

FCC SAR TEST REPORT

FCC ID : 2ABZ2-EF014
Equipment : Smart Phone
Brand Name : ONEPLUS
Model Name : AC2003
Applicant : OnePlus Technology (Shenzhen) Co., Ltd
18C02, 18C03, 18C04 and 18C05, Shum Yip Terra Building,
Binhe Avenue North, Futian District, Shenzhen
Manufacturer : OnePlus Technology (Shenzhen) Co., Ltd
18C02, 18C03, 18C04 and 18C05, Shum Yip Terra Building,
Binhe Avenue North, Futian District, Shenzhen
Standard : FCC 47 CFR Part 2 (2.1093)
ANSI/IEEE C95.1-1992
IEEE 1528-2013

The product was received on Apr. 20, 2020 and testing was started from May 04, 2020 and completed on May 31, 2020. We, Sporton International (ShenZhen) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (ShenZhen) Inc., the test report shall not be reproduced except in full.



Reviewed by: Long Liang / Supervisor



Approved by: Johnny Chen / Manager



Sporton International (ShenZhen) Inc.

**1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055
People's Republic of China**



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History of this test report

Report No.	Version	Description	Issued Date
FA042007-02	01	Initial issue of report	Jun. 15, 2020
FA042007-02	02	Update report for Conducted Power and Tune-Up power Limit for 5.3GHz WLAN 802.11ac VHT80 CH058	Jul. 06, 2020

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for OnePlus Technology (Shenzhen) Co., Ltd, Smart Phone, AC2003, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary			Highest Simultaneous Transmission 1g SAR (W/kg)
		Head (Separation 0mm)	Hotspot (Separation 10mm)	Body-worn (Separation 15mm)	
		1g SAR (W/kg)			
Licensed	GSM850	0.82	0.59	0.26	1.48
	GSM1900	1.08	0.68	0.35	
	WCDMA V	0.70	0.83	0.37	
	WCDMA IV	0.79	1.08	0.62	
	WCDMA II	0.73	0.85	0.43	
	LTE Band 12 / 17	0.84	0.72	0.28	
	LTE Band 5	0.73	0.61	0.30	
	LTE Band 26	0.77	0.93	0.44	
	LTE Band 66 / 4	0.79	0.91	0.48	
	LTE Band 2	0.77	0.98	0.37	
	LTE Band 7	1.01	1.09	0.80	
	LTE Band 41 / 38	1.02	0.90	0.43	
DTS	2.4GHz WLAN	0.93	1.00	0.56	1.48
NII	5GHz WLAN	0.94	1.00	0.59	1.47
DSS	Bluetooth	0.19	0.13	<0.10	1.46
Equipment Class	Frequency Band	Highest SAR Summary			Highest Simultaneous Transmission 10g SAR (W/kg)
		Product Specific (Separation 0mm)			
		10g SAR (W/kg)			
Licensed	WCDMA IV	2.19			3.14
	WCDMA II	1.96			
	LTE Band 7	2.50			
DTS	2.4GHz WLAN	2.52			2.19
NII	5GHz WLAN	2.75			3.14
Date of Testing:		2020/5/4 ~ 2020/5/31			
Remark: This device supports both LTE B4/17/38 and B66/12/41. Since the supported frequency span for LTE B4/17/38 falls completely within the supports frequency span for LTE B66/12/41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B66/12/41.					

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6W/kg as averaged over any 1 gram of tissue; 10-gram SAR for Product Specific 10g SAR, limit: 4.0W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.



2. Administration Data

Sporton International (Shenzhen) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Testing Laboratory		
Test Firm	Sporton International (Shenzhen) Inc.	
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595	
Test Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CN1256	421272

3. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02



4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Smart Phone
Brand Name	ONEPLUS
Model Name	AC2003
FCC ID	2ABZ2-EF014
IMEI Code	IMEI 1: 660000680024875 IMEI 2: 660000680024867
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz ANT+ : 2402 MHz ~ 2480 MHz NFC: 13.56 MHz
Mode	GSM/GPRS/EGPRS AMR / RMC 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+ (16QAM uplink) LTE: QPSK, 16QAM, 64QAM, 256QAM(Downlink only) WLAN 2.4GHz : 802.11b/g/n HT20/HT40 WLAN 5GHz : 802.11a/n/ac HT20/HT40/VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE ANT+: GFSK NFC:ASK
HW Version	14
SW Version	Oxygen OS 10.5.0.AC01BA
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Production Unit
Remark: 1. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP) and LTE supports VoLTE operation. 2. This device does not support DTM operation and supports GRPS/EGRPS mode up to multi-slot class 33. 3. This device supports HPUE for LTE band 41 with class 2 level, so HPUE SAR has been performed. 4. This device has WWAN UAT and LAT transmitter antennas which can refer to antenna location chapter. 5. The 2.4GHz/5GHz WLAN can transmit in MIMO antenna mode only and it has no SISO antenna mode. 6. This device WLAN 2.4GHz / 5.2GHz / 5.8GHz supports Hotspot operation and Bluetooth support tethering applications. 7. For WWAN UAT antenna, when the audio is actively routed through the earpiece receiver, then power reduction will	

be implemented immediately.

Reduced power level 1-While the device WWAN is transmitting at the WWAN Top antenna.

Reduced power level 2-While the device WLAN 2.4GHz/Bluetooth is transmitting simultaneously with the WWAN Top antenna

Reduced power level 3-While the device WLAN 5GHz is transmitting simultaneously with the WWAN Top antenna

Reduced power level 4-While the device Bluetooth and WLAN 5GHz is transmitting simultaneously with the WWAN Top antenna

8. For WWAN UAT antenna, hotspot mode is enabled, power reduction will be activated to limit the maximum power.
9. For WWAN LAT antenna, hotspot mode is enabled, power reduction will be activated to limit the maximum power.
10. For WWAN UAT antenna, when the p-sensor is detect handheld state, power reduction will be activated to limit the maximum power.
11. For WWAN LAT antenna, when the p-sensor is detect handheld state, power reduction will be activated to limit the maximum power.
12. For WLAN when transmit standalone or transmit simultaneous with WWAN LAT or UAT, power reduction will be activated to limit the different maximum power level for head / hotspot/ body worn / extremity.
 - Reduced power level 1- While the device WLAN is transmitting standalone.
 - Reduced power level 2- While the device WLAN2.4GHz/5GHz is transmitting simultaneously with the WWAN antenna.
 - Reduced power level 3-While the device Bluetooth and WLAN 5GHz is transmitting simultaneously with the WWAN antenna
13. For Bluetooth antenna, when the audio is actively routed through the earpiece receiver, then power reduction will be implemented immediately.

4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05									
FCC ID		2ABZ2-EF014							
Equipment Name		Smart Phone							
Operating Frequency Range of each LTE transmission band		LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz							
Channel Bandwidth		LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz							
uplink modulations used		QPSK / 16QAM / 64QAM / 256QAM(Downlink only)							
LTE Voice / Data requirements		Voice and Data							
LTE Release Version		R15, Cat 18							
CA Support		Yes, Uplink and Downlink							
LTE MPR permanently built-in by design		Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3							
		Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})					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
		64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
		64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3
		256 QAM	≥ 1					≤ 5	
LTE A-MPR		In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)							
Spectrum plots for RB configuration		A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.							
Power reduction applied to satisfy SAR compliance		Yes, receiver detected /hotspot /proximity sensor will trigger reduced power for some LTE bands, the detail please referred to section 13.							
LTE Carrier Aggregation Combinations		Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to section 13.							
LTE Carrier Aggregation Additional Information		1. This device supports LTE Carrier Aggregation (CA) in the uplink for LTE B7/B38/B41 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. 2. This device supports maximum of 3 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.							

