	20.50
		25	25	19.76	19.80	19.86	20.50
		50	0	19.84	19.78	19.82	20.50
	64QAM	1	0	19.72	19.82	19.65	20.50
		1	25	19.88	19.72	19.77	20.50
		1	49	19.79	19.81	19.78	20.50
		25	0	19.73	19.61	19.69	20.50
		25	13	19.74	19.65	19.55	20.50
		25	25	19.70	19.73	19.73	20.50
		50	0	19.64	19.68	19.61	20.50

LTE FDD Band 17 (REC On+Left Head)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	21.77	21.77	21.74	22.50
		1	13	21.61	21.78	21.81	22.50
		1	24	21.93	21.82	21.91	22.50
		12	0	21.66	21.77	21.77	22.50
		12	6	21.68	21.79	21.82	22.50
		12	13	21.78	21.83	21.81	22.50
		25	0	21.60	21.82	21.78	22.50
	16QAM	1	0	22.02	21.92	22.12	22.50
		1	13	21.95	21.87	21.92	22.50
		1	24	21.85	21.81	21.99	22.50
		12	0	20.69	20.75	20.64	21.50
		12	6	20.61	20.71	20.74	21.50
		12	13	20.78	20.79	20.69	21.50
		25	0	20.69	20.70	20.63	21.50
	64QAM	1	0	21.23	21.21	21.38	21.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23780/709	23790/710	23800/711	
		1	13	21.12	21.17	21.11	21.50
		1	24	21.17	21.11	21.20	21.50
		12	0	20.27	20.39	20.31	20.50
		12	6	20.29	20.25	20.30	20.50
		12	13	20.19	20.27	20.21	20.50
		25	0	20.32	20.35	20.41	20.50
10MHz	QPSK	1	0	21.74	21.73	21.71	22.50
		1	25	21.60	21.74	21.79	22.50
		1	49	21.91	21.81	21.88	22.50
		25	0	21.63	21.72	21.73	22.50
		25	13	21.66	21.75	21.79	22.50
		25	25	21.75	21.78	21.77	22.50
		50	0	21.57	21.77	21.74	22.50
	16QAM	1	0	22.00	21.88	22.07	22.50
		1	25	21.91	21.85	21.88	22.50
		1	49	21.83	21.78	21.97	22.50
		25	0	20.66	20.71	20.61	21.50
		25	13	20.58	20.69	20.71	21.50
		25	25	20.75	20.74	20.65	21.50
		50	0	20.67	20.66	20.60	21.50
	64QAM	1	0	21.21	21.17	21.33	21.50
		1	25	21.08	21.15	21.07	21.50
		1	49	21.15	21.08	21.18	21.50
		25	0	20.24	20.35	20.48	20.50
		25	13	20.26	20.23	20.27	20.50
		25	25	20.16	20.22	20.17	20.50
		50	0	20.30	20.31	20.38	20.50

LTE FDD Band 17 (REC On+Right Head)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	21.77	21.77	21.70	22.50
		1	13	21.66	21.83	21.86	22.50
		1	24	21.93	21.81	21.88	22.50
		12	0	21.68	21.79	21.79	22.50
		12	6	21.71	21.82	21.83	22.50
		12	13	21.79	21.85	21.84	22.50
		25	0	21.50	21.72	21.68	22.50
	16QAM	1	0	21.86	21.76	21.96	22.50
		1	13	21.83	21.75	21.80	22.50



		1	24	21.88	21.84	22.02	22.50	
		12	0	20.67	20.73	20.62	21.50	
		12	6	20.64	20.74	20.77	21.50	
		12	13	20.82	20.83	20.73	21.50	
		25	0	20.63	20.64	20.57	21.50	
	64QAM	1	0	21.27	21.25	21.42	21.50	
		1	13	21.02	21.07	21.01	21.50	
		1	24	21.35	21.29	21.38	21.50	
		12	0	20.25	20.37	20.49	20.50	
		12	6	20.35	20.31	20.36	20.50	
		12	13	20.31	20.39	20.33	20.50	
		25	0	20.32	20.35	20.41	20.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					23780/709	23790/710	23800/711	
10MHz	QPSK	1	0	21.74	21.73	21.67	22.50	
		1	25	21.65	21.79	21.84	22.50	
		1	49	21.91	21.80	21.85	22.50	
		25	0	21.65	21.74	21.75	22.50	
		25	13	21.69	21.78	21.80	22.50	
		25	25	21.76	21.80	21.80	22.50	
		50	0	21.47	21.67	21.64	22.50	
	16QAM	1	0	21.84	21.72	21.91	22.50	
		1	25	21.79	21.73	21.76	22.50	
		1	49	21.86	21.81	22.00	22.50	
		25	0	20.64	20.69	20.59	21.50	
		25	13	20.61	20.72	20.74	21.50	
		25	25	20.79	20.78	20.69	21.50	
		50	0	20.61	20.60	20.54	21.50	
	64QAM	1	0	21.25	21.21	21.37	21.50	
		1	25	20.98	21.05	20.97	21.50	
		1	49	21.33	21.26	21.36	21.50	
		25	0	20.22	20.33	20.46	20.50	
		25	13	20.32	20.29	20.33	20.50	
		25	25	20.28	20.34	20.29	20.50	
		50	0	20.30	20.31	20.38	20.50	

LTE FDD Band 17 (REC On+Left Head+Wi-Fi/BT)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	18.92	18.84	18.82	19.50
		1	13	18.75	18.81	18.74	19.50
		1	24	19.05	18.82	18.83	19.50





		12	0	18.76	18.70	18.82	19.50	
		12	6	18.73	18.87	18.88	19.50	
		12	13	18.80	18.89	18.85	19.50	
		25	0	18.75	18.88	18.86	19.50	
	16QAM	1	0	18.57	18.83	18.69	19.50	
		1	13	18.82	18.76	18.93	19.50	
		1	24	18.77	18.85	18.91	19.50	
		12	0	18.78	18.76	18.75	19.50	
		12	6	18.63	18.66	18.73	19.50	
		12	13	18.77	18.72	18.80	19.50	
		25	0	18.82	18.73	18.85	19.50	
		64QAM	1	0	18.75	18.67	18.63	19.50
	1		13	18.86	18.79	18.65	19.50	
	1		24	18.83	18.76	18.82	19.50	
	12		0	18.78	18.73	18.79	19.50	
	12		6	18.71	18.70	18.65	19.50	
	12		13	18.66	18.75	18.70	19.50	
	25		0	18.67	18.71	18.68	19.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					23780/709	23790/710	23800/711	
10MHz	QPSK	1	0	18.89	18.80	18.79	19.50	
		1	25	18.74	18.77	18.72	19.50	
		1	49	19.03	18.81	18.80	19.50	
		25	0	18.73	18.65	18.78	19.50	
		25	13	18.71	18.83	18.85	19.50	
		25	25	18.77	18.84	18.81	19.50	
		50	0	18.72	18.83	18.82	19.50	
	16QAM	1	0	18.55	18.79	18.64	19.50	
		1	25	18.78	18.74	18.89	19.50	
		1	49	18.75	18.82	18.89	19.50	
		25	0	18.75	18.72	18.72	19.50	
		25	13	18.60	18.64	18.70	19.50	
		25	25	18.74	18.67	18.76	19.50	
		50	0	18.80	18.69	18.82	19.50	
	64QAM	1	0	18.73	18.63	18.58	19.50	
		1	25	18.82	18.77	18.61	19.50	
		1	49	18.81	18.73	18.80	19.50	
		25	0	18.75	18.69	18.76	19.50	
		25	13	18.68	18.68	18.62	19.50	
		25	25	18.63	18.70	18.66	19.50	
		50	0	18.65	18.67	18.65	19.50	



LTE FDD Band 17 (REC On+Right Head+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	18.98	18.94	18.92	19.50
		1	13	18.75	18.78	18.74	19.50
		1	24	19.15	18.92	18.95	19.50
		12	0	18.93	18.87	18.84	19.50
		12	6	18.72	18.86	18.99	19.50
		12	13	18.96	18.89	18.87	19.50
		25	0	18.70	18.91	18.88	19.50
	16QAM	1	0	18.64	18.86	18.73	19.50
		1	13	18.89	18.83	19.00	19.50
		1	24	18.70	18.80	18.84	19.50
		12	0	18.77	18.72	18.73	19.50
		12	6	18.79	18.82	18.89	19.50
		12	13	18.95	18.90	18.98	19.50
		25	0	18.82	18.73	18.85	19.50
	64QAM	1	0	18.90	18.78	18.75	19.50
		1	13	18.77	18.70	18.56	19.50
		1	24	18.91	18.86	18.90	19.50
		12	0	18.85	18.77	18.85	19.50
		12	6	18.65	18.64	18.59	19.50
		12	13	18.72	18.81	18.76	19.50
		25	0	18.68	18.72	18.69	19.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23780/709	23790/710	23800/711	
10MHz	QPSK	1	0	18.96	18.87	18.90	19.50
		1	25	18.75	18.78	18.73	19.50
		1	49	19.12	18.90	18.91	19.50
		25	0	18.91	18.83	18.81	19.50
		25	13	18.70	18.82	18.96	19.50
		25	25	18.92	18.85	18.84	19.50
		50	0	18.73	18.84	18.83	19.50
	16QAM	1	0	18.59	18.83	18.68	19.50
		1	25	18.86	18.82	18.97	19.50
		1	49	18.68	18.75	18.82	19.50
		25	0	18.74	18.71	18.71	19.50
		25	13	18.75	18.79	18.85	19.50
		25	25	18.93	18.86	18.95	19.50
		50	0	18.80	18.69	18.82	19.50
	64QAM	1	0	18.85	18.75	18.70	19.50
		1	25	18.74	18.69	18.53	19.50



		1	49	18.89	18.81	18.88	19.50
		25	0	18.82	18.76	18.83	19.50
		25	13	18.61	18.61	18.55	19.50
		25	25	18.70	18.77	18.73	19.50
		50	0	18.66	18.68	18.66	19.50

LTE FDD Band 17 (REC Off)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	22.80	22.78	22.67	23.50
		1	13	22.67	22.70	22.70	23.50
		1	24	22.82	22.82	22.76	23.50
		12	0	21.78	21.87	21.81	22.50
		12	6	21.85	21.86	21.93	22.50
		12	13	21.87	21.87	21.84	22.50
		25	0	21.75	21.85	21.80	22.50
	16QAM	1	0	22.01	21.80	22.13	22.50
		1	13	21.78	21.82	22.06	22.50
		1	24	22.04	21.92	22.11	22.50
		12	0	20.71	20.87	20.87	21.50
		12	6	20.74	20.83	20.76	21.50
		12	13	20.79	20.93	20.84	21.50
		25	0	20.81	20.76	20.76	21.50
	64QAM	1	0	21.10	21.21	21.29	21.50
		1	13	21.04	21.23	21.30	21.50
		1	24	21.24	21.56	21.18	21.50
		12	0	20.35	20.40	20.30	20.50
		12	6	20.38	20.30	20.43	20.50
		12	13	20.38	20.42	20.46	20.50
		25	0	20.33	20.35	20.25	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23780/709	23790/710	23800/711	
10MHz	QPSK	1	0	22.76	22.70	22.62	23.50
		1	25	22.64	22.65	22.65	23.50
		1	49	22.77	22.76	22.69	23.50
		25	0	21.73	21.78	21.74	22.50
		25	13	21.80	21.77	21.86	22.50
		25	25	21.81	21.79	21.76	22.50
		50	0	21.70	21.76	21.71	22.50
	16QAM	1	0	21.94	21.74	22.06	22.50
		1	25	21.72	21.77	22.00	22.50
		1	49	21.99	21.85	22.06	22.50



		25	0	20.65	20.81	20.81	21.50
		25	13	20.68	20.76	20.69	21.50
		25	25	20.74	20.84	20.77	21.50
		50	0	20.76	20.67	20.69	21.50
	64QAM	1	0	21.03	21.15	21.22	21.50
		1	25	20.98	21.18	21.24	21.50
		1	49	21.19	21.49	21.13	21.50
		25	0	20.29	20.34	20.24	20.50
		25	13	20.32	20.23	20.36	20.50
		25	25	20.33	20.33	20.39	20.50
	50	0	20.28	20.26	20.18	20.50	

LTE FDD Band 17 (REC Off+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	19.97	19.92	19.92	20.50
		1	13	19.93	19.98	19.91	20.50
		1	24	20.17	19.96	19.96	20.50
		12	0	19.74	19.79	19.90	20.50
		12	6	19.75	19.91	19.93	20.50
		12	13	19.78	19.90	19.83	20.50
		25	0	19.70	19.90	19.88	20.50
	16QAM	1	0	19.82	20.05	19.91	20.50
		1	13	19.71	19.64	19.82	20.50
		1	24	19.72	19.81	19.87	20.50
		12	0	19.84	19.81	19.81	20.50
		12	6	19.76	19.81	19.87	20.50
		12	13	19.72	19.69	19.76	20.50
		25	0	19.77	19.70	19.83	20.50
	64QAM	1	0	19.89	19.78	19.74	20.50
		1	13	19.94	19.86	19.73	20.50
		1	24	19.84	19.78	19.84	20.50
		12	0	19.77	19.71	19.78	20.50
		12	6	19.72	19.73	19.67	20.50
		12	13	19.71	19.82	19.76	20.50
		25	0	19.67	19.73	19.71	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23780/709	23790/710	23800/711	
10MHz	QPSK	1	0	19.92	19.83	19.86	20.50
		1	25	19.91	19.94	19.87	20.50
		1	49	20.11	19.89	19.88	20.50
		25	0	19.69	19.70	19.83	20.50



		25	13	19.71	19.83	19.85	20.50	
		25	25	19.72	19.84	19.76	20.50	
		50	0	19.71	19.82	19.81	20.50	
	16QAM		1	0	19.74	19.98	19.83	20.50
			1	25	19.65	19.61	19.76	20.50
			1	49	19.67	19.74	19.81	20.50
			25	0	19.79	19.76	19.76	20.50
			25	13	19.69	19.73	19.79	20.50
			25	25	19.67	19.60	19.69	20.50
			50	0	19.73	19.62	19.75	20.50
	64QAM		1	0	19.81	19.71	19.66	20.50
			1	25	19.88	19.83	19.67	20.50
			1	49	19.79	19.71	19.78	20.50
			25	0	19.72	19.66	19.73	20.50
			25	13	19.65	19.65	19.59	20.50
			25	25	19.66	19.73	19.69	20.50
			50	0	19.63	19.65	19.63	20.50

LTE FDD Band 26 (REC On+Left Head)				Conducted Power(dBm)				
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				26697/814.7	26865/831.5	27033/848.3		
1.4MHz	QPSK	1	0	18.77	18.81	18.74	19.50	
		1	2	18.87	18.79	18.91	19.50	
		1	5	18.71	18.77	18.81	19.50	
		3	0	18.81	18.91	18.82	19.50	
		3	2	18.77	18.80	18.92	19.50	
		3	3	18.84	18.77	18.88	19.50	
		6	0	18.78	18.81	18.83	19.50	
	16QAM		1	0	19.01	18.82	19.07	19.50
			1	2	18.89	18.84	18.93	19.50
			1	5	18.76	18.76	18.95	19.50
			3	0	18.83	18.76	18.91	19.50
			3	2	18.78	18.80	18.89	19.50
			3	3	18.80	18.76	18.82	19.50
			6	0	18.78	18.73	18.75	19.50
	64QAM		1	0	18.94	18.80	18.92	19.50
			1	2	18.93	18.89	18.94	19.50
			1	5	18.72	18.81	18.93	19.50
			3	0	18.81	18.75	18.90	19.50
			3	2	18.84	18.69	18.83	19.50
			3	3	18.71	18.85	18.88	19.50
			6	0	18.80	18.72	18.87	19.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26705/815.5	26865/831.5	27025/847.5	
3MHz	QPSK	1	0	18.74	18.79	18.70	19.50
		1	7	18.85	18.75	18.88	19.50
		1	14	18.68	18.72	18.77	19.50
		8	0	18.78	18.86	18.78	19.50
		8	4	18.75	18.76	18.87	19.50
		8	7	18.82	18.75	18.84	19.50
		15	0	18.76	18.80	18.81	19.50
	16QAM	1	0	18.98	18.78	19.04	19.50
		1	7	18.86	18.82	18.90	19.50
		1	14	18.73	18.74	18.91	19.50
		8	0	18.81	18.72	18.88	19.50
		8	4	18.75	18.75	18.85	19.50
		8	7	18.77	18.71	18.78	19.50
		15	0	18.76	18.69	18.70	19.50
	64QAM	1	0	18.91	18.76	18.89	19.50
		1	7	18.90	18.87	18.91	19.50
		1	14	18.69	18.79	18.89	19.50
		8	0	18.79	18.71	18.87	19.50
		8	4	18.81	18.64	18.79	19.50
		8	7	18.68	18.80	18.84	19.50
		15	0	18.78	18.68	18.82	19.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
5MHz	QPSK	1	0	18.76	18.80	18.73	19.50
		1	13	18.88	18.80	18.92	19.50
		1	24	18.70	18.76	18.80	19.50
		12	0	18.81	18.91	18.82	19.50
		12	6	18.78	18.81	18.91	19.50
		12	13	18.84	18.79	18.89	19.50
		25	0	18.84	18.82	18.85	19.50
	16QAM	1	0	19.00	18.81	19.06	19.50
		1	13	18.89	18.86	18.93	19.50
		1	24	18.76	18.76	18.94	19.50
		12	0	18.84	18.77	18.92	19.50
		12	6	18.77	18.79	18.88	19.50
		12	13	18.80	18.76	18.82	19.50
		25	0	18.79	18.74	18.74	19.50
	64QAM	1	0	18.93	18.79	18.91	19.50
		1	13	18.93	18.91	18.94	19.50
		1	24	18.72	18.81	18.92	19.50
		12	0	18.82	18.76	18.91	19.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26750/820	26865/831.5	26990/844	
10MHz	QPSK	12	6	18.83	18.68	18.82	19.50
		12	13	18.71	18.85	18.88	19.50
		25	0	18.81	18.73	18.86	19.50
		1	0	18.75	18.76	18.71	19.50
		1	25	18.86	18.79	18.89	19.50
		1	49	18.67	18.71	18.76	19.50
		25	0	18.79	18.87	18.79	19.50
	16QAM	25	13	18.75	18.76	18.87	19.50
		25	25	18.81	18.76	18.85	19.50
		50	0	18.82	18.78	18.80	19.50
		1	0	18.95	18.79	19.04	19.50
		1	25	18.87	18.83	18.91	19.50
		1	49	18.73	18.72	18.91	19.50
		25	0	18.81	18.75	18.89	19.50
	64QAM	25	13	18.74	18.74	18.84	19.50
		25	25	18.78	18.72	18.79	19.50
		50	0	18.76	18.69	18.70	19.50
		1	0	18.88	18.77	18.89	19.50
		1	25	18.91	18.88	18.92	19.50
		1	49	18.69	18.77	18.89	19.50
		25	0	18.79	18.74	18.88	19.50
15MHz	QPSK	25	13	18.80	18.63	18.78	19.50
		25	25	18.69	18.81	18.85	19.50
		50	0	18.78	18.68	18.82	19.50
		1	0	18.72	18.72	18.68	19.50
		1	38	18.85	18.75	18.87	19.50
		1	74	18.65	18.70	18.73	19.50
		36	0	18.76	18.82	18.75	19.50
	16QAM	36	18	18.73	18.72	18.84	19.50
		36	39	18.78	18.71	18.81	19.50
		75	0	18.79	18.73	18.76	19.50
		1	0	18.93	18.75	18.99	19.50
		1	38	18.83	18.81	18.87	19.50
		1	74	18.71	18.69	18.89	19.50
		36	0	18.78	18.71	18.86	19.50
64QAM	36	18	18.71	18.72	18.81	19.50	
	36	39	18.75	18.67	18.75	19.50	
	75	0	18.74	18.65	18.67	19.50	
1	0	18.86	18.73	18.84	19.50		



		1	38	18.87	18.86	18.88	19.50
		1	74	18.67	18.74	18.87	19.50
		36	0	18.76	18.70	18.85	19.50
		36	18	18.77	18.61	18.75	19.50
		36	39	18.66	18.76	18.81	19.50
		75	0	18.76	18.64	18.79	19.50

LTE FDD Band 26 (REC On+Right Head)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26697/814.7	26865/831.5	27033/848.3	
1.4MHz	QPSK	1	0	19.32	19.34	19.29	20.00
		1	2	19.34	19.33	19.38	20.00
		1	5	19.29	19.35	19.39	20.00
		3	0	19.34	19.40	19.35	20.00
		3	2	19.24	19.27	19.43	20.00
		3	3	19.36	19.25	19.36	20.00
		6	0	19.36	19.39	19.41	20.00
	16QAM	1	0	19.44	19.25	19.50	20.00
		1	2	19.37	19.32	19.41	20.00
		1	5	19.27	19.27	19.46	20.00
		3	0	19.29	19.22	19.37	20.00
		3	2	19.20	19.22	19.31	20.00
		3	3	19.27	19.23	19.29	20.00
		6	0	19.40	19.35	19.37	20.00
	64QAM	1	0	19.52	19.38	19.50	20.00
		1	2	19.46	19.42	19.47	20.00
		1	5	19.13	19.22	19.34	20.00
		3	0	19.28	19.22	19.37	20.00
		3	2	19.39	19.24	19.38	20.00
		3	3	19.11	19.25	19.28	20.00
		6	0	19.30	19.22	19.37	20.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26705/815.5	26865/831.5	27025/847.5	
3MHz	QPSK	1	0	19.29	19.32	19.25	20.00
		1	7	19.32	19.29	19.35	20.00
		1	14	19.26	19.30	19.35	20.00
		8	0	19.31	19.35	19.31	20.00
		8	4	19.22	19.23	19.38	20.00
		8	7	19.34	19.23	19.32	20.00
		15	0	19.34	19.38	19.39	20.00
	16QAM	1	0	19.41	19.21	19.47	20.00
		1	7	19.34	19.30	19.38	20.00





		1	14	19.24	19.25	19.42	20.00
		8	0	19.27	19.18	19.34	20.00
		8	4	19.17	19.17	19.27	20.00
		8	7	19.24	19.18	19.25	20.00
		15	0	19.38	19.31	19.32	20.00
	64QAM	1	0	19.49	19.34	19.47	20.00
		1	7	19.43	19.40	19.44	20.00
		1	14	19.10	19.20	19.30	20.00
		8	0	19.26	19.18	19.34	20.00
		8	4	19.36	19.19	19.34	20.00
		8	7	19.08	19.20	19.24	20.00
	15	0	19.28	19.18	19.32	20.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
26715/816.5					26865/831.5	27015/846.5	
5MHz	QPSK	1	0	19.31	19.33	19.28	20.00
		1	13	19.35	19.34	19.39	20.00
		1	24	19.28	19.34	19.38	20.00
		12	0	19.34	19.40	19.35	20.00
		12	6	19.25	19.28	19.42	20.00
		12	13	19.36	19.27	19.37	20.00
		25	0	19.42	19.40	19.43	20.00
	16QAM	1	0	19.43	19.24	19.49	20.00
		1	13	19.37	19.34	19.41	20.00
		1	24	19.27	19.27	19.45	20.00
		12	0	19.30	19.23	19.38	20.00
		12	6	19.19	19.21	19.30	20.00
		12	13	19.27	19.23	19.29	20.00
		25	0	19.41	19.36	19.36	20.00
	64QAM	1	0	19.51	19.37	19.49	20.00
		1	13	19.46	19.44	19.47	20.00
		1	24	19.13	19.22	19.33	20.00
		12	0	19.29	19.23	19.38	20.00
		12	6	19.38	19.23	19.37	20.00
		12	13	19.11	19.25	19.28	20.00
		25	0	19.31	19.23	19.36	20.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26750/820	26865/831.5	26990/844	
10MHz	QPSK	1	0	19.30	19.29	19.26	20.00
		1	25	19.33	19.33	19.36	20.00
		1	49	19.25	19.29	19.34	20.00
		25	0	19.32	19.36	19.32	20.00
		25	13	19.22	19.23	19.38	20.00
		25	25	19.33	19.24	19.33	20.00



	16QAM	50	0	19.40	19.36	19.38	20.00
		1	0	19.38	19.22	19.47	20.00
		1	25	19.35	19.31	19.39	20.00
		1	49	19.24	19.23	19.42	20.00
		25	0	19.27	19.21	19.35	20.00
		25	13	19.16	19.16	19.26	20.00
		25	25	19.25	19.19	19.26	20.00
	50	0	19.38	19.31	19.32	20.00	
	64QAM	1	0	19.46	19.35	19.47	20.00
		1	25	19.44	19.41	19.45	20.00
		1	49	19.10	19.18	19.30	20.00
		25	0	19.26	19.21	19.35	20.00
		25	13	19.35	19.18	19.33	20.00
		25	25	19.09	19.21	19.25	20.00
50		0	19.28	19.18	19.32	20.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26775/822.5	26865/831.5	26965/841.5	
15MHz	QPSK	1	0	19.27	19.25	19.23	20.00
		1	38	19.32	19.29	19.34	20.00
		1	74	19.23	19.28	19.31	20.00
		36	0	19.29	19.31	19.28	20.00
		36	18	19.20	19.19	19.35	20.00
		36	39	19.30	19.19	19.29	20.00
		75	0	19.37	19.31	19.34	20.00
	16QAM	1	0	19.36	19.18	19.42	20.00
		1	38	19.31	19.29	19.35	20.00
		1	74	19.22	19.20	19.40	20.00
		36	0	19.24	19.17	19.32	20.00
		36	18	19.13	19.14	19.23	20.00
		36	39	19.22	19.14	19.22	20.00
		75	0	19.36	19.27	19.29	20.00
	64QAM	1	0	19.44	19.31	19.42	20.00
		1	38	19.40	19.39	19.41	20.00
		1	74	19.08	19.15	19.28	20.00
		36	0	19.23	19.17	19.32	20.00
		36	18	19.32	19.16	19.30	20.00
		36	39	19.06	19.16	19.21	20.00
		75	0	19.26	19.14	19.29	20.00



LTE FDD Band 26 (REC On+Left Head+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26697/814.7	26865/831.5	27033/848.3	
1.4MHz	QPSK	1	0	15.78	15.73	15.78	16.50
		1	2	15.77	15.75	15.81	16.50
		1	5	15.71	15.77	15.81	16.50
		3	0	15.83	15.93	15.94	16.50
		3	2	15.77	15.80	16.02	16.50
		3	3	15.91	15.74	15.85	16.50
		6	0	15.79	15.82	15.84	16.50
	16QAM	1	0	15.94	15.75	16.00	16.50
		1	2	15.93	15.88	15.97	16.50
		1	5	15.79	15.79	15.98	16.50
		3	0	15.74	15.67	15.82	16.50
		3	2	15.70	15.72	15.81	16.50
		3	3	15.84	15.80	15.86	16.50
		6	0	15.87	15.82	15.84	16.50
	64QAM	1	0	15.98	15.84	15.96	16.50
		1	2	15.90	15.86	15.91	16.50
		1	5	15.66	15.75	15.87	16.50
		3	0	15.76	15.70	15.85	16.50
		3	2	15.84	15.69	15.83	16.50
		3	3	15.64	15.78	15.81	16.50
		6	0	15.80	15.72	15.87	16.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26705/815.5	26865/831.5	27025/847.5	
3MHz	QPSK	1	0	15.75	15.71	15.74	16.50
		1	7	15.75	15.71	15.78	16.50
		1	14	15.68	15.72	15.77	16.50
		8	0	15.80	15.88	15.90	16.50
		8	4	15.75	15.76	15.97	16.50
		8	7	15.89	15.72	15.81	16.50
		15	0	15.77	15.81	15.82	16.50
	16QAM	1	0	15.91	15.71	15.97	16.50
		1	7	15.90	15.86	15.94	16.50
		1	14	15.76	15.77	15.94	16.50
		8	0	15.72	15.63	15.79	16.50
		8	4	15.67	15.67	15.77	16.50
		8	7	15.81	15.75	15.82	16.50
		15	0	15.85	15.78	15.79	16.50
	64QAM	1	0	15.95	15.80	15.93	16.50
1		7	15.87	15.84	15.88	16.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				26715/816.5	26865/831.5	27015/846.5		
		1	14	15.63	15.73	15.83	16.50	
		8	0	15.74	15.66	15.82	16.50	
		8	4	15.81	15.64	15.79	16.50	
		8	7	15.61	15.73	15.77	16.50	
		15	0	15.78	15.68	15.82	16.50	
5MHz	QPSK	1	0	15.77	15.72	15.77	16.50	
		1	13	15.78	15.76	15.82	16.50	
		1	24	15.70	15.76	15.80	16.50	
		12	0	15.83	15.93	15.94	16.50	
		12	6	15.78	15.81	16.01	16.50	
		12	13	15.91	15.76	15.86	16.50	
		25	0	15.85	15.83	15.86	16.50	
	16QAM	1	0	15.93	15.74	15.99	16.50	
		1	13	15.93	15.90	15.97	16.50	
		1	24	15.79	15.79	15.97	16.50	
		12	0	15.75	15.68	15.83	16.50	
		12	6	15.69	15.71	15.80	16.50	
		12	13	15.84	15.80	15.86	16.50	
		25	0	15.88	15.83	15.83	16.50	
	64QAM	1	0	15.97	15.83	15.95	16.50	
		1	13	15.90	15.88	15.91	16.50	
		1	24	15.66	15.75	15.86	16.50	
		12	0	15.77	15.71	15.86	16.50	
		12	6	15.83	15.68	15.82	16.50	
		12	13	15.64	15.78	15.81	16.50	
		25	0	15.81	15.73	15.86	16.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					26750/820	26865/831.5	26990/844	
	10MHz	QPSK	1	0	15.76	15.68	15.75	16.50
1			25	15.76	15.75	15.79	16.50	
1			49	15.67	15.71	15.76	16.50	
25			0	15.81	15.89	15.91	16.50	
25			13	15.75	15.76	15.97	16.50	
25			25	15.88	15.73	15.82	16.50	
50			0	15.83	15.79	15.81	16.50	
16QAM		1	0	15.88	15.72	15.97	16.50	
		1	25	15.91	15.87	15.95	16.50	
		1	49	15.76	15.75	15.94	16.50	
		25	0	15.72	15.66	15.80	16.50	
		25	13	15.66	15.66	15.76	16.50	
		25	25	15.82	15.76	15.83	16.50	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26775/822.5	26865/831.5	26965/841.5	
	64QAM	50	0	15.85	15.78	15.79	16.50
		1	0	15.92	15.81	15.93	16.50
		1	25	15.88	15.85	15.89	16.50
		1	49	15.63	15.71	15.83	16.50
		25	0	15.74	15.69	15.83	16.50
		25	13	15.80	15.63	15.78	16.50
		25	25	15.62	15.74	15.78	16.50
		50	0	15.78	15.68	15.82	16.50
15MHz	QPSK	1	0	15.73	15.64	15.72	16.50
		1	38	15.75	15.71	15.77	16.50
		1	74	15.65	15.70	15.73	16.50
		36	0	15.78	15.84	15.87	16.50
		36	18	15.73	15.72	15.94	16.50
		36	39	15.85	15.68	15.78	16.50
		75	0	15.80	15.74	15.77	16.50
	16QAM	1	0	15.86	15.68	15.92	16.50
		1	38	15.87	15.85	15.91	16.50
		1	74	15.74	15.72	15.92	16.50
		36	0	15.69	15.62	15.77	16.50
		36	18	15.63	15.64	15.73	16.50
		36	39	15.79	15.71	15.79	16.50
		75	0	15.83	15.74	15.76	16.50
	64QAM	1	0	15.90	15.77	15.88	16.50
		1	38	15.84	15.83	15.85	16.50
		1	74	15.61	15.68	15.81	16.50
		36	0	15.71	15.65	15.80	16.50
		36	18	15.77	15.61	15.75	16.50
		36	39	15.59	15.69	15.74	16.50
		75	0	15.76	15.64	15.79	16.50

LTE FDD Band 26 (REC On+Right Head+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26697/814.7	26865/831.5	27033/848.3	
1.4MHz	QPSK	1	0	16.27	16.29	16.24	17.00
		1	2	16.33	16.25	16.37	17.00
		1	5	16.16	16.22	16.26	17.00
		3	0	16.40	16.41	16.41	17.00
		3	2	16.25	16.28	16.49	17.00
		3	3	16.33	16.26	16.37	17.00
		6	0	16.31	16.34	16.36	17.00



	16QAM	1	0	16.25	16.06	16.31	17.00
		1	2	16.31	16.26	16.35	17.00
		1	5	16.25	16.25	16.44	17.00
		3	0	16.28	16.21	16.36	17.00
		3	2	16.16	16.18	16.27	17.00
		3	3	16.34	16.30	16.36	17.00
		6	0	16.39	16.34	16.36	17.00
	64QAM	1	0	16.40	16.26	16.38	17.00
		1	2	16.32	16.28	16.33	17.00
		1	5	16.03	16.12	16.24	17.00
		3	0	16.20	16.14	16.29	17.00
		3	2	16.31	16.16	16.30	17.00
		3	3	16.19	16.33	16.36	17.00
		6	0	16.29	16.21	16.36	17.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26705/815.5	26865/831.5	27025/847.5	
3MHz	QPSK	1	0	16.24	16.27	16.20	17.00
		1	7	16.31	16.21	16.34	17.00
		1	14	16.13	16.17	16.22	17.00
		8	0	16.37	16.36	16.37	17.00
		8	4	16.23	16.24	16.44	17.00
		8	7	16.31	16.24	16.33	17.00
		15	0	16.29	16.33	16.34	17.00
	16QAM	1	0	16.22	16.02	16.28	17.00
		1	7	16.28	16.24	16.32	17.00
		1	14	16.22	16.23	16.40	17.00
		8	0	16.26	16.17	16.33	17.00
		8	4	16.13	16.13	16.23	17.00
		8	7	16.31	16.25	16.32	17.00
		15	0	16.37	16.30	16.31	17.00
	64QAM	1	0	16.37	16.22	16.35	17.00
		1	7	16.29	16.26	16.30	17.00
		1	14	16.00	16.10	16.20	17.00
		8	0	16.18	16.10	16.26	17.00
		8	4	16.28	16.11	16.26	17.00
		8	7	16.16	16.28	16.32	17.00
		15	0	16.27	16.17	16.31	17.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26715/816.5	26865/831.5	27015/846.5	
5MHz	QPSK	1	0	16.26	16.28	16.23	17.00
		1	13	16.34	16.26	16.38	17.00
		1	24	16.15	16.21	16.25	17.00
		12	0	16.40	16.41	16.41	17.00



		12	6	16.26	16.29	16.48	17.00	
		12	13	16.33	16.28	16.38	17.00	
		25	0	16.37	16.35	16.38	17.00	
	16QAM		1	0	16.24	16.05	16.30	17.00
			1	13	16.31	16.28	16.35	17.00
			1	24	16.25	16.25	16.43	17.00
			12	0	16.29	16.22	16.37	17.00
			12	6	16.15	16.17	16.26	17.00
			12	13	16.34	16.30	16.36	17.00
			25	0	16.40	16.35	16.35	17.00
	64QAM		1	0	16.39	16.25	16.37	17.00
			1	13	16.32	16.30	16.33	17.00
			1	24	16.03	16.12	16.23	17.00
			12	0	16.21	16.15	16.30	17.00
12			6	16.30	16.15	16.29	17.00	
12			13	16.19	16.33	16.36	17.00	
25			0	16.30	16.22	16.35	17.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				26750/820	26865/831.5	26990/844		
10MHz	QPSK	1	0	16.25	16.24	16.21	17.00	
		1	25	16.32	16.25	16.35	17.00	
		1	49	16.12	16.16	16.21	17.00	
		25	0	16.38	16.37	16.38	17.00	
		25	13	16.23	16.24	16.44	17.00	
		25	25	16.30	16.25	16.34	17.00	
		50	0	16.35	16.31	16.33	17.00	
	16QAM		1	0	16.19	16.03	16.28	17.00
			1	25	16.29	16.25	16.33	17.00
			1	49	16.22	16.21	16.40	17.00
			25	0	16.26	16.20	16.34	17.00
			25	13	16.12	16.12	16.22	17.00
			25	25	16.32	16.26	16.33	17.00
			50	0	16.37	16.30	16.31	17.00
	64QAM		1	0	16.34	16.23	16.35	17.00
			1	25	16.30	16.27	16.31	17.00
			1	49	16.00	16.08	16.20	17.00
			25	0	16.18	16.13	16.27	17.00
			25	13	16.27	16.10	16.25	17.00
			25	25	16.17	16.29	16.33	17.00
			50	0	16.27	16.17	16.31	17.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				26775/822.5	26865/831.5	26965/841.5		
15MHz	QPSK	1	0	16.22	16.20	16.18	17.00	



		1	38	16.31	16.21	16.33	17.00
		1	74	16.10	16.15	16.18	17.00
		36	0	16.35	16.32	16.34	17.00
		36	18	16.21	16.20	16.41	17.00
		36	39	16.27	16.20	16.30	17.00
		75	0	16.32	16.26	16.29	17.00
		16QAM	1	0	16.17	15.99	16.23
	1		38	16.25	16.23	16.29	17.00
	1		74	16.20	16.18	16.38	17.00
	36		0	16.23	16.16	16.31	17.00
	36		18	16.09	16.10	16.19	17.00
	36		39	16.29	16.21	16.29	17.00
	75		0	16.35	16.26	16.28	17.00
	64QAM	1	0	16.32	16.19	16.30	17.00
		1	38	16.26	16.25	16.27	17.00
		1	74	15.98	16.05	16.18	17.00
		36	0	16.15	16.09	16.24	17.00
		36	18	16.24	16.08	16.22	17.00
		36	39	16.14	16.24	16.29	17.00
		75	0	16.25	16.13	16.28	17.00

LTE FDD Band 26 (REC Off)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26697/814.7	26865/831.5	27033/848.3	
1.4MHz	QPSK	1	0	22.74	22.73	22.76	23.50
		1	2	22.71	22.76	22.79	23.50
		1	5	22.64	22.67	22.72	23.50
		3	0	22.78	22.80	22.72	23.50
		3	2	22.70	22.77	22.85	23.50
		3	3	22.82	22.78	22.82	23.50
		6	0	21.80	21.76	21.78	22.50
	16QAM	1	0	21.81	21.84	22.04	22.50
		1	2	21.87	21.85	21.97	22.50
		1	5	21.77	21.87	21.85	22.50
		3	0	21.72	21.70	21.70	22.50
		3	2	21.67	21.66	21.70	22.50
		3	3	21.63	21.71	21.78	22.50
		6	0	20.72	20.73	20.76	21.50
	64QAM	1	0	21.32	21.32	21.43	21.50
		1	2	21.27	21.44	21.48	21.50
		1	5	21.28	21.12	21.40	21.50
		3	0	21.12	21.21	21.14	21.50





Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26705/815.5	26865/831.5	27025/847.5	
3MHz	QPSK	3	2	21.13	21.29	21.19	21.50
		3	3	21.07	21.27	21.27	21.50
		6	0	20.21	20.29	20.24	20.50
		1	0	22.73	22.75	22.75	23.50
		1	7	22.72	22.77	22.80	23.50
		1	14	22.64	22.67	22.72	23.50
		8	0	21.85	21.87	21.81	22.50
	8	4	21.80	21.83	21.92	22.50	
	8	7	21.90	21.87	21.88	22.50	
	15	0	21.81	21.79	21.79	22.50	
	1	0	21.81	21.82	22.04	22.50	
	1	7	21.87	21.88	21.98	22.50	
	1	14	21.76	21.89	21.84	22.50	
	8	0	20.81	20.79	20.79	21.50	
	8	4	20.75	20.74	20.78	21.50	
	8	7	20.70	20.78	20.87	21.50	
	15	0	20.73	20.73	20.74	21.50	
	1	0	21.32	21.30	21.43	21.50	
	1	7	21.27	21.47	21.49	21.50	
	1	14	21.27	21.14	21.39	21.50	
	8	0	20.21	20.30	20.23	20.50	
8	4	20.21	20.37	20.27	20.50		
8	7	20.14	20.34	20.36	20.50		
15	0	20.22	20.29	20.22	20.50		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26715/816.5	26865/831.5	27015/846.5	
5MHz	QPSK	1	0	22.75	22.76	22.78	23.50
		1	13	22.75	22.82	22.84	23.50
		1	24	22.66	22.71	22.75	23.50
		12	0	21.88	21.92	21.85	22.50
		12	6	21.83	21.88	21.96	22.50
		12	13	21.92	21.91	21.93	22.50
		25	0	21.89	21.81	21.83	22.50
	1	0	21.83	21.85	22.06	22.50	
	1	13	21.90	21.92	22.01	22.50	
	1	24	21.79	21.91	21.87	22.50	
	12	0	20.84	20.84	20.83	21.50	
	12	6	20.77	20.78	20.81	21.50	
	12	13	20.73	20.83	20.91	21.50	
	25	0	20.76	20.78	20.78	21.50	
	64QAM	1	0	21.34	21.33	21.45	21.50



		1	13	21.30	21.36	21.37	21.50
		1	24	21.30	21.16	21.42	21.50
		12	0	20.24	20.35	20.27	20.50
		12	6	20.23	20.41	20.30	20.50
		12	13	20.17	20.39	20.40	20.50
		25	0	20.25	20.34	20.26	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26750/820	26865/831.5	26990/844	
10MHz	QPSK	1	0	22.74	22.72	22.76	23.50
		1	25	22.73	22.81	22.81	23.50
		1	49	22.63	22.66	22.71	23.50
		25	0	21.86	21.88	21.82	22.50
		25	13	21.80	21.83	21.92	22.50
		25	25	21.89	21.88	21.89	22.50
		50	0	21.87	21.77	21.78	22.50
	16QAM	1	0	21.78	21.83	22.04	22.50
		1	25	21.88	21.89	21.99	22.50
		1	49	21.76	21.87	21.84	22.50
		25	0	20.81	20.82	20.80	21.50
		25	13	20.74	20.73	20.77	21.50
		25	25	20.71	20.79	20.88	21.50
		50	0	20.73	20.73	20.74	21.50
	64QAM	1	0	21.29	21.31	21.43	21.50
		1	25	21.28	21.48	21.50	21.50
		1	49	21.27	21.12	21.39	21.50
		25	0	20.21	20.33	20.24	20.50
		25	13	20.20	20.36	20.26	20.50
		25	25	20.15	20.35	20.37	20.50
		50	0	20.22	20.29	20.22	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26775/822.5	26865/831.5	26965/841.5	
15MHz	QPSK	1	0	22.71	22.68	22.73	23.50
		1	38	22.72	22.77	22.79	23.50
		1	74	22.61	22.65	22.68	23.50
		36	0	21.83	21.83	21.78	22.50
		36	18	21.78	21.79	21.89	22.50
		36	39	21.86	21.83	21.85	22.50
		75	0	21.84	21.72	21.74	22.50
	16QAM	1	0	21.76	21.79	21.99	22.50
		1	38	21.84	21.87	21.95	22.50
		1	74	21.74	21.84	21.82	22.50
		36	0	20.78	20.78	20.77	21.50
		36	18	20.71	20.71	20.74	21.50



		36	39	20.68	20.74	20.84	21.50
		75	0	20.71	20.69	20.71	21.50
	64QAM	1	0	21.27	21.27	21.38	21.50
		1	38	21.24	21.46	21.46	21.50
		1	74	21.25	21.09	21.37	21.50
		36	0	20.18	20.29	20.21	20.50
		36	18	20.17	20.34	20.23	20.50
		36	39	20.12	20.30	20.33	20.50
		75	0	20.20	20.25	20.19	20.50

LTE FDD Band 26 (REC Off+Wi-Fi/BT)				Conducted Power(dBm)				
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				26697/814.7	26865/831.5	27033/848.3		
1.4MHz	QPSK	1	0	19.85	19.87	19.82	20.50	
		1	2	19.91	19.83	19.95	20.50	
		1	5	19.68	19.74	19.78	20.50	
		3	0	19.81	19.91	19.82	20.50	
		3	2	19.76	19.79	20.03	20.50	
		3	3	19.98	19.91	19.90	20.50	
		6	0	19.78	19.81	19.83	20.50	
	16QAM	1	0	20.07	19.88	20.03	20.50	
		1	2	19.90	19.85	19.94	20.50	
		1	5	19.94	19.94	20.03	20.50	
		3	0	19.89	19.82	19.97	20.50	
		3	2	19.80	19.82	19.91	20.50	
		3	3	19.88	19.84	19.90	20.50	
		6	0	19.82	19.77	19.79	20.50	
	64QAM	1	0	19.92	19.78	19.90	20.50	
		1	2	19.81	19.77	19.82	20.50	
		1	5	19.81	19.90	20.02	20.50	
		3	0	19.85	19.79	19.94	20.50	
		3	2	19.98	19.83	19.97	20.50	
		3	3	19.73	19.87	19.90	20.50	
		6	0	19.95	19.87	20.02	20.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
	3MHz	QPSK			26705/815.5	26865/831.5	27025/847.5	
			1	0	19.82	19.85	19.78	20.50
1			7	19.89	19.79	19.92	20.50	
1			14	19.65	19.69	19.74	20.50	
8			0	19.78	19.86	19.78	20.50	
8			4	19.74	19.75	19.98	20.50	
8			7	19.96	19.89	19.86	20.50	



	16QAM	15	0	19.76	19.80	19.81	20.50
		1	0	20.04	19.84	20.00	20.50
		1	7	19.87	19.83	19.91	20.50
		1	14	19.91	19.92	19.99	20.50
		8	0	19.87	19.78	19.94	20.50
		8	4	19.77	19.77	19.87	20.50
		8	7	19.85	19.79	19.86	20.50
		15	0	19.80	19.73	19.74	20.50
	64QAM	1	0	19.89	19.74	19.87	20.50
		1	7	19.78	19.75	19.79	20.50
		1	14	19.78	19.88	19.98	20.50
		8	0	19.83	19.75	19.91	20.50
		8	4	19.95	19.78	19.93	20.50
		8	7	19.70	19.82	19.86	20.50
		15	0	19.93	19.83	19.97	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26715/816.5	26865/831.5	27015/846.5	
5MHz	QPSK	1	0	19.84	19.86	19.81	20.50
		1	13	19.92	19.84	19.96	20.50
		1	24	19.67	19.73	19.77	20.50
		12	0	19.81	19.91	19.82	20.50
		12	6	19.77	19.80	20.02	20.50
		12	13	19.98	19.93	19.91	20.50
		25	0	19.84	19.82	19.85	20.50
	16QAM	1	0	20.06	19.87	20.02	20.50
		1	13	19.90	19.87	19.94	20.50
		1	24	19.94	19.94	20.02	20.50
		12	0	19.90	19.83	19.98	20.50
		12	6	19.79	19.81	19.90	20.50
		12	13	19.88	19.84	19.90	20.50
		25	0	19.83	19.78	19.78	20.50
	64QAM	1	0	19.91	19.77	19.89	20.50
		1	13	19.81	19.79	19.82	20.50
		1	24	19.81	19.90	20.01	20.50
		12	0	19.86	19.80	19.95	20.50
		12	6	19.97	19.82	19.96	20.50
		12	13	19.73	19.87	19.90	20.50
		25	0	19.96	19.88	20.01	20.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26750/820	26865/831.5	26990/844	
10MHz	QPSK	1	0	19.83	19.82	19.79	20.50
		1	25	19.90	19.83	19.93	20.50
		1	49	19.64	19.68	19.73	20.50



		25	0	19.79	19.87	19.79	20.50
		25	13	19.74	19.75	19.98	20.50
		25	25	19.95	19.90	19.87	20.50
		50	0	19.82	19.78	19.80	20.50
	16QAM	1	0	20.01	19.85	20.00	20.50
		1	25	19.88	19.84	19.92	20.50
		1	49	19.91	19.90	19.99	20.50
		25	0	19.87	19.81	19.95	20.50
		25	13	19.76	19.76	19.86	20.50
		25	25	19.86	19.80	19.87	20.50
		50	0	19.80	19.73	19.74	20.50
		64QAM	1	0	19.86	19.75	19.87
	1		25	19.79	19.76	19.80	20.50
	1		49	19.78	19.86	19.98	20.50
	25		0	19.83	19.78	19.92	20.50
	25		13	19.94	19.77	19.92	20.50
	25		25	19.71	19.83	19.87	20.50
	50		0	19.93	19.83	19.97	20.50
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
26775/822.5					26865/831.5	26965/841.5	
15MHz	QPSK	1	0	19.80	19.78	19.76	20.50
		1	38	19.89	19.79	19.91	20.50
		1	74	19.62	19.67	19.70	20.50
		36	0	19.76	19.82	19.75	20.50
		36	18	19.72	19.71	19.95	20.50
		36	39	19.92	19.85	19.83	20.50
		75	0	19.79	19.73	19.76	20.50
	16QAM	1	0	19.99	19.81	19.95	20.50
		1	38	19.84	19.82	19.88	20.50
		1	74	19.89	19.87	19.97	20.50
		36	0	19.84	19.77	19.92	20.50
		36	18	19.73	19.74	19.83	20.50
		36	39	19.83	19.75	19.83	20.50
		75	0	19.78	19.69	19.71	20.50
	64QAM	1	0	19.84	19.71	19.82	20.50
		1	38	19.75	19.74	19.76	20.50
		1	74	19.76	19.83	19.96	20.50
		36	0	19.80	19.74	19.89	20.50
		36	18	19.91	19.75	19.89	20.50
		36	39	19.68	19.78	19.83	20.50
		75	0	19.91	19.79	19.94	20.50



LTE TDD Band 38 (REC On+Left Head)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	21.12	21.18	21.18	22.00
		1	13	21.16	21.16	21.18	22.00
		1	24	21.20	21.23	21.32	22.00
		12	0	21.05	21.16	21.13	22.00
		12	6	21.13	21.08	21.10	22.00
		12	13	21.11	21.18	21.26	22.00
		25	0	21.05	21.16	21.25	22.00
	16QAM	1	0	21.09	21.36	21.26	22.00
		1	13	20.97	21.22	21.08	22.00
		1	24	21.05	21.20	21.30	22.00
		12	0	21.08	21.03	21.07	22.00
		12	6	21.02	21.13	21.08	22.00
		12	13	21.09	21.08	21.20	22.00
		25	0	21.05	21.13	21.13	22.00
	64QAM	1	0	21.20	21.08	21.29	22.00
		1	13	20.94	20.93	21.00	22.00
		1	24	21.10	21.08	21.32	22.00
		12	0	20.78	20.83	20.83	21.00
		12	6	20.90	20.89	20.94	21.00
		12	13	20.86	20.93	20.86	21.00
		25	0	20.85	20.91	20.95	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	21.14	21.19	21.21	22.00
		1	25	21.19	21.21	21.22	22.00
		1	49	21.22	21.27	21.35	22.00
		25	0	21.08	21.21	21.17	22.00
		25	13	21.16	21.13	21.14	22.00
		25	25	21.13	21.22	21.31	22.00
		50	0	21.13	21.18	21.29	22.00
	16QAM	1	0	21.11	21.39	21.28	22.00
		1	25	21.00	21.26	21.11	22.00
		1	49	21.08	21.22	21.33	22.00
		25	0	21.11	21.08	21.11	22.00
		25	13	21.04	21.17	21.11	22.00
		25	25	21.12	21.13	21.24	22.00
		50	0	21.08	21.18	21.17	22.00
	64QAM	1	0	21.22	21.11	21.31	22.00
		1	25	20.97	20.97	21.03	22.00



		1	49	21.13	21.10	21.35	22.00
		25	0	20.81	20.88	20.87	21.00
		25	13	20.92	20.93	20.97	21.00
		25	25	20.89	20.98	20.84	21.00
		50	0	20.88	20.96	20.99	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	21.13	21.15	21.19	22.00
		1	38	21.17	21.20	21.19	22.00
		1	74	21.19	21.22	21.31	22.00
		36	0	21.06	21.17	21.14	22.00
		36	18	21.13	21.08	21.10	22.00
		36	39	21.10	21.19	21.27	22.00
		75	0	21.11	21.14	21.24	22.00
	16QAM	1	0	21.06	21.37	21.26	22.00
		1	38	20.98	21.23	21.09	22.00
		1	74	21.05	21.18	21.30	22.00
		36	0	21.08	21.06	21.08	22.00
		36	18	21.01	21.12	21.07	22.00
		36	39	21.10	21.09	21.21	22.00
		75	0	21.05	21.13	21.13	22.00
	64QAM	1	0	21.17	21.09	21.29	22.00
		1	38	20.95	20.94	21.01	22.00
		1	74	21.10	21.06	21.32	22.00
		36	0	20.78	20.86	20.84	21.00
		36	18	20.89	20.88	20.93	21.00
		36	39	20.87	20.94	20.84	21.00
		75	0	20.85	20.91	20.95	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	21.10	21.11	21.16	22.00
		1	50	21.16	21.16	21.17	22.00
		1	99	21.17	21.21	21.28	22.00
		50	0	21.03	21.12	21.10	22.00
		50	25	21.11	21.04	21.07	22.00
		50	50	21.07	21.14	21.23	22.00
		100	0	21.08	21.09	21.20	22.00
	16QAM	1	0	21.04	21.33	21.21	22.00
		1	50	20.94	21.21	21.05	22.00
		1	99	21.03	21.15	21.28	22.00
		50	0	21.05	21.02	21.05	22.00
		50	25	20.98	21.10	21.04	22.00
		50	50	21.07	21.04	21.17	22.00



	64QAM	100	0	21.03	21.09	21.10	22.00
		1	0	21.15	21.05	21.24	22.00
		1	50	20.91	20.92	20.97	22.00
		1	99	21.08	21.03	21.30	22.00
		50	0	20.75	20.82	20.81	21.00
		50	25	20.86	20.86	20.90	21.00
		50	50	20.84	20.89	20.93	21.00
		100	0	20.83	20.87	20.92	21.00

LTE TDD Band 38 (REC On+Right Head)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	14.99	15.41	15.85	16.00
		1	13	14.99	15.66	15.80	16.00
		1	24	15.60	15.48	15.53	16.00
		12	0	14.84	15.54	15.84	16.00
		12	6	14.88	15.67	15.60	16.00
		12	13	15.03	15.70	15.67	16.00
		25	0	14.88	15.70	15.76	16.00
	16QAM	1	0	14.82	15.38	15.96	16.00
		1	13	14.98	15.55	15.89	16.00
		1	24	15.45	15.66	15.65	16.00
		12	0	14.90	15.42	15.81	16.00
		12	6	14.90	15.67	15.56	16.00
		12	13	14.90	15.64	15.58	16.00
		25	0	14.91	15.58	15.54	16.00
	64QAM	1	0	14.79	15.30	15.66	16.00
		1	13	15.10	15.68	15.65	16.00
		1	24	15.58	15.49	15.47	16.00
		12	0	14.81	15.38	15.65	16.00
		12	6	14.86	15.59	15.46	16.00
		12	13	14.93	15.61	15.42	16.00
		25	0	14.87	15.62	15.57	16.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	15.01	15.42	15.88	16.00
		1	25	15.02	15.71	15.84	16.00
		1	49	15.62	15.52	15.56	16.00
		25	0	14.87	15.59	15.88	16.00
		25	13	14.91	15.72	15.64	16.00
		25	25	15.05	15.74	15.72	16.00
		50	0	14.96	15.72	15.80	16.00





	16QAM	1	0	14.84	15.41	15.98	16.00
		1	25	15.01	15.59	15.92	16.00
		1	49	15.48	15.68	15.68	16.00
		25	0	14.93	15.47	15.85	16.00
		25	13	14.92	15.71	15.59	16.00
		25	25	14.93	15.69	15.62	16.00
		50	0	14.94	15.63	15.58	16.00
	64QAM	1	0	14.81	15.33	15.68	16.00
		1	25	15.13	15.72	15.68	16.00
		1	49	15.61	15.51	15.50	16.00
		25	0	14.84	15.43	15.69	16.00
		25	13	14.88	15.63	15.49	16.00
		25	25	14.96	15.66	15.46	16.00
		50	0	14.90	15.67	15.61	16.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	15.00	15.38	15.86	16.00
		1	38	15.00	15.70	15.81	16.00
		1	74	15.59	15.47	15.52	16.00
		36	0	14.85	15.55	15.85	16.00
		36	18	14.88	15.67	15.60	16.00
		36	39	15.02	15.71	15.68	16.00
		75	0	14.94	15.68	15.75	16.00
	16QAM	1	0	14.79	15.39	15.96	16.00
		1	38	14.99	15.56	15.90	16.00
		1	74	15.45	15.64	15.65	16.00
		36	0	14.90	15.45	15.82	16.00
		36	18	14.89	15.66	15.55	16.00
		36	39	14.91	15.65	15.59	16.00
		75	0	14.91	15.58	15.54	16.00
	64QAM	1	0	14.76	15.31	15.66	16.00
		1	38	15.11	15.69	15.66	16.00
		1	74	15.58	15.47	15.47	16.00
		36	0	14.81	15.41	15.66	16.00
		36	18	14.85	15.58	15.45	16.00
		36	39	14.94	15.62	15.43	16.00
		75	0	14.87	15.62	15.57	16.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	14.97	15.34	15.83	16.00
		1	50	14.99	15.66	15.79	16.00
		1	99	15.57	15.46	15.49	16.00
		50	0	14.82	15.50	15.81	16.00



		50	25	14.86	15.63	15.57	16.00	
		50	50	14.99	15.66	15.64	16.00	
		100	0	14.91	15.63	15.71	16.00	
	16QAM		1	0	14.77	15.35	15.91	16.00
			1	50	14.95	15.54	15.86	16.00
			1	99	15.43	15.61	15.63	16.00
			50	0	14.87	15.41	15.79	16.00
			50	25	14.86	15.64	15.52	16.00
			50	50	14.88	15.60	15.55	16.00
			100	0	14.89	15.54	15.51	16.00
	64QAM		1	0	14.74	15.27	15.61	16.00
			1	50	15.07	15.67	15.62	16.00
			1	99	15.56	15.44	15.45	16.00
			50	0	14.78	15.37	15.63	16.00
			50	25	14.82	15.56	15.42	16.00
			50	50	14.91	15.57	15.39	16.00
100			0	14.85	15.58	15.54	16.00	

LTE TDD Band 38 (REC On+Left Head+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	17.07	17.13	17.13	18.00
		1	13	17.05	17.05	17.07	18.00
		1	24	17.13	17.16	17.25	18.00
		12	0	16.98	17.09	17.06	18.00
		12	6	17.15	17.10	17.12	18.00
		12	13	17.10	17.17	17.25	18.00
		25	0	17.08	17.19	17.28	18.00
	16QAM	1	0	16.83	17.10	17.00	18.00
		1	13	16.53	16.78	16.64	18.00
		1	24	17.07	17.22	17.32	18.00
		12	0	17.04	16.99	17.03	18.00
		12	6	16.93	17.04	16.99	18.00
		12	13	17.13	17.12	17.24	18.00
		25	0	17.06	17.14	17.14	18.00
	64QAM	1	0	17.12	17.00	17.21	18.00
		1	13	16.80	16.79	16.86	18.00
		1	24	17.10	17.08	17.32	18.00
		12	0	16.96	17.01	17.01	18.00
		12	6	17.01	17.00	17.05	18.00
		12	13	16.99	17.06	17.14	18.00
		25	0	17.01	17.07	17.11	18.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	17.09	17.14	17.16	18.00
		1	25	17.08	17.10	17.11	18.00
		1	49	17.15	17.20	17.28	18.00
		25	0	17.01	17.14	17.10	18.00
		25	13	17.18	17.15	17.16	18.00
		25	25	17.12	17.21	17.30	18.00
		50	0	17.16	17.21	17.32	18.00
	16QAM	1	0	16.85	17.13	17.02	18.00
		1	25	16.56	16.82	16.67	18.00
		1	49	17.10	17.24	17.35	18.00
		25	0	17.07	17.04	17.07	18.00
		25	13	16.95	17.08	17.02	18.00
		25	25	17.16	17.17	17.28	18.00
		50	0	17.09	17.19	17.18	18.00
	64QAM	1	0	17.14	17.03	17.23	18.00
		1	25	16.83	16.83	16.89	18.00
		1	49	17.13	17.10	17.35	18.00
		25	0	16.99	17.06	17.05	18.00
		25	13	17.03	17.04	17.08	18.00
		25	25	17.02	17.11	17.18	18.00
		50	0	17.04	17.12	17.15	18.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
15MHz	QPSK	1	0	37825/2577.5	38000/2595	38175/2612.5	18.00
		1	38	17.06	17.09	17.08	18.00
		1	74	17.12	17.15	17.24	18.00
		36	0	16.99	17.10	17.07	18.00
		36	18	17.15	17.10	17.12	18.00
		36	39	17.09	17.18	17.26	18.00
		75	0	17.14	17.17	17.27	18.00
	16QAM	1	0	16.80	17.11	17.00	18.00
		1	38	16.54	16.79	16.65	18.00
		1	74	17.07	17.20	17.32	18.00
		36	0	17.04	17.02	17.04	18.00
		36	18	16.92	17.03	16.98	18.00
		36	39	17.14	17.13	17.25	18.00
		75	0	17.06	17.14	17.14	18.00
	64QAM	1	0	17.09	17.01	17.21	18.00
		1	38	16.81	16.80	16.87	18.00
		1	74	17.10	17.06	17.32	18.00
		36	0	16.96	17.04	17.02	18.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
						36	
		36	39	17.00	17.07	17.15	18.00
		75	0	17.01	17.07	17.11	18.00
20MHz	QPSK	1	0	17.05	17.06	17.11	18.00
		1	50	17.05	17.05	17.06	18.00
		1	99	17.10	17.14	17.21	18.00
		50	0	16.96	17.05	17.03	18.00
		50	25	17.13	17.06	17.09	18.00
		50	50	17.06	17.13	17.22	18.00
		100	0	17.11	17.12	17.23	18.00
	16QAM	1	0	16.78	17.07	16.95	18.00
		1	50	16.50	16.77	16.61	18.00
		1	99	17.05	17.17	17.30	18.00
		50	0	17.01	16.98	17.01	18.00
		50	25	16.89	17.01	16.95	18.00
		50	50	17.11	17.08	17.21	18.00
		100	0	17.04	17.10	17.11	18.00
	64QAM	1	0	17.07	16.97	17.16	18.00
		1	50	16.77	16.78	16.83	18.00
		1	99	17.08	17.03	17.30	18.00
		50	0	16.93	17.00	16.99	18.00
		50	25	16.97	16.97	17.01	18.00
		50	50	16.97	17.02	17.11	18.00
		100	0	16.99	17.03	17.08	18.00

LTE TDD Band 38 (REC On+Right Head+Wi-Fi/BT)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	11.32	11.38	11.38	12.00
		1	13	11.73	11.73	11.75	12.00
		1	24	11.49	11.52	11.61	12.00
		12	0	11.57	11.68	11.65	12.00
		12	6	11.77	11.72	11.74	12.00
		12	13	11.67	11.74	11.82	12.00
		25	0	11.60	11.71	11.80	12.00
	16QAM	1	0	11.35	11.62	11.52	12.00
		1	13	11.46	11.71	11.57	12.00
		1	24	11.56	11.71	11.81	12.00
		12	0	11.62	11.57	11.61	12.00
		12	6	11.51	11.62	11.57	12.00



		12	13	11.67	11.66	11.78	12.00
		25	0	11.54	11.62	11.62	12.00
	64QAM	1	0	11.62	11.50	11.71	12.00
		1	13	11.78	11.77	11.84	12.00
		1	24	11.74	11.72	11.96	12.00
		12	0	11.53	11.58	11.58	12.00
		12	6	11.65	11.64	11.69	12.00
		12	13	11.60	11.67	11.75	12.00
		25	0	11.50	11.56	11.60	12.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	11.34	11.39	11.41	12.00
		1	25	11.76	11.78	11.79	12.00
		1	49	11.51	11.56	11.64	12.00
		25	0	11.60	11.73	11.69	12.00
		25	13	11.80	11.77	11.78	12.00
		25	25	11.69	11.78	11.87	12.00
		50	0	11.68	11.73	11.84	12.00
	16QAM	1	0	11.37	11.65	11.54	12.00
		1	25	11.49	11.75	11.60	12.00
		1	49	11.59	11.73	11.84	12.00
		25	0	11.65	11.62	11.65	12.00
		25	13	11.53	11.66	11.60	12.00
		25	25	11.70	11.71	11.82	12.00
		50	0	11.57	11.67	11.66	12.00
	64QAM	1	0	11.64	11.53	11.73	12.00
		1	25	11.81	11.81	11.87	12.00
		1	49	11.77	11.74	11.99	12.00
		25	0	11.56	11.63	11.62	12.00
		25	13	11.67	11.68	11.72	12.00
		25	25	11.63	11.72	11.79	12.00
		50	0	11.53	11.61	11.64	12.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	11.33	11.35	11.39	12.00
		1	38	11.74	11.77	11.76	12.00
		1	74	11.48	11.51	11.60	12.00
		36	0	11.58	11.69	11.66	12.00
		36	18	11.77	11.72	11.74	12.00
		36	39	11.66	11.75	11.83	12.00
		75	0	11.66	11.69	11.79	12.00
	16QAM	1	0	11.32	11.63	11.52	12.00
		1	38	11.47	11.72	11.58	12.00



		1	74	11.56	11.69	11.81	12.00	
		36	0	11.62	11.60	11.62	12.00	
		36	18	11.50	11.61	11.56	12.00	
		36	39	11.68	11.67	11.79	12.00	
		75	0	11.54	11.62	11.62	12.00	
	64QAM	1	0	11.59	11.51	11.71	12.00	
		1	38	11.79	11.78	11.85	12.00	
		1	74	11.74	11.70	11.96	12.00	
		36	0	11.53	11.61	11.59	12.00	
		36	18	11.64	11.63	11.68	12.00	
		36	39	11.61	11.68	11.76	12.00	
		75	0	11.50	11.56	11.60	12.00	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	11.30	11.31	11.36	12.00	
		1	50	11.73	11.73	11.74	12.00	
		1	99	11.46	11.50	11.57	12.00	
		50	0	11.55	11.64	11.62	12.00	
		50	25	11.75	11.68	11.71	12.00	
		50	50	11.63	11.70	11.79	12.00	
		100	0	11.63	11.64	11.75	12.00	
	16QAM	1	0	11.30	11.59	11.47	12.00	
		1	50	11.43	11.70	11.54	12.00	
		1	99	11.54	11.66	11.79	12.00	
		50	0	11.59	11.56	11.59	12.00	
		50	25	11.47	11.59	11.53	12.00	
		50	50	11.65	11.62	11.75	12.00	
		100	0	11.52	11.58	11.59	12.00	
	64QAM	1	0	11.57	11.47	11.66	12.00	
		1	50	11.75	11.76	11.81	12.00	
		1	99	11.72	11.67	11.94	12.00	
		50	0	11.50	11.57	11.56	12.00	
		50	25	11.61	11.61	11.65	12.00	
		50	50	11.58	11.63	11.72	12.00	
		100	0	11.48	11.52	11.57	12.00	

LTE TDD Band 38 (REC Off)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	23.07	23.17	23.16	24.00
		1	13	23.12	23.21	23.26	24.00
		1	24	23.25	23.33	23.29	24.00



		12	0	22.18	22.30	22.24	23.00
		12	6	22.19	22.32	22.27	23.00
		12	13	22.19	22.32	22.38	23.00
		25	0	22.08	22.59	22.32	23.00
	16QAM	1	0	22.35	22.28	22.39	23.00
		1	13	22.22	22.31	22.39	23.00
		1	24	22.21	22.33	22.22	23.00
		12	0	21.10	21.08	21.19	22.00
		12	6	21.12	21.17	21.24	22.00
		12	13	21.10	21.31	21.22	22.00
		25	0	21.07	21.27	21.25	22.00
	64QAM	1	0	21.88	21.74	21.72	22.00
		1	13	21.59	21.69	21.79	22.00
		1	24	21.84	21.65	21.72	22.00
		12	0	20.61	20.66	20.72	21.00
		12	6	20.64	20.64	20.67	21.00
		12	13	20.58	20.77	20.71	21.00
		25	0	20.66	20.64	20.77	21.00
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
37800/2575					38000/2595	38200/2615	
10MHz	QPSK	1	0	23.05	23.10	23.14	24.00
		1	25	23.12	23.21	23.25	24.00
		1	49	23.22	23.31	23.25	24.00
		25	0	22.16	22.26	22.21	23.00
		25	13	22.17	22.28	22.24	23.00
		25	25	22.15	22.28	22.35	23.00
		50	0	22.11	22.52	22.27	23.00
	16QAM	1	0	22.30	22.25	22.34	23.00
		1	25	22.19	22.30	22.36	23.00
		1	49	22.19	22.28	22.20	23.00
		25	0	21.07	21.07	21.17	22.00
		25	13	21.08	21.14	21.20	22.00
		25	25	21.08	21.27	21.19	22.00
		50	0	21.05	21.23	21.22	22.00
	64QAM	1	0	21.83	21.71	21.67	22.00
		1	25	21.56	21.68	21.76	22.00
		1	49	21.82	21.60	21.70	22.00
		25	0	20.58	20.65	20.70	21.00
		25	13	20.60	20.61	20.63	21.00
		25	25	20.56	20.73	20.68	21.00
		50	0	20.64	20.60	20.74	21.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	23.04	23.06	23.12	24.00
		1	38	23.10	23.20	23.22	24.00
		1	74	23.19	23.26	23.21	24.00
		36	0	22.14	22.22	22.18	23.00
		36	18	22.14	22.23	22.20	23.00
		36	39	22.12	22.25	22.31	23.00
		75	0	22.09	22.48	22.22	23.00
	16QAM	1	0	22.25	22.23	22.32	23.00
		1	38	22.17	22.27	22.34	23.00
		1	74	22.16	22.24	22.17	23.00
		36	0	21.04	21.05	21.14	22.00
		36	18	21.05	21.09	21.16	22.00
		36	39	21.06	21.23	21.16	22.00
		75	0	21.02	21.18	21.18	22.00
	64QAM	1	0	21.78	21.69	21.65	22.00
		1	38	21.54	21.65	21.74	22.00
		1	74	21.79	21.56	21.67	22.00
		36	0	20.55	20.63	20.67	21.00
		36	18	20.57	20.56	20.59	21.00
		36	39	20.54	20.69	20.65	21.00
		75	0	20.61	20.55	20.70	21.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	23.01	23.02	23.09	24.00
		1	50	23.09	23.16	23.20	24.00
		1	99	23.17	23.25	23.18	24.00
		50	0	22.11	22.17	22.14	23.00
		50	25	22.12	22.19	22.17	23.00
		50	50	22.09	22.20	22.27	23.00
		100	0	22.06	22.43	22.18	23.00
	16QAM	1	0	22.23	22.19	22.27	23.00
		1	50	22.13	22.25	22.30	23.00
		1	99	22.14	22.21	22.15	23.00
		50	0	21.01	21.01	21.11	22.00
		50	25	21.02	21.07	21.13	22.00
		50	50	21.03	21.18	21.12	22.00
		100	0	21.00	21.14	21.15	22.00
	64QAM	1	0	21.76	21.65	21.60	22.00
		1	50	21.50	21.63	21.70	22.00
		1	99	21.77	21.53	21.65	22.00
		50	0	20.52	20.59	20.64	21.00





		50	25	20.54	20.54	20.56	21.00
		50	50	20.51	20.64	20.61	21.00
		100	0	20.59	20.51	20.67	21.00

LTE TDD Band 38 (REC Off+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	19.12	19.18	19.20	20.00
		1	13	19.12	19.17	19.28	20.00
		1	24	19.18	19.26	19.32	20.00
		12	0	19.09	19.22	19.29	20.00
		12	6	19.15	19.24	19.17	20.00
		12	13	19.21	19.23	19.23	20.00
		25	0	19.08	19.25	19.27	20.00
	16QAM	1	0	19.32	19.20	19.36	20.00
		1	13	19.11	19.09	19.14	20.00
		1	24	19.13	19.34	19.21	20.00
		12	0	19.11	19.11	19.09	20.00
		12	6	19.10	19.17	19.25	20.00
		12	13	19.07	19.20	19.20	20.00
		25	0	19.06	19.17	19.13	20.00
	64QAM	1	0	19.08	19.10	19.29	20.00
		1	13	18.92	18.92	18.99	20.00
		1	24	19.13	19.05	19.19	20.00
		12	0	19.10	18.99	19.14	20.00
		12	6	19.09	19.08	19.11	20.00
		12	13	19.13	19.21	19.19	20.00
		25	0	19.03	19.18	19.16	20.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	19.14	19.19	19.23	20.00
		1	25	19.15	19.22	19.32	20.00
		1	49	19.20	19.30	19.35	20.00
		25	0	19.12	19.27	19.33	20.00
		25	13	19.18	19.29	19.21	20.00
		25	25	19.23	19.27	19.28	20.00
		50	0	19.16	19.27	19.31	20.00
	16QAM	1	0	19.34	19.23	19.38	20.00
		1	25	19.14	19.13	19.17	20.00
		1	49	19.16	19.36	19.24	20.00
		25	0	19.14	19.16	19.13	20.00
		25	13	19.12	19.21	19.28	20.00



		25	25	19.10	19.25	19.24	20.00
		50	0	19.09	19.22	19.17	20.00
	64QAM	1	0	19.10	19.13	19.31	20.00
		1	25	18.95	18.96	19.02	20.00
		1	49	19.16	19.07	19.22	20.00
		25	0	19.13	19.04	19.18	20.00
		25	13	19.11	19.12	19.14	20.00
		25	25	19.16	19.26	19.23	20.00
		50	0	19.06	19.23	19.20	20.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	19.13	19.15	19.21	20.00
		1	38	19.13	19.21	19.29	20.00
		1	74	19.17	19.25	19.31	20.00
		36	0	19.10	19.23	19.30	20.00
		36	18	19.15	19.24	19.17	20.00
		36	39	19.20	19.24	19.24	20.00
		75	0	19.14	19.23	19.26	20.00
	16QAM	1	0	19.29	19.21	19.36	20.00
		1	38	19.12	19.10	19.15	20.00
		1	74	19.13	19.32	19.21	20.00
		36	0	19.11	19.14	19.10	20.00
		36	18	19.09	19.16	19.24	20.00
		36	39	19.08	19.21	19.21	20.00
		75	0	19.06	19.17	19.13	20.00
	64QAM	1	0	19.05	19.11	19.29	20.00
		1	38	18.93	18.93	19.00	20.00
		1	74	19.13	19.03	19.19	20.00
		36	0	19.10	19.02	19.15	20.00
		36	18	19.08	19.07	19.10	20.00
		36	39	19.14	19.22	19.20	20.00
		75	0	19.03	19.18	19.16	20.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	19.10	19.11	19.18	20.00
		1	50	19.12	19.17	19.27	20.00
		1	99	19.15	19.24	19.28	20.00
		50	0	19.07	19.18	19.26	20.00
		50	25	19.13	19.20	19.14	20.00
		50	50	19.17	19.19	19.20	20.00
		100	0	19.11	19.18	19.22	20.00
	16QAM	1	0	19.27	19.17	19.31	20.00
		1	50	19.08	19.08	19.11	20.00



		1	99	19.11	19.29	19.19	20.00
		50	0	19.08	19.10	19.07	20.00
		50	25	19.06	19.14	19.21	20.00
		50	50	19.05	19.16	19.17	20.00
		100	0	19.04	19.13	19.10	20.00
	64QAM	1	0	19.03	19.07	19.24	20.00
		1	50	18.89	18.91	18.96	20.00
		1	99	19.11	19.00	19.17	20.00
		50	0	19.07	18.98	19.12	20.00
		50	25	19.05	19.05	19.07	20.00
		50	50	19.11	19.17	19.16	20.00
		100	0	19.01	19.14	19.13	20.00

LTE TDD Band 41 (REC On+Left Head)				Conducted Power(dBm)				
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				40165/2547.5	40690/2600	41215/2652.5		
5MHz	QPSK	1	0	22.09	22.19	22.30	23.00	
		1	13	22.03	22.10	22.35	23.00	
		1	24	22.17	22.30	22.50	23.00	
		12	0	22.03	22.18	22.41	23.00	
		12	6	21.98	22.20	22.25	23.00	
		12	13	22.26	22.33	22.41	23.00	
		25	0	22.00	22.18	22.40	23.00	
	16QAM	1	0	22.10	21.99	22.11	23.00	
		1	13	21.77	21.79	21.97	23.00	
		1	24	21.93	22.31	22.24	23.00	
		12	0	21.75	21.80	21.90	22.50	
		12	6	21.80	21.89	21.88	22.50	
		12	13	21.64	21.97	21.91	22.50	
		25	0	21.68	21.69	21.85	22.50	
	64QAM	1	0	21.74	21.84	22.17	22.50	
		1	13	21.70	21.64	21.70	22.50	
		1	24	21.85	21.80	21.93	22.50	
		12	0	20.93	20.81	21.06	21.50	
		12	6	21.05	20.78	20.99	21.50	
		12	13	21.18	20.89	21.13	21.50	
		25	0	21.17	20.91	21.06	21.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					40190/2550	40690/2600	41190/2650	
	10MHz	QPSK	1	0	22.11	22.20	22.33	23.00
1			25	22.06	22.15	22.39	23.00	
1			49	22.19	22.34	22.53	23.00	



		25	0	22.06	22.23	22.45	23.00
		25	13	22.01	22.25	22.29	23.00
		25	25	22.28	22.37	22.46	23.00
		50	0	22.08	22.20	22.44	23.00
	16QAM	1	0	22.12	22.02	22.13	23.00
		1	25	21.80	21.83	22.00	23.00
		1	49	21.96	22.33	22.27	23.00
		25	0	21.78	21.85	21.94	22.50
		25	13	21.82	21.93	21.91	22.50
		25	25	21.67	22.02	21.95	22.50
		50	0	21.71	21.74	21.89	22.50
	64QAM	1	0	21.76	21.87	22.19	22.50
		1	25	21.73	21.68	21.73	22.50
		1	49	21.88	21.82	21.96	22.50
		25	0	20.96	20.86	21.10	21.50
		25	13	21.07	20.82	21.02	21.50
		25	25	21.21	20.94	21.17	21.50
		50	0	21.20	20.96	21.10	21.50
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
40215/2552.5					40690/2600	41165/2647.5	
15MHz	QPSK	1	0	22.10	22.16	22.31	23.00
		1	38	22.04	22.14	22.36	23.00
		1	74	22.16	22.29	22.49	23.00
		36	0	22.04	22.19	22.42	23.00
		36	18	21.98	22.20	22.25	23.00
		36	39	22.25	22.34	22.42	23.00
		75	0	22.06	22.16	22.39	23.00
	16QAM	1	0	22.07	22.00	22.11	23.00
		1	38	21.78	21.80	21.98	23.00
		1	74	21.93	22.29	22.24	23.00
		36	0	21.75	21.83	21.91	22.50
		36	18	21.79	21.88	21.87	22.50
		36	39	21.65	21.98	21.92	22.50
		75	0	21.68	21.69	21.85	22.50
	64QAM	1	0	21.71	21.85	22.17	22.50
		1	38	21.71	21.65	21.71	22.50
		1	74	21.85	21.78	21.93	22.50
		36	0	20.93	20.84	21.07	21.50
		36	18	21.04	20.77	20.98	21.50
		36	39	21.19	20.90	21.14	21.50
		75	0	21.17	20.91	21.06	21.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40240/2555	40690/2600	41140/2645	
20MHz	QPSK	1	0	22.07	22.12	22.28	23.00
		1	50	22.03	22.10	22.34	23.00
		1	99	22.14	22.28	22.46	23.00
		50	0	22.01	22.14	22.38	23.00
		50	25	21.96	22.16	22.22	23.00
		50	50	22.22	22.29	22.38	23.00
		100	0	22.03	22.11	22.35	23.00
	16QAM	1	0	22.05	21.96	22.06	23.00
		1	50	21.74	21.78	21.94	23.00
		1	99	21.91	22.26	22.22	23.00
		50	0	21.72	21.79	21.88	22.50
		50	25	21.76	21.86	21.84	22.50
		50	50	21.62	21.93	21.88	22.50
		100	0	21.66	21.65	21.82	22.50
	64QAM	1	0	21.69	21.81	22.12	22.50
		1	50	21.67	21.63	21.67	22.50
		1	99	21.83	21.75	21.91	22.50
		50	0	20.90	20.80	21.04	21.50
		50	25	21.01	20.75	20.95	21.50
		50	50	21.16	20.85	21.10	21.50
		100	0	21.15	20.87	21.03	21.50

LTE TDD Band 41 (REC On+Right Head)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40165/2547.5	40690/2600	41215/2652.5	
5MHz	QPSK	1	0	15.99	16.04	16.28	17.00
		1	13	15.96	16.05	15.61	17.00
		1	24	16.11	16.18	16.45	17.00
		12	0	15.91	16.12	16.37	17.00
		12	6	15.95	15.86	16.25	17.00
		12	13	15.94	15.93	16.21	17.00
		25	0	15.99	15.94	16.42	17.00
	16QAM	1	0	16.22	16.00	16.18	17.00
		1	13	15.10	16.18	16.21	17.00
		1	24	16.10	16.27	16.23	17.00
		12	0	15.80	15.98	16.30	17.00
		12	6	16.00	15.95	16.19	17.00
		12	13	16.01	15.93	16.32	17.00
		25	0	15.95	15.92	16.29	17.00
	64QAM	1	0	14.94	15.88	16.18	17.00



		1	13	15.20	15.78	15.19	17.00
		1	24	16.02	15.77	16.24	17.00
		12	0	15.81	15.99	16.27	17.00
		12	6	15.99	15.83	16.25	17.00
		12	13	16.03	16.21	16.36	17.00
		25	0	15.94	15.92	16.30	17.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40190/2550	40690/2600	41190/2650	
10MHz	QPSK	1	0	16.01	16.05	16.31	17.00
		1	25	15.99	16.10	15.65	17.00
		1	49	16.13	16.22	16.48	17.00
		25	0	15.94	16.17	16.41	17.00
		25	13	15.98	15.91	16.29	17.00
		25	25	15.96	15.97	16.26	17.00
		50	0	16.07	15.96	16.46	17.00
	16QAM	1	0	16.24	16.03	16.20	17.00
		1	25	15.13	16.22	16.24	17.00
		1	49	16.13	16.29	16.26	17.00
		25	0	15.83	16.03	16.34	17.00
		25	13	16.02	15.99	16.22	17.00
		25	25	16.04	15.98	16.36	17.00
		50	0	15.98	15.97	16.33	17.00
	64QAM	1	0	14.96	15.91	16.20	17.00
		1	25	15.23	15.82	15.22	17.00
		1	49	16.05	15.79	16.27	17.00
		25	0	15.84	16.04	16.31	17.00
		25	13	16.01	15.87	16.28	17.00
		25	25	16.06	16.26	16.40	17.00
		50	0	15.97	15.97	16.34	17.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40215/2552.5	40690/2600	41165/2647.5	
15MHz	QPSK	1	0	16.00	16.01	16.29	17.00
		1	38	15.97	16.09	15.62	17.00
		1	74	16.10	16.17	16.44	17.00
		36	0	15.92	16.13	16.38	17.00
		36	18	15.95	15.86	16.25	17.00
		36	39	15.93	15.94	16.22	17.00
		75	0	16.05	15.92	16.41	17.00
	16QAM	1	0	16.19	16.01	16.18	17.00
		1	38	15.11	16.19	16.22	17.00
		1	74	16.10	16.25	16.23	17.00
		36	0	15.80	16.01	16.31	17.00
		36	18	15.99	15.94	16.18	17.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				40240/2555	40690/2600	41140/2645		
20MHz	64QAM	36	39	16.02	15.94	16.33	17.00	
		75	0	15.95	15.92	16.29	17.00	
		1	0	14.91	15.89	16.18	17.00	
		1	38	15.21	15.79	15.20	17.00	
		1	74	16.02	15.75	16.24	17.00	
		36	0	15.81	16.02	16.28	17.00	
		36	18	15.98	15.82	16.24	17.00	
		36	39	16.04	16.22	16.37	17.00	
	75	0	15.94	15.92	16.30	17.00		
	20MHz	QPSK	1	0	15.97	15.97	16.26	17.00
			1	50	15.96	16.05	15.60	17.00
			1	99	16.08	16.16	16.41	17.00
			50	0	15.89	16.08	16.34	17.00
			50	25	15.93	15.82	16.22	17.00
			50	50	15.90	15.89	16.18	17.00
			100	0	16.02	15.87	16.37	17.00
16QAM		1	0	16.17	15.97	16.13	17.00	
		1	50	15.07	16.17	16.18	17.00	
		1	99	16.08	16.22	16.21	17.00	
		50	0	15.77	15.97	16.28	17.00	
		50	25	15.96	15.92	16.15	17.00	
		50	50	15.99	15.89	16.29	17.00	
		100	0	15.93	15.88	16.26	17.00	
64QAM		1	0	14.89	15.85	16.13	17.00	
		1	50	15.17	15.77	15.16	17.00	
		1	99	16.00	15.72	16.22	17.00	
		50	0	15.78	15.98	16.25	17.00	
	50	25	15.95	15.80	16.21	17.00		
	50	50	16.01	16.17	16.33	17.00		
	100	0	15.92	15.88	16.27	17.00		

LTE TDD Band 41 (REC On+Left Head+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40165/2547.5	40690/2600	41215/2652.5	
5MHz	QPSK	1	0	19.19	19.29	19.40	20.00
		1	13	19.09	19.16	19.41	20.00
		1	24	19.09	19.22	19.42	20.00
		12	0	18.97	19.12	19.35	20.00
		12	6	18.93	19.15	19.20	20.00
		12	13	18.85	19.12	19.20	20.00



	16QAM	25	0	18.98	19.16	19.38	20.00
		1	0	19.20	19.09	19.21	20.00
		1	13	19.07	19.09	19.27	20.00
		1	24	18.88	19.26	19.19	20.00
		12	0	18.96	19.01	19.11	20.00
		12	6	18.98	19.07	19.06	20.00
		12	13	18.80	19.13	19.07	20.00
	64QAM	25	0	19.05	19.06	19.22	20.00
		1	0	18.92	19.02	19.35	20.00
		1	13	19.12	19.06	19.12	20.00
		1	24	19.21	19.16	19.29	20.00
		12	0	19.20	19.08	19.33	20.00
		12	6	19.42	19.15	19.36	20.00
		12	13	19.38	19.09	19.33	20.00
25	0	19.42	19.16	19.31	20.00		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40190/2550	40690/2600	41190/2650	
10MHz	QPSK	1	0	19.21	19.30	19.43	20.00
		1	25	19.12	19.21	19.45	20.00
		1	49	19.11	19.26	19.45	20.00
		25	0	19.00	19.17	19.39	20.00
		25	13	18.96	19.20	19.24	20.00
		25	25	18.87	19.16	19.25	20.00
		50	0	19.06	19.18	19.42	20.00
	16QAM	1	0	19.22	19.12	19.23	20.00
		1	25	19.10	19.13	19.30	20.00
		1	49	18.91	19.28	19.22	20.00
		25	0	18.99	19.06	19.15	20.00
		25	13	19.00	19.11	19.09	20.00
		25	25	18.83	19.18	19.11	20.00
		50	0	19.08	19.11	19.26	20.00
	64QAM	1	0	18.94	19.05	19.37	20.00
		1	25	19.15	19.10	19.15	20.00
		1	49	19.24	19.18	19.32	20.00
		25	0	19.23	19.13	19.37	20.00
		25	13	19.44	19.19	19.39	20.00
		25	25	19.41	19.14	19.37	20.00
		50	0	19.45	19.21	19.35	20.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40215/2552.5	40690/2600	41165/2647.5	
15MHz	QPSK	1	0	19.20	19.26	19.41	20.00
		1	38	19.10	19.20	19.42	20.00
		1	74	19.08	19.21	19.41	20.00





		36	0	18.98	19.13	19.36	20.00
		36	18	18.93	19.15	19.20	20.00
		36	39	18.84	19.13	19.21	20.00
		75	0	19.04	19.14	19.37	20.00
	16QAM	1	0	19.17	19.10	19.21	20.00
		1	38	19.08	19.10	19.28	20.00
		1	74	18.88	19.24	19.19	20.00
		36	0	18.96	19.04	19.12	20.00
		36	18	18.97	19.06	19.05	20.00
		36	39	18.81	19.14	19.08	20.00
		75	0	19.05	19.06	19.22	20.00
	64QAM	1	0	18.89	19.03	19.35	20.00
		1	38	19.13	19.07	19.13	20.00
		1	74	19.21	19.14	19.29	20.00
		36	0	19.20	19.11	19.34	20.00
		36	18	19.41	19.14	19.35	20.00
		36	39	19.39	19.10	19.34	20.00
		75	0	19.42	19.16	19.31	20.00
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)		
40240/2555					40690/2600	41140/2645	
20MHz	QPSK	1	0	19.17	19.22	19.38	20.00
		1	50	19.09	19.16	19.40	20.00
		1	99	19.06	19.20	19.38	20.00
		50	0	18.95	19.08	19.32	20.00
		50	25	18.91	19.11	19.17	20.00
		50	50	18.81	19.08	19.17	20.00
		100	0	19.01	19.09	19.33	20.00
	16QAM	1	0	19.15	19.06	19.16	20.00
		1	50	19.04	19.08	19.24	20.00
		1	99	18.86	19.21	19.17	20.00
		50	0	18.93	19.00	19.09	20.00
		50	25	18.94	19.04	19.02	20.00
		50	50	18.78	19.09	19.04	20.00
		100	0	19.03	19.02	19.19	20.00
	64QAM	1	0	18.87	18.99	19.30	20.00
		1	50	19.09	19.05	19.09	20.00
		1	99	19.19	19.11	19.27	20.00
		50	0	19.17	19.07	19.31	20.00
		50	25	19.38	19.12	19.32	20.00
		50	50	19.36	19.05	19.30	20.00
		100	0	19.40	19.12	19.28	20.00



LTE TDD Band 41 (REC On+Right Head+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40165/2547.5	40690/2600	41215/2652.5	
5MHz	QPSK	1	0	13.74	13.84	13.95	14.50
		1	13	13.68	13.75	14.00	14.50
		1	24	13.42	13.55	13.75	14.50
		12	0	13.41	13.56	13.79	14.50
		12	6	13.52	13.74	13.79	14.50
		12	13	13.26	13.53	13.61	14.50
		25	0	13.35	13.53	13.75	14.50
	16QAM	1	0	13.88	13.77	13.89	14.50
		1	13	13.75	13.77	13.95	14.50
		1	24	13.18	13.56	13.49	14.50
		12	0	13.44	13.49	13.59	14.50
		12	6	13.56	13.65	13.64	14.50
		12	13	13.00	13.33	13.27	14.50
		25	0	13.42	13.43	13.59	14.50
	64QAM	1	0	13.66	13.76	13.89	14.50
		1	13	13.86	13.80	13.86	14.50
		1	24	13.61	13.56	13.69	14.50
		12	0	13.66	13.54	13.79	14.50
		12	6	13.95	13.68	13.89	14.50
		12	13	13.72	13.43	13.67	14.50
		25	0	13.98	13.42	13.57	14.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40190/2550	40690/2600	41190/2650	
10MHz	QPSK	1	0	13.76	13.85	13.98	14.50
		1	25	13.71	13.80	14.04	14.50
		1	49	13.44	13.59	13.78	14.50
		25	0	13.44	13.61	13.83	14.50
		25	13	13.55	13.79	13.83	14.50
		25	25	13.28	13.57	13.66	14.50
		50	0	13.43	13.55	13.79	14.50
	16QAM	1	0	13.90	13.80	13.91	14.50
		1	25	13.78	13.81	13.98	14.50
		1	49	13.21	13.58	13.52	14.50
		25	0	13.47	13.54	13.63	14.50
		25	13	13.58	13.69	13.67	14.50
		25	25	13.03	13.38	13.31	14.50
		50	0	13.45	13.48	13.63	14.50
	64QAM	1	0	13.68	13.79	13.91	14.50
1		25	13.89	13.84	13.89	14.50	



		1	49	13.64	13.58	13.72	14.50
		25	0	13.69	13.59	13.83	14.50
		25	13	13.97	13.72	13.92	14.50
		25	25	13.75	13.48	13.71	14.50
		50	0	14.01	13.47	13.61	14.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40215/2552.5	40690/2600	41165/2647.5	
15MHz	QPSK	1	0	13.75	13.81	13.96	14.50
		1	38	13.69	13.79	14.01	14.50
		1	74	13.41	13.54	13.74	14.50
		36	0	13.42	13.57	13.80	14.50
		36	18	13.52	13.74	13.79	14.50
		36	39	13.25	13.54	13.62	14.50
		75	0	13.41	13.51	13.74	14.50
	16QAM	1	0	13.85	13.78	13.89	14.50
		1	38	13.76	13.78	13.96	14.50
		1	74	13.18	13.54	13.49	14.50
		36	0	13.44	13.52	13.60	14.50
		36	18	13.55	13.64	13.63	14.50
		36	39	13.01	13.34	13.28	14.50
		75	0	13.42	13.43	13.59	14.50
	64QAM	1	0	13.63	13.77	13.89	14.50
		1	38	13.87	13.81	13.87	14.50
		1	74	13.61	13.54	13.69	14.50
		36	0	13.66	13.57	13.80	14.50
		36	18	13.94	13.67	13.88	14.50
		36	39	13.73	13.44	13.68	14.50
		75	0	13.98	13.42	13.57	14.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40240/2555	40690/2600	41140/2645	
20MHz	QPSK	1	0	13.72	13.77	13.93	14.50
		1	50	13.68	13.75	13.99	14.50
		1	99	13.39	13.53	13.71	14.50
		50	0	13.39	13.52	13.76	14.50
		50	25	13.50	13.70	13.76	14.50
		50	50	13.22	13.49	13.58	14.50
		100	0	13.38	13.46	13.70	14.50
	16QAM	1	0	13.83	13.74	13.84	14.50
		1	50	13.72	13.76	13.92	14.50
		1	99	13.16	13.51	13.47	14.50
		50	0	13.41	13.48	13.57	14.50
		50	25	13.52	13.62	13.60	14.50
		50	50	12.98	13.29	13.24	14.50



	64QAM	100	0	13.40	13.39	13.56	14.50
		1	0	13.61	13.73	13.84	14.50
		1	50	13.83	13.79	13.83	14.50
		1	99	13.59	13.51	13.67	14.50
		50	0	13.63	13.53	13.77	14.50
		50	25	13.91	13.65	13.85	14.50
		50	50	13.70	13.39	13.64	14.50
		100	0	13.96	13.38	13.54	14.50

LTE TDD Band 41 (REC Off)				Conducted Power(dBm)				
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit	
				40165/2547.5	40690/2600	41215/2652.5		
5MHz	QPSK	1	0	23.66	23.64	23.80	24.50	
		1	13	23.43	23.51	23.64	24.50	
		1	24	23.41	23.58	23.95	24.50	
		12	0	22.66	22.86	22.92	23.50	
		12	6	22.63	22.82	22.90	23.50	
		12	13	22.79	22.81	22.95	23.50	
		25	0	22.79	22.82	22.93	23.50	
	16QAM	1	0	22.72	22.79	22.64	23.50	
		1	13	22.87	22.89	22.78	23.50	
		1	24	22.78	22.58	22.70	23.50	
		12	0	21.52	21.65	21.75	22.50	
		12	6	21.52	21.87	21.79	22.50	
		12	13	21.53	21.86	21.83	22.50	
		25	0	21.55	21.79	21.85	22.50	
	64QAM	1	0	21.84	21.95	22.11	22.50	
		1	13	21.60	21.97	21.91	22.50	
		1	24	21.77	22.19	22.07	22.50	
		12	0	21.01	21.12	21.09	21.50	
		12	6	20.82	21.21	21.15	21.50	
		12	13	20.79	21.18	21.08	21.50	
		25	0	20.97	21.01	21.11	21.50	
	Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
					40190/2550	40690/2600	41190/2650	
	10MHz	QPSK	1	0	23.68	23.65	23.83	24.50
1			25	23.46	23.56	23.68	24.50	
1			49	23.43	23.62	23.98	24.50	
25			0	22.69	22.91	22.96	23.50	
25			13	22.66	22.87	22.94	23.50	
25			25	22.81	22.85	23.00	23.50	
50			0	22.87	22.84	22.97	23.50	



	16QAM	1	0	22.74	22.82	22.66	23.50
		1	25	22.90	22.93	22.81	23.50
		1	49	22.81	22.60	22.73	23.50
		25	0	21.55	21.70	21.79	22.50
		25	13	21.54	21.91	21.82	22.50
		25	25	21.56	21.91	21.87	22.50
		50	0	21.58	21.84	21.89	22.50
	64QAM	1	0	21.86	21.98	22.13	22.50
		1	25	21.63	22.01	21.94	22.50
		1	49	21.80	22.21	22.10	22.50
		25	0	21.04	21.17	21.13	21.50
		25	13	20.84	21.25	21.18	21.50
		25	25	20.82	21.23	21.12	21.50
		50	0	21.00	21.06	21.15	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40215/2552.5	40690/2600	41165/2647.5	
15MHz	QPSK	1	0	23.67	23.61	23.81	24.50
		1	38	23.44	23.55	23.65	24.50
		1	74	23.40	23.57	23.94	24.50
		36	0	22.67	22.87	22.93	23.50
		36	18	22.63	22.82	22.90	23.50
		36	39	22.78	22.82	22.96	23.50
		75	0	22.85	22.80	22.92	23.50
	16QAM	1	0	22.69	22.80	22.64	23.50
		1	38	22.88	22.90	22.79	23.50
		1	74	22.78	22.56	22.70	23.50
		36	0	21.52	21.68	21.76	22.50
		36	18	21.51	21.86	21.78	22.50
		36	39	21.54	21.87	21.84	22.50
		75	0	21.55	21.79	21.85	22.50
	64QAM	1	0	21.81	21.96	22.11	22.50
		1	38	21.61	21.98	21.92	22.50
		1	74	21.77	22.17	22.07	22.50
		36	0	21.01	21.15	21.10	21.50
		36	18	20.81	21.20	21.14	21.50
		36	39	20.80	21.19	21.09	21.50
		75	0	20.97	21.01	21.11	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40240/2555	40690/2600	41140/2645	
20MHz	QPSK	1	0	23.64	23.57	23.78	24.50
		1	50	23.43	23.51	23.63	24.50
		1	99	23.38	23.56	23.91	24.50
		50	0	22.64	22.82	22.89	23.50



		50	25	22.61	22.78	22.87	23.50	
		50	50	22.75	22.77	22.92	23.50	
		100	0	22.82	22.75	22.88	23.50	
	16QAM		1	0	22.67	22.76	22.59	23.50
			1	50	22.84	22.88	22.75	23.50
			1	99	22.76	22.53	22.68	23.50
			50	0	21.49	21.64	21.73	22.50
			50	25	21.48	21.84	21.75	22.50
			50	50	21.51	21.82	21.80	22.50
			100	0	21.53	21.75	21.82	22.50
	64QAM		1	0	21.79	21.92	22.06	22.50
			1	50	21.57	21.96	21.88	22.50
			1	99	21.75	22.14	22.05	22.50
			50	0	20.98	21.11	21.07	21.50
			50	25	20.78	21.18	21.11	21.50
			50	50	20.77	21.14	21.05	21.50
			100	0	20.95	20.97	21.08	21.50

LTE TDD Band 41 (REC Off+Wi-Fi/BT)				Conducted Power(dBm)			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40165/2547.5	40690/2600	41215/2652.5	
5MHz	QPSK	1	0	20.64	20.69	20.93	21.50
		1	13	20.64	20.73	20.29	21.50
		1	24	20.76	20.83	21.00	21.50
		12	0	20.54	20.75	21.00	21.50
		12	6	20.79	20.70	20.99	21.50
		12	13	20.75	20.74	21.02	21.50
		25	0	20.85	20.80	20.98	21.50
	16QAM	1	0	20.86	20.64	20.82	21.50
		1	13	20.42	20.60	20.63	21.50
		1	24	20.59	20.76	20.72	21.50
		12	0	20.50	20.68	21.00	21.50
		12	6	20.76	20.71	20.95	21.50
		12	13	20.70	20.62	21.01	21.50
		25	0	20.71	20.68	20.95	21.50
	64QAM	1	0	19.78	20.72	21.02	21.50
		1	13	19.96	20.54	19.95	21.50
		1	24	20.94	20.79	20.96	21.50
		12	0	20.44	20.62	20.90	21.50
		12	6	20.83	20.67	20.99	21.50
		12	13	20.49	20.67	20.82	21.50
		25	0	20.68	20.66	20.94	21.50



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40190/2550	40690/2600	41190/2650	
10MHz	QPSK	1	0	20.66	20.70	20.96	21.50
		1	25	20.67	20.78	20.33	21.50
		1	49	20.78	20.87	21.03	21.50
		25	0	20.57	20.80	21.04	21.50
		25	13	20.82	20.75	21.03	21.50
		25	25	20.77	20.78	21.07	21.50
		50	0	20.93	20.82	21.02	21.50
	16QAM	1	0	20.88	20.67	20.84	21.50
		1	25	20.45	20.64	20.66	21.50
		1	49	20.62	20.78	20.75	21.50
		25	0	20.53	20.73	21.04	21.50
		25	13	20.78	20.75	20.98	21.50
		25	25	20.73	20.67	21.05	21.50
		50	0	20.74	20.73	20.99	21.50
	64QAM	1	0	19.80	20.75	21.04	21.50
		1	25	19.99	20.58	19.98	21.50
		1	49	20.97	20.81	20.99	21.50
		25	0	20.47	20.67	20.94	21.50
		25	13	20.85	20.71	21.02	21.50
		25	25	20.52	20.72	20.86	21.50
		50	0	20.71	20.71	20.98	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40215/2552.5	40690/2600	41165/2647.5	
15MHz	QPSK	1	0	20.65	20.66	20.94	21.50
		1	38	20.65	20.77	20.30	21.50
		1	74	20.75	20.82	20.99	21.50
		36	0	20.55	20.76	21.01	21.50
		36	18	20.79	20.70	20.99	21.50
		36	39	20.74	20.75	21.03	21.50
		75	0	20.91	20.78	20.97	21.50
	16QAM	1	0	20.83	20.65	20.82	21.50
		1	38	20.43	20.61	20.64	21.50
		1	74	20.59	20.74	20.72	21.50
		36	0	20.50	20.71	21.01	21.50
		36	18	20.75	20.70	20.94	21.50
		36	39	20.71	20.63	21.02	21.50
		75	0	20.71	20.68	20.95	21.50
	64QAM	1	0	19.75	20.73	21.02	21.50
		1	38	19.97	20.55	19.96	21.50
		1	74	20.94	20.77	20.96	21.50
		36	0	20.44	20.65	20.91	21.50



		36	18	20.82	20.66	20.98	21.50
		36	39	20.50	20.68	20.83	21.50
		75	0	20.68	20.66	20.94	21.50
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				40240/2555	40690/2600	41140/2645	
20MHz	QPSK	1	0	20.62	20.62	20.91	21.50
		1	50	20.64	20.73	20.28	21.50
		1	99	20.73	20.81	20.96	21.50
		50	0	20.52	20.71	20.97	21.50
		50	25	20.77	20.66	20.96	21.50
		50	50	20.71	20.70	20.99	21.50
		100	0	20.88	20.73	20.93	21.50
	16QAM	1	0	20.81	20.61	20.77	21.50
		1	50	20.39	20.59	20.60	21.50
		1	99	20.57	20.71	20.70	21.50
		50	0	20.47	20.67	20.98	21.50
		50	25	20.72	20.68	20.91	21.50
		50	50	20.68	20.58	20.98	21.50
		100	0	20.69	20.64	20.92	21.50
	64QAM	1	0	19.73	20.69	20.97	21.50
		1	50	19.93	20.53	19.92	21.50
		1	99	20.92	20.74	20.94	21.50
		50	0	20.41	20.61	20.88	21.50
		50	25	20.79	20.64	20.95	21.50
		50	50	20.47	20.63	20.79	21.50
		100	0	20.66	20.62	20.91	21.50

DL LTE CA Class	PCC						SCC			Power(dBm)			Tune-up Limit (dBm)
	PCC Band	PCC Bandwidth (MHz)	PCC UL RB size	PCC UL RB offset	PCC UL Channel	PCC DL Channel	SCC Band	SCC Bandwidth (MHz)	SCC DL Channel	Standalone	CA active	Delta	
CA_2C	2	5	1	0	18808	808	2	20	925	22.15	22.17	-0.02	22.50
	2	10	1	0	18806	806	2	20	950	22.17	22.2	-0.03	22.50
	2	15	1	0	18803	803	2	20	974	22.13	22.16	-0.03	22.50
	2	20	1	0	18801	801	2	20	999	22.08	22.05	0.03	22.50
CA_5B	5	5	1	24	20528	2528	5	10	2600	22.93	22.96	-0.03	23.50
	5	5	1	49	20501	2501	5	10	2600	22.91	22.94	-0.03	23.50
CA_7C	7	10	1	0	20805	2805	7	20	2949	20.51	20.56	-0.05	21.00
	7	15	1	0	20828	2828	7	20	2999	20.50	20.51	-0.01	21.00
	7	20	1	0	20850	2850	7	20	3048	20.47	20.50	-0.03	21.00
CA_12B	12	5	1	0	23058	5058	12	10	5130	22.91	22.96	-0.05	23.50
CA_38C	38	15	1	74	38025	38025	38	15	38175	23.17	23.19	-0.02	24.00
	38	20	1	99	37952	37952	38	20	38150	23.13	23.17	-0.04	24.00





CA_41C	41	5	1	24	41023	41023	41	20	41140	23.91	23.90	0.01	24.50
	41	10	1	49	40996	40996	41	20	41140	23.93	23.89	0.04	24.50
	41	15	1	74	40969	40969	41	20	41140	23.90	23.87	0.03	24.50
	41	20	1	99	40942	40942	41	20	41140	23.89	23.88	0.01	24.50
CA_2A-5A	2	5	1	0	18900	900	5	10	2525	22.14	22.16	-0.02	22.50
	2	10	1	0	18900	900	5	10	2525	22.15	22.16	-0.01	22.50
	2	15	1	0	18900	900	5	10	2525	22.11	22.14	-0.03	22.50
	2	20	1	0	18900	900	5	10	2525	22.07	22.04	0.03	22.50
	5	5	1	24	20625	2625	2	20	1100	22.95	22.97	-0.02	23.50
	5	10	1	49	20600	2600	2	20	1100	22.92	22.90	0.02	23.50
CA_2A-12A	2	5	1	0	18900	900	12	10	5095	22.14	22.17	-0.03	22.50
	2	10	1	0	18900	900	12	10	5095	22.15	22.19	-0.04	22.50
	2	15	1	0	18900	900	12	10	5095	22.11	22.15	-0.04	22.50
	2	20	1	0	18900	900	12	10	5095	22.07	22.11	-0.04	22.50
	12	5	1	0	23155	5155	2	20	1100	22.85	22.90	-0.05	23.50
	12	10	1	0	23130	5130	2	20	1100	22.82	22.91	-0.09	23.50
CA_2A-17A	2	5	1	0	18900	900	17	10	5790	22.14	22.16	-0.02	22.50
	2	10	1	0	18900	900	17	10	5790	22.15	22.14	0.01	22.50
	17	5	1	24	23755	5755	2	20	700	22.82	22.86	-0.04	22.50
	17	10	1	49	23780	5780	2	20	700	22.77	22.86	-0.09	22.50
CA_4A-5A	4	5	1	0	19975	1975	5	10	2450	23.24	23.26	-0.02	23.80
	4	10	1	0	20000	2000	5	10	2450	23.26	23.21	0.05	23.80
	4	15	1	0	20025	2025	5	10	2450	23.25	23.28	-0.03	23.80
	4	20	1	0	20050	2050	5	10	2450	23.22	23.23	-0.01	23.80
	5	5	1	24	20625	2625	4	20	2300	22.95	22.97	-0.02	23.50
	5	10	1	49	20600	2600	4	20	2300	22.92	22.93	-0.01	23.50
CA_4A-12A	4	1.4	1	0	19957	1957	12	10	5060	23.29	23.32	-0.03	23.80
	4	3	1	0	19965	1965	12	10	5060	23.27	23.31	-0.04	23.80
	4	5	1	0	19975	1975	12	10	5060	23.24	23.26	-0.02	23.80
	4	10	1	0	20000	2000	12	10	5060	23.26	23.30	-0.04	23.80
	4	15	1	0	20025	2025	12	10	5060	23.25	23.24	0.01	23.80
	4	20	1	0	20050	2050	12	10	5060	23.22	23.25	-0.03	23.80
CA_4A-17A	4	5	1	0	19975	1975	17	10	5780	23.24	23.26	-0.02	23.50
	4	10	1	0	20000	2000	17	10	5780	23.26	23.25	0.01	23.50
CA_5A-7A	5	1.4	1	5	20643	2407	7	20	3350	22.96	22.93	0.03	23.50
	5	3	1	14	20635	2415	7	20	3350	22.99	23.00	-0.01	23.50
	5	5	1	24	20625	2425	7	20	3350	22.95	22.97	-0.02	23.50
	5	10	1	49	20600	2450	7	20	3350	22.92	22.91	0.01	23.50
	7	10	1	0	20800	2800	5	10	2450	20.51	20.54	-0.03	21.00
	7	15	1	0	20825	2825	5	10	2450	20.50	20.57	-0.07	21.00
	7	20	1	0	20850	2850	5	10	2450	20.47	20.49	-0.02	21.00
CA_7A-12A	7	5	1	0	20775	2775	12	10	5060	20.49	20.53	-0.04	21.00
	7	10	1	0	20800	2800	12	10	5060	20.51	20.48	0.03	21.00



	7	15	1	0	20825	2825	12	10	5060	20.50	20.51	-0.01	21.00
	7	20	1	0	20850	2850	12	10	5060	20.47	20.50	-0.03	21.00
	12	5	1	0	23155	5155	7	20	3350	22.85	22.93	-0.08	23.50
	12	10	1	0	23130	5130	7	20	3350	22.82	22.94	-0.12	23.50

DL LTE CA Class	PCC						SCC1			SCC2			Power(dBm)			Tune-up Limit (dBm)
	PCC Band	PCC Bandwidth (MHz)	PCC UL RB size	PCC UL RB offset	PCC UL Channel	PCC DL Channel	SCC1 Band	SCC1 Bandwidth (MHz)	SCC1 DL Channel	SCC2 Band	SCC2 Bandwidth (MHz)	SCC2 DL Channel	Standalone	CA active	Delta	
CA_2A-12B	2	5	1	0	18900	900	12	5	5048	12	10	5120	22.14	22.16	-0.02	22.50
	2	10	1	0	18900	900	12	5	5048	12	10	5120	22.15	22.16	-0.01	22.50
	2	15	1	0	18900	900	12	5	5048	12	10	5120	22.11	22.14	-0.03	22.50
	2	20	1	0	18900	900	12	5	5048	12	10	5120	22.07	22.08	-0.01	22.50
	12	5	1	0	23058	5058	12	10	5130	2	20	1100	22.91	22.95	-0.04	23.50
CA_4A-12B	4	5	1	0	19975	1975	12	5	5038	12	10	5110	23.24	23.26	-0.02	23.80
	4	10	1	0	20000	2000	12	5	5038	12	10	5110	23.26	23.27	-0.01	23.80
	4	15	1	0	20025	2025	12	5	5038	12	10	5110	23.25	23.28	-0.03	23.80
	4	20	1	0	20050	2050	12	5	5038	12	10	5110	23.22	23.26	-0.04	23.80
CA_41D	41	10	1	49	40798	40798	41	20	40942	41	20	41140	23.91	23.94	-0.03	24.50
	41	15	1	74	40771	40771	41	20	40942	41	20	41140	23.88	23.92	-0.04	24.50
	41	20	1	99	40744	40744	41	20	40942	41	20	41140	23.87	23.89	-0.02	24.50



## 9.4 WLAN Mode

Wi-Fi 2.4G	Antenna	Channel	Frequency (MHz)	Average Conducted Power (dBm) for Data Rates (bps) (REC On)		Average Conducted Power (dBm) for Data Rates (bps) (REC Off)	
				1M	Tune-up Limit	1M	Tune-up Limit
802.11b	Antenna 1	1	2412	12.22	13.50	17.31	18.50
		6	2437	12.94	13.50	17.97	18.50
		11	2462	12.57	13.50	17.53	18.50
	Antenna 2	1	2412	16.53	18.00	17.12	18.00
		6	2437	16.87	18.00	17.33	18.00
		11	2462	16.74	18.00	17.26	18.00
Mode	Antenna	Channel	Frequency (MHz)	6M	Tune-up Limit	6M	Tune-up Limit
802.11g	Antenna 1	1	2412	12.14	13.50	14.84	16.50
		6	2437	12.93	13.50	15.45	16.50
		11	2462	12.64	13.50	15.17	16.50
	Antenna 2	1	2412	14.30	16.00	14.32	16.00
		6	2437	14.54	16.00	14.67	16.00
		11	2462	14.51	16.00	14.56	16.00
Mode	Antenna	Channel	Frequency (MHz)	6.5M	Tune-up Limit	6M	Tune-up Limit
802.11n (HT20)	Antenna 1	1	2412	12.11	13.50	13.43	15.00
		6	2437	12.92	13.50	13.93	15.00
		11	2462	12.59	13.50	13.56	15.00
	Antenna 2	1	2412	12.77	14.50	12.86	14.50
		6	2437	13.02	14.50	13.14	14.50
		11	2462	13.11	14.50	12.93	14.50

Note. 1. Per 248227, for SISO mode, SAR should be tested with 802.11b mode, respectively on ANT1 and ANT2; for CDD/MIMO mode, SAR should be tested with 802.11g mode.



Wi-Fi 5G	Antenna	Channel	Frequency (MHz)	Average Conducted Power (dBm) for Data Rates (bps) (REC On)		Average Conducted Power (dBm) for Data Rates (bps) (REC Off)	
				6M	Tune-up Limit	6M	Tune-up Limit
802.11a	Antenna 1	36	5180	9.74	11.00	13.06	14.00
		40	5200	9.50	11.00	12.95	14.00
		44	5220	9.44	11.00	12.93	14.00
		48	5240	9.23	11.00	12.91	14.00
		52	5260	9.36	11.00	12.96	14.00
		56	5280	9.29	11.00	12.93	14.00
		60	5300	9.13	11.00	12.74	14.00
		64	5320	9.03	11.00	12.84	14.00
		100	5500	9.37	11.00	12.74	14.00
		116	5580	9.44	11.00	12.81	14.00
		132	5660	9.51	11.00	12.85	14.00
		140	5700	9.52	11.00	13.00	14.00
		149	5745	8.68	11.00	12.58	14.00
		157	5785	9.14	11.00	12.75	14.00
	165	5825	9.04	11.00	12.91	14.00	
	Antenna 2	36	5180	9.51	10.50	11.51	12.50
		40	5200	9.49	10.50	11.46	12.50
		44	5220	9.44	10.50	11.44	12.50
		48	5240	9.37	10.50	11.34	12.50
		52	5260	9.43	10.50	11.20	12.50
		56	5280	9.44	10.50	11.28	12.50
		60	5300	9.32	10.50	11.29	12.50
		64	5320	9.41	10.50	11.36	12.50
		100	5500	9.71	10.50	11.70	12.50
		116	5580	9.54	10.50	11.72	12.50
		132	5660	9.62	10.50	11.63	12.50
140		5700	9.45	10.50	11.49	12.50	
149	5745	9.51	10.50	11.28	12.50		
157	5785	9.28	10.50	11.06	12.50		
165	5825	9.16	10.50	10.87	12.50		
Mode	Antenna	Channel	Frequency (MHz)	MCS0	Tune-up Limit	MCS0	Tune-up Limit
802.11n HT20	Antenna 1	36	5180	9.69	11.00	13.03	14.00
		40	5200	9.56	11.00	12.93	14.00
		44	5220	9.37	11.00	12.77	14.00
		48	5240	9.26	11.00	12.69	14.00
		52	5260	9.37	11.00	12.86	14.00



		56	5280	9.14	11.00	12.77	14.00	
		60	5300	9.13	11.00	12.46	14.00	
		64	5320	9.06	11.00	12.51	14.00	
		100	5500	9.37	11.00	12.80	14.00	
		116	5580	9.29	11.00	12.75	14.00	
		132	5660	9.53	11.00	12.74	14.00	
		140	5700	9.48	11.00	12.97	14.00	
		149	5745	8.73	11.00	12.57	14.00	
		157	5785	8.87	11.00	12.71	14.00	
		165	5825	9.01	11.00	12.89	14.00	
	Antenna 2	36	5180	9.48	10.50	11.34	12.50	
		40	5200	9.35	10.50	11.30	12.50	
		44	5220	9.33	10.50	11.41	12.50	
		48	5240	9.36	10.50	11.31	12.50	
		52	5260	9.19	10.50	11.32	12.50	
		56	5280	9.37	10.50	11.21	12.50	
		60	5300	9.25	10.50	11.23	12.50	
		64	5320	9.32	10.50	11.27	12.50	
		100	5500	9.63	10.50	11.72	12.50	
		116	5580	9.67	10.50	11.66	12.50	
	132	5660	9.56	10.50	11.53	12.50		
	140	5700	9.31	10.50	11.47	12.50		
	149	5745	9.34	10.50	11.27	12.50		
	157	5785	9.16	10.50	11.22	12.50		
	165	5825	8.89	10.50	11.04	12.50		
	Mode	Antenna	Channel	Frequency (MHz)	MCS0	Tune-up Limit	MCS0	Tune-up Limit
	802.11n HT40	Antenna 1	38	5190	9.32	11.00	11.13	12.50
			46	5270	9.06	11.00	10.96	12.50
			54	5270	9.37	11.00	11.44	12.50
			62	5310	9.07	11.00	10.98	12.50
102			5510	9.09	11.00	11.07	12.50	
110			5550	9.11	11.00	11.14	12.50	
118			5590	9.15	11.00	11.05	12.50	
134			5670	9.14	11.00	11.10	12.50	
151			5755	9.04	11.00	10.98	12.50	
159			5795	9.03	11.00	11.11	12.50	
Antenna 2		38	5190	8.37	10.00	9.27	11.00	
		46	5270	8.35	10.00	9.26	11.00	
		54	5270	8.30	10.00	9.51	11.00	
		62	5310	8.42	10.00	9.36	11.00	
		102	5510	8.41	10.00	9.65	11.00	
		110	5550	8.34	10.00	9.62	11.00	



Mode	Antenna	Channel	Frequency (MHz)	MCS0	Tune-up Limit	MCS0	Tune-up Limit
		118	5590	8.46	10.00	9.59	11.00
		134	5670	8.41	10.00	9.44	11.00
		151	5755	8.60	10.00	9.64	11.00
		159	5795	8.52	10.00	9.61	11.00
802.11ac HT20	Antenna 1	36	5180	9.73	11.00	13.04	14.00
		40	5200	9.55	11.00	12.92	14.00
		44	5220	9.36	11.00	12.76	14.00
		48	5240	9.29	11.00	12.78	14.00
		52	5260	9.38	11.00	12.93	14.00
		56	5280	9.14	11.00	12.64	14.00
		60	5300	9.09	11.00	12.62	14.00
		64	5320	9.13	11.00	12.51	14.00
		100	5500	9.40	11.00	12.83	14.00
		116	5580	9.27	11.00	12.75	14.00
		132	5660	9.51	11.00	12.70	14.00
		140	5700	9.47	11.00	12.94	14.00
		149	5745	8.71	11.00	12.47	14.00
		157	5785	8.93	11.00	12.69	14.00
	165	5825	9.11	11.00	12.86	14.00	
	Antenna 2	36	5180	9.51	10.50	11.56	12.50
		40	5200	9.44	10.50	11.29	12.50
		44	5220	9.26	10.50	11.25	12.50
		48	5240	9.29	10.50	11.31	12.50
		52	5260	9.23	10.50	11.21	12.50
		56	5280	9.34	10.50	11.22	12.50
		60	5300	9.28	10.50	11.21	12.50
		64	5320	9.29	10.50	11.27	12.50
		100	5500	9.67	10.50	11.73	12.50
		116	5580	9.53	10.50	11.54	12.50
		132	5660	9.54	10.50	11.47	12.50
140		5700	9.58	10.50	11.41	12.50	
149	5745	9.22	10.50	11.24	12.50		
157	5785	9.13	10.50	11.12	12.50		
165	5825	9.16	10.50	10.96	12.50		
Mode	Antenna	Channel	Frequency (MHz)	MCS0	Tune-up Limit	MCS0	Tune-up Limit
802.11ac HT40	Antenna 1	38	5190	9.34	11.00	10.79	12.50
		46	5270	9.06	11.00	10.56	12.50
		54	5270	9.32	11.00	10.86	12.50
		62	5310	9.24	11.00	10.68	12.50
		102	5510	9.17	11.00	10.53	12.50



		110	5550	9.13	11.00	10.53	12.50
		118	5590	9.11	11.00	10.52	12.50
		134	5670	9.05	11.00	10.57	12.50
		151	5755	9.06	11.00	10.64	12.50
		159	5795	9.11	11.00	10.61	12.50
	Antenna 2	38	5190	9.07	10.00	9.28	11.00
		46	5270	9.04	10.00	9.29	11.00
		54	5270	9.08	10.00	9.34	11.00
		62	5310	9.01	10.00	9.38	11.00
		102	5510	8.95	10.00	9.69	11.00
		110	5550	8.94	10.00	9.61	11.00
		118	5590	8.83	10.00	9.58	11.00
		134	5670	9.54	10.00	9.53	11.00
		151	5755	8.66	10.00	9.74	11.00
		159	5795	8.47	10.00	9.56	11.00
Mode	Antenna	Channel	Frequency (MHz)	MCS0	Tune-up Limit	MCS0	Tune-up Limit
802.11ac HT80	Antenna 1	42	5210	9.65	11.00	10.91	12.50
		58	5290	9.62	11.00	11.01	12.50
		106	5530	9.69	11.00	10.74	12.50
		155	5775	9.88	11.00	10.51	12.50
	Antenna 2	42	5210	9.08	10.00	9.01	11.00
		58	5290	9.19	10.00	9.06	11.00
		106	5530	9.53	10.00	9.29	11.00
		155	5775	9.40	10.00	9.25	11.00
Note. 1. Per 248227, For ANT1 head SAR should be tested with 802.11ac 80MHz mode, and body SAR should be tested with 802.11a mode; For ANT2 SAR should be tested with 802.11a mode.							

