



# SAR TEST REPORT

**Applicant** Huawei Technologies Co., Ltd.  
**FCC No.** QISVIE-L09  
**Product** Smart Phone  
**Model** VIE-L09  
**Report No.** RHA1602-0013SAR02  
**Issue Date** April 21, 2016

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **IEEE 1528-2013, ANSI/IEEE C95.1-1991**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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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 CNAS or 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 (recognition number is 428261)**

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-766)**

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.  
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### 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 and Wi-Fi antenna)

Mode	Highest Reported SAR (W/kg)			
	1g SAR Head	1g SAR Body-worn (Separation 15mm)	1g SAR Hotspot (Separation 10mm)	10g SAR Extremity (Separation 0mm)
GSM 850	0.44	0.28	0.34	NA
GSM 1900	0.30	0.27	0.66	NA
WCDMA Band II	0.79	0.64	0.92	3.10
WCDMA Band IV	0.46	0.47	1.17	2.05
WCDMA Band V	0.33	0.15	0.18	NA
LTE FDD 2	0.77	0.72	0.84	3.51
LTE FDD 4	0.66	0.50	1.19	NA
LTE FDD 5	0.48	0.26	0.37	NA
LTE FDD 7	0.42	0.29	0.68	NA
LTE FDD 12	0.67	0.32	0.33	NA
LTE FDD 17	0.15	0.23	0.20	NA
LTE FDD 26	0.52	0.25	0.39	NA
LTE TDD 38	0.50	0.29	0.64	NA
LTE TDD 41	0.35	0.19	0.55	NA
Wi-Fi (2.4G)	1.32	0.03	0.03	NA
Wi-Fi, U-NII-1	0.62	0.07	0.11	NA
Wi-Fi, U-NII-2A	0.28	0.07	NA	0.79
Wi-Fi, U-NII-2C	0.39	0.10	NA	0.79
Wi-Fi, U-NII-3	0.22	0.10	0.06	NA
Bluetooth	NA	NA	NA	NA
Date of Testing:	March 18, 2016~ April 13, 2016			
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 C95.1-1991, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013.				

Table 2.1: Highest Reported SAR (Second Antenna)

Mode	Highest Reported SAR (W/kg)			
	1g SAR Head	1g SAR Body-worn (Separation 15mm)	1g SAR Hotspot (Separation 10mm)	10g SAR Extremity (Separation 0mm)
GSM 850	1.05	0.17	0.45	NA
GSM 1900	1.32	0.09	0.30	NA
WCDMA Band II	0.75	0.08	0.57	NA
WCDMA Band IV	0.98	0.09	0.67	NA
WCDMA Band V	0.59	0.16	0.34	NA
LTE FDD 2	1.38	0.09	1.17	NA
LTE FDD 4	1.01	0.11	0.74	NA
LTE FDD 5	0.75	0.17	0.61	NA
LTE FDD 7	0.48	0.03	0.70	NA
LTE FDD 12	1.40	0.23	0.55	NA
LTE FDD 17	1.21	0.14	0.33	NA
LTE FDD 26	1.36	0.24	0.67	NA
LTE TDD 38	0.68	0.03	0.29	NA
LTE TDD 41	0.43	0.02	0.29	NA
Bluetooth	NA	NA	NA	NA
Date of Testing:	March 18, 2016~ April 13, 2016			
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 C95.1-1991, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013.				

Table 2.2: Highest Simultaneous Transmission SAR

Exposure Configuration	1g SAR Head	1g SAR Body-worn (Separation 15mm)	1g SAR Hotspot (Separation 10mm)	10g SAR Extremity (Separation 0mm)
Highest Simultaneous Transmission SAR (W/kg)	1.59	0.99	1.24	3.86
Note: 1. The detail for simultaneous transmission consideration is described in chapter 10.3.				

### 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

#### Accessory Equipment Details

<b>Name</b>	<b>Model</b>	<b>Manufacturer</b>	<b>Note</b>
Battery 1	HB376883ECW	Sunwoda Electronic Co., LTD	/
Battery 2	HB376883ECW	Desay Battery Co., Ltd.	/
Battery 3	HB376883ECW	SCUD (FUJIAN) Electronics Co., Ltd	/
Earphone 1	MEMD1632B580C00	JIANGXI LIANCHUANG HONGSHENG ELECTRONIC CO., LTD	/
Earphone 2	1311-3291-3.5mm-229	BOLUO COUNTY QUANCHENG ELECTRONIC CO., LTD	/

**General Technologies**

Application Purpose:	Original Grant
EUT Stage:	Production Unit
Model:	Smart Phone
IMEI:	004401725655803
Hardware Version:	HL1AVIENNAM
Software Version:	A169-L09C900B071
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

**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:14	1850 ~ 1910
	Band IV			1710 ~ 1755
	Band V			824 ~ 849
LTE	FDD 2	QPSK, 16QAM	Category 6	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			2555 ~ 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 4.1 LE		2400 ~2480
Wi-Fi	2.4G	DSSS, OFDM	802.11b/g/n (HT20/HT40)	2402 ~2472
	5G	OFDM	802.11a/n 20M/40M/ ac 20M/40M/80M	5150 ~ 5350 5470 ~ 5825
Does this device support MIMO <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				



## 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 C95.1-1991, the following FCC Published RF exposure KDB procedures:

248227 D01 SAR meas for 802.11 v02r02  
447498 D01 General RF Exposure Guidance v06  
648474 D04 Handset SAR 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 D06 Hotspot Mode v02r01  
941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02

## 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 10-g extremity 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, 10-g extremity 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 10-g extremity 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

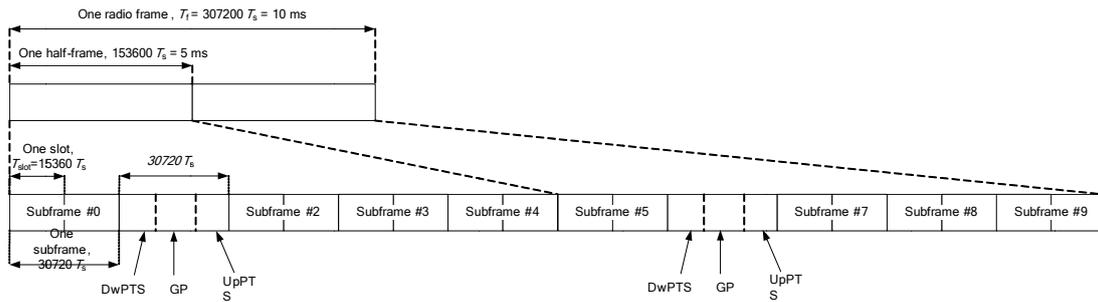


Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

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:

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

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.

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

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.

**5.3.6 Downlink LTE CA specification**

The device supports downlink Release 10 LTE Carrier Aggregation (CA) only. It supports a maximum of 2 carriers in the downlink. Other Release 10 features are not supported, including Uplink Carrier Aggregation, Enhanced SC-FDMA and Uplink MIMO or other antenna diversity configurations etc. All uplink communications are identical to the Release 8 Specifications.

The possible downlink LTE CA combinations supported by this device are as below tables per 3GPP TS 36.101 V12.8.0. The conducted power measurement results of downlink LTE CA are provided in Section 7 of this report per 3GPP TS 36.521-1 V12.6.0. According to KDB 941225 D05A, the downlink LTE CA SAR test is not required and PAG requirements can be excluded.

**intra-band contiguous CA (per 3GPP TS 36.101 V12.8.0 Table 5.6A.1-1)**

E-UTRA CA configuration / Bandwidth combination set					
E-UTRA CA configuration	Uplink CA configurations  (NOTE 3)	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]		
CA_7C	CA_7C	15	15	40	0
		20	20		
		10	20	40	1
		15	15, 20		
		20	10, 15, 20	40	2
		15	10, 15		
CA_38C	CA_38C	15	15	40	0
		20	20		
		15	15		
		20	10, 20	40	1
		10, 15	20		
		15	15		
		20	10, 15, 20		

**Table: Test frequencies for CA\_7C**

Range	CC-Combo / NRB_agg [RB]	CC1 Note1					CC2 Note1				
		BW [RB]	N <sub>UL</sub>	f <sub>UL</sub> [MHz]	N <sub>DL</sub>	f <sub>DL</sub> [MHz]	BW [RB]	N <sub>UL</sub>	f <sub>UL</sub> [MHz]	N <sub>DL</sub>	f <sub>DL</sub> [MHz]
Low	75+75	75	20825	2507.5	2825	2627.5	75	20975	2522.5	2975	2642.5
	100+100	100	20850	2510	2850	2630	100	21048	2529.8	3048	2649.8
Mid	75+75	75	21025	2527.5	3025	2647.5	75	21175	2542.5	3175	2662.5
	100+100	100	21000	2525	3000	2645	100	21198	2544.8	3198	2664.8
High	75+75	75	21225	2547.5	3225	2667.5	75	21375	2562.5	3375	2682.5
	100+100	100	21152	2540.2	3152	2660.2	100	21350	2560	3350	2680

Note 1: Carriers in increasing frequency order.

**Table: Test frequencies for CA\_38C**

Range	CC-Combo / NRB_agg [RB]	CC1 Note1			CC2 Note1		
		BW [RB]	N <sub>UL/DL</sub>	f <sub>UL/DL</sub> [MHz]	BW [RB]	N <sub>UL/DL</sub>	f <sub>UL/DL</sub> [MHz]
Low	75+75	75	37825	2577.5	75	37975	2592.5
	100+100	100	37850	2580	100	38048	2599.8
Mid	75+75	75	37925	2587.5	75	38075	2602.5
	100+100	100	37900	2585	100	38098	2604.8
High	75+75	75	38025	2597.5	75	38175	2612.5
	100+100	100	37952	2590.2	100	38150	2610

Note 1: Carriers in increasing frequency order.

**inter-band CA (per 3GPP TS 36.101 V12.8.0 Table 5.6A.1-2)**

E-UTRA CA configuration / Bandwidth combination set										
E-UTRA CA Configuration	Uplink CA configurations (NOTE 4)	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-4A	CA_2A-4A	2	Yes	Yes	Yes	Yes	Yes	Yes	40	0
		4			Yes	Yes	Yes	Yes		
		2			Yes	Yes			20	1
		4			Yes	Yes				
		2			Yes	Yes	Yes	Yes	40	2
		4			Yes	Yes	Yes	Yes		
CA_2A-17A	CA_2A-17A	2			Yes	Yes			20	0
		17			Yes	Yes				
CA_3A-5A	CA_3A-5A	3				Yes	Yes	Yes	30	0
		5			Yes	Yes				
		3				Yes			20	1
		5			Yes	Yes				
		3			Yes	Yes	Yes	Yes	30	2
		5			Yes	Yes				
CA_3A-7A	CA_3A-7A	3			Yes	Yes	Yes	Yes	40	0
		7				Yes	Yes	Yes		
		28			Yes	Yes	Yes	Yes		
CA_4A-17A	CA_4A-17A	4			Yes	Yes			20	0
		17			Yes	Yes				
CA_7A-20A	CA_7A-20A	7				Yes	Yes	Yes	30	0
		20			Yes	Yes				
		7				Yes	Yes	Yes	40	1
		20			Yes	Yes	Yes	Yes		
CA_7A-28A	CA_7A-28A	7			Yes	Yes	Yes	Yes	35	0
		28			Yes	Yes	Yes			

NOTE 1: The CA Configuration refers to a combination of 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 each band combination, all combinations of indicated bandwidths belong to the set.

NOTE 3: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal.

NOTE 4: Uplink CA configurations are the configurations supported by the present release of specifications.

Note:

- 1) In the CA configurations of CA\_4A-17A, B17 cannot be used as PCC.
- 2) Except note 1, for the other inter-band CA combinations, all the listed bands above can be used as PCC or SCC.
- 3) The channel spacing and aggregated channel bandwidth for CA are identical to the associated specification in 3GPP TS 36.101 V12.8.0.
- 4) The reference test frequencies for CA refer to 3GPP TS 36.508 V12.5.0.

### 5.3.7 Dynamic antenna tuning description

The device has two 2G/3G/4G Tx antennas (Main Antenna and Second Antenna). It can transmit from either Main Antenna or Second Antenna, but they can not transmit simultaneously.

For 2G&3G&4G SAR test, 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 are supplied to fix the operation state and choose the antenna so that only one TX antenna is chosen and tested at a time. All independent antennas will be completely covered by the appropriate SAR measurements and all simultaneous transmission possibilities will be fully considered to ensure SAR compliance.

The device supports the dynamic antenna tuning function to optimize transmission efficiency for LTE Band 7. The dynamic antenna tuning function is only applicable for the 4G main Tx antenna. It has two fixed state (state 1 and state 2).The two states have the same test channel, antenna, RF path and conductive power. The software will choose better RSSI as the main state of the main TX antenna based on the antenna RSSI comparison and switch algorithm.

For dynamic antenna tuning SAR test,

- a) Firstly, some AT commands are used to fix the tuning state at state1 or state 2, so that only one antenna tuning state is chosen at a time for SAR test.
- b) Secondly, in order to reduce the number of SAR tests required to demonstrate compliance for the numerous tuning states, one single point zoom scan SAR measurement between state1 and state 2 for each antenna tuning band and applicable RF exposure condition is considered to identify the higher SAR tuning state that need the full set of normally required SAR measurements and allow SAR test reduction for the lower SAR conditions.
- c) Thirdly, full normally required SAR measurements are performed for the higher SAR tuning state. Moreover, the SAR worst case will also be tested for the other tuning state in each antenna tuning band and applicable RF exposure condition to ensure the SAR compliance.

**5.3.8 Power Reduction Configuration**

This device uses a single fixed level of power reduction through static table look-up for SAR compliance and it is triggered by a single event or operation per the PAG exclusion clause in KDB388624D02 item II.C.1.k:

- 1) A fixed level power reduction is applied for some frequency bands when hotspot mode becomes active. When the hotspot is disabled, the power value will be recovered.
- 2) A fixed level power reduction is applied for some frequency bands when simultaneously transmitting with the other antennas in certain simultaneous transmission conditions. The standalone SAR compliance still uses the standalone SAR results tested at the maximum output power level without any power reduction. The PAG requirements can be excluded per KDB 388624D02.

The following tables summarize the key power reduction information. The detailed full power and reduced power measurement results are provided in Section 8 of this report.

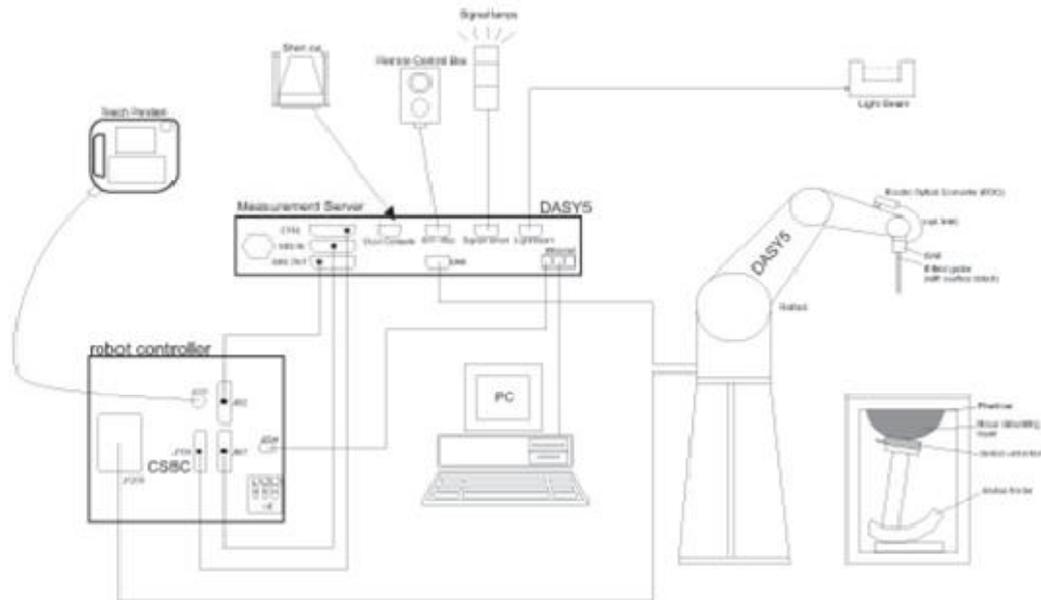
Main Antenna	GSM 850	GSM 1900	UMTS B2	UMTS B4	UMTS B5	LTE B2	LTE B4	LTE B5	LTE B7	LTE B12	LTE B17	LTE B26	LTE 38	LTE 40	LTE 41	Wi-Fi (2.4G)	Wi-Fi (5G)
Hotspot off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hotspot on	0	0	-2.5	-0.5	0	-2	0	0	0	0	0	0	0	0	0	0	0
Simultaneous Transmission	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Second Antenna	GSM 850	GSM 1900	UMTS B2	UMTS B4	UMTS B5	LTE B2	LTE B4	LTE B5	LTE B7	LTE B12	LTE B17	LTE B26	LTE 38	LTE 40	LTE 41	Wi-Fi (2.4G)	Wi-Fi (5G)
Hotspot off	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hotspot on	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Simultaneous Transmission	-2.5	0	0	0	0	0	0	0	0	-4	0	-4	0	0	0	-1.5	-1.5

## 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

$$SAR = |E|^2 \sigma / \rho$$

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	2015-05-25	2016-05-24
Dielectric Probe Kit	HP	85070E	US44020115	No Calibration Requested	
Power meter	Agilent	E4417A	GB41291714	2015-05-22	2016-05-21
Power sensor	Agilent	N8481H	MY50350004	2015-05-25	2016-05-24
Power sensor	Agilent	E9327A	US40441622	2015-05-25	2016-05-24
Dual directional coupler	Agilent	778D-012	50519	No Calibration Requested	
Dual directional coupler	Agilent	777D	50146	No Calibration Requested	
Amplifier	INDEXSAR	IXA-020	0401	No Calibration Requested	
Wideband radio communication tester	R&S	CMW 500	113645	2015-05-25	2016-05-24
BT Base Station Simulator	R&S	CBT	100271	2015-05-25	2016-05-24
E-field Probe	SPEAG	EX3DV4	3677	2015-12-10	2016-12-09
DAE	SPEAG	DAE4	871	2015-11-17	2016-11-16
Validation Kit 750MHz	SPEAG	D750V3	1017	2014-08-28	2017-08-27
Validation Kit 835MHz	SPEAG	D835V2	4d020	2014-08-28	2017-08-27
Validation Kit 1750MHz	SPEAG	D1750V2	1033	2014-01-26	2017-01-25
Validation Kit 1900MHz	SPEAG	D1900V2	5d060	2014-09-01	2017-08-31
Validation Kit 2450MHz	SPEAG	D2450V2	786	2014-09-01	2017-08-31
Validation Kit 2600MHz	SPEAG	D2600V2	1025	2014-12-08	2017-12-07
Validation Kit 5GHz	SPEAG	D5GHzV2	1151	2013-12-30	2016-12-29
Temperature Probe	Tianjin jinming	JM222	AA1009129	2015-05-22	2016-05-21
Hygrothermograph	Tianjin jinming	WS-1	64591	2015-05-25	2016-05-24

## 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	5200	65.53	17.24			17.23		36.0	4.66
	5300	65.53	17.24			17.23		35.9	4.76
	5600	65.53	17.24			17.23		35.5	5.07
	5800	65.53	17.24			17.23		35.3	5.27
Body	5200	72.52	13.74			13.74		49.0	5.30
	5300	72.52	13.74			13.74		48.9	5.42
	5600	72.52	13.74			13.74		48.5	5.77
	5800	72.52	13.74			13.74		48.2	6.00

**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	3/28/2016	21.5	42.3	0.88	41.9	0.89	0.95	-1.12
		4/8/2016	21.5	42.0	0.87	41.9	0.89	0.24	-2.25
	Body	3/29/2016	21.5	56.9	0.95	55.5	0.96	2.52	-1.04
		4/9/2016	21.5	54.5	0.96	55.5	0.96	-1.80	0.00
835	Head	3/26/2016	21.5	41.4	0.88	41.5	0.90	-0.24	-2.22
		3/30/2016	21.5	41.3	0.87	41.5	0.90	-0.48	-3.33
		4/13/2016	21.5	41.4	0.92	41.5	0.90	-0.24	2.22
	Body	3/26/2016	21.5	54.2	0.96	55.2	0.97	-1.81	-1.03
		3/27/2016	21.5	54.6	0.95	55.2	0.97	-1.09	-2.06
		3/31/2016	21.5	54.5	0.98	55.2	0.97	-1.27	1.03
		4/13/2016	21.5	55.0	0.98	55.2	0.97	-0.36	1.03
1750	Head	4/3/2016	21.5	40.2	1.34	40.1	1.37	0.25	-2.19
		4/4/2016	21.5	40.1	1.34	40.1	1.37	0.00	-2.19
	Body	4/2/2016	21.5	51.9	1.46	53.4	1.49	-2.81	-2.01
		4/10/2016	21.5	52.5	1.51	53.4	1.49	-1.69	1.34
1900	Head	3/24/2016	21.5	40.1	1.41	40.0	1.40	0.25	0.71
		4/1/2016	21.5	40.2	1.43	40.0	1.40	0.50	2.14
	Body	3/22/2016	21.5	52.6	1.51	53.3	1.52	-1.31	-0.66
		3/25/2016	21.5	52.8	1.51	53.3	1.52	-0.94	-0.66
		3/26/2016	21.5	53.3	1.51	53.3	1.52	0.00	-0.66
2450	Head	4/11/2016	21.5	38.6	1.81	39.2	1.80	-1.53	0.56
	Body	4/11/2016	21.5	52.5	1.98	52.7	1.95	-0.38	1.54
2600	Head	3/19/2016	21.5	38.2	2.01	39.0	1.96	-2.05	2.55
		3/23/2016	21.5	38.4	1.94	39.0	1.96	-1.54	-1.02
	Body	3/18/2016	21.5	51.5	2.23	52.5	2.16	-1.90	3.24
		3/21/2016	21.5	51.7	2.21	52.5	2.16	-1.52	2.31



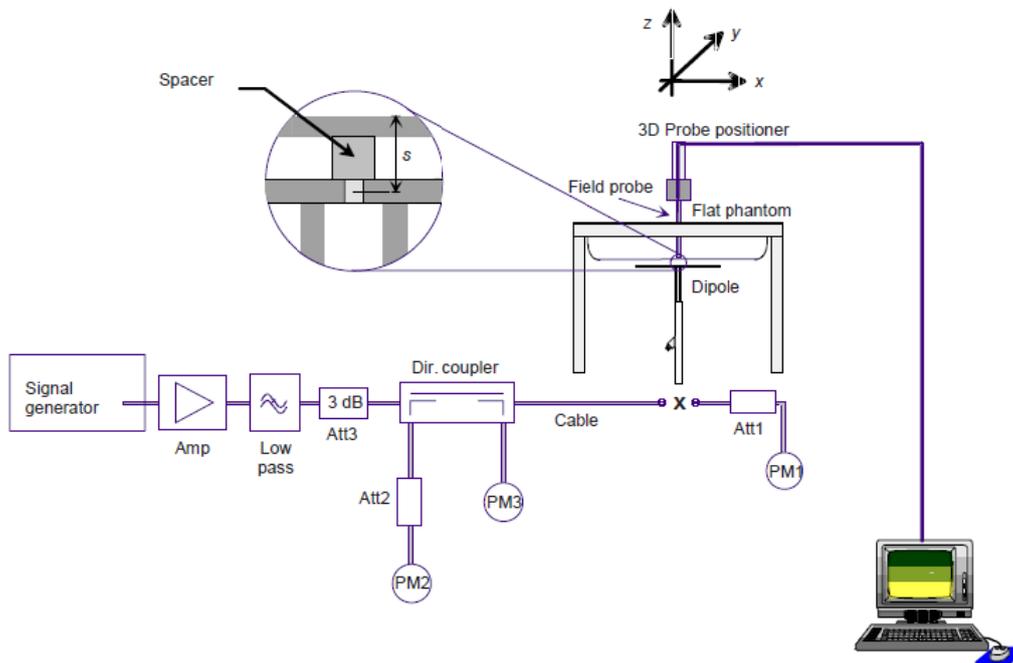
		4/7/2016	21.5	51.8	2.20	52.5	2.16	-1.33	1.85
5200	Head	4/11/2016	21.5	35.5	4.80	36.0	4.66	-1.39	3.00
	Body	4/12/2016	21.5	48.1	5.32	49.0	5.30	-1.84	0.38
5300	Head	4/12/2016	21.5	35.2	4.95	35.9	4.76	-1.95	3.99
	Body	4/12/2016	21.5	48.4	5.30	48.9	5.42	-1.02	-2.21
5600	Head	4/5/2016	21.5	34.2	5.21	35.5	5.07	-3.66	2.76
	Body	4/6/2016	21.5	47.9	5.78	48.5	5.77	-1.24	0.17
5800	Head	4/5/2016	21.5	34.9	5.21	35.3	5.27	-1.13	-1.14
	Body	4/6/2016	21.5	47.6	6.14	48.2	6.00	-1.24	2.33

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 D750V3 SN: 1017	Head Liquid	8/28/2014	-30.1	/	53.2	/
		8/27/2015	-30.0	0.3%	52.7	0.5 $\Omega$
	Body Liquid	8/28/2014	-28.9	/	48.0	/
		8/27/2015	-29.3	1.4%	48.6	0.6 $\Omega$
Dipole D835V2 SN: 4d020	Head Liquid	8/28/2014	-30.1	/	48.6	/
		8/27/2015	-31.1	3.3%	49.7	1.1 $\Omega$
	Body Liquid	8/28/2014	-23.3	/	54.0	/
		8/27/2015	-23.9	2.6%	53.5	0.5 $\Omega$
Dipole D1750V2 SN: 1033	Head Liquid	1/26/2014	-41.9	/	50.5	/
		1/25/2015	-40.6	3.1%	52.4	1.9 $\Omega$
		1/24/2016	-40.4	0.5%	51.1	1.3 $\Omega$
	Body Liquid	1/26/2014	-24.3	/	45.8	/
		1/25/2015	-23.5	3.3%	48.5	2.7 $\Omega$
		1/24/2016	-24.2	3.0%	47.6	0.9 $\Omega$
Dipole D1900V2 SN: 5d060	Head Liquid	9/1/2014	-22.8	/	54.1	/
		8/31/2015	-23.7	3.9%	55.4	1.3 $\Omega$
	Body Liquid	9/1/2014	-21.6	/	57.6	/
		8/31/2015	-20.8	3.7%	57.3	0.3 $\Omega$
Dipole D2450V2 SN: 786	Head Liquid	9/1/2014	-23.6	/	57.1	/
		8/31/2015	-23.9	1.3%	57.4	0.3 $\Omega$
	Body Liquid	9/1/2014	-23.7	/	56.0	/
		8/31/2015	-24	1.3%	55.8	0.2 $\Omega$
Dipole D2600V2 SN: 1025	Head Liquid	12/8/2014	-24.2	/	49.7	/
		12/7/2015	-23.9	1.2%	50.4	0.7 $\Omega$
	Body Liquid	12/8/2014	-23.6	/	46.6	/
		12/7/2015	-24.0	1.7%	47.2	0.6 $\Omega$
Dipole D5GHzV2 SN: 1151 (5.2GHz)	Head Liquid	12/30/2013	-24.9	/	54.6	/
		12/29/2014	-23.8	4.4%	54.5	0.1 $\Omega$
		12/28/2015	-24.2	1.7%	54.0	0.5 $\Omega$
	Body	12/30/2013	-26.2	/	53.8	/



	Liquid	12/29/2014	-26.7	1.9%	52.3	1.5Ω
		12/28/2015	-25.9	3.0%	53.0	0.7Ω
Dipole D5GHzV2 SN: 1151 (5.3GHz)	Head Liquid	12/30/2013	-22.8	/	45.2	/
		12/29/2014	-22.2	2.6%	45.5	0.3Ω
		12/28/2015	-23.0	3.6%	45.9	0.4Ω
	Body Liquid	12/30/2013	-25.8	/	46.4	/
		12/29/2014	-25.4	1.6%	45.6	0.8Ω
		12/28/2015	-25.9	2.0%	47.0	1.4Ω
Dipole D5GHzV2 SN: 1151 (5.6GHz)	Head Liquid	12/30/2013	-22.1	/	57.6	/
		12/29/2014	-22.6	2.3%	57.2	0.4Ω
		12/28/2015	-22.4	0.9%	58.3	1.1Ω
	Body Liquid	12/30/2013	-22.1	/	58.1	/
		12/29/2014	-22.8	3.2%	57.6	0.5Ω
		12/28/2015	-22.7	0.4%	58.3	0.7Ω
Dipole D5GHzV2 SN: 1151 (5.8GHz)	Head Liquid	12/30/2013	-20.2	/	50.6	/
		12/29/2014	-20.6	2.0%	51.1	0.5Ω
		12/28/2015	-21.0	1.9%	50.3	0.8Ω
	Body Liquid	12/30/2013	-21.2	/	47.9	/
		12/29/2014	-21.7	2.4%	47.6	0.3Ω
		12/28/2015	-21.4	1.4%	48.3	0.7Ω



## System Check results

Frequency (MHz)	Test Date	Temp °C	250mW Measured SAR <sub>1g</sub> (W/kg)	1W Normalized SAR <sub>1g</sub> (W/kg)	1W Target SAR <sub>1g</sub> (W/kg)	Limit (±10%)	Plot No.	
750	Head	3/28/2016	21.5	2.13	8.52	8.31	2.53%	1
		4/8/2016	21.5	2.10	8.40	8.31	1.08%	2
	Body	3/29/2016	21.5	2.22	8.88	8.75	1.49%	3
		4/9/2016	21.5	2.17	8.68	8.75	-0.80%	4
835	Head	3/26/2016	21.5	2.44	9.76	9.54	2.31%	5
		3/30/2016	21.5	2.46	9.84	9.54	3.14%	6
		4/13/2016	21.5	2.43	9.72	9.54	1.89%	7
	Body	3/26/2016	21.5	2.41	9.64	9.54	1.05%	8
		3/27/2016	21.5	2.42	9.68	9.54	1.47%	9
		3/31/2016	21.5	2.45	9.80	9.54	2.73%	10
		4/13/2016	21.5	2.46	9.84	9.54	3.14%	11
1750	Head	4/3/2016	21.5	8.95	35.80	37.20	-3.76%	12
		4/4/2016	21.5	9.11	36.44	37.20	-2.04%	13
	Body	4/2/2016	21.5	9.24	36.96	38.80	-4.74%	14
		4/10/2016	21.5	9.40	37.60	38.80	-3.09%	15
1900	Head	3/24/2016	21.5	9.48	37.92	39.20	-3.27%	16
		4/1/2016	21.5	9.45	37.80	39.20	-3.57%	17
	Body	3/22/2016	21.5	9.93	39.72	40.00	-0.70%	18
		3/25/2016	21.5	9.91	39.64	40.00	-0.90%	19
		3/26/2016	21.5	9.82	39.28	40.00	-1.80%	20
2450	Head	4/11/2016	21.5	13.70	54.80	52.50	4.38%	21
	Body	4/11/2016	21.5	12.50	50.00	52.40	-4.58%	22
2600	Head	3/19/2016	21.5	13.90	55.60	56.90	-2.28%	23
		3/23/2016	21.5	13.88	55.52	56.90	-2.43%	24
	Body	3/18/2016	21.5	13.50	54.00	56.40	-4.26%	25
		3/21/2016	21.5	13.55	54.20	56.40	-3.90%	26
		4/7/2016	21.5	13.89	55.56	56.40	-1.49%	27
5200	Head	4/11/2016	21.5	7.87	78.70	76.50	2.88%	28
	Body	4/12/2016	21.5	7.46	74.60	74.70	-0.13%	29
5300	Head	4/12/2016	21.5	8.13	81.30	80.30	1.25%	30



	Body	4/12/2016	21.5	7.75	77.50	76.90	0.78%	31
5600	Head	4/5/2016	21.5	7.67	76.70	78.50	-2.29%	32
	Body	4/6/2016	21.5	8.10	81.00	80.70	0.37%	33
5800	Head	4/5/2016	21.5	7.66	76.60	76.70	-0.13%	34
	Body	4/6/2016	21.5	7.15	71.50	72.50	-1.38%	35
Note: Target Values used derive from the calibration certificate Data Storage and Evaluation.								

## 9 Nominal 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

#### Main- Antenna

GSM 850		Burst Average			Division Factors (dB)	Frame-Average			Burst Tune-up Limit (dBm)
		Power(dBm)				Power(dBm)			
Tx Channel		128	190	251	9.03	128	190	251	33.00
Frequency(MHz)		824.2	836.6	848.8		824.2	836.6	848.8	
GSM(GMSK)		32.43	32.68	32.74	9.03	23.40	23.65	23.71	33.00
GPRS/EGPRS (GMSK)	1Txslot	32.51	32.72	32.79	9.03	23.48	23.69	23.76	33.00
	2Txslots	30.07	30.27	30.35	6.02	<b>24.05</b>	<b>24.25</b>	<b>24.33</b>	31.00
	3Txslots	27.83	27.87	27.98	4.26	23.57	23.61	23.72	29.00
	4Txslots	25.26	25.52	25.49	3.01	22.25	22.51	22.48	27.00
EGPRS (8PSK)	1Txslot	25.76	26.18	26.17	9.03	16.73	17.15	17.14	26.50
	2Txslots	23.78	23.93	23.92	6.02	17.76	17.91	17.90	24.50
	3Txslots	21.76	21.89	21.86	4.26	17.50	17.63	17.60	22.50
	4Txslots	19.92	19.97	19.89	3.01	16.91	16.96	16.88	20.50
GSM 1900		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	9.03	1850.2	1880	1909.8	30.20
GSM(GMSK)		29.84	29.81	29.75		20.81	20.78	20.72	
GPRS/EGPRS (GMSK)	1Txslot	29.78	29.76	29.69	9.03	20.75	20.73	20.66	30.20
	2Txslots	27.77	27.67	27.73	6.02	<b>21.75</b>	<b>21.65</b>	<b>21.71</b>	28.20
	3Txslots	25.61	25.43	25.46	4.26	21.35	21.17	21.20	26.20
	4Txslots	23.24	23.05	23.09	3.01	20.23	20.04	20.08	24.20
EGPRS (8PSK)	1Txslot	25.30	25.16	25.27	9.03	16.27	16.13	16.24	26.20
	2Txslots	23.36	23.21	23.26	6.02	17.34	17.19	17.24	24.20
	3Txslots	20.98	20.85	20.72	4.26	16.72	16.59	16.46	22.20
	4Txslots	19.13	19.07	19.01	3.01	16.12	16.06	16.00	20.20

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

1. Standalone: 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.
2. SAR is not required for EGPRS (8PSK) mode because its output power is less than that of GPRS Mode.



**Second - Antenna**

GSM 850		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)		32.46	32.70	32.76	9.03	23.43	23.67	23.73	33.00
GPRS/EGPRS (GMSK)	1Txslot	32.53	32.74	32.81	9.03	23.50	23.71	23.78	33.00
	2Txslots	30.10	30.30	30.38	6.02	<b>24.08</b>	<b>24.28</b>	<b>24.36</b>	31.00
	3Txslots	27.84	27.88	27.99	4.26	23.58	23.62	23.73	29.00
	4Txslots	25.28	25.54	25.51	3.01	22.27	22.53	22.50	27.00
EGPRS (8PSK)	1Txslot	25.77	26.19	26.18	9.03	16.74	17.16	17.15	26.50
	2Txslots	23.81	23.95	23.94	6.02	17.79	17.93	17.92	24.50
	3Txslots	21.77	21.92	21.89	4.26	17.51	17.66	17.63	22.50
	4Txslots	19.94	19.98	19.90	3.01	16.93	16.97	16.89	20.50
<b>For Simultaneous Transmission</b>									
GSM(GMSK)		29.97	30.21	30.27	9.03	20.94	21.18	21.24	30.50
GPRS/EGPRS (GMSK)	1Txslot	30.04	30.25	30.32	9.03	21.01	21.22	21.29	30.50
	2Txslots	27.61	27.81	27.89	6.02	<b>21.59</b>	<b>21.79</b>	<b>21.87</b>	28.50
	3Txslots	25.35	25.39	25.50	4.26	21.09	21.13	21.24	26.50
	4Txslots	22.79	23.05	23.02	3.01	19.78	20.04	20.01	24.50
EGPRS (8PSK)	1Txslot	23.28	23.70	23.69	9.03	14.25	14.67	14.66	24.00
	2Txslots	21.32	21.46	21.45	6.02	15.30	15.44	15.43	22.00
	3Txslots	19.28	19.43	19.40	4.26	15.02	15.17	15.14	20.00
	4Txslots	17.45	17.49	17.41	3.01	14.44	14.48	14.40	18.00
GSM 1900		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)		29.87	29.83	29.77	9.03	20.84	20.80	20.74	30.20
GPRS/EGPRS (GMSK)	1Txslot	29.80	29.78	29.71	9.03	20.77	20.75	20.68	30.20
	2Txslots	27.80	27.70	27.76	6.02	<b>21.78</b>	<b>21.68</b>	<b>21.74</b>	28.20
	3Txslots	25.62	25.44	25.47	4.26	21.36	21.18	21.21	26.20
	4Txslots	23.26	23.07	23.11	3.01	20.25	20.06	20.10	24.20
EGPRS (8PSK)	1Txslot	25.31	25.17	25.28	9.03	16.28	16.14	16.25	26.20
	2Txslots	23.39	23.23	23.28	6.02	17.37	17.21	17.26	24.20
	3Txslots	20.99	20.88	20.75	4.26	16.73	16.62	16.49	22.20
	4Txslots	19.15	19.08	19.02	3.01	16.14	16.07	16.01	20.20
<p>Notes: The worst-case configuration and mode for SAR testing is determined to be as follows:</p> <ol style="list-style-type: none"> <li>1. Standalone: 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.</li> <li>2. SAR is not required for EGPRS (8PSK) mode because its output power is less than that of GPRS Mode.</li> </ol>									

## 9.2 WCDMA Mode

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

### Main- Antenna

WCDMA Hotspot Off		Band II(dBm)				Band IV(dBm)				Band V(dBm)			
Tx Channel		9262	9400	9538	Tune-up Limit (dBm)	1312	1413	1513	Tune-up Limit (dBm)	4132	4183	4233	Tune-up Limit (dBm)
Frequency(MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.6	846.6	
12.2kbps RMC		23.66	23.83	23.71	24.00	23.71	23.88	23.71	24.00	23.80	23.89	23.97	24.50
64kbps RMC		23.64	23.86	23.75	24.00	23.67	23.87	23.73	24.00	23.78	23.84	24.01	24.50
144kbps RMC		23.65	23.86	23.69	24.00	23.64	23.89	23.74	24.00	23.78	23.83	24.03	24.50
384kbps RMC		23.64	23.83	23.71	24.00	23.73	23.87	23.67	24.00	23.79	23.84	24.02	24.50
HSDPA	Sub 1	23.08	23.25	23.13	24.00	23.13	23.30	23.13	23.50	23.72	23.81	23.89	24.00
	Sub 2	22.57	22.74	22.62	23.00	22.62	22.79	22.62	23.00	23.21	23.30	23.38	23.50
	Sub 3	22.06	22.23	22.11	22.50	22.11	22.28	22.11	22.50	22.70	22.79	22.87	23.00
	Sub 4	22.05	22.22	22.10	22.50	22.10	22.27	22.10	22.50	22.69	22.78	22.86	23.00
HSUPA	Sub 1	20.54	20.71	20.59	21.00	21.09	21.26	21.09	21.50	21.68	21.77	21.85	22.00
	Sub 2	20.53	20.70	20.58	21.00	20.58	20.75	20.58	21.00	20.67	20.76	20.84	21.00
	Sub 3	20.51	20.69	20.57	21.00	20.56	20.74	20.57	21.00	20.65	20.75	20.83	21.00
	Sub 4	20.50	20.68	20.56	21.00	21.05	21.23	21.06	21.50	20.64	20.74	20.82	21.00
	Sub 5	20.49	20.67	20.55	21.00	21.04	21.22	21.05	21.50	21.13	21.23	21.31	21.50
DC-HSDPA	Sub 1	23.00	23.19	23.05	24.00	23.05	23.24	23.05	23.50	23.64	23.75	23.81	24.00
	Sub 2	22.49	22.68	22.54	23.00	22.54	22.73	22.54	23.00	23.13	23.24	23.30	23.50
	Sub 3	22.07	22.17	22.05	22.50	22.12	22.22	22.05	22.50	22.71	22.73	22.81	23.00
	Sub 4	22.06	22.16	22.04	22.50	22.11	22.21	22.04	22.50	22.70	22.72	22.80	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  $\leq \frac{1}{4}$  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.



WCDMA Hotspot On		Band II(dBm)				Band IV(dBm)			
Tx Channel		9262	9400	9538	Tune-up Limit (dBm)	1312	1413	1513	Tune-up Limit (dBm)
Frequency(MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
12.2kbps RMC		21.26	21.43	21.31	21.50	23.22	23.38	23.21	23.50
64kbps RMC		21.24	21.46	21.35	21.50	23.17	23.37	23.23	23.50
144kbps RMC		21.25	21.46	21.29	21.50	23.14	23.39	23.24	23.50
384kbps RMC		21.24	21.43	21.31	21.50	23.23	23.37	23.17	23.50
HSDPA	Sub 1	20.18	20.35	20.23	21.00	22.59	22.79	22.65	23.00
	Sub 2	20.17	20.34	20.22	20.50	22.08	22.28	22.14	22.50
	Sub 3	19.66	19.83	19.71	20.00	21.57	21.77	21.63	22.00
	Sub 4	19.65	19.82	19.70	20.00	21.56	21.76	21.62	22.00
HSUPA	Sub 1	18.14	18.31	18.19	18.50	20.55	20.75	20.61	21.00
	Sub 2	18.13	18.30	18.18	18.50	20.04	20.24	20.10	20.50
	Sub 3	18.11	18.29	18.17	18.50	20.02	20.23	20.09	20.50
	Sub 4	18.10	18.28	18.16	18.50	20.51	20.72	20.58	21.00
	Sub 5	18.09	18.27	18.15	18.50	20.50	20.71	20.57	21.00
DC-HSDPA	Sub 1	20.10	20.29	20.15	21.00	22.51	22.73	22.57	23.00
	Sub 2	20.09	20.28	20.14	20.50	22.00	22.22	22.06	22.50
	Sub 3	19.67	19.77	19.65	20.00	21.58	21.71	21.57	22.00
	Sub 4	19.66	19.76	19.64	20.00	21.57	21.70	21.56	22.00

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  $\leq \frac{1}{4}$  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.



**Second - Antenna**

WCDMA		Band II(dBm)				Band IV(dBm)				Band V(dBm)			
Tx Channel	9262	9400	9538	Tune-up Limit (dBm)	1312	1413	1513	Tune-up Limit (dBm)	4132	4183	4233	Tune-up Limit (dBm)	
Frequency(MHz)	1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.6	846.6		
12.2kbps RMC	23.66	23.83	23.71	24.00	23.73	23.90	23.73	24.00	23.32	23.41	23.49	24.20	
64kbps RMC	23.64	23.86	23.75	24.00	23.70	23.90	23.76	24.00	23.31	23.37	23.54	24.20	
144kbps RMC	23.65	23.86	23.69	24.00	23.65	23.90	23.75	24.00	23.29	23.34	23.54	24.20	
384kbps RMC	23.64	23.83	23.71	24.00	23.76	23.89	23.69	24.00	23.32	23.36	23.54	24.20	
HSDPA	Sub 1	23.08	23.25	23.13	24.00	23.14	23.33	23.16	23.50	23.23	23.34	23.42	23.70
	Sub 2	22.57	22.74	22.62	23.00	22.64	22.81	22.64	23.00	22.73	22.82	22.90	23.20
	Sub 3	22.06	22.23	22.11	22.50	22.14	22.31	22.14	22.50	22.23	22.32	22.40	22.70
	Sub 4	22.05	22.22	22.10	22.50	22.11	22.28	22.11	22.50	22.20	22.29	22.37	22.70
HSUPA	Sub 1	20.54	20.71	20.59	21.00	21.11	21.28	21.11	21.50	21.20	21.29	21.37	21.70
	Sub 2	20.53	20.70	20.58	21.00	20.61	20.78	20.61	21.00	20.20	20.29	20.37	20.70
	Sub 3	20.51	20.69	20.57	21.00	20.57	20.75	20.58	21.00	20.16	20.26	20.34	20.70
	Sub 4	20.50	20.68	20.56	21.00	21.08	21.25	21.08	21.50	20.17	20.26	20.34	20.70
	Sub 5	20.49	20.67	20.55	21.00	21.05	21.25	21.08	21.50	20.64	20.76	20.84	21.00
DC-HSDPA	Sub 1	23.00	23.19	23.05	24.00	23.07	23.25	23.06	23.50	23.16	23.26	23.32	23.70
	Sub 2	22.49	22.68	22.54	23.00	22.57	22.75	22.56	23.00	22.66	22.76	22.82	23.20
	Sub 3	22.07	22.17	22.05	22.50	22.13	22.25	22.08	22.50	22.22	22.26	22.34	22.70
	Sub 4	22.06	22.16	22.04	22.50	22.13	22.22	22.05	22.50	22.22	22.23	22.31	22.70

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

#### Main- Antenna

LTE FDD Band 2 Hotspot Off				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	22.12	22.52	22.43	23.70
		1	2	23.48	23.57	23.34	
		1	5	23.24	23.30	23.41	
		3	0	22.14	22.36	22.35	23.70
		3	2	22.28	22.23	22.06	
		3	3	22.45	22.19	22.05	
		6	0	22.11	22.38	22.10	23.00
	16QAM	1	0	22.32	22.62	22.57	23.00
		1	2	22.73	22.79	22.60	
		1	5	22.54	22.55	22.62	
		3	0	21.03	21.26	21.25	23.00
		3	2	21.31	21.39	21.67	
		3	3	21.36	21.08	21.09	
		6	0	20.97	21.34	21.08	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	22.14	22.56	22.46	23.70
		1	7	23.51	23.62	23.38	
		1	14	23.27	23.35	23.45	
		8	0	22.16	22.40	22.40	23.00
		8	4	22.36	22.25	22.10	
		8	7	22.47	22.22	21.97	
		15	0	22.14	22.42	22.13	23.00



	16QAM	1	0	22.35	22.64	22.60	23.00		
		1	7	22.76	22.84	22.64			
		1	14	22.56	22.59	22.65			
			16QAM	8	0	21.00	21.31	21.29	22.00
				8	4	21.34	21.44	21.71	
				8	7	21.38	21.12	20.94	
				15	0	21.00	21.38	21.11	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)		
				18625/1852.5	18900/1880	19175/1907.5			
5MHz	QPSK	1	0	22.11	22.54	22.42	23.70		
		1	13	23.49	23.58	23.35			
		1	24	23.24	23.30	23.41			
		16QAM	12	0	22.13	22.35	22.36	23.70	
			12	6	22.34	22.21	22.05		
			12	13	22.45	22.20	21.93		
			25	0	22.12	22.41	22.11	23.00	
	16QAM		1	0	22.32	22.60	22.57	23.00	
			1	13	22.73	22.82	22.61		
			1	24	22.53	22.57	22.61		
		12	0	21.04	21.27	21.26	23.00		
		12	6	21.31	21.39	21.67			
		12	13	21.35	21.07	21.10			
		25	0	20.98	21.34	21.06	22.00		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)		
				18650/1855	18900/1880	19150/1905			
10MHz	QPSK	1	0	22.13	22.55	22.45	23.70		
		1	25	23.52	23.63	23.39			
		1	49	23.26	23.34	23.44			
		16QAM	25	0	22.16	22.40	22.40	23.00	
			25	13	22.37	22.26	22.09		
			25	25	22.47	22.24	21.98		
			50	0	22.20	22.43	22.15	23.00	
	16QAM		1	0	22.34	22.63	22.59	23.00	
			1	25	22.76	22.86	22.64		
			1	49	22.56	22.59	22.64		
		25	0	21.01	21.32	21.30	22.00		
		25	13	21.33	21.43	21.70			
		25	25	21.38	21.12	20.94			
		50	0	21.01	21.39	21.10	22.00		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit		
				18675/1857.5	18900/1880	19125/1902.5			



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				18700/1860	18900/1880	19100/1900	
15MHz	QPSK	1	0	22.12	22.51	22.43	23.70
		1	38	23.50	23.62	23.36	
		1	74	23.23	23.29	23.40	
		36	0	22.14	22.36	22.37	23.00
		36	18	22.34	22.21	22.05	
		36	39	22.44	22.21	21.94	
		75	0	22.18	22.39	22.10	23.00
	16QAM	1	0	22.29	22.61	22.57	23.00
		1	38	22.74	22.83	22.62	
		1	74	22.53	22.55	22.61	
		36	0	21.08	21.30	21.27	23.00
		36	18	21.30	21.38	21.66	
		36	39	21.36	21.08	21.05	
		75	0	21.08	21.34	21.06	23.00
20MHz	QPSK	1	0	22.09	22.47	22.40	23.70
		1	50	23.49	23.58	23.34	
		1	99	23.21	23.28	23.37	
		50	0	22.11	22.31	22.33	23.00
		50	25	22.32	22.17	22.02	
		50	50	22.41	22.16	21.90	
		100	0	22.15	22.34	22.06	23.00
	16QAM	1	0	22.27	22.57	22.52	23.00
		1	50	22.70	22.81	22.58	
		1	99	22.51	22.52	22.59	
		50	0	20.95	21.26	21.24	22.00
		50	25	21.27	21.36	21.63	
		50	50	21.33	21.03	20.87	
		100	0	20.96	21.30	21.03	22.00

LTE FDD Band 2 Hotspot On				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	20.14	20.54	20.45	21.70
		1	2	21.51	21.60	21.37	
		1	5	21.25	21.31	21.42	
		3	0	20.17	20.38	20.37	21.70
		3	2	20.29	20.26	20.09	
		3	3	20.47	20.21	20.07	
	6	0	20.14	20.41	20.13	21.00	
	16QAM	1	0	20.33	20.63	20.58	21.00
		1	2	20.75	20.81	20.62	
		1	5	20.57	20.58	20.65	
		3	0	19.08	19.27	19.26	21.00
		3	2	19.34	19.41	19.69	
3		3	19.37	19.11	19.02		
6	0	18.99	19.35	19.09	20.00		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	20.16	20.58	20.48	21.70
		1	7	21.54	21.65	21.41	
		1	14	21.28	21.36	21.46	
		8	0	20.19	20.42	20.42	21.00
		8	4	20.37	20.28	20.13	
		8	7	20.49	20.24	19.99	
		15	0	20.17	20.45	20.16	
	16QAM	1	0	20.36	20.65	20.61	21.00
		1	7	20.78	20.86	20.66	
		1	14	20.59	20.62	20.68	
		8	0	19.01	19.32	19.30	20.00
		8	4	19.37	19.46	19.73	
		8	7	19.39	19.15	18.97	
		15	0	19.02	19.39	19.12	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	20.13	20.56	20.44	21.70
		1	13	21.52	21.61	21.38	
		1	24	21.25	21.31	21.42	
		12	0	20.16	20.37	20.38	21.00



		12	6	20.35	20.24	20.08		
		12	13	20.47	20.22	19.95		
		25	0	20.15	20.44	20.14		21.00
	16QAM		1	0	20.33	20.61	20.58	21.00
			1	13	20.75	20.84	20.63	
			1	24	20.56	20.60	20.64	
			12	0	18.99	19.28	19.27	20.00
			12	6	19.34	19.41	19.69	
			12	13	19.36	19.10	18.93	
		25	0	19.00	19.35	19.07	20.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)	
				18650/1855	18900/1880	19150/1905		
10MHz	QPSK	1	0	20.15	20.57	20.47	21.70	
		1	25	21.55	21.66	21.42		
		1	49	21.27	21.35	21.45		
		16QAM	25	0	20.19	20.42	20.42	21.00
			25	13	20.38	20.29	20.12	
			25	25	20.49	20.26	20.00	
				50	0	20.23	20.46	20.18
	16QAM		1	0	20.35	20.64	20.60	21.00
			1	25	20.78	20.88	20.66	
			1	49	20.59	20.62	20.67	
		16QAM	25	0	19.02	19.33	19.31	20.00
			25	13	19.36	19.45	19.72	
			25	25	19.39	19.15	18.97	
			50	0	19.03	19.40	19.11	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)	
				18675/1857.5	18900/1880	19125/1902.5		
15MHz	QPSK	1	0	20.14	20.53	20.45	21.70	
		1	38	21.53	21.65	21.39		
		1	74	21.24	21.30	21.41		
		16QAM	36	0	20.17	20.38	20.39	21.00
			36	18	20.35	20.24	20.08	
			36	39	20.46	20.23	19.96	
			16QAM	75	0	20.21	20.42	20.13
	1			0	20.30	20.62	20.58	21.00
	1			38	20.76	20.85	20.64	
	16QAM	1	74	20.56	20.58	20.64	20.00	
		36	0	18.99	19.31	19.28		
		36	18	19.33	19.40	19.68		
			36	39	19.37	19.11	18.94	



Bandwidth	Modulation	75	0	19.00	19.35	19.07	20.00
		RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	20.11	20.49	20.42	21.70
		1	50	21.52	21.61	21.37	
		1	99	21.22	21.29	21.38	
		50	0	20.14	20.33	20.35	21.00
		50	25	20.33	20.20	20.05	
		50	50	20.43	20.18	19.92	
		100	0	20.18	20.37	20.09	21.00
	16QAM	1	0	20.28	20.58	20.53	21.00
		1	50	20.72	20.83	20.60	
		1	99	20.54	20.55	20.62	
		50	0	18.96	19.27	19.25	20.00
		50	25	19.30	19.38	19.65	
		50	50	19.34	19.06	18.90	
		100	0	18.98	19.31	19.04	20.00

LTE FDD Band 4				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	23.44	22.64	22.98	23.80
		1	2	23.18	22.90	23.66	
		1	5	22.52	23.67	22.75	
		3	0	22.72	22.55	22.83	23.80
		3	2	22.47	22.47	22.80	
		3	3	22.48	22.21	22.93	
		6	0	22.47	22.09	22.92	23.00
	16QAM	1	0	22.60	21.89	22.20	23.00
		1	2	22.44	22.17	22.84	
		1	5	21.77	22.85	22.87	
		3	0	21.55	21.09	21.70	23.00
		3	2	21.33	21.07	21.58	
		3	3	21.06	21.19	21.90	
		6	0	21.44	21.11	21.86	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	23.46	22.68	23.01	23.80
		1	13	23.21	22.95	23.70	
		1	24	22.55	23.72	22.79	
		12	0	22.74	22.09	22.88	23.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)				
				19975/1712.5	20175/1732.5	20375/1752.5					
	16QAM	12	6	22.05	21.99	22.84	23.00				
		12	13	22.00	22.24	22.95					
		25	0	22.50	22.13	22.95					
			16QAM	1	0	22.63	21.91	22.23	23.00		
				1	13	22.47	22.22	22.88			
				1	24	21.79	22.89	22.90			
					16QAM	12	0	21.58	21.04	21.74	22.00
						12	6	21.36	21.12	21.62	
						12	13	21.08	21.23	21.95	
		25	0	21.47	21.15	21.89	22.00				
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)				
				19975/1712.5	20175/1732.5	20375/1752.5					
5MHz	QPSK	1	0	23.43	22.66	22.97	23.80				
		1	13	23.19	22.91	23.67					
		1	24	22.52	23.67	22.75					
		16QAM	12	0	22.71	22.04	22.84	23.00			
			12	6	22.03	21.95	22.79				
			12	13	21.98	22.22	22.91				
					25	0	22.48	22.12	22.93	23.00	
	16QAM		1	0	22.60	21.87	22.20	23.00			
			1	13	22.44	22.20	22.85				
			1	24	21.76	22.87	22.86				
		16QAM	12	0	21.56	21.00	21.71	22.00			
			12	6	21.33	21.07	21.58				
			12	13	21.05	21.18	21.91				
			25	0	21.45	21.11	21.84		22.00		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)				
				20000/1715	20175/1732.5	20350/1750					
10MHz	QPSK	1	0	23.45	22.67	23.00	23.80				
		1	25	23.22	22.96	23.71					
		1	49	22.54	23.71	22.78					
		16QAM	25	0	22.74	22.09	22.88	23.00			
			25	13	22.06	22.00	22.83				
			25	25	22.00	22.26	22.96				
			16QAM	50	0	22.56	22.14	22.97	23.00		
	1			0	22.62	21.90	22.22				
	1			25	22.47	22.24	22.88				
	1	49		21.79	22.89	22.89					
	16QAM	25	0	21.59	21.05	21.75	22.00				
		25	13	21.35	21.11	21.61					
		25	25	21.08	21.23	21.95					



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				20025/1717.5	20175/1732.5	20325/1747.5	
				50	0	21.48	
15MHz	QPSK	1	0	23.44	22.63	22.98	23.80
		1	38	23.20	22.95	23.68	
		1	74	22.51	23.66	22.74	
		36	0	22.72	22.05	22.85	23.00
		36	18	22.03	21.95	22.79	
		36	39	21.97	22.23	22.92	
		75	0	22.54	22.10	22.92	23.00
	16QAM	1	0	22.57	21.88	22.20	23.00
		1	38	22.45	22.21	22.86	
		1	74	21.76	22.85	22.86	
		36	0	21.56	21.03	21.72	22.00
		36	18	21.32	21.06	21.57	
		36	39	21.06	21.19	21.92	
		75	0	21.45	21.11	21.84	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				20050/1720	20175/1732.5	20300/1745	
				50	0	21.48	
20MHz	QPSK	1	0	23.41	22.59	22.95	23.80
		1	50	23.19	22.91	23.66	
		1	99	22.49	23.65	22.71	
		50	0	22.69	22.00	22.81	23.00
		50	25	22.01	21.91	22.76	
		50	50	21.94	22.18	22.88	
		100	0	22.51	22.05	22.88	23.00
	16QAM	1	0	22.55	21.84	22.15	23.00
		1	50	22.41	22.19	22.82	
		1	99	21.74	22.82	22.84	
		50	0	21.53	20.99	21.69	22.00
		50	25	21.29	21.04	21.54	
		50	50	21.03	21.14	21.88	
		100	0	21.43	21.07	21.81	22.00



LTE FDD Band 5				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	22.23	22.13	22.55	24.00
		1	2	22.63	22.75	22.93	
		1	5	22.74	22.99	22.75	
		3	0	22.47	22.04	22.12	24.00
		3	2	22.33	22.10	22.13	
		3	3	22.26	22.15	22.19	
		6	0	21.79	22.00	22.31	23.00
	16QAM	1	0	21.68	21.62	22.14	23.00
		1	2	22.18	22.35	22.37	
		1	5	22.31	22.56	22.33	
		3	0	21.02	21.08	21.07	23.00
		3	2	21.05	21.19	21.28	
		3	3	21.04	21.05	21.13	
		6	0	20.72	20.93	21.15	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				20415/825.5	20525/836.5	20635/847.5	
3MHz	QPSK	1	0	22.25	22.14	22.58	24.00
		1	13	22.66	22.80	22.97	
		1	24	22.76	23.03	22.78	
		12	0	22.00	22.09	22.16	23.00
		12	6	21.86	22.15	22.17	
		12	13	21.78	22.19	22.24	
		25	0	21.87	22.02	22.35	23.00
	16QAM	1	0	21.70	21.65	22.16	23.00
		1	13	22.21	22.39	22.40	
		1	24	22.34	22.58	22.36	
		12	0	20.85	21.03	21.01	22.00
		12	6	20.97	21.23	21.31	
		12	13	20.77	21.10	21.17	
		25	0	20.75	20.98	21.19	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				20425/826.5	20525/836.5	20625/846.5	
5MHz	QPSK	1	0	22.24	22.10	22.56	24.00
		1	13	22.64	22.79	22.94	
		1	24	22.73	22.98	22.74	
		12	0	21.98	22.05	22.13	23.00
		12	6	21.83	22.10	22.13	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)	
				20450/829	20525/836.5	20600/844		
		12	13	21.75	22.16	22.20	23.00	
		25	0	21.85	21.98	22.30		
	16QAM		1	0	21.65	21.63	22.14	23.00
			1	13	22.19	22.36	22.38	
			1	24	22.31	22.54	22.33	
		22.00	12	0	20.82	21.01	20.98	
				6	20.94	21.18	21.27	
			12	13	20.75	21.06	21.14	
			25	0	20.72	20.93	21.15	
								22.00
10MHz	QPSK	1	0	22.21	22.06	22.53	24.00	
		1	25	22.63	22.75	22.92		
		1	49	22.71	22.97	22.71		
		23.00	25	0	21.95	22.00	22.09	
				13	21.81	22.06	22.10	
			25	25	21.72	22.11	22.16	
			50	0	21.82	21.93	22.26	23.00
	16QAM	23.00	1	0	21.63	21.59	22.09	
			1	25	22.15	22.34	22.34	
			1	49	22.29	22.51	22.31	
		22.00	25	0	20.79	20.97	20.95	
				13	20.91	21.16	21.24	
			25	25	20.72	21.01	21.10	
				50	0	20.70	20.89	21.12



LTE FDD Band 7				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	22.81	22.85	22.59	24.00
		1	13	22.40	22.21	22.29	
		1	24	22.22	23.31	22.41	
		12	0	21.72	21.68	22.16	23.00
		12	6	21.30	22.20	21.85	
		12	13	21.12	22.35	21.69	
		25	0	21.84	22.63	21.46	23.00
	16QAM	1	0	22.32	21.87	21.57	23.00
		1	13	21.49	22.21	21.31	
		1	24	22.19	22.75	21.13	
		12	0	20.87	20.79	20.61	22.00
		12	6	20.70	21.36	20.23	
		12	13	20.34	21.53	20.16	
		25	0	20.53	21.32	20.24	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	22.83	22.86	22.62	24.00
		1	25	22.43	22.26	22.33	
		1	49	22.24	23.35	22.44	
		25	0	21.75	21.73	22.20	23.00
		25	13	21.33	22.25	21.89	
		25	25	21.14	22.39	21.74	
		50	0	21.92	22.65	21.50	23.00
	16QAM	1	0	22.34	21.90	21.59	23.00
		1	25	21.52	22.25	21.34	
		1	49	22.22	22.77	21.16	
		25	0	20.90	20.84	20.65	22.00
		25	13	20.72	21.40	20.26	
		25	25	20.37	21.58	20.20	
		50	0	20.56	21.37	20.28	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	22.82	22.82	22.60	24.00
		1	38	22.41	22.25	22.30	
		1	74	22.21	23.26	22.40	
		36	0	21.73	21.69	22.17	23.00
		36	18	21.30	22.20	21.85	



		36	39	21.11	22.36	21.70	23.00			
		75	0	21.90	22.61	21.45				
	16QAM		1	0	22.29	21.88	21.57	23.00		
			1	38	21.50	22.22	21.32			
			1	74	22.19	22.73	21.13			
				36	0	20.87	20.82	20.62	22.00	
				36	18	20.69	21.35	20.22		
				36	39	20.35	21.54	20.17		
				75	0	20.53	21.32	20.24		
<b>Bandwidth</b>	<b>Modulation</b>	<b>RB size</b>	<b>RB offset</b>	<b>Channel/Frequency (MHz)</b>			<b>Tune-up Limit (dBm)</b>			
				<b>20850/2510</b>	<b>21100/2535</b>	<b>21350/2560</b>				
<b>20MHz</b>	QPSK	1	0	22.79	22.78	22.57	24.00			
		1	50	22.40	22.21	22.28				
		1	99	22.19	23.29	22.37				
				50	0	21.70	21.64	22.13	23.00	
				50	25	21.28	22.16	21.82		
				50	50	21.08	22.31	21.66		
				100	0	21.87	22.56	21.41		
	16QAM		1	0	22.27	21.84	21.52	23.00		
			1	50	21.46	22.20	21.28			
			1	99	22.17	22.70	21.11			
					50	0	20.84	20.78	20.59	22.00
					50	25	20.66	21.33	20.19	
					50	50	20.32	21.49	20.13	
					100	0	20.51	21.28	20.21	



LTE FDD Band 12				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	22.93	23.17	22.33	24.00
		1	2	23.44	23.27	22.55	
		1	5	23.11	23.37	22.50	
		3	0	22.43	22.28	22.16	24.00
		3	2	22.33	22.26	22.48	
		3	3	22.11	22.27	22.53	
		6	0	22.26	22.27	21.78	23.00
	16QAM	1	0	22.11	22.28	21.18	23.00
		1	2	22.63	22.47	21.68	
		1	5	22.19	22.51	21.16	
		3	0	21.39	21.32	21.15	23.00
		3	2	21.38	21.39	21.10	
		3	3	21.16	21.29	21.15	
		6	0	21.34	21.28	20.75	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				23025/700.5	23095/707.5	23165/714.5	
3MHz	QPSK	1	0	22.95	23.18	22.36	24.00
		1	7	23.47	23.32	22.59	
		1	14	23.13	23.41	22.53	
		8	0	22.46	22.33	21.20	23.00
		8	4	22.36	22.31	21.52	
		8	7	22.13	22.31	21.88	
		15	0	22.34	22.29	21.82	23.00
	16QAM	1	0	22.13	22.31	21.20	23.00
		1	7	22.66	22.51	21.71	
		1	14	22.22	22.53	21.19	
		8	0	21.42	21.37	20.19	22.00
		8	4	21.40	21.43	20.63	
		8	7	21.19	21.34	20.79	
		15	0	21.37	21.33	20.79	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				23035/701.5	23095/707.5	23155/713.5	
5MHz	QPSK	1	0	22.94	23.14	22.34	24.00
		1	13	23.45	23.31	22.56	
		1	24	23.10	23.36	22.49	
		12	0	22.44	22.29	21.17	23.00
		12	6	22.33	22.26	21.48	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)		
				23060/704	23095/707.5	23130/711			
	16QAM	12	13	22.10	22.28	21.84	23.00		
		25	0	22.32	22.25	21.77			
		1	0	22.08	22.29	21.18	23.00		
		1	13	22.64	22.48	21.69			
		1	24	22.19	22.49	21.16			
		12	0	21.39	21.35	20.16	22.00		
		12	6	21.37	21.38	20.59			
		12	13	21.17	21.30	20.76			
				25	0	21.34	21.28	20.75	22.00
		10MHz	QPSK	1	0	22.91	23.10	22.31	24.00
1	25			23.44	23.27	22.54			
1	49			23.08	23.35	22.46			
25	0			22.41	22.24	21.13	23.00		
25	13			22.31	22.22	21.45			
25	25			22.07	22.23	21.80			
50	0			22.29	22.20	21.73			
16QAM	1		0	22.06	22.25	21.13	23.00		
	1		25	22.60	22.46	21.65			
	1		49	22.17	22.46	21.14			
	25		0	21.36	21.31	20.13	22.00		
	25		13	21.34	21.36	20.56			
	25		25	21.14	21.25	20.72			
	50		0	21.32	21.24	20.72			

LTE FDD Band 17				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	22.68	22.69	22.83	24.00
		1	13	23.88	23.66	23.62	
		1	24	22.46	23.40	23.11	
		12	0	22.19	22.19	22.34	23.00
		12	6	22.27	22.32	22.44	
		12	13	22.40	22.76	22.66	
		25	0	22.31	22.59	22.59	23.00
	16QAM	1	0	21.77	21.92	22.09	23.00
		1	13	22.57	22.76	22.87	
		1	24	22.84	22.75	22.28	
		12	0	21.18	21.13	21.31	22.00
		12	6	21.41	21.57	21.76	
		12	13	21.36	21.57	21.69	
		25	0	21.29	21.50	21.73	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				23780/709	23790/710	23800/711	
10MHz	QPSK	1	0	22.65	22.65	22.80	24.00
		1	25	23.87	23.62	23.60	
		1	49	22.44	23.39	23.08	
		25	0	22.16	22.14	22.30	23.00
		25	13	22.25	22.28	22.41	
		25	25	22.37	22.71	22.62	
		50	0	22.28	22.54	22.55	23.00
	16QAM	1	0	21.75	21.88	22.04	23.00
		1	25	22.53	22.74	22.83	
		1	49	22.82	22.72	22.26	
		25	0	21.15	21.09	21.28	22.00
		25	13	21.38	21.55	21.73	
		25	25	21.33	21.52	21.65	
		50	0	21.27	21.46	21.70	22.00



LTE FDD Band 26				Conducted Power(dBm)			Tune-up Limit (dBm)	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				
				26697/814.7	26865/831.5	27033/848.3		
1.4MHz	QPSK	1	0	22.77	22.78	22.98	24.50	
		1	2	23.03	22.74	23.19		
		1	5	22.72	22.76	22.70		
		3	0	22.55	22.51	22.55	24.50	
		3	2	22.59	22.98	22.64		
		3	3	22.51	22.57	22.56		
	16QAM	16QAM	6	0	21.57	21.76	21.53	23.00
			1	0	21.23	21.30	21.25	23.00
			1	2	21.19	21.19	21.22	
			1	5	21.24	21.20	21.17	
			3	0	21.05	20.58	20.74	23.00
			3	2	20.78	20.75	20.90	
3	3	20.45	20.60	20.46				
		6	0	20.42	20.61	20.74	22.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)	
				26705/815.5	26865/831.5	27025/847.5		
3MHz	QPSK	1	0	22.74	22.76	22.94	24.00	
		1	13	23.01	22.70	23.16		
		1	24	22.69	22.71	22.66		
		12	0	21.22	21.76	21.61	23.00	
		12	6	22.37	22.14	22.59		
		12	13	21.29	21.45	22.02		
	16QAM	16QAM	25	0	21.55	21.75	21.51	23.00
			1	0	21.20	21.26	21.22	23.00
			1	13	21.16	21.17	21.19	
			1	24	21.21	21.18	21.13	
			12	0	21.03	20.54	20.71	22.00
			12	6	20.75	20.70	20.86	
12	13	20.42	20.55	20.42				
		25	0	20.40	20.57	20.69	22.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)	
				26715/816.5	26865/831.5	27015/846.5		
5MHz	QPSK	1	0	22.76	22.77	22.97	24.50	
		1	13	23.04	22.75	23.20		
		1	24	22.71	22.75	22.69		
		12	0	21.25	21.81	21.65	23.00	
		12	6	22.40	22.19	22.63		
		12	13	21.31	21.49	22.07		