Transmission (H, M, L) channel numbers and frequencies in each LTE band												
LTE Band 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 5												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829				
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5				
H	20643	848.3	20635	847.5	20625	846.5	20600	844				
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510				
M	21100	2535	21100	2535	21100	2535	21100	2535				
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560				
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704				
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5				
H	23173	715.3	23165	714.5	23155	713.5	23130	711				
LTE Band 17												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)					
L	23755		706.5		23780		709					
M	23790		710		23790		710					
H	23825		713.5		23800		711					
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5		
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5		
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5		
LTE Band 38												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580				
M	38000	2595	38000	2595	38000	2595	38000	2595				
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610				
LTE Band 41												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506				
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				



FCC SAR TEST REPORT

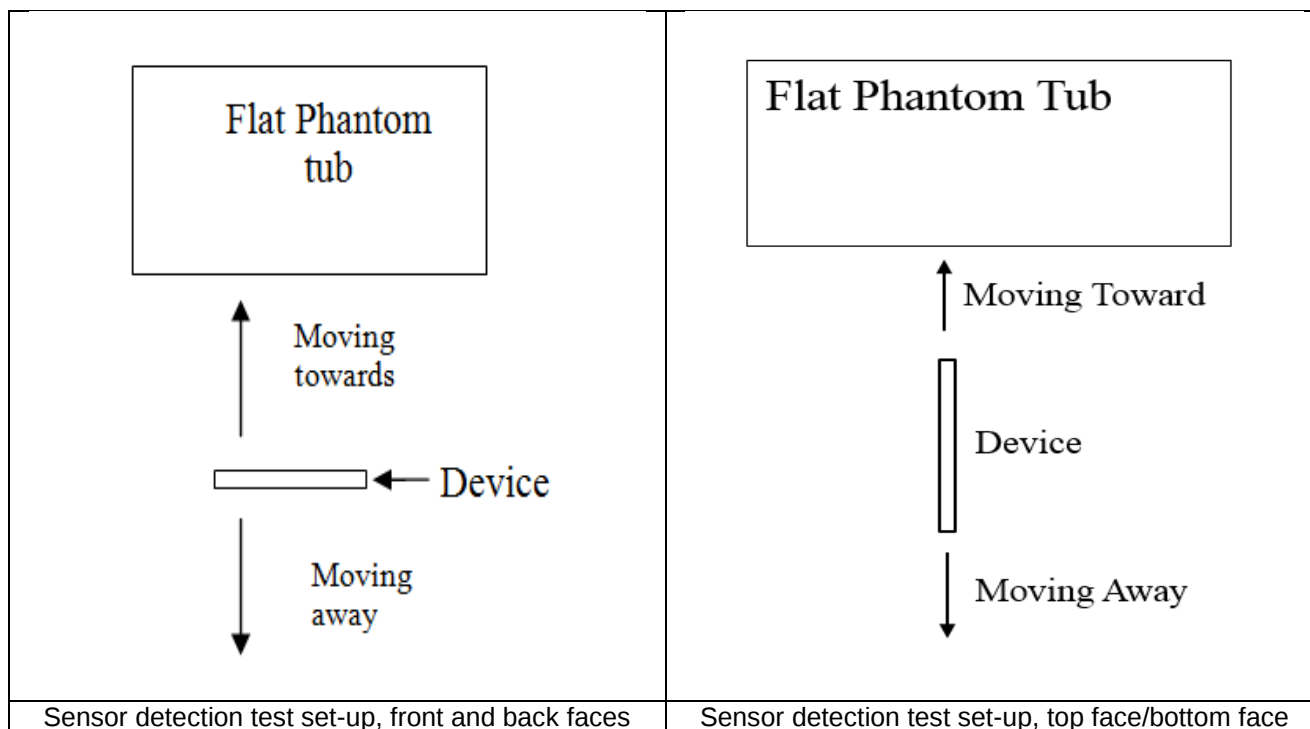
Report No. : FA042007-02

M	40620	2593	40620	2593	40620	2593	40620	2593				
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680				
LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770

5. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance>:

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (2600MHz) and lowest (1750MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top and bottom ends of the phone are utilized to determine when the device comes in proximity of the user's hand at the front / back / bottom/top of the device.
3. When the sensor is active, the device will reduce maximum output powers on the WCDMA B2/B4 and LTE B7 transmitter.
4. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance was performed for handheld:
 Top antenna:
 Back: [8 mm](#)
 Top side: [8 mm](#)
 Bottom antenna:
 Back: [8 mm](#)
 Bottom side: [8 mm](#)



UAT antenna Proximity Sensor Trigger Distance (mm)						
Position	Front		Back		Top Side	
Position	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	3	4	9	9	9	9

LAT antenna Proximity Sensor Trigger Distance (mm)						
Position	Front		Back		Bottom Side	
Position	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	6	5	9	9	9	9

6. RF Exposure Limits

6.1 Uncontrolled Environment

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

6.2 Controlled Environment

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

1. Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

7. Specific Absorption Rate (SAR)

7.1 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

7.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$SAR = \frac{d}{dt} \left(\frac{dW}{dm} \right) = \frac{d}{dt} \left(\frac{dW}{\rho dv} \right)$$

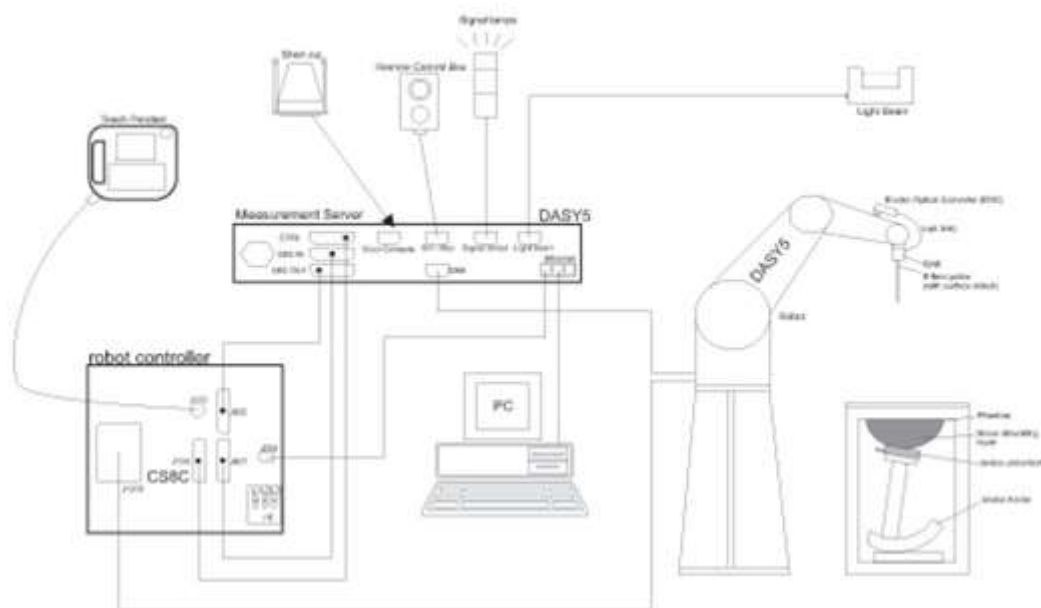
SAR is expressed in units of Watts per kilogram (W/kg)

$$SAR = \frac{\sigma |E|^2}{\rho}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

8. System Description and Setup

The DASY system used 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 DASY5 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.

8.1 E-Field Probe

The SAR measurement is conducted with the dosimetric probe (manufactured by SPEAG). The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

<EX3DV4 Probe>

Construction	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz – >6 GHz Linearity: ± 0.2 dB (30 MHz – 6 GHz)	
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 μ W/g – >100 mW/g Linearity: ± 0.2 dB (noise: typically <1 μ W/g)	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

8.2 Data Acquisition Electronics (DAE)

The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.

The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.



Fig 5.1 Photo of DAE

8.3 Phantom

<SAM Twin Phantom>

Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm	
Filling Volume	Approx. 25 liters	
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet	
Measurement Areas	Left Hand, Right Hand, Flat Phantom	

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

<ELI Phantom>

Shell Thickness	2 ± 0.2 mm (sagging: <1%)	
Filling Volume	Approx. 30 liters	
Dimensions	Major ellipse axis: 600 mm Minor axis: 400 mm	

The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

8.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

In combination with the Twin SAM V5.0/V5.0c or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). And upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

<Mounting Device for Laptops and other Body-Worn Transmitters>

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.



Mounting Device for Laptops

9. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

- (a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
- (b) Read the WWAN RF power level from the base station simulator.
- (c) For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power in each supported wireless interface and frequency band
- (d) Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power

<SAR measurement>

- (a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
- (b) Place the EUT in the positions as Appendix D demonstrates.
- (c) Set scan area, grid size and other setting on the DASY software.
- (d) Measure SAR results for the highest power channel on each testing position.
- (e) Find out the largest SAR result on these testing positions of each band
- (f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

- (a) Power reference measurement
- (b) Area scan
- (c) Zoom scan
- (d) Power drift measurement

9.1 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values from the measurement grid to the high-resolution grid
- (e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- (f) Calculation of the averaged SAR within masses of 1g and 10g

9.2 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.

9.3 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 dB0) 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 D01v01r04 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	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: Δx_{Area} , Δy_{Area}	≤ 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 $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

9.4 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 D01v01r04 SAR measurement 100 MHz to 6 GHz.

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

9.5 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.

9.6 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.