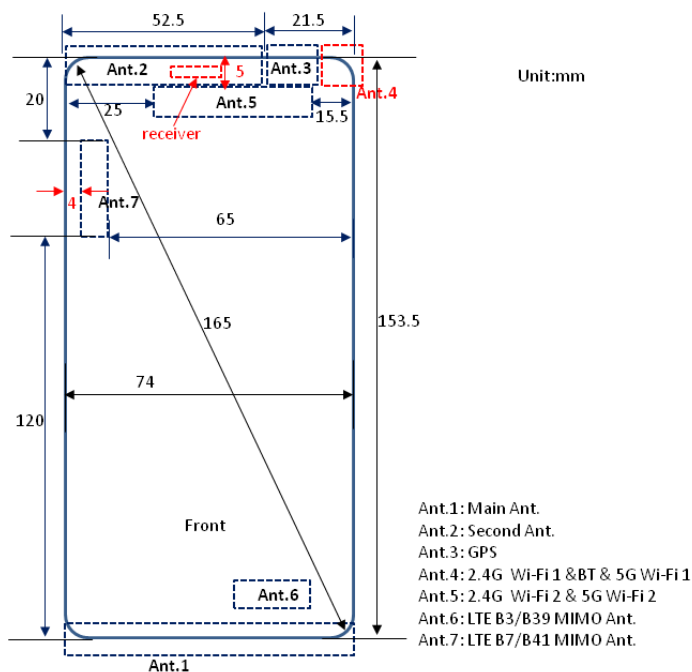
## 9.5 Bluetooth Mode

BT	Conducted Power(dBm)			Tune-up Limit (dBm)
	Channel/Frequency(MHz)			
	Ch 0/2402 MHz	Ch 39/2441 MHz	Ch 78/2480 MHz	
GFSK	11.28	12.84	11.67	13.10
$\pi/4$ DQPSK	5.77	6.29	5.60	13.10
8DPSK	5.78	6.31	5.59	13.10
BLE	Ch 0/2402 MHz	Ch 19/2440 MHz	Ch 39/2480 MHz	Tune-up Limit (dBm)
GFSK	1.10	1.72	0.61	7.10



# 10 Measured and Reported (Scaled) SAR Results

## 10.1 EUT Antenna Locations



Overall (Length x Width): 153.5 mm x 74 mm  
 Overall Diagonal: 165 mm

Distance of the Antenna to the EUT surface/edge

Antenna	Back Side	Front side	Left Edge	Right Edge	Top Edge	Bottom Edge
Main Antenna (Antenna 1)	0	0	0	0	>25	0
Sub Antenna (Antenna 2)	0	0	0	<25	0	>25
BT/Wi-Fi Antenna (Antenna 4)	0	0	>25	0	0	>25
Wi-Fi Antenna (Antenna 5)	0	0	=25	<25	<25	>25

Hotspot mode, Positions for SAR tests

Mode	Back Side	Front side	Left Edge	Right Edge	Top Edge	Bottom Edge
Main Antenna (Antenna 1)	Yes	Yes	Yes	Yes	N/A	Yes
Sub Antenna (Antenna 2)	Yes	Yes	Yes	Yes	Yes	N/A
BT/Wi-Fi Antenna (Antenna 4)	Yes	Yes	N/A	Yes	Yes	N/A
Wi-Fi Antenna (Antenna 5)	Yes	Yes	Yes	Yes	Yes	N/A

Note: 1. Per KDB 941225 D06, when the overall device length and width are  $\geq 9\text{cm} \times 5\text{cm}$ , the test distance is 10mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.

2. The Main Antenna (Ant1) and Secondary Antenna (Ant 2) support the same 2G/3G/4G operating bands. Main antenna (Ant1) and Secondary antenna (Ant 2) can't transmit simultaneously which will be chosen based on the RSSI. Only one antenna can be used for 2G/3G/4G transmission at a time. Ant.6 and Ant.7 can only support Rx function.

## 10.2 Standalone SAR test exclusion considerations

Per KDB 447498 D01, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for Product Specific 10-g SAR

- $f(\text{GHz})$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

Per KDB 447498 D01, when the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.

Bluetooth	Distance (mm)	MAX Power (dBm)	Frequency (MHz)	Ratio	Evaluation
Head	5	13.10	2480	6.43	Yes
Body-worn	15	13.10	2480	2.14	No
Hotspot	10	13.10	2480	3.22	Yes
Extremity	5	13.10	2480	6.43	No

### 10.3 Measured SAR Results

**Table 1: GSM 850 (Antenna 1)**

Test Position	Cover Type	Channel/Frequency (MHz)	Time slot	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR</b>											
Left Cheek	standard	190/836.6	GSM	1:8.3	33.60	32.57	0.140	0.196	1.27	0.248	/
Left Tilt	standard	190/836.6	GSM	1:8.3	33.60	32.57	0.040	0.124	1.27	0.157	/
Right Cheek	standard	190/836.6	GSM	1:8.3	33.60	32.57	-0.040	0.270	1.27	0.342	34
Right Tilt	standard	190/836.6	GSM	1:8.3	33.60	32.57	0.010	0.143	1.27	0.181	/
Right Cheek	SIM 2	190/836.6	GSM	1:8.3	33.60	32.57	0.016	0.254	1.27	0.322	/
Right Cheek	Battery 2	190/836.6	GSM	1:8.3	33.60	32.57	0.050	0.261	1.27	0.331	/
Right Cheek	Battery 3	190/836.6	GSM	1:8.3	33.60	32.57	0.017	0.264	1.27	0.335	/
<b>Body-worn (Distance 15mm)</b>											
Back Side	standard	190/836.6	GSM	1:8.3	33.60	32.57	0.000	0.373	1.27	0.473	35
Front Side	standard	190/836.6	GSM	1:8.3	33.60	32.57	-0.030	0.371	1.27	0.470	/
<b>Hotspot (Distance 10mm)</b>											
Back Side	standard	251/848.8	2Txslots	1:4.15	31.50	30.36	0.040	0.685	1.30	0.891	36
		190/836.6	2Txslots	1:4.15	31.50	30.22	0.050	0.606	1.34	0.814	/
		128/824.2	2Txslots	1:4.15	31.50	30.10	0.120	0.488	1.38	0.674	/
Front Side	standard	190/836.6	2Txslots	1:4.15	31.50	30.22	-0.070	0.517	1.34	0.694	/
Left Edge	standard	190/836.6	2Txslots	1:4.15	31.50	30.22	-0.030	0.100	1.34	0.134	/
Right Edge	standard	190/836.6	2Txslots	1:4.15	31.50	30.22	-0.030	0.342	1.34	0.459	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	190/836.6	2Txslots	1:4.15	31.50	30.22	-0.060	0.340	1.34	0.457	/
Back Side	SIM 2	251/848.8	2Txslots	1:4.15	31.50	30.36	0.012	0.675	1.30	0.878	/
Back Side	Battery 2	251/848.8	2Txslots	1:4.15	31.50	30.36	0.078	0.641	1.30	0.833	/
Back Side	Battery 3	251/848.8	2Txslots	1:4.15	31.50	30.36	0.023	0.650	1.30	0.845	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

5. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 2: GSM 1900 (Antenna 1)

Test Position	Cover Type	Channel/Frequency (MHz)	Time slot	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Hotspot Off)</b>											
Left Cheek	standard	661/1880	GSM	1:8.3	31.00	29.92	0.038	0.124	1.28	0.159	/
Left Tilt	standard	661/1880	GSM	1:8.3	31.00	29.92	0.060	0.111	1.28	0.142	/
Right Cheek	standard	661/1880	GSM	1:8.3	31.00	29.92	0.171	0.141	1.28	0.181	37
Right Tilt	standard	661/1880	GSM	1:8.3	31.00	29.92	0.095	0.116	1.28	0.149	/
<b>Head SAR (Hotspot On)</b>											
Left Cheek	standard	661/1880	GSM	1:8.3	27.00	25.83	0.000	0.103	1.31	0.135	/
Left Tilt	standard	661/1880	GSM	1:8.3	27.00	25.83	0.178	0.104	1.31	0.136	/
Right Cheek	standard	661/1880	GSM	1:8.3	27.00	25.83	0.000	0.114	1.31	0.150	/
Right Tilt	standard	661/1880	GSM	1:8.3	27.00	25.83	-0.197	0.106	1.31	0.139	/
<b>Head SAR (For Worse Case)</b>											
Right Cheek	SIM 2	661/1880	GSM	1:8.3	31.00	29.92	0.018	0.137	1.28	0.176	/
Right Cheek	Battery 2	661/1880	GSM	1:8.3	31.00	29.92	0.007	0.129	1.28	0.165	/
Right Cheek	Battery 3	661/1880	GSM	1:8.3	31.00	29.92	0.062	0.134	1.28	0.172	/
<b>Body-worn (Hotspot Off, Distance 15mm)</b>											
Back Side	standard	661/1880	GSM	1:8.3	31.00	29.92	-0.031	0.225	1.28	0.289	38
Front Side	standard	661/1880	GSM	1:8.3	31.00	29.92	-0.026	0.205	1.28	0.263	/
<b>Hotspot (Hotspot On, Distance 10mm)</b>											
Back Side	standard	661/1880	2Txslots	1:4.15	25.00	23.79	-0.036	0.168	1.32	0.222	/
Front Side	standard	661/1880	2Txslots	1:4.15	25.00	23.79	-0.090	0.198	1.32	0.262	/
Left Edge	standard	661/1880	2Txslots	1:4.15	25.00	23.79	0.000	0.007	1.32	0.009	/
Right Edge	standard	661/1880	2Txslots	1:4.15	25.00	23.79	0.039	0.031	1.32	0.040	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	661/1880	2Txslots	1:4.15	25.00	23.79	0.010	0.453	1.32	0.599	39
Bottom Edge	SIM 2	661/1880	2Txslots	1:4.15	25.00	23.79	0.004	0.325	1.32	0.429	/
Bottom Edge	Battery 2	661/1880	2Txslots	1:4.15	25.00	23.79	0.028	0.370	1.32	0.489	/
Bottom Edge	Battery 3	661/1880	2Txslots	1:4.15	25.00	23.79	0.067	0.381	1.32	0.503	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.



MAX Adjusted SAR								
Test Position	Cover Type	Channel/Frequency (MHz)	Full power Tune-up limit (dBm)	Conducted Power (dBm)	Reported SAR <sub>1g</sub> (W/kg)	Scaling Factor	Full power Report SAR <sub>1g</sub> (W/kg)	0mm SAR
Back Side	standard	661/1880	29.00	23.79	0.222	3.32	0.737	No
Front Side	standard	661/1880	29.00	23.79	0.262	3.32	0.868	No
Left Edge	standard	661/1880	29.00	23.79	0.009	3.32	0.031	No
Right Edge	standard	661/1880	29.00	23.79	0.040	3.32	0.134	No
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	661/1880	29.00	23.79	0.599	3.32	1.987	Yes
Bottom Edge	SIM 2	661/1880	29.00	23.79	0.429	3.32	1.425	Yes
Bottom Edge	Battery 2	661/1880	29.00	23.79	0.489	3.32	1.623	Yes
Bottom Edge	Battery 3	661/1880	29.00	23.79	0.503	3.32	1.671	Yes

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR > 1.2 W/kg, Product Specific 10-g SAR is required.

Test Position	Cover Type	Channel/Frequency (MHz)	Time slot	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>10g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>10g</sub> (W/kg)	Plot No.
<b>Product Specific 10-g SAR (Hotspot Off, Distance 0mm)</b>											
Bottom Edge	standard	661/1880	2Txslots	1:4.15	29.00	27.77	0.037	1.150	1.33	1.527	40
Bottom Edge	SIM 2	661/1880	2Txslots	1:4.15	29.00	27.77	0.014	0.980	1.33	1.301	/
Bottom Edge	Battery 2	661/1880	2Txslots	1:4.15	29.00	27.77	0.060	1.074	1.33	1.426	/
Bottom Edge	Battery 3	661/1880	2Txslots	1:4.15	29.00	27.77	0.009	1.037	1.33	1.377	/

Note: 1.The value with blue color is the maximum SAR Value of each test band.



Table 3: UMTS Band II (Antenna 1)

Test Position	Cover Type	Channel/Frequency (MHz)	Channel Type	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Hotspot Off)</b>											
Left Cheek	standard	9400/1880	RMC 12.2K	1:1	24.50	23.74	0.090	0.160	1.19	0.190	/
Left Tilt	standard	9400/1880	RMC 12.2K	1:1	24.50	23.74	0.031	0.117	1.19	0.139	/
Right Cheek	standard	9400/1880	RMC 12.2K	1:1	24.50	23.74	-0.021	0.193	1.19	0.230	41
Right Tilt	standard	9400/1880	RMC 12.2K	1:1	24.50	23.74	0.057	0.134	1.19	0.160	/
<b>Head SAR (Hotspot On)</b>											
Left Cheek	standard	9400/1880	RMC 12.2K	1:1	19.00	18.13	-0.134	0.118	1.22	0.144	/
Left Tilt	standard	9400/1880	RMC 12.2K	1:1	19.00	18.13	0.136	0.103	1.22	0.126	/
Right Cheek	standard	9400/1880	RMC 12.2K	1:1	19.00	18.13	0.042	0.134	1.22	0.164	/
Right Tilt	standard	9400/1880	RMC 12.2K	1:1	19.00	18.13	0.040	0.110	1.22	0.134	/
<b>Head SAR (For Worse Case)</b>											
Right Cheek	SIM 2	9400/1880	RMC 12.2K	1:1	24.50	23.74	0.009	0.188	1.19	0.224	/
Right Cheek	Battery 2	9400/1880	RMC 12.2K	1:1	24.50	23.74	0.044	0.185	1.19	0.220	/
Right Cheek	Battery 3	9400/1880	RMC 12.2K	1:1	24.50	23.74	0.083	0.179	1.19	0.213	/
<b>Body-worn (Hotspot Off, Distance 15mm)</b>											
Back Side	standard	9400/1880	RMC 12.2K	1:1	24.50	23.74	0.000	0.328	1.19	0.391	/
Front Side	standard	9400/1880	RMC 12.2K	1:1	24.50	23.74	-0.074	0.422	1.19	0.503	42
<b>Hotspot (Hotspot On, Distance 10mm)</b>											
Back Side	standard	9400/1880	RMC 12.2K	1:1	19.00	18.13	-0.090	0.246	1.22	0.301	/
Front Side	standard	9400/1880	RMC 12.2K	1:1	19.00	18.13	-0.170	0.310	1.22	0.379	/
Left Edge	standard	9400/1880	RMC 12.2K	1:1	19.00	18.13	-0.173	0.018	1.22	0.022	/
Right Edge	standard	9400/1880	RMC 12.2K	1:1	19.00	18.13	-0.180	0.047	1.22	0.057	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	9538/1907.6	RMC 12.2K	1:1	19.00	18.07	0.090	0.687	1.24	0.851	/
		9400/1880	RMC 12.2K	1:1	19.00	18.13	0.100	0.776	1.22	0.948	/
		9262/1852.4	RMC 12.2K	1:1	19.00	18.05	0.070	0.875	1.24	1.089	43
Bottom Edge	SIM 2	9262/1852.4	RMC 12.2K	1:1	19.00	18.05	0.130	0.847	1.24	1.054	/
Bottom Edge	Battery 2	9262/1852.4	RMC 12.2K	1:1	19.00	18.05	0.130	0.805	1.24	1.002	/
Bottom Edge	Battery 3	9262/1852.4	RMC 12.2K	1:1	19.00	18.05	-0.090	0.811	1.24	1.009	/
Bottom Edge	Repeated	9262/1852.4	RMC 12.2K	1:1	19.00	18.05	0.015	0.860	1.24	1.070	/
<p>Note: 1. The value with blue color is the maximum SAR Value of each test band.</p> <p>2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is <math>\leq 0.8</math> W/kg then testing at the other channels is not required for such test configuration(s).</p> <p>3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was <math>\leq 1.2</math> W/kg, no additional SAR evaluations using a headset cable were required.</p>											



MAX Adjusted SAR								
Test Position	Cover Type	Channel/Frequency (MHz)	Full power Tune-up limit (dBm)	Conducted Power (dBm)	Reported SAR <sub>1g</sub> (W/kg)	Scaling Factor	Full power Report SAR <sub>1g</sub> (W/kg)	0mm SAR
Back Side	standard	9400/1880	24.50	18.13	0.301	3.55	1.066	No
Front Side	standard	9400/1880	24.50	18.13	0.379	3.55	1.344	Yes
Left Edge	standard	9400/1880	24.50	18.13	0.022	3.55	0.078	No
Right Edge	standard	9400/1880	24.50	18.13	0.057	3.55	0.202	No
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	9538/1907.6	24.50	18.07	0.851	3.55	3.020	Yes
		9400/1880	24.50	18.13	0.948	3.55	3.364	Yes
		9262/1852.4	24.50	18.05	1.089	3.55	3.864	Yes
Bottom Edge	SIM 2	9262/1852.4	24.50	18.05	1.054	3.55	3.740	Yes
Bottom Edge	Battery 2	9262/1852.4	24.50	18.05	1.002	3.55	3.555	Yes
Bottom Edge	Battery 3	9262/1852.4	24.50	18.05	1.009	3.55	3.581	Yes

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR > 1.2 W/kg, Product Specific 10-g SAR is required.

Test Position	Cover Type	Channel/Frequency (MHz)	Channel Type	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>10g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>10g</sub> (W/kg)	Plot No.
<b>Product Specific 10-g SAR (Hotspot Off+Sensor On, Distance 0mm)</b>											
Front Side	standard	9400/1880	RMC 12.2K	1:1	23.50	22.84	0.009	1.590	1.16	1.851	/
Bottom Edge	standard	9538/1907.6	RMC 12.2K	1:1	23.50	22.81	0.101	1.674	1.17	1.962	/
		9400/1880	RMC 12.2K	1:1	23.50	22.84	0.027	1.800	1.16	2.095	/
		9262/1852.4	RMC 12.2K	1:1	23.50	22.66	0.030	1.912	1.21	2.320	/
<b>Product Specific 10-g SAR (Hotspot Off+Sensor Off, Distance 6mm)</b>											
Front Side	standard	9400/1880	RMC 12.2K	1:1	24.50	23.74	0.010	1.260	1.19	1.501	/
Bottom Edge	standard	9538/1907.6	RMC 12.2K	1:1	24.50	23.68	0.009	1.982	1.21	2.394	/
		9400/1880	RMC 12.2K	1:1	24.50	23.74	0.170	2.130	1.19	2.537	44
		9262/1852.4	RMC 12.2K	1:1	24.50	23.78	0.030	2.059	1.18	2.430	/
Bottom Edge	SIM 2	9400/1880	RMC 12.2K	1:1	24.50	23.74	0.004	1.970	1.19	2.347	/
Bottom Edge	Battery 2	9400/1880	RMC 12.2K	1:1	24.50	23.74	0.057	2.100	1.19	2.502	/
Bottom Edge	Battery 3	9400/1880	RMC 12.2K	1:1	24.50	23.74	0.006	2.006	1.19	2.390	/
Bottom Edge	Repeated	9400/1880	RMC 12.2K	1:1	24.50	23.74	0.031	2.070	1.19	2.466	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. According to Clause 5.3.10 in this report, 6mm is used as the more conservative test separation distance for additional SAR testing with sensor off.



Measurement Variability				
Test Position	Channel/ Frequency(MHz)	MAX Measured SAR <sub>1g/10g</sub> (W/kg)	1 <sup>st</sup> Repeated SAR <sub>1g/10g</sub> (W/kg)	Ratio
Bottom Edge	9262/1852.4	0.875	0.860	1.02
Bottom Edge	9400/1880	2.130	2.070	1.03

Note: 1) When the original highest measured SAR<sub>1g</sub> is  $\geq 0.80$  W/kg or SAR<sub>10g</sub> is  $\geq 2.0$  W/kg, the measurement was repeated once.  
2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was  $> 1.20$ .





Table 4: UMTS Band IV (Antenna 1)

Test Position	Cover Type	Channel/Frequency (MHz)	Channel Type	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (REC On+Hotspot Off)</b>											
Left Cheek	standard	1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.053	0.269	1.21	0.324	/
Left Tilt	standard	1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.024	0.058	1.21	0.070	/
Right Cheek	standard	1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.100	0.157	1.21	0.189	/
Right Tilt	standard	1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.040	0.094	1.21	0.113	/
<b>Head SAR (Hotspot On)</b>											
Left Cheek	standard	1413/1732.6	RMC 12.2K	1:1	18.50	17.57	0.035	0.064	1.24	0.080	/
Left Tilt	standard	1413/1732.6	RMC 12.2K	1:1	18.50	17.57	0.077	0.014	1.24	0.017	/
Right Cheek	standard	1413/1732.6	RMC 12.2K	1:1	18.50	17.57	0.020	0.035	1.24	0.044	/
Right Tilt	standard	1413/1732.6	RMC 12.2K	1:1	18.50	17.57	0.012	0.020	1.24	0.024	/
<b>Head SAR (For Worse Case)</b>											
Left Cheek	SIM 2	1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.043	0.237	1.21	0.286	/
Left Cheek	Battery 2	1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.042	0.257	1.21	0.310	/
Left Cheek	Battery 3	1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.039	0.291	1.21	0.351	45
<b>Body-worn (REC Off+Hotspot Off, Distance 15mm)</b>											
Back Side	standard	1513/1752.6	RMC 12.2K	1:1	24.50	32.62	0.140	0.684	1.20	0.819	/
		1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.090	0.718	1.21	0.865	/
		1312/1712.4	RMC 12.2K	1:1	24.50	32.58	0.090	0.692	1.21	0.836	/
Front Side	standard	1513/1752.6	RMC 12.2K	1:1	24.50	32.62	0.120	0.667	1.20	0.798	/
		1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.120	0.726	1.21	0.875	46
		1312/1712.4	RMC 12.2K	1:1	24.50	32.58	0.090	0.710	1.21	0.858	/
Front Side	SIM 2	1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.026	0.706	1.21	0.851	/
Front Side	Battery 2	1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.080	0.709	1.21	0.854	/
Front Side	Battery 3	1413/1732.6	RMC 12.2K	1:1	24.50	23.59	-0.090	0.719	1.21	0.866	/
Front Side	Repeated	1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.013	0.714	1.21	0.860	/
<b>Hotspot (Hotspot On, Distance 10mm)</b>											
Back Side	standard	1413/1732.6	RMC 12.2K	1:1	18.50	17.57	0.037	0.395	1.24	0.489	/
Front Side	standard	1413/1732.6	RMC 12.2K	1:1	18.50	17.57	0.038	0.398	1.24	0.493	/
Left Edge	standard	1413/1732.6	RMC 12.2K	1:1	18.50	17.57	0.044	0.029	1.24	0.036	/
Right Edge	standard	1413/1732.6	RMC 12.2K	1:1	18.50	17.57	0.060	0.078	1.24	0.096	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1413/1732.6	RMC 12.2K	1:1	18.50	17.57	0.090	0.625	1.24	0.774	47

Note: 1.The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.



MAX Adjusted SAR								
Test Position	Cover Type	Channel/Frequency (MHz)	Full power Tune-up limit (dBm)	Conducted Power (dBm)	Reported SAR <sub>1g</sub> (W/kg)	Scaling Factor	Full power Report SAR <sub>1g</sub> (W/kg)	0mm SAR
Back Side	standard	1413/1732.6	24.50	17.57	0.489	3.98	1.948	Yes
Front Side	standard	1413/1732.6	24.50	17.57	0.493	3.98	1.963	Yes
Left Edge	standard	1413/1732.6	24.50	17.57	0.036	3.98	0.143	No
Right Edge	standard	1413/1732.6	24.50	17.57	0.096	3.98	0.383	No
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1413/1732.6	24.50	17.57	0.774	3.98	3.082	Yes

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR > 1.2 W/kg, Product Specific 10-g SAR is required.

Test Position	Cover Type	Channel/Frequency (MHz)	Channel Type	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>10g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>10g</sub> (W/kg)	Plot No.
<b>Product Specific 10-g SAR (Hotspot Off+Sensor On, Distance 0mm)</b>											
Back Side	standard	1413/1732.6	RMC 12.2K	1:1	22.00	21.06	0.044	1.600	1.24	1.987	/
Front Side	standard	1413/1732.6	RMC 12.2K	1:1	22.00	21.06	0.048	1.340	1.24	1.664	/
Bottom Edge	standard	1513/1752.6	RMC 12.2K	1:1	22.00	21.04	0.006	1.908	1.25	2.380	/
		1413/1732.6	RMC 12.2K	1:1	22.00	21.06	0.039	2.070	1.24	2.570	/
		1312/1712.4	RMC 12.2K	1:1	22.00	21.08	0.071	2.015	1.24	2.490	/
<b>Product Specific 10-g SAR (Hotspot Off+Sensor Off, Distance 6mm)</b>											
Back Side	standard	1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.040	1.620	1.21	1.952	/
Front Side	standard	1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.026	1.577	1.21	1.900	/
Bottom Edge	standard	1513/1752.6	RMC 12.2K	1:1	24.50	23.62	0.017	2.006	1.20	2.401	/
		1413/1732.6	RMC 12.2K	1:1	24.50	23.59	-0.021	2.240	1.21	2.699	48
		1312/1712.4	RMC 12.2K	1:1	24.50	23.58	0.003	2.105	1.21	2.542	/
Bottom Edge	SIM 2	1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.104	1.954	1.21	2.355	/
Bottom Edge	Battery 2	1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.080	2.100	1.21	2.531	/
Bottom Edge	Battery 3	1413/1732.6	RMC 12.2K	1:1	24.50	23.59	0.010	2.043	1.21	2.462	/
Bottom Edge	Repeated	1413/1732.6	RMC 12.2K	1:1	24.50	23.69	-0.054	2.109	1.21	2.541	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.  
2. According to Clause 5.3.10 in this report, 6mm is used as the more conservative test separation distance for additional SAR testing with sensor off.

Measurement Variability				
Test Position	Channel/ Frequency(MHz)	MAX Measured SAR <sub>1g/10g</sub> (W/kg)	1 <sup>st</sup> Repeated SAR <sub>1g/10g</sub> (W/kg)	Ratio
Front Side	1413/1732.6	0.826	0.814	1.01
Bottom Edge	1413/1732.6	2.240	2.109	1.06

Note: 1) When the original highest measured SAR<sub>1g</sub> is ≥ 0.80 W/kg or SAR<sub>10g</sub> is ≥ 2.0 W/kg, the measurement was repeated once.  
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20.



Table 5: UMTS Band V (Antenna 1)

Test Position	Cover Type	Channel/Frequency (MHz)	Channel Type	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR</b>											
Left Cheek	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.25	-0.059	0.177	1.33	0.236	/
Left Tilt	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.25	-0.020	0.116	1.33	0.155	/
Right Cheek	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.25	0.050	0.250	1.33	0.333	49
Right Tilt	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.25	-0.060	0.105	1.33	0.140	/
Right Cheek	SIM 2	4183/836.6	RMC 12.2K	1:1	24.50	23.25	0.110	0.230	1.33	0.307	/
Right Cheek	Battery 2	4183/836.6	RMC 12.2K	1:1	24.50	23.25	-0.070	0.224	1.33	0.299	/
Right Cheek	Battery 3	4183/836.6	RMC 12.2K	1:1	24.50	23.25	0.010	0.235	1.33	0.313	/
<b>Body-worn (Distance 15mm)</b>											
Back Side	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.25	-0.010	0.270	1.33	0.360	/
Front Side	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.25	-0.090	0.278	1.33	0.371	50
<b>Hotspot (Distance 10mm)</b>											
Back Side	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.25	-0.020	0.399	1.33	0.532	51
Front Side	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.25	-0.050	0.388	1.33	0.517	/
Left Edge	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.25	-0.025	0.080	1.33	0.107	/
Right Edge	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.25	0.000	0.211	1.33	0.281	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.25	0.010	0.306	1.33	0.408	/
Back Side	SIM 2	4183/836.6	RMC 12.2K	1:1	24.50	23.25	0.040	0.375	1.33	0.500	/
Back Side	Battery 2	4183/836.6	RMC 12.2K	1:1	24.50	23.25	0.009	0.380	1.33	0.507	/
Back Side	Battery 3	4183/836.6	RMC 12.2K	1:1	24.50	23.25	0.037	0.384	1.33	0.512	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

5. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 6: LTE Band 2 (20MHz, Antenna 1)

Test Position	Cover Type	RB size	RB offset	Channel/ Frequency (MHz)	Maximum Allowed Power(dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Hotspot Off, QPSK)</b>											
Left Cheek	standard	1RB	50	18900/1880	24.00	23.78	0.132	0.162	1.05	0.170	/
Left Tilt	standard	1RB	50	18900/1880	24.00	23.78	0.071	0.116	1.05	0.122	/
Right Cheek	standard	1RB	50	18900/1880	24.00	23.78	-0.130	0.196	1.05	0.207	/
Right Tilt	standard	1RB	50	18900/1880	24.00	23.78	0.071	0.137	1.05	0.144	/
Left Cheek	standard	50%RB	0	18900/1880	23.00	22.87	0.020	0.151	1.03	0.155	/
Left Tilt	standard	50%RB	0	18900/1880	23.00	22.87	0.090	0.112	1.03	0.116	/
Right Cheek	standard	50%RB	0	18900/1880	23.00	22.87	0.149	0.180	1.03	0.185	/
Right Tilt	standard	50%RB	0	18900/1880	23.00	22.87	0.055	0.126	1.03	0.130	/
<b>Head SAR (Hotspot On, QPSK)</b>											
Left Cheek	standard	1RB	50	18900/1880	19.00	18.79	0.075	0.107	1.05	0.112	/
Left Tilt	standard	1RB	50	18900/1880	19.00	18.79	0.031	0.105	1.05	0.110	/
Right Cheek	standard	1RB	50	18900/1880	19.00	18.79	0.057	0.122	1.05	0.128	/
Right Tilt	standard	1RB	50	18900/1880	19.00	18.79	0.135	0.106	1.05	0.111	/
Left Cheek	standard	50%RB	0	18900/1880	19.00	18.72	0.023	0.115	1.07	0.123	/
Left Tilt	standard	50%RB	0	18900/1880	19.00	18.72	0.187	0.104	1.07	0.111	/
Right Cheek	standard	50%RB	0	18900/1880	19.00	18.72	0.052	0.130	1.07	0.138	/
Right Tilt	standard	50%RB	0	18900/1880	19.00	18.72	0.112	0.109	1.07	0.116	/
<b>Head SAR (For Worse Case)</b>											
Right Cheek	SIM 2	1RB	50	18900/1880	24.00	23.78	0.041	0.202	1.05	0.212	/
Right Cheek	Battery 2	1RB	50	18900/1880	24.00	23.78	0.000	0.217	1.05	0.228	52
Right Cheek	Battery 3	1RB	50	18900/1880	24.00	23.78	0.094	0.201	1.05	0.211	/
<b>Body-worn (Hotspot Off, QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	50	18900/1880	24.00	23.78	-0.010	0.473	1.05	0.498	/
Front Side	standard	1RB	50	18900/1880	24.00	23.78	-0.090	0.513	1.05	0.540	53
Back Side	standard	50%RB	0	18900/1880	23.00	22.87	0.100	0.420	1.03	0.433	/
Front Side	standard	50%RB	0	18900/1880	23.00	22.87	0.090	0.396	1.03	0.408	/
<b>Hotspot (Hotspot On, QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	50	18900/1880	19.00	18.79	0.120	0.171	1.05	0.179	/
Front Side	standard	1RB	50	18900/1880	19.00	18.79	0.030	0.178	1.05	0.187	/
Left Edge	standard	1RB	50	18900/1880	19.00	18.79	-0.040	0.009	1.05	0.009	/
Right Edge	standard	1RB	50	18900/1880	19.00	18.79	-0.127	0.032	1.05	0.034	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1RB	50	18900/1880	19.00	18.79	0.050	0.384	1.05	0.403	/
Back Side	standard	50%RB	0	18900/1880	19.00	18.72	-0.060	0.269	1.07	0.287	/
Front Side	standard	50%RB	0	18900/1880	19.00	18.72	0.090	0.274	1.07	0.292	/
Left Edge	standard	50%RB	0	18900/1880	19.00	18.72	-0.046	0.015	1.07	0.015	/
Right Edge	standard	50%RB	0	18900/1880	19.00	18.72	-0.051	0.050	1.07	0.053	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Bottom Edge	standard	50%RB	0	18900/1880	19.00	18.72	0.070	0.639	1.07	0.682	54
Bottom Edge	SIM 2	50%RB	0	18900/1880	19.00	18.72	0.050	0.544	1.07	0.580	/
Bottom Edge	Battery 2	50%RB	0	18900/1880	19.00	18.72	0.006	0.570	1.07	0.608	/
Bottom Edge	Battery 3	50%RB	0	18900/1880	19.00	18.72	0.034	0.582	1.07	0.621	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

MAX Adjusted SAR										
Test Position	Cover Type	RB size	RB offset	Channel/Frequency (MHz)	Full power Tune-up limit (dBm)	Conducted Power (dBm)	Reported SAR <sub>1g</sub> (W/kg)	Scaling Factor	Full power Report SAR <sub>1g</sub> (W/kg)	0mm SAR
Back Side	standard	1RB	50	18900/1880	24.00	18.79	0.179	3.16	0.568	No
Front Side	standard	1RB	50	18900/1880	24.00	18.79	0.187	3.16	0.591	No
Left Edge	standard	1RB	50	18900/1880	24.00	18.79	0.009	3.16	0.030	No
Right Edge	standard	1RB	50	18900/1880	24.00	18.79	0.034	3.16	0.107	No
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1RB	50	18900/1880	24.00	18.79	0.403	3.16	1.274	Yes
Back Side	standard	50%RB	0	18900/1880	23.00	18.72	0.287	2.51	0.721	No
Front Side	standard	50%RB	0	18900/1880	23.00	18.72	0.292	2.51	0.734	No
Left Edge	standard	50%RB	0	18900/1880	23.00	18.72	0.015	2.51	0.039	No
Right Edge	standard	50%RB	0	18900/1880	23.00	18.72	0.053	2.51	0.134	No
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	50%RB	0	18900/1880	23.00	18.72	0.682	2.51	1.712	Yes
Bottom Edge	SIM 2	50%RB	0	18900/1880	23.00	18.72	0.580	2.51	1.457	Yes
Bottom Edge	Battery 2	50%RB	0	18900/1880	23.00	18.72	0.608	2.51	1.527	Yes
Bottom Edge	Battery 3	50%RB	0	18900/1880	23.00	18.72	0.621	2.51	1.559	Yes

Note: According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g reported SAR > 1.2 W/kg, Product Specific 10-g SAR is required.



Test Position	Cover Type	RB size	RB offset	Channel/Frequency (MHz)	Maximum Allowed Power(dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>10g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>10g</sub> (W/kg)	Plot No.
<b>Product Specific 10-g SAR (Hotspot Off+Sensor On, Distance 0mm)</b>											
Bottom Edge	standard	1RB	0	19100/1900	23.00	22.52	0.034	1.870	1.12	2.089	/
		1RB	50	18900/1880	23.00	22.60	0.008	1.920	1.10	2.105	/
		1RB	0	18700/1860	23.00	22.57	0.105	1.913	1.10	2.112	/
Bottom Edge	standard	50%RB	50	19100/1900	23.00	22.58	0.061	2.010	1.10	2.214	/
		50%RB	0	18900/1880	23.00	22.68	0.014	1.990	1.08	2.142	/
		50%RB	0	18700/1860	23.00	22.53	0.012	1.942	1.11	2.164	/
Bottom Edge	standard	100%RB	0	18700/1860	23.00	22.58	0.008	1.950	1.10	2.148	/
<b>Product Specific 10-g SAR (Hotspot Off+Sensor Off, Distance 6mm)</b>											
Bottom Edge	standard	1RB	0	19100/1900	24.00	23.73	0.000	2.105	1.06	2.240	/
		1RB	50	18900/1880	24.00	23.78	0.040	2.190	1.05	2.304	55
		1RB	99	18700/1860	24.00	23.72	0.019	2.061	1.07	2.198	/
Bottom Edge	standard	50%RB	0	18900/1880	23.00	22.87	0.110	1.650	1.03	1.700	/
Bottom Edge	standard	100%RB	0	18900/1880	23.00	22.70	0.050	1.822	1.07	1.952	/
Bottom Edge	SIM 2	1RB	50	18900/1880	24.00	23.78	0.015	2.095	1.05	2.204	/
Bottom Edge	Battery 2	1RB	50	18900/1880	24.00	23.78	0.024	2.122	1.05	2.232	/
Bottom Edge	Battery 3	1RB	50	18900/1880	24.00	23.78	0.006	2.104	1.05	2.213	/
Bottom Edge	Repeated	1RB	50	18900/1880	24.00	23.78	-0.015	2.016	1.05	2.121	/
Note: 1. The value with blue color is the maximum SAR Value of each test band. 2. According to Clause 5.3.10 in this report, 6mm is used as the more conservative test separation distance for additional SAR testing with sensor off.											

#### Measurement Variability

Test Position	Channel/Frequency(MHz)	MAX Measured SAR <sub>1g</sub> (W/kg)	1 <sup>st</sup> Repeated SAR <sub>1g</sub> (W/kg)	Ratio
Bottom Edge	20300/1745	2.190	2.016	1.09

Note: 1) When the original highest measured SAR<sub>1g</sub> is  $\geq 0.80$  W/kg or SAR<sub>10g</sub> is  $\geq 2.0$  W/kg, the measurement was repeated once.

2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was  $> 1.20$ .



Table 7: LTE Band 4 (20MHz, Antenna 1)

Test Position	Cover Type	RB size	RB offset	Channel/ Frequency (MHz)	Maximum Allowed Power(dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (REC On+Hotspot Off, QPSK)</b>											
Left Cheek	standard	1RB	0	20050/1720	24.00	23.63	-0.027	0.268	1.09	0.292	56
Left Tilt	standard	1RB	0	20050/1720	24.00	23.63	0.031	0.056	1.09	0.061	/
Right Cheek	standard	1RB	0	20050/1720	24.00	23.63	0.033	0.125	1.09	0.136	/
Right Tilt	standard	1RB	0	20050/1720	24.00	23.63	0.035	0.057	1.09	0.062	/
Left Cheek	standard	50%RB	50	20300/1745	23.00	22.53	0.071	0.209	1.11	0.233	/
Left Tilt	standard	50%RB	50	20300/1745	23.00	22.53	0.050	0.043	1.11	0.048	/
Right Cheek	standard	50%RB	50	20300/1745	23.00	22.53	0.091	0.100	1.11	0.111	/
Right Tilt	standard	50%RB	50	20300/1745	23.00	22.53	0.039	0.065	1.11	0.073	/
<b>Head SAR (Hotspot On, QPSK)</b>											
Left Cheek	standard	1RB	0	20050/1720	18.50	18.33	0.020	0.066	1.04	0.069	/
Left Tilt	standard	1RB	0	20050/1720	18.50	18.33	0.025	0.014	1.04	0.015	/
Right Cheek	standard	1RB	0	20050/1720	18.50	18.33	0.033	0.035	1.04	0.036	/
Right Tilt	standard	1RB	0	20050/1720	18.50	18.33	0.120	0.021	1.04	0.022	/
Left Cheek	standard	50%RB	50	20300/1745	18.50	18.06	0.113	0.064	1.11	0.070	/
Left Tilt	standard	50%RB	50	20300/1745	18.50	18.06	0.058	0.014	1.11	0.016	/
Right Cheek	standard	50%RB	50	20300/1745	18.50	18.06	0.150	0.034	1.11	0.037	/
Right Tilt	standard	50%RB	50	20300/1745	18.50	18.06	0.010	0.020	1.11	0.023	/
<b>Head SAR (For Worse Case)</b>											
Left Cheek	SIM 2	1RB	0	20050/1720	24.00	23.63	0.058	0.261	1.09	0.284	/
Left Cheek	Battery 2	1RB	0	20050/1720	24.00	23.63	0.019	0.254	1.09	0.277	/
Left Cheek	Battery 3	1RB	0	20050/1720	24.00	23.63	0.004	0.260	1.09	0.283	/
<b>Body-worn (REC Off+Hotspot Off, QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	0	20300/1745	24.00	23.54	0.100	0.758	1.11	0.843	/
		1RB	0	20175/1732.5	24.00	23.58	0.070	0.744	1.10	0.820	/
		1RB	0	20050/1720	24.00	23.63	-0.150	0.789	1.09	0.859	57
Front Side	standard	1RB	0	20050/1720	24.00	23.63	0.030	0.670	1.09	0.730	/
Back Side	standard	50%RB	50	20300/1745	23.00	22.53	0.020	0.578	1.11	0.644	/
Front Side	standard	50%RB	50	20300/1745	23.00	22.53	0.120	0.549	1.11	0.612	/
Back Side	standard	100%RB	0	20050/1720	23.00	22.53	0.061	0.551	1.11	0.614	/
Back Side	SIM 2	1RB	0	20050/1720	24.00	23.63	0.020	0.711	1.09	0.775	/
Back Side	Battery 2	1RB	0	20050/1720	24.00	23.63	0.102	0.739	1.09	0.804	/
Back Side	Battery 3	1RB	0	20050/1720	24.00	23.63	0.126	0.764	1.09	0.832	/
<b>Hotspot (Hotspot On, QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	0	20050/1720	18.50	18.33	0.080	0.383	1.04	0.398	/
Front Side	standard	1RB	0	20050/1720	18.50	18.33	0.033	0.412	1.04	0.428	/



Left Edge	standard	1RB	0	20050/1720	18.50	18.33	0.180	0.032	1.04	0.033	/
Right Edge	standard	1RB	0	20050/1720	18.50	18.33	0.060	0.078	1.04	0.081	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1RB	0	20050/1720	18.50	18.33	0.041	0.399	1.04	0.415	/
Back Side	standard	50%RB	50	20300/1745	18.50	18.06	0.170	0.401	1.11	0.444	/
Front Side	standard	50%RB	50	20300/1745	18.50	18.06	0.031	0.406	1.11	0.449	/
Left Edge	standard	50%RB	50	20300/1745	18.50	18.06	0.160	0.029	1.11	0.032	/
Right Edge	standard	50%RB	50	20300/1745	18.50	18.06	0.042	0.079	1.11	0.088	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	50%RB	50	20300/1745	18.50	18.06	0.043	0.443	1.11	0.490	58

Note: 1. The value with blue color is the maximum SAR Value of each test band.  
 2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).  
 3. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq 0.8$  W/kg.  
 4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

MAX Adjusted SAR

Test Position	Cover Type	RB size	RB offset	Channel/ Frequency (MHz)	Full power Tune-up limit (dBm)	Conducted Power (dBm)	Reported SAR <sub>1g</sub> (W/kg)	Scaling Factor	Full power Report SAR <sub>1g</sub> (W/kg)	0mm SAR
Back Side	standard	1RB	0	20050/1720	24.00	18.33	0.398	3.55	1.413	Yes
Front Side	standard	1RB	0	20050/1720	24.00	18.33	0.428	3.55	1.520	Yes
Left Edge	standard	1RB	0	20050/1720	24.00	18.33	0.033	3.55	0.117	No
Right Edge	standard	1RB	0	20050/1720	24.00	18.33	0.081	3.55	0.288	No
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1RB	0	20050/1720	24.00	18.33	0.415	3.55	1.472	Yes
Back Side	standard	50%RB	50	20300/1745	23.00	18.06	0.444	2.82	1.251	Yes
Front Side	standard	50%RB	50	20300/1745	23.00	18.06	0.449	2.82	1.266	Yes
Left Edge	standard	50%RB	50	20300/1745	23.00	18.06	0.032	2.82	0.089	No
Right Edge	standard	50%RB	50	20300/1745	23.00	18.06	0.088	2.82	0.247	No
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	50%RB	50	20300/1745	23.00	18.06	0.490	2.82	1.382	Yes

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR > 1.2 W/kg, Product Specific 10-g SAR is required.

Test Position	Cover Type	RB size	RB offset	Channel/ Frequency (MHz)	Maximum Allowed Power(dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>10g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>10g</sub> (W/kg)	Plot No.
<b>Product Specific 10-g SAR (Hotspot Off+Sensor On, Distance 0mm)</b>											
Back Side	standard	1RB	0	20300/1745	22.00	21.29	0.016	1.629	1.18	1.918	/
		1RB	0	20175/1732.5	22.00	21.31	-0.019	1.661	1.17	1.947	/
		1RB	0	20050/1720	22.00	21.38	0.051	1.690	1.15	1.949	/





Front Side	standard	1RB	0	20300/1745	22.00	21.29	0.000	1.994	1.18	2.348	/
		1RB	0	20175/1732.5	22.00	21.31	0.083	2.091	1.17	2.451	/
		1RB	0	20050/1720	22.00	21.38	0.040	2.150	1.15	2.480	/
Bottom Edge	standard	1RB	0	20300/1745	22.00	21.29	-0.011	1.910	1.18	2.249	/
		1RB	0	20175/1732.5	22.00	21.31	-0.013	1.912	1.17	2.241	/
		1RB	0	20050/1720	22.00	21.38	-0.070	1.970	1.15	2.272	/
Back Side	standard	50%RB	50	20300/1745	22.00	21.27	0.016	1.740	1.18	2.058	/
		50%RB	0	20175/1732.5	22.00	21.17	0.105	1.775	1.21	2.149	/
		50%RB	0	20050/1720	22.00	21.25	-0.008	1.801	1.19	2.140	/
Front Side	standard	50%RB	50	20300/1745	22.00	21.27	0.009	2.110	1.18	2.496	/
		50%RB	0	20175/1732.5	22.00	21.17	0.040	2.010	1.21	2.433	/
		50%RB	0	20050/1720	22.00	21.25	0.033	2.000	1.19	2.377	/
Bottom Edge	standard	50%RB	50	20300/1745	22.00	21.27	0.018	2.050	1.18	2.425	/
		50%RB	0	20175/1732.5	22.00	21.17	0.064	1.980	1.21	2.397	/
		50%RB	0	20050/1720	22.00	21.25	0.007	2.004	1.19	2.382	/
Back Side	standard	100%RB	0	20050/1720	22.00	21.26	0.025	1.660	1.19	1.968	/
Front Side	standard	100%RB	0	20050/1720	22.00	21.26	0.120	1.920	1.19	2.277	/
Bottom Edge	standard	100%RB	0	20050/1720	22.00	21.26	0.056	2.190	1.19	2.597	59
Bottom Edge	SIM 2	50%RB	50	20300/1745	22.00	21.27	0.000	2.104	1.18	2.489	/
Bottom Edge	Battery 2	50%RB	50	20300/1745	22.00	21.27	0.027	2.170	1.18	2.567	/
Bottom Edge	Battery 3	50%RB	50	20300/1745	22.00	21.27	0.008	2.141	1.18	2.533	/
Bottom Edge	Repeated	50%RB	50	20300/1745	22.00	21.27	0.015	2.152	1.18	2.546	/
<b>Product Specific 10-g SAR (Hotspot Off+Sensor Off, Distance 6mm)</b>											
Back Side	standard	1RB	0	20050/1720	24.00	23.63	0.070	1.310	1.09	1.426	/
Front Side	standard	1RB	0	20050/1720	24.00	23.63	0.022	1.270	1.09	1.383	/
Bottom Edge	standard	1RB	0	20300/1745	24.00	23.54	0.048	1.900	1.11	2.112	/
		1RB	0	20175/1732.5	24.00	23.58	0.006	1.971	1.10	2.171	/
		1RB	0	20050/1720	24.00	23.63	0.022	1.980	1.09	2.156	/
Back Side	standard	50%RB	50	20300/1745	23.00	22.53	0.018	1.205	1.11	1.343	/
Front Side	standard	50%RB	50	20300/1745	23.00	22.53	0.009	1.120	1.11	1.248	/
Bottom Edge	standard	50%RB	50	20300/1745	23.00	22.53	0.040	1.830	1.11	2.039	/
Bottom Edge	standard	100%RB	0	20300/1745	23.00	22.52	0.108	1.860	1.12	2.077	/
<p>Note: 1. The value with blue color is the maximum SAR Value of each test band.</p> <p>2. According to Clause 5.3.10 in this report, 6mm is used as the more conservative test separation distance for additional SAR testing with sensor off.</p>											

**Measurement Variability**

Test Position	Channel/ Frequency(MHz)	MAX Measured SAR <sub>1g</sub> (W/kg)	1 <sup>st</sup> Repeated SAR <sub>1g</sub> (W/kg)	Ratio
Bottom Edge	20300/1745	2.190	2.152	1.02

Note: 1) When the original highest measured SAR<sub>1g</sub> is ≥ 0.80 W/kg or SAR<sub>10g</sub> is ≥ 2.0 W/kg, the measurement was repeated once.

2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20.



Table 8: LTE Band 5 (10MHz, Antenna 1)

Test Position	Cover Type	RB size	RB offset	Channel/Frequency (MHz)	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (QPSK)</b>											
Left Cheek	standard	1RB	25	20450/829	24.00	23.14	0.100	0.153	1.22	0.187	/
Left Tilt	standard	1RB	25	20450/829	24.00	23.14	0.120	0.093	1.22	0.113	/
Right Cheek	standard	1RB	25	20450/829	24.00	23.14	0.130	0.224	1.22	0.273	60
Right Tilt	standard	1RB	25	20450/829	24.00	23.14	0.120	0.109	1.22	0.133	/
Left Cheek	standard	50%RB	13	20525/836.5	23.00	22.17	0.033	0.122	1.21	0.148	/
Left Tilt	standard	50%RB	13	20525/836.5	23.00	22.17	0.019	0.087	1.21	0.105	/
Right Cheek	standard	50%RB	13	20525/836.5	23.00	22.17	0.190	0.220	1.21	0.266	/
Right Tilt	standard	50%RB	13	20525/836.5	23.00	22.17	0.100	0.105	1.21	0.127	/
Right Cheek	SIM 2	1RB	25	20450/829	24.00	23.14	0.051	0.195	1.22	0.238	/
Right Cheek	Battery 2	1RB	25	20450/829	24.00	23.14	0.060	0.204	1.22	0.249	/
Right Cheek	Battery 3	1RB	25	20450/829	24.00	23.14	0.018	0.210	1.22	0.256	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	25	20450/829	24.00	23.14	0.040	0.215	1.22	0.262	61
Front Side	standard	1RB	25	20450/829	24.00	23.14	-0.090	0.210	1.22	0.256	/
Back Side	standard	50%RB	13	20525/836.5	23.00	22.17	0.060	0.206	1.21	0.249	/
Front Side	standard	50%RB	13	20525/836.5	23.00	22.17	-0.110	0.200	1.21	0.242	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	25	20450/829	24.00	23.14	0.040	0.322	1.22	0.393	62
Front Side	standard	1RB	25	20450/829	24.00	23.14	-0.090	0.309	1.22	0.377	/
Left Edge	standard	1RB	25	20450/829	24.00	23.14	0.050	0.051	1.22	0.063	/
Right Edge	standard	1RB	25	20450/829	24.00	23.14	0.000	0.207	1.22	0.252	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1RB	25	20450/829	24.00	23.14	0.060	0.282	1.22	0.344	/
Back Side	standard	50%RB	13	20525/836.5	23.00	22.17	0.050	0.307	1.21	0.372	/
Front Side	standard	50%RB	13	20525/836.5	23.00	22.17	-0.011	0.307	1.21	0.372	/
Left Edge	standard	50%RB	13	20525/836.5	23.00	22.17	0.020	0.050	1.21	0.061	/
Right Edge	standard	50%RB	13	20525/836.5	23.00	22.17	0.030	0.190	1.21	0.230	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	50%RB	13	20525/836.5	23.00	22.17	0.110	0.263	1.21	0.318	/
Back Side	SIM 2	1RB	25	20450/829	24.00	23.14	0.016	0.297	1.22	0.362	/
Back Side	Battery 2	1RB	25	20450/829	24.00	23.14	0.082	0.315	1.22	0.384	/
Back Side	Battery 3	1RB	25	20450/829	24.00	23.14	0.070	0.304	1.22	0.371	/
<p>Note: 1. The value with blue color is the maximum SAR Value of each test band.</p> <p>2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is <math>\leq 0.8</math> W/kg then testing at the other channels is not required for such test configuration(s).</p> <p>3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was <math>\leq 1.2</math> W/kg, no additional SAR evaluations using a headset cable were required.</p>											



4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g *reported* SAR < 1.2 W/kg, Product Specific 10-g SAR is no required.



Table 9: LTE Band 7 (20MHz, Antenna 1)

Test Position	Cover Type	RB size	RB offset	Channel/Frequency (MHz)	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (REC On+Hotspot Off, QPSK)</b>											
Left Cheek	standard	1RB	0	20850/2510	24.00	23.61	0.066	0.192	1.09	0.210	/
Left Tilt	standard	1RB	0	20850/2510	24.00	23.61	0.025	0.156	1.09	0.170	/
Right Cheek	standard	1RB	0	20850/2510	24.00	23.61	0.032	0.204	1.09	0.223	/
Right Tilt	standard	1RB	0	20850/2510	24.00	23.61	0.059	0.125	1.09	0.137	/
Left Cheek	standard	50%RB	0	20850/2510	23.00	22.54	0.046	0.176	1.11	0.195	/
Left Tilt	standard	50%RB	0	20850/2510	23.00	22.54	0.033	0.142	1.11	0.158	/
Right Cheek	standard	50%RB	0	20850/2510	23.00	22.54	0.054	0.181	1.11	0.201	/
Right Tilt	standard	50%RB	0	20850/2510	23.00	22.54	0.053	0.120	1.11	0.133	/
<b>Head SAR (Hotspot On, QPSK)</b>											
Left Cheek	standard	1RB	99	20850/2510	23.00	22.41	0.025	0.174	1.15	0.200	/
Left Tilt	standard	1RB	99	20850/2510	23.00	22.41	0.023	0.153	1.15	0.176	/
Right Cheek	standard	1RB	99	20850/2510	23.00	22.41	0.093	0.182	1.15	0.208	/
Right Tilt	standard	1RB	99	20850/2510	23.00	22.41	0.023	0.122	1.15	0.140	/
Left Cheek	standard	50%RB	0	20850/2510	23.00	22.48	0.040	0.176	1.13	0.198	/
Left Tilt	standard	50%RB	0	20850/2510	23.00	22.48	0.020	0.153	1.13	0.172	/
Right Cheek	standard	50%RB	0	20850/2510	23.00	22.48	0.104	0.182	1.13	0.205	/
Right Tilt	standard	50%RB	0	20850/2510	23.00	22.48	0.021	0.126	1.00	0.126	/
<b>Head SAR (For Worse Case)</b>											
Right Cheek	SIM 2	1RB	0	20850/2510	24.00	23.61	0.192	0.196	1.09	0.215	/
Right Cheek	Battery 2	1RB	0	20850/2510	24.00	23.61	-0.050	0.233	1.09	0.255	63
Right Cheek	Battery 3	1RB	0	20850/2510	24.00	23.61	0.026	0.193	1.09	0.211	/
<b>Body-worn (Hotspot Off, QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	0	20850/2510	24.00	23.61	-0.120	0.237	1.09	0.259	/
Front Side	standard	1RB	0	20850/2510	24.00	23.61	-0.070	0.283	1.09	0.310	64
Back Side	standard	50%RB	0	20850/2510	24.00	22.54	-0.024	0.181	1.11	0.201	/
Front Side	standard	50%RB	0	20850/2510	24.00	22.54	0.021	0.223	1.11	0.248	/
<b>Hotspot (Hotspot On, QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	99	20850/2510	23.00	22.41	-0.040	0.468	1.15	0.536	/
Front Side	standard	1RB	99	20850/2510	23.00	22.41	-0.190	0.526	1.15	0.603	65
Left Edge	standard	1RB	99	20850/2510	23.00	22.41	0.060	0.154	1.15	0.176	/
Right Edge	standard	1RB	99	20850/2510	23.00	22.41	0.120	0.118	1.15	0.135	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1RB	99	20850/2510	23.00	22.41	0.000	0.450	1.15	0.515	/
Back Side	standard	50%RB	0	20850/2510	23.00	22.48	0.000	0.457	1.13	0.515	/



Front Side	standard	50%RB	0	20850/2510	23.00	22.48	-0.053	0.491	1.13	0.553	/
Left Edge	standard	50%RB	0	20850/2510	23.00	22.48	0.027	0.148	1.13	0.167	/
Right Edge	standard	50%RB	0	20850/2510	23.00	22.48	0.024	0.119	1.13	0.134	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	50%RB	0	20850/2510	23.00	22.48	0.010	0.430	1.13	0.485	/
Front Side	SIM 2	1RB	99	20850/2510	23.00	22.41	0.060	0.462	1.15	0.529	/
Front Side	Battery 2	1RB	99	20850/2510	23.00	22.41	-0.130	0.464	1.15	0.532	/
Front Side	Battery 3	1RB	99	20850/2510	23.00	22.41	-0.100	0.492	1.15	0.564	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

MAX Adjusted SAR										
Test Position	Cover Type	RB size	RB offset	Channel/ Frequency (MHz)	Full power Tune-up limit (dBm)	Conducted Power (dBm)	Reported SAR <sub>1g</sub> (W/kg)	Scaling Factor	Full power Report SAR <sub>1g</sub> (W/kg)	0mm SAR
Back Side	standard	1RB	99	20850/2510	23.60	22.41	0.536	1.15	0.616	No
Front Side	standard	1RB	99	20850/2510	23.60	22.41	0.603	1.15	0.692	No
Left Edge	standard	1RB	99	20850/2510	23.60	22.41	0.176	1.15	0.203	No
Right Edge	standard	1RB	99	20850/2510	23.60	22.41	0.135	1.15	0.155	No
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1RB	99	20850/2510	23.60	22.41	0.515	1.15	0.592	No
Back Side	standard	50%RB	0	20850/2510	22.60	22.48	0.515	0.91	0.470	No
Front Side	standard	50%RB	0	20850/2510	22.60	22.48	0.553	0.91	0.505	No
Left Edge	standard	50%RB	0	20850/2510	22.60	22.48	0.167	0.91	0.152	No
Right Edge	standard	50%RB	0	20850/2510	22.60	22.48	0.134	0.91	0.122	No
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	50%RB	0	20850/2510	22.60	22.48	0.485	0.91	0.442	No
Front Side	SIM 2	1RB	99	20850/2510	22.60	22.41	0.529	0.91	0.483	No
Front Side	Battery 2	1RB	99	20850/2510	22.60	22.41	0.532	0.91	0.485	No
Front Side	Battery 3	1RB	99	20850/2510	22.60	22.41	0.564	0.91	0.514	No

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.



Table 10: LTE Band 12 (20MHz, Antenna 1)

Test Position	Cover Type	RB size	RB offset	Channel/ Frequency (MHz)	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (QPSK)</b>											
Left Cheek	standard	1RB	25	23130/711	24.00	23.56	0.033	0.194	1.11	0.215	/
Left Tilt	standard	1RB	25	23130/711	24.00	23.56	0.100	0.155	1.11	0.171	/
Right Cheek	standard	1RB	25	23130/711	24.00	23.56	0.043	0.221	1.11	0.245	/
Right Tilt	standard	1RB	25	23130/711	24.00	23.56	0.110	0.141	1.11	0.156	/
Left Cheek	standard	50%RB	13	23130/711	23.00	22.66	0.135	0.177	1.08	0.192	/
Left Tilt	standard	50%RB	13	23130/711	23.00	22.66	0.028	0.153	1.08	0.165	/
Right Cheek	standard	50%RB	13	23130/711	23.00	22.66	0.060	0.198	1.08	0.214	/
Right Tilt	standard	50%RB	13	23130/711	23.00	22.66	0.110	0.136	1.08	0.147	/
Right Cheek	SIM 2	1RB	25	23130/711	24.00	23.56	0.027	0.212	1.11	0.235	/
Right Cheek	Battery 2	1RB	25	23130/711	24.00	23.56	0.130	0.227	1.11	0.251	66
Right Cheek	Battery 3	1RB	25	23130/711	24.00	23.56	0.129	0.152	1.11	0.168	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	25	23130/711	24.00	23.56	0.000	0.200	1.11	0.221	67
Front Side	standard	1RB	25	23130/711	24.00	23.56	-0.020	0.185	1.11	0.205	/
Back Side	standard	50%RB	13	23130/711	23.00	22.66	0.000	0.166	1.08	0.180	/
Front Side	standard	50%RB	13	23130/711	23.00	22.66	-0.040	0.154	1.08	0.167	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	25	23130/711	24.00	23.56	0.030	0.264	1.11	0.292	/
Front Side	standard	1RB	25	23130/711	24.00	23.56	-0.070	0.266	1.11	0.294	68
Left Edge	standard	1RB	25	23130/711	24.00	23.56	0.030	0.056	1.11	0.061	/
Right Edge	standard	1RB	25	23130/711	24.00	23.56	0.030	0.195	1.11	0.216	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1RB	25	23130/711	24.00	23.56	0.030	0.171	1.11	0.189	/
Back Side	standard	50%RB	13	23130/711	23.00	22.66	0.020	0.221	1.08	0.239	/
Front Side	standard	50%RB	13	23130/711	23.00	22.66	-0.040	0.223	1.08	0.241	/
Left Edge	standard	50%RB	13	23130/711	23.00	22.66	0.070	0.047	1.08	0.050	/
Right Edge	standard	50%RB	13	23130/711	23.00	22.66	0.000	0.185	1.08	0.200	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	50%RB	13	23130/711	23.00	22.66	0.120	0.160	1.08	0.173	/
Front Side	SIM 2	1RB	25	23130/711	24.00	23.56	0.017	0.261	1.11	0.289	/
Front Side	Battery 2	1RB	25	23130/711	24.00	23.56	0.005	0.248	1.11	0.274	/
Front Side	Battery 3	1RB	25	23130/711	24.00	23.56	0.046	0.251	1.11	0.278	/
<p>Note: 1. The value with blue color is the maximum SAR Value of each test band.</p> <p>2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is <math>\leq 0.8</math> W/kg then testing at the other channels is not required for such test configuration(s).</p> <p>3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was <math>\leq 1.2</math> W/kg, no additional SAR evaluations using a headset cable were required.</p>											



4. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g *reported* SAR < 1.2 W/kg, Product Specific 10-g SAR is no required.



Table 11: LTE Band 17 (10MHz, Antenna 1)

Test Position	Cover Type	RB size	RB offset	Channel/Frequency (MHz)	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (QPSK)</b>											
Left Cheek	standard	1RB	0	23780/709	24.00	23.54	0.085	0.189	1.11	0.210	/
Left Tilt	standard	1RB	0	23780/709	24.00	23.54	0.160	0.179	1.11	0.199	/
Right Cheek	standard	1RB	0	23780/709	24.00	23.54	-0.040	0.218	1.11	0.242	69
Right Tilt	standard	1RB	0	23780/709	24.00	23.54	0.090	0.149	1.11	0.166	/
Left Cheek	standard	50%RB	0	23790/710	23.00	22.64	0.086	0.174	1.09	0.189	/
Left Tilt	standard	50%RB	0	23790/710	23.00	22.64	0.031	0.158	1.09	0.172	/
Right Cheek	standard	50%RB	0	23790/710	23.00	22.64	0.085	0.196	1.09	0.213	/
Right Tilt	standard	50%RB	0	23790/710	23.00	22.64	0.190	0.135	1.09	0.146	/
Right Cheek	SIM 2	1RB	0	23780/709	24.00	23.54	0.007	0.204	1.11	0.227	/
Right Cheek	Battery 2	1RB	0	23780/709	24.00	23.54	0.100	0.210	1.11	0.233	/
Right Cheek	Battery 3	1RB	0	23780/709	24.00	23.54	0.065	0.209	1.11	0.232	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	0	23780/709	24.00	23.54	0.020	0.198	1.11	0.220	70
Front Side	standard	1RB	0	23780/709	24.00	23.54	0.000	0.168	1.11	0.187	/
Back Side	standard	50%RB	0	23790/710	23.00	22.64	0.010	0.137	1.09	0.149	/
Front Side	standard	50%RB	0	23790/710	23.00	22.64	-0.030	0.127	1.09	0.138	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	0	23780/709	24.00	23.54	0.010	0.266	1.11	0.296	71
Front Side	standard	1RB	0	23780/709	24.00	23.54	-0.030	0.231	1.11	0.257	/
Left Edge	standard	1RB	0	23780/709	24.00	23.54	-0.170	0.051	1.11	0.056	/
Right Edge	standard	1RB	0	23780/709	24.00	23.54	0.000	0.216	1.11	0.240	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1RB	0	23780/709	24.00	23.54	-0.020	0.158	1.11	0.176	/
Back Side	standard	50%RB	0	23790/710	23.00	22.64	-0.010	0.215	1.09	0.234	/
Front Side	standard	50%RB	0	23790/710	23.00	22.64	-0.030	0.190	1.09	0.206	/
Left Edge	standard	50%RB	0	23790/710	23.00	22.64	-0.010	0.044	1.09	0.047	/
Right Edge	standard	50%RB	0	23790/710	23.00	22.64	0.030	0.168	1.09	0.183	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	50%RB	0	23790/710	23.00	22.64	-0.040	0.127	1.09	0.138	/
Back Side	SIM 2	1RB	0	23780/709	24.00	23.54	0.030	0.257	1.11	0.286	/
Back Side	Battery 2	1RB	0	23780/709	24.00	23.54	-0.020	0.242	1.11	0.269	/
Back Side	Battery 3	1RB	0	23780/709	24.00	23.54	0.030	0.254	1.11	0.282	/
Note: 1. The value with blue color is the maximum SAR Value of each test band.											
2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is $\leq 0.8$ W/kg then testing at the other channels is not required for such test configuration(s).											
3. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are $\geq 0.8$ W/kg.											
4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was $\leq 1.2$ W/kg, no											





additional SAR evaluations using a headset cable were required.

5. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g *reported* SAR < 1.2 W/kg, Product Specific 10-g SAR is no required.



Table 12: LTE Band 26 (15MHz, Antenna 1)

Test Position	Cover Type	RB size	RB offset	Channel/ Frequency (MHz)	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (QPSK)</b>											
Left Cheek	standard	1RB	38	26775/822.5	24.00	23.14	0.081	0.130	1.22	0.158	/
Left Tilt	standard	1RB	38	26775/822.5	24.00	23.14	0.020	0.070	1.22	0.086	/
Right Cheek	standard	1RB	38	26775/822.5	24.00	23.14	-0.010	0.204	1.22	0.249	72
Right Tilt	standard	1RB	38	26775/822.5	24.00	23.14	0.130	0.098	1.22	0.120	/
Left Cheek	standard	50%RB	18	26865/831.5	23.00	22.35	0.049	0.124	1.16	0.144	/
Left Tilt	standard	50%RB	18	26865/831.5	23.00	22.35	0.060	0.070	1.16	0.081	/
Right Cheek	standard	50%RB	18	26865/831.5	23.00	22.35	0.170	0.197	1.16	0.229	/
Right Tilt	standard	50%RB	18	26865/831.5	23.00	22.35	0.180	0.096	1.16	0.111	/
Right Cheek	SIM 2	1RB	38	26775/822.5	24.00	23.14	0.011	0.176	1.22	0.215	/
Right Cheek	Battery 2	1RB	38	26775/822.5	24.00	23.14	0.064	0.200	1.22	0.244	/
Right Cheek	Battery 3	1RB	38	26775/822.5	24.00	23.14	0.029	0.188	1.22	0.229	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	38	26775/822.5	24.00	23.14	0.030	0.274	1.22	0.334	73
Front Side	standard	1RB	38	26775/822.5	24.00	23.14	-0.070	0.230	1.22	0.280	/
Back Side	standard	50%RB	18	26865/831.5	23.00	22.35	0.020	0.235	1.16	0.273	/
Front Side	standard	50%RB	18	26865/831.5	23.00	22.35	-0.050	0.211	1.16	0.245	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	38	26775/822.5	24.00	23.14	0.050	0.381	1.22	0.464	74
Front Side	standard	1RB	38	26775/822.5	24.00	23.14	-0.080	0.348	1.22	0.424	/
Left Edge	standard	1RB	38	26775/822.5	24.00	23.14	0.040	0.075	1.22	0.092	/
Right Edge	standard	1RB	38	26775/822.5	24.00	23.14	0.070	0.228	1.22	0.278	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1RB	38	26775/822.5	24.00	23.14	0.030	0.280	1.22	0.341	/
Back Side	standard	50%RB	18	26865/831.5	23.00	22.35	0.040	0.324	1.16	0.376	/
Front Side	standard	50%RB	18	26865/831.5	23.00	22.35	-0.050	0.298	1.16	0.346	/
Left Edge	standard	50%RB	18	26865/831.5	23.00	22.35	0.090	0.058	1.16	0.068	/
Right Edge	standard	50%RB	18	26865/831.5	23.00	22.35	-0.020	0.188	1.16	0.218	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	50%RB	18	26865/831.5	23.00	22.35	0.070	0.234	1.16	0.272	/
Back Side	SIM 2	1RB	38	26775/822.5	24.00	23.14	0.090	0.359	1.22	0.438	/
Back Side	Battery 2	1RB	38	26775/822.5	24.00	23.14	0.105	0.370	1.22	0.451	/
Back Side	Battery 3	1RB	38	26775/822.5	24.00	23.14	0.004	0.367	1.22	0.447	/
<p>Note: 1. The value with blue color is the maximum SAR Value of each test band.</p> <p>2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is <math>\leq 0.8</math> W/kg then testing at the other channels is not required for such test configuration(s).</p> <p>3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was <math>\leq 1.2</math> W/kg, no additional SAR evaluations using a headset cable were required.</p>											



4. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g *reported* SAR < 1.2 W/kg, Product Specific 10-g SAR is no required.



Table 13: LTE Band 38 (20MHz, Antenna 1)

Test Position	Cover Type	RB size	RB offset	Channel/ Frequency (MHz)	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (QPSK)</b>											
Left Cheek	standard	1RB	99	38150/2610	24.00	23.10	0.000	0.177	1.23	0.217	75
Left Tilt	standard	1RB	99	38150/2610	24.00	23.10	0.000	0.131	1.23	0.162	/
Right Cheek	standard	1RB	99	38150/2610	24.00	23.10	-0.050	0.170	1.23	0.209	/
Right Tilt	standard	1RB	99	38150/2610	24.00	23.10	0.025	0.125	1.23	0.154	/
Left Cheek	standard	50%RB	0	38150/2610	23.00	22.17	0.044	0.169	1.21	0.204	/
Left Tilt	standard	50%RB	0	38150/2610	23.00	22.17	0.056	0.132	1.21	0.159	/
Right Cheek	standard	50%RB	0	38150/2610	23.00	22.17	0.000	0.171	1.21	0.207	/
Right Tilt	standard	50%RB	0	38150/2610	23.00	22.17	0.041	0.127	1.21	0.153	/
Left Cheek	SIM 2	1RB	99	38150/2610	24.00	23.10	0.045	0.165	1.23	0.203	/
Left Cheek	Battery 2	1RB	99	38150/2610	24.00	23.10	0.003	0.172	1.23	0.212	/
Left Cheek	Battery 3	1RB	99	38150/2610	24.00	23.10	0.017	0.168	1.23	0.207	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	99	38150/2610	24.00	23.10	-0.052	0.145	1.23	0.178	/
Front Side	standard	1RB	99	38150/2610	24.00	23.10	-0.040	0.154	1.23	0.189	76
Back Side	standard	50%RB	0	38150/2610	23.00	22.17	-0.034	0.142	1.21	0.172	/
Front Side	standard	50%RB	0	38150/2610	23.00	22.17	-0.162	0.153	1.21	0.185	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	99	38150/2610	24.00	23.10	-0.030	0.241	1.23	0.296	/
Front Side	standard	1RB	99	38150/2610	24.00	23.10	-0.056	0.367	1.23	0.452	77
Left Edge	standard	1RB	99	38150/2610	24.00	23.10	0.046	0.055	1.23	0.067	/
Right Edge	standard	1RB	99	38150/2610	24.00	23.10	-0.120	0.104	1.23	0.128	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1RB	99	38150/2610	24.00	23.10	-0.010	0.329	1.23	0.405	/
Back Side	standard	50%RB	0	38150/2610	23.00	22.17	-0.034	0.230	1.21	0.278	/
Front Side	standard	50%RB	0	38150/2610	23.00	22.17	-0.110	0.362	1.21	0.438	/
Left Edge	standard	50%RB	0	38150/2610	23.00	22.17	-0.021	0.053	1.21	0.065	/
Right Edge	standard	50%RB	0	38150/2610	23.00	22.17	0.120	0.107	1.21	0.130	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	50%RB	0	38150/2610	23.00	22.17	-0.070	0.346	1.21	0.419	/
Front Side	SIM 2	1RB	99	38150/2610	24.00	23.10	0.014	0.351	1.23	0.432	/
Front Side	Battery 2	1RB	99	38150/2610	24.00	23.10	0.009	0.334	1.23	0.411	/
Front Side	Battery 3	1RB	99	38150/2610	24.00	23.10	0.025	0.347	1.23	0.427	/
Note: 1. The value with blue color is the maximum SAR Value of each test band.											
2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is $\leq 0.8$ W/kg then testing at the other channels is not required for such test configuration(s).											
3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was $\leq 1.2$ W/kg, no additional SAR evaluations using a headset cable were required.											



4. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g *reported* SAR < 1.2 W/kg, Product Specific 10-g SAR is no required.



Table 14: LTE Band 41 (20MHz, Antenna 1)

Test Position	Cover Type	RB size	RB offset	Channel/ Frequency (MHz)	Maximum Allowed Power(dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (QPSK)</b>											
Left Cheek	standard	1RB	99	41140/2645	24.00	23.33	0.000	0.195	1.17	0.227	78
Left Tilt	standard	1RB	99	41140/2645	24.00	23.33	-0.029	0.134	1.17	0.156	/
Right Cheek	standard	1RB	99	41140/2645	24.00	23.33	0.087	0.170	1.17	0.198	/
Right Tilt	standard	1RB	99	41140/2645	24.00	23.33	0.023	0.133	1.17	0.156	/
Left Cheek	standard	50%RB	50	40690/2600	23.00	22.38	0.114	0.164	1.15	0.189	/
Left Tilt	standard	50%RB	50	40690/2600	23.00	22.38	0.034	0.125	1.15	0.144	/
Right Cheek	standard	50%RB	50	40690/2600	23.00	22.38	-0.029	0.159	1.15	0.184	/
Right Tilt	standard	50%RB	50	40690/2600	23.00	22.38	-0.087	0.125	1.15	0.144	/
Left Cheek	SIM 2	1RB	99	41140/2645	24.00	23.33	0.015	0.186	1.17	0.217	/
Left Cheek	Battery 2	1RB	99	41140/2645	24.00	23.33	0.002	0.191	1.17	0.223	/
Left Cheek	Battery 3	1RB	99	41140/2645	24.00	23.33	0.037	0.185	1.17	0.216	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	99	41140/2645	24.00	23.33	-0.020	0.160	1.17	0.187	/
Front Side	standard	1RB	99	41140/2645	24.00	23.33	-0.130	0.211	1.17	0.246	79
Back Side	standard	50%RB	50	40690/2600	23.00	22.38	-0.070	0.123	1.15	0.142	/
Front Side	standard	50%RB	50	40690/2600	23.00	22.38	-0.055	0.167	1.15	0.193	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	99	41140/2645	24.00	23.33	-0.070	0.353	1.17	0.412	/
Front Side	standard	1RB	99	41140/2645	24.00	23.33	-0.040	0.255	1.17	0.298	/
Left Edge	standard	1RB	99	41140/2645	24.00	23.33	0.060	0.104	1.17	0.121	/
Right Edge	standard	1RB	99	41140/2645	24.00	23.33	0.025	0.125	1.17	0.146	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1RB	99	41140/2645	24.00	23.33	-0.030	0.377	1.17	0.440	80
Back Side	standard	50%RB	50	40690/2600	23.00	22.38	-0.150	0.279	1.15	0.322	/
Front Side	standard	50%RB	50	40690/2600	23.00	22.38	-0.038	0.204	1.15	0.235	/
Left Edge	standard	50%RB	50	40690/2600	23.00	22.38	0.024	0.086	1.15	0.099	/
Right Edge	standard	50%RB	50	40690/2600	23.00	22.38	0.022	0.112	1.15	0.129	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	50%RB	50	40690/2600	23.00	22.38	-0.030	0.338	1.15	0.390	/
Bottom Edge	SIM 2	1RB	99	41140/2645	24.00	23.33	0.022	0.351	1.17	0.410	/
Bottom Edge	Battery 2	1RB	99	41140/2645	24.00	23.33	0.008	0.364	1.17	0.425	/
Bottom Edge	Battery 3	1RB	99	41140/2645	24.00	23.33	0.061	0.360	1.17	0.420	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 15: GSM 850 (Antenna 2)

Test Position	Cover Type	Channel/Frequency (MHz)	Time slot	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Single=REC On+Left Head)</b>											
Left Cheek	standard	190/836.6	GSM	1:8.3	29.50	28.47	-0.020	0.578	1.27	0.733	/
Left Tilt	standard	190/836.6	GSM	1:8.3	29.50	28.47	0.010	0.460	1.27	0.583	/
<b>Head SAR (Single=REC On+Right Head)</b>											
Right Cheek	standard	190/836.6	GSM	1:8.3	29.00	27.96	0.028	0.556	1.27	0.706	/
Right Tilt	standard	190/836.6	GSM	1:8.3	29.00	27.96	0.050	0.523	1.27	0.665	/
<b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT)</b>											
Left Cheek	standard	190/836.6	GSM	1:8.3	26.50	25.54	0.080	0.299	1.25	0.373	/
Left Tilt	standard	190/836.6	GSM	1:8.3	26.50	25.54	0.080	0.237	1.25	0.296	/
<b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT)</b>											
Right Cheek	standard	190/836.6	GSM	1:8.3	26.00	25.06	0.010	0.304	1.24	0.377	/
Right Tilt	standard	190/836.6	GSM	1:8.3	26.00	25.06	-0.030	0.274	1.24	0.340	/
<b>Head SAR (For Worse Case)</b>											
Left Cheek	SIM 2	190/836.6	GSM	1:8.3	29.50	28.47	-0.080	0.603	1.27	0.764	/
Left Cheek	Battery 2	251/848.8	GSM	1:8.3	29.50	28.63	0.030	0.625	1.22	0.764	/
		190/836.6	GSM	1:8.3	29.50	28.47	0.020	0.632	1.27	0.801	81
		128/824.2	GSM	1:8.3	29.50	28.24	-0.034	0.598	1.34	0.799	/
Left Cheek	Battery 3	190/836.6	GSM	1:8.3	29.50	28.47	0.020	0.609	1.27	0.772	/
<b>Body-worn (Single=REC Off, Distance 15mm)</b>											
Back Side	standard	190/836.6	GSM	1:8.3	33.60	32.24	-0.030	0.182	1.37	0.249	/
Front Side	standard	190/836.6	GSM	1:8.3	33.60	32.24	0.160	0.184	1.37	0.252	82
<b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)</b>											
Back Side	standard	190/836.6	2Txslots	1:4.15	28.00	26.99	-0.060	0.235	1.26	0.297	83
Front Side	standard	190/836.6	2Txslots	1:4.15	28.00	26.99	0.050	0.231	1.26	0.291	/
Left Edge	standard	190/836.6	2Txslots	1:4.15	28.00	26.99	0.070	0.107	1.26	0.135	/
Right Edge	standard	190/836.6	2Txslots	1:4.15	28.00	26.99	0.120	0.027	1.26	0.035	/
Top Edge	standard	190/836.6	2Txslots	1:4.15	28.00	26.99	0.036	0.177	1.26	0.223	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	SIM 2	190/836.6	2Txslots	1:4.15	28.00	26.99	-0.010	0.228	1.26	0.288	/
Back Side	Battery 2	190/836.6	2Txslots	1:4.15	28.00	26.99	-0.020	0.210	1.26	0.265	/
Back Side	Battery 3	190/836.6	2Txslots	1:4.15	28.00	26.99	-0.050	0.233	1.26	0.294	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

5. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 16: GSM 1900 (Antenna 2)

Test Position	Cover Type	Channel/Frequency (MHz)	Time slot	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Single=REC On+Left Head)</b>											
Left Cheek	standard	661/1880	GSM	1:8.3	30.00	29.36	-0.060	0.591	1.16	0.685	/
Left Tilt	standard	661/1880	GSM	1:8.3	30.00	29.36	-0.070	0.407	1.16	0.472	/
<b>Head SAR (Single=REC On+Right Head)</b>											
Right Cheek	standard	661/1880	GSM	1:8.3	26.50	25.86	0.073	0.480	1.16	0.556	/
Right Tilt	standard	661/1880	GSM	1:8.3	26.50	25.86	-0.040	0.380	1.16	0.440	/
<b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT)</b>											
Left Cheek	standard	661/1880	GSM	1:8.3	27.00	25.89	-0.057	0.281	1.29	0.363	/
Left Tilt	standard	661/1880	GSM	1:8.3	27.00	25.89	-0.030	0.202	1.29	0.261	/
<b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT)</b>											
Right Cheek	standard	661/1880	GSM	1:8.3	23.50	22.78	0.110	0.251	1.18	0.296	/
Right Tilt	standard	661/1880	GSM	1:8.3	23.50	22.78	-0.080	0.190	1.18	0.224	/
<b>Head SAR (For Worse Case)</b>											
Left Cheek	SIM 2	661/1880	GSM	1:8.3	30.00	29.36	0.010	0.540	1.16	0.626	/
Left Cheek	Battery 2	661/1880	GSM	1:8.3	30.00	29.36	-0.010	0.592	1.16	0.686	84
Left Cheek	Battery 3	661/1880	GSM	1:8.3	30.00	29.36	-0.030	0.580	1.16	0.672	/
<b>Body-worn (Single=REC Off, Distance 15mm)</b>											
Back Side	standard	661/1880	GSM	1:8.3	31.00	30.64	0.050	0.141	1.09	0.153	/
Front Side	standard	661/1880	GSM	1:8.3	31.00	30.64	-0.062	0.142	1.09	0.154	85
<b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)</b>											
Back Side	standard	661/1880	2Txslots	1:4.15	25.50	24.79	0.080	0.172	1.18	0.203	86
Front Side	standard	661/1880	2Txslots	1:4.15	25.50	24.79	0.170	0.157	1.18	0.185	/
Left Edge	standard	661/1880	2Txslots	1:4.15	25.50	24.79	-0.118	0.084	1.18	0.099	/
Right Edge	standard	661/1880	2Txslots	1:4.15	25.50	24.79	-0.108	0.015	1.18	0.017	/
Top Edge	standard	661/1880	2Txslots	1:4.15	25.50	24.79	0.000	0.122	1.18	0.144	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	SIM 2	661/1880	2Txslots	1:4.15	25.50	24.79	0.017	0.170	1.18	0.200	/
Back Side	Battery 2	661/1880	2Txslots	1:4.15	25.50	24.79	0.004	0.164	1.18	0.193	/
Back Side	Battery 3	661/1880	2Txslots	1:4.15	25.50	24.79	0.065	0.159	1.18	0.187	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

5. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.





Table 17: UMTS Band II (Antenna 2)

Test Position	Cover Type	Channel/Frequency (MHz)	Channel Type	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Single=REC On+Left Head)</b>											
Left Cheek	standard	9400/1880	RMC 12.2K	1:1	19.50	18.72	-0.060	0.560	1.20	0.670	87
Left Tilt	standard	9400/1880	RMC 12.2K	1:1	19.50	18.72	-0.020	0.422	1.20	0.505	/
<b>Head SAR (Single=REC On+Right Head)</b>											
Right Cheek	standard	9400/1880	RMC 12.2K	1:1	17.00	15.84	0.027	0.406	1.31	0.530	/
Right Tilt	standard	9400/1880	RMC 12.2K	1:1	17.00	15.84	0.150	0.332	1.31	0.434	/
<b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT)</b>											
Left Cheek	standard	9400/1880	RMC 12.2K	1:1	16.50	14.81	0.028	0.235	1.48	0.347	/
Left Tilt	standard	9400/1880	RMC 12.2K	1:1	16.50	14.81	-0.050	0.193	1.48	0.285	/
<b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT)</b>											
Right Cheek	standard	9400/1880	RMC 12.2K	1:1	14.00	12.51	-0.060	0.224	1.41	0.316	/
Right Tilt	standard	9400/1880	RMC 12.2K	1:1	14.00	12.51	0.190	0.180	1.41	0.254	/
<b>Head SAR (For Worse Case)</b>											
Left Cheek	SIM 2	9400/1880	RMC 12.2K	1:1	19.50	18.72	0.006	0.549	1.20	0.657	/
Left Cheek	Battery 2	9400/1880	RMC 12.2K	1:1	19.50	18.72	0.031	0.530	1.20	0.634	/
Left Cheek	Battery 3	9400/1880	RMC 12.2K	1:1	19.50	18.72	0.094	0.542	1.20	0.649	/
<b>Body-worn (Single=REC Off, Distance 15mm)</b>											
Back Side	standard	9400/1880	RMC 12.2K	1:1	22.50	21.71	0.100	0.253	1.20	0.303	88
Front Side	standard	9400/1880	RMC 12.2K	1:1	22.50	21.71	-0.070	0.207	1.20	0.248	/
<b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)</b>											
Back Side	standard	9400/1880	RMC 12.2K	1:1	21.50	20.70	0.050	0.227	1.20	0.273	/
Front Side	standard	9400/1880	RMC 12.2K	1:1	21.50	20.70	-0.032	0.230	1.20	0.277	89
Left Edge	standard	9400/1880	RMC 12.2K	1:1	21.50	20.70	-0.022	0.130	1.20	0.156	/
Right Edge	standard	9400/1880	RMC 12.2K	1:1	21.50	20.70	-0.103	0.017	1.20	0.021	/
Top Edge	standard	9400/1880	RMC 12.2K	1:1	21.50	20.70	0.040	0.189	1.20	0.227	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front Side	SIM 2	9400/1880	RMC 12.2K	1:1	21.50	20.70	0.015	0.213	1.20	0.256	/
Front Side	Battery 2	9400/1880	RMC 12.2K	1:1	21.50	20.70	0.020	0.228	1.20	0.274	/
Front Side	Battery 3	9400/1880	RMC 12.2K	1:1	21.50	20.70	0.009	0.224	1.20	0.269	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 18: UMTS Band IV (Antenna 2)

Test Position	Cover Type	Channel/Frequency (MHz)	Channel Type	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Single=REC On+Left Head)</b>											
Left Cheek	standard	1413/1732.6	RMC 12.2K	1:1	20.50	20.13	-0.058	0.541	1.09	0.589	/
Left Tilt	standard	1413/1732.6	RMC 12.2K	1:1	20.50	20.13	-0.030	0.483	1.09	0.526	/
<b>Head SAR (Single=REC On+Right Head)</b>											
Right Cheek	standard	1413/1732.6	RMC 12.2K	1:1	17.50	17.07	0.158	0.564	1.10	0.623	/
Right Tilt	standard	1413/1732.6	RMC 12.2K	1:1	17.50	17.07	0.083	0.505	1.10	0.558	/
<b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT)</b>											
Left Cheek	standard	1413/1732.6	RMC 12.2K	1:1	17.50	17.14	-0.120	0.281	1.09	0.305	/
Left Tilt	standard	1413/1732.6	RMC 12.2K	1:1	17.50	17.14	0.143	0.269	1.09	0.292	/
<b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT)</b>											
Right Cheek	standard	1413/1732.6	RMC 12.2K	1:1	15.00	14.81	0.100	0.404	1.04	0.422	/
Right Tilt	standard	1413/1732.6	RMC 12.2K	1:1	15.00	14.81	0.020	0.365	1.04	0.381	/
<b>Head SAR (For Worse Case)</b>											
Right Cheek	SIM 2	1413/1732.6	RMC 12.2K	1:1	17.50	17.07	0.082	0.533	1.10	0.588	/
Right Cheek	Battery 2	1413/1732.6	RMC 12.2K	1:1	17.50	17.07	0.030	0.598	1.10	0.660	/
Right Cheek	Battery 3	1413/1732.6	RMC 12.2K	1:1	17.50	17.07	0.030	0.612	1.10	0.676	90
<b>Body-worn (Single=REC Off, Distance 15mm)</b>											
Back Side	standard	1413/1732.6	RMC 12.2K	1:1	24.50	24.03	0.070	0.292	1.11	0.325	91
Front Side	standard	1413/1732.6	RMC 12.2K	1:1	24.50	24.03	0.080	0.195	1.11	0.217	/
<b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)</b>											
Back Side	standard	1413/1732.6	RMC 12.2K	1:1	21.50	21.11	0.021	0.332	1.09	0.363	92
Front Side	standard	1413/1732.6	RMC 12.2K	1:1	21.50	21.11	0.090	0.241	1.09	0.264	/
Left Edge	standard	1413/1732.6	RMC 12.2K	1:1	21.50	21.11	0.060	0.183	1.09	0.200	/
Right Edge	standard	1413/1732.6	RMC 12.2K	1:1	21.50	21.11	0.071	0.028	1.09	0.031	/
Top Edge	standard	1413/1732.6	RMC 12.2K	1:1	21.50	21.11	0.010	0.169	1.09	0.185	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	SIM 2	1413/1732.6	RMC 12.2K	1:1	21.50	21.11	0.060	0.318	1.09	0.348	/
Back Side	Battery 2	1413/1732.6	RMC 12.2K	1:1	21.50	21.11	0.090	0.309	1.09	0.338	/
Back Side	Battery 3	1413/1732.6	RMC 12.2K	1:1	21.50	21.11	0.160	0.331	1.09	0.362	/

Note: 1.The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 19: UMTS Band V (Antenna 2)

Test Position	Cover Type	Channel/Frequency (MHz)	Channel Type	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Single=REC On+Left Head)</b>											
Left Cheek	standard	4183/836.6	RMC 12.2K	1:1	20.50	19.53	0.041	0.623	1.25	0.779	/
Left Tilt	standard	4183/836.6	RMC 12.2K	1:1	20.50	19.53	0.110	0.508	1.25	0.635	/
<b>Head SAR (Single=REC On+Right Head)</b>											
Right Cheek	standard	4183/836.6	RMC 12.2K	1:1	20.00	19.07	0.044	0.601	1.24	0.745	/
Right Tilt	standard	4183/836.6	RMC 12.2K	1:1	20.00	19.07	0.070	0.550	1.24	0.681	/
<b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT)</b>											
Left Cheek	standard	4183/836.6	RMC 12.2K	1:1	17.50	16.62	0.078	0.316	1.22	0.387	/
Left Tilt	standard	4183/836.6	RMC 12.2K	1:1	17.50	16.62	-0.020	0.257	1.22	0.315	/
<b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT)</b>											
Right Cheek	standard	4183/836.6	RMC 12.2K	1:1	17.00	16.08	-0.080	0.296	1.24	0.366	/
Right Tilt	standard	4183/836.6	RMC 12.2K	1:1	17.00	16.08	0.050	0.270	1.24	0.334	/
<b>Head SAR (For Worse Case)</b>											
Left Cheek	SIM 2	4183/836.6	RMC 12.2K	1:1	20.50	19.53	0.020	0.643	1.25	0.804	/
Left Cheek	Battery 2	4233/846.6	RMC 12.2K	1:1	20.50	19.56	0.060	0.527	1.24	0.654	/
		4183/836.6	RMC 12.2K	1:1	20.50	19.53	0.000	0.669	1.25	0.836	93
		4132/826.4	RMC 12.2K	1:1	20.50	19.48	0.030	0.535	1.26	0.677	/
Left Cheek	Battery 3	4183/836.6	RMC 12.2K	1:1	20.50	19.53	0.010	0.649	1.25	0.811	/
<b>Body-worn (Single=REC Off, Distance 15mm)</b>											
Back Side	standard	4183/836.6	RMC 12.2K	1:1	24.00	23.12	-0.020	0.231	1.22	0.283	/
Front Side	standard	4183/836.6	RMC 12.2K	1:1	24.00	23.12	0.110	0.257	1.22	0.315	94
<b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)</b>											
Back Side	standard	4183/836.6	RMC 12.2K	1:1	21.00	20.09	-0.070	0.192	1.23	0.237	/
Front Side	standard	4183/836.6	RMC 12.2K	1:1	21.00	20.09	0.022	0.229	1.23	0.282	95
Left Edge	standard	4183/836.6	RMC 12.2K	1:1	21.00	20.09	0.060	0.097	1.23	0.120	/
Right Edge	standard	4183/836.6	RMC 12.2K	1:1	21.00	20.09	0.020	0.026	1.23	0.032	/
Top Edge	standard	4183/836.6	RMC 12.2K	1:1	21.00	20.09	0.026	0.015	1.23	0.018	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front Side	SIM 2	4183/836.6	RMC 12.2K	1:1	21.00	20.09	0.017	0.224	1.23	0.276	/
Front Side	Battery 2	4183/836.6	RMC 12.2K	1:1	21.00	20.09	0.009	0.218	1.23	0.269	/
Front Side	Battery 3	4183/836.6	RMC 12.2K	1:1	21.00	20.09	0.062	0.223	1.23	0.275	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



**Table 20: LTE Band 2 (20MHz, Antenna 2)**

Test Position	Cover Type	RB size	RB offset	Channel/Frequency (MHz)	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Single=REC On+Left Head, QPSK)</b>											
Left Cheek	standard	1RB	0	19100/1900	20.00	19.62	-0.160	0.843	1.09	0.920	/
		1RB	0	18900/1880	20.00	19.61	0.040	0.764	1.09	0.836	/
		1RB	0	18700/1860	20.00	19.56	0.140	0.775	1.11	0.858	/
Left Tilt	standard	1RB	0	19100/1900	20.00	19.62	-0.070	0.679	1.09	0.741	/
Left Cheek	standard	50%RB	0	19100/1900	20.00	19.59	0.010	0.764	1.10	0.840	/
		50%RB	50	18900/1880	20.00	19.45	0.016	0.705	1.14	0.800	/
		50%RB	50	18700/1860	20.00	19.47	0.008	0.679	1.13	0.767	/
Left Tilt	standard	50%RB	0	19100/1900	20.00	19.59	-0.010	0.672	1.10	0.739	/
Left Cheek	standard	100%RB	0	18900/1880	20.00	19.56	-0.080	0.693	1.11	0.767	/
<b>Head SAR (Single=REC On+Right Head, QPSK)</b>											
Right Cheek	standard	1RB	99	18700/1860	17.50	17.06	-0.030	0.539	1.11	0.596	/
Right Tilt	standard	1RB	99	18700/1860	17.50	17.06	-0.040	0.503	1.11	0.557	/
Right Cheek	standard	50%RB	25	19100/1900	17.50	17.01	0.160	0.535	1.12	0.599	/
Right Tilt	standard	50%RB	25	19100/1900	17.50	17.01	0.040	0.514	1.12	0.575	/
<b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>											
Left Cheek	standard	1RB	99	19100/1900	17.45	16.72	-0.010	0.330	1.18	0.390	/
Left Tilt	standard	1RB	99	19100/1900	17.45	16.72	-0.010	0.311	1.18	0.368	/
Left Cheek	standard	50%RB	25	19100/1900	17.45	16.75	-0.160	0.315	1.17	0.370	/
Left Tilt	standard	50%RB	25	19100/1900	17.45	16.75	0.020	0.273	1.17	0.321	/
<b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b>											
Right Cheek	standard	1RB	99	19100/1900	14.00	13.82	0.005	0.270	1.04	0.281	/
Right Tilt	standard	1RB	99	19100/1900	14.00	13.82	0.019	0.252	1.04	0.262	/
Right Cheek	standard	50%RB	0	18900/1880	14.00	13.79	0.030	0.268	1.05	0.281	/
Right Tilt	standard	50%RB	0	18900/1880	14.00	13.79	0.006	0.257	1.05	0.270	/
<b>Head SAR (For Worse Case)</b>											
Left Cheek	SIM 2	1RB	0	19100/1900	20.00	19.62	0.050	0.736	1.09	0.803	/
Left Cheek	Battery 2	1RB	0	19100/1900	20.00	19.62	0.000	0.801	1.09	0.874	/
Left Cheek	Battery 3	1RB	0	19100/1900	20.00	19.62	-0.030	0.851	1.09	0.929	96
Left Cheek	Repeated	1RB	0	19100/1900	20.00	19.62	0.018	0.840	1.09	0.917	/
<b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	0	18900/1880	22.50	22.07	0.000	0.206	1.10	0.227	/
Front Side	standard	1RB	0	18900/1880	22.50	22.07	0.060	0.210	1.10	0.232	/
Back Side	standard	50%RB	0	19100/1900	22.50	22.01	-0.130	0.212	1.12	0.237	97
Front Side	standard	50%RB	0	19100/1900	22.50	22.01	-0.070	0.192	1.12	0.215	/



Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)											
Back Side	standard	1RB	0	18900/1880	19.50	19.01	-0.140	0.268	1.12	0.300	98
Front Side	standard	1RB	0	18900/1880	19.50	19.01	0.023	0.252	1.12	0.282	/
Left Edge	standard	1RB	0	18900/1880	19.50	19.01	0.110	0.155	1.12	0.174	/
Right Edge	standard	1RB	0	18900/1880	19.50	19.01	0.100	0.039	1.12	0.044	/
Top Edge	standard	1RB	0	18900/1880	19.50	19.01	0.024	0.240	1.12	0.269	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	50%RB	0	19100/1900	19.50	18.95	0.130	0.266	1.14	0.302	/
Front Side	standard	50%RB	0	19100/1900	19.50	18.95	-0.010	0.199	1.14	0.226	/
Left Edge	standard	50%RB	0	19100/1900	19.50	18.95	0.144	0.026	1.14	0.030	/
Right Edge	standard	50%RB	0	19100/1900	19.50	18.95	0.061	0.021	1.14	0.024	/
Top Edge	standard	50%RB	0	19100/1900	19.50	18.95	0.050	0.143	1.14	0.162	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	SIM 2	1RB	0	18900/1880	19.50	19.01	0.120	0.216	1.12	0.242	/
Back Side	Battery 2	1RB	0	18900/1880	19.50	19.01	-0.050	0.218	1.12	0.244	/
Back Side	Battery 3	1RB	0	18900/1880	19.50	19.01	-0.140	0.236	1.12	0.264	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq 0.8$  W/kg.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

5. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.

#### Measurement Variability

Test Position	Channel/ Frequency(MHz)	MAX Measured SAR <sub>1g</sub> (W/kg)	1 <sup>st</sup> Repeated SAR <sub>1g</sub> (W/kg)	Ratio
Left Cheek	19100/1900	0.851	0.840	1.01

Note: 1) When the original highest measured SAR<sub>1g</sub> is  $\geq 0.80$  W/kg or SAR<sub>10g</sub> is  $\geq 2.0$  W/kg, the measurement was repeated once.

2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was  $> 1.20$ .



Table 21: LTE Band 4 (20MHz, Antenna 2)

Test Position	Cover Type	RB size	RB offset	Channel/Frequency (MHz)	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Single=REC On+Left Head, QPSK)</b>											
Left Cheek	standard	1RB	0	20050/1720	20.50	19.77	0.080	0.511	1.18	0.605	/
Left Tilt	standard	1RB	0	20050/1720	20.50	19.77	-0.050	0.405	1.18	0.479	/
Left Cheek	standard	50%RB	25	20050/1720	20.50	19.65	-0.010	0.533	1.22	0.648	/
Left Tilt	standard	50%RB	25	20050/1720	20.50	19.65	-0.110	0.430	1.22	0.523	/
<b>Head SAR (Single=REC On+Right Head, QPSK)</b>											
Right Cheek	standard	1RB	0	20050/1720	18.00	17.33	0.040	0.510	1.17	0.595	/
Right Tilt	standard	1RB	0	20050/1720	18.00	17.33	0.090	0.456	1.17	0.532	/
Right Cheek	standard	50%RB	25	20050/1720	18.00	17.22	0.090	0.531	1.20	0.635	/
Right Tilt	standard	50%RB	25	20050/1720	18.00	17.22	0.074	0.483	1.20	0.578	/
<b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>											
Left Cheek	standard	1RB	0	20050/1720	17.50	16.82	0.050	0.171	1.17	0.200	/
Left Tilt	standard	1RB	0	20050/1720	17.50	16.82	0.040	0.154	1.17	0.180	/
Left Cheek	standard	50%RB	25	20050/1720	17.50	16.65	0.010	0.181	1.22	0.220	/
Left Tilt	standard	50%RB	25	20050/1720	17.50	16.65	0.090	0.161	1.22	0.196	/
<b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b>											
Right Cheek	standard	1RB	0	20050/1720	15.50	15.17	0.060	0.259	1.08	0.279	/
Right Tilt	standard	1RB	0	20050/1720	15.50	15.17	0.190	0.222	1.08	0.240	/
Right Cheek	standard	50%RB	25	20050/1720	15.50	15.09	-0.040	0.335	1.10	0.368	/
Right Tilt	standard	50%RB	25	20050/1720	15.50	15.09	0.070	0.273	1.10	0.300	/
<b>Head SAR (For Worse Case)</b>											
Left Cheek	SIM 2	50%RB	25	20050/1720	20.50	19.65	-0.175	0.420	1.22	0.511	/
Left Cheek	Battery 2	50%RB	25	20050/1720	20.50	19.65	-0.027	0.474	1.22	0.576	/
Left Cheek	Battery 3	50%RB	25	20050/1720	20.50	19.65	-0.021	0.539	1.22	0.656	99
<b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	0	20050/1720	23.80	23.22	0.070	0.167	1.14	0.191	/
Front Side	standard	1RB	0	20050/1720	23.80	23.22	0.022	0.112	1.14	0.128	/
Back Side	standard	50%RB	25	20050/1720	23.80	23.18	0.130	0.180	1.15	0.208	100
Front Side	standard	50%RB	25	20050/1720	23.80	23.18	0.033	0.114	1.15	0.131	/
<b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	0	20050/1720	21.00	20.29	0.028	0.197	1.18	0.232	/
Front Side	standard	1RB	0	20050/1720	21.00	20.29	0.020	0.182	1.18	0.214	/
Left Edge	standard	1RB	0	20050/1720	21.00	20.29	0.030	0.114	1.18	0.134	/
Right Edge	standard	1RB	0	20050/1720	21.00	20.29	0.046	0.022	1.18	0.026	/
Top Edge	standard	1RB	0	20050/1720	21.00	20.29	0.040	0.087	1.18	0.103	/



Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	50%RB	25	20050/1720	21.00	20.18	0.060	0.209	1.21	0.252	101
Front Side	standard	50%RB	25	20050/1720	21.00	20.18	0.025	0.193	1.21	0.233	/
Left Edge	standard	50%RB	25	20050/1720	21.00	20.18	0.042	0.124	1.21	0.150	/
Right Edge	standard	50%RB	25	20050/1720	21.00	20.18	0.105	0.023	1.21	0.028	/
Top Edge	standard	50%RB	25	20050/1720	21.00	20.18	0.120	0.099	1.21	0.120	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	SIM 2	50%RB	25	20050/1720	21.00	20.18	0.005	0.197	1.21	0.238	/
Back Side	Battery 2	50%RB	25	20050/1720	21.00	20.18	0.027	0.205	1.21	0.248	/
Back Side	Battery 3	50%RB	25	20050/1720	21.00	20.18	0.106	0.201	1.21	0.243	/

- Note: 1. The value with blue color is the maximum SAR Value of each test band.
2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).
3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.
4. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 22: LTE Band 5 (10MHz, Antenna 2)

Test Position	Cover Type	RB size	RB offset	Channel/Frequency (MHz)	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Single=REC On+Left Head, QPSK)</b>											
Left Cheek	standard	1RB	49	20600/844	20.50	19.92	0.107	0.587	1.14	0.671	/
Left Tilt	standard	1RB	49	20600/844	20.50	19.92	-0.100	0.513	1.14	0.586	/
Left Cheek	standard	50%RB	13	20600/844	20.50	19.87	0.000	0.597	1.16	0.690	/
Left Tilt	standard	50%RB	13	20600/844	20.50	19.87	0.020	0.521	1.16	0.602	/
<b>Head SAR (Single=REC On+Right Head, QPSK)</b>											
Right Cheek	standard	1RB	49	20600/844	20.00	19.39	0.080	0.610	1.15	0.702	/
Right Tilt	standard	1RB	49	20600/844	20.00	19.39	-0.180	0.578	1.15	0.665	/
Right Cheek	standard	50%RB	13	20600/844	20.00	19.36	0.020	0.643	1.16	0.745	102
Right Tilt	standard	50%RB	13	20600/844	20.00	19.36	-0.060	0.597	1.16	0.692	/
<b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>											
Left Cheek	standard	1RB	49	20600/844	17.50	16.88	0.112	0.306	1.15	0.353	/
Left Tilt	standard	1RB	49	20600/844	17.50	16.88	-0.040	0.246	1.15	0.284	/
Left Cheek	standard	50%RB	13	20600/844	17.50	16.85	-0.050	0.311	1.16	0.361	/
Left Tilt	standard	50%RB	13	20600/844	17.50	16.85	0.060	0.252	1.16	0.293	/
<b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b>											
Right Cheek	standard	1RB	49	20600/844	17.00	16.36	0.039	0.299	1.16	0.346	/
Right Tilt	standard	1RB	49	20600/844	17.00	16.36	0.060	0.295	1.16	0.342	/
Right Cheek	standard	50%RB	13	20600/844	17.00	16.30	0.010	0.305	1.17	0.358	/
Right Tilt	standard	50%RB	13	20600/844	17.00	16.30	0.020	0.301	1.17	0.354	/
<b>Head SAR (For Worse Case)</b>											
Right Cheek	SIM 2	50%RB	13	20600/844	20.00	19.36	0.030	0.550	1.16	0.637	/
Right Cheek	Battery 2	50%RB	13	20600/844	20.00	19.36	-0.060	0.509	1.16	0.590	/
Right Cheek	Battery 3	50%RB	13	20600/844	20.00	19.36	-0.020	0.541	1.16	0.627	/
<b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	49	20600/844	23.50	22.92	-0.060	0.203	1.14	0.232	/
Front Side	standard	1RB	49	20600/844	23.50	22.92	0.040	0.225	1.14	0.257	103
Back Side	standard	50%RB	13	20600/844	22.50	21.91	0.000	0.167	1.15	0.191	/
Front Side	standard	50%RB	13	20600/844	22.50	21.91	0.070	0.181	1.15	0.207	/
<b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	49	20600/844	20.50	19.87	-0.070	0.180	1.16	0.208	/
Front Side	standard	1RB	49	20600/844	20.50	19.87	0.030	0.219	1.16	0.253	104
Left Edge	standard	1RB	49	20600/844	20.50	19.87	-0.070	0.102	1.16	0.118	/
Right Edge	standard	1RB	49	20600/844	20.50	19.87	0.026	0.022	1.16	0.025	/
Top Edge	standard	1RB	49	20600/844	20.50	19.87	-0.050	0.140	1.16	0.162	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	50%RB	13	20600/844	20.50	19.86	0.020	0.188	1.16	0.218	/
Front Side	standard	50%RB	13	20600/844	20.50	19.86	0.110	0.217	1.16	0.251	/





Left Edge	standard	50%RB	13	20600/844	20.50	19.86	0.010	0.101	1.16	0.117	/
Right Edge	standard	50%RB	13	20600/844	20.50	19.86	-0.100	0.022	1.16	0.025	/
Top Edge	standard	50%RB	13	20600/844	20.50	19.86	-0.080	0.138	1.16	0.160	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front Side	SIM 2	1RB	49	20600/844	20.50	19.87	0.040	0.216	1.16	0.250	/
Front Side	Battery 2	1RB	49	20600/844	20.50	19.87	0.086	0.205	1.16	0.237	/
Front Side	Battery 3	1RB	49	20600/844	20.50	19.87	0.012	0.210	1.16	0.243	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 23: LTE Band 7 (20MHz, Antenna 2)

Test Position	Cover Type	RB size	RB offset	Channel/Frequency (MHz)	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Single=REC On+Left Head, QPSK)</b>											
Left Cheek	standard	1RB	50	21350/2560	21.00	20.49	-0.010	0.464	1.12	0.522	/
Left Tilt	standard	1RB	50	21350/2560	21.00	20.49	0.060	0.557	1.12	0.626	/
Left Cheek	standard	50%RB	50	20850/2510	21.00	20.50	-0.010	0.406	1.12	0.456	/
Left Tilt	standard	50%RB	50	20850/2510	21.00	20.50	-0.010	0.464	1.12	0.521	/
<b>Head SAR (Single=REC On+Right Head, QPSK)</b>											
Right Cheek	standard	1RB	50	21350/2560	16.00	15.35	0.117	0.348	1.16	0.404	/
Right Tilt	standard	1RB	50	21350/2560	16.00	15.35	0.046	0.520	1.16	0.604	/
Right Cheek	standard	50%RB	50	20850/2510	16.00	15.46	-0.040	0.636	1.13	0.720	105
Right Tilt	standard	50%RB	50	20850/2510	16.00	15.46	0.050	0.410	1.13	0.464	/
<b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>											
Left Cheek	standard	1RB	50	21350/2560	18.50	17.81	0.000	0.239	1.17	0.280	/
Left Tilt	standard	1RB	50	21350/2560	18.50	17.81	0.027	0.206	1.17	0.241	/
Left Cheek	standard	50%RB	50	20850/2510	18.50	17.44	0.070	0.211	1.28	0.269	/
Left Tilt	standard	50%RB	50	20850/2510	18.50	17.44	-0.040	0.199	1.28	0.254	/
<b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b>											
Right Cheek	standard	1RB	50	21350/2560	13.00	12.30	0.095	0.375	1.17	0.441	/
Right Tilt	standard	1RB	50	21350/2560	13.00	12.30	0.080	0.293	1.17	0.344	/
Right Cheek	standard	50%RB	50	20850/2510	13.00	12.32	0.140	0.304	1.17	0.356	/
Right Tilt	standard	50%RB	50	20850/2510	13.00	12.32	0.150	0.203	1.17	0.237	/
<b>Head SAR (For Worse Case)</b>											
Left Tilt	SIM 2	1RB	50	21350/2560	16.00	15.46	0.004	0.520	1.13	0.589	/
Left Tilt	Battery 2	1RB	50	21350/2560	16.00	15.46	0.028	0.530	1.13	0.600	/
Left Tilt	Battery 3	1RB	50	21350/2560	16.00	15.46	0.061	0.518	1.13	0.587	/
<b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	0	20850/2510	21.00	20.47	-0.170	0.115	1.13	0.130	/
Front Side	standard	1RB	0	20850/2510	21.00	20.47	-0.060	0.117	1.13	0.132	106
Back Side	standard	50%RB	0	20850/2510	21.00	20.41	-0.026	0.107	1.15	0.123	/
Front Side	standard	50%RB	0	20850/2510	21.00	20.41	-0.189	0.079	1.15	0.090	/
<b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	0	20850/2510	18.00	17.54	-0.098	0.122	1.11	0.136	/
Front Side	standard	1RB	0	20850/2510	18.00	17.54	-0.163	0.087	1.11	0.097	/
Left Edge	standard	1RB	0	20850/2510	18.00	17.54	0.040	0.117	1.11	0.130	/
Right Edge	standard	1RB	0	20850/2510	18.00	17.54	-0.035	0.004	1.11	0.005	/
Top Edge	standard	1RB	0	20850/2510	18.00	17.54	0.020	0.128	1.11	0.142	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	50%RB	0	20850/2510	18.00	17.43	0.163	0.110	1.14	0.125	/
Front Side	standard	50%RB	0	20850/2510	18.00	17.43	-0.099	0.080	1.14	0.092	/



Left Edge	standard	50%RB	0	20850/2510	18.00	17.43	0.029	0.113	1.14	0.129	/
Right Edge	standard	50%RB	0	20850/2510	18.00	17.43	0.000	0.001	1.14	0.001	/
Top Edge	standard	50%RB	0	20850/2510	18.00	17.43	0.080	0.131	1.14	0.149	107
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	SIM 2	50%RB	0	20850/2510	18.00	17.43	0.017	0.129	1.14	0.147	/
Top Edge	Battery 2	50%RB	0	20850/2510	18.00	17.43	0.008	0.124	1.14	0.141	/
Top Edge	Battery 3	50%RB	0	20850/2510	18.00	17.43	0.051	0.126	1.14	0.144	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



**Table 24: LTE Band 12 (20MHz, Antenna 2)**

Test Position	Cover Type	RB size	RB offset	Channel/Frequency (MHz)	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Single=REC On+Left Head, QPSK)</b>											
Left Cheek	standard	1RB	0	23130/711	22.50	22.01	-0.190	0.687	1.12	0.769	/
Left Tilt	standard	1RB	0	23130/711	22.50	22.01	0.030	0.556	1.12	0.622	/
Left Cheek	standard	50%RB	13	23130/711	22.50	21.94	0.020	0.678	1.14	0.771	/
Left Tilt	standard	50%RB	13	23130/711	22.50	21.94	0.030	0.544	1.14	0.619	/
<b>Head SAR (Single=REC On+Right Head, QPSK)</b>											
Right Cheek	standard	1RB	0	23130/711	22.50	21.99	-0.010	0.539	1.12	0.606	/
Right Tilt	standard	1RB	0	23130/711	22.50	21.99	-0.010	0.688	1.12	0.774	108
Right Cheek	standard	50%RB	13	23130/711	22.50	21.94	0.010	0.475	1.14	0.540	/
Right Tilt	standard	50%RB	13	23130/711	22.50	21.94	0.050	0.519	1.14	0.590	/
<b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>											
Left Cheek	standard	1RB	0	23130/711	19.50	19.04	0.100	0.318	1.11	0.354	/
Left Tilt	standard	1RB	0	23130/711	19.50	19.04	0.170	0.254	1.11	0.282	/
Left Cheek	standard	50%RB	13	23130/711	19.50	18.96	0.150	0.258	1.13	0.292	/
Left Tilt	standard	50%RB	13	23130/711	19.50	18.96	0.040	0.244	1.13	0.276	/
<b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b>											
Right Cheek	standard	1RB	0	23130/711	19.50	18.93	0.000	0.287	1.14	0.327	/
Right Tilt	standard	1RB	0	23130/711	19.50	18.93	-0.010	0.332	1.14	0.379	/
Right Cheek	standard	50%RB	13	23130/711	19.50	18.89	0.030	0.267	1.15	0.307	/
Right Tilt	standard	50%RB	13	23130/711	19.50	18.89	-0.120	0.293	1.15	0.337	/
<b>Head SAR (For Worse Case)</b>											
Right Tilt	SIM 2	1RB	0	23130/711	22.50	21.99	0.020	0.465	1.12	0.523	/
Right Tilt	Battery 2	1RB	0	23130/711	22.50	21.99	0.020	0.588	1.12	0.661	/
Right Tilt	Battery 3	1RB	0	23130/711	22.50	21.99	-0.010	0.622	1.12	0.700	/
<b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	0	23130/711	23.50	22.82	-0.010	0.166	1.17	0.194	109
Front Side	standard	1RB	0	23130/711	23.50	22.82	-0.030	0.161	1.17	0.188	/
Back Side	standard	50%RB	13	23130/711	22.50	21.96	0.040	0.136	1.13	0.154	/
Front Side	standard	50%RB	13	23130/711	22.50	21.96	0.030	0.103	1.13	0.117	/
<b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	0	23130/711	20.50	20.01	0.060	0.226	1.12	0.253	110
Front Side	standard	1RB	0	23130/711	20.50	20.01	0.060	0.117	1.12	0.131	/
Left Edge	standard	1RB	0	23130/711	20.50	20.01	0.090	0.066	1.12	0.074	/
Right Edge	standard	1RB	0	23130/711	20.50	20.01	-0.010	0.221	1.12	0.247	/
Top Edge	standard	1RB	0	23130/711	20.50	20.01	0.120	0.037	1.12	0.042	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	50%RB	13	23130/711	20.50	19.96	0.060	0.196	1.13	0.222	/
Front Side	standard	50%RB	13	23130/711	20.50	19.96	0.100	0.115	1.13	0.130	/



Left Edge	standard	50%RB	13	23130/711	20.50	19.96	-0.080	0.052	1.13	0.059	/
Right Edge	standard	50%RB	13	23130/711	20.50	19.96	-0.020	0.179	1.13	0.203	/
Top Edge	standard	50%RB	13	23130/711	20.50	19.96	0.110	0.031	1.13	0.035	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	SIM 2	1RB	0	23130/711	20.50	20.01	-0.030	0.099	1.12	0.111	/
Back Side	Battery 2	1RB	0	23130/711	20.50	20.01	-0.010	0.096	1.12	0.107	/
Back Side	Battery 3	1RB	0	23130/711	20.50	20.01	0.000	0.125	1.12	0.140	/

- Note: 1. The value with blue color is the maximum SAR Value of each test band.
2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).
3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.
4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 25: LTE Band 17 (10MHz, Antenna 2)

Test Position	Cover Type	RB size	RB offset	Channel/ Frequency (MHz)	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Single=REC On+Left Head, QPSK)</b>											
Left Cheek	standard	1RB	49	23780/709	22.50	21.91	0.024	0.683	1.15	0.782	111
Left Tilt	standard	1RB	49	23780/709	22.50	21.91	0.030	0.595	1.15	0.682	/
Left Cheek	standard	50%RB	13	23800/711	22.50	21.79	0.010	0.605	1.18	0.712	/
Left Tilt	standard	50%RB	13	23800/711	22.50	21.79	-0.010	0.572	1.18	0.674	/
<b>Head SAR (Single=REC On+Right Head, QPSK)</b>											
Right Cheek	standard	1RB	49	23780/709	22.50	21.91	-0.030	0.585	1.15	0.670	/
Right Tilt	standard	1RB	49	23780/709	22.50	21.91	0.010	0.619	1.15	0.709	/
Right Cheek	standard	50%RB	13	23800/711	22.50	21.80	-0.020	0.597	1.17	0.701	/
Right Tilt	standard	50%RB	13	23800/711	22.50	21.80	-0.010	0.588	1.17	0.691	/
<b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>											
Left Cheek	standard	1RB	49	23780/709	19.50	19.03	0.030	0.297	1.11	0.331	/
Left Tilt	standard	1RB	49	23780/709	19.50	19.03	0.180	0.262	1.11	0.292	/
Left Cheek	standard	50%RB	13	23800/711	19.50	18.85	0.180	0.263	1.16	0.305	/
Left Tilt	standard	50%RB	13	23800/711	19.50	18.85	0.160	0.252	1.16	0.293	/
<b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b>											
Right Cheek	standard	1RB	49	23780/709	19.50	19.12	-0.010	0.282	1.09	0.308	/
Right Tilt	standard	1RB	49	23780/709	19.50	19.12	0.010	0.306	1.09	0.334	/
Right Cheek	standard	50%RB	13	23800/711	19.50	18.96	0.000	0.267	1.13	0.302	/
Right Tilt	standard	50%RB	13	23800/711	19.50	18.96	-0.010	0.279	1.13	0.316	/
<b>Head SAR (For Worse Case)</b>											
Left Cheek	SIM 2	1RB	49	23780/709	22.50	21.91	0.009	0.662	1.15	0.758	/
Left Cheek	Battery 2	1RB	49	23780/709	22.50	21.91	0.015	0.675	1.15	0.773	/
Left Cheek	Battery 3	1RB	49	23780/709	22.50	21.91	0.043	0.670	1.15	0.767	/
<b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	49	23780/709	23.50	22.77	-0.010	0.115	1.18	0.136	/
Front Side	standard	1RB	49	23780/709	23.50	22.77	0.040	0.120	1.18	0.142	112
Back Side	standard	50%RB	13	23800/711	22.50	21.86	0.000	0.096	1.16	0.111	/
Front Side	standard	50%RB	13	23800/711	22.50	21.86	0.050	0.100	1.16	0.116	/
<b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	49	23780/709	20.50	20.11	0.030	0.168	1.09	0.184	/
Front Side	standard	1RB	49	23780/709	20.50	20.11	0.100	0.120	1.09	0.131	/
Left Edge	standard	1RB	49	23780/709	20.50	20.11	0.000	0.187	1.09	0.205	113
Right Edge	standard	1RB	49	23780/709	20.50	20.11	0.040	0.027	1.09	0.030	/
Top Edge	standard	1RB	49	23780/709	20.50	20.11	-0.130	0.180	1.09	0.197	/



Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	50%RB	13	23800/711	20.50	19.85	0.020	0.139	1.16	0.161	/
Front Side	standard	50%RB	13	23800/711	20.50	19.85	0.090	0.124	1.16	0.144	/
Left Edge	standard	50%RB	13	23800/711	20.50	19.85	0.030	0.157	1.16	0.182	/
Right Edge	standard	50%RB	13	23800/711	20.50	19.85	0.180	0.023	1.16	0.027	/
Top Edge	standard	50%RB	13	23800/711	20.50	19.85	-0.120	0.150	1.16	0.174	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Left Edge	SIM 2	1RB	49	23780/709	20.50	20.11	0.020	0.179	1.09	0.196	/
Left Edge	Battery 2	1RB	49	23780/709	20.50	20.11	0.064	0.182	1.09	0.199	/
Left Edge	Battery 3	1RB	49	23780/709	20.50	20.11	0.079	0.184	1.09	0.201	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is not required.