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)			
				26750/820	26865/831.5	26990/844				
	16QAM	25	0	21.63	21.77	21.55	23.00			
		1	0	21.22	21.29	21.24	23.00			
		1	13	21.19	21.21	21.22				
		1	24	21.24	21.20	21.16				
				12	0	21.06	20.59	20.75	22.00	
				12	6	20.77	20.74	20.89		
				12	13	20.45	20.60	20.46		
				25	0	20.43	20.62	20.73		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)			
				26750/820	26865/831.5	26990/844				
10MHz	QPSK	1	0	22.75	22.73	22.95	24.50			
		1	25	23.02	22.74	23.17				
		1	49	22.68	22.70	22.65				
				25	0	21.23	21.77	21.62	23.00	
				25	13	22.37	22.14	22.59		
				25	25	21.28	21.46	22.03		
				50	0	21.61	21.73	21.50		
	16QAM			1	0	21.17	21.27	21.22		23.00
				1	25	21.17	21.18	21.20		
		1	49	21.21	21.16	21.13				
				25	0	21.03	20.57	20.72	22.00	
				25	13	20.74	20.69	20.85		
				25	25	20.43	20.56	20.43		
				50	0	20.40	20.57	20.69		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)			
				26775/822.5	26865/831.5	26965/841.5				
15MHz	QPSK	1	0	22.72	22.69	22.92	24.50			
		1	38	23.01	22.70	23.15				
		1	74	22.66	22.69	22.62				
				36	0	21.20	21.72	21.58	23.00	
				36	18	22.35	22.10	22.56		
				36	39	21.25	21.41	21.99		
				75	0	21.58	21.68	21.46		
	16QAM			1	0	21.15	21.23	21.17		23.00
				1	38	21.13	21.16	21.16		
		1	74	21.19	21.13	21.11				
				36	0	21.00	20.53	20.69	22.00	
				36	18	20.71	20.67	20.82		
				36	39	20.40	20.51	20.39		
				75	0	20.38	20.53	20.66		



LTE TDD Band 38				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	22.17	22.23	22.25	24.00
		1	13	22.28	22.44	22.54	
		1	24	22.34	22.40	22.14	
		12	0	21.18	21.16	21.46	23.00
		12	6	21.27	21.32	21.25	
		12	13	21.35	21.41	21.22	
		25	0	21.12	21.24	21.31	23.00
	16QAM	1	0	21.15	21.22	21.61	23.00
		1	13	21.19	21.69	21.60	
		1	24	21.19	21.60	21.35	
		12	0	20.21	20.20	20.16	22.00
		12	6	20.21	20.23	20.18	
		12	13	20.19	20.22	20.15	
		25	0	20.20	20.16	20.13	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	22.19	22.24	22.28	24.00
		1	25	22.31	22.49	22.58	
		1	49	22.36	22.44	22.17	
		25	0	21.21	21.21	21.50	23.00
		25	13	21.30	21.37	21.29	
		25	25	21.37	21.45	21.27	
		50	0	21.20	21.26	21.35	23.00
	16QAM	1	0	21.17	21.25	21.63	23.00
		1	25	21.22	21.73	21.63	
		1	49	21.22	21.62	21.38	
		25	0	20.24	20.25	20.20	22.00
		25	13	20.23	20.27	20.21	
		25	25	20.22	20.27	20.19	
		50	0	20.23	20.21	20.17	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	22.18	22.26	22.61	24.00
		1	38	22.29	22.48	22.55	
		1	74	22.33	22.39	22.13	
		36	0	21.19	21.17	21.47	23.00
		36	18	21.27	21.32	21.25	



		36	39	21.34	21.42	21.23	23.00		
		75	0	21.18	21.22	21.30			
	16QAM		1	0	21.12	21.23	21.61	23.00	
			1	38	21.20	21.70	21.61		
			1	74	21.19	21.58	21.35		
				36	0	20.21	20.23	20.17	22.00
				36	18	20.20	20.22	20.17	
				36	39	20.20	20.23	20.16	
				75	0	20.20	20.16	20.13	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)		
				37850/2580	38000/2595	38150/2610			
20MHz	QPSK	1	0	22.15	22.16	22.43	24.00		
		1	50	22.28	22.44	22.53			
		1	99	22.31	22.38	22.10			
				50	0	21.16	21.12	21.43	23.00
				50	25	21.25	21.28	21.22	
				50	50	21.31	21.37	21.19	
				100	0	21.15	21.17	21.26	
	16QAM		1	0	21.10	21.19	21.56	23.00	
			1	50	21.16	21.68	21.57		
			1	99	21.17	21.55	21.33		
				50	0	20.18	20.19	20.14	22.00
				50	25	20.17	20.20	20.14	
				50	50	20.17	20.18	20.12	
				100	0	20.18	20.12	20.10	

LTE TDD Band 41				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				39675/2498.5	40620/2593	41565/2687.5	
5MHz	QPSK	1	0	22.13	22.18	22.22	24.00
		1	13	22.41	22.49	22.41	
		1	24	22.43	22.41	22.42	
		12	0	21.21	21.23	21.21	23.00
		12	6	21.23	21.24	21.32	
		12	13	21.36	21.43	21.39	
	25	0	21.08	21.38	21.25	23.00	
	16QAM	1	0	21.15	21.13	21.24	23.00
		1	13	21.41	21.49	21.50	
		1	24	21.29	21.32	21.28	
		12	0	20.26	20.24	20.24	22.00
		12	6	20.18	20.17	20.17	
12		13	20.39	20.41	20.39		
25	0	20.17	20.39	20.27	22.00		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				39700/2501	40620/2593	41540/2685	
10MHz	QPSK	1	0	22.15	22.19	22.25	24.00
		1	25	22.44	22.54	22.45	
		1	49	22.45	22.45	22.45	
		25	0	21.24	21.28	21.25	23.00
		25	13	21.26	21.29	21.36	
		25	25	21.38	21.47	21.44	
	50	0	21.16	21.40	21.29	23.00	
	16QAM	1	0	21.17	21.16	21.26	23.00
		1	25	21.44	21.53	21.53	
		1	49	21.32	21.34	21.31	
		25	0	20.29	20.29	20.28	22.00
		25	13	20.20	20.21	20.20	
25		25	20.42	20.46	20.43		
50	0	20.20	20.44	20.31	22.00		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				39725/2503.5	40620/2593	41515/2682.5	
15MHz	QPSK	1	0	22.14	22.15	22.23	24.00
		1	38	22.42	22.53	22.42	
		1	74	22.42	22.40	22.41	
		36	0	21.22	21.24	21.22	23.00



		36	18	21.23	21.24	21.32		
		36	39	21.35	21.44	21.40		
		75	0	21.14	21.36	21.24		23.00
	16QAM		1	0	21.12	21.14	21.24	23.00
			1	38	21.42	21.50	21.51	
			1	74	21.29	21.30	21.28	
			36	0	20.26	20.27	20.25	22.00
			36	18	20.17	20.16	20.16	
			36	39	20.40	20.42	20.40	
75	0	20.17	20.39	20.27	22.00			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)	
				39750/2506	40620/2593	41490/2680		
20MHz	QPSK	1	0	22.11	22.11	22.20	24.00	
		1	50	22.41	22.49	22.40		
		1	99	22.40	22.39	22.38		
		50	0	21.19	21.19	21.18	23.00	
		50	25	21.21	21.20	21.29		
		50	50	21.32	21.39	21.36		
	100	0	21.11	21.31	21.20	23.00		
	16QAM		1	0	21.10	21.10	21.19	23.00
			1	50	21.38	21.48	21.47	
			1	99	21.27	21.27	21.26	
			50	0	20.23	20.23	20.22	22.00
			50	25	20.14	20.14	20.13	
			50	50	20.37	20.37	20.36	
			100	0	20.15	20.35	20.24	



Main Ant CA

DL LTE CA Class	PCC								SCC			Power		
	PCC Band	PCC BW (MHz)	PCC UL RB size	PCC UL RB offset	PCC DL RB size	PCC DL RB offset	PCC UL CH	PCC DL CH	SCC Band	SCC BW (MHz)	SCC DL CH	Rel 8 LTE Tx Power (dBm)	Rel 10 DL LTE CA Tx Power (dBm)	Tune-up
CA_7C	7	15	1	74	75	0	21175	3175	7	15	3025	23.26	23.11	24.00
CA_7C	7	20	1	99	100	0	21198	3198	7	20	3000	23.29	23.14	24.00
CA_38C	38	15	1	0	75	0	38175	38175	38	15	38025	22.55	22.49	24.00
CA_38C	38	20	1	50	100	0	38150	38150	38	20	37952	22.53	22.50	24.00
CA_2A-4A	2	1.4	1	2	6	0	18900	900	4	20	2175	23.57	23.46	23.70
	2	3	1	7	15	0	18900	900	4	20	2175	23.62	23.45	23.70
	2	5	1	13	25	0	18900	900	4	20	2175	23.58	23.42	23.70
	2	10	1	25	50	0	18900	900	4	20	2175	23.63	23.50	23.70
	2	15	1	38	75	0	18900	900	4	20	2175	23.62	23.58	23.70
	2	20	1	50	100	0	18900	900	4	20	2175	23.58	23.41	23.70
	4	5	1	13	25	0	20375	2375	2	20	5800	23.67	23.54	23.80
	4	10	1	25	50	0	20350	2350	2	20	5800	23.71	23.51	23.80
	4	15	1	38	75	0	20325	2325	2	20	5800	23.68	23.56	23.80
CA_2A-17A	2	1.4	1	2	6	0	18900	900	17	10	5790	23.57	23.42	23.70
	2	3	1	7	15	0	18900	900	17	10	5790	23.62	23.57	23.70
	2	5	1	13	25	0	18900	900	17	10	5790	23.58	23.44	23.70
	2	10	1	25	50	0	18900	900	17	10	5790	23.63	23.58	23.70
	2	15	1	38	75	0	18900	900	17	10	5790	23.62	23.61	23.70
	2	20	1	50	100	0	18900	900	17	10	5790	23.58	23.52	23.70
	17	5	1	13	25	0	23755	5755	2	20	700	23.88	23.79	24.00
	17	10	1	25	50	0	23780	5780	2	20	700	23.87	23.73	24.00
CA_4A-17A	4	1.4	1	2	6	0	20393	2393	17	10	5800	23.67	23.66	23.80
	4	3	1	7	15	0	20385	2385	17	10	5800	23.72	23.60	23.80
	4	5	1	13	25	0	20375	2375	17	10	5800	23.67	23.43	23.80
	4	10	1	25	50	0	20350	2350	17	10	5800	23.71	23.55	23.80
	4	15	1	38	75	0	20325	2325	17	10	5800	23.68	23.49	23.80
	4	20	1	50	100	0	20300	2300	17	10	5800	23.66	23.51	23.80
CA_3A-5A	5	5	1	13	25	0	20525	2525	3	20	1575	22.98	22.87	24.00
	5	10	1	25	50	0	20525	2525	3	20	1575	22.97	22.86	24.00
CA_3A-7A	7	5	1	13	25	0	21100	3100	3	20	1575	22.85	22.81	24.00
	7	10	1	25	50	0	21100	3100	3	20	1575	22.86	22.84	24.00



	7	15	1	38	75	0	21100	3100	3	20	1575	22.82	22.80	24.00
	7	20	1	50	100	0	20850	2850	3	20	1300	22.79	22.74	24.00
CA_7A-20A	7	5	1	13	25	0	21100	3100	20	20	6300	22.85	22.81	24.00
	7	10	1	25	50	0	21100	3100	20	20	6300	22.86	22.82	24.00
	7	15	1	38	75	0	21100	3100	20	20	6300	22.82	22.80	24.00
	7	20	1	50	100	0	20850	2850	20	20	6250	22.79	22.76	24.00
CA_7A-28A	7	5	1	13	25	0	21100	3100	28	20	9360	22.85	22.82	24.00
	7	10	1	25	50	0	21100	3100	28	20	9360	22.86	22.83	24.00
	7	15	1	38	75	0	21100	3100	28	20	9360	22.82	22.78	24.00
	7	20	1	50	100	0	20850	2850	28	20	9360	22.79	22.73	24.00

Second - Antenna

LTE FDD Band 2				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	22.14	22.54	22.45	23.70
		1	2	23.51	23.60	23.37	
		1	5	23.25	23.31	23.42	
		3	0	22.17	22.38	22.37	23.70
		3	2	22.29	22.26	22.09	
		3	3	22.47	22.21	22.07	
	6	0	22.14	22.41	22.13	23.00	
	16QAM	1	0	22.33	22.63	22.58	23.00
		1	2	22.75	22.81	22.62	
		1	5	22.57	22.58	22.65	
		3	0	20.98	21.27	21.26	23.00
		3	2	21.34	21.41	21.69	
3		3	21.37	21.11	21.12		
6	0	20.99	21.35	21.09	22.00		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	22.16	22.58	22.48	23.70
		1	7	23.54	23.65	23.41	
		1	14	23.28	23.36	23.46	
		8	0	22.19	22.42	22.42	23.00
		8	4	22.37	22.28	22.13	
		8	7	22.49	22.24	21.99	
	15	0	22.17	22.45	22.16	23.00	
	16QAM	1	0	22.36	22.65	22.61	23.00
		1	7	22.78	22.86	22.66	
		1	14	22.59	22.62	22.68	
		8	0	21.01	21.32	21.30	22.00
		8	4	21.37	21.46	21.73	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				18625/1852.5	18900/1880	19175/1907.5	
		8	7	21.39	21.15	20.97	22.00
		15	0	21.02	21.39	21.12	
5MHz	QPSK	1	0	22.11	22.54	22.42	23.70
		1	13	23.49	23.58	23.35	
		1	24	23.24	23.30	23.41	
		12	0	22.13	22.35	22.36	23.70
		12	6	22.34	22.21	22.05	
		12	13	22.45	22.20	21.93	
		25	0	22.12	22.41	22.11	
	16QAM	1	0	22.32	22.60	22.57	23.00
		1	13	22.73	22.82	22.61	
		1	24	22.53	22.57	22.61	
		12	0	21.04	21.27	21.26	23.00
		12	6	21.31	21.39	21.67	
		12	13	21.35	21.07	20.90	
		25	0	20.98	21.34	21.06	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	22.15	22.57	22.47	23.70
		1	25	23.55	23.66	23.42	
		1	49	23.27	23.35	23.45	
		25	0	22.19	22.42	22.42	23.00
		25	13	22.38	22.29	22.12	
		25	25	22.49	22.26	22.00	
		50	0	22.23	22.46	22.18	
	16QAM	1	0	22.35	22.64	22.60	23.00
		1	25	22.78	22.88	22.66	
		1	49	22.59	22.62	22.67	
		25	0	21.02	21.33	21.31	22.00
		25	13	21.36	21.45	21.72	
		25	25	21.39	21.15	20.97	
		50	0	21.03	21.40	21.11	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	22.14	22.53	22.45	23.70
		1	38	23.53	23.65	23.39	
		1	74	23.24	23.30	23.41	
		36	0	22.17	22.38	22.39	23.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)				
				18700/1860	18900/1880	19100/1900					
	16QAM	36	18	22.35	22.24	22.08	23.00				
		36	39	22.46	22.23	21.96					
		75	0	22.21	22.42	22.13					
			16QAM	1	0	22.30	22.62	22.58	23.00		
				1	38	22.76	22.85	22.64			
				1	74	22.56	22.58	22.64			
					16QAM	36	0	21.09	21.31	21.28	23.00
						36	18	21.33	21.40	21.68	
						36	39	21.37	21.11	21.04	
		75	0	21.00	21.35	21.07	23.00				

LTE FDD Band 4				Conducted Power(dBm)			Tune-up Limit (dBm)		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)					
				19957/1710.7	20175/1732.5	20393/1754.3			
1.4MHz	QPSK	1	0	23.46	22.66	23.00	23.80		
		1	2	23.21	22.93	23.69			
		1	5	22.53	23.68	22.76			
			QPSK	3	0	22.75	22.57	22.85	23.80
				3	2	22.48	22.50	22.83	
				3	3	22.50	22.23	22.95	
			6	0	22.50	22.12	22.95	23.00	
	16QAM	16QAM	1	0	22.61	21.90	22.21	23.00	
			1	2	22.46	22.19	22.86		
			1	5	21.80	22.88	22.90		
				16QAM	3	0	21.56	21.00	21.71
3					2	21.36	21.09	21.60	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				19965/1711.5	20175/1732.5	20385/1753.5	
		3	3	21.07	21.22	21.93	
		6	0	21.46	21.12	21.87	22.00
3MHz	QPSK	1	0	23.48	22.70	23.03	23.80
		1	13	23.24	22.98	23.73	
		1	24	22.56	23.73	22.80	
		12	0	22.77	22.11	22.90	23.00
		12	6	22.06	22.02	22.87	
		12	13	22.02	22.26	22.97	
	16QAM	25	0	22.53	22.16	22.98	23.00
		1	0	22.64	21.92	22.24	23.00
		1	13	22.49	22.24	22.90	
		1	24	21.82	22.92	22.93	
		12	0	21.59	21.05	21.75	22.00
		12	6	21.39	21.14	21.64	
	12	13	21.09	21.26	21.98		
			25	0	21.49	21.16	21.90
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	23.45	22.68	22.99	23.80
		1	13	23.22	22.94	23.70	
		1	24	22.53	23.68	22.76	
		12	0	22.74	22.06	22.86	23.00
		12	6	22.04	21.98	22.82	
		12	13	22.00	22.24	22.93	
	16QAM	25	0	22.51	22.15	22.96	23.00
		1	0	22.61	21.88	22.21	23.00
		1	13	22.46	22.22	22.87	
		1	24	21.79	22.90	22.89	
		12	0	21.57	21.01	21.72	22.00
		12	6	21.36	21.09	21.60	
	12	13	21.06	21.21	21.94		
			25	0	21.47	21.12	21.85
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	23.47	22.69	23.02	23.80
		1	25	23.25	22.99	23.74	
		1	49	22.55	23.72	22.79	
		25	0	22.77	22.11	22.90	23.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)				
				20025/1717.5	20175/1732.5	20325/1747.5					
	16QAM	25	13	22.07	22.03	22.86	23.00				
		25	25	22.02	22.28	22.98					
		50	0	22.59	22.17	23.00					
			16QAM	1	0	22.63	21.91	22.23	23.00		
				1	25	22.49	22.26	22.90			
				1	49	21.82	22.92	22.92			
					16QAM	25	0	21.60	21.06	21.76	22.00
						25	13	21.38	21.13	21.63	
						25	25	21.09	21.26	21.98	
						50	0	21.50	21.17	21.89	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)				
				20025/1717.5	20175/1732.5	20325/1747.5					
15MHz	QPSK	1	0	23.46	22.65	23.00	23.80				
		1	38	23.23	22.98	23.71					
		1	74	22.52	23.67	22.75					
		16QAM	36	0	22.75	22.07	22.87	23.00			
			36	18	22.04	21.98	22.82				
			36	39	21.99	22.25	22.94				
			75	0	22.57	22.13	22.95				
	16QAM		1	0	22.58	21.89	22.21		23.00		
			1	38	22.47	22.23	22.88				
			1	74	21.79	22.88	22.89				
			16QAM	36	0	21.57	21.04	21.73	22.00		
				36	18	21.35	21.08	21.59			
				36	39	21.07	21.22	21.95			
				75	0	21.47	21.12	21.85			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)				
				20050/1720	20175/1732.5	20300/1745					
20MHz	QPSK	1	0	23.42	22.60	22.96	23.80				
		1	50	23.20	22.92	23.67					
		1	99	22.50	23.66	22.72					
		16QAM	50	0	22.70	22.01	22.82	23.00			
			50	25	22.02	21.92	22.77				
			50	50	21.95	22.19	22.89				
			100	0	22.52	22.06	22.89				
	16QAM		1	0	22.56	21.85	22.16		23.00		
			1	50	22.43	22.21	22.84				
		1	99	21.77	22.85	22.87					
			16QAM	50	0	21.54	21.00	21.70	22.00		
				50	25	21.32	21.06	21.56			
				50	50	21.04	21.17	21.91			



		100	0	21.45	21.08	21.82	22.00
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LTE FDD Band 5				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	22.25	22.15	22.57	24.00
		1	2	22.66	22.78	22.96	
		1	5	22.75	23.00	22.76	
		3	0	22.50	22.06	22.14	24.00
		3	2	22.34	22.13	22.16	
		3	3	22.28	22.17	22.21	
	6	0	21.82	22.03	22.34	23.00	
	16QAM	1	0	21.69	21.63	22.15	23.00
		1	2	22.20	22.37	22.39	
		1	5	22.34	22.59	22.36	
		3	0	21.03	21.09	21.08	23.00
		3	2	21.08	21.21	21.30	
		3	3	21.05	21.08	21.16	
	6	0	20.74	20.94	21.16	22.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				20415/825.5	20525/836.5	20635/847.5	
3MHz	QPSK	1	0	22.27	22.16	22.60	24.00
		1	13	22.69	22.83	23.00	
		1	24	22.77	23.04	22.79	
		12	0	22.03	22.11	22.18	23.00
		12	6	21.87	22.18	22.20	
		12	13	21.80	22.21	22.26	
	25	0	21.90	22.05	22.38	23.00	
	16QAM	1	0	21.71	21.66	22.17	23.00
		1	13	22.23	22.41	22.42	
		1	24	22.37	22.61	22.39	
		12	0	20.86	21.04	21.02	22.00
		12	6	21.00	21.25	21.33	
		12	13	20.78	21.13	21.20	
	25	0	20.77	20.99	21.20	22.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				20425/826.5	20525/836.5	20625/846.5	
5MHz	QPSK	1	0	22.26	22.12	22.58	24.00
		1	13	22.67	22.82	22.97	
		1	24	22.74	22.99	22.75	
		12	0	22.01	22.07	22.15	23.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)		
				20450/829	20525/836.5	20600/844			
	16QAM	12	6	21.84	22.13	22.16	23.00		
		12	13	21.77	22.18	22.22			
		25	0	21.88	22.01	22.33			
			16QAM	1	0	21.66	21.64	22.15	23.00
				1	13	22.21	22.38	22.40	
				1	24	22.34	22.57	22.36	
				12	0	20.83	21.02	20.99	22.00
				12	6	20.97	21.20	21.29	
				12	13	20.76	21.09	21.17	
				25	0	20.74	20.94	21.16	
10MHz	QPSK	1	0	22.22	22.07	22.54	24.00		
		1	25	22.64	22.76	22.93			
		1	49	22.72	22.98	22.72			
		16QAM	25	0	21.96	22.01	22.10	23.00	
			25	13	21.82	22.07	22.11		
			25	25	21.73	22.12	22.17		
			50	0	21.83	21.94	22.27	23.00	
	16QAM		1	0	21.64	21.60	22.10	23.00	
			1	25	22.17	22.36	22.36		
			1	49	22.32	22.54	22.34		
		25	0	20.80	20.98	20.96	22.00		
		25	13	20.94	21.18	21.26			
		25	25	20.73	21.04	21.13			
		50	0	20.72	20.90	21.13			



LTE FDD Band 7				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	22.83	22.87	22.61	24.00
		1	13	22.43	22.24	22.32	
		1	24	22.23	23.32	22.42	
		12	0	21.75	21.70	22.18	23.00
		12	6	21.31	22.23	21.88	
		12	13	21.14	22.37	21.71	
		25	0	21.87	22.66	21.49	23.00
	16QAM	1	0	22.33	21.88	21.58	23.00
		1	13	21.51	22.23	21.33	
		1	24	22.22	22.78	21.16	
		12	0	20.88	20.80	20.62	22.00
		12	6	20.73	21.38	20.25	
		12	13	20.35	21.56	20.19	
		25	0	20.55	21.33	20.25	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	22.85	22.88	22.64	24.00
		1	25	22.46	22.29	22.36	
		1	49	22.25	23.36	22.45	
		25	0	21.78	21.75	22.22	23.00
		25	13	21.34	22.28	21.92	
		25	25	21.16	22.41	21.76	
		50	0	21.95	22.68	21.53	23.00
	16QAM	1	0	22.35	21.91	21.60	23.00
		1	25	21.54	22.27	21.36	
		1	49	22.25	22.80	21.19	
		25	0	20.91	20.85	20.66	22.00
		25	13	20.75	21.42	20.28	
		25	25	20.38	21.61	20.23	
		50	0	20.58	21.38	20.29	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	22.84	22.84	22.62	24.00
		1	38	22.44	22.28	22.33	
		1	74	22.22	23.19	22.41	
		36	0	21.76	21.71	22.19	23.00
		36	18	21.31	22.23	21.88	



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				20850/2510	21100/2535	21350/2560	
		36	39	21.13	22.38	21.72	23.00
		75	0	21.93	22.64	21.48	
	16QAM	1	0	22.30	21.89	21.58	23.00
		1	38	21.52	22.24	21.34	
		1	74	22.22	22.76	21.16	
		36	0	20.88	20.83	20.63	22.00
		36	18	20.72	21.37	20.24	
		36	39	20.36	21.57	20.20	
		75	0	20.55	21.33	20.25	
20MHz	QPSK	1	0	22.80	22.79	22.58	24.00
		1	50	22.41	22.22	22.29	
		1	99	22.20	23.30	22.38	
		50	0	21.71	21.65	22.14	23.00
		50	25	21.29	22.17	21.83	
		50	50	21.09	22.32	21.67	
	16QAM	100	0	21.88	22.57	21.42	23.00
		1	0	22.28	21.85	21.53	23.00
		1	50	21.48	22.22	21.30	
		1	99	22.20	22.73	21.14	
		50	0	20.85	20.79	20.60	22.00
		50	25	20.69	21.35	20.21	
		50	50	20.33	21.52	20.16	
		100	0	20.53	21.29	20.22	22.00

LTE FDD Band 12				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	22.95	23.19	22.35	24.00
		1	2	23.47	23.30	22.58	
		1	5	23.12	23.38	22.51	
		3	0	22.46	22.30	22.18	24.00
		3	2	22.34	22.29	22.51	
		3	3	22.13	22.29	22.55	
	6	0	22.29	22.30	21.81	23.00	
	16QAM	1	0	22.12	22.29	21.19	23.00
		1	2	22.65	22.49	21.70	
		1	5	22.22	22.54	21.19	
3		0	21.40	21.33	21.06		



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				23025/700.5	23095/707.5	23165/714.5	
		3	2	21.41	21.41	21.02	
		3	3	21.17	21.32	21.08	
		6	0	21.36	21.29	20.76	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				23025/700.5	23095/707.5	23165/714.5	
3MHz	QPSK	1	0	22.97	23.20	22.38	24.00
		1	7	23.50	23.35	22.62	
		1	14	23.14	23.42	22.54	
		8	0	22.49	22.35	21.22	23.00
		8	4	22.37	22.34	21.55	
		8	7	22.15	22.33	21.90	
		15	0	22.37	22.32	21.85	
	16QAM	1	0	22.14	22.32	21.21	23.00
		1	7	22.68	22.53	21.73	
		1	14	22.25	22.56	21.22	
		8	0	21.43	21.38	20.20	22.00
		8	4	21.43	21.45	20.65	
		8	7	21.20	21.37	20.82	
		15	0	21.39	21.34	20.80	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				23035/701.5	23095/707.5	23155/713.5	
5MHz	QPSK	1	0	22.96	23.16	22.36	24.00
		1	13	23.48	23.34	22.59	
		1	24	23.11	23.37	22.50	
		12	0	22.47	22.31	21.19	23.00
		12	6	22.34	22.29	21.51	
		12	13	22.12	22.30	21.86	
		25	0	22.35	22.28	21.80	
	16QAM	1	0	22.09	22.30	21.19	23.00
		1	13	22.66	22.50	21.71	
		1	24	22.22	22.52	21.19	
		12	0	21.40	21.36	20.17	22.00
		12	6	21.40	21.40	20.61	
		12	13	21.18	21.33	20.79	
		25	0	21.36	21.29	20.76	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				23060/704	23095/707.5	23130/711	
10MHz	QPSK	1	0	22.92	23.11	22.32	24.00
		1	25	23.45	23.28	22.55	
		1	49	23.09	23.36	22.47	



		25	0	22.42	22.25	21.14	23.00
		25	13	22.32	22.23	21.46	
		25	25	22.08	22.24	21.81	
		50	0	22.30	22.21	21.74	23.00
	16QAM	1	0	22.07	22.26	21.14	23.00
		1	25	22.62	22.48	21.67	
		1	49	22.20	22.49	21.17	
		25	0	21.37	21.32	20.14	22.00
		25	13	21.37	21.38	20.58	
		25	25	21.15	21.28	20.75	
		50	0	21.34	21.25	20.73	

LTE FDD Band 12 For Simultaneous Transmission				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	18.98	19.22	18.38	20.00
		1	2	19.50	19.33	18.61	
		1	5	19.15	19.41	18.54	
		3	0	18.49	18.33	18.21	20.00
		3	2	18.37	18.32	18.54	
		3	3	18.16	18.32	18.58	
	6	0	18.32	18.33	17.84	19.00	
	16QAM	1	0	18.15	18.32	17.22	19.00
		1	2	18.68	18.52	17.73	
		1	5	18.25	18.57	17.22	
		3	0	17.43	17.36	17.19	19.00
		3	2	17.44	17.44	17.65	
3		3	17.20	17.35	17.21		
6	0	17.39	17.32	16.79	18.00		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				23025/700.5	23095/707.5	23165/714.5	
3MHz	QPSK	1	0	19.00	19.23	18.41	20.00
		1	7	19.53	19.38	18.65	
		1	14	19.17	19.45	18.57	
		8	0	18.52	18.38	17.25	19.00
		8	4	18.40	18.37	17.58	
		8	7	18.18	18.36	17.93	
		15	0	18.40	18.35	17.88	
	16QAM	1	0	18.17	18.35	17.24	19.00
		1	7	18.71	18.56	17.76	
		1	14	18.28	18.59	17.25	
		8	0	17.46	17.41	16.23	18.00
		8	4	17.46	17.48	16.68	
		8	7	17.23	17.40	16.85	
		15	0	17.42	17.37	16.83	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				23035/701.5	23095/707.5	23155/713.5	
5MHz	QPSK	1	0	18.99	19.19	18.39	20.00
		1	13	19.51	19.37	18.62	
		1	24	19.14	19.40	18.53	
		12	0	18.50	18.34	17.22	19.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)	
				23060/704	23095/707.5	23130/711		
	16QAM	12	6	18.37	18.32	17.54	19.00	
		12	13	18.15	18.33	17.89		
		25	0	18.38	18.31	17.83		
		1	0	18.12	18.33	17.22	19.00	
		1	13	18.69	18.53	17.74		
		1	24	18.25	18.55	17.22		
		12	0	17.43	17.39	16.20	18.00	
		12	6	17.43	17.43	16.64		
		12	13	17.21	17.36	16.82		
	25	0	17.39	17.32	16.79	18.00		
	10MHz	QPSK	1	0	18.95	19.14	18.35	20.00
			1	25	19.48	19.31	18.58	
1			49	19.12	19.39	18.50		
25			0	18.45	18.28	17.17	19.00	
25			13	18.35	18.26	17.49		
25			25	18.11	18.27	17.84		
50			0	18.33	18.24	17.77	19.00	
16QAM		1	0	18.10	18.29	17.17	19.00	
		1	25	18.65	18.51	17.70		
		1	49	18.23	18.52	17.20		
		25	0	17.40	17.35	16.17	18.00	
		25	13	17.40	17.41	16.61		
		25	25	17.18	17.31	16.78		
		50	0	17.37	17.28	16.76	18.00	



LTE FDD Band 17				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	22.70	22.71	22.85	24.00
		1	13	23.91	23.69	23.65	
		1	24	22.47	23.41	23.12	
		12	0	22.22	22.21	22.36	23.00
		12	6	22.28	22.35	22.47	
		12	13	22.42	22.78	22.68	
		25	0	22.34	22.62	22.62	23.00
	16QAM	1	0	21.78	21.93	22.10	23.00
		1	13	22.59	22.78	22.89	
		1	24	22.87	22.78	22.31	
		12	0	21.19	21.14	21.32	22.00
		12	6	21.44	21.59	21.78	
		12	13	21.37	21.60	21.72	
		25	0	21.31	21.51	21.74	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
10MHz	QPSK	1	0	22.66	22.66	22.81	24.00
		1	25	23.88	23.63	23.61	
		1	49	22.45	23.40	23.09	
		25	0	22.17	22.15	22.31	23.00
		25	13	22.26	22.29	22.42	
		25	25	22.38	22.72	22.63	
		50	0	22.29	22.55	22.56	
	16QAM	1	0	21.76	21.89	22.05	23.00
		1	25	22.55	22.76	22.85	
		1	49	22.85	22.75	22.29	
		25	0	21.16	21.10	21.29	22.00
		25	13	21.41	21.57	21.75	
		25	25	21.34	21.55	21.68	
		50	0	21.29	21.47	21.71	



LTE FDD Band 26				Conducted Power(dBm)			Tune-up Limit (dBm)	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				
				26697/814.7	26865/831.5	27033/848.3		
1.4MHz	QPSK	1	0	22.79	22.80	23.00	24.50	
		1	2	23.06	22.77	23.22		
		1	5	22.73	22.77	22.71		
		3	0	22.58	22.53	22.57	24.50	
		3	2	22.60	23.01	22.67		
		3	3	22.53	22.59	22.58		
	16QAM	16QAM	6	0	22.10	22.29	22.06	23.50
			1	0	21.24	21.31	21.26	23.00
			1	2	21.21	21.21	21.24	
			1	5	21.27	21.23	21.20	
			3	0	21.06	20.59	20.75	23.00
			3	2	20.81	20.77	20.92	
3	3	20.46	20.63	20.49				
		6	0	20.44	20.62	20.75	22.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)	
				26705/815.5	26865/831.5	27025/847.5		
3MHz	QPSK	1	0	22.76	22.78	22.96	24.00	
		1	13	23.04	22.73	23.19		
		1	24	22.70	22.72	22.67		
		12	0	21.75	22.28	22.13	23.50	
		12	6	22.88	22.67	23.12		
		12	13	21.81	21.97	22.54		
	16QAM	16QAM	25	0	22.08	22.28	22.04	23.50
			1	0	21.21	21.27	21.23	23.00
			1	13	21.18	21.19	21.21	
			1	24	21.24	21.21	21.16	
			12	0	21.04	20.55	20.72	22.00
			12	6	20.78	20.72	20.88	
12	13	20.43	20.58	20.45				
		25	0	20.42	20.58	20.70	22.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)	
				26715/816.5	26865/831.5	27015/846.5		
5MHz	QPSK	1	0	22.78	22.79	22.99	24.50	
		1	13	23.07	22.78	23.23		
		1	24	22.72	22.76	22.70		
		12	0	21.78	22.33	22.17	23.50	
		12	6	22.91	22.72	23.16		
		12	13	21.83	22.01	22.59		



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)				
				26750/820	26865/831.5	26990/844					
	16QAM	25	0	22.16	22.30	22.08	23.50				
		1	0	21.23	21.30	21.25	23.00				
		1	13	21.21	21.23	21.24					
		1	24	21.27	21.23	21.19					
			16QAM	12	0	21.07	20.60	20.76	22.00		
				12	6	20.80	20.76	20.91			
				12	13	20.46	20.63	20.49			
				25	0	20.45	20.63	20.74			
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)				
				26750/820	26865/831.5	26990/844					
10MHz	QPSK	1	0	22.77	22.75	22.97	24.50				
		1	25	23.05	22.77	23.20					
		1	49	22.69	22.71	22.66					
			QPSK	25	0	21.76	22.29	22.14	23.50		
				25	13	22.88	22.67	23.12			
				25	25	21.80	21.98	22.55			
				50	0	22.14	22.26	22.03			
				16QAM	1	0	21.18	21.28		21.23	23.00
					1	25	21.19	21.20		21.22	
		1	49		21.24	21.19	21.16				
			16QAM		25	0	21.04	20.58	20.73	22.00	
					25	13	20.77	20.71	20.87		
					25	25	20.44	20.59	20.46		
					50	0	20.42	20.58	20.70		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)				
				26775/822.5	26865/831.5	26965/841.5					
15MHz	QPSK	1	0	22.73	22.70	22.93	24.50				
		1	38	23.02	22.71	23.16					
		1	74	22.67	22.70	22.63					
			QPSK	36	0	21.71	22.23	22.09	23.50		
				36	18	22.86	22.61	23.07			
				36	39	21.76	21.92	22.50			
				75	0	22.09	22.19	21.97			
				16QAM	1	0	21.16	21.24		21.18	23.00
					1	38	21.15	21.18		21.18	
		1	74		21.22	21.16	21.14				
			16QAM		36	0	21.01	20.54	20.70	22.00	
					36	18	20.74	20.69	20.84		
					36	39	20.41	20.54	20.42		
					75	0	20.40	20.54	20.67		

LTE FDD Band 26 For Simultaneous Transmission				Conducted Power(dBm)			Tune-up Limit (dBm)	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)				
				26697/814.7	26865/831.5	27033/848.3		
1.4MHz	QPSK	1	0	18.79	18.80	19.00	20.50	
		1	2	19.06	18.77	19.22		
		1	5	18.73	18.77	18.71		
		3	0	18.58	18.53	18.57	20.50	
		3	2	18.60	19.01	18.67		
		3	3	18.53	18.59	18.58		
	16QAM	16QAM	6	0	18.10	18.29	18.06	19.50
			1	0	17.24	17.31	17.26	19.00
			1	2	17.21	17.21	17.24	
			1	5	17.27	17.23	17.20	
			3	0	17.06	16.59	16.75	19.00
			3	2	16.81	16.77	16.92	
3	3	16.46	16.63	16.49				
		6	0	16.44	16.62	16.75	18.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)	
				26705/815.5	26865/831.5	27025/847.5		
3MHz	QPSK	1	0	18.76	18.78	18.96	20.00	
		1	13	19.04	18.73	19.19		
		1	24	18.70	18.72	18.67		
		12	0	17.75	18.28	18.13	19.50	
		12	6	18.88	18.67	19.12		
		12	13	17.81	17.97	18.54		
	16QAM	16QAM	25	0	18.08	18.28	18.04	19.50
			1	0	17.21	17.27	17.23	19.00
			1	13	17.18	17.19	17.21	
			1	24	17.24	17.21	17.16	
			12	0	17.04	16.55	16.72	18.00
			12	6	16.78	16.72	16.88	
12	13	16.43	16.58	16.45				
		25	0	16.42	16.58	16.70	18.00	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)	
				26715/816.5	26865/831.5	27015/846.5		
5MHz	QPSK	1	0	18.78	18.79	18.99	20.50	
		1	13	19.07	18.78	19.23		
		1	24	18.72	18.76	18.70		



		12	0	17.78	18.33	18.17	19.50
		12	6	18.91	18.72	19.16	
		12	13	17.83	18.01	18.59	
		25	0	18.16	18.30	18.08	19.50
	16QAM	1	0	17.23	17.30	17.25	19.00
		1	13	17.21	17.23	17.24	
		1	24	17.27	17.23	17.19	
		12	0	17.07	16.60	16.76	18.00
		12	6	16.80	16.76	16.91	
		12	13	16.46	16.63	16.49	
25	0	16.45	16.63	16.74	18.00		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				26750/820	26865/831.5	26990/844	
10MHz	QPSK	1	0	18.77	18.75	18.97	20.50
		1	25	19.05	18.77	19.20	
		1	49	18.69	18.71	18.66	
		25	0	17.76	18.29	18.14	19.50
		25	13	18.88	18.67	19.12	
		25	25	17.80	17.98	18.55	
	16QAM	50	0	18.14	18.26	18.03	19.50
		1	0	17.18	17.28	17.23	19.00
		1	25	17.19	17.20	17.22	
		1	49	17.24	17.19	17.16	
		25	0	17.04	16.58	16.73	18.00
		25	13	16.77	16.71	16.87	
		25	25	16.44	16.59	16.46	
		50	0	16.42	16.58	16.70	18.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				26775/822.5	26865/831.5	26965/841.5	
15MHz	QPSK	1	0	18.73	18.70	18.93	20.50
		1	38	19.02	18.71	19.16	
		1	74	18.67	18.70	18.63	
		36	0	17.71	18.23	18.09	19.50
		36	18	18.86	18.61	19.07	
		36	39	17.76	17.92	18.50	
	75	0	18.09	18.19	17.97	19.50	
	16QAM	1	0	17.16	17.24	17.18	19.00
		1	38	17.15	17.18	17.18	
		1	74	17.22	17.16	17.14	
		36	0	17.01	16.54	16.70	18.00
36		18	16.74	16.69	16.84		



		36	39	16.41	16.54	16.42	
		75	0	16.40	16.54	16.67	18.00

LTE TDD Band 38				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	22.19	22.25	22.27	24.00
		1	13	22.31	22.47	22.57	
		1	24	22.35	22.41	22.15	
		12	0	21.21	21.18	21.48	23.00
		12	6	21.28	21.35	21.28	
		12	13	21.37	21.43	21.24	
	25	0	21.15	21.27	21.34	23.00	
	16QAM	1	0	21.16	21.23	21.62	23.00
		1	13	21.21	21.71	21.62	
		1	24	21.22	21.63	21.38	
		12	0	20.22	20.21	20.17	22.00
		12	6	20.24	20.25	20.20	
		12	13	20.20	20.25	20.18	
		25	0	20.22	20.17	20.14	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	22.21	22.26	22.30	24.00
		1	25	22.34	22.52	22.61	
		1	49	22.37	22.45	22.18	
		25	0	21.24	21.23	21.52	23.00
		25	13	21.31	21.40	21.32	
		25	25	21.39	21.47	21.29	
		50	0	21.23	21.29	21.38	23.00
	16QAM	1	0	21.18	21.26	21.64	23.00
		1	25	21.24	21.75	21.65	
		1	49	21.25	21.65	21.41	
		25	0	20.25	20.26	20.21	22.00
		25	13	20.26	20.29	20.23	
		25	25	20.23	20.30	20.22	
		50	0	20.25	20.22	20.18	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	22.20	22.22	22.58	24.00
		1	38	22.32	22.51	22.28	
		1	74	22.34	22.40	22.14	



		36	0	21.22	21.19	21.49	23.00
		36	18	21.28	21.35	21.28	
		36	39	21.36	21.44	21.25	
		75	0	21.21	21.25	21.33	23.00
	16QAM	1	0	21.13	21.24	21.62	23.00
		1	38	21.22	21.72	21.63	
		1	74	21.22	21.61	21.38	
		36	0	20.22	20.24	20.18	22.00
		36	18	20.23	20.24	20.19	
		36	39	20.21	20.26	20.19	
75	0	20.22	20.17	20.14	22.00		
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	22.16	22.17	22.24	24.00
		1	50	22.29	22.45	22.54	
		1	99	22.32	22.39	22.11	
		50	0	21.17	21.13	21.44	23.00
		50	25	21.26	21.29	21.23	
		50	50	21.32	21.38	21.20	
	16QAM	100	0	21.16	21.18	21.27	23.00
		1	0	21.11	21.20	21.57	23.00
		1	50	21.18	21.70	21.59	
		1	99	21.20	21.58	21.36	
		50	0	20.19	20.20	20.15	22.00
		50	25	20.20	20.22	20.16	
		50	50	20.18	20.21	20.15	
		100	0	20.20	20.13	20.11	22.00

LTE TDD Band 41				Conducted Power(dBm)			Tune-up Limit (dBm)
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				39675/2498.5	40620/2593	41565/2687.5	
5MHz	QPSK	1	0	22.15	22.20	22.24	24.00
		1	13	22.44	22.52	22.44	
		1	24	22.44	22.42	22.43	
		12	0	21.24	21.25	21.23	23.00
		12	6	21.24	21.27	21.35	
		12	13	21.38	21.45	21.41	
		25	0	21.11	21.41	21.28	23.00
	16QAM	1	0	21.16	21.14	21.25	23.00



Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				39700/2501	40620/2593	41540/2685	
		1	13	21.43	21.51	21.52	22.00
		1	24	21.32	21.35	21.31	
		12	0	20.27	20.25	20.25	
		12	6	20.21	20.19	20.19	
		12	13	20.40	20.44	20.42	
		25	0	20.19	20.40	20.28	
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				39700/2501	40620/2593	41540/2685	
10MHz	QPSK	1	0	22.17	22.21	22.27	24.00
		1	25	22.47	22.57	22.48	
		1	49	22.46	22.46	22.46	
		25	0	21.27	21.30	21.27	23.00
		25	13	21.27	21.32	21.39	
		25	25	21.40	21.49	21.46	
	16QAM	50	0	21.19	21.43	21.32	23.00
		1	0	21.18	21.17	21.27	23.00
		1	25	21.46	21.55	21.55	
		1	49	21.35	21.37	21.34	
		25	0	20.30	20.30	20.29	22.00
		25	13	20.23	20.23	20.22	
		25	25	20.43	20.49	20.46	
		50	0	20.22	20.45	20.32	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				39725/2503.5	40620/2593	41515/2682.5	
15MHz	QPSK	1	0	22.16	22.17	22.25	24.00
		1	38	22.45	22.56	22.45	
		1	74	22.43	22.41	22.42	
		36	0	21.25	21.26	21.24	23.00
		36	18	21.24	21.27	21.35	
		36	39	21.37	21.46	21.42	
	16QAM	75	0	21.17	21.39	21.27	23.00
		1	0	21.13	21.15	21.25	23.00
		1	38	21.44	21.52	21.53	
		1	74	21.32	21.33	21.31	
		36	0	20.27	20.28	20.26	22.00
		36	18	20.20	20.18	20.18	
		36	39	20.41	20.45	20.43	
		75	0	20.19	20.40	20.28	22.00
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit (dBm)
				39750/2506	40620/2593	41490/2680	



20MHz	QPSK	1	0	22.12	22.12	22.21	24.00
		1	50	22.42	22.50	22.41	
		1	99	22.41	22.40	22.39	
		50	0	21.20	21.20	21.19	23.00
		50	25	21.22	21.21	21.30	
		50	50	21.33	21.40	21.37	
		100	0	21.12	21.32	21.21	23.00
	16QAM	1	0	21.11	21.11	21.20	23.00
		1	50	21.40	21.50	21.49	
		1	99	21.30	21.30	21.29	
		50	0	20.24	20.24	20.23	22.00
		50	25	20.17	20.16	20.15	
		50	50	20.38	20.40	20.39	
		100	0	20.17	20.36	20.25	22.00

Second Ant CA

DL LTE CA Class	PCC								SCC			Power		
	PCC Band	PCC BW (MHz)	PCC UL RB size	PCC UL RB offset	PCC DL RB size	PCC DL RB offset	PCC UL CH	PCC DL CH	SCC Band	SCC BW (MHz)	SCC DL CH	Rel 8 LTE Tx Power (dBm)	Rel 10 DL LTE CA Tx Power (dBm)	Tune-up
CA_7C	7	15	1	74	75	0	21175	3175	7	15	3025	23.19	23.05	24.00
CA_7C	7	20	1	99	100	0	21198	3198	7	20	3000	23.30	23.17	24.00
CA_38C	38	15	1	0	75	0	38175	38175	38	15	38025	22.58	22.52	24.00
CA_38C	38	20	1	50	100	0	38150	38150	38	20	37952	22.54	22.48	24.00
CA_2A-4A	2	1.4	1	2	6	0	18900	900	4	20	2175	23.60	23.43	23.70
	2	3	1	7	15	0	18900	900	4	20	2175	23.65	23.43	23.70
	2	5	1	13	25	0	18900	900	4	20	2175	23.58	23.39	23.70
	2	10	1	25	50	0	18900	900	4	20	2175	23.66	23.46	23.70
	2	15	1	38	75	0	18900	900	4	20	2175	23.65	23.57	23.70
	2	20	1	50	100	0	18900	900	4	20	2175	23.59	23.39	23.70
	4	5	1	13	25	0	20375	2375	2	20	5800	23.70	23.51	23.80
	4	10	1	25	50	0	20350	2350	2	20	5800	23.74	23.49	23.80
	4	15	1	38	75	0	20325	2325	2	20	5800	23.68	23.53	23.80
CA_2A-17A	2	1.4	1	2	6	0	18900	900	17	10	5790	23.60	23.39	23.70
	2	3	1	7	15	0	18900	900	17	10	5790	23.65	23.55	23.70
	2	5	1	13	25	0	18900	900	17	10	5790	23.58	23.41	23.70
	2	10	1	25	50	0	18900	900	17	10	5790	23.66	23.56	23.70
	2	15	1	38	75	0	18900	900	17	10	5790	23.65	23.58	23.70



	2	20	1	50	100	0	18900	900	17	10	5790	23.59	23.48	23.70
	17	5	1	13	25	0	23755	5755	2	20	700	23.91	23.78	24.00
	17	10	1	25	50	0	23780	5780	2	20	700	23.88	23.71	24.00
CA_4A-17A	4	1.4	1	2	6	0	20393	2393	17	10	5800	23.69	23.59	23.80
	4	3	1	7	15	0	20385	2385	17	10	5800	23.73	23.56	23.80
	4	5	1	13	25	0	20375	2375	17	10	5800	23.70	23.42	23.80
	4	10	1	25	50	0	20350	2350	17	10	5800	23.74	23.53	23.80
	4	15	1	38	75	0	20325	2325	17	10	5800	23.68	23.46	23.80
	4	20	1	50	100	0	20300	2300	17	10	5800	23.67	23.47	23.80
CA_3A-5A	5	5	1	13	25	0	20525	2525	3	20	1575	22.99	22.86	24.00
	5	10	1	25	50	0	20525	2525	3	20	1575	22.98	22.84	24.00
CA_3A-7A	7	5	1	13	25	0	21100	3100	3	20	1575	23.32	23.30	24.00
	7	10	1	25	50	0	21100	3100	3	20	1575	23.36	23.35	24.00
	7	15	1	38	75	0	21100	3100	3	20	1575	23.19	23.14	24.00
	7	20	1	50	100	0	21100	3100	3	20	1575	23.30	23.21	24.00
CA_7A-20A	7	5	1	13	25	0	21100	3100	20	20	6300	23.32	23.30	24.00
	7	10	1	25	50	0	21100	3100	20	20	6300	23.36	23.32	24.00
	7	15	1	38	75	0	21100	3100	20	20	6300	23.19	23.15	24.00
	7	20	1	50	100	0	21100	3100	20	20	6300	23.30	23.25	24.00
CA_7A-28A	7	5	1	13	25	0	21100	3100	28	20	9360	23.32	23.30	24.00
	7	10	1	25	50	0	21100	3100	28	20	9360	23.36	23.32	24.00
	7	15	1	38	75	0	21100	3100	28	20	9360	23.19	23.15	24.00
	7	20	1	50	100	0	21100	3100	28	20	9360	23.30	23.25	24.00

### 9.4 WLAN Mode

#### Full Power

Wi-Fi 2.4G Mode	Channel	Frequency (MHz)	Average Conducted Power (dBm) for Data Rates (bps)								Tune-up Limit (dBm)
			1M	2M	5.5M	11M	/	/	/	/	
802.11b	1	2412	15.81	16.22	16.32	16.03	/	/	/	/	17.50
	6	2437	16.52	16.92	17.02	16.63	/	/	/	/	17.50
	11	2462	16.66	17.15	17.34	16.87	/	/	/	/	17.50
Mode	Channel	Frequency (MHz)	6M	9M	12M	18M	24M	36M	48M	54M	Tune-up
802.11g	1	2412	14.65	14.55	14.47	14.12	13.83	13.57	13.42	13.33	15.50
	6	2437	15.47	15.24	15.08	14.88	14.54	14.08	13.83	13.54	15.50
	11	2462	15.48	15.37	15.25	15.01	14.62	14.23	13.88	13.73	15.50
Mode	Channel	Frequency (MHz)	6.5M	13M	19.5M	26M	39M	52M	58.5M	65M	Tune-up
802.11n (HT20)	1	2412	13.87	13.48	13.36	13.25	13.06	12.75	12.68	12.61	15.00
	6	2437	14.27	14.12	13.91	13.71	13.38	12.72	12.67	12.62	15.00
	11	2462	14.42	14.16	14.03	13.47	13.18	12.85	12.77	12.68	15.00
Mode	Channel	Frequency (MHz)	13.5M	27M	40.5M	54M	81M	108M	121.5M	135M	Tune-up
802.11n (HT40)	3	2422	13.32	12.99	12.73	12.52	12.29	11.76	11.62	11.46	14.00
	6	2437	13.16	12.92	12.66	12.45	12.22	11.68	11.56	11.43	14.00
	9	2452	13.28	12.87	12.77	12.56	12.32	11.78	11.63	11.44	14.00

Note. 1. 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  $\leq 1.2$  W/kg.  
 2. The Tx power is set to 17 for 802.11 b mode, set to 15 for 802.11g mode, is set to 14 for 802.11n HT20/HT40 mode by software.

#### Simultaneous Transmission (Power Reduce)

Wi-Fi 2.4G Mode	Channel	Frequency (MHz)	Average Conducted Power (dBm) for Data Rates (bps)								Tune-up Limit (dBm)
			1M	2M	5.5M	11M	/	/	/	/	
802.11b	1	2412	14.26	14.70	14.76	14.48	/	/	/	/	16.00
	6	2437	14.93	15.38	15.45	15.04	/	/	/	/	16.00
	11	2462	15.10	15.61	15.76	15.30	/	/	/	/	16.00
Mode	Channel	Frequency (MHz)	6M	9M	12M	18M	24M	36M	48M	54M	Tune-up
802.11g	1	2412	13.09	13.06	12.89	12.56	12.28	12.02	11.85	11.78	14.00
	6	2437	13.91	13.66	13.51	13.35	12.97	12.53	12.25	11.95	14.00



	11	2462	13.95	13.80	13.67	13.45	13.06	12.68	12.30	12.16	14.00
Mode	Channel	Frequency (MHz)	6.5M	13M	19.5M	26M	39M	52M	58.5M	65M	Tune-up
802.11n (HT20)	1	2412	12.35	11.92	11.81	11.71	11.50	11.26	11.10	11.05	13.50
	6	2437	12.73	12.55	12.32	12.13	11.82	11.14	11.10	11.09	13.50
	11	2462	12.88	12.58	12.46	11.89	11.61	11.28	11.19	11.12	13.50
Mode	Channel	Frequency (MHz)	13.5M	27M	40.5M	54M	81M	108M	121.5M	135M	Tune-up
802.11n (HT40)	3	2422	11.83	11.41	11.17	10.97	10.74	10.19	10.07	9.92	12.50
	6	2437	11.58	11.35	11.13	10.88	10.67	10.10	9.97	9.85	12.50
	9	2452	11.71	11.29	11.21	11.00	10.77	10.20	10.06	9.86	12.50

Note. 1. 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  $\leq 1.2$  W/kg.  
 2. The Tx power is set to 15.5 for 802.11b mode, set to 13.5 for 802.11g mode, is set to 12.5 for 802.11n HT20/HT40 mode by software.

**Full Power**

Mode	Channel	Frequency (MHz)	Average Conducted Power (dBm)								Tune-up Limit (dBm)	
			Data Rate (bps)									
			6M	9M	12M	18M	24M	36M	48M	54M		
802.11a (5GHz)	36	5180	15.75	15.39	15.35	15.13	14.76	14.36	13.96	13.92	16.00	
	40	5200	15.16	14.98	14.92	14.60	14.25	14.01	13.60	13.46		
	44	5220	15.27	15.09	15.03	14.71	14.36	14.12	13.71	13.57		
	48	5240	15.11	14.98	14.88	14.60	14.26	13.81	13.63	13.45		
	802.11a (5GHz)	52	5260	15.32	15.17	15.09	14.87	14.58	14.02	13.76	13.65	16.00
		56	5280	15.19	15.04	14.96	14.74	14.45	13.89	13.63	13.52	
		60	5300	14.97	14.74	14.71	14.45	13.95	13.65	13.41	13.28	
		64	5320	15.55	15.41	15.28	14.97	14.53	14.22	13.95	13.82	
		100	5500	13.92	13.74	13.67	13.48	13.15	12.67	12.44	12.22	
	802.11a (5GHz)	116	5580	13.85	13.61	13.43	13.78	13.42	13.06	12.78	12.61	14.50
		140	5700	13.62	13.41	13.74	13.71	13.32	12.87	12.65	12.36	
		149	5745	14.31	13.96	13.86	13.45	13.20	12.87	12.61	12.27	
		157	5785	13.88	13.65	13.53	13.37	12.93	12.52	12.33	12.25	
165	5825	13.98	13.78	13.68	13.40	12.89	12.53	12.32	12.18			
Mode	Channel	Frequency (MHz)	Average Conducted Power (dBm)								Tune-up Limit (dBm)	
			Data Rate (bps)									
			MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7		
802.11n (5GHz)	36	5180	13.64	13.28	13.24	13.02	12.65	12.25	11.85	11.81	14.00	
	40	5200	13.56	13.20	13.16	12.94	12.57	12.17	11.77	11.73		
	44	5220	13.63	13.51	13.39	13.15	12.90	12.30	12.06	11.96		



	48	5240	13.64	13.52	13.39	13.06	12.61	12.30	12.05	11.91	14.00
	52	5260	13.59	13.44	13.36	13.14	12.85	12.29	12.03	11.92	
	56	5280	13.47	13.32	13.24	13.02	12.73	12.17	11.91	11.80	
	60	5300	13.57	13.43	13.32	13.11	12.82	12.26	11.98	11.87	
	64	5320	13.61	13.47	13.34	13.03	12.59	12.28	12.01	11.88	
	100	5500	12.73	12.55	12.48	12.29	11.96	11.48	11.25	11.03	14.00
	116	5580	12.96	12.72	12.54	12.89	12.53	12.17	11.89	11.72	
	140	5700	12.91	12.70	13.03	13.00	12.61	12.16	11.94	11.65	
	149	5745	12.82	12.47	12.37	11.96	11.71	11.38	11.12	10.78	14.00
	157	5785	12.69	12.46	12.34	12.18	11.74	11.33	11.14	11.06	
	165	5825	12.61	12.41	12.31	12.03	11.52	11.16	10.95	10.81	
Mode	Channel	Frequency (MHz)	Average Conducted Power (dBm)								Tune-up Limit (dBm)
			Data Rate (bps)								
			MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	
802.11n HT40 (5GHz)	38	5190	12.56	12.20	12.16	11.94	11.57	11.17	10.77	10.73	13.00
	46	5270	12.60	12.44	12.39	12.16	11.87	11.31	11.07	10.96	
	54	5270	12.58	12.43	12.35	12.13	11.84	11.28	11.02	10.91	13.00
	62	5310	12.62	12.48	12.35	12.04	11.60	11.29	11.02	10.89	
	102	5510	12.53	12.35	12.28	12.09	11.76	11.28	11.05	10.83	13.00
	118	5590	12.41	12.24	12.16	12.00	11.68	11.17	10.95	10.71	
	134	5670	12.56	12.35	12.68	12.65	12.26	11.81	11.59	11.30	13.00
	151	5755	12.57	12.22	12.12	11.71	11.46	11.13	10.87	10.53	
	159	5795	12.54	12.31	12.19	12.03	11.59	11.18	10.99	10.91	
Mode	Channel	Frequency (MHz)	Average Conducted Power (dBm)								Tune-up Limit (dBm)
			Data Rate (bps)								
			6M	9M	12M	18M	24M	36M	48M	54M	
802.11ac (5GHz)	36	5180	12.95	12.59	12.55	12.33	11.96	11.56	11.16	11.12	14.00
	40	5200	12.82	12.50	12.47	12.26	11.87	11.45	11.08	11.00	
	44	5220	13.02	12.90	12.78	12.54	12.29	11.69	11.45	11.35	
	48	5240	13.20	13.08	12.95	12.62	12.17	11.86	11.61	11.47	
	52	5260	12.98	12.83	12.75	12.53	12.24	11.68	11.42	11.31	14.00
	56	5280	12.85	12.74	12.67	12.46	12.15	11.57	11.34	11.19	
	60	5300	12.96	12.82	12.71	12.50	12.21	11.65	11.37	11.26	
	64	5320	13.17	13.03	12.90	12.59	12.15	11.84	11.57	11.44	14.00
	100	5500	12.17	11.99	11.92	11.73	11.40	10.92	10.69	10.47	
	116	5580	12.53	12.29	12.11	12.46	12.10	11.74	11.46	11.29	
	140	5700	12.33	12.12	12.45	12.42	12.03	11.58	11.36	11.07	
	149	5745	12.26	11.91	11.81	11.40	11.15	10.82	10.56	10.22	14.00
	157	5785	12.16	11.93	11.81	11.65	11.21	10.80	10.61	10.53	
	165	5825	12.03	11.83	11.73	11.45	10.94	10.58	10.37	10.23	



Mode	Channel	Frequency (MHz)	Average Conducted Power (dBm)								Tune-up Limit (dBm)
			Data Rate (bps)								
			MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	
802.11ac 40M (5GHz)	38	5190	12.67	12.31	12.27	12.05	11.68	11.28	10.88	10.84	13.00
	46	5230	12.56	12.43	12.35	12.11	11.81	11.25	11.01	10.89	
	54	5270	12.53	12.38	12.30	12.08	11.79	11.23	10.97	10.86	13.00
	62	5310	12.53	12.39	12.26	11.95	11.51	11.20	10.93	10.80	
	102	5510	12.51	12.33	12.26	12.07	11.74	11.26	11.03	10.81	13.00
	118	5590	12.36	12.16	11.99	12.35	11.97	11.59	11.34	11.13	
	134	5670	12.49	12.28	12.61	12.58	12.19	11.74	11.52	11.23	13.00
	151	5755	12.55	12.20	12.10	11.69	11.44	11.11	10.85	10.51	
159	5795	12.53	12.30	12.18	12.02	11.58	11.17	10.98	10.90		
Mode	Channel	Frequency (MHz)	Average Conducted Power (dBm)								Tune-up Limit (dBm)
			Data Rate (bps)								
			MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	
802.11ac 80M (5GHz)	42	5210	11.86	11.50	11.46	11.24	10.87	10.47	10.07	10.03	12.00
	58	5290	11.59	11.44	11.36	11.14	10.85	10.29	10.03	9.92	12.00
	106	5530	11.36	11.24	11.11	10.80	10.39	10.04	9.75	9.66	12.00
	122	5610	11.34	11.20	11.07	10.76	10.32	10.01	9.74	9.61	
	155	5775	11.36	11.18	11.11	10.92	10.59	10.11	9.88	9.66	12.00

Note. 1. When the adjusted SAR is  $\leq 1.2$  W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, each band is tested independently for SAR.

2. The Tx power is set to 15 for 802.11a mode, set to 13.5 for 802.11n HT20 mode, set to 12.5 for 802.11n HT40 mode, set to 13 for 802.11ac HT20 mode, set to 12 for 802.11ac HT40 mode, set to 11 for 802.11ac HT80 mode by software.

**Simultaneous Transmission (Power Reduce)**

Mode	Channel	Frequency (MHz)	Average Conducted Power (dBm)								Tune-up Limit (dBm)
			Data Rate (bps)								
			6M	9M	12M	18M	24M	36M	48M	54M	
802.11a (5GHz)	36	5180	14.21	13.87	13.81	13.58	13.22	12.81	12.44	12.39	14.50
	40	5200	13.12	13.08	12.72	12.55	12.20	11.63	11.65	11.26	
	44	5220	13.24	13.15	12.80	12.64	12.31	11.75	11.76	11.33	
	48	5240	13.08	12.91	12.86	12.64	12.12	11.71	11.53	11.41	14.50
	52	5260	13.79	13.65	13.57	13.33	13.11	12.47	12.23	12.13	
	56	5280	13.66	13.56	13.49	13.26	13.02	12.36	12.15	12.01	
	60	5300	13.15	13.03	12.86	12.62	12.44	11.89	11.66	11.51	
	64	5320	14.03	13.87	13.74	13.43	12.96	12.69	12.44	12.27	
	100	5500	12.38	12.21	12.14	11.95	11.60	11.12	10.91	10.70	



	116	5580	12.33	12.08	11.91	12.25	11.89	11.54	11.24	11.09			
	140	5700	12.11	11.86	12.20	12.16	11.77	11.33	11.13	10.83			
	149	5745	12.78	12.42	12.33	11.91	11.66	11.32	11.07	10.75	13.00		
	157	5785	12.32	12.10	11.99	11.81	11.44	10.94	10.77	10.70			
	165	5825	12.41	12.19	12.10	11.84	11.31	10.96	10.79	10.61			
Mode	Channel	Frequency (MHz)	Average Conducted Power (dBm)								Tune-up Limit (dBm)		
			Data Rate (bps)										
			MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7			
802.11n HT20 (5GHz)	36	5180	12.11	11.79	11.71	11.49	11.19	10.71	10.39	10.26	12.50		
	40	5200	11.99	11.72	11.63	11.40	11.08	10.59	10.28	10.19			
	44	5220	12.08	12.02	11.87	11.60	11.34	10.77	10.52	10.41			
	48	5240	12.11	12.02	11.85	11.54	11.07	10.75	10.51	10.36			
	802.11n HT20 (5GHz)	52	5260	12.04	11.95	11.84	11.59	11.29	10.76	10.49	10.37	12.50	
		56	5280	11.91	11.86	11.76	11.52	11.20	10.65	10.41	10.25		
		60	5300	12.02	11.94	11.80	11.56	11.26	10.73	10.44	10.32		
		802.11n HT20 (5GHz)	64	5320	12.08	11.97	11.80	11.51	11.05	10.73	10.47	10.33	12.50
			100	5500	11.21	11.05	10.95	10.77	10.44	9.94	9.78	9.48	
			116	5580	11.39	11.22	11.02	11.35	10.99	10.63	10.32	10.19	
	140		5700	11.39	11.19	11.49	11.47	11.08	10.63	10.39	10.10		
	149		5745	11.29	10.96	10.85	10.43	10.19	9.85	9.59	9.26		
	802.11n HT20 (5GHz)	157	5785	11.15	10.92	10.83	10.63	10.20	9.78	9.59	9.52	12.50	
		165	5825	11.08	10.89	10.78	10.49	9.99	9.62	9.41	9.26		
Mode	Channel	Frequency (MHz)	Average Conducted Power (dBm)								Tune-up Limit (dBm)		
			Data Rate (bps)										
			MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7			
802.11n HT40 (5GHz)	38	5190	11.03	10.69	10.64	10.41	10.05	9.64	9.24	9.21	11.50		
	46	5270	11.06	10.90	10.88	10.61	10.33	9.76	9.52	9.42			
	802.11n HT40 (5GHz)	54	5270	11.04	10.89	10.84	10.58	10.30	9.73	9.47	9.37	11.50	
		62	5310	11.09	10.96	10.82	10.50	10.07	9.75	9.48	9.34		
		102	5510	10.98	10.83	10.72	10.54	10.22	9.72	9.56	9.25		
	802.11n HT40 (5GHz)	118	5590	10.86	10.72	10.60	10.45	10.14	9.61	9.46	9.13	11.50	
		134	5670	11.00	10.81	11.10	11.08	10.68	10.24	10.02	9.72		
		151	5755	11.03	10.69	10.57	10.16	9.91	9.57	9.32	8.96		
		159	5795	10.96	10.76	10.63	10.44	10.00	9.60	9.40	9.35	11.50	
Mode	Channel	Frequency (MHz)	Average Conducted Power (dBm)								Tune-up Limit (dBm)		
			Data Rate (bps)										
			6M	9M	12M	18M	24M	36M	48M	54M			
802.11ac (5GHz)	36	5180	11.41	11.05	10.98	10.80	10.45	10.01	9.65	9.59	12.50		
	40	5200	11.28	10.96	10.90	10.73	10.36	9.90	9.57	9.47			
	44	5220	11.49	11.37	11.23	10.99	10.76	10.17	9.93	9.81			



	48	5240	11.68	11.55	11.42	11.10	10.63	10.34	10.08	9.94	12.50
	52	5260	11.45	11.30	11.20	10.98	10.71	10.16	9.90	9.77	
	56	5280	11.32	11.21	11.12	10.91	10.62	10.05	9.82	9.65	
	60	5300	11.43	11.29	11.16	10.95	10.68	10.13	9.85	9.72	
	64	5320	11.65	11.50	11.37	11.07	10.61	10.32	10.04	9.91	12.50
	100	5500	10.63	10.44	10.37	10.19	9.88	9.39	9.15	8.95	
	116	5580	11.00	10.75	10.57	10.91	10.56	10.22	9.93	9.76	
	140	5700	10.79	10.56	10.96	10.84	10.47	10.03	9.81	9.50	12.50
	149	5745	10.68	10.35	10.23	9.83	9.62	9.25	9.01	8.64	
	157	5785	10.58	10.36	10.24	10.07	9.65	9.24	9.06	8.95	
	165	5825	10.48	10.27	10.18	9.88	9.38	9.03	8.81	8.67	
Mode	Channel	Frequency (MHz)	Average Conducted Power (dBm)								Tune-up Limit (dBm)
			Data Rate (bps)								
			MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	
802.11ac 40M (5GHz)	38	5190	11.14	10.79	10.73	10.53	10.15	9.75	9.35	9.32	11.50
	46	5230	11.01	10.89	10.83	10.58	10.27	9.73	9.46	9.35	
	54	5270	10.98	10.84	10.78	10.55	10.25	9.71	9.42	9.32	11.50
	62	5310	10.99	10.84	10.72	10.43	9.98	9.67	9.39	9.27	
	102	5510	11.02	10.75	10.70	10.52	10.19	9.69	9.48	9.27	11.50
	118	5590	10.89	10.66	10.62	10.45	10.10	9.58	9.40	9.15	
	134	5670	10.92	10.70	11.05	11.02	10.64	10.16	9.95	9.65	
	151	5755	11.00	10.63	10.54	10.14	9.88	9.55	9.30	8.96	11.50
	159	5795	10.94	10.74	10.63	10.45	10.02	9.60	9.39	9.31	
Mode	Channel	Frequency (MHz)	Average Conducted Power (dBm)								Tune-up Limit (dBm)
			Data Rate (bps)								
			MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	
802.11ac 80M (5GHz)	42	5210	10.33	9.98	9.92	9.72	9.34	8.94	8.54	8.51	10.50
	58	5290	10.04	9.90	9.84	9.61	9.31	8.77	8.48	8.38	10.50
	106	5530	10.02	9.86	9.77	9.47	9.02	8.71	8.45	8.33	10.50
	122	5610	10.00	9.85	9.73	9.44	8.99	8.68	8.40	8.28	
	155	5775	10.07	9.80	9.75	9.57	9.24	8.74	8.53	8.32	10.50

Note. 1. When the adjusted SAR is  $\leq 1.2$  W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, each band is tested independently for SAR.