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1099	Dec. 06, 2018	Dec. 05, 2021
SPEAG	835MHz System Validation Kit	D835V2	4d162	Dec. 05, 2018	Dec. 04, 2021
SPEAG	1750MHz System Validation Kit	D1750V2	1137	Jul. 30, 2018	Jul. 29, 2021
SPEAG	1900MHz System Validation Kit	D1900V2	5d182	Dec. 07, 2018	Dec. 06, 2021
SPEAG	2450MHz System Validation Kit	D2450V2	924	Apr. 15, 2019	Apr. 14, 2022
SPEAG	2600MHz System Validation Kit	D2600V2	1070	Dec. 07, 2018	Dec. 06, 2021
SPEAG	5000MHz System Validation Kit	D5GHzV2	1167	Aug. 03, 2018	Aug. 02, 2021
SPEAG	Data Acquisition Electronics	DAE4	1303	Jan. 08, 2020	Jan. 07, 2021
SPEAG	Dosimetric E-Field Probe	EX3DV4	7576	Jan. 22, 2020	Jan. 21, 2021
SPEAG	SAM Twin Phantom	SAM V5.0	1795	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio communication analyzer	MT8820C	6201300653	Jul. 22, 2019	Jul. 21, 2020
Anritsu	Radio communication analyzer	MT8821C	6201588572	Dec. 26, 2019	Dec. 25, 2020
Agilent	Wireless Communication Test Set	E5515C	MY50267224	Jul. 22, 2019	Jul. 21, 2020
Agilent	Network Analyzer	E5071C	MY46523671	Oct. 17, 2019	Oct. 16, 2020
Speag	Dielectric Assessment KIT	DAK-3.5	1071	Oct. 28, 2019	Oct. 27, 2020
Agilent	Signal Generator	N5181A	MY50145381	Dec. 26, 2019	Dec. 25, 2020
Anritsu	Power Sensor	MA2411B	1306099	Jul. 22, 2019	Jul. 21, 2020
Anritsu	Power Meter	ML2495A	1349001	Jul. 22, 2019	Jul. 21, 2020
Anritsu	Power Sensor	MA2411B	1207253	Dec. 26, 2019	Dec. 25, 2020
Anritsu	Power Meter	ML2495A	1218010	Dec. 26, 2019	Dec. 25, 2020
R&S	CBT BLUETOOTH TESTER	CBT	100963	Dec. 26, 2019	Dec. 25, 2020
R&S	Spectrum Analyzer	FSP7	100818	Jul. 22, 2019	Jul. 21, 2020
LKM electronic	Hygrometer	DTM3000	3241	Jul. 25, 2019	Jul. 24, 2020
Anymetre	Thermo-Hygrometer	JR593	2015102801	Dec. 30, 2019	Dec. 29, 2020
AR	Amplifier	5S1G4	0333096	Note 1	
mini-circuits	Amplifier	ZVE-3W-83+	599201528	Note 1	
ARRA	Power Divider	A3200-2	N/A	Note 1	
PASTERNAK	Dual Directional Coupler	PE2214-10	N/A	Note 1	
Agilent	Dual Directional Coupler	778D	50422	Note 1	
MCL	Attenuation1	BW-S10W5	N/A	Note 1	
Weinschel	Attenuation2	3M-20	N/A	Note 1	
Zhongjilianhe	Attenuation3	MVE2214-03	N/A	Note 1	

General Note:

- Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.
- Referring to KDB 865664 D01v01r04, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
- The justification data of dipole can be found in appendix C. The return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration.

11. System Verification

11.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.2.



Fig 10.1Photo of Liquid Height for Head SAR



Fig 10.2 Photo of Liquid Height for Body SAR

**11.2 Tissue Verification**

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (ϵ_r)
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0

Simulating Liquid for 5GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	64~78%
Mineral oil	11~18%
Emulsifiers	9~15%
Additives and Salt	2~3%

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Date
750	22.5	0.878	40.673	0.89	41.90	-1.35	-2.93	±5	2020/5/10
835	22.7	0.902	40.749	0.90	41.50	0.22	-1.81	±5	2020/5/8
835	22.8	0.929	41.793	0.90	41.50	3.22	0.71	±5	2020/5/20
1750	22.5	1.375	41.541	1.37	40.10	0.36	3.59	±5	2020/5/4
1750	22.6	1.407	41.718	1.37	40.10	2.70	4.03	±5	2020/5/17
1900	22.5	1.439	40.038	1.40	40.00	2.79	0.09	±5	2020/5/6
1900	22.5	1.450	40.004	1.40	40.00	3.57	0.01	±5	2020/5/19
2450	22.4	1.856	37.685	1.80	39.20	3.11	-3.86	±5	2020/5/22
2600	22.7	2.053	38.335	1.96	39.00	4.74	-1.71	±5	2020/5/11
2600	22.6	2.052	38.007	1.96	39.00	4.69	-2.55	±5	2020/5/25
5250	22.7	4.638	37.088	4.71	35.95	-1.53	3.17	±5	2020/5/13
5250	22.8	4.699	36.046	4.71	35.95	-0.23	0.27	±5	2020/5/27
5600	22.8	5.048	36.534	5.07	35.50	-0.43	2.91	±5	2020/5/12
5600	22.5	5.125	35.435	5.07	35.50	1.08	-0.18	±5	2020/5/29
5750	22.6	5.220	36.277	5.22	35.35	0.00	2.62	±5	2020/5/15
5750	22.6	5.250	35.137	5.22	35.35	0.57	-0.60	±5	2020/5/31

11.3 System Performance Check Results

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

<1g SAR>

Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2020/5/10	750	250	1099	7576	1303	2.10	8.52	8.4	-1.41
2020/5/8	835	250	4d162	7576	1303	2.38	9.61	9.52	-0.94
2020/5/20	835	250	4d162	7576	1303	2.48	9.61	9.92	3.23
2020/5/4	1750	250	1137	7576	1303	8.42	36.50	33.68	-7.73
2020/5/17	1750	250	1137	7576	1303	8.55	36.50	34.2	-6.30
2020/5/6	1900	250	5d182	7576	1303	9.57	39.60	38.28	-3.33
2020/5/19	1900	250	5d182	7576	1303	9.65	39.60	38.6	-2.53
2020/5/22	2450	250	924	7576	1303	13.90	52.10	55.6	6.72
2020/5/11	2600	250	1070	7576	1303	15.10	58.10	60.4	3.96
2020/5/25	2600	250	1070	7576	1303	14.80	58.10	59.2	1.89
2020/5/13	5250	100	1167	7576	1303	7.11	77.00	71.1	-7.66
2020/5/27	5250	100	1167	7576	1303	8.08	77.00	80.8	4.94
2020/5/12	5600	100	1167	7576	1303	8.22	80.80	82.2	1.73
2020/5/29	5600	100	1167	7576	1303	8.53	80.80	85.3	5.57
2020/5/15	5750	100	1167	7576	1303	7.46	76.90	74.6	-2.99
2020/5/31	5750	100	1167	7576	1303	7.92	76.90	79.2	2.99

<10g SAR>

Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2020/5/17	1750	250	1137	7576	1303	4.64	19.50	18.56	-4.82
2020/5/19	1900	250	5d182	7576	1303	4.99	20.70	19.96	-3.57
2020/5/22	2450	250	924	7576	1303	6.30	23.90	25.2	5.44
2020/5/25	2600	250	1070	7576	1303	6.40	26.10	25.6	-1.92
2020/5/13	5250	100	1167	7576	1303	2.04	22.00	20.4	-7.27
2020/5/12	5600	100	1167	7576	1303	2.33	23.20	23.3	0.43
2020/5/15	5750	100	1167	7576	1303	2.12	21.60	21.2	-1.85

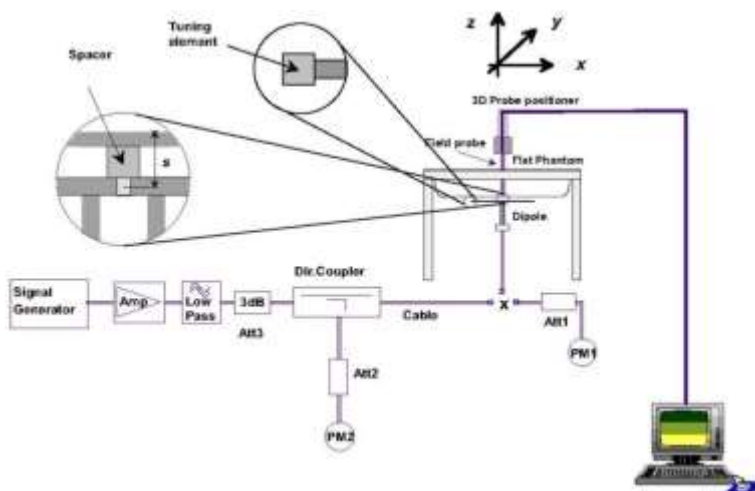


Fig 8.3.1 System Performance Check Setup



Fig 8.3.2 Setup Photo

12. RF Exposure Positions

12.1 Ear and handset reference point

Figure 9.1.1 shows the front, back, and side views of the SAM phantom. The center-of-mouth reference point is labeled "M," the left ear reference point (ERP) is marked "LE," and the right ERP is marked "RE." Each ERP is 15 mm along the B-M (back-mouth) line behind the entrance-to-ear-canal (EEC) point, as shown in Figure 9.1.2 The Reference Plane is defined as passing through the two ear reference points and point M. The line N-F (neck-front), also called the reference pivoting line, is normal to the Reference Plane and perpendicular to both a line passing through RE and LE and the B-M line (see Figure 9.1.3). Both N-F and B-M lines should be marked on the exterior of the phantom shell to facilitate handset positioning. Posterior to the N-F line the ear shape is a flat surface with 6 mm thickness at each ERP, and forward of the N-F line the ear is truncated, as illustrated in Figure 9.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