Table 26: LTE Band 26 (15MHz, Antenna 2)

Test Position	Cover Type	RB size	RB offset	Channel/ Frequency (MHz)	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Single=REC On+Left Head, QPSK)</b>											
Left Cheek	standard	1RB	38	26965/841.5	19.50	18.87	-0.020	0.470	1.16	0.543	/
Left Tilt	standard	1RB	38	26965/841.5	19.50	18.87	-0.040	0.415	1.16	0.480	/
Left Cheek	standard	50%RB	18	26965/841.5	19.50	18.84	0.000	0.470	1.16	0.547	/
Left Tilt	standard	50%RB	18	26965/841.5	19.50	18.84	0.030	0.430	1.16	0.501	/
<b>Head SAR (Single=REC On+Right Head, QPSK)</b>											
Right Cheek	standard	1RB	38	26965/841.5	20.00	19.34	0.020	0.603	1.16	0.702	/
Right Tilt	standard	1RB	38	26965/841.5	20.00	19.34	-0.020	0.617	1.16	0.718	/
Right Cheek	standard	50%RB	18	26965/841.5	20.00	19.35	0.000	0.592	1.16	0.688	/
Right Tilt	standard	50%RB	18	26965/841.5	20.00	19.35	-0.010	0.625	1.16	0.726	114
<b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>											
Left Cheek	standard	1RB	38	26965/841.5	16.50	15.77	0.098	0.237	1.18	0.280	/
Left Tilt	standard	1RB	38	26965/841.5	16.50	15.77	0.070	0.215	1.18	0.254	/
Left Cheek	standard	50%RB	18	26965/841.5	16.50	15.94	0.030	0.235	1.14	0.267	/
Left Tilt	standard	50%RB	18	26965/841.5	16.50	15.94	0.050	0.215	1.14	0.245	/
<b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b>											
Right Cheek	standard	1RB	38	26965/841.5	17.00	16.33	-0.010	0.293	1.17	0.342	/
Right Tilt	standard	1RB	38	26965/841.5	17.00	16.33	0.010	0.316	1.17	0.369	/
Right Cheek	standard	50%RB	18	26965/841.5	17.00	16.41	0.020	0.296	1.15	0.339	/
Right Tilt	standard	50%RB	18	26965/841.5	17.00	16.41	0.060	0.315	1.15	0.361	/
<b>Head SAR (For Worse Case)</b>											
Right Tilt	SIM 2	50%RB	18	26965/841.5	20.00	19.35	0.005	0.597	1.16	0.693	/
Right Tilt	Battery 2	50%RB	18	26965/841.5	20.00	19.35	0.103	0.618	1.16	0.718	/
Right Tilt	Battery 3	50%RB	18	26965/841.5	20.00	19.35	0.041	0.610	1.16	0.708	/
<b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	38	26965/841.5	23.50	22.79	-0.040	0.204	1.18	0.240	/
Front Side	standard	1RB	38	26965/841.5	23.50	22.79	0.090	0.218	1.18	0.257	115
Back Side	standard	50%RB	18	26965/841.5	22.50	21.89	0.000	0.167	1.15	0.192	/
Front Side	standard	50%RB	18	26965/841.5	22.50	21.89	0.100	0.179	1.15	0.206	/
<b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	38	26965/841.5	20.50	19.91	-0.040	0.188	1.15	0.215	116
Front Side	standard	1RB	38	26965/841.5	20.50	19.91	0.110	0.186	1.15	0.213	/
Left Edge	standard	1RB	38	26965/841.5	20.50	19.91	0.000	0.100	1.15	0.114	/
Right Edge	standard	1RB	38	26965/841.5	20.50	19.91	0.030	0.022	1.15	0.026	/
Top Edge	standard	1RB	38	26965/841.5	20.50	19.91	-0.070	0.139	1.15	0.159	/





Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	50%RB	18	26965/841.5	20.50	19.95	-0.040	0.186	1.14	0.211	/
Front Side	standard	50%RB	18	26965/841.5	20.50	19.95	0.120	0.186	1.14	0.211	/
Left Edge	standard	50%RB	18	26965/841.5	20.50	19.95	0.090	0.099	1.14	0.112	/
Right Edge	standard	50%RB	18	26965/841.5	20.50	19.95	0.024	0.022	1.14	0.025	/
Top Edge	standard	50%RB	18	26965/841.5	20.50	19.95	-0.080	0.139	1.14	0.158	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	SIM 2	1RB	38	26965/841.5	20.50	19.91	0.016	0.180	1.15	0.206	/
Back Side	Battery 2	1RB	38	26965/841.5	20.50	19.91	0.050	0.179	1.15	0.205	/
Back Side	Battery 3	1RB	38	26965/841.5	20.50	19.91	0.008	0.185	1.15	0.212	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is not required.



Table 27: LTE Band 38 (20MHz, Antenna 2)

Test Position	Cover Type	RB size	RB offset	Channel/Frequency (MHz)	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Single=REC On+Left Head, QPSK)</b>											
Left Cheek	standard	1RB	99	38150/2610	22.00	21.28	-0.050	0.875	1.18	1.033	/
		1RB	99	38000/2595	22.00	21.21	0.060	0.884	1.20	1.060	117
		1RB	99	37850/2580	22.00	21.17	-0.010	0.851	1.21	1.030	/
Left Tilt	standard	1RB	99	38150/2610	22.00	21.28	0.050	0.693	1.18	0.818	/
		1RB	99	38000/2595	22.00	21.21	0.010	0.694	1.20	0.832	/
		1RB	99	37850/2580	22.00	21.17	0.050	0.671	1.21	0.812	/
Left Cheek	standard	50%RB	50	38150/2610	22.00	21.23	-0.070	0.825	1.19	0.985	/
		50%RB	50	38000/2595	22.00	21.14	0.020	0.726	1.22	0.885	/
		50%RB	25	37850/2580	22.00	21.11	0.000	0.816	1.23	1.002	/
Left Tilt	standard	50%RB	50	38150/2610	22.00	21.23	0.040	0.680	1.19	0.812	/
		50%RB	50	38000/2595	22.00	21.14	0.070	0.844	1.22	1.029	/
		50%RB	25	37850/2580	22.00	21.11	0.090	0.763	1.23	0.937	/
Left Cheek	standard	100%RB	0	38150/2610	22.00	21.20	0.050	0.812	1.20	0.976	/
Left Tilt	standard	100%RB	0	38150/2610	22.00	21.20	0.008	0.658	1.20	0.791	/
<b>Head SAR (Single=REC On+Right Head, QPSK)</b>											
Right Cheek	standard	1RB	0	38150/2610	16.00	15.83	0.105	0.531	1.04	0.552	/
Right Tilt	standard	1RB	0	38150/2610	16.00	15.83	0.050	0.400	1.04	0.416	/
Right Cheek	standard	50%RB	0	38150/2610	16.00	15.81	0.100	0.455	1.04	0.475	/
Right Tilt	standard	50%RB	0	38150/2610	16.00	15.81	0.060	0.375	1.04	0.392	/
<b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>											
Left Cheek	standard	1RB	99	38150/2610	18.00	17.21	0.070	0.284	1.20	0.341	/
Left Tilt	standard	1RB	99	38150/2610	18.00	17.21	0.110	0.337	1.20	0.404	/
Left Cheek	standard	50%RB	50	38150/2610	18.00	17.22	0.010	0.274	1.20	0.328	/
Left Tilt	standard	50%RB	50	38150/2610	18.00	17.22	0.140	0.323	1.20	0.387	/
<b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b>											
Right Cheek	standard	1RB	50	38150/2610	12.00	11.74	0.023	0.203	1.06	0.216	/
Right Tilt	standard	1RB	50	38150/2610	12.00	11.74	0.023	0.156	1.06	0.166	/
Right Cheek	standard	50%RB	50	38150/2610	12.00	11.79	0.080	0.197	1.05	0.207	/
Right Tilt	standard	50%RB	50	38150/2610	12.00	11.79	-0.090	0.159	1.05	0.167	/
<b>Head SAR (For Worse Case)</b>											
Left Cheek	SIM 2	1RB	99	38000/2595	22.00	21.21	0.120	0.819	1.20	0.982	/
Left Cheek	Battery 2	1RB	99	38000/2595	22.00	21.21	-0.030	0.677	1.20	0.812	/
Left Cheek	Battery 3	1RB	99	38000/2595	22.00	21.21	0.050	0.832	1.20	0.998	/
Left Cheek	Repeated	1RB	99	38000/2595	22.00	21.21	0.010	0.879	1.20	1.054	/
<b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	99	38150/2610	24.00	23.18	-0.127	0.111	1.21	0.134	/
Front Side	standard	1RB	99	38150/2610	24.00	23.18	-0.029	0.153	1.21	0.185	118



Back Side	standard	50%RB	50	38150/2610	23.00	22.27	-0.074	0.098	1.18	0.116	/
Front Side	standard	50%RB	50	38150/2610	23.00	22.27	-0.058	0.151	1.18	0.179	/
<b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	99	38150/2610	20.00	19.28	-0.030	0.154	1.18	0.182	119
Front Side	standard	1RB	99	38150/2610	20.00	19.28	-0.154	0.149	1.18	0.176	/
Left Edge	standard	1RB	99	38150/2610	20.00	19.28	0.040	0.118	1.18	0.139	/
Right Edge	standard	1RB	99	38150/2610	20.00	19.28	0.047	0.017	1.18	0.020	/
Top Edge	standard	1RB	99	38150/2610	20.00	19.28	0.020	0.149	1.18	0.176	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	50%RB	50	38150/2610	20.00	19.20	-0.054	0.150	1.20	0.180	/
Front Side	standard	50%RB	50	38150/2610	20.00	19.20	-0.031	0.153	1.20	0.184	/
Left Edge	standard	50%RB	50	38150/2610	20.00	19.20	-0.040	0.114	1.20	0.137	/
Right Edge	standard	50%RB	50	38150/2610	20.00	19.20	-0.114	0.014	1.20	0.017	/
Top Edge	standard	50%RB	50	38150/2610	20.00	19.20	0.180	0.149	1.20	0.179	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	SIM 2	1RB	99	38150/2610	20.00	19.28	0.014	0.150	1.18	0.177	/
Top Edge	Battery 2	1RB	99	38150/2610	20.00	19.28	0.032	0.148	1.18	0.175	/
Top Edge	Battery 3	1RB	99	38150/2610	20.00	19.28	-0.021	0.152	1.18	0.179	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq 0.8$  W/kg.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

5. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 28: LTE Band 41 (20MHz, Antenna 2)

Test Position	Cover Type	RB size	RB offset	Channel/Frequency (MHz)	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (Single=REC On+Left Head, QPSK)</b>											
Left Cheek	standard	1RB	99	41140/2645	23.00	22.46	0.052	0.781	1.13	0.884	120
		1RB	99	40690/2600	23.00	22.28	-0.010	0.626	1.18	0.739	/
		1RB	99	40240/2555	23.00	22.14	0.000	0.517	1.22	0.630	/
Left Tilt	standard	1RB	99	41140/2645	23.00	22.46	0.120	0.664	1.13	0.752	/
Left Cheek	standard	50%RB	50	41140/2645	23.00	22.38	0.190	0.746	1.15	0.860	/
		50%RB	50	40690/2600	23.00	22.29	0.030	0.739	1.18	0.870	/
		50%RB	50	40240/2555	23.00	22.22	-0.020	0.722	1.20	0.864	/
Left Tilt	standard	50%RB	50	41140/2645	23.00	22.38	0.140	0.640	1.15	0.738	/
Left Cheek	standard	100%RB	0	41140/2645	23.00	22.35	0.090	0.718	1.16	0.834	/
<b>Head SAR (Single=REC On+Right Head, QPSK)</b>											
Right Cheek	standard	1RB	99	41140/2645	17.00	16.41	0.139	0.624	1.15	0.715	/
Right Tilt	standard	1RB	99	41140/2645	17.00	16.41	-0.030	0.488	1.15	0.559	/
Right Cheek	standard	50%RB	0	41140/2645	17.00	16.34	0.080	0.544	1.16	0.633	/
Right Tilt	standard	50%RB	0	41140/2645	17.00	16.34	0.080	0.488	1.16	0.568	/
<b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>											
Left Cheek	standard	1RB	50	41140/2645	20.00	19.40	-0.030	0.315	1.15	0.362	/
Left Tilt	standard	1RB	50	41140/2645	20.00	19.40	0.020	0.299	1.15	0.343	/
Left Cheek	standard	50%RB	0	41140/2645	20.00	19.32	0.130	0.315	1.17	0.368	/
Left Tilt	standard	50%RB	0	41140/2645	20.00	19.32	0.021	0.308	1.17	0.360	/
<b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b>											
Right Cheek	standard	1RB	50	41140/2645	14.50	13.99	0.028	0.364	1.12	0.409	/
Right Tilt	standard	1RB	50	41140/2645	14.50	13.99	-0.040	0.244	1.12	0.274	/
Right Cheek	standard	50%RB	25	41140/2645	14.50	13.76	0.022	0.322	1.19	0.382	/
Right Tilt	standard	50%RB	25	41140/2645	14.50	13.76	0.100	0.234	1.19	0.277	/
<b>Head SAR (For Worse Case)</b>											
Left Cheek	SIM 2	1RB	99	41140/2645	23.00	22.46	0.004	0.638	1.13	0.722	/
Left Cheek	Battery 2	1RB	99	41140/2645	23.00	22.46	0.105	0.749	1.13	0.848	/
Left Cheek	Battery 3	1RB	99	41140/2645	23.00	22.46	0.028	0.772	1.13	0.874	/
<b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	99	41140/2645	24.00	23.91	-0.094	0.197	1.02	0.201	/
Front Side	standard	1RB	99	41140/2645	24.00	23.91	-0.187	0.244	1.02	0.249	121
Back Side	standard	50%RB	50	41140/2645	23.50	22.92	-0.038	0.161	1.14	0.184	/
Front Side	standard	50%RB	50	41140/2645	23.50	22.92	-0.026	0.196	1.14	0.224	/
<b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	99	41140/2645	21.50	20.96	-0.126	0.246	1.13	0.279	/
Front Side	standard	1RB	99	41140/2645	21.50	20.96	0.037	0.243	1.13	0.275	/
Left Edge	standard	1RB	99	41140/2645	21.50	20.96	-0.020	0.169	1.13	0.191	/



Right Edge	standard	1RB	99	41140/2645	21.50	20.96	0.034	0.032	1.13	0.036	/
Top Edge	standard	1RB	99	41140/2645	21.50	20.96	0.027	0.252	1.13	0.285	122
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	50%RB	25	41140/2645	21.50	20.96	-0.035	0.244	1.13	0.276	/
Front Side	standard	50%RB	25	41140/2645	21.50	20.96	-0.176	0.233	1.13	0.264	/
Left Edge	standard	50%RB	25	41140/2645	21.50	20.96	0.036	0.166	1.13	0.188	/
Right Edge	standard	50%RB	25	41140/2645	21.50	20.96	0.070	0.028	1.13	0.032	/
Top Edge	standard	50%RB	25	41140/2645	21.50	20.96	0.160	0.245	1.13	0.277	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	SIM 2	1RB	99	41140/2645	21.50	20.96	0.015	0.233	1.13	0.264	/
Top Edge	Battery 2	1RB	99	41140/2645	21.50	20.96	0.006	0.248	1.13	0.281	/
Top Edge	Battery 3	1RB	99	41140/2645	21.50	20.96	0.067	0.240	1.13	0.272	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq 0.8$  W/kg.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

5. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



**Table 29: Wi-Fi (2.4G, Antenna 1, SISO Mode)**

Test Position	Cover Type	Channel/Frequency (MHz)	Mode 802.11b	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Area Scan Max.SAR (W/Kg)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (REC On)</b>												
Left Cheek	standard	6/2437	DSSS	1:1	13.50	12.95	0.028	0.355	0.490	1.14	0.556	/
Left Tilt	standard	6/2437	DSSS	1:1	13.50	12.95	0.020	0.500	0.467	1.14	0.530	/
Right Cheek	standard	6/2437	DSSS	1:1	13.50	12.95	-0.039	0.156	0.183	1.14	0.208	/
Right Tilt	standard	6/2437	DSSS	1:1	13.50	12.95	0.104	0.184	0.196	1.14	0.222	/
Left Cheek	Battery 2	6/2437	DSSS	1:1	13.50	12.95	-0.060	0.468	0.492	1.14	0.558	123
Left Cheek	Battery 3	6/2437	DSSS	1:1	13.50	12.95	0.020	0.337	0.429	1.14	0.487	/
<b>Body-worn (REC Off, Distance 15mm)</b>												
Back Side	standard	6/2437	DSSS	1:1	18.50	17.97	-0.100	0.183	0.185	1.13	0.209	124
Front Side	standard	6/2437	DSSS	1:1	18.50	17.97	-0.045	0.172	0.177	1.13	0.200	/
<b>Hotspot (REC Off, Distance 10mm)</b>												
Back Side	standard	6/2437	DSSS	1:1	18.50	17.97	0.127	0.400	0.354	1.13	0.400	/
Front Side	standard	6/2437	DSSS	1:1	18.50	17.97	0.140	0.292	0.336	1.13	0.380	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	6/2437	DSSS	1:1	18.50	17.97	0.170	0.301	0.339	1.13	0.383	/
Top Edge	standard	6/2437	DSSS	1:1	18.50	17.97	0.070	0.443	0.464	1.13	0.524	125
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	Battery 2	6/2437	DSSS	1:1	18.50	17.97	0.020	0.297	0.304	1.13	0.343	/
Back Side	Battery 3	6/2437	DSSS	1:1	18.50	17.97	0.050	0.274	0.269	1.13	0.304	/
<p>Note: 1. The value with blue color is the maximum SAR Value of each test band.</p> <p>2. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR &lt; 1.2 W/kg, Product Specific 10-g SAR is no required.</p>												

<b>MAX Adjusted SAR</b>							
Mode	Test Position	Channel/Frequency(MHz)	MAX Measured SAR <sub>1g</sub> (W/kg)	802.11b Tune-up limit (dBm)	Tune-up limit (dBm)	Scaling Factor	Adjusted SAR <sub>1g</sub> (W/kg)
802.11g	Left Cheek	6/2437	0.492	13.50	13.50	1.00	0.492
802.11n HT20	Left Cheek	6/2437	0.492	13.50	13.50	1.00	0.492
<p>Note: For SISO mode, SAR is not required for OFDM when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS, specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.</p>							



**Table 30: Wi-Fi (2.4G, Antenna 2, SISO Mode)**

Test Position	Cover Type	Channel/Frequency (MHz)	Mode 802.11b	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Area Scan Max.SAR (W/Kg)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (REC On)</b>												
Left Cheek	standard	6/2437	OFDM	1:1	18.00	16.87	0.031	0.106	0.121	1.30	0.157	/
Left Tilt	standard	6/2437	OFDM	1:1	18.00	16.87	0.036	0.109	0.118	1.30	0.153	/
Right Cheek	standard	6/2437	OFDM	1:1	18.00	16.87	0.174	0.058	0.078	1.30	0.101	/
Right Tilt	standard	6/2437	OFDM	1:1	18.00	16.87	0.127	0.063	0.084	1.30	0.109	/
Left Cheek	Battery 2	6/2437	OFDM	1:1	18.00	16.87	0.024	0.158	0.173	1.30	0.224	126
Left Cheek	Battery 3	6/2437	OFDM	1:1	18.00	16.87	-0.100	0.135	0.147	1.30	0.191	/
<b>Body-worn (REC Off, Distance 15mm)</b>												
Back Side	standard	6/2437	OFDM	1:1	18.00	17.33	0.068	0.179	0.219	1.17	0.256	127
Front Side	standard	6/2437	OFDM	1:1	18.00	17.33	0.117	0.008	0.006	1.17	0.007	/
<b>Hotspot (REC Off, Distance 10mm)</b>												
Back Side	standard	6/2437	OFDM	1:1	18.00	17.33	0.033	0.446	0.540	1.17	0.630	128
Front Side	standard	6/2437	OFDM	1:1	18.00	17.33	-0.030	0.030	0.026	1.17	0.031	/
Left Edge	standard	6/2437	OFDM	1:1	18.00	17.33	0.012	0.009	0.008	1.17	0.009	/
Right Edge	standard	6/2437	OFDM	1:1	18.00	17.33	0.029	0.015	0.014	1.17	0.016	/
Top Edge	standard	6/2437	OFDM	1:1	18.00	17.33	0.066	0.050	0.065	1.17	0.076	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	Battery 2	6/2437	OFDM	1:1	18.00	17.33	0.020	0.388	0.492	1.17	0.574	/
Back Side	Battery 3	6/2437	OFDM	1:1	18.00	17.33	0.165	0.396	0.500	1.17	0.583	/
<p>Note: 1. The value with blue color is the maximum SAR Value of each test band.</p> <p>2. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR &lt; 1.2 W/kg, Product Specific 10-g SAR is no required.</p>												

<b>MAX Adjusted SAR</b>							
Mode	Test Position	Channel/Frequency(MHz)	MAX Measured SAR <sub>1g</sub> (W/kg)	802.11b Tune-up limit (dBm)	Tune-up limit (dBm)	Scaling Factor	Adjusted SAR <sub>1g</sub> (W/kg)
802.11g	Back Side	6/2437	0.540	18.00	16.00	0.63	0.341
802.11n HT20	Back Side	6/2437	0.540	18.00	14.50	0.45	0.241
<p>Note: For SISO mode, SAR is not required for OFDM when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS, specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.</p>							



Table 31: Wi-Fi (2.4G, Antenna 1, CDD/MIMO Mode)

Test Position	Cover Type	Channel/Frequency (MHz)	Mode 802.11g	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Area Scan Max.SAR (W/Kg)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (REC On)</b>												
Left Cheek	standard	6/2437	DSSS	1:1	13.50	12.93	0.032	0.395	0.509	1.14	0.580	/
Left Tilt	standard	6/2437	DSSS	1:1	13.50	12.93	0.068	0.341	0.494	1.14	0.563	/
Right Cheek	standard	6/2437	DSSS	1:1	13.50	12.93	0.074	0.159	0.214	1.14	0.244	/
Right Tilt	standard	6/2437	DSSS	1:1	13.50	12.93	0.181	0.182	0.243	1.14	0.277	/
Left Cheek	Battery 2	6/2437	DSSS	1:1	13.50	12.93	0.025	0.421	0.510	1.14	0.582	129
Left Cheek	Battery 3	6/2437	DSSS	1:1	13.50	12.93	0.076	0.321	0.462	1.14	0.527	/
<b>Body-worn (REC Off, Distance 15mm)</b>												
Back Side	standard	6/2437	DSSS	1:1	16.50	15.45	0.101	0.104	0.103	1.27	0.131	130
Front Side	standard	6/2437	DSSS	1:1	16.50	15.45	0.077	0.097	0.099	1.27	0.127	/
<b>Hotspot (REC Off, Distance 10mm)</b>												
Back Side	standard	6/2437	DSSS	1:1	16.50	15.45	0.046	0.221	0.205	1.27	0.261	/
Front Side	standard	6/2437	DSSS	1:1	16.50	15.45	0.091	0.206	0.210	1.27	0.267	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	6/2437	DSSS	1:1	16.50	15.45	0.031	0.140	0.144	1.27	0.183	/
Top Edge	standard	6/2437	DSSS	1:1	16.50	15.45	0.051	0.277	0.242	1.27	0.308	131
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	Battery 2	6/2437	DSSS	1:1	16.50	15.45	0.011	0.260	0.233	1.27	0.297	/
Top Edge	Battery 3	6/2437	DSSS	1:1	16.50	15.45	0.060	0.268	0.230	1.27	0.293	/
<p>Note: 1. The value with blue color is the maximum SAR Value of each test band.</p> <p>2. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR &lt; 1.2 W/kg, Product Specific 10-g SAR is no required.</p>												

<b>MAX Adjusted SAR</b>							
Mode	Test Position	Channel/Frequency(MHz)	MAX Measured SAR <sub>1g</sub> (W/kg)	802.11g Tune-up limit (dBm)	Tune-up limit (dBm)	Scaling Factor	Adjusted SAR <sub>1g</sub> (W/kg)
802.11n HT20	Left Cheek	6/2437	0.510	13.50	13.50	1.00	0.510
<p>Note: For SISO mode, SAR is not required for OFDM when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS, specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.</p>							





**Table 32: Wi-Fi (2.4G, Antenna 2, CDD/MIMO Mode)**

Test Position	Cover Type	Channel/Frequency (MHz)	Mode 802.11g	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Area Scan Max.SAR (W/Kg)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (REC On)</b>												
Left Cheek	standard	6/2437	OFDM	1:1	16.00	14.54	0.026	0.090	0.097	1.40	0.136	132
Left Tilt	standard	6/2437	OFDM	1:1	16.00	14.54	0.038	0.087	0.081	1.40	0.113	/
Right Cheek	standard	6/2437	OFDM	1:1	16.00	14.54	-0.092	0.054	0.061	1.40	0.085	/
Right Tilt	standard	6/2437	OFDM	1:1	16.00	14.54	0.047	0.056	0.060	1.40	0.084	/
Left Cheek	Battery 2	6/2437	OFDM	1:1	16.00	14.54	0.017	0.085	0.088	1.40	0.123	/
Left Cheek	Battery 3	6/2437	OFDM	1:1	16.00	14.54	0.090	0.084	0.090	1.40	0.126	/
<b>Body-worn (REC Off, Distance 15mm)</b>												
Back Side	standard	6/2437	OFDM	1:1	16.00	14.67	0.043	0.004	0.005	1.36	0.007	133
Front Side	standard	6/2437	OFDM	1:1	16.00	14.67	0.000	0.001	0.001	1.36	0.002	/
<b>Hotspot (REC Off, Distance 10mm)</b>												
Back Side	standard	6/2437	OFDM	1:1	16.00	14.67	0.070	0.015	0.016	1.36	0.022	134
Front Side	standard	6/2437	OFDM	1:1	16.00	14.67	0.000	0.004	0.004	1.36	0.006	/
Left Edge	standard	6/2437	OFDM	1:1	16.00	14.67	0.034	0.001	0.001	1.36	0.001	/
Right Edge	standard	6/2437	OFDM	1:1	16.00	14.67	-0.070	0.002	0.002	1.36	0.003	/
Top Edge	standard	6/2437	OFDM	1:1	16.00	14.67	0.106	0.003	0.003	1.36	0.004	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	Battery 2	6/2437	OFDM	1:1	16.00	14.67	0.050	0.012	0.012	1.36	0.016	/
Back Side	Battery 3	6/2437	OFDM	1:1	16.00	14.67	0.007	0.013	0.014	1.36	0.019	/
<p>Note: 1. The value with blue color is the maximum SAR Value of each test band.</p> <p>2. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR &lt; 1.2 W/kg, Product Specific 10-g SAR is no required.</p>												

<b>MAX Adjusted SAR</b>							
Mode	Test Position	Channel/Frequency(MHz)	MAX Measured SAR <sub>1g</sub> (W/kg)	802.11g Tune-up limit (dBm)	Tune-up limit (dBm)	Scaling Factor	Adjusted SAR <sub>1g</sub> (W/kg)
802.11n HT20	Left Cheek	6/2437	0.097	18.00	14.50	0.45	0.241
<p>Note: For SISO mode, SAR is not required for OFDM when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS, specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.</p>							



Table 33: Wi-Fi (5G, Antenna 1, U-NII-2A)

Test Position	Cover Type	Channel/Frequency (MHz)	Mode	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Area Scan Max.SAR (W/Kg)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (802.11ac HT80, REC On)</b>												
Left Cheek	standard	58/5290	OFDM	1:1	11.00	9.62	0.022	0.283	0.310	1.37	0.426	/
Left Tilt	standard	58/5290	OFDM	1:1	11.00	9.62	0.023	0.282	0.231	1.37	0.317	/
Right Cheek	standard	58/5290	OFDM	1:1	11.00	9.62	0.065	0.094	0.151	1.37	0.207	/
Right Tilt	standard	58/5290	OFDM	1:1	11.00	9.62	0.054	0.080	0.133	1.37	0.183	/
Left Cheek	Battery 2	58/5290	OFDM	1:1	11.00	9.62	0.107	0.380	0.327	1.37	0.449	135
Left Cheek	Battery 3	58/5290	OFDM	1:1	11.00	9.62	0.076	0.319	0.320	1.37	0.440	/
<b>Body-worn (802.11a, REC Off, Distance 15mm)</b>												
Back Side	standard	52/5260	OFDM	1:1	14.00	12.96	0.000	0.147	0.127	1.27	0.161	136
Front Side	standard	52/5260	OFDM	1:1	14.00	12.96	0.000	0.061	0.053	1.27	0.067	/
Back Side	Battery 2	52/5260	OFDM	1:1	14.00	12.96	0.041	0.135	0.118	1.27	0.150	/
Back Side	Battery 3	52/5260	OFDM	1:1	14.00	12.96	0.008	0.130	0.120	1.27	0.152	/
Test Position	Cover Type	Channel/Frequency (MHz)	Mode	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Area Scan Max.SAR (W/Kg)	Measured SAR <sub>10g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>10g</sub> (W/kg)	Plot No.
<b>Product Specific 10-g SAR (802.11a, REC Off, Distance 0mm)</b>												
Back Side	standard	52/5260	OFDM	1:1	14.00	12.96	0.000	0.411	0.345	1.27	0.438	137
Front Side	standard	52/5260	OFDM	1:1	14.00	12.96	0.000	0.262	0.243	1.27	0.309	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	52/5260	OFDM	1:1	14.00	12.96	0.130	0.233	0.231	1.27	0.293	/
Top Edge	standard	52/5260	OFDM	1:1	14.00	12.96	0.000	0.165	0.156	1.27	0.198	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	Battery 2	52/5260	OFDM	1:1	14.00	12.96	0.016	0.348	0.337	1.27	0.428	/
Back Side	Battery 3	52/5260	OFDM	1:1	14.00	12.96	0.007	0.350	0.333	1.27	0.423	/
Note: 1. The value with blue color is the maximum SAR Value of each test band. 2. For band U-NII-2A is not support hotspot, Product Specific 10-g SAR is required.												

**Table 34: Wi-Fi (5G, Antenna 1, U-NII-1)**

Per 248227, for band U-NII-1 and U-NII-2A, when the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

Test Position	Cover Type	Channel/Frequency (MHz)	Mode	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Area Scan Max.SAR (W/Kg)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Hotspot (802.11a, REC Off, Distance 10mm)</b>												
Back Side	standard	36/5180	OFDM	1:1	14.00	13.06	0.000	0.139	0.114	1.24	0.142	138
Front Side	standard	36/5180	OFDM	1:1	14.00	13.06	0.101	0.106	0.102	1.24	0.127	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	36/5180	OFDM	1:1	14.00	13.06	-0.170	0.057	0.074	1.24	0.092	/
Top Edge	standard	36/5180	OFDM	1:1	14.00	13.06	0.000	0.044	0.103	1.24	0.128	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	Battery 2	36/5180	OFDM	1:1	14.00	13.06	0.014	0.134	0.109	1.24	0.135	/
Back Side	Battery 3	36/5180	OFDM	1:1	14.00	13.06	0.006	0.127	0.100	1.24	0.124	/
Note: 1. The value with blue color is the maximum SAR Value of each test band. 2. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.												



Table 35: Wi-Fi (5G, Antenna 1, U-NII-2C)

Test Position	Cover Type	Channel/Frequency (MHz)	Mode	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Area Scan Max.SAR (W/Kg)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (802.11ac HT80, REC On)</b>												
Left Cheek	standard	106/5530	OFDM	1:1	11.00	9.69	-0.149	0.412	0.290	1.35	0.392	/
Left Tilt	standard	106/5530	OFDM	1:1	11.00	9.69	-0.130	0.315	0.218	1.35	0.295	/
Right Cheek	standard	106/5530	OFDM	1:1	11.00	9.69	0.000	0.066	0.123	1.35	0.166	/
Right Tilt	standard	106/5530	OFDM	1:1	11.00	9.69	0.000	0.088	0.148	1.35	0.200	/
Left Cheek	Battery 2	106/5530	OFDM	1:1	11.00	9.69	-0.040	0.422	0.369	1.35	0.499	/
Left Cheek	Battery 3	106/5530	OFDM	1:1	11.00	9.69	0.055	0.356	0.398	1.35	0.538	139
<b>Body-worn (802.11a, REC Off, Distance 15mm)</b>												
Back Side	standard	140/5700	OFDM	1:1	14.00	13.00	0.000	0.198	0.142	1.26	0.179	140
Front Side	standard	140/5700	OFDM	1:1	14.00	13.00	0.000	0.043	0.046	1.26	0.058	/
Back Side	Battery 2	140/5700	OFDM	1:1	14.00	13.00	0.015	0.185	0.130	1.26	0.164	/
Back Side	Battery 3	140/5700	OFDM	1:1	14.00	13.00	0.008	0.200	0.136	1.26	0.171	/
Test Position	Cover Type	Channel/Frequency (MHz)	Mode	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Area Scan Max.SAR (W/Kg)	Measured SAR <sub>10g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>10g</sub> (W/kg)	Plot No.
<b>Product Specific 10-g SAR (802.11a, REC Off, Distance 0mm)</b>												
Back Side	standard	140/5700	OFDM	1:1	14.00	13.00	0.000	0.475	0.388	1.26	0.488	141
Front Side	standard	140/5700	OFDM	1:1	14.00	13.00	0.000	0.136	0.126	1.26	0.159	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	140/5700	OFDM	1:1	14.00	13.00	-0.026	0.259	0.243	1.26	0.306	/
Top Edge	standard	140/5700	OFDM	1:1	14.00	13.00	0.000	0.119	0.089	1.26	0.112	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	Battery 2	140/5700	OFDM	1:1	14.00	13.00	0.080	0.375	0.365	1.26	0.460	/
Back Side	Battery 3	140/5700	OFDM	1:1	14.00	13.00	0.004	0.386	0.372	1.26	0.468	/
Note: 1. The value with blue color is the maximum SAR Value of each test band.												
2. For band U-NII-2C is not support hotspot, Product Specific 10-g SAR is required.												



Table 36: Wi-Fi (5G, Antenna 1, U-NII-3)

Test Position	Cover Type	Channel/Frequency (MHz)	Mode	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Area Scan Max.SAR (W/Kg)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (802.11ac HT80, REC On)</b>												
Left Cheek	standard	155/5775	OFDM	1:1	11.00	9.88	0.031	0.486	0.317	1.29	0.410	/
Left Tilt	standard	155/5775	OFDM	1:1	11.00	9.88	0.034	0.352	0.229	1.29	0.296	/
Right Cheek	standard	155/5775	OFDM	1:1	11.00	9.88	0.000	0.139	0.213	1.29	0.276	/
Right Tilt	standard	155/5775	OFDM	1:1	11.00	9.88	0.000	0.131	0.178	1.29	0.230	/
Left Cheek	Battery 2	155/5775	OFDM	1:1	11.00	9.88	0.033	0.397	0.332	1.29	0.430	142
Left Cheek	Battery 3	155/5775	OFDM	1:1	11.00	9.88	0.137	0.315	0.323	1.29	0.418	/
<b>Body-worn (802.11a, REC Off, Distance 15mm)</b>												
Back Side	standard	165/5825	OFDM	1:1	14.00	12.91	0.000	0.226	0.203	1.29	0.261	143
Front Side	standard	165/5825	OFDM	1:1	14.00	12.91	0.000	0.060	0.058	1.29	0.074	/
<b>Hotspot (802.11a, REC Off, Distance 10mm)</b>												
Back Side	standard	165/5825	OFDM	1:1	14.00	12.91	0.000	0.242	0.180	1.29	0.231	144
Front Side	standard	165/5825	OFDM	1:1	14.00	12.91	0.000	0.106	0.118	1.29	0.152	/
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	165/5825	OFDM	1:1	14.00	12.91	-0.043	0.110	0.089	1.29	0.114	/
Top Edge	standard	165/5825	OFDM	1:1	14.00	12.91	0.000	0.026	0.056	1.29	0.072	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	Battery 2	165/5825	OFDM	1:1	14.00	12.91	0.045	0.227	0.175	1.29	0.225	/
Back Side	Battery 3	165/5825	OFDM	1:1	14.00	12.91	0.006	0.230	0.171	1.29	0.220	/
Note: 1. The value with blue color is the maximum SAR Value of each test band. 2. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is no required.												



Table 37: Wi-Fi (5G, Antenna 2, U-NII-2A)

Test Position	Cover Type	Channel/Frequency (MHz)	Mode	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Area Scan Max.SAR (W/Kg)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (802.11a, REC On)</b>												
Left Cheek	standard	56/5280	OFDM	1:1	10.50	9.44	0.192	0.297	0.347	1.28	0.443	145
Left Tilt	standard	56/5280	OFDM	1:1	10.50	9.44	0.100	0.286	0.303	1.28	0.387	/
Right Cheek	standard	56/5280	OFDM	1:1	10.50	9.44	0.180	0.329	0.209	1.28	0.267	/
Right Tilt	standard	56/5280	OFDM	1:1	10.50	9.44	-0.195	0.496	0.273	1.28	0.348	/
Left Cheek	Battery 2	56/5280	OFDM	1:1	10.50	9.44	0.026	0.198	0.259	1.28	0.331	/
Left Cheek	Battery 3	56/5280	OFDM	1:1	10.50	9.44	-0.180	0.219	0.298	1.28	0.380	/
<b>Body-worn (802.11a, REC Off, Distance 15mm)</b>												
Back Side	standard	64/5320	OFDM	1:1	12.50	11.36	0.000	0.028	0.027	1.30	0.035	146
Front Side	standard	64/5320	OFDM	1:1	12.50	11.36	0.000	0.018	0.005	1.30	0.007	/
Back Side	Battery 2	64/5320	OFDM	1:1	12.50	11.36	0.004	0.024	0.023	1.30	0.030	/
Back Side	Battery 3	64/5320	OFDM	1:1	12.50	11.36	0.102	0.026	0.026	1.30	0.034	/
Test Position	Cover Type	Channel/Frequency (MHz)	Mode	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Area Scan Max.SAR (W/Kg)	Measured SAR <sub>10g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>10g</sub> (W/kg)	Plot No.
<b>Product Specific 10-g SAR (802.11a, REC Off, Distance 0mm)</b>												
Back Side	standard	64/5320	OFDM	1:1	12.50	11.36	0.000	0.114	0.239	1.30	0.311	147
Front Side	standard	64/5320	OFDM	1:1	12.50	11.36	0.000	0.240	0.481	1.30	0.235	/
Left Edge	standard	64/5320	OFDM	1:1	12.50	11.36	0.007	0.013	0.024	1.30	0.031	/
Right Edge	standard	64/5320	OFDM	1:1	12.50	11.36	0.016	0.007	0.001	1.30	0.001	/
Top Edge	standard	64/5320	OFDM	1:1	12.50	11.36	-0.040	0.025	0.067	1.30	0.088	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	Battery 2	64/5320	OFDM	1:1	12.50	11.36	0.080	0.110	0.234	1.30	0.304	/
Back Side	Battery 3	64/5320	OFDM	1:1	12.50	11.36	0.013	0.099	0.230	1.30	0.299	/

Note: 1. The value with blue color is the maximum SAR Value of each test band.  
2. For band U-NII-2A is not support hotspot, Product Specific 10-g SAR is required.

**Table 38: Wi-Fi (5G, Antenna 2, U-NII-1)**

Per 248227, for band U-NII-1 and U-NII-2A, when the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

Test Position	Cover Type	Channel/Frequency (MHz)	Mode	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Area Scan Max.SAR (W/Kg)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Hotspot (802.11a, REC Off, Distance 10mm)</b>												
Back Side	standard	36/5180	OFDM	1:1	12.50	11.51	0.000	0.064	0.063	1.26	0.079	148
Front Side	standard	36/5180	OFDM	1:1	12.50	11.51	0.000	0.022	0.012	1.26	0.015	/
Left Edge	standard	36/5180	OFDM	1:1	12.50	11.51	0.001	0.008	0.008	1.26	0.010	/
Right Edge	standard	36/5180	OFDM	1:1	12.50	11.51	0.004	0.005	0.006	1.26	0.008	/
Top Edge	standard	36/5180	OFDM	1:1	12.50	11.51	-0.050	0.015	0.026	1.26	0.033	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	Battery 2	36/5180	OFDM	1:1	12.50	11.51	0.010	0.059	0.060	1.26	0.075	/
Back Side	Battery 3	36/5180	OFDM	1:1	12.50	11.51	0.006	0.055	0.057	1.26	0.072	/
Note: 1. The value with blue color is the maximum SAR Value of each test band. 2. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is no required.												



Table 39: Wi-Fi (5G, Antenna 2, U-NII-2C)

Test Position	Cover Type	Channel/Frequency (MHz)	Mode	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Area Scan Max.SAR (W/Kg)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (802.11a, REC On)</b>												
Left Cheek	standard	100/5500	OFDM	1:1	10.50	9.71	-0.073	0.134	0.108	1.20	0.130	/
Left Tilt	standard	100/5500	OFDM	1:1	10.50	9.71	-0.030	0.272	0.273	1.20	0.327	/
Right Cheek	standard	100/5500	OFDM	1:1	10.50	9.71	-0.197	0.535	0.371	1.20	0.445	149
Right Tilt	standard	100/5500	OFDM	1:1	10.50	9.71	0.090	0.234	0.333	1.20	0.399	/
Right Cheek	Battery 2	100/5500	OFDM	1:1	10.50	9.71	-0.051	0.316	0.101	1.20	0.121	/
Right Cheek	Battery 3	100/5500	OFDM	1:1	10.50	9.71	-0.113	0.435	0.219	1.20	0.263	/
<b>Body-worn (802.11a, REC Off, Distance 15mm)</b>												
Back Side	standard	116/5580	OFDM	1:1	12.50	11.72	0.000	0.377	0.333	1.20	0.399	150
Front Side	standard	116/5580	OFDM	1:1	12.50	11.72	0.000	0.189	0.102	1.20	0.122	/
Back Side	Battery 2	116/5580	OFDM	1:1	12.50	11.72	0.005	0.360	0.329	1.20	0.394	/
Back Side	Battery 3	116/5580	OFDM	1:1	12.50	11.72	0.013	0.371	0.325	1.20	0.389	/
Test Position	Cover Type	Channel/Frequency (MHz)	Mode	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Area Scan Max.SAR (W/Kg)	Measured SAR <sub>10g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>10g</sub> (W/kg)	Plot No.
<b>Product Specific 10-g SAR (802.11a, REC Off, Distance 0mm)</b>												
Back Side	standard	116/5580	OFDM	1:1	12.50	11.72	0.000	0.106	0.266	1.20	0.318	151
Front Side	standard	116/5580	OFDM	1:1	12.50	11.72	0.000	0.114	0.221	1.20	0.264	/
Left Edge	standard	116/5580	OFDM	1:1	12.50	11.72	0.005	0.027	0.020	1.20	0.024	/
Right Edge	standard	116/5580	OFDM	1:1	12.50	11.72	0.000	0.004	0.009	1.20	0.011	/
Top Edge	standard	116/5580	OFDM	1:1	12.50	11.72	-0.070	0.042	0.054	1.20	0.065	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	Battery 2	116/5580	OFDM	1:1	12.50	11.72	0.005	0.099	0.260	1.20	0.311	/
Back Side	Battery 3	116/5580	OFDM	1:1	12.50	11.72	0.013	0.100	0.261	1.20	0.312	/
Note: 1. The value with blue color is the maximum SAR Value of each test band.												
2. For band U-NII-2C is not support hotspot, Product Specific 10-g SAR is required.												





Table 40: Wi-Fi (5G, Antenna 2, U-NII-3)

Test Position	Cover Type	Channel/Frequency (MHz)	Mode	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Area Scan Max.SAR (W/Kg)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (802.11a, REC On)</b>												
Left Cheek	standard	149/5745	OFDM	1:1	10.50	9.51	0.083	0.085	0.142	1.26	0.178	/
Left Tilt	standard	149/5745	OFDM	1:1	10.50	9.51	0.000	0.094	0.089	1.26	0.112	/
Right Cheek	standard	149/5745	OFDM	1:1	10.50	9.51	-0.116	0.233	0.164	1.26	0.206	152
Right Tilt	standard	149/5745	OFDM	1:1	10.50	9.51	0.103	0.170	0.121	1.26	0.152	/
Right Cheek	Battery 2	149/5745	OFDM	1:1	10.50	9.51	0.055	0.106	0.105	1.26	0.132	/
Right Cheek	Battery 3	149/5745	OFDM	1:1	10.50	9.51	0.069	0.129	0.142	1.26	0.178	/
<b>Body-worn (802.11a, REC Off, Distance 15mm)</b>												
Back Side	standard	149/5745	OFDM	1:1	12.50	11.28	0.011	0.107	0.075	1.32	0.099	153
Front Side	standard	149/5745	OFDM	1:1	12.50	11.28	0.120	0.0205	0.024	1.32	0.031	/
<b>Hotspot (802.11a, REC Off, Distance 10mm)</b>												
Back Side	standard	149/5745	OFDM	1:1	12.50	11.28	0.000	0.101	0.120	1.32	0.159	154
Front Side	standard	149/5745	OFDM	1:1	12.50	11.28	0.000	0.048	0.081	1.32	0.107	/
Left Edge	standard	149/5745	OFDM	1:1	12.50	11.28	0.014	0.006	0.005	1.32	0.007	/
Right Edge	standard	149/5745	OFDM	1:1	12.50	11.28	0.000	0.014	0.001	1.32	0.002	/
Top Edge	standard	149/5745	OFDM	1:1	12.50	11.28	-0.075	0.004	0.011	1.32	0.015	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	Battery 2	149/5745	OFDM	1:1	12.50	11.28	0.002	0.112	0.115	1.32	0.152	/
Back Side	Battery 3	149/5745	OFDM	1:1	12.50	11.28	0.018	0.105	0.109	1.32	0.144	/
Note: 1. The value with blue color is the maximum SAR Value of each test band. 2. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is no required.												



Table 41: BT

Test Position	Cover Type	Channel/Frequency (MHz)	Mode	Duty Cycle	Tune-up limit (dBm)	Conducted Power (dBm)	Drift (dB)	Measured SAR <sub>1g</sub> (W/kg)	Scaling Factor	Reported SAR <sub>1g</sub> (W/kg)	Plot No.
<b>Head SAR (REC On)</b>											
Left Cheek	standard	39/2441	GFSK	1:1	13.10	12.84	0.105	0.294	1.06	0.312	155
Left Tilt	standard	39/2441	GFSK	1:1	13.10	12.84	0.000	0.238	1.06	0.253	/
Right Cheek	standard	39/2441	GFSK	1:1	13.10	12.84	0.038	0.123	1.06	0.131	/
Right Tilt	standard	39/2441	GFSK	1:1	13.10	12.84	0.080	0.122	1.06	0.130	/
Right Cheek	Battery 2	39/2441	GFSK	1:1	13.10	12.84	0.023	0.290	1.06	0.308	/
Right Cheek	Battery 3	39/2441	GFSK	1:1	13.10	12.84	0.012	0.287	1.06	0.305	/
<b>Hotspot (REC Off, Distance 10mm)</b>											
Back Side	standard	39/2441	GFSK	1:1	13.10	12.84	-0.115	0.039	1.06	0.042	/
Front Side	standard	39/2441	GFSK	1:1	13.10	12.84	-0.040	0.052	1.06	0.055	156
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	standard	39/2441	GFSK	1:1	13.10	12.84	0.050	0.031	1.06	0.033	/
Top Edge	standard	39/2441	GFSK	1:1	13.10	12.84	0.028	0.042	1.06	0.044	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front Side	Battery 2	39/2441	GFSK	1:1	13.10	12.84	0.032	0.048	1.06	0.051	/
Front Side	Battery 3	39/2441	GFSK	1:1	13.10	12.84	-0.053	0.050	1.06	0.053	/
<p>Note: 1. The value with blue color is the maximum SAR Value of each test band.</p> <p>2. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR &lt; 1.2 W/kg, Product Specific 10-g SAR is not required.</p>											



Band		Configuration	Frequency (MHz)	Maximum Power (dBm)	Separation Distance (mm)	Estimated SAR (W/kg)
Wi-Fi 2.4G Antenna 1	802.11b	Extremity	2462	18.50	5	1.185
	802.11g	Extremity	2462	16.50	5	0.748
Wi-Fi 2.4G Antenna 2	802.11b	Extremity	2462	18.00	5	1.056
	802.11g	Extremity	2462	16.00	5	0.666

For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01 based on the formula below.

$(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm}) \cdot [\sqrt{f(\text{GHz})/x}] \text{ W/kg}$   
for test separation distances  $\leq 50$  mm; where  $x = 7.5$  for 1-g SAR, and  $x = 18.75$  for 10-g SAR.

### 10.4 Simultaneous Transmission Analysis

Simultaneous Transmission Configurations	Head	Body-worn	Hotspot	Product Specific 10-g SAR
GSM Voice (Ant 1) + BT	Yes	Yes	N/A	Yes
GSM DATA (Ant 1) + BT	N/A	Yes	N/A	Yes
GSM Voice (Ant 2) + BT	Yes	Yes	N/A	Yes
GSM DATA (Ant 2) + BT	N/A	Yes	N/A	Yes
GSM Voice (Ant 1) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	N/A	Yes
GSM DATA (Ant 1) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	N/A	Yes	Yes	Yes
GSM Voice (Ant 2) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	N/A	Yes
GSM DATA (Ant 2) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	N/A	Yes	Yes	Yes
GSM Voice (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	N/A	Yes
GSM DATA (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)	N/A	Yes	Yes	Yes
GSM Voice (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	N/A	Yes
GSM DATA (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)	N/A	Yes	Yes	Yes
GSM Voice (Ant 1) + Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2)	Yes	Yes	N/A	Yes
GSM DATA (Ant 1) + Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2)	N/A	Yes	Yes	Yes
GSM Voice (Ant 2) + Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2)	Yes	Yes	N/A	Yes
GSM DATA (Ant 2) + Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2)	N/A	Yes	Yes	Yes
GSM Voice (Ant 1) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)	Yes	Yes	N/A	Yes
GSM Voice (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT	Yes	Yes	N/A	Yes
GSM DATA (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT	N/A	Yes	Yes	Yes
GSM Voice (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT	Yes	Yes	N/A	Yes
GSM DATA (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT	N/A	Yes	Yes	Yes
UMTS (Ant 1) + BT	Yes	Yes	N/A	Yes
UMTS (Ant 2) + BT	Yes	Yes	N/A	Yes
UMTS (Ant 1) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
UMTS (Ant 2) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
UMTS (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
UMTS (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
UMTS (Ant 1) + Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2)	Yes	Yes	Yes	Yes
UMTS (Ant 2) + Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2)	Yes	Yes	Yes	Yes
UMTS (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT	Yes	Yes	Yes	Yes
UMTS (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT	Yes	Yes	Yes	Yes
LTE (Ant 1) + BT	Yes	Yes	N/A	Yes
LTE (Ant 2) + BT	Yes	Yes	N/A	Yes
LTE (Ant 1) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
LTE (Ant 2) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
LTE (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes
LTE (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)	Yes	Yes	Yes	Yes



LTE (Ant 1) + Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2)	Yes	Yes	Yes	Yes
LTE (Ant 2) + Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2)	Yes	Yes	Yes	Yes
LTE (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT	Yes	Yes	Yes	Yes
LTE (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT	Yes	Yes	Yes	Yes
Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO) + BT	N/A	N/A	N/A	N/A
Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT	Yes	Yes	Yes	Yes
Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 1)	N/A	N/A	N/A	N/A
Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2)	Yes	Yes	Yes	Yes
Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)	Yes	Yes	Yes	Yes
Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 2)	N/A	N/A	N/A	N/A

**Note:**

- 1) Neither Wi-Fi 2.4G Ant.1 nor Wi-Fi 2.4G Ant.2 can transmit simultaneously with Bluetooth.
- 2) Wi-Fi 5G Ant.1 can transmit simultaneously with Bluetooth and Ant.2 also can transmit simultaneously with Bluetooth.
- 3) Wi-Fi 2.4G has two TX antennas. Wi-Fi 2.4G 802.11g/n support 2\*2 CDD/MIMO function.
- 4) Wi-Fi 5G has two TX antennas. Wi-Fi 5G 802.11 a/n/ac support 2\*2 CDD/MIMO function.
- 5) Wi-Fi 2.4G& Wi-Fi 5G can't work at same mode, but they can transmit simultaneously at different modes (Wi-Fi station/P-to-P) by using different Wi-Fi antennas. Only Wi-Fi 2.4G Ant1 station mode and Wi-Fi 5G Ant P-to-P mode or Wi-Fi 2.4G Ant1 P-to-P mode and Wi-Fi 5G Ant2 P-to-P mode can transmit simultaneously.
- 6) The device does not support DTM function.
- 7) \* VoLTE or pre-installed VOIP applications are considered.
- 8) The Main Antenna (Ant1) and Second Antenna (Ant 2) can't transmit simultaneously.
- 9) For Wi-Fi 5G, U-NII-2A (5250-5350 MHz) and U-NII-2C (5470-5725 MHz) bands does not support hotspot function.
- 10) The device supports Vo-WIFI function.

**General Note:**

1. The Scaled SAR summation is calculated based on the same configuration and test position.
2. Per KDB 447498 D01, simultaneous transmission SAR is compliant if,
  - i) Scalar SAR summation < 1.6W/kg, simultaneously transmission SAR measurement is not necessary.
  - ii)  $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$ , and the peak separation distance is determined from the square root of  $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$ , where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
  - iii) If  $SPLSR \leq 0.04$ , simultaneously transmission SAR measurement is not necessary.



**The maximum SAR<sub>1g</sub> Value for (Antenna 1)**

SAR <sub>1g/10g</sub> (W/kg)		GSM	GSM	UMTS	UMTS	UMTS	LTE	LTE	LTE	LTE	LTE	LTE	LTE	LTE	MAX.	
Test Position		850	1900	2	4	5	2	4	5	7	12	17	26	38	41	SAR <sub>1g/10g</sub>
Left Cheek		0.248	0.135	0.144	0.080	0.236	0.123	0.070	0.187	0.200	0.215	0.210	0.158	0.217	0.227	0.248
Left Tilt		0.157	0.136	0.126	0.017	0.155	0.111	0.016	0.113	0.176	0.171	0.199	0.086	0.162	0.156	0.199
Right Cheek		0.342	0.150	0.164	0.044	0.333	0.138	0.037	0.273	0.208	0.251	0.242	0.249	0.209	0.198	0.342
Right Tilt		0.181	0.139	0.134	0.024	0.140	0.116	0.023	0.133	0.140	0.156	0.166	0.120	0.154	0.156	0.181
Body worn	Back Side	0.473	0.289	0.391	0.865	0.360	0.498	0.859	0.262	0.259	0.221	0.220	0.334	0.178	0.187	0.865
	Front Side	0.470	0.263	0.503	0.875	0.371	0.540	0.730	0.256	0.310	0.205	0.187	0.280	0.189	0.246	0.875
Hotspot	Back Side	0.891	0.222	0.301	0.489	0.532	0.287	0.444	0.393	0.536	0.292	0.296	0.464	0.296	0.412	0.891
	Front Side	0.694	0.262	0.379	0.493	0.517	0.292	0.449	0.377	0.603	0.294	0.257	0.424	0.452	0.298	0.694
	Left Edge	0.134	0.009	0.022	0.036	0.107	0.015	0.033	0.063	0.176	0.061	0.056	0.092	0.067	0.121	0.176
	Right Edge	0.459	0.040	0.057	0.096	0.281	0.053	0.088	0.252	0.135	0.216	0.240	0.278	0.130	0.146	0.459
	Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
	Bottom Edge	0.457	0.599	1.089	0.774	0.408	0.682	0.490	0.344	0.515	0.189	0.176	0.341	0.419	0.440	1.089
Product Specific 10-g SAR	Back Side	N/A	N/A	N/A	1.987	N/A	N/A	2.149	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.149
	Front Side	N/A	N/A	1.851	1.900	N/A	N/A	2.496	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.496
	Bottom Edge	N/A	1.527	2.537	2.699	N/A	2.304	2.597	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.699

**The maximum SAR<sub>1g</sub> Value for (Antenna 2)**

SAR <sub>1g</sub> (W/kg)		GSM	GSM	UMTS	UMTS	UMTS	LTE	LTE	LTE	LTE	LTE	LTE	LTE	LTE	MAX.	
Test Position		850	1900	2	4	5	2	4	5	7	12	17	26	38	41	SAR <sub>1g</sub>
Left Cheek		0.373	0.363	0.347	0.305	0.387	0.390	0.220	0.361	0.280	0.354	0.331	0.280	0.341	0.368	0.390
Left Tilt		0.296	0.261	0.285	0.292	0.315	0.368	0.196	0.293	0.254	0.282	0.293	0.254	0.404	0.360	0.404
Right Cheek		0.377	0.296	0.316	0.422	0.366	0.281	0.368	0.358	0.441	0.327	0.308	0.342	0.216	0.409	0.441
Right Tilt		0.340	0.224	0.254	0.381	0.334	0.270	0.300	0.354	0.344	0.379	0.334	0.369	0.167	0.277	0.381
Body worn	Back Side	0.249	0.153	0.303	0.325	0.283	0.237	0.208	0.232	0.130	0.194	0.136	0.240	0.134	0.201	0.325
	Front Side	0.252	0.154	0.248	0.217	0.315	0.232	0.131	0.257	0.132	0.188	0.142	0.257	0.185	0.249	0.315
Hotspot	Back Side	0.297	0.203	0.273	0.363	0.237	0.302	0.252	0.218	0.136	0.253	0.184	0.215	0.182	0.279	0.363
	Front Side	0.291	0.185	0.277	0.264	0.282	0.282	0.233	0.253	0.097	0.131	0.144	0.213	0.184	0.275	0.291
	Left Edge	0.135	0.099	0.156	0.200	0.120	0.174	0.150	0.118	0.130	0.074	0.205	0.114	0.139	0.191	0.205
	Right Edge	0.035	0.017	0.021	0.031	0.032	0.044	0.028	0.025	0.005	0.247	0.030	0.026	0.020	0.036	0.247
	Top Edge	0.223	0.144	0.227	0.185	0.018	0.269	0.103	0.162	0.149	0.042	0.197	0.159	0.179	0.285	0.285
	Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0



The maximum SAR<sub>1g/10g</sub> Value for Wi-Fi 2.4G (Ant 1/Ant 2/MIMO)

SAR <sub>1g/10g</sub> (W/kg)		Wi-Fi 2.4G		Wi-Fi 2.4G CDD/MIMO			MAX. ΣSAR <sub>1g/10g</sub>
		Ant 1	Ant 2	Ant 1	Ant 2	SUM	
Test Position		802.11b	802.11b	802.11g	802.11g	SUM	
Left, Cheek		0.558	0.224	0.582	0.136	<b>0.718</b>	0.718
Left, Tilt		0.530	0.153	0.563	0.113	<b>0.676</b>	0.676
Right, Cheek		0.208	0.101	0.244	0.085	<b>0.329</b>	0.329
Right, Tilt		0.222	0.109	0.277	0.084	<b>0.361</b>	0.361
Body worn	Back Side	0.209	<b>0.256</b>	0.131	0.007	0.138	0.256
	Front Side	<b>0.200</b>	0.007	0.127	0.002	0.129	0.200
Hotspot	Back Side	0.400	<b>0.630</b>	0.261	0.022	0.283	0.630
	Front Side	<b>0.380</b>	0.031	0.267	0.006	0.273	0.380
	Left Edge	N/A	<b>0.009</b>	N/A	0.001	0.001	0.009
	Right Edge	<b>0.383</b>	0.016	0.183	0.003	0.186	0.383
	Top Edge	<b>0.524</b>	0.076	0.308	0.004	0.312	0.524
	Bottom Edge	N/A	N/A	N/A	N/A	0	0
Product Specific 10-g SAR	Back Side	1.185	1.056	0.748	0.666	<b>1.414</b>	1.414
	Front Side	1.185	1.056	0.748	0.666	<b>1.414</b>	1.414
	Left Edge	N/A	1.056	N/A	0.666	0.666	1.056
	Right Edge	1.185	1.056	0.748	0.666	<b>1.414</b>	1.414
	Top Edge	1.185	1.056	0.748	0.666	<b>1.414</b>	1.414
	Bottom Edge	N/A	N/A	N/A	N/A	0	0

The maximum SAR<sub>1g/10g</sub> Value for Wi-Fi 5G (Ant 1/Ant 2/MIMO)

SAR <sub>1g/10g</sub> (W/kg)		Wi-Fi 5G Ant 1			Wi-Fi 5G Ant 2			Wi-Fi 5G CDD/MIMO			MAX. ΣSAR <sub>1g/10g</sub>
		U-NII-1 & U-NII-2A	U-NII-2C	U-NII-3	U-NII-1 & U-NII-2A	U-NII-2C	U-NII-3	U-NII-1 & U-NII-2A	U-NII-2C	U-NII-3	
Test Position											
Left Cheek		0.449	0.538	0.430	0.443	0.130	0.178	<b>0.892</b>	0.668	0.608	0.892
Left Tilt		0.317	0.295	0.296	0.387	0.327	0.112	<b>0.704</b>	0.622	0.408	0.704
Right Cheek		0.207	0.166	0.276	0.267	0.445	0.206	0.474	<b>0.611</b>	0.482	0.611
Right Tilt		0.183	0.200	0.230	0.348	0.399	0.152	0.531	<b>0.599</b>	0.382	0.599
Body worn	Back Side	0.161	0.179	0.261	0.035	0.399	0.099	0.196	<b>0.578</b>	0.36	0.578
	Front Side	0.067	0.058	0.074	0.007	0.122	0.031	0.074	<b>0.180</b>	0.105	0.180
Hotspot	Back Side	0.142	N/A	0.231	0.079	N/A	0.159	0.221	0	<b>0.390</b>	0.390
	Front Side	0.127	N/A	0.152	0.015	N/A	0.107	0.142	0	<b>0.259</b>	0.259
	Left Edge	N/A	N/A	N/A	0.010	N/A	0.007	<b>0.010</b>	0	0.007	0.010
	Right Edge	0.092	N/A	0.114	0.008	N/A	0.002	0.100	0	<b>0.116</b>	0.116
	Top Edge	0.128	N/A	0.072	0.033	N/A	0.015	<b>0.161</b>	0	0.087	0.161
	Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0
Product Specific 10-g SAR	Back Side	0.438	0.488	N/A	0.311	0.318	N/A	0.749	<b>0.806</b>	0	0.806
	Front Side	0.309	0.159	N/A	0.235	0.264	N/A	<b>0.544</b>	0.423	0	0.544
	Left Edge	N/A	N/A	N/A	0.031	0.024	N/A	<b>0.031</b>	0.024	0	0.031



	<b>Right Edge</b>	0.293	0.306	N/A	0.001	0.011	N/A	0.294	<b>0.317</b>	0	0.317
	<b>Top Edge</b>	0.198	0.112	N/A	0.088	0.065	N/A	<b>0.286</b>	0.177	0	0.286
	<b>Bottom Edge</b>	N/A	N/A	N/A	N/A	N/A	N/A	0	0	0	0
<p>Wi-Fi 5G CDD/MIMO (U-NII-1 &amp; U-NII-2A) = Wi-Fi 5G Ant 1 (U-NII-1 &amp; U-NII-2A) + Wi-Fi 5G Ant 1 (U-NII-1 &amp; U-NII-2A)</p> <p>Wi-Fi 5G CDD/MIMO (U-NII-2C) = Wi-Fi 5G Ant 1 (U-NII-2C) + Wi-Fi 5G Ant 1 (U-NII-2C)</p> <p>Wi-Fi 5G CDD/MIMO (U-NII-3) = Wi-Fi 5G Ant 1 (U-NII-3) + Wi-Fi 5G Ant 1 (U-NII-3)</p>											



**About Antenna 1 and Wi-Fi 2.4G (Ant 1/Ant 2/MIMO)**

SAR <sub>1g/10g</sub> (W/kg)		Ant 1	Wi-Fi 2.4G	MAX. $\Sigma$ SAR <sub>1g/10g</sub>
Test Position				
Left, Cheek		0.248	0.718	0.966
Left, Tilt		0.199	0.676	0.875
Right, Cheek		0.342	0.329	0.671
Right, Tilt		0.181	0.361	0.542
Body worn	Back Side	0.865	0.256	1.121
	Front Side	0.875	0.200	1.075
Hotspot	Back Side	0.891	0.630	1.521
	Front Side	0.694	0.380	1.074
	Left Edge	0.176	0.009	0.185
	Right Edge	0.459	0.383	0.842
	Top Edge	0	0.524	0.524
	Bottom Edge	1.089	0	1.089
Product Specific 10-g SAR	Back Side	2.149	1.414	3.563
	Front Side	2.496	1.414	3.910
	Bottom Edge	2.699	0	2.699

Note: 1. The value with blue color is the maximum  $\Sigma$ SAR<sub>1g/10g</sub> Value.  
2. MAX.  $\Sigma$ SAR<sub>1g/10g</sub> = Unlicensed SAR<sub>MAX</sub> + Licensed SAR<sub>MAX</sub>

MAX.  $\Sigma$ SAR<sub>1g</sub> = 1.521 W/kg < 1.6 W/kg and MAX.  $\Sigma$ SAR<sub>10g</sub> = 3.910 W/kg < 4.0 W/kg, so the Simultaneous transimition SAR with volum scan are not required for Antenna 1 and Wi-Fi 2.4G (Ant 1/Ant 2/MIMO).

**About Antenna 2 and Wi-Fi 2.4G (Ant 1/Ant 2/MIMO)**

SAR <sub>1g</sub> (W/kg)		Ant 2	Wi-Fi 2.4G	MAX. $\Sigma$ SAR <sub>1g</sub>
Test Position				
Left, Cheek		0.390	0.718	1.108
Left, Tilt		0.404	0.676	1.080
Right, Cheek		0.441	0.329	0.770
Right, Tilt		0.381	0.361	0.742
Body worn	Back Side	0.325	0.256	0.581
	Front Side	0.315	0.200	0.515
Hotspot	Back Side	0.363	0.630	0.993
	Front Side	0.291	0.380	0.671
	Left Edge	0.205	0.009	0.214
	Right Edge	0.247	0.383	0.630
	Top Edge	0.285	0.524	0.809
	Bottom Edge	0	0	0

Note: 1. The value with blue color is the maximum  $\Sigma$ SAR<sub>1g</sub> Value.  
2. MAX.  $\Sigma$ SAR<sub>1g</sub> = Unlicensed SAR<sub>MAX</sub> + Licensed SAR<sub>MAX</sub>

MAX.  $\Sigma$ SAR<sub>1g</sub> = 1.108 W/kg < 1.6 W/kg, so the Simultaneous transimition SAR with volum scan are not required for Antenna 2 and Wi-Fi 2.4G (Ant 1/Ant 2/MIMO).

**About Antenna 1 and Wi-Fi 5G (Ant 1/Ant 2/MIMO) and BT**

Test Position		SAR <sub>1g/10g</sub> (W/kg)	Ant 1	Wi-Fi 5G	BT	MAX. ΣSAR <sub>1g/10g</sub>
Left Cheek			0.248	0.892	0.312	1.452
Left Tilt			0.199	0.704	0.253	1.156
Right Cheek			0.342	0.611	0.131	1.084
Right Tilt			0.181	0.599	0.130	0.910
Body worn	Back Side		0.865	0.578	0.042	1.485
	Front Side		0.875	0.180	0.055	1.110
Hotspot	Back Side		0.891	0.390	0.042	1.323
	Front Side		0.694	0.259	0.055	1.008
	Left Edge		0.176	0.010	N/A	0.186
	Right Edge		0.459	0.116	0.033	0.608
	Top Edge		0	0.161	0.044	0.205
	Bottom Edge		1.089	0	N/A	1.089
Product Specific 10-g SAR	Back Side		2.149	0.806	0.343	3.298
	Front Side		2.496	0.544	0.343	3.383
	Left Edge		N/A	0.031	0.343	0.374
	Right Edge		N/A	0.317	0.343	0.660
	Top Edge		N/A	0.286	0.343	0.629
	Bottom Edge		2.699	0	0.343	3.042

Note: 1.The value with blue color is the maximum ΣSAR<sub>1g/10g</sub> Value.

2. MAX. ΣSAR<sub>1g/10g</sub> =Unlicensed SAR<sub>MAX</sub> +Licensed SAR<sub>MAX</sub>

MAX. ΣSAR<sub>1g</sub> = 1.485 W/kg <1.6 W/kg and MAX. ΣSAR<sub>10g</sub> = 3.383 W/kg <4.0 W/kg, so the Simultaneous transimition SAR with volum scan are not required for Antenna 1 and Wi-Fi 5G (Ant 1/Ant 2/MIMO) and BT.

**About Antenna 2 and Wi-Fi 5G (Ant 1/Ant 2/MIMO) and BT**

Test Position		SAR <sub>1g/10g</sub> (W/kg)	Ant 2	Wi-Fi 5G	BT	MAX. ΣSAR <sub>1g/10g</sub>
Left Cheek			0.390	0.892	0.312	1.594
Left Tilt			0.404	0.704	0.253	1.361
Right Cheek			0.441	0.611	0.131	1.183
Right Tilt			0.381	0.599	0.130	1.110
Body worn	Back Side		0.325	0.578	0.042	0.945
	Front Side		0.315	0.180	0.055	0.550
Hotspot	Back Side		0.363	0.390	0.042	0.795
	Front Side		0.291	0.259	0.055	0.605
	Left Edge		0.205	0.010	N/A	0.215
	Right Edge		0.247	0.116	0.033	0.396
	Top Edge		0.285	0.161	0.044	0.490
	Bottom Edge		0	0	N/A	0
Product Specific 10-g SAR	Back Side		N/A	0.806	0.343	1.149
	Front Side		N/A	0.544	0.343	0.887



SAR	Left Edge	N/A	0.031	0.343	0.374
	Right Edge	N/A	0.317	0.343	0.660
	Top Edge	N/A	0.286	0.343	0.629
	Bottom Edge	N/A	0	0.343	0.343

Note: 1. The value with blue color is the maximum  $\Sigma SAR_{1g/10g}$  Value.

2. MAX.  $\Sigma SAR_{1g/10g} = \text{Unlicensed } SAR_{MAX} + \text{Licensed } SAR_{MAX}$

MAX.  $\Sigma SAR_{1g} = 1.594 \text{ W/kg} < 1.6 \text{ W/kg}$  and MAX.  $\Sigma SAR_{10g} = 1.149 \text{ W/kg} < 4.0 \text{ W/kg}$ , so the Simultaneous transimition SAR with volum scan are not required for Antenna 2 and Wi-Fi 5G (Ant 1/Ant 2/MIMO) and BT.

**About Antenna 1 and Wi-Fi 2.4G Antenna 1 and Wi-Fi 5G Antenna 2**

SAR <sub>1g/10g</sub> (W/kg)		Ant 1	Wi-Fi 2.4G Ant 1	Wi-Fi Ant 2 (U-NII-1 & U-NII-2A)	Wi-Fi Ant 2 (U-NII-2C)	Wi-Fi Ant 2 (U-NII-3)	MAX. $\Sigma SAR_{1g/10g}$
Test Position	Left Cheek	0.248	0.558	<b>0.443</b>	0.130	0.178	1.249
	Left Tilt	0.199	0.530	<b>0.387</b>	0.327	0.112	1.116
	Right Cheek	0.342	0.208	0.267	<b>0.445</b>	0.206	0.995
	Right Tilt	0.181	0.222	0.348	<b>0.399</b>	0.152	0.802
Body worn	Back Side	0.865	0.209	0.035	<b>0.399</b>	0.099	<b>1.473</b>
	Front Side	0.875	0.200	0.007	<b>0.122</b>	0.031	1.197
Hotspot	Back Side	0.891	0.400	0.079	N/A	<b>0.159</b>	1.450
	Front Side	0.694	0.380	0.015	N/A	<b>0.107</b>	1.181
	Left Edge	0.176	N/A	<b>0.010</b>	N/A	0.007	0.186
	Right Edge	0.459	0.383	<b>0.008</b>	N/A	0.002	0.850
	Top Edge	0	0.524	<b>0.033</b>	N/A	0.015	0.557
	Bottom Edge	1.089	N/A	N/A	N/A	N/A	1.089
Product Specific 10-g SAR	Back Side	2.149	1.185	0.311	<b>0.318</b>	N/A	3.652
	Front Side	2.496	1.185	0.235	<b>0.264</b>	N/A	<b>3.945</b>
	Left Edge	N/A	N/A	<b>0.031</b>	0.024	N/A	0.031
	Right Edge	N/A	1.185	0.001	<b>0.011</b>	N/A	1.196
	Top Edge	N/A	1.185	<b>0.088</b>	0.065	N/A	1.273
	Bottom Edge	2.699	N/A	N/A	N/A	N/A	2.699

Note: 1. The value with blue color is the maximum  $\Sigma SAR_{1g/10g}$  Value.

2. MAX.  $\Sigma SAR_{1g/10g} = \text{Unlicensed } SAR_{MAX} + \text{Licensed } SAR_{MAX}$

MAX.  $\Sigma SAR_{1g} = 1.473 \text{ W/kg} < 1.6 \text{ W/kg}$  and MAX.  $\Sigma SAR_{10g} = 3.945 \text{ W/kg} < 4.0 \text{ W/kg}$ , so the Simultaneous transimition SAR with volum scan are not required for Antenna 1 and Wi-Fi 2.4G Antenna 1 and Wi-Fi 5G Antenna 2.



About Antenna 1 and Wi-Fi 2.4G Antenna 2 and Wi-Fi 5G Antenna 1

SAR <sub>1g/10g</sub> (W/kg)		Ant 1	Wi-Fi 2.4G Ant 2	Wi-Fi Ant 1 (U-NII-1 & U-NII-2A)	Wi-Fi Ant 1 (U-NII-2C)	Wi-Fi Ant 1 (U-NII-3)	MAX. ΣSAR <sub>1g/10g</sub>
Test Position							
Left Cheek		0.248	0.224	0.449	<b>0.538</b>	0.430	1.010
Left Tilt		0.199	0.153	<b>0.317</b>	0.295	0.296	0.669
Right Cheek		0.342	0.101	0.207	0.166	<b>0.276</b>	0.719
Right Tilt		0.181	0.109	0.183	0.200	<b>0.230</b>	0.520
Body worn	Back Side	0.865	0.256	0.161	0.179	<b>0.261</b>	1.382
	Front Side	0.875	0.007	0.067	0.058	<b>0.074</b>	0.956
Hotspot	Back Side	0.891	0.630	0.142	N/A	<b>0.231</b>	<b>1.752</b>
	Front Side	0.694	0.031	0.127	N/A	<b>0.152</b>	0.877
	Left Edge	0.176	0.009	N/A	N/A	N/A	0.185
	Right Edge	0.459	0.016	0.092	N/A	<b>0.114</b>	0.589
	Top Edge	0	0.076	<b>0.128</b>	N/A	0.072	0.204
	Bottom Edge	1.089	N/A	N/A	N/A	N/A	1.089
Product Specific 10-g SAR	Back Side	2.149	1.056	0.438	<b>0.488</b>	N/A	3.693
	Front Side	2.496	1.056	<b>0.309</b>	0.159	N/A	<b>3.861</b>
	Left Edge	N/A	1.056	N/A	N/A	N/A	1.056
	Right Edge	N/A	1.056	0.293	<b>0.306</b>	N/A	1.362
	Top Edge	N/A	1.056	<b>0.198</b>	0.112	N/A	1.254
	Bottom Edge	2.699	N/A	N/A	N/A	N/A	2.699

Note: 1. The value with blue color is the maximum ΣSAR<sub>1g/10g</sub> Value.

2. MAX. ΣSAR<sub>1g/10g</sub> = Unlicensed SAR<sub>MAX</sub> + Licensed SAR<sub>MAX</sub>

MAX. ΣSAR<sub>1g</sub> = 1.752 W/kg > 1.6 W/kg and MAX. ΣSAR<sub>10g</sub> = 3.861 W/kg < 4.0 W/kg, so the SAR to peak location separation ratio should be considered

Test Position Reported SAR <sub>1g</sub> (W/kg)	Back Side														
GSM 850	0.891	/	/	/	/	/	/	/	/	/	/	/	/	/	/
GSM 1900	/	0.222	/	/	/	/	/	/	/	/	/	/	/	/	/
UMTS 2	/	/	0.301	/	/	/	/	/	/	/	/	/	/	/	/
UMTS4	/	/	/	0.489	/	/	/	/	/	/	/	/	/	/	/
UMTS 5	/	/	/	/	0.532	/	/	/	/	/	/	/	/	/	/
LTE2	/	/	/	/	/	0.287	/	/	/	/	/	/	/	/	/
LTE4	/	/	/	/	/	/	0.444	/	/	/	/	/	/	/	/
LTE 5	/	/	/	/	/	/	/	0.393	/	/	/	/	/	/	/
LTE 7	/	/	/	/	/	/	/	/	0.536	/	/	/	/	/	/
LTE 12	/	/	/	/	/	/	/	/	/	0.292	/	/	/	/	/
LTE 17	/	/	/	/	/	/	/	/	/	/	0.296	/	/	/	/



LTE 26	/	/	/	/	/	/	/	/	/	/	/	0.464	/	/
LTE 38	/	/	/	/	/	/	/	/	/	/	/	/	0.296	/
LTE 41	/	/	/	/	/	/	/	/	/	/	/	/	/	0.412
Wi-Fi 2.4G Ant 2	0.630	0.630	0.630	0.630	0.630	0.630	0.630	0.630	0.630	0.630	0.630	0.630	0.630	0.630
Wi-Fi Ant 1 (U-NII-3)	0.231	0.231	0.231	0.231	0.231	0.231	0.231	0.231	0.231	0.231	0.231	0.231	0.231	0.231
MAX.ΣSAR <sub>1g</sub>	1.752	1.083	1.162	1.35	1.393	1.148	1.305	1.254	1.397	1.153	1.157	1.325	1.157	1.273

Note: 1. The value with blue color is the SAR<sub>1g</sub> > 1.6 W/kg.

2. When the MAX. Σ SAR<sub>1g</sub> > 1.6 W/kg in a position, Ratio need consideration in this position.

The position	X	Y	Z
SAR <sub>GSM 850</sub>	-24.50	-37.80	-205.90
SAR <sub>Wi-Fi 2.4G Ant 2</sub>	-23.00	61.50	-206.00
SAR <sub>Wi-Fi Ant 1 (U-NII-3)</sub>	-47.00	61.50	-204.60
<b>GSM 850 &amp; Wi-Fi 2.4G Ant 2</b>			
Ri (mm)	99.311		
SAR <sub>GSM 850</sub> (W/Kg)	0.891		
SAR <sub>Wi-Fi 2.4G Ant 2</sub> (W/Kg)	0.630		
Ratio	0.019 < 0.04		
<b>GSM 850 &amp; Wi-Fi Ant 1 (U-NII-3)</b>			
Ri (mm)	101.825		
SAR <sub>GSM 850</sub> (W/Kg)	0.891		
SAR <sub>Wi-Fi Ant 1 (U-NII-3)</sub> (W/Kg)	0.231		
Ratio	0.012 < 0.04		
<b>Wi-Fi 2.4G Ant 2 &amp; Wi-Fi Ant 1 (U-NII-3)</b>			
Ri (mm)	24.041		
SAR <sub>Wi-Fi Ant 1 (U-NII-3)</sub> (W/Kg)	0.231		
SAR <sub>Wi-Fi 2.4G Ant 2</sub> (W/Kg)	0.630		
Ratio	0.033 < 0.04		
PSLS=Peak SAR Location Separation			
Ratio = [(Reported SAR <sub>1</sub> + (Reported SAR <sub>2</sub> )] <sup>3/2</sup> / PSLs < 0.04			

Test Position	Back Side													
Reported SAR <sub>1g</sub> (W/kg)														
GSM 850	0.891	/	/	/	/	/	/	/	/	/	/	/	/	/
GSM 1900	/	0.222	/	/	/	/	/	/	/	/	/	/	/	/
UMTS 2	/	/	0.301	/	/	/	/	/	/	/	/	/	/	/
UMTS4	/	/	/	0.489	/	/	/	/	/	/	/	/	/	/
UMTS 5	/	/	/	/	0.532	/	/	/	/	/	/	/	/	/



LTE2	/	/	/	/	/	0.287	/	/	/	/	/	/	/	/
LTE4	/	/	/	/	/	/	0.444	/	/	/	/	/	/	/
LTE 5	/	/	/	/	/	/	/	0.393	/	/	/	/	/	/
LTE 7	/	/	/	/	/	/	/	/	0.536	/	/	/	/	/
LTE 12	/	/	/	/	/	/	/	/	/	0.292	/	/	/	/
LTE 17	/	/	/	/	/	/	/	/	/	/	0.296	/	/	/
LTE 26	/	/	/	/	/	/	/	/	/	/	/	0.464	/	/
LTE 38	/	/	/	/	/	/	/	/	/	/	/	/	0.296	/
LTE 41	/	/	/	/	/	/	/	/	/	/	/	/	/	0.412
Wi-Fi 2.4G Ant 2	0.630	0.630	0.630	0.630	0.630	0.630	0.630	0.630	0.630	0.630	0.630	0.630	0.630	0.630
Wi-Fi Ant 1 (U-NII-1 & U-NII-2A)	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142	0.142
MAX.ΣSAR <sub>1g</sub>	1.663	0.994	1.073	1.261	1.304	1.059	1.216	1.165	1.308	1.064	1.068	1.236	1.068	1.184

Note: 1. The value with blue color is the SAR<sub>1g</sub> > 1.6 W/kg.

2. When the MAX. Σ SAR<sub>1g</sub> > 1.6 W/kg in a position, Ratio need consideration in this position.

The position	X	Y	Z
SAR <sub>GSM 850</sub>	-24.50	-37.80	-205.90
SAR <sub>Wi-Fi 2.4G Ant 2</sub>	-23.00	61.50	-206.00
SAR <sub>Wi-Fi Ant 1 (U-NII-1 &amp; U-NII-2A)</sub>	-47.00	64.50	-204.70
<b>GSM 850 &amp; Wi-Fi 2.4G Ant 2</b>			
Ri (mm)	99.311		
SAR <sub>GSM 850</sub> (W/Kg)	0.891		
SAR <sub>Wi-Fi 2.4G Ant 2</sub> (W/Kg)	0.630		
Ratio	0.019 < 0.04		
<b>GSM 850 &amp; Wi-Fi Ant 1 (U-NII-1 &amp; U-NII-2A)</b>			
Ri (mm)	104.752		
SAR <sub>GSM 850</sub> (W/Kg)	0.891		
SAR <sub>Wi-Fi Ant 1 (U-NII-1 &amp; U-NII-2A)</sub> (W/Kg)	0.142		
Ratio	0.010 < 0.04		
<b>Wi-Fi 2.4G Ant 2 &amp; Wi-Fi Ant 1 (U-NII-1 &amp; U-NII-2A)</b>			
Ri (mm)	24.222		
SAR <sub>Wi-Fi Ant 1 (U-NII-1 &amp; U-NII-2A)</sub> (W/Kg)	0.142		
SAR <sub>Wi-Fi 2.4G Ant 2</sub> (W/Kg)	0.630		
Ratio	0.028 < 0.04		

PSLS=Peak SAR Location Separation

$$\text{Ratio} = [(\text{Reported SAR}_1 + (\text{Reported SAR}_2)^{3/2}) / \text{PSLS}] < 0.04$$

so the Simultaneous transimition SAR with volum scan are not required for Antenna 1 and Wi-Fi 2.4G Antenna 2 and Wi-Fi 5G Antenna 1

**About Antenna 2 and Wi-Fi 2.4G Antenna 1 and Wi-Fi 5G Antenna 2**

SAR <sub>1g/10g</sub> (W/kg)		Ant 2	Wi-Fi 2.4G Ant 1	Wi-Fi Ant 2 (U-NII-1 & U-NII-2A)	Wi-Fi Ant 2 (U-NII-2C)	Wi-Fi Ant 2 (U-NII-3)	MAX. $\Sigma$ SAR <sub>1g/10g</sub>
Test Position							
Left Cheek		0.390	0.558	<b>0.443</b>	0.130	0.178	<b>1.391</b>
Left Tilt		0.404	0.530	<b>0.387</b>	0.327	0.112	1.321
Right Cheek		0.441	0.208	0.267	<b>0.445</b>	0.206	1.094
Right Tilt		0.381	0.222	0.348	<b>0.399</b>	0.152	1.002
Body worn	Back Side	0.325	0.209	0.035	<b>0.399</b>	0.099	0.933
	Front Side	0.315	0.200	0.007	<b>0.122</b>	0.031	0.637
Hotspot	Back Side	0.363	0.400	0.079	N/A	<b>0.159</b>	0.922
	Front Side	0.291	0.380	0.015	N/A	<b>0.107</b>	0.778
	Left Edge	0.205	N/A	<b>0.010</b>	N/A	0.007	0.215
	Right Edge	0.247	0.383	<b>0.008</b>	N/A	0.002	0.638
	Top Edge	0.285	0.524	<b>0.033</b>	N/A	0.015	0.842
	Bottom Edge	0	N/A	N/A	N/A	N/A	0
Product Specific 10-g SAR	Back Side	N/A	1.185	0.311	<b>0.318</b>	N/A	<b>1.503</b>
	Front Side	N/A	1.185	0.235	<b>0.264</b>	N/A	1.449
	Left Edge	N/A	N/A	<b>0.031</b>	0.024	N/A	0.031
	Right Edge	N/A	1.185	0.001	<b>0.011</b>	N/A	1.196
	Top Edge	N/A	1.185	<b>0.088</b>	0.065	N/A	1.273
	Bottom Edge	N/A	N/A	N/A	N/A	N/A	0

Note: 1. The value with blue color is the maximum  $\Sigma$ SAR<sub>1g/10g</sub> Value.  
2. MAX.  $\Sigma$ SAR<sub>1g/10g</sub> = Unlicensed SAR<sub>MAX</sub> + Licensed SAR<sub>MAX</sub>

MAX.  $\Sigma$ SAR<sub>1g</sub> = 1.391 W/kg < 1.6 W/kg and MAX.  $\Sigma$ SAR<sub>10g</sub> = 1.503 W/kg < 4.0 W/kg, so the Simultaneous transimition SAR with volum scan are not required for Antenna 2 and Wi-Fi 2.4G Antenna 1 and Wi-Fi 5G Antenna 2.

**About Antenna 2 and Wi-Fi 2.4G Antenna 2 and Wi-Fi 5G Antenna 1**

SAR <sub>1g/10g</sub> (W/kg)		Ant 2	Wi-Fi 2.4G Ant 2	Wi-Fi Ant 1 (U-NII-1 & U-NII-2A)	Wi-Fi Ant 1 (U-NII-2C)	Wi-Fi Ant 1 (U-NII-3)	MAX. $\Sigma$ SAR <sub>1g/10g</sub>
Test Position							
Left Cheek		0.390	0.224	0.449	<b>0.538</b>	0.430	1.152
Left Tilt		0.404	0.153	<b>0.317</b>	0.295	0.296	0.874
Right Cheek		0.441	0.101	0.207	0.166	<b>0.276</b>	0.818
Right Tilt		0.381	0.109	0.183	0.200	<b>0.230</b>	0.720
Body worn	Back Side	0.325	0.256	0.161	0.179	<b>0.261</b>	0.842
	Front Side	0.315	0.007	0.067	0.058	<b>0.074</b>	0.396
Hotspot	Back Side	0.363	0.630	0.142	N/A	<b>0.231</b>	<b>1.224</b>
	Front Side	0.291	0.031	0.127	N/A	<b>0.152</b>	0.474
	Left Edge	0.205	0.009	N/A	N/A	N/A	0.214
	Right Edge	0.247	0.016	0.092	N/A	<b>0.114</b>	0.377
	Top Edge	0.285	0.076	<b>0.128</b>	N/A	0.072	0.489
	Bottom Edge	0	N/A	N/A	N/A	N/A	0



Product Specific 10-g SAR	Back Side	N/A	1.056	0.438	<b>0.488</b>	N/A	1.544
	Front Side	N/A	1.056	<b>0.309</b>	0.159	N/A	1.365
	Left Edge	N/A	1.056	N/A	N/A	N/A	1.056
	Right Edge	N/A	1.056	0.293	<b>0.306</b>	N/A	1.362
	Top Edge	N/A	1.056	<b>0.198</b>	0.112	N/A	1.254
	Bottom Edge	N/A	N/A	N/A	N/A	N/A	0
<p>Note: 1. The value with blue color is the maximum <math>\Sigma SAR_{1g/10g}</math> Value.</p> <p>2. <math>MAX. \Sigma SAR_{1g/10g} = Unlicensed SAR_{MAX} + Licensed SAR_{MAX}</math></p>							

MAX.  $\Sigma SAR_{1g} = 1.224 \text{ W/kg} < 1.6 \text{ W/kg}$  and MAX.  $\Sigma SAR_{10g} = 1.544 \text{ W/kg} < 4.0 \text{ W/kg}$ , so the Simultaneous transmission SAR with volum scan are not required for Antenna 2 and Wi-Fi 2.4G Antenna 2 and Wi-Fi 5G Antenna 1.



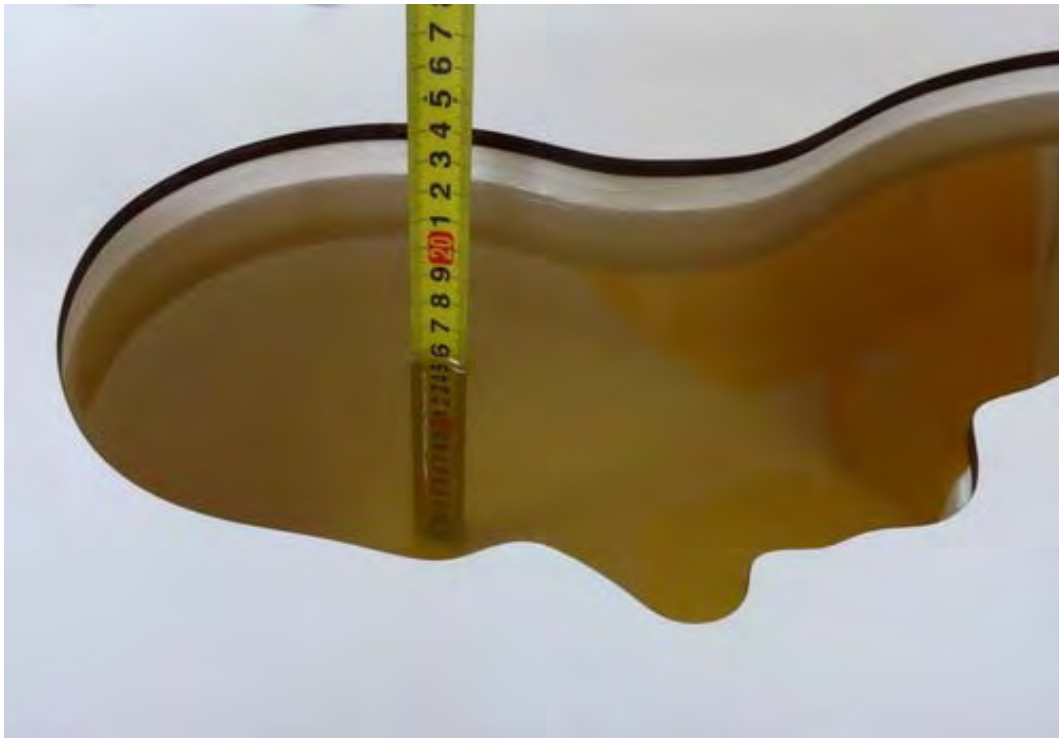


## 11 Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is  $< 1.5$  W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528- 2013 is not required in SAR reports submitted for equipment approval. This also applies to the 10-g SAR required for phablets in KDB Publication 648474.

## ANNEX A: Test Layout

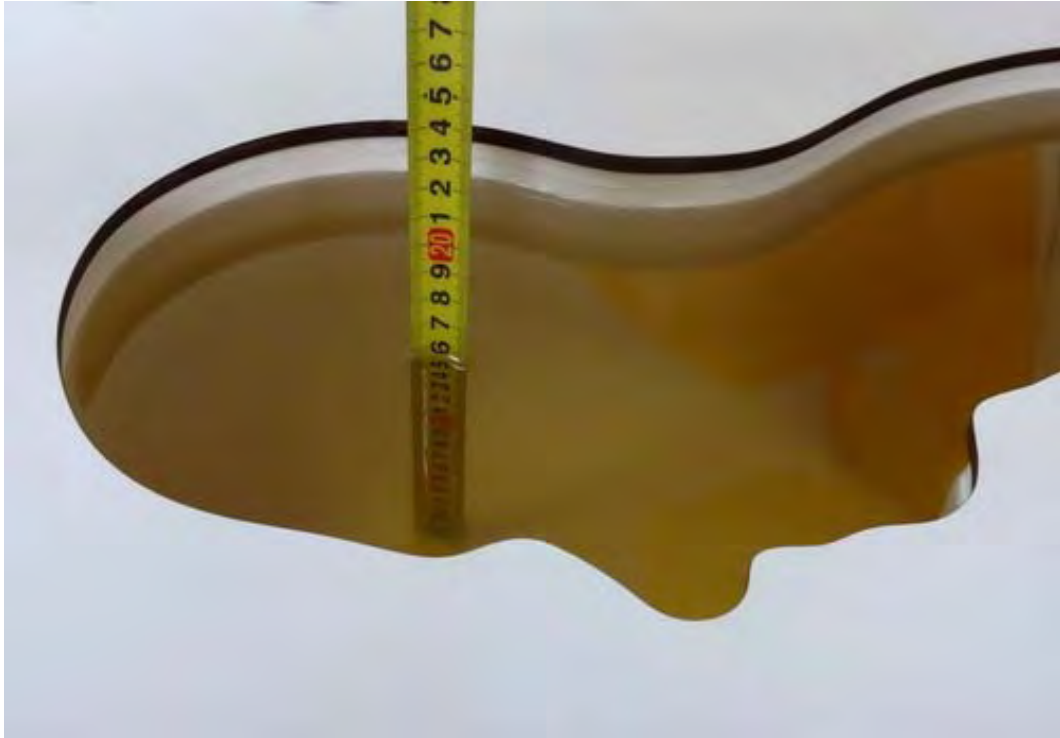




Picture 3: Liquid depth in the head Phantom (750MHz, 15.3cm depth)



Picture 4: Liquid depth in the flat Phantom (750MHz, 15.4cm depth)



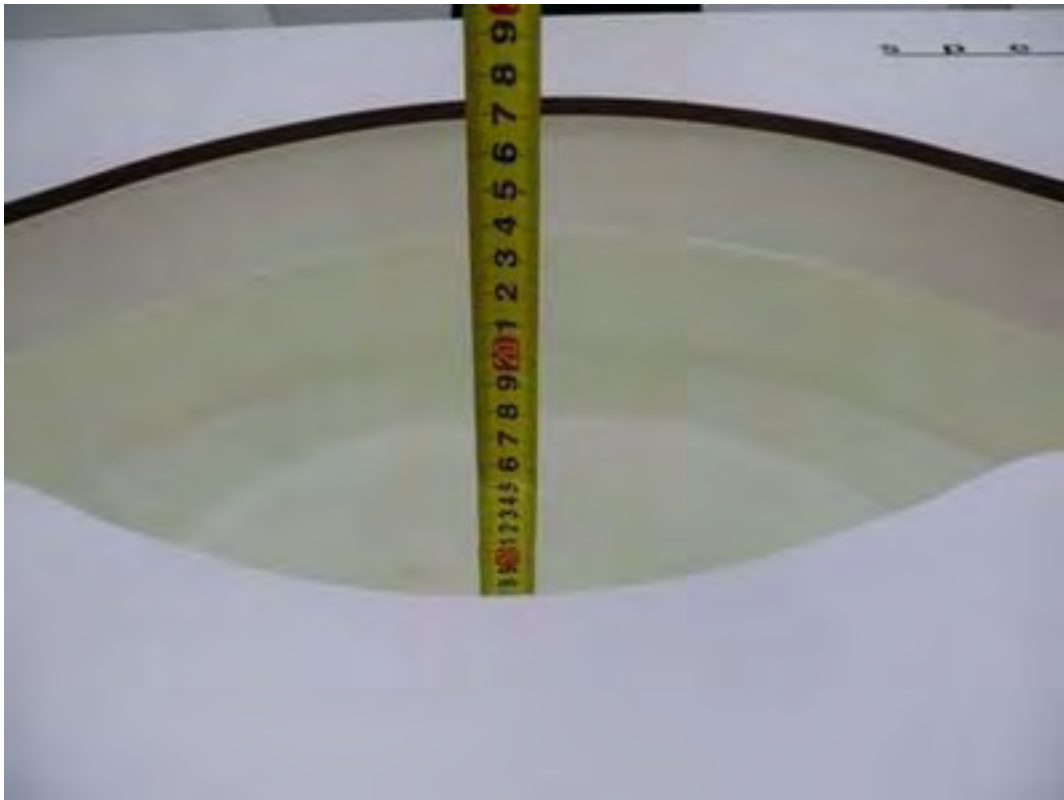
Picture 5: Liquid depth in the head Phantom (835MHz, 15.3cm depth)



Picture 6: Liquid depth in the flat Phantom (835MHz, 15.4cm depth)



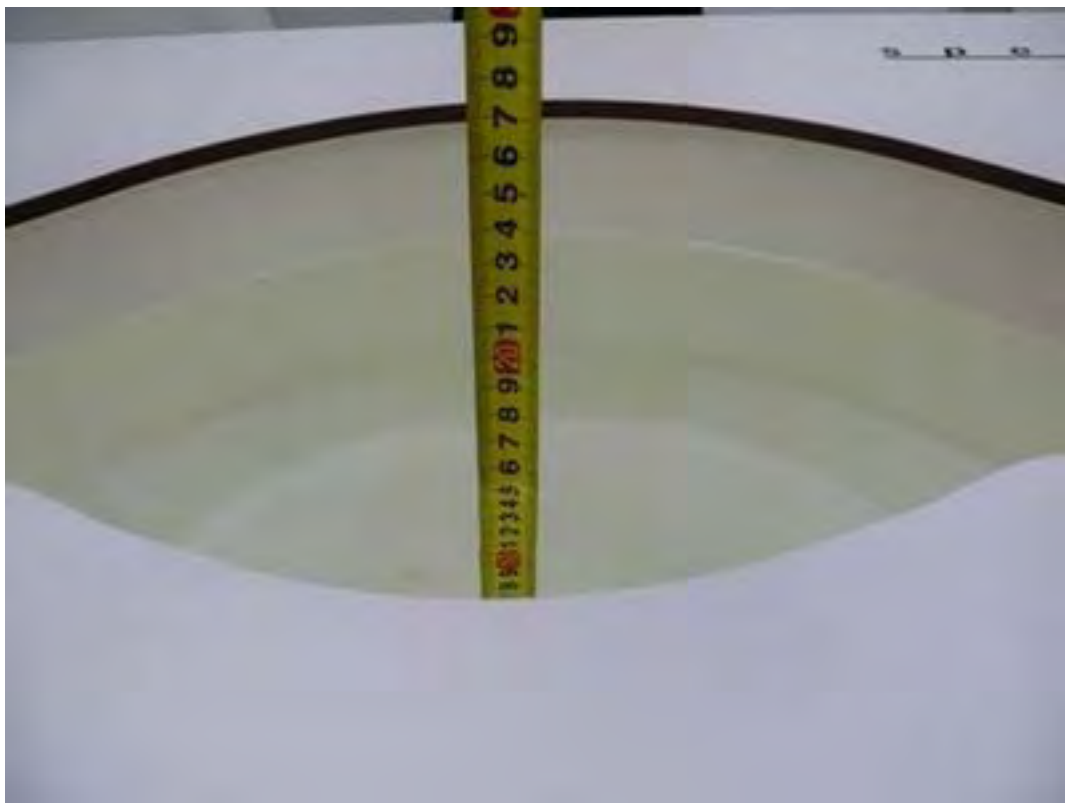
Picture 7: liquid depth in the head Phantom (1750 MHz, 15.3cm depth)



Picture 8: Liquid depth in the flat Phantom (1750 MHz, 15.2cm depth)



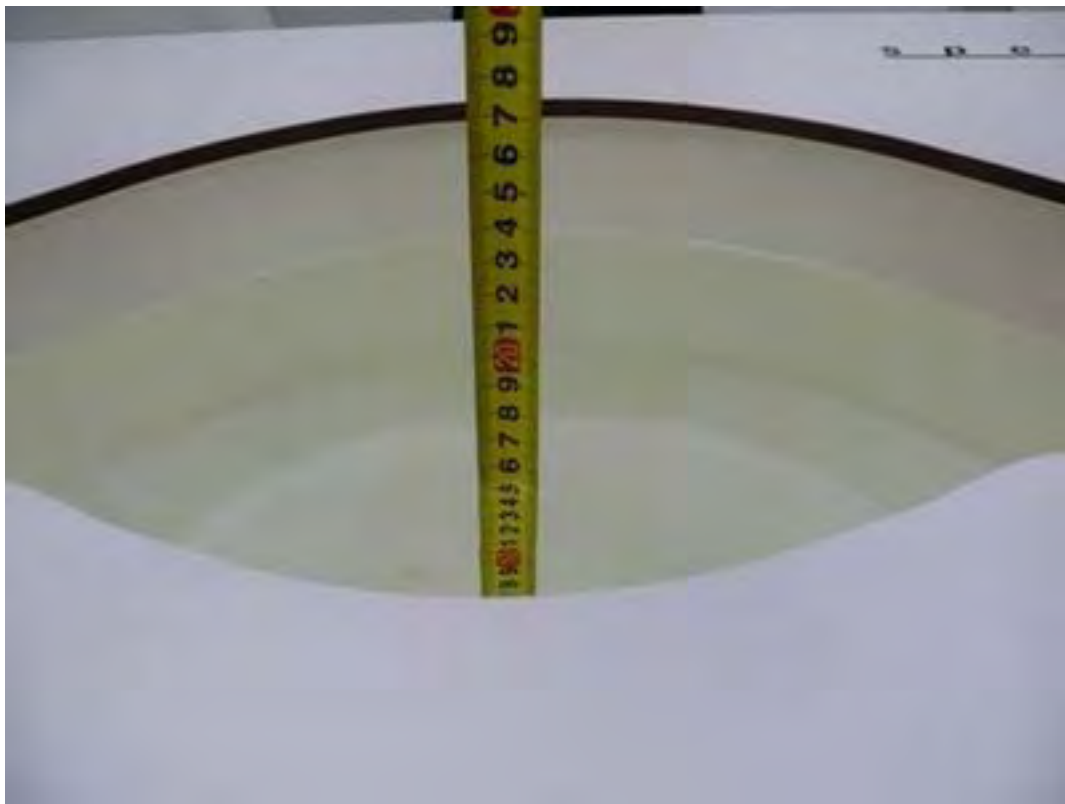
Picture 9: liquid depth in the head Phantom (1900 MHz, 15.3cm depth)



Picture 10: Liquid depth in the flat Phantom (1900 MHz, 15.2cm depth)



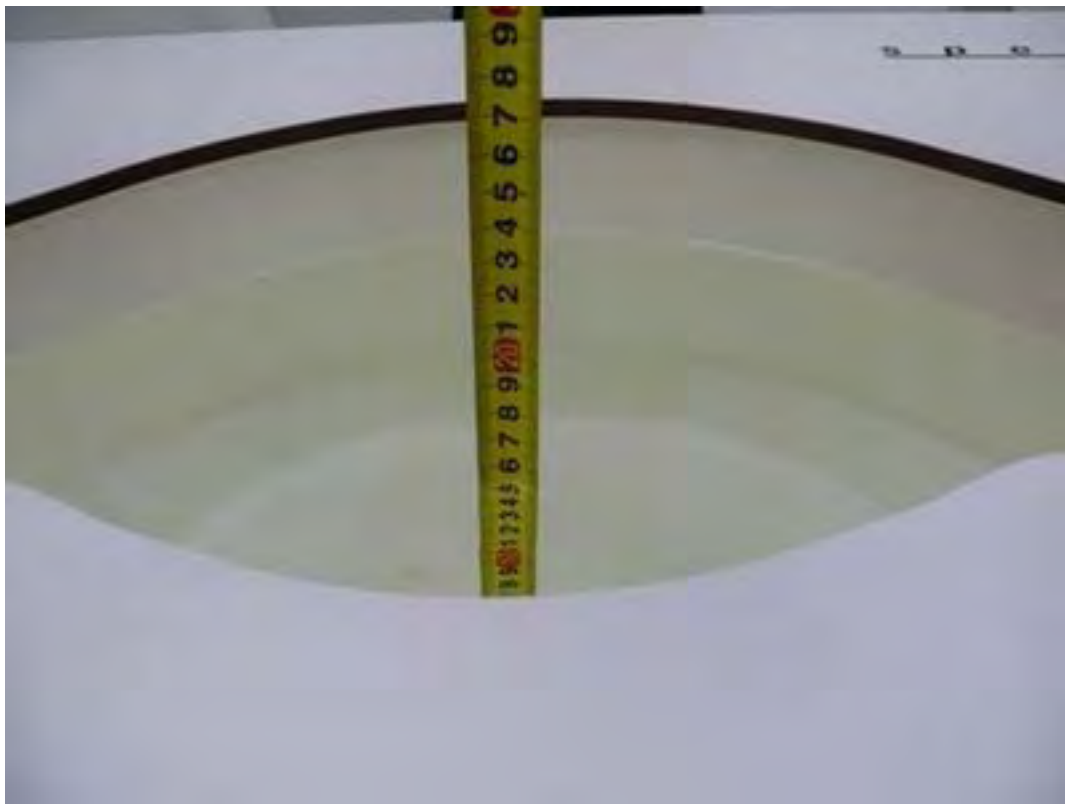
Picture 11: Liquid depth in the head Phantom (2450 MHz, 15.4cm depth)



Picture 12: Liquid depth in the flat Phantom (2450 MHz, 15.3cm depth)



Picture 13: Liquid depth in the head Phantom (2600 MHz, 15.4cm depth)

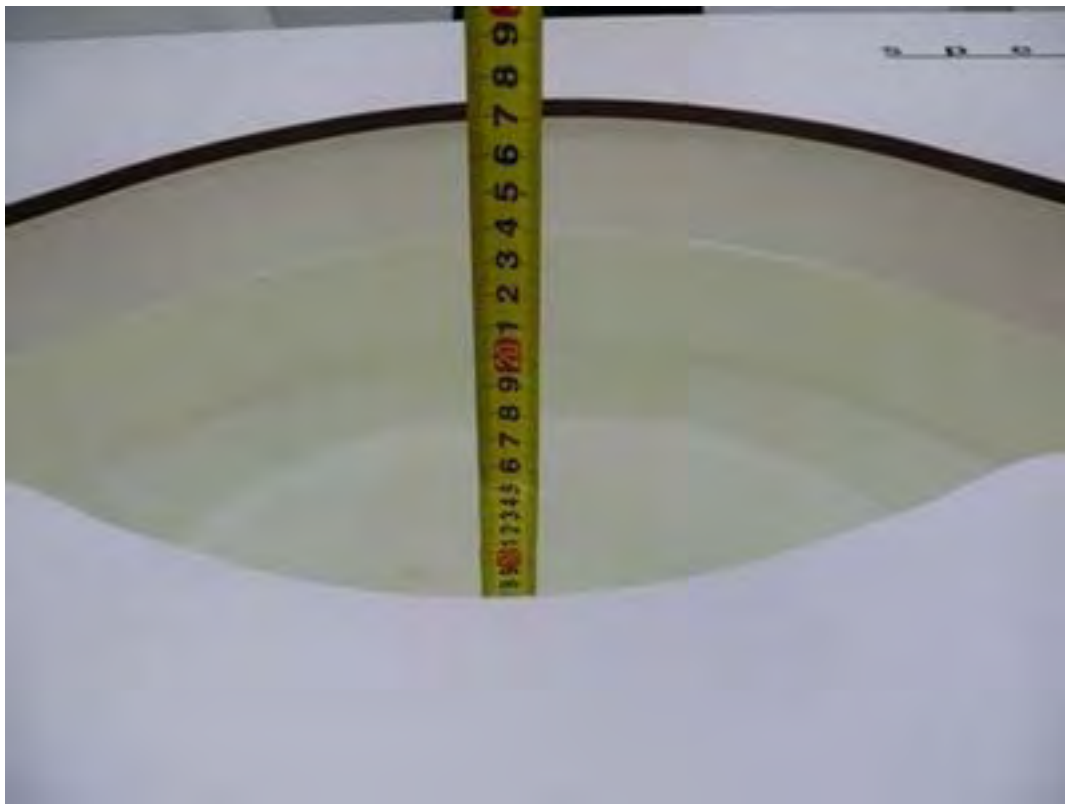


Picture 14: Liquid depth in the flat Phantom (2600 MHz, 15.3cm depth)





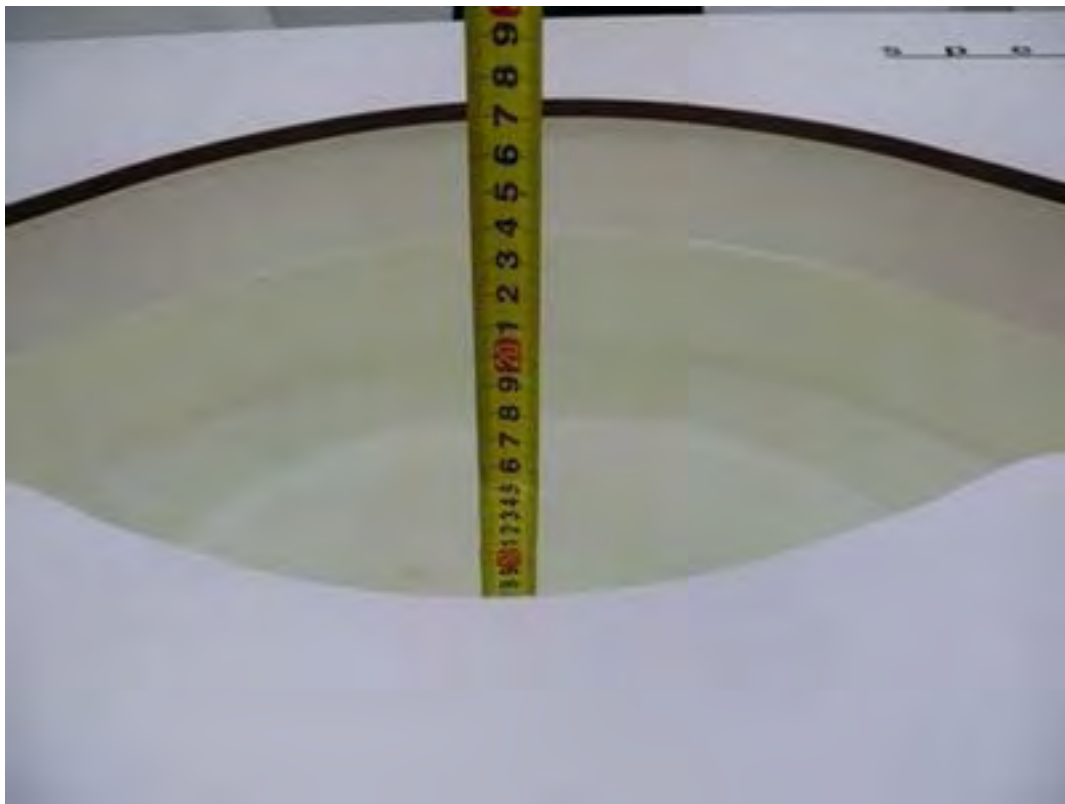
Picture 15: Liquid depth in the head Phantom (5250 MHz, 15.4cm depth)



Picture 16: Liquid depth in the flat Phantom (5250 MHz, 15.3cm depth)



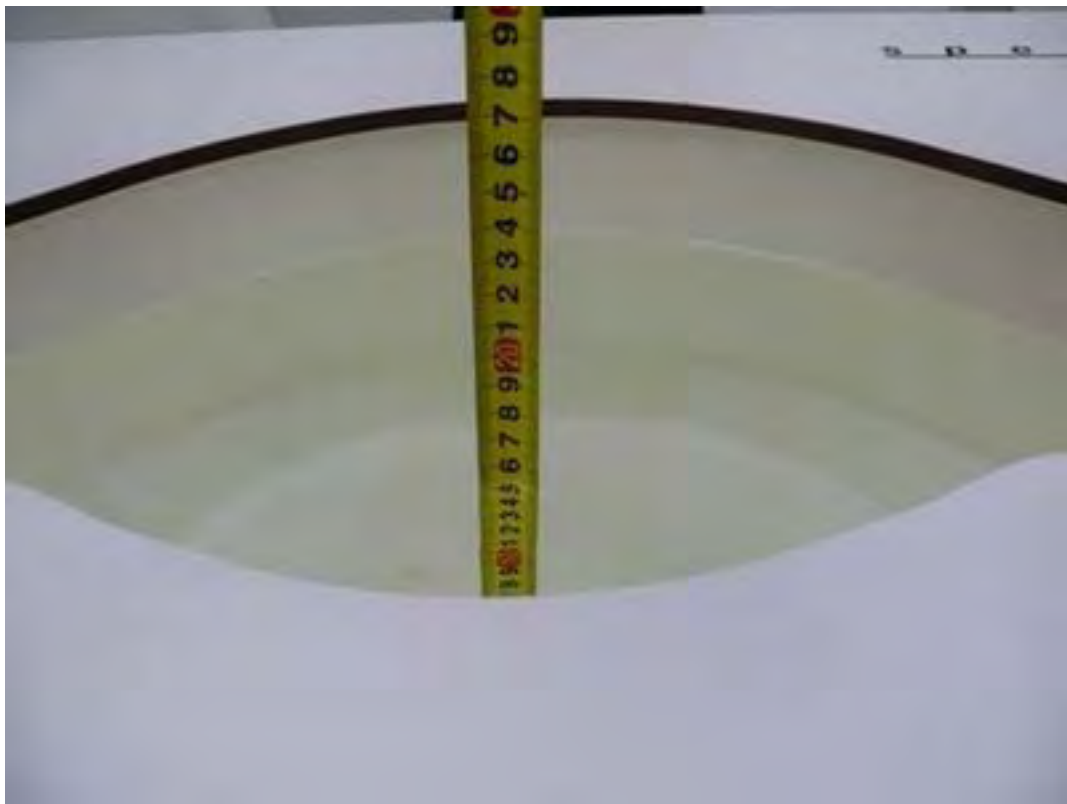
Picture 17: Liquid depth in the head Phantom (5600 MHz, 15.4cm depth)



Picture 18: Liquid depth in the flat Phantom (5600 MHz, 15.3cm depth)



Picture 19: Liquid depth in the head Phantom (5750 MHz, 15.1cm depth)



Picture 20: Liquid depth in the flat Phantom (5750 MHz, 15.0cm depth)

## ANNEX B: System Check Results

### Plot 1 System Performance Check at 750 MHz Head TSL

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1045

Date: 9/15/2017

Communication System: CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.88 \text{ S/m}$ ;  $\epsilon_r = 42.3$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.58, 9.58, 9.58); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (41x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $2.29 \text{ W/kg}$

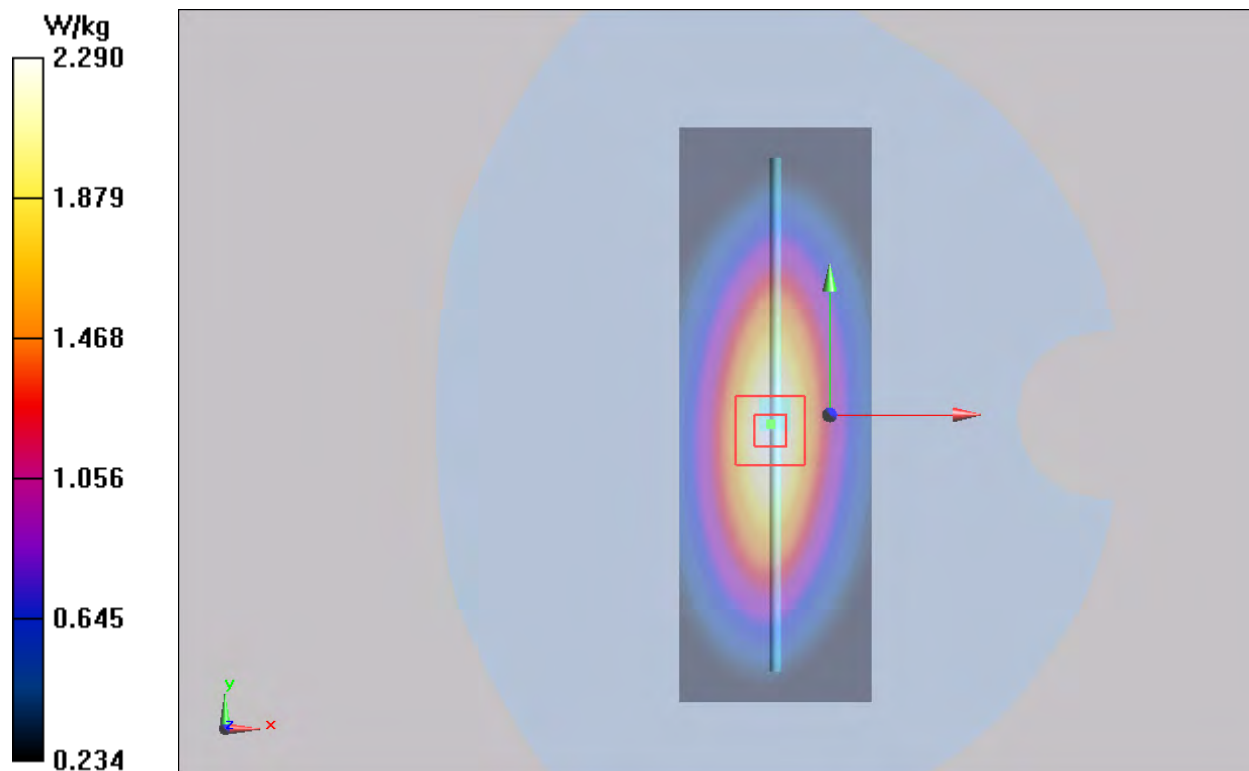
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $50.653 \text{ V/m}$ ; Power Drift =  $-0.08 \text{ dB}$