2. The Tx power is set to 13.5 for 802.11a mode, set to 12 for 802.11n HT20 mode, set to 11 for 802.11n HT40 mode, set to 11.5 for 802.11ac HT20 mode, set to 10.5 for 802.11ac HT40 mode, set to 9.5 for 802.11ac HT80 mode by software.

### 9.5 Bluetooth Mode

Channel	GFSK (dBm)	Tune-up Limit (dBm)	$\pi/4$ DQPSK (dBm)	Tune-up Limit (dBm)	8DPSK (dBm)	Tune-up Limit (dBm)
Ch 0/2402 MHz	9.45	9.8	4.44	6.0	4.39	6.0
Ch 39/2441 MHz	9.37	9.8	4.45	6.0	4.43	6.0
Ch 78/2480 MHz	8.96	9.5	4.49	6.0	4.42	6.0
BLE	GFSK		Tune-up Limit (dBm)			
Ch 0/2402 MHz	4.96		6			
Ch 19/2440 MHz	5.09		6			
Ch 39/2480 MHz	5.45		6.5			

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 10-g extremity SAR

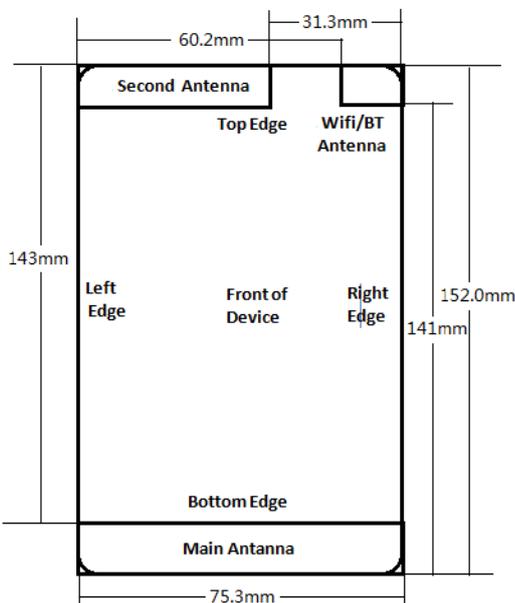
- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

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
Body-worn	15	9.8	2441	0.995	No
Extremity	5	9.8	2441	2.984	No

## 10 Measured and Reported (Scaled) SAR Results

### 10.1 EUT Antenna Locations



Overall (Length x Width): 152 mm x 75.3 mm  
 Overall Diagonal: 165.5 mm/Display Diagonal: 140mm

Distance of the Antenna to the EUT surface/edge

Antenna	Back Side	Front side	Left Edge	Right Edge	Top Edge	Bottom Edge
Main-Antenna	0	0	0	0	143	0
Second-Antenna	0	0	0	31.3	0	141
BT/Wi-Fi Antenna	0	0	60.2	0	0	141

Hotspot mode, Positions for SAR tests

Mode	Back Side	Front side	Left Edge	Right Edge	Top Edge	Bottom Edge
<b>Main-Antenna</b>						
GSM 850/1900	Yes	Yes	Yes	Yes	N/A	Yes
UMTS Band II/IV/V	Yes	Yes	Yes	Yes	N/A	Yes
LTE 2/4/5/7/12/17/26/38/41	Yes	Yes	Yes	Yes	N/A	Yes
<b>Second-Antenna</b>						
GSM 850/1900	Yes	Yes	Yes	N/A	Yes	N/A
UMTS Band II/IV/V	Yes	Yes	Yes	N/A	Yes	N/A
LTE 2/4/5/7/12/17/26/38/41	Yes	Yes	Yes	N/A	Yes	N/A
2.4GHz WLAN	Yes	Yes	Yes	N/A	Yes	N/A
5GHz WLAN	Yes	Yes	Yes	N/A	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. For smart phones with an overall diagonal dimension is 165.5mm. Per KDB 648474 D04, for smart phones with a display diagonal dimension  $> 15.0\text{ cm}$  or an overall diagonal dimension  $> 16.0\text{ cm}$ , 10-g extremity SAR must be tested as a phablet to determine SAR compliance.

## 10.2 Measured SAR Results

Table 1: GSM 850 (Main-antenna)

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	33.00	32.68	-0.021	0.364	1.08	0.392	/
Left Tilt	standard	190/836.6	GSM	1:8.3	33.00	32.68	-0.032	0.173	1.08	0.186	/
Right Cheek	standard	190/836.6	GSM	1:8.3	33.00	32.68	-0.031	0.406	1.08	0.437	36
Right Tilt	standard	190/836.6	GSM	1:8.3	33.00	32.68	0.034	0.172	1.08	0.185	/
Right Cheek	Battery 2	190/836.6	GSM	1:8.3	33.00	32.68	-0.063	0.373	1.08	0.402	/
Right Cheek	Battery 3	190/836.6	GSM	1:8.3	33.00	32.68	0.014	0.358	1.08	0.385	/
<b>Body-worn (Distance 15mm)</b>											
Back Side	standard	190/836.6	GSM	1:8.3	33.00	32.68	0.035	0.260	1.08	0.280	37
Front Side	standard	190/836.6	GSM	1:8.3	33.00	32.68	0.061	0.224	1.08	0.241	/
<b>Hotspot (Distance 10mm)</b>											
Back Side	standard	190/836.6	2Txslots	1:4.15	31.00	30.27	0.030	0.283	1.18	0.335	38
Front Side	standard	190/836.6	2Txslots	1:4.15	31.00	30.27	0.120	0.224	1.18	0.265	/
Left Edge	standard	190/836.6	2Txslots	1:4.15	31.00	30.27	0.130	0.143	1.18	0.169	/
Right Edge	standard	190/836.6	2Txslots	1:4.15	31.00	30.27	0.050	0.223	1.18	0.264	/
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	31.00	30.27	0.151	0.058	1.18	0.069	/
Back Side	Battery 2	190/836.6	2Txslots	1:4.15	31.00	30.27	0.039	0.213	1.18	0.252	/
Back Side	Battery 3	190/836.6	2Txslots	1:4.15	31.00	30.27	0.029	0.246	1.18	0.291	/

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, 10-g extremity SAR is no required.



Table 2: GSM 1900 (Main-antenna)

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	661/1880	GSM	1:8.3	30.20	29.81	-0.066	0.167	1.09	0.183	/
Left Tilt	standard	661/1880	GSM	1:8.3	30.20	29.81	0.106	0.146	1.09	0.160	/
Right Cheek	standard	661/1880	GSM	1:8.3	30.20	29.81	-0.051	0.274	1.09	0.300	39
Right Tilt	standard	661/1880	GSM	1:8.3	30.20	29.81	-0.091	0.104	1.09	0.114	/
Right Cheek	Battery 2	661/1880	GSM	1:8.3	30.20	29.84	-0.093	0.265	1.09	0.288	/
Right Cheek	Battery 3	661/1880	GSM	1:8.3	30.20	29.84	0.025	0.263	1.09	0.286	/
<b>Body-worn (Distance 15mm)</b>											
Back Side	standard	661/1880	GSM	1:8.3	30.20	29.81	0.089	0.246	1.09	0.269	40
Front Side	standard	661/1880	GSM	1:8.3	30.20	29.81	0.128	0.178	1.09	0.195	/
<b>Hotspot (Distance 10mm)</b>											
Back Side	standard	661/1880	2Txslots	1:4.15	28.20	27.67	0.078	0.580	1.13	0.655	41
Front Side	standard	661/1880	2Txslots	1:4.15	28.20	27.67	0.043	0.290	1.13	0.328	/
Left Edge	standard	661/1880	2Txslots	1:4.15	28.20	27.67	0.091	0.124	1.13	0.140	/
Right Edge	standard	661/1880	2Txslots	1:4.15	28.20	27.67	0.067	0.165	1.13	0.186	/
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	28.20	27.67	0.022	0.370	1.13	0.418	/
Back Side	Battery 2	661/1880	2Txslots	1:4.15	28.20	27.67	-0.020	0.532	1.13	0.601	/
Back Side	Battery 3	661/1880	2Txslots	1:4.15	28.20	27.67	0.045	0.567	1.13	0.641	/

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

- 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).
- When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.
- 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.
- According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, 10-g extremity SAR is no required.

**Table 3: UMTS Band II (Main-antenna)**

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	9400/1880	RMC 12.2K	1:1	24.00	23.83	-0.032	0.223	1.04	0.232	/
Left Tilt	standard	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.135	0.184	1.04	0.191	/
Right Cheek	standard	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.006	0.761	1.04	0.791	42
Right Tilt	standard	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.011	0.307	1.04	0.319	/
Right Cheek	Battery 2	9400/1880	RMC 12.2K	1:1	24.00	23.83	-0.027	0.586	1.04	0.609	/
Right Cheek	Battery 3	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.018	0.564	1.04	0.587	/
<b>Body-worn (Distance 15mm)</b>											
Back Side	standard	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.097	0.619	1.04	0.644	43
Front Side	standard	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.079	0.508	1.04	0.528	/
<b>Hotspot (Distance 10mm)</b>											
Back Side	standard	9538/1907.6	RMC 12.2K	1:1	21.50	21.31	0.032	0.735	1.04	0.768	/
		9400/1880	RMC 12.2K	1:1	21.50	21.43	0.099	0.860	1.02	0.874	/
		9262/1852.4	RMC 12.2K	1:1	21.50	21.26	0.086	0.852	1.06	0.900	/
Front Side	standard	9400/1880	RMC 12.2K	1:1	21.50	21.43	-0.006	0.568	1.02	0.577	/
Left Edge	standard	9400/1880	RMC 12.2K	1:1	21.50	21.43	0.061	0.194	1.02	0.197	/
Right Edge	standard	9400/1880	RMC 12.2K	1:1	21.50	21.43	0.131	0.179	1.02	0.182	/
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	9400/1880	RMC 12.2K	1:1	21.50	21.43	0.178	0.674	1.02	0.685	/
Back Side	Battery 2	9262/1852.4	RMC 12.2K	1:1	21.50	21.26	0.128	0.868	1.06	0.917	44
Back Side	Battery 3	9262/1852.4	RMC 12.2K	1:1	21.50	21.26	0.072	0.826	1.06	0.873	/
Back Side	Repeated	9262/1852.4	RMC 12.2K	1:1	21.50	21.26	0.031	0.836	1.06	0.883	/

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.



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>Hotspot (Distance 10mm)</b>											
Back Side	standard	9538/1907.6	RMC 12.2K	1:1	24.00	21.31	0.032	0.735	1.86	1.365	/
		9400/1880	RMC 12.2K	1:1	24.00	21.43	0.099	0.860	1.81	1.554	/
		9262/1852.4	RMC 12.2K	1:1	24.00	21.26	0.086	0.852	1.88	1.601	/
Front Side	standard	9400/1880	RMC 12.2K	1:1	24.00	21.43	-0.006	0.568	1.81	1.026	/
Left Edge	standard	9400/1880	RMC 12.2K	1:1	24.00	21.43	0.061	0.194	1.81	0.351	/
Right Edge	standard	9400/1880	RMC 12.2K	1:1	24.00	21.43	0.131	0.179	1.81	0.323	/
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	9400/1880	RMC 12.2K	1:1	24.00	21.43	0.178	0.674	1.81	1.218	/

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>Extremity SAR (Distance 0mm)</b>											
Back Side	standard	9538/1907.6	RMC 12.2K	1:1	24.00	23.71	0.162	2.860	1.07	3.057	/
		9400/1880	RMC 12.2K	1:1	24.00	23.83	0.034	2.980	1.04	3.099	45
		9262/1852.4	RMC 12.2K	1:1	24.00	23.66	0.127	2.470	1.08	2.671	/
Bottom Edge	standard	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.033	0.332	1.04	0.345	/
Back Side	Battery 2	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.137	2.880	1.04	2.995	/
Back Side	Battery 3	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.127	2.660	1.04	2.766	/
Back Side	Repeated	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.088	2.873	1.04	2.988	/

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  $\leq 2$  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, 10-g extremity SAR is required.

<b>Measurement Variability</b>				
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
Back Side	9262/1852.4	0.868	0.836	1.04
Test Position	Channel/Frequency (MHz)	MAX Measured SAR <sub>10g</sub> (W/kg)	1 <sup>st</sup> Repeated SAR <sub>10g</sub> (W/kg)	Ratio
Back Side	9400/1880	2.980	2.873	1.04

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 4: UMTS Band IV (Main-antenna)**

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	1413/1732.6	RMC 12.2K	1:1	24.00	23.88	0.057	0.287	1.03	0.295	/
Left Tilt	standard	1413/1732.6	RMC 12.2K	1:1	24.00	23.88	0.034	0.164	1.03	0.169	/
Right Cheek	standard	1413/1732.6	RMC 12.2K	1:1	24.00	23.88	0.062	0.444	1.03	0.456	46
Right Tilt	standard	1413/1732.6	RMC 12.2K	1:1	24.00	23.88	0.150	0.146	1.03	0.150	/
Right Cheek	Battery 2	1413/1732.6	RMC 12.2K	1:1	24.00	23.88	0.113	0.403	1.03	0.414	/
Right Cheek	Battery 3	1413/1732.6	RMC 12.2K	1:1	24.00	23.88	0.072	0.411	1.03	0.423	/
<b>Body-worn (Distance 15mm)</b>											
Back Side	standard	1413/1732.6	RMC 12.2K	1:1	24.00	23.88	-0.033	0.457	1.03	0.470	47
Front Side	standard	1413/1732.6	RMC 12.2K	1:1	24.00	24.38	-0.024	0.427	0.92	0.391	/
<b>Hotspot (Distance 10mm)</b>											
Back Side	standard	1513/1752.6	RMC 12.2K	1:1	23.50	23.21	0.022	1.040	1.07	1.112	/
		1413/1732.6	RMC 12.2K	1:1	23.50	23.38	0.088	1.040	1.03	1.069	/
		1312/1712.4	RMC 12.2K	1:1	23.50	23.22	-0.012	1.040	1.07	1.109	/
Front Side	standard	1413/1732.6	RMC 12.2K	1:1	23.50	23.38	0.023	0.760	1.03	0.781	/
Left Edge	standard	1413/1732.6	RMC 12.2K	1:1	23.50	23.38	-0.115	0.071	1.03	0.073	/
Right Edge	standard	1413/1732.6	RMC 12.2K	1:1	23.50	23.38	0.050	0.460	1.03	0.473	/
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	23.50	23.38	-0.002	0.196	1.03	0.201	/
Back Side	Battery 2	1513/1752.6	RMC 12.2K	1:1	23.50	23.21	-0.023	1.070	1.07	1.144	/
Back Side	Battery 3	1513/1752.6	RMC 12.2K	1:1	23.50	23.21	-0.104	1.090	1.07	1.165	48
Back Side	Repeated	1513/1752.6	RMC 12.2K	1:1	23.50	23.21	0.123	1.051	1.07	1.124	/

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 ≤ 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 ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

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>Hotspot (Distance 10mm)</b>											
Back Side	standard	1513/1752.6	RMC 12.2K	1:1	24.00	23.21	0.022	1.040	1.20	1.247	/
		1413/1732.6	RMC 12.2K	1:1	24.00	23.38	0.088	1.040	1.15	1.200	/
		1312/1712.4	RMC 12.2K	1:1	24.00	23.22	-0.012	1.040	1.20	1.245	/
Front Side	standard	1413/1732.6	RMC 12.2K	1:1	24.00	23.38	0.023	0.760	1.15	0.877	/
Left Edge	standard	1413/1732.6	RMC 12.2K	1:1	24.00	23.38	-0.115	0.071	1.15	0.082	/
Right Edge	standard	1413/1732.6	RMC 12.2K	1:1	24.00	23.38	0.050	0.460	1.15	0.531	/
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	24.00	23.38	-0.002	0.196	1.15	0.226	/
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>Extremity SAR (Distance 0mm)</b>											
Back Side	standard	1413/1732.6	RMC 12.2K	1:1	24.00	23.88	-0.150	1.640	1.03	1.686	/
Back Side	Battery 2	1513/1752.6	RMC 12.2K	1:1	24.00	23.71	0.017	1.913	1.07	2.045	/
		1413/1732.6	RMC 12.2K	1:1	24.00	23.88	0.153	1.990	1.03	2.046	49
		1312/1712.4	RMC 12.2K	1:1	24.00	23.71	0.044	1.837	1.07	1.964	/
Back Side	Battery 3	1413/1732.6	RMC 12.2K	1:1	24.00	23.88	0.053	1.850	1.03	1.902	/

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  $\leq 2$  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, 10-g extremity SAR is 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
Back Side	1513/1752.6	1.090	1.051	1.04

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 5: UMTS Band V (Main-antenna)**

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	23.89	0.160	0.167	1.15	0.192	/
Left Tilt	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.89	-0.112	0.142	1.15	0.163	/
Right Cheek	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.89	-0.098	0.287	1.15	0.330	50
Right Tilt	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.89	0.017	0.186	1.15	0.214	/
Right Cheek	Battery 2	4183/836.6	RMC 12.2K	1:1	24.50	23.89	-0.119	0.239	1.15	0.275	/
Right Cheek	Battery 3	4183/836.6	RMC 12.2K	1:1	24.50	23.89	0.031	0.219	1.15	0.252	/
<b>Body-worn (Distance 15mm)</b>											
Back Side	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.89	0.093	0.134	1.15	0.154	51
Front Side	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.89	0.150	0.122	1.15	0.140	/
<b>Hotspot (Distance 10mm)</b>											
Back Side	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.89	-0.023	0.159	1.15	0.183	52
Front Side	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.89	0.060	0.108	1.15	0.124	/
Left Edge	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.89	0.021	0.046	1.15	0.053	/
Right Edge	standard	4183/836.6	RMC 12.2K	1:1	24.50	23.89	0.110	0.147	1.15	0.169	/
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	23.89	0.021	0.053	1.15	0.061	/
Back Side	Battery 2	4183/836.6	RMC 12.2K	1:1	24.50	23.89	0.022	0.151	1.15	0.174	/
Back Side	Battery 3	4183/836.6	RMC 12.2K	1:1	24.50	23.89	0.090	0.153	1.15	0.176	/

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, 10-g extremity SAR is no required.

**Table 6: LTE Band 2 (20MHz, Main-antenna)**

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	50	18900/1880	23.70	23.58	-0.047	0.145	1.03	0.149	/
Left Tilt	standard	1RB	50	18900/1880	23.70	23.58	-0.134	0.125	1.03	0.128	/
Right Cheek	standard	1RB	50	18900/1880	23.70	23.58	-0.085	0.609	1.03	0.626	/
Right Tilt	standard	1RB	50	18900/1880	23.70	23.58	-0.021	0.246	1.03	0.253	/
Left Cheek	standard	50%RB	50	18700/1860	23.00	22.41	-0.032	0.422	1.15	0.483	/
Left Tilt	standard	50%RB	50	18700/1860	23.00	22.41	-0.152	0.363	1.15	0.416	/
Right Cheek	standard	50%RB	50	18700/1860	23.00	22.41	0.007	0.672	1.15	0.770	53
Right Tilt	standard	50%RB	50	18700/1860	23.00	22.41	0.107	0.246	1.15	0.282	/
Right Cheek	Battery 2	50%RB	50	18700/1860	23.00	22.41	0.044	0.603	1.15	0.691	/
Right Cheek	Battery 3	50%RB	50	18700/1860	23.00	22.41	0.085	0.599	1.15	0.686	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	50	18900/1880	23.70	23.58	0.144	0.518	1.03	0.532	/
Front Side	standard	1RB	50	18900/1880	23.70	23.58	0.026	0.304	1.03	0.312	/
Back Side	standard	50%RB	50	18700/1860	23.00	22.41	0.022	0.627	1.15	0.718	54
Front Side	standard	50%RB	50	18700/1860	23.00	22.41	0.027	0.373	1.14	0.427	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	50	18900/1880	21.70	21.61	0.060	0.682	1.02	0.696	/
Front Side	standard	1RB	50	18900/1880	21.70	21.61	0.130	0.415	1.02	0.424	/
Left Edge	standard	1RB	50	18900/1880	21.70	21.61	0.076	0.159	1.02	0.162	/
Right Edge	standard	1RB	50	18900/1880	21.70	21.61	0.039	0.277	1.02	0.283	/
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	21.70	21.61	0.048	0.556	1.02	0.568	/
Back Side	standard	50%RB	99	19100/1900	21.00	20.35	0.054	0.480	1.16	0.557	/
		50%RB	50	18900/1880	21.00	20.33	0.065	0.540	1.17	0.630	/
		50%RB	50	18700/1860	21.00	20.43	0.075	0.739	1.14	0.843	55
Front Side	standard	50%RB	50	18700/1860	21.00	20.43	0.170	0.460	1.14	0.525	/
Left Edge	standard	50%RB	50	18700/1860	21.00	20.43	0.067	0.166	1.14	0.189	/
Right Edge	standard	50%RB	50	18700/1860	21.00	20.43	0.050	0.234	1.14	0.267	/
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	18700/1860	21.00	20.43	0.058	0.581	1.14	0.662	/
Back Side	standard	100%RB	0	18900/1880	21.00	20.37	0.019	0.377	1.16	0.436	/
Back Side	Battery 2	50%RB	50	18700/1860	21.00	20.43	0.063	0.700	1.14	0.798	/
Back Side	Battery 3	50%RB	50	18700/1860	21.00	20.43	0.022	0.638	1.14	0.727	/



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>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	50	18900/1880	23.70	21.61	0.060	0.682	1.62	1.104	/
Front Side	standard	1RB	50	18900/1880	23.70	21.61	0.130	0.415	1.62	0.672	/
Left Edge	standard	1RB	50	18900/1880	23.70	21.61	0.076	0.159	1.62	0.257	/
Right Edge	standard	1RB	50	18900/1880	23.70	21.61	0.039	0.277	1.62	0.448	/
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	23.70	21.61	0.048	0.556	1.62	0.900	/
Back Side	standard	50%RB	99	19100/1900	23.00	20.35	0.054	0.480	1.84	0.884	/
		50%RB	50	18900/1880	23.00	20.33	0.065	0.540	1.85	0.999	/
		50%RB	50	18700/1860	23.00	20.43	0.075	0.739	1.81	1.336	/
Front Side	standard	50%RB	50	18700/1860	23.00	20.43	0.170	0.460	1.81	0.831	/
Left Edge	standard	50%RB	50	18700/1860	23.00	20.43	0.067	0.166	1.81	0.300	/
Right Edge	standard	50%RB	50	18700/1860	23.00	20.43	0.050	0.234	1.81	0.423	/
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	18700/1860	23.00	20.43	0.058	0.581	1.81	1.050	/
Back Side	standard	100%RB	0	18900/1880	23.00	20.37	0.019	0.377	1.83	0.691	/
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>Extremity SAR (QPSK, Distance 0mm)</b>											
Back Side	standard	1RB	99	19100/1900	23.70	23.37	0.144	3.080	1.08	3.324	/
		1RB	50	18900/1880	23.70	23.58	0.020	3.390	1.03	3.484	/
		1RB	50	18700/1860	23.70	23.49	0.094	2.960	1.05	3.106	/
Back Side	standard	50%RB	0	19100/1900	23.00	22.33	0.092	2.470	1.17	2.882	/
		50%RB	0	18900/1880	23.00	22.31	0.084	2.610	1.17	3.059	/
		50%RB	50	18700/1860	23.00	22.41	0.110	2.360	1.15	2.703	/
Back Side	standard	100%RB	0	19100/1900	23.00	22.06	-0.060	2.450	1.24	3.041	/
		100%RB	0	18900/1880	23.00	22.34	0.110	2.540	1.16	2.957	/
		100%RB	0	18700/1860	23.00	22.15	-0.010	2.490	1.22	3.026	/
Back Side	Battery 2	1RB	50	18900/1880	23.70	23.58	0.130	3.410	1.03	3.505	56
Back Side	Battery 3	1RB	50	18900/1880	23.70	23.58	0.187	3.410	1.03	3.505	/
Back Side	Repeated	1RB	50	18900/1880	23.70	23.58	0.011	3.387	1.03	3.481	/
<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 2</math> W/kg then testing at the other channels is not required for such test configuration(s).</p>											



Measurement Variability				
Test Position	Channel/ Frequency(MHz)	MAX Measured SAR <sub>10g</sub> (W/kg)	1 <sup>st</sup> Repeated SAR <sub>10g</sub> (W/kg)	Ratio
Back Side	18900/1880	3.410	3.387	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  $\geq 2$  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, Main-antenna)

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	50	20300/1745	23.80	23.66	0.081	0.431	1.03	0.445	/
Left Tilt	standard	1RB	50	20300/1745	23.80	23.66	0.023	0.268	1.03	0.277	/
Right Cheek	standard	1RB	50	20300/1745	23.80	23.66	0.028	0.635	1.03	0.656	57
Right Tilt	standard	1RB	50	20300/1745	23.80	23.66	0.180	0.210	1.03	0.217	/
Left Cheek	standard	50%RB	50	20300/1745	23.00	22.88	0.065	0.400	1.03	0.411	/
Left Tilt	standard	50%RB	50	20300/1745	23.00	22.88	0.023	0.246	1.03	0.253	/
Right Cheek	standard	50%RB	50	20300/1745	23.00	22.88	0.077	0.586	1.03	0.602	/
Right Tilt	standard	50%RB	50	20300/1745	23.00	22.88	0.150	0.194	1.03	0.199	/
Right Cheek	Battery 2	1RB	50	20300/1745	23.80	23.66	-0.140	0.602	1.03	0.622	/
Right Cheek	Battery 3	1RB	50	20300/1745	23.80	23.66	0.042	0.557	1.03	0.575	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	50	20300/1745	23.80	23.66	0.021	0.487	1.03	0.503	58
Front Side	standard	1RB	50	20300/1745	23.80	23.66	0.125	0.406	1.03	0.419	/
Back Side	standard	50%RB	50	20300/1745	23.00	22.88	0.029	0.445	1.03	0.457	/
Front Side	standard	50%RB	50	20300/1745	23.00	22.88	0.032	0.360	1.03	0.370	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	50	20300/1745	23.80	23.66	-0.039	1.050	1.03	1.084	/
		1RB	99	20175/1732.5	23.80	23.65	0.158	0.872	1.03	0.902	/
		1RB	0	20050/1720	23.80	23.41	-0.010	0.863	1.09	0.943	/
Front Side	standard	1RB	50	20300/1745	23.80	23.66	0.010	0.868	1.03	0.896	/
		1RB	99	20175/1732.5	23.80	23.65	0.025	0.770	1.03	0.797	/
		1RB	0	20050/1720	23.80	23.41	0.041	0.511	1.09	0.558	/
Left Edge	standard	1RB	50	20300/1745	23.80	23.66	0.070	0.161	1.03	0.166	/
Right Edge	standard	1RB	50	20300/1745	23.80	23.66	-0.036	0.587	1.03	0.606	/
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	20300/1745	23.80	23.66	0.184	0.147	1.03	0.152	/
Back Side	standard	50%RB	50	20300/1745	23.00	22.88	0.013	0.951	1.03	0.978	/
		50%RB	50	20175/1732.5	23.00	22.18	-0.024	0.743	1.21	0.897	/
		50%RB	0	20050/1720	23.00	22.69	0.021	0.720	1.07	0.773	/
Front Side	standard	50%RB	50	20300/1745	23.00	22.88	-0.002	0.705	1.03	0.725	/
Left Edge	standard	50%RB	50	20300/1745	23.00	22.88	0.041	0.129	1.03	0.133	/
Right Edge	standard	50%RB	50	20300/1745	23.00	22.88	0.159	0.487	1.03	0.501	/
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	23.00	22.88	0.023	0.135	1.03	0.139	/
Back Side	standard	100%RB	0	20300/1745	23.00	22.88	0.015	0.695	1.03	0.714	/



Back Side	Battery 2	1RB	50	20300/1745	23.80	23.66	0.074	1.150	1.03	1.188	59
Back Side	Battery 3	1RB	50	20300/1745	23.80	23.66	0.064	0.985	1.03	1.017	/
Back Side	Repeated	1RB	50	20300/1745	23.80	23.66	0.050	1.123	1.03	1.160	/

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

- 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).
- 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.
- According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, 10-g extremity 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
Back Side	20300/1745	1.150	1.123	1.03

Note: 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



Table 8: LTE Band 5 (10MHz, Main-antenna)

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	49	20525/836.5	24.00	22.97	0.065	0.324	1.27	0.411	/
Left Tilt	standard	1RB	49	20525/836.5	24.00	22.97	0.010	0.275	1.27	0.349	/
Right Cheek	standard	1RB	49	20525/836.5	24.00	22.97	-0.024	0.377	1.27	0.478	60
Right Tilt	standard	1RB	49	20525/836.5	24.00	22.97	0.027	0.294	1.27	0.373	/
Left Cheek	standard	50%RB	25	20600/844	23.00	22.16	0.173	0.246	1.21	0.299	/
Left Tilt	standard	50%RB	25	20600/844	23.00	22.16	-0.080	0.207	1.21	0.251	/
Right Cheek	standard	50%RB	25	20600/844	23.00	22.16	0.040	0.299	1.21	0.363	/
Right Tilt	standard	50%RB	25	20600/844	23.00	22.16	0.038	0.177	1.21	0.215	/
Right Cheek	Battery 2	1RB	25	20600/844	24.00	22.97	0.047	0.317	1.27	0.402	/
Right Cheek	Battery 3	1RB	25	20600/844	24.00	22.97	0.092	0.311	1.27	0.395	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	49	20525/836.5	24.00	22.97	0.130	0.202	1.27	0.256	61
Front Side	standard	1RB	49	20525/836.5	24.00	22.97	0.099	0.188	1.27	0.238	/
Back Side	standard	50%RB	25	20600/844	23.00	22.16	0.067	0.141	1.21	0.171	/
Front Side	standard	50%RB	25	20600/844	23.00	22.16	0.120	0.142	1.21	0.172	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	49	20525/836.5	24.00	22.97	0.080	0.290	1.27	0.368	62
Front Side	standard	1RB	49	20525/836.5	24.00	22.97	0.040	0.223	1.27	0.283	/
Left Edge	standard	1RB	49	20525/836.5	24.00	22.97	0.027	0.069	1.27	0.087	/
Right Edge	standard	1RB	49	20525/836.5	24.00	22.97	0.026	0.202	1.27	0.256	/
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	49	20525/836.5	24.00	22.97	0.047	0.032	1.27	0.041	/
Back Side	standard	50%RB	25	20600/844	23.00	22.16	-0.040	0.203	1.21	0.246	/
Front Side	standard	50%RB	25	20600/844	23.00	22.16	-0.150	0.175	1.21	0.212	/
Left Edge	standard	50%RB	25	20600/844	23.00	22.16	0.021	0.053	1.21	0.064	/
Right Edge	standard	50%RB	25	20600/844	23.00	22.16	0.120	0.148	1.21	0.180	/
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	25	20600/844	23.00	22.16	0.040	0.027	1.21	0.032	/
Back Side	Battery 2	1RB	49	20450/829	24.00	22.97	0.107	0.258	1.27	0.327	/
Back Side	Battery 3	1RB	49	20450/829	24.00	22.97	0.104	0.277	1.27	0.132	/

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

**Table 9: LTE Band 7 (20MHz, Main-antenna)**

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>												
Right Cheek	standard	State1	1RB	99	21100/2535	24.00	23.29	0.076	0.355	1.18	0.418	63
		State2	1RB	99	21100/2535	24.00	23.29	0.088	0.304	1.18	0.358	/
Left Cheek	standard	State1	1RB	99	21100/2535	24.00	23.29	0.153	0.157	1.18	0.185	/
Left Tilt	standard	State1	1RB	99	21100/2535	24.00	23.29	0.024	0.175	1.18	0.206	/
Right Tilt	standard	State1	1RB	99	21100/2535	24.00	23.29	0.073	0.117	1.18	0.138	/
Left Cheek	standard	State1	50%RB	50	21100/2535	23.00	22.31	0.087	0.107	1.17	0.125	/
Left Tilt	standard	State1	50%RB	50	21100/2535	23.00	22.31	0.057	0.128	1.17	0.150	/
Right Cheek	standard	State1	50%RB	50	21100/2535	23.00	22.31	0.057	0.253	1.17	0.297	/
Right Tilt	standard	State1	50%RB	50	21100/2535	23.00	22.31	0.050	0.076	1.17	0.089	/
Right Cheek	Battery 2	State1	1RB	99	21100/2535	24.00	23.29	0.043	0.317	1.18	0.373	/
Right Cheek	Battery 3	State1	1RB	99	21100/2535	24.00	23.29	0.026	0.279	1.18	0.329	/
<b>Body-worn (QPSK, Distance 15mm)</b>												
Back Side	standard	State1	1RB	99	21100/2535	24.00	23.29	0.090	0.248	1.18	0.292	64
		State2	1RB	99	21100/2535	24.00	23.29	0.033	0.246	1.18	0.290	/
Front Side	standard	State1	1RB	99	21100/2535	24.00	23.29	-0.094	0.208	1.18	0.245	/
Back Side	standard	State1	50%RB	50	21100/2535	23.00	22.31	0.047	0.155	1.17	0.182	/
Front Side	standard	State1	50%RB	50	21100/2535	23.00	22.31	0.104	0.164	1.17	0.192	/
<b>Hotspot (QPSK, Distance 10mm)</b>												
Back Side	standard	State1	1RB	99	21100/2535	24.00	23.29	0.110	0.577	1.18	0.679	65
		State2	1RB	99	21100/2535	24.00	23.29	0.015	0.571	1.18	0.672	/
Front Side	standard	State1	1RB	99	21100/2535	24.00	23.29	0.045	0.365	1.18	0.430	/
Left Edge	standard	State1	1RB	99	21100/2535	24.00	23.29	0.100	0.220	1.18	0.259	/
Right Edge	standard	State1	1RB	99	21100/2535	24.00	23.29	0.040	0.457	1.18	0.538	/
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
Bottom Edge	standard	State1	1RB	99	21100/2535	24.00	23.29	0.024	0.279	1.18	0.329	/
Back Side	standard	State1	50%RB	50	21100/2535	23.00	22.31	0.049	0.383	1.17	0.449	/
Front Side	standard	State1	50%RB	50	21100/2535	23.00	22.31	0.074	0.279	1.17	0.327	/
Left Edge	standard	State1	50%RB	50	21100/2535	23.00	22.31	0.020	0.173	1.17	0.203	/
Right Edge	standard	State1	50%RB	50	21100/2535	23.00	22.31	0.160	0.342	1.17	0.401	/
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
Bottom Edge	standard	State1	50%RB	50	21100/2535	23.00	22.31	0.140	0.202	1.17	0.237	/
Back Side	Battery 2	State1	1RB	99	21100/2535	24.00	23.29	-0.100	0.476	1.18	0.561	/
Back Side	Battery 3	State1	1RB	99	21100/2535	24.00	23.29	0.080	0.451	1.18	0.531	/



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

**Table 10: LTE Band 12 (20MHz, Main-antenna)**

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	23060/704	24.00	23.44	0.080	0.185	1.14	0.210	/
Left Tilt	standard	1RB	25	23060/704	24.00	23.44	0.020	0.106	1.14	0.121	/
Right Cheek	standard	1RB	25	23060/704	24.00	23.44	0.067	0.175	1.14	0.199	/
Right Tilt	standard	1RB	25	23060/704	24.00	23.44	-0.110	0.116	1.14	0.132	/
Left Cheek	standard	50%RB	0	23060/704	23.00	22.41	0.110	0.125	1.14	0.143	/
Left Tilt	standard	50%RB	0	23060/704	23.00	22.41	0.037	0.071	1.14	0.081	/
Right Cheek	standard	50%RB	0	23060/704	23.00	22.41	0.103	0.121	1.14	0.138	/
Right Tilt	standard	50%RB	0	23060/704	23.00	22.41	0.070	0.069	1.14	0.078	/
Left Cheek	Battery 2	1RB	25	23060/704	24.00	23.44	0.104	0.561	1.14	0.638	/
Left Cheek	Battery 3	1RB	25	23060/704	24.00	23.44	0.063	0.585	1.14	0.665	66
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	25	23060/704	24.00	23.44	-0.051	0.278	1.14	0.316	67
Front Side	standard	1RB	25	23060/704	24.00	23.44	0.034	0.256	1.14	0.291	/
Back Side	standard	50%RB	0	23060/704	23.00	22.41	-0.007	0.190	1.14	0.217	/
Front Side	standard	50%RB	0	23060/704	23.00	22.41	0.036	0.171	1.14	0.196	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	25	23060/704	24.00	23.44	0.000	0.278	1.14	0.316	/
Front Side	standard	1RB	25	23060/704	24.00	23.44	-0.060	0.216	1.14	0.246	/
Left Edge	standard	1RB	25	23060/704	24.00	23.44	0.066	0.019	1.14	0.022	/
Right Edge	standard	1RB	25	23060/704	24.00	23.44	0.140	0.137	1.14	0.156	/
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	23060/704	24.00	23.44	0.020	0.087	1.14	0.099	/
Back Side	standard	50%RB	0	23060/704	23.00	22.41	0.070	0.202	1.14	0.231	/
Front Side	standard	50%RB	0	23060/704	23.00	22.41	0.030	0.140	1.14	0.160	/
Left Edge	standard	50%RB	0	23060/704	23.00	22.41	0.055	0.013	1.14	0.014	/
Right Edge	standard	50%RB	0	23060/704	23.00	22.41	0.190	0.090	1.14	0.103	/
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	23060/704	23.00	22.41	0.023	0.055	1.14	0.063	/
Back Side	Battery 2	1RB	25	23060/704	24.00	23.44	-0.026	0.286	1.14	0.325	68
Back Side	Battery 3	1RB	25	23060/704	24.00	23.44	-0.010	0.182	1.14	0.207	/

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 ≤ 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 ≥ 0.8 W/kg.

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

**Table 11: LTE Band 17 (10MHz, Main-antenna)**

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	49	23780/709	24.00	23.87	0.045	0.127	1.03	0.131	/
Left Tilt	standard	1RB	49	23780/709	24.00	23.87	0.130	0.098	1.03	0.101	/
Right Cheek	standard	1RB	25	23780/709	24.00	23.87	0.041	0.144	1.03	0.148	69
Right Tilt	standard	1RB	49	23780/709	24.00	23.87	0.021	0.088	1.03	0.091	/
Left Cheek	standard	50%RB	25	23790/710	23.00	22.71	0.083	0.086	1.07	0.092	/
Left Tilt	standard	50%RB	25	23790/710	23.00	22.71	0.034	0.066	1.07	0.071	/
Right Cheek	standard	50%RB	25	23790/710	23.00	22.71	0.089	0.096	1.07	0.103	/
Right Tilt	standard	50%RB	25	23790/710	23.00	22.71	0.037	0.059	1.07	0.063	/
Right Cheek	Battery 2	1RB	49	23790/710	24.00	23.87	0.044	0.098	1.03	0.100	/
Right Cheek	Battery 3	1RB	49	23790/710	24.00	23.87	0.091	0.114	1.03	0.117	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	25	23780/709	24.00	23.87	0.031	0.218	1.03	0.225	70
Front Side	standard	1RB	49	23780/709	24.00	23.87	0.057	0.192	1.03	0.198	/
Back Side	standard	50%RB	25	23790/710	23.00	22.71	0.124	0.151	1.07	0.161	/
Front Side	standard	50%RB	25	23790/710	23.00	22.71	0.025	0.140	1.07	0.150	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	25	23780/709	24.00	23.87	0.140	0.198	1.03	0.204	71
Front Side	standard	1RB	49	23780/709	24.00	23.87	0.080	0.156	1.03	0.161	/
Left Edge	standard	1RB	49	23780/709	24.00	23.87	0.021	0.086	1.03	0.089	/
Right Edge	standard	1RB	49	23780/709	24.00	23.87	0.030	0.127	1.03	0.131	/
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	49	23780/709	24.00	23.87	0.034	0.041	1.03	0.042	/
Back Side	standard	50%RB	25	23790/710	23.00	22.71	0.150	0.136	1.07	0.145	/
Front Side	standard	50%RB	25	23790/710	23.00	22.71	0.170	0.109	1.07	0.117	/
Left Edge	standard	50%RB	25	23790/710	23.00	22.71	0.180	0.061	1.07	0.065	/
Right Edge	standard	50%RB	25	23790/710	23.00	22.71	0.150	0.129	1.07	0.138	/
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	25	23790/710	23.00	22.71	0.020	0.047	1.07	0.050	/
Back Side	Battery 2	1RB	49	23780/709	24.00	23.87	0.064	0.146	1.03	0.150	/
Back Side	Battery 3	1RB	49	23780/709	24.00	23.87	0.029	0.149	1.03	0.154	/

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 ≤ 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 ≥ 0.8 W/kg.

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

**Table 12: LTE Band 26 (15MHz, Main-antenna)**

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	26965/841.5	24.50	23.15	-0.069	0.315	1.36	0.430	/
Left Tilt	standard	1RB	38	26965/841.5	24.50	23.15	-0.023	0.238	1.36	0.325	/
Right Cheek	standard	1RB	38	26965/841.5	24.50	23.15	-0.124	0.379	1.36	0.517	72
Right Tilt	standard	1RB	38	26965/841.5	24.50	23.15	-0.003	0.296	1.36	0.404	/
Left Cheek	standard	50%RB	0	26775/822.5	23.00	22.56	-0.146	0.251	1.11	0.278	/
Left Tilt	standard	50%RB	0	26775/822.5	23.00	22.56	0.080	0.192	1.11	0.213	/
Right Cheek	standard	50%RB	0	26775/822.5	23.00	22.56	0.030	0.293	1.11	0.325	/
Right Tilt	standard	50%RB	0	26775/822.5	23.00	22.56	-0.041	0.245	1.11	0.271	/
Right Cheek	Battery 2	1RB	38	26965/841.5	24.50	23.15	-0.141	0.332	1.36	0.453	/
Right Cheek	Battery 3	1RB	38	26965/841.5	24.50	23.15	0.124	0.317	1.36	0.433	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	38	26965/841.5	24.50	23.15	0.017	0.186	1.36	0.254	/
Front Side	standard	1RB	38	26965/841.5	24.50	23.15	0.051	0.168	1.36	0.229	/
Back Side	standard	50%RB	0	26775/822.5	23.00	22.56	0.168	0.218	1.11	0.241	73
Front Side	standard	50%RB	0	26775/822.5	23.00	22.56	0.060	0.193	1.11	0.214	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	38	26965/841.5	24.50	23.15	0.160	0.288	1.36	0.393	74
Front Side	standard	1RB	38	26965/841.5	24.50	23.15	-0.010	0.186	1.36	0.254	/
Left Edge	standard	1RB	38	26965/841.5	24.50	23.15	0.180	0.051	1.36	0.070	/
Right Edge	standard	1RB	38	26965/841.5	24.50	23.15	0.120	0.223	1.36	0.304	/
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	26965/841.5	24.50	23.15	-0.070	0.094	1.36	0.128	/
Back Side	standard	50%RB	0	26775/822.5	23.00	22.56	0.090	0.288	1.11	0.319	/
Front Side	standard	50%RB	0	26775/822.5	23.00	22.56	0.040	0.172	1.11	0.191	/
Left Edge	standard	50%RB	0	26775/822.5	23.00	22.56	0.150	0.086	1.11	0.095	/
Right Edge	standard	50%RB	0	26775/822.5	23.00	22.56	0.170	0.188	1.11	0.208	/
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	26775/822.5	23.00	22.56	-0.080	0.072	1.11	0.080	/
Back Side	Battery 2	1RB	0	26965/841.5	24.50	23.15	0.19	0.217	1.36	0.296	/
Back Side	Battery 3	1RB	0	26965/841.5	24.50	23.15	0.04	0.213	1.36	0.291	/

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 ≤ 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 ≥ 0.8 W/kg.

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

**Table 13: LTE Band 38 (20MHz, Main-antenna)**

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	50	38150/2610	24.00	22.53	0.032	0.180	1.40	0.253	/
Left Tilt	standard	1RB	50	38150/2610	24.00	22.53	0.146	0.127	1.40	0.178	/
Right Cheek	standard	1RB	50	38150/2610	24.00	22.53	0.022	0.356	1.40	0.500	75
Right Tilt	standard	1RB	50	38150/2610	24.00	22.53	0.027	0.122	1.40	0.171	/
Left Cheek	standard	50%RB	0	38150/2610	23.00	21.43	0.072	0.140	1.44	0.201	/
Left Tilt	standard	50%RB	0	38150/2610	23.00	21.43	0.169	0.099	1.44	0.142	/
Right Cheek	standard	50%RB	0	38150/2610	23.00	21.43	0.080	0.259	1.44	0.372	/
Right Tilt	standard	50%RB	0	38150/2610	23.00	21.43	0.047	0.090	1.44	0.130	/
Right Cheek	Battery 2	1RB	50	38150/2610	24.00	22.53	-0.060	0.352	1.40	0.494	/
Right Cheek	Battery 3	1RB	50	38150/2610	24.00	22.53	0.042	0.246	1.40	0.345	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	50	38150/2610	24.00	22.53	0.109	0.204	1.40	0.286	76
Front Side	standard	1RB	50	38150/2610	24.00	22.53	0.161	0.173	1.40	0.243	/
Back Side	standard	50%RB	0	38150/2610	23.00	21.43	0.050	0.152	1.44	0.218	/
Front Side	standard	50%RB	0	38150/2610	23.00	21.43	0.195	0.163	1.44	0.234	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	50	38150/2610	24.00	22.53	0.042	0.428	1.40	0.601	/
Front Side	standard	1RB	50	38150/2610	24.00	22.53	0.036	0.392	1.40	0.550	/
Left Edge	standard	1RB	50	38150/2610	24.00	22.53	0.025	0.163	1.40	0.229	/
Right Edge	standard	1RB	50	38150/2610	24.00	22.53	0.022	0.409	1.40	0.574	/
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	38150/2610	24.00	22.53	0.048	0.226	1.40	0.317	/
Back Side	standard	50%RB	0	38150/2610	23.00	21.43	0.053	0.349	1.44	0.501	/
Front Side	standard	50%RB	0	38150/2610	23.00	21.43	0.065	0.310	1.44	0.445	/
Left Edge	standard	50%RB	0	38150/2610	23.00	21.43	0.064	0.127	1.44	0.182	/
Right Edge	standard	50%RB	0	38150/2610	23.00	21.43	0.031	0.315	1.44	0.453	/
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	21.43	0.036	0.176	1.44	0.253	/
Back Side	Battery 2	1RB	50	38150/2610	24.00	22.53	0.063	0.451	1.40	0.633	/
Back Side	Battery 3	1RB	50	38150/2610	24.00	22.53	0.119	0.454	1.40	0.637	77

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 ≤ 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 ≥ 0.8 W/kg.

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



Table 14: LTE Band 41 (20MHz, Main-antenna)

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	50	40740/2605	24.00	22.49	0.189	0.140	1.42	0.198	/
Left Tilt	standard	1RB	50	40740/2605	24.00	22.49	0.029	0.101	1.42	0.143	/
Right Cheek	standard	1RB	50	40740/2605	24.00	22.49	0.099	0.245	1.42	0.347	78
Right Tilt	standard	1RB	50	40740/2605	24.00	22.49	0.047	0.103	1.42	0.146	/
Left Cheek	standard	50%RB	50	40740/2605	23.00	21.39	0.179	0.116	1.45	0.168	/
Left Tilt	standard	50%RB	50	40740/2605	23.00	21.39	0.027	0.080	1.45	0.115	/
Right Cheek	standard	50%RB	50	40740/2605	23.00	21.39	0.021	0.191	1.45	0.277	/
Right Tilt	standard	50%RB	50	40740/2605	23.00	21.39	0.074	0.052	1.45	0.075	/
Right Cheek	Battery 2	1RB	50	40740/2605	24.00	22.49	0.019	0.232	1.42	0.329	/
Right Cheek	Battery 3	1RB	50	40740/2605	24.00	22.49	0.033	0.234	1.42	0.331	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	50	40740/2605	24.00	22.49	0.054	0.137	1.42	0.194	79
Front Side	standard	1RB	50	40740/2605	24.00	22.49	0.082	0.124	1.42	0.176	/
Back Side	standard	50%RB	50	40740/2605	23.00	21.39	-0.049	0.107	1.45	0.155	/
Front Side	standard	50%RB	50	40740/2605	23.00	21.39	0.164	0.094	1.45	0.136	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	50	40740/2605	24.00	22.49	0.126	0.222	1.42	0.314	/
Front Side	standard	1RB	50	40740/2605	24.00	22.49	0.051	0.258	1.42	0.365	/
Left Edge	standard	1RB	50	40740/2605	24.00	22.49	0.077	0.137	1.42	0.194	/
Right Edge	standard	1RB	50	40740/2605	24.00	22.49	0.040	0.248	1.42	0.351	/
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	40740/2605	24.00	22.49	0.056	0.156	1.42	0.221	/
Back Side	standard	50%RB	50	40740/2605	23.00	21.39	-0.180	0.161	1.45	0.233	/
Front Side	standard	50%RB	50	40740/2605	23.00	21.39	0.133	0.198	1.45	0.287	/
Left Edge	standard	50%RB	50	40740/2605	23.00	21.39	0.080	0.105	1.45	0.152	/
Right Edge	standard	50%RB	50	40740/2605	23.00	21.39	0.067	0.187	1.45	0.271	/
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	40740/2605	23.00	21.39	0.035	0.117	1.45	0.170	/
Front Side	Battery 2	1RB	50	40740/2605	24.00	22.49	0.075	0.385	1.42	0.545	80
Front Side	Battery 3	1RB	50	40740/2605	24.00	22.49	0.086	0.238	1.42	0.337	/

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. SAR is no required.

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



Table 15: GSM 850 (Second-antenna)

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 (Full Power)</b>											
Left Cheek	standard	190/836.6	GSM	1:8.3	33.00	32.70	0.048	0.733	1.07	0.785	/
Left Tilt	standard	190/836.6	GSM	1:8.3	33.00	32.70	-0.090	0.712	1.07	0.763	/
Right Cheek	standard	251/848.8	GSM	1:8.3	33.00	32.76	0.030	0.860	1.06	0.909	/
		190/836.6	GSM	1:8.3	33.00	32.70	0.023	0.950	1.07	1.018	/
		128/824.2	GSM	1:8.3	33.00	32.46	0.030	0.861	1.13	0.975	/
Right Tilt	standard	251/848.8	GSM	1:8.3	33.00	32.76	0.020	0.853	1.06	0.901	/
		190/836.6	GSM	1:8.3	33.00	32.70	0.050	0.895	1.07	0.959	/
		128/824.2	GSM	1:8.3	33.00	32.46	0.080	0.792	1.13	0.897	/
Right Cheek	Battery 2	190/836.6	GSM	1:8.3	33.00	32.70	-0.110	0.977	1.07	1.047	81
Right Cheek	Battery 3	190/836.6	GSM	1:8.3	33.00	32.70	0.020	0.882	1.07	0.945	/
Right Cheek	Repeated	190/836.6	GSM	1:8.3	33.00	32.70	0.012	0.931	1.07	0.998	/
<b>Head SAR For Simultaneous Transmission (Reduce Power)</b>											
Left Cheek	standard	190/836.6	GSM	1:8.3	30.50	30.21	0.029	0.513	1.07	0.548	/
Left Tilt	standard	190/836.6	GSM	1:8.3	30.50	30.21	-0.021	0.496	1.07	0.530	/
Right Cheek	standard	190/836.6	GSM	1:8.3	30.50	30.21	0.030	0.605	1.07	0.647	/
Right Tilt	standard	190/836.6	GSM	1:8.3	30.50	30.21	0.017	0.597	1.07	0.638	/
Right Cheek	Battery 2	190/836.6	GSM	1:8.3	30.50	30.21	0.130	0.635	1.07	0.679	82
Right Cheek	Battery 3	190/836.6	GSM	1:8.3	30.50	30.21	0.014	0.622	1.07	0.665	/
<b>Body-worn (Distance 15mm)</b>											
Back Side	standard	190/836.6	GSM	1:8.3	33.00	32.70	0.020	0.160	1.07	0.171	83
Front Side	standard	190/836.6	GSM	1:8.3	33.00	32.70	0.050	0.145	1.07	0.155	/
<b>Hotspot (Distance 10mm)</b>											
Back Side	standard	190/836.6	2Txslots	1:4.15	31.00	30.30	-0.010	0.380	1.17	0.446	84
Front Side	standard	190/836.6	2Txslots	1:4.15	31.00	30.30	0.021	0.324	1.17	0.381	/
Left Edge	standard	190/836.6	2Txslots	1:4.15	31.00	30.30	0.030	0.156	1.17	0.183	/
Right 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	standard	190/836.6	2Txslots	1:4.15	31.00	30.30	0.036	0.292	1.17	0.343	/
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	Battery 2	190/836.6	2Txslots	1:4.15	31.00	30.30	0.082	0.342	1.17	0.402	/
Back Side	Battery 3	190/836.6	2Txslots	1:4.15	31.00	30.30	0.009	0.306	1.17	0.360	/
<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 ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).</p> <p>3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.</p> <p>4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.</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
Right Cheek	190/836.6	0.977	0.931	1.05

Note: 1) When the original highest measured SAR is  $\geq 0.80$  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  $> 1.20$  or when the original or repeated measurement was  $\geq 1.45$  W/kg ( $\sim 10\%$  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



Table 16: GSM 1900 (Second-antenna)

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	661/1880	GSM	1:8.3	30.20	29.83	0.020	0.232	1.09	0.253	/
Left Tilt	standard	661/1880	GSM	1:8.3	30.20	29.83	0.070	0.189	1.09	0.206	/
Right Cheek	standard	661/1880	GSM	1:8.3	30.20	29.83	0.058	0.720	1.09	0.784	/
Right Tilt	standard	661/1880	GSM	1:8.3	30.20	29.83	0.190	0.480	1.09	0.523	/
Right Cheek	Battery 3	810/1909.8	GSM	1:8.3	30.20	29.77	0.033	1.032	1.10	1.139	/
	Battery 3	661/1880	GSM	1:8.3	30.20	29.83	0.090	1.060	1.09	1.154	/
	Battery 3	512/1850.2	GSM	1:8.3	30.20	29.87	0.025	1.012	1.08	1.092	/
Right Cheek	Battery 3	810/1909.8	GSM	1:8.3	30.20	29.77	0.011	1.110	1.10	1.226	/
	Battery 3	661/1880	GSM	1:8.3	30.20	29.83	0.030	1.210	1.09	1.318	85
	Battery 3	512/1850.2	GSM	1:8.3	30.20	29.87	0.012	1.082	1.08	1.167	/
Right Cheek	Repeated	661/1880	GSM	1:8.3	30.20	29.83	-0.023	1.118	1.09	1.217	/
<b>Body-worn (Distance 15mm)</b>											
Back Side	standard	661/1880	GSM	1:8.3	30.20	29.83	-0.120	0.085	1.09	0.092	86
Front Side	standard	661/1880	GSM	1:8.3	30.20	29.83	0.191	0.058	1.09	0.063	/
<b>Hotspot (Distance 10mm)</b>											
Back Side	standard	661/1880	2Txslots	1:4.15	28.20	27.70	-0.075	0.222	1.12	0.249	/
Front Side	standard	661/1880	2Txslots	1:4.15	28.20	27.70	-0.021	0.179	1.12	0.201	/
Left Edge	standard	661/1880	2Txslots	1:4.15	28.20	27.70	0.074	0.264	1.12	0.296	87
Right 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	standard	661/1880	2Txslots	1:4.15	28.20	27.70	0.001	0.153	1.12	0.172	/
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	Battery 2	661/1880	2Txslots	1:4.15	28.20	27.70	-0.011	0.202	1.12	0.227	/
Left Edge	Battery 3	661/1880	2Txslots	1:4.15	28.20	27.70	0.191	0.219	1.12	0.246	/

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, 10-g extremity 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
Right Cheek	661/1880	1.210	1.118	1.08

Note: 1) When the original highest measured SAR is  $\geq 0.80$  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  $> 1.20$  or when the original or repeated measurement was  $\geq 1.45$  W/kg ( $\sim 10\%$  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



Table 17: UMTS Band II (Second-antenna)

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	9400/1880	RMC 12.2K	1:1	24.00	23.83	-0.094	0.274	1.04	0.285	/
Left Tilt	standard	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.060	0.201	1.04	0.209	/
Right Cheek	standard	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.024	0.725	1.04	0.754	88
Right Tilt	standard	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.110	0.471	1.04	0.490	/
Right Cheek	Battery 2	9400/1880	RMC 12.2K	1:1	24.00	23.83	-0.015	0.597	1.04	0.621	/
Right Cheek	Battery 3	9400/1880	RMC 12.2K	1:1	24.00	23.83	-0.107	0.672	1.04	0.699	/
<b>Body-worn (Distance 15mm)</b>											
Back Side	standard	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.068	0.078	1.04	0.081	89
Front Side	standard	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.155	0.065	1.04	0.067	/
<b>Hotspot (Distance 10mm)</b>											
Back Side	standard	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.014	0.421	1.04	0.438	/
Front Side	standard	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.061	0.387	1.04	0.402	/
Left Edge	standard	9400/1880	RMC 12.2K	1:1	24.00	23.83	-0.117	0.230	1.04	0.239	/
Right 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	standard	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.019	0.184	1.04	0.191	/
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	Battery 2	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.021	0.509	1.04	0.529	/
Back Side	Battery 3	9400/1880	RMC 12.2K	1:1	24.00	23.83	0.078	0.546	1.04	0.568	90

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).

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, 10-g extremity SAR is no required.

**Table 18: UMTS Band IV (Second-antenna)**

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	1413/1732.6	RMC 12.2K	1:1	24.00	23.90	-0.180	0.409	1.02	0.419	/
Left Tilt	standard	1413/1732.6	RMC 12.2K	1:1	24.00	23.90	0.100	0.261	1.02	0.267	/
Right Cheek	standard	1513/1752.6	RMC 12.2K	1:1	24.00	23.73	0.150	0.822	1.06	0.875	/
		1413/1732.6	RMC 12.2K	1:1	24.00	23.90	0.073	0.843	1.02	0.863	/
		1312/1712.4	RMC 12.2K	1:1	24.00	23.73	0.190	0.920	1.06	0.979	91
Right Tilt	standard	1413/1732.6	RMC 12.2K	1:1	24.00	23.90	0.130	0.546	1.02	0.559	/
Right Cheek	Battery 2	1312/1712.4	RMC 12.2K	1:1	24.00	23.73	-0.078	0.472	1.06	0.502	/
Right Cheek	Battery 3	1312/1712.4	RMC 12.2K	1:1	24.00	23.73	-0.008	0.599	1.06	0.637	/
Right Cheek	Repeated	1312/1712.4	RMC 12.2K	1:1	24.00	23.73	0.150	0.816	1.06	0.868	/
<b>Body-worn (Distance 15mm)</b>											
Back Side	standard	1413/1732.6	RMC 12.2K	1:1	24.00	23.90	0.056	0.081	1.02	0.083	92
Front Side	standard	1413/1732.6	RMC 12.2K	1:1	24.00	23.90	0.010	0.078	1.02	0.079	/
<b>Hotspot (Distance 10mm)</b>											
Back Side	standard	1413/1732.6	RMC 12.2K	1:1	24.00	23.90	0.027	0.488	1.02	0.499	/
Front Side	standard	1413/1732.6	RMC 12.2K	1:1	24.00	23.90	0.028	0.398	1.02	0.407	/
Left Edge	standard	1413/1732.6	RMC 12.2K	1:1	24.00	23.90	0.032	0.655	1.02	0.670	93
Right 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	standard	1413/1732.6	RMC 12.2K	1:1	24.00	23.90	0.040	0.539	1.02	0.552	/
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	Battery 2	1413/1732.6	RMC 12.2K	1:1	24.00	23.90	0.110	0.639	1.02	0.654	/
Left Edge	Battery 3	1413/1732.6	RMC 12.2K	1:1	24.00	23.90	0.080	0.644	1.02	0.659	/

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

- 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).
- 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.
- According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, 10-g extremity 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
Right Cheek	1312/1712.4	0.920	0.816	1.13

Note: 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 ( $\sim 10\%$  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

**Table 19: UMTS Band V (Second-antenna)**

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	24.20	23.41	-0.028	0.309	1.20	0.371	/
Left Tilt	standard	4183/836.6	RMC 12.2K	1:1	24.20	23.41	-0.032	0.268	1.20	0.321	/
Right Cheek	standard	4183/836.6	RMC 12.2K	1:1	24.20	23.41	-0.029	0.336	1.20	0.403	/
Right Tilt	standard	4183/836.6	RMC 12.2K	1:1	24.20	23.41	-0.149	0.492	1.20	0.590	94
Right Tilt	Battery 2	4183/836.6	RMC 12.2K	1:1	24.20	23.41	0.106	0.372	1.20	0.446	/
Right Tilt	Battery 3	4183/836.6	RMC 12.2K	1:1	24.20	23.41	0.008	0.389	1.20	0.467	/
<b>Body-worn (Distance 15mm)</b>											
Back Side	standard	4183/836.6	RMC 12.2K	1:1	24.20	23.41	0.100	0.129	1.20	0.155	95
Front Side	standard	4183/836.6	RMC 12.2K	1:1	24.20	23.41	0.160	0.113	1.20	0.136	/
<b>Hotspot (Distance 10mm)</b>											
Back Side	standard	4183/836.6	RMC 12.2K	1:1	24.20	23.41	0.040	0.282	1.20	0.338	96
Front Side	standard	4183/836.6	RMC 12.2K	1:1	24.20	23.41	-0.024	0.236	1.20	0.283	/
Left Edge	standard	4183/836.6	RMC 12.2K	1:1	24.20	23.41	0.140	0.090	1.20	0.108	/
Right 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	standard	4183/836.6	RMC 12.2K	1:1	24.20	23.41	0.150	0.180	1.20	0.216	/
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	Battery 2	4183/836.6	RMC 12.2K	1:1	24.20	23.41	0.056	0.259	1.20	0.311	/
Back Side	Battery 3	4183/836.6	RMC 12.2K	1:1	24.20	23.41	-0.096	0.266	1.20	0.319	/

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, 10-g extremity SAR is no required.

**Table 20: LTE Band 2 (20MHz, Second-antenna)**

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	50	18900/1880	23.70	23.59	0.010	0.330	1.03	0.338	/
Left Tilt	standard	1RB	50	18900/1880	23.70	23.59	-0.100	0.282	1.03	0.289	/
Right Cheek	standard	1RB	99	19100/1900	23.70	23.38	0.034	0.510	1.08	0.549	/
Right Tilt	standard	1RB	50	18900/1880	23.70	23.59	0.020	0.588	1.03	0.603	/
Left Cheek	standard	50%RB	50	18700/1860	23.00	22.424	-0.020	0.100	1.14	0.114	/
Left Tilt	standard	50%RB	50	18700/1860	23.00	22.424	0.032	0.075	1.14	0.086	/
Right Cheek	standard	50%RB	50	18700/1860	23.00	22.424	0.040	0.261	1.14	0.298	/
Right Tilt	standard	50%RB	50	18700/1860	23.00	22.424	0.034	0.162	1.14	0.185	/
Right Cheek	standard	100%RB	0	18900/1880	23.00	22.35	0.055	0.638	1.16	0.741	/
Right Cheek	Battery 2	1RB	99	19100/1900	23.70	23.38	0.033	1.212	1.08	1.305	/
	Battery 2	1RB	50	18900/1880	23.70	23.59	0.080	1.350	1.03	1.384	97
	Battery 2	1RB	50	18700/1860	23.70	23.50	0.022	1.208	1.05	1.265	/
Right Cheek	Battery 3	1RB	99	19100/1900	23.70	23.38	0.017	1.178	1.08	1.268	/
	Battery 3	1RB	50	18900/1880	23.70	23.59	0.060	1.250	1.03	1.282	/
	Battery 3	1RB	50	18700/1860	23.70	23.50	0.011	1.198	1.05	1.254	/
Right Cheek	Repeated	1RB	50	18900/1880	23.70	23.59	0.013	1.213	1.03	1.244	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	50	18900/1880	23.70	23.59	0.021	0.088	1.03	0.090	98
Front Side	standard	1RB	50	18900/1880	23.70	23.59	-0.186	0.077	1.03	0.079	/
Back Side	standard	50%RB	50	18700/1860	23.00	22.424	-0.041	0.028	1.14	0.032	/
Front Side	standard	50%RB	50	18700/1860	23.00	22.424	0.021	0.019	1.14	0.021	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	99	19100/1900	23.70	23.38	0.034	0.360	1.08	0.388	/
		1RB	50	18900/1880	23.70	23.59	-0.009	0.840	1.03	0.861	/
		1RB	50	18700/1860	23.70	23.50	0.135	0.322	1.05	0.337	/
Front Side	standard	1RB	50	18900/1880	23.70	23.59	0.080	0.505	1.03	0.518	/
Left Edge	standard	1RB	50	18900/1880	23.70	23.59	-0.021	0.681	1.03	0.698	/
Right 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	standard	1RB	50	18900/1880	23.70	23.59	-0.097	0.537	1.03	0.551	/
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	18700/1860	23.00	22.42	0.020	0.295	1.14	0.337	/
Front Side	standard	50%RB	50	18700/1860	23.00	22.42	0.055	0.176	1.14	0.201	/
Left Edge	standard	50%RB	50	18700/1860	23.00	22.42	-0.009	0.246	1.14	0.281	/



Right 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	standard	50%RB	50	18700/1860	23.00	22.42	0.152	0.175	1.14	0.200	/
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	100%RB	0	18900/1880	23.00	22.35	0.111	0.511	1.16	0.594	/
Back Side	Battery 2	1RB	50	18900/1880	23.70	23.59	-0.115	1.140	1.03	1.169	99
Back Side	Battery 3	1RB	50	18900/1880	23.70	23.59	-0.007	1.060	1.03	1.087	/

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

- 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).
- 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.
- According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, 10-g extremity 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
Right Cheek	18900/1880	1.350	1.213	1.11

Note: 1) When the original highest measured SAR is  $\geq 0.80$  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  $> 1.20$  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

**Table 21: LTE Band 4 (20MHz, Second-antenna)**

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	50	20300/1745	23.80	23.67	-0.093	0.364	1.03	0.375	/
Left Tilt	standard	1RB	50	20300/1745	23.80	23.67	0.037	0.351	1.03	0.362	/
Right Cheek	standard	1RB	50	20300/1745	23.80	23.67	-0.005	0.950	1.03	0.979	/
		1RB	99	20175/1732.5	23.80	23.66	-0.079	0.818	1.03	0.845	/
		1RB	0	20050/1720	23.80	23.42	0.047	0.688	1.09	0.750	/
Right Tilt	standard	1RB	50	20300/1745	23.80	23.67	0.024	0.712	1.03	0.733	/
Left Cheek	standard	50%RB	50	20300/1745	23.00	22.89	0.044	0.278	1.02	0.285	/
Left Tilt	standard	50%RB	50	20300/1745	23.00	22.89	0.052	0.267	1.02	0.274	/
Right Cheek	standard	50%RB	50	20300/1745	23.00	22.89	0.051	0.668	1.02	0.685	/
Right Tilt	standard	50%RB	50	20300/1745	23.00	22.89	-0.028	0.503	1.02	0.516	/
Right Cheek	standard	100%RB	50	20300/1745	23.00	22.89	0.002	0.714	1.02	0.732	/
Right Cheek	Battery 2	1RB	50	20300/1745	23.80	23.67	0.056	0.980	1.03	1.010	100
Right Cheek	Battery 3	1RB	50	20300/1745	23.80	23.67	0.088	0.905	1.03	0.932	/
Right Cheek	Repeated	1RB	50	20300/1745	23.80	23.67	0.060	0.928	1.03	0.956	
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	50	20300/1745	23.80	23.67	0.101	0.104	1.03	0.107	101
Front Side	standard	1RB	50	20300/1745	23.80	23.67	0.063	0.092	1.03	0.095	/
Back Side	standard	50%RB	50	20300/1745	23.00	22.89	0.117	0.076	1.02	0.078	/
Front Side	standard	50%RB	50	20300/1745	23.00	22.89	0.123	0.071	1.02	0.073	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	50	20300/1745	23.80	23.67	-0.050	0.722	1.03	0.744	102
Front Side	standard	1RB	50	20300/1745	23.80	23.67	0.180	0.668	1.03	0.688	/
Left Edge	standard	1RB	50	20300/1745	23.80	23.67	-0.110	0.671	1.03	0.691	/
Right 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	standard	1RB	50	20300/1745	23.80	23.67	0.140	0.554	1.03	0.571	/
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	20300/1745	23.00	22.89	0.120	0.484	1.02	0.496	/
Front Side	standard	50%RB	50	20300/1745	23.00	22.89	0.032	0.460	1.02	0.471	/
Left Edge	standard	50%RB	50	20300/1745	23.00	22.89	-0.030	0.443	1.02	0.454	/
Right 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	standard	50%RB	50	20300/1745	23.00	22.89	0.080	0.374	1.02	0.383	/
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	Battery 2	1RB	99	20300/1745	23.80	23.67	0.103	0.671	1.03	0.691	/
Back Side	Battery 3	1RB	99	20300/1745	23.80	23.67	-0.131	0.640	1.03	0.659	/



- 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. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g *reported* SAR  $< 1.2$  W/kg, 10-g extremity 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
Right Cheek	20300/1745	0.980	0.928	1.06

- Note: 1) When the original highest measured SAR is  $\geq 0.80$  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  $> 1.20$  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



Table 22: LTE Band 5 (10MHz, Second-antenna)

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	49	20525/836.5	24.00	22.98	0.030	0.411	1.26	0.520	/
Left Tilt	standard	1RB	49	20525/836.5	24.00	22.98	0.023	0.535	1.26	0.677	/
Right Cheek	standard	1RB	49	20525/836.5	24.00	22.98	0.100	0.589	1.26	0.745	103
Right Tilt	standard	1RB	49	20525/836.5	24.00	22.98	0.140	0.578	1.26	0.731	/
Left Cheek	standard	50%RB	25	20600/844	23.00	22.17	0.120	0.540	1.21	0.654	/
Left Tilt	standard	50%RB	25	20600/844	23.00	22.17	0.022	0.458	1.21	0.554	/
Right Cheek	standard	50%RB	25	20600/844	23.00	22.17	0.050	0.559	1.21	0.677	/
Right Tilt	standard	50%RB	25	20600/844	23.00	22.17	0.110	0.534	1.21	0.646	/
Right Cheek	Battery 2	1RB	25	20525/836.5	24.00	22.98	0.055	0.566	1.26	0.716	/
Right Cheek	Battery 3	1RB	25	20525/836.5	24.00	22.98	0.026	0.581	1.26	0.735	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	49	20525/836.5	24.00	22.98	0.020	0.088	1.26	0.111	/
Front Side	standard	1RB	49	20525/836.5	24.00	22.98	0.022	0.136	1.26	0.172	104
Back Side	standard	50%RB	25	20600/844	23.00	22.17	0.026	0.104	1.21	0.126	/
Front Side	standard	50%RB	25	20600/844	23.00	22.17	0.110	0.095	1.21	0.115	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	49	20525/836.5	24.00	22.98	0.080	0.485	1.26	0.613	105
Front Side	standard	1RB	49	20525/836.5	24.00	22.98	0.080	0.434	1.26	0.549	/
Left Edge	standard	1RB	49	20525/836.5	24.00	22.98	0.110	0.200	1.26	0.253	/
Right 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	standard	1RB	49	20525/836.5	24.00	22.98	0.140	0.313	1.26	0.396	/
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	20600/844	23.00	22.17	0.060	0.428	1.21	0.518	/
Front Side	standard	50%RB	25	20600/844	23.00	22.17	0.120	0.381	1.21	0.461	/
Left Edge	standard	50%RB	25	20600/844	23.00	22.17	0.150	0.179	1.21	0.217	/
Right 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	standard	50%RB	25	20600/844	23.00	22.17	0.070	0.268	1.21	0.324	/
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	Battery 2	1RB	49	20525/836.5	24.00	22.98	0.103	0.447	1.26	0.565	/
Back Side	Battery 3	1RB	49	20525/836.5	24.00	22.98	0.044	0.402	1.26	0.508	/

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

**Table 23: LTE Band 7 (20MHz, Second-antenna)**

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	21100/2535	24.00	23.30	0.024	0.078	1.18	0.092	/
Left Tilt	standard	1RB	99	21100/2535	24.00	23.30	0.056	0.102	1.18	0.120	/
Right Cheek	standard	1RB	99	21100/2535	24.00	23.30	0.039	0.309	1.18	0.363	/
Right Tilt	standard	1RB	99	21100/2535	24.00	23.30	0.044	0.407	1.18	0.478	106
Left Cheek	standard	50%RB	50	21100/2535	23.00	22.32	0.033	0.068	1.17	0.080	/
Left Tilt	standard	50%RB	50	21100/2535	23.00	22.32	0.153	0.072	1.17	0.084	/
Right Cheek	standard	50%RB	50	21100/2535	23.00	22.32	0.035	0.263	1.17	0.308	/
Right Tilt	standard	50%RB	50	21100/2535	23.00	22.32	0.056	0.297	1.17	0.347	/
Right Tilt	Battery 2	1RB	0	21100/2535	24.00	23.30	0.104	0.399	1.18	0.469	/
Right Tilt	Battery 3	1RB	0	21100/2535	24.00	23.30	0.021	0.396	1.18	0.465	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	99	21100/2535	24.00	23.30	-0.060	0.027	1.18	0.032	107
Front Side	standard	1RB	99	21100/2535	24.00	23.30	0.102	0.025	1.18	0.029	/
Back Side	standard	50%RB	50	21100/2535	24.00	23.30	0.110	0.015	1.18	0.018	/
Front Side	standard	50%RB	50	21100/2535	24.00	23.30	0.039	0.014	1.18	0.016	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	99	21100/2535	24.00	23.30	0.032	0.591	1.18	0.695	108
Front Side	standard	1RB	99	21100/2535	24.00	23.30	0.052	0.315	1.18	0.370	/
Left Edge	standard	1RB	99	21100/2535	24.00	23.30	0.020	0.366	1.18	0.430	/
Right 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	standard	1RB	99	21100/2535	24.00	23.30	0.055	0.278	1.18	0.327	/
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	21100/2535	23.00	22.32	0.170	0.469	1.17	0.548	/
Front Side	standard	50%RB	50	21100/2535	23.00	22.32	0.072	0.254	1.17	0.297	/
Left Edge	standard	50%RB	50	21100/2535	23.00	22.32	0.022	0.311	1.17	0.364	/
Right 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	standard	50%RB	50	21100/2535	23.00	22.32	0.054	0.230	1.17	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	Battery 2	1RB	99	21100/2535	24.00	23.30	-0.102	0.553	1.18	0.650	/
Back Side	Battery 3	1RB	99	21100/2535	24.00	23.30	0.110	0.541	1.18	0.636	/

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 ≤ 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 ≥ 0.8 W/kg.