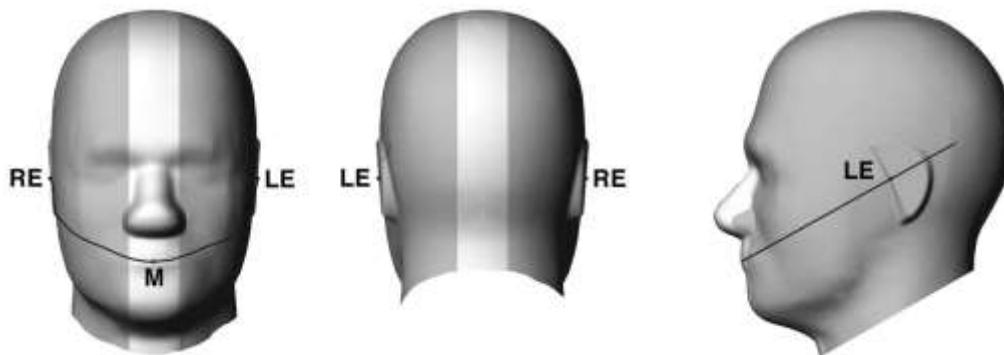


Fig 9.1.1 Front, back, and side views of SAM twin phantom

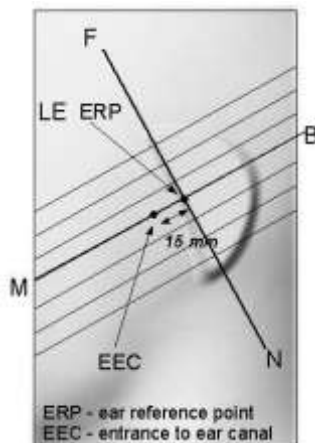


Fig 9.1.2 Close-up side view of phantom showing the ear region.

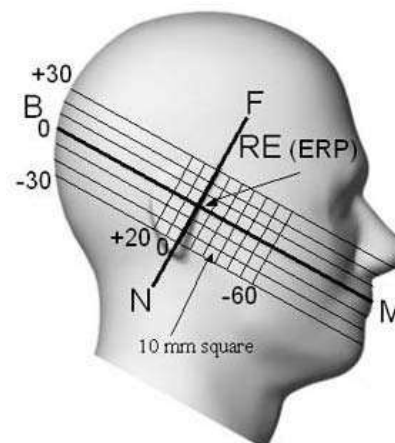


Fig 9.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

12.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width w_t of the handset at the level of the acoustic output (point A in Figure 9.2.1 and Figure 9.2.2), and the midpoint of the width w_b of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 9.2.1). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 9.2.2), especially for clamshell handsets, handsets with flip covers, and other irregularly-shaped handsets.
3. Position the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 9.2.3), such that the plane defined by the vertical centerline and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.
4. Translate the handset towards the phantom along the line passing through RE and LE until handset point A touches the pinna at the ERP.
5. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines, i.e., the Reference Plane.
6. Rotate the handset around the vertical centerline until the handset (horizontal line) is parallel to the N-F line.
7. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the pinna, rotate the handset about the N-F line until any point on the handset is in contact with a phantom point below the pinna on the cheek. See Figure 9.2.3. The actual rotation angles should be documented in the test report.

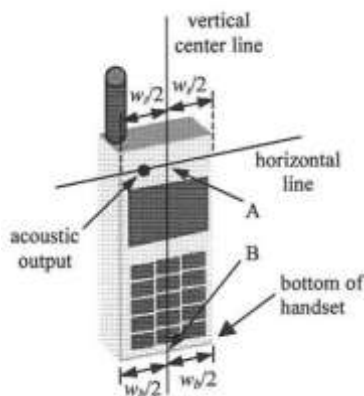


Fig 9.2.1 Handset vertical and horizontal reference lines—“fixed case”

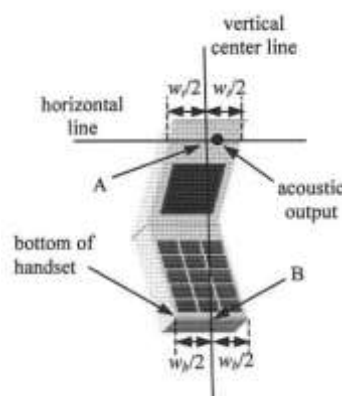


Fig 9.2.2 Handset vertical and horizontal reference lines—“clam-shell case”

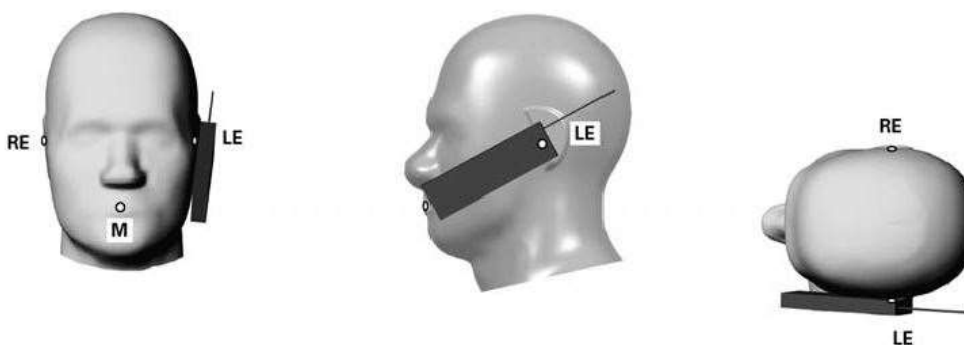


Fig 9.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

12.3 Definition of the tilt position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 9.3.1. If contact occurs at any location other than the pinna, e.g., the antenna at the back of the phantom head, the angle of the handset should be reduced. In this case, the tilt position is obtained if any point on the handset is in contact with the pinna and a second point

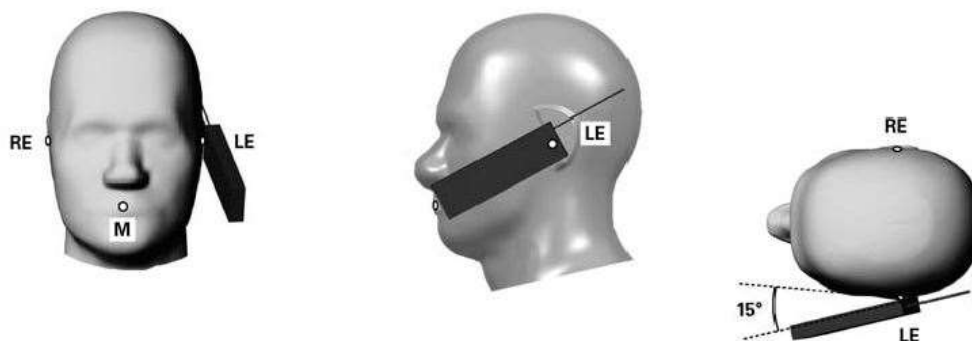


Fig 9.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

12.4 Body Worn Accessory

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 (see Figure 9.4). Per KDB648474 D04v01r03, 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 447498 D01v06 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 body-worn accessory, measured without a headset connected to the handset is $> 1.2 \text{ W/kg}$, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a handset 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 test 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.

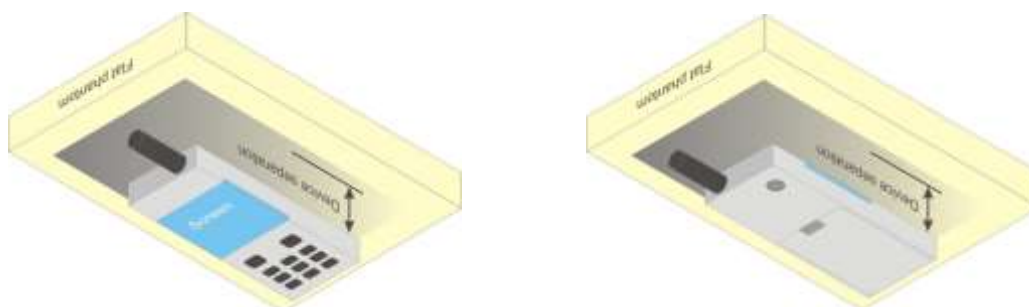


Fig 9.4 Body Worn Position

12.5 Product Specific Exposure

For smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, According to KDB648474 D04v01r03, 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

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.
2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 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 865664 to address interactive hand use exposure conditions.⁶ The UMPC mini-tablet 1-g SAR at 5 mm 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.