Peak SAR (extrapolated) =  $3.16 \text{ W/kg}$

**SAR(1 g) =  $2.13 \text{ W/kg}$ ; SAR(10 g) =  $1.41 \text{ W/kg}$**

Maximum value of SAR (measured) =  $2.29 \text{ W/kg}$



**Plot 2 System Performance Check at 750 MHz Head TSL**

**DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1045**

Date: 9/20/2017

Communication System: CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.87 \text{ S/m}$ ;  $\epsilon_r = 42.0$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.58, 9.58, 9.58); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (41x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.31 W/kg

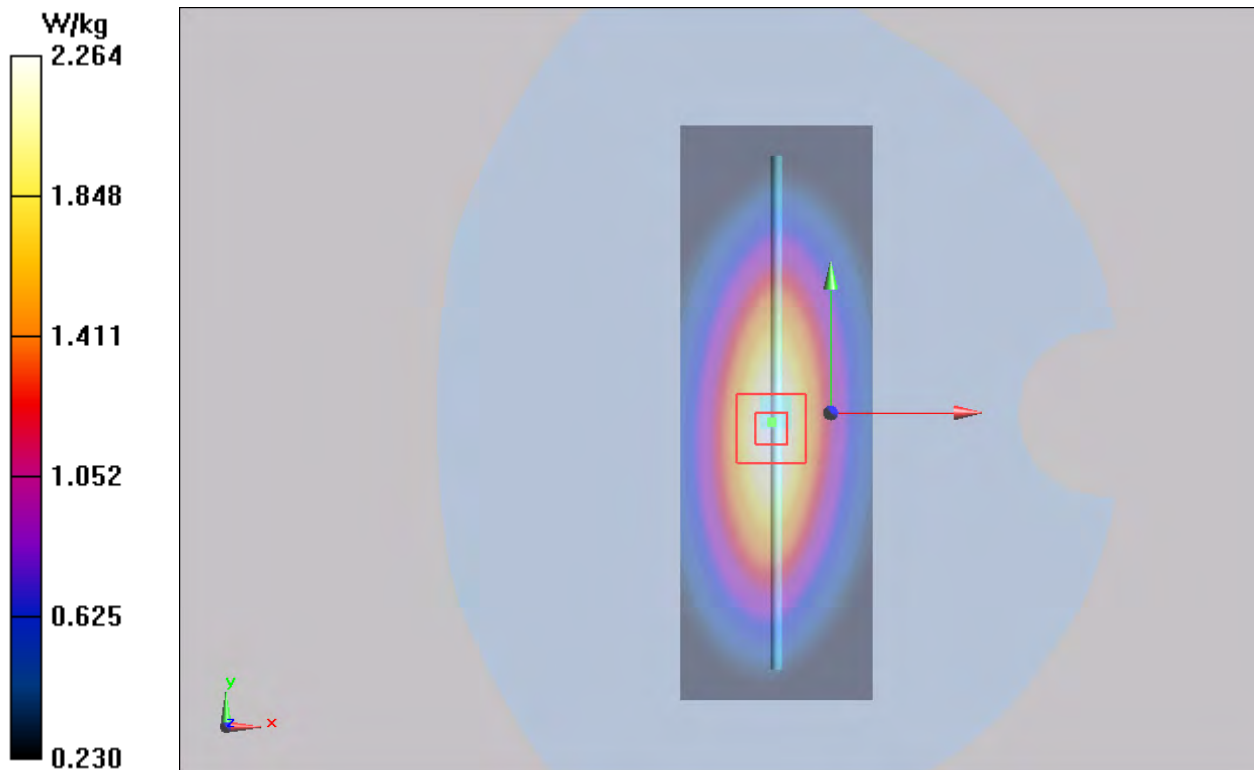
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 50.557 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 3.14 W/kg

**SAR(1 g) = 2.10 W/kg; SAR(10 g) = 1.37 W/kg**

Maximum value of SAR (measured) = 2.264 W/kg



**Plot 3 System Performance Check at 750 MHz Body TSL**

**DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1045**

Date: 9/14/2017

Communication System: CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.95 \text{ S/m}$ ;  $\epsilon_r = 56.9$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (41x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $2.36 \text{ W/kg}$

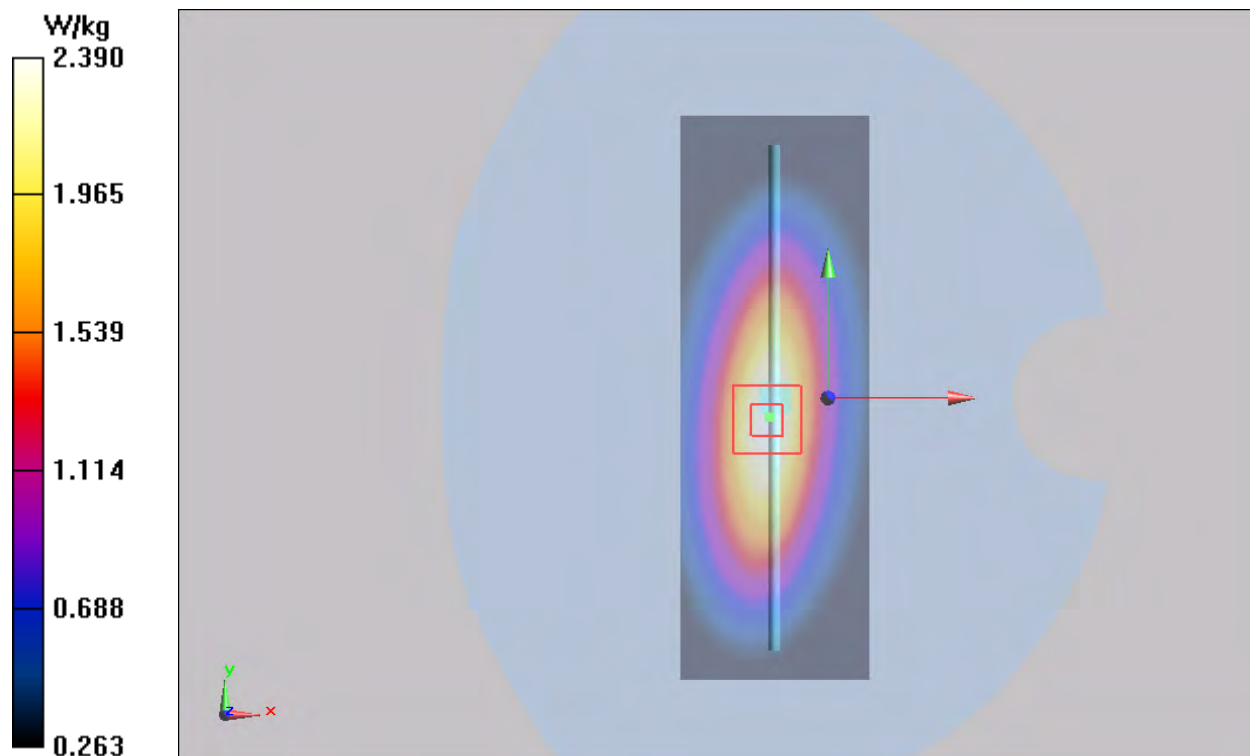
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $48.998 \text{ V/m}$ ; Power Drift =  $0.04 \text{ dB}$

Peak SAR (extrapolated) =  $3.24 \text{ W/kg}$

**SAR(1 g) =  $2.22 \text{ W/kg}$ ; SAR(10 g) =  $1.49 \text{ W/kg}$**

Maximum value of SAR (measured) =  $2.39 \text{ W/kg}$



**Plot 4 System Performance Check at 750 MHz Body TSL****DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1045**

Date: 9/19/2017

Communication System: CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 750$  MHz;  $\sigma = 0.96$  S/m;  $\epsilon_r = 54.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (41x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.34 W/kg

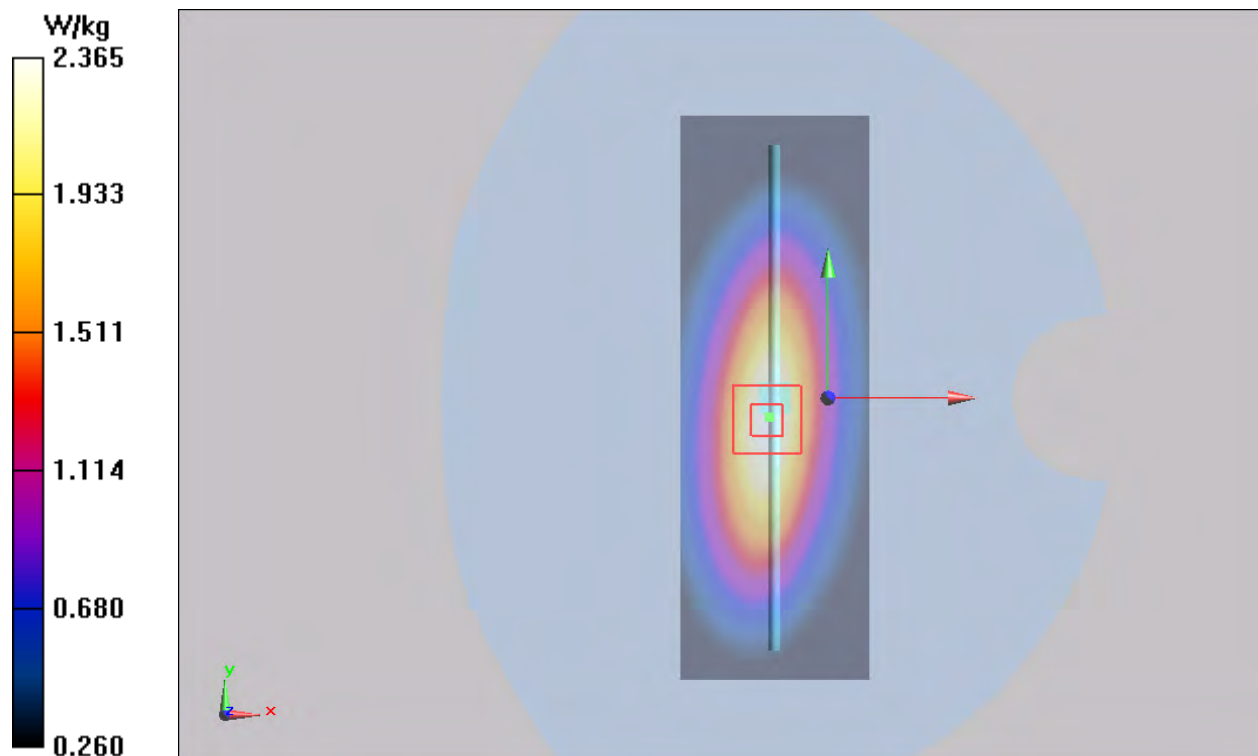
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 48.971 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 3.24 W/kg

**SAR(1 g) = 2.17 W/kg; SAR(10 g) = 1.46 W/kg**

Maximum value of SAR (measured) = 2.365 W/kg



**Plot 5 System Performance Check at 835 MHz Head TSL**

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020**

Date: 9/12/2017

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.88 \text{ mho/m}$ ;  $\epsilon_r = 41.4$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (41x121x1):** Measurement grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $2.64 \text{ mW/g}$

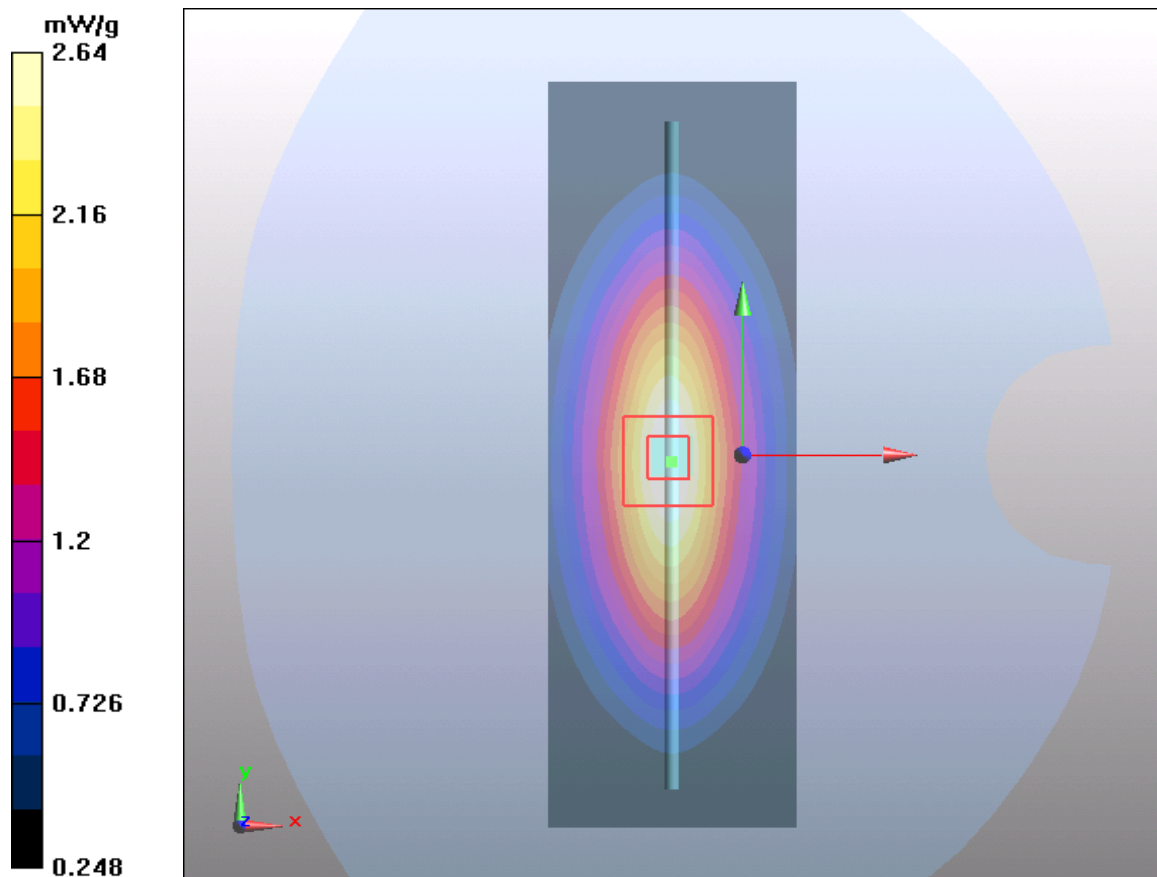
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $54.4 \text{ V/m}$ ; Power Drift =  $-0.076 \text{ dB}$

Peak SAR (extrapolated) =  $3.67 \text{ W/kg}$

**SAR(1 g) =  $2.44 \text{ mW/g}$ ; SAR(10 g) =  $1.6 \text{ mW/g}$**

Maximum value of SAR (measured) =  $2.64 \text{ mW/g}$





**Plot 6 System Performance Check at 835 MHz Head TSL**

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020**

Date: 9/16/2017

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.87 \text{ mho/m}$ ;  $\epsilon_r = 41.3$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (41x121x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.59 mW/g

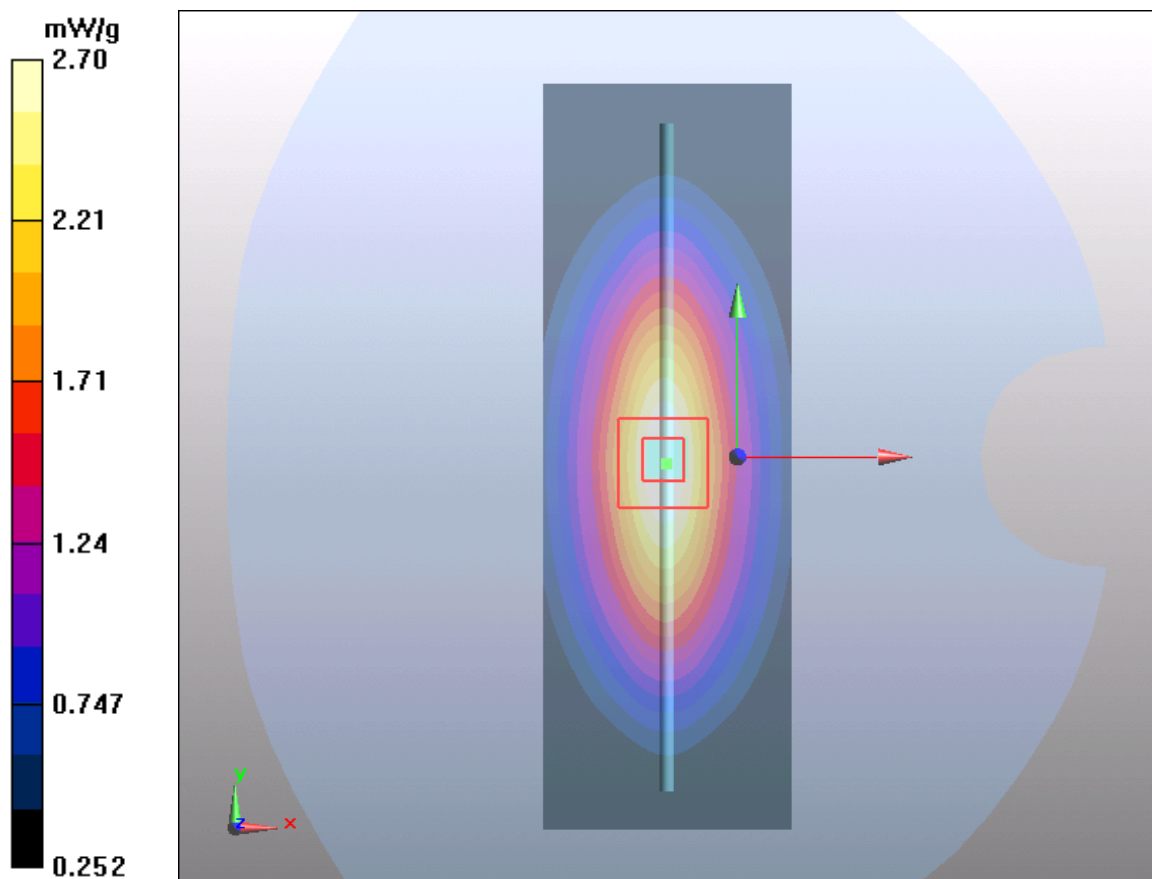
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 54.3 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 3.67 W/kg

**SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.65 mW/g**

Maximum value of SAR (measured) = 2.70 mW/g



**Plot 7 System Performance Check at 835 MHz Body TSL**

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020**

Date: 9/13/2017

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.96 \text{ mho/m}$ ;  $\epsilon_r = 54.2$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (41x121x1):** Measurement grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $2.58 \text{ mW/g}$

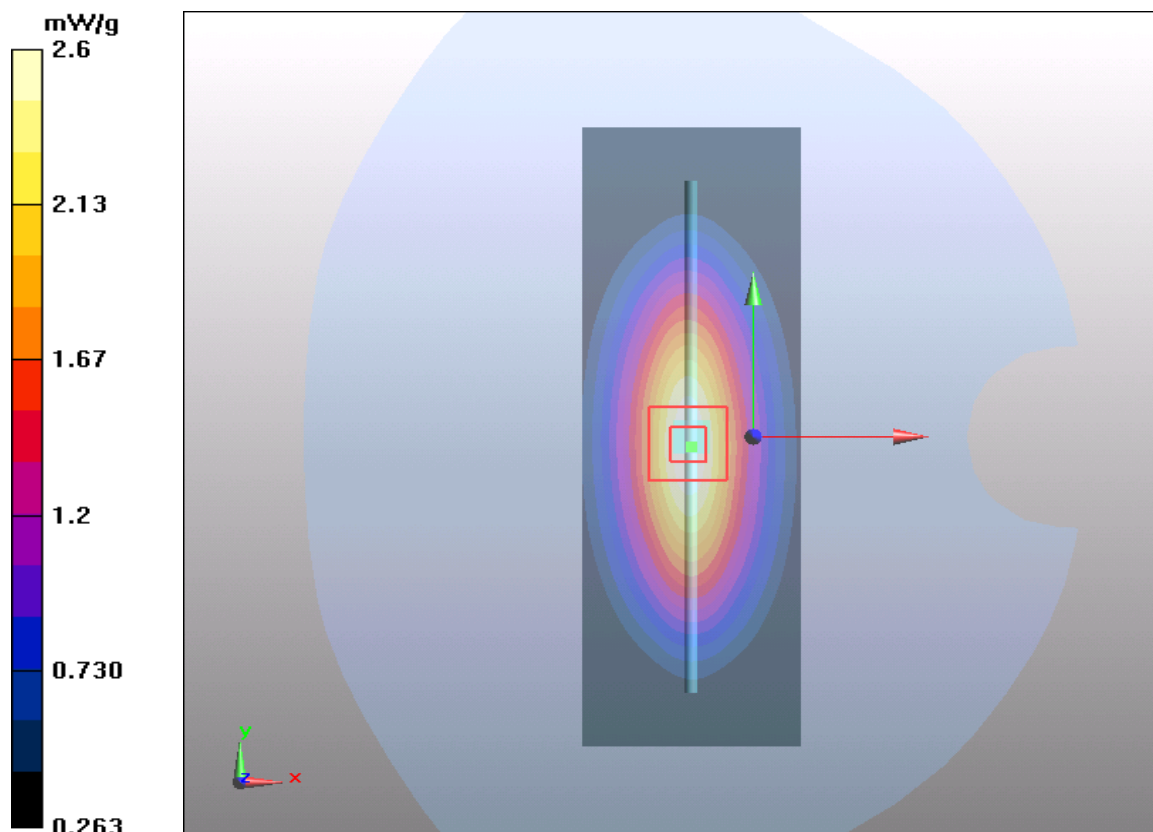
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $51.9 \text{ V/m}$ ; Power Drift =  $-0.058 \text{ dB}$

Peak SAR (extrapolated) =  $3.5 \text{ W/kg}$

**SAR(1 g) =  $2.41 \text{ mW/g}$ ; SAR(10 g) =  $1.6 \text{ mW/g}$**

Maximum value of SAR (measured) =  $2.6 \text{ mW/g}$



**Plot 8 System Performance Check at 835 MHz Body TSL**

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020**

Date: 9/18/2017

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.95 \text{ mho/m}$ ;  $\epsilon_r = 54.6$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (41x121x1):** Measurement grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $2.58 \text{ mW/g}$

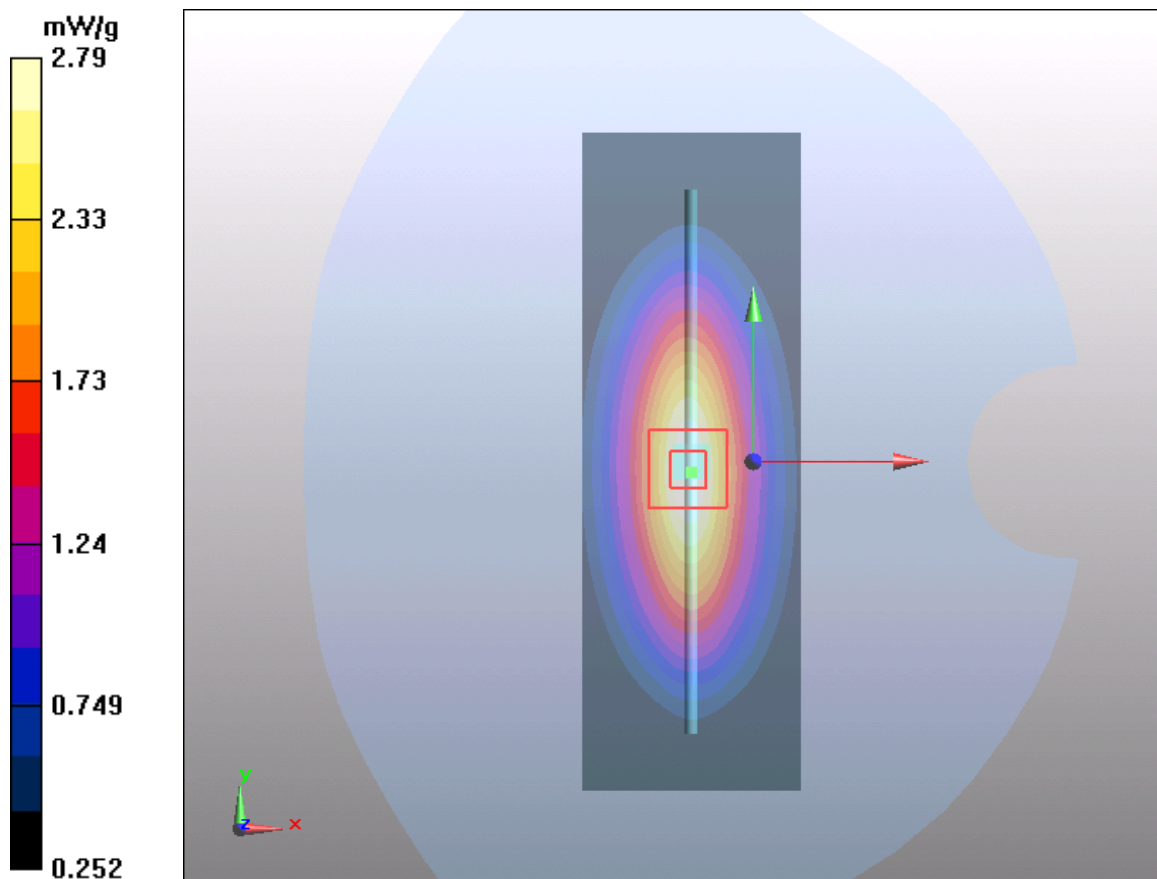
**d=15mm, Pin=250mW/Zoom Scan(5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $51.9 \text{ V/m}$ ; Power Drift =  $-0.058 \text{ dB}$

Peak SAR (extrapolated) =  $3.5 \text{ W/kg}$

**SAR(1 g) =  $2.42 \text{ mW/g}$ ; SAR(10 g) =  $1.63 \text{ mW/g}$**

Maximum value of SAR (measured) =  $2.79 \text{ mW/g}$



**Plot 9 System Performance Check at 1750 MHz Head TSL**

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1033**

Date: 9/11/2017

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.34$  mho/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.60, 8.60, 8.60); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (51x81x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 9.78 mW/g

**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm,

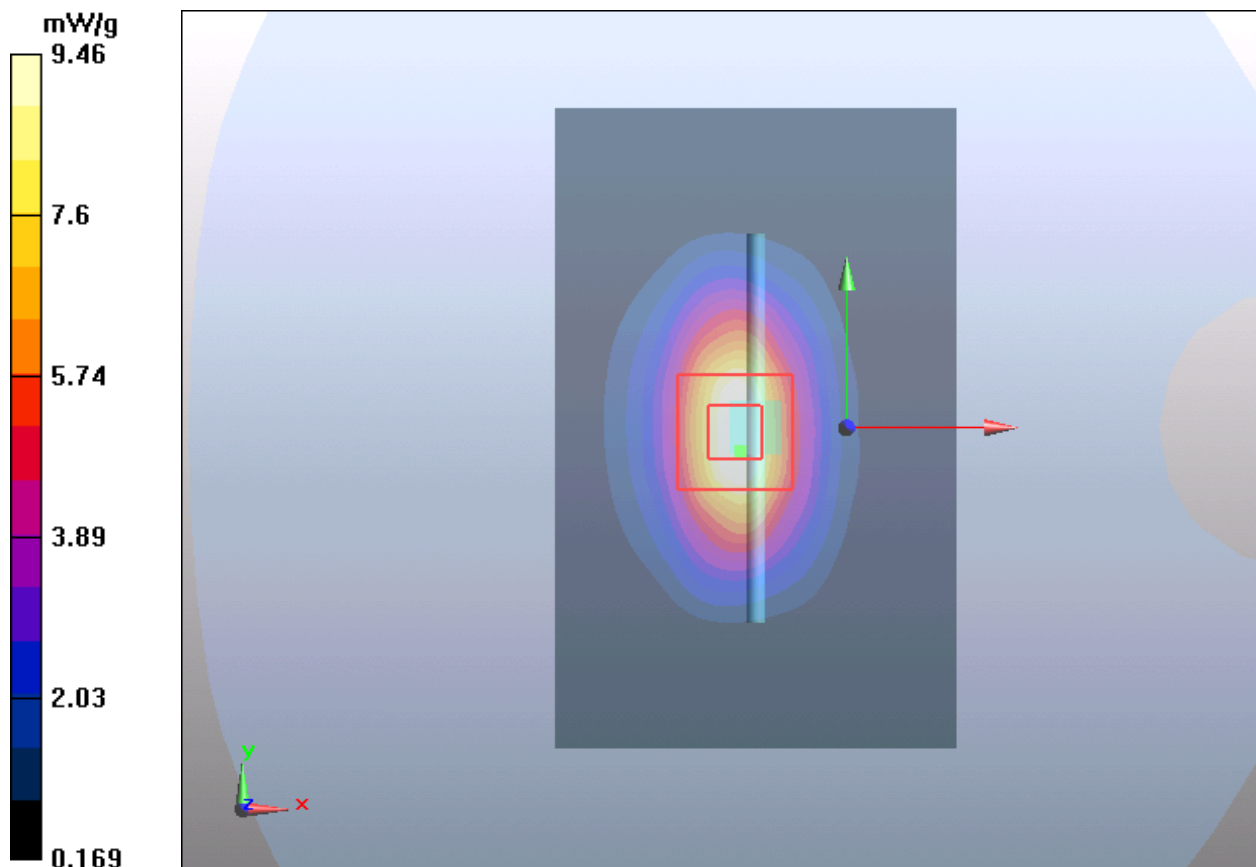
dz=5mm

Reference Value = 80 V/m; Power Drift = 0.075 dB

Peak SAR (extrapolated) = 15.5 W/kg

**SAR(1 g) = 8.95 mW/g; SAR(10 g) = 4.5 mW/g**

Maximum value of SAR (measured) = 9.46 mW/g



**Plot 10 System Performance Check at 1750 MHz Head TSL**

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1033**

Date: 9/21/2017

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.34$  mho/m;  $\epsilon_r = 40.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.60, 8.60, 8.60); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (51x81x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm  
 Maximum value of SAR (interpolated) = 9.77 mW/g

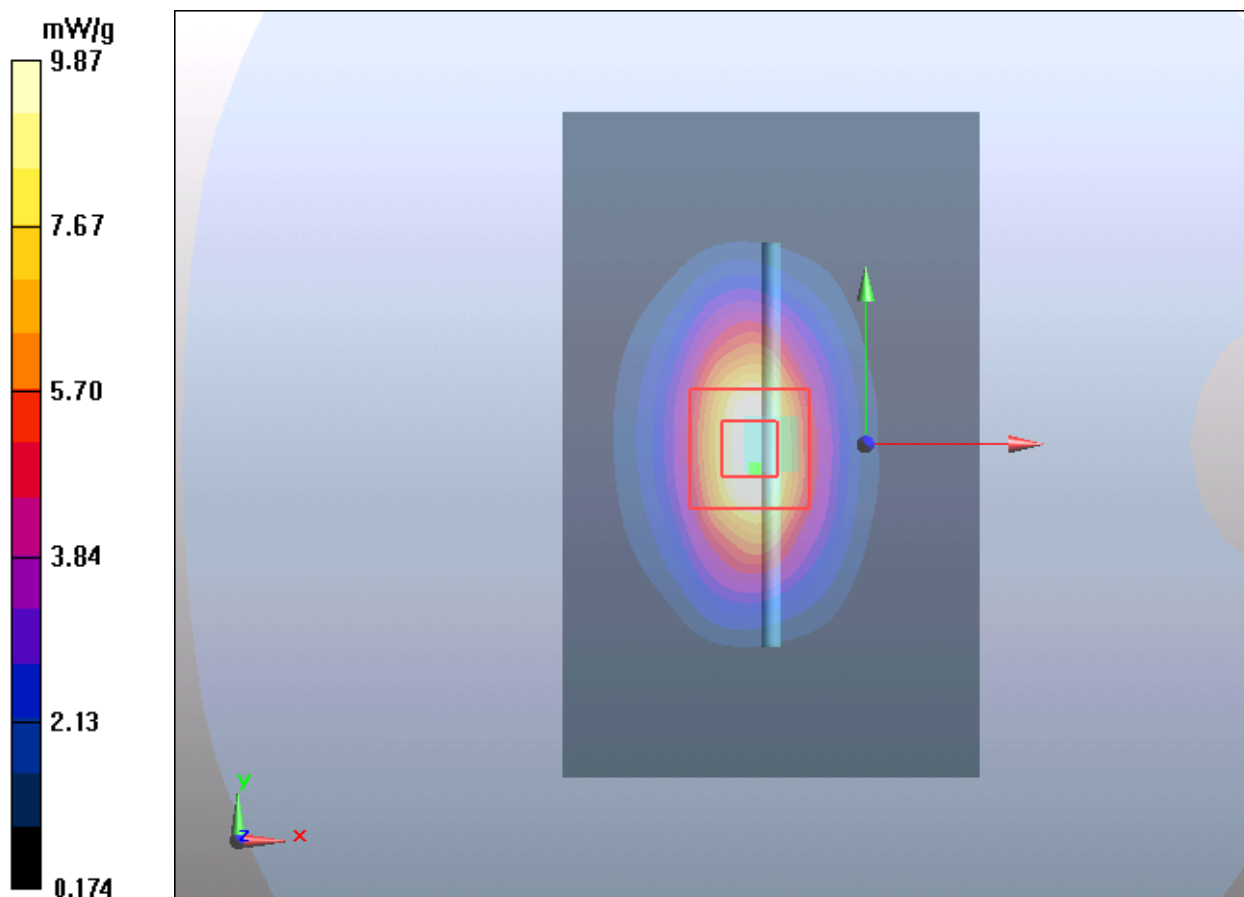
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 80 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 15.51 W/kg

**SAR(1 g) = 9.11 mW/g; SAR(10 g) = 4.77 mW/g**

Maximum value of SAR (measured) = 9.87 mW/g



**Plot 11 System Performance Check at 1750 MHz Body TSL**

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1033**

Date: 9/10/2017

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.46$  mho/m;  $\epsilon_r = 51.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.7 °C

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (51x81x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 10.6 mW/g

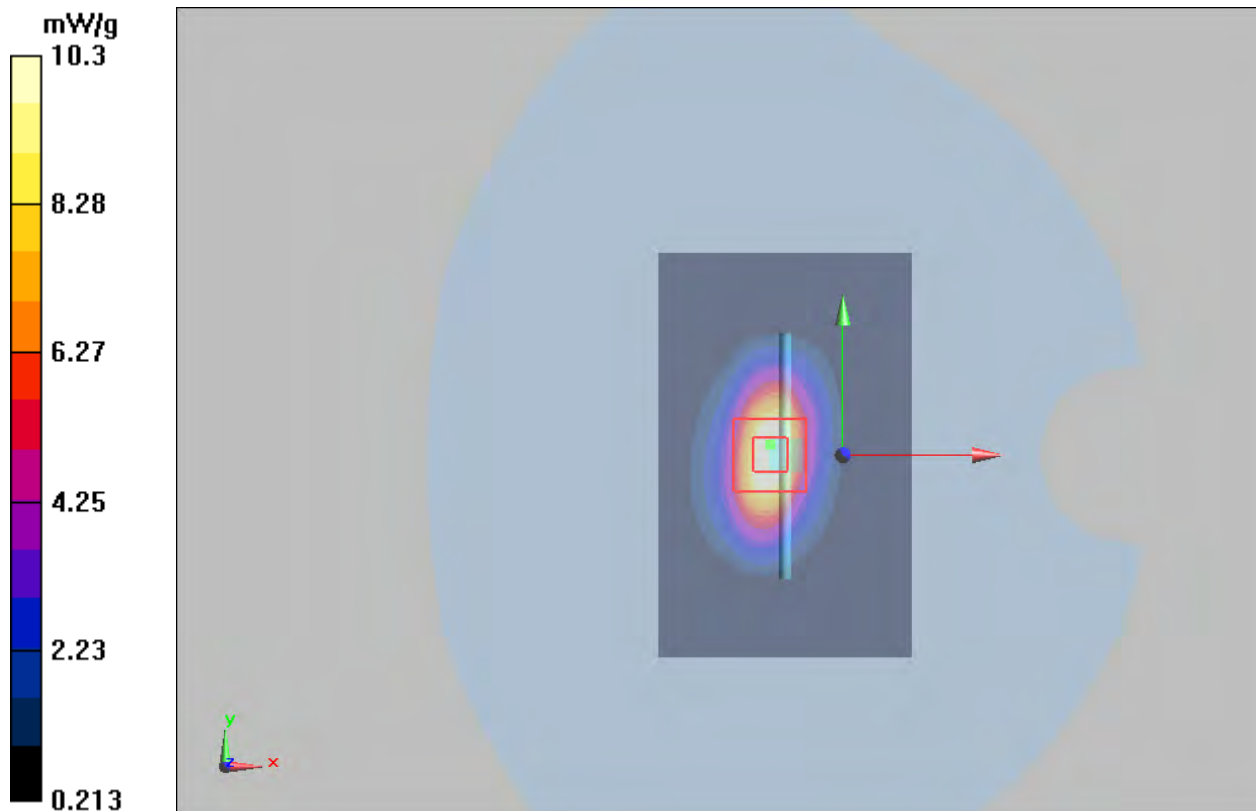
**d=10mm, Pin=250mW/Area Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 77.7 V/m; Power Drift = 0.097 dB

Peak SAR (extrapolated) = 16.8 W/kg

**SAR(1 g) = 9.24 mW/g; SAR(10 g) = 4.9 mW/g**

Maximum value of SAR (measured) = 10.3 mW/g



**Plot 12 System Performance Check at 1750 MHz Body TSL**

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1033**

Date: 9/15/2017

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.51$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.7 °C

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (51x81x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 10.65 mW/g

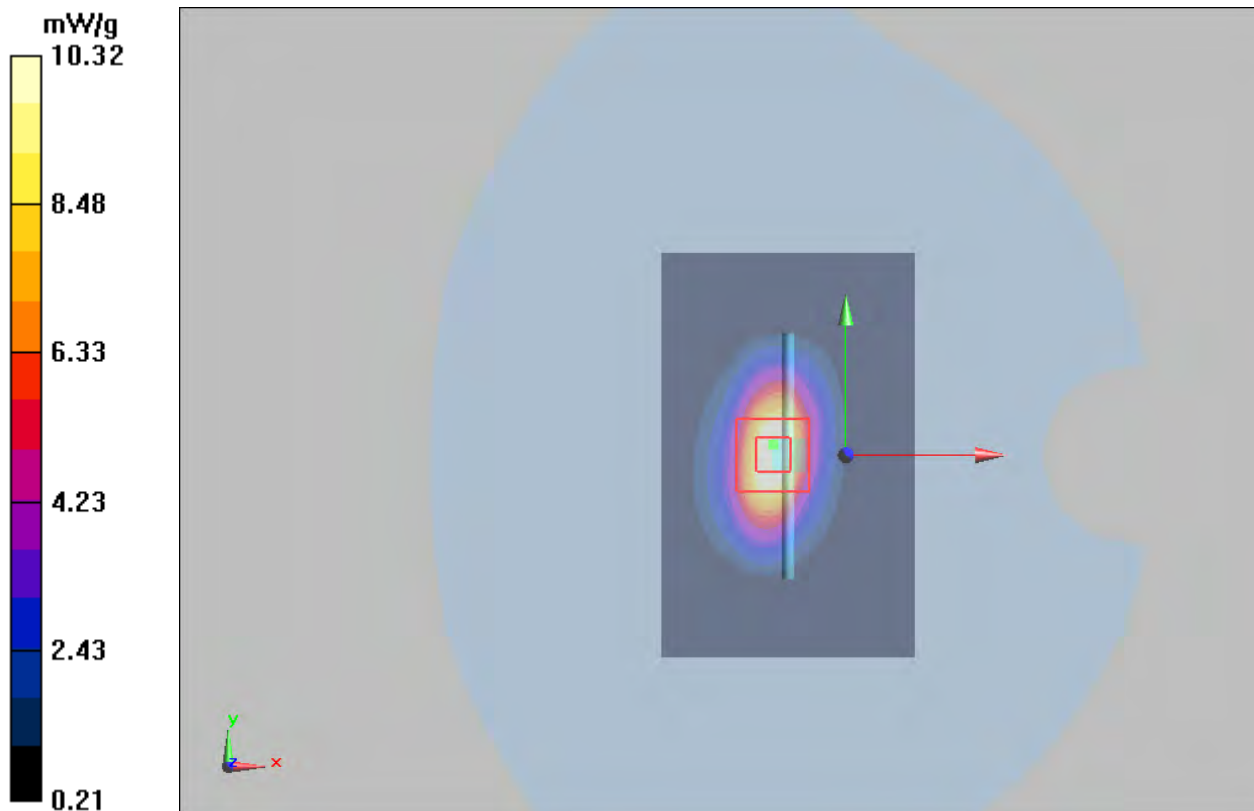
**d=10mm, Pin=250mW/Area Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 77.6 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 16.83 W/kg

**SAR(1 g) = 9.40 mW/g; SAR(10 g) = 5.22 mW/g**

Maximum value of SAR (measured) = 10.32 mW/g



**Plot 13 System Performance Check at 1750 MHz Body TSL**

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1033**

Date: 9/17/2017

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.50$  mho/m;  $\epsilon_r = 53.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.7 °C

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (51x81x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 10.61 mW/g

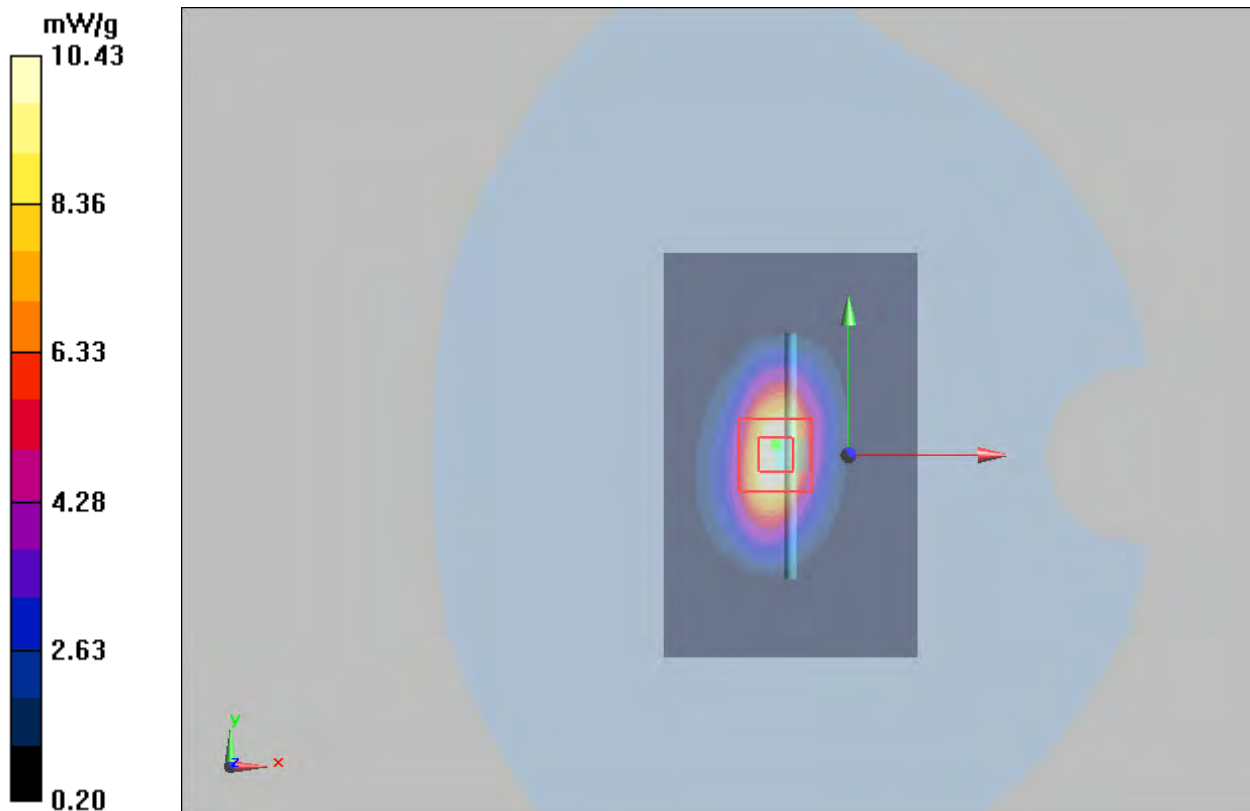
**d=10mm, Pin=250mW/Area Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 76.7 V/m; Power Drift = 0.112 dB

Peak SAR (extrapolated) = 16.8 W/kg

**SAR(1 g) = 9.43 mW/g; SAR(10 g) = 5.20 mW/g**

Maximum value of SAR (measured) = 10.43 mW/g





**Plot 14 System Performance Check at 1900 MHz Head TSL**

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 9/20/2017

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 40.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm  
 Maximum value of SAR (interpolated) = 11.3 mW/g

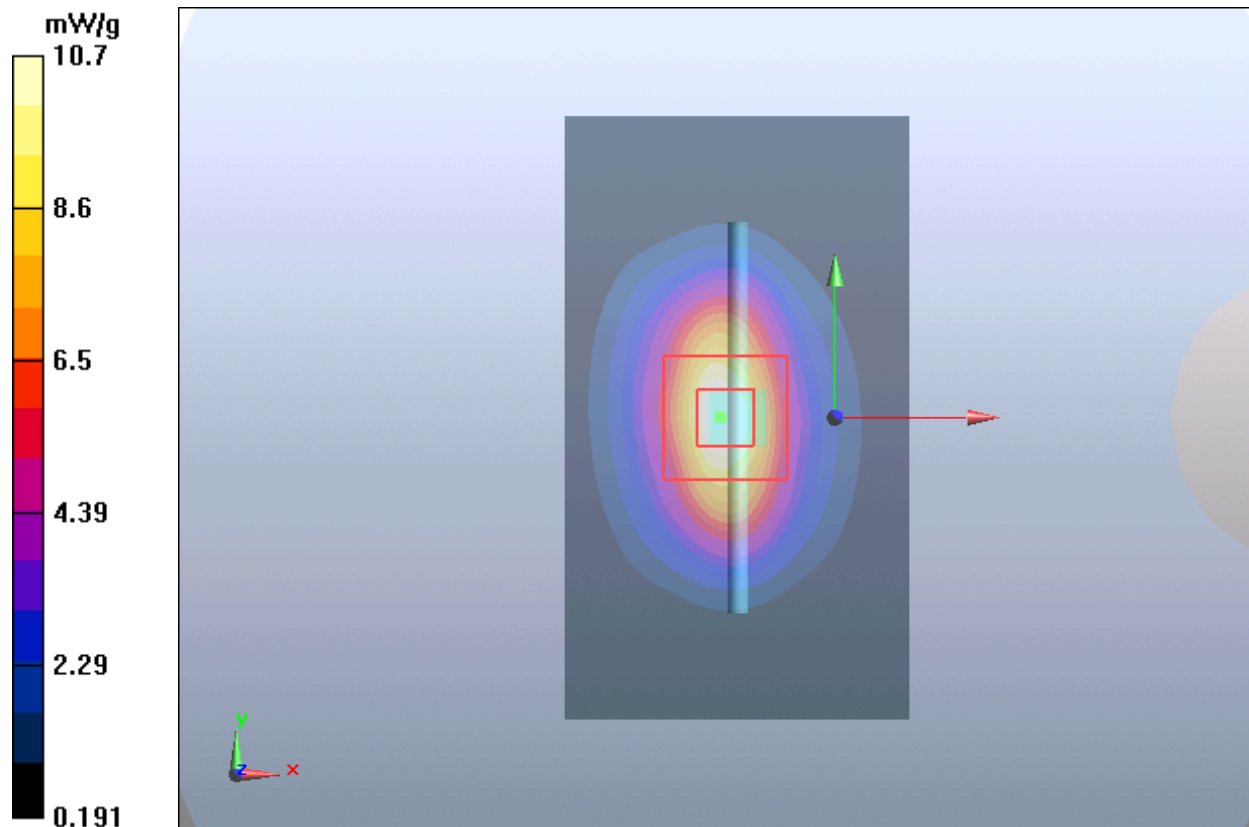
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 85.5 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 17.8 W/kg

**SAR(1 g) = 9.88 mW/g; SAR(10 g) = 4.9 mW/g**

Maximum value of SAR (measured) = 10.7 mW/g



**Plot 15 System Performance Check at 1900 MHz Head TSL**

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 9/26/2017

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.43$  mho/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 11.23 mW/g

**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm,

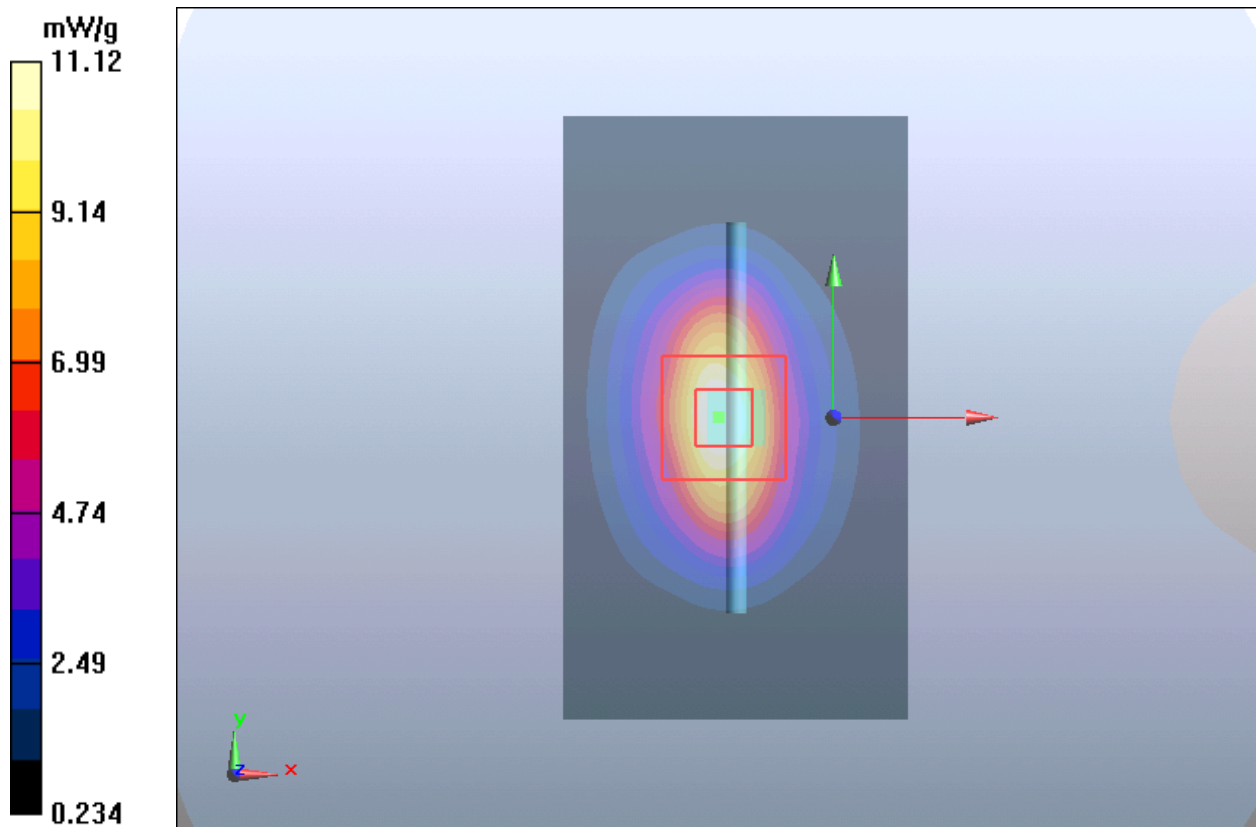
dz=5mm

Reference Value = 85.0 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 17.8 W/kg

**SAR(1 g) = 9.85 mW/g; SAR(10 g) = 4.93 mW/g**

Maximum value of SAR (measured) = 11.12 mW/g



**Plot 16 System Performance Check at 1900 MHz Head TSL**

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 9/27/2017

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 40.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 12.9 mW/g

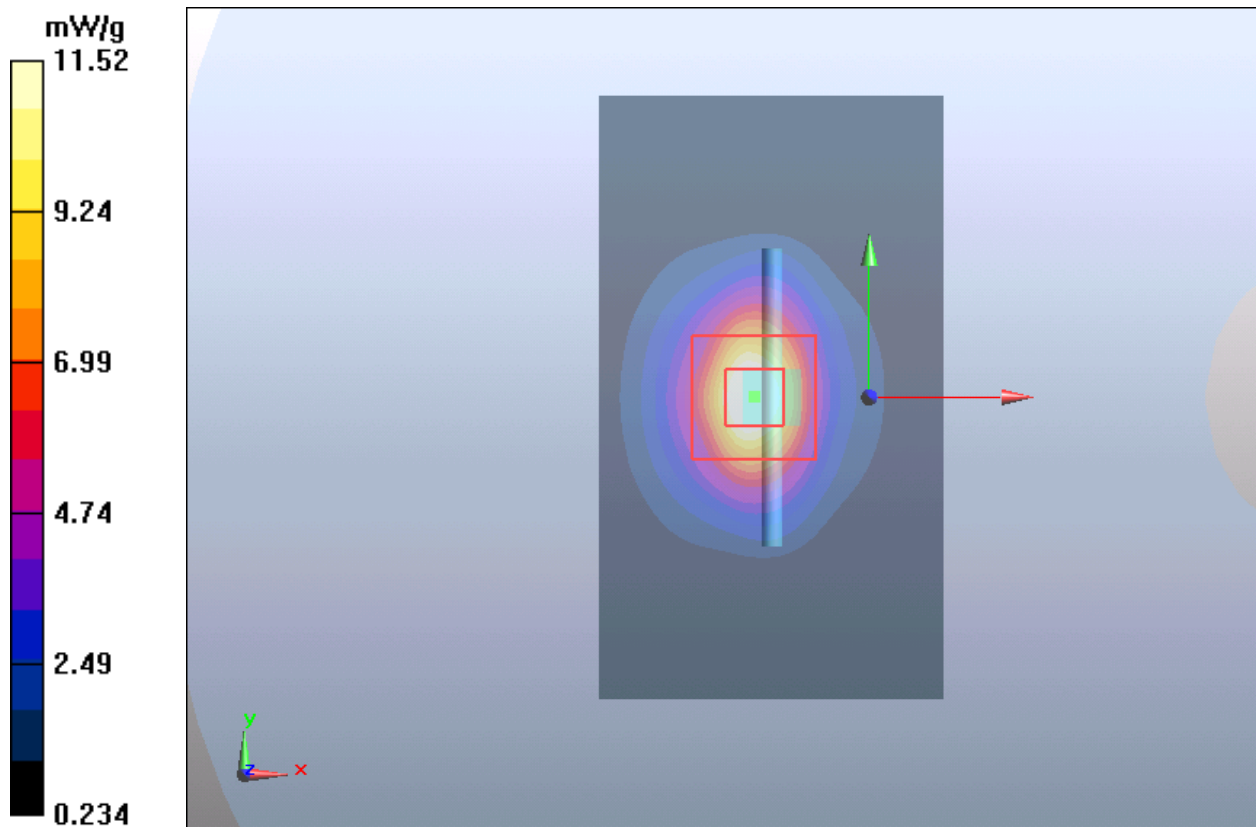
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 87.8 V/m; Power Drift = 0.030 dB

Peak SAR (extrapolated) = 20.1 W/kg

**SAR(1 g) = 10.55 mW/g; SAR(10 g) = 5.39 mW/g**

Maximum value of SAR (measured) = 11.52 mW/g



**Plot 17 System Performance Check at 1900 MHz Body TSL**

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 9/21/2017

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.51$  mho/m;  $\epsilon_r = 52.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 12.2 mW/g

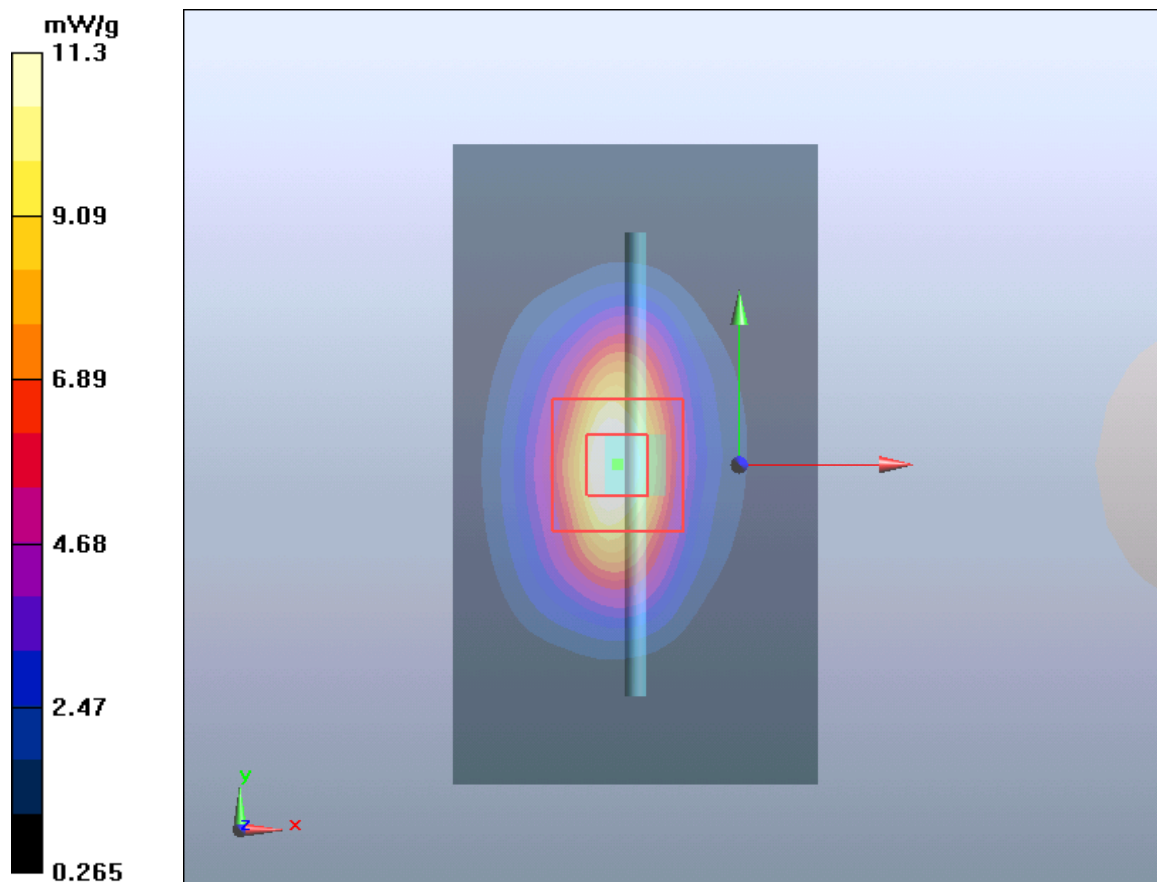
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 82.3 V/m; Power Drift = 0.068 dB

Peak SAR (extrapolated) = 17.8 W/kg

**SAR(1 g) = 9.93 mW/g; SAR(10 g) = 5.25 mW/g**

Maximum value of SAR (measured) = 11.3 mW/g



**Plot 18 System Performance Check at 1900 MHz Body TSL**

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 9/22/2017

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.51$  mho/m;  $\epsilon_r = 53.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 11.9 mW/g

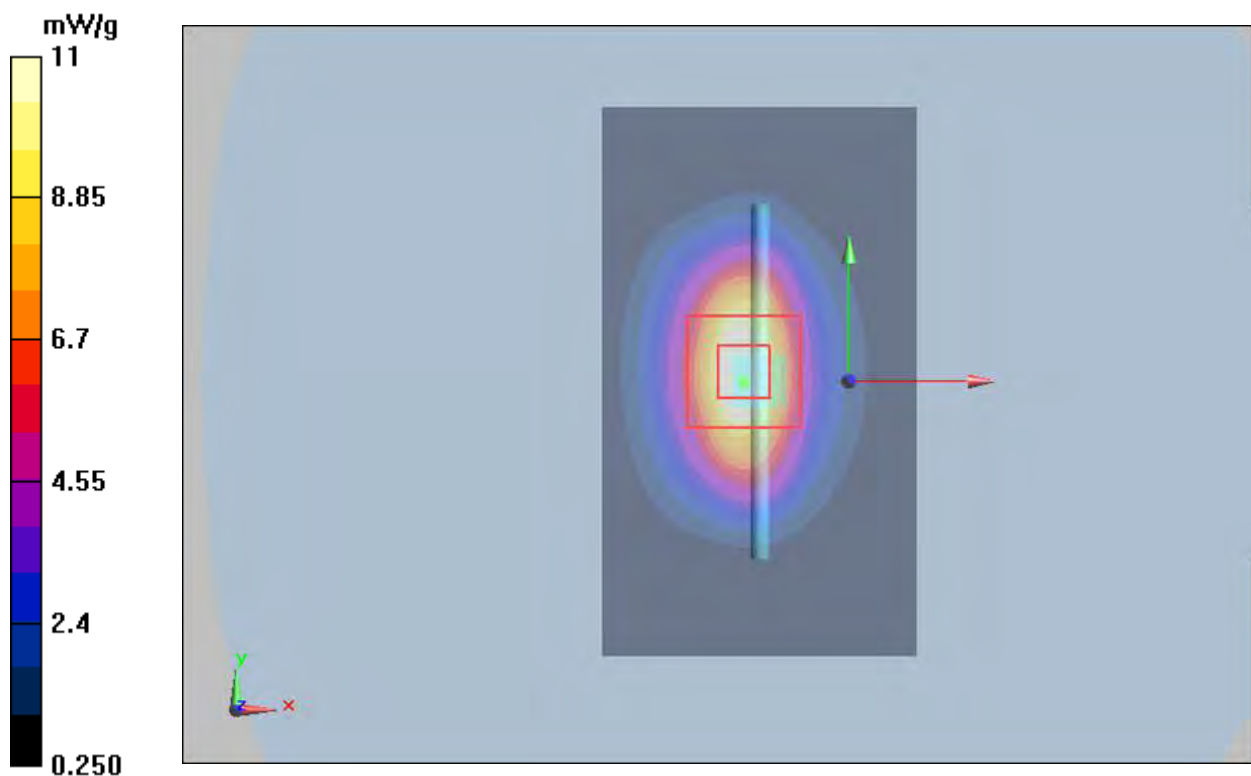
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 80.8 V/m; Power Drift = -0.063 dB

Peak SAR (extrapolated) = 17.6 W/kg

**SAR(1 g) = 9.82 mW/g; SAR(10 g) = 5.2 mW/g**

Maximum value of SAR (measured) = 11 mW/g



**Plot 19 System Performance Check at 1900 MHz Body TSL**

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 9/24/2017

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.51$  mho/m;  $\epsilon_r = 52.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 12.2 mW/g

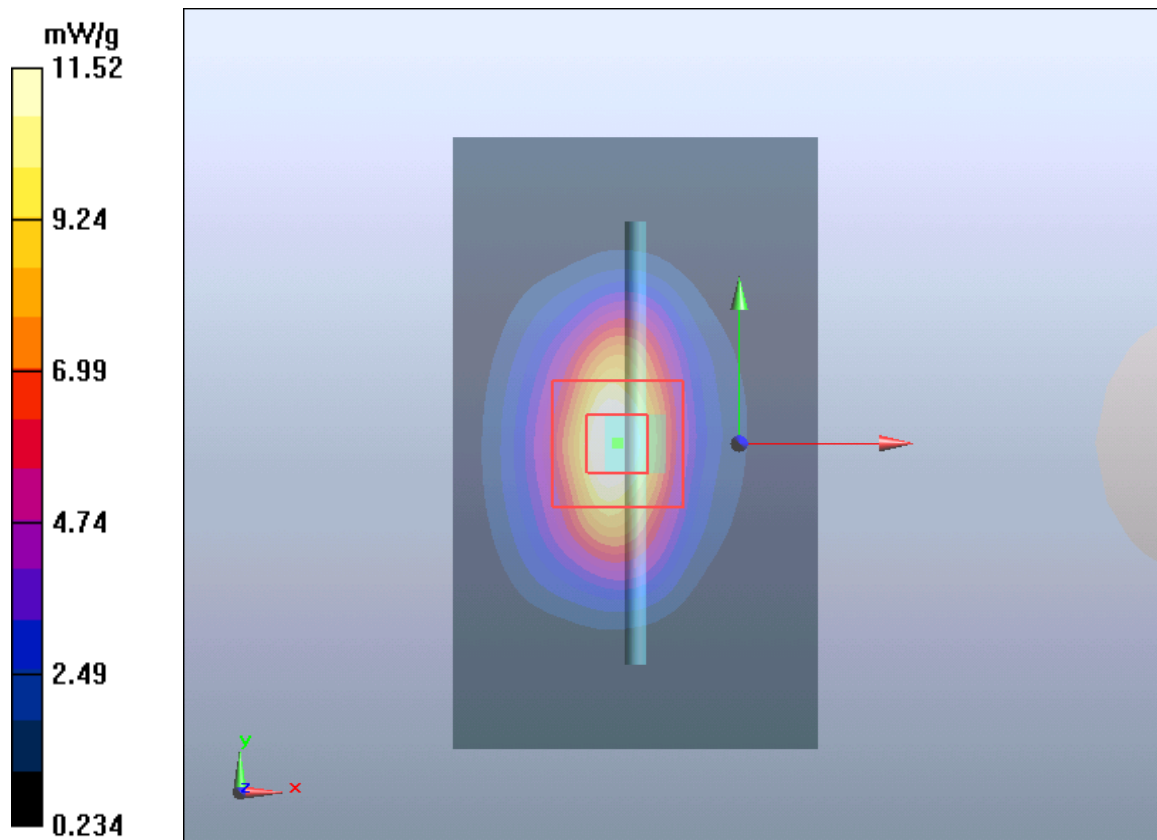
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 82.3 V/m; Power Drift = 0.068 dB

Peak SAR (extrapolated) = 17.8 W/kg

**SAR(1 g) = 9.91 mW/g; SAR(10 g) = 5.23 mW/g**

Maximum value of SAR (measured) = 11.52 mW/g



**Plot 20 System Performance Check at 2450 MHz Head TSL**

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 786**

Date: 9/25/2017

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.81$  mho/m;  $\epsilon_r = 38.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(7.64, 7.64, 7.64); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 18.2 mW/g

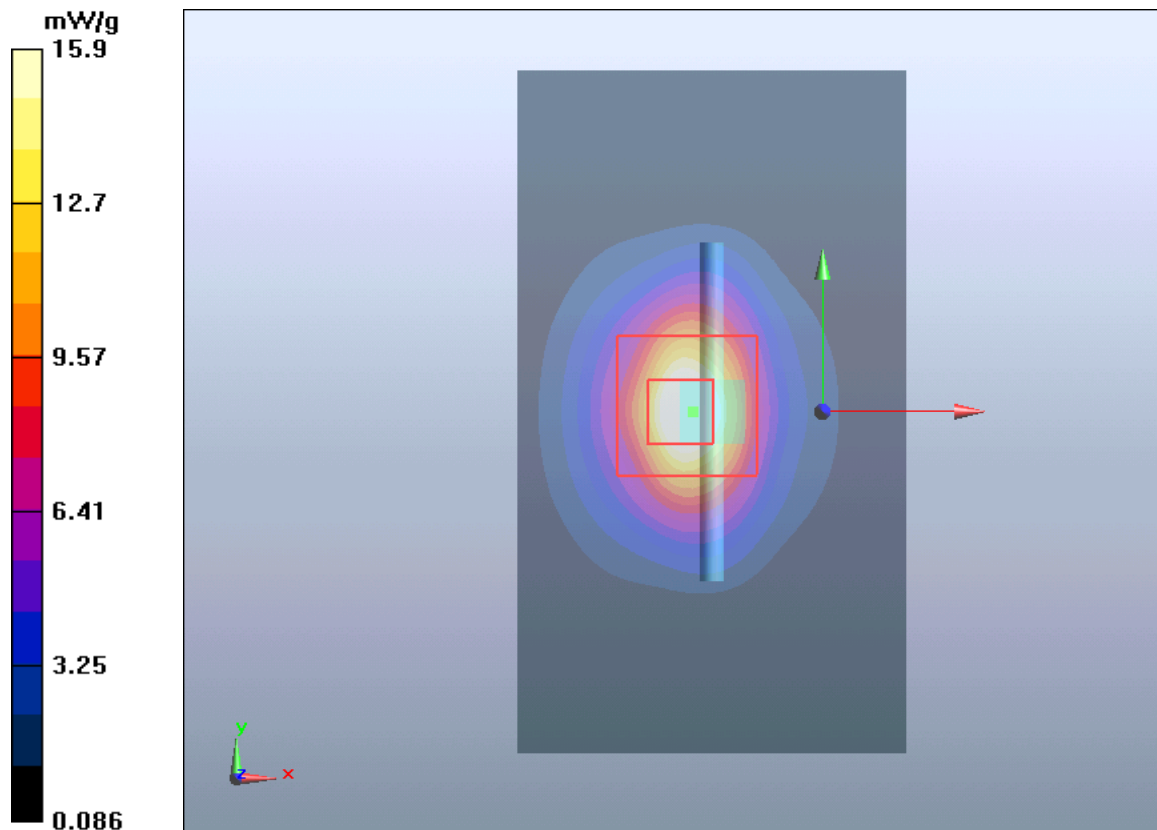
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 88.8 V/m; Power Drift = 0.075 dB

Peak SAR (extrapolated) = 30 W/kg

**SAR(1 g) = 13.7 mW/g; SAR(10 g) = 6.22 mW/g**

Maximum value of SAR (measured) = 15.9 mW/g



**Plot 21 System Performance Check at 2450 MHz Body TSL**

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 786**

Date: 9/23/2017

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.98$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 16 mW/g

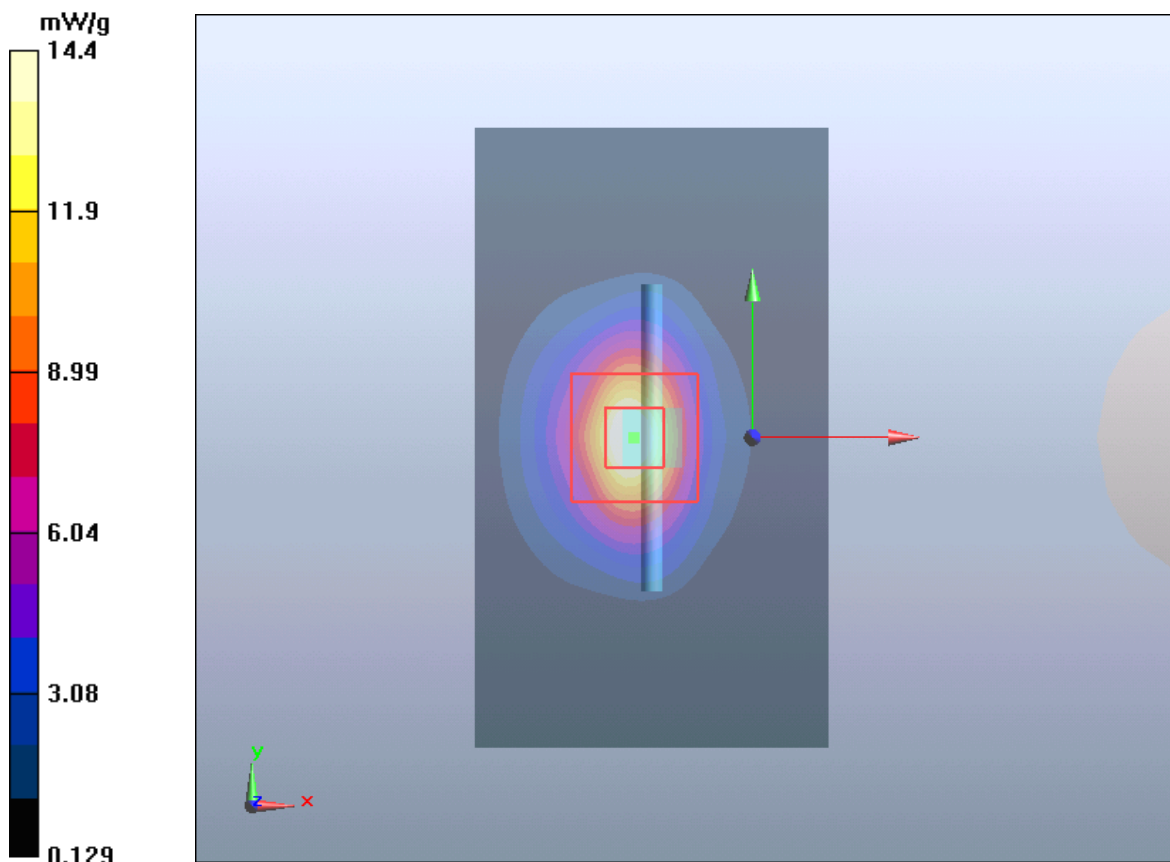
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 81.2 V/m; Power Drift = 0.003 dB

Peak SAR (extrapolated) = 25.4 W/kg

**SAR(1 g) = 12.5 mW/g; SAR(10 g) = 6.20 mW/g**

Maximum value of SAR (measured) = 14.4 mW/g





**Plot 22 System Performance Check at 2600 MHz Head TSL**

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1025**

Date: 9/16/2017

Communication System: CW; Frequency: 2600 MHz

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.01$  mho/m;  $\epsilon_r = 38.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 17.439 mW/g

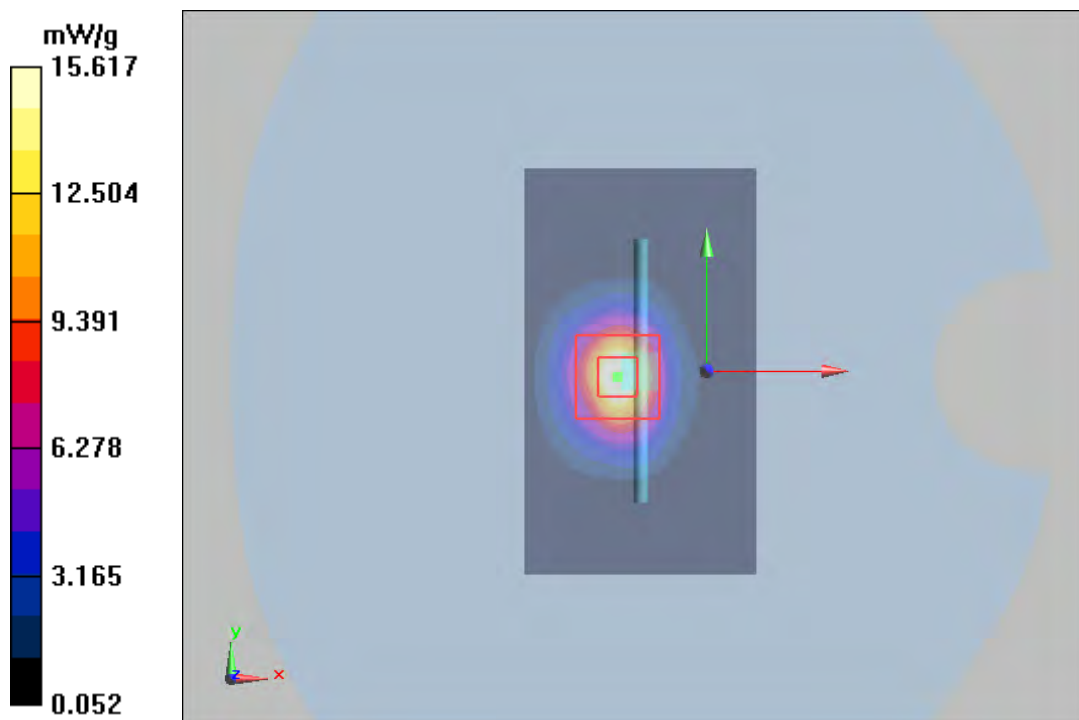
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.998 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 31.858 W/kg

**SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.07 mW/g**

Maximum value of SAR (measured) = 15.617 mW/g



**Plot 23 System Performance Check at 2600 MHz Head TSL**

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1025**

Date: 9/17/2017

Communication System: CW; Frequency: 2600 MHz

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 1.94$  mho/m;  $\epsilon_r = 38.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 17.59 mW/g

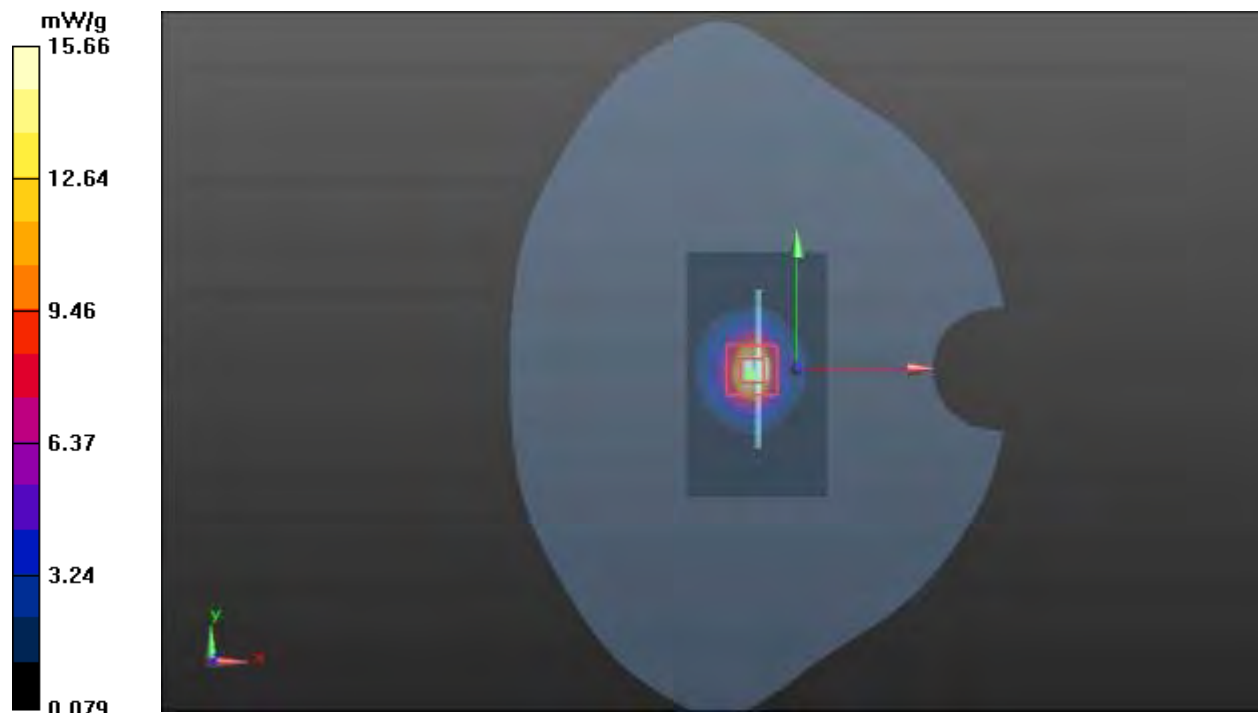
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.998 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 31.858 W/kg

**SAR(1 g) = 13.88 mW/g; SAR(10 g) = 6.09 mW/g**

Maximum value of SAR (measured) = 15.66 mW/g



**Plot 24 System Performance Check at 2600 MHz Head TSL**

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1025**

Date: 9/18/2017

Communication System: CW; Frequency: 2600 MHz

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.01$  mho/m;  $\epsilon_r = 38.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 17.439 mW/g

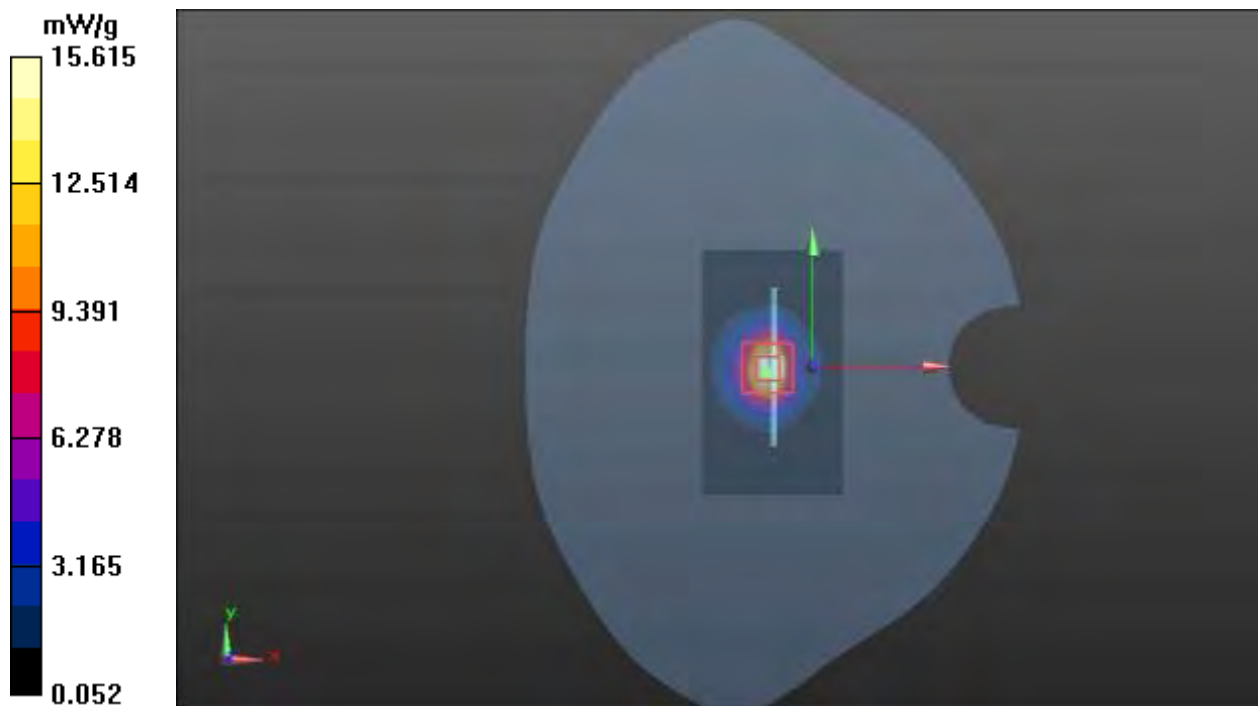
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.998 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 31.858 W/kg

**SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.08 mW/g**

Maximum value of SAR (measured) = 15.615 mW/g



**Plot 25 System Performance Check at 2600 MHz Body TSL**

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1025**

Date: 9/15/2017

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.23$  mho/m;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW /Area Scan (41x71x1):** Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 17.7 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm,

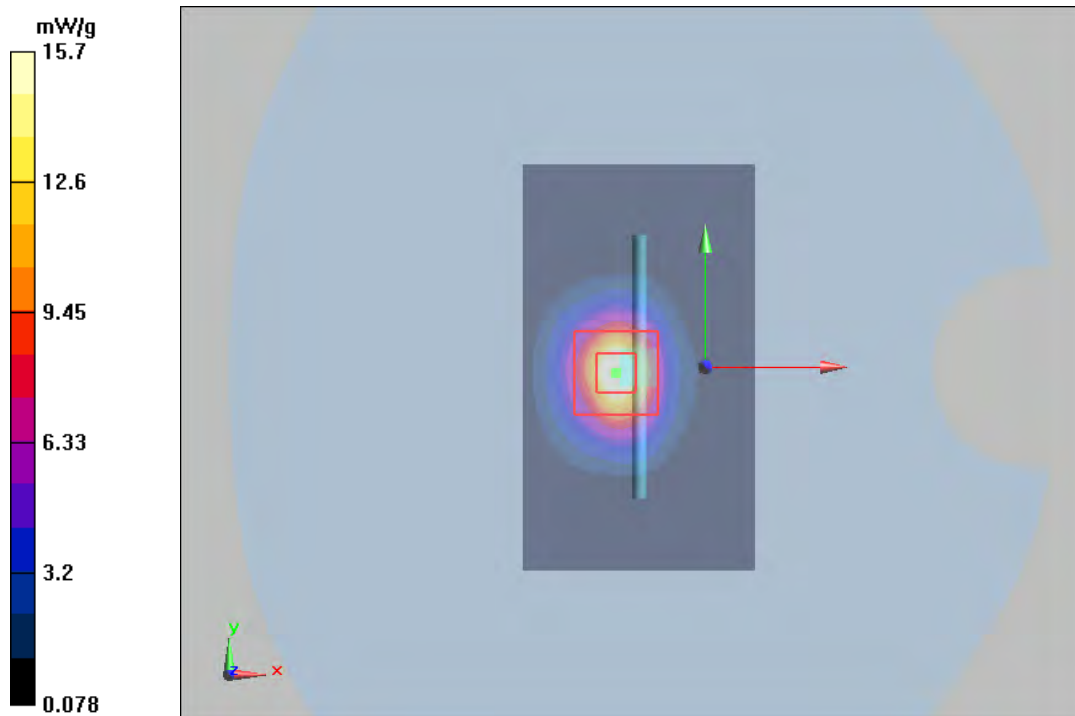
dz=5mm

Reference Value = 74 V/m; Power Drift = -0.0027 dB

Peak SAR (extrapolated) = 28.5 W/kg

**SAR(1 g) = 13.5 mW/g; SAR(10 g) = 5.99 mW/g**

Maximum value of SAR (measured) = 15.7 mW/g



**Plot 26 System Performance Check at 2600 MHz Body TSL**

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1025**

Date: 9/18/2017

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.21$  mho/m;  $\epsilon_r = 51.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW /Area Scan (41x71x1):** Measurement grid: dx=1.200 mm, dy=1.200 mm  
 Maximum value of SAR (interpolated) = 17.67 mW/g

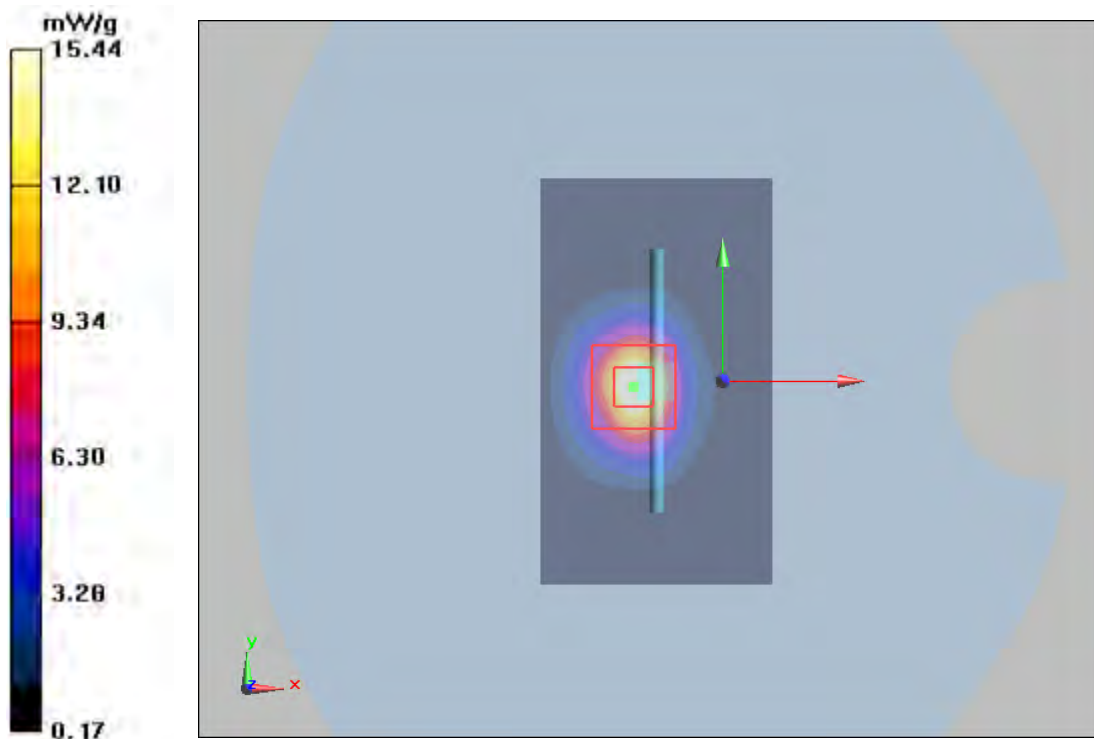
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 74 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 28.5 W/kg

**SAR(1 g) = 13.55 mW/g; SAR(10 g) = 5.89 mW/g**

Maximum value of SAR (measured) = 15.44 mW/g



**Plot 27 System Performance Check at 2600 MHz Body TSL****DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1025**

Date: 9/19/2017

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.20$  mho/m;  $\epsilon_r = 51.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW /Area Scan (41x71x1):** Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 17.58 mW/g

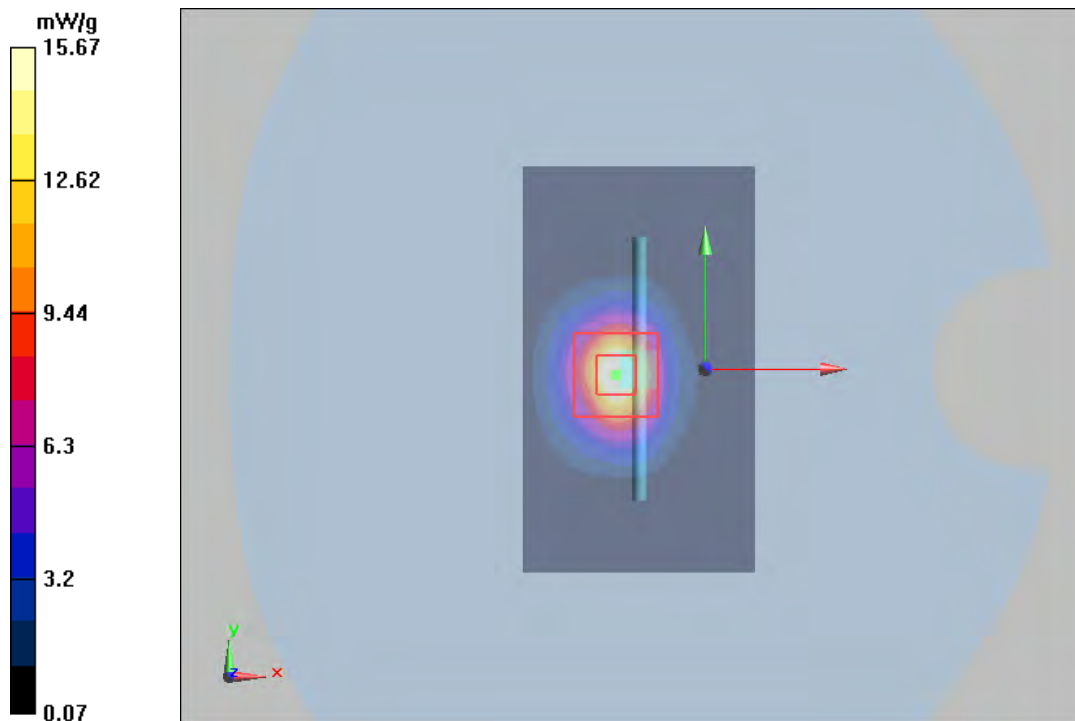
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 74.40 V/m; Power Drift = -0.101 dB

Peak SAR (extrapolated) = 28.5 W/kg

**SAR(1 g) = 13.89 mW/g; SAR(10 g) = 5.94 mW/g**

Maximum value of SAR (measured) = 15.67 mW/g



**Plot 28 System Performance Check at 5250 MHz Head TSL**

**DUT: Dipole 5250 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 9/24/2017

Communication System: CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5250 \text{ MHz}$ ;  $\sigma = 4.80 \text{ mho/m}$ ;  $\epsilon_r = 35.5$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.66, 5.66, 5.66); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=100mW/Area Scan (61x101x1):** Measurement grid:  $dx=1.000\text{mm}$ ,  $dy=1.000\text{mm}$

Maximum value of SAR (interpolated) =  $9.14 \text{ mW/g}$

**d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,

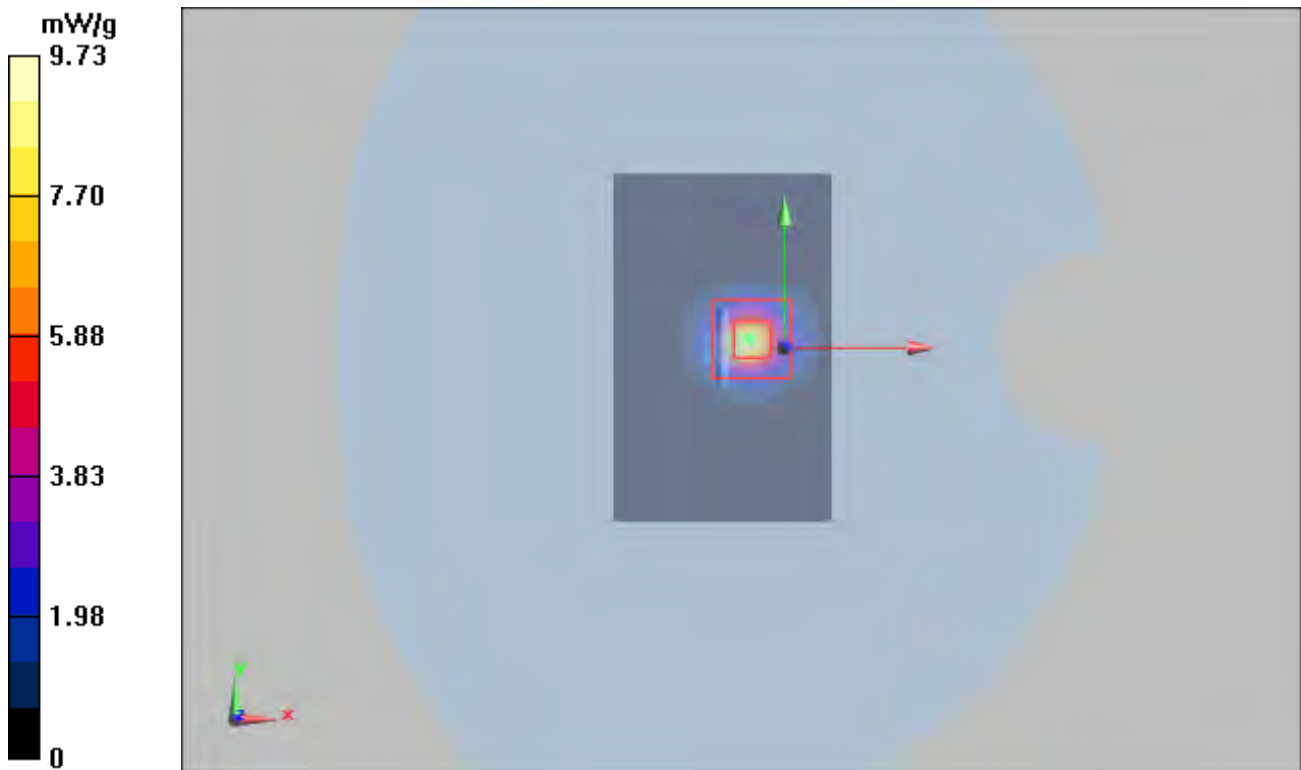
$dz=2\text{mm}$

Reference Value =  $33.6 \text{ V/m}$ ; Power Drift =  $-0.095 \text{ dB}$

Peak SAR (extrapolated) =  $52.2 \text{ W/kg}$

**SAR(1 g) =  $7.87 \text{ mW/g}$ ; SAR(10 g) =  $2.25 \text{ mW/g}$**

Maximum value of SAR (measured) =  $9.73 \text{ mW/g}$



**Plot 29 System Performance Check at 5250 MHz Body TSL****DUT: Dipole 5250 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 9/22/2017

Communication System: CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5250$  MHz;  $\sigma = 5.32$  mho/m;  $\epsilon_r = 48.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.03, 5.03, 5.03); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: ELI v5.0 (30deg probe tilt); Type: QDOVA002AA;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (61x101x1):** Measurement grid: dx=1.000mm, dy=1.000mm

Maximum value of SAR (interpolated) = 7.69 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm,

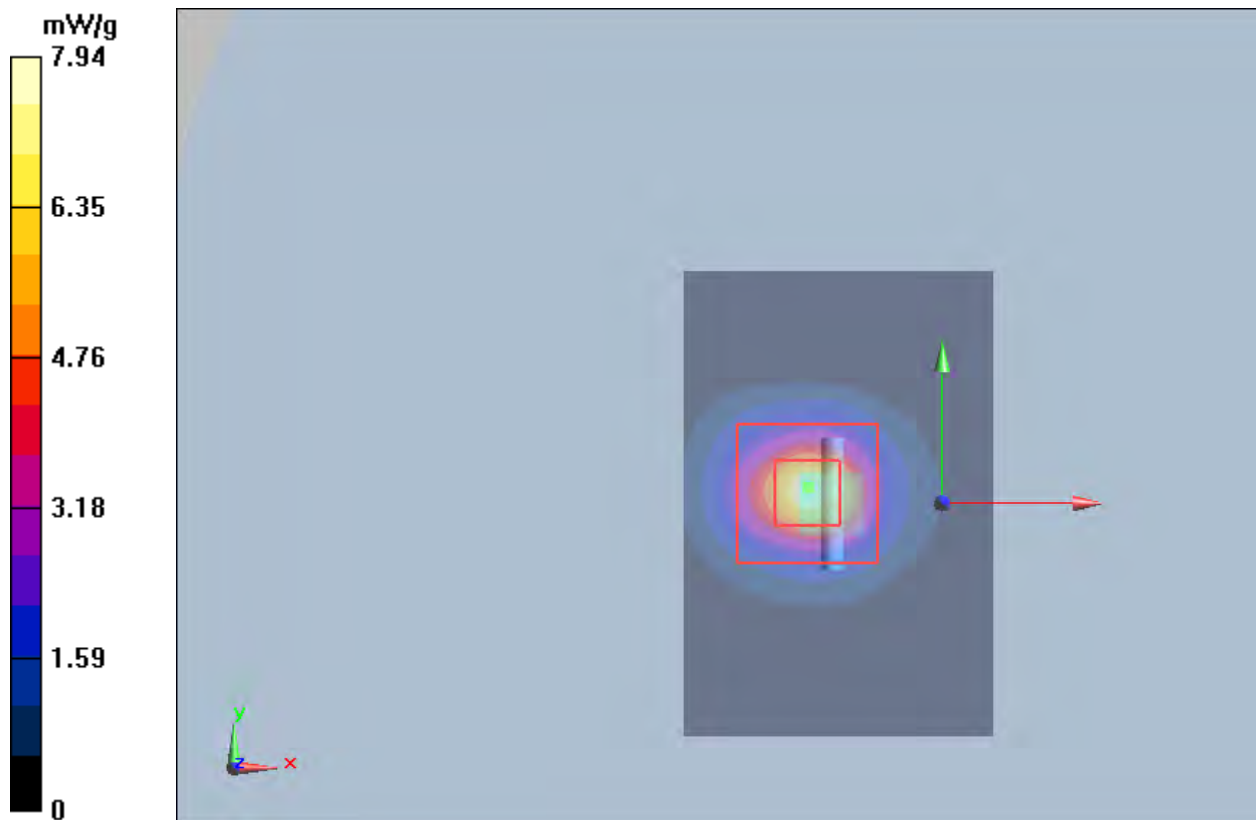
dz=2mm

Reference Value = 36.3 V/m; Power Drift = 0.0277 dB

Peak SAR (extrapolated) = 47.7 W/kg

**SAR(1 g) = 7.46 mW/g; SAR(10 g) = 2.26 mW/g**

Maximum value of SAR (measured) = 7.94 mW/g





**Plot 30 System Performance Check at 5600 MHz Head TSL**

**DUT: Dipole 5600 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 9/24/2017

Communication System: CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5600$  MHz;  $\sigma = 5.21$  mho/m;  $\epsilon_r = 34.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.99, 4.99, 4.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=100mW/Area Scan (61x101x1):** Measurement grid: dx=1.000mm, dy=1.000mm

Maximum value of SAR (interpolated) = 8.25 mW/g

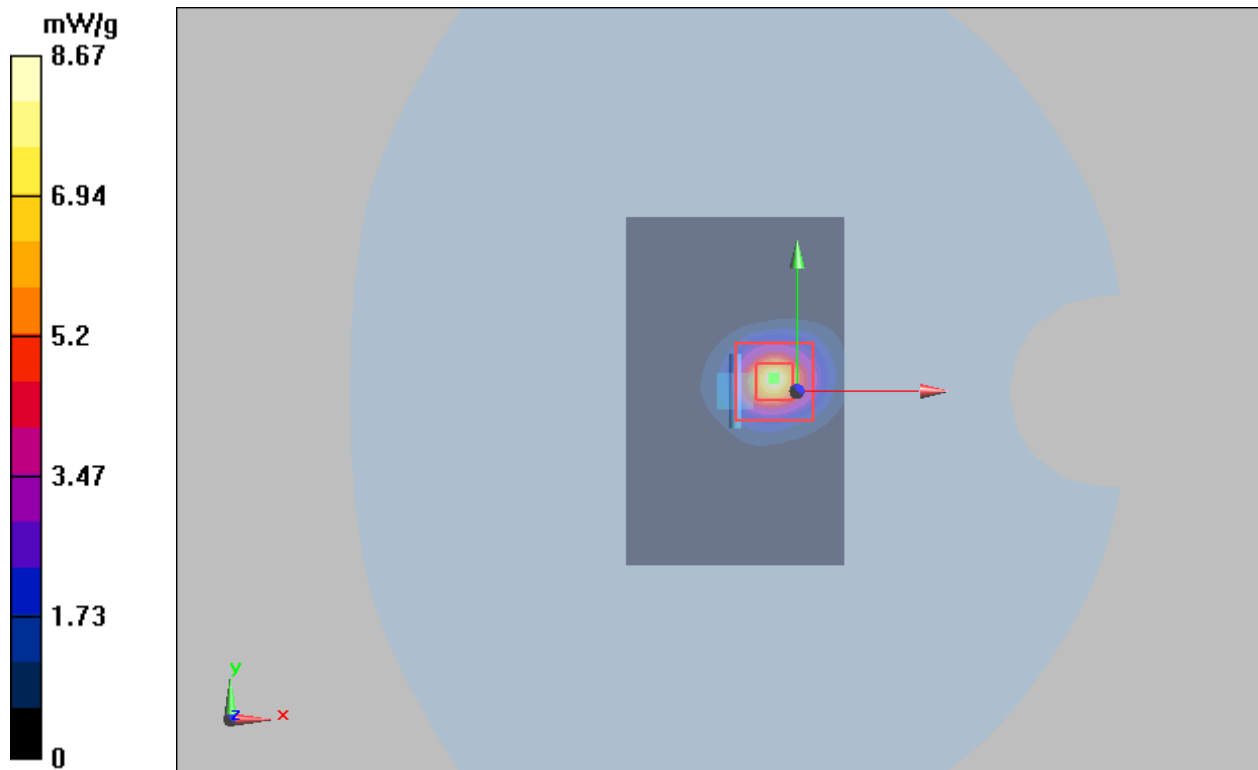
**d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 23.1 V/m; Power Drift = -0.028 dB

Peak SAR (extrapolated) = 22.9 W/kg

**SAR(1 g) = 7.67 mW/g; SAR(10 g) = 2.27 mW/g**

Maximum value of SAR (measured) = 8.67 mW/g



**Plot 31 System Performance Check at 5600 MHz Body TSL**

**DUT: Dipole 5600 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 9/23/2017

Communication System: CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5600$  MHz;  $\sigma = 5.78$  mho/m;  $\epsilon_r = 47.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.34, 4.34, 4.34); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: ELI v5.0 (30deg probe tilt); Type: QDOVA002AA;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (61x101x1):** Measurement grid: dx=1.000mm, dy=1.000mm

Maximum value of SAR (interpolated) = 7.84 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm,

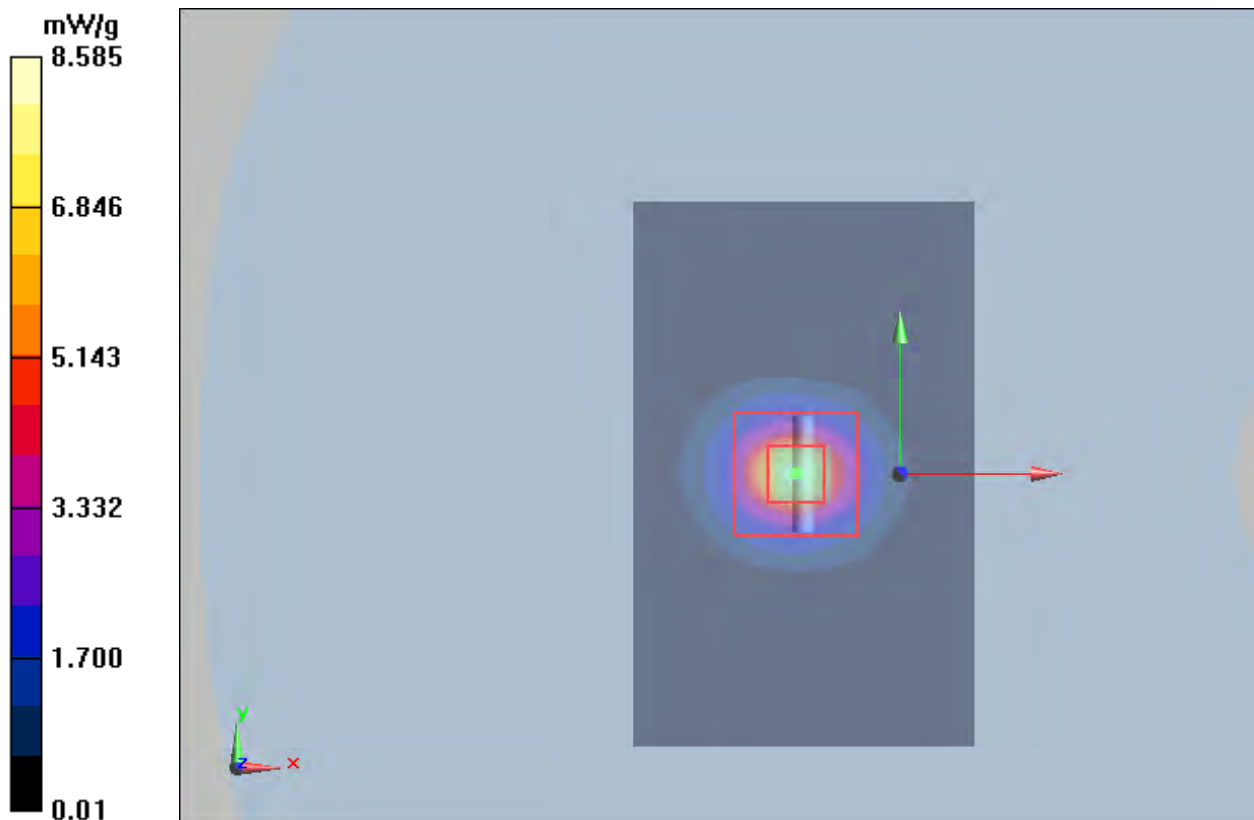
dz=2mm

Reference Value = 38 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 22.6 W/kg

**SAR(1 g) = 8.10 mW/g; SAR(10 g) = 2.11 mW/g**

Maximum value of SAR (measured) = 8.585 mW/g



**Plot 32 System Performance Check at 5750 MHz Head TSL**

**DUT: Dipole 5750 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 9/25/2017

Communication System: CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5750 \text{ MHz}$ ;  $\sigma = 5.21 \text{ mho/m}$ ;  $\epsilon_r = 34.9$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.00, 5.00, 5.00); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=100mW/Area Scan (61x101x1):** Measurement grid:  $dx=1.000\text{mm}$ ,  $dy=1.000\text{mm}$

Maximum value of SAR (interpolated) =  $8.31 \text{ mW/g}$

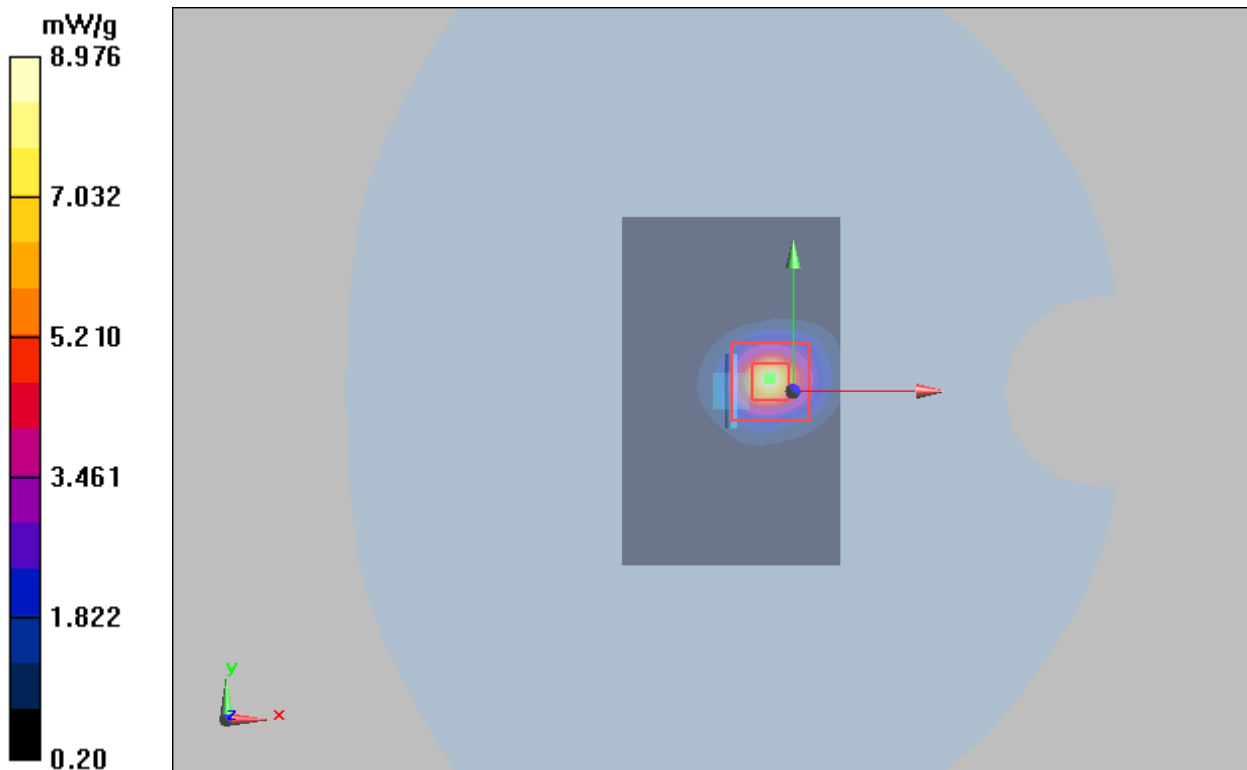
**d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value =  $23.1 \text{ V/m}$ ; Power Drift =  $0.044 \text{ dB}$

Peak SAR (extrapolated) =  $23.4 \text{ W/kg}$

**SAR(1 g) =  $7.66 \text{ mW/g}$ ; SAR(10 g) =  $2.27 \text{ mW/g}$**

Maximum value of SAR (measured) =  $8.976 \text{ mW/g}$



**Plot 33 System Performance Check at 5750 MHz Body TSL**

**DUT: Dipole 5750 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 9/26/2017

Communication System: CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5750 \text{ MHz}$ ;  $\sigma = 6.14 \text{ mho/m}$ ;  $\epsilon_r = 47.6$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.52, 4.52, 4.52); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: ELI v5.0 (30deg probe tilt); Type: QDOVA002AA;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (61x101x1):** Measurement grid:  $dx=1.000\text{mm}$ ,  $dy=1.000\text{mm}$

Maximum value of SAR (interpolated) =  $7.84 \text{ mW/g}$

**d=10mm, Pin=250mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,

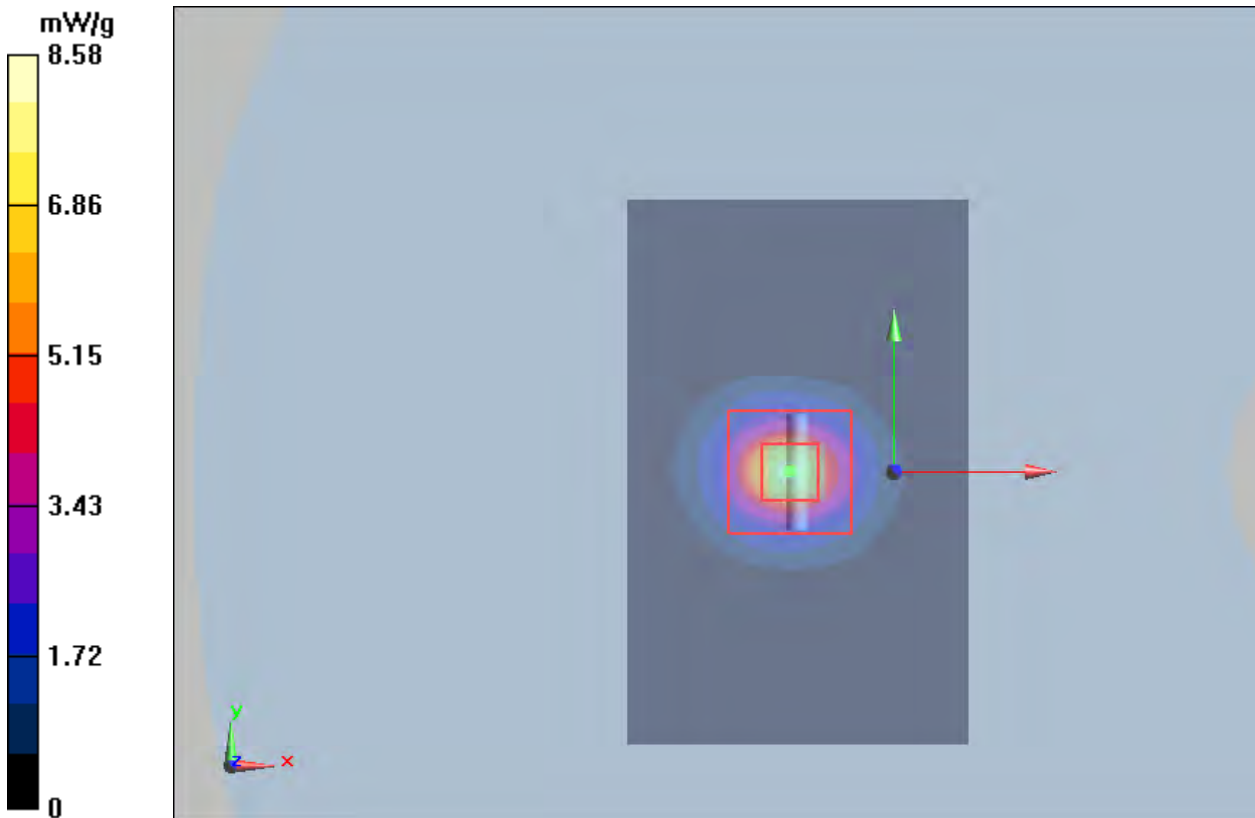
$dz=2\text{mm}$

Reference Value =  $38 \text{ V/m}$ ; Power Drift =  $-0.018 \text{ dB}$

Peak SAR (extrapolated) =  $22.6 \text{ W/kg}$

**SAR(1 g) =  $7.15 \text{ mW/g}$ ; SAR(10 g) =  $1.99 \text{ mW/g}$**

Maximum value of SAR (measured) =  $8.58 \text{ mW/g}$



## ANNEX C: Highest Graph Results

### Antenna 1

#### Plot 34 GSM 850 Right Cheek Middle

Date: 9/12/2017

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.94$  S/m;  $\epsilon_r = 42.425$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.291 W/kg

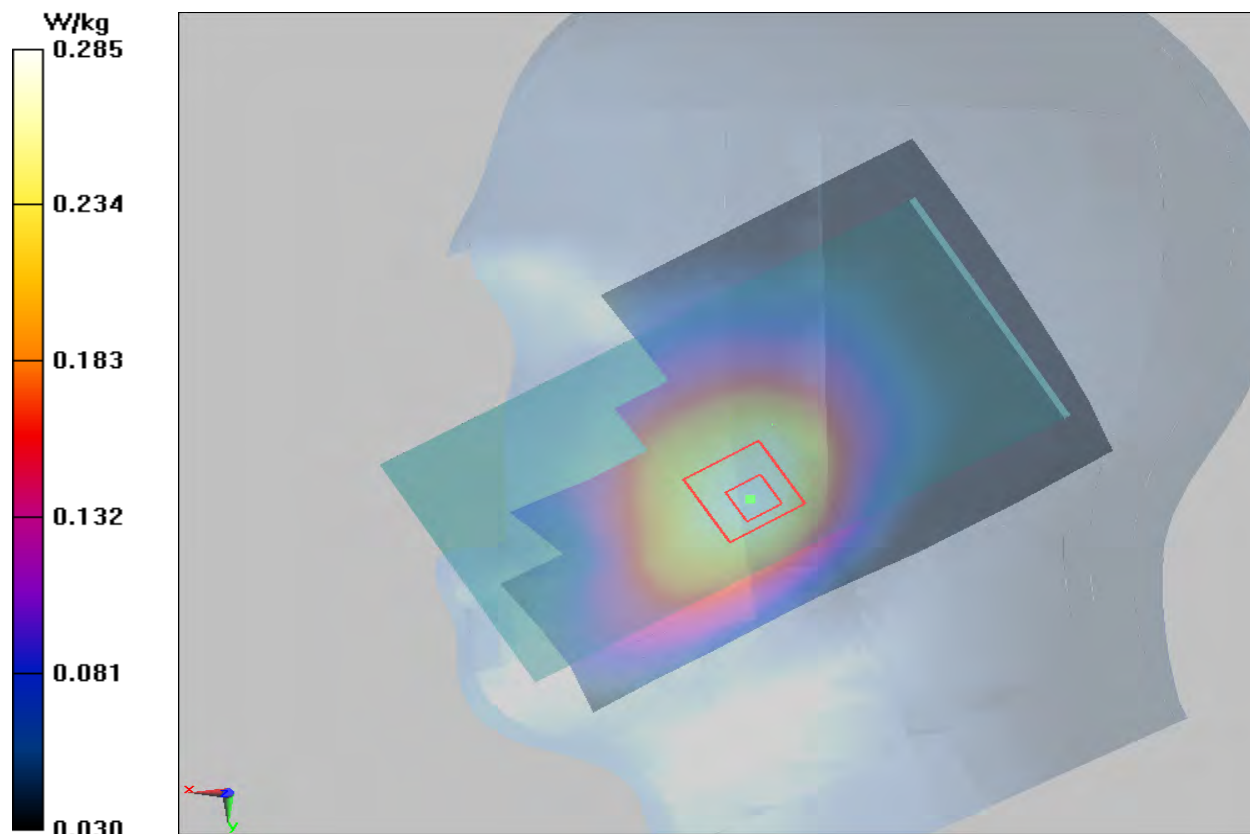
**Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.526 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.335 W/kg