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

**Table 24: LTE Band 12 (20MHz, Second-antenna)**

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, Full Power)</b>											
Left Cheek	standard	1RB	25	23130/711	24.00	22.55	0.005	0.603	1.40	0.842	/
		1RB	49	23095/707.5	24.00	23.36	0.172	0.534	1.16	0.619	/
		1RB	25	23060/704	24.00	23.45	0.044	0.888	1.13	1.008	/
Left Tilt	standard	1RB	25	23060/704	24.00	23.45	0.059	0.684	1.13	0.776	/
Right Cheek	standard	1RB	25	23130/711	24.00	22.55	-0.001	0.783	1.40	1.093	/
		1RB	49	23095/707.5	24.00	23.36	0.040	0.679	1.16	0.787	/
		1RB	25	23060/704	24.00	23.45	-0.014	1.160	1.13	1.316	/
Right Tilt	standard	1RB	25	23130/711	24.00	22.55	-0.001	0.656	1.40	0.916	/
		1RB	49	23095/707.5	24.00	23.36	0.054	0.570	1.16	0.661	/
		1RB	25	23060/704	24.00	23.45	0.011	0.851	1.13	0.966	/
Left Cheek	standard	50%RB	0	23060/704	23.00	22.42	0.023	0.402	1.14	0.459	/
Left Tilt	standard	50%RB	0	23060/704	23.00	22.42	0.048	0.313	1.14	0.357	/
Right Cheek	standard	50%RB	0	23060/704	23.00	22.42	-0.058	0.527	1.14	0.602	/
Right Tilt	standard	50%RB	0	23060/704	23.00	22.42	0.016	0.398	1.14	0.454	/
Left Cheek	standard	100%RB	0	23060/704	23.00	22.30	0.015	0.678	1.18	0.797	/
Right Cheek	standard	100%RB	0	23060/704	23.00	22.30	0.000	0.596	1.18	0.701	/
Right Tilt	standard	100%RB	0	23060/704	23.00	22.30	0.123	0.647	1.18	0.761	/
Right Cheek	Battery 2	1RB	25	23060/704	24.00	23.45	-0.029	1.230	1.13	1.396	109
Right Cheek	Battery 3	1RB	25	23060/704	24.00	23.45	-0.083	1.100	1.13	1.248	/
Right Cheek	Repeat	1RB	25	23060/704	24.00	23.45	-0.023	1.118	1.13	1.269	/
<b>Head SAR For Simultaneous Transmission (QPSK, Power Reduce)</b>											
Left Cheek	standard	1RB	25	23060/704	20.00	19.48	0.135	0.441	1.13	0.497	/
Left Tilt	standard	1RB	25	23060/704	20.00	19.48	0.140	0.389	1.13	0.438	/
Right Cheek	standard	1RB	25	23060/704	20.00	19.48	0.002	0.521	1.13	0.587	/
Right Tilt	standard	1RB	25	23060/704	20.00	19.48	0.011	0.423	1.13	0.477	/
Left Cheek	standard	50%RB	0	23060/704	19.00	18.45	0.025	0.411	1.14	0.466	/
Left Tilt	standard	50%RB	0	23060/704	19.00	18.45	0.030	0.375	1.14	0.426	/
Right Cheek	standard	50%RB	0	23060/704	19.00	18.45	0.002	0.471	1.14	0.535	/
Right Tilt	standard	50%RB	0	23060/704	19.00	18.45	0.011	0.388	1.14	0.440	/
Right Cheek	Battery 2	1RB	25	23060/704	20.00	19.48	0.150	0.706	1.13	0.796	110
Right Cheek	Battery 3	1RB	25	23060/704	20.00	19.48	0.010	0.698	1.13	0.787	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	25	23060/704	24.00	23.45	0.051	0.204	1.13	0.231	111
Front Side	standard	1RB	25	23060/704	24.00	23.45	0.046	0.164	1.13	0.186	/
Back Side	standard	50%RB	0	23060/704	23.00	22.42	-0.041	0.096	1.14	0.109	/
Front Side	standard	50%RB	0	23060/704	23.00	22.42	0.058	0.077	1.14	0.088	/



Hotspot (QPSK, Distance 10mm)											
Back Side	standard	1RB	25	23060/704	24.00	23.45	0.039	0.486	1.13	0.551	112
Front Side	standard	1RB	25	23060/704	24.00	23.45	-0.008	0.374	1.13	0.424	/
Left Edge	standard	1RB	25	23060/704	24.00	23.45	-0.022	0.195	1.13	0.221	/
Right 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	standard	1RB	25	23060/704	24.00	23.45	-0.078	0.300	1.13	0.340	/
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	23060/704	23.00	22.42	0.080	0.260	1.14	0.297	/
Front Side	standard	50%RB	0	23060/704	23.00	22.42	-0.047	0.203	1.14	0.232	/
Left Edge	standard	50%RB	0	23060/704	23.00	22.42	0.105	0.108	1.14	0.123	/
Right 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	standard	50%RB	0	23060/704	23.00	22.42	0.039	0.159	1.14	0.182	/
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	Battery 2	1RB	25	23060/704	24.00	23.45	0.078	0.297	1.13	0.337	/
Back Side	Battery 3	1RB	25	23060/704	24.00	23.45	0.181	0.205	1.13	0.233	/

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

- 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).
- 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.
- According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, 10-g extremity 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
Right Cheek	23060/704	1.230	1.118	1.10

Note: 1) When the original highest measured SAR is  $\geq 0.80$  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  $> 1.20$  or when the original or repeated measurement was  $\geq 1.45$  W/kg ( $\sim 10\%$  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

**Table 25: LTE Band 17 (10MHz, Second-antenna)**

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	23780/709	24.00	23.88	-0.080	0.554	1.03	0.570	/
Left Tilt	standard	1RB	25	23780/709	24.00	23.88	-0.011	0.441	1.03	0.453	/
Right Cheek	standard	1RB	25	23800/711	24.00	23.61	0.022	0.708	1.09	0.775	/
		1RB	49	23790/710	24.00	23.40	0.047	1.050	1.15	1.206	113
		1RB	25	23780/709	24.00	23.88	-0.031	0.831	1.03	0.854	/
Right Tilt	standard	1RB	25	23780/709	24.00	23.88	0.022	0.708	1.03	0.728	/
Left Cheek	standard	50%RB	25	23790/710	23.00	22.72	-0.032	0.372	1.07	0.397	/
Left Tilt	standard	50%RB	25	23790/710	23.00	22.72	0.048	0.298	1.07	0.318	/
Right Cheek	standard	50%RB	25	23790/710	23.00	22.72	-0.031	0.562	1.07	0.599	/
Right Tilt	standard	50%RB	25	23790/710	23.00	22.72	-0.036	0.402	1.07	0.429	/
Right Cheek	standard	100%RB	0	23790/710	24.00	23.40	-0.047	0.613	1.15	0.704	/
Right Cheek	Battery 2	1RB	49	23790/710	24.00	23.40	-0.034	1.000	1.15	1.148	/
Right Cheek	Battery 3	1RB	49	23790/710	24.00	23.40	-0.062	0.916	1.15	1.052	/
Right Cheek	Repeated	1RB	49	23790/710	24.00	23.40	0.061	1.031	1.15	1.184	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	25	23780/709	24.00	23.88	0.006	0.136	1.03	0.140	114
Front Side	standard	1RB	25	23780/709	24.00	23.88	0.005	0.109	1.03	0.112	/
Back Side	standard	50%RB	25	23790/710	23.00	22.72	-0.014	0.097	1.07	0.103	/
Front Side	standard	50%RB	25	23790/710	23.00	22.72	0.060	0.072	1.07	0.076	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	25	23780/709	24.00	23.88	-0.018	0.318	1.03	0.327	115
Front Side	standard	1RB	25	23780/709	24.00	23.88	-0.022	0.253	1.03	0.260	/
Left Edge	standard	1RB	25	23780/709	24.00	23.88	-0.074	0.148	1.03	0.152	/
Right 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	standard	1RB	25	23780/709	24.00	23.88	0.032	0.207	1.03	0.213	/
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	23790/710	23.00	22.72	0.028	0.275	1.07	0.293	/
Front Side	standard	50%RB	25	23790/710	23.00	22.72	0.040	0.190	1.07	0.203	/
Left Edge	standard	50%RB	25	23790/710	23.00	22.72	0.072	0.102	1.07	0.109	/
Right 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	standard	50%RB	25	23790/710	23.00	22.72	-0.025	0.172	1.07	0.183	/
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	Battery 2	1RB	25	23780/709	24.00	23.88	0.113	0.273	1.03	0.281	/



Back Side	Battery 3	1RB	25	23780/709	24.00	23.88	0.070	0.277	1.03	0.285	/
<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. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are <math>\geq 0.8</math> W/kg.</p> <p>4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR <math>&lt; 1.2</math> W/kg, 10-g extremity SAR is no required.</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
Right Cheek	23790/710	1.050	1.031	1.02
<p>Note: 1) When the original highest measured SAR is <math>\geq 0.80</math> W/kg, the measurement was repeated once.</p> <p>2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was <math>&gt; 1.20</math> or when the original or repeated measurement was <math>\geq 1.45</math> W/kg (~ 10% from the 1-g SAR limit).</p> <p>3) A third repeated measurement was performed only if the original, first or second repeated measurement was <math>\geq 1.5</math> W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is <math>&gt; 1.20</math>.</p> <p>4) Repeated measurements are not required when the original highest measured SAR is <math>&lt; 0.80</math> W/kg</p>				

**Table 26: LTE Band 26 (15MHz, Second-antenna)**

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, Full Power)</b>											
Left Cheek	standard	1RB	38	26965/841.5	24.50	23.16	0.030	0.646	1.36	0.879	/
Left Tilt	standard	1RB	38	26965/841.5	24.50	23.16	0.060	0.583	1.36	0.794	/
Right Cheek	standard	1RB	38	26965/841.5	24.50	23.16	0.020	0.935	1.36	1.273	/
		1RB	38	26865/831.5	24.50	22.71	0.100	0.570	1.51	0.861	/
		1RB	38	26775/822.5	24.50	23.02	-0.010	0.913	1.41	1.284	/
Right Tilt	standard	1RB	38	26965/841.5	24.50	23.16	0.150	0.853	1.36	1.161	/
		1RB	38	26865/831.5	24.50	22.71	0.070	0.621	1.51	0.938	/
		1RB	38	26775/822.5	24.50	23.02	0.090	0.967	1.41	1.360	116
Left Cheek	standard	50%RB	18	26965/841.5	23.50	23.07	0.029	0.468	1.10	0.517	/
Left Tilt	standard	50%RB	18	26965/841.5	23.50	23.07	0.160	0.445	1.10	0.491	/
Right Cheek	standard	50%RB	18	26965/841.5	23.50	23.07	0.050	0.629	1.10	0.694	/
Right Tilt	standard	50%RB	18	26965/841.5	23.50	23.07	0.070	0.582	1.10	0.643	/
Right Cheek	standard	100%RB	0	26865/831.5	23.50	22.19	-0.010	0.567	1.35	0.767	/
Right Tilt	standard	100%RB	0	26865/831.5	23.50	22.19	0.080	0.520	1.35	0.703	/
Right Tilt	Battery 2	1RB	38	26775/822.5	24.50	23.02	0.160	0.761	1.41	1.070	/
Right Tilt	Battery 3	1RB	38	26775/822.5	24.50	23.02	0.13	0.847	1.41	1.191	/
Right Tilt	Repeated	1RB	38	26775/822.5	24.50	23.02	0.03	0.898	1.41	1.263	/
<b>Head SAR For Simultaneous Transmission (QPSK, Power Reduce)</b>											
Left Cheek	standard	1RB	38	26965/841.5	20.50	19.16	0.014	0.430	1.36	0.585	/
Left Tilt	standard	1RB	38	26965/841.5	20.50	19.16	0.080	0.418	1.36	0.569	/
Right Cheek	standard	1RB	38	26965/841.5	20.50	19.16	0.060	0.624	1.36	0.850	/
		1RB	38	26865/831.5	20.50	18.71	0.030	0.395	1.51	0.596	/
		1RB	38	26775/822.5	20.50	19.02	0.014	0.607	1.41	0.853	/
Right Tilt	standard	1RB	38	26965/841.5	20.50	19.16	0.026	0.603	1.36	0.821	/
		1RB	38	26865/831.5	20.50	18.71	0.036	0.475	1.51	0.717	/
		1RB	38	26775/822.5	20.50	19.02	0.170	0.634	1.41	0.891	117
Left Cheek	standard	50%RB	18	26965/841.5	19.50	19.07	0.014	0.252	1.10	0.278	/
Left Tilt	standard	50%RB	18	26965/841.5	19.50	19.07	0.025	0.280	1.10	0.309	/
Right Cheek	standard	50%RB	18	26965/841.5	19.50	19.07	0.033	0.318	1.10	0.351	/
Right Tilt	standard	50%RB	18	26965/841.5	19.50	19.07	0.023	0.363	1.10	0.401	/
Right Cheek	standard	100%RB	0	26865/831.5	19.50	18.19	0.014	0.278	1.35	0.376	/
Right Tilt	standard	100%RB	0	26865/831.5	19.50	18.19	0.025	0.261	1.35	0.353	/
Right Tilt	Battery 2	1RB	38	26775/822.5	20.50	19.02	0.036	0.618	1.41	0.869	/



Right Tilt	Battery 3	1RB	38	26775/822.5	20.50	19.02	0.041	0.609	1.41	0.856	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	38	26965/841.5	24.50	23.16	0.100	0.178	1.36	0.242	118
Front Side	standard	1RB	38	26965/841.5	24.50	23.16	0.025	0.174	1.36	0.237	/
Back Side	standard	50%RB	0	26775/822.5	23.50	23.07	0.023	0.072	1.10	0.079	/
Front Side	standard	50%RB	0	26775/822.5	23.50	23.07	0.042	0.068	1.10	0.075	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	38	26965/841.5	24.50	23.16	0.030	0.490	1.36	0.667	119
Front Side	standard	1RB	38	26965/841.5	24.50	23.16	0.070	0.436	1.36	0.594	/
Left Edge	standard	1RB	38	26965/841.5	24.50	23.16	0.030	0.210	1.36	0.286	/
Right 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	standard	1RB	38	26965/841.5	24.50	23.16	0.180	0.315	1.36	0.429	/
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	26775/822.5	23.50	23.07	0.120	0.242	1.10	0.267	/
Front Side	standard	50%RB	0	26775/822.5	23.50	23.07	0.024	0.205	1.10	0.226	/
Left Edge	standard	50%RB	0	26775/822.5	23.50	23.07	0.023	0.096	1.10	0.106	/
Right 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	standard	50%RB	0	26775/822.5	23.50	23.07	0.023	0.166	1.10	0.183	/
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	Battery 2	1RB	38	26965/841.5	24.50	23.16	0.040	0.467	1.36	0.636	/
Back Side	Battery 3	1RB	38	26965/841.5	24.50	23.16	-0.028	0.377	1.36	0.513	/

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

**Table 27: LTE Band 38 (20MHz, Second-antenna)**

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	50	38150/2610	24.00	22.54	-0.040	0.110	1.40	0.154	/
Left Tilt	standard	1RB	50	38150/2610	24.00	22.54	0.128	0.132	1.40	0.185	/
Right Cheek	standard	1RB	50	38150/2610	24.00	22.54	0.109	0.440	1.40	0.616	/
Right Tilt	standard	1RB	50	38150/2610	24.00	22.54	0.118	0.485	1.40	0.679	120
Left Cheek	standard	50%RB	0	38150/2610	23.00	21.44	0.096	0.079	1.43	0.113	/
Left Tilt	standard	50%RB	0	38150/2610	23.00	21.44	0.022	0.101	1.43	0.145	/
Right Cheek	standard	50%RB	0	38150/2610	23.00	21.44	0.022	0.317	1.43	0.454	/
Right Tilt	standard	50%RB	0	38150/2610	23.00	21.44	0.022	0.317	1.43	0.454	/
Right Tilt	Battery 2	1RB	50	38150/2610	24.00	22.54	0.057	0.440	1.40	0.616	/
Right Tilt	Battery 3	1RB	50	38150/2610	24.00	22.54	0.020	0.468	1.40	0.655	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	50	38150/2610	24.00	22.54	0.028	0.024	1.40	0.033	/
Front Side	standard	1RB	50	38150/2610	24.00	22.54	0.043	0.024	1.40	0.034	121
Back Side	standard	50%RB	0	38150/2610	24.00	22.54	0.044	0.017	1.40	0.024	/
Front Side	standard	50%RB	0	38150/2610	24.00	22.54	0.038	0.016	1.40	0.022	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	50	38150/2610	24.00	22.54	0.130	0.190	1.40	0.266	/
Front Side	standard	1RB	50	38150/2610	24.00	22.54	0.085	0.163	1.40	0.228	/
Left Edge	standard	1RB	50	38150/2610	24.00	22.54	0.049	0.200	1.40	0.280	/
Right 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	standard	1RB	50	38150/2610	24.00	22.54	0.151	0.134	1.40	0.188	/
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	38150/2610	23.00	21.41	0.020	0.137	1.44	0.198	/
Front Side	standard	50%RB	0	38150/2610	23.00	21.41	0.121	0.118	1.44	0.170	/
Left Edge	standard	50%RB	0	38150/2610	23.00	21.41	0.051	0.142	1.44	0.205	/
Right 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	standard	50%RB	0	38150/2610	23.00	21.41	0.023	0.095	1.44	0.138	/
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	Battery 2	1RB	50	38150/2610	24.00	22.54	0.049	0.208	1.40	0.291	122
Left Edge	Battery 3	1RB	50	38150/2610	24.00	22.54	0.049	0.206	1.40	0.288	/

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 ≤ 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 ≥ 0.8 W/kg.

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

**Table 28: LTE Band 41 (20MHz, Second-antenna)**

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	50	40740/2605	24.00	22.50	-0.038	0.065	1.41	0.092	/
Left Tilt	standard	1RB	50	40740/2605	24.00	22.50	0.034	0.075	1.41	0.106	/
Right Cheek	standard	1RB	50	40740/2605	24.00	22.50	-0.026	0.306	1.41	0.432	123
Right Tilt	standard	1RB	50	40740/2605	24.00	22.50	0.178	0.276	1.41	0.390	/
Left Cheek	standard	50%RB	50	40740/2605	23.00	21.40	0.035	0.046	1.45	0.066	/
Left Tilt	standard	50%RB	50	40740/2605	23.00	21.40	0.023	0.052	1.45	0.076	/
Right Cheek	standard	50%RB	50	40740/2605	23.00	21.40	0.031	0.227	1.45	0.328	/
Right Tilt	standard	50%RB	50	40740/2605	23.00	21.40	0.025	0.202	1.45	0.292	/
Right Cheek	Battery 2	1RB	50	40740/2605	24.00	22.50	0.015	0.300	1.41	0.424	/
Right Cheek	Battery 3	1RB	50	40740/2605	24.00	22.50	0.027	0.302	1.41	0.427	/
<b>Body-worn (QPSK, Distance 15mm)</b>											
Back Side	standard	1RB	50	40740/2605	24.00	22.50	0.043	0.013	1.41	0.018	124
Front Side	standard	1RB	50	40740/2605	24.00	22.50	-0.058	0.010	1.41	0.013	/
Back Side	standard	50%RB	50	40740/2605	23.00	21.40	0.125	0.008	1.45	0.012	/
Front Side	standard	50%RB	50	40740/2605	23.00	21.40	0.065	0.006	1.45	0.009	/
<b>Hotspot (QPSK, Distance 10mm)</b>											
Back Side	standard	1RB	50	40740/2605	24.00	22.50	0.142	0.208	1.41	0.294	125
Front Side	standard	1RB	50	40740/2605	24.00	22.50	0.192	0.147	1.41	0.208	/
Left Edge	standard	1RB	50	40740/2605	24.00	22.50	0.070	0.147	1.41	0.208	/
Right 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	standard	1RB	50	40740/2605	24.00	22.50	0.125	0.090	1.41	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
Back Side	standard	50%RB	50	40740/2605	23.00	21.40	0.166	0.163	1.45	0.236	/
Front Side	standard	50%RB	50	40740/2605	23.00	21.40	0.194	0.113	1.45	0.163	/
Left Edge	standard	50%RB	50	40740/2605	23.00	21.40	0.064	0.116	1.45	0.168	/
Right 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	standard	50%RB	50	40740/2605	23.00	21.40	0.163	0.074	1.45	0.107	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	Battery 2	1RB	50	40740/2605	24.00	22.50	0.067	0.203	1.41	0.287	/
Back Side	Battery 3	1RB	50	40740/2605	24.00	22.50	0.008	0.204	1.41	0.288	/

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 ≤ 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 ≥ 0.8 W/kg.

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

**Table 29: Wi-Fi (2.4G)**

Test Position	Cover Type	Channel/Frequency (MHz)	Mode 802.11b	Duty Cycle	Area Scan Max.SAR (W/Kg)	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 (Full Power)</b>												
Left Cheek	standard	11/2462	DSSS	1:1	0.890	17.50	17.34	0.191	1.150	1.04	1.193	/
		6/2437	DSSS	1:1	0.876	17.50	17.02	0.050	1.180	1.12	1.318	126
		1/2412	DSSS	1:1	0.477	17.50	16.32	0.026	0.711	1.31	0.933	/
Left Tilt	standard	11/2462	DSSS	1:1	0.695	17.50	17.34	0.191	1.150	1.04	1.193	/
		6/2437	DSSS	1:1	0.782	17.50	17.02	0.033	0.893	1.12	0.997	/
		1/2412	DSSS	1:1	0.453	17.50	16.32	0.140	0.665	1.31	0.873	/
Right Cheek	standard	11/2462	DSSS	1:1	0.201	17.50	17.34	-0.094	0.231	1.04	0.240	/
Right Tilt	standard	11/2462	DSSS	1:1	0.228	17.50	17.34	0.080	0.278	1.04	0.288	/
Left Cheek	Battery 2	6/2437	DSSS	1:1	0.847	17.50	17.02	0.049	1.130	1.12	1.262	/
Left Cheek	Battery 3	6/2437	DSSS	1:1	0.728	17.50	17.02	-0.014	0.870	1.12	0.972	/
Left Cheek	Repeated	6/2437	DSSS	1:1	0.863	17.50	17.02	0.017	1.088	1.12	1.215	/
<b>Head SAR For Simultaneous Transmission (Power Reduce)</b>												
Left Cheek	standard	11/2462	DSSS	1:1	0.670	16.00	15.76	0.019	0.790	1.06	0.835	/
		6/2437	DSSS	1:1	0.659	16.00	15.45	0.018	0.811	1.14	0.920	127
		1/2412	DSSS	1:1	0.359	16.00	14.76	0.054	0.489	1.33	0.651	/
Left Tilt	standard	11/2462	DSSS	1:1	0.523	16.00	15.76	0.162	0.788	1.06	0.833	/
		6/2437	DSSS	1:1	0.521	16.00	15.45	0.092	0.729	1.14	0.827	/
		1/2412	DSSS	1:1	0.332	16.00	14.76	0.105	0.447	1.33	0.595	/
Right Cheek	standard	11/2462	DSSS	1:1	0.151	16.00	15.76	0.101	0.159	1.06	0.168	/
Right Tilt	standard	11/2462	DSSS	1:1	0.172	16.00	15.76	0.079	0.191	1.06	0.202	/
Left Cheek	Battery 2	11/2462	DSSS	1:1	0.637	16.00	15.76	0.116	0.777	1.06	0.821	/
Left Cheek	Battery 3	11/2462	DSSS	1:1	0.548	16.00	15.76	0.001	0.598	1.06	0.632	/
Left Cheek	Repeated	6/2437	DSSS	1:1	0.644	16.00	15.46	0.104	0.786	1.13	0.890	/
<b>Body-worn (Distance 15mm)</b>												
Back Side	standard	11/2462	DSSS	1:1	0.009	17.50	17.34	0.070	0.025	1.04	0.026	128
Front Side	standard	11/2462	DSSS	1:1	0.024	17.50	17.34	-0.170	0.023	1.04	0.024	/
<b>Hotspot (Distance 10mm)</b>												
Back Side	standard	11/2462	DSSS	1:1	0.011	17.50	17.34	0.083	0.026	1.04	0.027	/
Front Side	standard	11/2462	DSSS	1:1	0.025	17.50	17.34	0.006	0.025	1.04	0.026	/
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	11/2462	DSSS	1:1	0.019	17.50	17.34	0.026	0.029	1.04	0.030	129
Top Edge	standard	11/2462	DSSS	1:1	0.001	17.50	17.34	0.099	0.011	1.04	0.012	/
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



Right Edge	Battery 2	11/2462	DSSS	1:1	0.008	17.50	17.34	0.069	0.027	1.04	0.028	/
Right Edge	Battery 3	11/2462	DSSS	1:1	0.014	17.50	17.34	0.108	0.025	1.04	0.026	/

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, 10-g extremity SAR is no required.

MAX Adjusted SAR							
Mode	Test Position	Channel/ Frequency(MHz)	MAX Measured SAR <sub>1g</sub> (W/kg)	Conducted Power (dBm)	Tune-up limit (dBm)	Scaling Factor	Adjusted SAR <sub>1g</sub> (W/kg)
802.11g	Left Cheek	6/2437	1.180	17.02	15.5	0.70	0.826
802.11n HT20	Left Cheek	6/2437	1.180	17.02	15	0.63	0.743
802.11n HT40	Left Cheek	6/2437	1.180	17.02	14	0.50	0.589

Note: . 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.

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	6/2437	1.180	1.088	1.08
Left Cheek	6/2437	0.811	0.786	1.03

Note: 1) When the original highest measured SAR is ≥ 0.80 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 or when the original or repeated measurement was ≥ 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 ≥ 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

**Table 30: Wi-Fi (5G, U-NII-1)**

Test Position	Cover Type	Channel/Frequency (MHz)	Mode 802.11a	Duty Cycle	Area Scan Max.SAR (W/Kg)	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	48/5240	OFDM	1:1	0.268	16.00	15.11	0.033	0.317	1.23	0.389	/
		44/5220	OFDM	1:1	0.307	16.00	15.27	0.019	0.395	1.18	0.467	/
		40/5200	OFDM	1:1	0.301	16.00	15.16	0.053	0.371	1.21	0.450	/
		36/5180	OFDM	1:1	0.332	16.00	15.75	-0.031	0.587	1.06	0.622	130
Left Tilt	standard	36/5180	OFDM	1:1	0.334	16.00	15.75	0.049	0.372	1.06	0.394	/
Right Cheek	standard	36/5180	OFDM	1:1	0.080	16.00	15.75	0.046	0.095	1.06	0.100	/
Right Tilt	standard	36/5180	OFDM	1:1	0.072	16.00	15.75	0.034	0.090	1.06	0.095	/
Left Cheek	Battery 2	36/5180	OFDM	1:1	0.283	16.00	15.75	0.186	0.300	1.06	0.318	/
Left Cheek	Battery 3	36/5180	OFDM	1:1	0.307	16.00	15.75	0.022	0.380	1.06	0.403	/
<b>Body-worn (Distance 15mm)</b>												
Back Side	standard	36/5180	OFDM	1:1	0.064	16.00	15.75	0.102	0.051	1.06	0.054	/
Front Side	standard	36/5180	OFDM	1:1	0.075	16.00	15.75	0.117	0.063	1.06	0.067	131
<b>Hotspot (Distance 10mm)</b>												
Back Side	standard	36/5180	OFDM	1:1	0.066	16.00	15.75	0.063	0.053	1.06	0.056	/
Front Side	standard	36/5180	OFDM	1:1	0.076	16.00	15.75	0.003	0.064	1.06	0.068	/
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	48/5240	OFDM	1:1	0.129	16.00	15.11	0.106	0.089	1.23	0.109	/
		44/5220	OFDM	1:1	0.133	16.00	15.27	0.114	0.092	1.18	0.109	/
		40/5200	OFDM	1:1	0.119	16.00	15.16	0.022	0.085	1.21	0.103	/
		36/5180	OFDM	1:1	0.181	16.00	15.75	0.022	0.104	1.06	0.110	132
Top Edge	standard	36/5180	OFDM	1:1	0.044	16.00	15.75	0.110	0.028	1.06	0.030	/
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
Right Edge	Battery 2	36/5180	OFDM	1:1	0.142	16.00	15.75	0.010	0.099	1.06	0.105	/
Right Edge	Battery 3	36/5180	OFDM	1:1	0.163	16.00	15.75	0.151	0.101	1.06	0.107	/
<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, 10-g extremity SAR is no required.</p>												

**Table 31: Wi-Fi (5G, U-NII-2A)**

Test Position	Cover Type	Channel/Frequency (MHz)	Mode 802.11a	Duty Cycle	Area Scan Max.SAR (W/Kg)	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	64/5320	OFDM	1:1	0.177	16.00	15.55	0.073	0.232	1.11	0.257	/
		60/5300	OFDM	1:1	0.172	16.00	14.97	0.062	0.211	1.27	0.267	/
		56/5280	OFDM	1:1	0.169	16.00	15.19	0.012	0.201	1.21	0.242	/
		52/5260	OFDM	1:1	0.195	16.00	15.32	0.028	0.236	1.17	0.276	133
Left Tilt	standard	64/5320	OFDM	1:1	0.121	16.00	15.55	0.047	0.218	1.11	0.241	/
Right Cheek	standard	64/5320	OFDM	1:1	0.076	16.00	15.55	0.044	0.091	1.11	0.101	/
Right Tilt	standard	64/5320	OFDM	1:1	0.069	16.00	15.55	0.033	0.086	1.11	0.095	/
Left Cheek	Battery 2	52/5260	OFDM	1:1	0.176	16.00	15.32	0.179	0.221	1.17	0.258	/
Left Cheek	Battery 3	52/5260	OFDM	1:1	0.160	16.00	15.32	0.021	0.228	1.17	0.267	/
<b>Body-worn (Distance 15mm)</b>												
Back Side	standard	64/5320	OFDM	1:1	0.031	16.00	15.55	0.128	0.051	1.11	0.057	/
Front Side	standard	64/5320	OFDM	1:1	0.083	16.00	15.55	0.065	0.063	1.11	0.070	134
		60/5300	OFDM	1:1	0.058	16.00	14.97	0.101	0.053	1.27	0.067	/
		56/5280	OFDM	1:1	0.049	16.00	15.19	0.036	0.052	1.21	0.063	/
		52/5260	OFDM	1:1	0.079	16.00	15.32	0.017	0.058	1.17	0.068	/
Test Position	Cover Type	Channel/Frequency (MHz)	Mode 802.11a	Duty Cycle	Area Scan Max.SAR (W/Kg)	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>Extremity SAR (Distance 0mm)</b>												
Back Side	standard	64/5320	OFDM	1:1	0.489	16.00	15.55	0.099	0.489	1.11	0.542	135
Front Side	standard	64/5320	OFDM	1:1	0.587	16.00	15.55	0.099	0.529	1.11	0.587	/
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	64/5320	OFDM	1:1	0.573	16.00	15.55	0.049	0.562	1.11	0.623	/
		60/5300	OFDM	1:1	0.512	16.00	14.97	0.012	0.543	1.27	0.688	/
		56/5280	OFDM	1:1	0.501	16.00	15.19	0.025	0.531	1.21	0.640	/
		52/5260	OFDM	1:1	0.398	16.00	15.32	0.023	0.577	1.17	0.675	/
Top Edge	standard	64/5320	OFDM	1:1	0.168	16.00	15.55	0.054	0.154	1.11	0.171	/
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
Right Edge	Battery 2	60/5300	OFDM	1:1	0.484	16.00	15.32	0.119	0.631	1.17	0.738	/
Right Edge	Battery 3	60/5300	OFDM	1:1	0.474	16.00	15.32	0.160	0.672	1.17	0.786	136
Note: 1. The value with blue color is the maximum SAR Value of each test band.												

**Table 32: Wi-Fi (5G, U-NII-2C)**

Test Position	Cover Type	Channel/Frequency (MHz)	Mode 802.11a	Duty Cycle	Area Scan Max.SAR (W/Kg)	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	140/5700	OFDM	1:1	0.077	14.50	13.74	0.027	0.113	1.19	0.135	/
		116/5580	OFDM	1:1	0.101	14.50	13.85	0.119	0.142	1.16	0.165	/
		100/5500	OFDM	1:1	0.137	14.50	13.92	0.025	0.212	1.14	0.242	/
Left Tilt	standard	100/5500	OFDM	1:1	0.142	14.50	13.92	0.027	0.198	1.14	0.226	/
Right Cheek	standard	100/5500	OFDM	1:1	0.099	14.50	13.92	-0.105	0.119	1.14	0.136	/
Right Tilt	standard	100/5500	OFDM	1:1	0.092	14.50	13.92	0.053	0.119	1.14	0.136	/
Left Cheek	Battery 2	100/5500	OFDM	1:1	0.230	14.50	13.92	0.046	0.303	1.14	0.346	/
Left Cheek	Battery 3	100/5500	OFDM	1:1	0.266	14.50	13.92	0.025	0.344	1.14	0.393	137
<b>Body-worn (Distance 15mm)</b>												
Back Side	standard	100/5500	OFDM	1:1	0.045	14.50	13.92	0.105	0.079	1.14	0.090	/
Front Side	standard	140/5700	OFDM	1:1	0.086	14.50	13.62	0.011	0.071	1.22	0.087	/
		116/5580	OFDM	1:1	0.076	14.50	13.85	0.079	0.065	1.16	0.075	/
		100/5500	OFDM	1:1	0.098	14.50	13.92	0.150	0.086	1.14	0.098	138
Test Position	Cover Type	Channel/Frequency (MHz)	Mode 802.11a	Duty Cycle	Area Scan Max.SAR (W/Kg)	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>Extremity SAR (Distance 0mm)</b>												
Back Side	standard	100/5500	OFDM	1:1	0.751	14.50	13.92	-0.015	0.663	1.14	0.758	139
Front Side	standard	100/5500	OFDM	1:1	0.518	14.50	13.92	0.072	0.568	1.14	0.649	/
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	0.383	14.50	13.62	0.034	0.520	1.22	0.637	/
		116/5580	OFDM	1:1	0.437	14.50	13.85	0.053	0.631	1.16	0.733	/
		100/5500	OFDM	1:1	0.528	14.50	13.92	-0.028	0.690	1.14	0.789	140
Top Edge	standard	100/5500	OFDM	1:1	0.152	14.50	13.92	0.024	0.176	1.14	0.201	/
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
Right Edge	Battery 2	100/5500	OFDM	1:1	0.444	14.50	13.92	0.072	0.608	1.14	0.695	/
Right Edge	Battery 3	100/5500	OFDM	1:1	0.406	14.50	13.92	0.180	0.675	1.14	0.771	/
Note: 1. The value with blue color is the maximum SAR Value of each test band.												

**Table 33: Wi-Fi (5G, U-NII-3)**

Test Position	Cover Type	Channel/Frequency (MHz)	Mode 802.11a	Duty Cycle	Area Scan Max.SAR (W/Kg)	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	165/5825	OFDM	1:1	0.032	14.50	13.98	0.105	0.080	1.13	0.091	/
		157/5785	OFDM	1:1	0.050	14.50	13.88	0.038	0.107	1.15	0.123	/
		149/5745	OFDM	1:1	0.043	14.50	14.31	0.026	0.078	1.04	0.082	/
Left Tilt	standard	149/5745	OFDM	1:1	0.037	14.50	14.31	0.029	0.070	1.04	0.073	/
Right Cheek	standard	149/5745	OFDM	1:1	0.035	14.50	14.31	0.080	0.053	1.04	0.055	/
Right Tilt	standard	149/5745	OFDM	1:1	0.034	14.50	14.31	0.092	0.059	1.04	0.062	/
Left Cheek	Battery 2	157/5785	OFDM	1:1	0.132	14.50	13.88	0.045	0.180	1.15	0.208	/
Left Cheek	Battery 3	157/5785	OFDM	1:1	0.147	14.50	13.88	0.035	0.192	1.15	0.221	141
<b>Body-worn (Distance 15mm)</b>												
Back Side	standard	149/5745	OFDM	1:1	0.026	14.50	14.31	0.013	0.048	1.04	0.050	/
Front Side	standard	165/5825	OFDM	1:1	0.049	14.50	13.98	0.072	0.086	1.13	0.097	/
		157/5785	OFDM	1:1	0.043	14.50	13.88	0.002	0.072	1.15	0.083	/
		149/5745	OFDM	1:1	0.057	14.50	14.31	0.023	0.094	1.04	0.098	142
<b>Hotspot (Distance 10mm)</b>												
Back Side	standard	165/5825	OFDM	1:1	0.017	14.50	13.98	0.043	0.031	1.13	0.035	/
		157/5785	OFDM	1:1	0.016	14.50	13.88	0.043	0.029	1.15	0.033	/
		149/5745	OFDM	1:1	0.022	14.50	14.31	0.043	0.053	1.04	0.055	143
Front Side	standard	149/5745	OFDM	1:1	0.016	14.50	14.31	0.018	0.027	1.04	0.028	/
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	149/5745	OFDM	1:1	0.006	14.50	14.31	0.100	0.003	1.04	0.004	/
Top Edge	standard	149/5745	OFDM	1:1	0.004	14.50	14.31	0.066	0.002	1.04	0.002	/
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	0.018	14.50	14.31	0.007	0.031	1.04	0.032	/
Back Side	Battery 3	149/5745	OFDM	1:1	0.02	14.50	14.31	0.115	0.029	1.04	0.030	/
<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, 10-g extremity SAR is no required.</p>												

Table 34: BT

Band	Configuration	Frequency (MHz)	Maximum Power (dBm)	Separation Distance (mm)	Estimated SAR (W/kg)
Bluetooth	Body-worn	2441	9.8	15	0.133
	Extremity	2441	9.8	5	0.160

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

$(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})^2 \cdot [\sqrt{f(\text{GHz})}]^x \text{ W/kg}$   
for test separation distances  $\leq 50$  mm; where  $x = 7.5$  for 1-g SAR, and  $x = 18.75$  for 10-g SAR.

### 10.3 Simultaneous Transmission Analysis

Simultaneous Transmission Configurations	Head	Body-worn	Hotspot	Extremity
GSM(Voice) + Bluetooth(data)	N/A	Yes	N/A	Yes
GPRS/EDGE(Data) + Bluetooth(data)	N/A	Yes	N/A	Yes
WCDMA(Voice) + Bluetooth(data)	N/A	Yes	N/A	Yes
WCDMA(Data) + Bluetooth(data)	N/A	Yes	N/A	Yes
LTE(Data) + Bluetooth(data)	N/A	Yes	N/A	Yes
GSM(Voice) + Wi-Fi-2.4GHz(data)	Yes	Yes	N/A	Yes
GPRS/EDGE(Data) + Wi-Fi-2.4GHz(data)	N/A	Yes	Yes	Yes
WCDMA(Voice) + Wi-Fi-2.4GHz(data)	Yes	Yes	N/A	Yes
WCDMA(Data) + Wi-Fi-2.4GHz(data)	N/A	Yes	Yes	Yes
LTE(Data) + Wi-Fi-2.4GHz(data)	Yes	Yes	Yes	Yes
GSM(Voice) + Wi-Fi-5GHz(data)	Yes	Yes	N/A	Yes
GPRS/EDGE(Data) + Wi-Fi-5GHz(data)	N/A	Yes	Yes	Yes
WCDMA(Voice) + Wi-Fi-5GHz(data)	Yes	Yes	N/A	Yes
WCDMA(Data) + Wi-Fi-5GHz(data)	N/A	Yes	Yes	Yes
LTE(Data) + Wi-Fi-5GHz(data)	Yes	Yes	Yes	Yes
Wi-Fi-2.4GHz(data) + Bluetooth(data)	N/A	N/A	N/A	Yes
Wi-Fi-5GHz(data) + Bluetooth(data)	N/A	N/A	N/A	Yes

**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 Main- Antenna

Test Position SAR <sub>10g</sub> (W/kg)	Left Cheek	Left Tilt	Right Cheek	Right Tilt	Body worn		Hotspot					
					Back Side	Front Side	Back Side	Front Side	Left Edge	Right Edge	Top Edge	Bottom Edge
GSM 850	0.392	0.186	0.437	0.185	0.280	0.241	0.335	0.265	0.169	0.264	NA	0.069
GSM 1900	0.183	0.160	0.300	0.114	0.269	0.195	0.655	0.328	0.140	0.186	NA	0.418
WCDMA Band II	0.232	0.191	0.791	0.319	0.644	0.528	0.917	0.577	0.197	0.182	NA	0.685
WCDMA Band IV	0.295	0.169	0.456	0.150	0.470	0.391	1.165	0.781	0.073	0.473	NA	0.201
WCDMA Band V	0.192	0.163	0.330	0.214	0.154	0.140	0.183	0.124	0.053	0.169	NA	0.061
LTE FDD 2	0.483	0.416	0.770	0.282	0.718	0.427	0.843	0.515	0.189	0.283	NA	0.662
LTE FDD 4	0.445	0.277	0.656	0.217	0.503	0.419	1.188	0.896	0.166	0.606	NA	0.152
LTE FDD 5	0.411	0.349	0.478	0.373	0.256	0.238	0.368	0.283	0.087	0.256	NA	0.041
LTE FDD 7	0.185	0.206	0.418	0.138	0.292	0.245	0.679	0.430	0.259	0.538	NA	0.329
LTE FDD 12	0.665	0.121	0.199	0.132	0.316	0.291	0.325	0.246	0.022	0.156	NA	0.099
LTE FDD 17	0.131	0.101	0.148	0.091	0.225	0.198	0.204	0.161	0.089	0.138	NA	0.050
LTE FDD 26	0.430	0.325	0.517	0.404	0.254	0.229	0.393	0.254	0.095	0.304	NA	0.128
LTE TDD 38	0.253	0.178	0.500	0.171	0.286	0.243	0.637	0.550	0.229	0.574	NA	0.317
LTE TDD 41	0.198	0.143	0.347	0.146	0.194	0.176	0.314	0.545	0.194	0.351	NA	0.221
MAX. SAR <sub>1g</sub>	0.665	0.416	0.791	0.404	0.718	0.528	1.188	0.896	0.259	0.606	NA	0.685

Test Position SAR <sub>1g</sub> (W/kg)	Back Side	Front Side	Left Edge	Right Edge	Top Edge	Bottom Edge
GSM 850	NA	NA	NA	NA	NA	NA
GSM 1900	NA	NA	NA	NA	NA	NA
WCDMA Band II	3.099	NA	NA	NA	NA	0.345
WCDMA Band IV	2.046	NA	NA	NA	NA	NA
WCDMA Band V	NA	NA	NA	NA	NA	NA
LTE FDD 2	3.505	NA	NA	NA	NA	NA
LTE FDD 4	NA	NA	NA	NA	NA	NA
LTE FDD 5	NA	NA	NA	NA	NA	NA
LTE FDD 7	NA	NA	NA	NA	NA	NA
LTE FDD 12	NA	NA	NA	NA	NA	NA
LTE FDD 17	NA	NA	NA	NA	NA	NA
LTE FDD 26	NA	NA	NA	NA	NA	NA
LTE TDD 38	NA	NA	NA	NA	NA	NA
LTE TDD 41	NA	NA	NA	NA	NA	NA
MAX. SAR <sub>1g</sub>	3.505	NA	NA	NA	NA	0.345

For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01 based on the formula below.  
 (max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(GHz)/x] W/kg  
 for test separation distances ≤ 50 mm; where x = 7.5 for 1-g SAR, and x = 18.75 for 10-g SAR.

The maximum SAR<sub>1g</sub> Value for Second- Antenna

Test Position SAR <sub>10g</sub> (W/kg)	Left Cheek	Left Tilt	Right Cheek	Right Tilt	Body worn		Hotspot						Extre mity
					Back Side	Front Side	Back Side	Front Side	Left Edge	Right Edge	Top Edge	Bottom Edge	
GSM 850	0.548	0.530	0.679	0.638	0.171	0.155	0.446	0.381	0.183	NA	0.343	NA	NA
GSM 1900	0.253	0.206	1.318	0.523	0.092	0.063	0.249	0.201	0.296	NA	0.172	NA	NA
WCDMA Band II	0.285	0.209	0.754	0.490	0.081	0.067	0.568	0.402	0.239	NA	0.191	NA	NA
WCDMA Band IV	0.419	0.267	0.979	0.559	0.083	0.079	0.499	0.407	0.670	NA	0.552	NA	NA
WCDMA Band V	0.371	0.321	0.403	0.590	0.155	0.136	0.338	0.283	0.108	NA	0.216	NA	NA
LTE FDD 2	0.338	0.289	1.384	0.603	0.090	0.079	1.169	0.518	0.698	NA	0.551	NA	NA
LTE FDD 4	0.375	0.362	1.010	0.733	0.107	0.095	0.744	0.688	0.691	NA	0.571	NA	NA
LTE FDD 5	0.654	0.677	0.745	0.731	0.126	0.172	0.613	0.549	0.253	NA	0.396	NA	NA
LTE FDD 7	0.092	0.120	0.363	0.478	0.032	0.029	0.695	0.370	0.430	NA	0.327	NA	NA
LTE FDD 12	0.497	0.438	0.796	0.477	0.231	0.186	0.551	0.424	0.221	NA	0.340	NA	NA
LTE FDD 17	0.570	0.453	1.206	0.728	0.140	0.112	0.327	0.260	0.152	NA	0.213	NA	NA
LTE FDD 26	0.585	0.569	0.853	0.891	0.242	0.237	0.667	0.594	0.286	NA	0.429	NA	NA
LTE TDD 38	0.154	0.185	0.616	0.679	0.033	0.034	0.266	0.228	0.291	NA	0.188	NA	NA
LTE TDD 41	0.092	0.106	0.432	0.390	0.018	0.013	0.294	0.208	0.208	NA	0.128	NA	NA
MAX. SAR <sub>1g</sub>	0.654	0.677	1.384	0.891	0.242	0.237	1.169	0.688	0.698	NA	0.571	NA	NA

**About BT and Main- Antenna**

SAR <sub>1g</sub> (W/kg)		Main-antenna	BT	MAX. ΣSAR <sub>1g</sub>
Test Position				
Body worn 1g	Back Side	0.718	0.133	0.851
	Front Side	0.528	0.133	0.661
Extremity 10g	Back Side	3.505	0.133	3.608
	Front Side	NA	0.160	0.160
	Left Edge	NA	0.160	0.160
	Right Edge	NA	0.160	0.160
	Top Edge	NA	0.160	0.160
	Bottom Edge	0.345	0.160	0.505

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

MAX. ΣSAR<sub>1g</sub> = 0.851 W/kg <1.6 W/kg and MAX. ΣSAR<sub>10g</sub> = 3.608 W/kg <4 W/kg,  
 so the Simultaneous transimition SAR with volum scan are not required for BT and Main-Antenna.

**About Wi-Fi and Main- Antenna**

SAR <sub>1g</sub> (W/kg)		Main-antenna	Wi-Fi 2.4G	Wi-Fi (U-NII-1)	Wi-Fi (U-NII-2A)	Wi-Fi (U-NII-2C)	Wi-Fi (U-NII-3)	MAX. ΣSAR <sub>1g</sub>
Test Position								
Left, Cheek		0.665	0.920	0.622	0.276	0.393	0.221	1.585
Left, Tilt		0.416	0.833	0.394	0.241	0.226	0.073	1.249
Right, Cheek		0.791	0.168	0.100	0.101	0.136	0.055	0.959
Right, Tilt		0.404	0.202	0.095	0.095	0.136	0.062	0.606
Body worn 1g	Back Side	0.718	0.026	0.054	0.057	0.090	0.050	0.808
	Front Side	0.528	0.024	0.067	0.070	0.098	0.098	0.626
Hotspot 1g	Back Side	1.188	0.027	0.056	N/A	N/A	0.055	1.244
	Front Side	0.896	0.026	0.068	N/A	N/A	0.028	0.964
	Left Edge	0.259	N/A	N/A	N/A	N/A	N/A	0.259
	Right Edge	0.606	0.030	0.110	N/A	N/A	0.004	0.716
	Top Edge	NA	0.012	0.030	N/A	N/A	0.002	0.030
	Bottom Edge	0.685	N/A	N/A	N/A	N/A	N/A	0.685
Extremity 10g	Back Side	3.505	N/A	N/A	0.542	0.758	N/A	4.263
	Front Side	NA	N/A	N/A	0.587	0.649	N/A	0.649
	Left Edge	NA	N/A	N/A	N/A	N/A	N/A	N/A
	Right Edge	NA	N/A	N/A	0.688	0.789	N/A	0.789

	<b>Top Edge</b>	NA	N/A	N/A	0.171	<b>0.201</b>	N/A	0.201
	<b>Bottom Edge</b>	0.345	N/A	N/A	N/A	N/A	N/A	0.345

Note: 1. The value with blue color is the maximum  $\Sigma SAR_{1g}$  Value.  
 2.  $MAX. \Sigma SAR_{1g} = \text{Unlicensed } SAR_{MAX} + \text{Licensed } SAR_{MAX}$

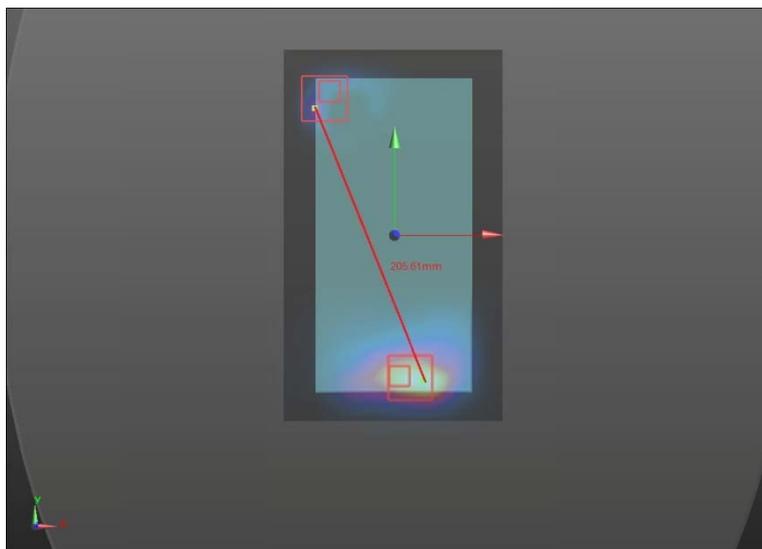
MAX.  $\Sigma SAR_{10g} = 4.263 \text{ W/kg} > 4 \text{ W/kg}$ , so the SAR to peak location separation ratio should be considered

Reported SAR <sub>10g</sub> (W/kg)	WCDMA Band II	WCDMA Band IV	LTE FDD 2	Wi-Fi (U-NII-2A)	Wi-Fi U-NII-2C)	MAX. $\Sigma SAR_{10g}$
Back Side	3.099	/	/	0.542	/	3.641
	/	2.046	/	0.542	/	2.588
	/	/	3.505	0.542	/	4.047
	3.099	/	/	/	0.758	3.857
	/	2.046	/	/	0.758	2.804
	/	/	3.505	/	0.758	4.263

Note: 1. The value with blue color is the SAR<sub>10g</sub> > 4 W/kg.  
 2. When the MAX.  $\Sigma SAR_{10g} > 4 \text{ W/kg}$  in a position, Ratio need consideration in this position.

( $SAR_{Max} = 4.047 \text{ W/Kg}$ )

The position  $SAR_{LTE \text{ band } 2}$  is ( $x_1 = -2.5, y_1 = -70.5, z_1 = -205$ ),  
 The position  $SAR_{Max. U-NII-2A}$  is ( $x_2 = -38, y_2 = -61.5, z_2 = -174.1$ )  
 so the distance is 205.61mm.



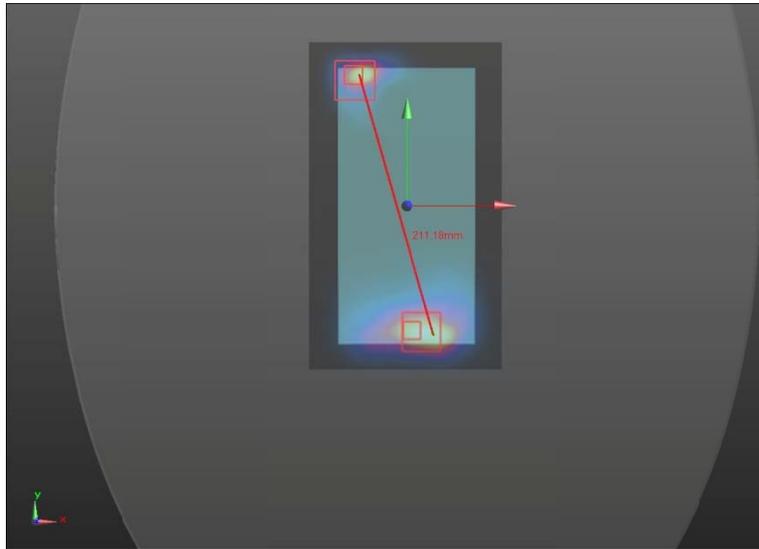
Ratio =  $[(\text{Reported } SAR_{Max.GSM/UMTS/LTE}) 3.505 \text{ W/kg} + (\text{Reported } SAR_{Max.WIFI}) 0.542 \text{ W/kg}]^{3/2} / \text{Peak SAR}$   
 Location Separation = 0.04 < 0.1

(SAR<sub>Max</sub> =4.263W/Kg)

The position SAR<sub>LTE band 2</sub> is (x<sub>1</sub>= -2.5, y<sub>1</sub>= -70.5, z<sub>1</sub>= -205),

The position SAR<sub>Max. U-NII-2A</sub> is (x<sub>2</sub>= -24.5, y<sub>2</sub>=72,z<sub>2</sub>= -174.8)

so the distance is 211.18mm.



Ratio =[(Reported SAR<sub>Max.GSM/UMTS/LTE</sub>) 3.505W/kg +(Reported SAR<sub>Max.WIFI</sub>) 0.542W/kg]<sup>3/2</sup> /Peak SAR  
 Location Separation =0.04 <0.1

so the Simultaneous transimition SAR with volum scan are not required for BT and Main-Antenna.

**About BT and Second- Antenna**

SAR <sub>1g</sub> (W/kg)		Second-antenna	BT	MAX. ΣSAR <sub>1g</sub>
Test Position				
Body worn 1g	Back Side	0.242	0.133	0.375
	Front Side	0.237	0.133	0.370
Extremity 10g	Back Side	NA	0.133	0.133
	Front Side	NA	0.160	0.160
	Left Edge	NA	0.160	0.160
	Right Edge	NA	0.160	0.160
	Top Edge	NA	0.160	0.160
	Bottom Edge	NA	0.160	0.160

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

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

MAX. ΣSAR<sub>1g</sub> = 0.375 W/kg <1.6 W/kg and MAX. ΣSAR<sub>10g</sub> = 0.319W/kg <4 W/kg,

so the Simultaneous transimition SAR with volum scan are not required for BT and Second-Antenna.

**About Wi-Fi and Second- Antenna**

Test Position		SAR <sub>1g</sub> (W/kg)	Second- antenna	Wi-Fi 2.4G	Wi-Fi (U-NII-1)	Wi-Fi (U-NII-2A)	Wi-Fi (U-NII-2C)	Wi-Fi (U-NII-3)	MAX. ΣSAR <sub>1g</sub>
Left, Cheek			0.654	<b>0.920</b>	0.622	0.276	0.393	0.221	1.574
Left, Tilt			0.677	<b>0.833</b>	0.394	0.241	0.226	0.073	1.510
Right, Cheek			1.384	<b>0.168</b>	0.100	0.101	0.136	0.055	1.552
Right, Tilt			0.891	<b>0.202</b>	0.095	0.095	0.136	0.062	1.093
Body worn	Back Side		0.242	0.029	0.054	0.057	<b>0.090</b>	0.050	0.332
	Front Side		0.237	0.024	0.067	0.070	<b>0.098</b>	0.098	0.335
Hotspot	Back Side		1.169	0.027	<b>0.056</b>	N/A	N/A	0.055	1.225
	Front Side		0.688	0.026	<b>0.068</b>	N/A	N/A	0.028	0.756
	Left Edge		0.698	N/A	N/A	N/A	N/A	N/A	0.698
	Right Edge		NA	0.030	<b>0.110</b>	N/A	N/A	0.004	0.11
	Top Edge		0.571	0.012	<b>0.030</b>	N/A	N/A	0.002	0.601
	Bottom Edge		NA	N/A	N/A	N/A	N/A	N/A	N/A
Extremity 10g	Back Side		NA	N/A	N/A	0.542	<b>0.758</b>	N/A	0.758
	Front Side		NA	N/A	N/A	0.587	<b>0.649</b>	N/A	0.649
	Left Edge		NA	N/A	N/A	N/A	N/A	N/A	N/A
	Right Edge		NA	N/A	N/A	0.688	<b>0.789</b>	N/A	0.789
	Top Edge		NA	N/A	N/A	0.171	<b>0.201</b>	N/A	0.201
	Bottom Edge		NA	N/A	N/A	N/A	N/A	N/A	N/A

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

MAX. ΣSAR<sub>1g</sub> = 1.574 W/kg <1.6 W/kg and MAX. ΣSAR<sub>10g</sub> = 0.789 W/kg <4 W/kg,  
so the Simultaneous transimition SAR with volum scan are not required for Wi-Fi and  
Second-Antenna.