12.6 Wireless Router

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets ($L \times W \geq 9$ cm x 5 cm) are based on a composite test separation distance of 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 publication procedures. The "Portable Hotspot" feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.

13. GSM/UMTS/CDMA/LTE Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<GSM Conducted Power>

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS (4Tx slots) for GSM850/GSM1900 is considered as the primary mode.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, 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, SAR measurement is not required for the secondary mode

<WCDMA Conducted Power>

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For HSPA+ devices supporting 16 QAM in the uplink, power measurements procedure is according to the configurations in Table C.11.1.4 of 3GPP TS 34.121-1.
4. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
 - i. Set Gain Factors (β_c and β_d) and parameters were set according to each
 - ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
 - iii. Set RMC 12.2Kbps + HSDPA mode.
 - iv. Set Cell Power = -86 dBm
 - v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
 - vi. Select HSDPA Uplink Parameters
 - vii. Set Delta ACK, Delta NACK and Delta CQI = 8
 - viii. Set Ack-Nack Repetition Factor to 3
 - ix. Set CQI Feedback Cycle (k) to 4 ms
 - x. Set CQI Repetition Factor to 2
 - xi. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note 1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
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

Note 1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$.
 Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and $\Delta_{NACK} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$, and $\Delta_{CQI} = 24/15$ with $\beta_{HS} = 24/15 * \beta_c$.
 Note 3: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{HS}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.
 Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$.

Setup Configuration

HSUPA Setup Configuration:

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting * :
 - i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
 - ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
 - iii. Set Cell Power = -86 dBm
 - iv. Set Channel Type = 12.2k + HSPA
 - v. Set UE Target Power
 - vi. Power Ctrl Mode= Alternating bits
 - vii. Set and observe the E-TFCI
 - viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
- d. The transmitted maximum output power was recorded.

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/25	1309/225	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	β_{ed1} : 47/15 β_{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	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$. For sub-test 5, Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 5/15$ with $\beta_{hs} = 5/15 * \beta_c$.

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 β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 10/15$ and $\beta_d = 15/15$.

Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration below
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
 - i. Set RMC 12.2Kbps + HSDPA mode.
 - ii. Set Cell Power = -25 dBm
 - iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
 - iv. Select HSDPA Uplink Parameters
 - v. Set Gain Factors (β_c and β_d) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
 - a). Subtest 1: $\beta_c/\beta_d=2/15$
 - b). Subtest 2: $\beta_c/\beta_d=12/15$
 - c). Subtest 3: $\beta_c/\beta_d=15/8$
 - d). Subtest 4: $\beta_c/\beta_d=15/4$
 - vi. Set Delta ACK, Delta NACK and Delta CQI = 8
 - vii. Set Ack-Nack Repetition Factor to 3
 - viii. Set CQI Feedback Cycle (k) to 4 ms
 - ix. Set CQI Repetition Factor to 2
 - x. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

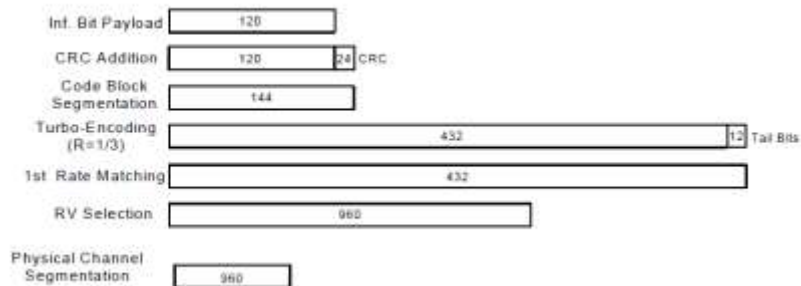
The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification. A summary of these settings are illustrated below:

C.8.1.12 Fixed Reference Channel Definition H-Set 12
Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Processes	6
Information Bit Payload (N_{inf})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK

Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.

Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)
Setup Configuration

HSPA+ 3GPP release 7 (uplink category 7) 16QAM, Setup Configuration:

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting * :
 - i. Call Configs = 5.2E:HSPA+:UL with 16QAM
 - ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.4, quoted from the TS 34.121-1 s5.2E
 - iii. Set Channel Parms
 - iv. Set Cell Power = -86 dBm
 - v. Set Channel Type = HSPA
 - vi. Set UE Target Power =21 dBm
 - vii. Power Ctrl Mode= All Up Bits
 - viii. Set Manual Uplink DPCH Bc/Bd = Manual
 - ix. Set Manual Uplink DPCH Bc and Bd=15,15(for 34.121-1 v8.10.0 table C11.1.4 sub-test 1)
 - x. Set HSPA Conn DL Channel Levels
 - xi. Set HS-SCCH Configs
 - xii. Set RB Test Mode Setup
 - xiii. Set Common HSUPA Parameters
 - xiv. Set Serving Grant
 - xv. Confirm that E-TFCI is equal to the target E-TFCI of 105 for sub-test 1, and other subtest's E-TFCI
- d. The transmitted maximum output power was recorded.

Table C.11.1.4: β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM

Sub-test	β_c (Note 3)	β_d	β_{HS} (Note 1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed1} : 30/15 β_{ed2} : 30/15	β_{ed3} : 24/15 β_{ed4} : 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$.
 Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).
 Note 3: DPDCH is not configured, therefore the β_c is set to 1 and $\beta_d = 0$ by default.
 Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.
 Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signaled to use the extrapolation algorithm.

Setup Configuration

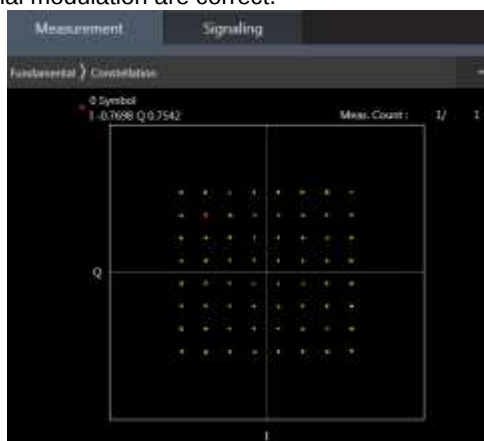
**<WCDMA Conducted Power>****General Note:**

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA / HSPA+ is $\leq \frac{1}{4}$ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA / HSPA+ to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA / HSPA+) are less than $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+.

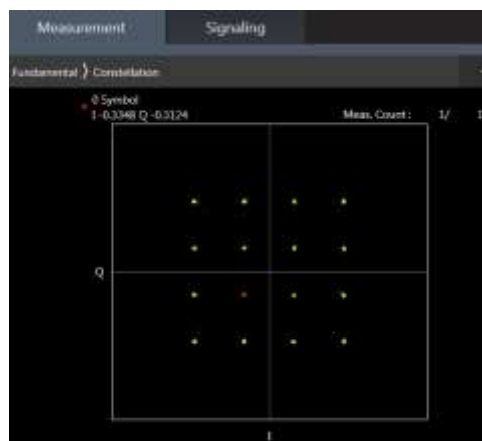
<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, 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.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, 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 are ≤ 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.
6. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B12 / B17 / B26 / B38 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE band 4/17/38 SAR test was covered by Band 66/12/41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ the larger band to qualify for the SAR test exclusion
 - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.



64QAM



16QAM

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

SAR was tested with a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by 3GPP.

- 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
- “special subframe S” contains both uplink and downlink transmissions, it has been taken into consideration to determine the transmission duty factor according to the worst case uplink and downlink cyclic prefix requirements for UpPTS
- Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.