**SAR(1 g) = 0.270 W/kg; SAR(10 g) = 0.207 W/kg**

Maximum value of SAR (measured) = 0.285 W/kg



**Plot 35 GSM 850 Back Side Middle (Distance 15mm)**

Date: 9/13/2017

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.013$  S/m;  $\epsilon_r = 55.395$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.403 W/kg

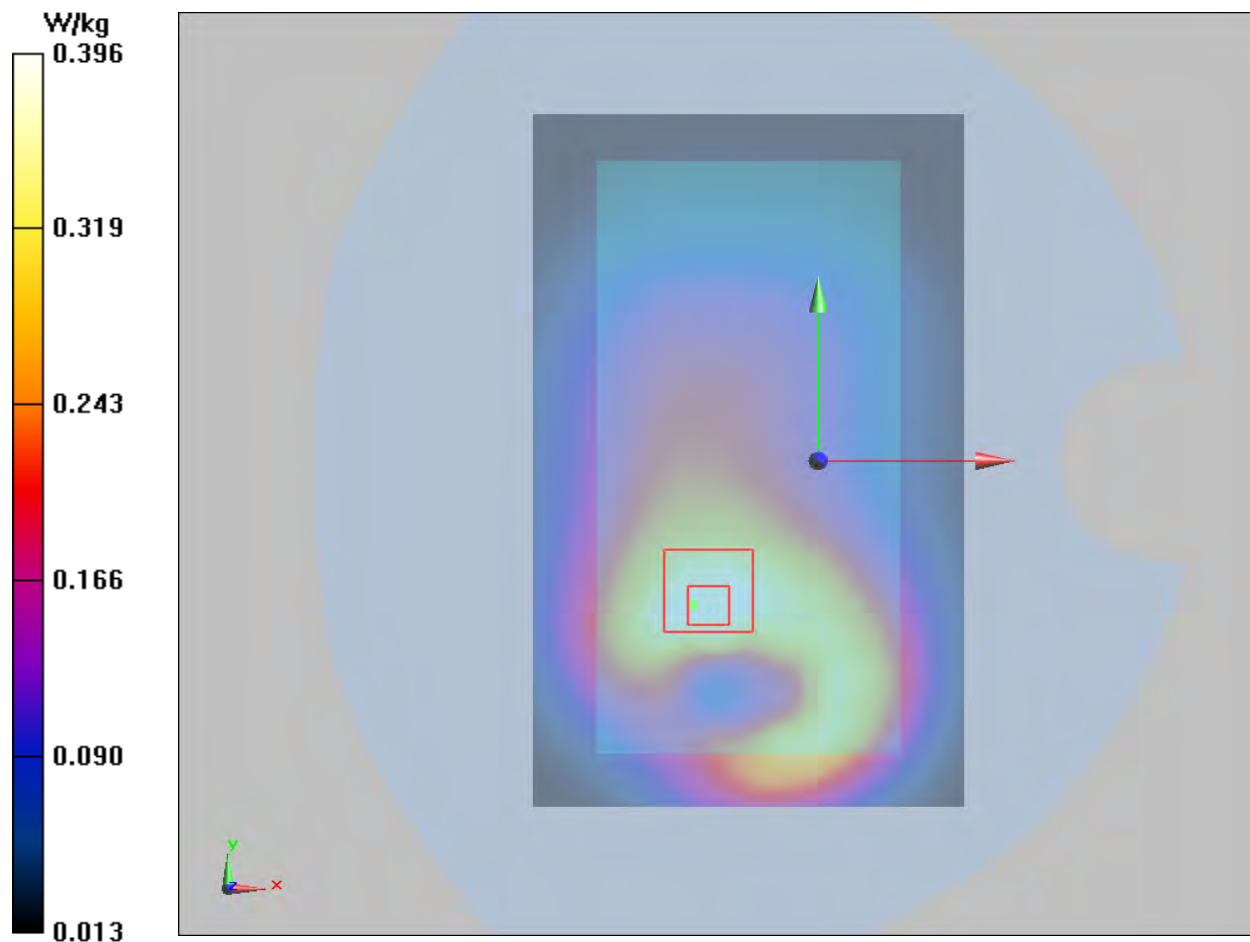
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.28 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.513 W/kg

**SAR(1 g) = 0.373 W/kg; SAR(10 g) = 0.259 W/kg**

Maximum value of SAR (measured) = 0.396 W/kg



**Plot 36 GSM 850 GPRS (2Txslots) Back Side High (Distance 10mm)**

Date: 9/13/2017

Communication System: UID 0, GPRS 2TX (0); Frequency: 848.8 MHz; Duty Cycle: 1:4.14954

Medium parameters used:  $f = 849$  MHz;  $\sigma = 1.014$  S/m;  $\epsilon_r = 54.369$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.737 W/kg

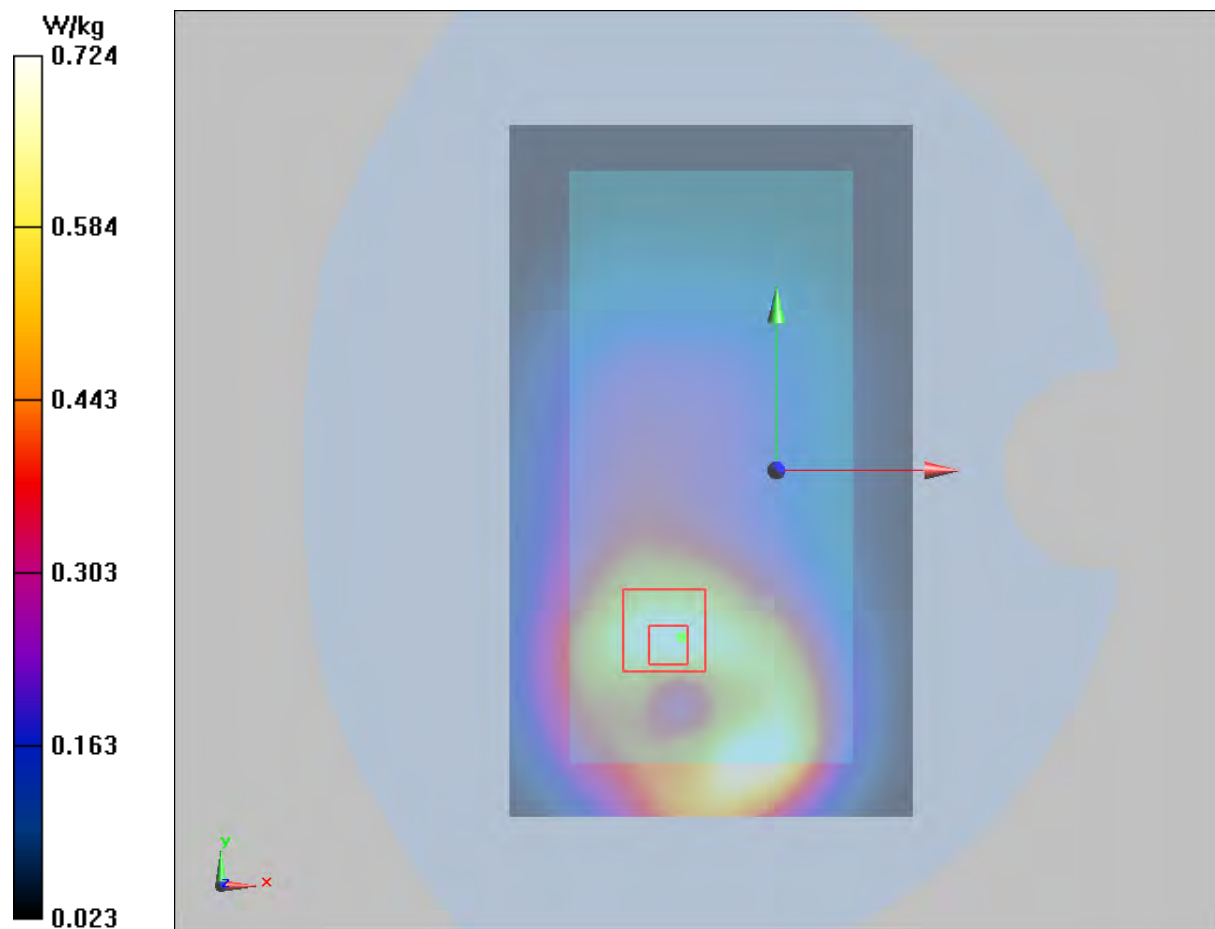
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.56 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.996 W/kg

**SAR(1 g) = 0.685 W/kg; SAR(10 g) = 0.462 W/kg**

Maximum value of SAR (measured) = 0.724 W/kg



**Plot 37 GSM 1900 Right Cheek Middle (Hotspot Off)**

Date: 9/20/2017

Communication System: UID 0, GSM 1900 (0); Frequency: 1880 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.37$  S/m;  $\epsilon_r = 40.575$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.1470 W/kg

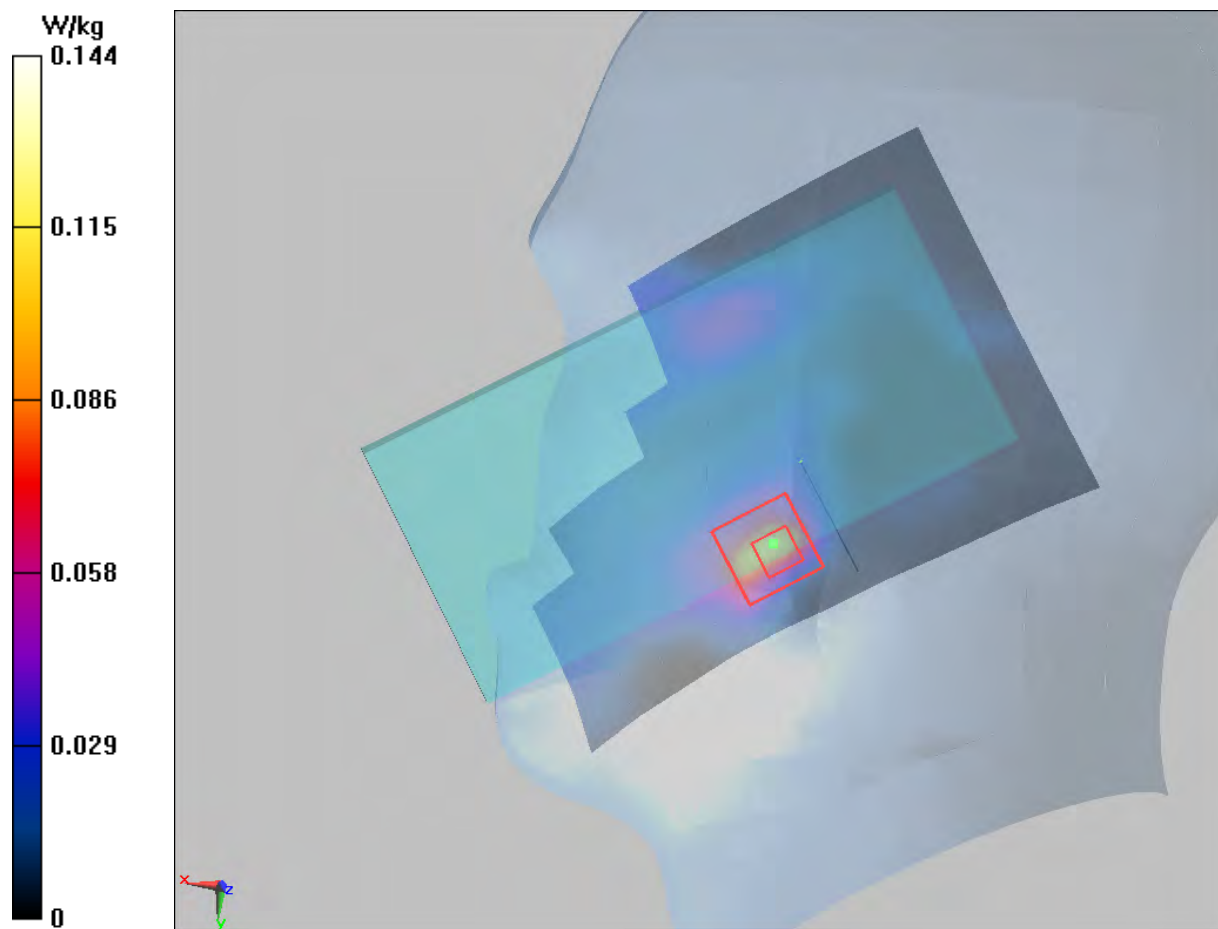
**Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0.4750 V/m; Power Drift = 0.171 dB

Peak SAR (extrapolated) = 0.1610 W/kg

**SAR(1 g) = 0.141 W/kg; SAR(10 g) = 0.075 W/kg**

Maximum value of SAR (measured) = 0.144 W/kg





**Plot 38 GSM 1900 Back Side Middle (Hotspot Off, Distance 15mm)**

Date: 9/21/2017

Communication System: UID 0, GSM 1900 (0); Frequency: 1880 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.245 W/kg

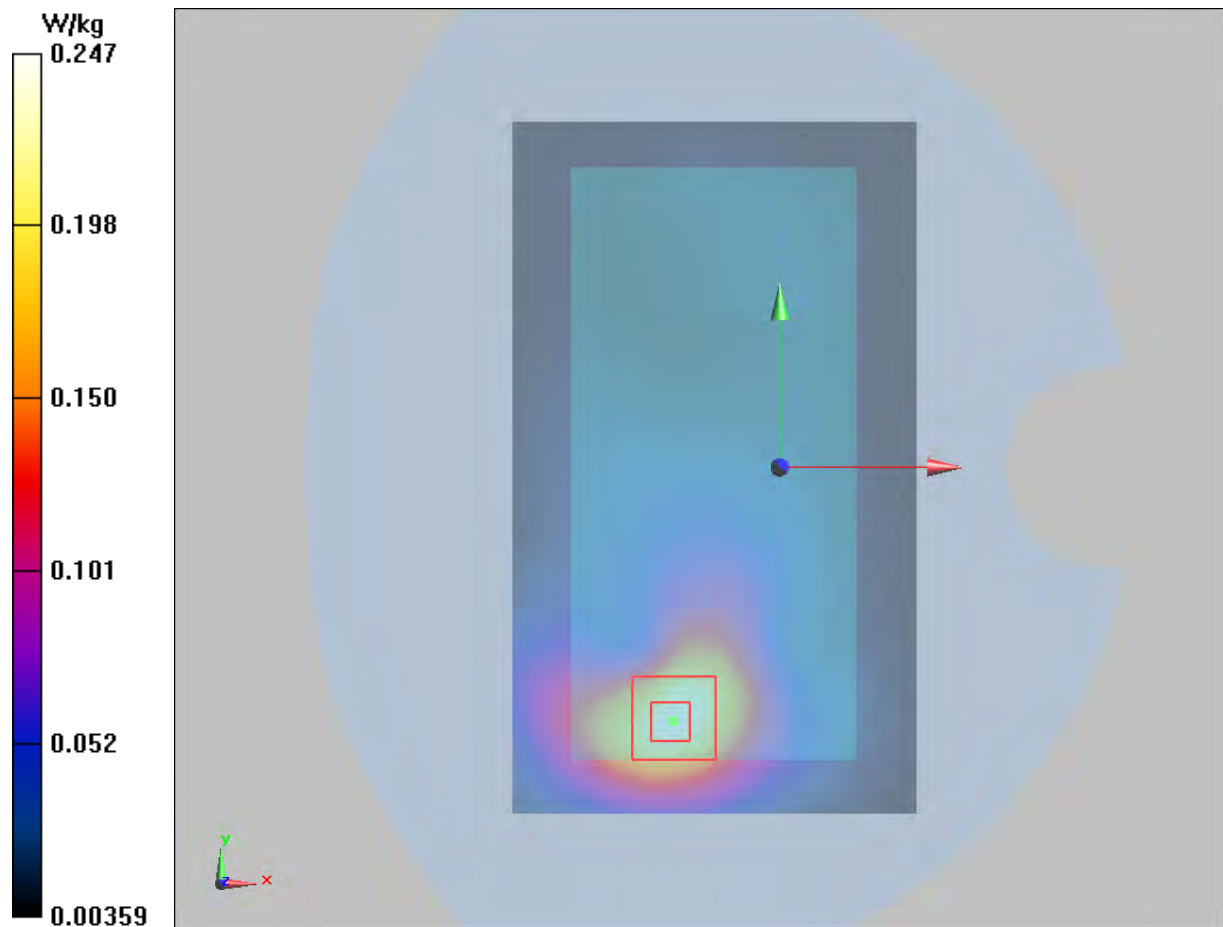
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.589 V/m; Power Drift = -0.031 dB

Peak SAR (extrapolated) = 0.354 W/kg

**SAR(1 g) = 0.225 W/kg; SAR(10 g) = 0.133 W/kg**

Maximum value of SAR (measured) = 0.247 W/kg



**Plot 39 GSM 1900 GPRS (2Txslots) Bottom Edge Middle (Hotspot On, Distance 10mm)**

Date: 9/21/2017

Communication System: UID 0, GPRS 2TX (0); Frequency: 1880 MHz; Duty Cycle: 1:4.14954

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.546 W/kg

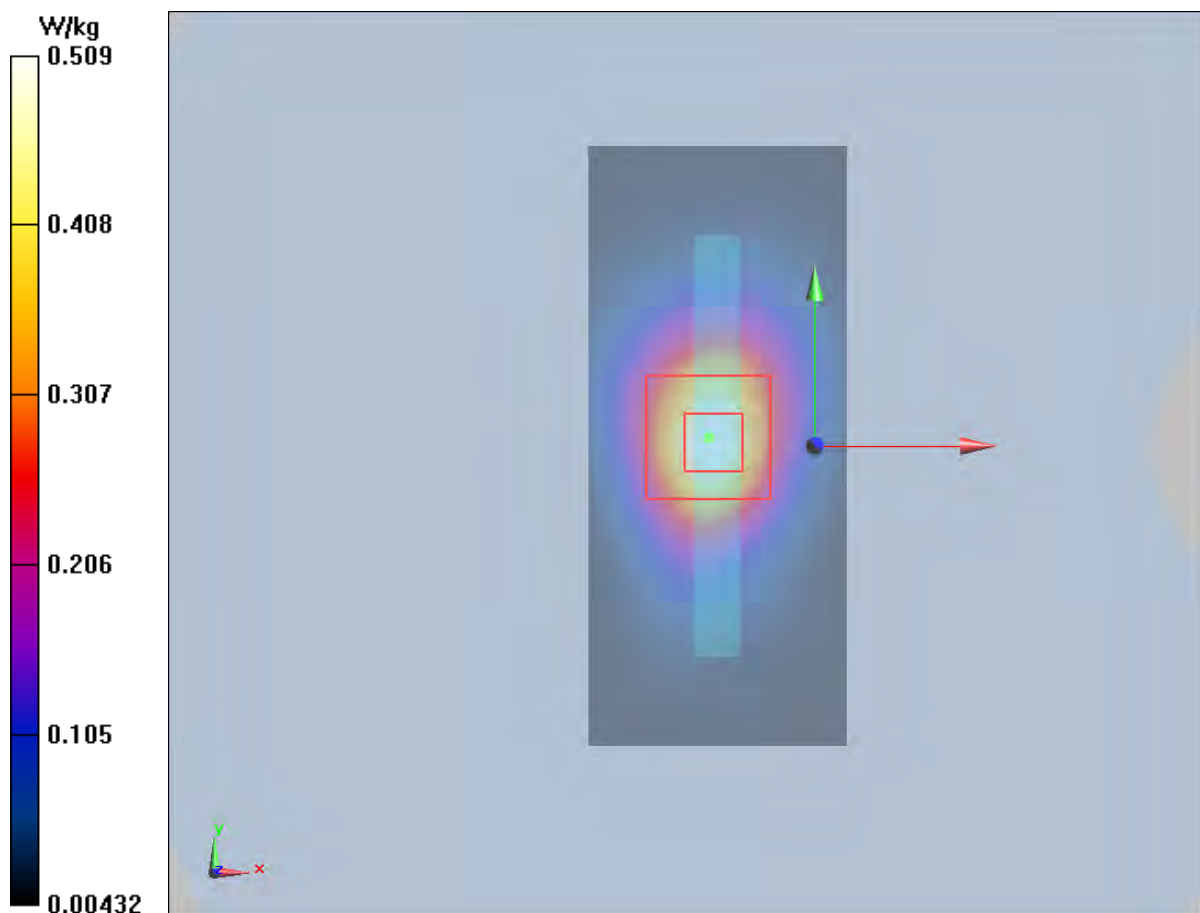
**Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 18.67 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.796 W/kg

**SAR(1 g) = 0.453 W/kg; SAR(10 g) = 0.235 W/kg**

Maximum value of SAR (measured) = 0.509 W/kg



**Plot 40 GSM 1900 GPRS (2Txslots) Bottom Edge Middle (Hotspot Off, Distance 0mm)**

Date: 9/21/2017

Communication System: UID 0, 2 slot GPRS (0); Frequency: 1880 MHz; Duty Cycle: 1:4.14954

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 3.91 W/kg

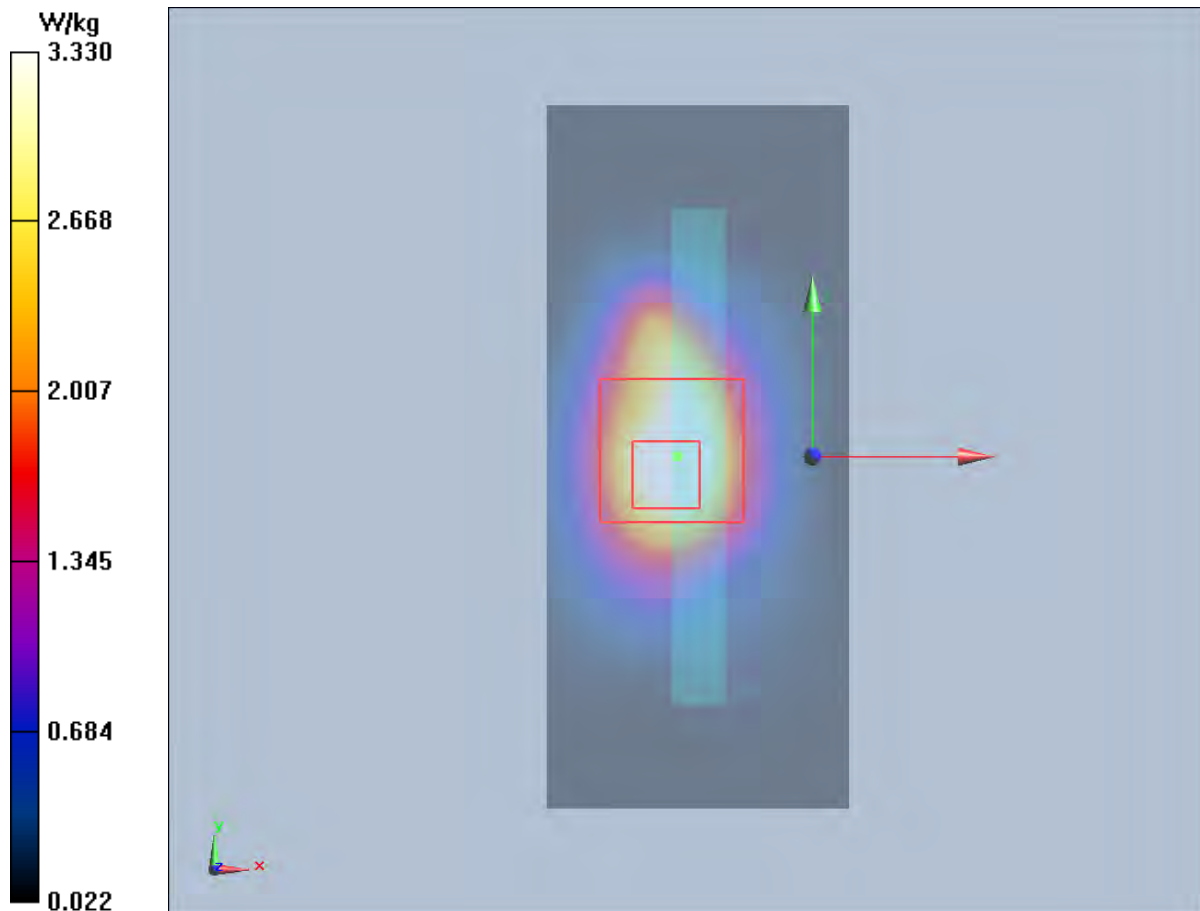
**Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 42.92 V/m; Power Drift = 0.037 dB

Peak SAR (extrapolated) = 5.71 W/kg

**SAR(1 g) = 2.47 W/kg; SAR(10 g) = 1.15 W/kg**

Maximum value of SAR (measured) = 3.33 W/kg



**Plot 41 UMTS Band II Right Cheek Middle (Hotspot Off)**

Date: 9/20/2017

Communication System: UID 0, WCDMA II (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.37$  S/m;  $\epsilon_r = 40.575$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.197 W/kg

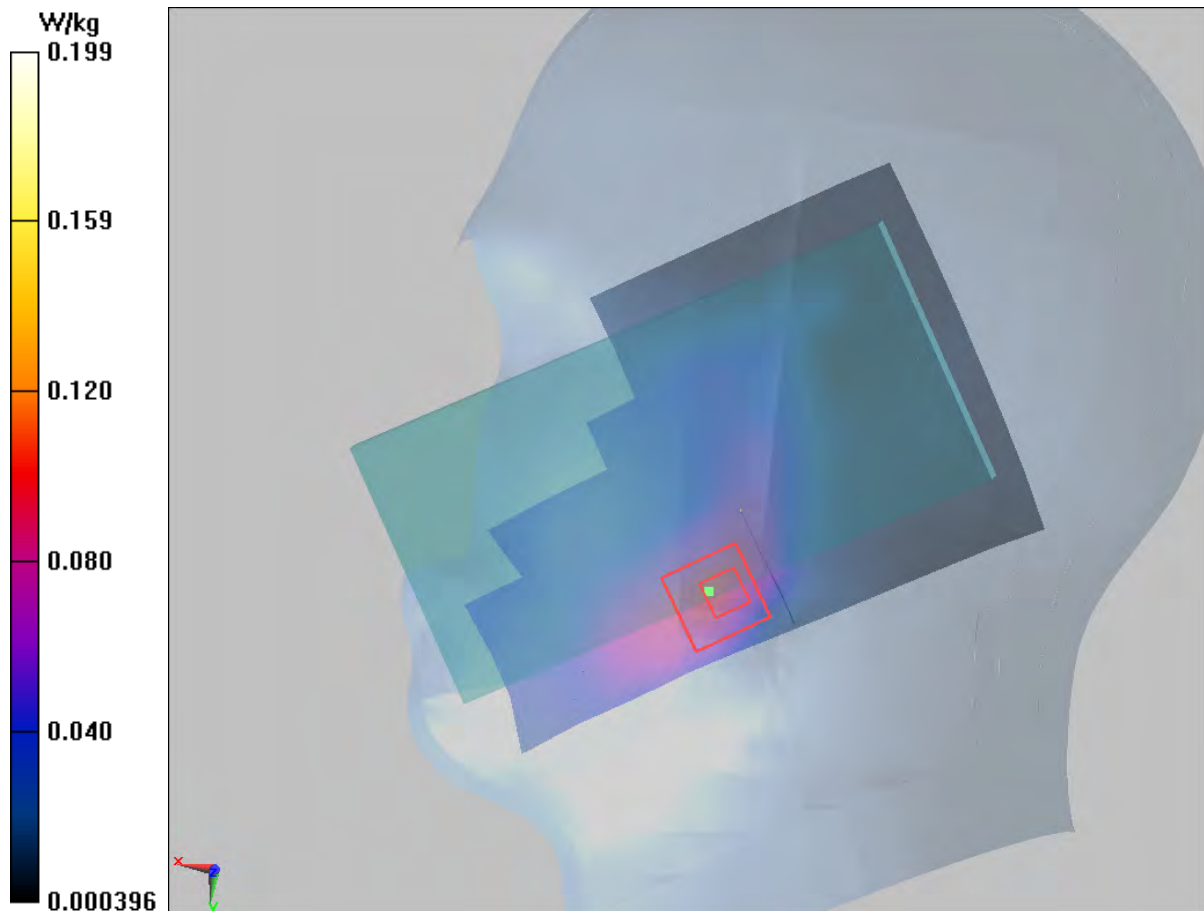
**Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.232 V/m; Power Drift = -0.021 dB

Peak SAR (extrapolated) = 0.241 W/kg

**SAR(1 g) = 0.193 W/kg; SAR(10 g) = 0.098 W/kg**

Maximum value of SAR (measured) = 0.199 W/kg



**Plot 42 UMTS Band II Front Side Middle (Hotspot Off, Distance 15mm)**

Date: 9/21/2017

Communication System: UID 0, WCDMA II (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.445 W/kg

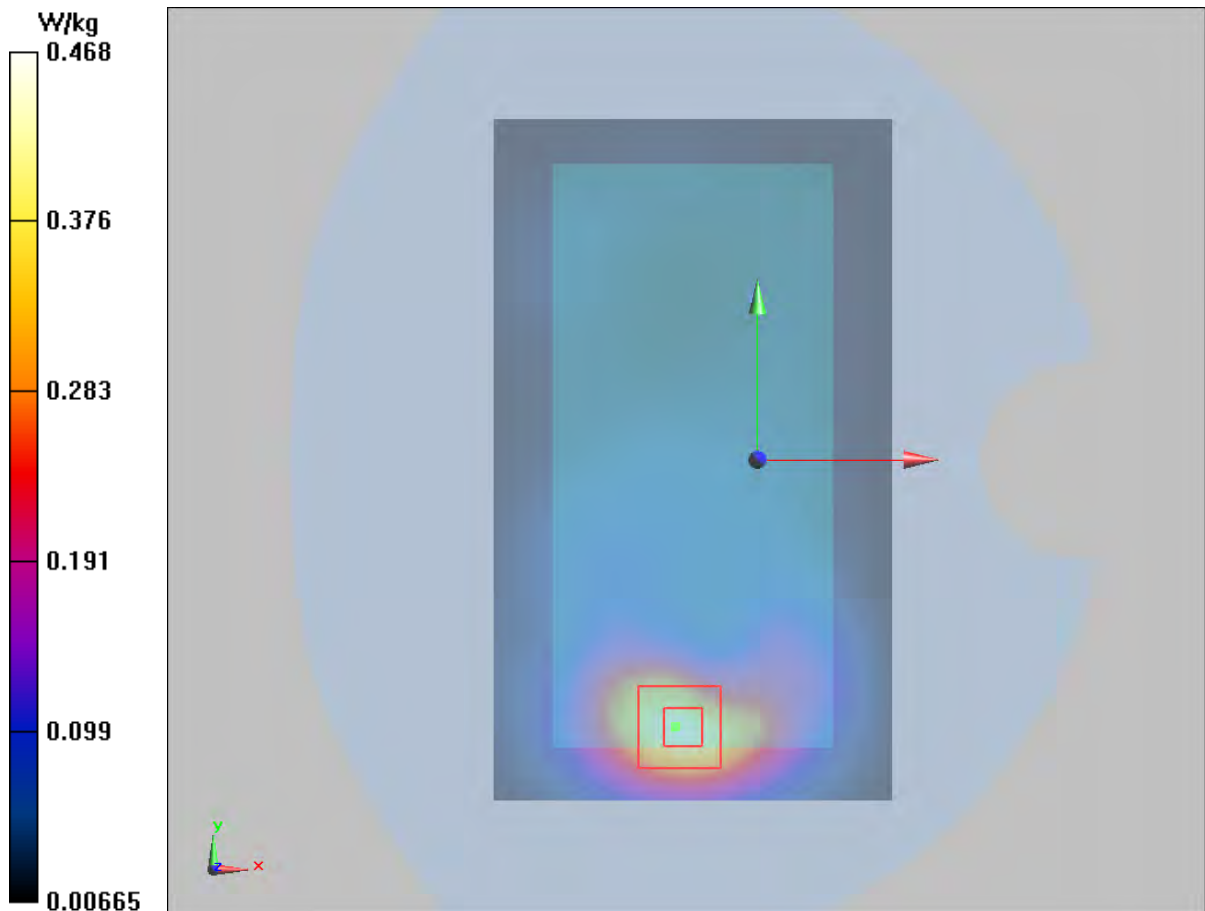
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.483 V/m; Power Drift = -0.074 dB

Peak SAR (extrapolated) = 0.690 W/kg

**SAR(1 g) = 0.422 W/kg; SAR(10 g) = 0.241 W/kg**

Maximum value of SAR (measured) = 0.468 W/kg



**Plot 43 UMTS Band II Bottom Edge Low (Hotspot On, Distance 10mm)**

Date: 9/21/2017

Communication System: UID 0, WCDMA II (0); Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1852.4$  MHz;  $\sigma = 1.462$  S/m;  $\epsilon_r = 51.27$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Low/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.19 W/kg

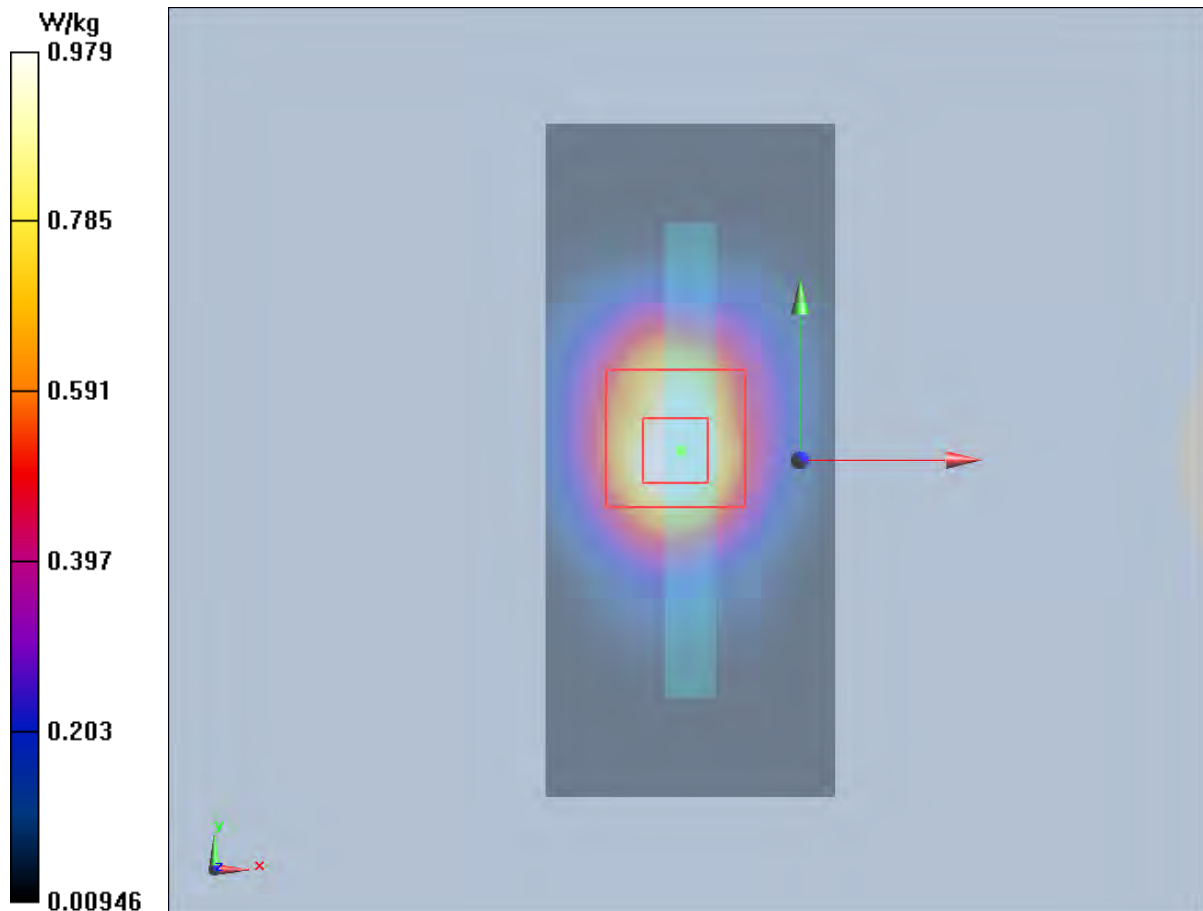
**Bottom Edge Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 25.62 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.49 W/kg

**SAR(1 g) = 0.875 W/kg; SAR(10 g) = 0.469 W/kg**

Maximum value of SAR (measured) = 0.979 W/kg



**Plot 44 UMTS Band II Bottom Edge Middle (Hotspot Off+Sensor Off, Distance 6mm)**

Date: 9/21/2017

Communication System: UID 0, WCDMA II (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 5.76 W/kg

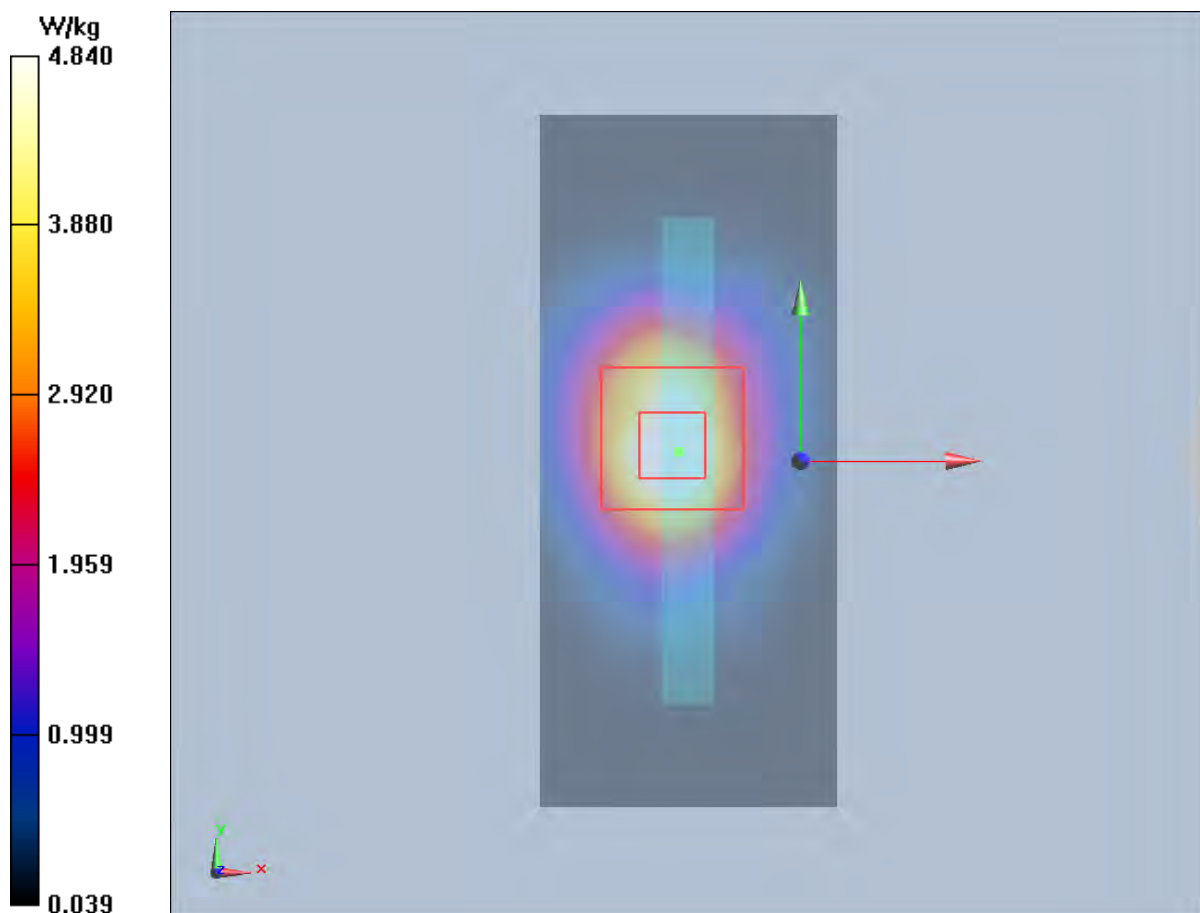
**Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.70 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 7.86 W/kg

**SAR(1 g) = 4.24 W/kg; SAR(10 g) = 2.13 W/kg**

Maximum value of SAR (measured) = 4.84 W/kg



**Plot 45 UMTS Band IV Left Cheek Middle (REC On+Hotspot Off, Battery 3)**

Date: 9/11/2017

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733 \text{ MHz}$ ;  $\sigma = 1.351 \text{ S/m}$ ;  $\epsilon_r = 38.755$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.60, 8.60, 8.60); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.315 \text{ W/kg}$

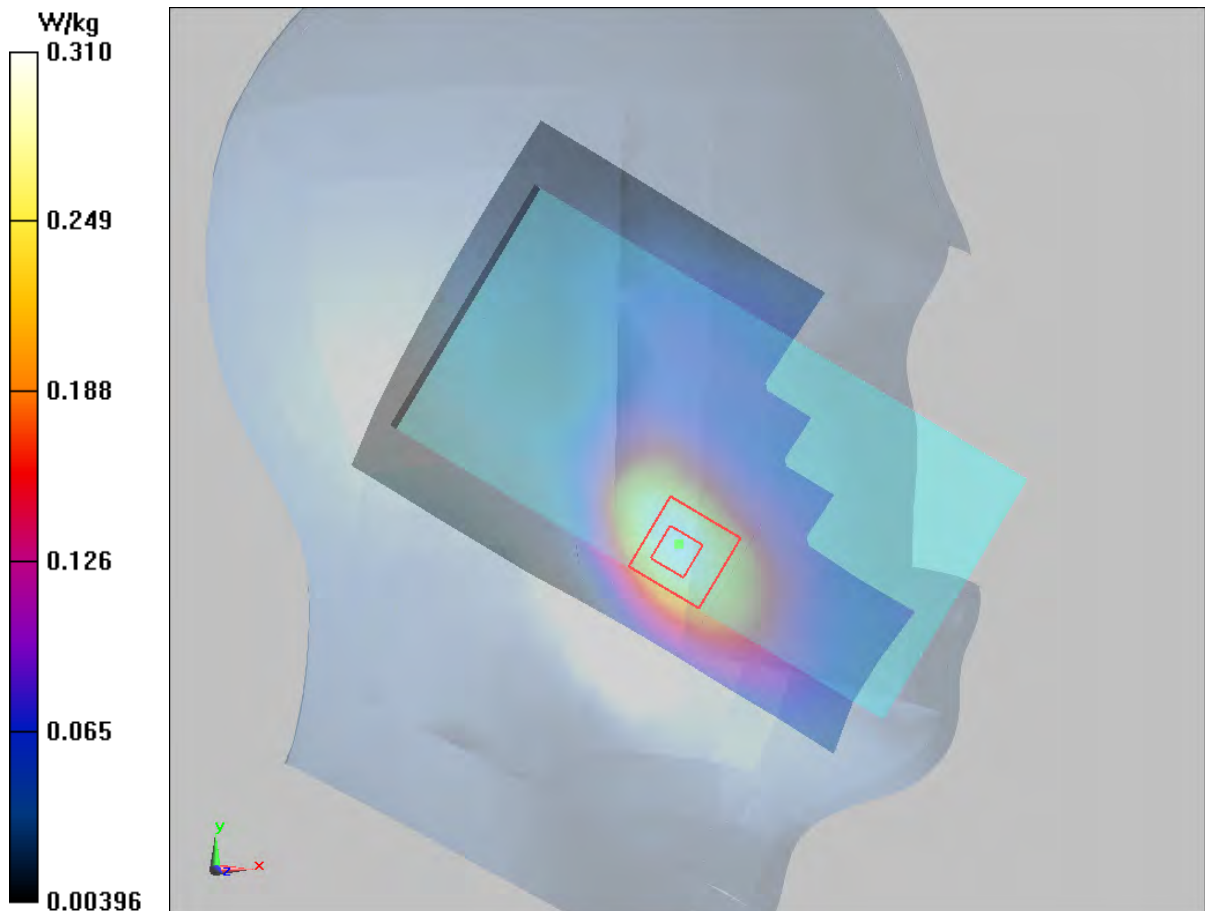
**Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $4.417 \text{ V/m}$ ; Power Drift =  $0.039 \text{ dB}$

Peak SAR (extrapolated) =  $0.440 \text{ W/kg}$

**SAR(1 g) =  $0.291 \text{ W/kg}$ ; SAR(10 g) =  $0.180 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.310 \text{ W/kg}$





**Plot 46 UMTS Band IV Front Side Middle (REC Off+Hotspot Off, Distance 15mm)**

Date: 9/15/2017

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733 \text{ MHz}$ ;  $\sigma = 1.418 \text{ S/m}$ ;  $\epsilon_r = 51.915$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.893 \text{ W/kg}$

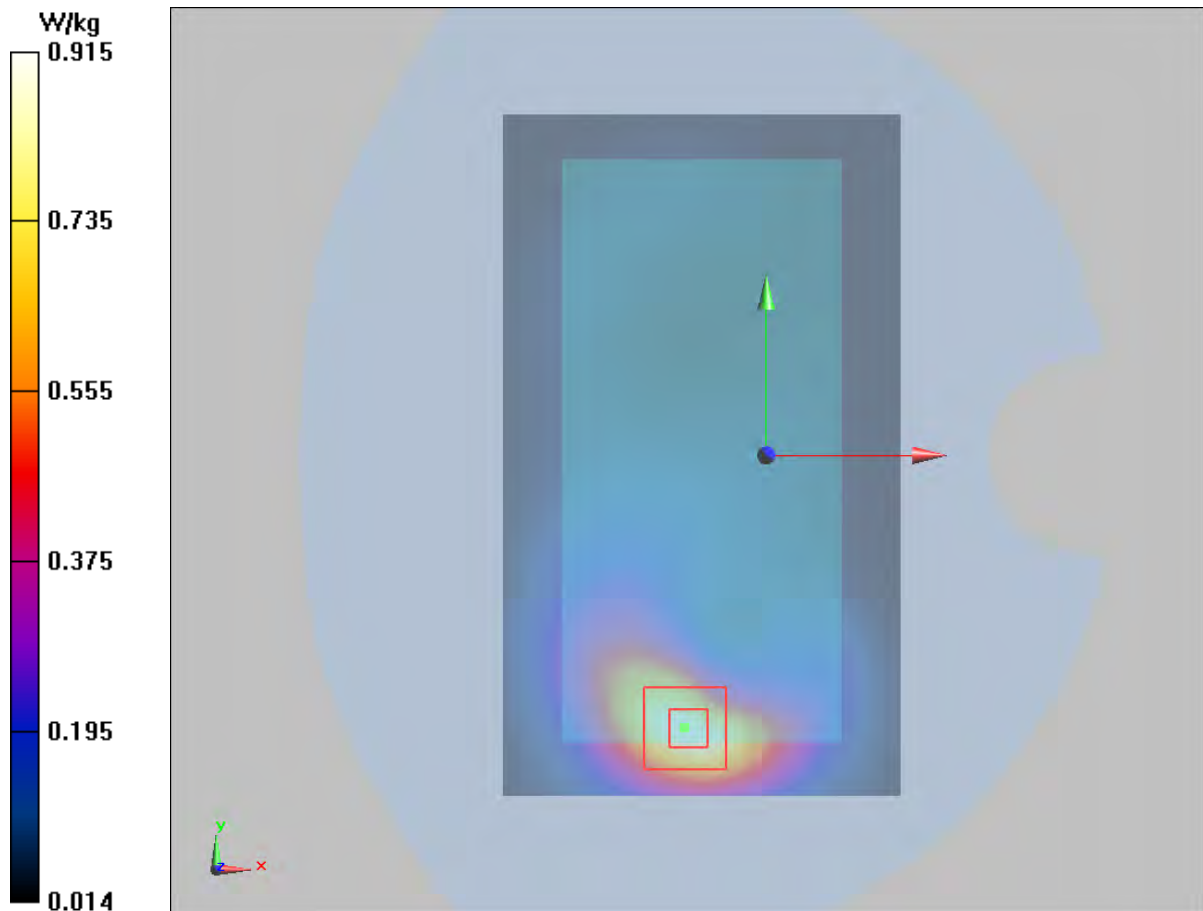
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $7.253 \text{ V/m}$ ; Power Drift =  $0.12 \text{ dB}$

Peak SAR (extrapolated) =  $1.31 \text{ W/kg}$

**SAR(1 g) =  $0.726 \text{ W/kg}$ ; SAR(10 g) =  $0.486 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.915 \text{ W/kg}$



**Plot 47 UMTS Band IV Bottom Edge Middle (Hotspot On, Distance 10mm)**

Date: 9/15/2017

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.418$  S/m;  $\epsilon_r = 51.915$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.795 W/kg

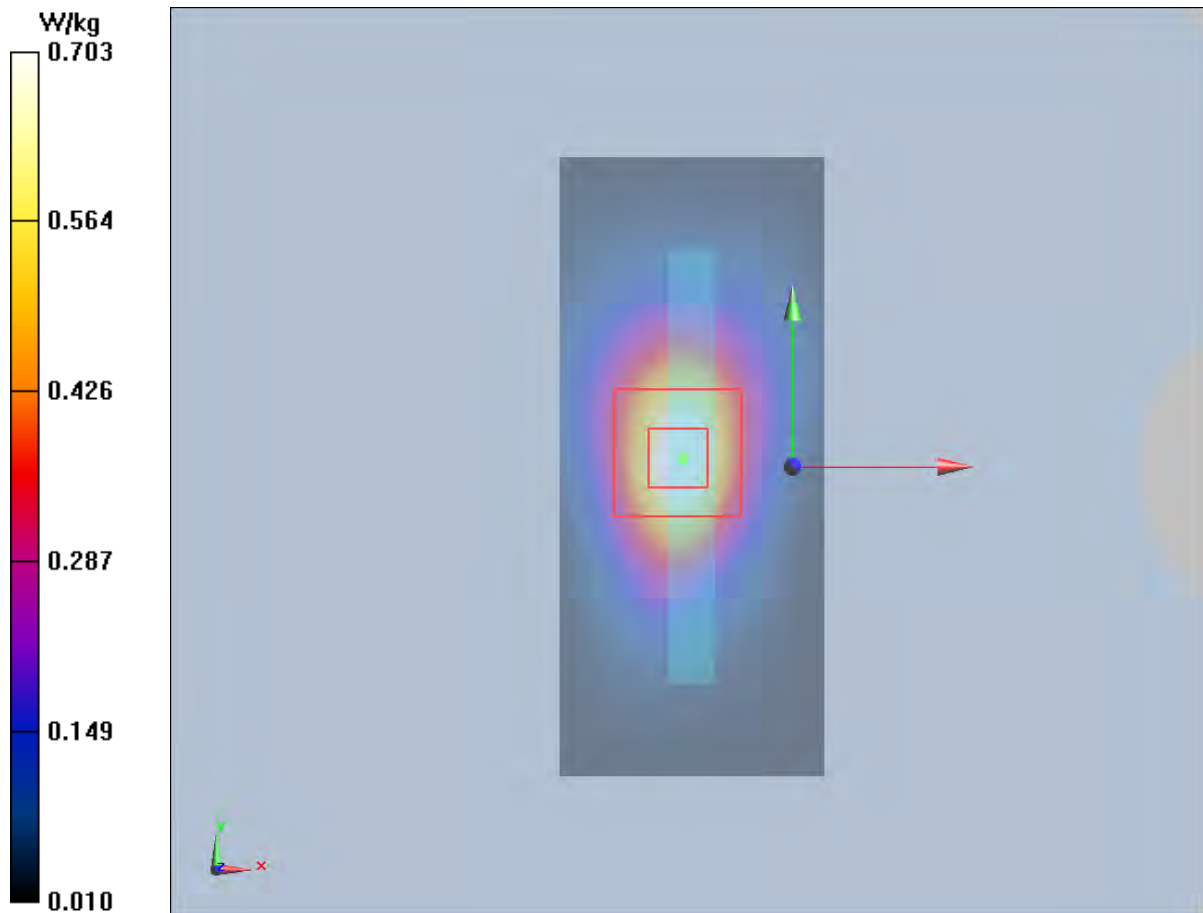
**Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 22.24 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 1.06 W/kg

**SAR(1 g) = 0.625 W/kg; SAR(10 g) = 0.333 W/kg**

Maximum value of SAR (measured) = 0.703 W/kg



**Plot 48 UMTS Band IV Bottom Edge Middle (Hotspot Off+Sensor Off, Distance 6mm)**

Date: 9/15/2017

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.418$  S/m;  $\epsilon_r = 51.915$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 6.57 W/kg

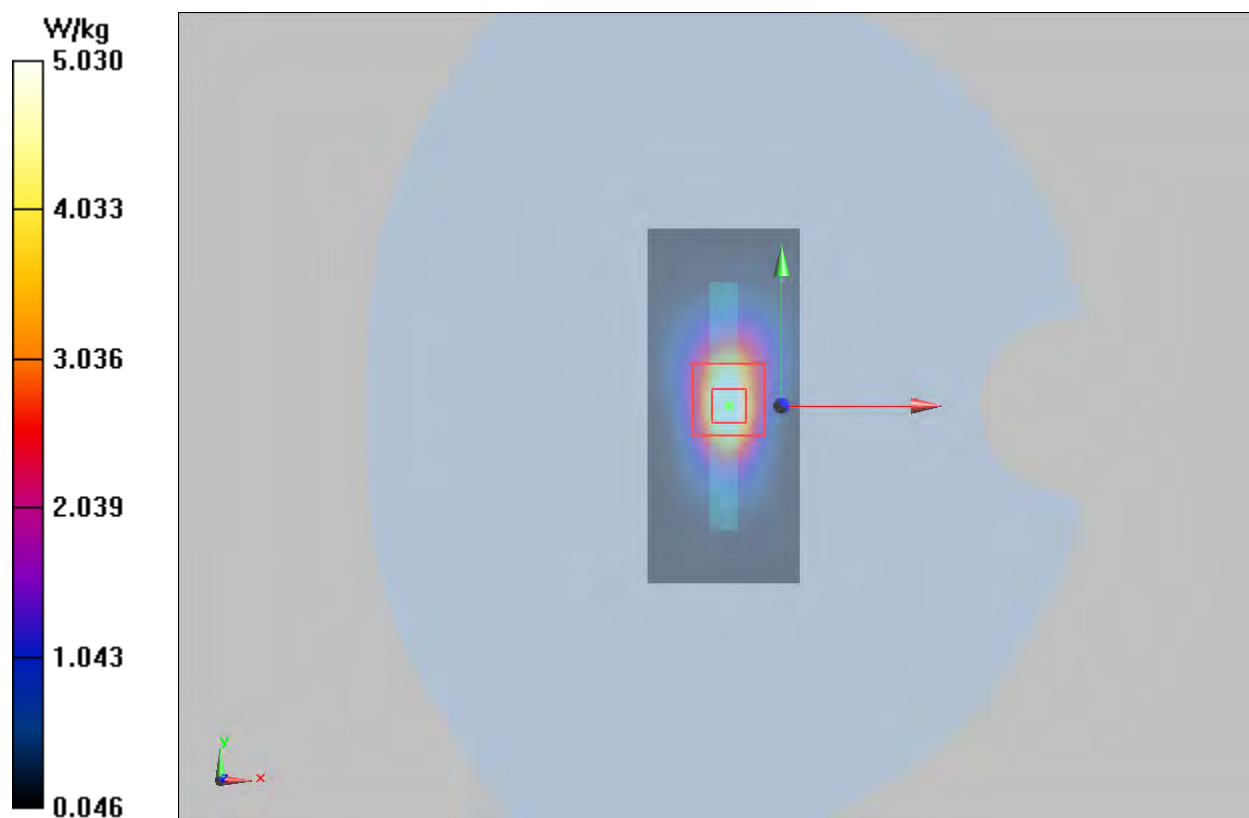
**Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 59.19 V/m; Power Drift = -0.021 dB

Peak SAR (extrapolated) = 8.20 W/kg

**SAR(1 g) = 4.57 W/kg; SAR(10 g) = 2.24 W/kg**

Maximum value of SAR (measured) = 5.13 W/kg



**Plot 49 UMTS Band V Right Cheek Middle**

Date: 9/12/2017

Communication System: UID 0, WCDMA V (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.934$  S/m;  $\epsilon_r = 41.065$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.267 W/kg

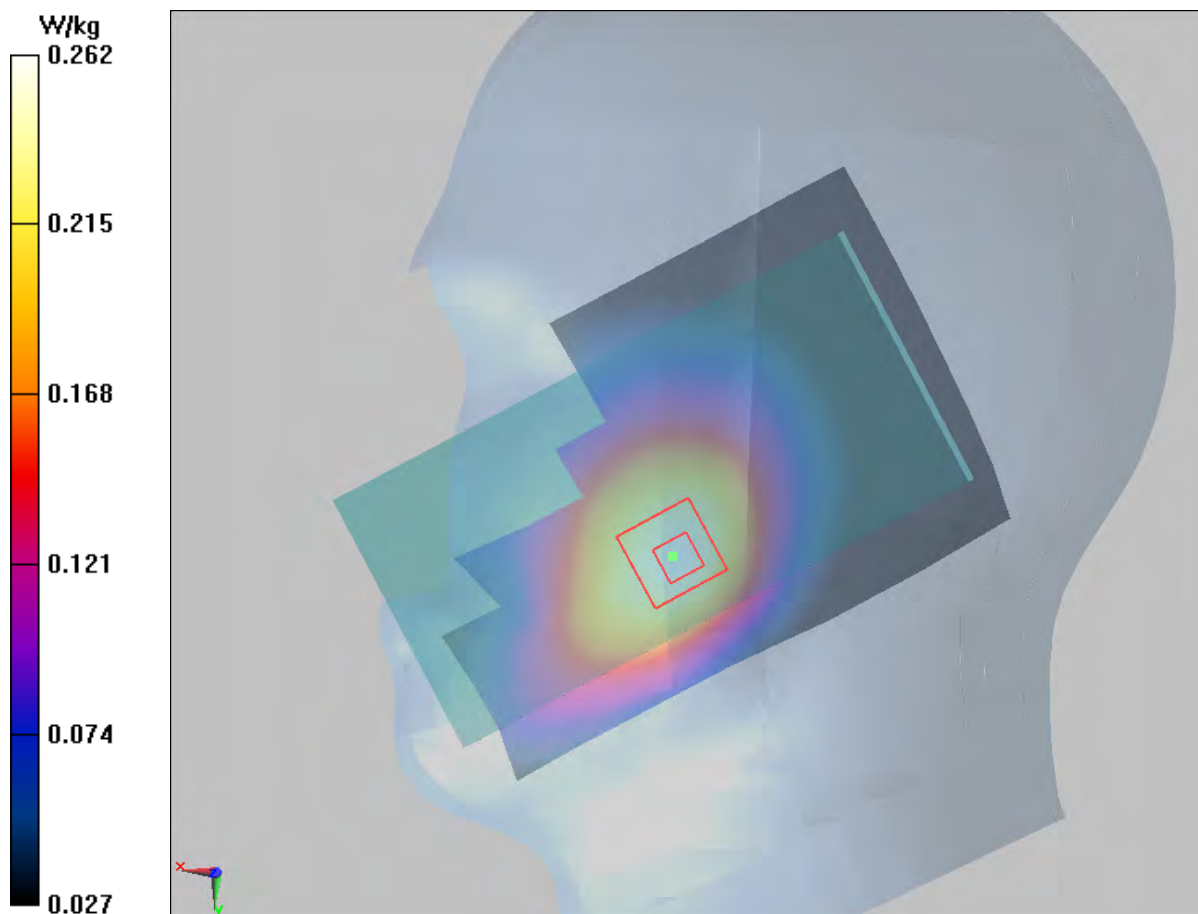
**Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.668 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.316 W/kg

**SAR(1 g) = 0.250 W/kg; SAR(10 g) = 0.190 W/kg**

Maximum value of SAR (measured) = 0.262 W/kg



**Plot 50 UMTS Band V Front Side Middle (Distance 15mm)**

Date: 9/13/2017

Communication System: UID 0, WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.013$  S/m;  $\epsilon_r = 55.395$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.297 W/kg

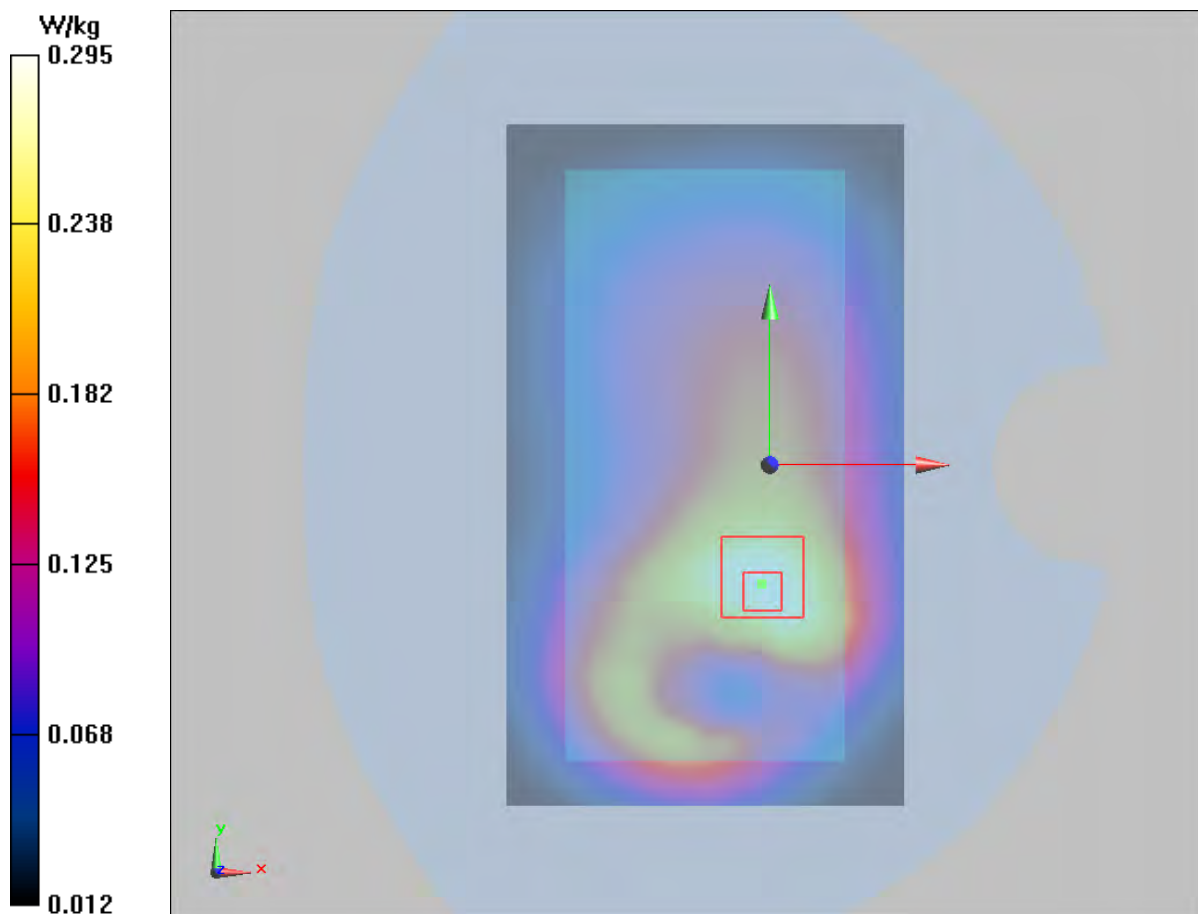
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.74 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.369 W/kg

**SAR(1 g) = 0.278 W/kg; SAR(10 g) = 0.197 W/kg**

Maximum value of SAR (measured) = 0.295 W/kg



**Plot 51 UMTS Band V Back Side Middle (Distance 10mm)**

Date: 9/13/2017

Communication System: UID 0, WCDMA V (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.001$  S/m;  $\epsilon_r = 54.375$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.431 W/kg

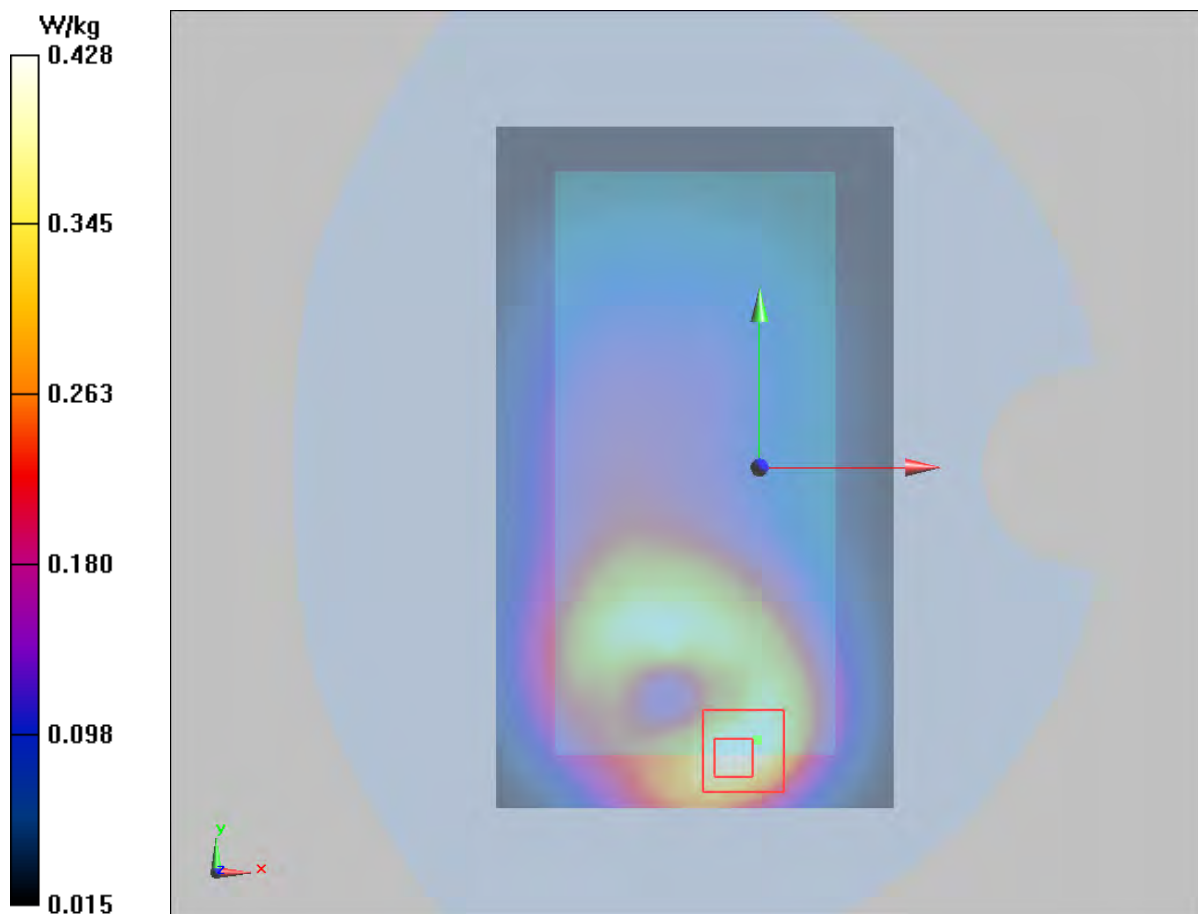
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.81 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.644 W/kg

**SAR(1 g) = 0.399 W/kg; SAR(10 g) = 0.239 W/kg**

Maximum value of SAR (measured) = 0.428 W/kg



**Plot 52 LTE Band 2 1RB Right Cheek Middle (Hotspot Off, Battery 2)**

Date: 9/20/2017

Communication System: UID 0, LTE (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.37$  S/m;  $\epsilon_r = 40.575$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.228 W/kg

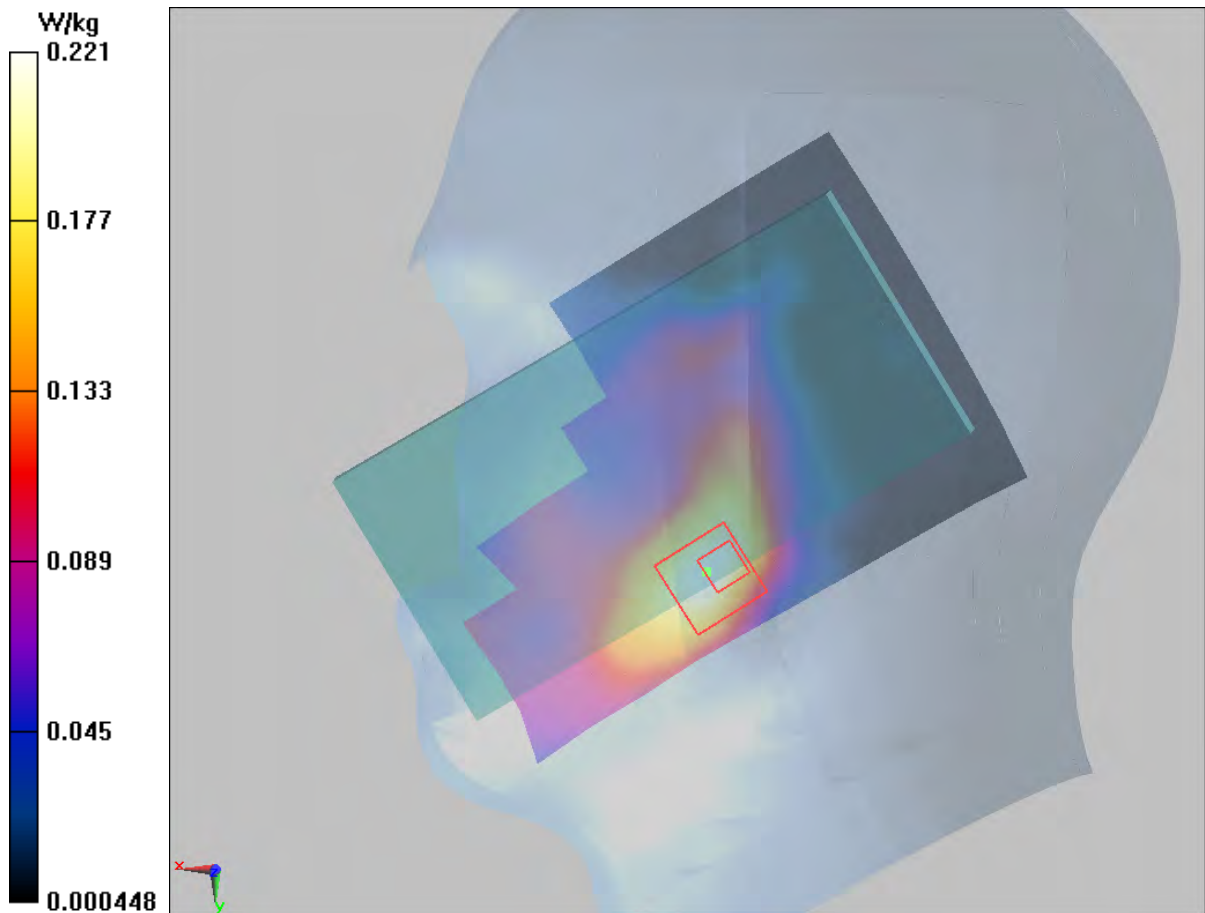
**Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.274 W/kg

**SAR(1 g) = 0.217 W/kg; SAR(10 g) = 0.123 W/kg**

Maximum value of SAR (measured) = 0.221 W/kg



**Plot 53 LTE Band 2 1RB Front Side Middle (Hotspot Off, Distance 15mm)**

Date: 9/24/2017

Communication System: UID 0, LTE (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.559 W/kg

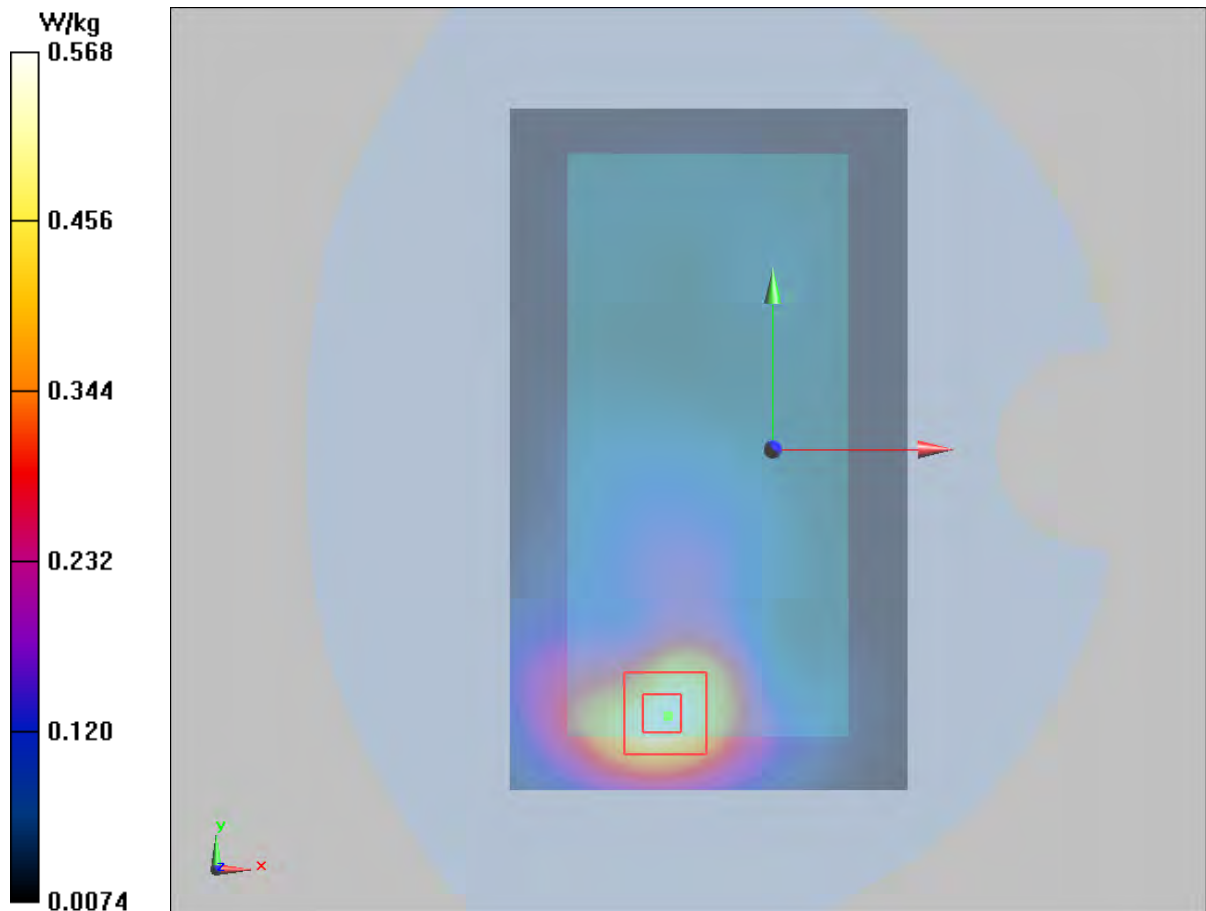
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.813 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.835 W/kg

**SAR(1 g) = 0.513 W/kg; SAR(10 g) = 0.295 W/kg**

Maximum value of SAR (measured) = 0.568 W/kg





**Plot 54 LTE Band 2 50%RB Bottom Edge Middle (Hotspot On, Distance 10mm)**

Date: 9/24/2017

Communication System: UID 0, LTE (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.804 W/kg

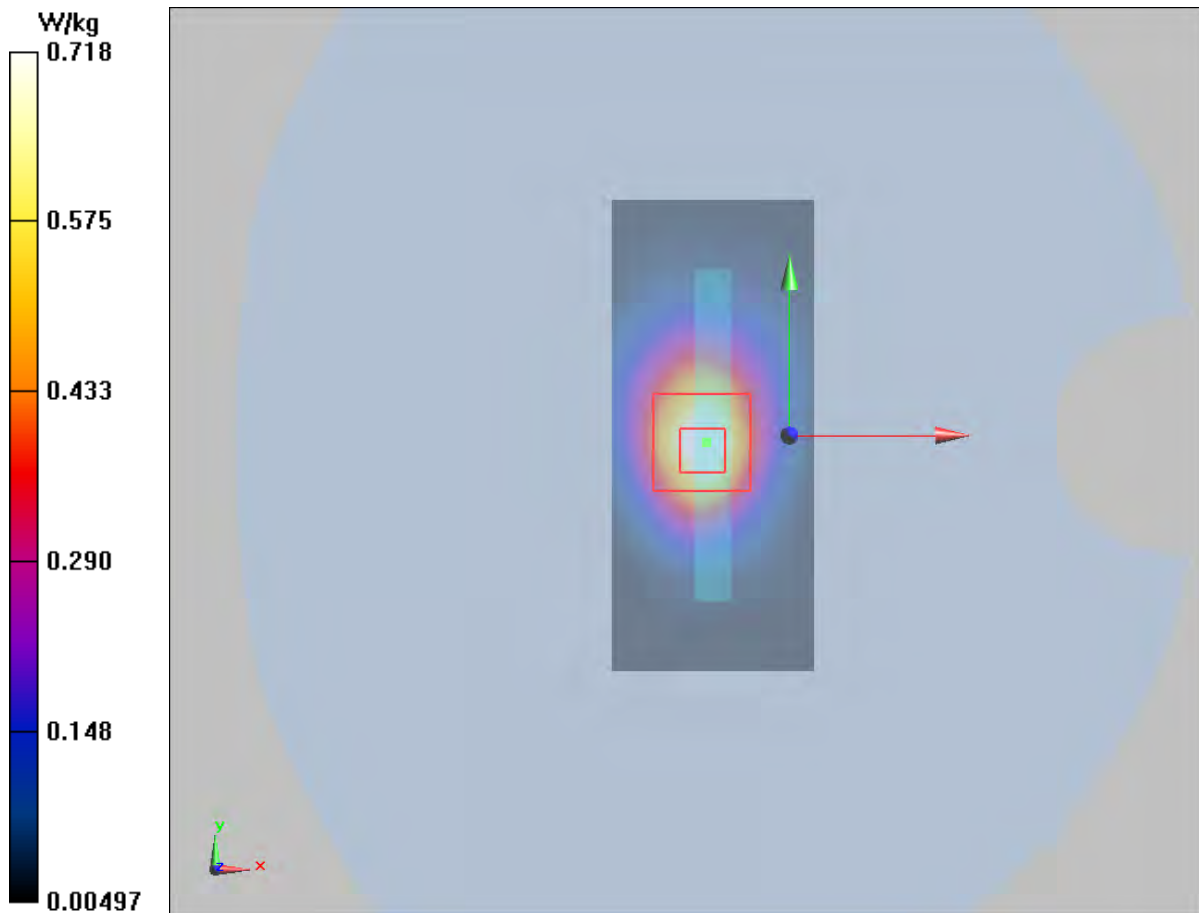
**Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.64 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.11 W/kg

**SAR(1 g) = 0.639 W/kg; SAR(10 g) = 0.339 W/kg**

Maximum value of SAR (measured) = 0.718 W/kg



**Plot 55 LTE Band 2 1RB Bottom Edge Middle (Hotspot Off+Sensor Off, Distance 6mm)**

Date: 9/24/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature:22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 5.68 W/kg

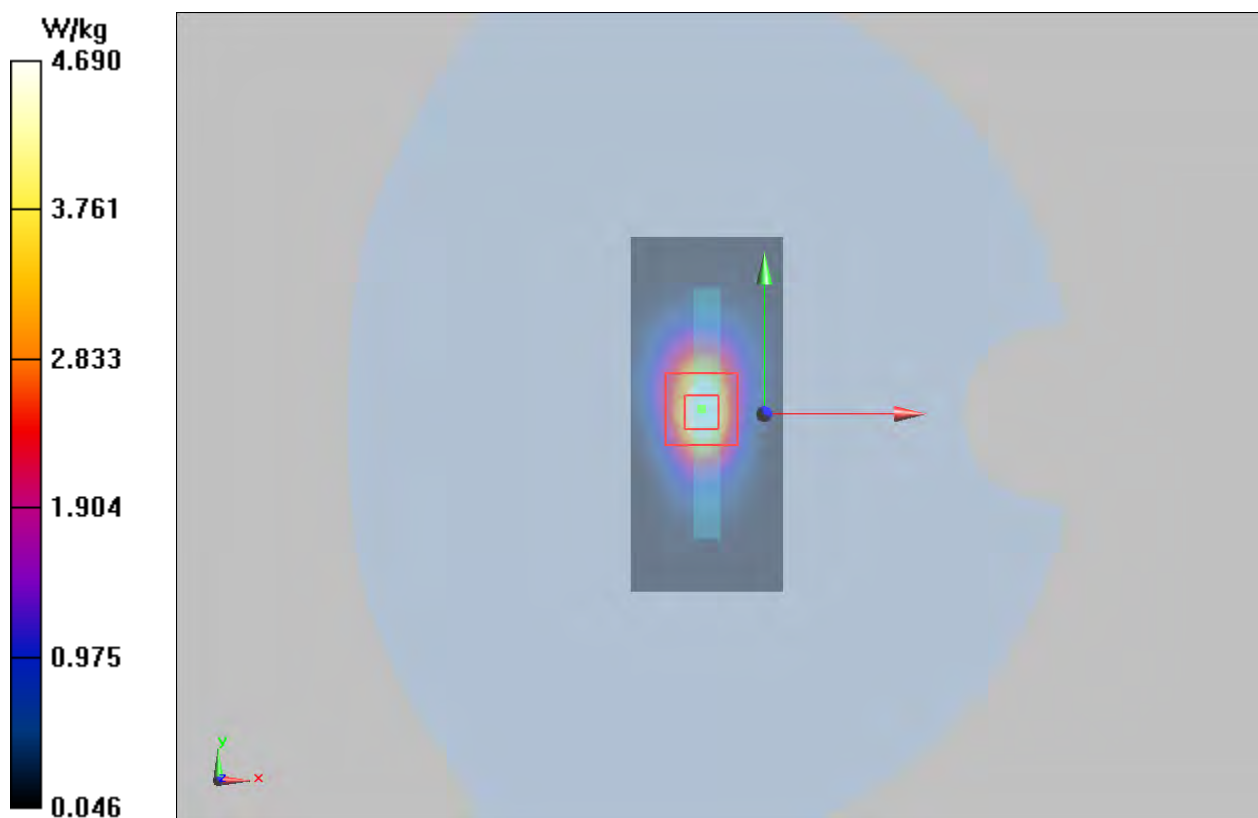
**Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.02 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 7.72 W/kg

**SAR(1 g) = 4.08 W/kg; SAR(10 g) = 2.19 W/kg**

Maximum value of SAR (measured) = 4.69 W/kg



**Plot 56 LTE Band 4 1RB Left Cheek Low (REC On+Hotspot Off)**

Date: 9/11/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1720$  MHz;  $\sigma = 1.336$  S/m;  $\epsilon_r = 38.677$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.60, 8.60, 8.60); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.296 W/kg

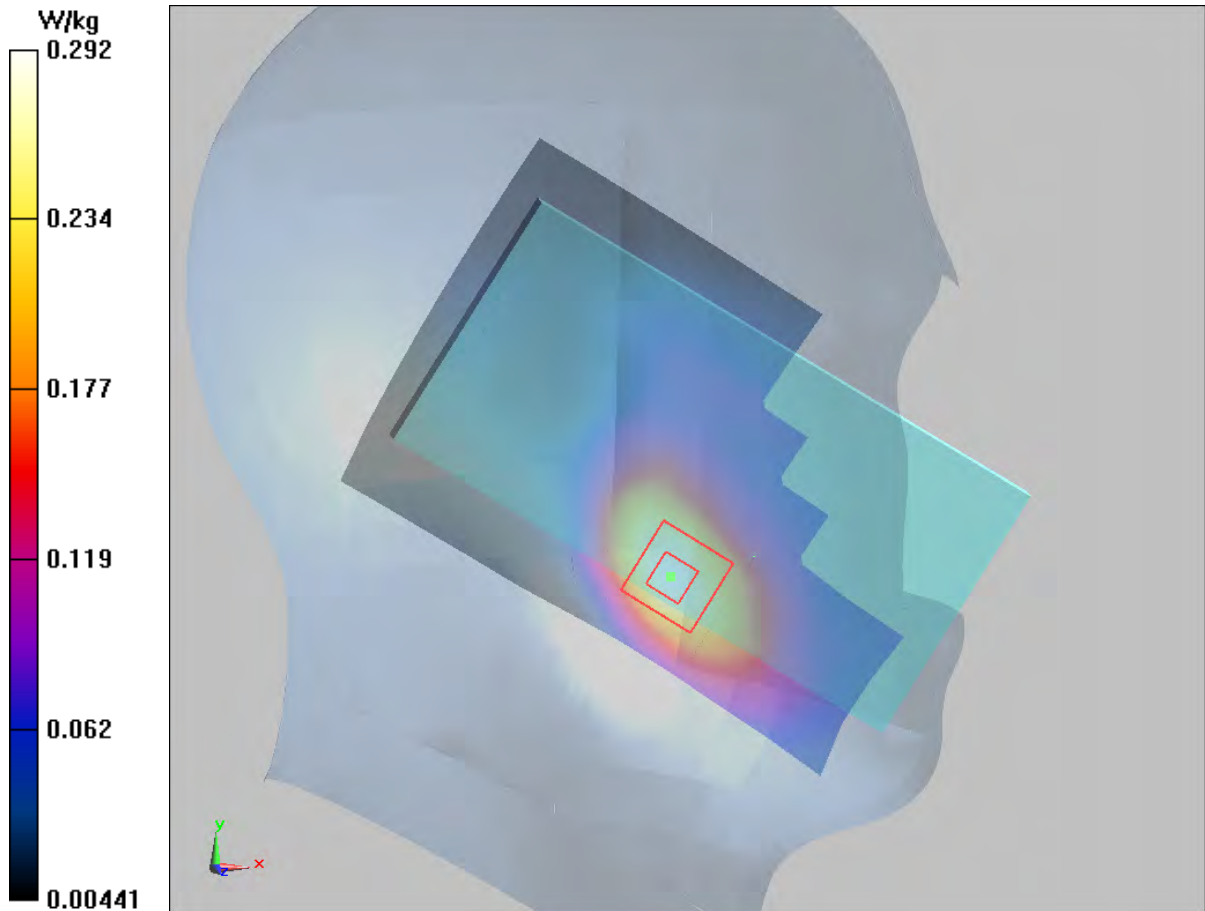
**Left Cheek Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.351 V/m; Power Drift = -0.027 dB

Peak SAR (extrapolated) = 0.387 W/kg

**SAR(1 g) = 0.268 W/kg; SAR(10 g) = 0.172 W/kg**

Maximum value of SAR (measured) = 0.292 W/kg



**Plot 57 LTE Band 4 1RB Back Side Low (REC Off+Hotspot Off, Distance 15mm)**

Date: 9/10/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1720$  MHz;  $\sigma = 1.406$  S/m;  $\epsilon_r = 51.959$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.855 W/kg

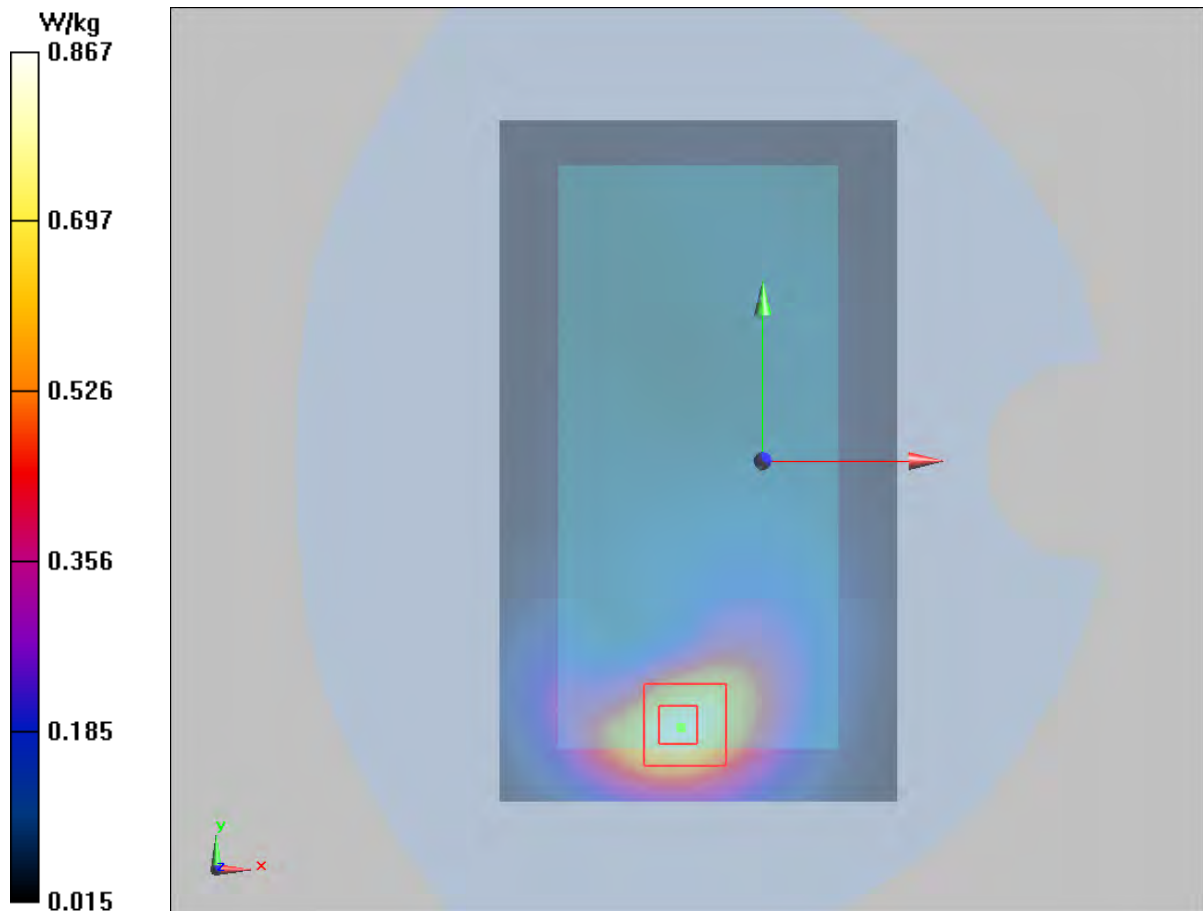
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.255 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 1.24 W/kg

**SAR(1 g) = 0.789 W/kg; SAR(10 g) = 0.469 W/kg**

Maximum value of SAR (measured) = 0.867 W/kg



**Plot 58 LTE Band 4 50%RB Bottom Edge High (Distance 10mm)**

Date: 9/10/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 1745 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1745$  MHz;  $\sigma = 1.429$  S/m;  $\epsilon_r = 51.879$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge High/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.544 W/kg

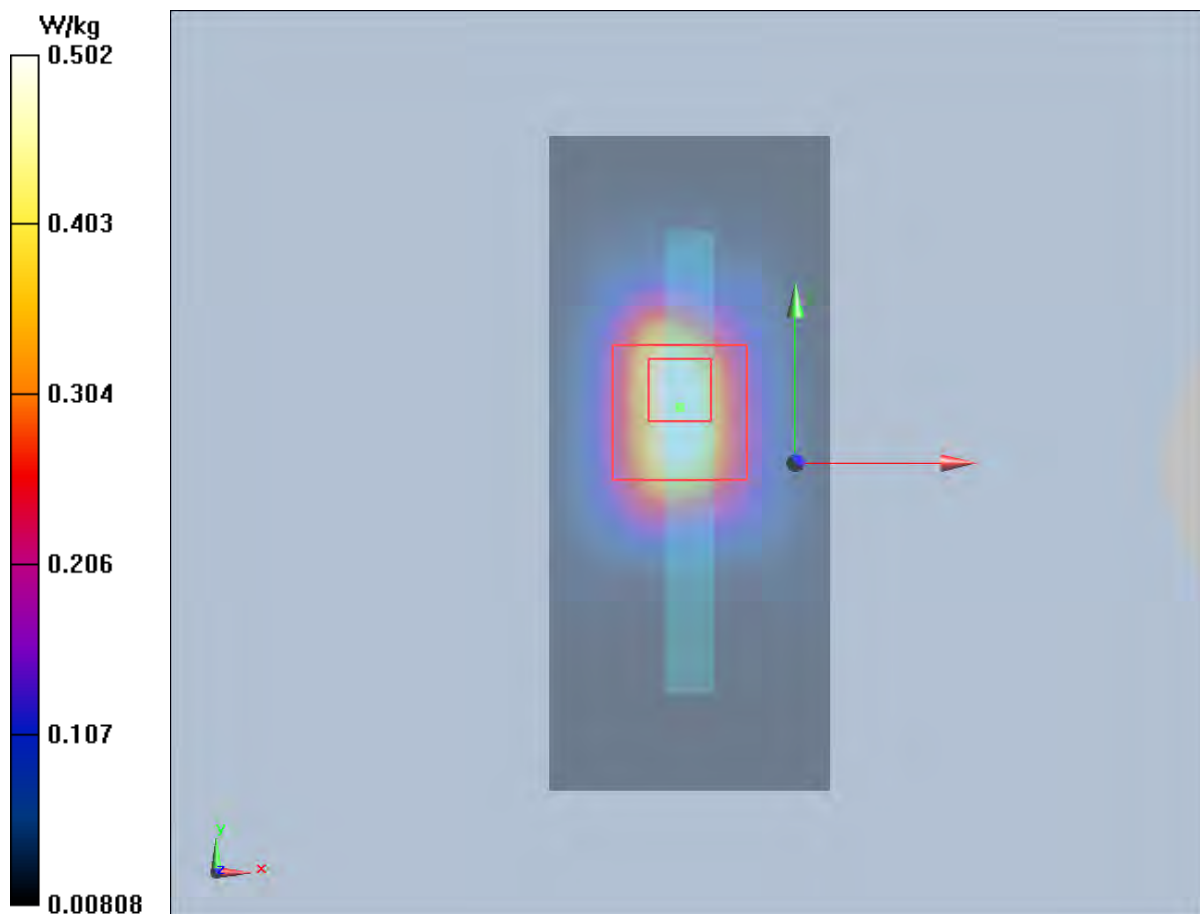
**Bottom Edge High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.83 V/m; Power Drift = 0.043 dB

Peak SAR (extrapolated) = 0.756 W/kg

**SAR(1 g) = 0.443 W/kg; SAR(10 g) = 0.236 W/kg**

Maximum value of SAR (measured) = 0.502 W/kg



**Plot 59 LTE Band 4 100%RB Bottom Edge Low (Hotspot Off+Sensor On, Distance 0mm)**

Date: 9/10/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 1720 MHz;Duty Cycle: 1:1

Medium parameters used:  $f = 1720$  MHz;  $\sigma = 1.406$  S/m;  $\epsilon_r = 51.959$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature:22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Low/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 5.54 W/kg

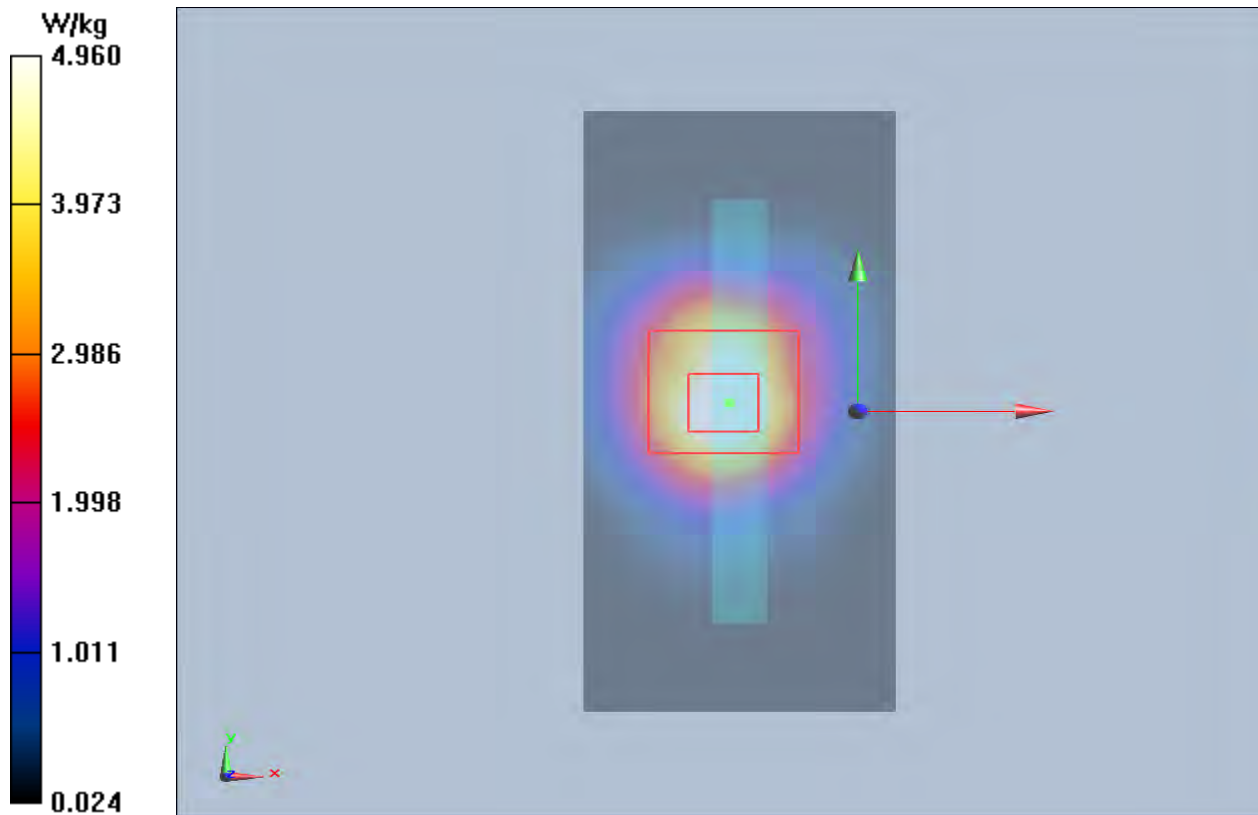
**Bottom Edge Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 46.02 V/m; Power Drift = 0.056 dB

Peak SAR (extrapolated) = 8.72 W/kg

**SAR(1 g) = 4.28 W/kg; SAR(10 g) = 2.19 W/kg**

Maximum value of SAR (measured) = 4.96 W/kg



**Plot 60 LTE Band 5 1RB Right Cheek Low**

Date: 9/12/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 829 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 829$  MHz;  $\sigma = 0.932$  S/m;  $\epsilon_r = 42.527$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.238 W/kg

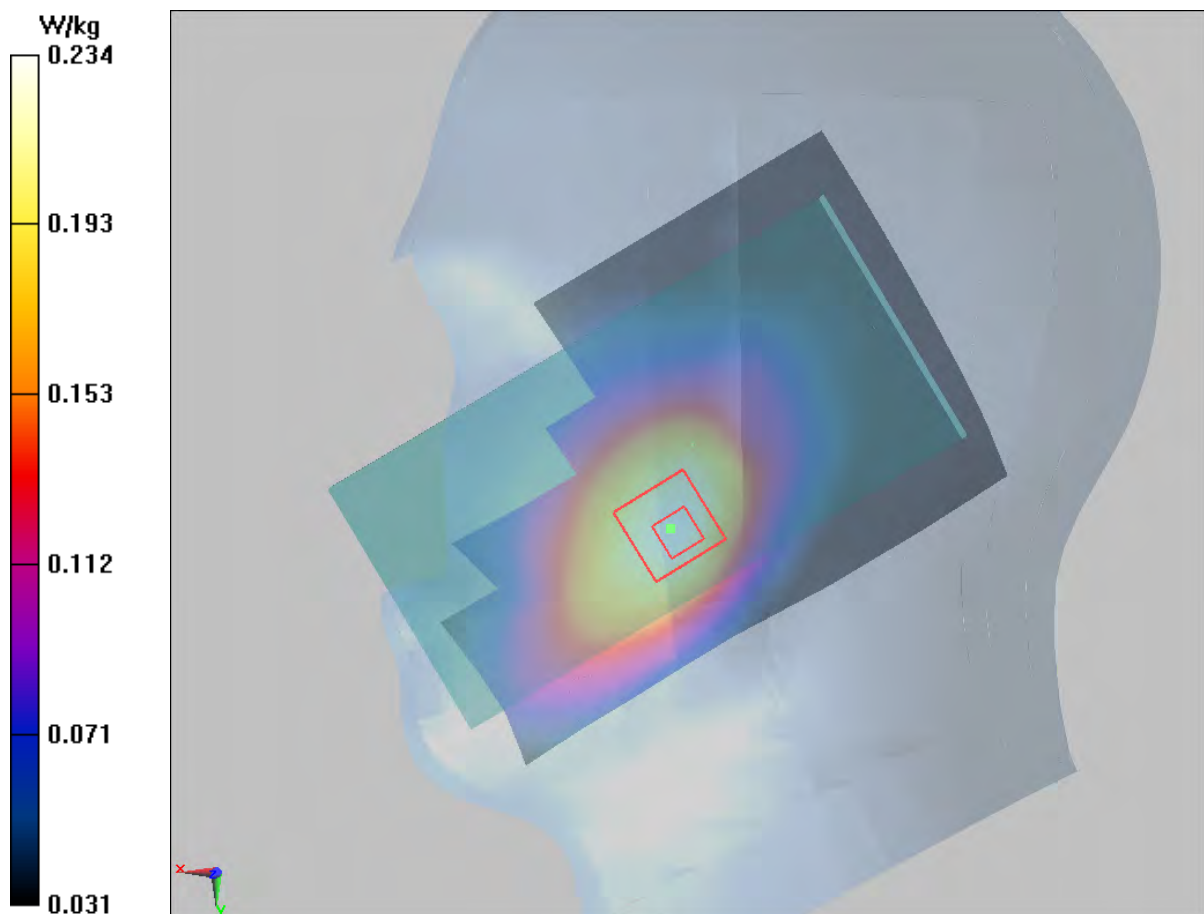
**Right Cheek Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.112 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.276 W/kg

**SAR(1 g) = 0.224 W/kg; SAR(10 g) = 0.170 W/kg**

Maximum value of SAR (measured) = 0.234 W/kg



**Plot 61 LTE Band 5 1RB Back Side Low (Distance 15mm)**

Date: 9/13/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 829 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 829$  MHz;  $\sigma = 1.005$  S/m;  $\epsilon_r = 55.487$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.232 W/kg

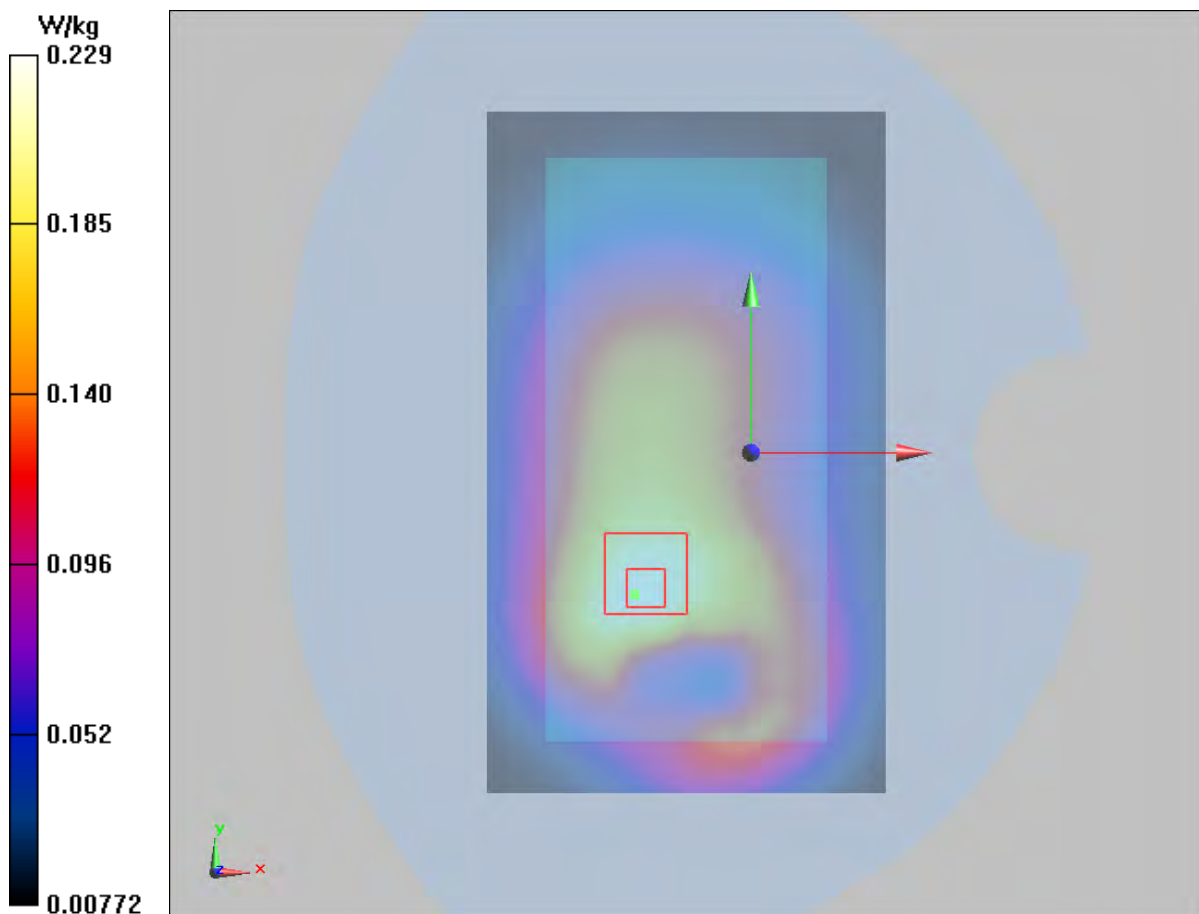
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.56 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.281 W/kg

**SAR(1 g) = 0.215 W/kg; SAR(10 g) = 0.156 W/kg**

Maximum value of SAR (measured) = 0.229 W/kg





**Plot 62 LTE Band 5 1RB Back Side Low (Distance 10mm)**

Date: 9/13/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 829 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 829$  MHz;  $\sigma = 1.005$  S/m;  $\epsilon_r = 55.487$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.349 W/kg

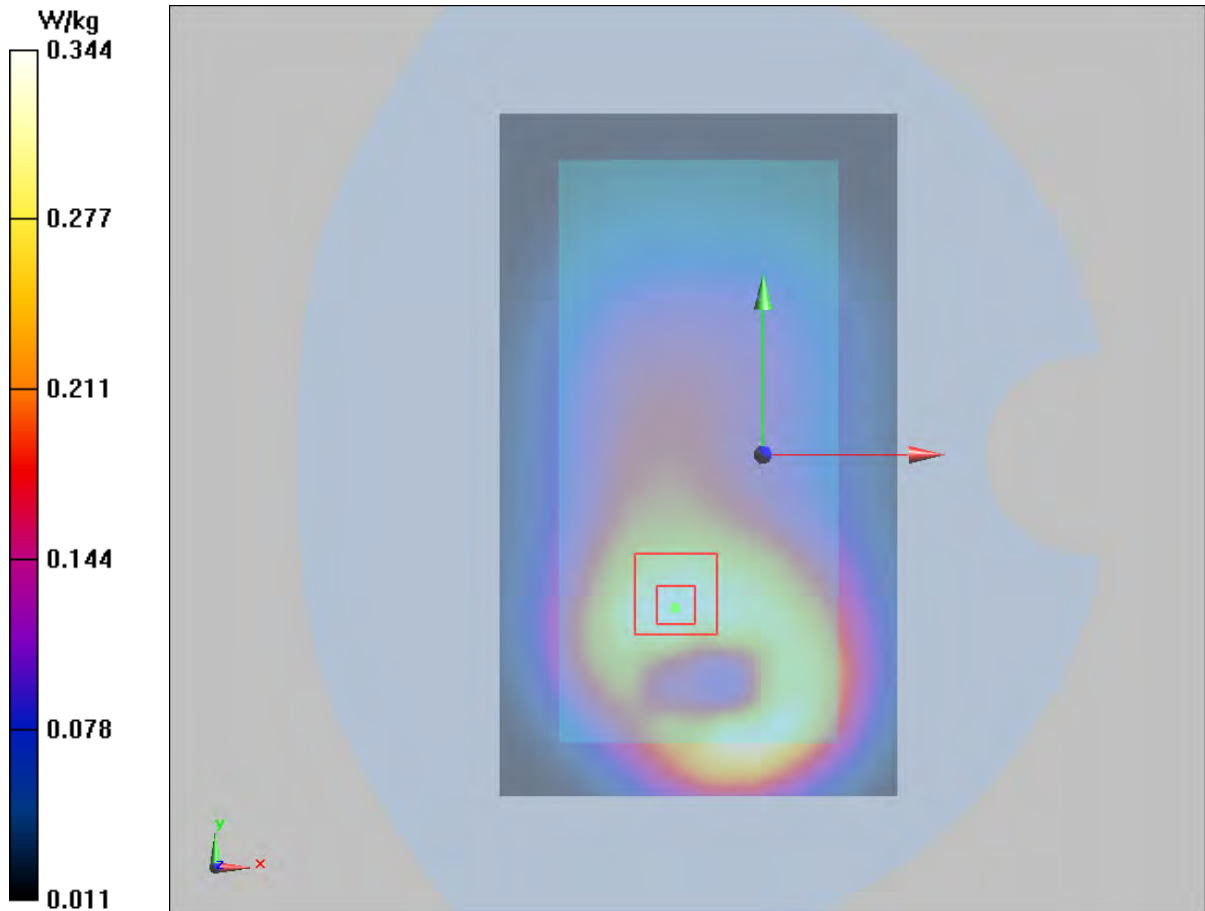
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.36 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.443 W/kg

**SAR(1 g) = 0.322 W/kg; SAR(10 g) = 0.224 W/kg**

Maximum value of SAR (measured) = 0.344 W/kg



**Plot 63 LTE Band 7 1RB Right Cheek Low (REC On+Hotspot Off, Battery 2)**

Date: 9/16/2017

Communication System: UID 0, LTE (0); Frequency: 2510 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 1.91$  S/m;  $\epsilon_r = 40.624$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Low/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.284 W/kg

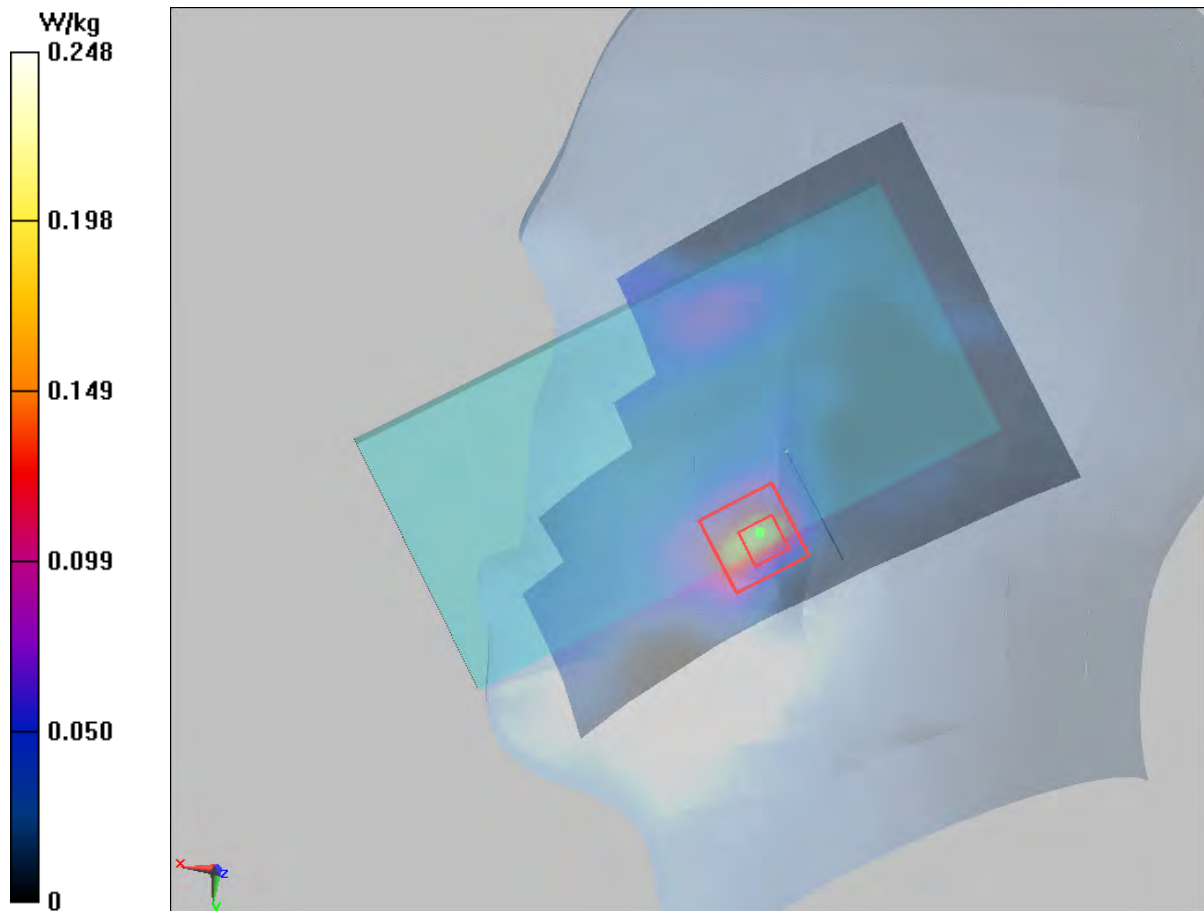
**Right Cheek Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.190 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.354 W/kg

**SAR(1 g) = 0.233 W/kg; SAR(10 g) = 0.105 W/kg**

Maximum value of SAR (measured) = 0.248 W/kg



**Plot 64 LTE Band 7 1RB Front Side Low (Hotspot Off, Distance 15mm)**

Date: 9/15/2017

Communication System: UID 0, LTE (0); Frequency: 2510 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 2.03$  S/m;  $\epsilon_r = 51.469$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Low/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.312 W/kg

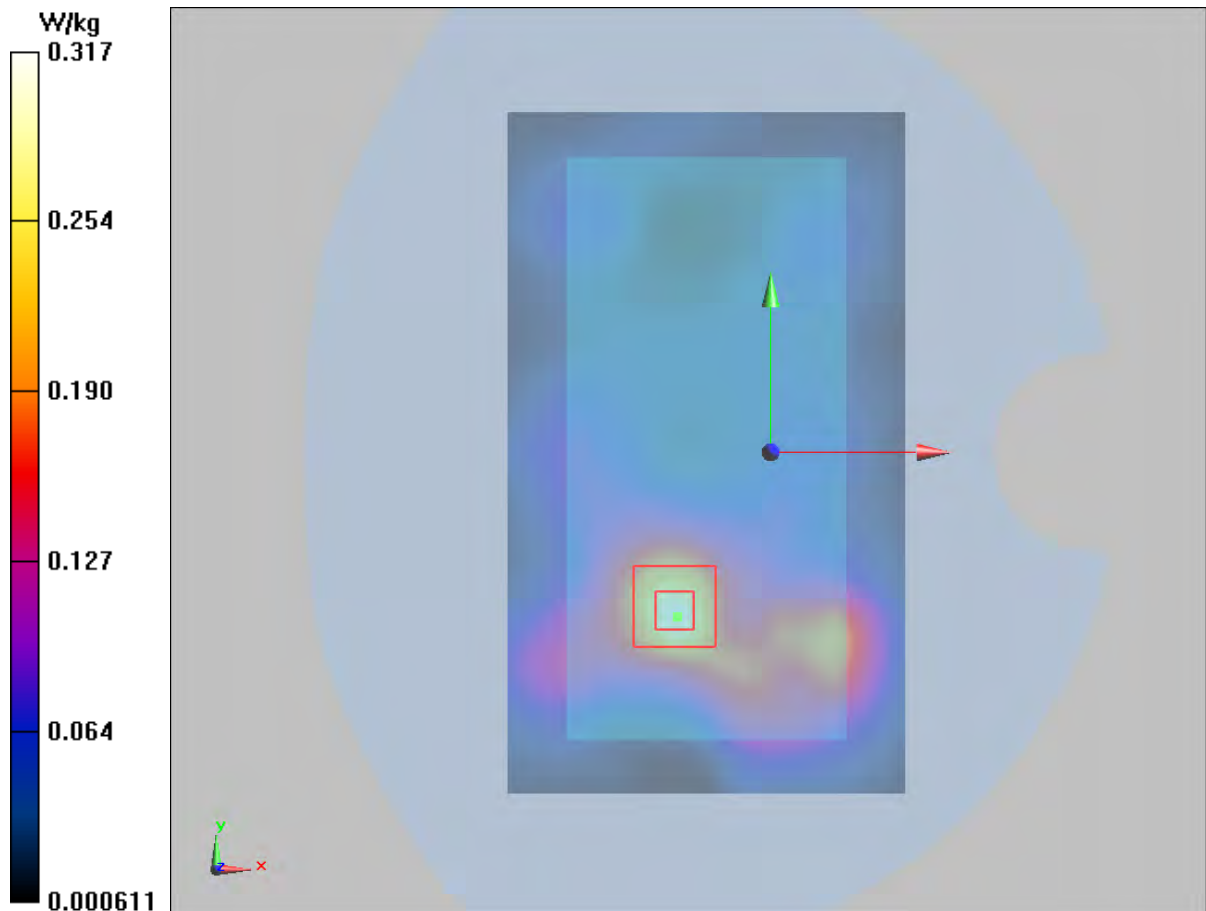
**Front Side Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.680 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.523 W/kg

**SAR(1 g) = 0.283 W/kg; SAR(10 g) = 0.146 W/kg**

Maximum value of SAR (measured) = 0.317 W/kg



**Plot 65 LTE Band 7 1RB Front Side Low (Distance 10mm)**

Date: 9/15/2017

Communication System: UID 0, LTE (0); Frequency: 2510 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 2.03$  S/m;  $\epsilon_r = 51.469$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Low/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.589 W/kg

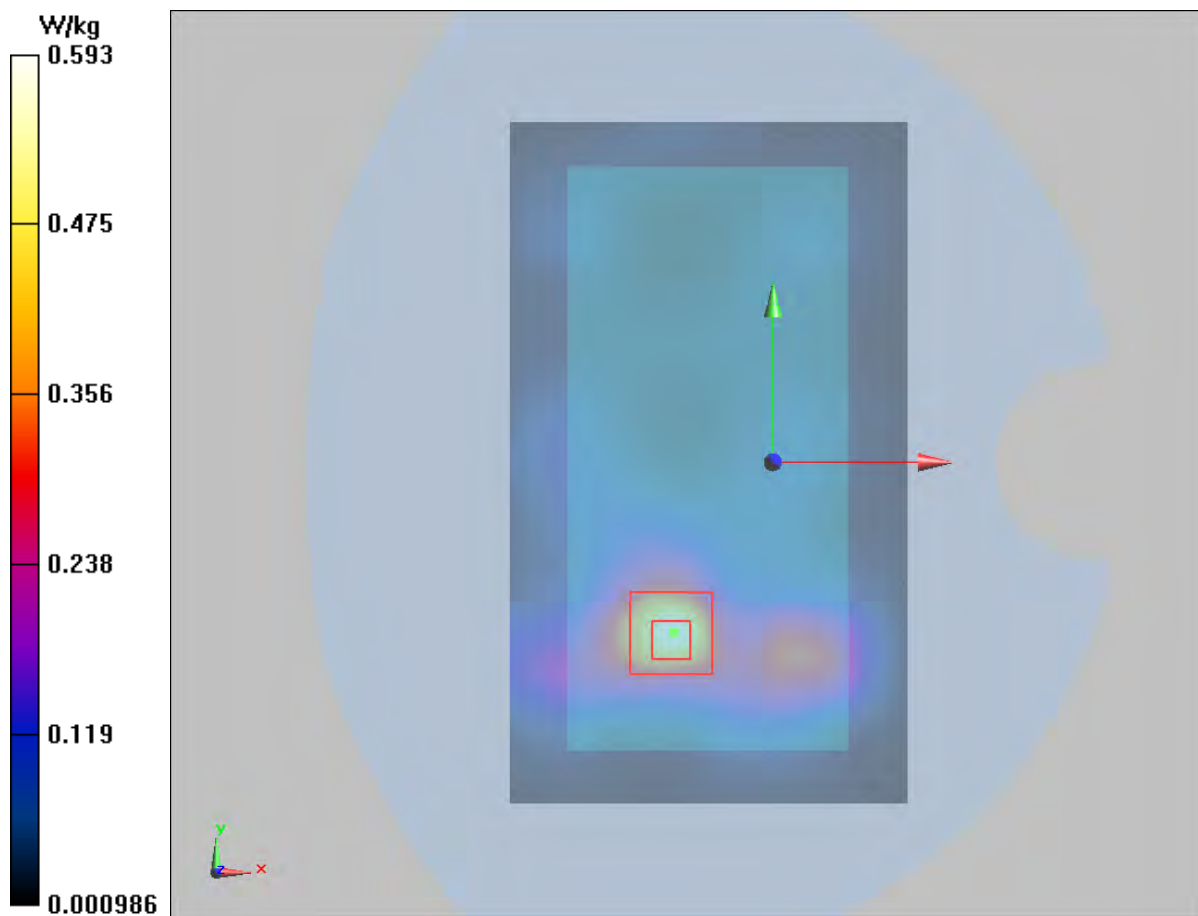
**Front Side Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.741 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 1.03 W/kg