## 5. Measurement Uncertainty

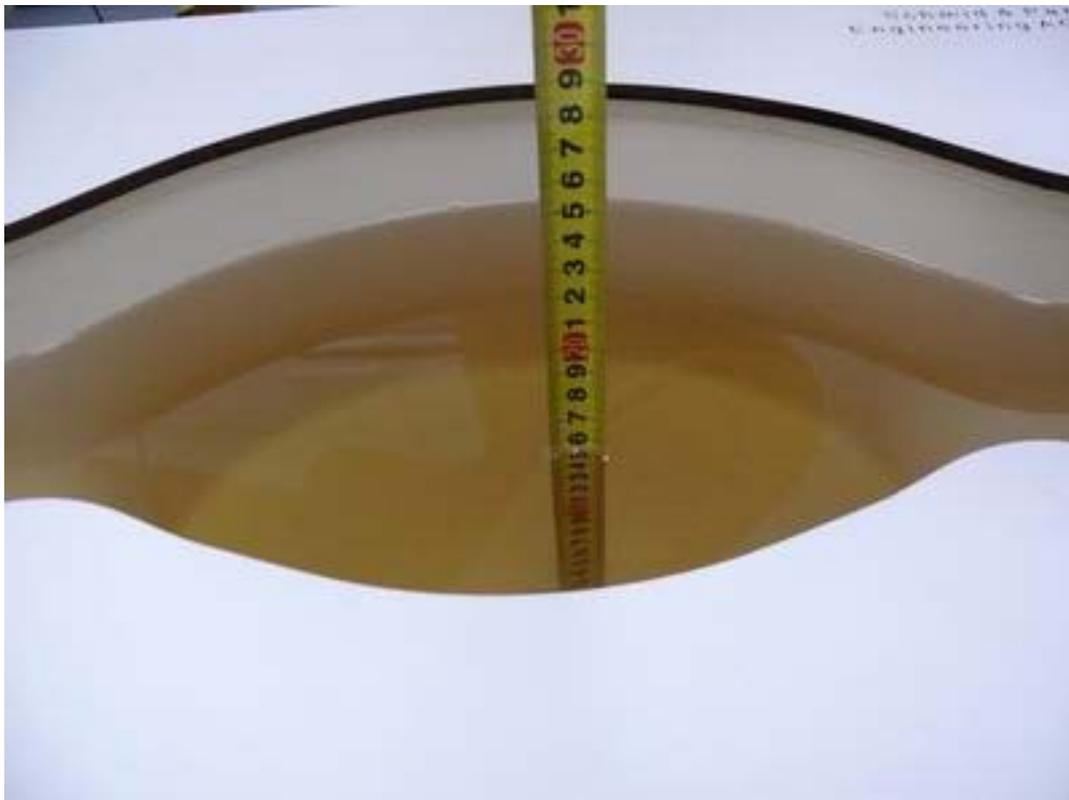
Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is  $< 1.5$  W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528- 2013 is not required in SAR reports submitted for equipment approval. This also applies to the 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)



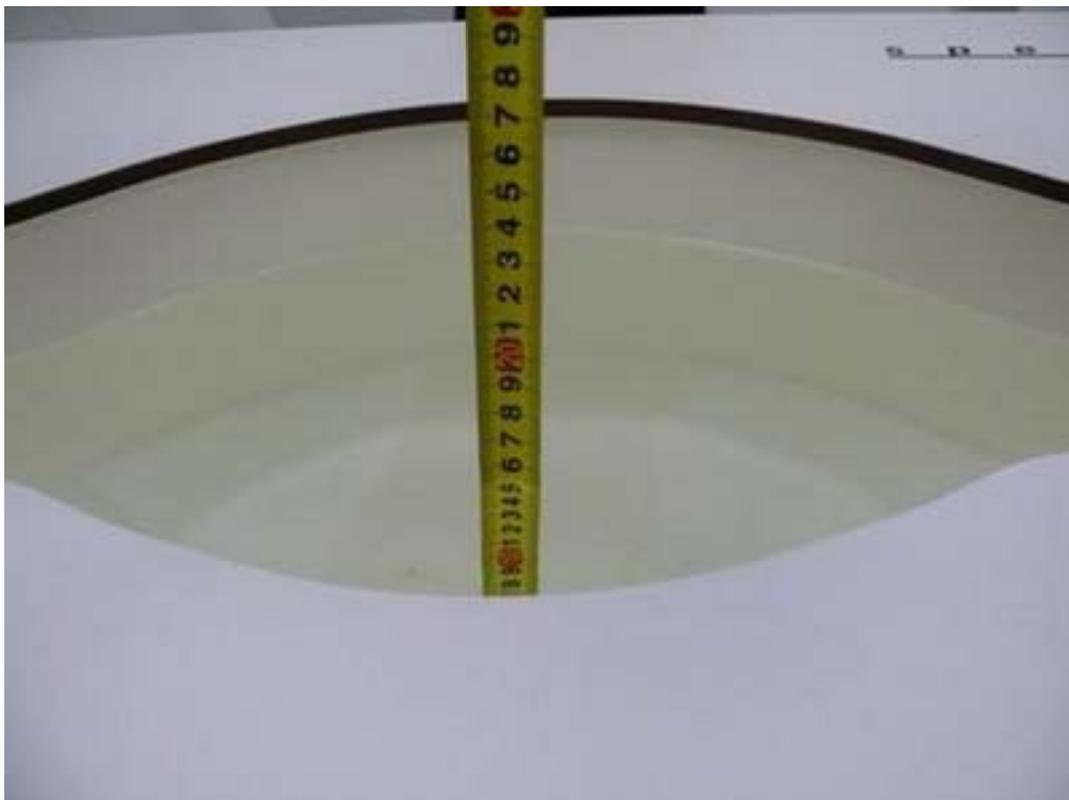
Picture 5: Liquid depth in the head Phantom (835MHz, 15.3cm depth)



Picture 6: Liquid depth in the flat Phantom (835MHz, 15.4cm depth)



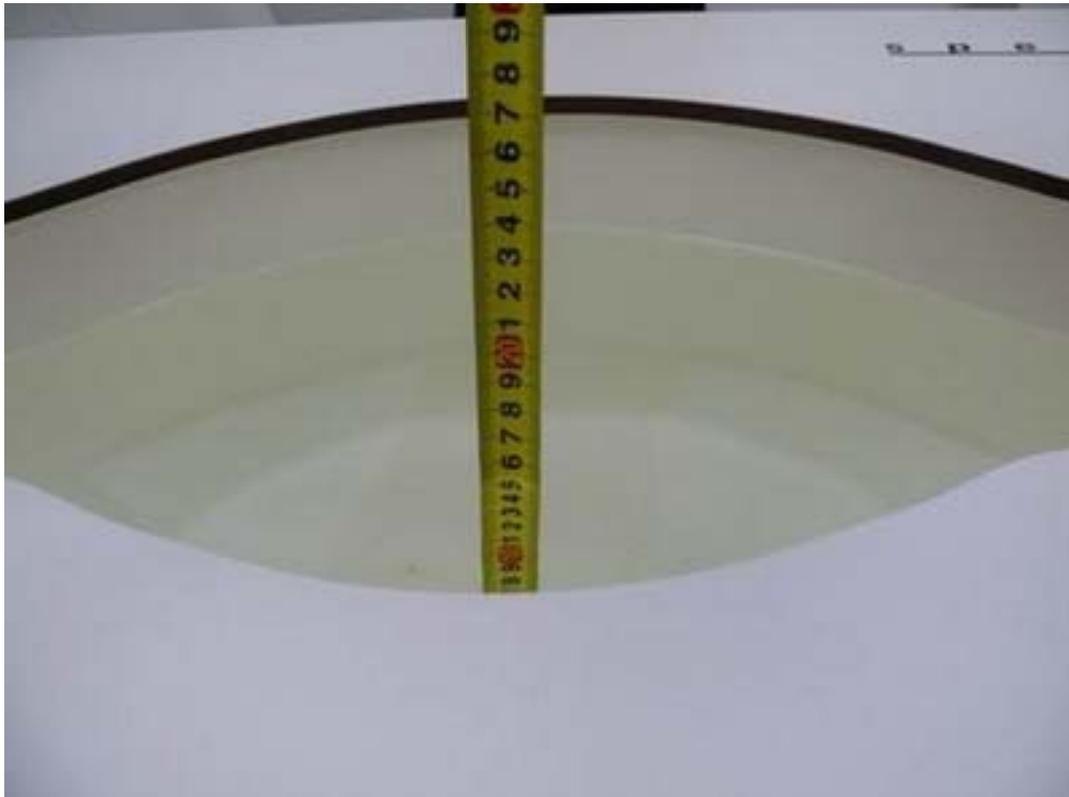
Picture 7: liquid depth in the head Phantom (1750 MHz, 15.3cm depth)



Picture 8: Liquid depth in the flat Phantom (1750 MHz, 15.2cm depth)



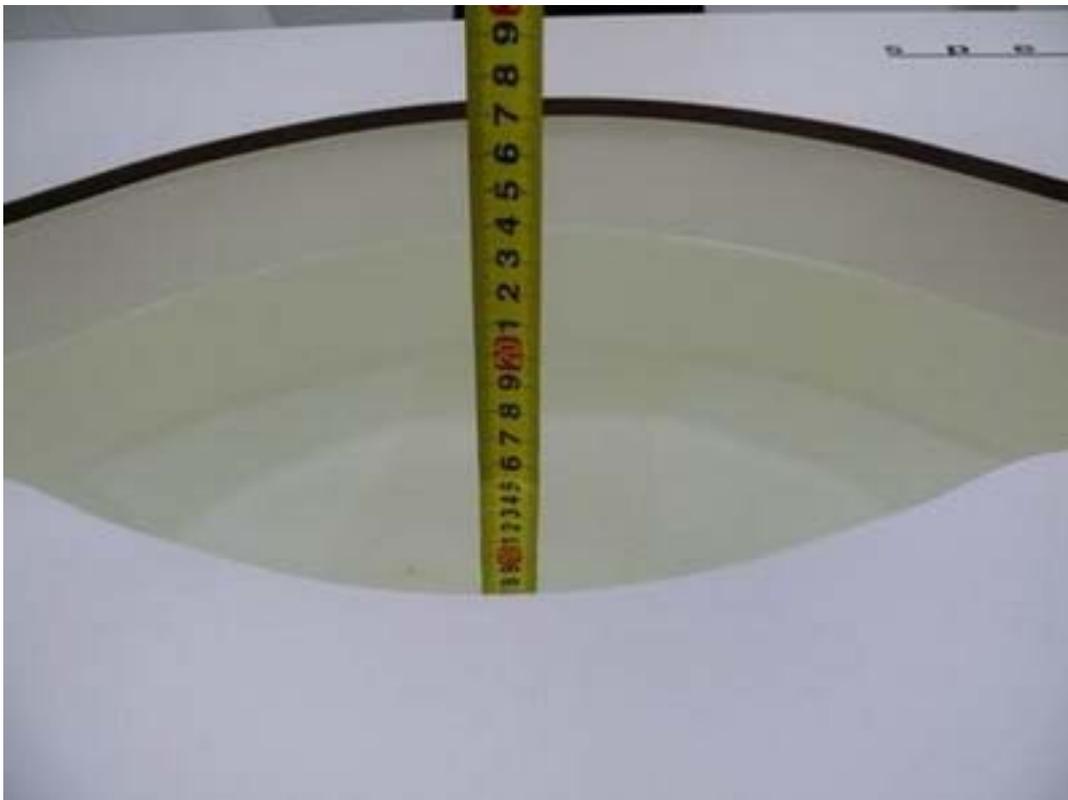
Picture 9: liquid depth in the head Phantom (1900 MHz, 15.3cm depth)



Picture 10: Liquid depth in the flat Phantom (1900 MHz, 15.2cm depth)



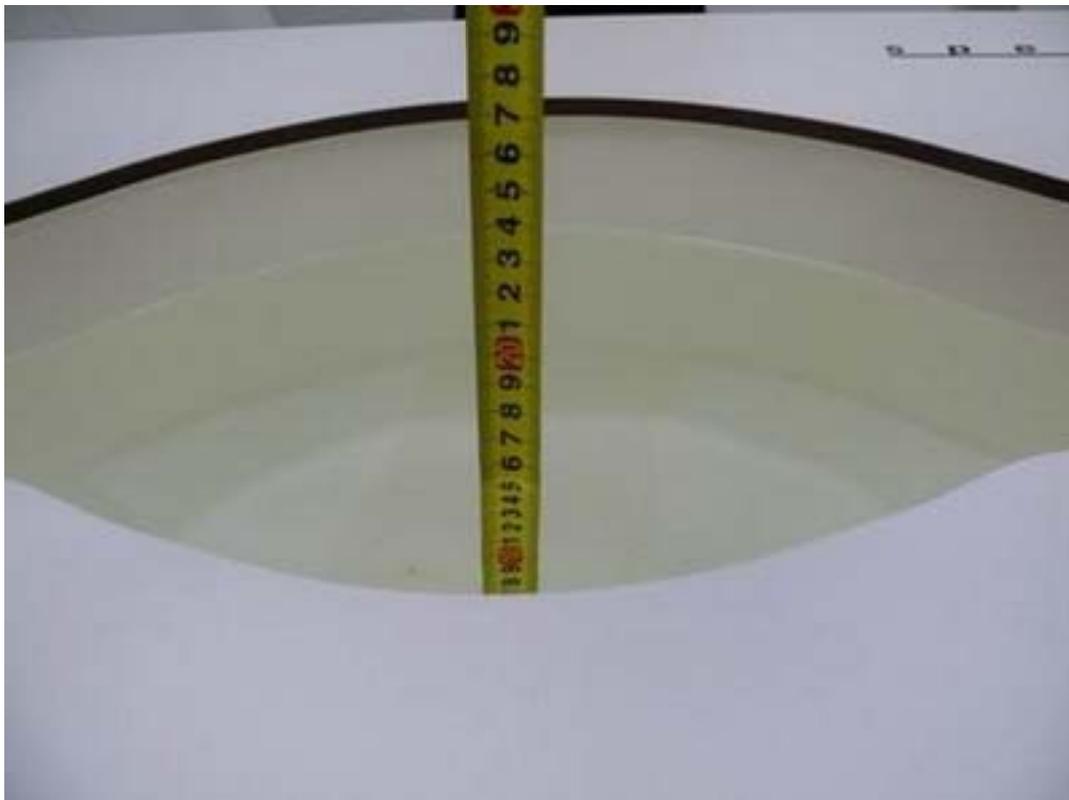
Picture 11: Liquid depth in the head Phantom (2450 MHz, 15.4cm depth)



Picture 12: Liquid depth in the flat Phantom (2450 MHz, 15.3cm depth)



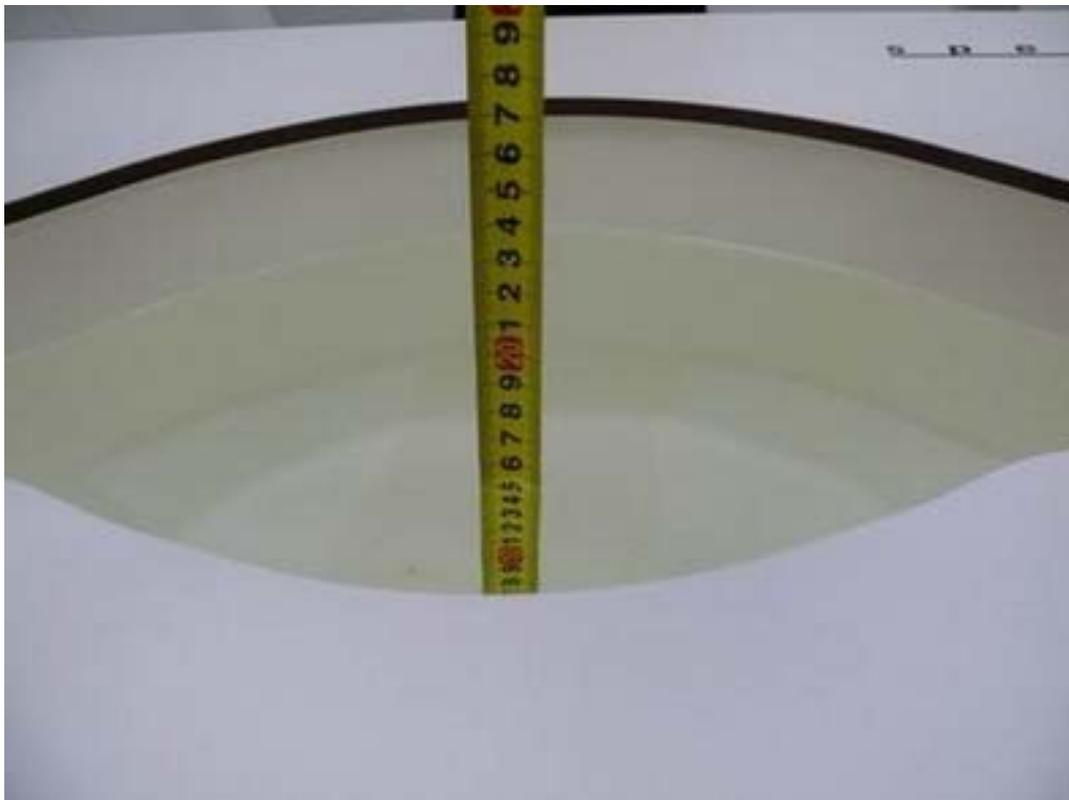
Picture 13: Liquid depth in the head Phantom (2600 MHz, 15.4cm depth)



Picture 14: Liquid depth in the flat Phantom (2600 MHz, 15.3cm depth)



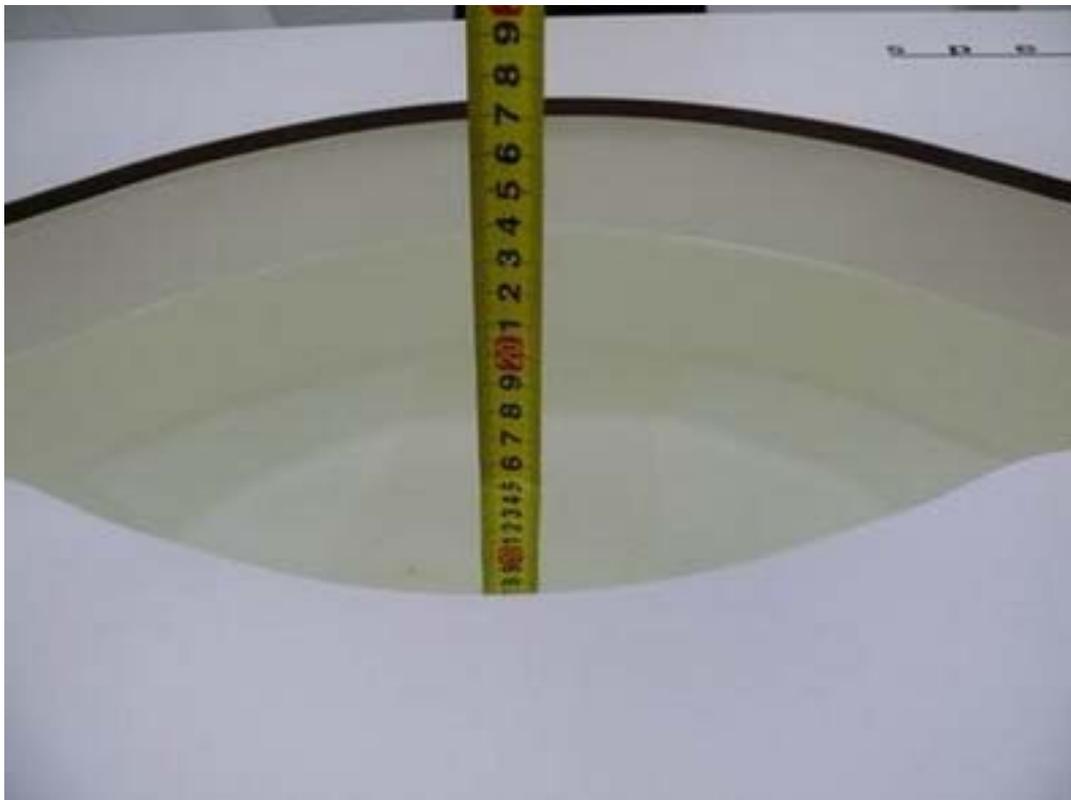
Picture 15: Liquid depth in the head Phantom (5200 MHz, 15.4cm depth)



Picture 16: Liquid depth in the flat Phantom (5200 MHz, 15.3cm depth)



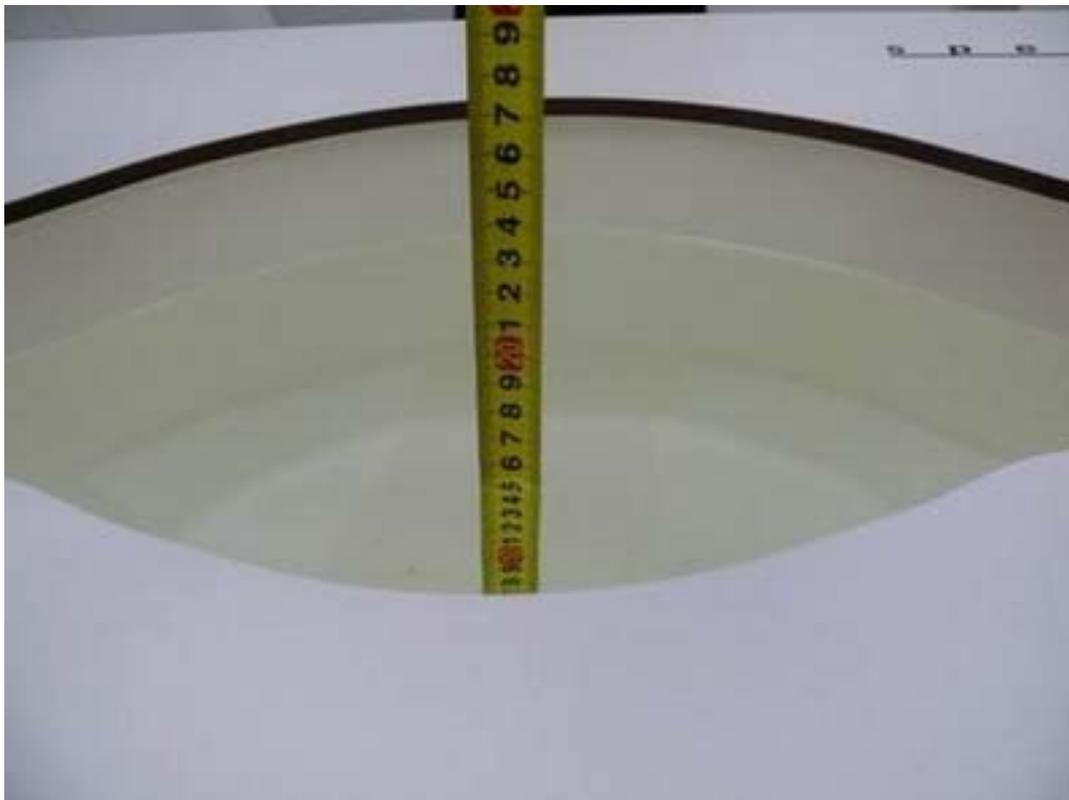
Picture 17: Liquid depth in the head Phantom (5300 MHz, 15.4cm depth)



Picture 18: Liquid depth in the flat Phantom (5300 MHz, 15.3cm depth)



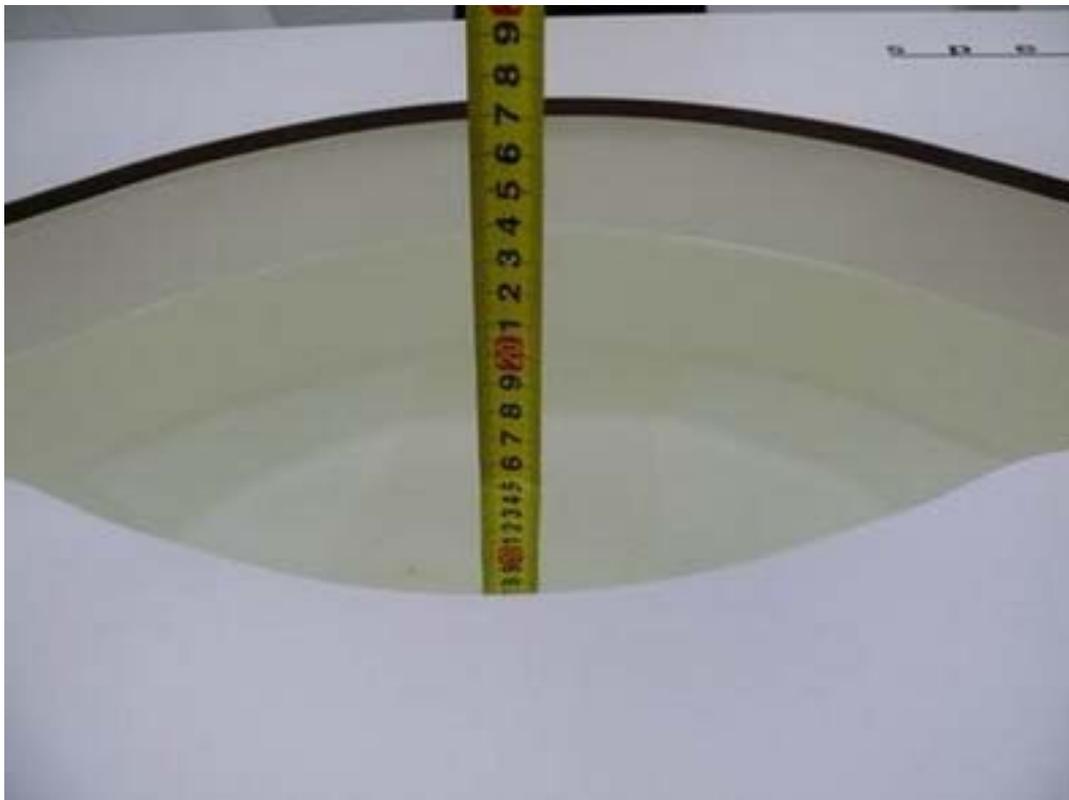
Picture 19: Liquid depth in the head Phantom (5600 MHz, 15.4cm depth)



Picture 20: Liquid depth in the flat Phantom (5600 MHz, 15.3cm depth)



Picture 21: Liquid depth in the head Phantom (5800 MHz, 15.1cm depth)



Picture 22: Liquid depth in the flat Phantom (5800 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: 1017

Date: 3/28/2016

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(9.69, 9.69, 9.69); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) = 2.29 W/kg

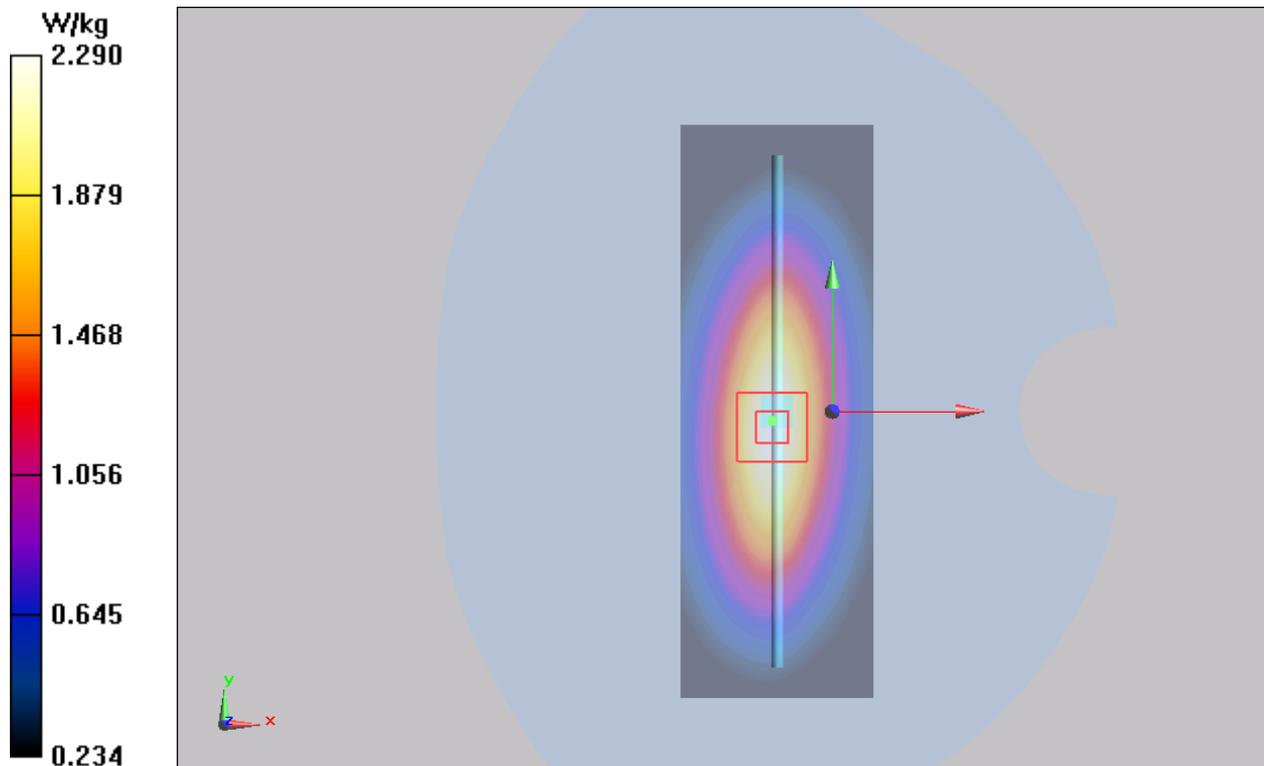
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 50.653 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 3.16 W/kg

**SAR(1 g) = 2.13 W/kg; SAR(10 g) = 1.41 W/kg**

Maximum value of SAR (measured) = 2.29 W/kg



**Plot 2 System Performance Check at 750 MHz Head TSL**

**DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1017**

Date: 4/8/2016

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(9.69, 9.69, 9.69); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

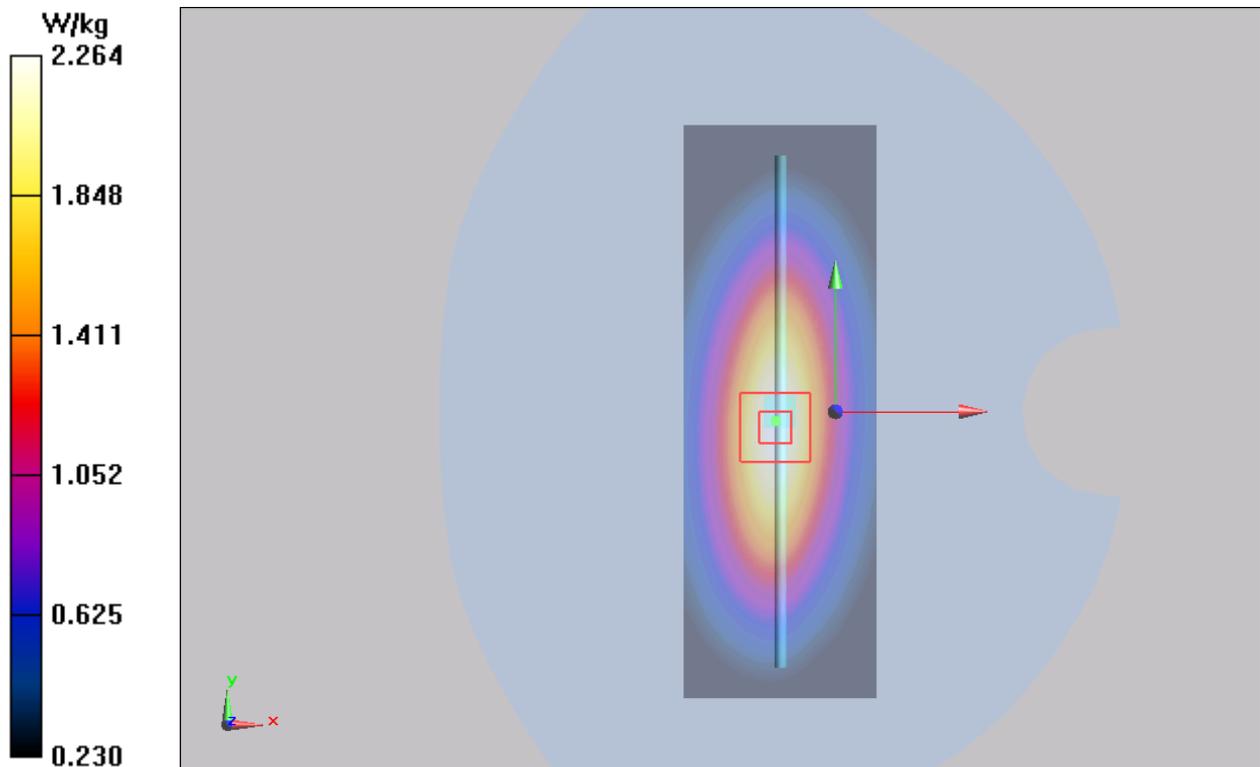
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

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: 1017**

Date: 3/29/2016

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(9.71, 9.71, 9.71); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) =  $2.36 \text{ W/kg}$

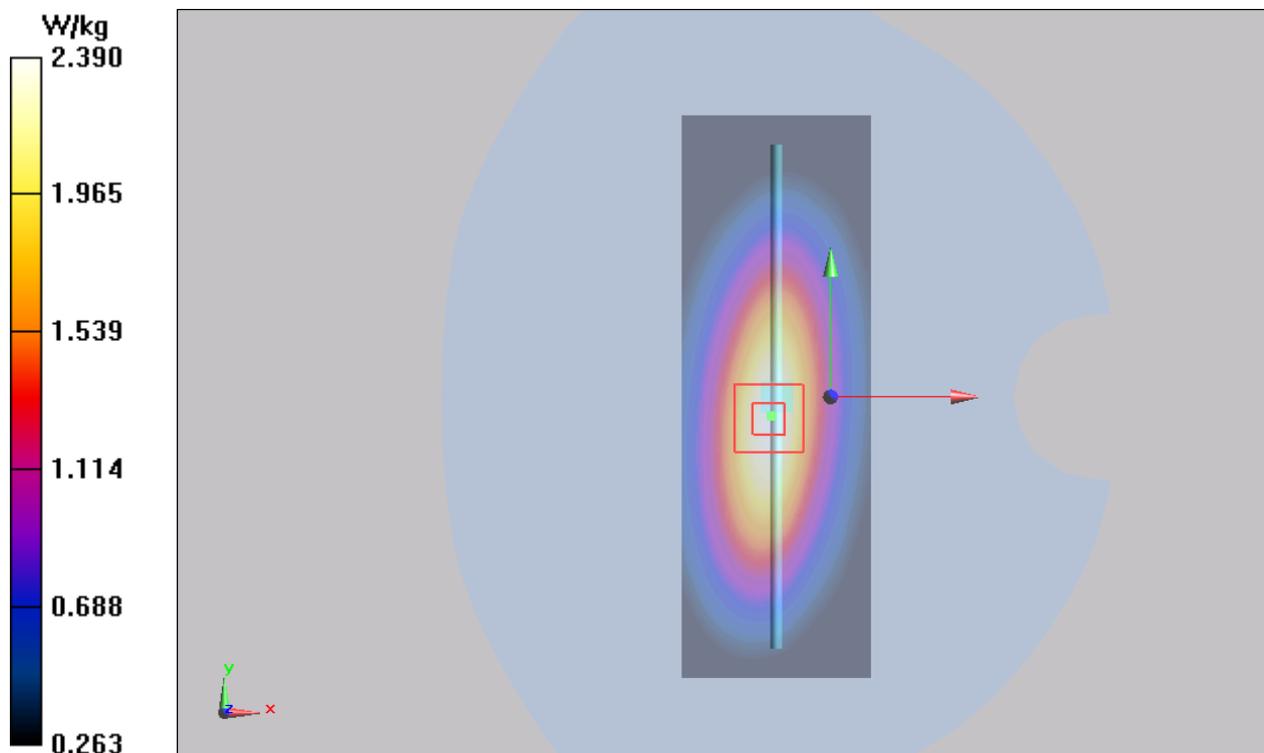
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

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: 1017**

Date: 4/9/2016

Communication System: CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.96 \text{ S/m}$ ;  $\epsilon_r = 54.5$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.71, 9.71, 9.71); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) =  $2.34 \text{ W/kg}$

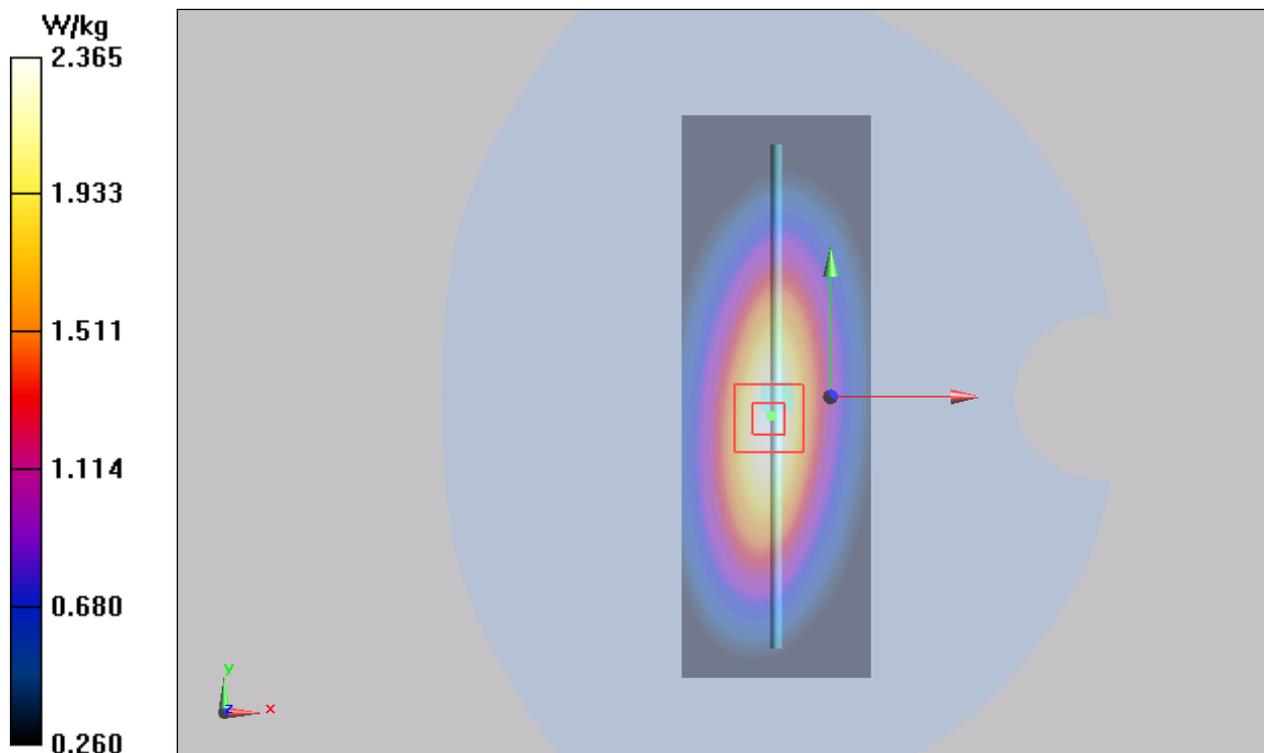
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $48.971 \text{ V/m}$ ; Power Drift =  $0.09 \text{ dB}$

Peak SAR (extrapolated) =  $3.24 \text{ W/kg}$

**SAR(1 g) =  $2.17 \text{ W/kg}$ ; SAR(10 g) =  $1.46 \text{ W/kg}$**

Maximum value of SAR (measured) =  $2.365 \text{ W/kg}$



**Plot 5 System Performance Check at 835 MHz Head TSL**

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020**

Date: 3/26/2016

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(9.35, 9.35, 9.35); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) = 2.64 mW/g

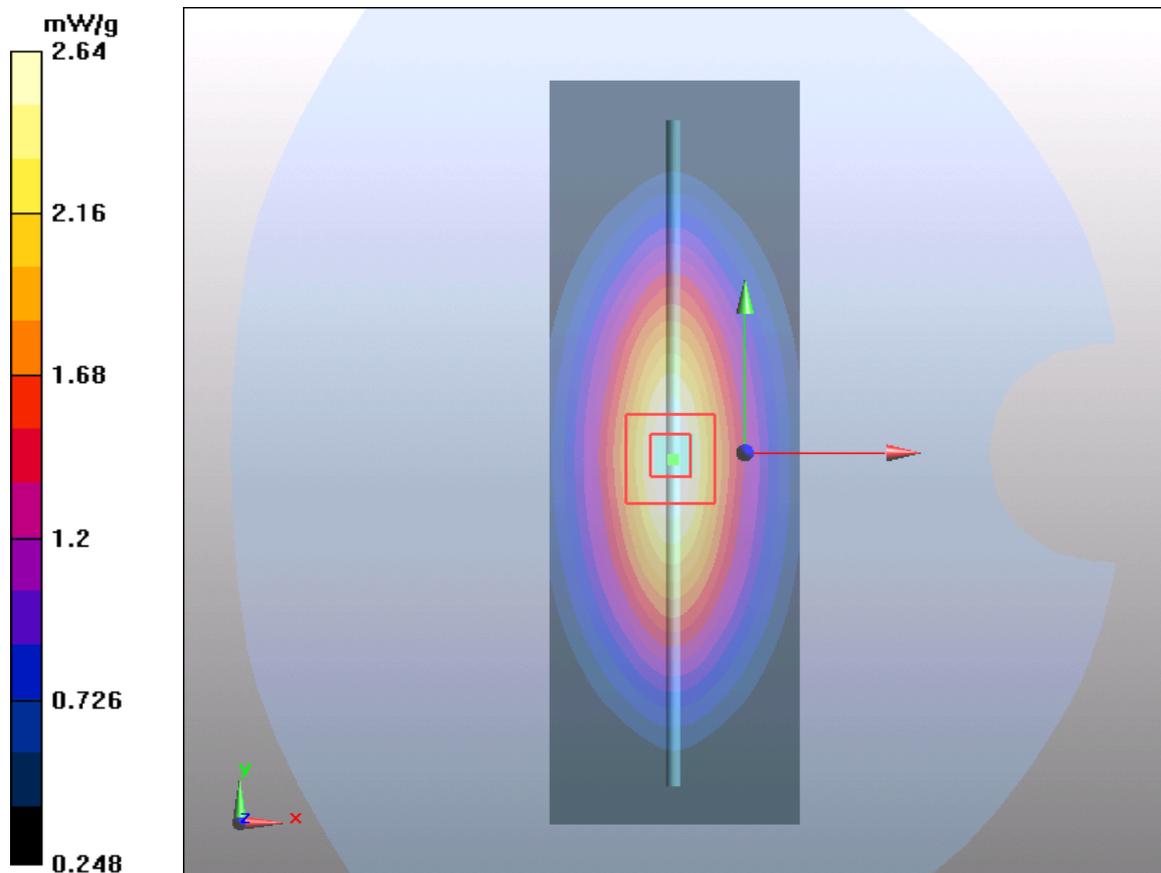
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 54.4 V/m; Power Drift = -0.076 dB

Peak SAR (extrapolated) = 3.67 W/kg

**SAR(1 g) = 2.44 mW/g; SAR(10 g) = 1.6 mW/g**

Maximum value of SAR (measured) = 2.64 mW/g



**Plot 6 System Performance Check at 835 MHz Head TSL**

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020**

Date: 3/30/2016

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(9.35, 9.35, 9.35); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) =  $2.64 \text{ mW/g}$

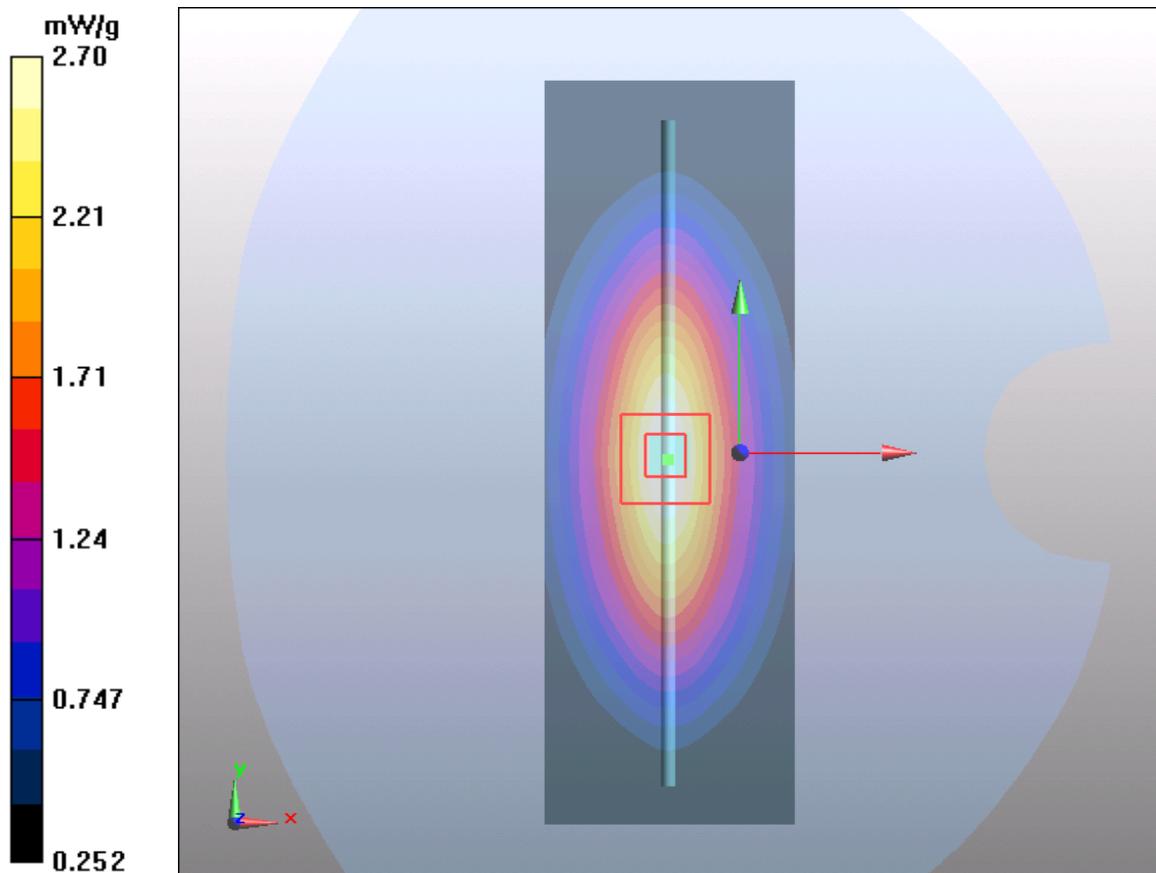
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $54.4 \text{ V/m}$ ; Power Drift =  $-0.076 \text{ dB}$

Peak SAR (extrapolated) =  $3.67 \text{ W/kg}$

**SAR(1 g) =  $2.46 \text{ mW/g}$ ; SAR(10 g) =  $1.65 \text{ mW/g}$**

Maximum value of SAR (measured) =  $2.70 \text{ mW/g}$



## Plot 7 System Performance Check at 835 MHz Head TSL

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020**

Date: 4/13/2016

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 41.4$ ;  $\rho = 1000$  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(9.35, 9.35, 9.35); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) = 2.64 mW/g

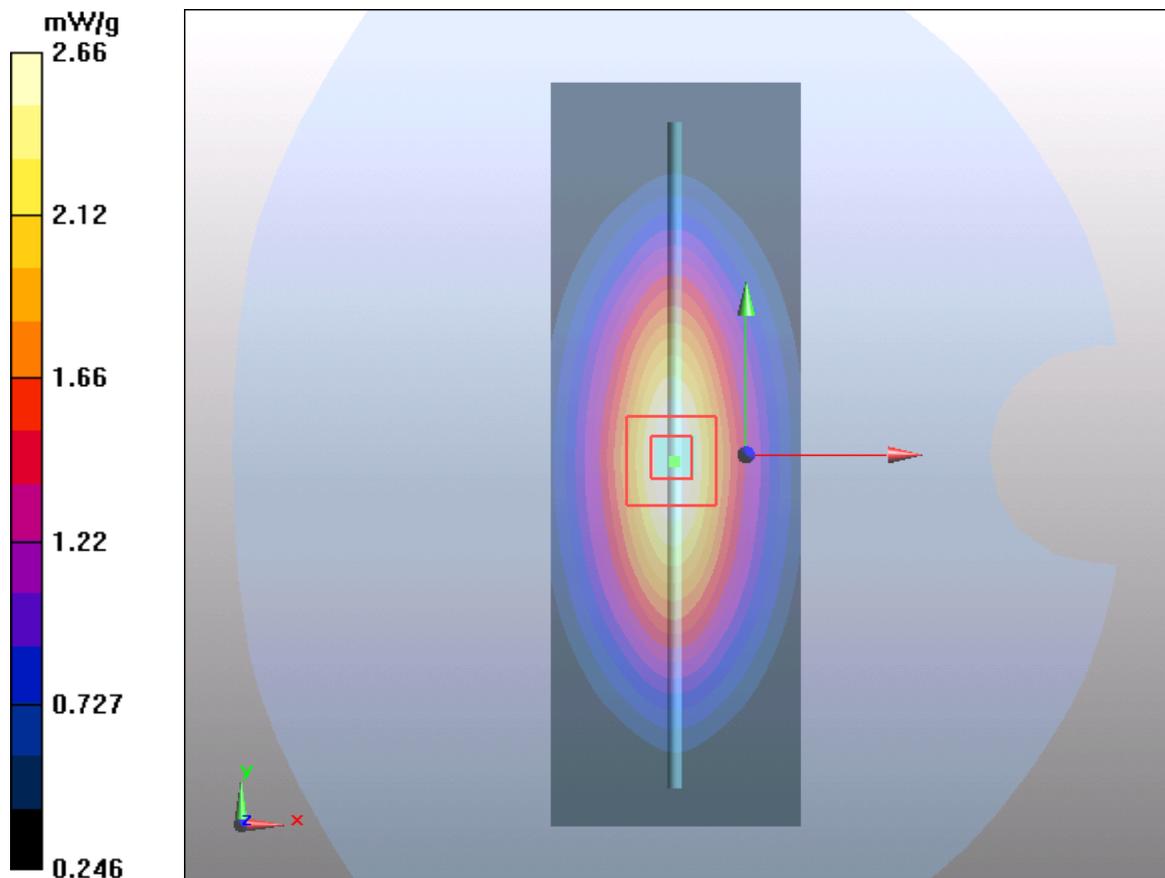
**d=15mm, Pin=250mW/Zoom Scan(5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 54.4 V/m; Power Drift = -0.076 dB

Peak SAR (extrapolated) = 3.67 W/kg

**SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.61 mW/g**

Maximum value of SAR (measured) = 2.66 mW/g



**Plot 8 System Performance Check at 835 MHz Body TSL**

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020**

Date: 3/26/2016

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(9.42, 9.42, 9.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) =  $2.58 \text{ mW/g}$

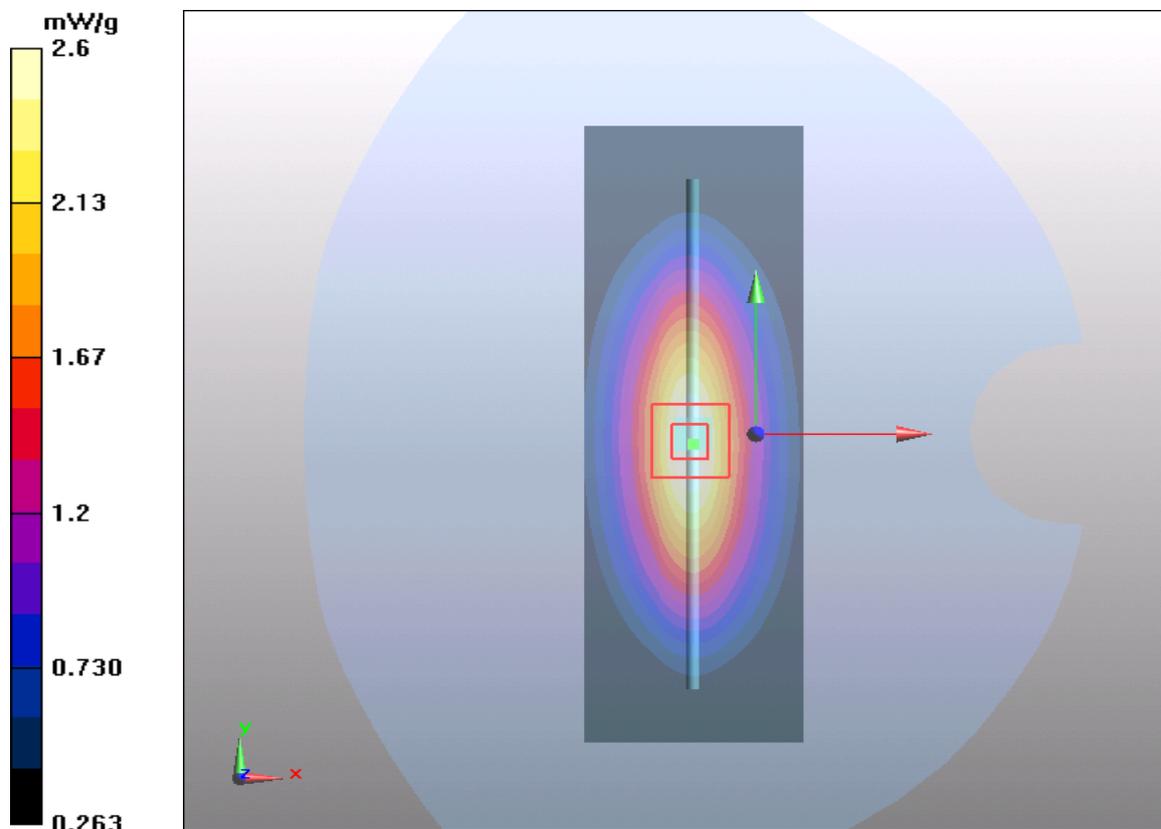
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

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 9 System Performance Check at 835 MHz Body TSL**

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020**

Date: 3/27/2016

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(9.42, 9.42, 9.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) =  $2.58 \text{ mW/g}$

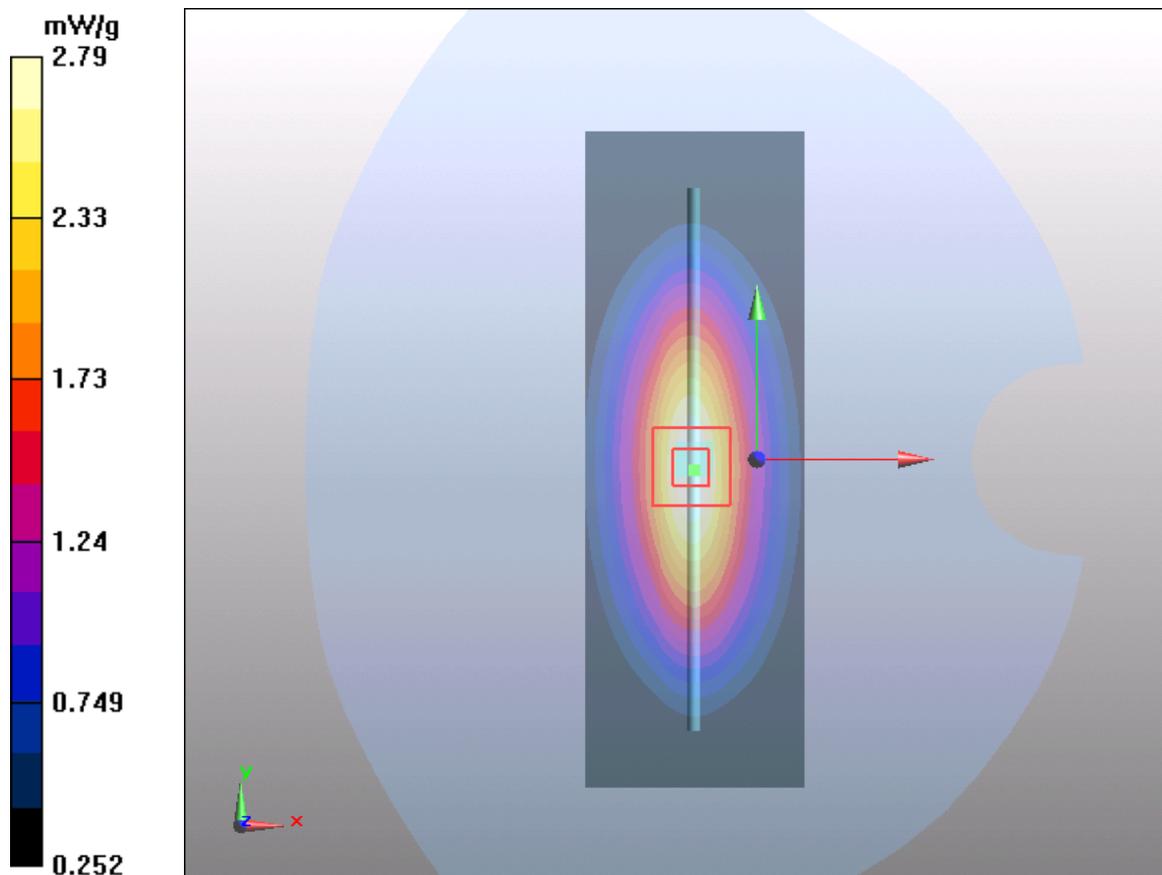
**d=15mm, Pin=250mW/Zoom Scan(5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

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 10 System Performance Check at 835 MHz Body TSL****DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020**

Date: 3/31/2016

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.98 \text{ mho/m}$ ;  $\epsilon_r = 54.5$ ;  $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$ 

Phantom section: Flat Section

DASY5 Configuration:

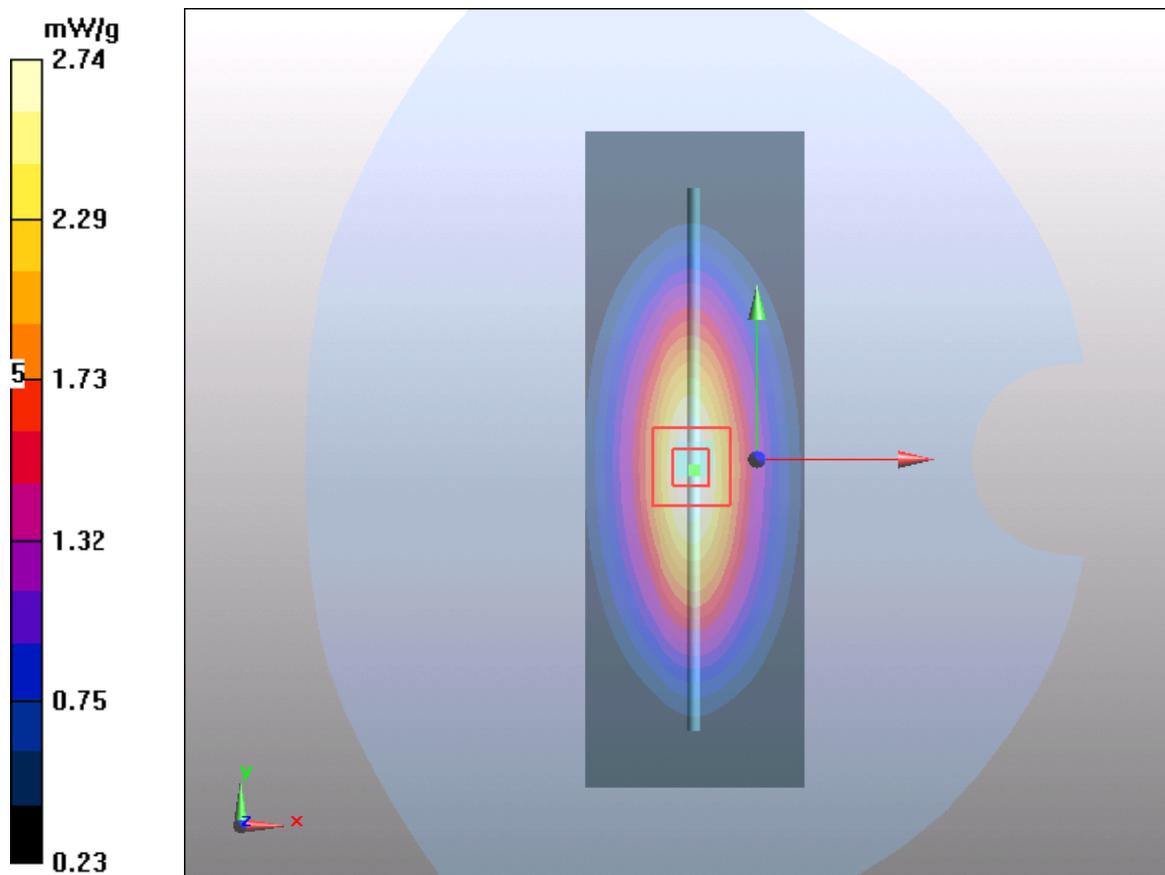
Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.42, 9.42, 9.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) =  $2.45 \text{ mW/g}$ ; SAR(10 g) =  $1.63 \text{ mW/g}$** Maximum value of SAR (measured) =  $2.74 \text{ mW/g}$ 

**Plot 11 System Performance Check at 835 MHz Body TSL**

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020**

Date: 4/13/2016

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.98 \text{ mho/m}$ ;  $\epsilon_r = 55.0$ ;  $\rho = 1000 \text{ kg/m}^3$

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(9.42, 9.42, 9.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) =  $2.61 \text{ mW/g}$

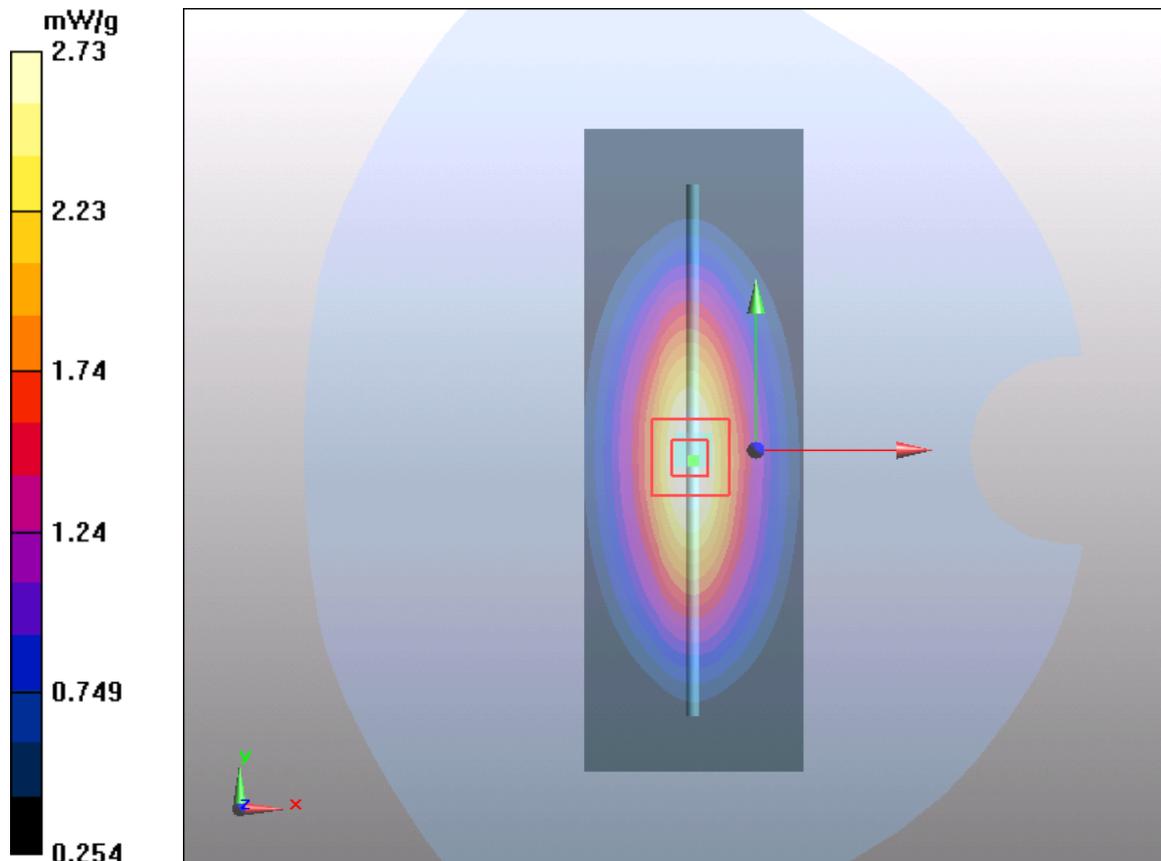
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $52.09 \text{ V/m}$ ; Power Drift =  $-0.11 \text{ dB}$

Peak SAR (extrapolated) =  $3.48 \text{ W/kg}$

**SAR(1 g) =  $2.46 \text{ mW/g}$ ; SAR(10 g) =  $1.67 \text{ mW/g}$**

Maximum value of SAR (measured) =  $2.73 \text{ mW/g}$



**Plot 12 System Performance Check at 1750 MHz Head TSL****DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1033**

Date: 4/3/2016

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(7.98, 7.98, 7.98); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

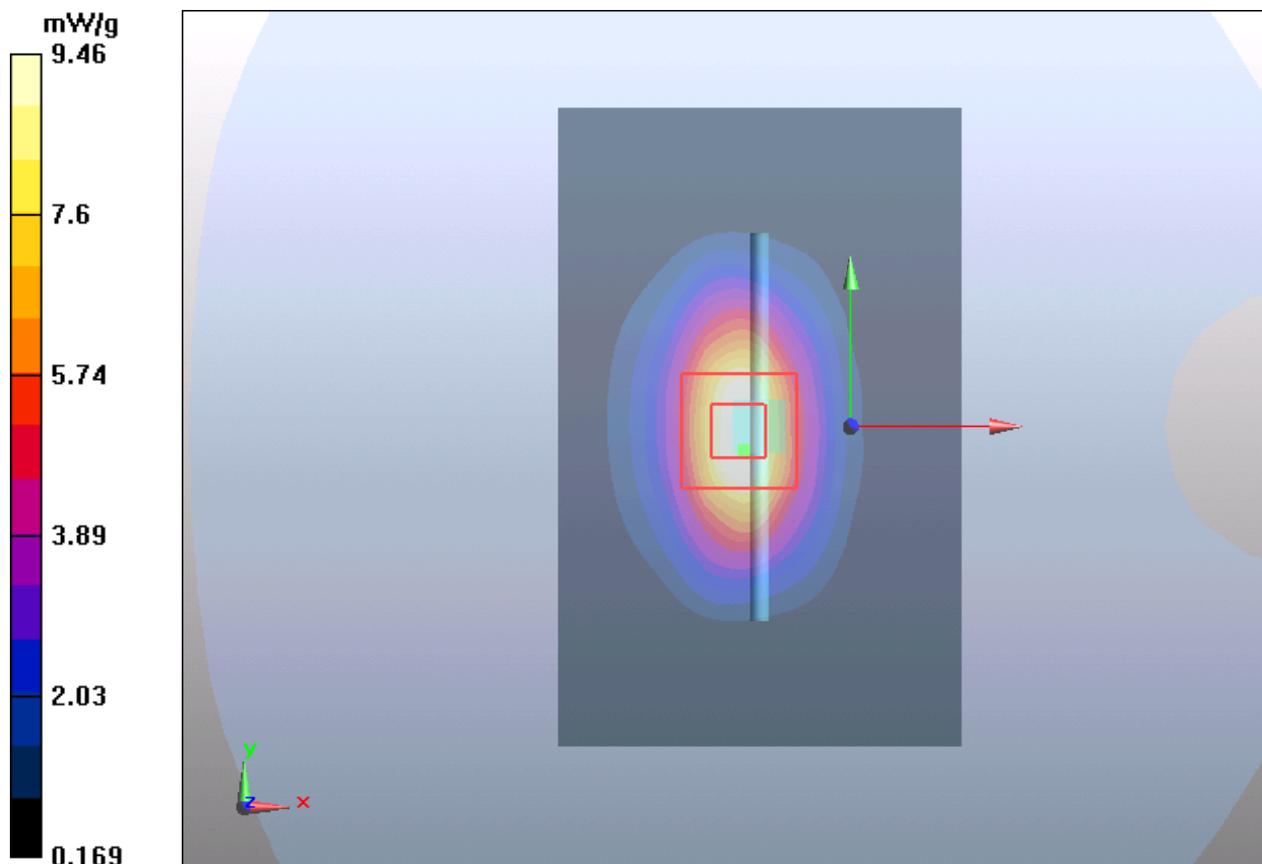
**d=10mm, Pin=250mW/Area Scan (51x81x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm  
Maximum value of SAR (interpolated) = 9.78 mW/g**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm,  
dz=5mm

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 13 System Performance Check at 1750 MHz Head TSL****DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1033**

Date: 4/4/2016

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(7.98, 7.98, 7.98); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

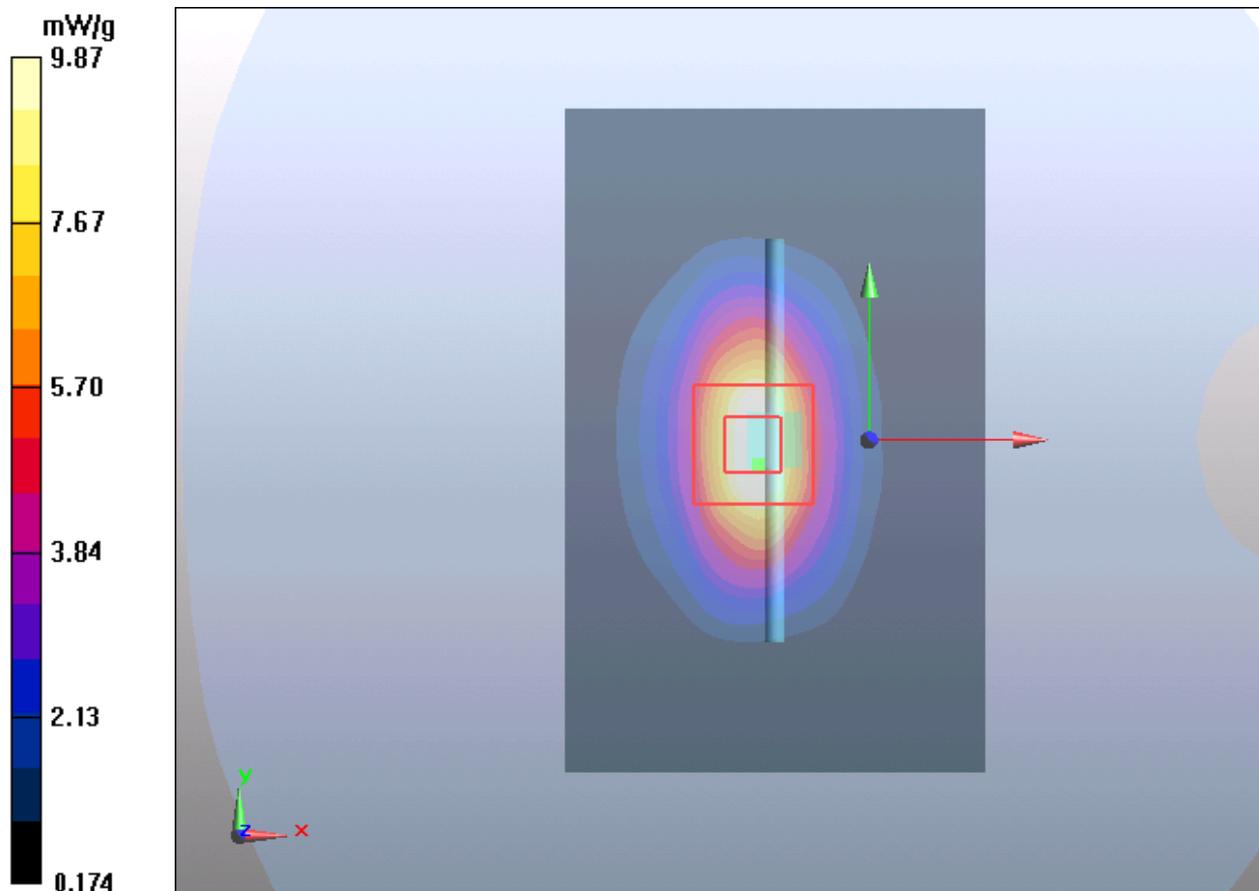
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

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 14 System Performance Check at 1750 MHz Body TSL**

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1033**

Date: 4/2/2016

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(7.65, 7.65, 7.65); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

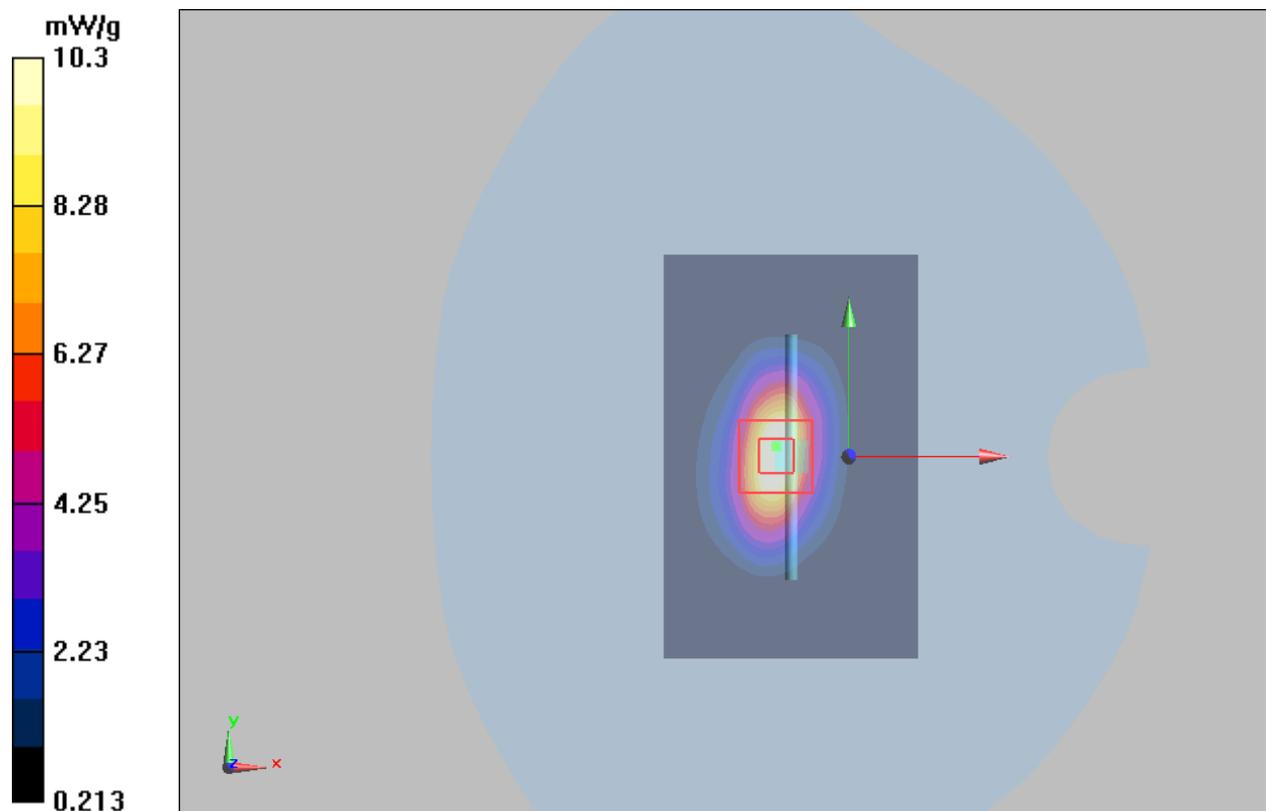
**d=10mm, Pin=250mW/Area Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

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 15 System Performance Check at 1750 MHz Body TSL****DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1033**

Date: 4/10/2016

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(7.65, 7.65, 7.65); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