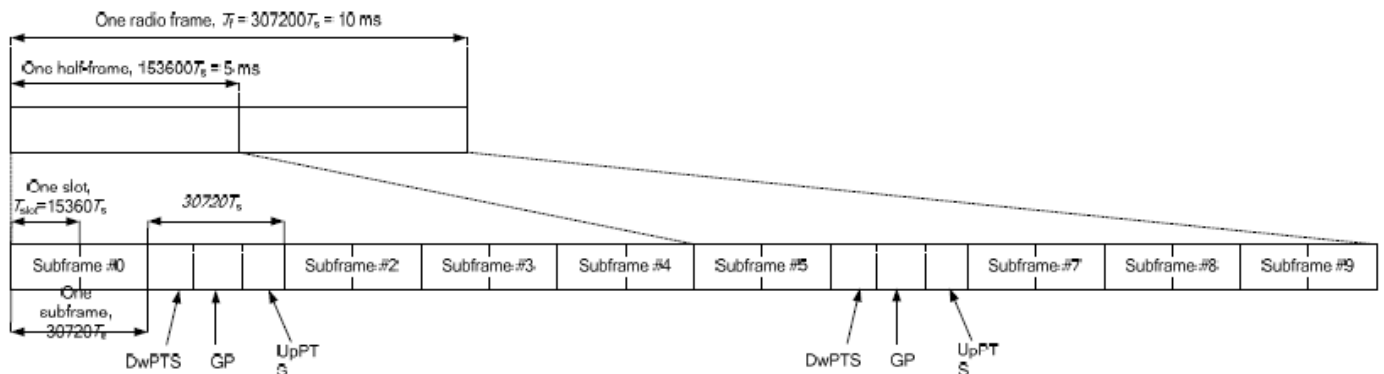


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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

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	$13168 \cdot T_s$			-	-	-

Special subframe (30720·T _s): Normal cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
Uplink duty factor in one special subframe	0~4	7.13%	8.33%
	5~9	14.3%	16.7%

Special subframe(30720·T _s): Extended cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
Uplink duty factor in one special subframe	0~3	7.13%	8.33%
	4~7	14.3%	16.7%

The highest duty factor is resulted from:

For LTE Band 41 Power class 2

- Uplink-downlink configuration: 1. In a half-frame consisted of 5 subframes, uplink operation is in 2 uplink subframes and 1 special subframe.
- special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
- for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(2+0.167)/5 = 43.3\%$
- for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(2+0.143)/5 = 42.9\%$
- For TDD LTE SAR measurement, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix $43.3\%/42.9\% = 1.009$ is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

For LTE Band 41 Power class 3

- Uplink-downlink configuration: 0. In a half-frame consisted of 5 subframes, uplink operation is in 3 uplink subframes and 1 special subframe.
- special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
- for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(3+0.167)/5 = 63.3\%$
- for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(3+0.143)/5 = 62.9\%$
- For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix $63.3\%/62.9\% = 1.006$ is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

The device can adjust uplink/downlink configuration automatically according to the transmitting power class level, as followings:

LTE TDD Band	Power Class level	support uplink/downlink configuration
LTE Band 41	> 23	1,2,3,4,5
	=23	0,1,2,3,4,5,6
	< 23	0,1,2,3,4,5,6

<LTE Carrier Aggregation combinations>

General Note:

1. This device supports Carrier Aggregation on downlink for inter and intra band and uplink CA. For the device supports combination bands and configurations are according to 3GPP.
2. In applying the existing power measurement procedure of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of the frequency band and CCs in each row need consideration, and that configurations require power measurement should be highlighted in the below table.

2CC Downlink Carrier Aggregation					3CC Downlink Carrier Aggregation				
Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset
1	CA_2A-2A			3CC-1	1	CA_2A-2A-5A			
2	CA_2A-4A		B4 SCC Only		2	CA_2A-2A-12A			
3	CA_2A-5A			3CC-1	3	CA_4A-4A-5A	4A,4A-4A		
4	CA_2A-12A			3CC-2	4	CA_4A-4A-7A	7A		
5	CA_2C				5	CA_4A-4A-12A	4A,4A-4A		
6	CA_4A-4A	4A		3CC-3	6	CA_4A-7A-7A	7A		
7	CA_4A-5A	4A		3CC-3	7	CA_4A-7A-12A	7A		
8	CA_4A-7A	7A		3CC-4	8	CA_5A-7A-7A	7A , 7A-7A		
9	CA_4A-12A	4A		3CC-5	9	CA_5A-66A-66A			
10	CA_5A-5A				10	CA_5A-66C			
11	CA_5A-7A			3CC-8	11	CA_12A-66A-66A			
12	CA_5B				12	CA_12A-66C			
13	CA_5A-66A			3CC-9	13	CA_41A-41C	41A,41C,41A-41C		
14	CA_7A-7A	7A,7A-7A			14	CA_41D	41D		
15	CA_7A-12A	7A			15	CA_66A-66C			
16	CA_7A-32A	7A	B32 SCC Only						
17	CA_7C	7C							
18	CA_12A-66A			3CC-11					
19	CA_26A-41A	41A							
20	CA_38C	38C							
21	CA_41A-41A	41A,41A-41A							
22	CA_41C	41C		3CC-13					
23	CA_66A-66A			3CC-9					
24	CA_66B								
25	CA_66C			3CC-15					

<LTE Downlink Carrier Aggregation>
General Note:

- i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.
- ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.
- iii. The device supports downlink two carrier aggregation. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
- iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.
- v. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band.
- vi. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

$$\text{Nominal channel spacing} = \left\lceil \frac{BW_{\text{Channel}(1)} + BW_{\text{Channel}(2)} - 0.1|BW_{\text{Channel}(1)} - BW_{\text{Channel}(2)}|}{0.6} \right\rceil 0.3 \text{ [MHz]}$$

<LTE Uplink carrier aggregation>

2CC Uplink Carrier Aggregation	
Number	Combination
1	7C
2	38C
3	41C

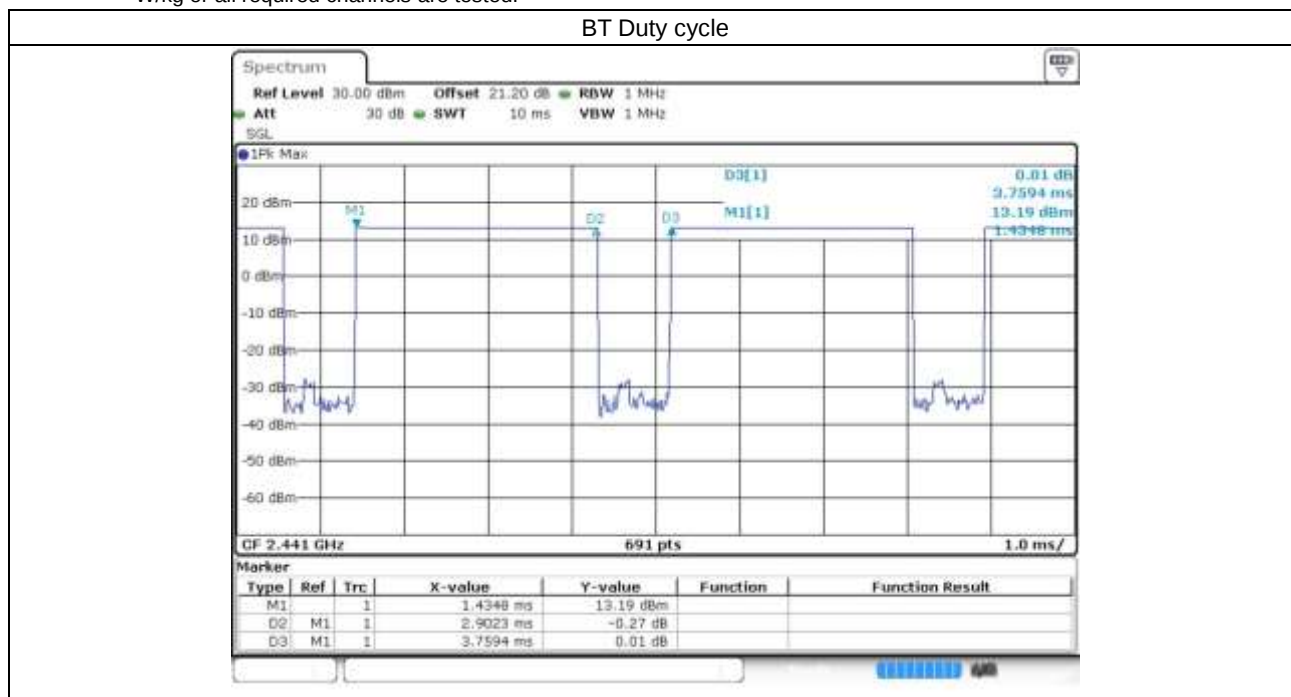
<Intra-band>
General Note:

- i. The device supports intra-band uplink carrier aggregation for LTE B7/B38/B41 with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.
- ii. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
- iii. Additional SAR measurement for LTE UL CA whit other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.