**SAR(1 g) = 0.526 W/kg; SAR(10 g) = 0.252 W/kg**

Maximum value of SAR (measured) = 0.593 W/kg



**Plot 66 LTE Band 12 1RB Right Cheek High (Battery 2)**

Date: 9/15/2017

Communication System: UID 0, LTE (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 711 \text{ MHz}$ ;  $\sigma = 0.87 \text{ S/m}$ ;  $\epsilon_r = 43.041$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.58, 9.58, 9.58); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek High/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.235 \text{ W/kg}$

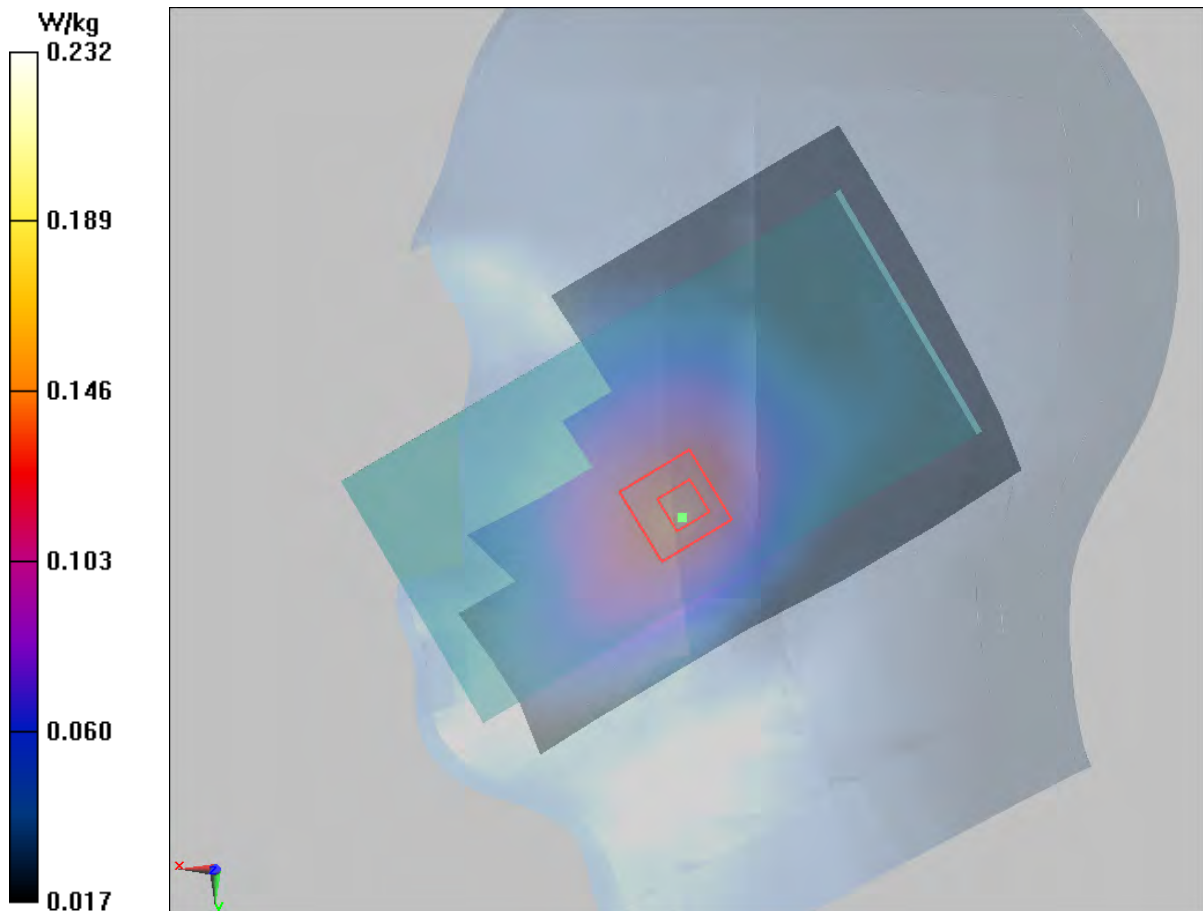
**Right Cheek High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $4.739 \text{ V/m}$ ; Power Drift =  $0.13 \text{ dB}$

Peak SAR (extrapolated) =  $0.257 \text{ W/kg}$

**SAR(1 g) =  $0.227 \text{ W/kg}$ ; SAR(10 g) =  $0.150 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.232 \text{ W/kg}$



**Plot 67 LTE Band 12 1RB Back Side High (Distance 15mm)**

Date: 9/14/2017

Communication System: UID 0, LTE (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 711 \text{ MHz}$ ;  $\sigma = 0.927 \text{ S/m}$ ;  $\epsilon_r = 55.371$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.211 \text{ W/kg}$

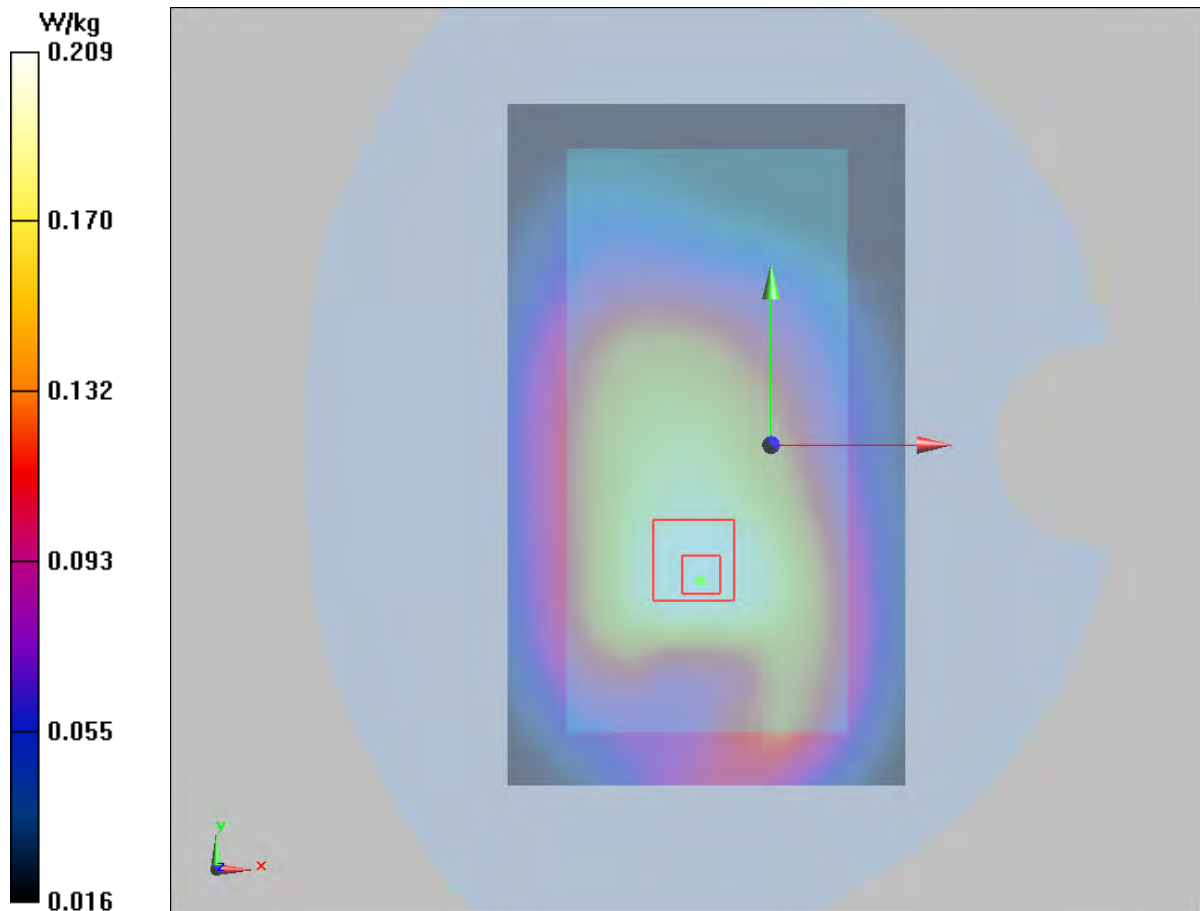
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $13.62 \text{ V/m}$ ; Power Drift =  $-0.00 \text{ dB}$

Peak SAR (extrapolated) =  $0.250 \text{ W/kg}$

**SAR(1 g) =  $0.200 \text{ W/kg}$ ; SAR(10 g) =  $0.153 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.209 \text{ W/kg}$



**Plot 68 LTE Band 12 1RB Front Side High (Distance 10mm)**

Date: 9/14/2017

Communication System: UID 0, LTE (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 711 \text{ MHz}$ ;  $\sigma = 0.927 \text{ S/m}$ ;  $\epsilon_r = 55.371$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side High/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.284 \text{ W/kg}$

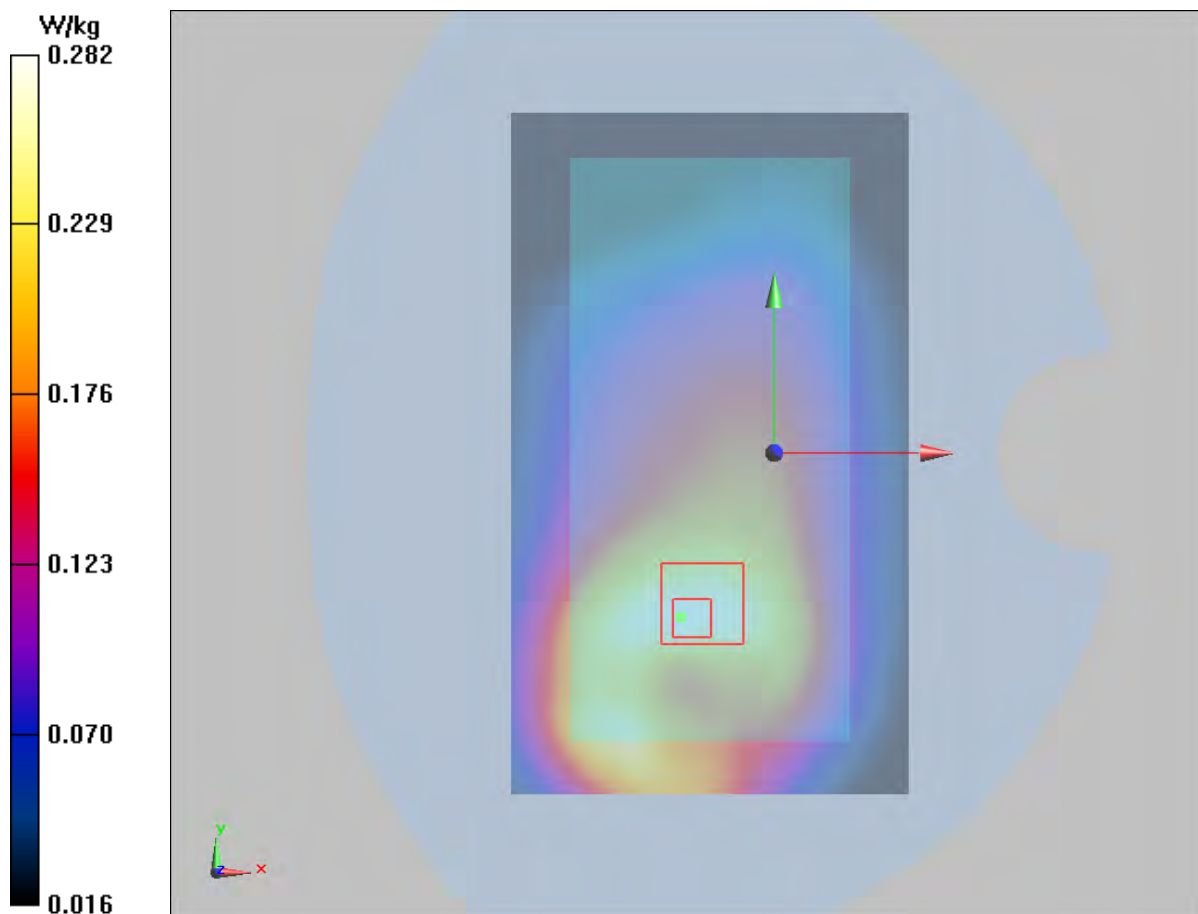
**Front Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $13.26 \text{ V/m}$ ; Power Drift =  $-0.07 \text{ dB}$

Peak SAR (extrapolated) =  $0.359 \text{ W/kg}$

**SAR(1 g) =  $0.266 \text{ W/kg}$ ; SAR(10 g) =  $0.194 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.282 \text{ W/kg}$



**Plot 69 LTE Band 17 1RB Right Cheek Low**

Date: 9/15/2017

Communication System: UID 0, LTE (0); Frequency: 709 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 709$  MHz;  $\sigma = 0.868$  S/m;  $\epsilon_r = 43.058$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.58, 9.58, 9.58); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.224 W/kg

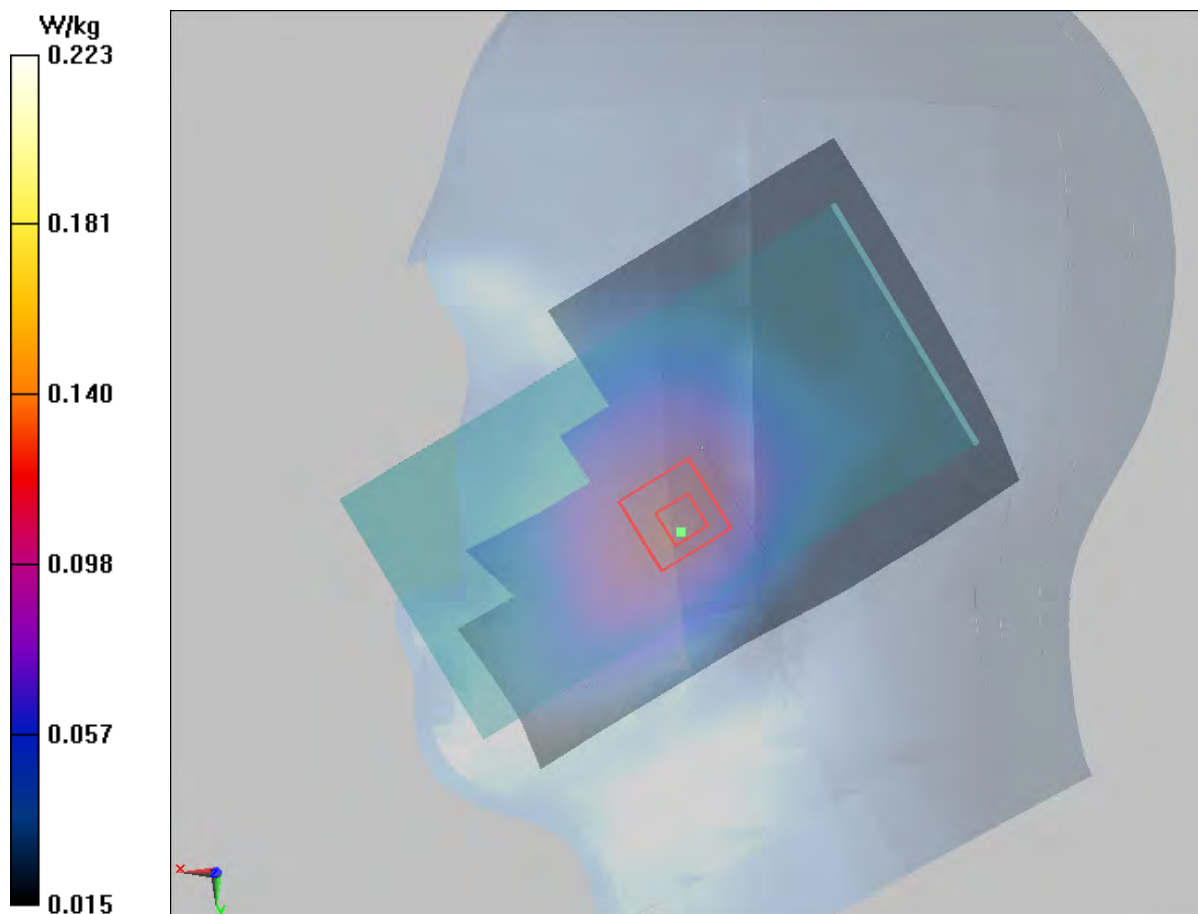
**Right Cheek Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.835 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.247 W/kg

**SAR(1 g) = 0.218 W/kg; SAR(10 g) = 0.102 W/kg**

Maximum value of SAR (measured) = 0.223 W/kg





**Plot 70 LTE Band 17 1RB Back Side Low (Distance 15mm)**

Date: 9/14/2017

Communication System: UID 0, LTE (0); Frequency: 709 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 709 \text{ MHz}$ ;  $\sigma = 0.925 \text{ S/m}$ ;  $\epsilon_r = 55.396$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.209 \text{ W/kg}$

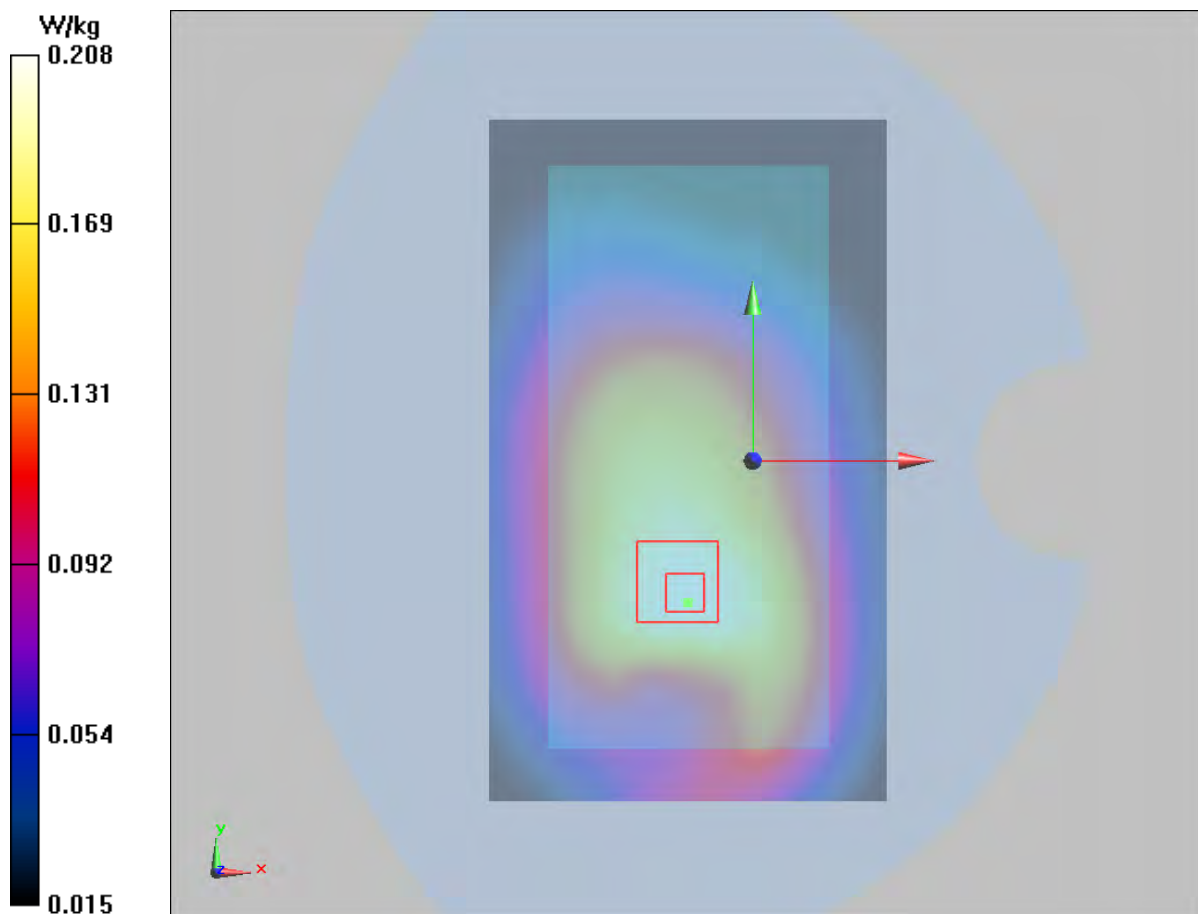
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $13.41 \text{ V/m}$ ; Power Drift =  $0.02 \text{ dB}$

Peak SAR (extrapolated) =  $0.250 \text{ W/kg}$

**SAR(1 g) =  $0.198 \text{ W/kg}$ ; SAR(10 g) =  $0.151 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.208 \text{ W/kg}$



**Plot 71 LTE Band 17 1RB Back Side Low (Distance 10mm)**

Date: 9/14/2017

Communication System: UID 0, LTE (0); Frequency: 709 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 709 \text{ MHz}$ ;  $\sigma = 0.925 \text{ S/m}$ ;  $\epsilon_r = 55.396$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.285 \text{ W/kg}$

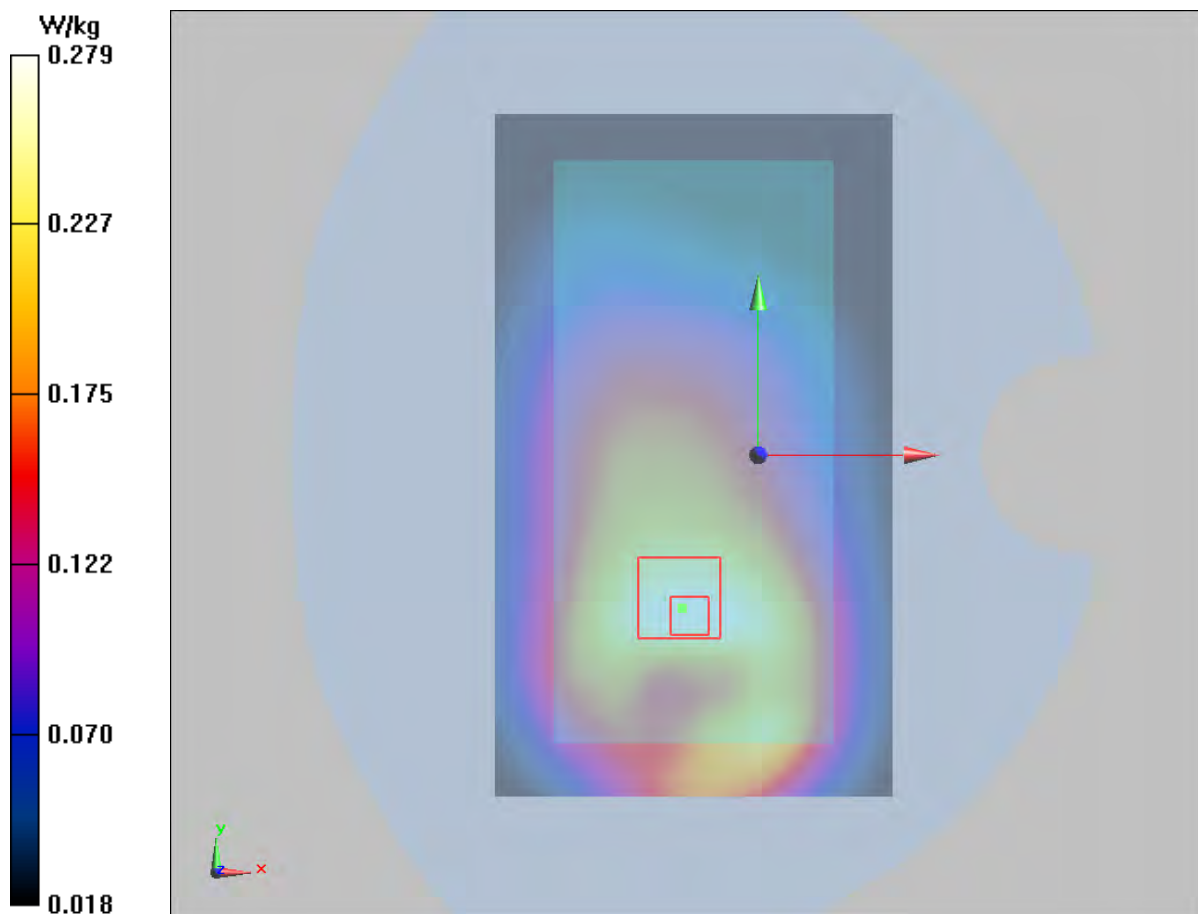
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $13.67 \text{ V/m}$ ; Power Drift =  $0.01 \text{ dB}$

Peak SAR (extrapolated) =  $0.357 \text{ W/kg}$

**SAR(1 g) =  $0.266 \text{ W/kg}$ ; SAR(10 g) =  $0.195 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.279 \text{ W/kg}$



**Plot 72 LTE Band 26 1RB Right Cheek Low**

Date: 9/12/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 822.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 822.5$  MHz;  $\sigma = 0.926$  S/m;  $\epsilon_r = 42.607$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.218 W/kg

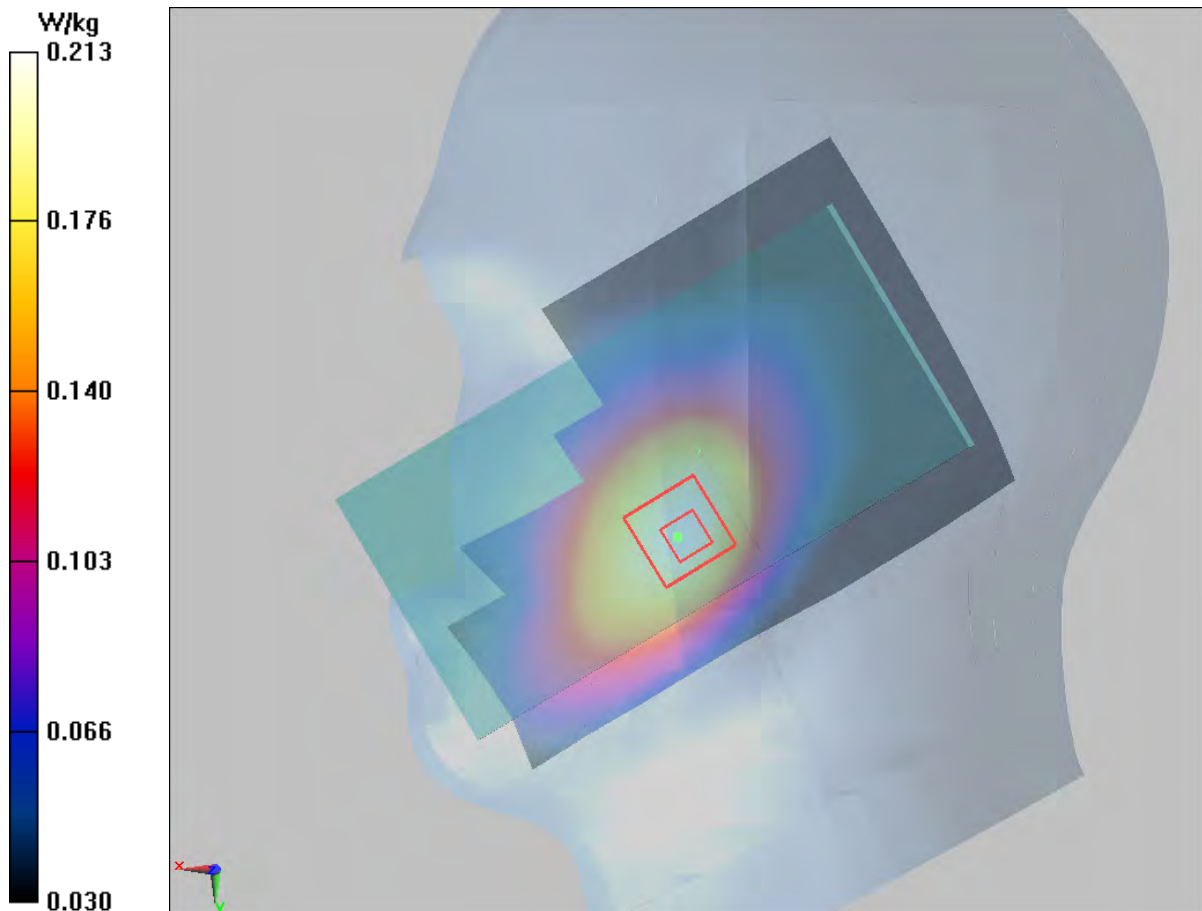
**Right Cheek Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.038 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.249 W/kg

**SAR(1 g) = 0.204 W/kg; SAR(10 g) = 0.156 W/kg**

Maximum value of SAR (measured) = 0.213 W/kg



**Plot 73 LTE Band 26 1RB Back Side Low (Distance 15mm)**

Date: 9/13/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 822.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 822.5$  MHz;  $\sigma = 0.997$  S/m;  $\epsilon_r = 55.563$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.294 W/kg

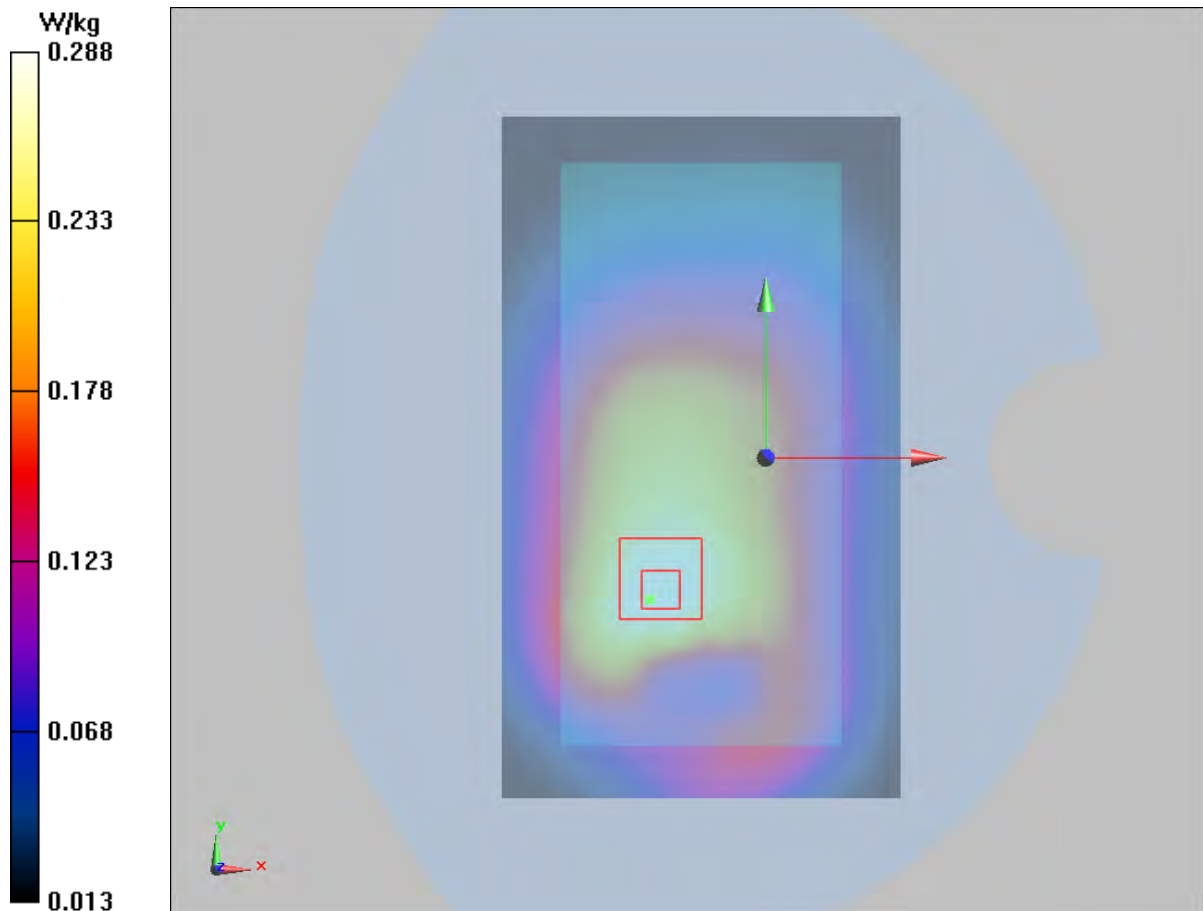
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.00 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.345 W/kg

**SAR(1 g) = 0.274 W/kg; SAR(10 g) = 0.204 W/kg**

Maximum value of SAR (measured) = 0.288 W/kg



**Plot 74 LTE Band 26 1RB Back Side Low (Distance 10mm)**

Date: 9/13/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 822.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 822.5$  MHz;  $\sigma = 0.997$  S/m;  $\epsilon_r = 55.563$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.395 W/kg

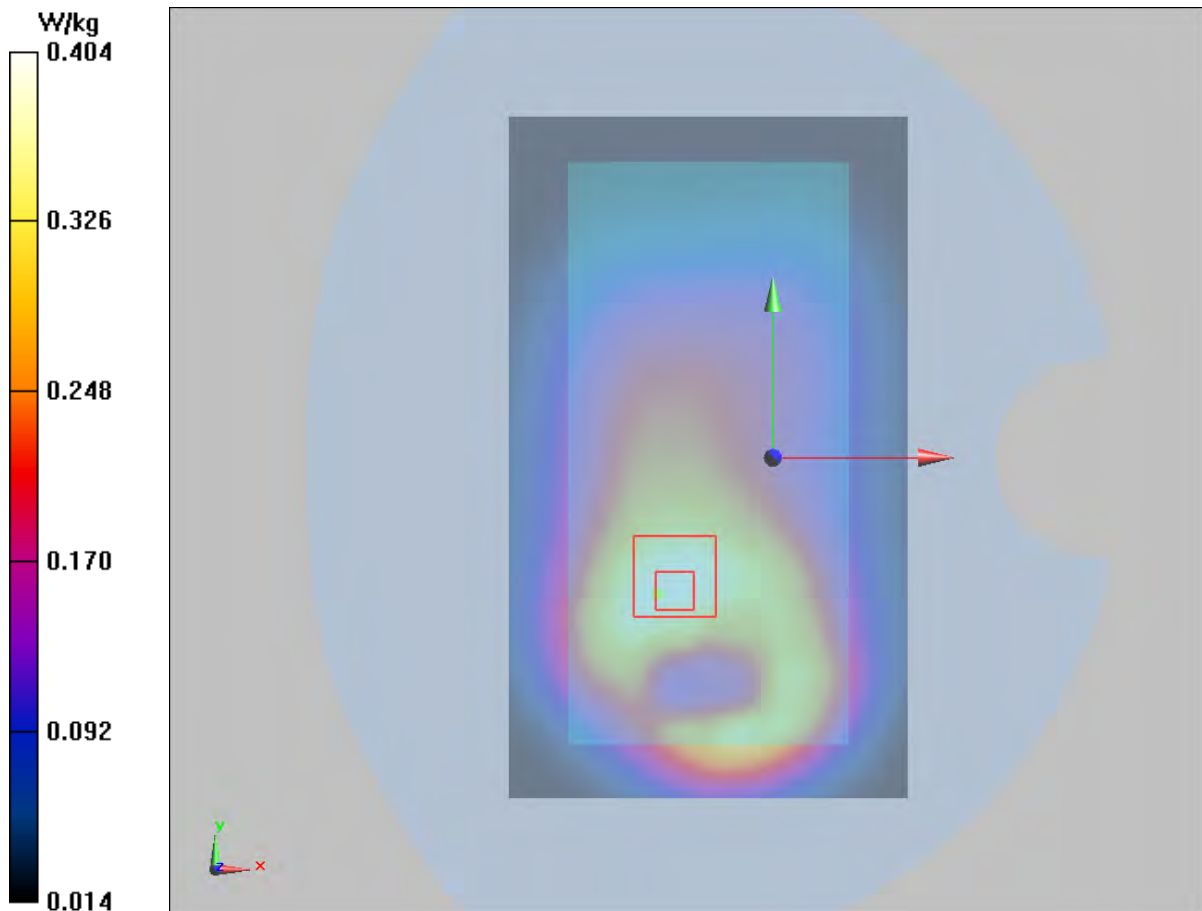
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.48 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.515 W/kg

**SAR(1 g) = 0.381 W/kg; SAR(10 g) = 0.271 W/kg**

Maximum value of SAR (measured) = 0.404 W/kg



## Plot 75 LTE Band 38 1RB Left Cheek High

Date: 9/16/2017

Communication System: UID 0, LTE (0); Frequency: 2610 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2610$  MHz;  $\sigma = 2.021$  S/m;  $\epsilon_r = 40.298$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek High/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.211 W/kg

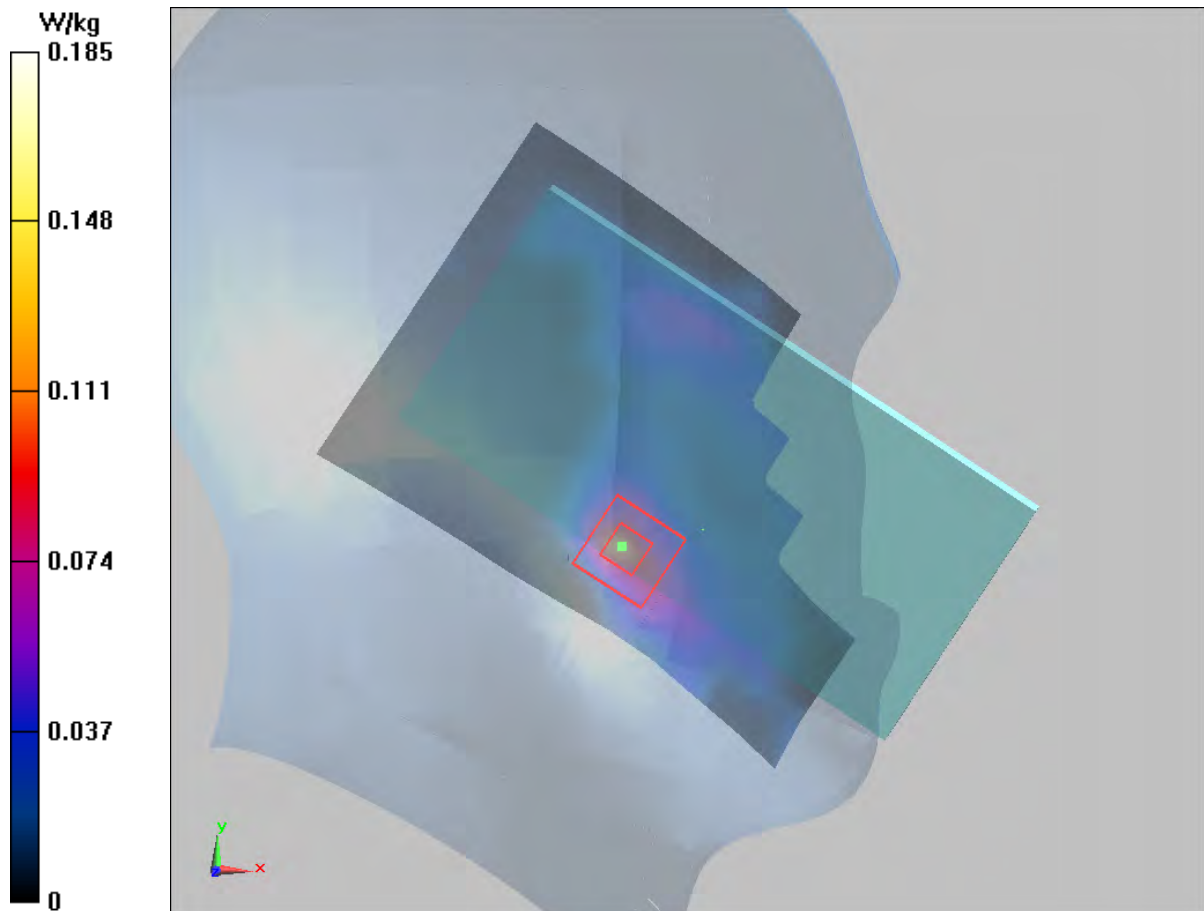
**Left Cheek High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.234 W/kg

**SAR(1 g) = 0.177 W/kg; SAR(10 g) = 0.079 W/kg**

Maximum value of SAR (measured) = 0.185 W/kg



**Plot 76 LTE Band 38 1RB Front Side High (Distance 15mm)**

Date: 9/15/2017

Communication System: UID 0, LTE (0); Frequency: 2610 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2610$  MHz;  $\sigma = 2.15$  S/m;  $\epsilon_r = 51.166$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side High/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.175 W/kg

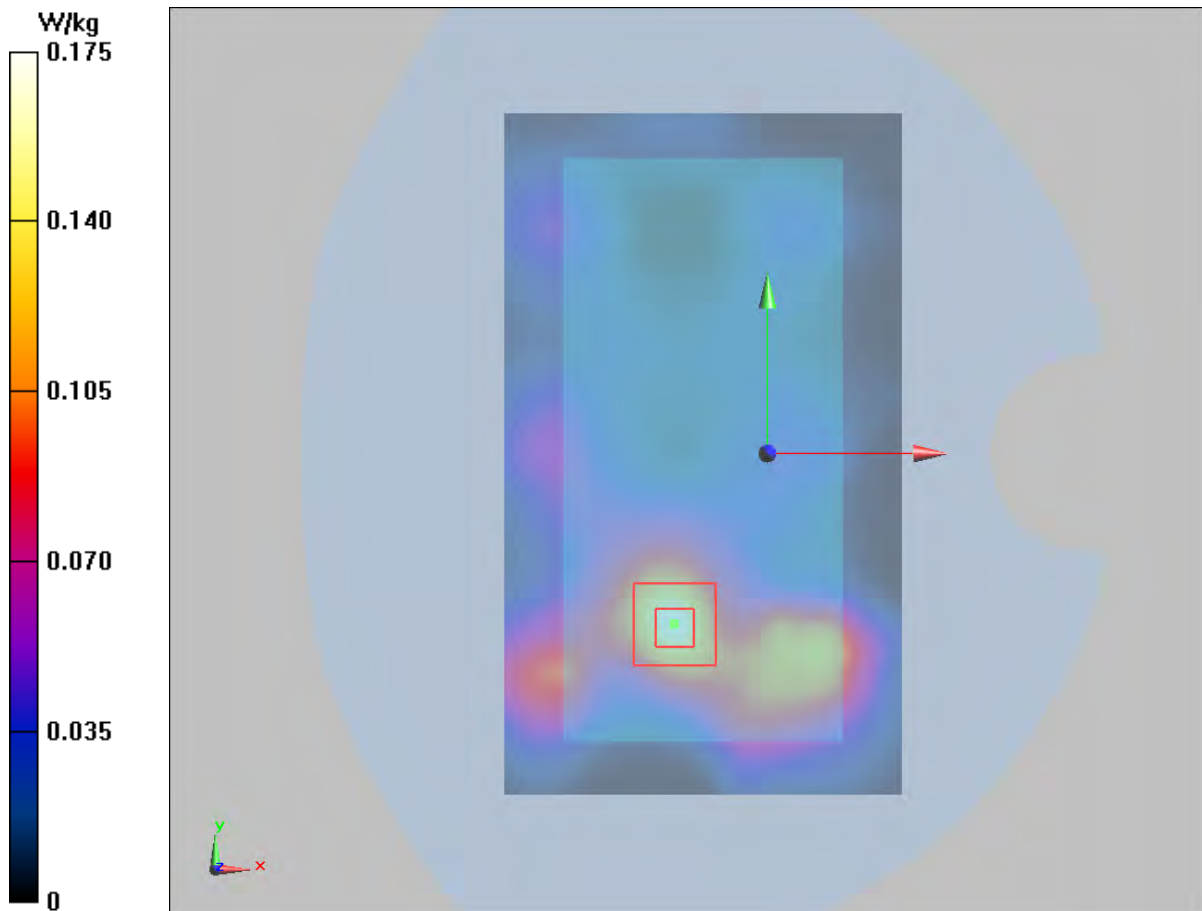
**Front Side High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.621 V/m; Power Drift = -0.040 dB

Peak SAR (extrapolated) = 0.292 W/kg

**SAR(1 g) = 0.154 W/kg; SAR(10 g) = 0.077 W/kg**

Maximum value of SAR (measured) = 0.175 W/kg



**Plot 77 LTE Band 38 1RB Front Side High (Distance 10mm)**

Date: 9/15/2017

Communication System: UID 0, LTE (0); Frequency: 2610 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2610$  MHz;  $\sigma = 2.15$  S/m;  $\epsilon_r = 51.166$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side High/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.461 W/kg

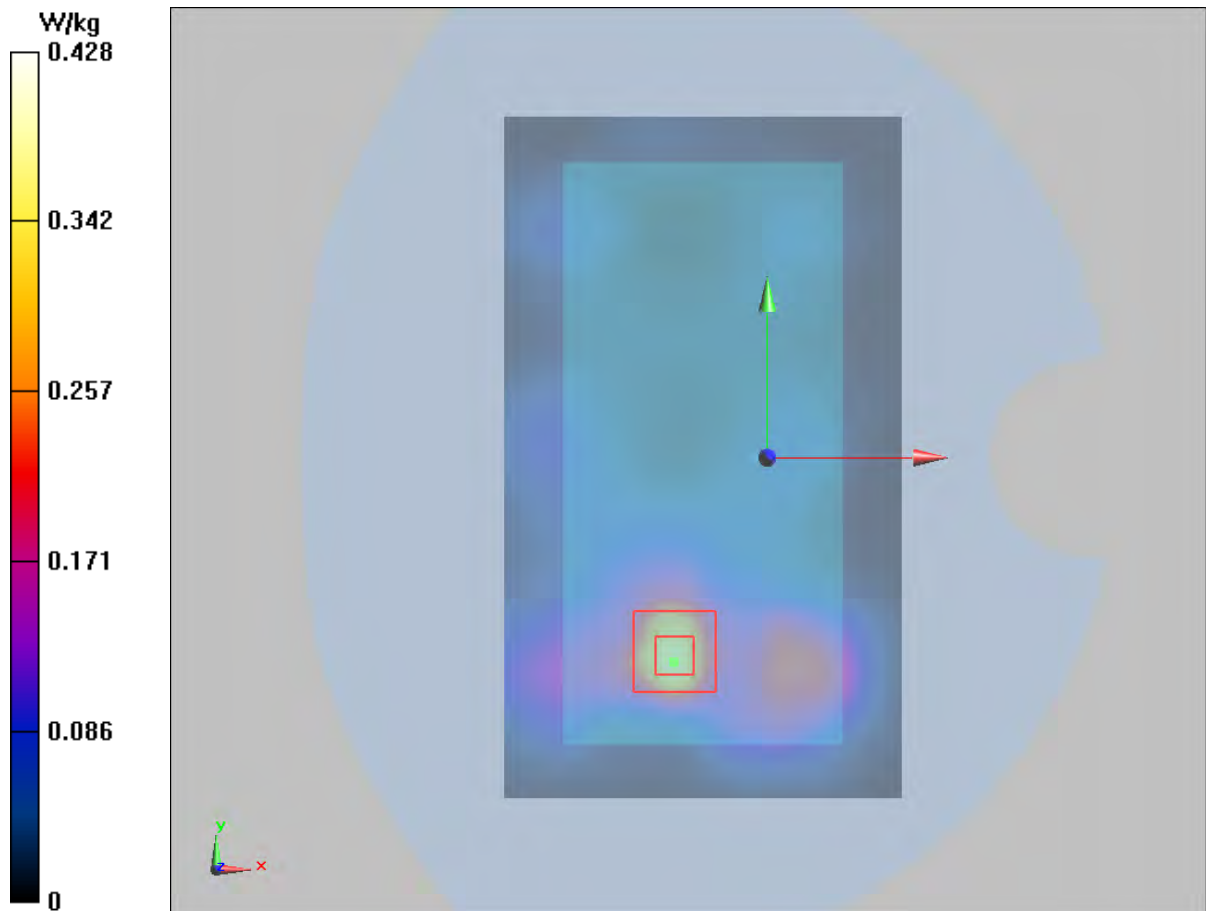
**Front Side High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.998 V/m; Power Drift = -0.056 dB

Peak SAR (extrapolated) = 0.721 W/kg

**SAR(1 g) = 0.367 W/kg; SAR(10 g) = 0.171 W/kg**

Maximum value of SAR (measured) = 0.428 W/kg





## Plot 78 LTE Band 41 1RB Left Cheek High

Date: 9/16/2017

Communication System: UID 0, LTE (0); Frequency: 2645 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2645$  MHz;  $\sigma = 2.061$  S/m;  $\epsilon_r = 40.122$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek High/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.249 W/kg

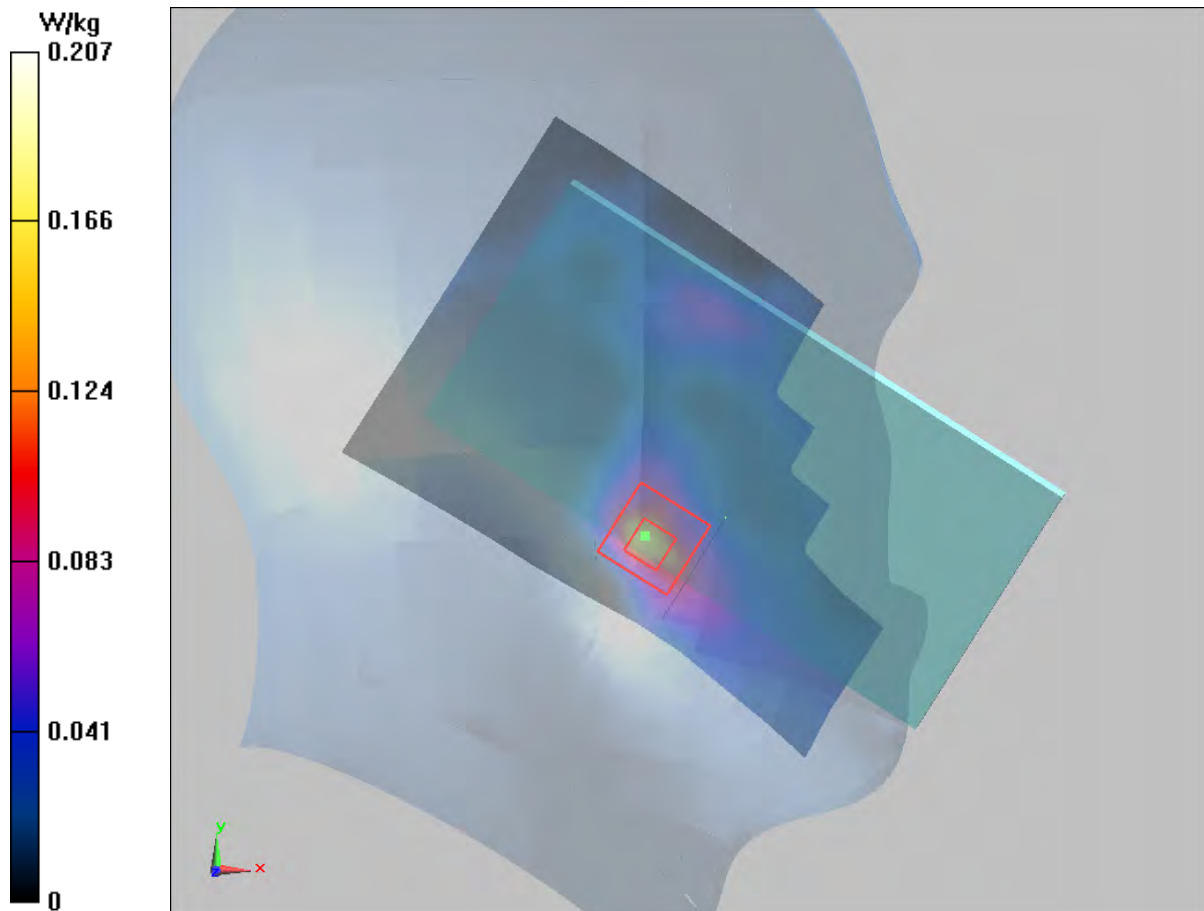
**Left Cheek High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.264 W/kg

**SAR(1 g) = 0.195 W/kg; SAR(10 g) = 0.089 W/kg**

Maximum value of SAR (measured) = 0.207 W/kg



**Plot 79 LTE Band 41 1RB Front Side High (Distance 15mm)**

Date: 9/15/2017

Communication System: UID 0, LTE (0); Frequency: 2645 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2645$  MHz;  $\sigma = 2.192$  S/m;  $\epsilon_r = 51.066$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side High/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.223 W/kg

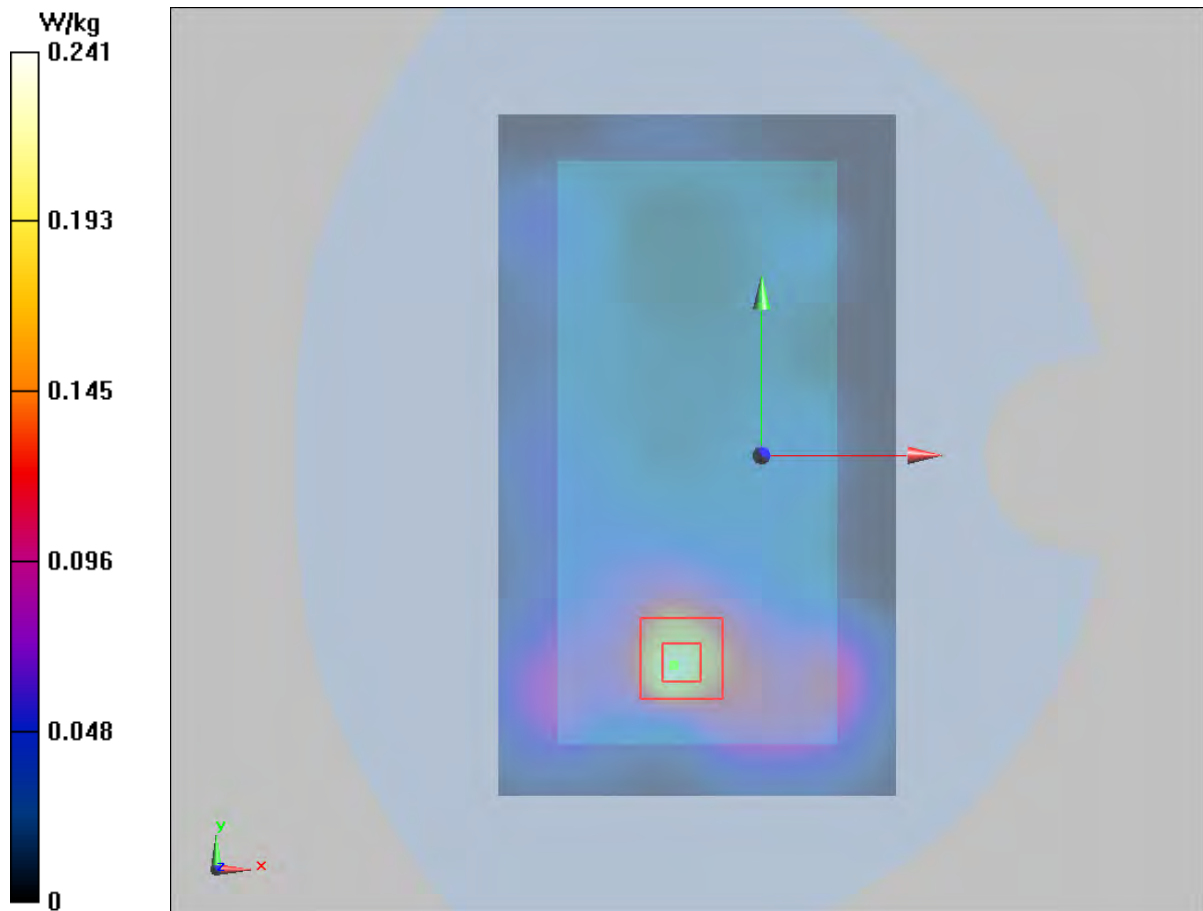
**Front Side High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.526 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.412 W/kg

**SAR(1 g) = 0.211 W/kg; SAR(10 g) = 0.100 W/kg**

Maximum value of SAR (measured) = 0.241 W/kg



**Plot 80 LTE Band 41 1RB Bottom Edge High (Distance 10mm)**

Date: 9/15/2017

Communication System: UID 0, LTE (0); Frequency: 2645 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2645$  MHz;  $\sigma = 2.192$  S/m;  $\epsilon_r = 51.066$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge High/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.537 W/kg

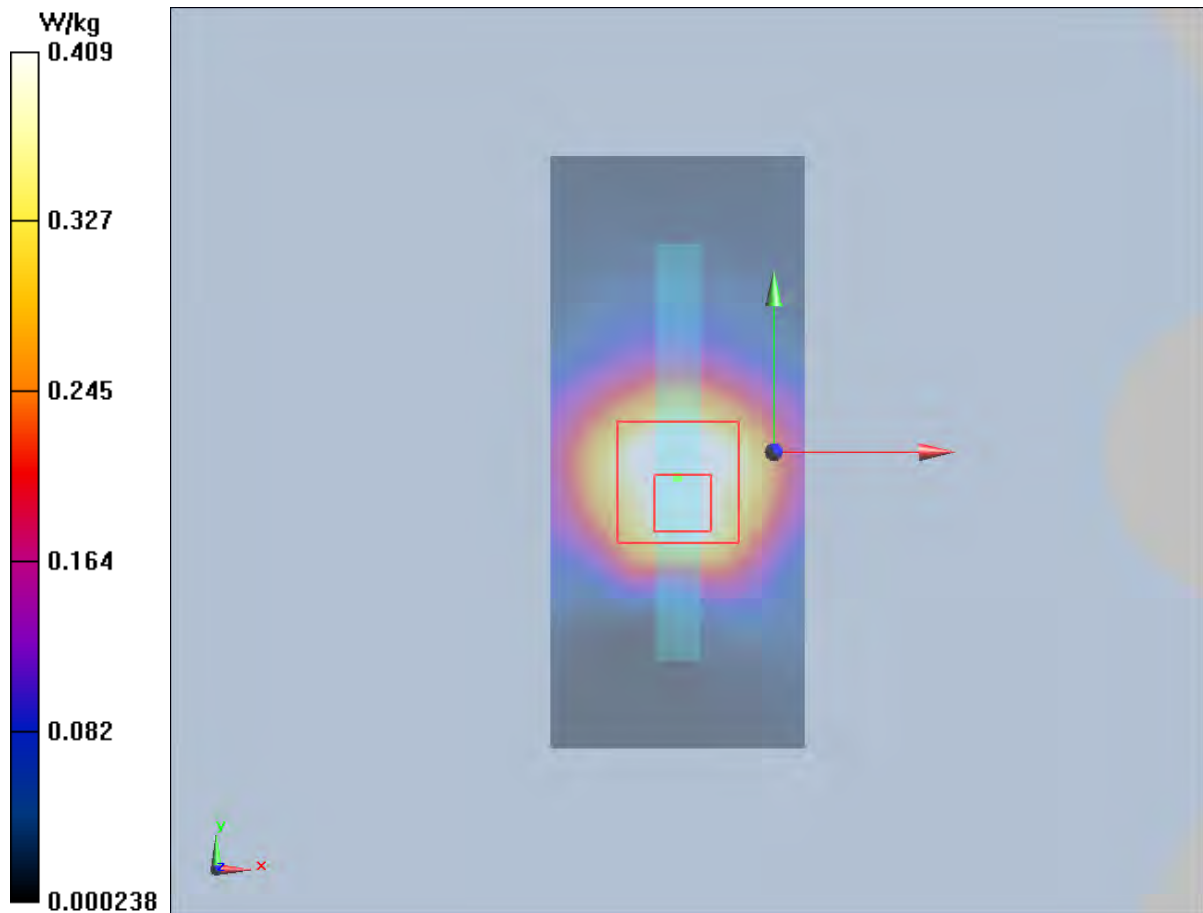
**Bottom Edge High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.81 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.732 W/kg

**SAR(1 g) = 0.377 W/kg; SAR(10 g) = 0.202 W/kg**

Maximum value of SAR (measured) = 0.409 W/kg



**Antenna 2**

**Plot 81 GSM 850 Left Cheek Middle (Single=REC On+Left Head, Battery 2)**

Date: 9/16/2017

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.94$  S/m;  $\epsilon_r = 42.425$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.723 W/kg

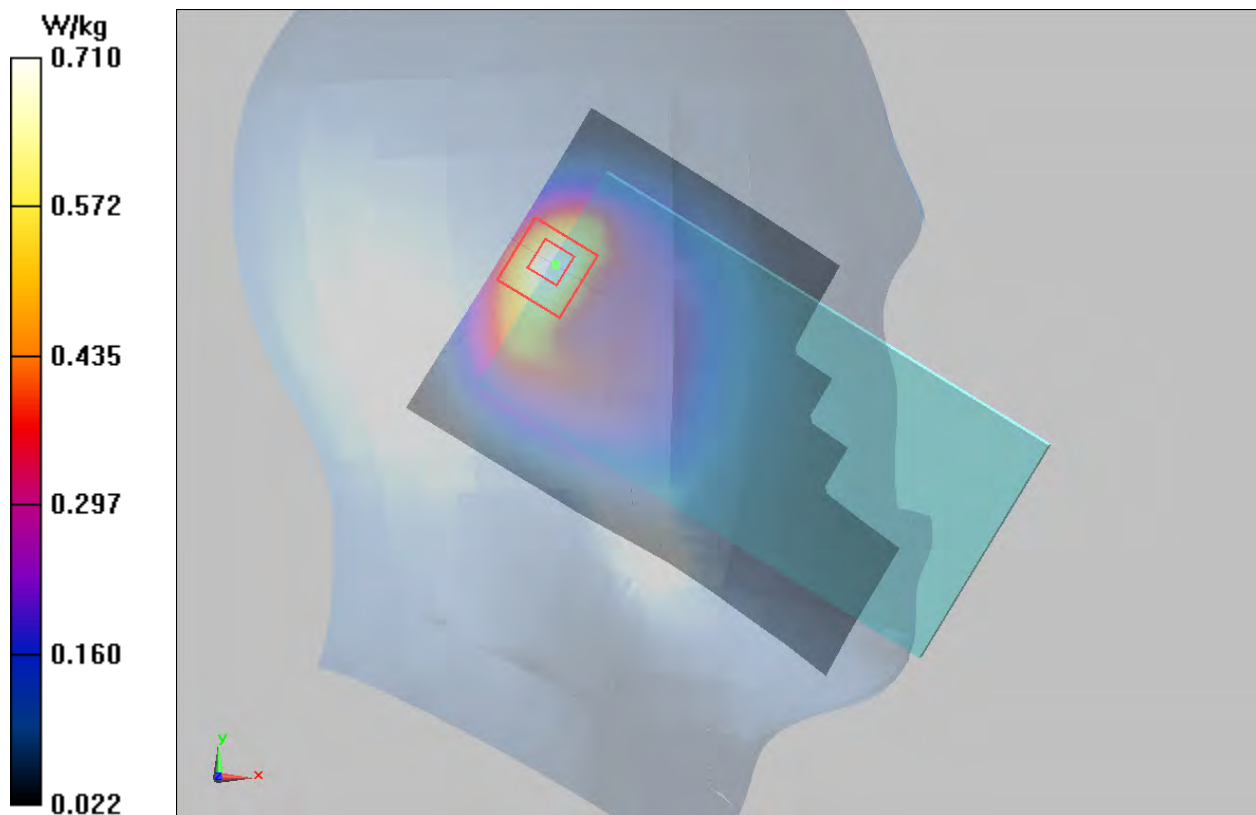
**Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.02 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.22 W/kg

**SAR(1 g) = 0.632 W/kg; SAR(10 g) = 0.335 W/kg**

Maximum value of SAR (measured) = 0.710 W/kg



**Plot 82 GSM 850 Front Side Middle (Single=REC Off, Distance 15mm)**

Date: 9/18/2017

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.013$  S/m;  $\epsilon_r = 55.395$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.1890 W/kg

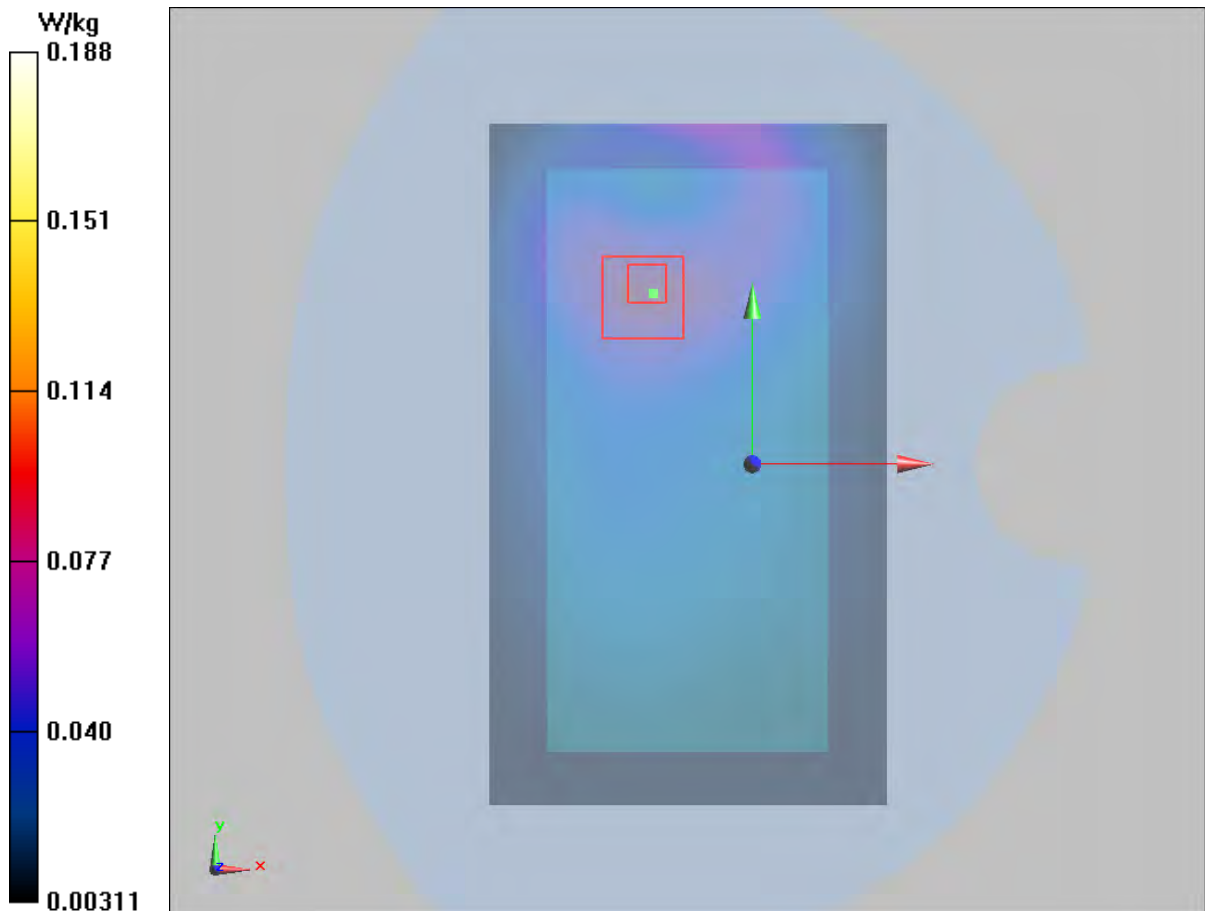
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.698 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.215 W/kg

**SAR(1 g) = 0.184 W/kg; SAR(10 g) = 0.098 W/kg**

Maximum value of SAR (measured) = 0.188 W/kg



**Plot 83 GSM 850 GPRS (2Txslots) Back Side Middle (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/18/2017

Communication System: UID 0, 2 slot GPRS (0); Frequency: 836.6 MHz; Duty Cycle: 1:4.14954

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.013$  S/m;  $\epsilon_r = 55.395$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.247 W/kg

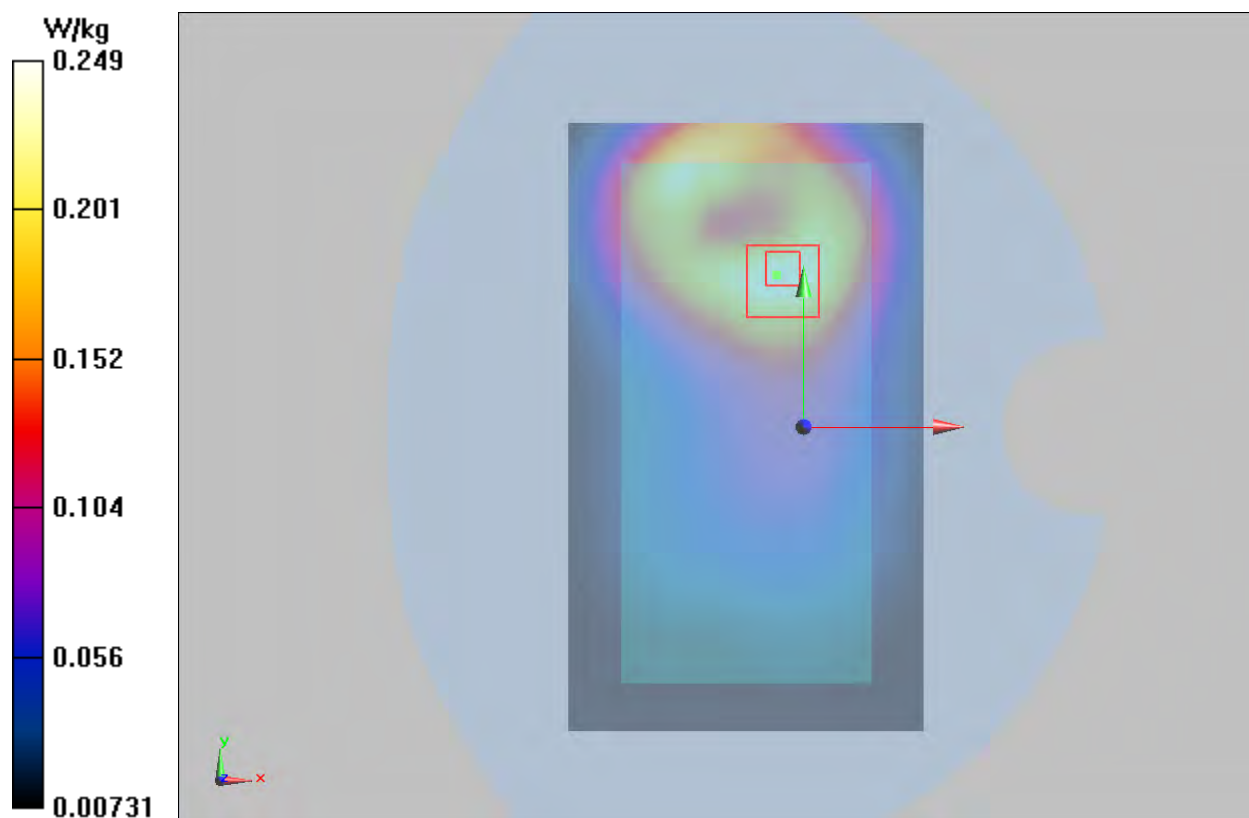
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.268 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.337 W/kg

**SAR(1 g) = 0.235 W/kg; SAR(10 g) = 0.159 W/kg**

Maximum value of SAR (measured) = 0.249 W/kg



**Plot 84 GSM 1900 Left Cheek Middle (Single=REC On+Left Head, Battery 2)**

Date: 9/26/2017

Communication System: UID 0, GSM 1900 (0); Frequency: 1880 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.37$  S/m;  $\epsilon_r = 40.575$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.726 W/kg

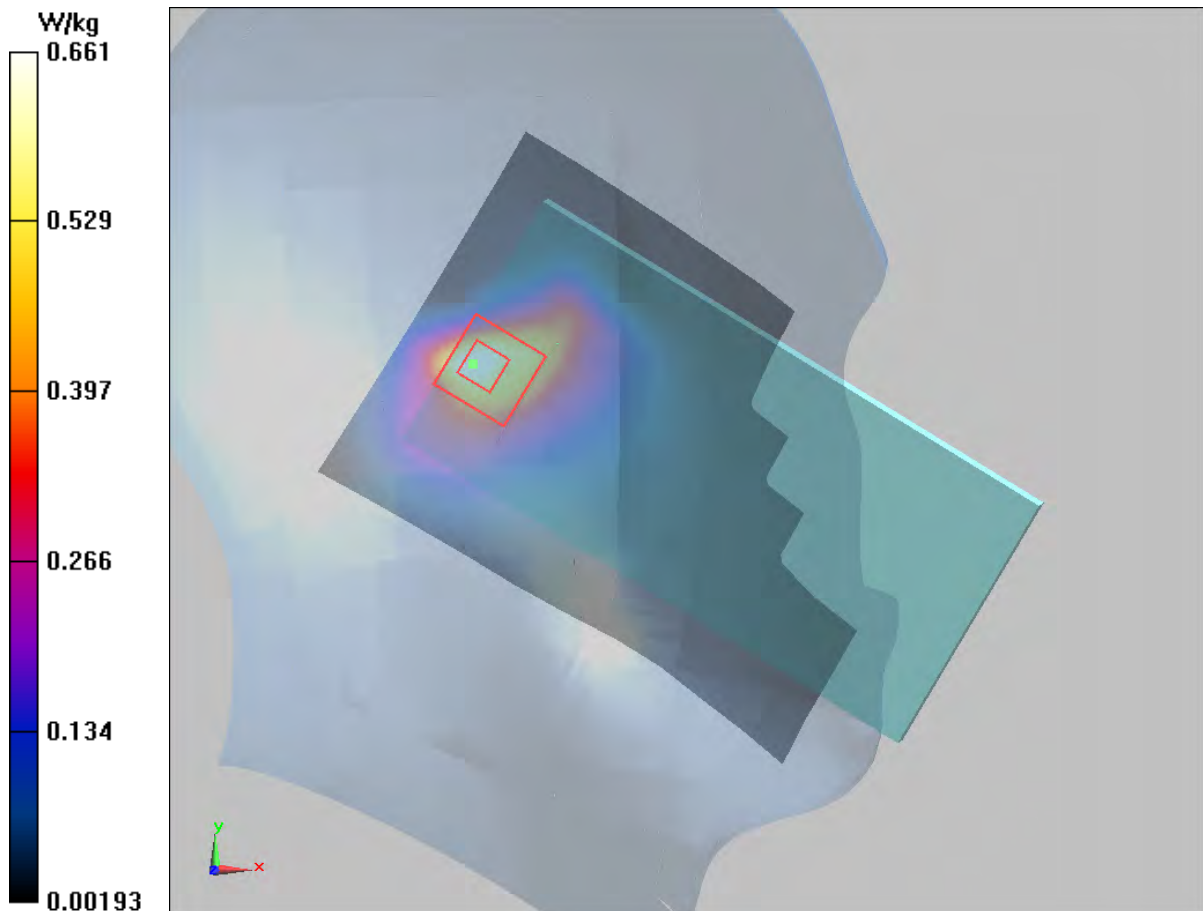
**Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.27 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.967 W/kg

**SAR(1 g) = 0.592 W/kg; SAR(10 g) = 0.324 W/kg**

Maximum value of SAR (measured) = 0.661 W/kg



**Plot 85 GSM 1900 Front Side Middle (Single=REC Off, Distance 15mm)**

Date: 9/22/2017

Communication System: UID 0, GSM 1900 (0); Frequency: 1880 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.154 W/kg

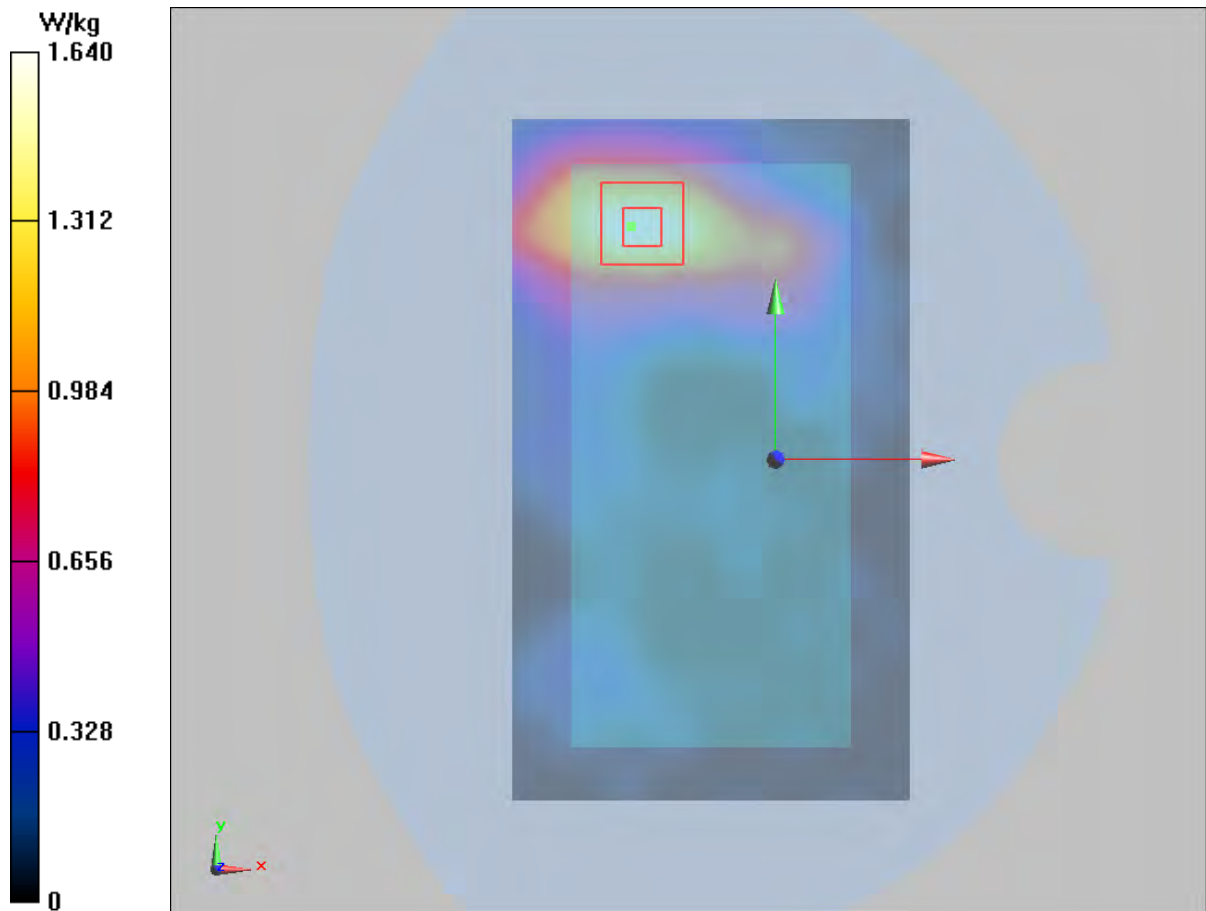
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.389 V/m; Power Drift = -0.062 dB

Peak SAR (extrapolated) = 0.179 W/kg

**SAR(1 g) = 0.142 W/kg; SAR(10 g) = 0.722 W/kg**

Maximum value of SAR (measured) = 1.64 W/kg





**Plot 86 GSM 1900 GPRS (2Txslots) Back Side Middle (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/22/2017

Communication System: UID 0, EGPRS 2TX (0); Frequency: 1880 MHz; Duty Cycle: 1:4.14954

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.186 W/kg

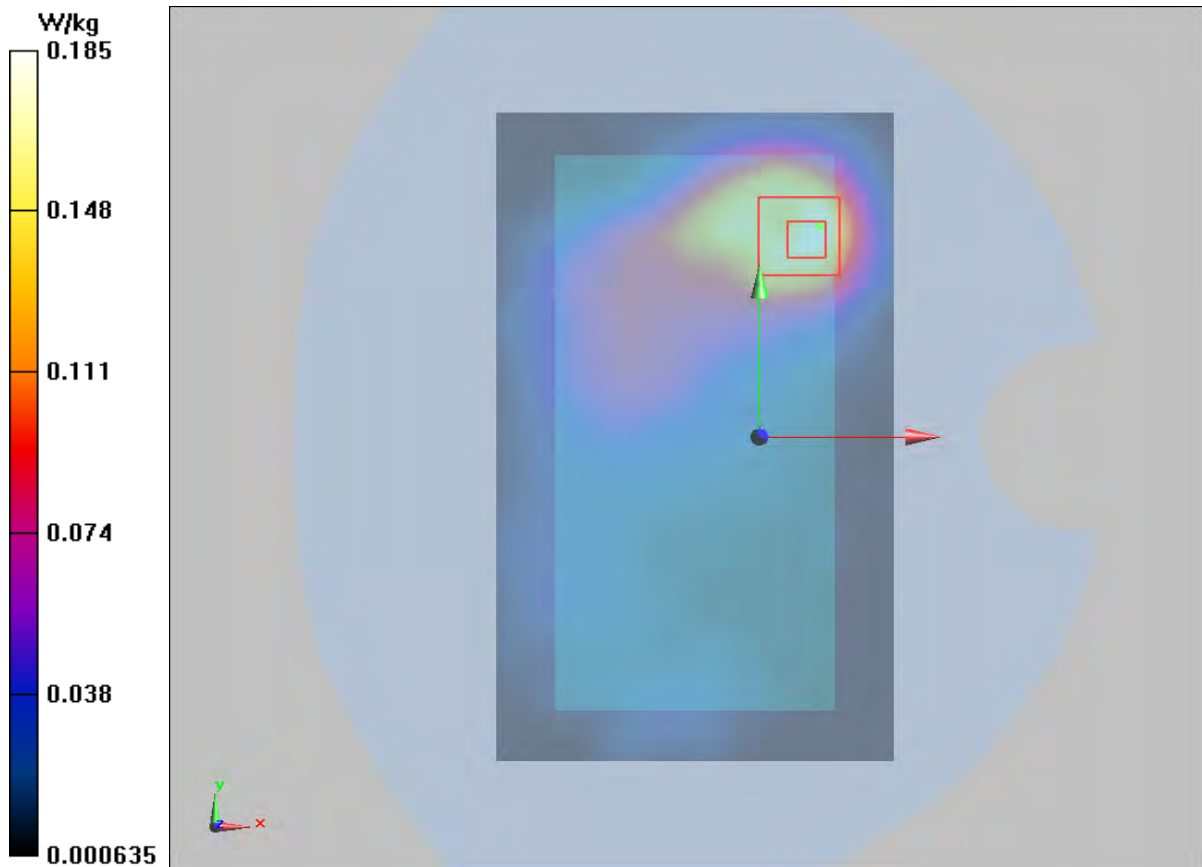
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.520 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.327 W/kg

**SAR(1 g) = 0.172 W/kg; SAR(10 g) = 0.094 W/kg**

Maximum value of SAR (measured) = 0.185 W/kg



**Plot 87 UMTS Band II Left Cheek Middle (Single=REC On+Left Head)**

Date: 9/27/2017

Communication System: UID 0, WCDMA II (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.37$  S/m;  $\epsilon_r = 40.575$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.673 W/kg

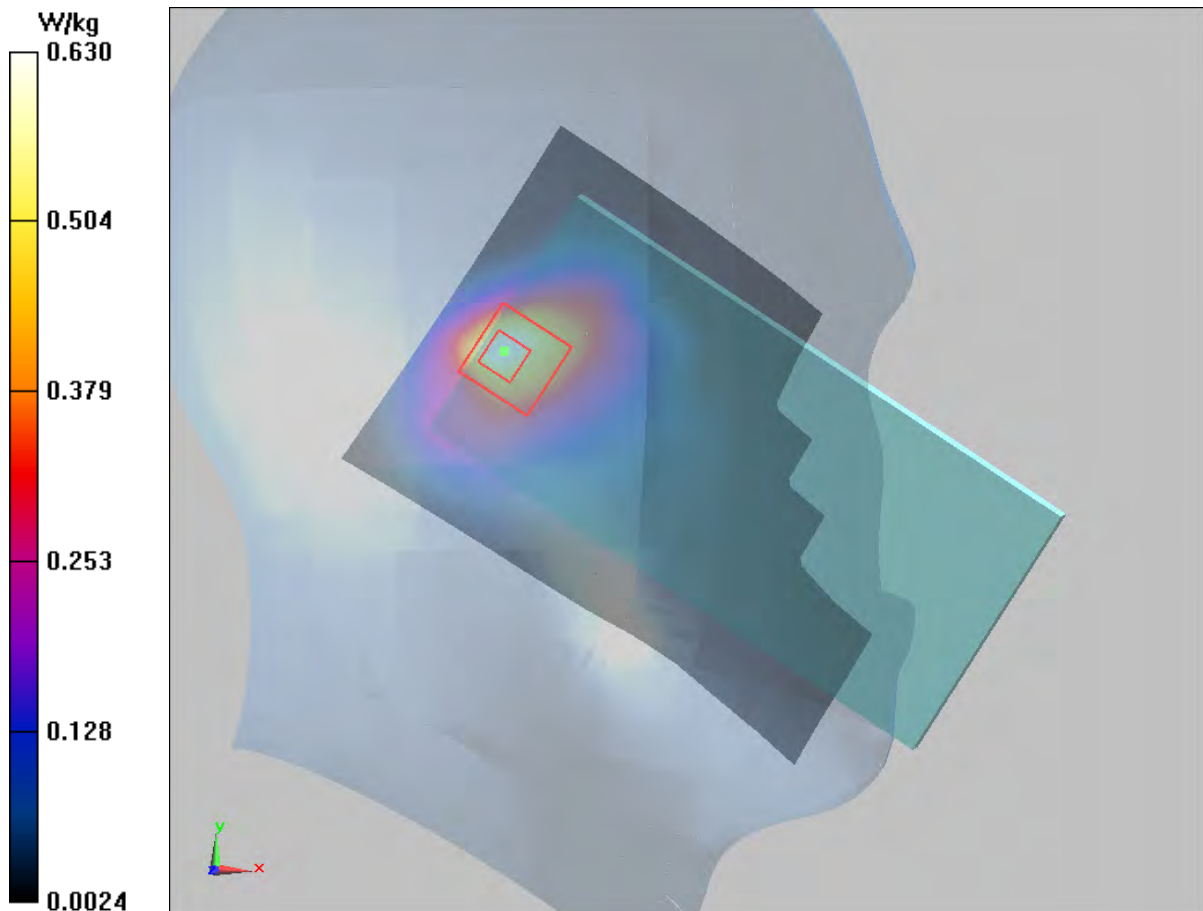
**Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 20.20 V/m; Power Drift = -0.060 dB

Peak SAR (extrapolated) = 0.912 W/kg

**SAR(1 g) = 0.560 W/kg; SAR(10 g) = 0.311 W/kg**

Maximum value of SAR (measured) = 0.630 W/kg



**Plot 88 UMTS Band II Back Side Middle (Single=REC Off, Distance 15mm)**

Date: 9/22/2017

Communication System: UID 0, WCDMA II (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.282 W/kg

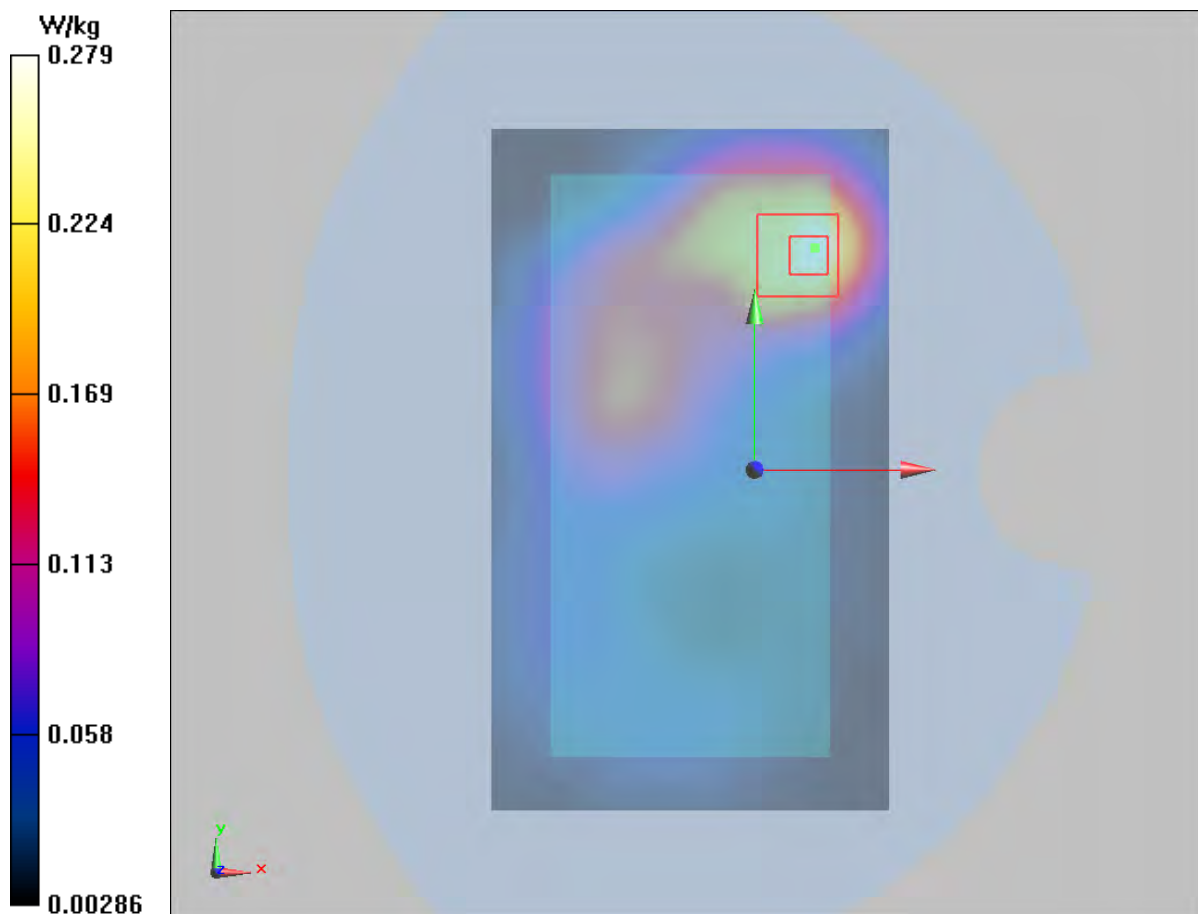
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.622 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.444 W/kg

**SAR(1 g) = 0.253 W/kg; SAR(10 g) = 0.142 W/kg**

Maximum value of SAR (measured) = 0.279 W/kg



**Plot 89 UMTS Band II Front Side Middle (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/22/2017

Communication System: UID 0, WCDMA II (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.250 W/kg

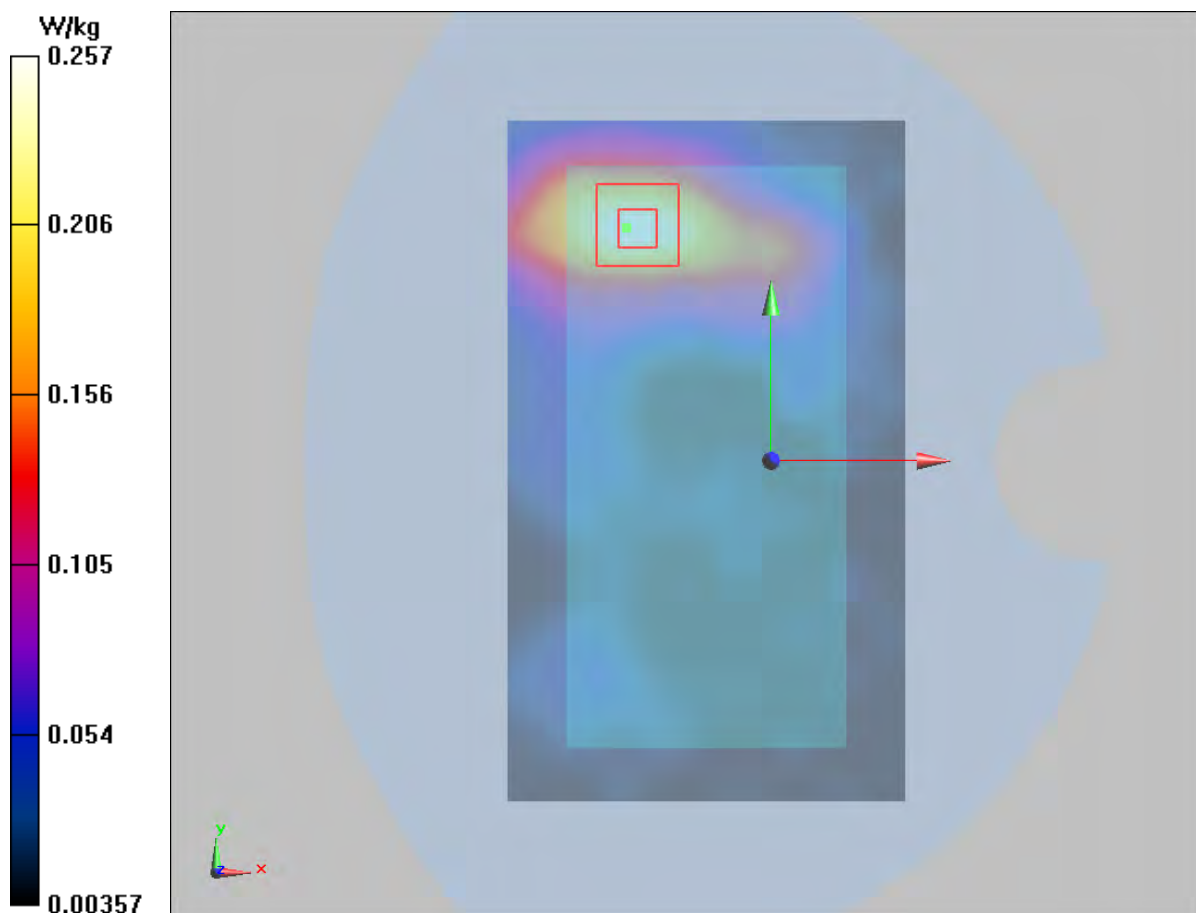
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.959 V/m; Power Drift = -0.032 dB

Peak SAR (extrapolated) = 0.439 W/kg

**SAR(1 g) = 0.230 W/kg; SAR(10 g) = 0.121 W/kg**

Maximum value of SAR (measured) = 0.257 W/kg



**Plot 90 UMTS Band IV Right Cheek Middle (Single=REC On+ Right Head, Battery 3)**

Date: 9/21/2017

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733 \text{ MHz}$ ;  $\sigma = 1.351 \text{ S/m}$ ;  $\epsilon_r = 38.755$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.60, 8.60, 8.60); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.784 \text{ W/kg}$

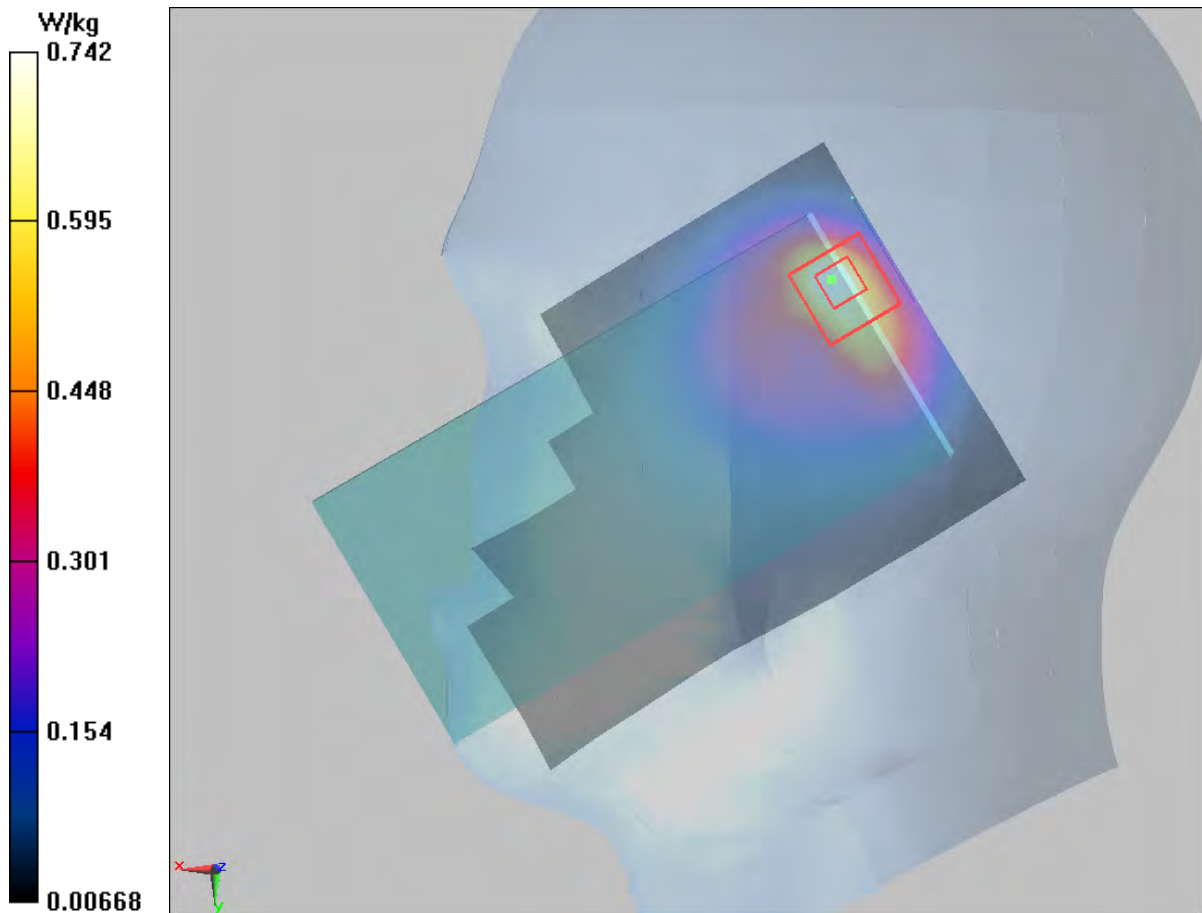
**Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $15.11 \text{ V/m}$ ; Power Drift =  $0.03 \text{ dB}$

Peak SAR (extrapolated) =  $1.31 \text{ W/kg}$

**SAR(1 g) =  $0.612 \text{ W/kg}$ ; SAR(10 g) =  $0.324 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.742 \text{ W/kg}$



**Plot 91 UMTS Band IV Back Side Middle (Single=REC Off, Distance 15mm)**

Date: 9/17/2017

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.418$  S/m;  $\epsilon_r = 51.915$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.322 W/kg

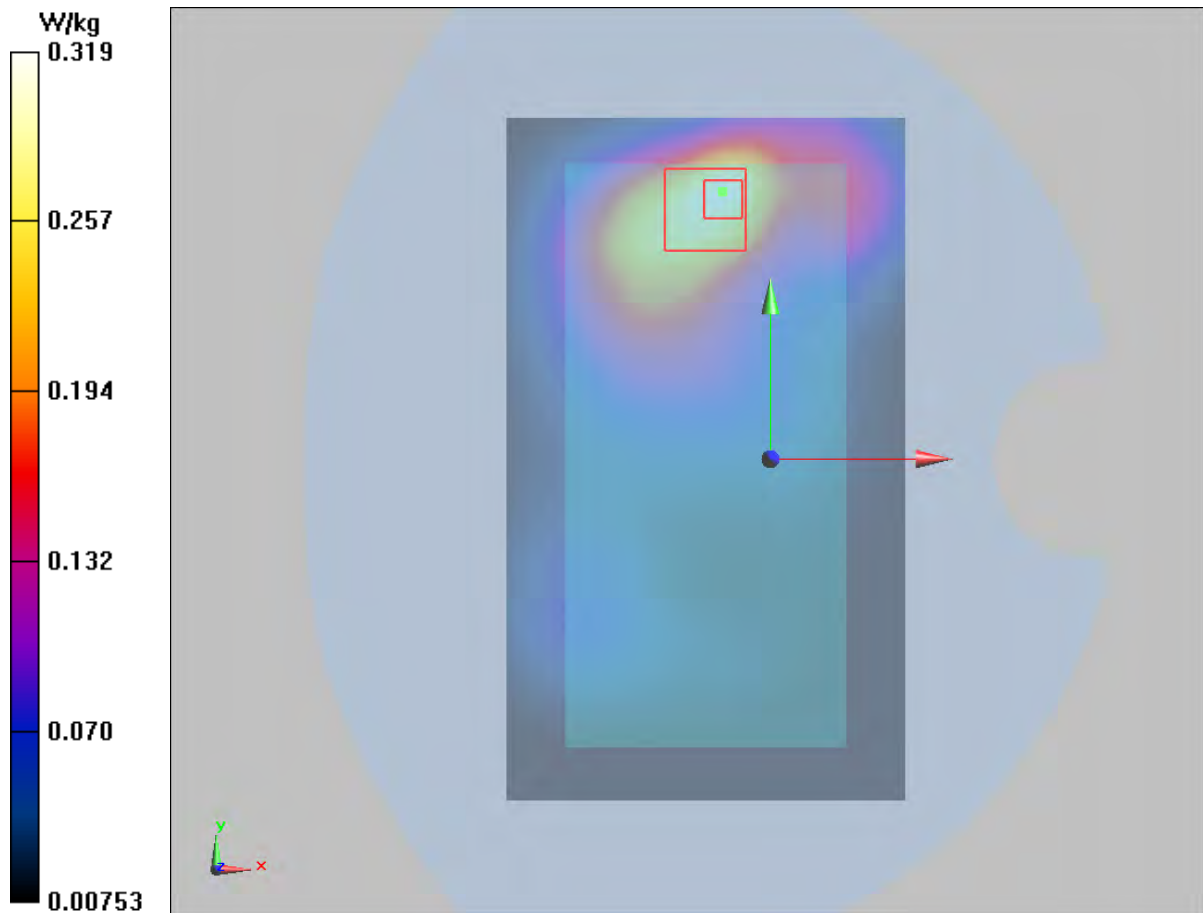
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.796 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.438 W/kg

**SAR(1 g) = 0.292 W/kg; SAR(10 g) = 0.184 W/kg**

Maximum value of SAR (measured) = 0.319 W/kg



**Plot 92 UMTS Band IV Back Side Middle (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/17/2017

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733 \text{ MHz}$ ;  $\sigma = 1.418 \text{ S/m}$ ;  $\epsilon_r = 51.915$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.337 \text{ W/kg}$

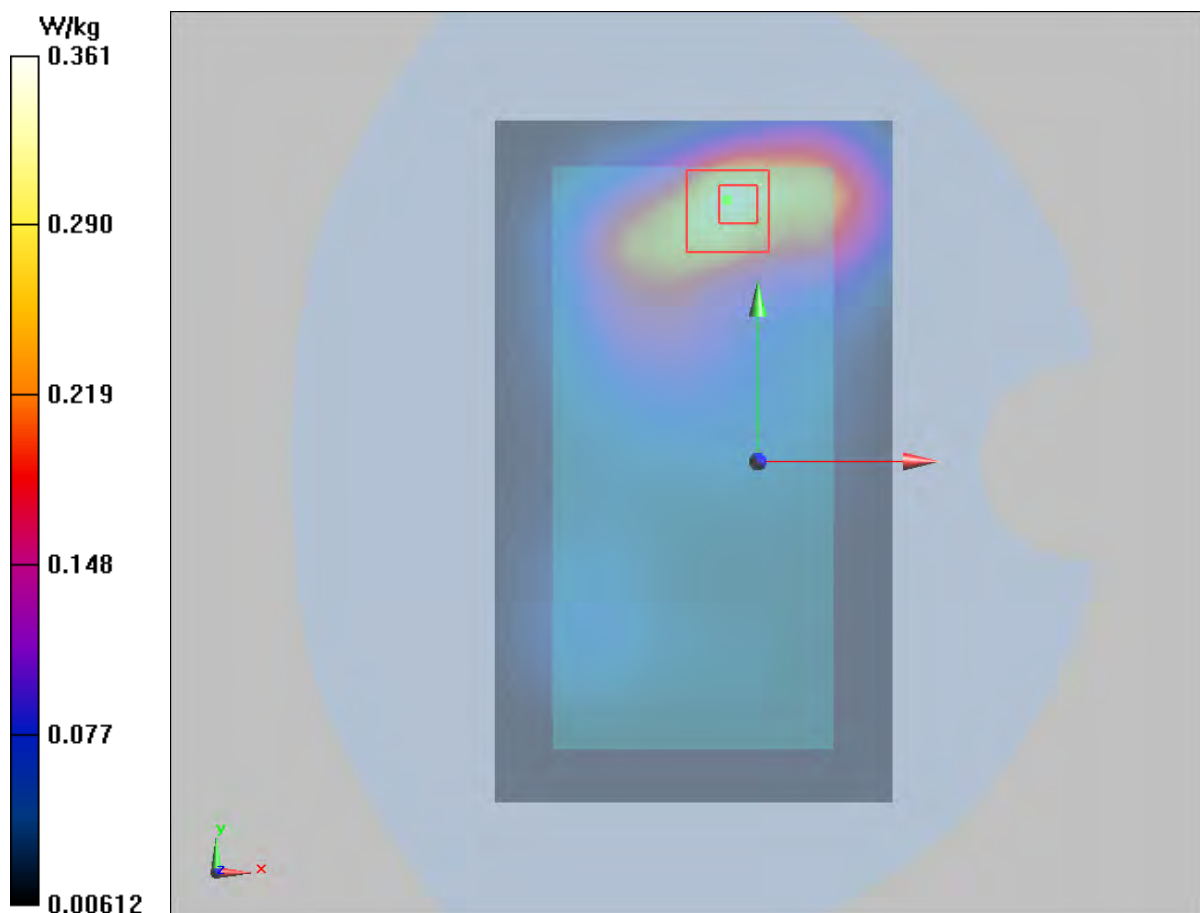
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $5.522 \text{ V/m}$ ; Power Drift =  $0.021 \text{ dB}$

Peak SAR (extrapolated) =  $0.511 \text{ W/kg}$

**SAR(1 g) =  $0.332 \text{ W/kg}$ ; SAR(10 g) =  $0.197 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.361 \text{ W/kg}$



**Plot 93 UMTS Band V Left Cheek Middle (Single=REC On+Left Head, Battery 2)**

Date: 9/16/2017

Communication System: UID 0, WCDMA V (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.94$  S/m;  $\epsilon_r = 42.425$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.767 W/kg

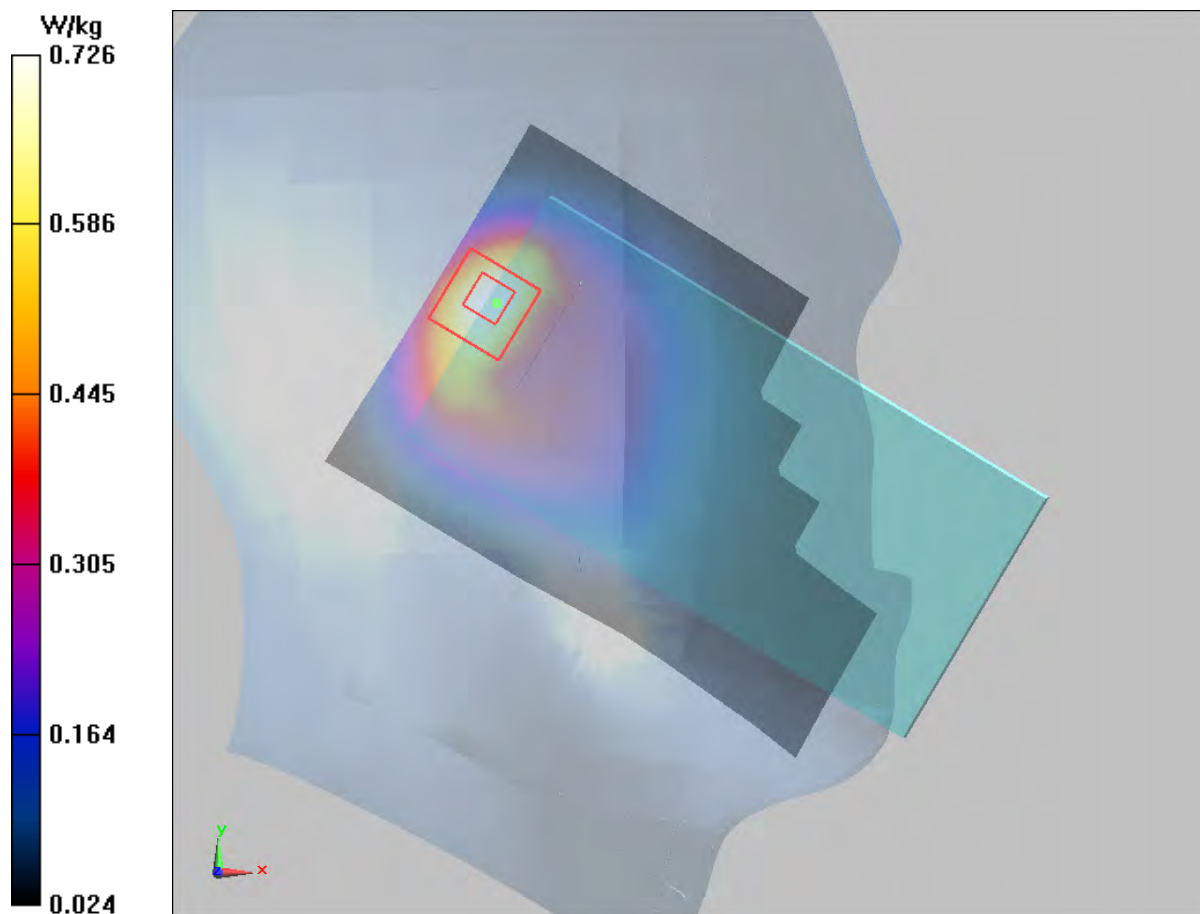
**Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.86 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.30 W/kg

**SAR(1 g) = 0.669 W/kg; SAR(10 g) = 0.353 W/kg**

Maximum value of SAR (measured) = 0.726 W/kg





**Plot 94 UMTS Band V Front Side Middle (Single=REC Off, Distance 15mm)**

Date: 9/18/2017

Communication System: UID 0, WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.013$  S/m;  $\epsilon_r = 55.395$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.272 W/kg

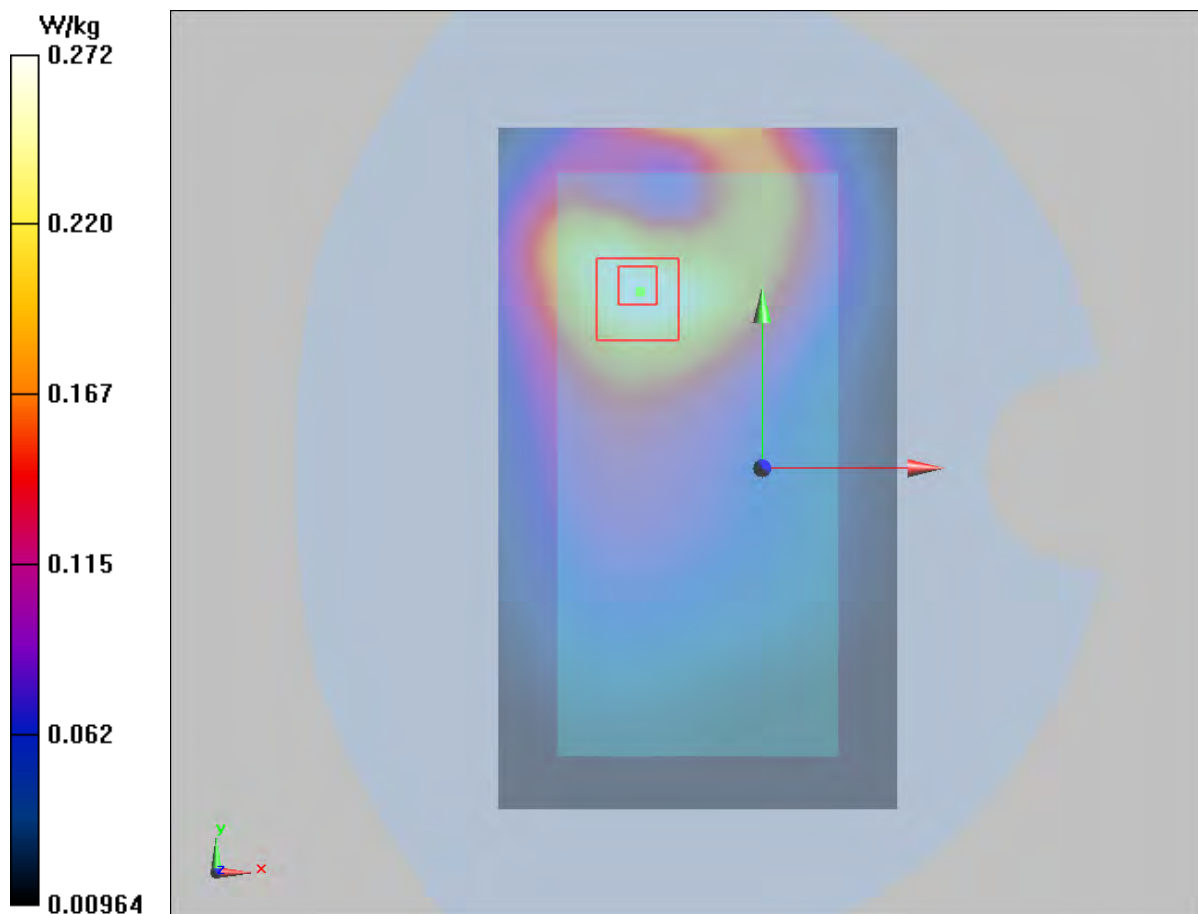
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.644 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.350 W/kg

**SAR(1 g) = 0.257 W/kg; SAR(10 g) = 0.178 W/kg**

Maximum value of SAR (measured) = 0.272 W/kg



**Plot 95 UMTS Band V Front Side Middle (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/18/2017

Communication System: UID 0, WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.013$  S/m;  $\epsilon_r = 55.395$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.245 W/kg

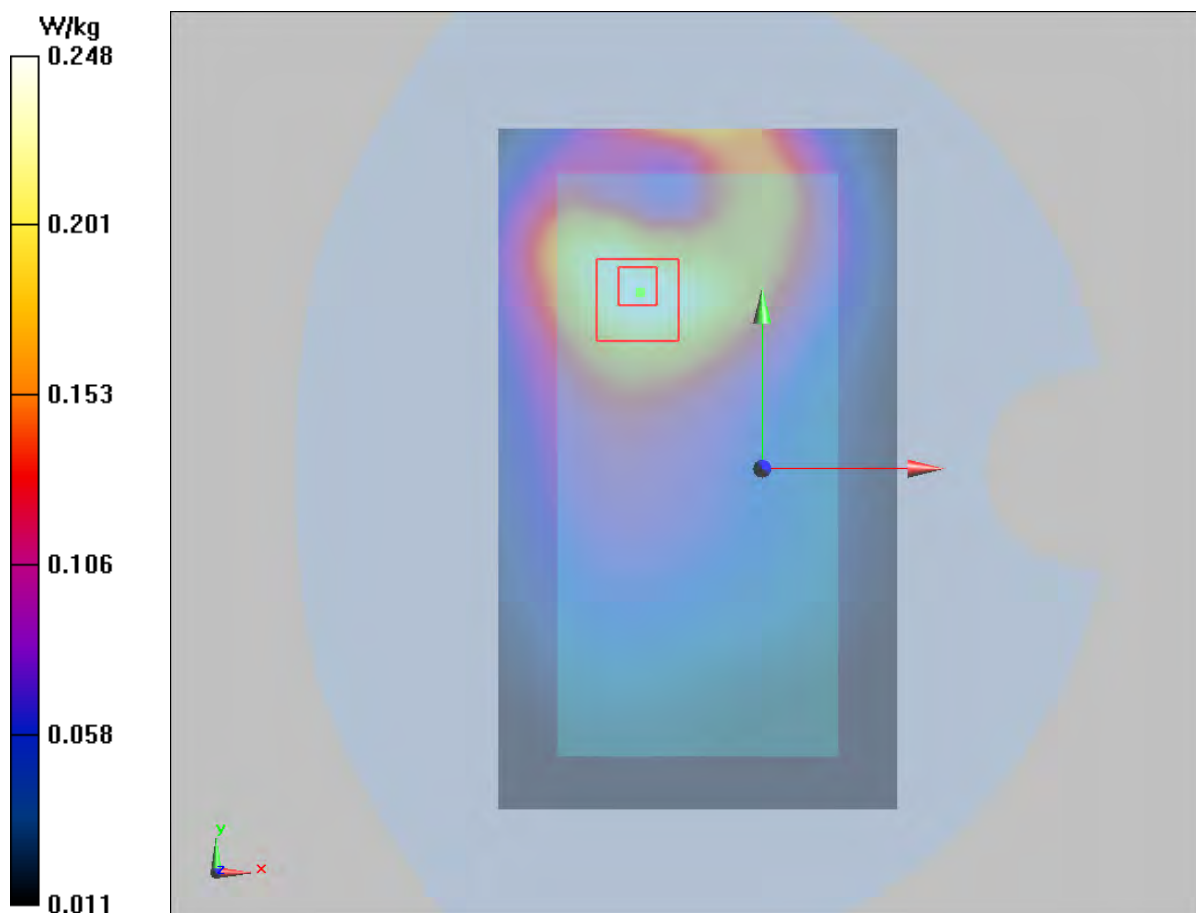
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.908 V/m; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 0.372 W/kg

**SAR(1 g) = 0.229 W/kg; SAR(10 g) = 0.134 W/kg**

Maximum value of SAR (measured) = 0.248 W/kg



**Plot 96 LTE Band 2 1RB Left Cheek High (Single=REC On+Left Head, Battery 3)**

Date: 9/27/2017

Communication System: UID 0, LTE (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.39$  S/m;  $\epsilon_r = 40.508$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.01 W/kg