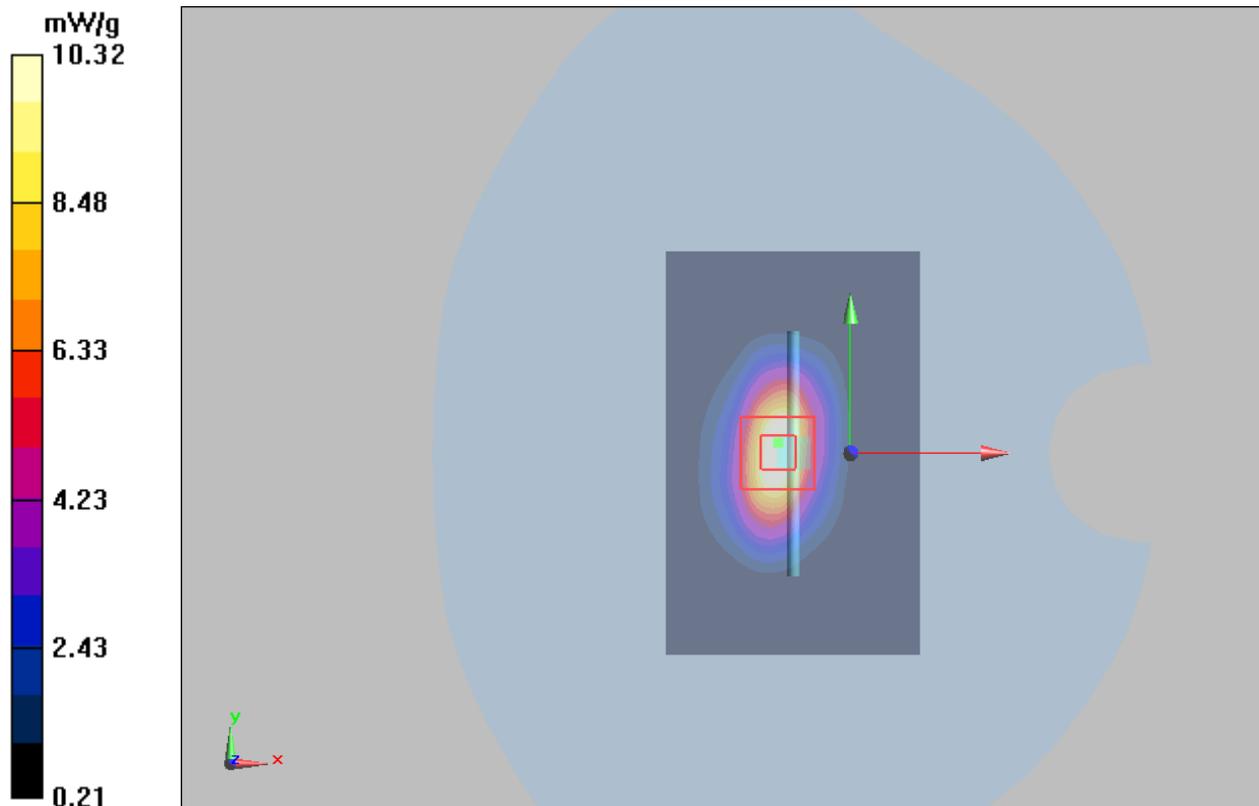
**d=10mm, Pin=250mW/Area Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

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 16 System Performance Check at 1900 MHz Head TSL**

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 3/24/2016

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 - SN3677; ConvF(7.96, 7.96, 7.96); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

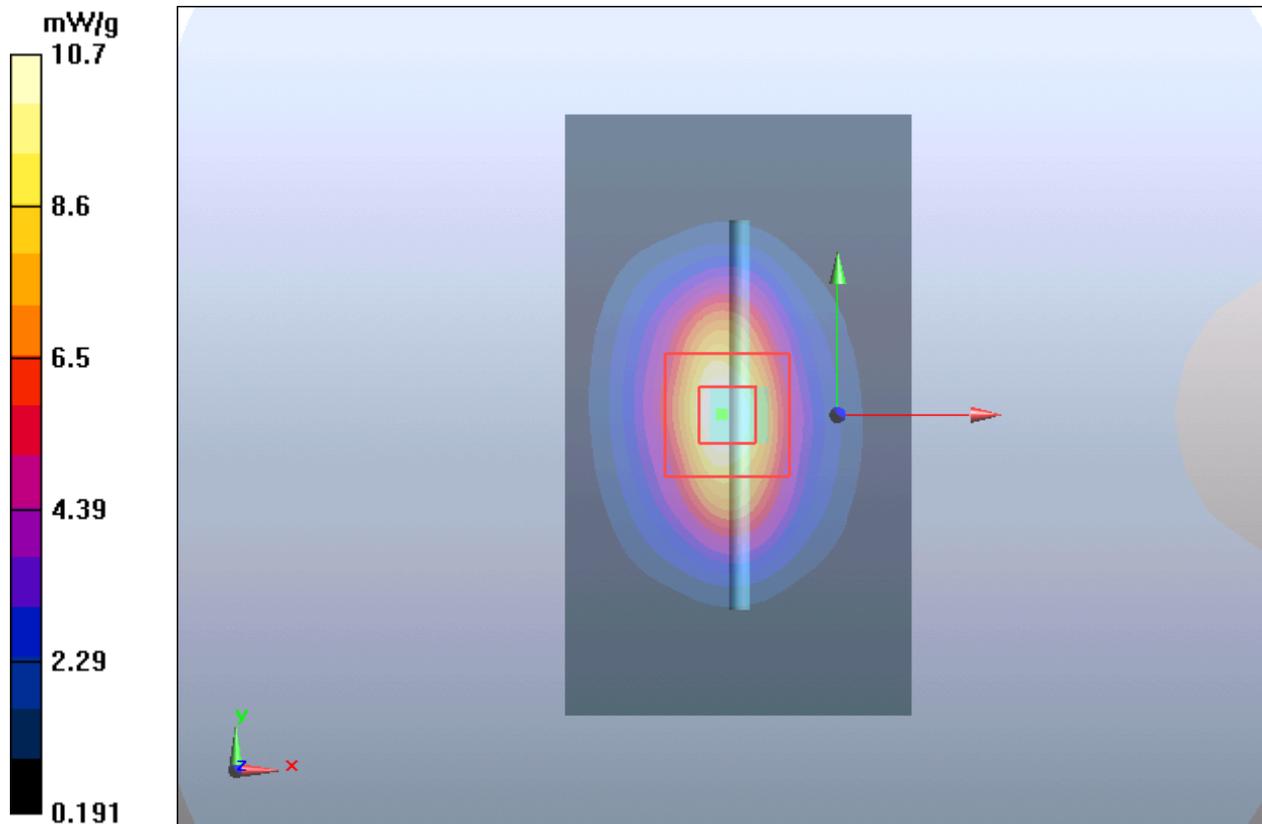
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 85.5 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 17.8 W/kg

**SAR(1 g) = 9.48 mW/g; SAR(10 g) = 4.9 mW/g**

Maximum value of SAR (measured) = 10.7 mW/g



**Plot 17 System Performance Check at 1900 MHz Head TSL**

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 4/1/2016

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 - SN3677; ConvF(7.96, 7.96, 7.96); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

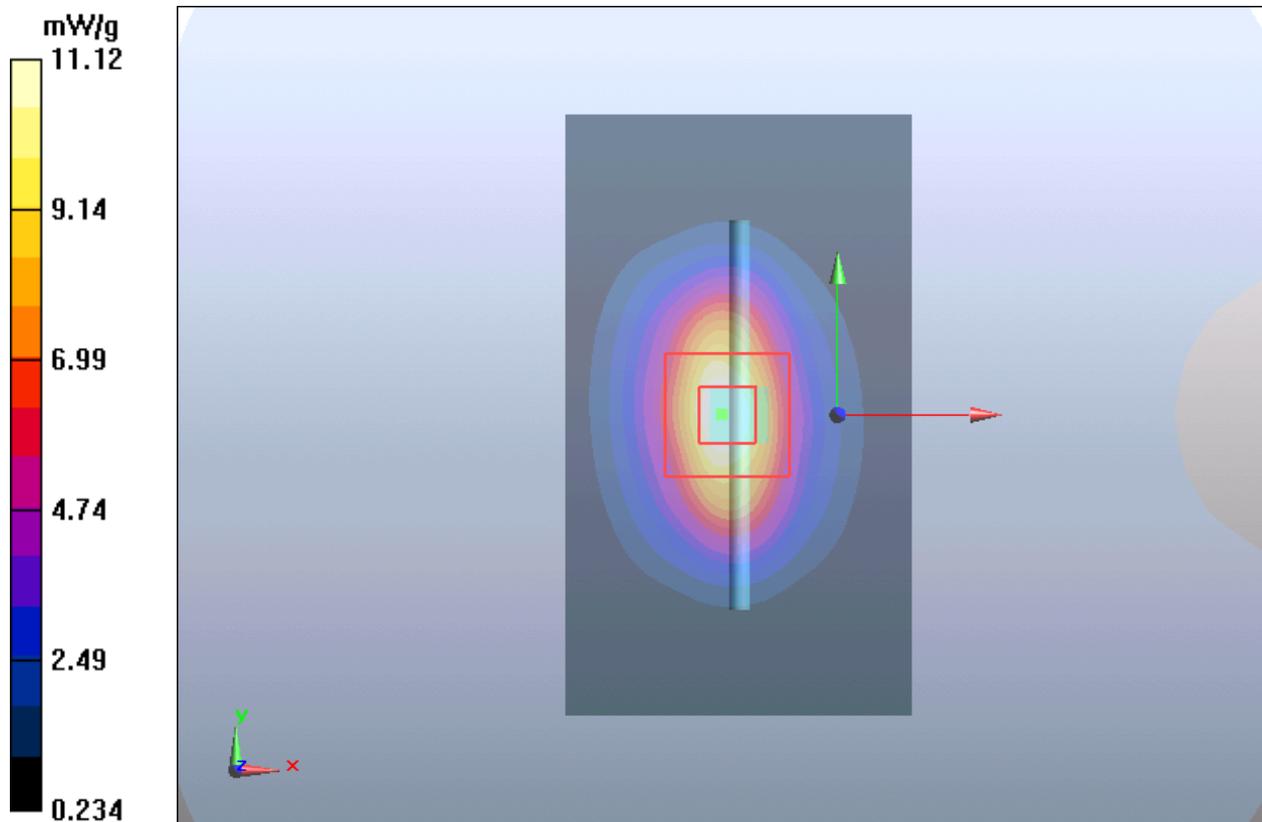
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 85.5 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 17.8 W/kg

**SAR(1 g) = 9.45 mW/g; SAR(10 g) = 4.93 mW/g**

Maximum value of SAR (measured) = 11.12 mW/g



**Plot 18 System Performance Check at 1900 MHz Body TSL**

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 3/22/2016

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 - SN3677; ConvF(7.42, 7.42, 7.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

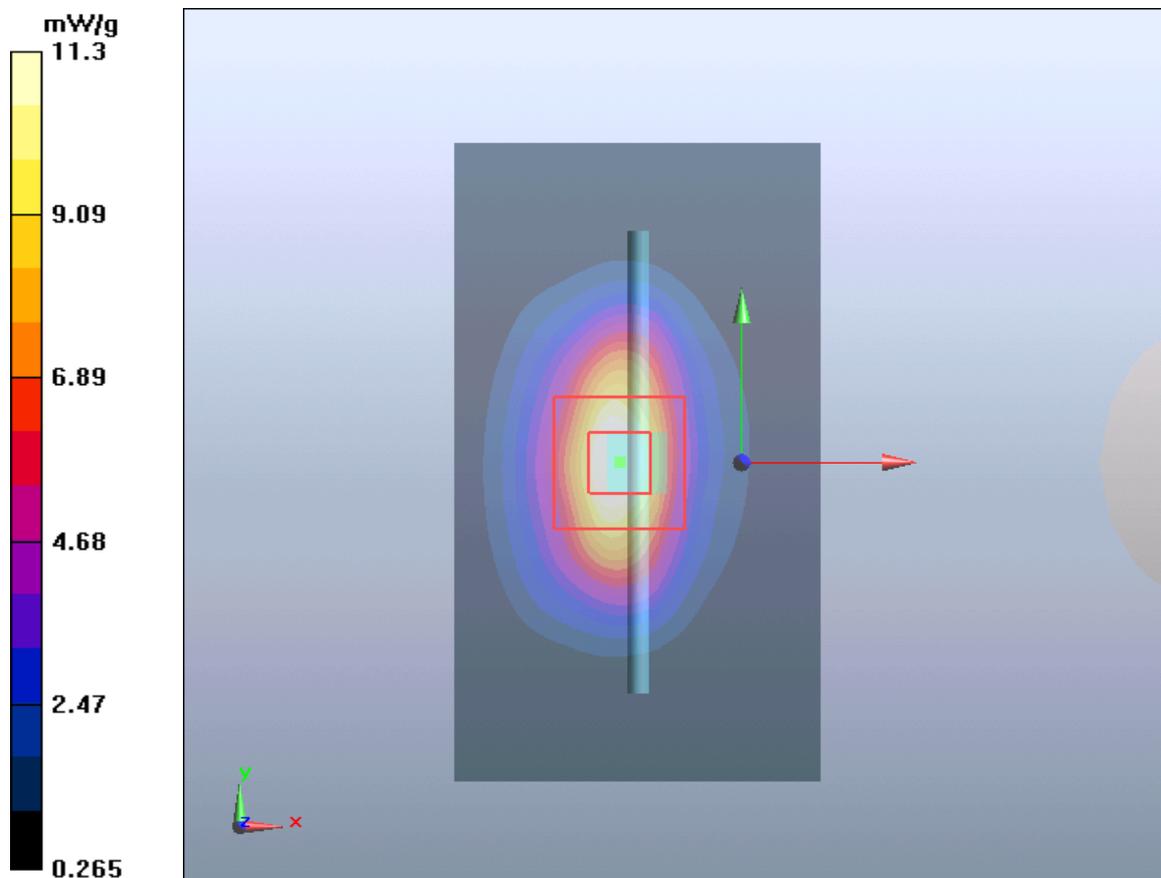
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

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 19 System Performance Check at 1900 MHz Body TSL**

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 3/25/2016

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 - SN3677; ConvF(7.42, 7.42, 7.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

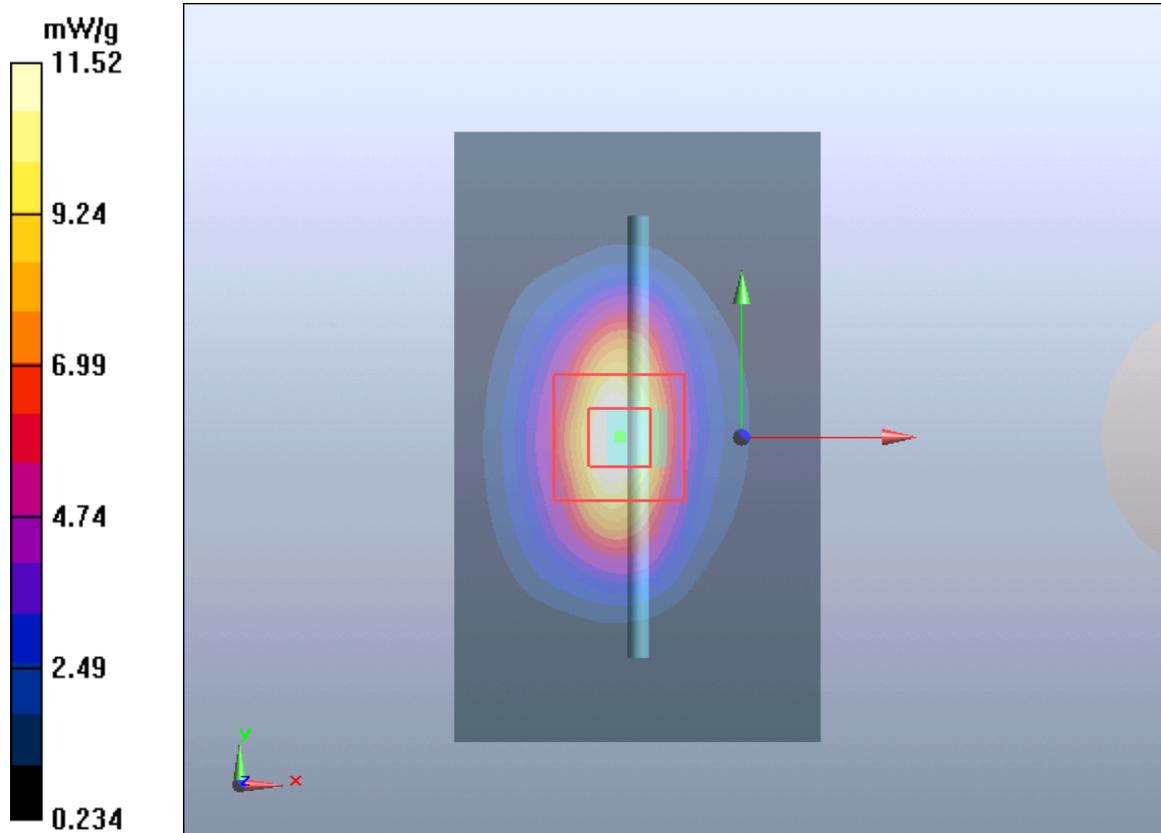
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

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 1900 MHz Body TSL**

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 3/26/2016

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 - SN3677; ConvF(7.42, 7.42, 7.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

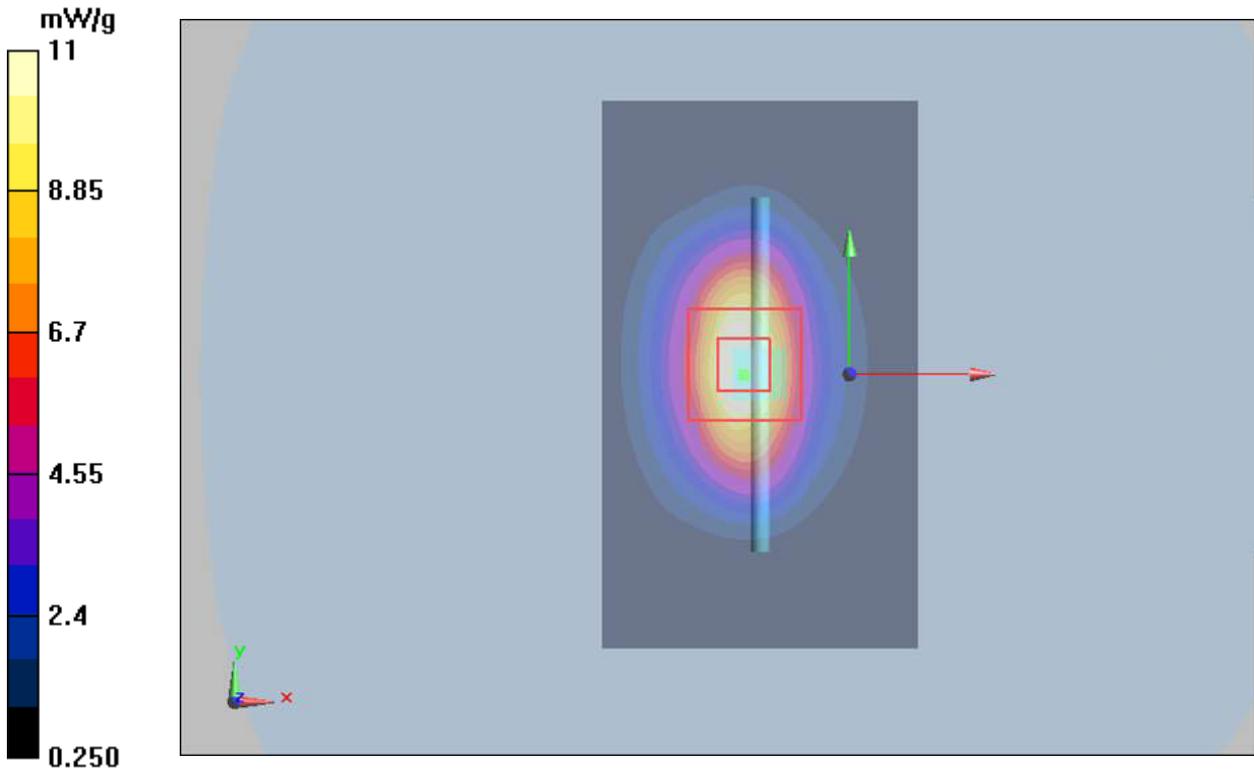
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

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 21 System Performance Check at 2450 MHz Head TSL**

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 786**

Date: 4/11/2016

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 - SN3677; ConvF(7.39, 7.39, 7.39); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

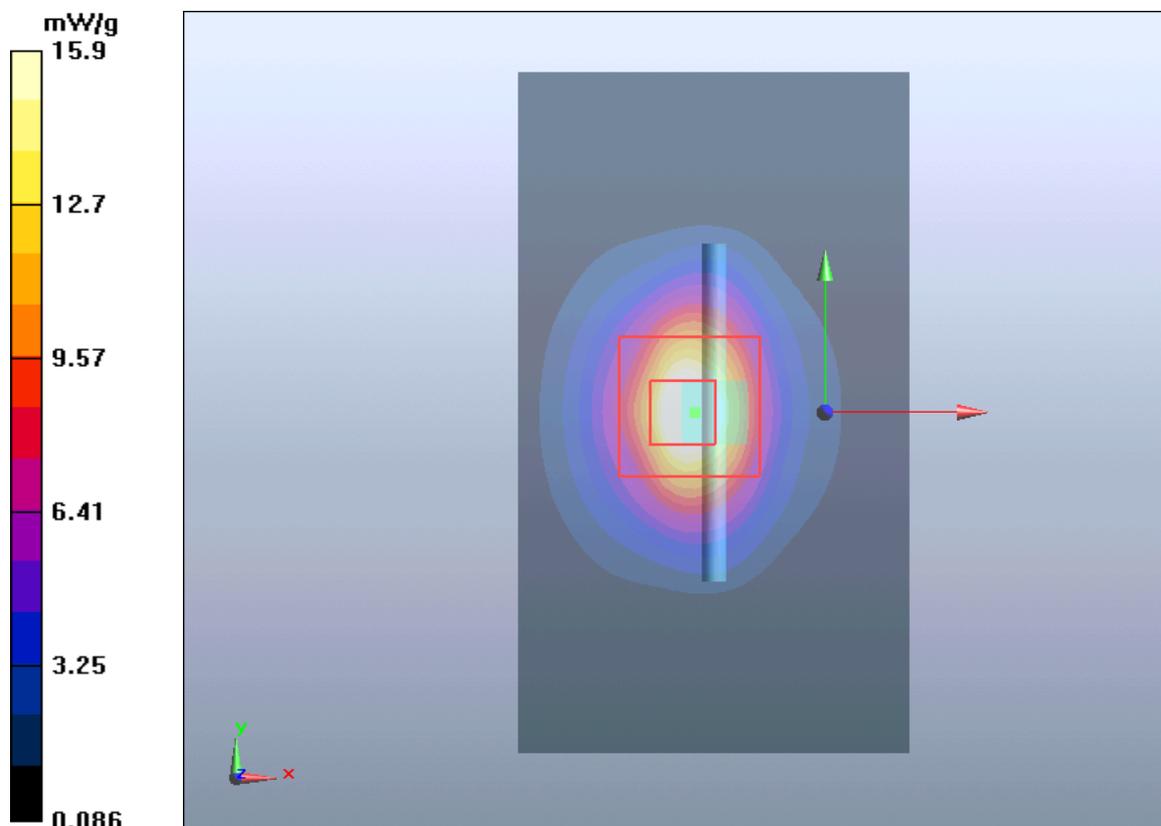
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

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 22 System Performance Check at 2450 MHz Body TSL**

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 786**

Date: 4/11/2016

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 - SN3677; ConvF(7.22, 7.22, 7.22); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

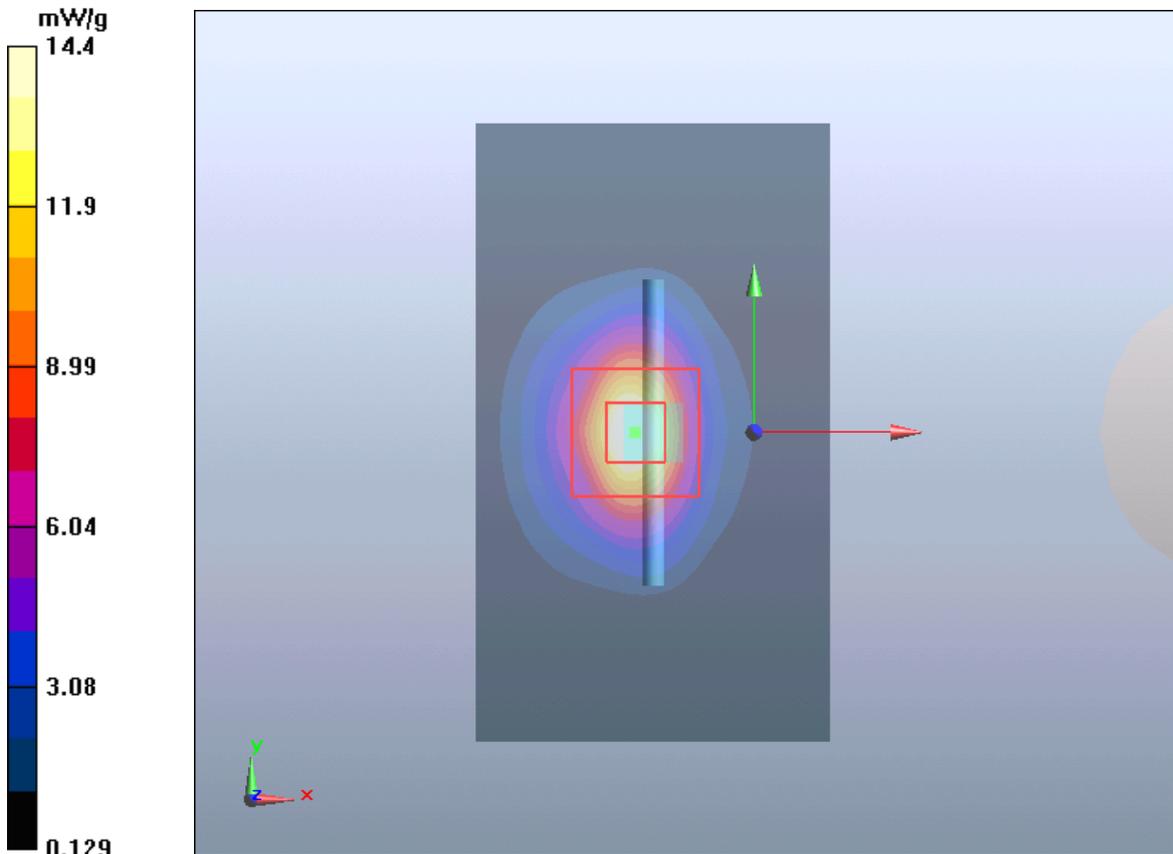
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

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 23 System Performance Check at 2600 MHz Head TSL**

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1025**

Date: 3/19/2016

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 - SN3677; ConvF(7.18, 7.18, 7.18); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

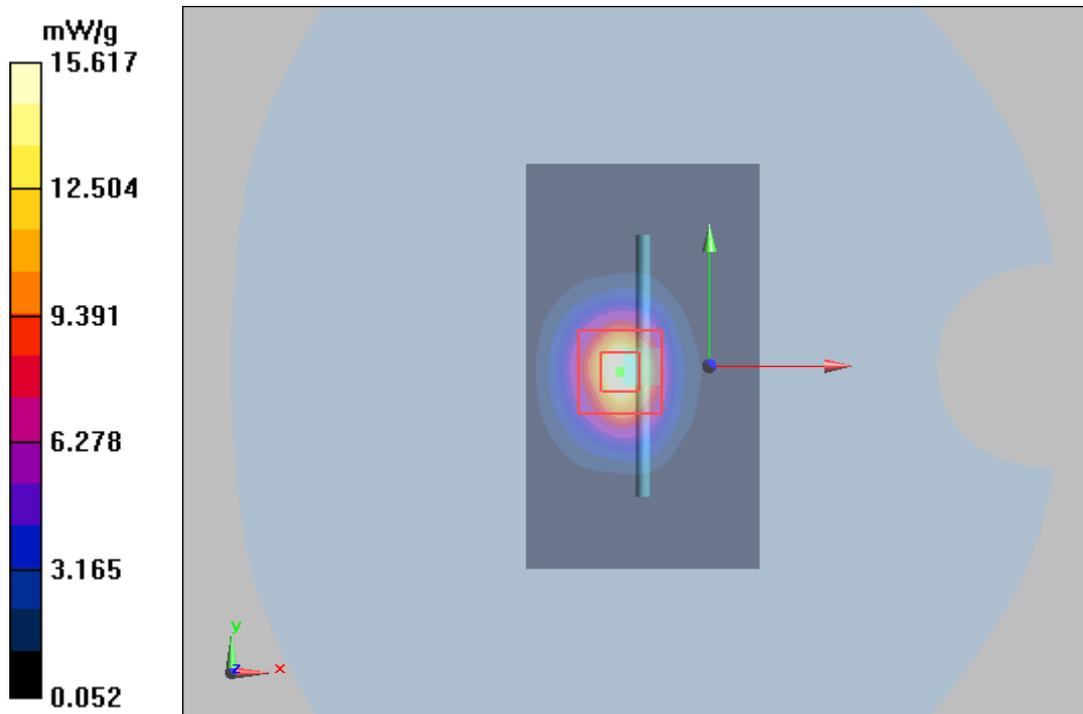
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

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 24 System Performance Check at 2600 MHz Head TSL**

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1025**

Date: 3/23/2016

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 - SN3677; ConvF(7.18, 7.18, 7.18); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

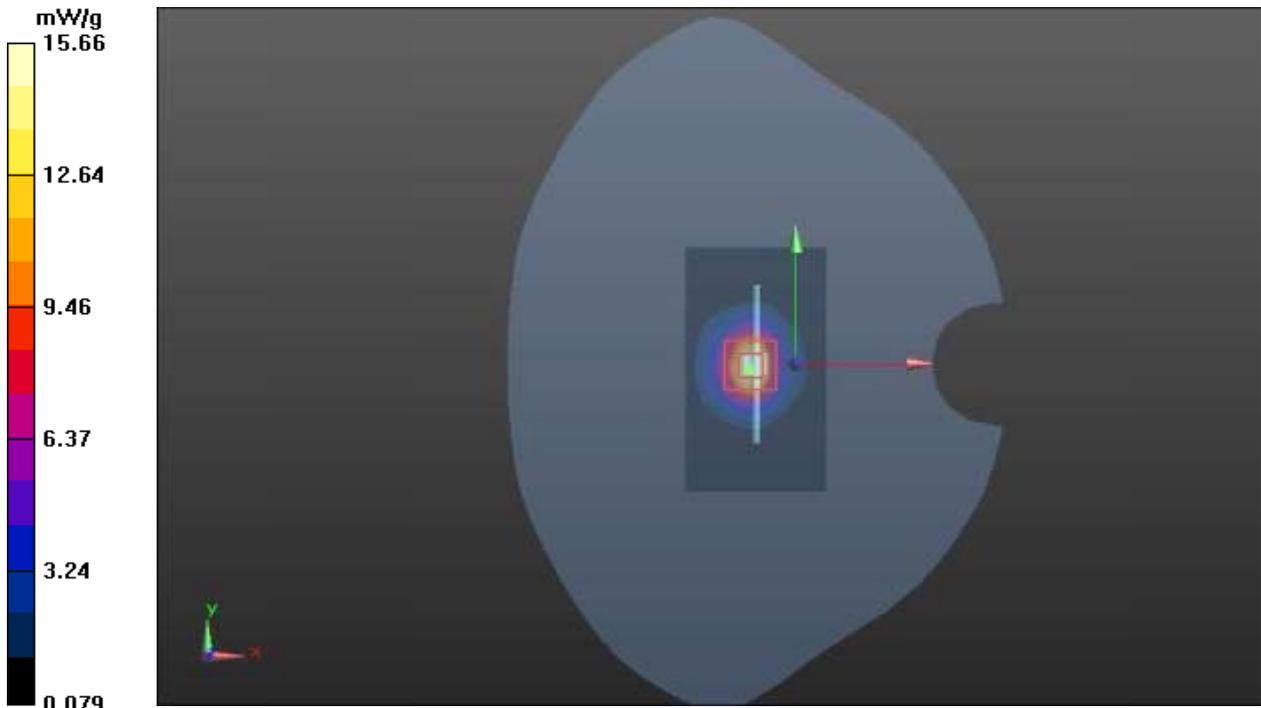
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

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 25 System Performance Check at 2600 MHz Body TSL

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1025**

Date: 3/18/2016

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 - SN3677; ConvF(6.95, 6.95, 6.95); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

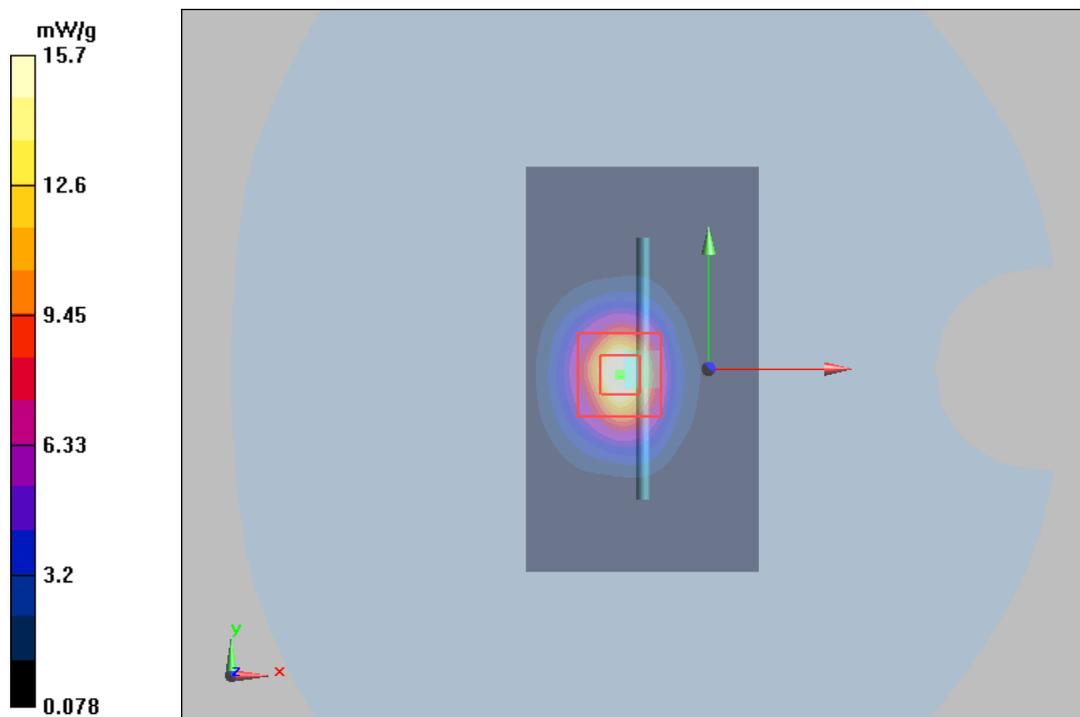
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

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: 3/21/2016

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 - SN3677; ConvF(6.95, 6.95, 6.95); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

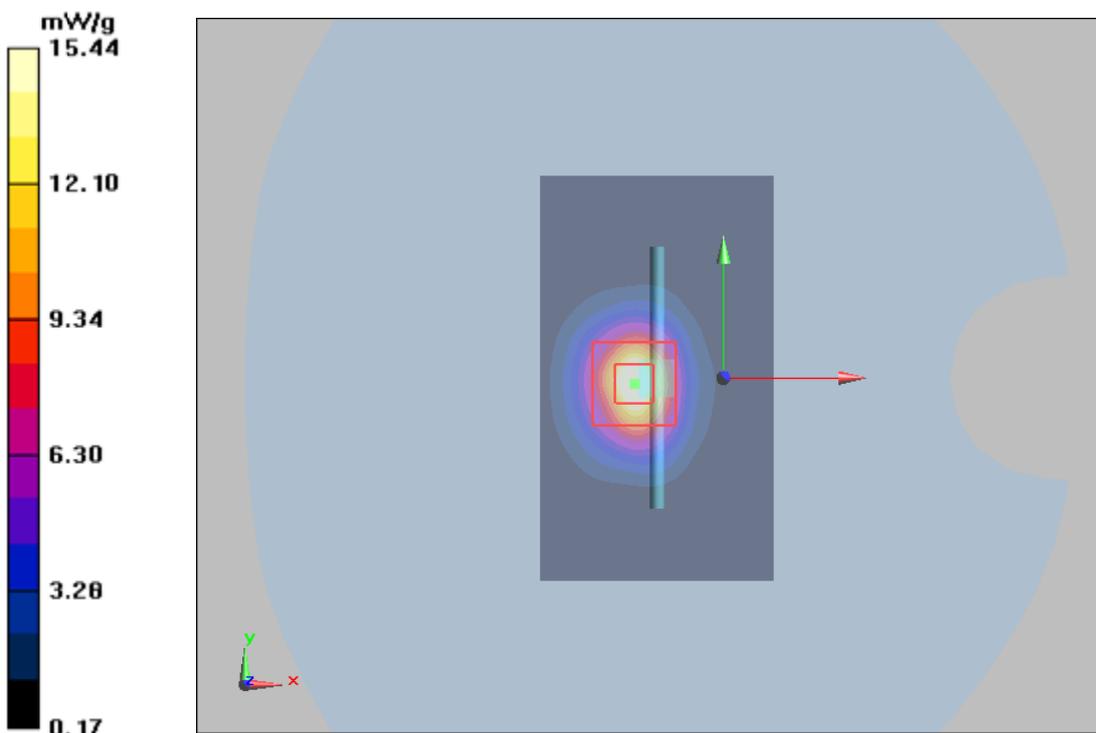
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

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: 4/7/2016

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 - SN3677; ConvF(6.95, 6.95, 6.95); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

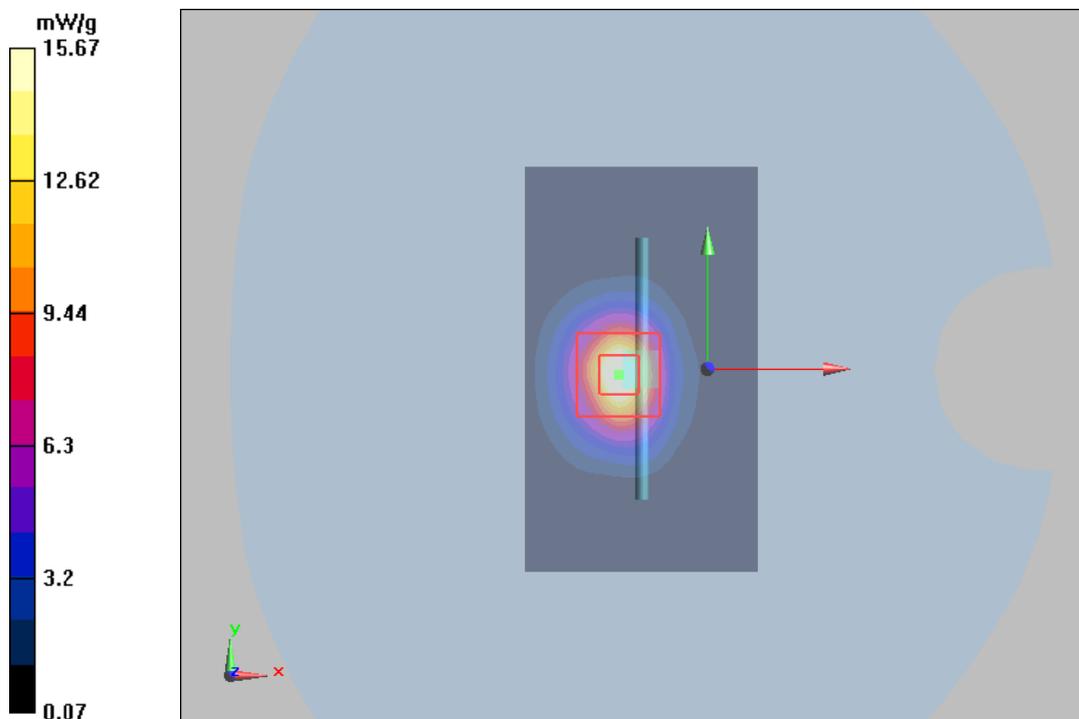
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

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 5200 MHz Head TSL**

**DUT: Dipole 5200 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 4/11/2016

Communication System: CW; Frequency: 5200 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5200$  MHz;  $\sigma = 4.80$  mho/m;  $\epsilon_r = 35.5$ ;  $\rho = 1000$  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(5.58, 5.58, 5.58); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) = 9.14 mW/g

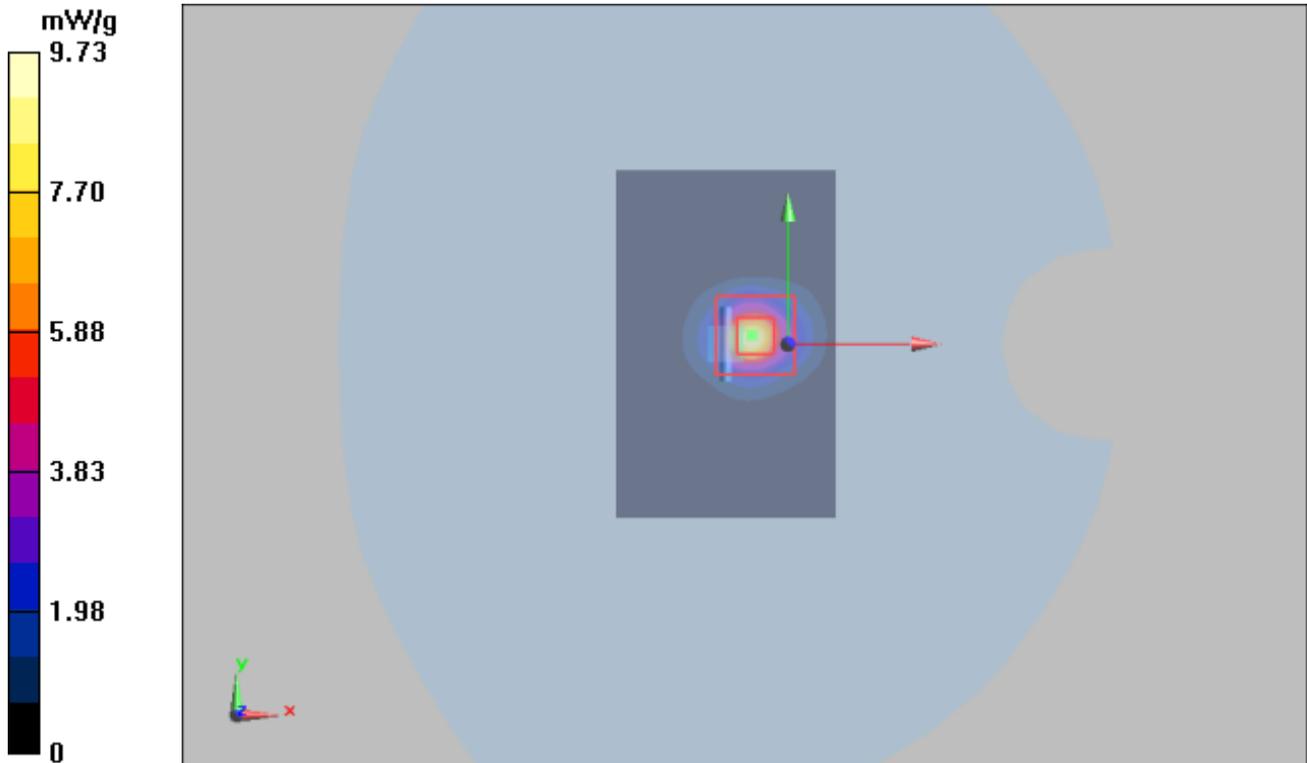
**d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 33.6 V/m; Power Drift = -0.095 dB

Peak SAR (extrapolated) = 52.2 W/kg

**SAR(1 g) = 7.87 mW/g; SAR(10 g) = 2.25 mW/g**

Maximum value of SAR (measured) = 9.73 mW/g



**Plot 29 System Performance Check at 5200 MHz Body TSL**

**DUT: Dipole 5200 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 4/12/2016

Communication System: CW; Frequency: 5200 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5200 \text{ MHz}$ ;  $\sigma = 5.32 \text{ mho/m}$ ;  $\epsilon_r = 48.1$ ;  $\rho = 1000 \text{ kg/m}^3$

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(4.93, 4.93, 4.93); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) =  $7.69 \text{ mW/g}$

**d=10mm, Pin=250mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,

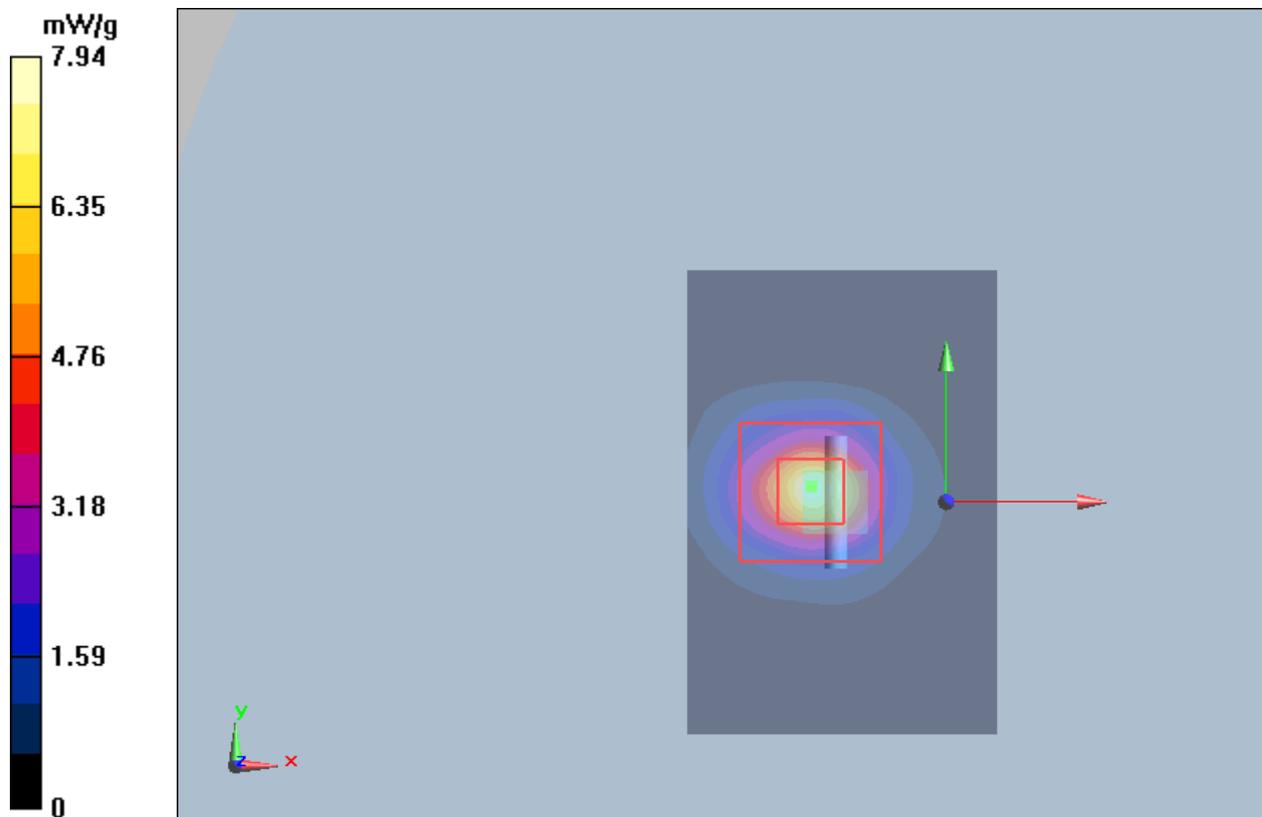
$dz=2\text{mm}$

Reference Value =  $36.3 \text{ V/m}$ ; Power Drift =  $0.0277 \text{ dB}$

Peak SAR (extrapolated) =  $47.7 \text{ W/kg}$

**SAR(1 g) =  $7.46 \text{ mW/g}$ ; SAR(10 g) =  $2.26 \text{ mW/g}$**

Maximum value of SAR (measured) =  $7.94 \text{ mW/g}$



**Plot 30 System Performance Check at 5300 MHz Head TSL****DUT: Dipole 5300 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 4/12/2016

Communication System: CW; Frequency: 5300 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5300$  MHz;  $\sigma = 4.95$  mho/m;  $\epsilon_r = 35.2$ ;  $\rho = 1000$  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(5.34, 5.34, 5.34); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) = 10.7 mW/g

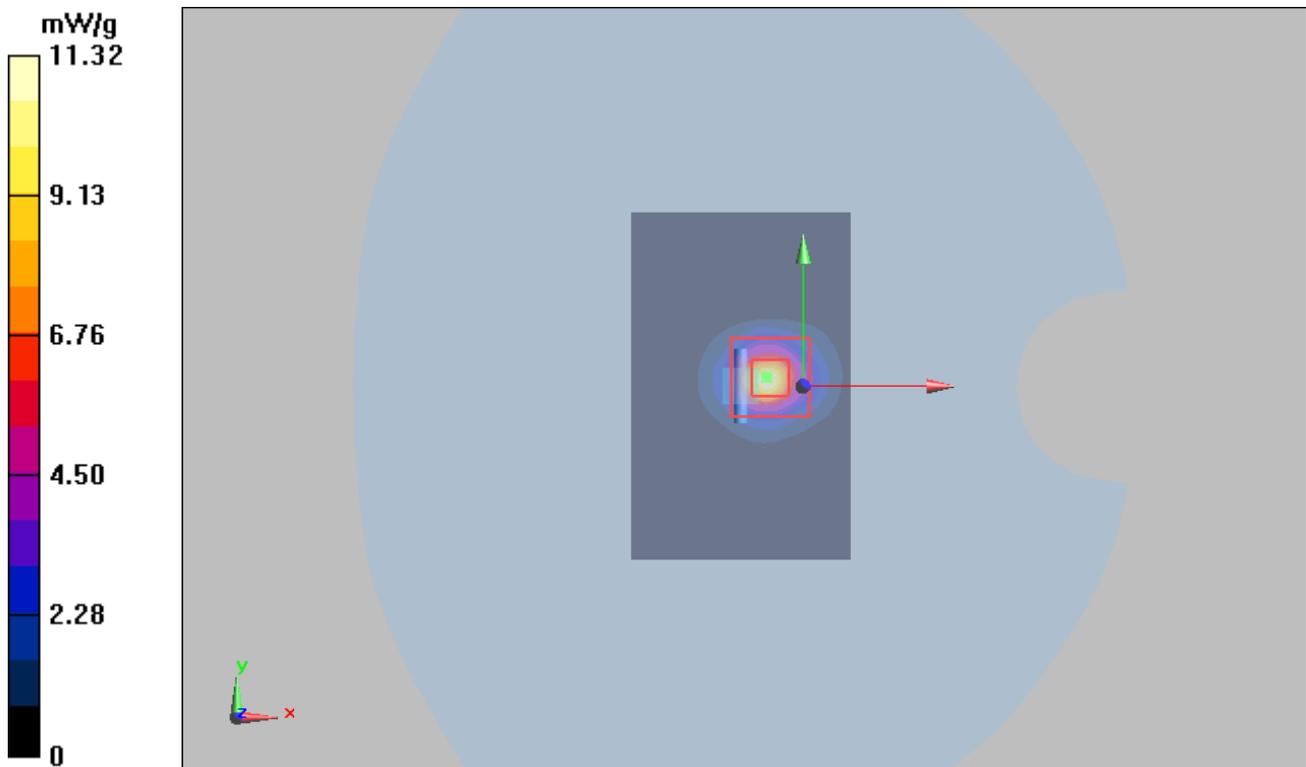
**d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 35.5 V/m; Power Drift = -0.151 dB

Peak SAR (extrapolated) = 58.8 W/kg

**SAR(1 g) = 8.13 mW/g; SAR(10 g) = 2.28 mW/g**

Maximum value of SAR (measured) = 11.32 mW/g



**Plot 31 System Performance Check at 5300 MHz Body TSL**

**DUT: Dipole 5300 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 4/12/2016

Communication System: CW; Frequency: 5300 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5300$  MHz;  $\sigma = 5.30$  mho/m;  $\epsilon_r = 48.4$ ;  $\rho = 1000$  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(4.69, 4.69, 4.69); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) = 7.11 mW/g

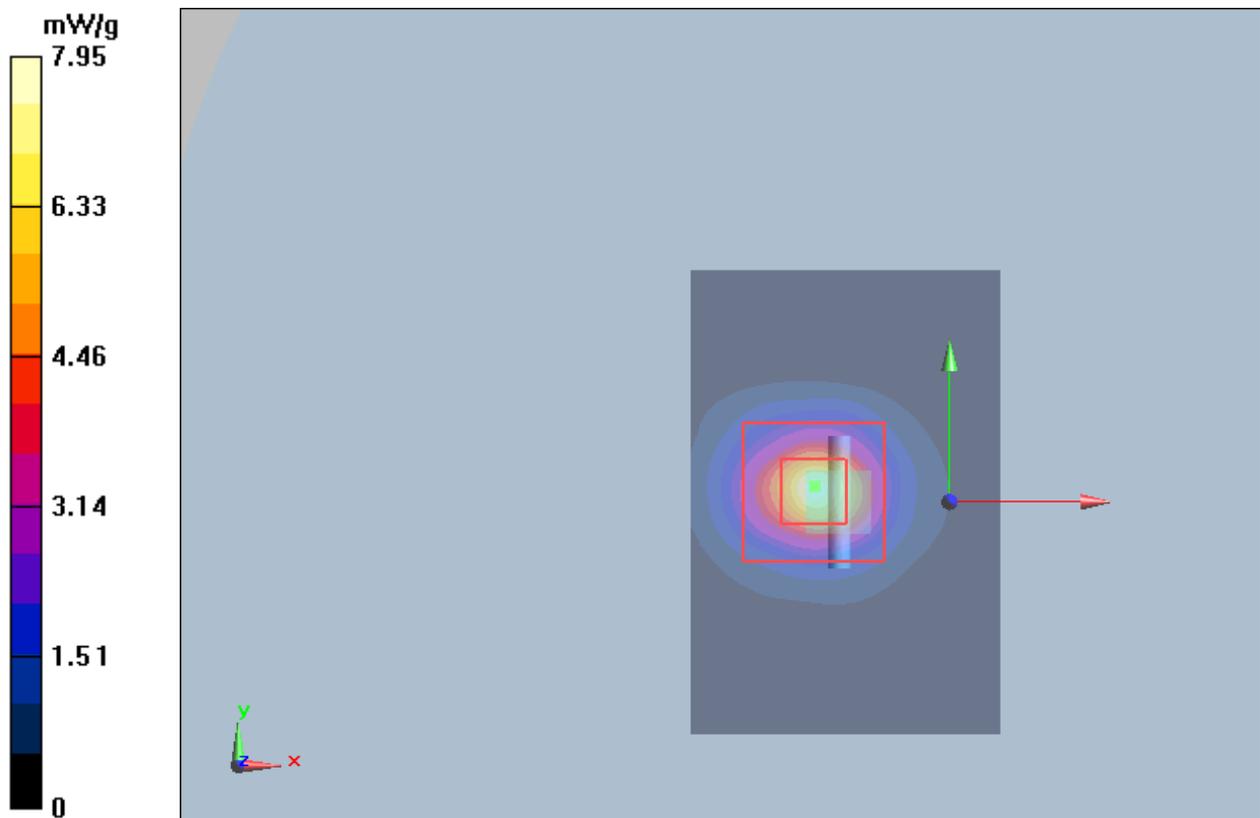
**d=10mm, Pin=250mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 35.7 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 47.1 W/kg

**SAR(1 g) = 7.75 mW/g; SAR(10 g) = 2.34 mW/g**

Maximum value of SAR (measured) = 7.95 mW/g



**Plot 32 System Performance Check at 5600 MHz Head TSL**

**DUT: Dipole 5600 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 4/5/2016

Communication System: CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5600 \text{ MHz}$ ;  $\sigma = 5.21 \text{ mho/m}$ ;  $\epsilon_r = 34.2$ ;  $\rho = 1000 \text{ kg/m}^3$

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(4.85, 4.85, 4.85); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

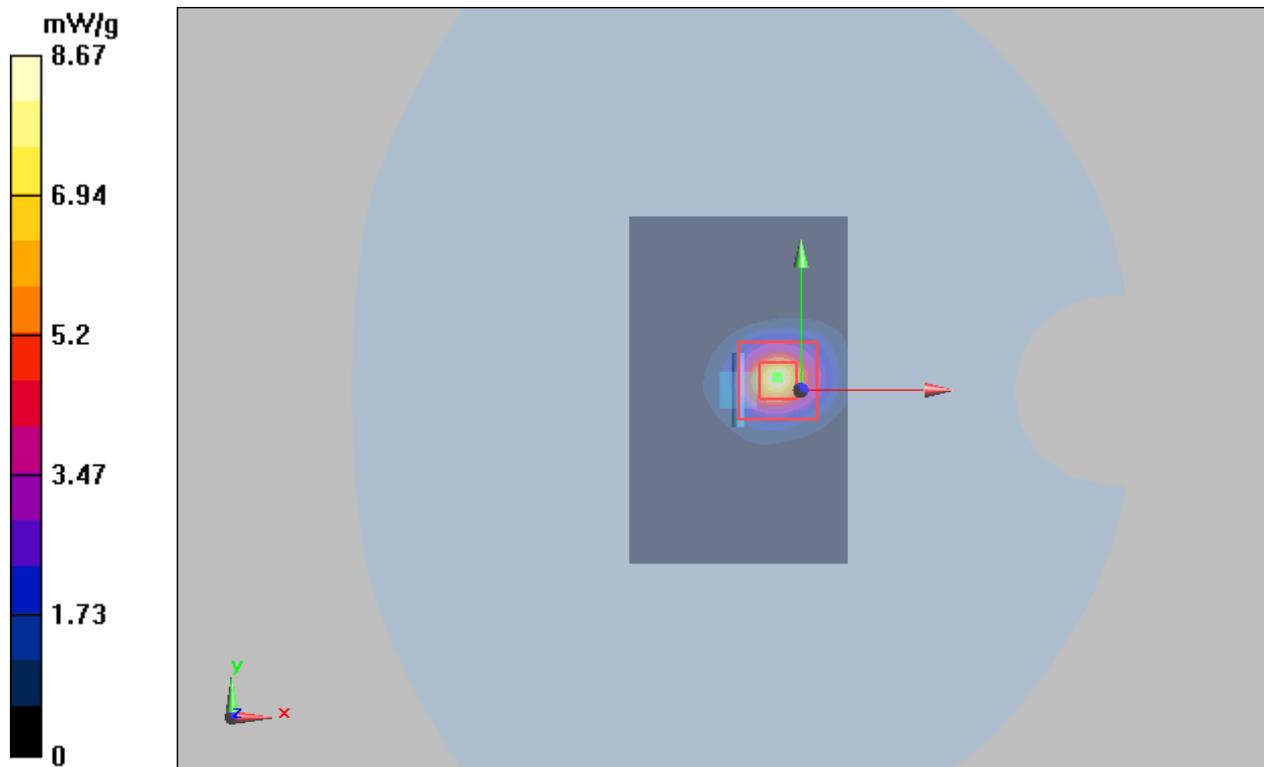
**d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

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 33 System Performance Check at 5600 MHz Body TSL****DUT: Dipole 5600 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 4/6/2016

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: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.18, 4.18, 4.18); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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

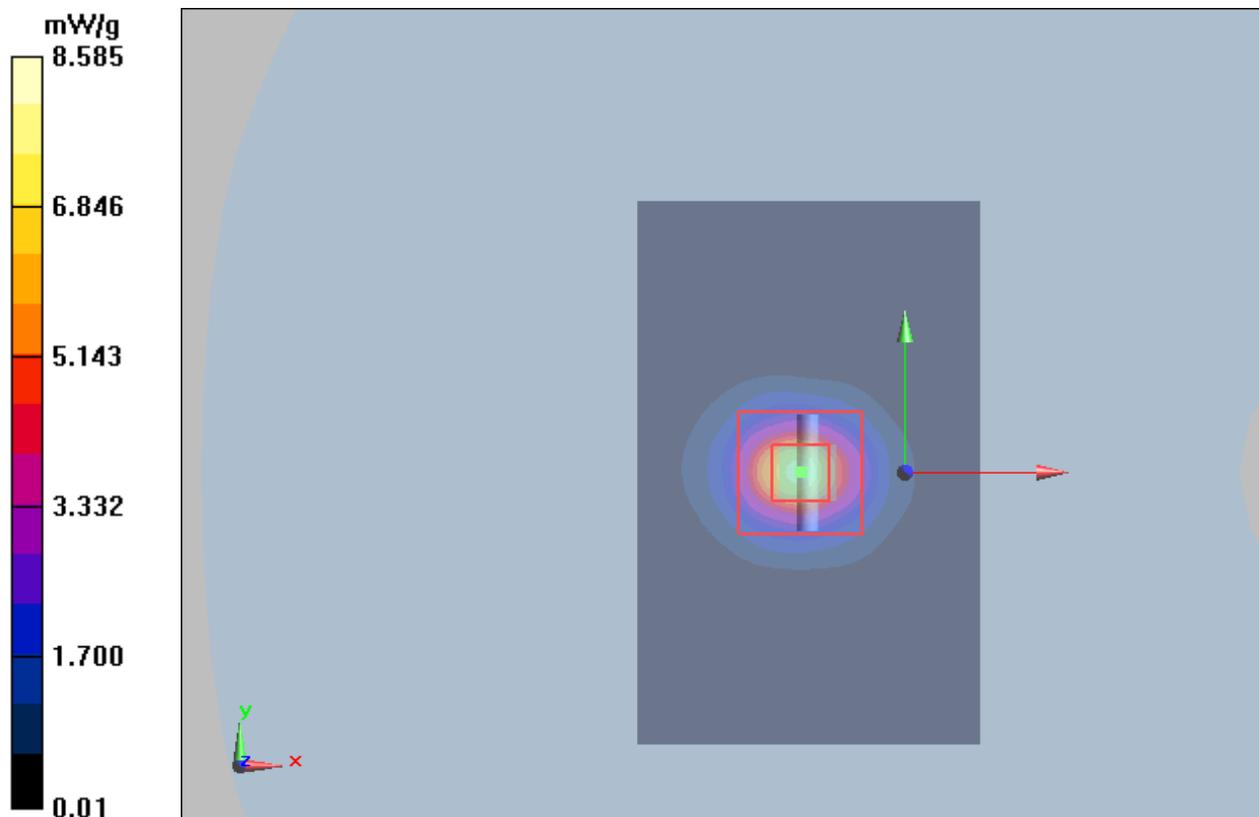
**d=10mm, Pin=250mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

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 34 System Performance Check at 5800 MHz Head TSL****DUT: Dipole 5800 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 4/5/2016

Communication System: CW; Frequency: 5800 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5800$  MHz;  $\sigma = 5.21$  mho/m;  $\epsilon_r = 34.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.81, 4.81, 4.81); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) = 8.31 mW/g

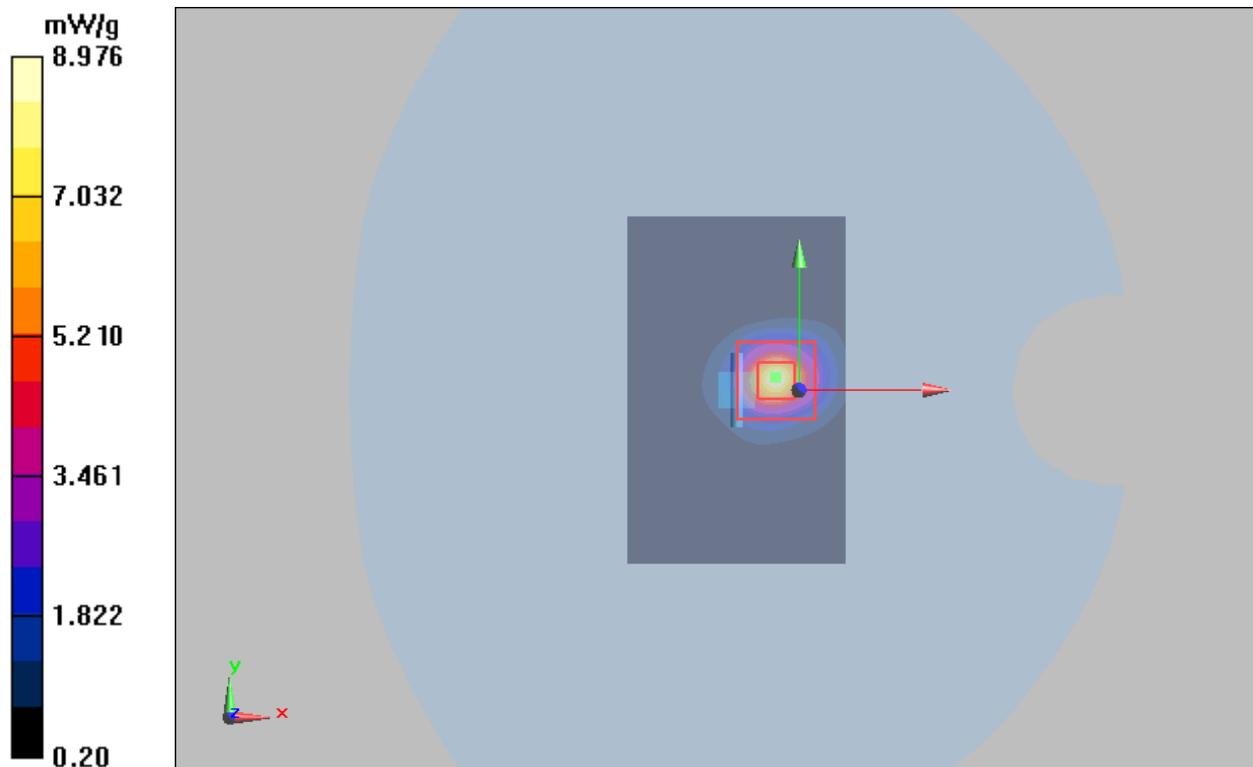
**d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 23.1 V/m; Power Drift = 0.044 dB

Peak SAR (extrapolated) = 23.4 W/kg

**SAR(1 g) = 7.66 mW/g; SAR(10 g) = 2.27 mW/g**

Maximum value of SAR (measured) = 8.976 mW/g



**Plot 35 System Performance Check at 5800 MHz Body TSL**

**DUT: Dipole 5800 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 4/6/2016

Communication System: CW; Frequency: 5800 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5800 \text{ MHz}$ ;  $\sigma = 6.14 \text{ mho/m}$ ;  $\epsilon_r = 47.6$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.23, 4.23, 4.23); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) =  $7.84 \text{ mW/g}$

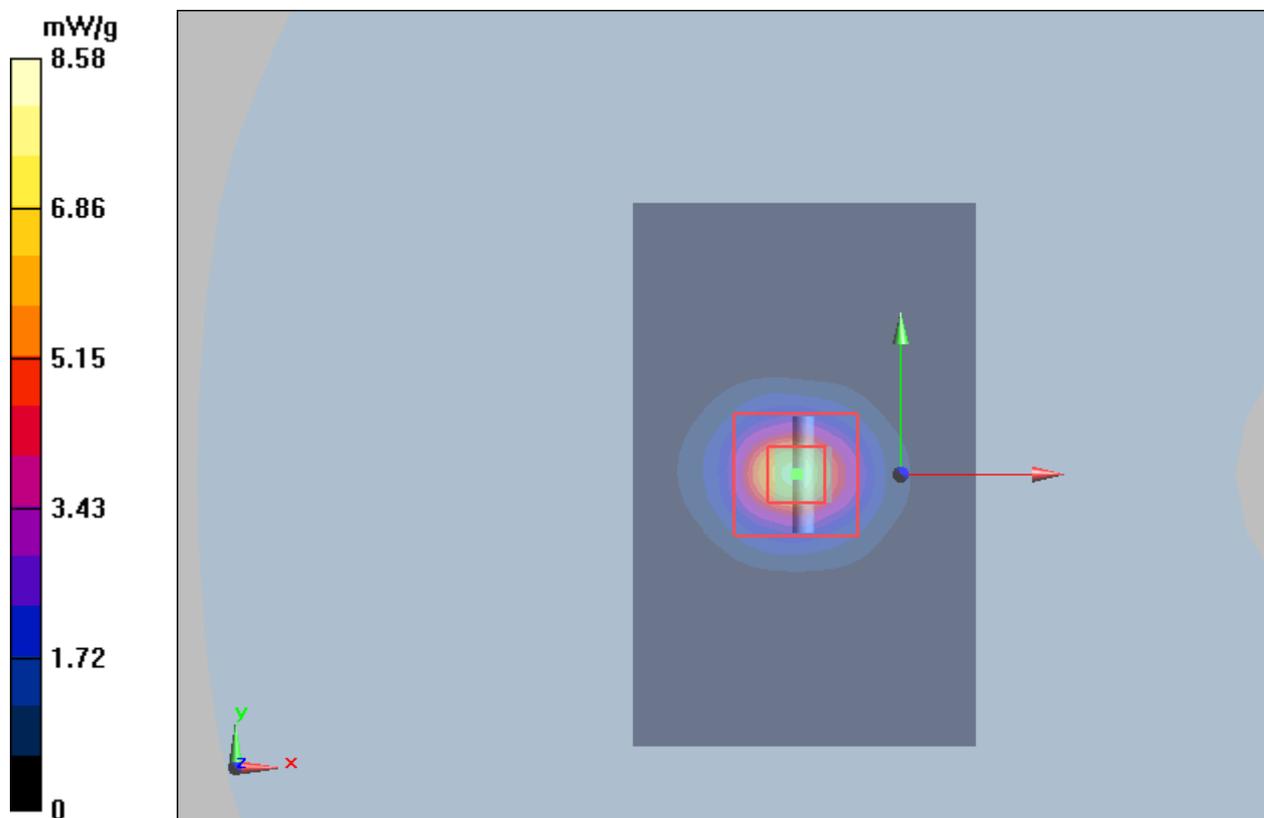
**d=10mm, Pin=250mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

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

### Main-Antenna

#### Plot 36 GSM 850 Right Cheek Middle

Date: 3/26/2016

Communication System: UID 0, GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.939$  S/m;  $\epsilon_r = 41.857$ ;  $\rho = 1000$  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(9.35, 9.35, 9.35); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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 (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.436 W/kg