14. WiFi/Bluetooth Output Power (Unit: dBm)

General Note:

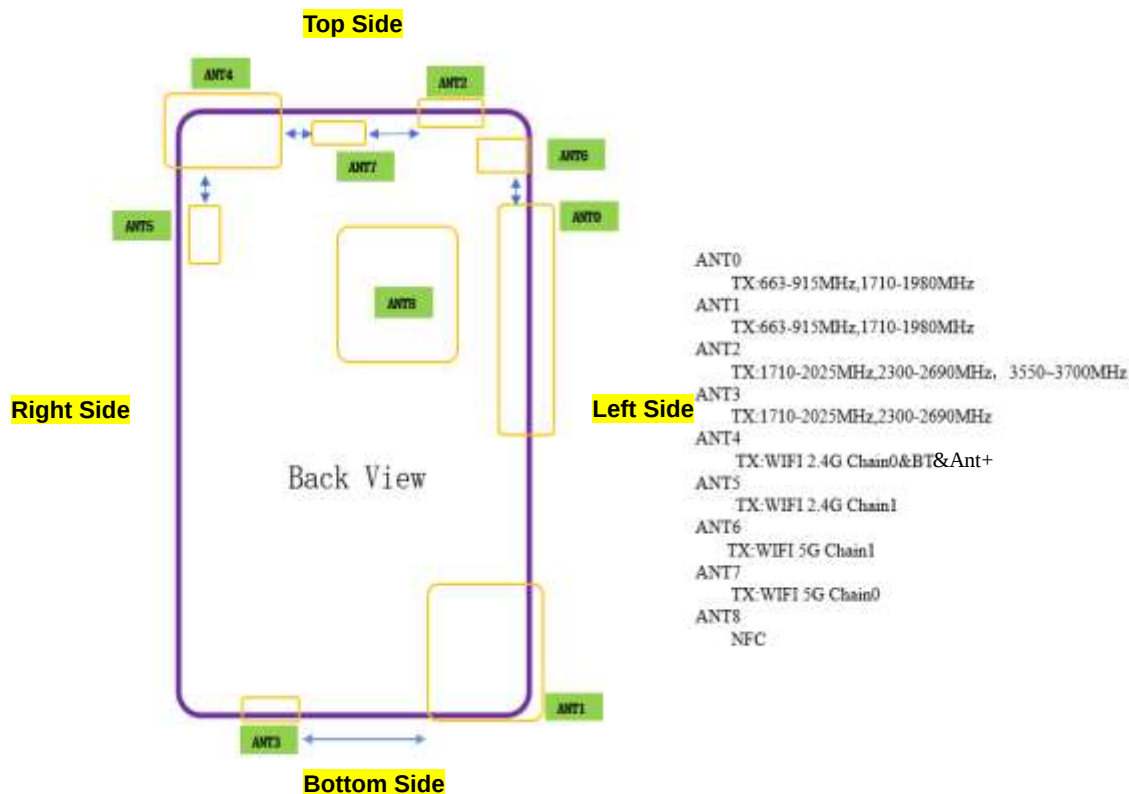
1. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
2. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
3. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
4. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
 - a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
 - b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode 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 report SAR is ≤ 0.8 W/kg or all required test position are tested.
 - c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.



General Note:

For 2.4GHz Bluetooth SAR testing was selected 1Mbps due to its highest average power and duty cycle is 77.2% considered in SAR testing.

15. Antenna Location



Antennas Description	
WWAN UAT	ANT 0 / ANT 2
WWAN LAT	ANT 1 / ANT 3
WLAN 2.4GHz Antenna 0 & BT Antenna& Ant+	ANT 4
WLAN 2.4GHz Antenna 1	ANT 5
WLAN 5GHz Antenna 1	ANT 6
WLAN 5GHz Antenna 0	ANT 7
NFC Antenna	ANT 8

Distance of the Antenna to the EUT surface/edge						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
WWAN UAT	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	>25mm	≤ 25mm
WWAN LAT	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm	≤ 25mm
BT&WLAN ANT 4/5	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	>25mm
WLAN ANT 6/7	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm

Positions for SAR tests; Hotspot mode						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
WWAN UAT	Yes	Yes	Yes	No	No	Yes
WWAN LAT	Yes	Yes	No	Yes	Yes	Yes
BT&WLAN ANT 4/5	Yes	Yes	Yes	No	Yes	No
WLAN ANT 6/7	Yes	Yes	Yes	No	Yes	Yes

General Note:

- Referring to KDB 941225 D06 v02r01, when the overall device length and width are $\geq 9\text{cm} \times 5\text{cm}$, the test distance is 10 mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge

16. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For WWAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - d. For WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix $63.3\%/62.9\% = 1.006$ is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, 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.
4. For WWAN UAT antenna, when the audio is actively routed through the earpiece receiver, then power reduction will be implemented immediately.
 - Reduced power level 1-While the device WWAN is transmitting at the WWAN Top antenna.
 - Reduced power level 2-While the device WLAN 2.4GHz/Bluetooth is transmitting simultaneously with the WWAN Top antenna
 - Reduced power level 3-While the device WLAN 5GHz is transmitting simultaneously with the WWAN Top antenna
 - Reduced power level 4-While the device Bluetooth and WLAN 5GHz is transmitting simultaneously with the WWAN Top antenna
5. For WWAN UAT antenna, hotspot mode is enabled, power reduction will be activated to limit the maximum power.
6. For WWAN LAT antenna, hotspot mode is enabled, power reduction will be activated to limit the maximum power.
7. For WWAN UAT antenna, when the p-sensor is detect handheld state, power reduction will be activated to limit the maximum power.
8. For WWAN LAT antenna, when the p-sensor is detect handheld state, power reduction will be activated to limit the maximum power.
9. For WLAN when transmit standalone or transmit simultaneous with WWAN LAT or UAT, power reduction will be activated to limit the different maximum power level for head / hotspot/ body / extremity.
 - Reduced power level 1- While the device WLAN is transmitting standalone.
 - Reduced power level 2- While the device WLAN2.4GHz/5GHz is transmitting simultaneously with the WWAN antenna.
 - Reduced power level 3-While the device Bluetooth and WLAN 5GHz is transmitting simultaneously with the WWAN antenna
10. For Bluetooth antenna, when the audio is actively routed through the earpiece receiver, then power reduction will be implemented immediately.
11. Per KDB 648474 D04v01r03, when the reported SAR for a body-worn accessory measured without a headset connected to the handset is ≤ 1.2 W/kg, SAR testing with a headset connected to the handset is not required.
12. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g product specific 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, WCDMA B2/B4, LTE B7 and WLAN 2.4/5.2/5.3/5.5/5.8GHz is required to be tested
13. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
14. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.



15. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance was performed for handheld:

Top antenna:

Back: [8 mm](#)

Top side: [8 mm](#)

Bottom antenna:

Back: [8 mm](#)

Bottom side: [8 mm](#)

GSM Note:

1. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS (4Tx slots) for GSM850/GSM1900 is considered as the primary mode.
2. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, 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, SAR measurement is not required for the secondary mode.

UMTS Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA / HSPA+ is $\leq \frac{1}{4}$ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA / HSPA+ to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA / HSPA+) are less than $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+.

LTE Note:

1. Per KDB 941225 D05v02r05, 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.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, 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 are ≤ 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. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / B12 / B17 / B26 / B38 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 4/17/38 SAR test was covered by Band 66/12/41; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. The maximum output power, including tolerance, for the smaller band is $\leq$ the larger band to qualify for the SAR test exclusion.
 - b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

**WLAN Note:**

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required 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.
2. Per KDB 248227 D01v02r02, U-NII-1 or U-NII-2A SAR testing is not required when the U-NII-1 or U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band or U-NII-2A.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode 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 report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