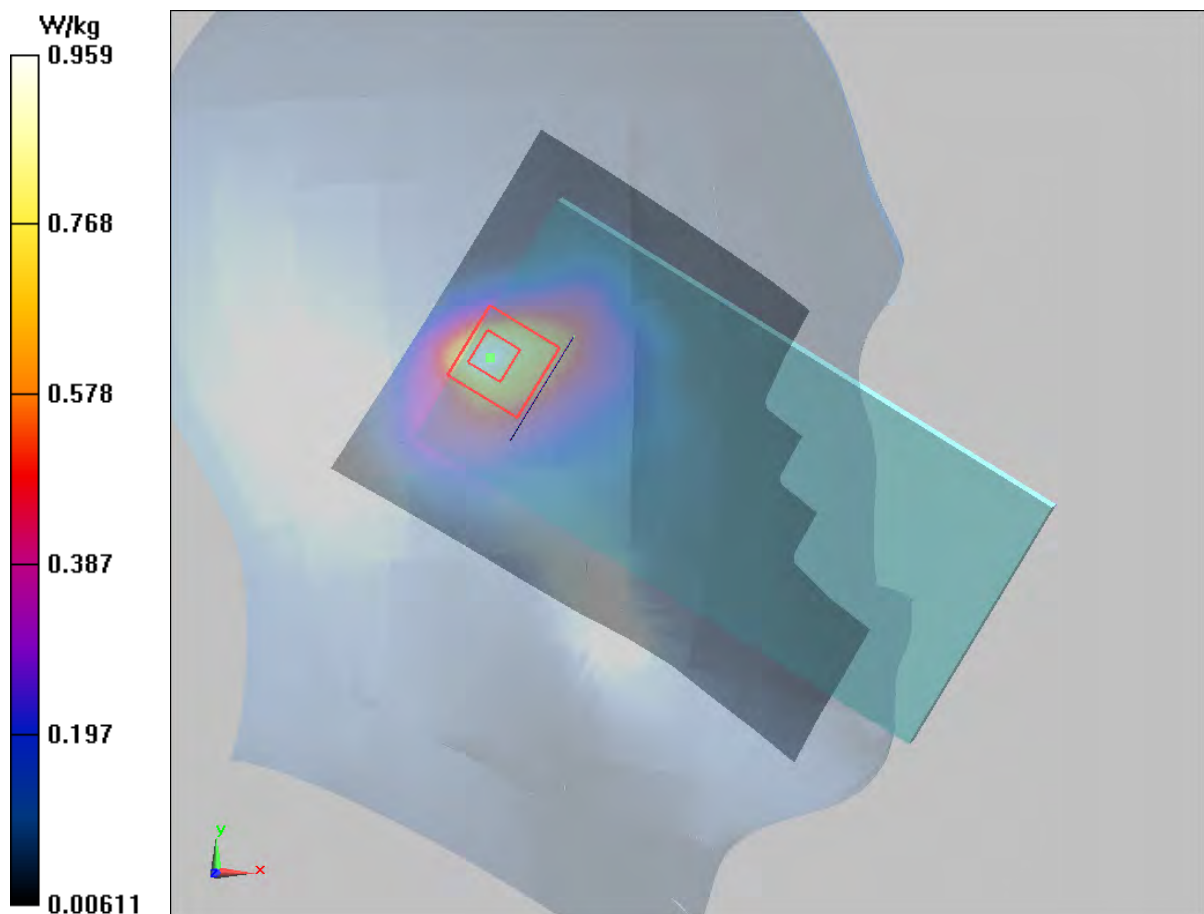
**Left Cheek High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.97 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.38 W/kg

**SAR(1 g) = 0.851 W/kg; SAR(10 g) = 0.470 W/kg**

Maximum value of SAR (measured) = 0.959 W/kg



**Plot 97 LTE Band 2 50%RB Back Side High (Single=REC Off, Distance 15mm)**

Date: 9/22/2017

Communication System: UID 0, LTE (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.509$  S/m;  $\epsilon_r = 51.148$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.246 W/kg

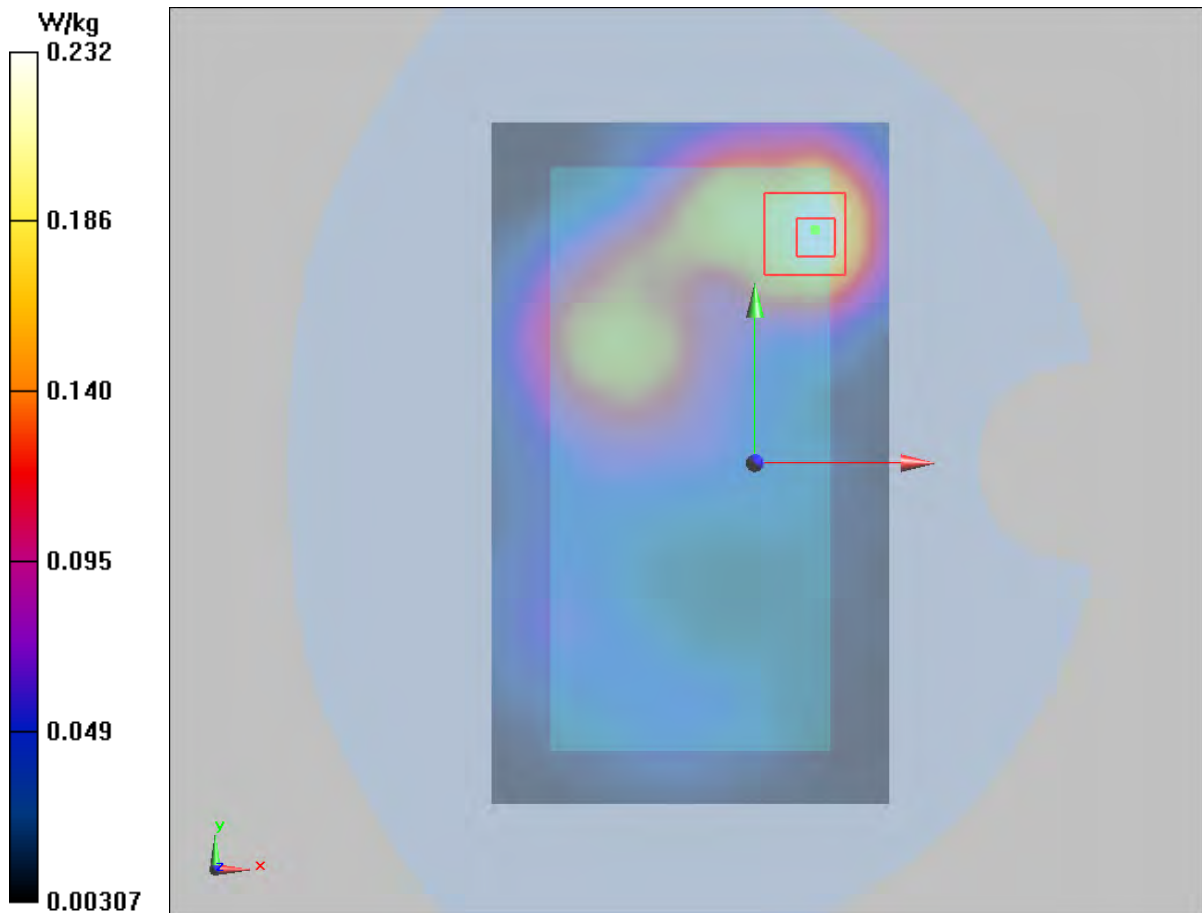
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.482 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.365 W/kg

**SAR(1 g) = 0.212 W/kg; SAR(10 g) = 0.121 W/kg**

Maximum value of SAR (measured) = 0.232 W/kg



**Plot 98 LTE Band 2 1RB Back Side Middle (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/22/2017

Communication System: UID 0, LTE (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.317 W/kg

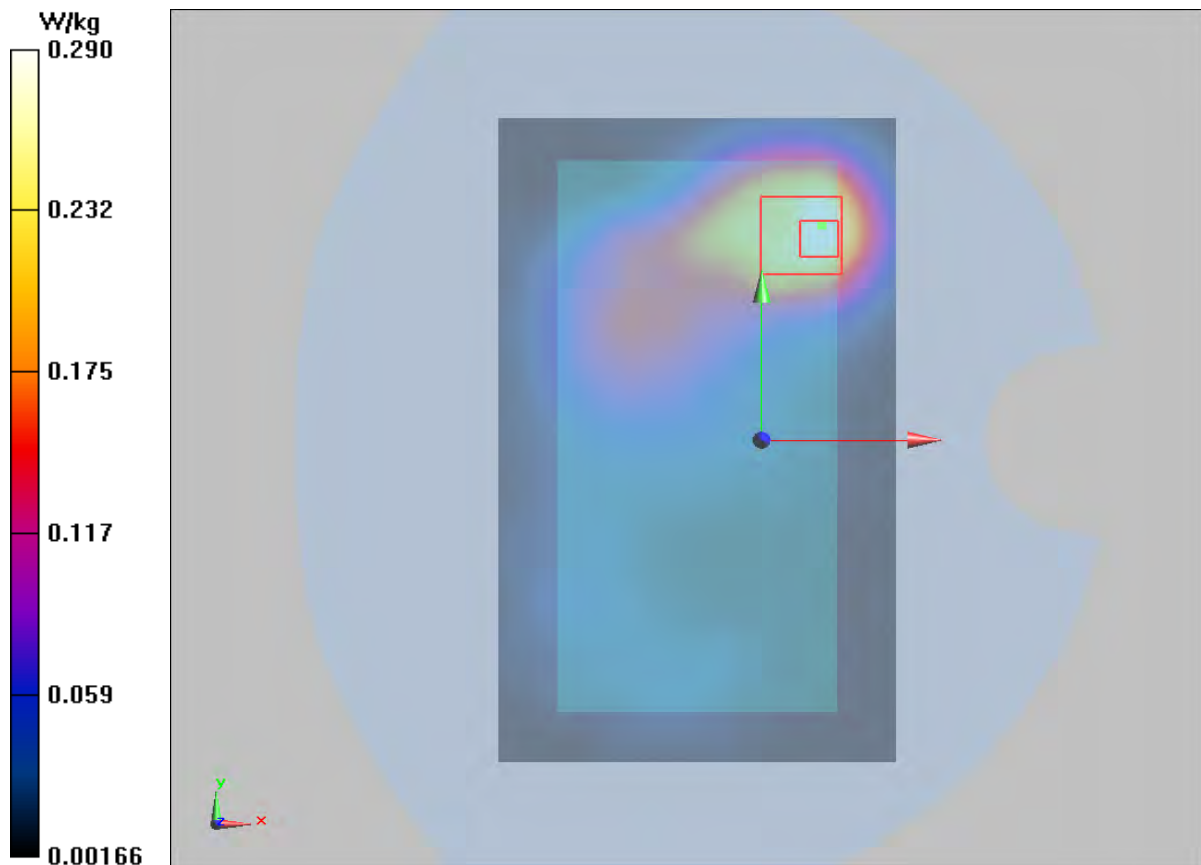
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.496 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.507 W/kg

**SAR(1 g) = 0.268 W/kg; SAR(10 g) = 0.146 W/kg**

Maximum value of SAR (measured) = 0.290 W/kg



**Plot 99 LTE Band 4 50%RB Left Cheek Low (Single=REC On+Left Head, Battery 3)**

Date: 9/21/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1720$  MHz;  $\sigma = 1.336$  S/m;  $\epsilon_r = 38.677$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.60, 8.60, 8.60); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.564 W/kg

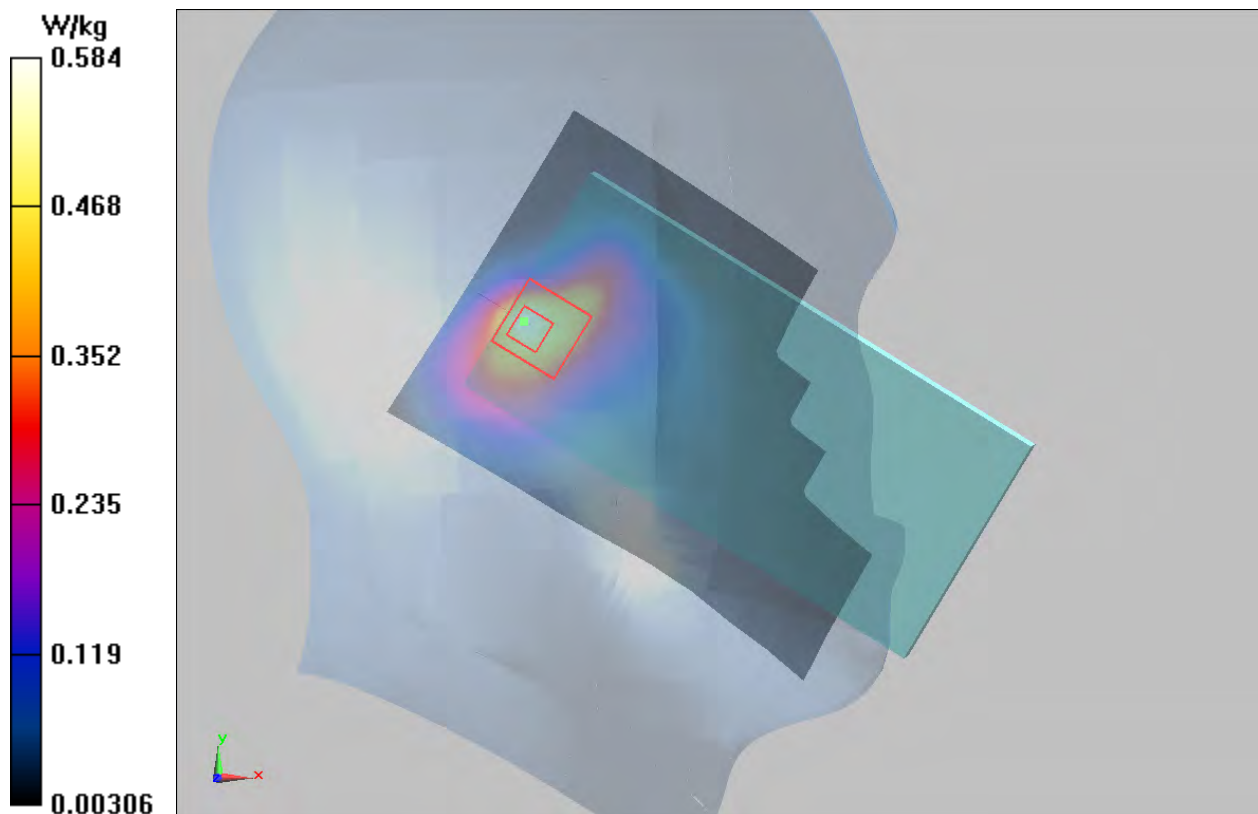
**Left Cheek Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.21 V/m; Power Drift = -0.021 dB

Peak SAR (extrapolated) = 0.892 W/kg

**SAR(1 g) = 0.539 W/kg; SAR(10 g) = 0.294 W/kg**

Maximum value of SAR (measured) = 0.584 W/kg



**Plot 100 LTE Band 4 50%RB Back Side Low (Single=REC Off, Distance 15mm)**

Date: 9/17/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1720$  MHz;  $\sigma = 1.406$  S/m;  $\epsilon_r = 51.959$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.199 W/kg

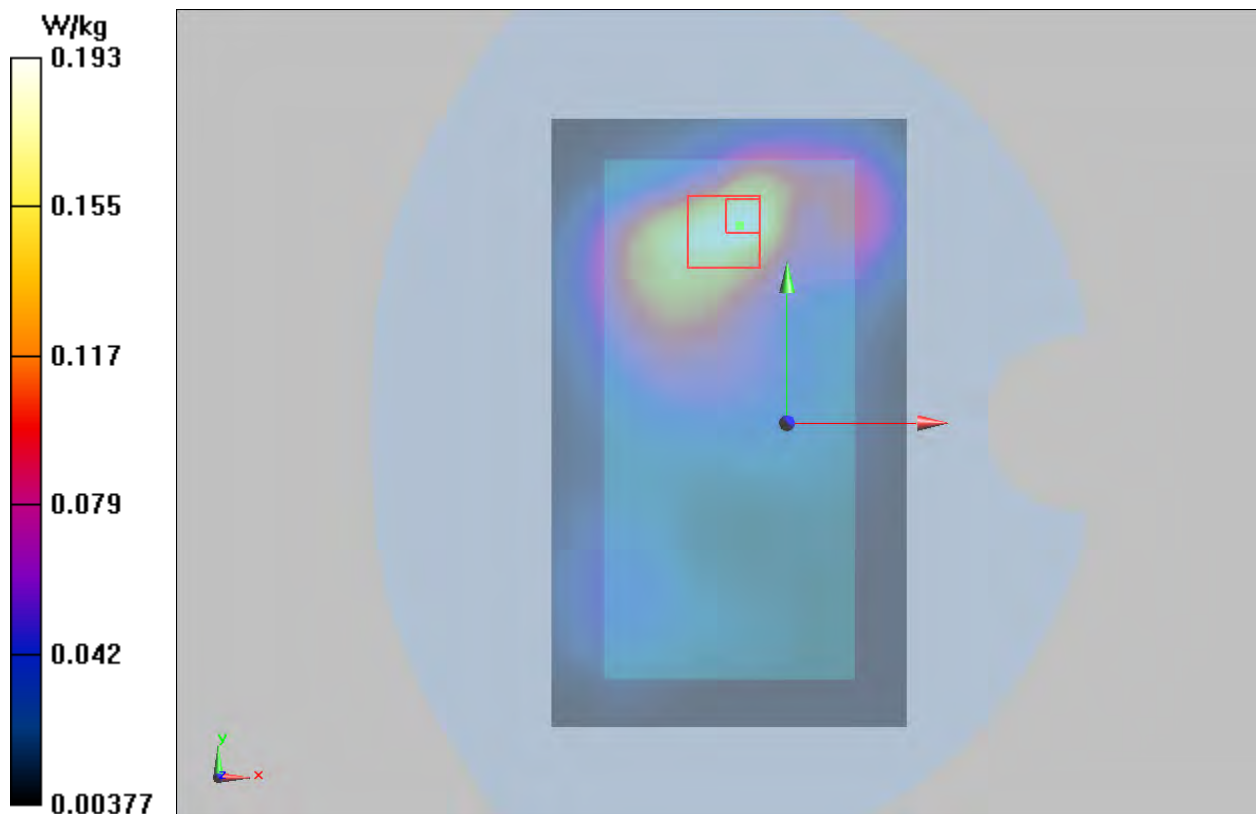
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.524 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.274 W/kg

**SAR(1 g) = 0.180 W/kg; SAR(10 g) = 0.112 W/kg**

Maximum value of SAR (measured) = 0.193 W/kg



**Plot 101 LTE Band 4 50%RB Back Side Low (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/17/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 1720 MHz;Duty Cycle: 1:1

Medium parameters used:  $f = 1720$  MHz;  $\sigma = 1.406$  S/m;  $\epsilon_r = 51.959$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature:22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.221 W/kg

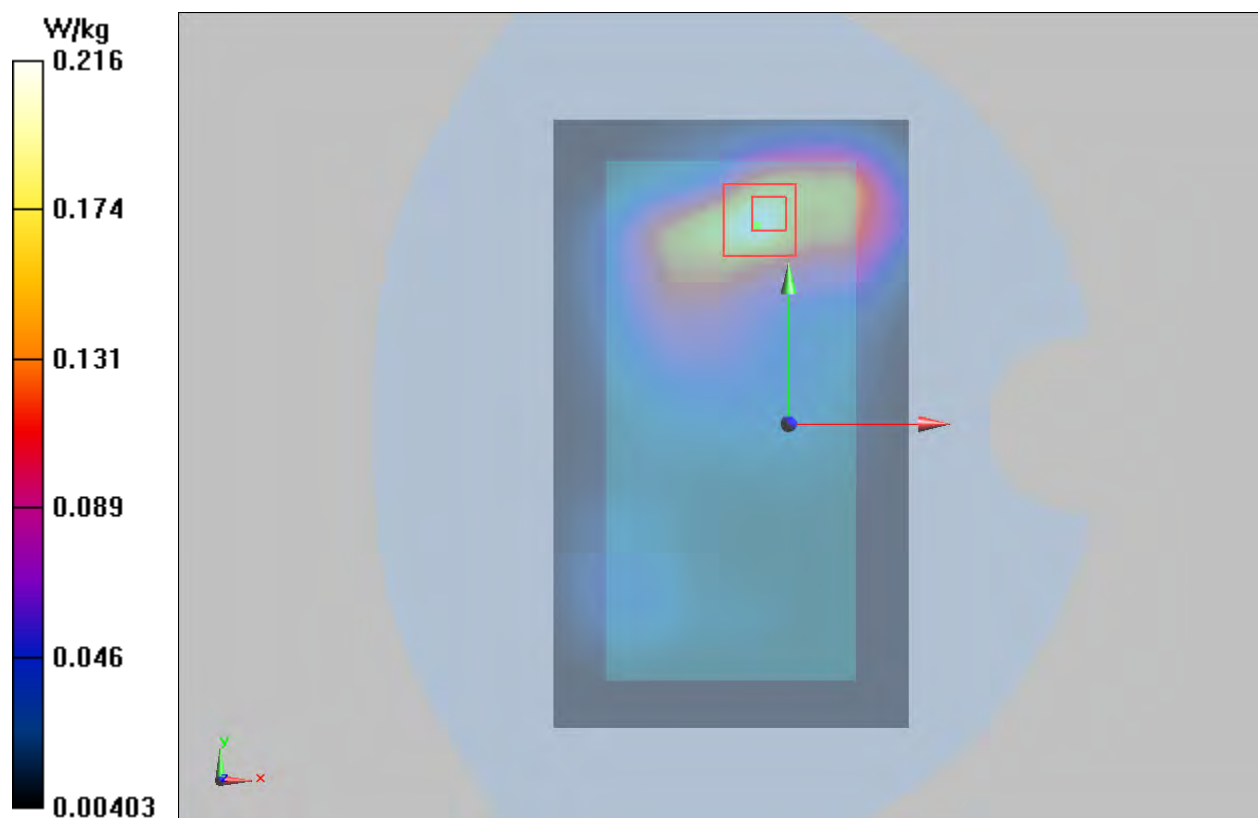
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.939 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.325 W/kg

**SAR(1 g) = 0.209 W/kg; SAR(10 g) = 0.121 W/kg**

Maximum value of SAR (measured) = 0.216 W/kg





**Plot 102 LTE Band 5 50%RB Right Cheek High (Single=REC On+ Right Head)**

Date: 9/16/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 844 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 844$  MHz;  $\sigma = 0.946$  S/m;  $\epsilon_r = 42.338$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.811 W/kg

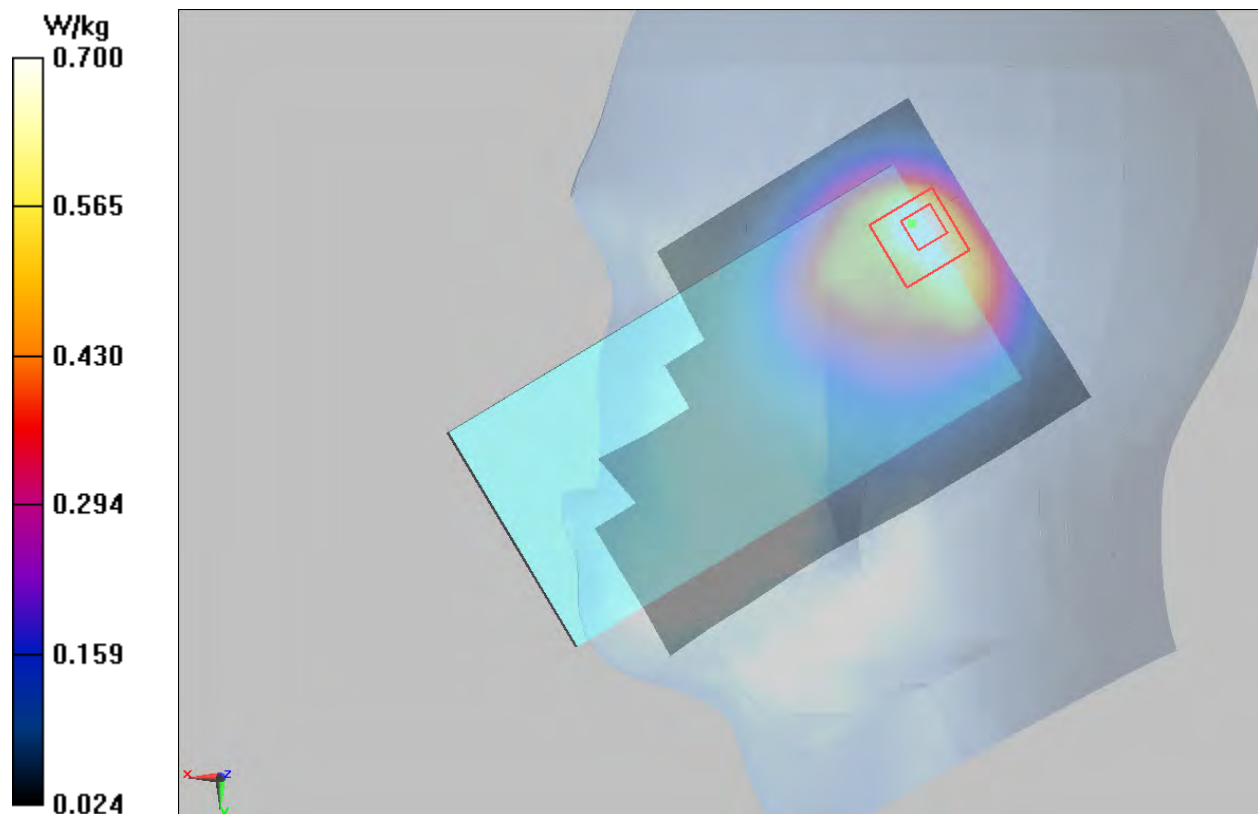
**Right Cheek High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.52 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.34 W/kg

**SAR(1 g) = 0.643 W/kg; SAR(10 g) = 0.355 W/kg**

Maximum value of SAR (measured) = 0.700 W/kg



**Plot 103 LTE Band 5 1RB Front Side High (Single=REC Off, Distance 15mm)**

Date: 9/18/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 844 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 844 \text{ MHz}$ ;  $\sigma = 1.021 \text{ S/m}$ ;  $\epsilon_r = 55.319$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side High/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.240 \text{ W/kg}$

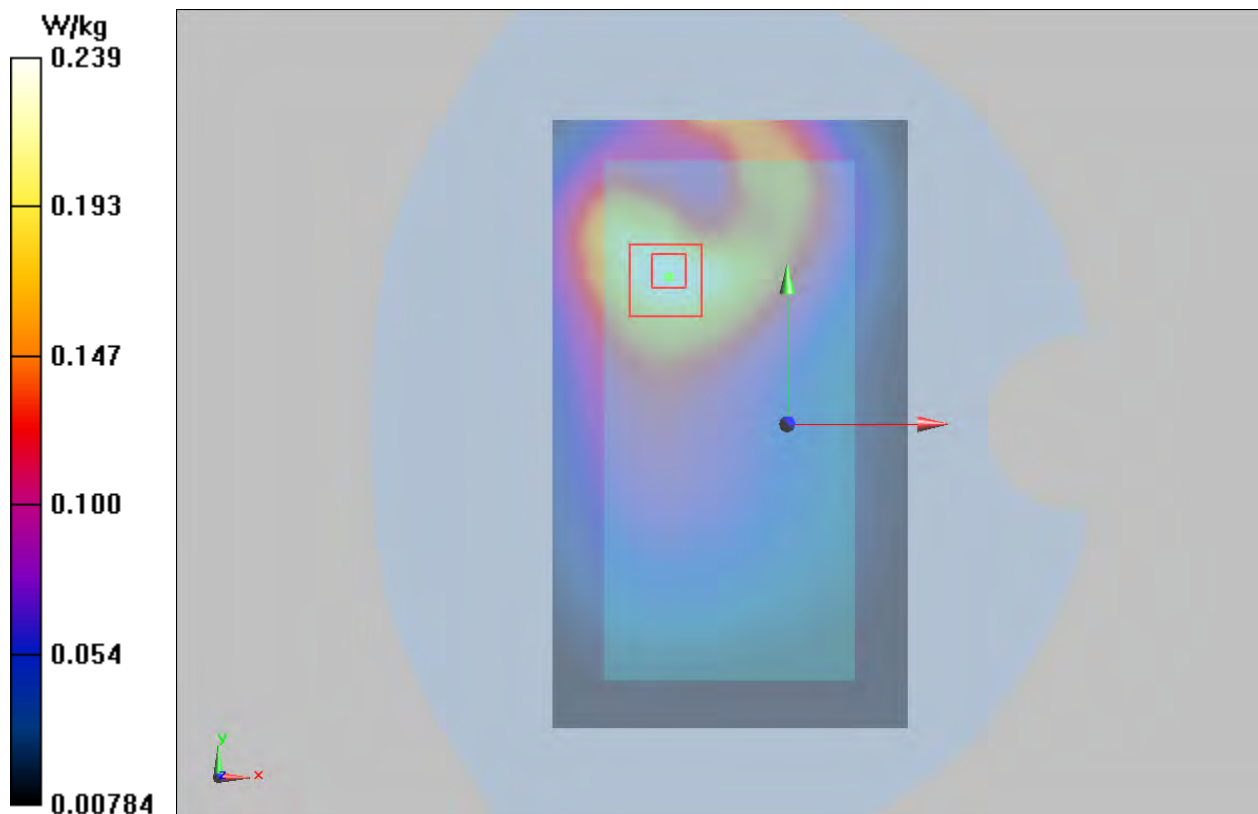
**Front Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $9.181 \text{ V/m}$ ; Power Drift =  $0.04 \text{ dB}$

Peak SAR (extrapolated) =  $0.304 \text{ W/kg}$

**SAR(1 g) =  $0.225 \text{ W/kg}$ ; SAR(10 g) =  $0.156 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.239 \text{ W/kg}$



## Plot 104 LTE Band 5 1RB Front Side High (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)

Date: 9/18/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 844 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 844$  MHz;  $\sigma = 1.021$  S/m;  $\epsilon_r = 55.319$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.222 W/kg

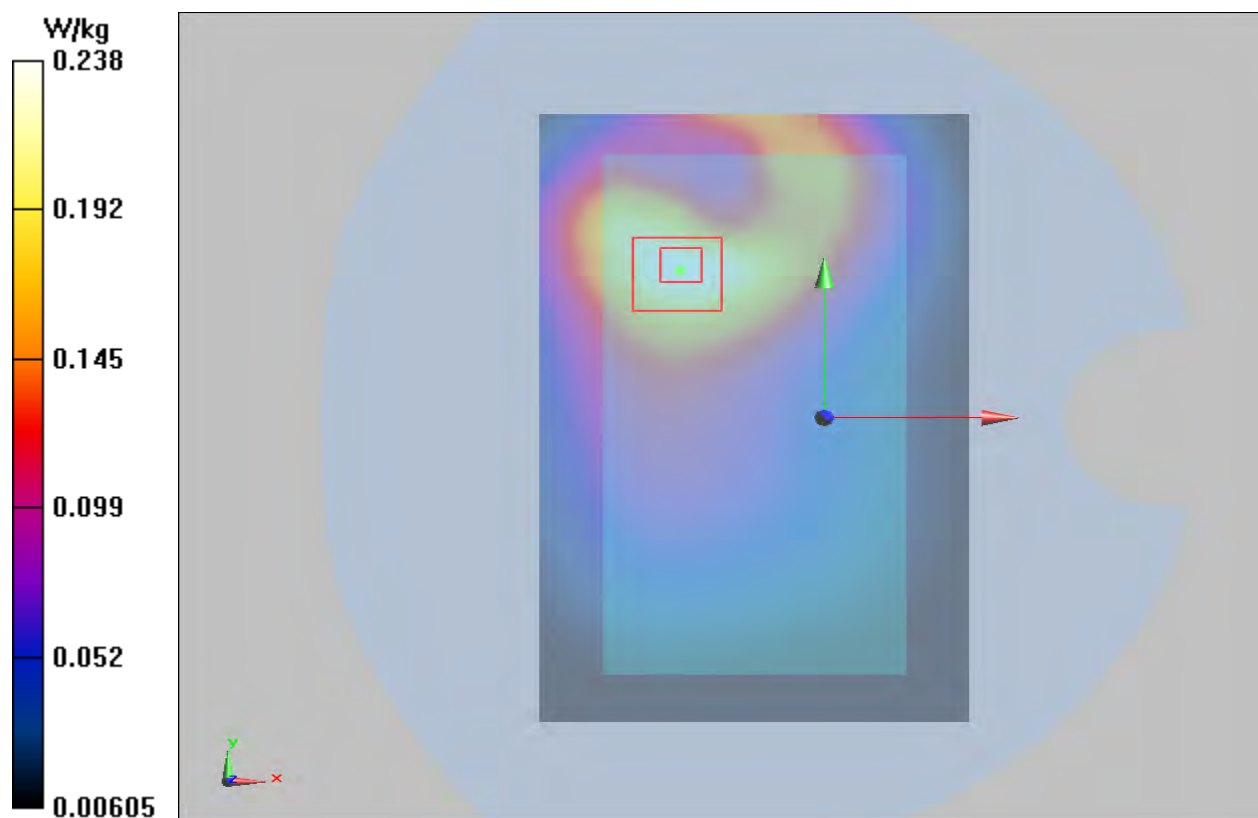
**Front Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.099 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.358 W/kg

**SAR(1 g) = 0.219 W/kg; SAR(10 g) = 0.127 W/kg**

Maximum value of SAR (measured) = 0.238 W/kg



**Plot 105 LTE Band 7 50%RB Right Cheek Low (Single=REC On+ Right Head)**

Date: 9/17/2017

Communication System: UID 0, LTE (0); Frequency: 2510 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 1.91$  S/m;  $\epsilon_r = 40.624$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Low /Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.808 W/kg

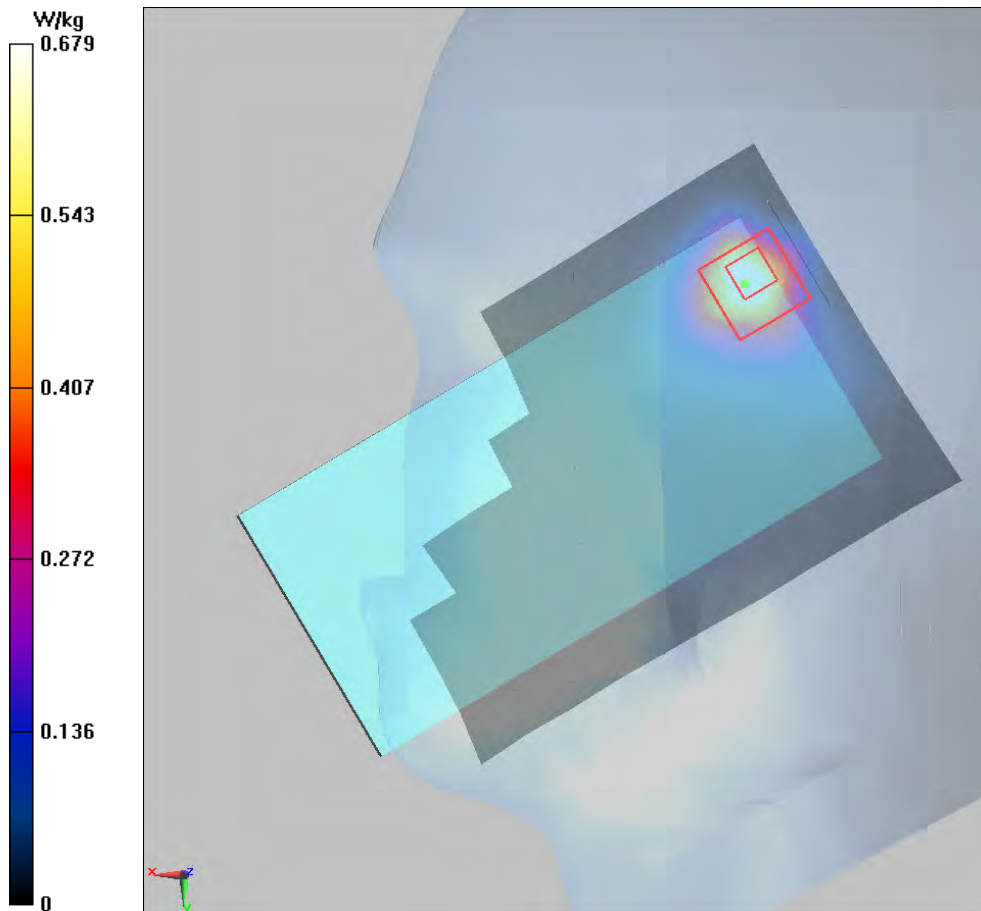
**Right Cheek Low /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.83 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.94 W/kg

**SAR(1 g) = 0.636 W/kg; SAR(10 g) = 0.270 W/kg**

Maximum value of SAR (measured) = 0.679 W/kg



**Plot 106 LTE Band 7 1RB Front Side Low (Single=REC Off, Distance 15mm)**

Date: 9/19/2017

Communication System: UID 0, LTE (0); Frequency: 2510 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 2.03$  S/m;  $\epsilon_r = 51.469$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Low/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.130 W/kg

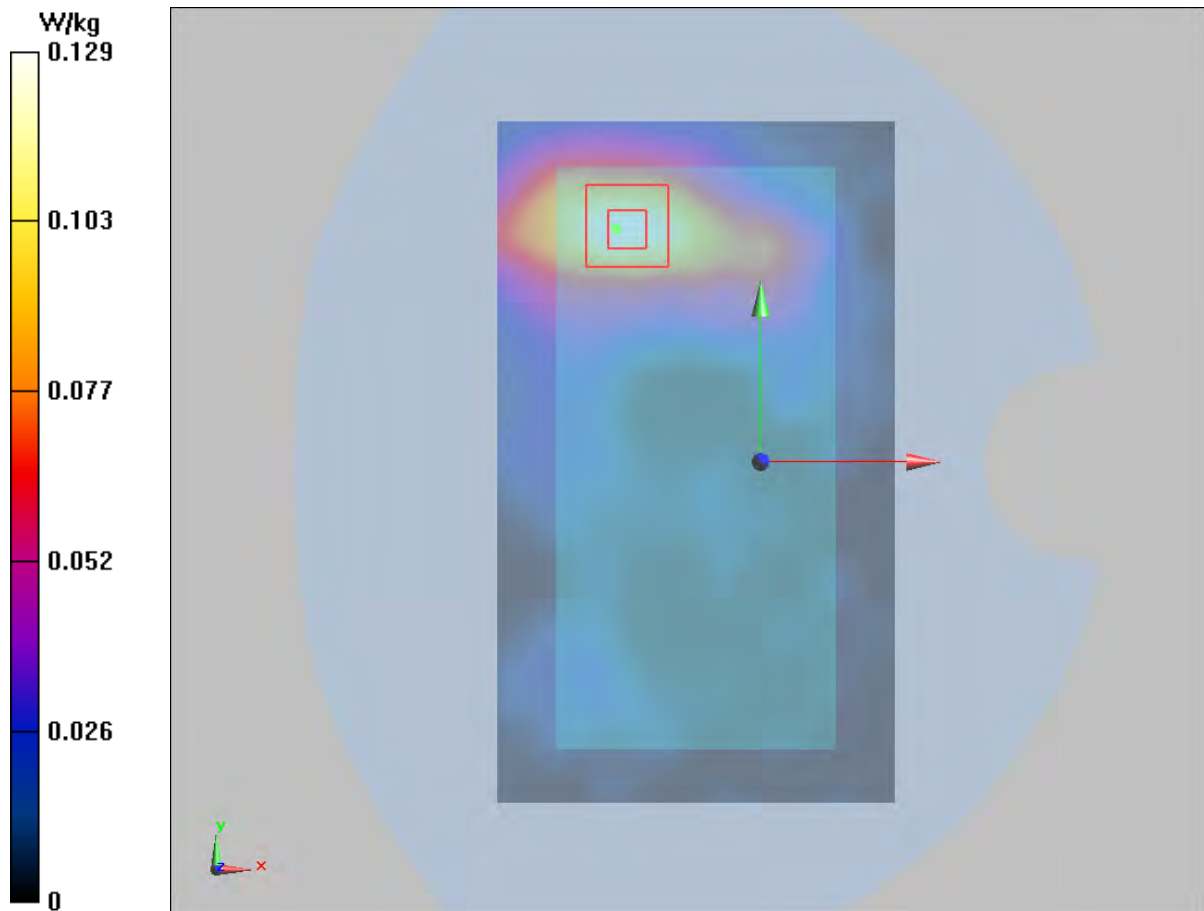
**Front Side Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.356 V/m; Power Drift = -0.060 dB

Peak SAR (extrapolated) = 0.222 W/kg

**SAR(1 g) = 0.117 W/kg; SAR(10 g) = 0.062 W/kg**

Maximum value of SAR (measured) = 0.129 W/kg



**Plot 107 LTE Band 7 50%RB Top Edge Low (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/19/2017

Communication System: UID 0, LTE (0); Frequency: 2510 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 2.03$  S/m;  $\epsilon_r = 51.469$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Top Edge Low/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.151 W/kg

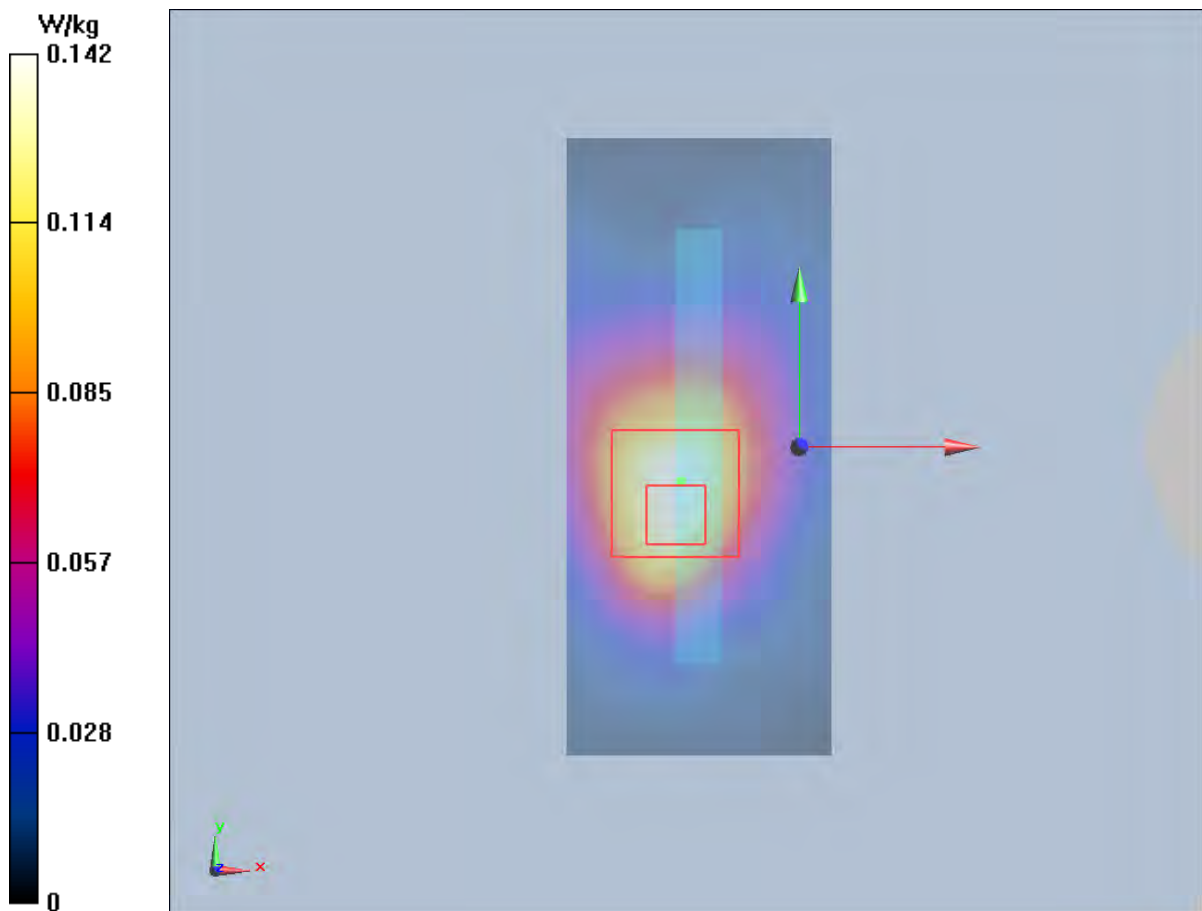
**Top Edge Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.175 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.246 W/kg

**SAR(1 g) = 0.131 W/kg; SAR(10 g) = 0.064 W/kg**

Maximum value of SAR (measured) = 0.142 W/kg



**Plot 108 LTE Band 12 1RB Right Tilt High (Single=REC On+ Right Head)**

Date: 9/20/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 711 \text{ MHz}$ ;  $\sigma = 0.862 \text{ S/m}$ ;  $\epsilon_r = 41.621$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.58, 9.58, 9.58); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Tilt High/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.793 \text{ W/kg}$

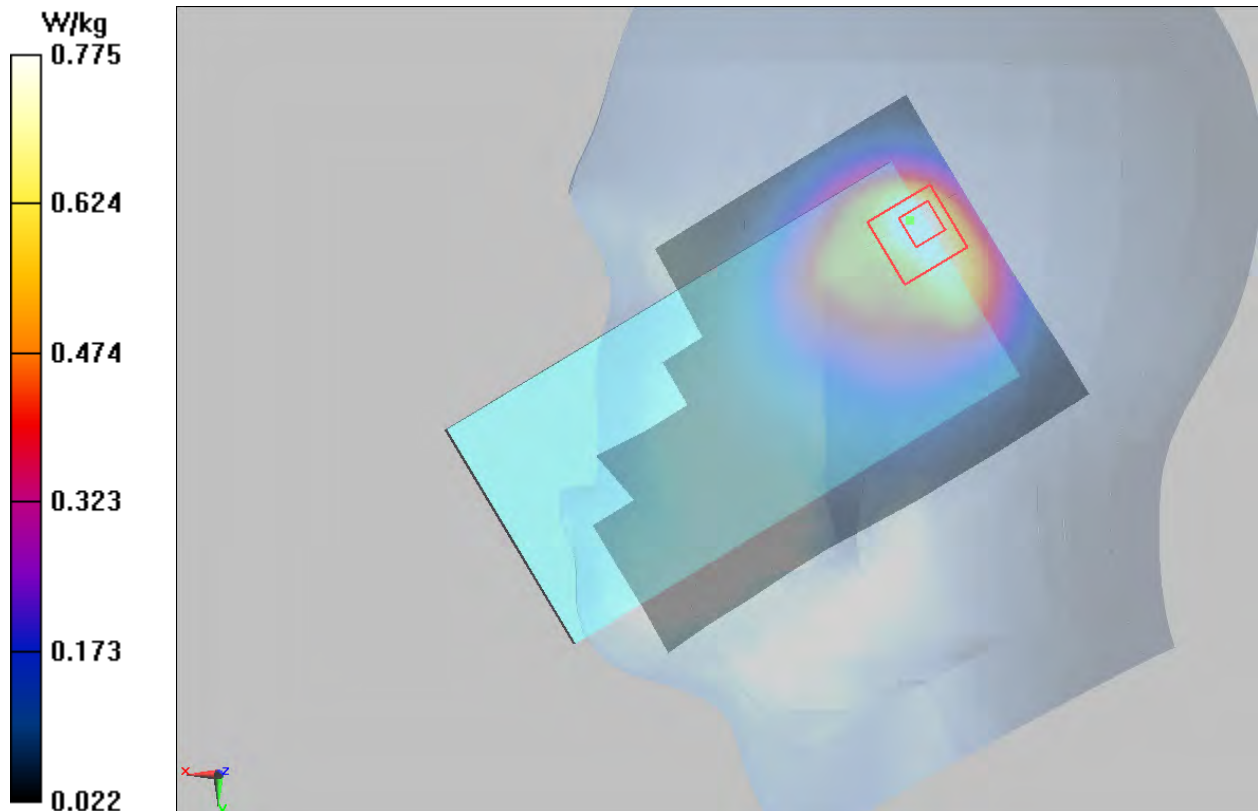
**Right Tilt High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $21.88 \text{ V/m}$ ; Power Drift =  $-0.01 \text{ dB}$

Peak SAR (extrapolated) =  $1.78 \text{ W/kg}$

**SAR(1 g) =  $0.688 \text{ W/kg}$ ; SAR(10 g) =  $0.347 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.775 \text{ W/kg}$



**Plot 109 LTE Band 12 1RB Back Side High (Single=REC Off, Distance 15mm)**

Date: 9/19/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 711 \text{ MHz}$ ;  $\sigma = 0.927 \text{ S/m}$ ;  $\epsilon_r = 55.371$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.177 W/kg

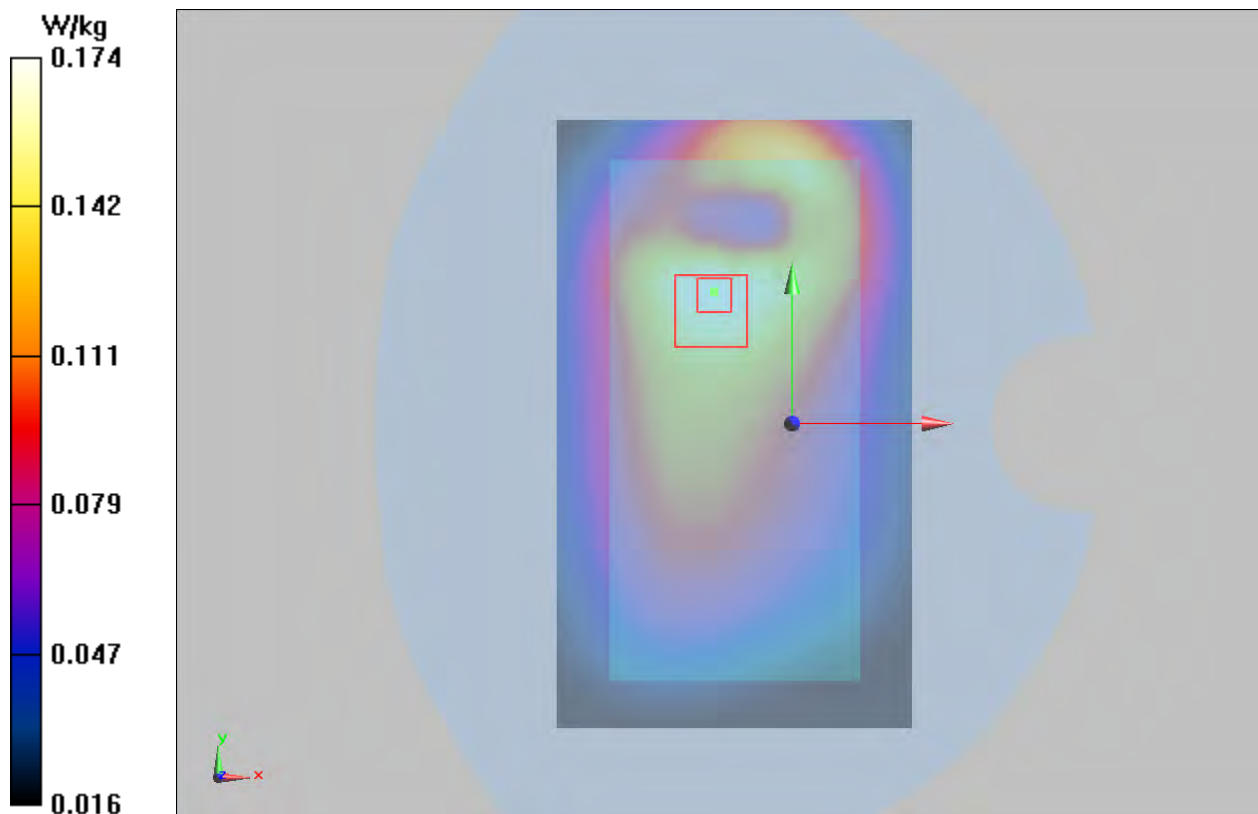
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 12.57 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.204 W/kg

**SAR(1 g) = 0.166 W/kg; SAR(10 g) = 0.128 W/kg**

Maximum value of SAR (measured) = 0.174 W/kg





**Plot 110 LTE Band 12 1RB Back Side High (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/19/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 711 \text{ MHz}$ ;  $\sigma = 0.927 \text{ S/m}$ ;  $\epsilon_r = 55.371$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.240 \text{ W/kg}$

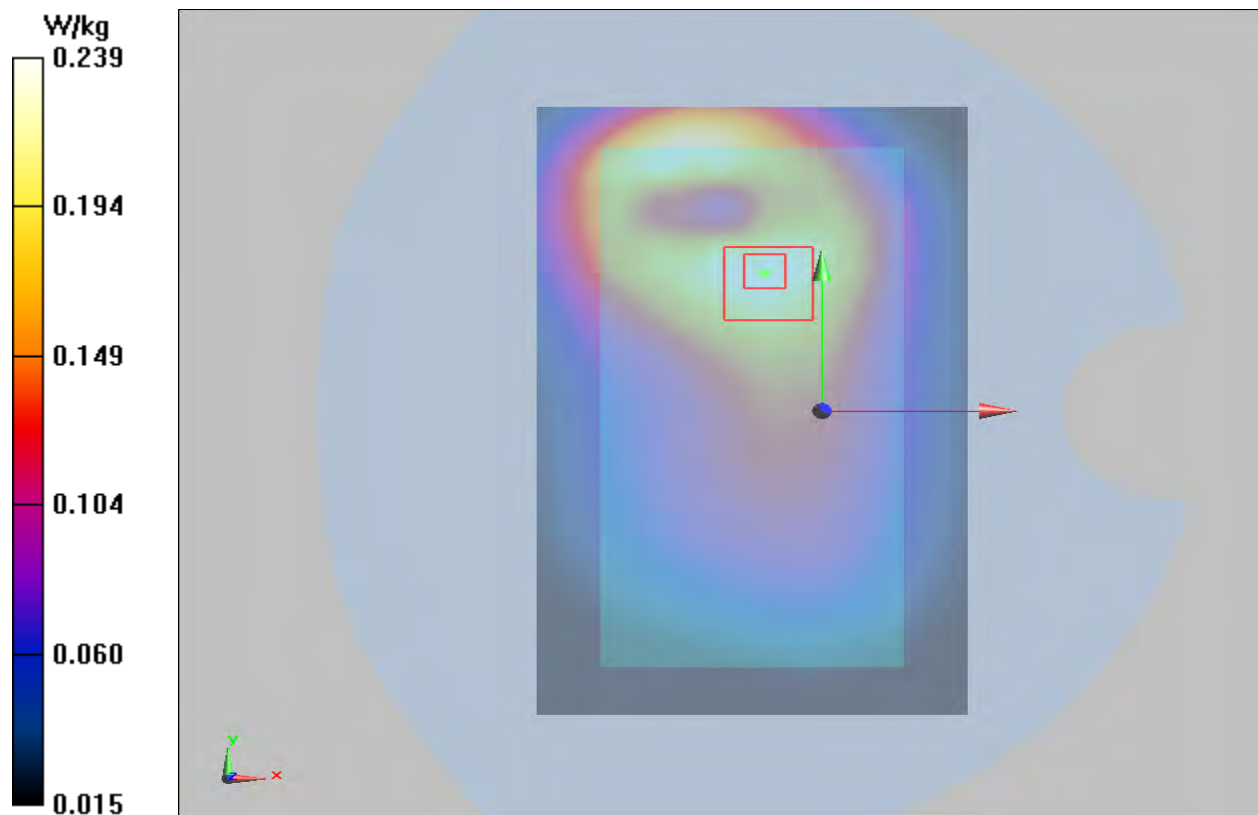
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $11.57 \text{ V/m}$ ; Power Drift =  $0.06 \text{ dB}$

Peak SAR (extrapolated) =  $0.301 \text{ W/kg}$

**SAR(1 g) =  $0.226 \text{ W/kg}$ ; SAR(10 g) =  $0.164 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.239 \text{ W/kg}$



**Plot 111 LTE Band 17 1RB Left Cheek Low (Single=REC On+Left Head)**

Date: 9/20/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 709 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 709$  MHz;  $\sigma = 0.86$  S/m;  $\epsilon_r = 41.64$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.58, 9.58, 9.58); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.648 W/kg

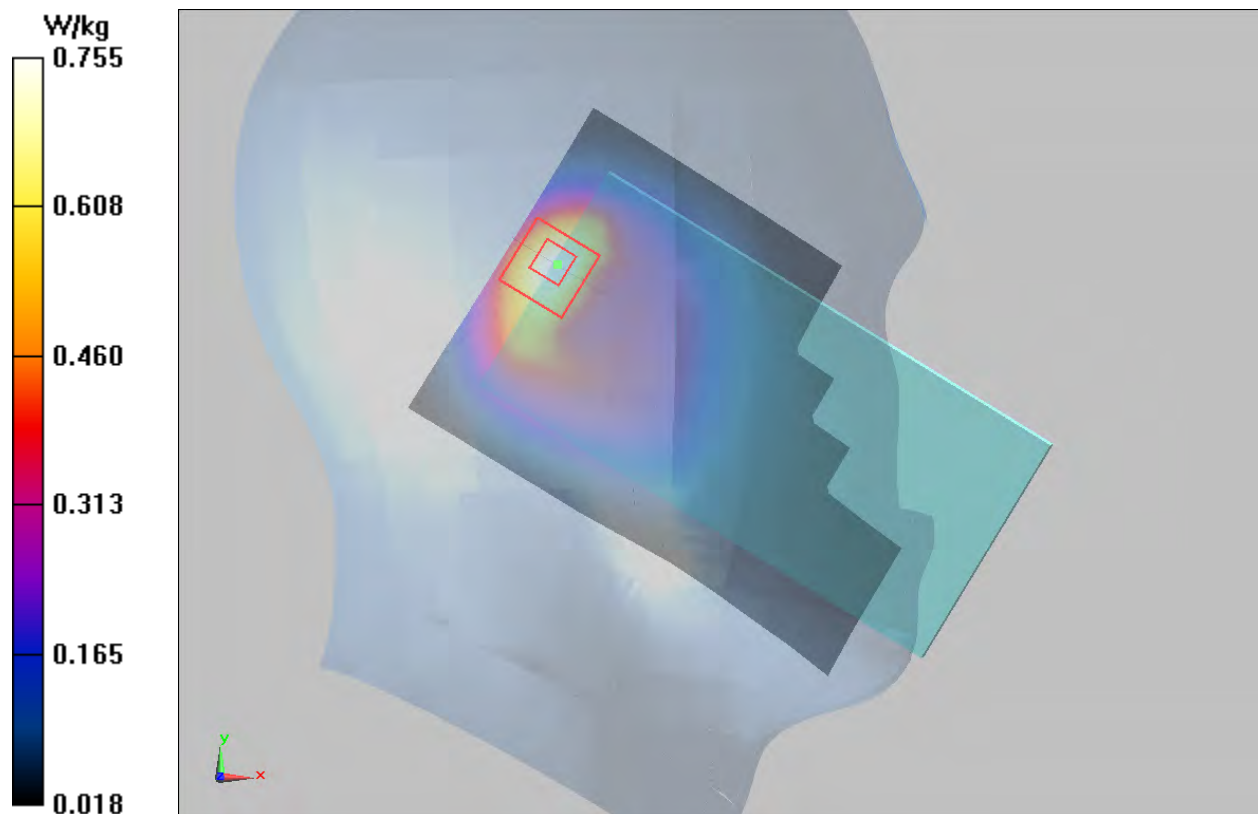
**Left Cheek Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.60 V/m; Power Drift = 0.024 dB

Peak SAR (extrapolated) = 1.42 W/kg

**SAR(1 g) = 0.683 W/kg; SAR(10 g) = 0.350 W/kg**

Maximum value of SAR (measured) = 0.755 W/kg



**Plot 112 LTE Band 17 1RB Front Side Low (Single=REC Off, Distance 15mm)**

Date: 9/19/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 709 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 709$  MHz;  $\sigma = 0.925$  S/m;  $\epsilon_r = 55.396$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.130 W/kg

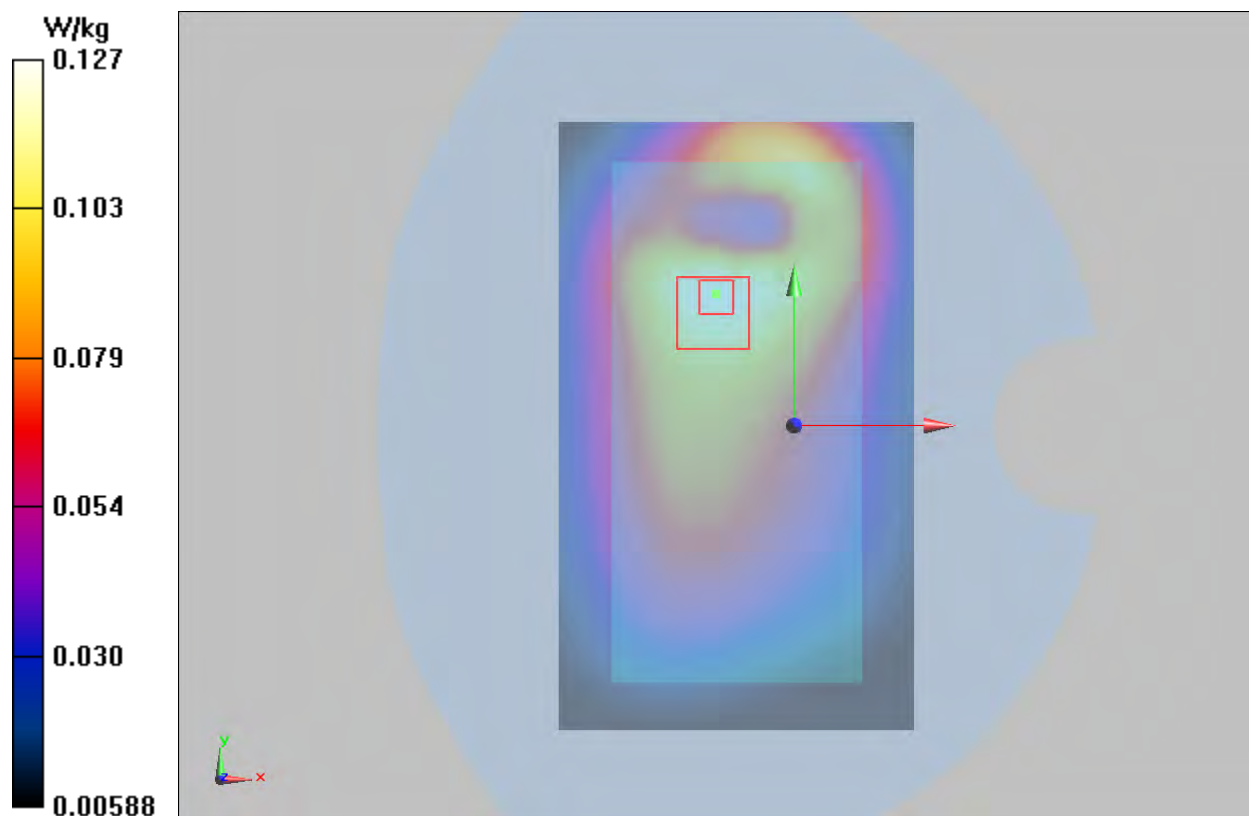
**Front Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.477 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.156 W/kg

**SAR(1 g) = 0.120 W/kg; SAR(10 g) = 0.088 W/kg**

Maximum value of SAR (measured) = 0.127 W/kg



**Plot 113 LTE Band 17 1RB Left Edge Low (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/19/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 709 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 709 \text{ MHz}$ ;  $\sigma = 0.925 \text{ S/m}$ ;  $\epsilon_r = 55.396$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Edge Low/Area Scan (51x181x1):** Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.198 \text{ W/kg}$

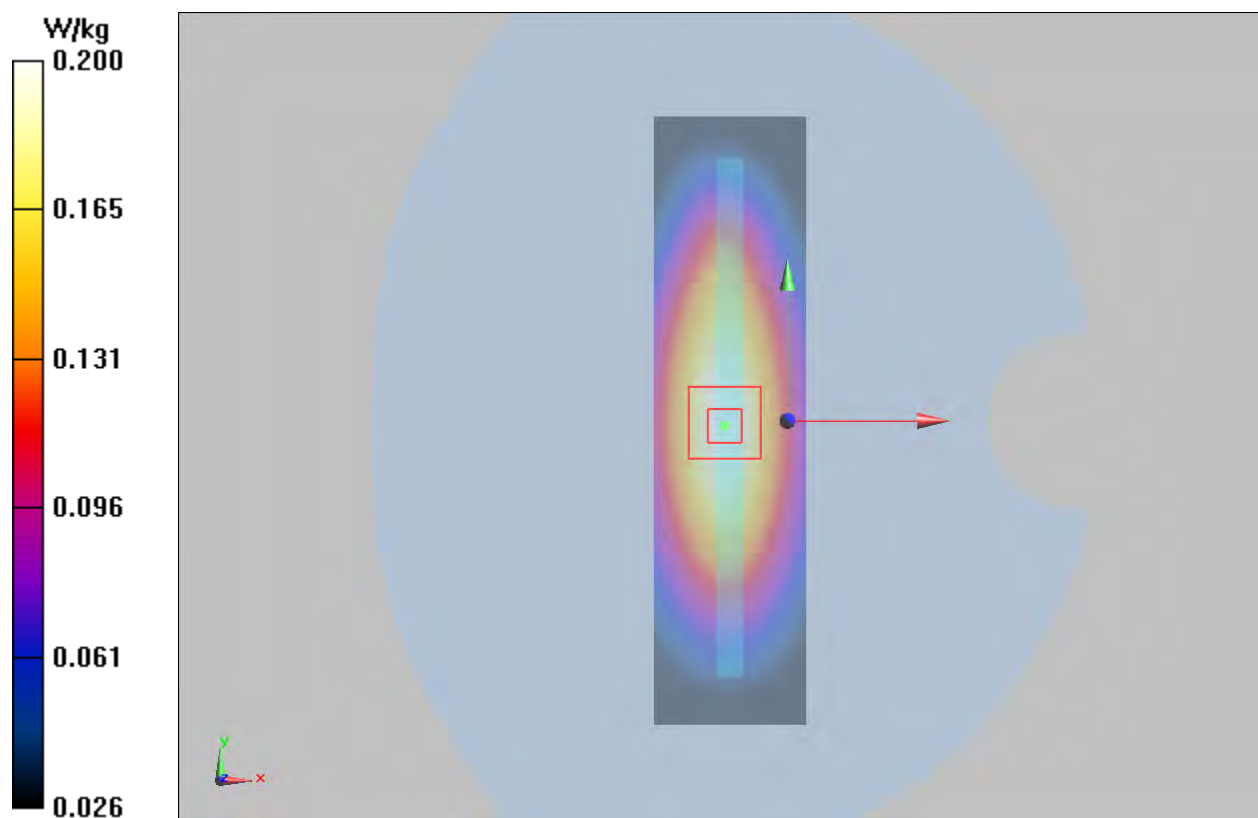
**Left Edge Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $14.89 \text{ V/m}$ ; Power Drift =  $-0.00 \text{ dB}$

Peak SAR (extrapolated) =  $0.258 \text{ W/kg}$

**SAR(1 g) =  $0.187 \text{ W/kg}$ ; SAR(10 g) =  $0.130 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.200 \text{ W/kg}$



**Plot 114 LTE Band 26 50%RB Right Tilt High (Single=REC On+ Right Head)**

Date: 9/16/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 841.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 841.5$  MHz;  $\sigma = 0.944$  S/m;  $\epsilon_r = 42.368$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Tilt High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.740 W/kg

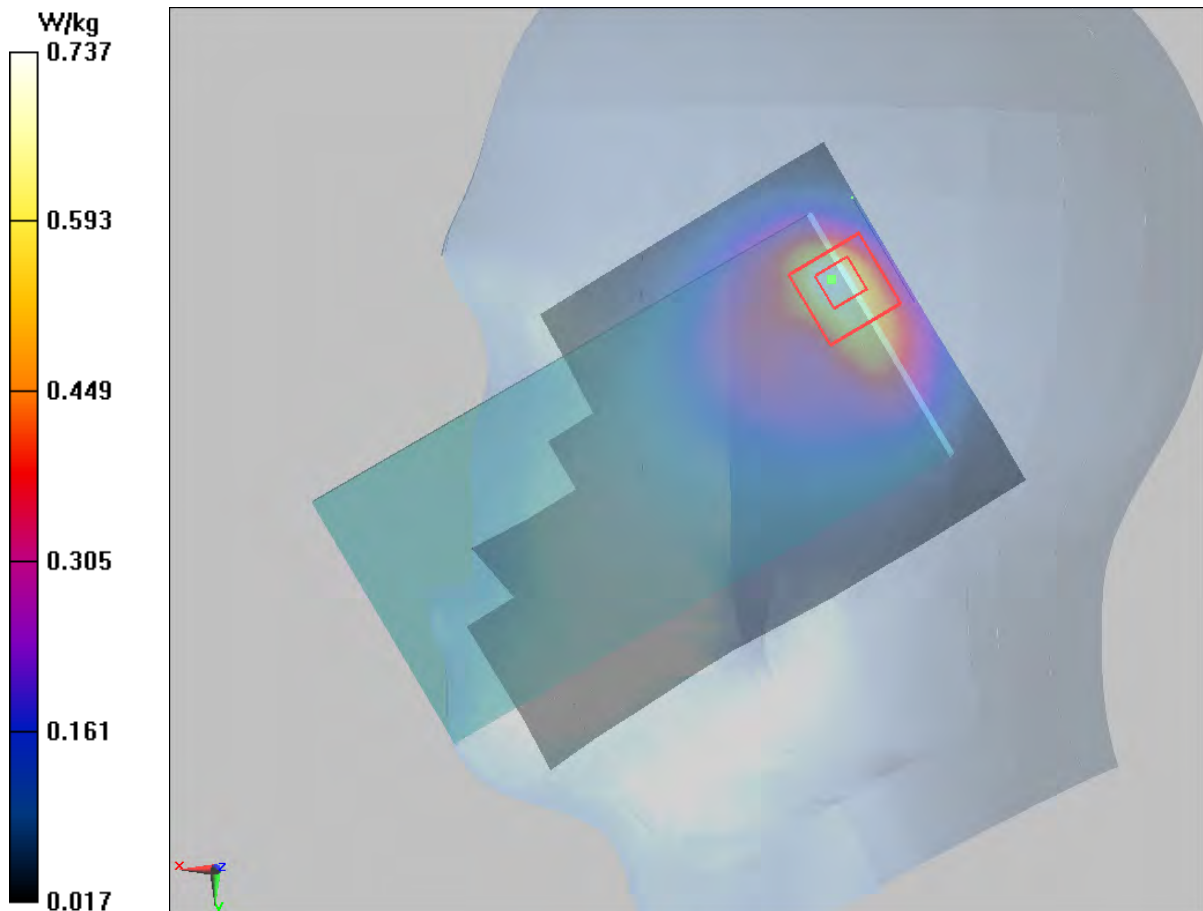
**Right Tilt High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.58 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.63 W/kg

**SAR(1 g) = 0.625 W/kg; SAR(10 g) = 0.295 W/kg**

Maximum value of SAR (measured) = 0.737 W/kg



**Plot 115 LTE Band 26 1RB Front Side High (Single=REC Off, Distance 15mm)**

Date: 9/18/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 841.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 841.5$  MHz;  $\sigma = 1.018$  S/m;  $\epsilon_r = 55.349$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.234 W/kg

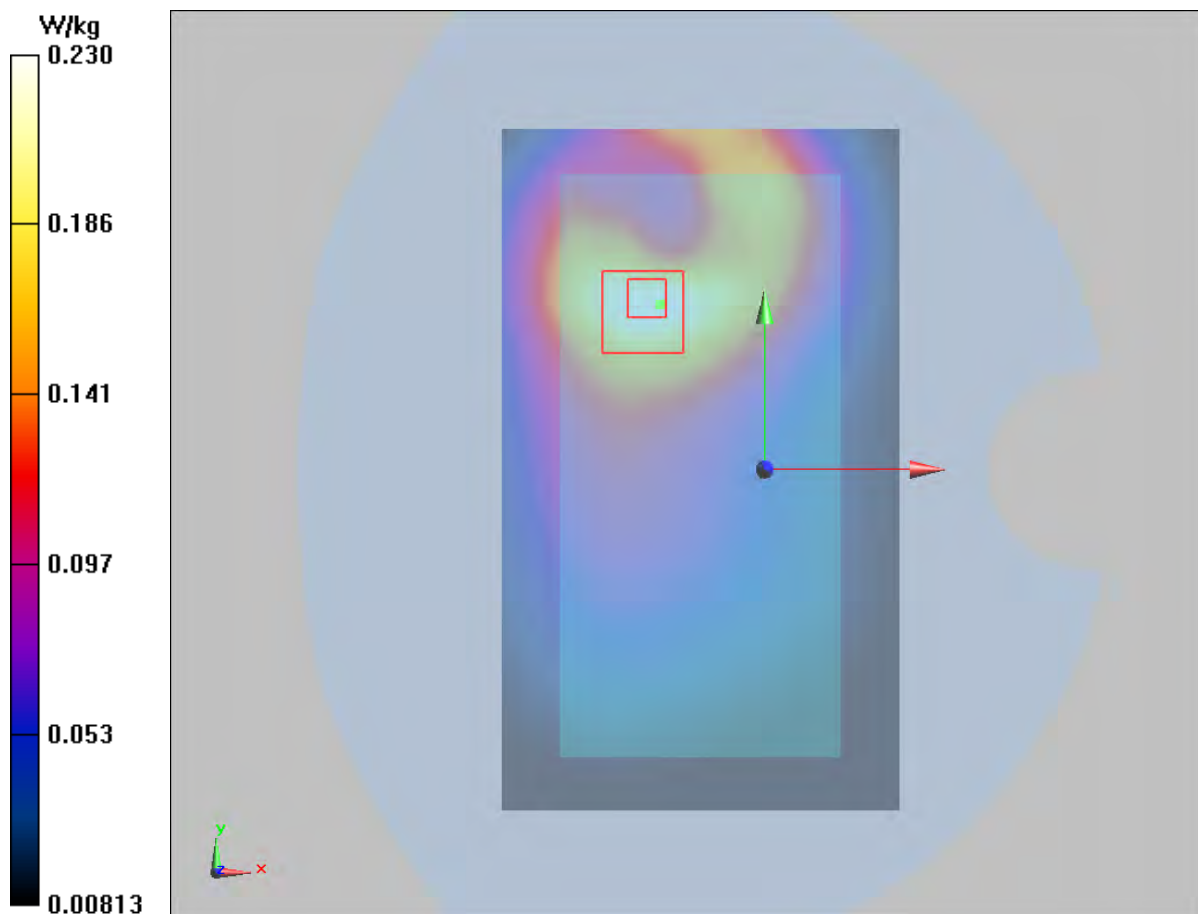
**Front Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.987 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.306 W/kg

**SAR(1 g) = 0.218 W/kg; SAR(10 g) = 0.149 W/kg**

Maximum value of SAR (measured) = 0.230 W/kg



## Plot 116 LTE Band 26 1RB Back Side High (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)

Date: 9/18/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 841.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 841.5$  MHz;  $\sigma = 1.018$  S/m;  $\epsilon_r = 55.349$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.206 W/kg

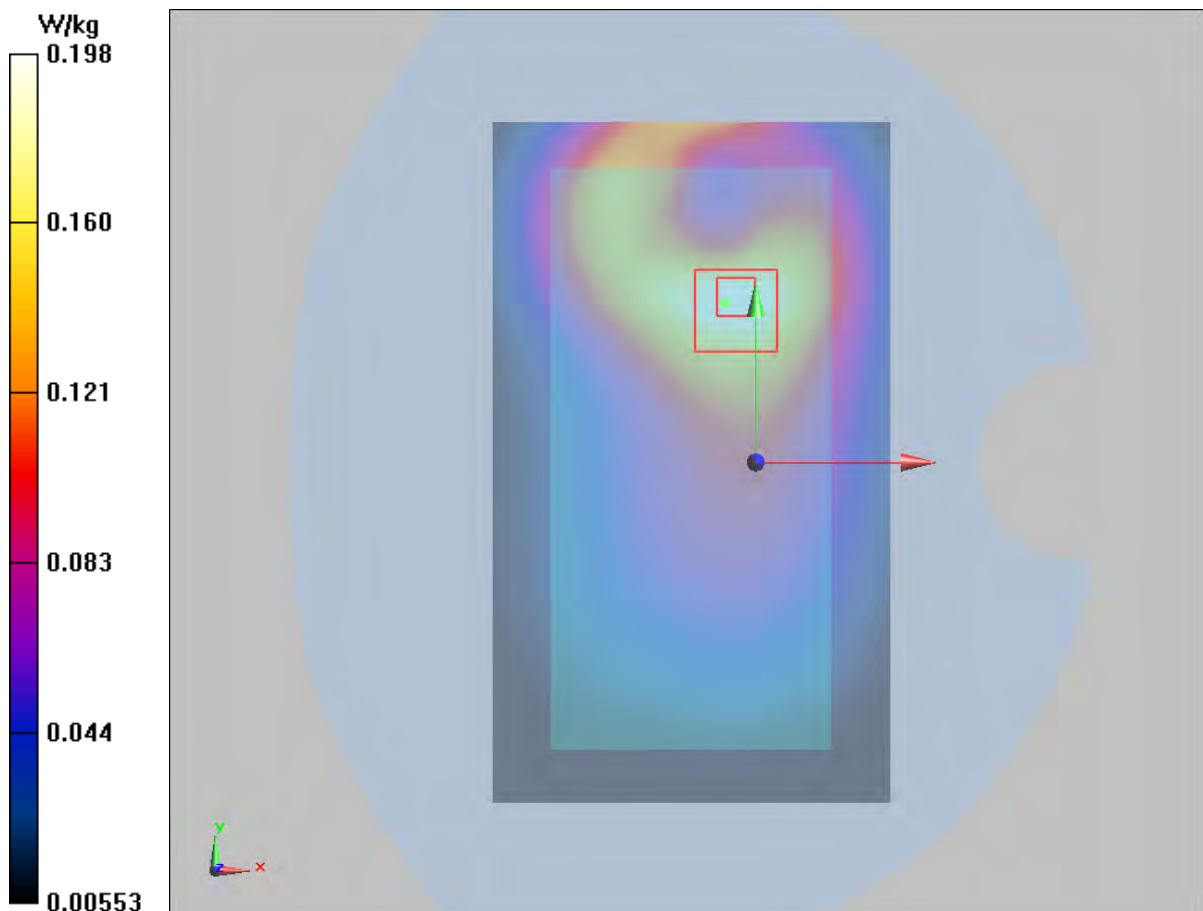
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.719 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.304 W/kg

**SAR(1 g) = 0.188 W/kg; SAR(10 g) = 0.111 W/kg**

Maximum value of SAR (measured) = 0.198 W/kg



**Plot 117 LTE Band 38 1RB Left Cheek Middle (Single=REC On+Left Head)**

Date: 9/17/2017

Communication System: UID 0, LTE (0); Frequency: 2595 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2595$  MHz;  $\sigma = 2.004$  S/m;  $\epsilon_r = 40.341$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.999 W/kg

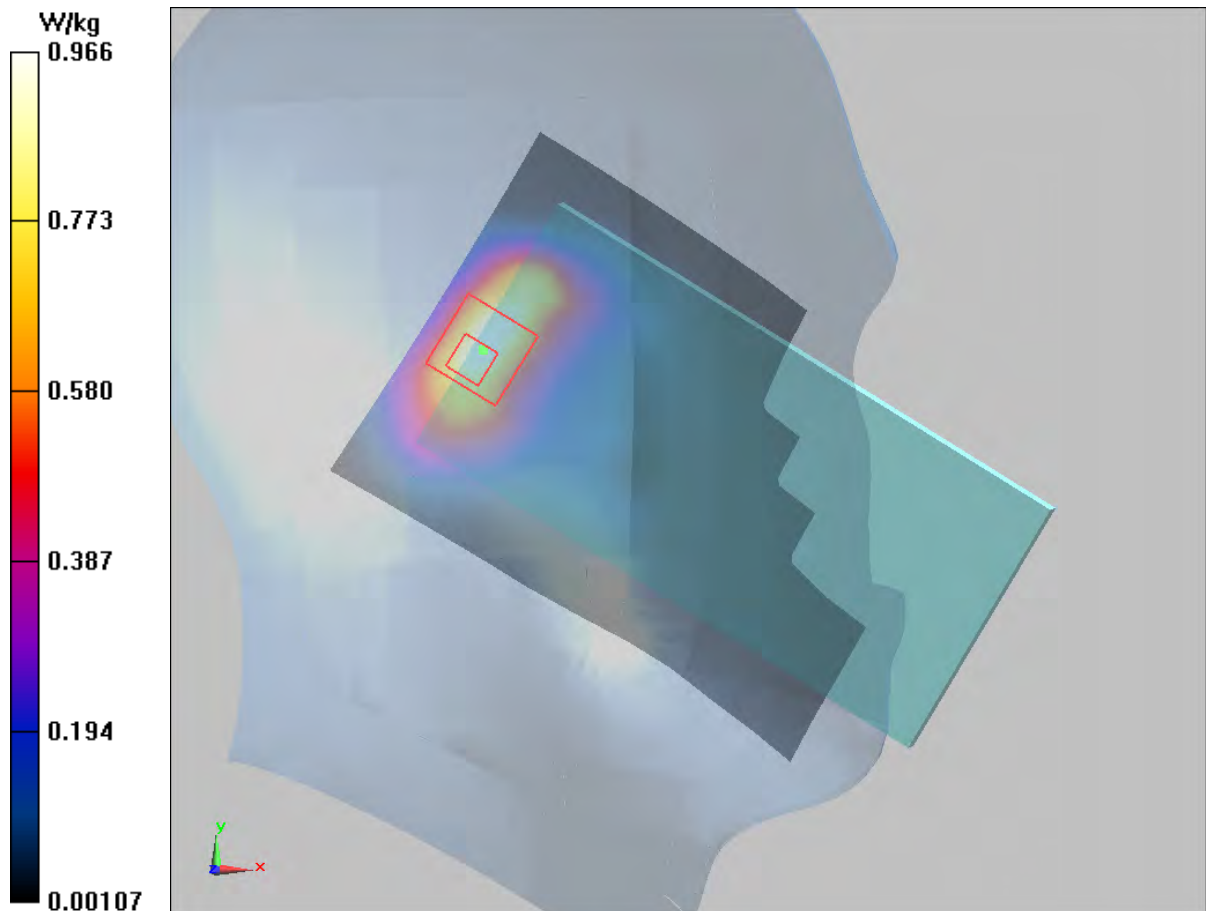
**Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.07 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 1.86 W/kg

**SAR(1 g) = 0.884 W/kg; SAR(10 g) = 0.436 W/kg**

Maximum value of SAR (measured) = 0.966 W/kg





**Plot 118 LTE Band 38 1RB Front Side Middle (Single=REC Off, Distance 15mm)**

Date: 9/19/2017

Communication System: UID 0, LTE (0); Frequency: 2610 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2610$  MHz;  $\sigma = 2.15$  S/m;  $\epsilon_r = 51.166$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.161 W/kg

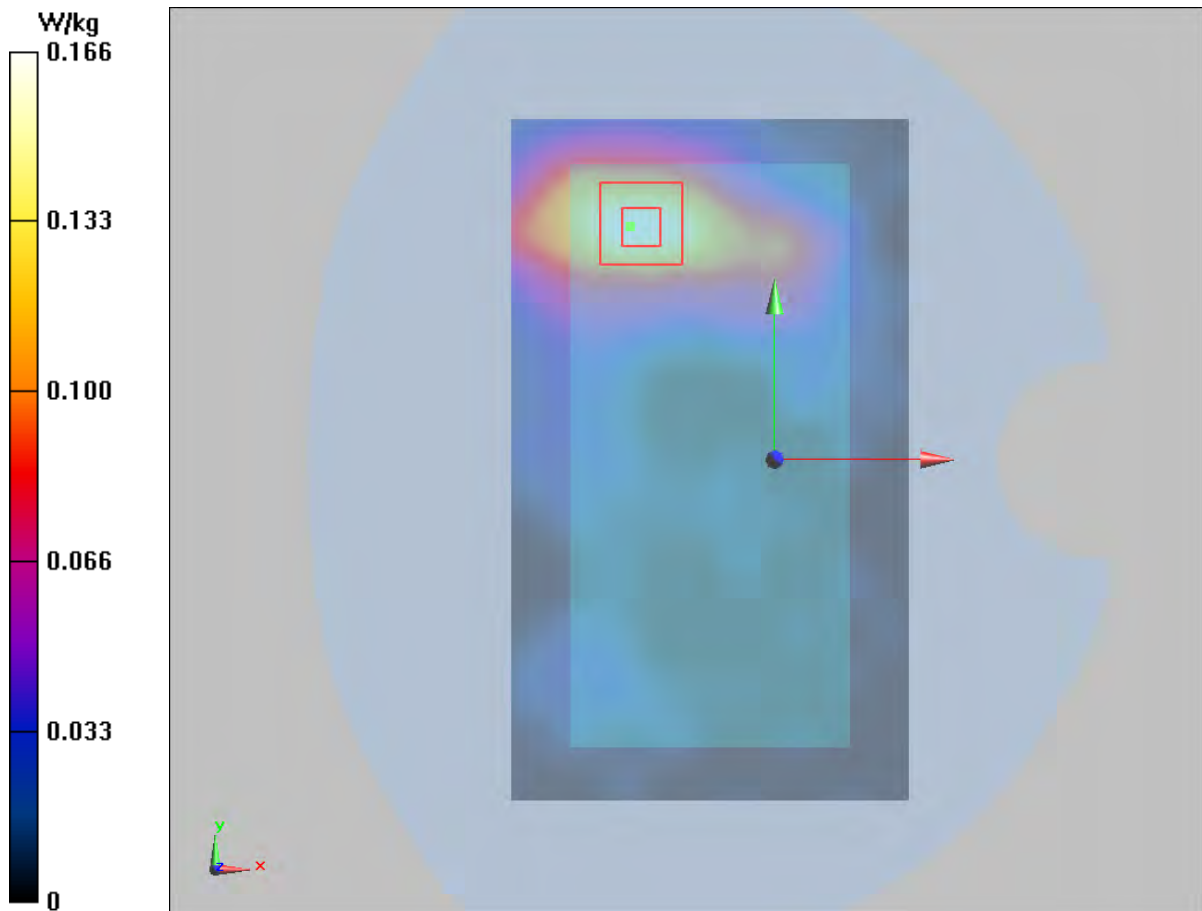
**Front Side Middle /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.919 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 0.308 W/kg

**SAR(1 g) = 0.153 W/kg; SAR(10 g) = 0.076 W/kg**

Maximum value of SAR (measured) = 0.166 W/kg



## Plot 119 LTE Band 38 1RB Back Side High (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)

Date: 9/19/2017

Communication System: UID 0, LTE (0); Frequency: 2610 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2610$  MHz;  $\sigma = 2.15$  S/m;  $\epsilon_r = 51.166$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.169 W/kg

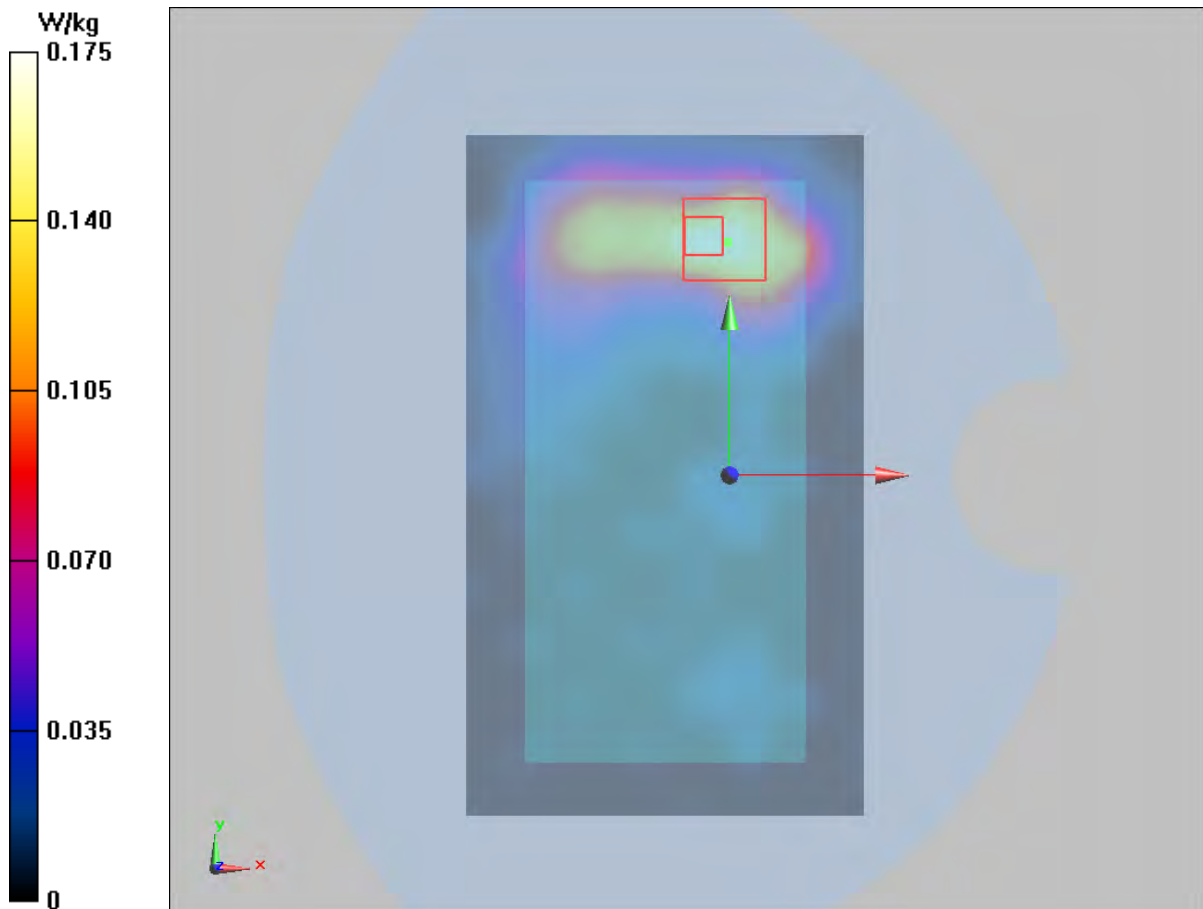
**Back Side High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.607 V/m; Power Drift = -0.030 dB

Peak SAR (extrapolated) = 0.312 W/kg

**SAR(1 g) = 0.154 W/kg; SAR(10 g) = 0.078 W/kg**

Maximum value of SAR (measured) = 0.175 W/kg



**Plot 120 LTE Band 41 1RB Left Cheek High (Single=REC On+Left Head)**

Date: 9/18/2017

Communication System: UID 0, LTE (0); Frequency: 2645 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2645$  MHz;  $\sigma = 2.061$  S/m;  $\epsilon_r = 40.122$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek High/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.837 W/kg

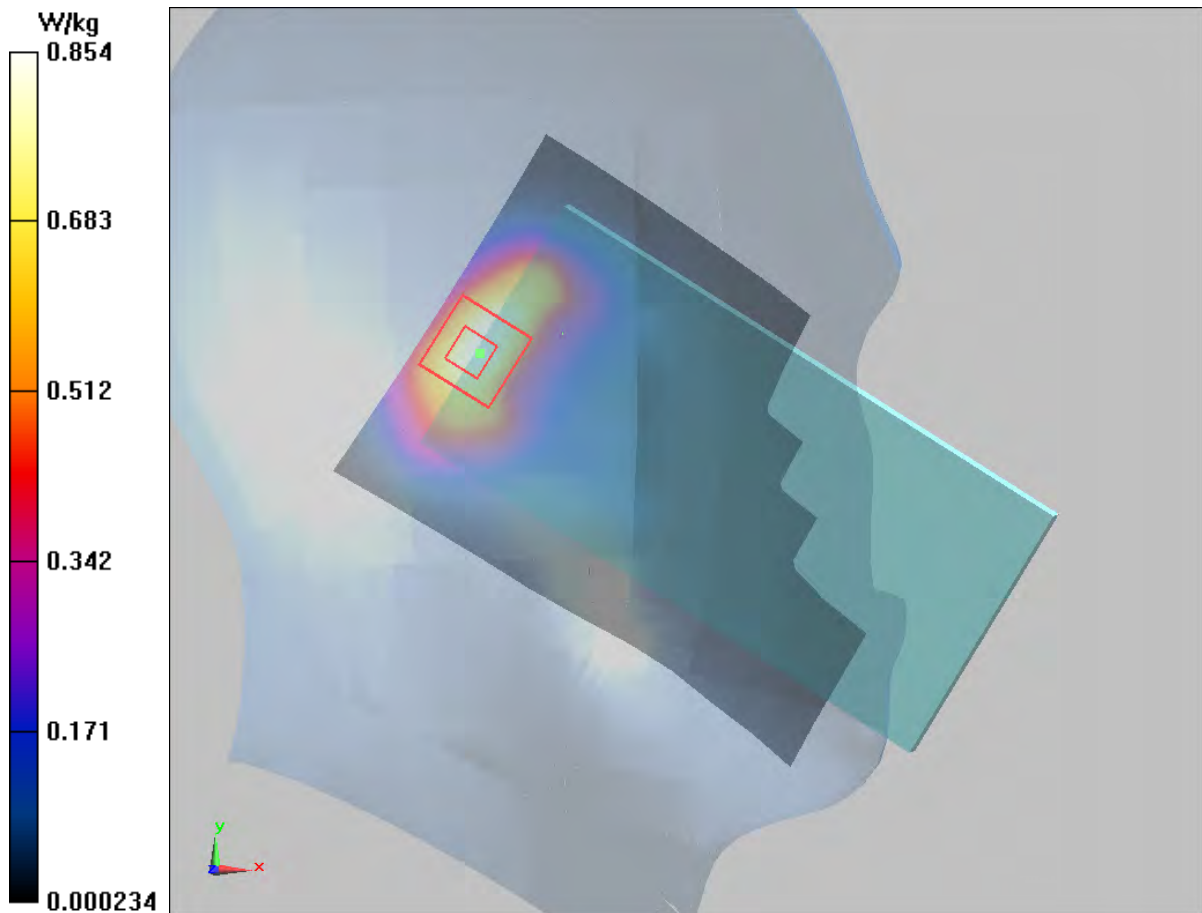
**Left Cheek High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.68 V/m; Power Drift = 0.052 dB

Peak SAR (extrapolated) = 1.59 W/kg

**SAR(1 g) = 0.781 W/kg; SAR(10 g) = 0.389 W/kg**

Maximum value of SAR (measured) = 0.854 W/kg



**Plot 121 LTE Band 41 1RB Front Side High (Single=REC Off, Distance 15mm)**

Date: 9/18/2017

Communication System: UID 0, LTE (0); Frequency: 2645 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2645$  MHz;  $\sigma = 2.192$  S/m;  $\epsilon_r = 51.066$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side High/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.261 W/kg

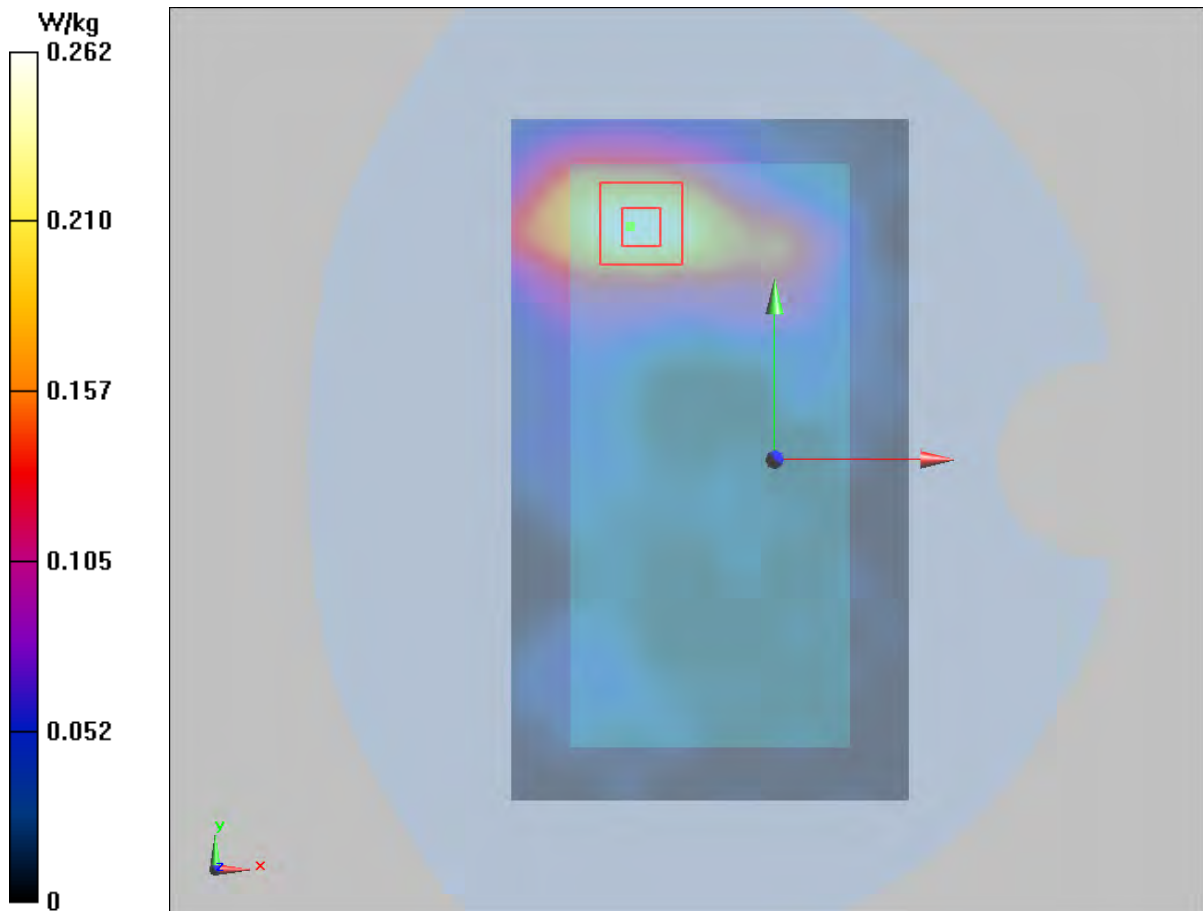
**Front Side High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.006 V/m; Power Drift = -0.187 dB

Peak SAR (extrapolated) = 0.488 W/kg

**SAR(1 g) = 0.244 W/kg; SAR(10 g) = 0.121 W/kg**

Maximum value of SAR (measured) = 0.262 W/kg



## Plot 122 LTE Band 41 1RB Top Edge High (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)

Date: 9/19/2017

Communication System: UID 0, LTE (0); Frequency: 2645 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2645$  MHz;  $\sigma = 2.192$  S/m;  $\epsilon_r = 51.066$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Top Edge High/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.303 W/kg

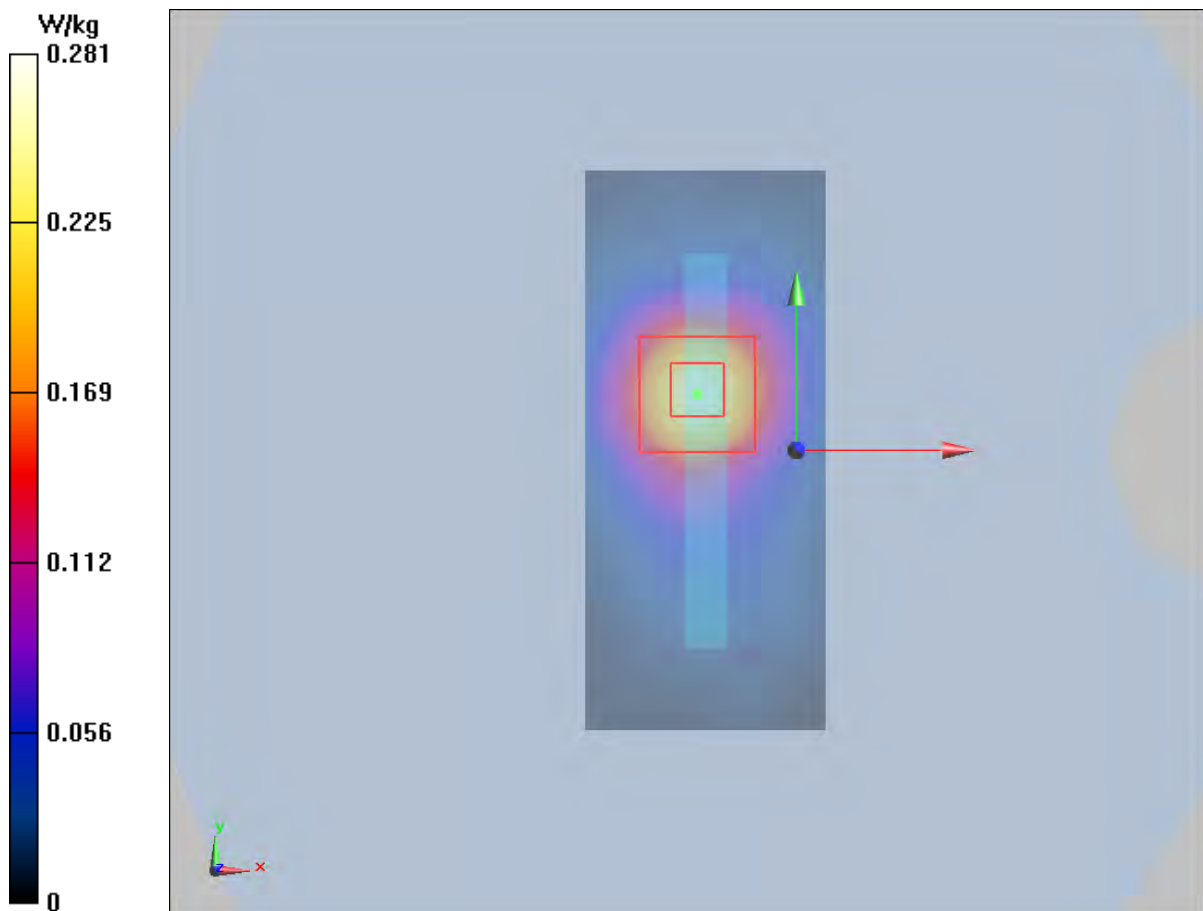
**Top Edge High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.635 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 0.507 W/kg

**SAR(1 g) = 0.252 W/kg; SAR(10 g) = 0.120 W/kg**

Maximum value of SAR (measured) = 0.281 W/kg



**Wi-Fi Antenna 1**

**Plot 123 802.11b Left Cheek Middle (REC On, Battery 2)**

Date: 9/25/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.846$  S/m;  $\epsilon_r = 39.132$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(7.64, 7.64, 7.64); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.636 W/kg

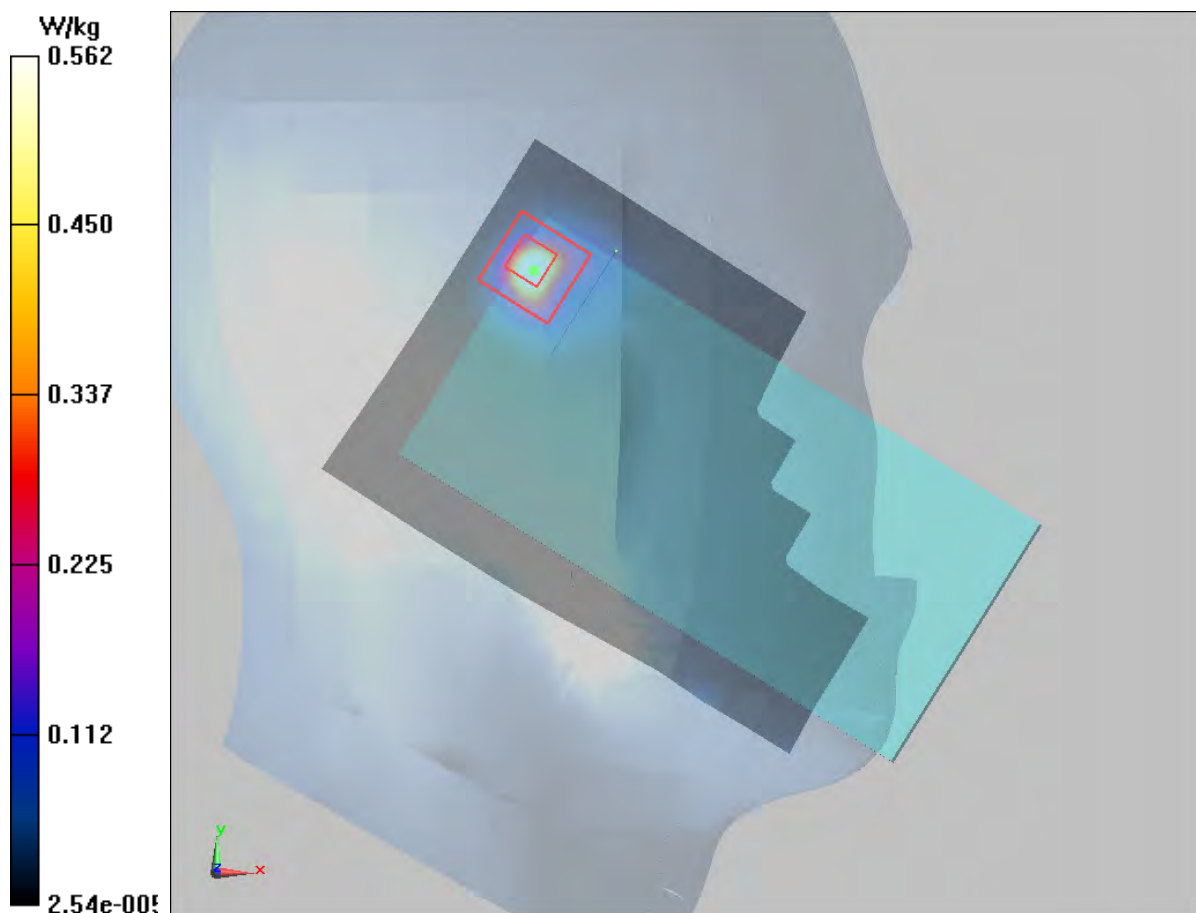
**Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.35 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.36 W/kg

**SAR(1 g) = 0.492 W/kg; SAR(10 g) = 0.222 W/kg**

Maximum value of SAR (measured) = 0.562 W/kg



**Plot 124 802.11b Back Side Middle (REC Off, Distance 15mm)**

Date: 9/23/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.891$  S/m;  $\epsilon_r = 51.448$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.208 W/kg

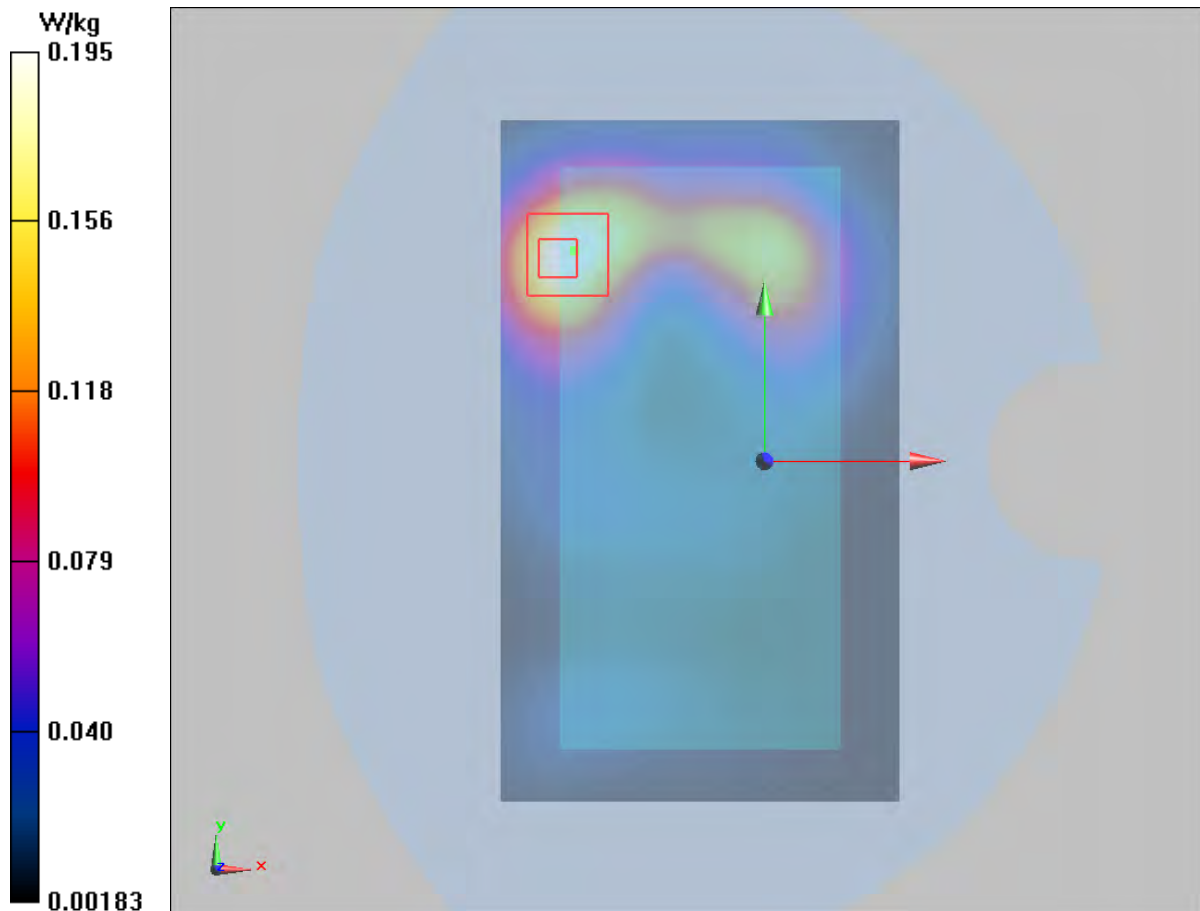
**Back Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.885 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.348 W/kg

**SAR(1 g) = 0.185 W/kg; SAR(10 g) = 0.098 W/kg**

Maximum value of SAR (measured) = 0.195 W/kg



**Plot 125 802.11b Top Edge Middle (REC Off, Distance 10mm)**

Date: 9/23/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.891$  S/m;  $\epsilon_r = 51.448$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Top Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.514 W/kg

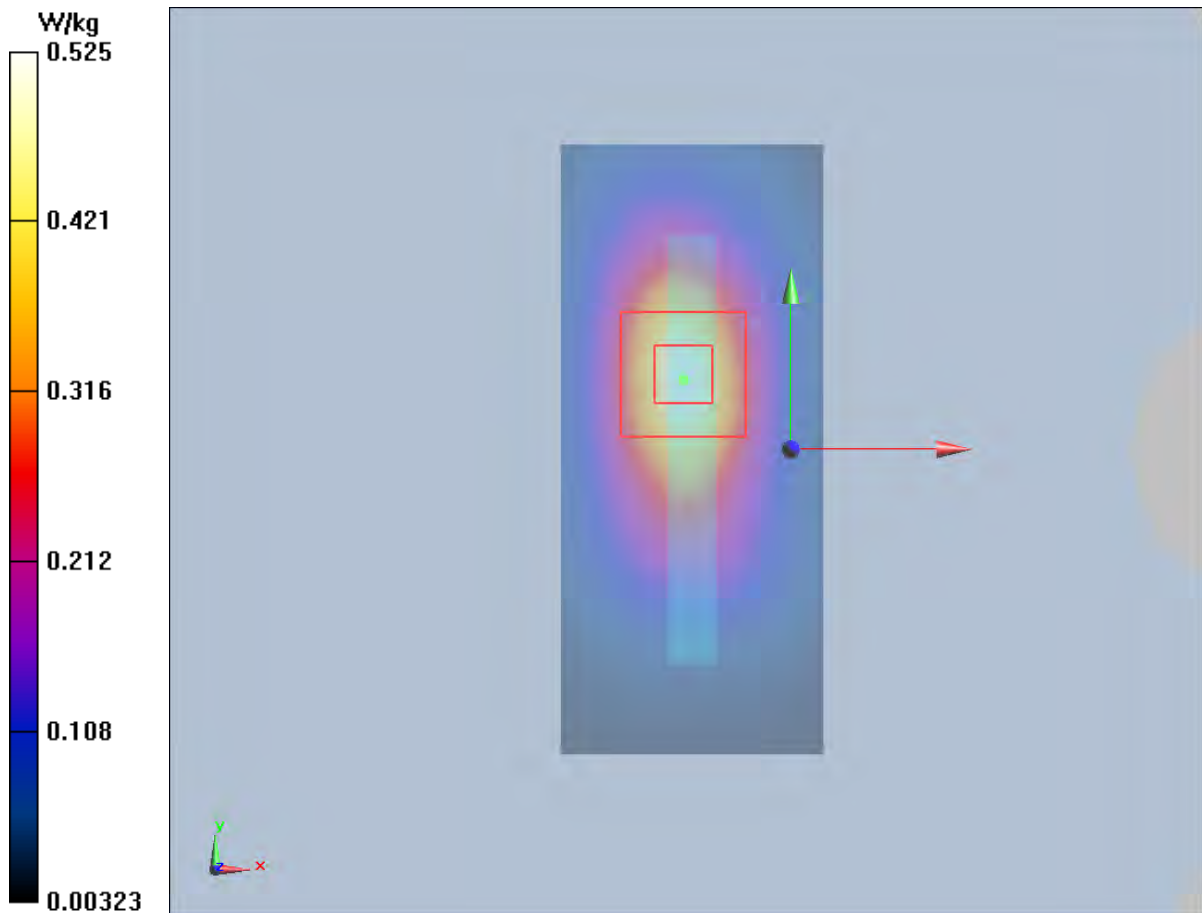
**Top Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.54 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.895 W/kg

**SAR(1 g) = 0.464 W/kg; SAR(10 g) = 0.230 W/kg**

Maximum value of SAR (measured) = 0.525 W/kg





**Wi-Fi Antenna 2**

**Plot 126 802.11b Left Cheek Middle (REC On, Battery 2)**

Date: 9/25/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.846$  S/m;  $\epsilon_r = 39.132$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(7.64, 7.64, 7.64); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.210 W/kg

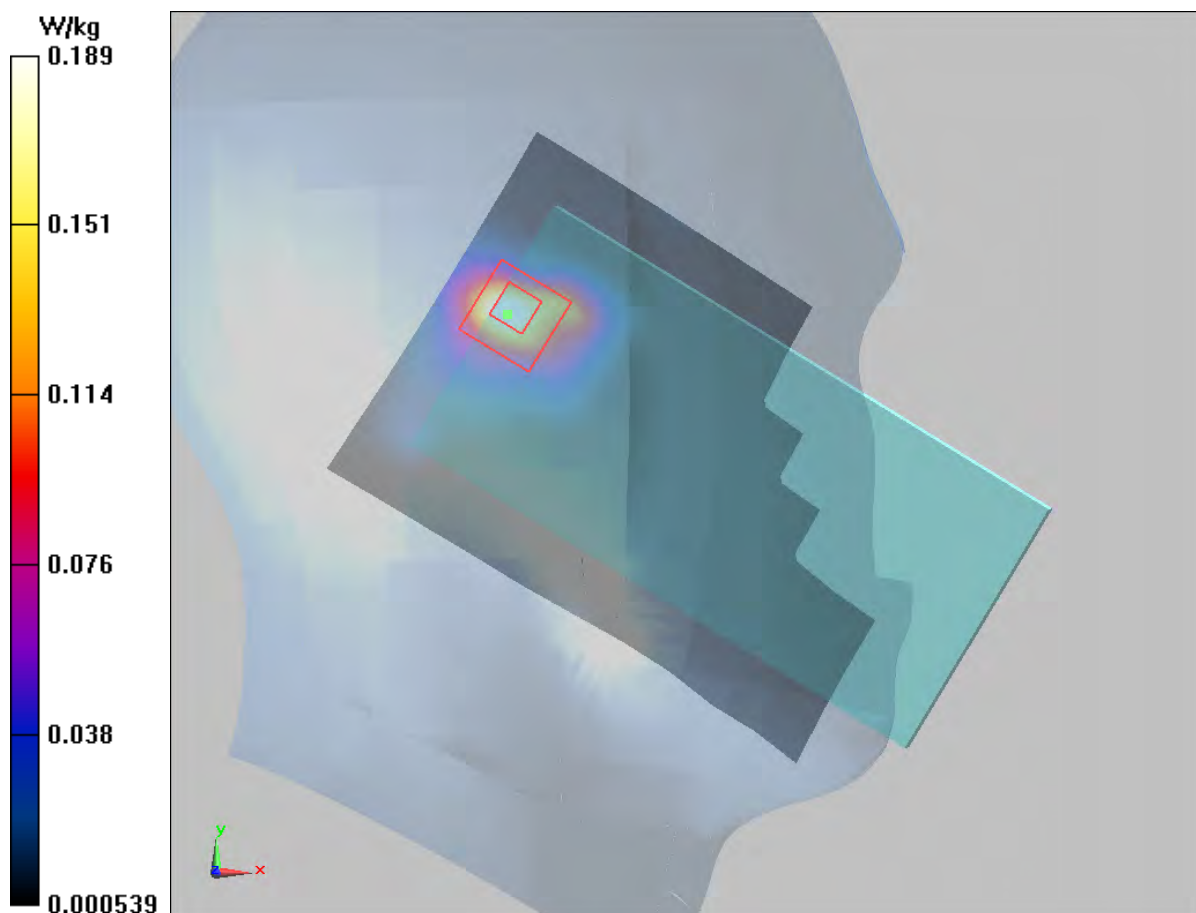
**Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.983 V/m; Power Drift = 0.024 dB

Peak SAR (extrapolated) = 0.476 W/kg

**SAR(1 g) = 0.173 W/kg; SAR(10 g) = 0.068 W/kg**

Maximum value of SAR (measured) = 0.189 W/kg



**Plot 127 802.11b Back Side Middle (REC Off, Distance 15mm)**

Date: 9/23/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.891$  S/m;  $\epsilon_r = 51.448$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.222 W/kg

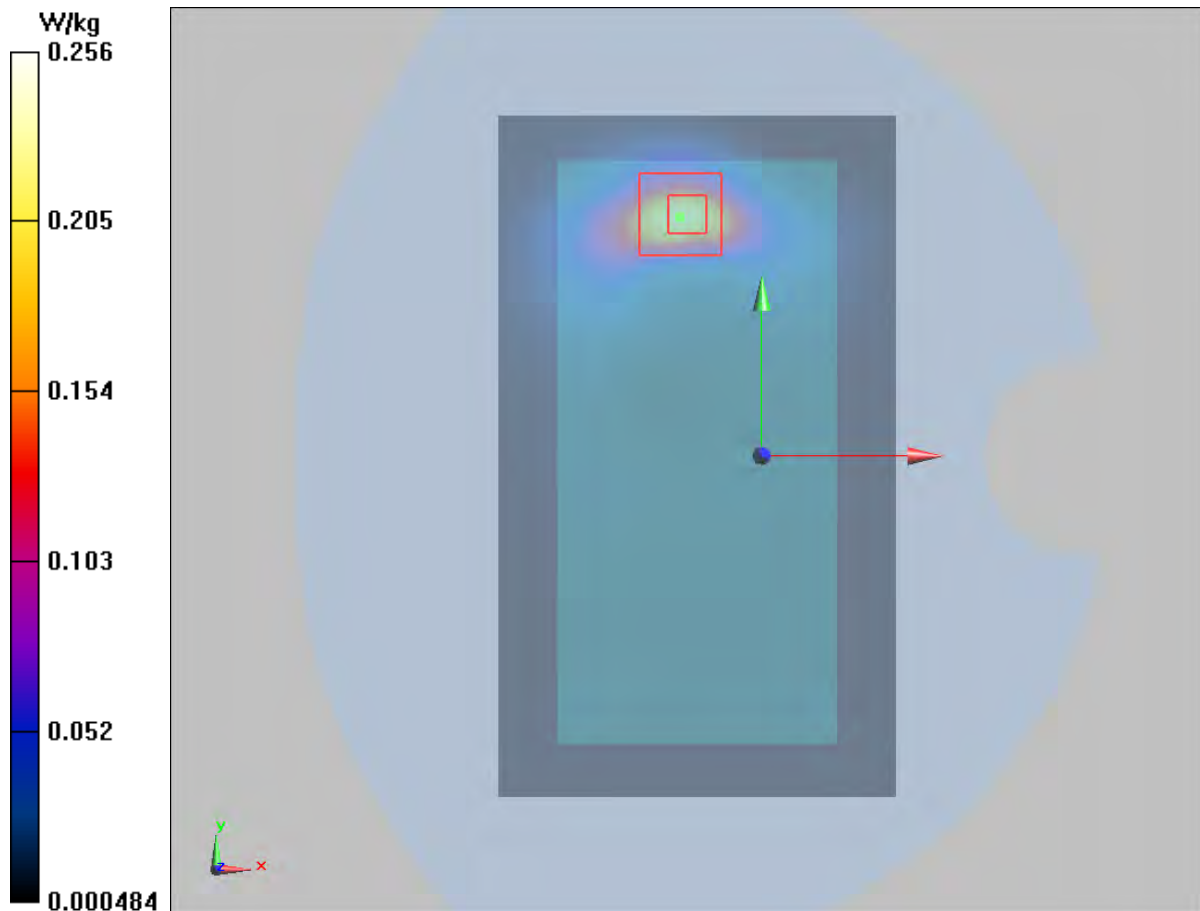
**Back Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.303 V/m; Power Drift = 0.068 dB