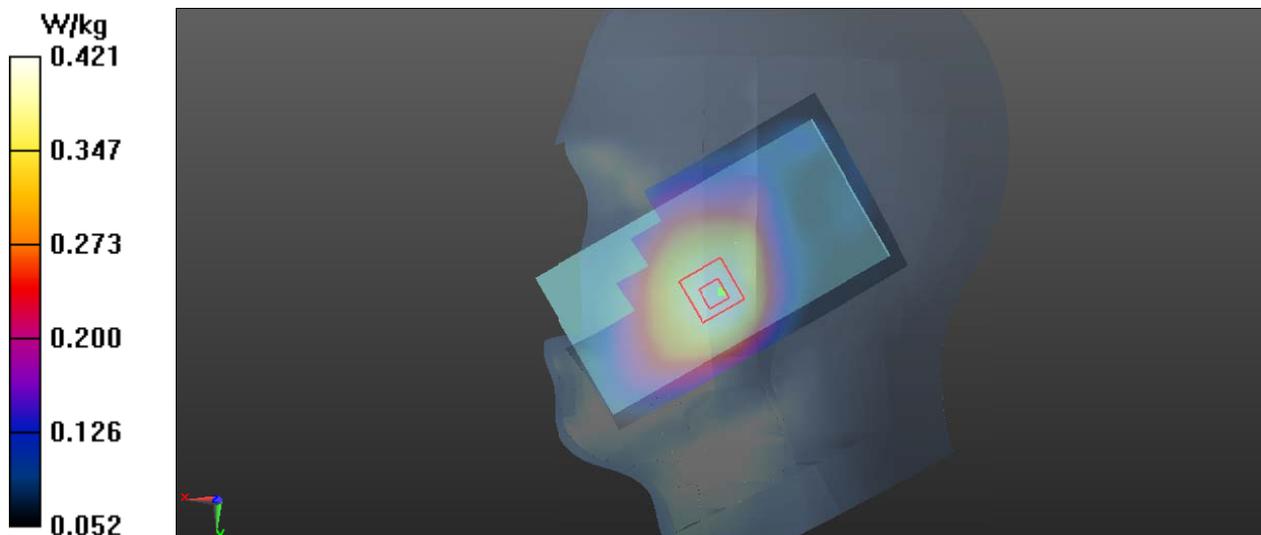
**Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.955 V/m; Power Drift = -0.031 dB

Peak SAR (extrapolated) = 0.501 W/kg

**SAR(1 g) = 0.406 W/kg; SAR(10 g) = 0.317 W/kg**

Maximum value of SAR (measured) = 0.421 W/kg



**Plot 37 GSM 850 Back Side Middle (Distance 15mm)**

Date: 3/27/2016

Communication System: UID 0, GSM850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.967$  S/m;  $\epsilon_r = 54.144$ ;  $\rho = 1000$  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(9.42, 9.42, 9.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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 (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.271 W/kg

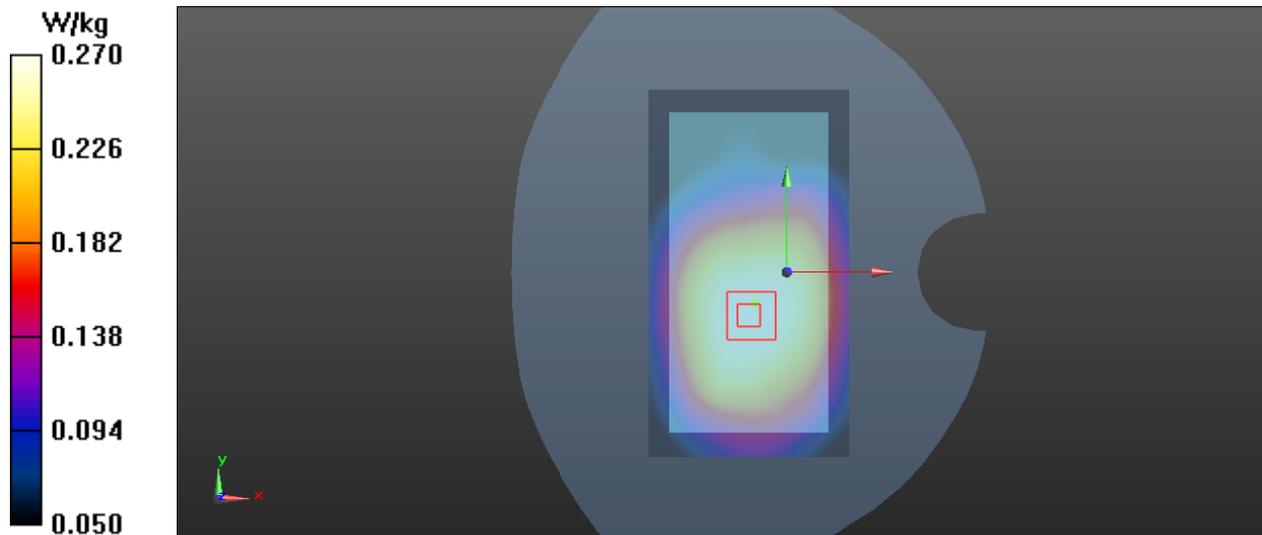
**Back Side Middle /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.16 V/m; Power Drift = 0.035 dB

Peak SAR (extrapolated) = 0.320 W/kg

**SAR(1 g) = 0.260 W/kg; SAR(10 g) = 0.204 W/kg**

Maximum value of SAR (measured) = 0.270 W/kg



**Plot 38 GSM 850 GPRS (2Txslots) Back Side Middle (Distance 10mm)**

Date: 3/27/2016

Communication System: UID 0, GPRS 2TX (0); Frequency: 836.6 MHz; Duty Cycle: 1:4.14954

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.967$  S/m;  $\epsilon_r = 54.144$ ;  $\rho = 1000$  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(9.42, 9.42, 9.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) = 0.301 W/kg

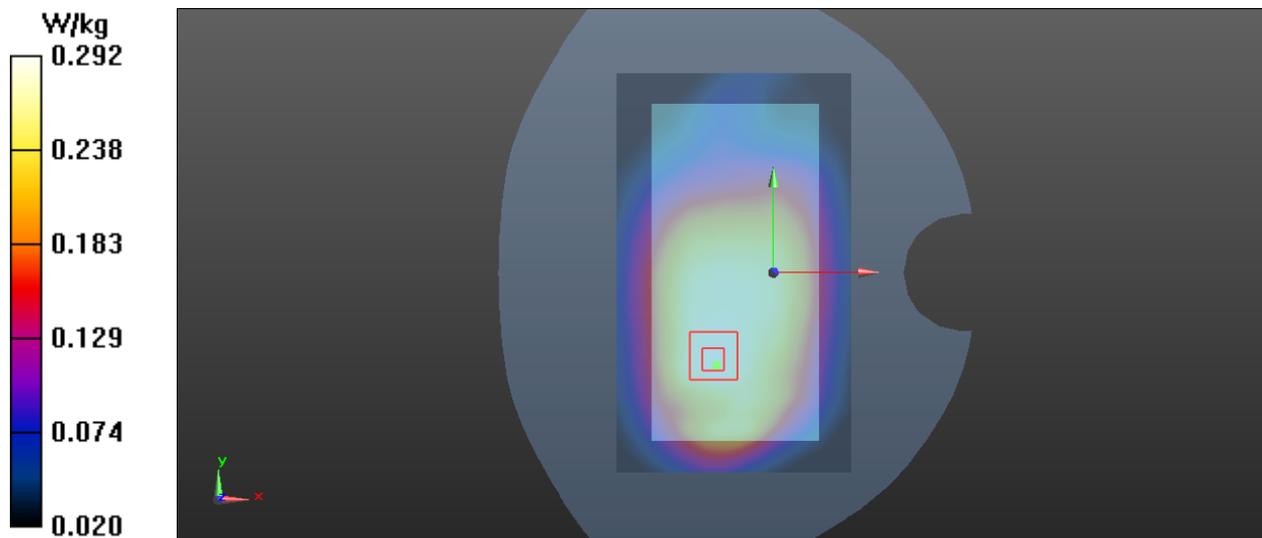
**Back Side Middle /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.71 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.359 W/kg

**SAR(1 g) = 0.283 W/kg; SAR(10 g) = 0.214 W/kg**

Maximum value of SAR (measured) = 0.292 W/kg



**Plot 39 GSM 1900 Right Cheek Middle**

Date: 4/1/2016

Communication System: UID 0, PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.386$  S/m;  $\epsilon_r = 40.8$ ;  $\rho = 1000$  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(7.96, 7.96, 7.96); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle /Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.298 W/kg

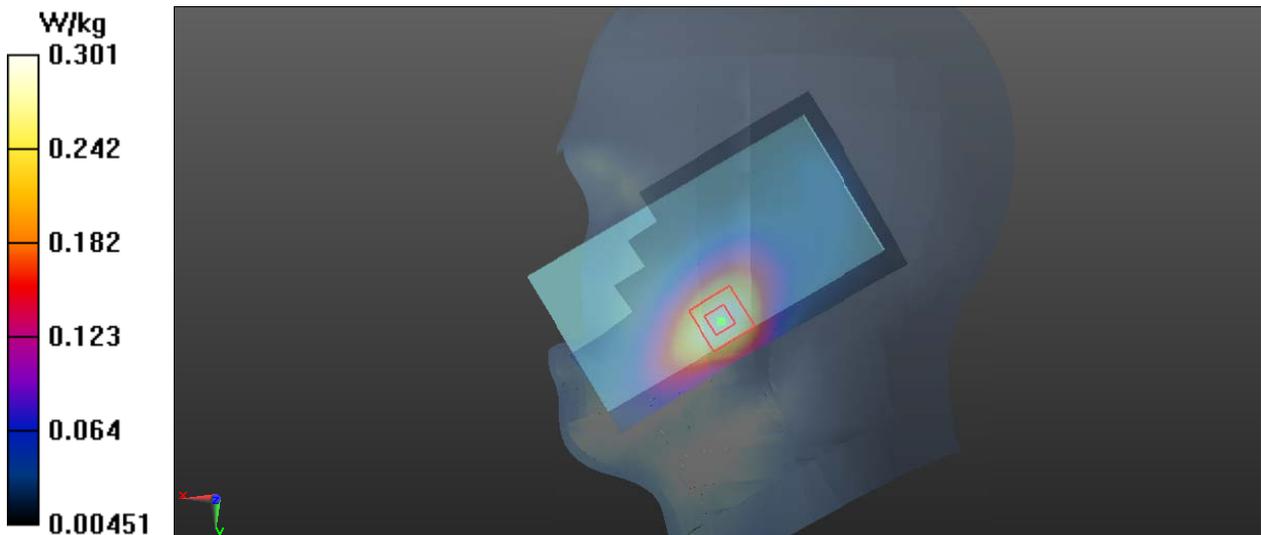
**Right Cheek Middle /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.590 V/m; Power Drift = -0.051 dB

Peak SAR (extrapolated) = 0.414 W/kg

**SAR(1 g) = 0.274 W/kg; SAR(10 g) = 0.169 W/kg**

Maximum value of SAR (measured) = 0.301 W/kg



**Plot 40 GSM 1900 Back Side Middle (Distance 15mm)**

Date: 3/25/2016

Communication System: UID 0, PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.494$  S/m;  $\epsilon_r = 52.613$ ;  $\rho = 1000$  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(7.42, 7.42, 7.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle /Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.243 W/kg

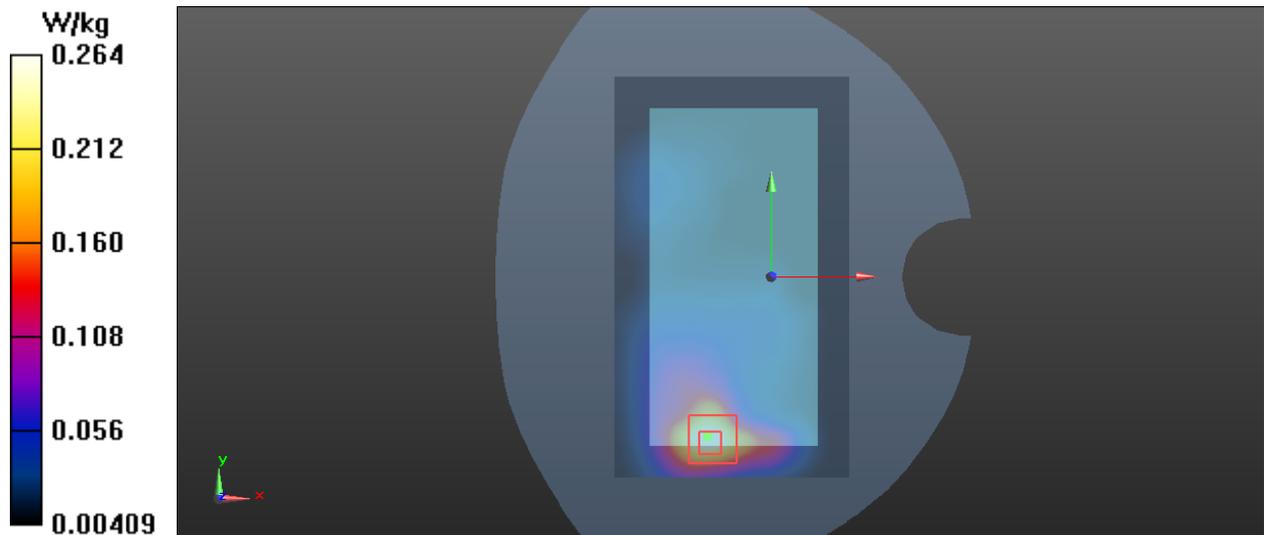
**Back Side Middle /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.036 V/m; Power Drift = 0.089 dB

Peak SAR (extrapolated) = 0.428 W/kg

**SAR(1 g) = 0.246 W/kg; SAR(10 g) = 0.134 W/kg**

Maximum value of SAR (measured) = 0.264 W/kg



**Plot 41 GSM 1900 GPRS (2Txslots) Back Side Middle (Distance 10mm)**

Date: 3/25/2016

Communication System: UID 0, GPRS 2TX (0); Frequency: 1880 MHz; Duty Cycle: 1:4.14954

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.494$  S/m;  $\epsilon_r = 52.613$ ;  $\rho = 1000$  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(7.42, 7.42, 7.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; 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) = 0.685 W/kg

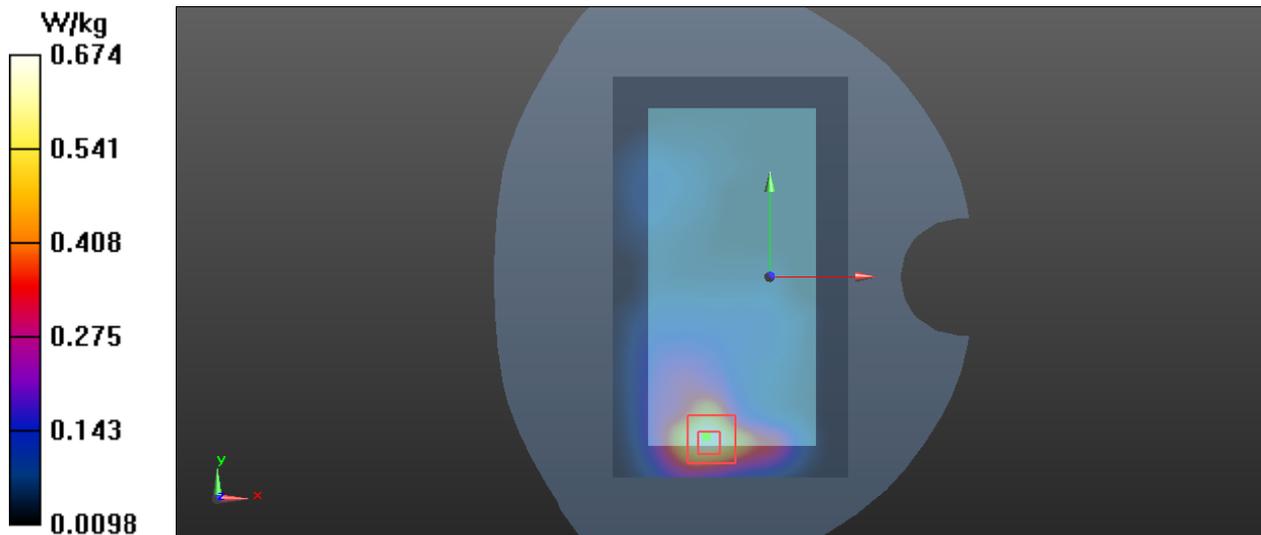
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.691 V/m; Power Drift = 0.078 dB

Peak SAR (extrapolated) = 1.04 W/kg

**SAR(1 g) = 0.580 W/kg; SAR(10 g) = 0.305 W/kg**

Maximum value of SAR (measured) = 0.674 W/kg



**Plot 42 UMTS Band II Right Cheek Middle**

Date: 4/1/2016

Communication System: UID 0, WCDMA Band II; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.386 \text{ S/m}$ ;  $\epsilon_r = 40.8$ ;  $\rho = 1000 \text{ kg/m}^3$

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(7.96, 7.96, 7.96); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle /Area Scan (61x111x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.803 \text{ W/kg}$

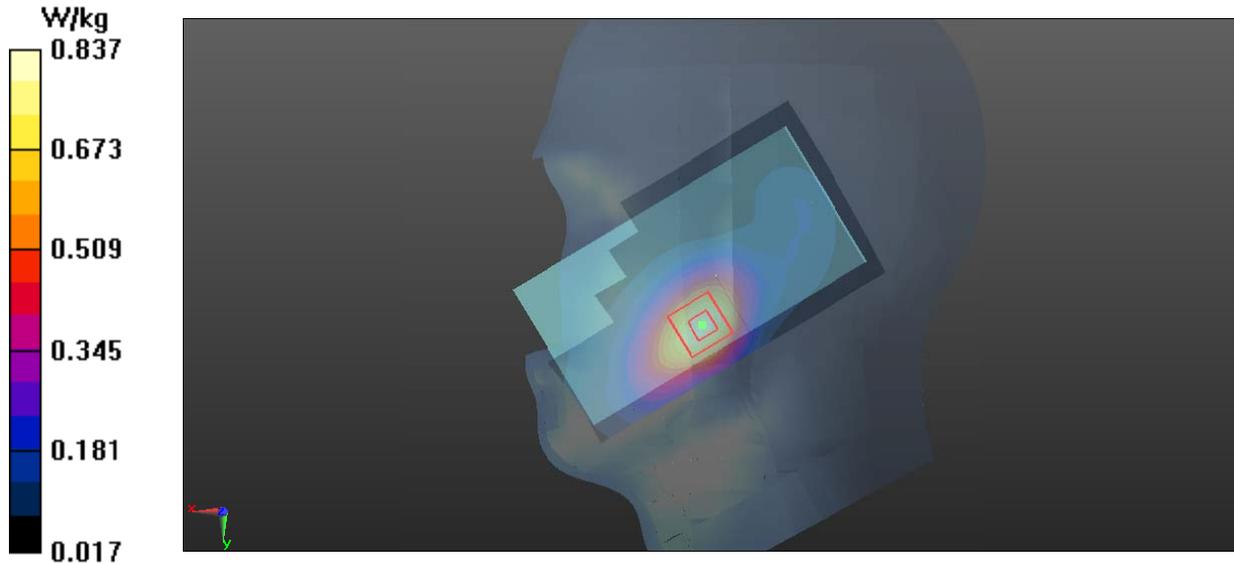
**Right Cheek Middle /Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $10.08 \text{ V/m}$ ; Power Drift =  $0.006 \text{ dB}$

Peak SAR (extrapolated) =  $1.17 \text{ W/kg}$

**SAR(1 g) =  $0.761 \text{ W/kg}$ ; SAR(10 g) =  $0.465 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.837 \text{ W/kg}$



**Plot 43 UMTS Band II Back Side Middle (Distance 15mm)**

Date: 3/25/2016

Communication System: UID 0, WCDMA Band II; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.494$  S/m;  $\epsilon_r = 52.613$ ;  $\rho = 1000$  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(7.42, 7.42, 7.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle /Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.644 W/kg

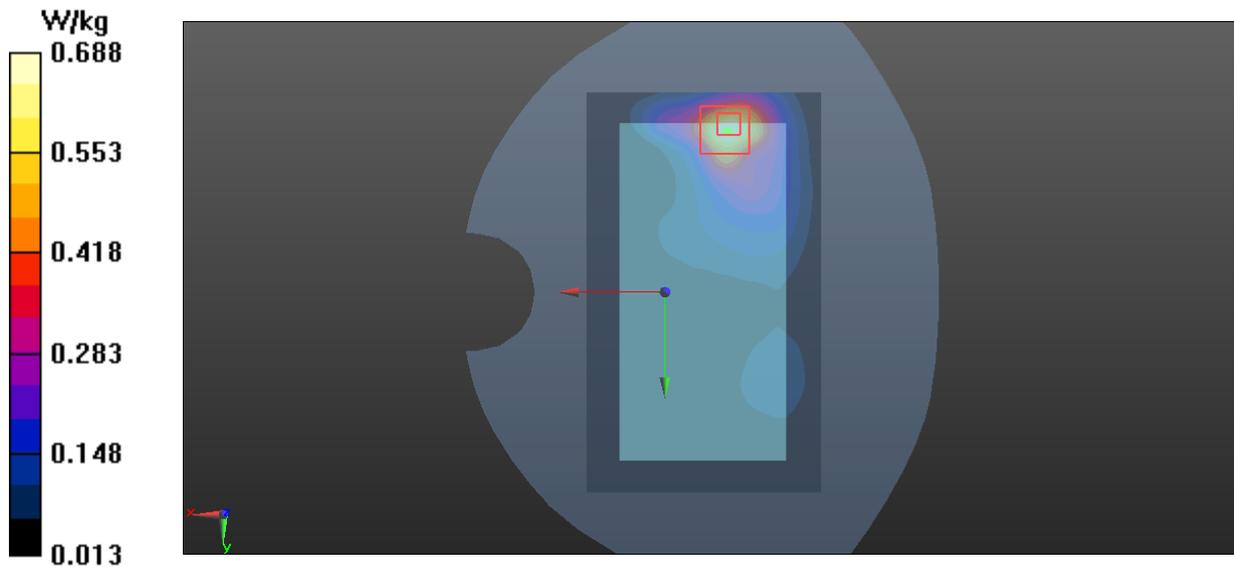
**Back Side Middle /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.488 V/m; Power Drift = 0.097 dB

Peak SAR (extrapolated) = 1.06 W/kg

**SAR(1 g) = 0.619 W/kg; SAR(10 g) = 0.346 W/kg**

Maximum value of SAR (measured) = 0.688 W/kg



**Plot 44 UMTS Band II Back Side Low (Battery 2, Distance 10mm)**

Date: 3/25/2016

Communication System: UID 0, WCDMA Band II; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1852.4$  MHz;  $\sigma = 1.469$  S/m;  $\epsilon_r = 52.702$ ;  $\rho = 1000$  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(7.42, 7.42, 7.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.04 W/kg

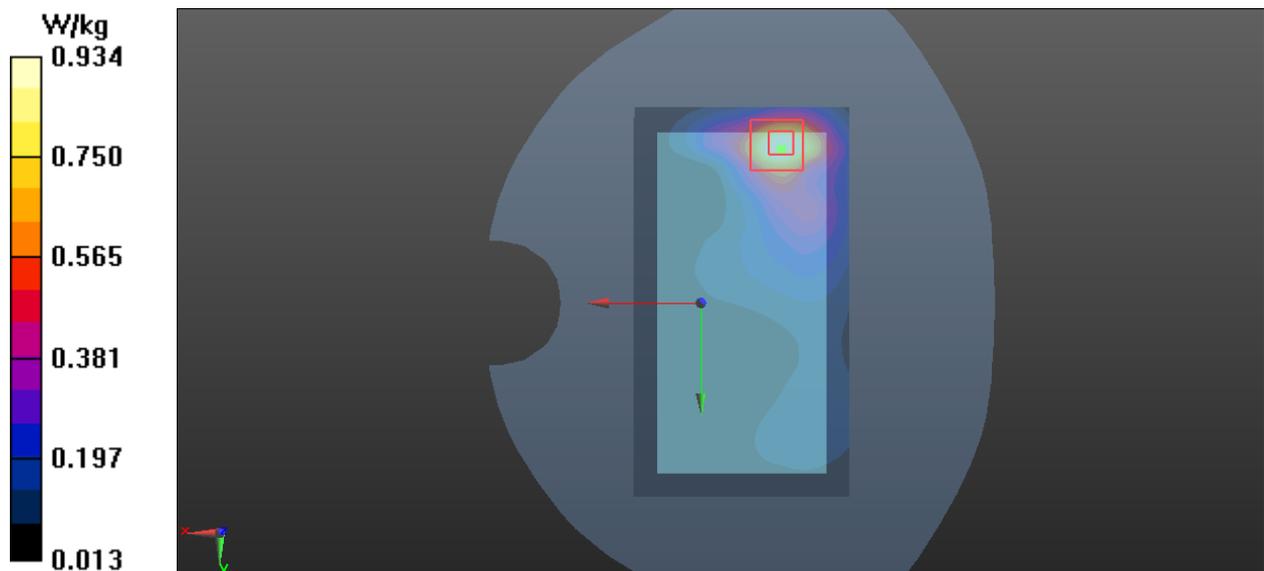
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.768 V/m; Power Drift = 0.128 dB

Peak SAR (extrapolated) = 1.65 W/kg

**SAR(1 g) = 0.868 W/kg; SAR(10 g) = 0.443 W/kg**

Maximum value of SAR (measured) = 0.934 W/kg



**Plot 45 UMTS Band II Back Side Middle (Distance 0mm)**

Date: 3/25/2016

Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.494$  S/m;  $\epsilon_r = 52.613$ ;  $\rho = 1000$  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(7.42, 7.42, 7.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; 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) = 8.12 W/kg

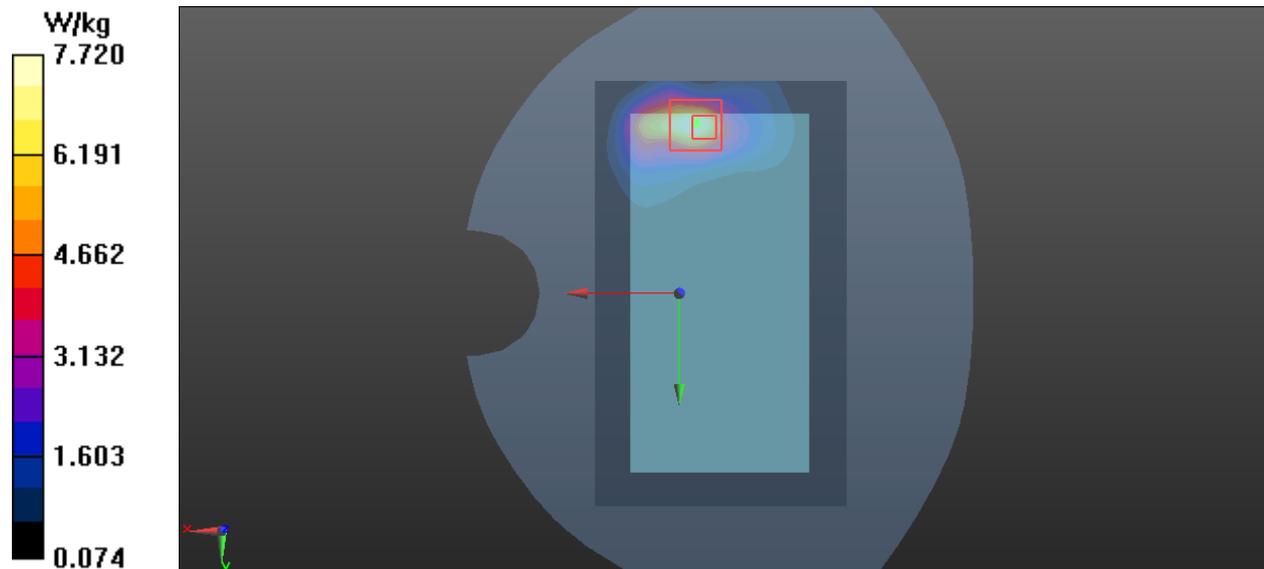
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.831 V/m; Power Drift = 0.034 dB

Peak SAR (extrapolated) = 14.2 W/kg

**SAR(1 g) = 6.48 W/kg; SAR(10 g) = 2.98 W/kg**

Maximum value of SAR (measured) = 7.72 W/kg



**Plot 46 UMTS Band IV Right Cheek Middle**

Date: 4/3/2016

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733 \text{ MHz}$ ;  $\sigma = 1.322 \text{ S/m}$ ;  $\epsilon_r = 40.269$ ;  $\rho = 1000 \text{ kg/m}^3$

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(7.98, 7.98, 7.98); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle /Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.495 \text{ W/kg}$

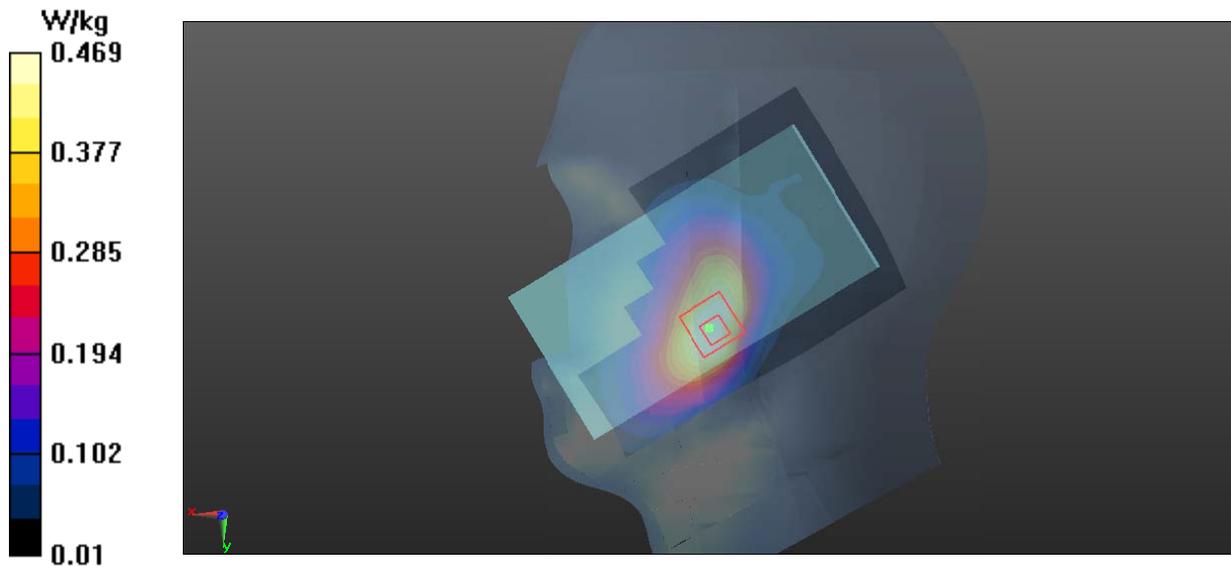
**Right Cheek Middle /Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $5.655 \text{ V/m}$ ; Power Drift =  $0.062 \text{ dB}$

Peak SAR (extrapolated) =  $0.639 \text{ W/kg}$

**SAR(1 g) =  $0.444 \text{ W/kg}$ ; SAR(10 g) =  $0.291 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.469 \text{ W/kg}$



**Plot 47 UMTS Band IV Back Side Middle (Distance 15mm)**

Date: 4/2/2016

Communication System: UID 0, WCDMA Band IV; Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.443$  S/m;  $\epsilon_r = 51.909$ ;  $\rho = 1000$  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(7.65, 7.65, 7.65); Calibrated: 12/10/2015

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.497 W/kg

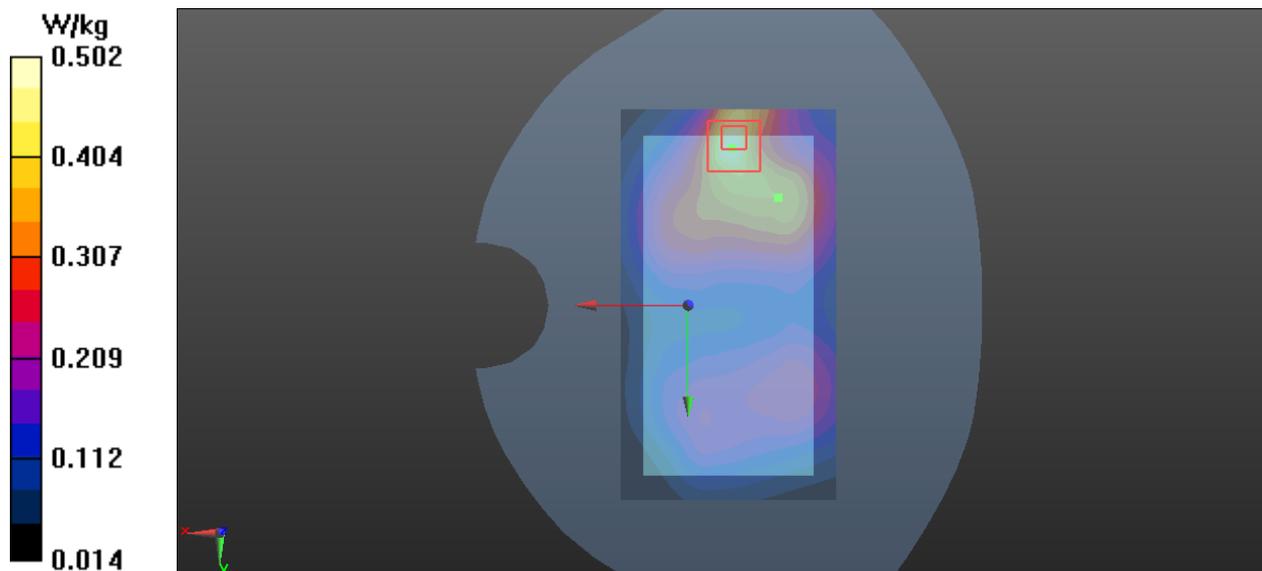
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.251 V/m; Power Drift = -0.033 dB

Peak SAR (extrapolated) = 0.752 W/kg

**SAR(1 g) = 0.457 W/kg; SAR(10 g) = 0.270 W/kg**

Maximum value of SAR (measured) = 0.502 W/kg



**Plot 48 UMTS Band IV Back Side Middle (Battery 3, Distance 10mm)**

Date: 4/2/2016

Communication System: UID 0, WCDMA Band IV; Frequency: 1752.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1753$  MHz;  $\sigma = 1.461$  S/m;  $\epsilon_r = 51.867$ ;  $\rho = 1000$  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(7.65, 7.65, 7.65); Calibrated: 12/10/2015

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.19 W/kg

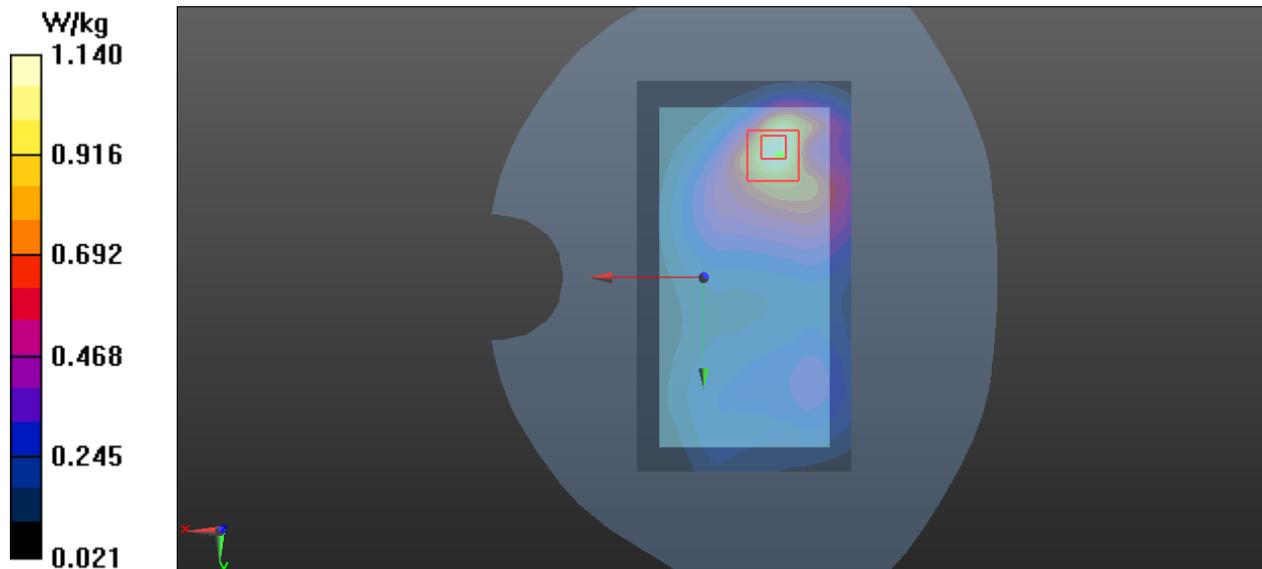
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.30 V/m; Power Drift = -0.104 dB

Peak SAR (extrapolated) = 1.80 W/kg

**SAR(1 g) = 1.09 W/kg; SAR(10 g) = 0.611 W/kg**

Maximum value of SAR (measured) = 1.14 W/kg



**Plot 49 UMTS Band IV Back Side Middle (Battery 2, Distance 0mm)**

Date: 4/2/2016

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.443$  S/m;  $\epsilon_r = 51.909$ ;  $\rho = 1000$  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(7.65, 7.65, 7.65); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; 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) = 5.17 W/kg

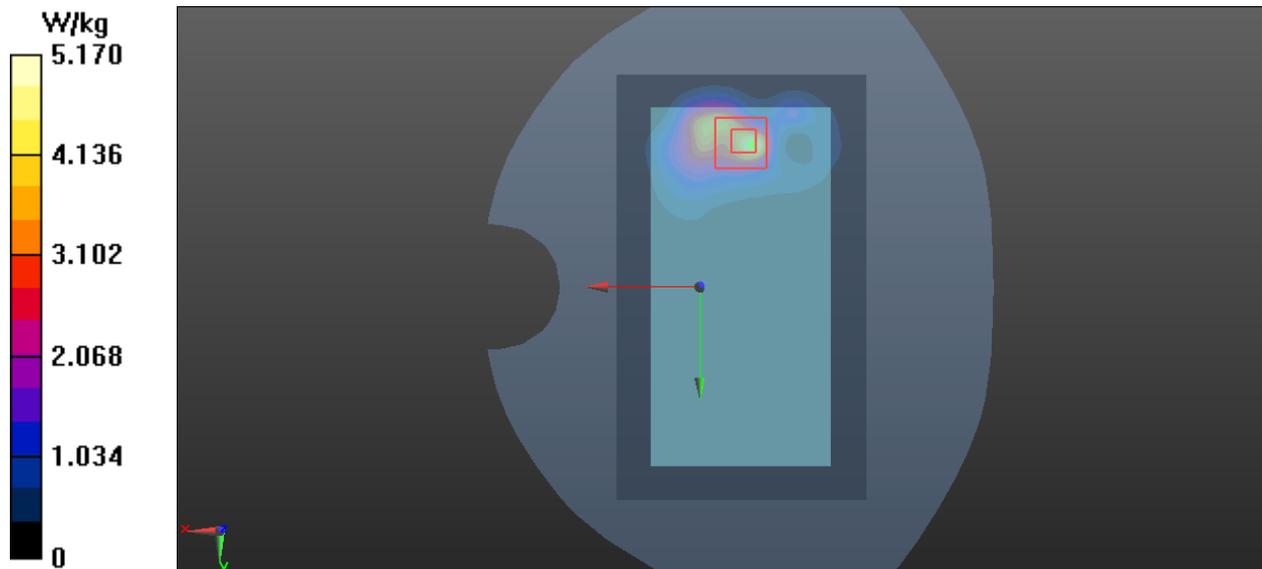
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.248 V/m; Power Drift = 0.153 dB

Peak SAR (extrapolated) = 9.87 W/kg

**SAR(1 g) = 4.48 W/kg; SAR(10 g) = 1.99 W/kg**

Maximum value of SAR (measured) = 5.11 W/kg



## Plot 50 UMTS Band V Right Cheek Middle

Date: 3/26/2016

Communication System: UID 0, WCDMA Band V; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.939$  S/m;  $\epsilon_r = 41.857$ ;  $\rho = 1000$  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(9.35, 9.35, 9.35); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle/Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.310 W/kg

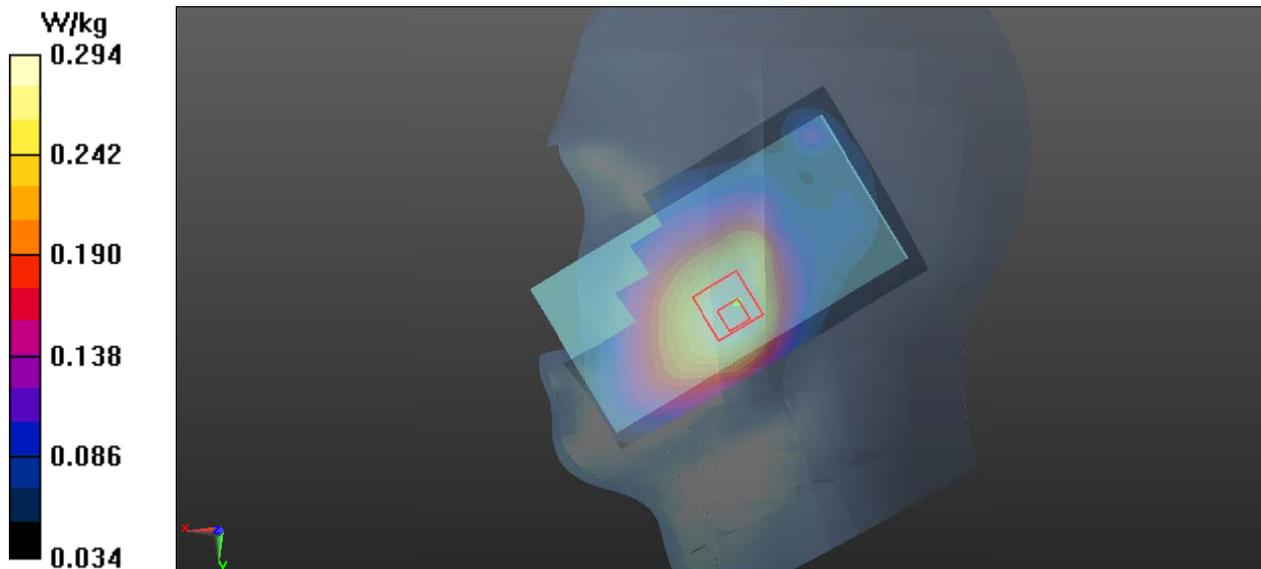
**Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.782 V/m; Power Drift = -0.098 dB

Peak SAR (extrapolated) = 0.378 W/kg

**SAR(1 g) = 0.287 W/kg; SAR(10 g) = 0.220 W/kg**

Maximum value of SAR (measured) = 0.294 W/kg



**Plot 51 UMTS Band V Back Side Middle (Distance 15mm)**

Date: 3/27/2016

Communication System: UID 0, WCDMA Band V; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.967$  S/m;  $\epsilon_r = 54.144$ ;  $\rho = 1000$  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(9.42, 9.42, 9.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.141 W/kg

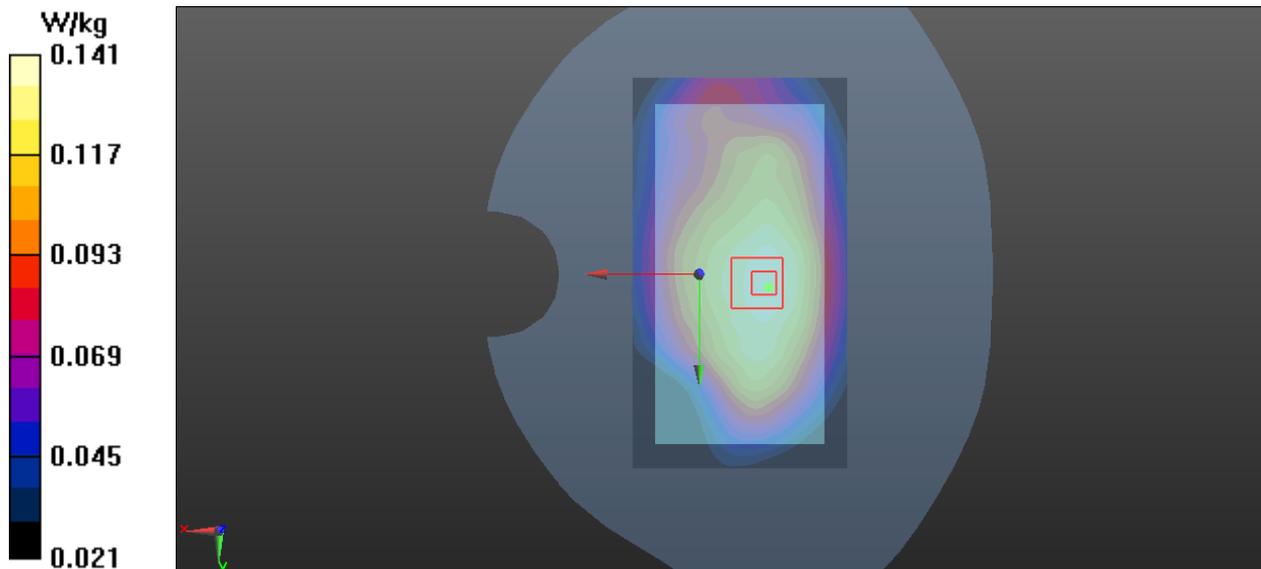
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.76 V/m; Power Drift = 0.093 dB

Peak SAR (extrapolated) = 0.168 W/kg

**SAR(1 g) = 0.134 W/kg; SAR(10 g) = 0.103 W/kg**

Maximum value of SAR (measured) = 0.141 W/kg



**Plot 52 UMTS Band V Back Side Middle (Distance 10mm)**

Date: 3/27/2016

Communication System: UID 0, WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.967$  S/m;  $\epsilon_r = 54.144$ ;  $\rho = 1000$  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(9.42, 9.42, 9.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; 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) = 0.176 W/kg

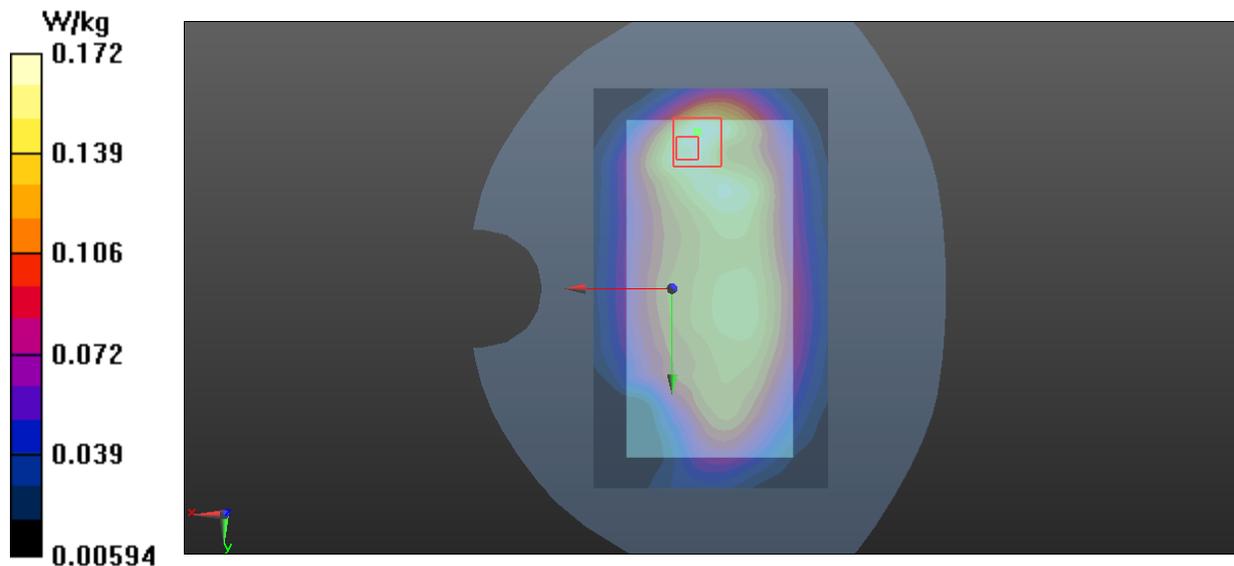
**Back Side Middle /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.43 V/m; Power Drift = -0.023 dB

Peak SAR (extrapolated) = 0.271 W/kg

**SAR(1 g) = 0.159 W/kg; SAR(10 g) = 0.098 W/kg**

Maximum value of SAR (measured) = 0.172 W/kg



**Plot 53 LTE Band 2 50%RB Right Cheek Low**

Date: 4/1/2016

Communication System: UID 0, LTE Band 2; Frequency: 1860 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1860$  MHz;  $\sigma = 1.366$  S/m;  $\epsilon_r = 40.845$ ;  $\rho = 1000$  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(7.96, 7.96, 7.96); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Low/Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.732 W/kg

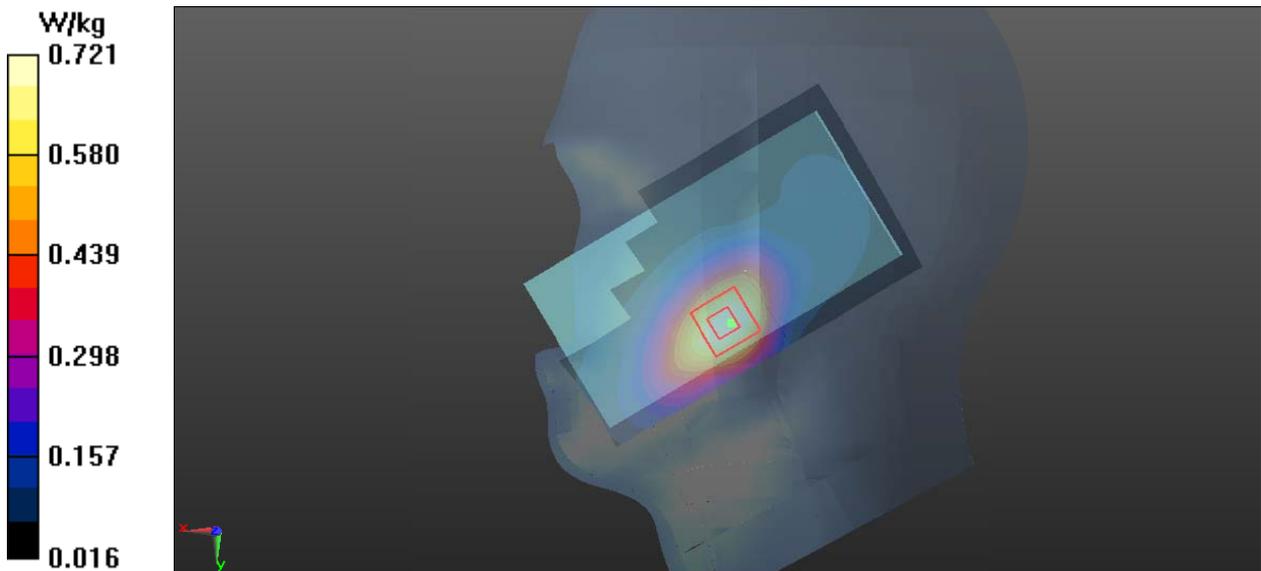
**Right Cheek Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.152 V/m; Power Drift = 0.007 dB

Peak SAR (extrapolated) = 1.02 W/kg

**SAR(1 g) = 0.672 W/kg; SAR(10 g) = 0.421 W/kg**

Maximum value of SAR (measured) = 0.721 W/kg



**Plot 54 LTE Band 2 50%RB Back Side Low (Distance 15mm)**

Date: 3/26/2016

Communication System: UID 0, LTE Band 2; Frequency: 1860 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1860$  MHz;  $\sigma = 1.474$  S/m;  $\epsilon_r = 52.653$ ;  $\rho = 1000$  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(7.42, 7.42, 7.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low /Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.623 W/kg

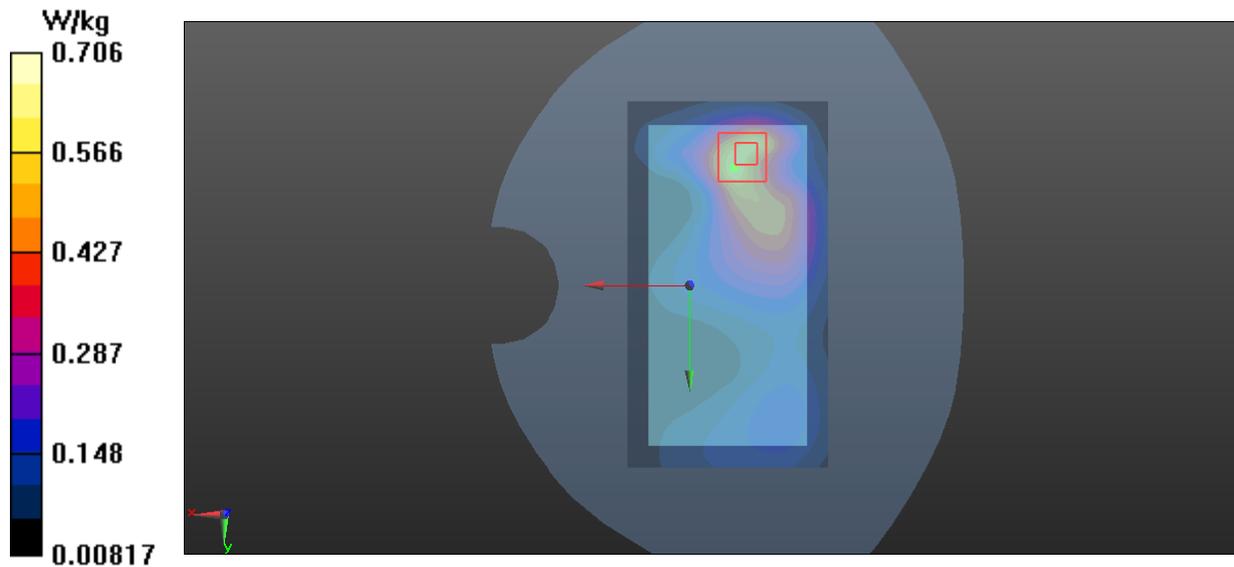
**Back Side Low /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.42 V/m; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 1.12 W/kg

**SAR(1 g) = 0.627 W/kg; SAR(10 g) = 0.339 W/kg**

Maximum value of SAR (measured) = 0.706 W/kg



**Plot 55 LTE Band 2 50%RB Back Side Low (Distance 10mm)**

Date: 3/26/2016

Communication System: UID 0, LTE (0); Frequency: 1860 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1860$  MHz;  $\sigma = 1.474$  S/m;  $\epsilon_r = 52.653$ ;  $\rho = 1000$  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(7.42, 7.42, 7.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

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) = 0.878 W/kg

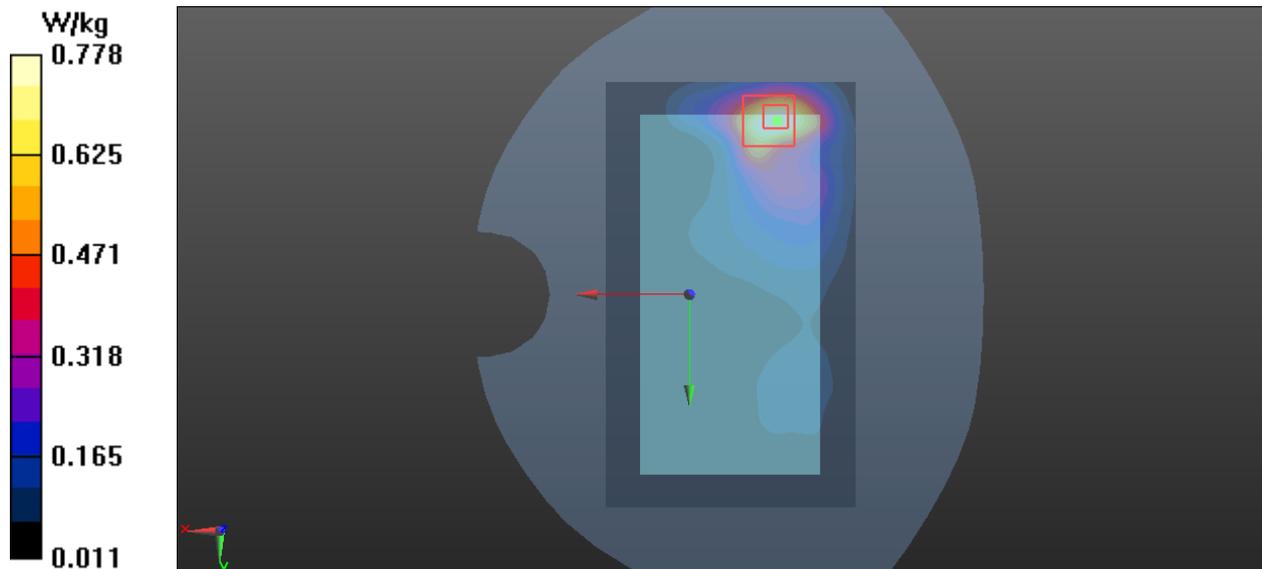
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.001 V/m; Power Drift = 0.075 dB

Peak SAR (extrapolated) = 1.40 W/kg

**SAR(1 g) = 0.739 W/kg; SAR(10 g) = 0.374 W/kg**

Maximum value of SAR (measured) = 0.778 W/kg



**Plot 56 LTE Band 2 1RB Back Side Middle (Battery2, Distance 10mm)**

Date: 3/26/2016

Communication System: UID 0, LTE (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.494$  S/m;  $\epsilon_r = 52.613$ ;  $\rho = 1000$  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(7.42, 7.42, 7.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; 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) = 9.36 W/kg

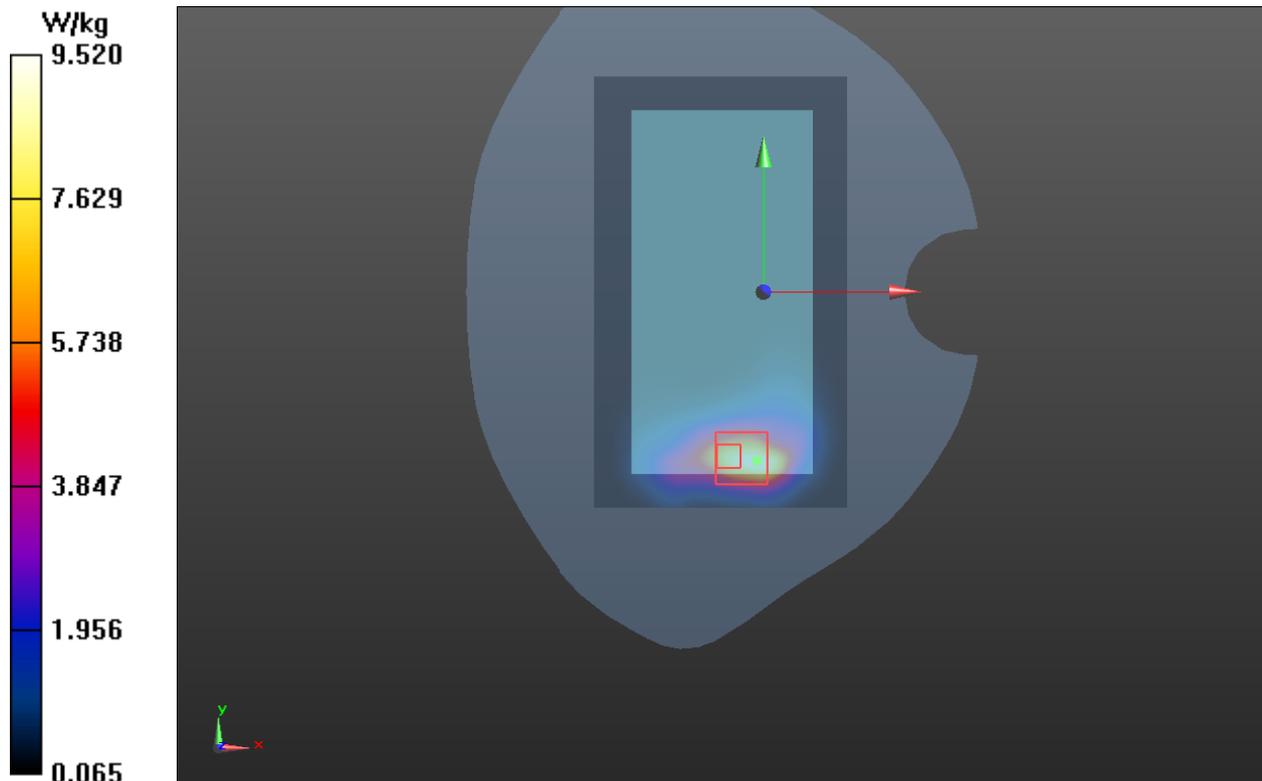
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.436 V/m; Power Drift = 0.130 dB

Peak SAR (extrapolated) = 19.0 W/kg

**SAR(1 g) = 8.06 W/kg; SAR(10 g) = 3.41 W/kg**

Maximum value of SAR (measured) = 9.52 W/kg



**Plot 57 LTE Band 4 1RB Right Cheek High**

Date: 4/3/2016

Communication System: UID 0, LTE (0); Frequency: 1745 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1745$  MHz;  $\sigma = 1.333$  S/m;  $\epsilon_r = 40.236$ ;  $\rho = 1000$  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(7.98, 7.98, 7.98); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

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) = 0.701 W/kg

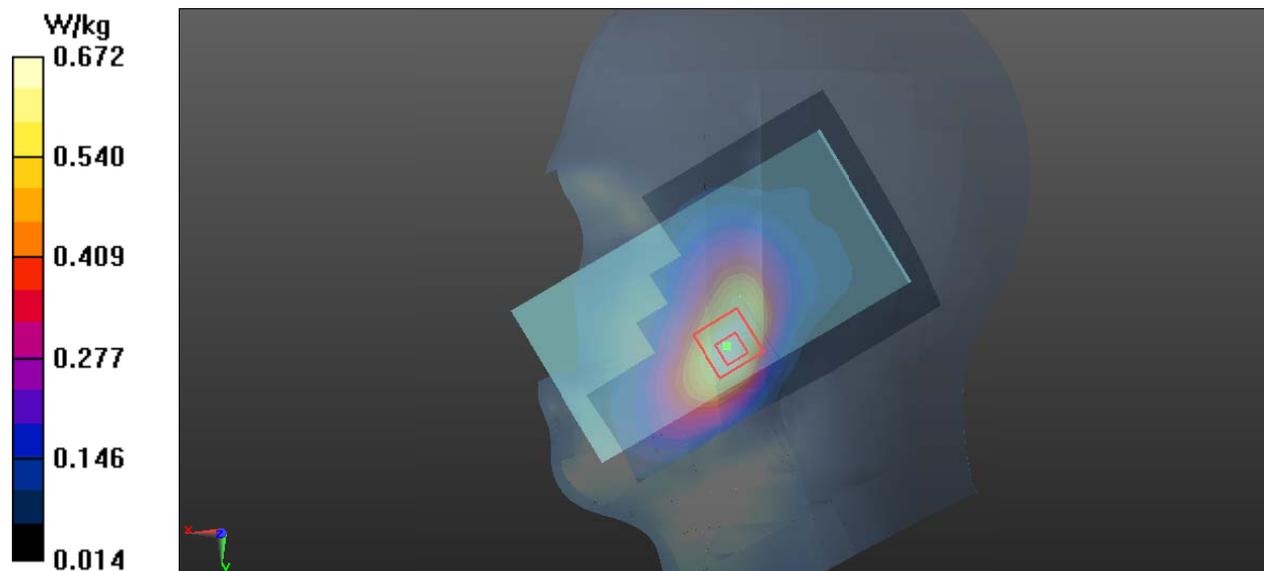
**Right Cheek High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.572 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 0.920 W/kg

**SAR(1 g) = 0.635 W/kg; SAR(10 g) = 0.412 W/kg**

Maximum value of SAR (measured) = 0.672 W/kg



**Plot 58 LTE Band 4 1RB Back Side High (Distance 15mm)**

Date: 4/2/2016

Communication System: UID 0, LTE Band 4; Frequency: 1745 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1745$  MHz;  $\sigma = 1.454$  S/m;  $\epsilon_r = 51.891$ ;  $\rho = 1000$  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(7.65, 7.65, 7.65); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.563 W/kg

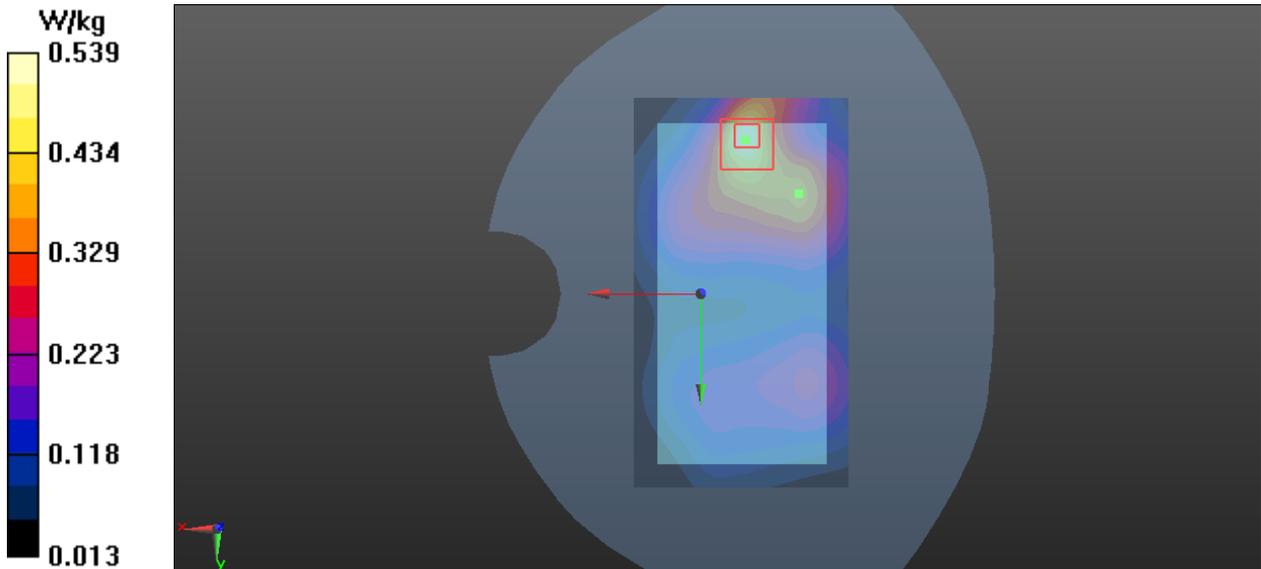
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.812 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 0.794 W/kg

**SAR(1 g) = 0.487 W/kg; SAR(10 g) = 0.283 W/kg**

Maximum value of SAR (measured) = 0.539 W/kg



**Plot 59 LTE Band 4 1RB Back Side High (Battery2, Distance 10mm)**

Date: 4/2/2016

Communication System: UID 0, LTE Band 4; Frequency: 1745 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1745$  MHz;  $\sigma = 1.454$  S/m;  $\epsilon_r = 51.891$ ;  $\rho = 1000$  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(7.65, 7.65, 7.65); Calibrated: 12/10/2015

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.36 W/kg

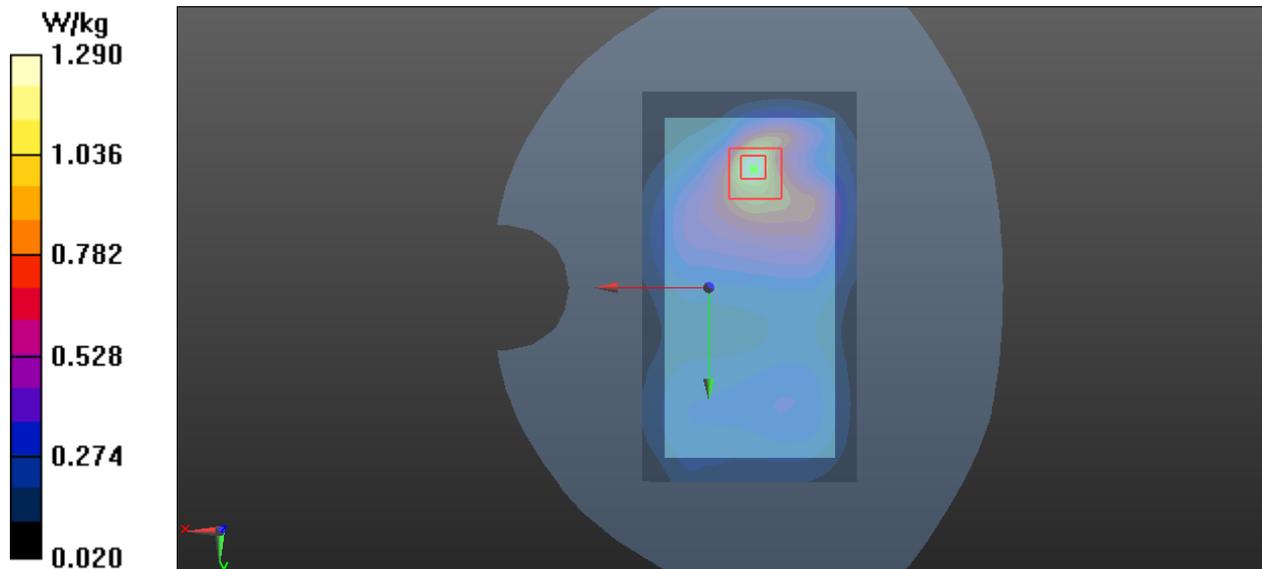
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.95 V/m; Power Drift = 0.074 dB

Peak SAR (extrapolated) = 1.88 W/kg

**SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.646 W/kg**

Maximum value of SAR (measured) = 1.29 W/kg



**Plot 60 LTE Band 5 1RB Right Cheek Middle**

Date: 3/26/2016

Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 836.5$  MHz;  $\sigma = 0.939$  S/m;  $\epsilon_r = 41.856$ ;  $\rho =$ 

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(9.35, 9.35, 9.35); Calibrated: 12/10/2015

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle /Area Scan (61x111x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 0.410 W/kg