Peak SAR (extrapolated) = 0.471 W/kg

**SAR(1 g) = 0.219 W/kg; SAR(10 g) = 0.095 W/kg**

Maximum value of SAR (measured) = 0.256 W/kg



**Plot 128 802.11b Back Side Middle (REC Off, Distance 10mm)**

Date: 9/23/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.891$  S/m;  $\epsilon_r = 51.448$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.600 W/kg

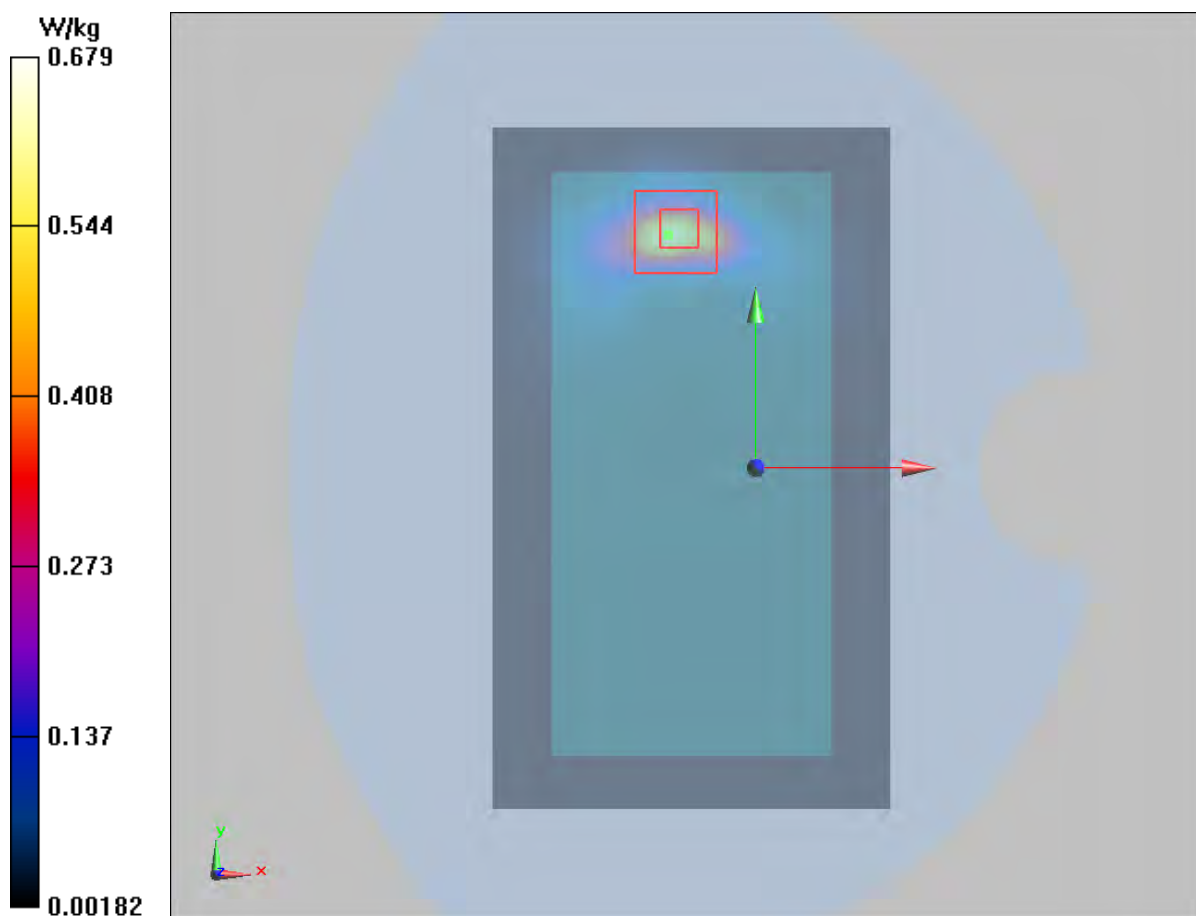
**Back Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.414 V/m; Power Drift = 0.033 dB

Peak SAR (extrapolated) = 1.40 W/kg

**SAR(1 g) = 0.540 W/kg; SAR(10 g) = 0.223 W/kg**

Maximum value of SAR (measured) = 0.679 W/kg



**Wi-Fi Antenna 1****Plot 129 802.11g Left Cheek Middle (REC On, Battery 2)**

Date: 9/25/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.846$  S/m;  $\epsilon_r = 39.132$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(7.64, 7.64, 7.64); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.601 W/kg

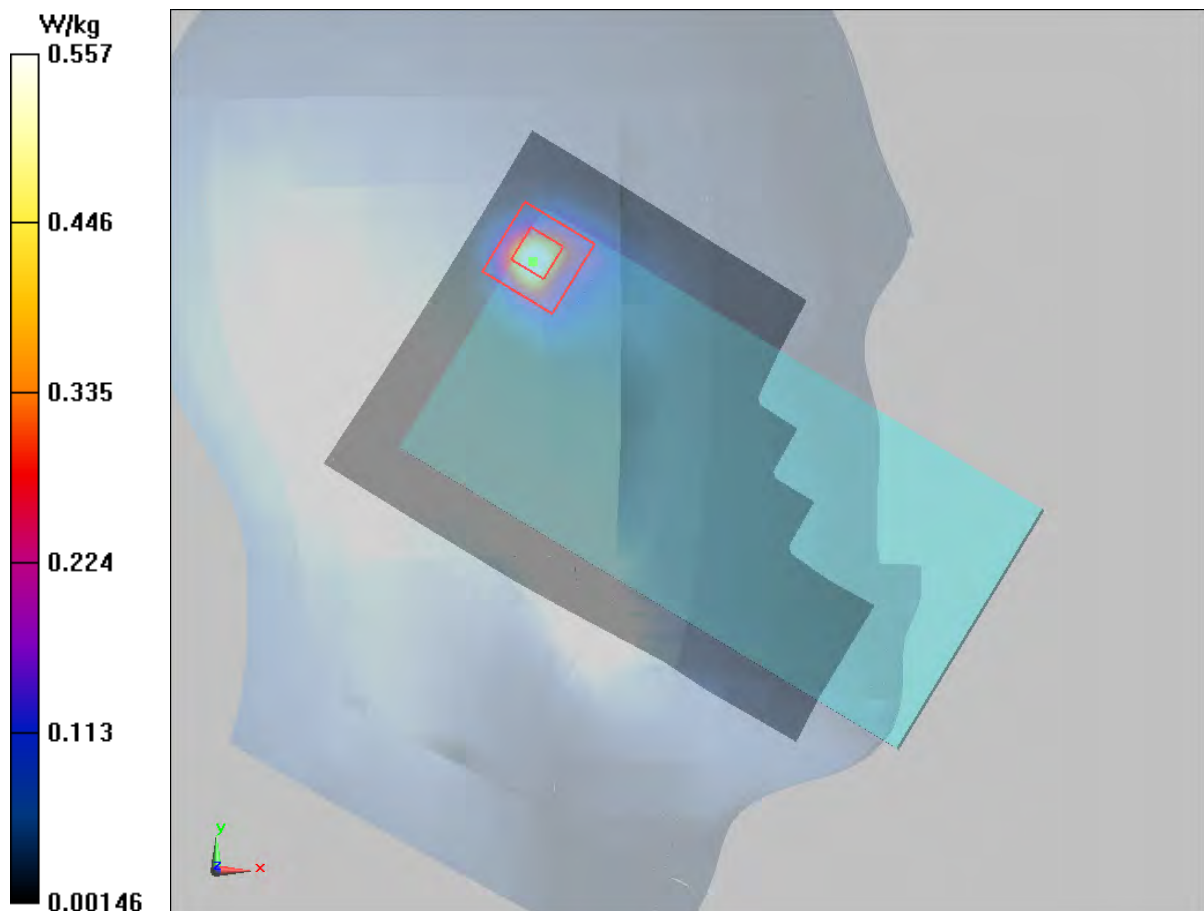
**Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.477 V/m; Power Drift = 0.025 dB

Peak SAR (extrapolated) = 1.28 W/kg

**SAR(1 g) = 0.510 W/kg; SAR(10 g) = 0.236 W/kg**

Maximum value of SAR (measured) = 0.557 W/kg



**Plot 130 802.11g Back Side Middle (REC Off, Distance 15mm)**

Date: 9/23/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.891$  S/m;  $\epsilon_r = 51.448$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.120 W/kg

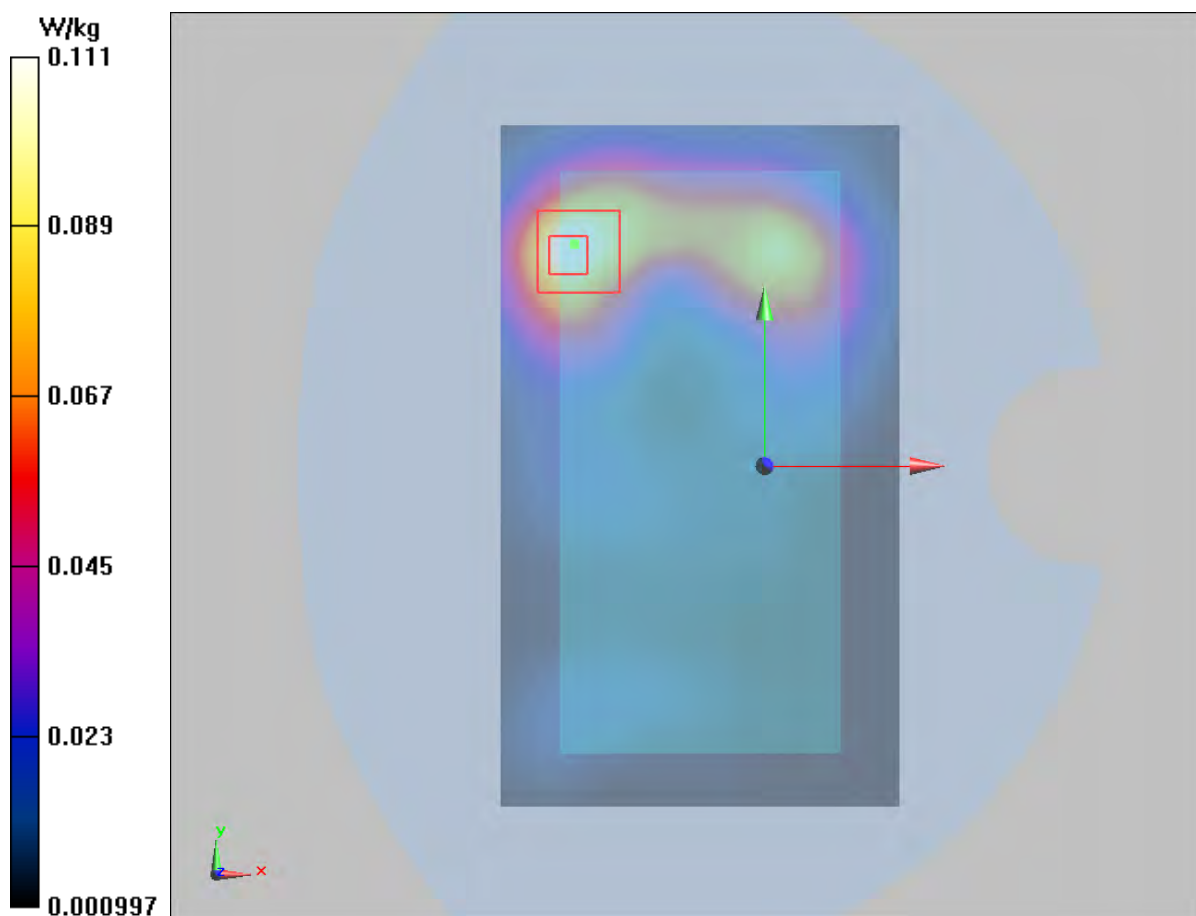
**Back Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.978 V/m; Power Drift = 0.101 dB

Peak SAR (extrapolated) = 0.199 W/kg

**SAR(1 g) = 0.103 W/kg; SAR(10 g) = 0.054 W/kg**

Maximum value of SAR (measured) = 0.111 W/kg



**Plot 131 802.11g Top Edge Middle (REC Off, Distance 10mm)**

Date: 9/23/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.891$  S/m;  $\epsilon_r = 51.448$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Top Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.328 W/kg

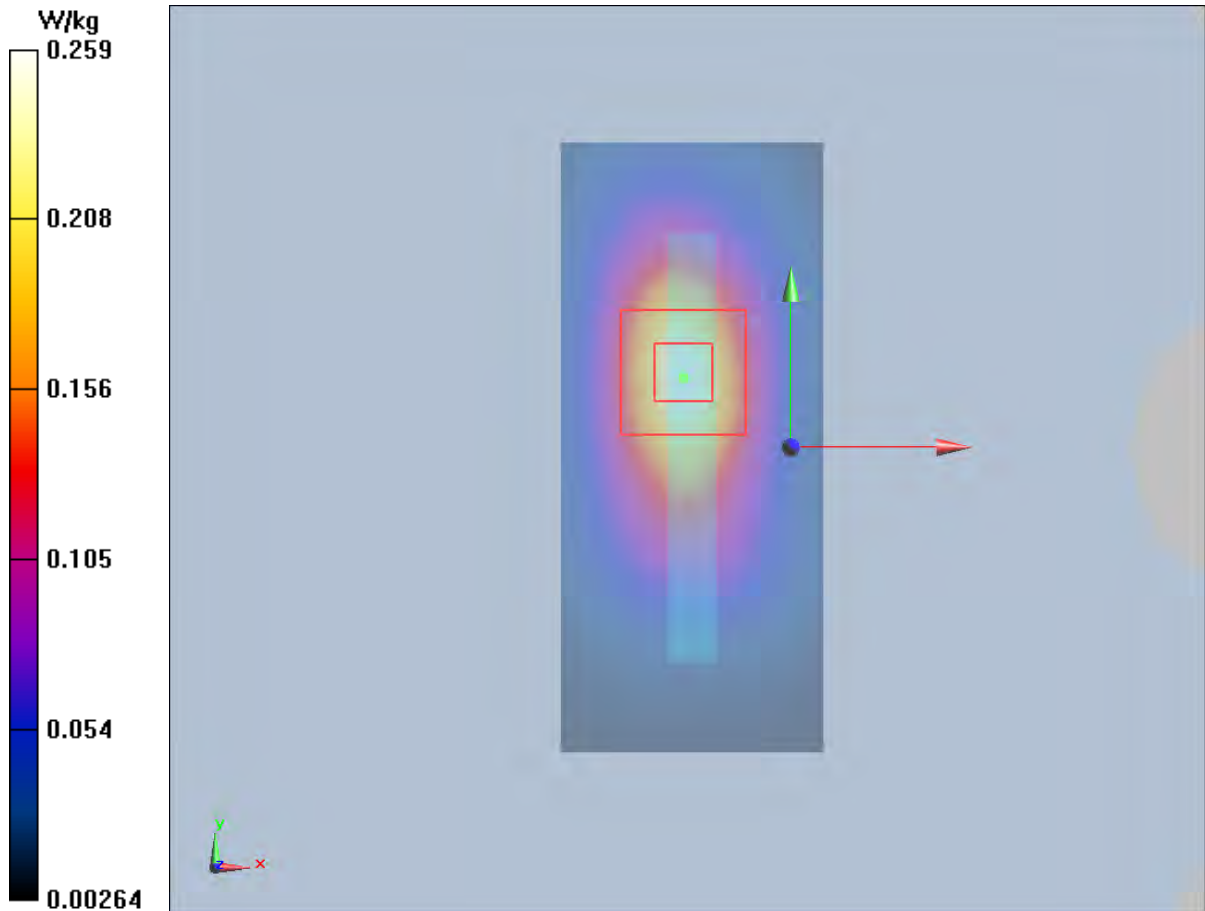
**Top Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.302 V/m; Power Drift = 0.051 dB

Peak SAR (extrapolated) = 0.491 W/kg

**SAR(1 g) = 0.242 W/kg; SAR(10 g) = 0.123 W/kg**

Maximum value of SAR (measured) = 0.259 W/kg



**Wi-Fi Antenna 2**

**Plot 132 802.11g Left Cheek Middle (REC On, Battery 2)**

Date: 9/25/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437 \text{ MHz}$ ;  $\sigma = 1.846 \text{ S/m}$ ;  $\epsilon_r = 39.132$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(7.64, 7.64, 7.64); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (91x151x1):** Interpolated grid:  $dx=1.200 \text{ mm}$ ,  $dy=1.200 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.137 \text{ W/kg}$

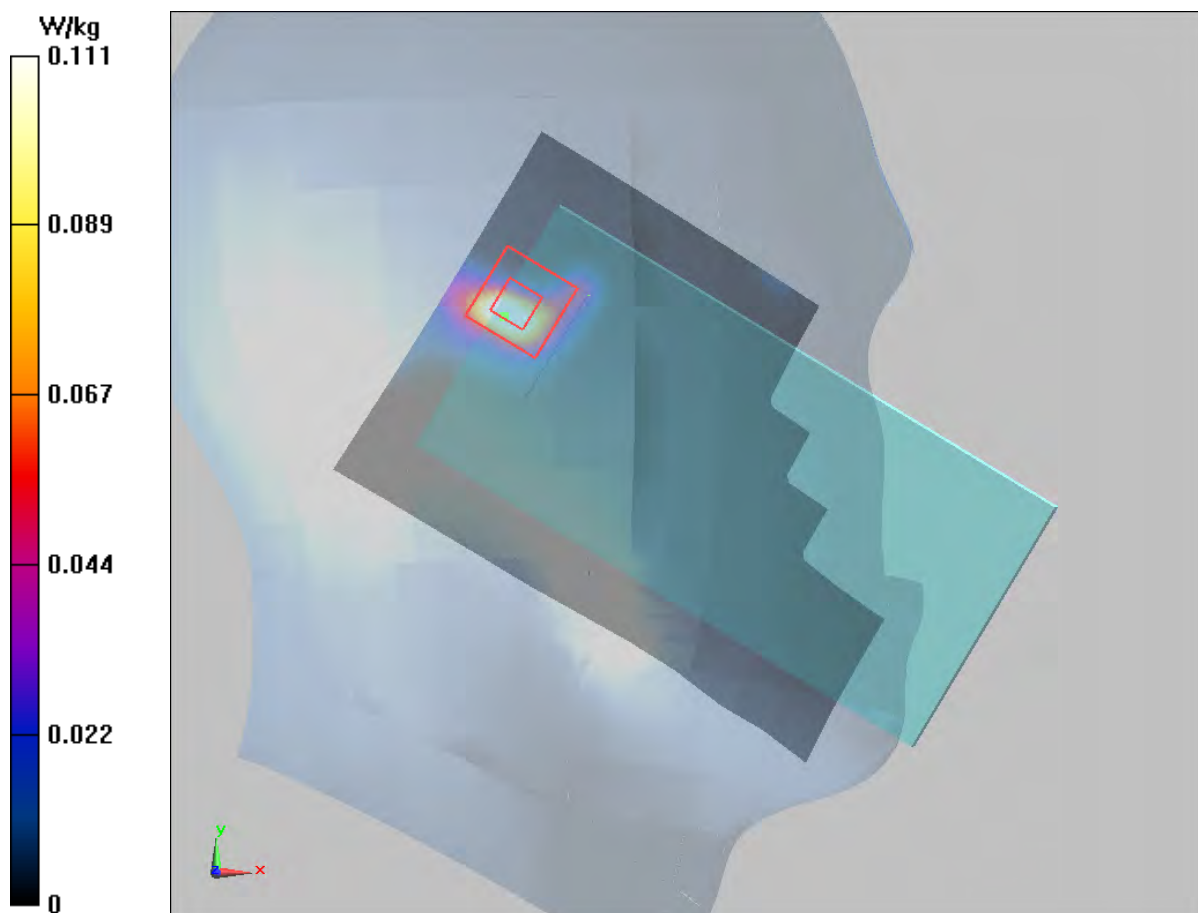
**Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $5.100 \text{ V/m}$ ; Power Drift =  $0.026 \text{ dB}$

Peak SAR (extrapolated) =  $0.258 \text{ W/kg}$

**SAR(1 g) =  $0.097 \text{ W/kg}$ ; SAR(10 g) =  $0.036 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.111 \text{ W/kg}$



**Plot 133 802.11g Back Side Middle (REC Off, Distance 15mm)**

Date: 9/23/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.891$  S/m;  $\epsilon_r = 51.448$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.00548 W/kg

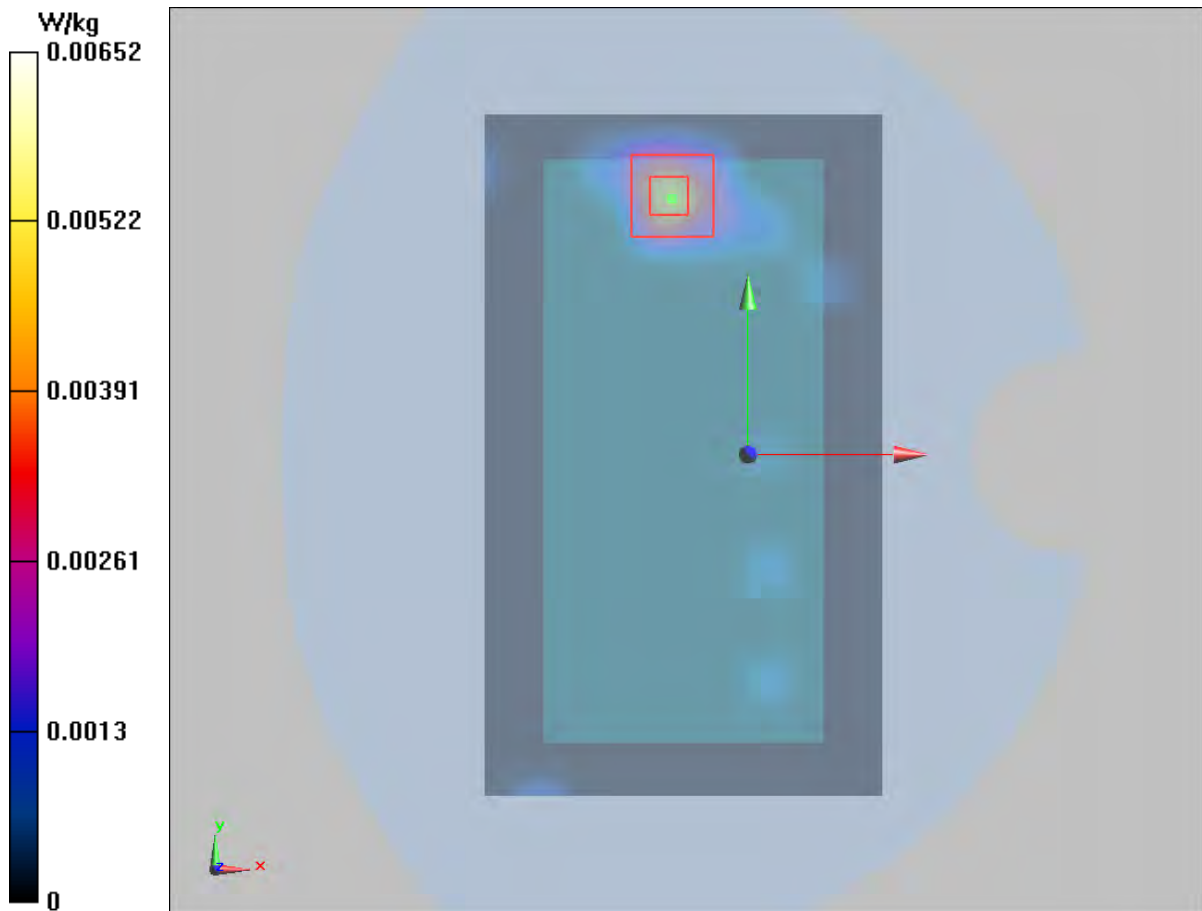
**Back Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.4100 V/m; Power Drift = 0.043 dB

Peak SAR (extrapolated) = 0.0130 W/kg

**SAR(1 g) = 0.00525 W/kg; SAR(10 g) = 0.00199 W/kg**

Maximum value of SAR (measured) = 0.00652 W/kg





**Plot 134 802.11g Back Side Middle (REC Off, Distance 10mm)**

Date: 9/23/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.891$  S/m;  $\epsilon_r = 51.448$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0298 W/kg

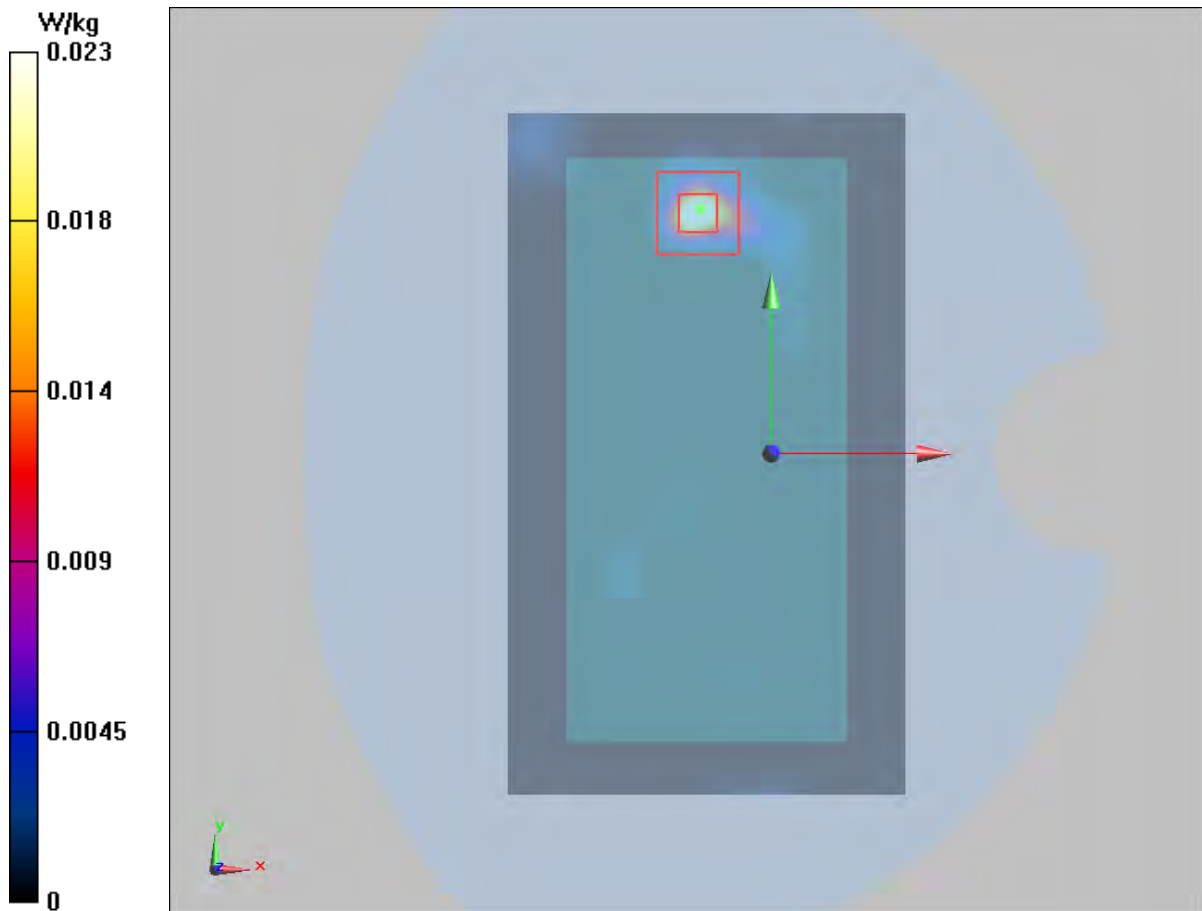
**Back Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.2790 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.0340 W/kg

**SAR(1 g) = 0.016 W/kg; SAR(10 g) = 0.00603 W/kg**

Maximum value of SAR (measured) = 0.023 W/kg



**Wi-Fi Antenna 1****Plot 135 802.11ac HT80 U-NII-2A Left Cheek CH58 (REC On)**

Date: 9/24/2017

Communication System: UID 0, 802.11ac (0); Frequency: 5290 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5290$  MHz;  $\sigma = 4.803$  S/m;  $\epsilon_r = 35.856$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.66, 5.66, 5.66); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.718 W/kg

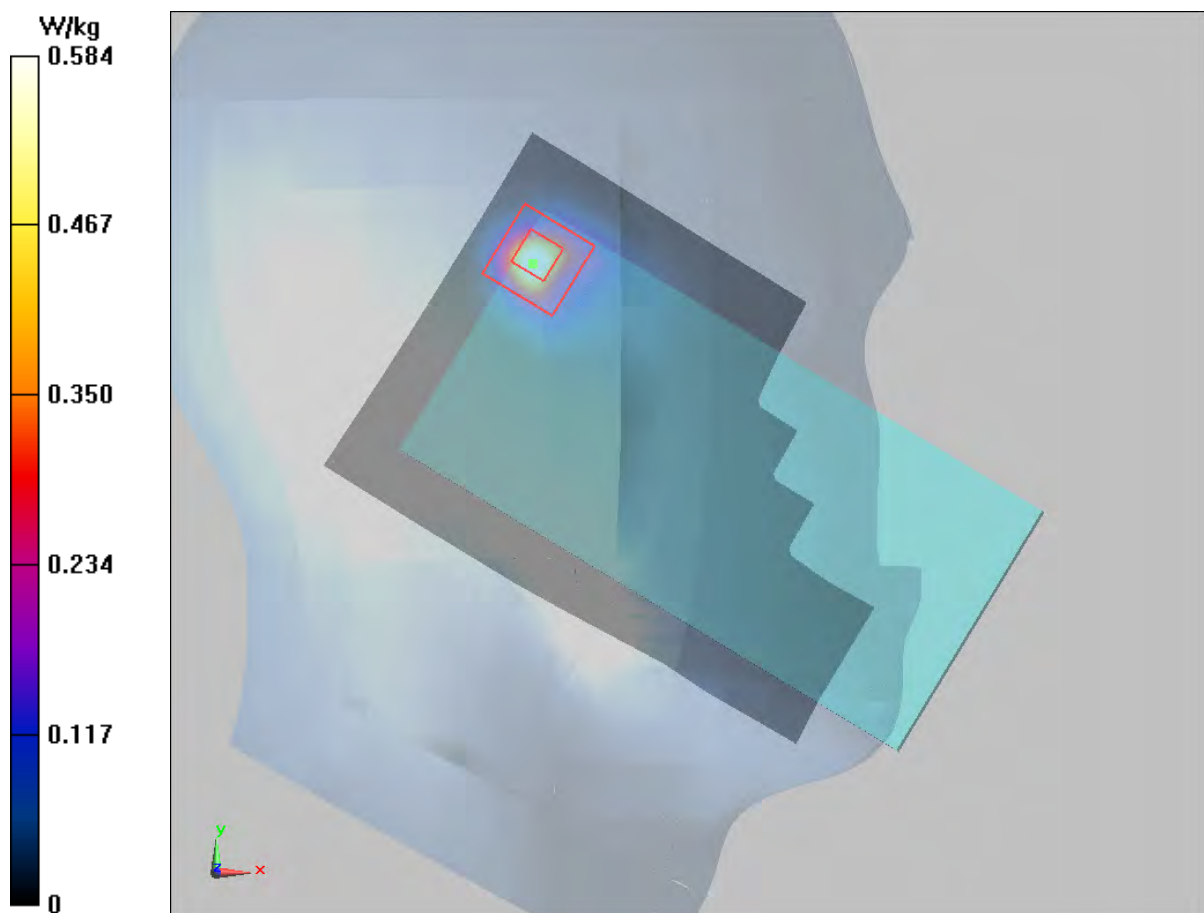
**Left Cheek Middle/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.7440 V/m; Power Drift = 0.107 dB

Peak SAR (extrapolated) = 1.33 W/kg

**SAR(1 g) = 0.327 W/kg; SAR(10 g) = 0.134 W/kg**

Maximum value of SAR (measured) = 0.584 W/kg



**Plot 136 802.11a U-NII-2A Back Side CH52 (REC Off, Distance 15mm)**

Date: 9/22/2017

Communication System: UID 0, 802.11a (0); Frequency: 5260 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5260$  MHz;  $\sigma = 5.435$  S/m;  $\epsilon_r = 46.681$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.03, 5.03, 5.03); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.206 W/kg

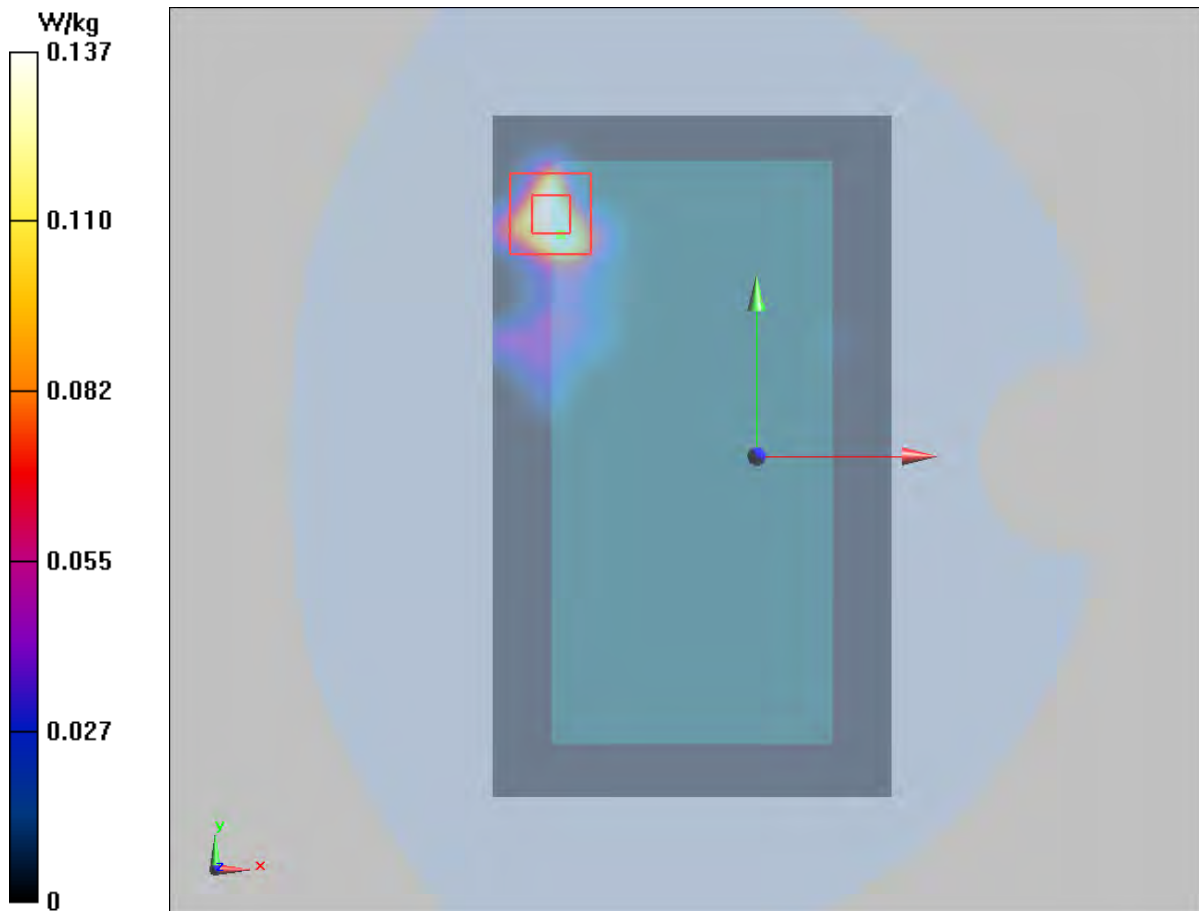
**Back Side Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.600 W/kg

**SAR(1 g) = 0.127 W/kg; SAR(10 g) = 0.044 W/kg**

Maximum value of SAR (measured) = 0.137 W/kg



**Plot 137 802.11a U-NII-2A Back Side CH52 (REC Off, Distance 0mm)**

Date: 9/22/2017

Communication System: UID 0, 802.11a (0); Frequency: 5260 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5260$  MHz;  $\sigma = 5.435$  S/m;  $\epsilon_r = 46.681$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.03, 5.03, 5.03); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 2.11 W/kg

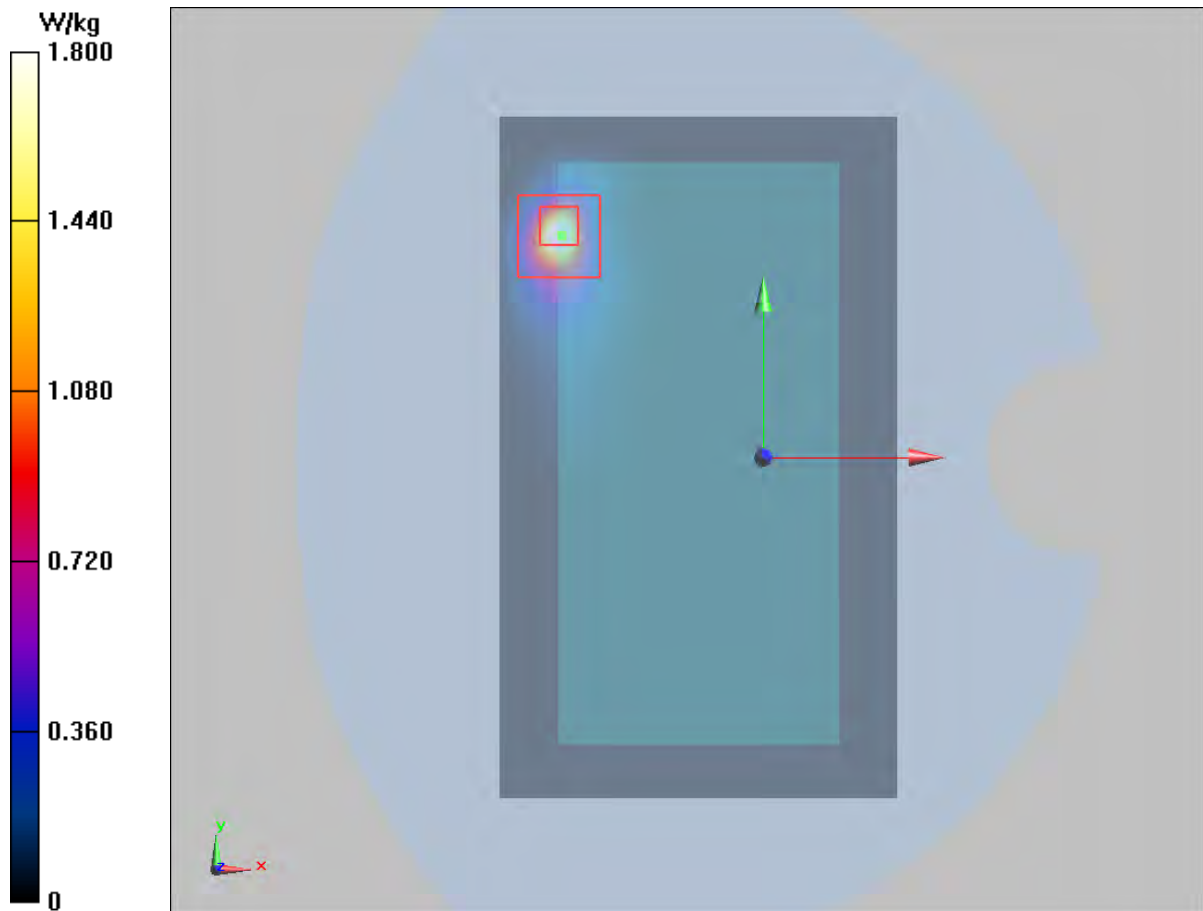
**Back Side Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 3.56 W/kg

**SAR(1 g) = 1.22 W/kg; SAR(10 g) = 0.345 W/kg**

Maximum value of SAR (measured) = 1.80 W/kg



**Plot 138 802.11a U-NII-1 Back Side CH36 (REC Off, Distance 10mm)**

Date: 9/22/2017

Communication System: UID 0, 802.11a (0); Frequency: 5180 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5180$  MHz;  $\sigma = 5.29$  S/m;  $\epsilon_r = 48.113$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.03, 5.03, 5.03); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.173 W/kg

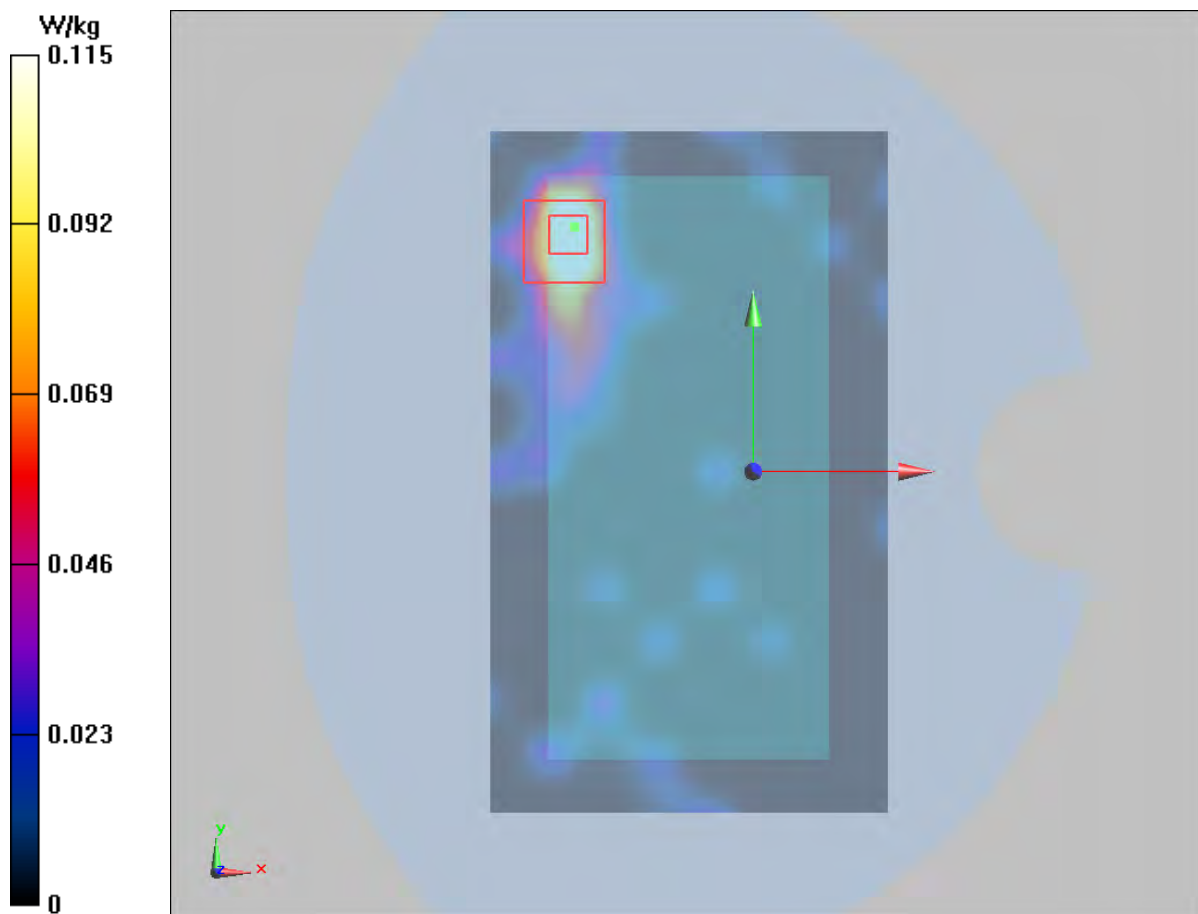
**Back Side Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.450 W/kg

**SAR(1 g) = 0.114 W/kg; SAR(10 g) = 0.041 W/kg**

Maximum value of SAR (measured) = 0.115 W/kg



**Plot 139 802.11ac HT80 U-NII-2C Left Cheek CH106 (REC On, Battery 3)**

Date: 9/24/2017

Communication System: UID 0, 802.11ac (0); Frequency: 5530 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5530$  MHz;  $\sigma = 5.109$  S/m;  $\epsilon_r = 35.234$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.99, 4.99, 4.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Low/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.635 W/kg

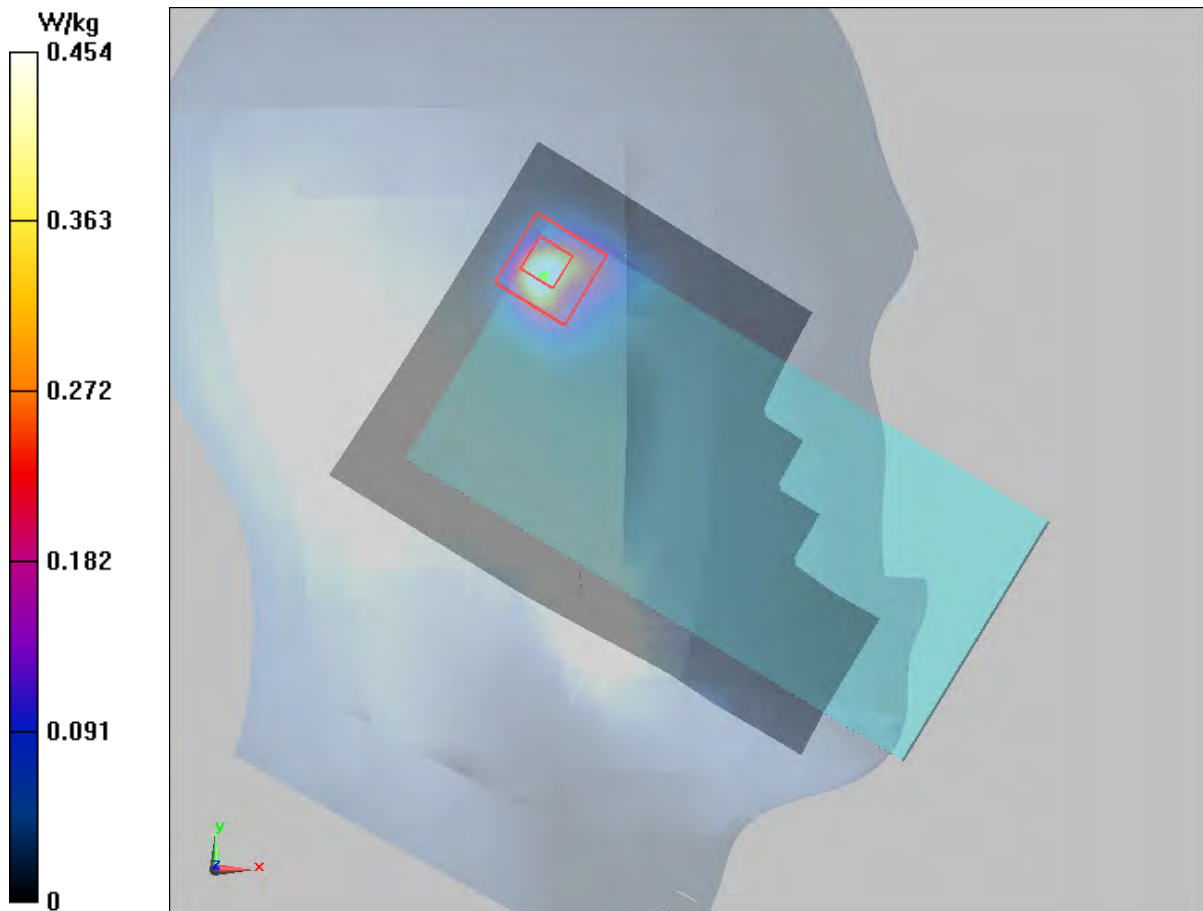
**Left Cheek Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.6800 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 1.25 W/kg

**SAR(1 g) = 0.398 W/kg; SAR(10 g) = 0.120 W/kg**

Maximum value of SAR (measured) = 0.454 W/kg



**Plot 140 802.11a U-NII-2C Back Side CH140 (REC Off, Distance 15mm)**

Date: 9/26/2017

Communication System: UID 0, 802.11a (0); Frequency: 5700 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5700$  MHz;  $\sigma = 5.986$  S/m;  $\epsilon_r = 47.873$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.52, 4.52, 4.52); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.210 W/kg

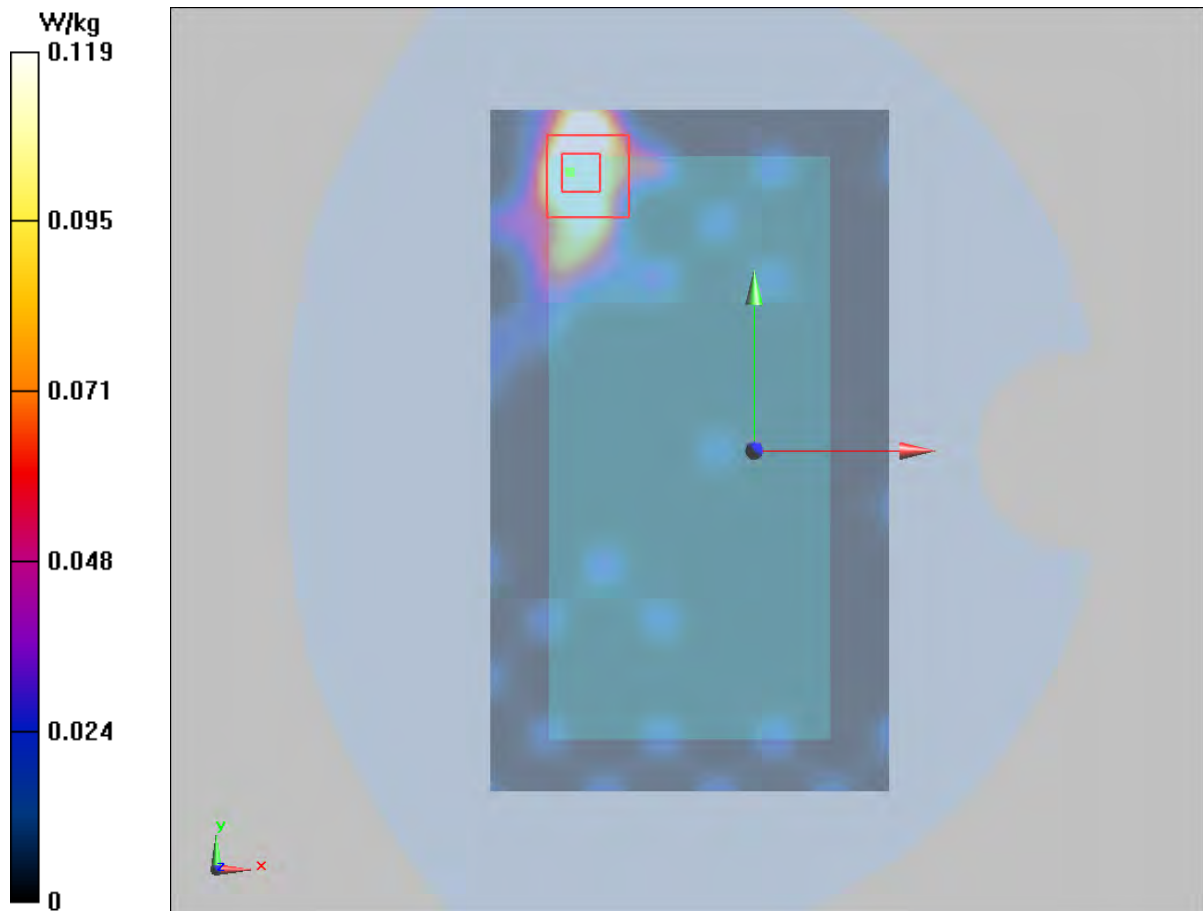
**Back Side High/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.671 W/kg

**SAR(1 g) = 0.142 W/kg; SAR(10 g) = 0.053 W/kg**

Maximum value of SAR (measured) = 0.119 W/kg



**Plot 141 802.11a U-NII-2C Back Side CH140 (REC Off, Distance 0mm)**

Date: 9/26/2017

Communication System: UID 0, 802.11a (0); Frequency: 5700 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5700$  MHz;  $\sigma = 5.986$  S/m;  $\epsilon_r = 47.873$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.52, 4.52, 4.52); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 2.48 W/kg

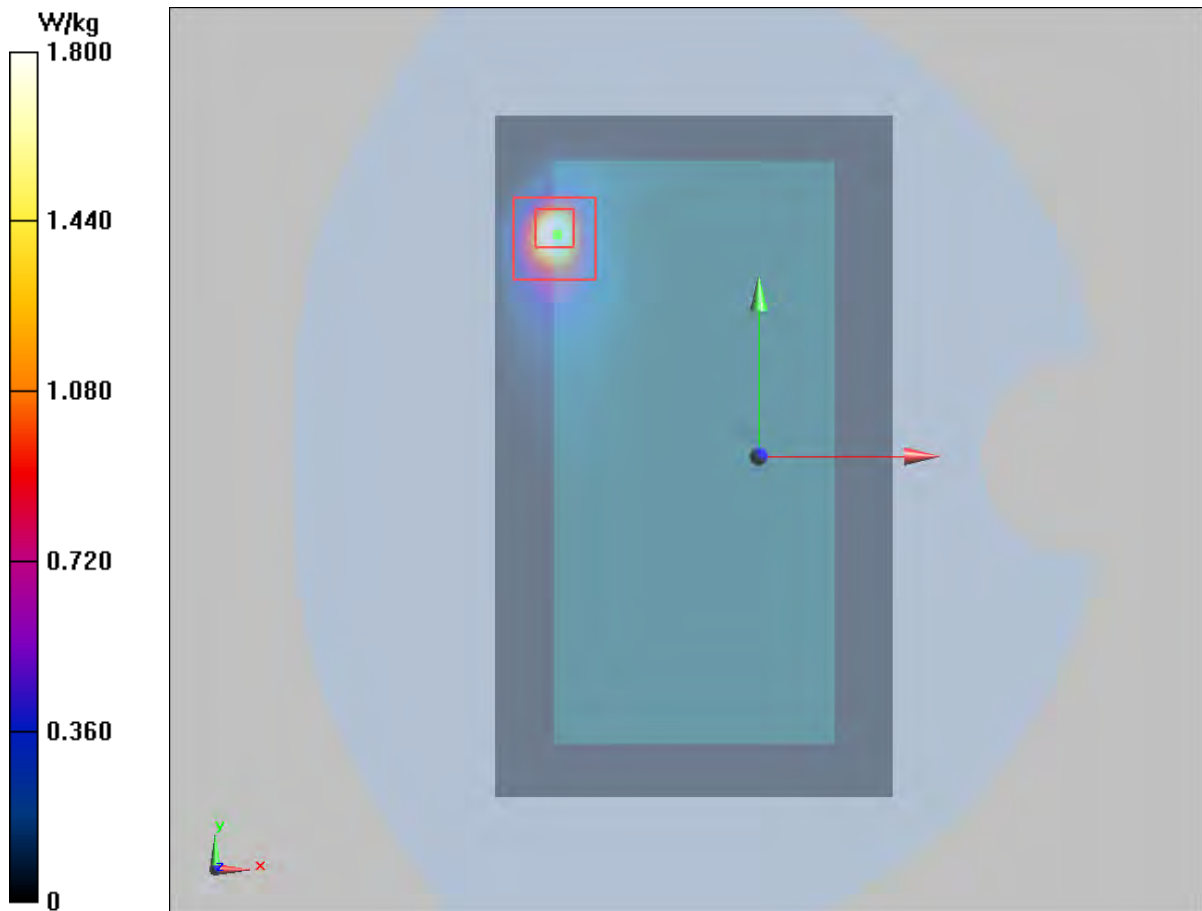
**Back Side High/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 4.17 W/kg

**SAR(1 g) = 1.36 W/kg; SAR(10 g) = 0.388 W/kg**

Maximum value of SAR (measured) = 1.80 W/kg





**Plot 142 802.11ac HT80 U-NII-3 Left Cheek CH155 (REC On, Battery 2)**

Date: 9/25/2017

Communication System: UID 0, 802.11ac (0); Frequency: 5775 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5775$  MHz;  $\sigma = 5.428$  S/m;  $\epsilon_r = 34.617$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.00, 5.00, 5.00); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek High/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.615 W/kg

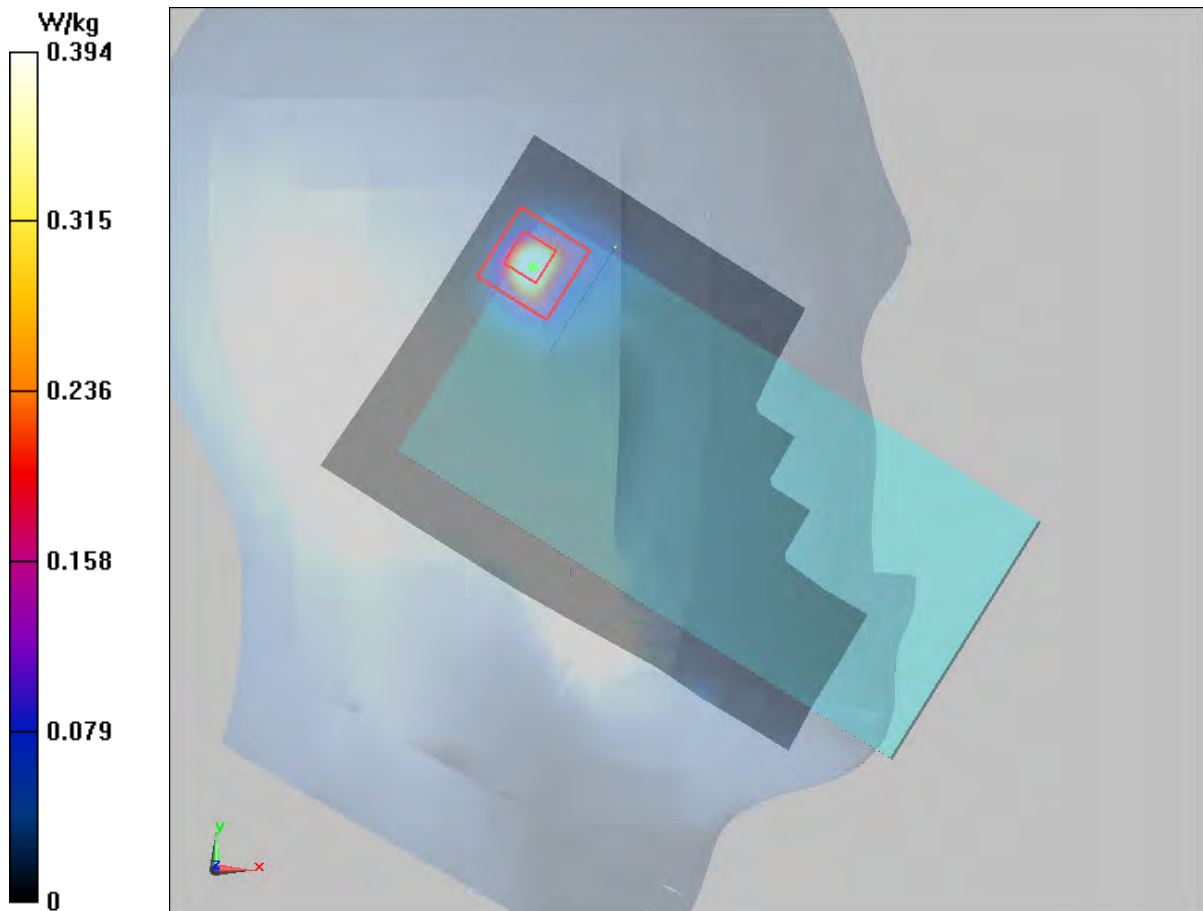
**Left Cheek High/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.239 V/m; Power Drift = 0.033 dB

Peak SAR (extrapolated) = 1.14 W/kg

**SAR(1 g) = 0.332 W/kg; SAR(10 g) = 0.094 W/kg**

Maximum value of SAR (measured) = 0.394 W/kg



**Plot 143 802.11a U-NII-3 Back Side CH165 (REC Off, Distance 15mm)**

Date: 9/26/2017

Communication System: UID 0, 802.11a (0); Frequency: 5825 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5825 \text{ MHz}$ ;  $\sigma = 6.174 \text{ S/m}$ ;  $\epsilon_r = 47.504$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.52, 4.52, 4.52); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (111x181x1):** Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.234 \text{ W/kg}$

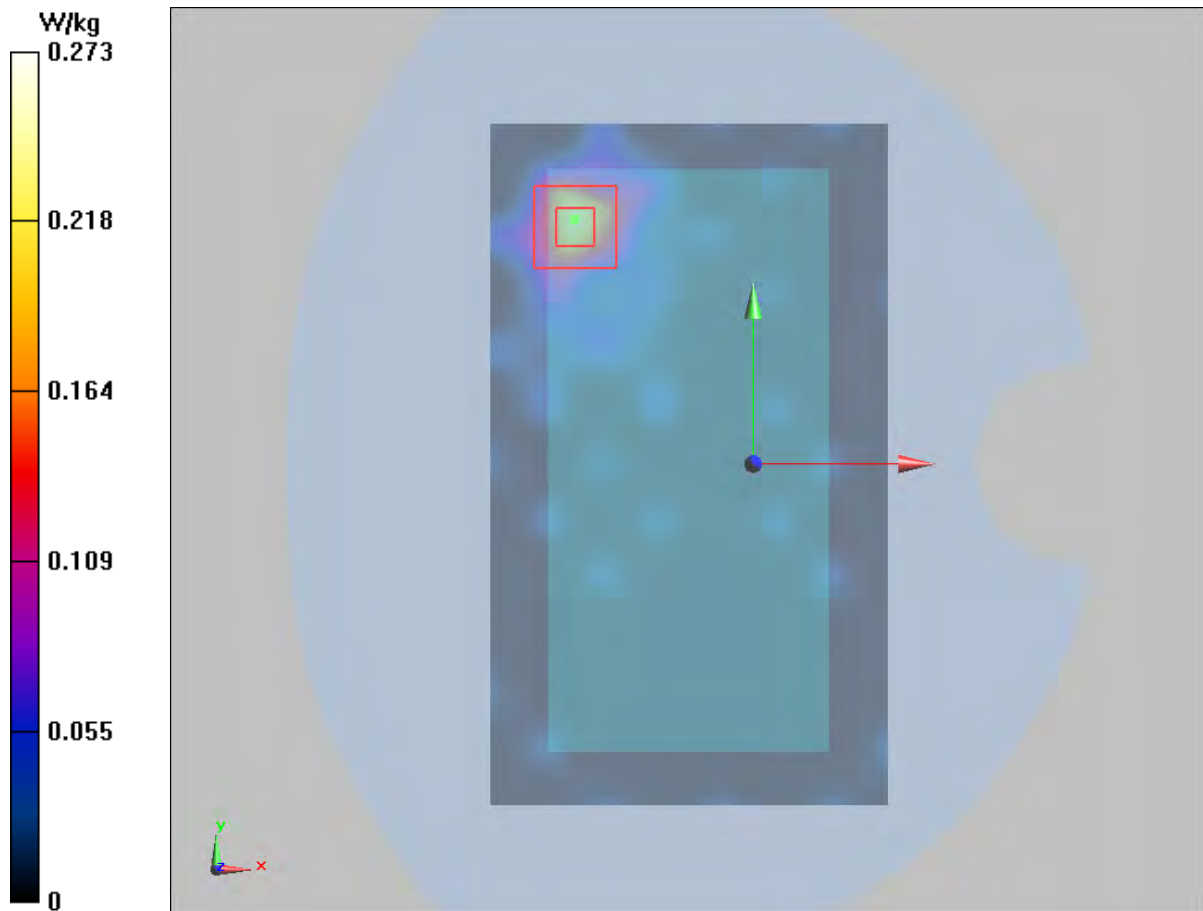
**Back Side High/Zoom Scan (7x7x11)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value =  $0 \text{ V/m}$ ; Power Drift =  $0.00 \text{ dB}$

Peak SAR (extrapolated) =  $0.961 \text{ W/kg}$

**SAR(1 g) =  $0.203 \text{ W/kg}$ ; SAR(10 g) =  $0.075 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.273 \text{ W/kg}$



**Plot 144 802.11a U-NII-3 Back Side CH165 (REC Off, Distance 10mm)**

Date: 9/26/2017

Communication System: UID 0, 802.11a (0); Frequency: 5825 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5825 \text{ MHz}$ ;  $\sigma = 6.174 \text{ S/m}$ ;  $\epsilon_r = 47.504$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.52, 4.52, 4.52); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (111x181x1):** Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.254 \text{ W/kg}$

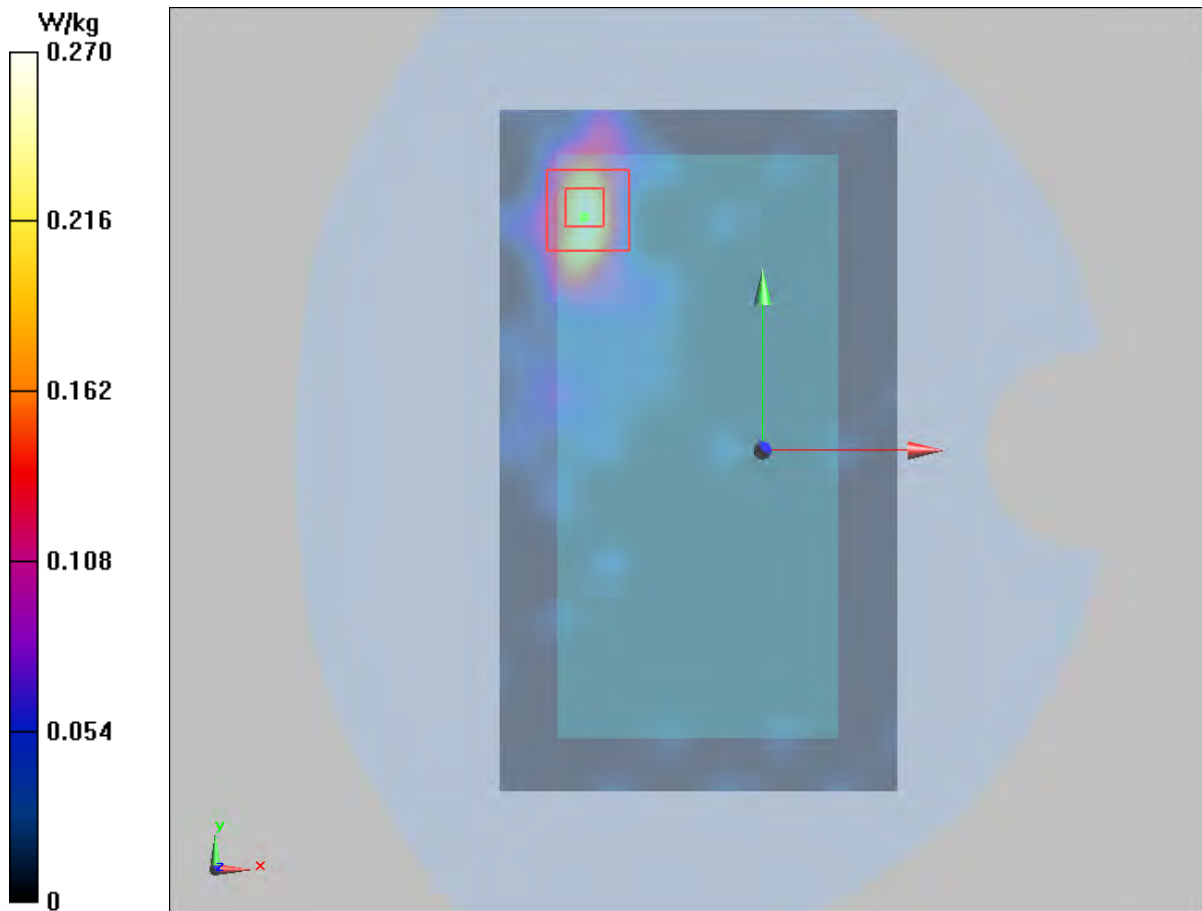
**Back Side High/Zoom Scan (7x7x11)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value =  $0.7120 \text{ V/m}$ ; Power Drift =  $0.00 \text{ dB}$

Peak SAR (extrapolated) =  $0.986 \text{ W/kg}$

**SAR(1 g) =  $0.180 \text{ W/kg}$ ; SAR(10 g) =  $0.080 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.270 \text{ W/kg}$



## Wi-Fi Antenna 2

### Plot 145 802.11ac HT80 U-NII-2A Left Cheek CH56 (REC On)

Date: 9/24/2017

Communication System: UID 0, 802.11a (0); Frequency: 5280 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5280$  MHz;  $\sigma = 4.79$  S/m;  $\epsilon_r = 35.88$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.66, 5.66, 5.66); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.453 W/kg

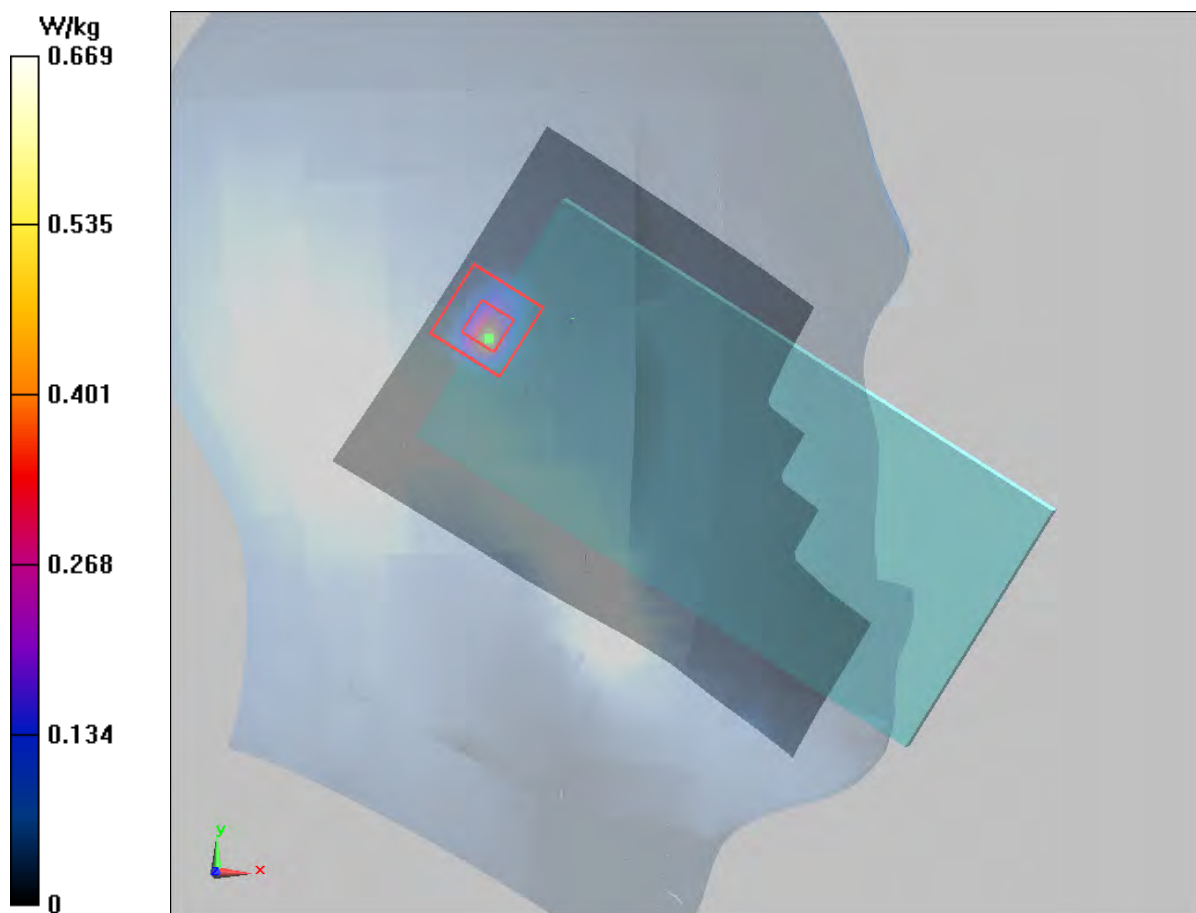
**Left Cheek Middle/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 7.938 V/m; Power Drift = 0.192 dB

Peak SAR (extrapolated) = 1.38 W/kg

**SAR(1 g) = 0.347 W/kg; SAR(10 g) = 0.098 W/kg**

Maximum value of SAR (measured) = 0.669 W/kg



**Plot 146 802.11a U-NII-2A Back Side CH64 (REC Off, Distance 15mm)**

Date: 9/22/2017

Communication System: UID 0, 802.11a (0); Frequency: 5320 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5320$  MHz;  $\sigma = 5.518$  S/m;  $\epsilon_r = 46.537$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.03, 5.03, 5.03); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0473 W/kg

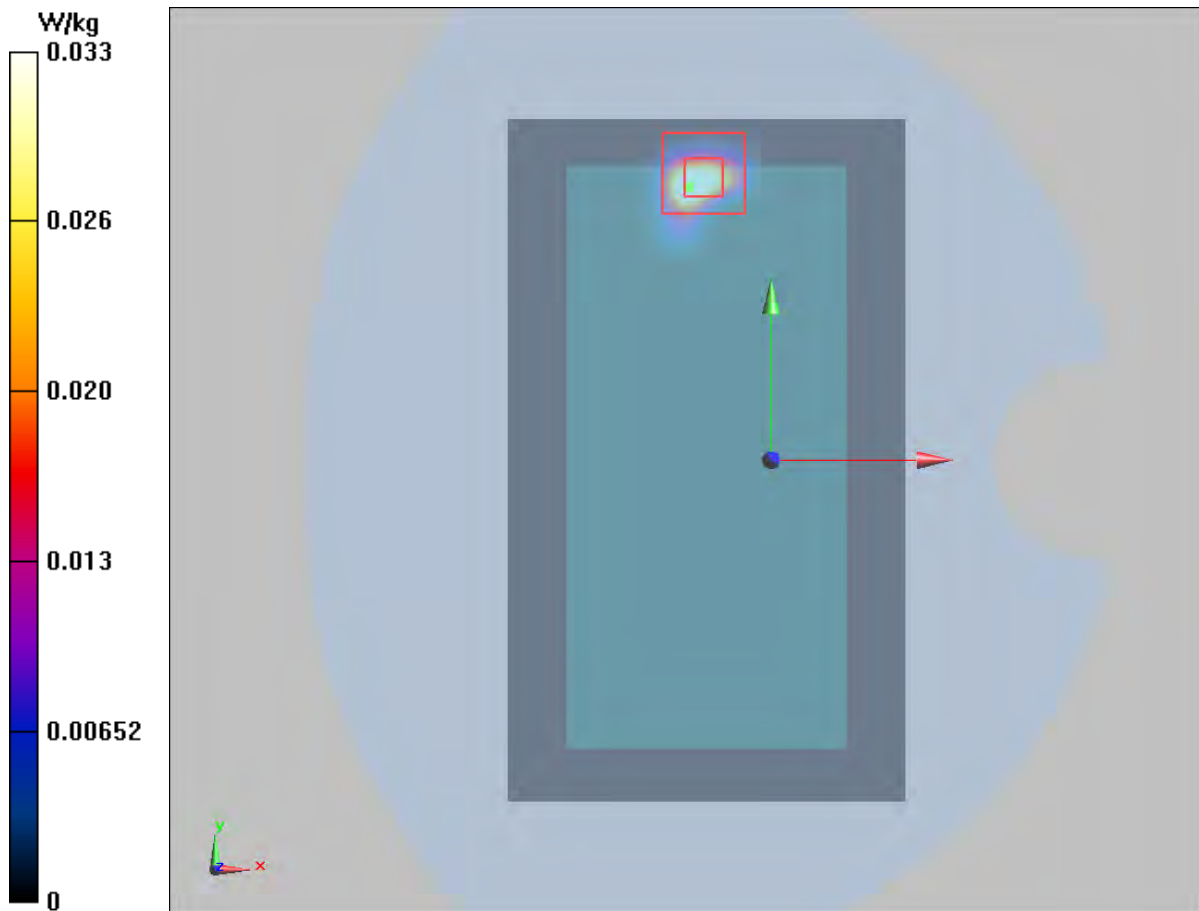
**Back Side High/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.128 W/kg

**SAR(1 g) = 0.027 W/kg; SAR(10 g) = 0.00518 W/kg**

Maximum value of SAR (measured) = 0.033 W/kg



**Plot 147 802.11a U-NII-2A Back Side CH64 (REC Off, Distance 0mm)**

Date: 9/22/2017

Communication System: UID 0, 802.11a (0); Frequency: 5320 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5320$  MHz;  $\sigma = 5.518$  S/m;  $\epsilon_r = 46.537$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.03, 5.03, 5.03); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.795 W/kg

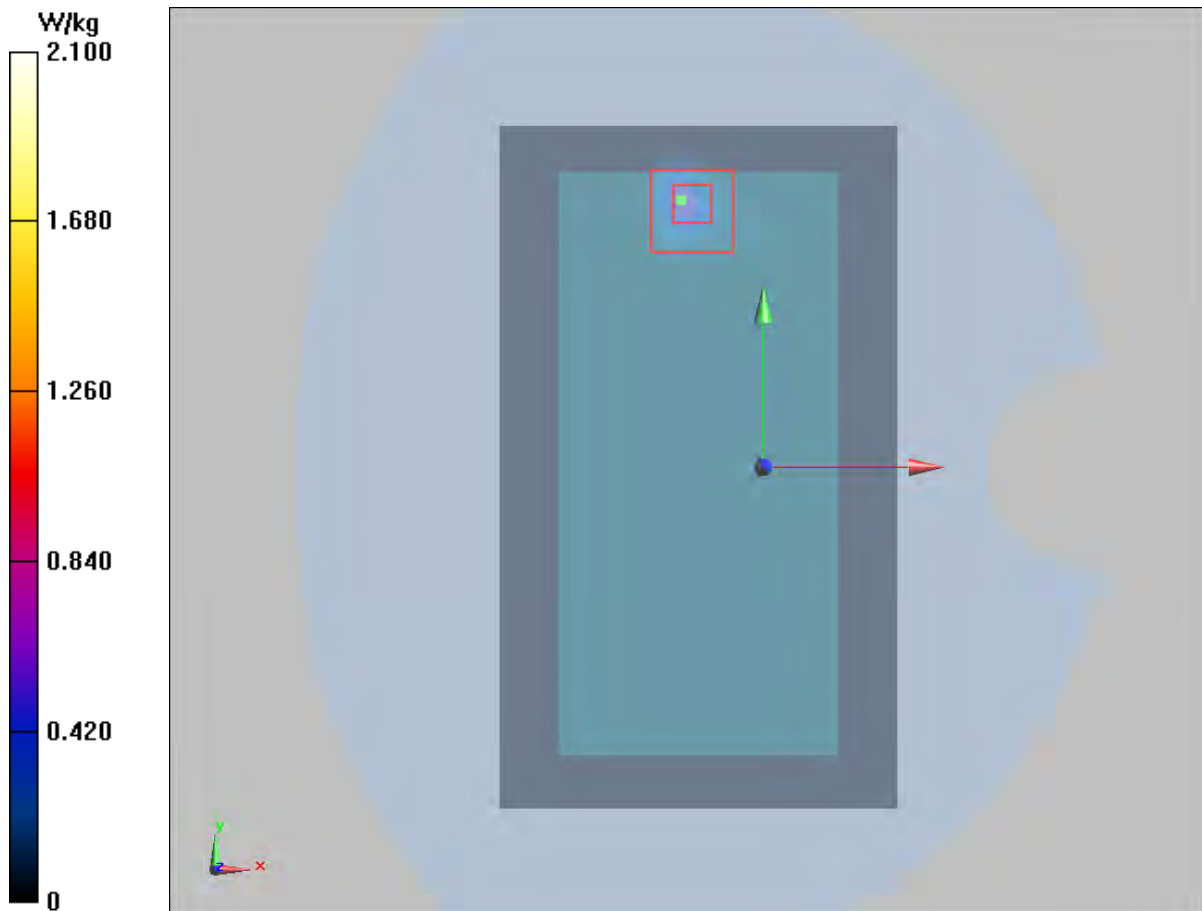
**Back Side High/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 3.93 W/kg

**SAR(1 g) = 1.21 W/kg; SAR(10 g) = 0.239 W/kg**

Maximum value of SAR (measured) = 2.10 W/kg



**Plot 148 802.11a U-NII-1 Back Side CH36 (REC Off, Distance 10mm)**

Date: 9/22/2017

Communication System: UID 0, 802.11a (0); Frequency: 5180 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5180$  MHz;  $\sigma = 5.29$  S/m;  $\epsilon_r = 48.113$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.03, 5.03, 5.03); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0708 W/kg

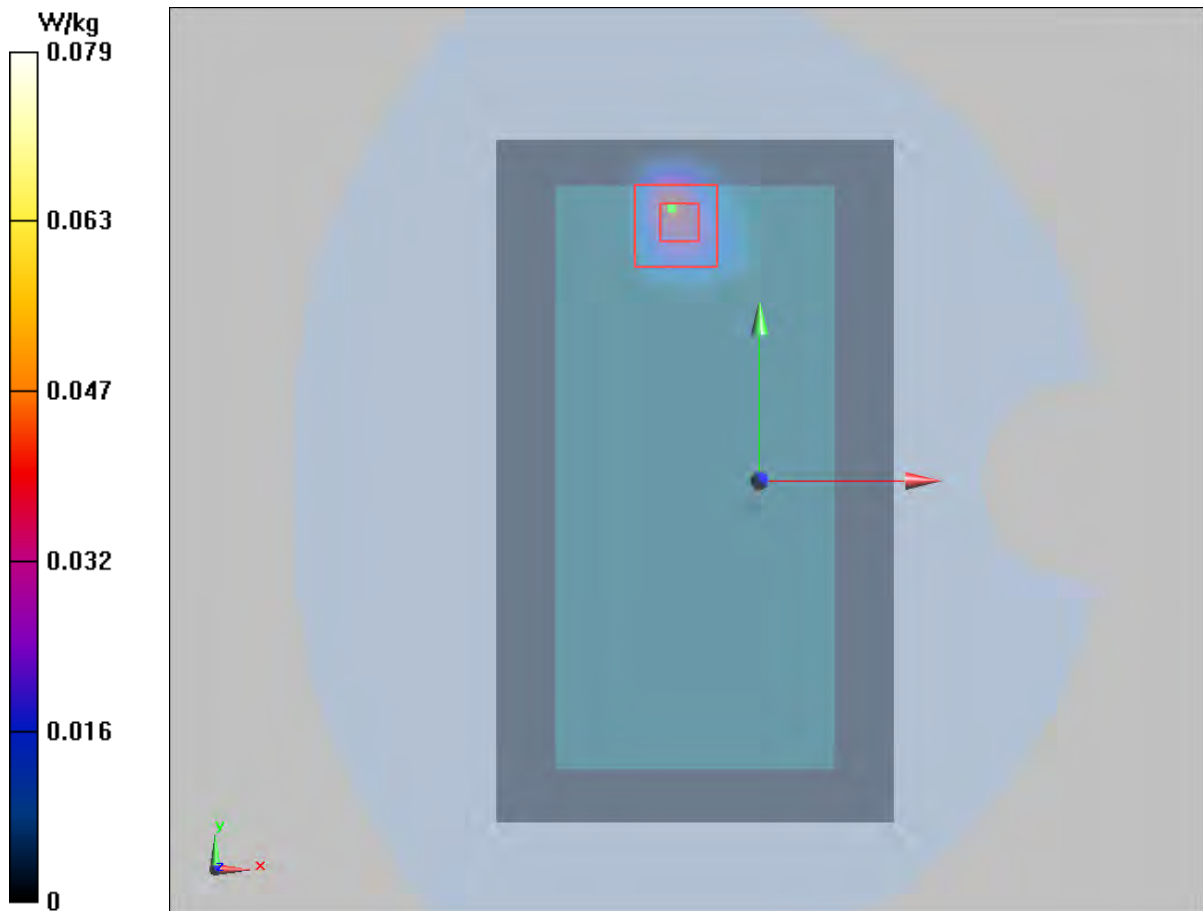
**Back Side Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.301 W/kg

**SAR(1 g) = 0.063 W/kg; SAR(10 g) = 0.014 W/kg**

Maximum value of SAR (measured) = 0.0788 W/kg



**Plot 149 802.11a U-NII-2C Right Cheek CH100 (REC On, Battery 3)**

Date: 9/24/2017

Communication System: UID 0, 802.11a (0); Frequency: 5500 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5500$  MHz;  $\sigma = 5.071$  S/m;  $\epsilon_r = 35.318$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.99, 4.99, 4.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Low/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.751 W/kg

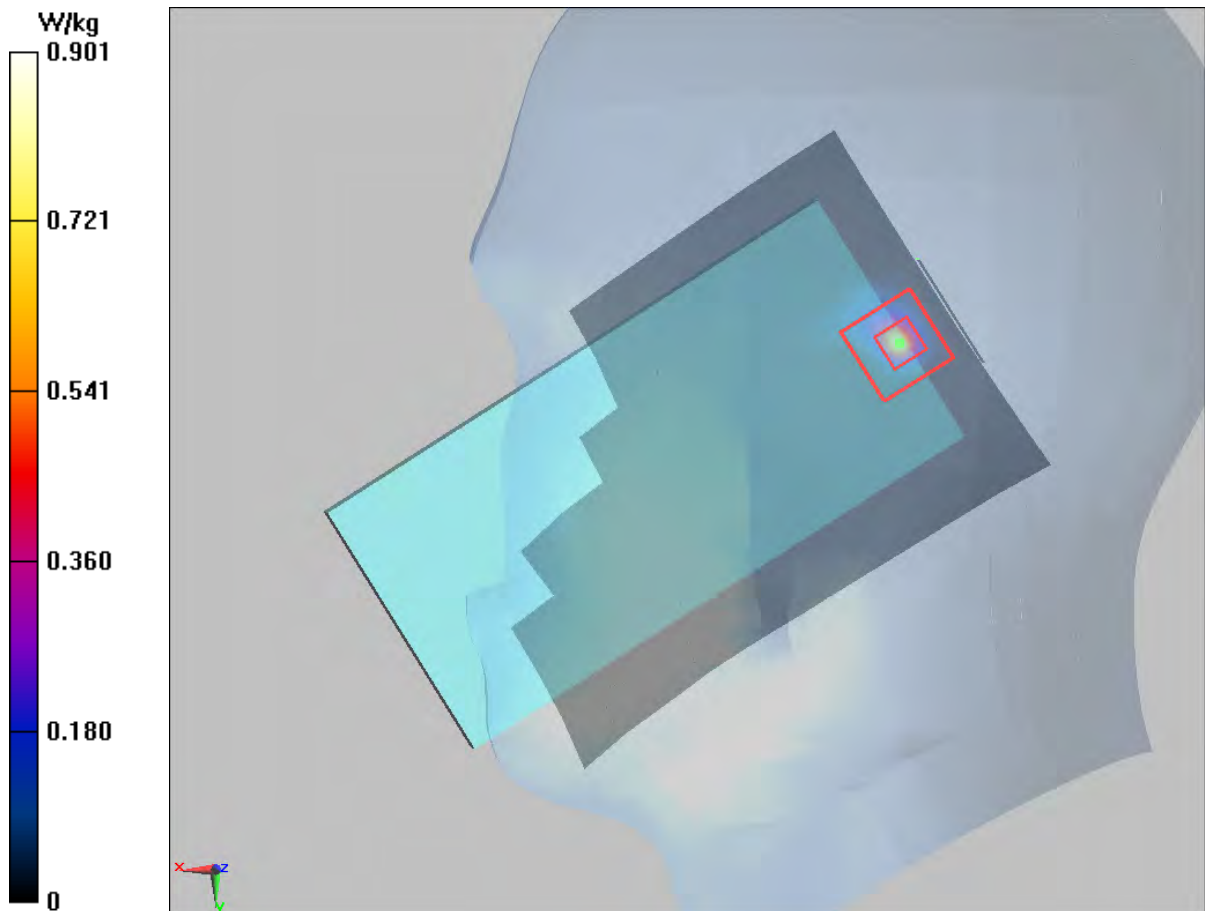
**Right Cheek Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 9.814 V/m; Power Drift = -0.197 dB

Peak SAR (extrapolated) = 1.67 W/kg

**SAR(1 g) = 0.371 W/kg; SAR(10 g) = 0.096 W/kg**

Maximum value of SAR (measured) = 0.901 W/kg





**Plot 150 802.11a U-NII-2C Back Side CH116 (REC Off, Distance 15mm)**

Date: 9/23/2017

Communication System: UID 0, 802.11a (0); Frequency: 5580 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5580$  MHz;  $\sigma = 5.924$  S/m;  $\epsilon_r = 47.551$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.34, 4.34, 4.34); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.530 W/kg

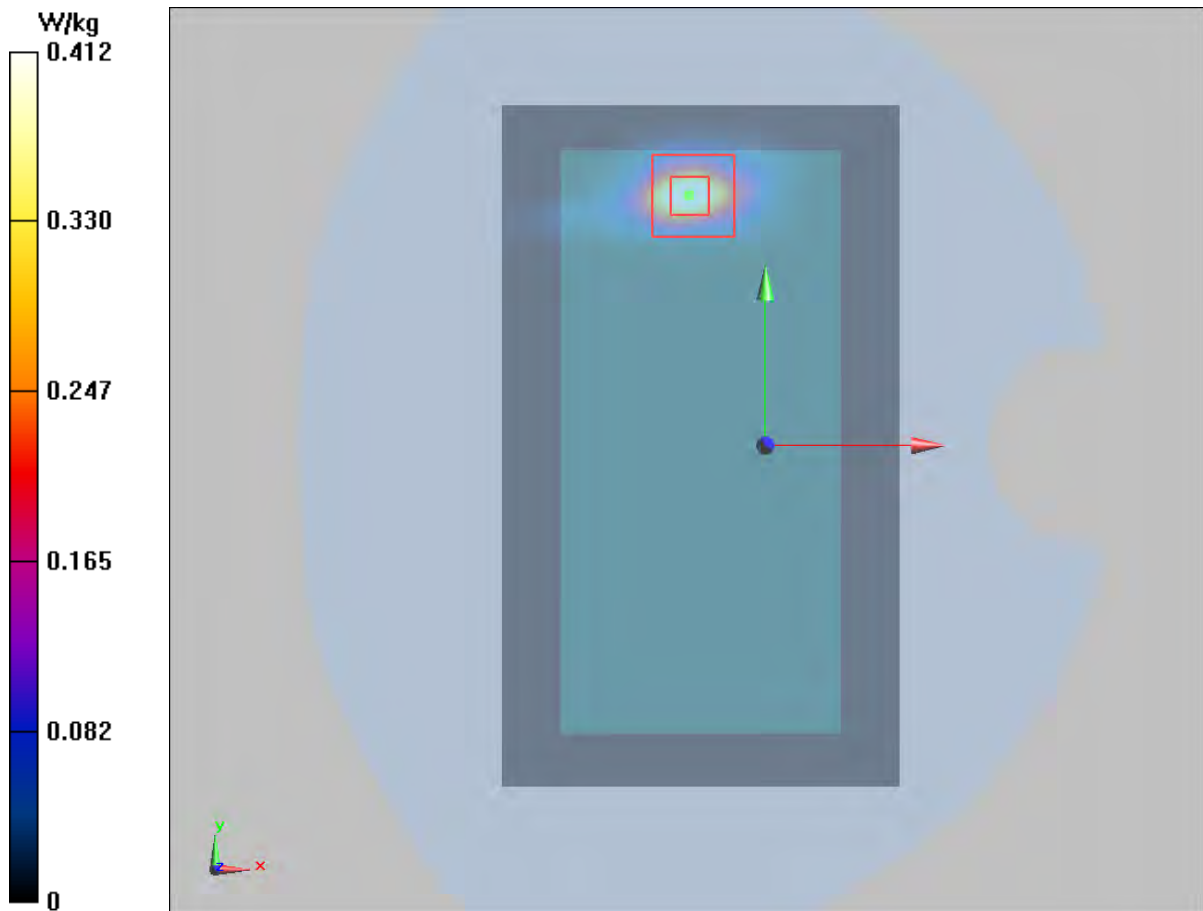
**Back Side Middle/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.24 W/kg

**SAR(1 g) = 0.333 W/kg; SAR(10 g) = 0.099 W/kg**

Maximum value of SAR (measured) = 0.412 W/kg



**Plot 151 802.11a U-NII-2C Back Side CH116 (REC Off, Distance 0mm)**

Date: 9/23/2017

Communication System: UID 0, 802.11a (0); Frequency: 5580 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5580$  MHz;  $\sigma = 5.924$  S/m;  $\epsilon_r = 47.551$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.34, 4.34, 4.34); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.708 W/kg

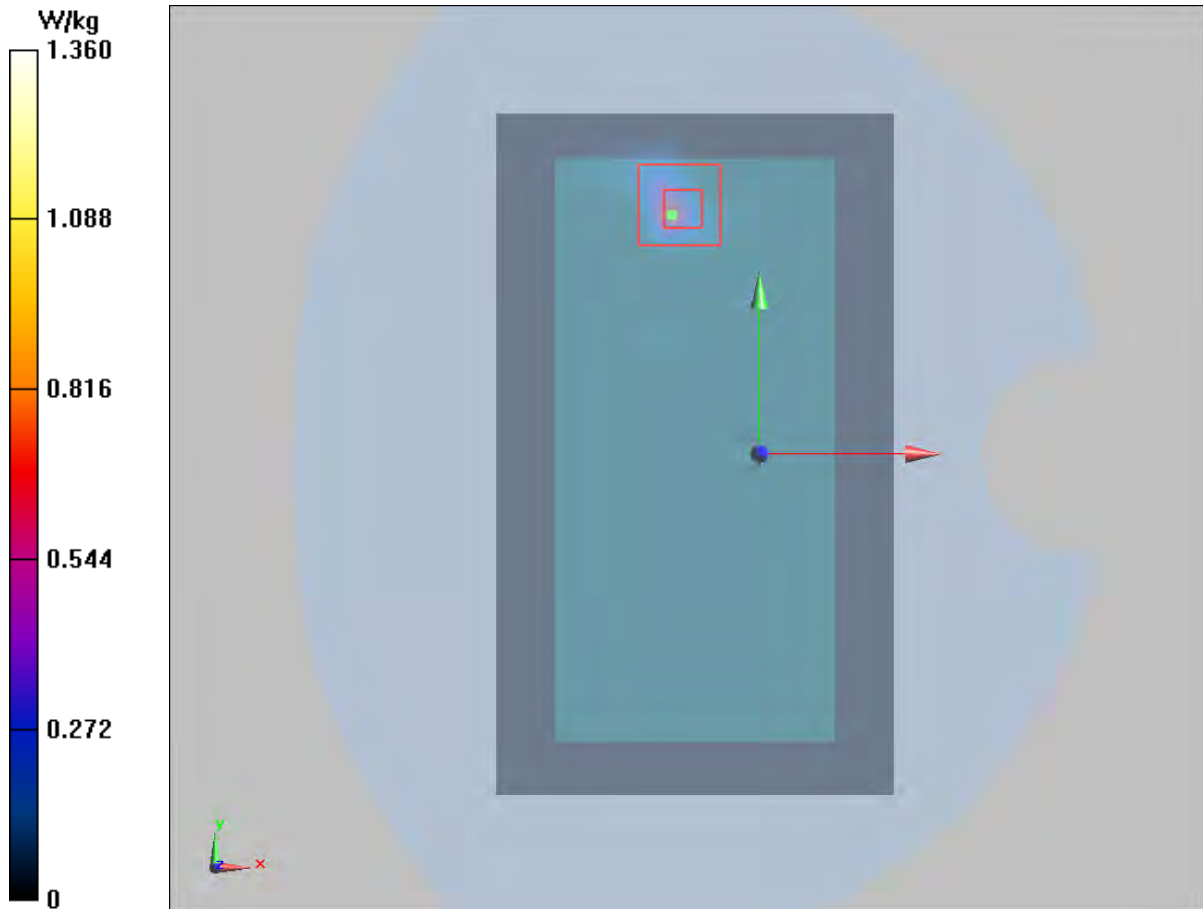
**Back Side Middle/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 3.37 W/kg

**SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.266 W/kg**

Maximum value of SAR (measured) = 1.36 W/kg



**Plot 152 802.11a U-NII-3 Right Cheek CH149 (REC On, Battery 2)**

Date: 9/25/2017

Communication System: UID 0, 802.11a (0); Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5745 \text{ MHz}$ ;  $\sigma = 5.385 \text{ S/m}$ ;  $\epsilon_r = 34.693$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.00, 5.00, 5.00); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Low/Area Scan (111x181x1):** Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.302 \text{ W/kg}$

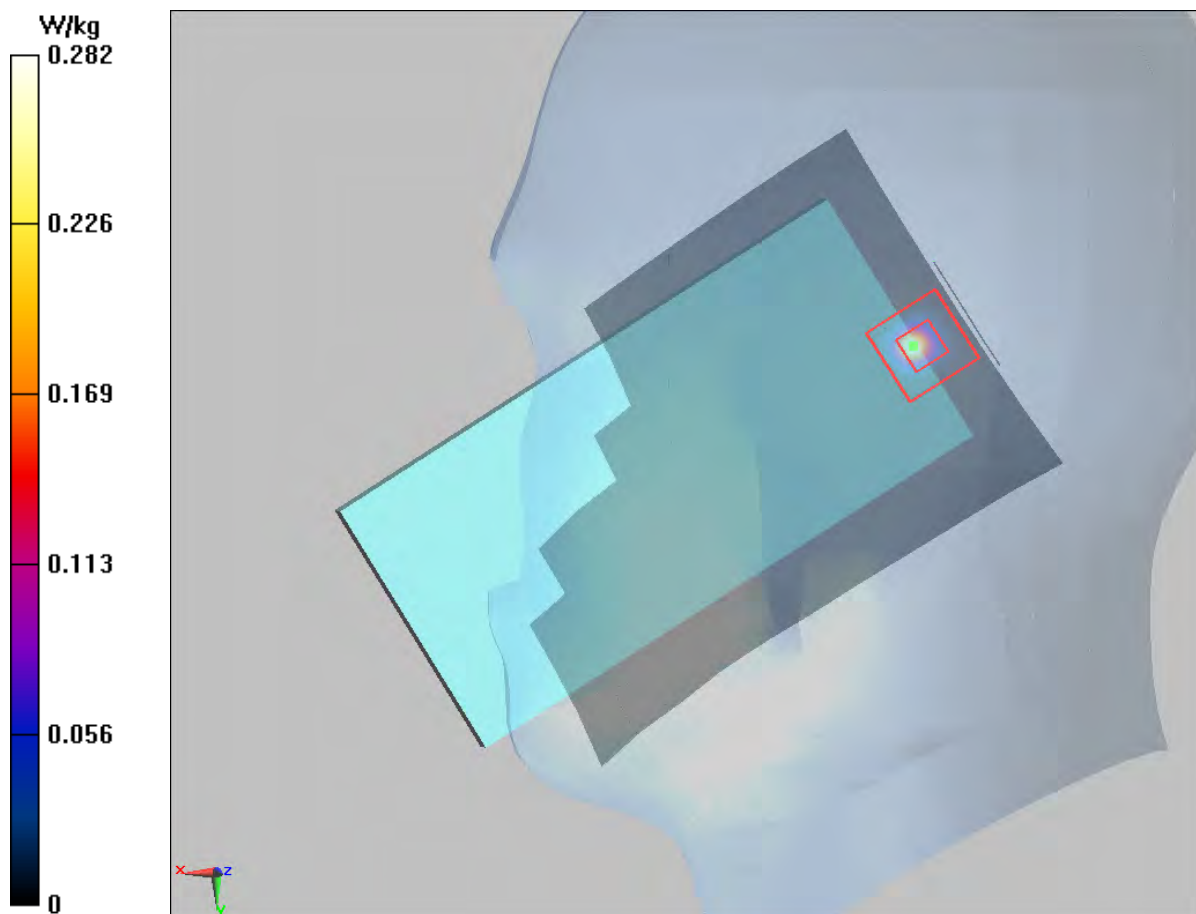
**Right Cheek Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value =  $3.813 \text{ V/m}$ ; Power Drift =  $-0.116 \text{ dB}$

Peak SAR (extrapolated) =  $0.678 \text{ W/kg}$

**SAR(1 g) =  $0.164 \text{ W/kg}$ ; SAR(10 g) =  $0.032 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.282 \text{ W/kg}$



**Plot 153 802.11a U-NII-3 Back Side CH149 (REC Off, Distance 15mm)**

Date: 9/26/2017

Communication System: UID 0, 802.11a (0); Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5745$  MHz;  $\sigma = 6.06$  S/m;  $\epsilon_r = 47.742$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.52, 4.52, 4.52); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.177 W/kg

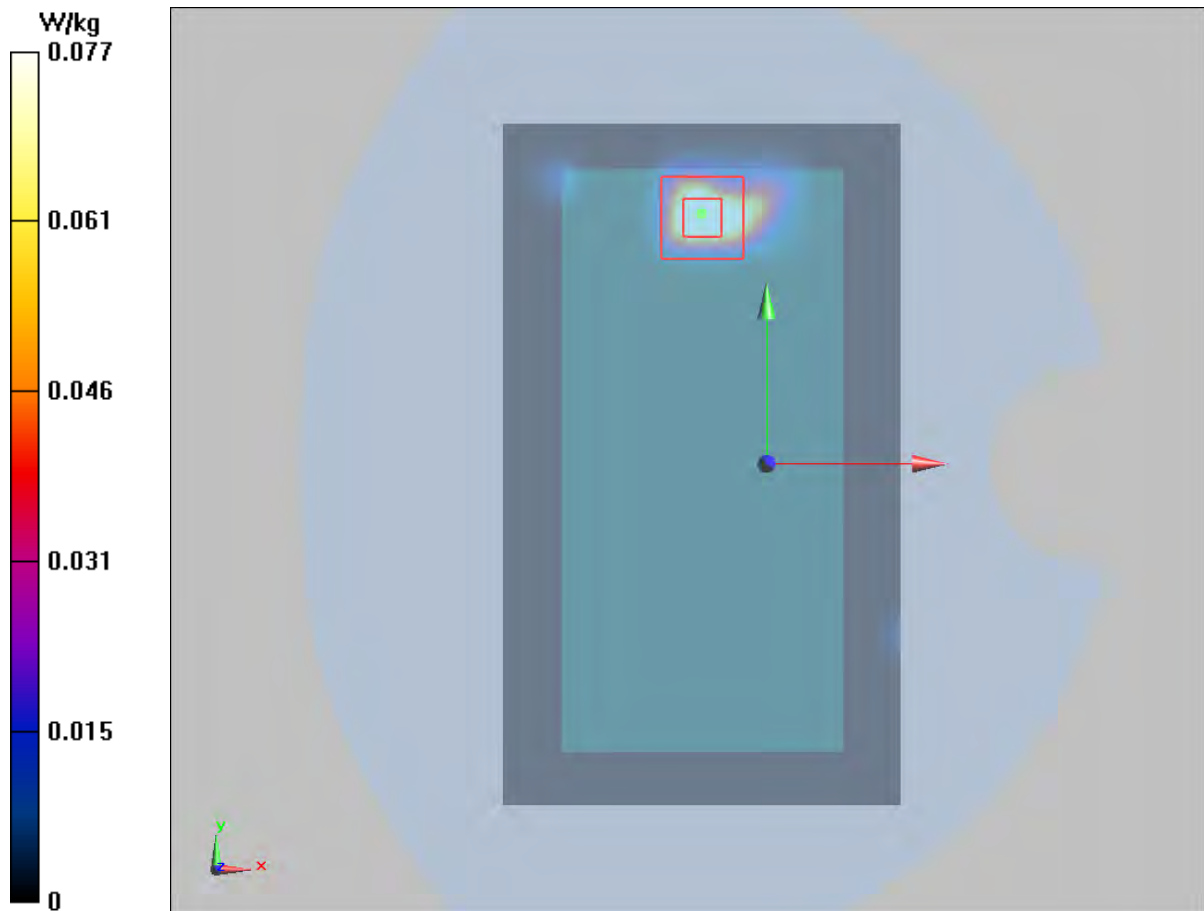
**Back Side Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.2780 V/m; Power Drift = 0.011 dB

Peak SAR (extrapolated) = 0.360 W/kg

**SAR(1 g) = 0.075 W/kg; SAR(10 g) = 0.021 W/kg**

Maximum value of SAR (measured) = 0.077 W/kg



**Plot 154 802.11a U-NII-3 Back Side CH149 (REC Off, Distance 10mm)**

Date: 9/26/2017

Communication System: UID 0, 802.11a (0); Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5745$  MHz;  $\sigma = 6.06$  S/m;  $\epsilon_r = 47.742$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.52, 4.52, 4.52); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.191 W/kg

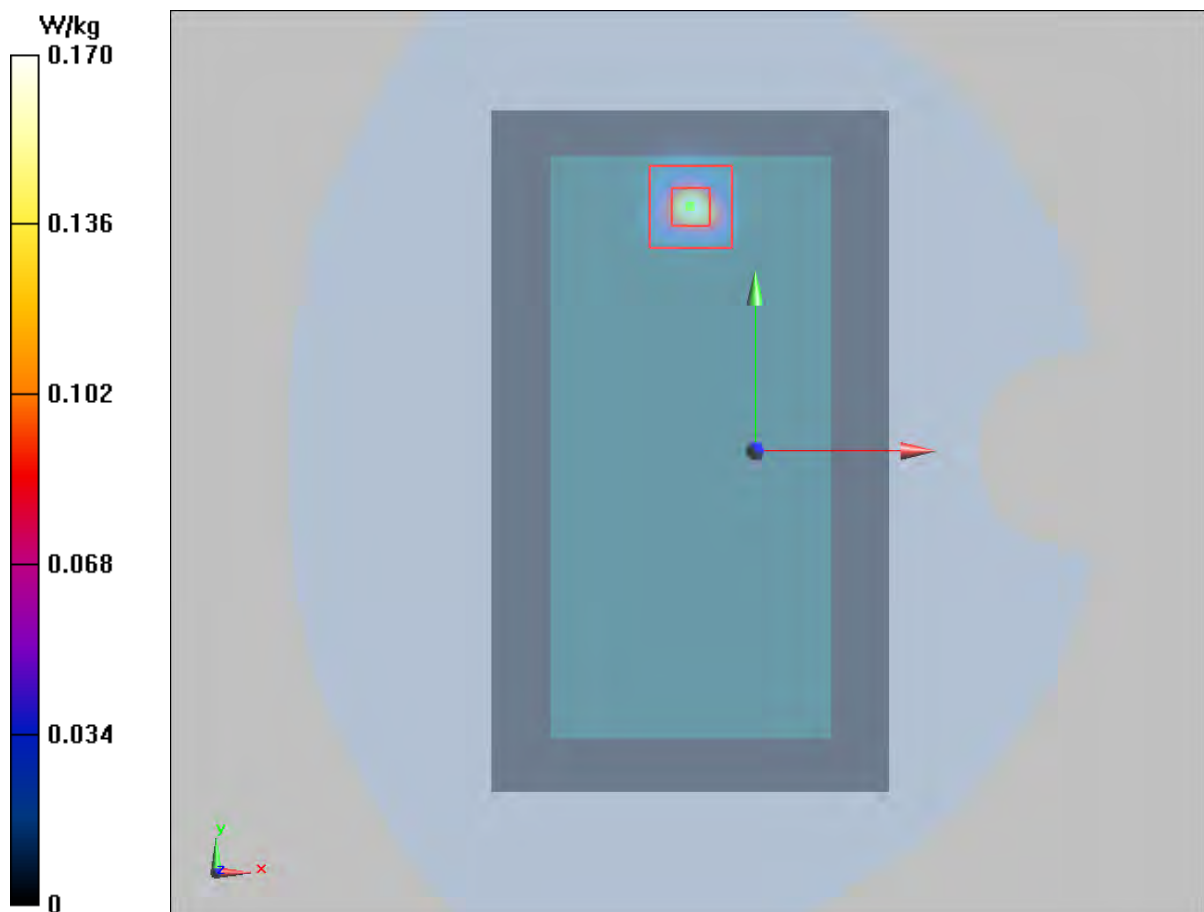
**Back Side Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.597 W/kg

**SAR(1 g) = 0.120 W/kg; SAR(10 g) = 0.027 W/kg**

Maximum value of SAR (measured) = 0.170 W/kg



**Plot 155 BT Left Cheek Middle (REC On)**

Date: 9/25/2017

Communication System: UID 0, Bluetooth (0); Frequency: 2441 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2441$  MHz;  $\sigma = 1.833$  S/m;  $\epsilon_r = 40.901$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(7.64, 7.64, 7.64); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.434 W/kg

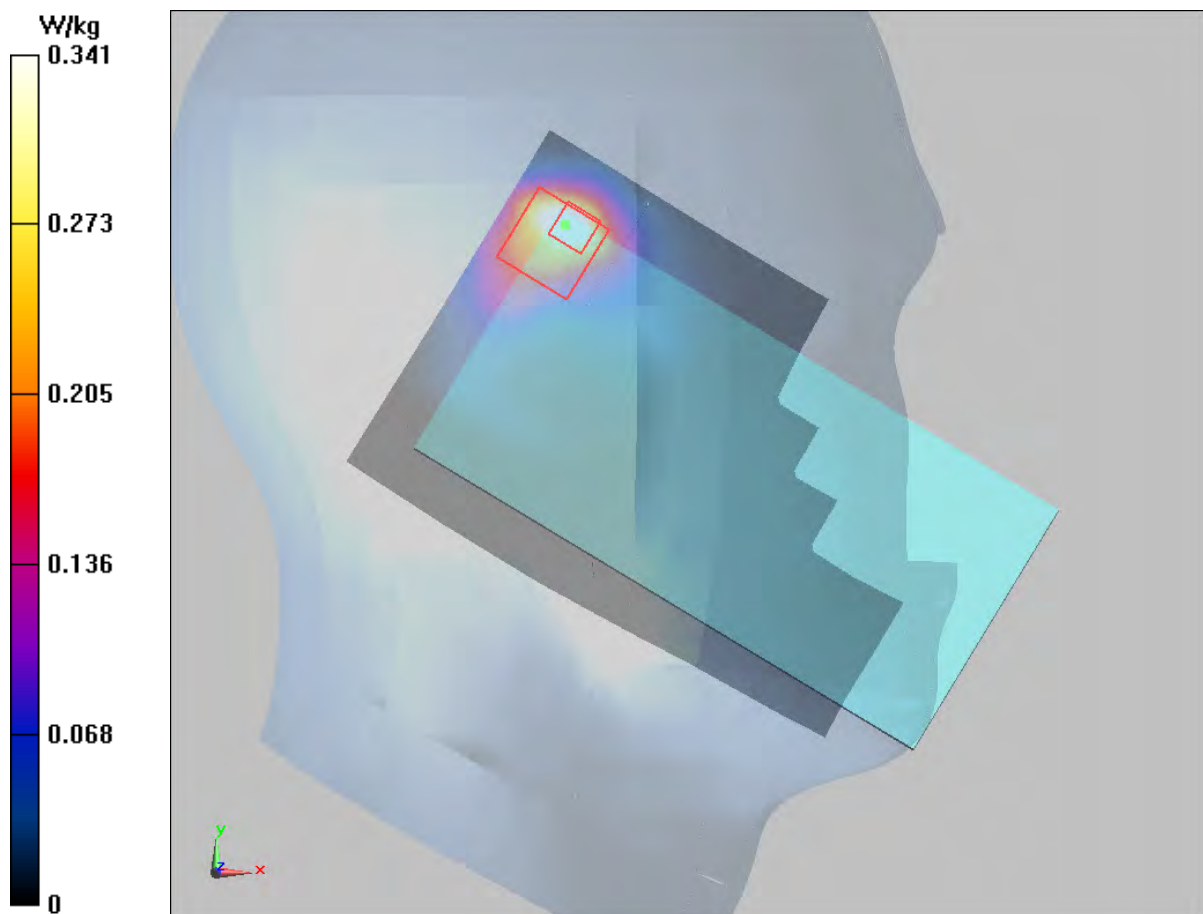
**Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.115 V/m; Power Drift = 0.105 dB

Peak SAR (extrapolated) = 0.825 W/kg

**SAR(1 g) = 0.294 W/kg; SAR(10 g) = 0.132 W/kg**

Maximum value of SAR (measured) = 0.341 W/kg



**Plot 156 BT Front Side Middle (REC Off, Distance 10mm)**

Date: 9/23/2017

Communication System: UID 0, Bluetooth (0); Frequency: 2441 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2441$  MHz;  $\sigma = 1.948$  S/m;  $\epsilon_r = 51.675$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0706 W/kg

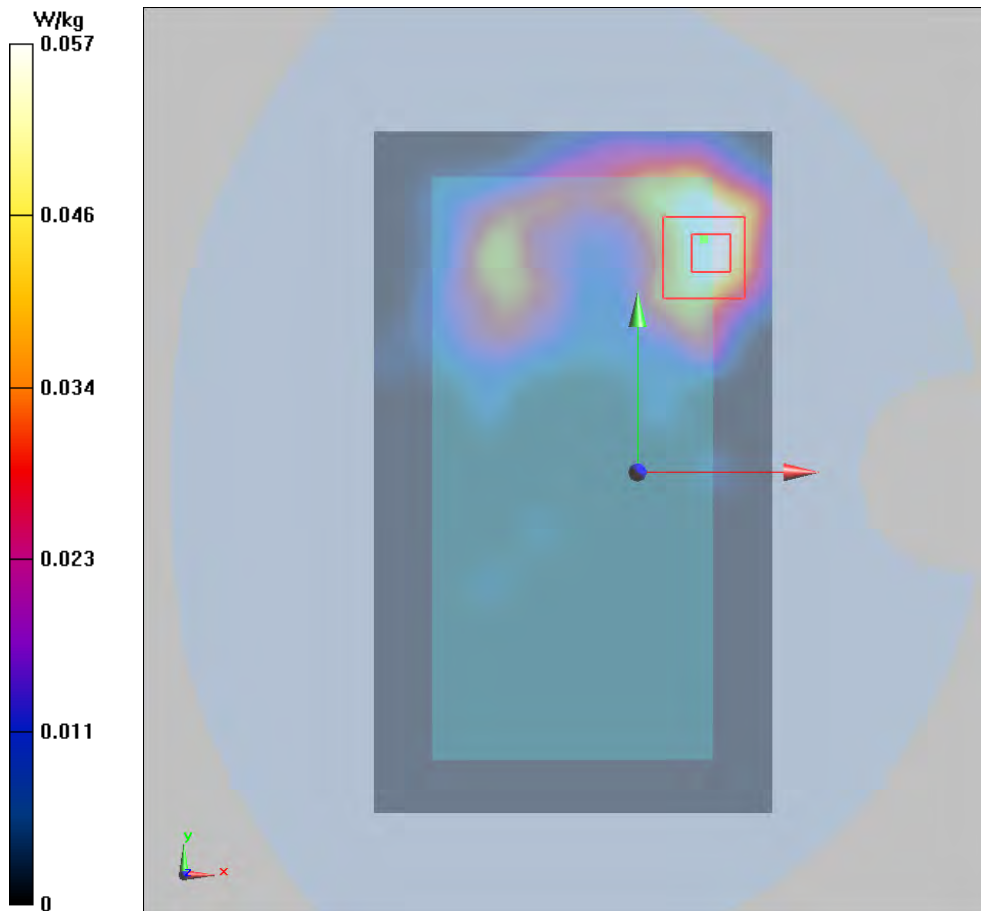
**Front Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.8360 V/m; Power Drift = -0.04dB

Peak SAR (extrapolated) = 0.0990 W/kg

**SAR(1 g) = 0.052 W/kg; SAR(10 g) = 0.024 W/kg**

Maximum value of SAR (measured) = 0.057 W/kg





## ANNEX D: Probe Calibration Certificate (SN: 3677)



In Collaboration with  
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CALIBRATION LABORATORY



中国认可  
国际互认  
校准  
CALIBRATION  
CNAS L0570

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China  
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209  
E-mail: cttl@chinattl.com Http://www.chinattl.cn

Client TA(Shanghai)

Certificate No: Z17-97012

## CALIBRATION CERTIFICATE

Object EX3DV4 - SN:3677

Calibration Procedure(s)  
FD-Z11-004-01  
Calibration Procedures for Dosimetric E-field Probes

Calibration date: January 23, 2017

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)°C and humidity<70%.

## Calibration Equipment used (M&amp;TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	101919	27-Jun-16 (CTTL, No.J16X04777)	Jun-17
Power sensor NRP-Z91	101547	27-Jun-16 (CTTL, No.J16X04777)	Jun-17
Power sensor NRP-Z91	101548	27-Jun-16 (CTTL, No.J16X04777)	Jun-17
Reference10dBAttenuator	18N50W-10dB	13-Mar-16(CTTL,No.J16X01547)	Mar-18
Reference20dBAttenuator	18N50W-20dB	13-Mar-16(CTTL, No.J16X01548)	Mar-18
Reference Probe EX3DV4	SN 7433	26-Sep-16(SPEAG,No.EX3-7433_Sep16)	Sep-17
DAE4	SN 549	13-Dec-16(SPEAG, No.DAE4-549_Dec16)	Dec -17
Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
SignalGeneratorMG3700A	6201052605	27-Jun-16 (CTTL, No.J16X04776)	Jun-17
Network Analyzer E5071C	MY46110673	26-Jan-16 (CTTL, No.J16X00894)	Jan -17

	Name	Function	Signature
Calibrated by:	Yu Zongying	SAR Test Engineer	
Reviewed by:	Qi Dianyuan	SAR Project Leader	
Approved by:	Lu Bingsong	Deputy Director of the laboratory	

Issued: January 24, 2017

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: Z17-97012

Page 1 of 11





Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China  
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209  
E-mail: cttl@chinattl.com [Http://www.chinattl.cn](http://www.chinattl.cn)

**Glossary:**

TSL	tissue simulating liquid
NORM <sub>x,y,z</sub>	sensitivity in free space
ConvF	sensitivity in TSL / NORM <sub>x,y,z</sub>
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A,B,C,D	modulation dependent linearization parameters
Polarization $\Phi$	$\Phi$ rotation around probe axis
Polarization $\theta$	$\theta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i $\theta=0$ is normal to probe axis

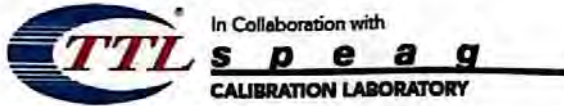
Connector Angle information used in DASY system to align probe sensor X to the robot coordinate system

**Calibration is Performed According to the Following Standards:**

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300MHz to 3GHz)", February 2005
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

**Methods Applied and Interpretation of Parameters:**

- NORM<sub>x,y,z</sub>:** Assessed for E-field polarization  $\theta=0$  ( $f \leq 900\text{MHz}$  in TEM-cell;  $f > 1800\text{MHz}$ : waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not effect the  $E^2$ -field uncertainty inside TSL (see below ConvF).
- NORM(f)<sub>x,y,z</sub> = NORM<sub>x,y,z</sub> \* frequency\_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP<sub>x,y,z</sub>:** DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- PAR:** PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics.
- A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; VR<sub>x,y,z</sub>; A,B,C** are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters:** Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800\text{MHz}$ ) and inside waveguide using analytical field distributions based on power measurements for  $f > 800\text{MHz}$ . The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty valued are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50\text{MHz}$  to  $\pm 100\text{MHz}$ .
- Spherical isotropy (3D deviation from isotropy):** in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset:** The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle:** The angle is assessed using the information gained by determining the NORM<sub>x</sub> (no uncertainty required).



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E-mail: [cttl@chinattl.com](mailto:cttl@chinattl.com) [Http://www.chinattl.cn](http://www.chinattl.cn)

# Probe EX3DV4

## SN: 3677

Calibrated: January 23, 2017

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)