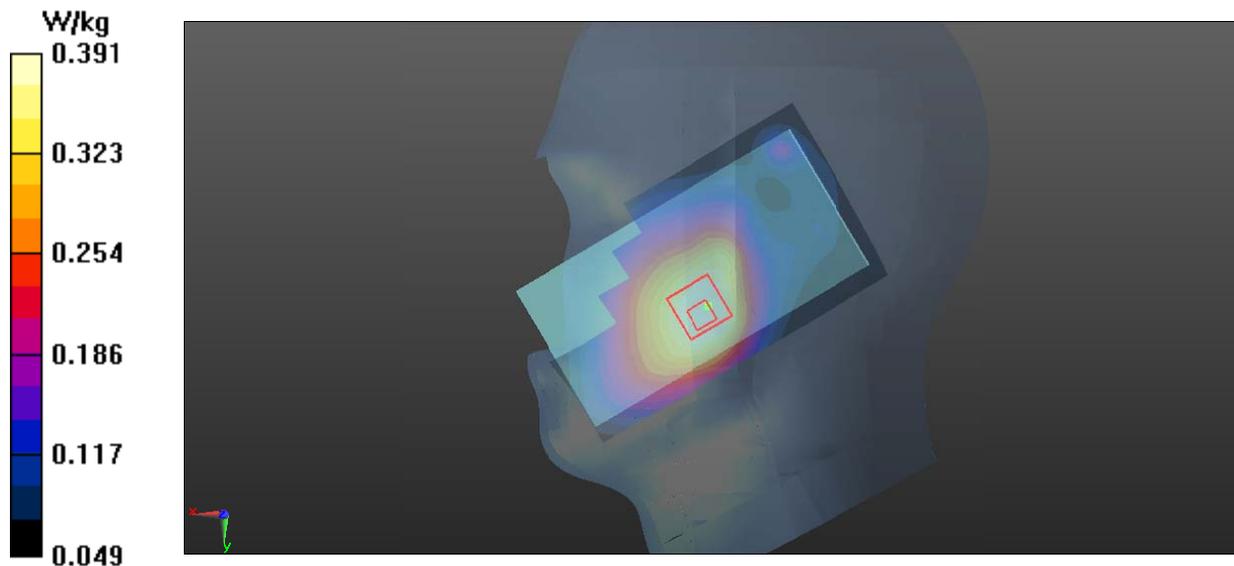
**Right Cheek Middle /Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 9.777 V/m; Power Drift = -0.024 dB

Peak SAR (extrapolated) = 0.484 W/kg

**SAR(1 g) = 0.377 W/kg; SAR(10 g) = 0.293 W/kg**

Maximum value of SAR (measured) = 0.391 W/kg



**Plot 61 LTE Band 5 1RB Back Side Middle (Distance 15mm)**

Date: 3/26/2016

Communication System: UID 0, LTE Band 5; Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 836.5$  MHz;  $\sigma = 0.966$  S/m;  $\epsilon_r = 54.152$ ;  $\rho = 1000$  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(9.42, 9.42, 9.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle /Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.213 W/kg

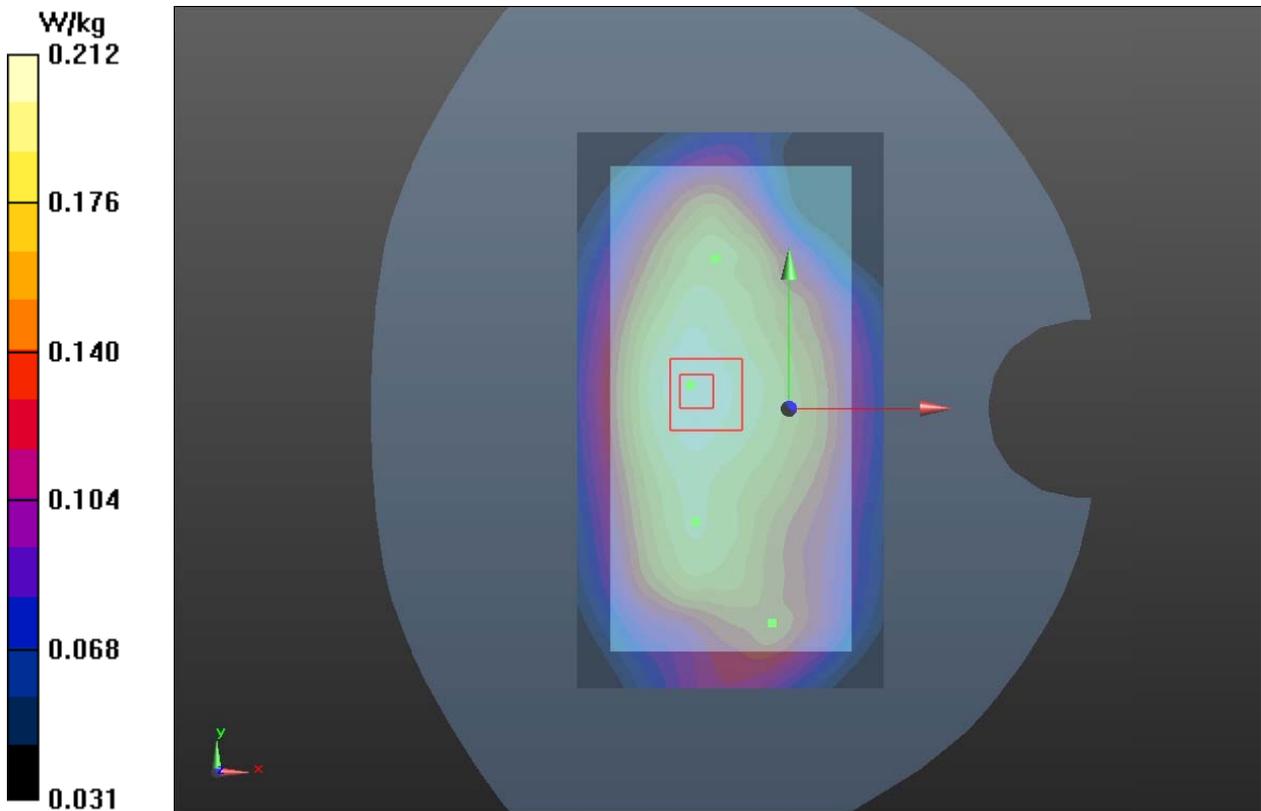
**Back Side Middle /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.41 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.253 W/kg

**SAR(1 g) = 0.202 W/kg; SAR(10 g) = 0.155 W/kg**

Maximum value of SAR (measured) = 0.212 W/kg



**Plot 62 LTE Band 5 1RB Back Side Middle (Distance 10mm)**

Date: 3/26/2016

Communication System: UID 0, LTE (0); Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 836.5$  MHz;  $\sigma = 0.966$  S/m;  $\epsilon_r = 54.152$ ;  $\rho = 1000$  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(9.42, 9.42, 9.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; 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) = 0.320 W/kg

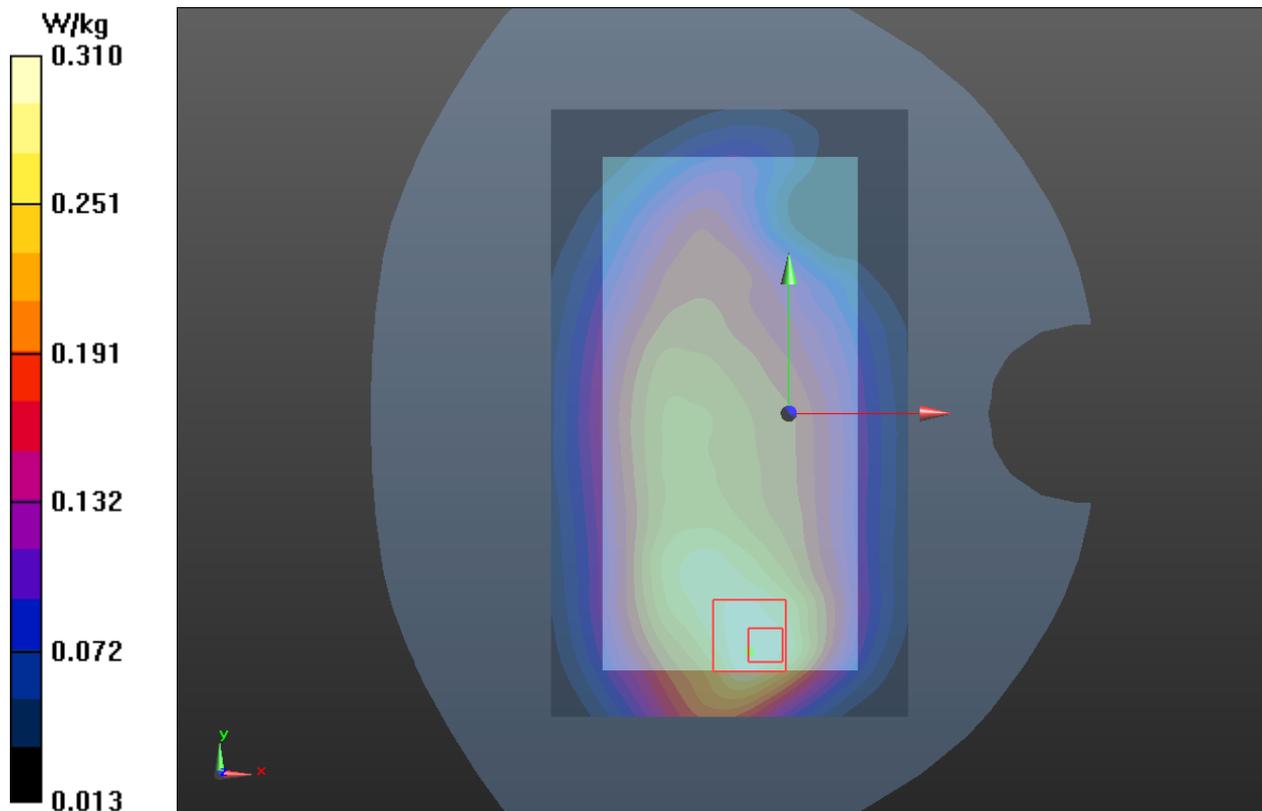
**Back Side Middle /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.33 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.493 W/kg

**SAR(1 g) = 0.290 W/kg; SAR(10 g) = 0.183 W/kg**

Maximum value of SAR (measured) = 0.310 W/kg



**Plot 63 LTE Band 7 1RB Right Cheek Middle**

Date: 3/19/2016

Communication System: UID 0, LTE Band 7; Frequency: 2535 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2535 \text{ MHz}$ ;  $\sigma = 1.939 \text{ S/m}$ ;  $\epsilon_r = 38.4$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.18, 7.18, 7.18); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle /Area Scan (61x111x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.424 \text{ W/kg}$

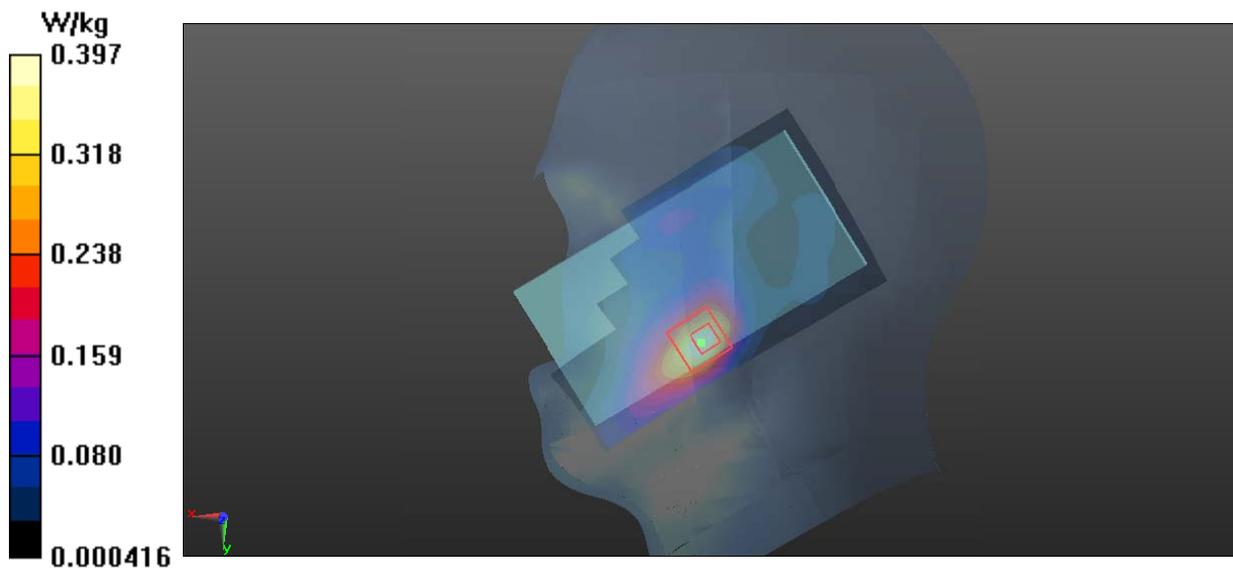
**Right Cheek Middle /Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $4.453 \text{ V/m}$ ; Power Drift =  $0.076 \text{ dB}$

Peak SAR (extrapolated) =  $0.679 \text{ W/kg}$

**SAR(1 g) =  $0.355 \text{ W/kg}$ ; SAR(10 g) =  $0.181 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.397 \text{ W/kg}$



**Plot 64 LTE Band 7 1RB Back Side Middle (Distance 15mm)**

Date: 3/18/2016

Communication System: UID 0, LTE Band 7; Frequency: 2535 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2535$  MHz;  $\sigma = 2.162$  S/m;  $\epsilon_r = 51.701$ ;  $\rho = 1000$  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(6.95, 6.95, 6.95); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.283 W/kg

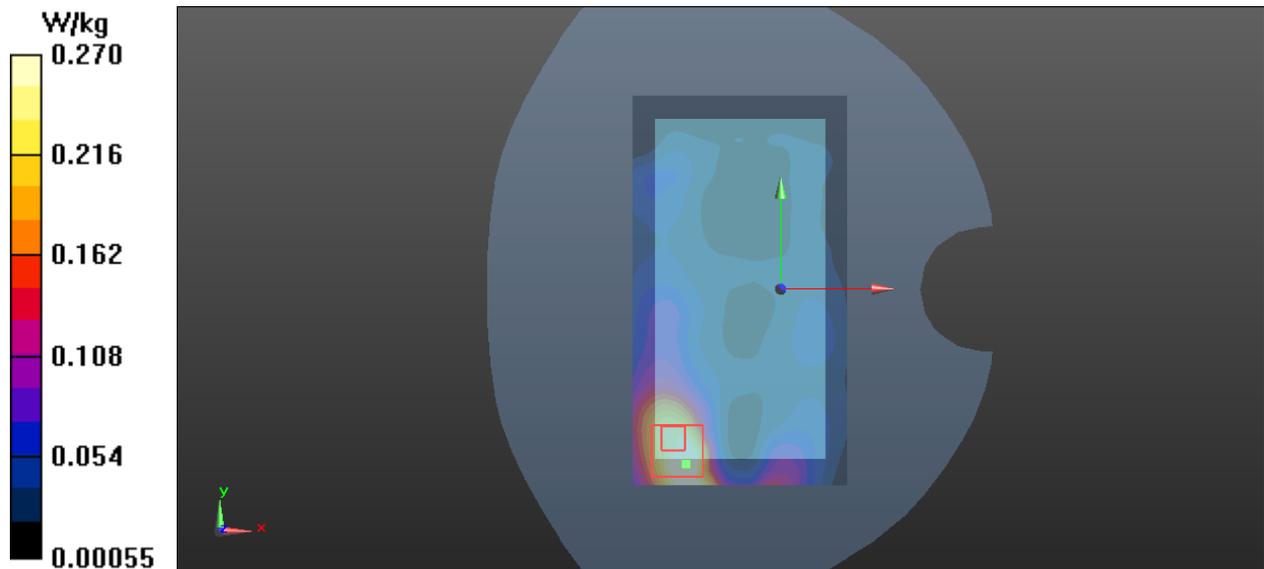
**Back Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.096 V/m; Power Drift = 0.090 dB

Peak SAR (extrapolated) = 0.509 W/kg

**SAR(1 g) = 0.248 W/kg; SAR(10 g) = 0.126 W/kg**

Maximum value of SAR (measured) = 0.270 W/kg



**Plot 65 LTE Band 7 1RB Back Side Middle (Distance 10mm)**

Date: 3/18/2016

Communication System: UID 0, LTE (0); Frequency: 2535 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2535$  MHz;  $\sigma = 2.162$  S/m;  $\epsilon_r = 51.701$ ;  $\rho = 1000$  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(6.95, 6.95, 6.95); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

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) = 0.573 W/kg

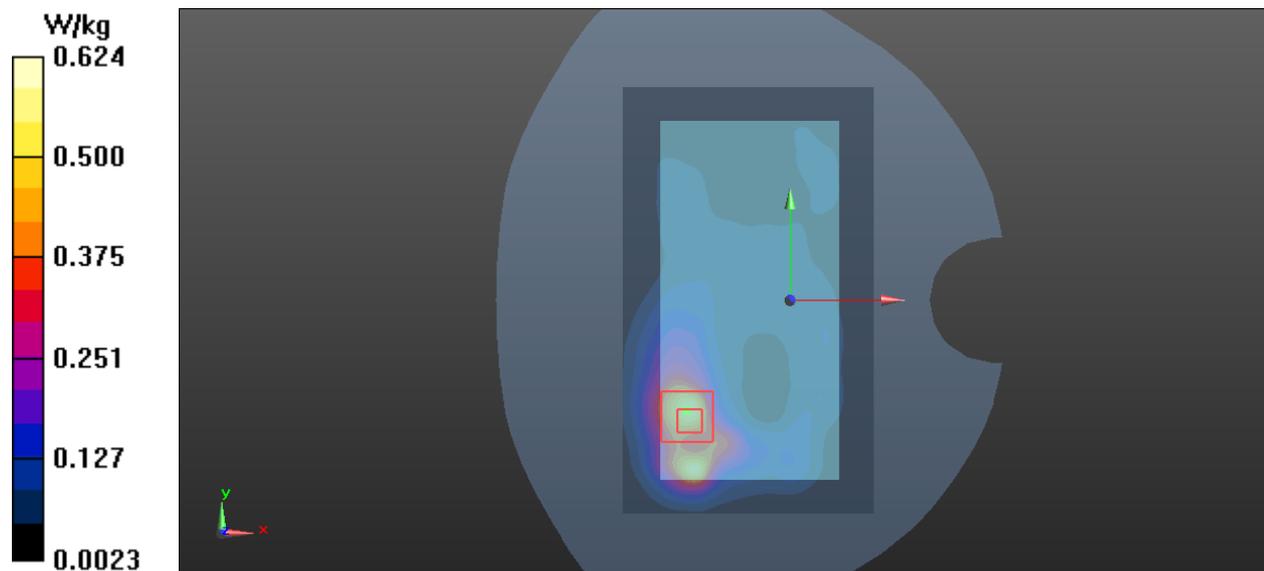
**Back Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.774 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.10 W/kg

**SAR(1 g) = 0.577 W/kg; SAR(10 g) = 0.284 W/kg**

Maximum value of SAR (measured) = 0.624 W/kg



**Plot 66 LTE Band 12 1RB Left Cheek Low (Battery3)**

Date: 3/28/2016

Communication System: UID 0, LTE (0); Frequency: 704 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 704$  MHz;  $\sigma = 0.853$  S/m;  $\epsilon_r = 42.891$ ;  $\rho = 1000$  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(9.69, 9.69, 9.69); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

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) = 0.593 W/kg

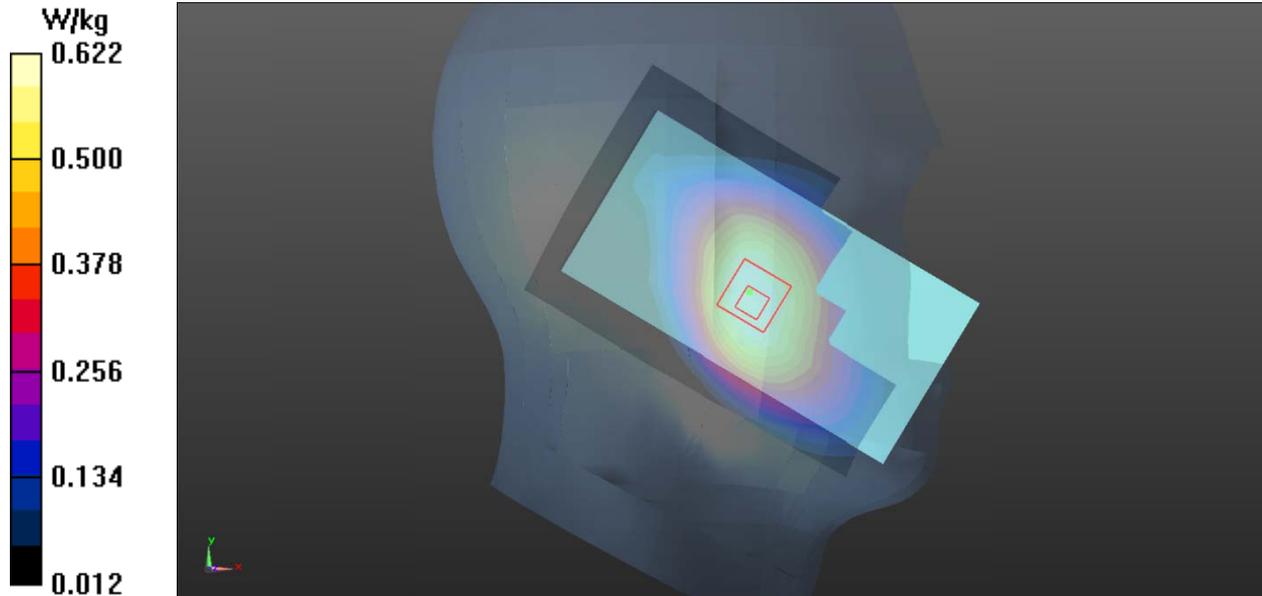
**Left Cheek Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.114 V/m; Power Drift = 0.063 dB

Peak SAR (extrapolated) = 0.224 W/kg

**SAR(1 g) = 0.585 W/kg; SAR(10 g) = 0.349 W/kg**

Maximum value of SAR (measured) = 0.622 W/kg



**Plot 67 LTE Band 12 1RB Back Side Low (Distance 15mm)**

Date: 3/29/2016

Communication System: UID 0, LTE Band 12; Frequency: 704 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 704$  MHz;  $\sigma = 0.921$  S/m;  $\epsilon_r = 57.29$ ;  $\rho = 1000$  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(9.71, 9.71, 9.71); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.292 W/kg

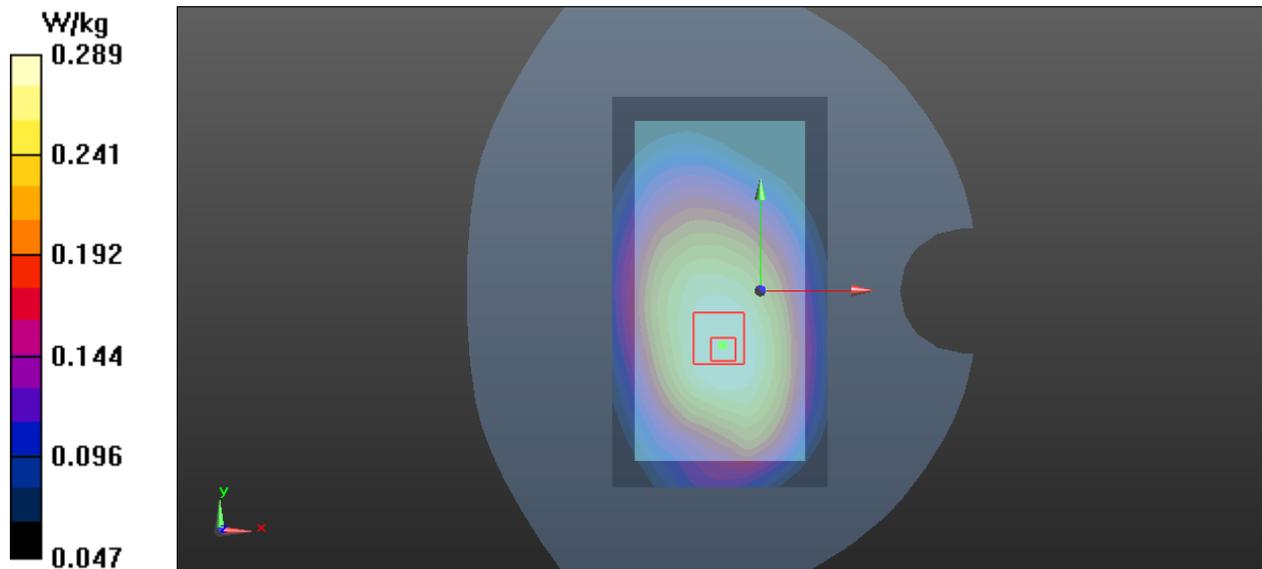
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.27 V/m; Power Drift = -0.051 dB

Peak SAR (extrapolated) = 0.341 W/kg

**SAR(1 g) = 0.278 W/kg; SAR(10 g) = 0.221 W/kg**

Maximum value of SAR (measured) = 0.289 W/kg



**Plot 68 LTE Band 12 1RB Back Side Low (Battery2, Distance 10mm)**

Date: 3/29/2016

Communication System: UID 0, LTE (0); Frequency: 704 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 704 \text{ MHz}$ ;  $\sigma = 0.921 \text{ S/m}$ ;  $\epsilon_r = 57.29$ ;  $\rho = 1000 \text{ kg/m}^3$

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(9.71, 9.71, 9.71); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

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) =  $0.324 \text{ W/kg}$

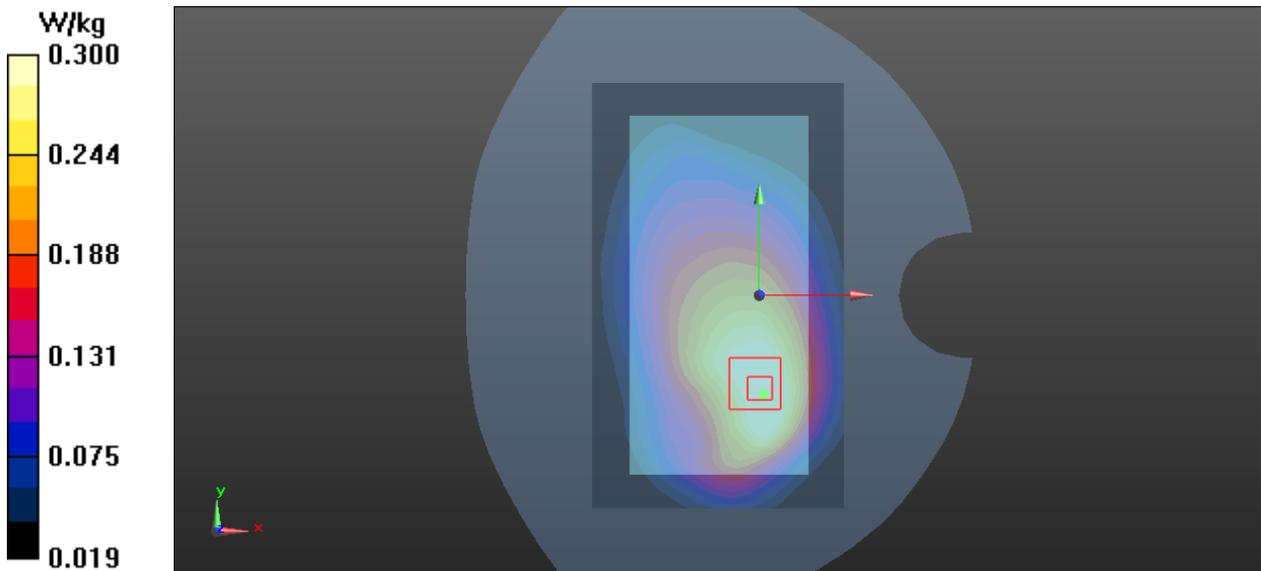
**Back Side Low/Zoom Scan (8x8x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $15.81 \text{ V/m}$ ; Power Drift =  $-0.026 \text{ dB}$

Peak SAR (extrapolated) =  $0.438 \text{ W/kg}$

**SAR(1 g) =  $0.286 \text{ W/kg}$ ; SAR(10 g) =  $0.200 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.300 \text{ W/kg}$



**Plot 69 LTE Band 17 1RB Right Cheek Low**

Date: 3/28/2016

Communication System: UID 0, LTE (0); Frequency: 709 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 709$  MHz;  $\sigma = 0.837$  S/m;  $\epsilon_r = 42.838$ ;  $\rho = 1000$  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(9.69, 9.69, 9.69); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

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) = 0.147 W/kg

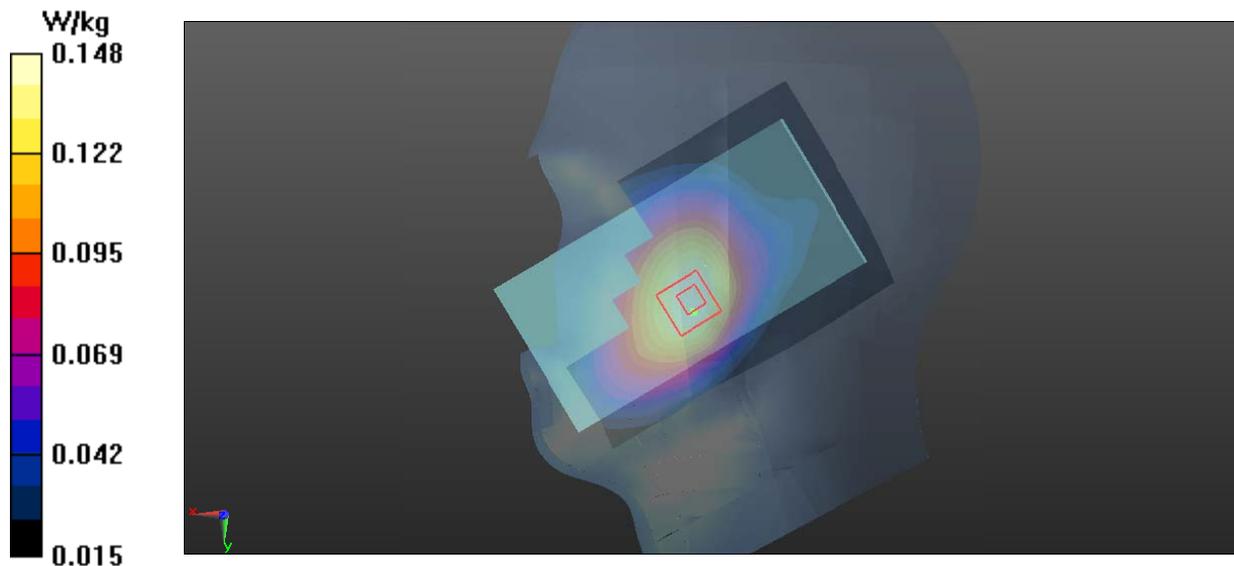
**Right Cheek Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.558 V/m; Power Drift = 0.041 dB

Peak SAR (extrapolated) = 0.176 W/kg

**SAR(1 g) = 0.144 W/kg; SAR(10 g) = 0.113 W/kg**

Maximum value of SAR (measured) = 0.148 W/kg



**Plot 70 LTE Band 17 1RB Back Side Low (Distance 15mm)**

Date: 3/29/2016

Communication System: UID 0, LTE Band 17; Frequency: 709 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 709 \text{ MHz}$ ;  $\sigma = 0.914 \text{ S/m}$ ;  $\epsilon_r = 57.25$ ;  $\rho = 1000 \text{ kg/m}^3$

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(9.71, 9.71, 9.71); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (61x111x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.226 \text{ W/kg}$

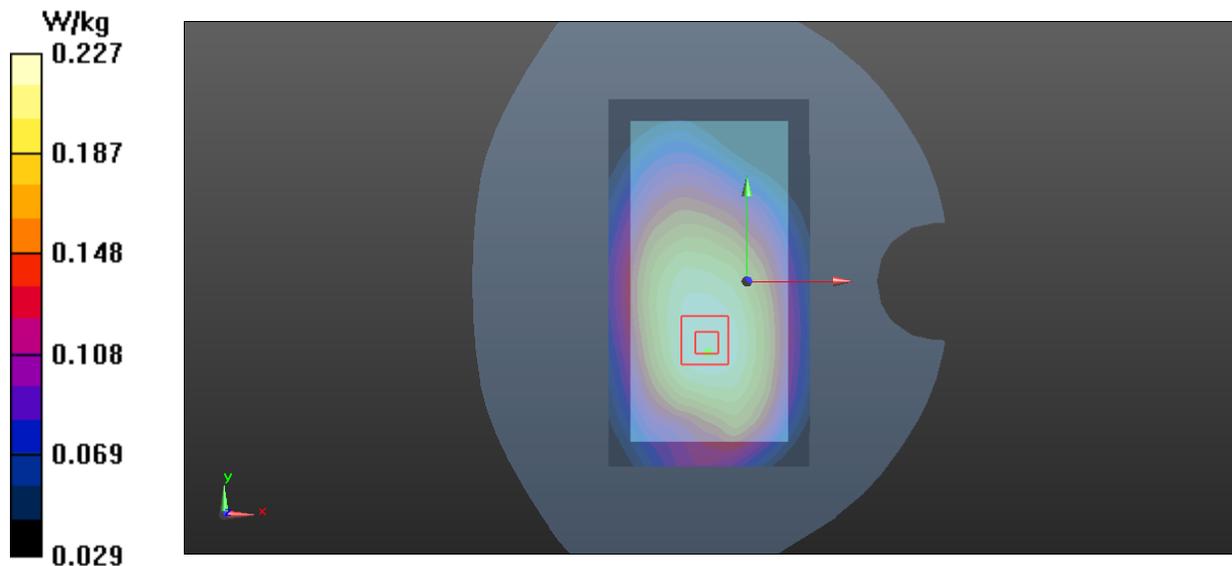
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $15.06 \text{ V/m}$ ; Power Drift =  $0.031 \text{ dB}$

Peak SAR (extrapolated) =  $0.268 \text{ W/kg}$

**SAR(1 g) =  $0.218 \text{ W/kg}$ ; SAR(10 g) =  $0.172 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.227 \text{ W/kg}$



**Plot 71 LTE Band 17 1RB Back Side Low (Distance 10mm)**

Date: 3/29/2016

Communication System: UID 0, LTE (0); Frequency: 709 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 709 \text{ MHz}$ ;  $\sigma = 0.914 \text{ S/m}$ ;  $\epsilon_r = 57.25$ ;  $\rho = 1000 \text{ kg/m}^3$

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(9.71, 9.71, 9.71); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

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) =  $0.205 \text{ W/kg}$

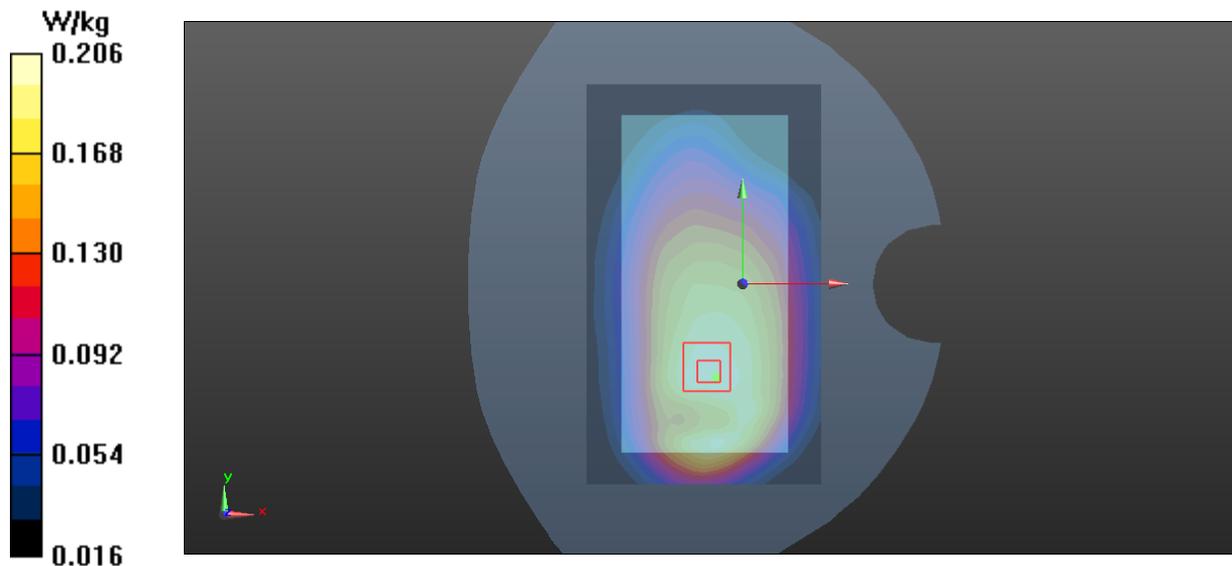
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $13.55 \text{ V/m}$ ; Power Drift =  $0.14 \text{ dB}$

Peak SAR (extrapolated) =  $0.278 \text{ W/kg}$

**SAR(1 g) =  $0.198 \text{ W/kg}$ ; SAR(10 g) =  $0.150 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.206 \text{ W/kg}$



**Plot 72 LTE Band 26 1RB Right Cheek High**

Date: 4/13/2016

Communication System: UID 0, LTE Band 26; Frequency: 841.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 841.5$  MHz;  $\sigma = 0.944$  S/m;  $\epsilon_r = 41.775$ ;  $\rho = 1000$  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(9.35, 9.35, 9.35); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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 (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.414 W/kg

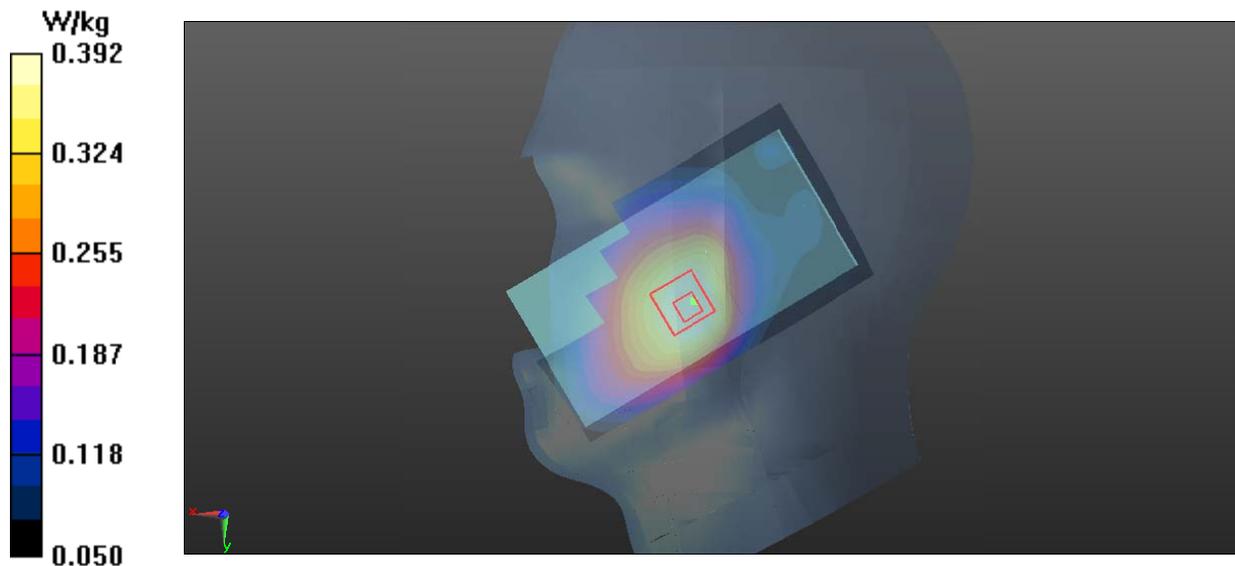
**Right Cheek High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.232 V/m; Power Drift = -0.124 dB

Peak SAR (extrapolated) = 0.478 W/kg

**SAR(1 g) = 0.379 W/kg; SAR(10 g) = 0.294 W/kg**

Maximum value of SAR (measured) = 0.392 W/kg



**Plot 73 LTE Band 26 50%RB Back Side Low (Distance 15mm)**

Date: 4/13/2016

Communication System: UID 0, LTE Band 26; Frequency: 822.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 822.5$  MHz;  $\sigma = 0.953$  S/m;  $\epsilon_r = 54.29$ ;  $\rho = 1000$  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(9.42, 9.42, 9.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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 (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.228 W/kg

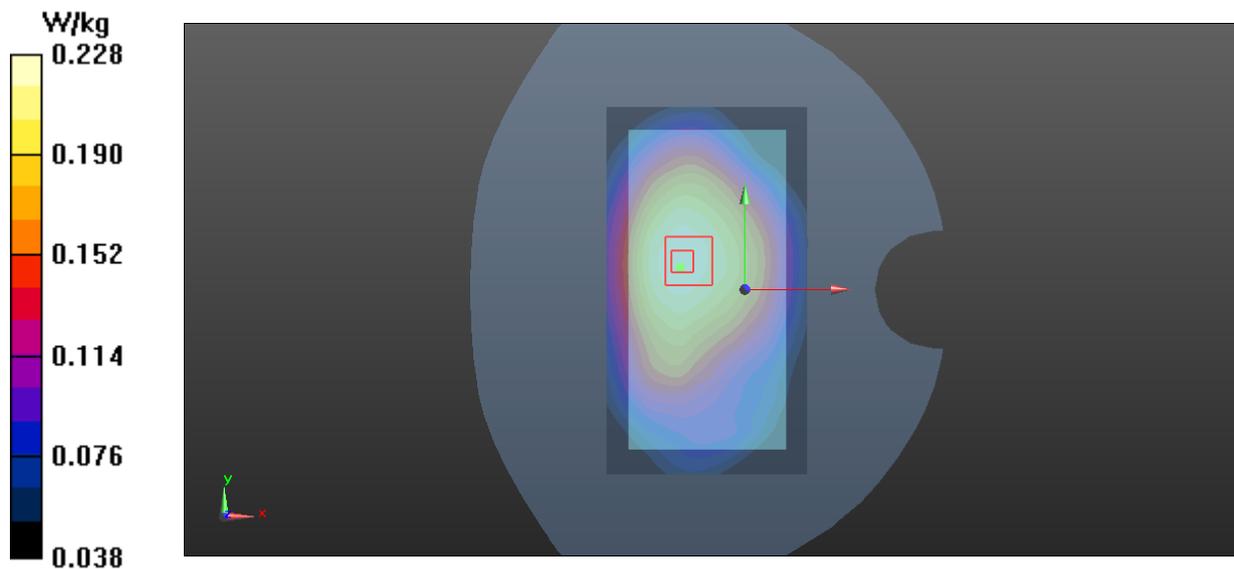
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.87 V/m; Power Drift = 0.168 dB

Peak SAR (extrapolated) = 0.272 W/kg

**SAR(1 g) = 0.218 W/kg; SAR(10 g) = 0.175 W/kg**

Maximum value of SAR (measured) = 0.228 W/kg



### Plot 74 LTE Band 26 1RB Back Side High (Distance 10mm)

Date: 4/13/2016

Communication System: UID 0, LTE (0); Frequency: 841.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 841.5$  MHz;  $\sigma = 0.971$  S/m;  $\epsilon_r = 54.102$ ;  $\rho = 1000$  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(9.42, 9.42, 9.42); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) = 0.315 W/kg

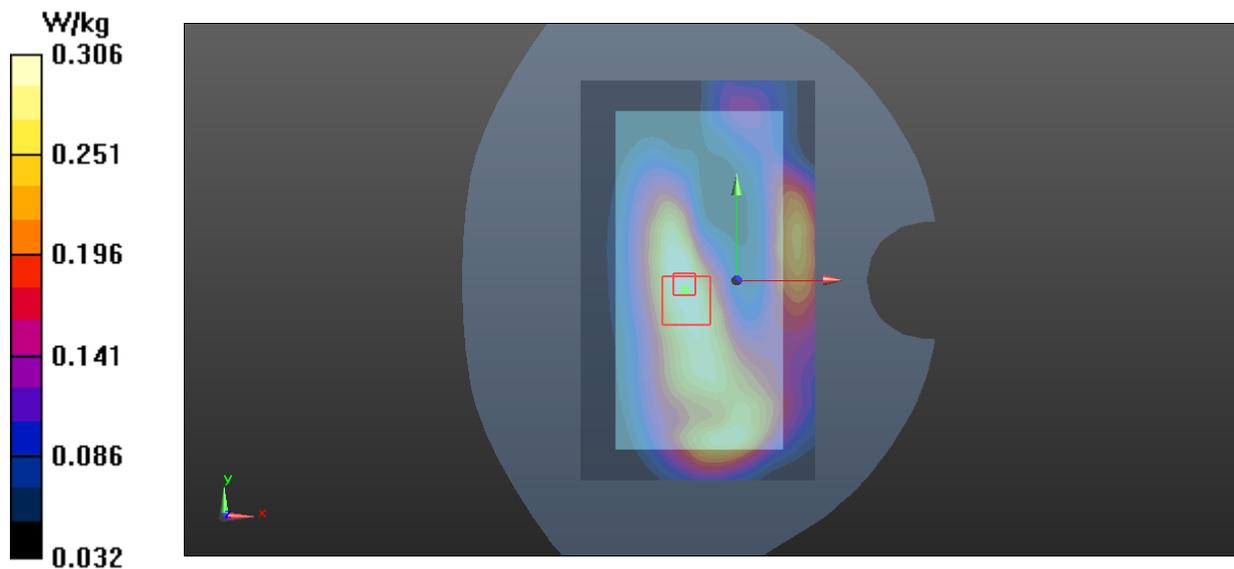
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.81 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.401 W/kg

**SAR(1 g) = 0.288 W/kg; SAR(10 g) = 0.200 W/kg**

Maximum value of SAR (measured) = 0.306 W/kg



**Plot 75 LTE Band 38 1RB Right Cheek High**

Date: 3/19/2016

Communication System: UID 0, LTE Band 38; Frequency: 2610 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2610$  MHz;  $\sigma = 2.023$  S/m;  $\epsilon_r = 38.118$ ;  $\rho = 1000$  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(7.18, 7.18, 7.18); Calibrated: 12/10/2015

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek High/Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.426 W/kg

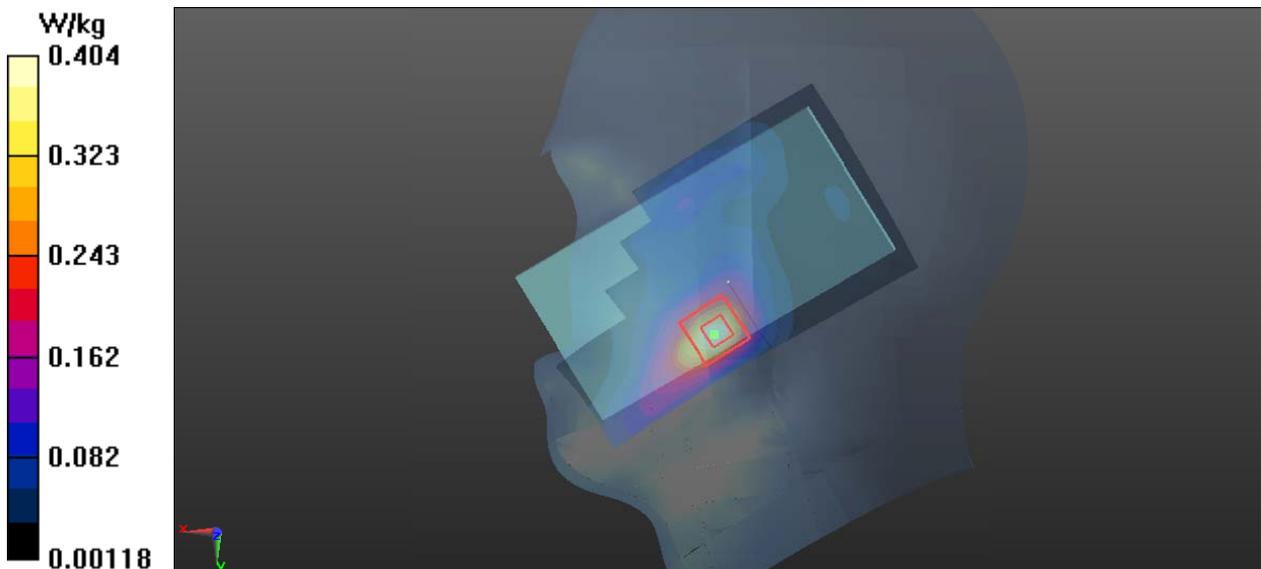
**Right Cheek High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.332 V/m; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 0.710 W/kg

**SAR(1 g) = 0.356 W/kg; SAR(10 g) = 0.174 W/kg**

Maximum value of SAR (measured) = 0.404 W/kg



**Plot 76 LTE Band 38 1RB Back Side High (Distance 15mm)**

Date: 3/18/2016

Communication System: UID 0, LTE Band 38; Frequency: 2610 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2610$  MHz;  $\sigma = 2.239$  S/m;  $\epsilon_r = 51.451$ ;  $\rho = 1000$  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(6.95, 6.95, 6.95); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (61x111x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.234 W/kg

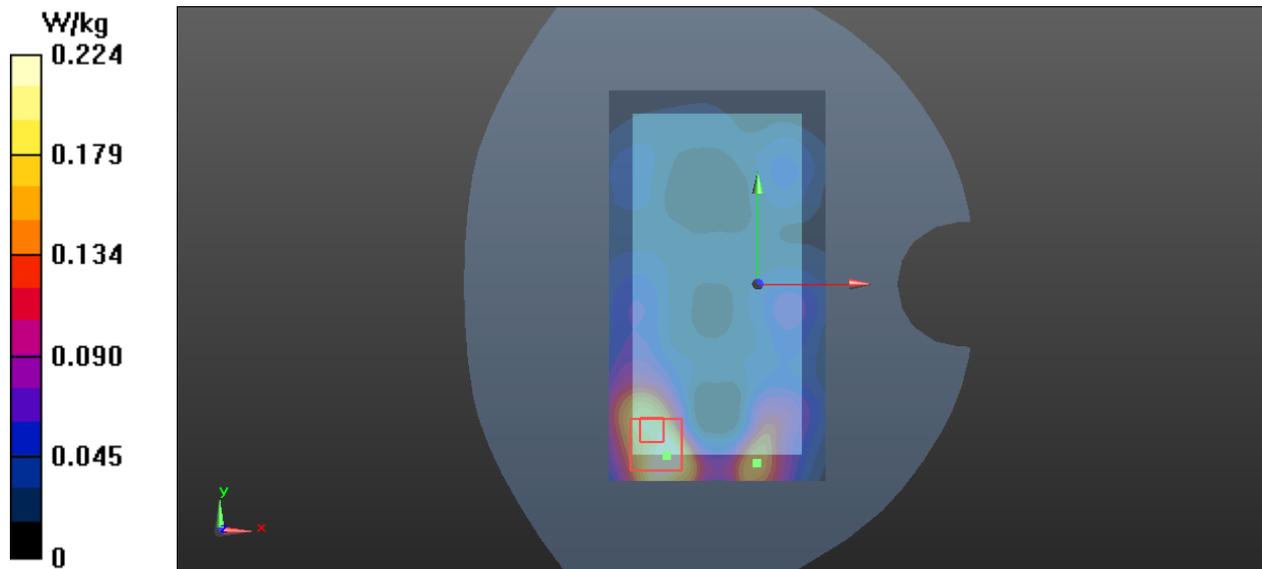
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.806 V/m; Power Drift = 0.109 dB

Peak SAR (extrapolated) = 0.429 W/kg

**SAR(1 g) = 0.204 W/kg; SAR(10 g) = 0.105 W/kg**

Maximum value of SAR (measured) = 0.224 W/kg



**Plot 77 LTE Band 38 1RB Back Side High (Battery3, Distance 10mm)**

Date: 3/18/2016

Communication System: UID 0, LTE (0); Frequency: 2610 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2610$  MHz;  $\sigma = 2.239$  S/m;  $\epsilon_r = 51.451$ ;  $\rho = 1000$  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(6.95, 6.95, 6.95); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; 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) = 0.568 W/kg

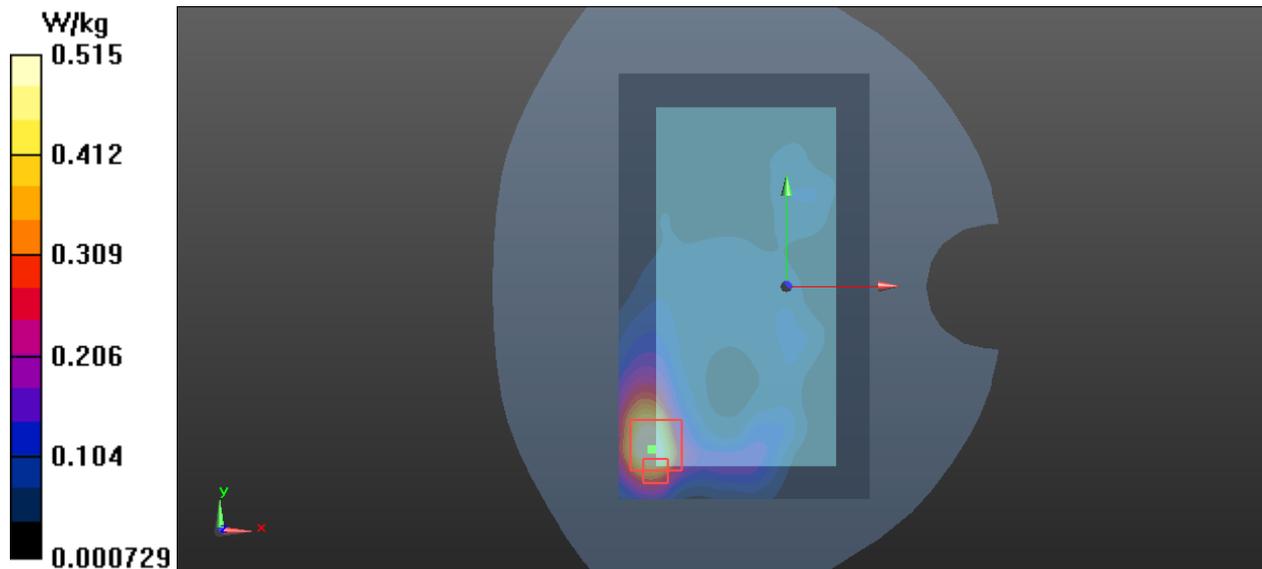
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.972 V/m; Power Drift = 0.119 dB

Peak SAR (extrapolated) = 0.990 W/kg

**SAR(1 g) = 0.454 W/kg; SAR(10 g) = 0.216 W/kg**

Maximum value of SAR (measured) = 0.515 W/kg



**Plot 78 LTE Band 41 1RB Right Cheek Middle**

Date: 3/19/2016

Communication System: UID 0, LTE Band 41; Frequency: 2605 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2605 \text{ MHz}$ ;  $\sigma = 2.017 \text{ S/m}$ ;  $\epsilon_r = 38.126$ ;  $\rho = 1000 \text{ kg/m}^3$

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(7.18, 7.18, 7.18); Calibrated: 12/10/2015

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle /Area Scan (81x141x1):** Interpolated grid:  $dx=1.200 \text{ mm}$ ,  $dy=1.200 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.283 \text{ W/kg}$

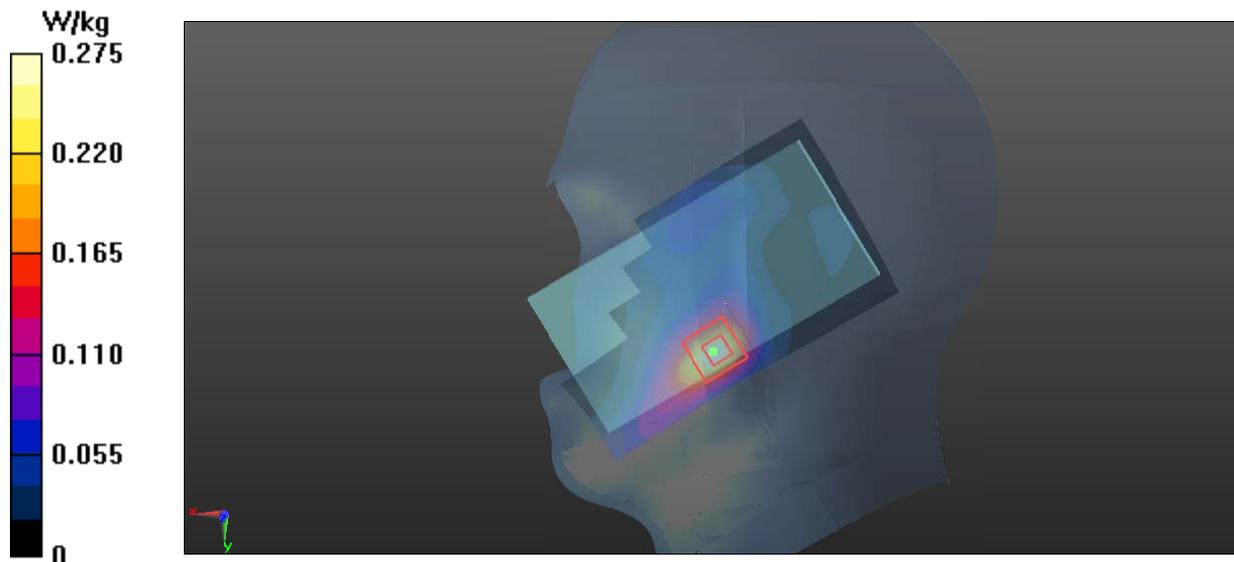
**Right Cheek Middle /Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $3.923 \text{ V/m}$ ; Power Drift =  $0.099 \text{ dB}$

Peak SAR (extrapolated) =  $0.483 \text{ W/kg}$

**SAR(1 g) =  $0.245 \text{ W/kg}$ ; SAR(10 g) =  $0.122 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.275 \text{ W/kg}$



**Plot 79 LTE Band 41 1RB Back Side Middle (Distance 15mm)**

Date: 4/7/2016

Communication System: UID 0, LTE Band 41; Frequency: 2605 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2605$  MHz;  $\sigma = 2.234$  S/m;  $\epsilon_r = 51.461$ ;  $\rho = 1000$  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(6.95, 6.95, 6.95); Calibrated: 12/10/2015

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle /Area Scan (81x141x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.144 W/kg

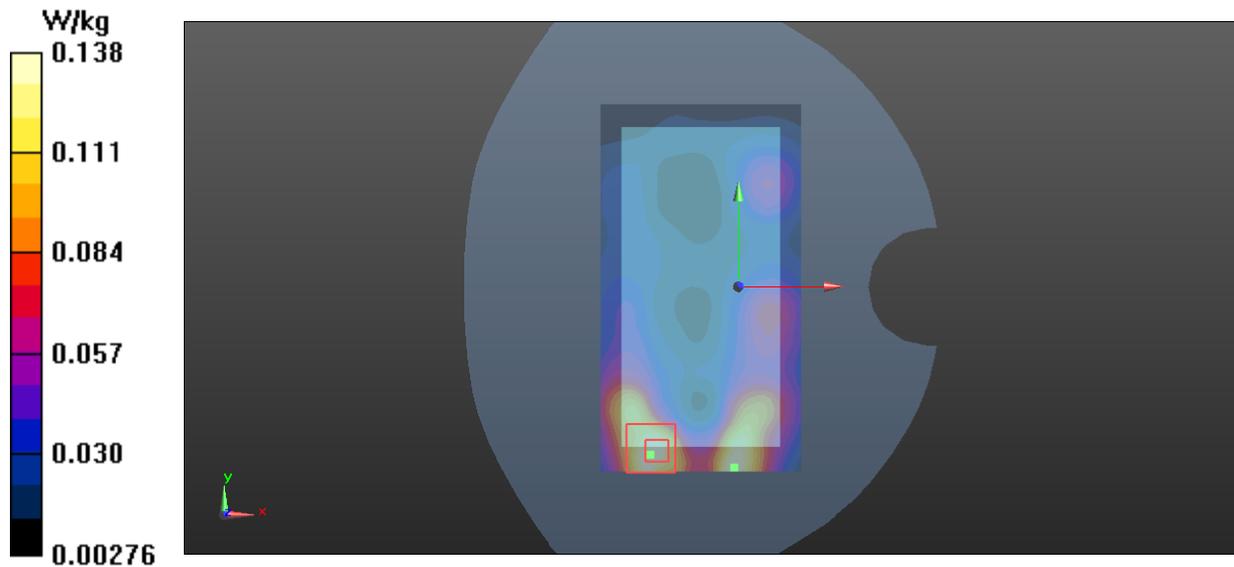
**Back Side Middle /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.439 V/m; Power Drift = 0.054 dB

Peak SAR (extrapolated) = 0.310 W/kg

**SAR(1 g) = 0.137 W/kg; SAR(10 g) = 0.069 W/kg**

Maximum value of SAR (measured) = 0.138 W/kg



**Plot 80 LTE Band 41 1RB Front Side Middle (Battery2, Distance 10mm)**

Date: 4/7/2016

Communication System: UID 0, LTE (0); Frequency: 2605 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2605$  MHz;  $\sigma = 2.234$  S/m;  $\epsilon_r = 51.461$ ;  $\rho = 1000$  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(6.95, 6.95, 6.95); Calibrated: 12/10/2015;

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; 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) = 0.411 W/kg

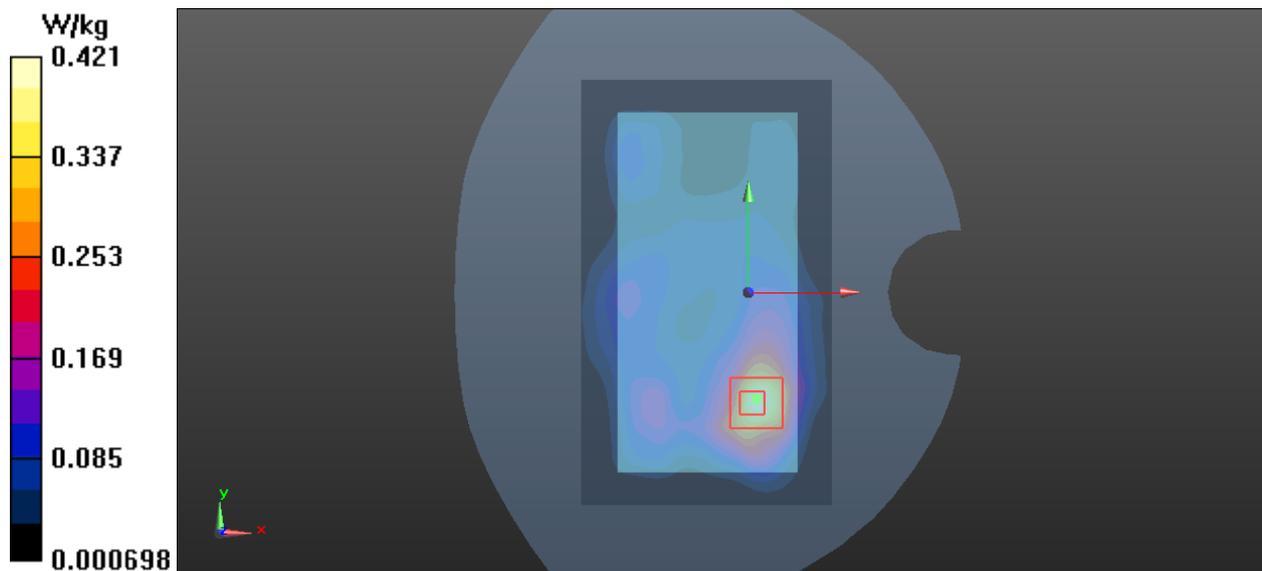
**Front Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.998 V/m; Power Drift = 0.075 dB

Peak SAR (extrapolated) = 0.746 W/kg

**SAR(1 g) = 0.385 W/kg; SAR(10 g) = 0.197 W/kg**

Maximum value of SAR (measured) = 0.421 W/kg



**Second-Antenna****Plot 81 GSM 850 Right Cheek High (Battery 2)**

Date: 3/30/2016

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.939$  S/m;  $\epsilon_r = 41.857$ ;  $\rho = 1000$  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(9.35, 9.35, 9.35); Calibrated: 12/10/2015

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; 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) = 1.06 W/kg

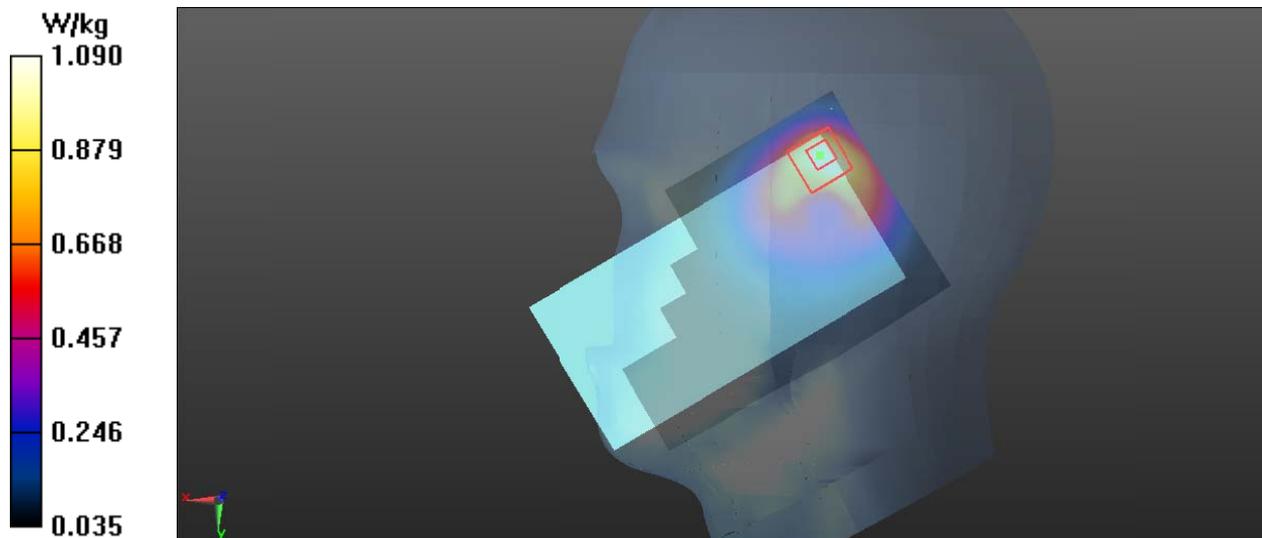
**Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.18 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 2.05 W/kg

**SAR(1 g) = 0.977 W/kg; SAR(10 g) = 0.521 W/kg**

Maximum value of SAR (measured) = 1.09 W/kg



**Plot 82 GSM 850 Right Cheek Middle (Battery 2, For Simultaneous Transmission)**

Date: 3/30/2016

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.939$  S/m;  $\epsilon_r = 41.857$ ;  $\rho = 1000$  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(9.35, 9.35, 9.35); Calibrated: 12/10/2015

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

Phantom: SAM1; 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) = 0.729 W/kg

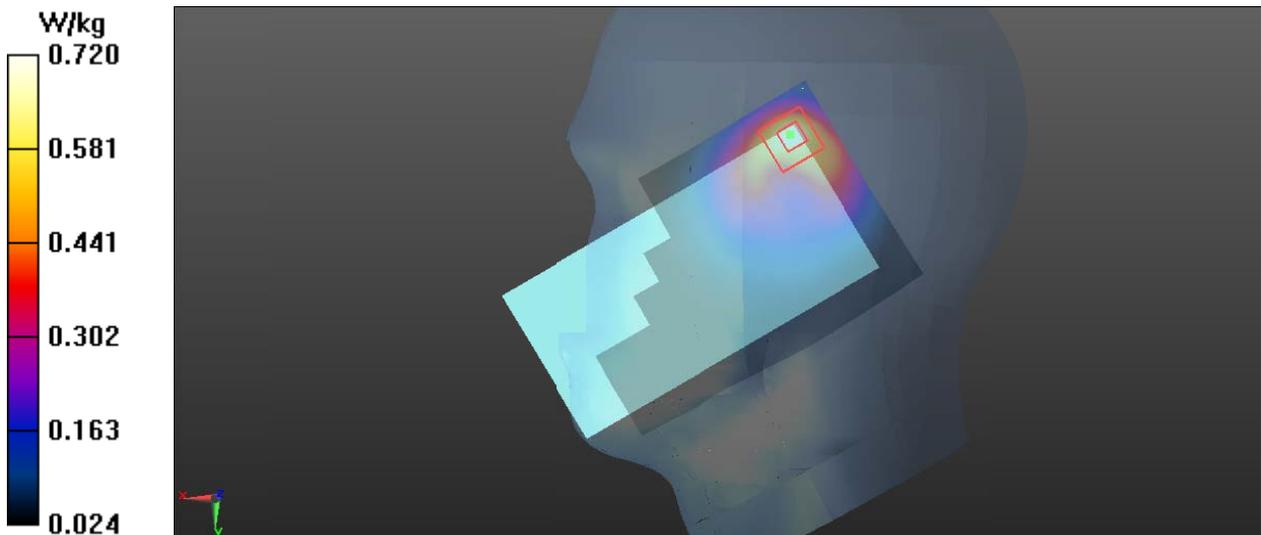
**Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.54 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 1.34 W/kg

**SAR(1 g) = 0.635 W/kg; SAR(10 g) = 0.337 W/kg**

Maximum value of SAR (measured) = 0.720 W/kg



**Plot 83 GSM 850 Back Side Middle (Distance 15mm)**

Date: 3/31/2016

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.967$  S/m;  $\epsilon_r = 54.144$ ;  $\rho = 1000$  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(9.42, 9.42, 9.42); Calibrated: 12/10/2015

Electronics: DAE4 Sn871; Calibrated: 11/17/2015

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) = 0.173 W/kg

**Back Side Middle /Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.39 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.214 W/kg

**SAR(1 g) = 0.160 W/kg; SAR(10 g) = 0.115 W/kg**

Maximum value of SAR (measured) = 0.167 W/kg