16.1 Head SAR**<GSM SAR>**

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850_UAT	GPRS(4 Tx slot)	Right Cheek	0	Reduced power level 1	128	824.2	26.97	27.30	1.079	0.02	0.731	0.789
	GSM850_UAT	GPRS(4 Tx slot)	Right Tilted	0	Reduced power level 1	128	824.2	26.97	27.30	1.079	0.09	0.113	0.122
	GSM850_UAT	GPRS(4 Tx slot)	Left Cheek	0	Reduced power level 1	128	824.2	26.97	27.30	1.079	0.13	0.758	0.818
	GSM850_UAT	GPRS(4 Tx slot)	Left Tilted	0	Reduced power level 1	128	824.2	26.97	27.30	1.079	-0.06	0.105	0.113
	GSM850_UAT	GPRS(4 Tx slot)	Left Cheek	0	Reduced power level 1	189	836.4	26.84	27.30	1.112	0.07	0.725	0.806
01	GSM850_UAT	GPRS(4 Tx slot)	Left Cheek	0	Reduced power level 1	251	848.8	26.82	27.30	1.117	0.05	0.736	0.822
	GSM850_UAT	GPRS(4 Tx slot)	Right Cheek	0	Reduced power level 2/3/4	128	824.2	25.06	25.80	1.186	0.18	0.488	0.579
	GSM850_UAT	GPRS(4 Tx slot)	Right Tilted	0	Reduced power level 2/3/4	128	824.2	25.06	25.80	1.186	0.1	0.073	0.087
	GSM850_UAT	GPRS(4 Tx slot)	Left Cheek	0	Reduced power level 2/3/4	128	824.2	25.06	25.80	1.186	0.11	0.498	0.591
	GSM850_UAT	GPRS(4 Tx slot)	Left Tilted	0	Reduced power level 2/3/4	128	824.2	25.06	25.80	1.186	0.14	0.083	0.098
	GSM850_UAT	GPRS(4 Tx slot)	Left Cheek	0	Reduced power level 2/3/4	189	836.4	24.65	25.80	1.303	-0.1	0.458	0.597
	GSM850_UAT	GPRS(4 Tx slot)	Left Cheek	0	Reduced power level 2/3/4	251	848.8	24.81	25.80	1.256	-0.09	0.479	0.602
	GSM850_LAT	GPRS(4 Tx slot)	Right Cheek	0	Full	128	824.2	27.81	28.30	1.119	0.11	0.141	0.158
	GSM850_LAT	GPRS(4 Tx slot)	Right Tilted	0	Full	128	824.2	27.81	28.30	1.119	-0.08	0.092	0.103
	GSM850_LAT	GPRS(4 Tx slot)	Left Cheek	0	Full	128	824.2	27.81	28.30	1.119	0.06	0.198	0.222
	GSM850_LAT	GPRS(4 Tx slot)	Left Tilted	0	Full	128	824.2	27.81	28.30	1.119	-0.01	0.108	0.121
	GSM850_LAT	GPRS(4 Tx slot)	Left Cheek	0	Full	189	836.4	27.55	28.30	1.189	0.14	0.201	0.239
	GSM850_LAT	GPRS(4 Tx slot)	Left Cheek	0	Full	251	848.8	27.48	28.30	1.208	0.01	0.200	0.242
	GSM1900_UAT	GPRS(4 Tx slot)	Right Cheek	0	Reduced power level 1	512	1850.2	21.88	22.50	1.153	0.09	0.685	0.790
	GSM1900_UAT	GPRS(4 Tx slot)	Right Tilted	0	Reduced power level 1	512	1850.2	21.88	22.50	1.153	0.15	0.751	0.866
	GSM1900_UAT	GPRS(4 Tx slot)	Left Cheek	0	Reduced power level 1	512	1850.2	21.88	22.50	1.153	-0.08	0.387	0.446
	GSM1900_UAT	GPRS(4 Tx slot)	Left Tilted	0	Reduced power level 1	512	1850.2	21.88	22.50	1.153	0.03	0.459	0.529
	GSM1900_UAT	GPRS(4 Tx slot)	Right Tilted	0	Reduced power level 1	661	1880	21.80	22.50	1.175	0.04	0.917	1.077
02	GSM1900_UAT	GPRS(4 Tx slot)	Right Tilted	0	Reduced power level 1	810	1909.8	21.83	22.50	1.167	-0.02	0.928	1.083
	GSM1900_UAT	GPRS(4 Tx slot)	Right Cheek	0	Reduced power level 2/3/4	512	1850.2	20.83	21.50	1.167	-0.1	0.561	0.655
	GSM1900_UAT	GPRS(4 Tx slot)	Right Tilted	0	Reduced power level 2/3/4	512	1850.2	20.83	21.50	1.167	-0.05	0.599	0.699
	GSM1900_UAT	GPRS(4 Tx slot)	Left Cheek	0	Reduced power level 2/3/4	512	1850.2	20.83	21.50	1.167	0.03	0.322	0.376
	GSM1900_UAT	GPRS(4 Tx slot)	Left Tilted	0	Reduced power level 2/3/4	512	1850.2	20.83	21.50	1.167	0.04	0.390	0.455
	GSM1900_UAT	GPRS(4 Tx slot)	Right Tilted	0	Reduced power level 2/3/4	661	1880	20.80	21.50	1.175	-0.06	0.641	0.753
	GSM1900_UAT	GPRS(4 Tx slot)	Right Tilted	0	Reduced power level 2/3/4	810	1909.8	20.79	21.50	1.178	0.08	0.670	0.789
	GSM1900_LAT	GPRS(4 Tx slot)	Right Cheek	0	Full	512	1850.2	24.51	25.50	1.256	0.02	0.061	0.077
	GSM1900_LAT	GPRS(4 Tx slot)	Right Tilted	0	Full	512	1850.2	24.51	25.50	1.256	-0.06	0.028	0.035
	GSM1900_LAT	GPRS(4 Tx slot)	Left Cheek	0	Full	512	1850.2	24.51	25.50	1.256	0.04	0.073	0.092
	GSM1900_LAT	GPRS(4 Tx slot)	Left Tilted	0	Full	512	1850.2	24.51	25.50	1.256	-0.05	0.002	0.003
	GSM1900_LAT	GPRS(4 Tx slot)	Left Cheek	0	Full	661	1880	24.30	25.50	1.318	0.14	0.064	0.084
	GSM1900_LAT	GPRS(4 Tx slot)	Left Cheek	0	Full	810	1909.8	24.46	25.50	1.271	0.03	0.073	0.093



<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA V_UAT	RMC 12.2Kbps	Right Cheek	0	Reduced power level 1	4182	836.4	20.88	21.50	1.153	0.14	0.413	0.476
	WCDMA V_UAT	RMC 12.2Kbps	Right Tilted	0	Reduced power level 1	4182	836.4	20.88	21.50	1.153	0.15	0.126	0.145
	WCDMA V_UAT	RMC 12.2Kbps	Left Cheek	0	Reduced power level 1	4182	836.4	20.88	21.50	1.153	-0.01	0.507	0.585
	WCDMA V_UAT	RMC 12.2Kbps	Left Tilted	0	Reduced power level 1	4182	836.4	20.88	21.50	1.153	0.14	0.123	0.142
03	WCDMA V_UAT	RMC 12.2Kbps	Left Cheek	0	Reduced power level 1	4132	826.4	20.83	21.50	1.167	0.12	0.601	0.701
	WCDMA V_UAT	RMC 12.2Kbps	Left Cheek	0	Reduced power level 1	4233	846.6	20.81	21.50	1.172	-0.06	0.543	0.637
	WCDMA V_UAT	RMC 12.2Kbps	Right Cheek	0	Reduced power level 2/3/4	4182	836.4	19.87	20.50	1.156	-0.09	0.321	0.371
	WCDMA V_UAT	RMC 12.2Kbps	Right Tilted	0	Reduced power level 2/3/4	4182	836.4	19.87	20.50	1.156	0.1	0.094	0.109
	WCDMA V_UAT	RMC 12.2Kbps	Left Cheek	0	Reduced power level 2/3/4	4182	836.4	19.87	20.50	1.156	0.05	0.374	0.432
	WCDMA V_UAT	RMC 12.2Kbps	Left Tilted	0	Reduced power level 2/3/4	4182	836.4	19.87	20.50	1.156	-0.09	0.091	0.105
	WCDMA V_UAT	RMC 12.2Kbps	Left Cheek	0	Reduced power level 2/3/4	4132	826.4	19.81	20.50	1.172	0.01	0.443	0.519
	WCDMA V_UAT	RMC 12.2Kbps	Left Cheek	0	Reduced power level 2/3/4	4233	846.6	19.81	20.50	1.172	0.04	0.404	0.474
	WCDMA V_LAT	RMC 12.2Kbps	Right Cheek	0	Full	4182	836.4	23.86	24.80	1.242	0.06	0.146	0.181
	WCDMA V_LAT	RMC 12.2Kbps	Right Tilted	0	Full	4182	836.4	23.86	24.80	1.242	-0.07	0.113	0.140
	WCDMA V_LAT	RMC 12.2Kbps	Left Cheek	0	Full	4182	836.4	23.86	24.80	1.242	0.06	0.150	0.186
	WCDMA V_LAT	RMC 12.2Kbps	Left Tilted	0	Full	4182	836.4	23.86	24.80	1.242	-0.01	0.088	0.109
	WCDMA V_LAT	RMC 12.2Kbps	Left Cheek	0	Full	4132	826.4	23.82	24.80	1.253	-0.01	0.205	0.257
	WCDMA V_LAT	RMC 12.2Kbps	Left Cheek	0	Full	4233	846.6	23.80	24.80	1.259	-0.09	0.200	0.252
	WCDMA IV_UAT	RMC 12.2Kbps	Right Cheek	0	Reduced power level 1/2/3/4	1413	1732.6	17.54	18.00	1.112	0.17	0.667	0.742
04	WCDMA IV_UAT	RMC 12.2Kbps	Right Tilted	0	Reduced power level 1/2/3/4	1413	1732.6	17.54	18.00	1.112	-0.06	0.709	0.788
	WCDMA IV_UAT	RMC 12.2Kbps	Left Cheek	0	Reduced power level 1/2/3/4	1413	1732.6	17.54	18.00	1.112	-0.01	0.312	0.347
	WCDMA IV_UAT	RMC 12.2Kbps	Left Tilted	0	Reduced power level 1/2/3/4	1413	1732.6	17.54	18.00	1.112	0.12	0.500	0.556
	WCDMA IV_UAT	RMC 12.2Kbps	Right Tilted	0	Reduced power level 1/2/3/4	1312	1712.4	17.37	18.00	1.156	0.04	0.680	0.786
	WCDMA IV_UAT	RMC 12.2Kbps	Right Tilted	0	Reduced power level 1/2/3/4	1513	1752.6	17.46	18.00	1.132	-0.11	0.674	0.763
	WCDMA IV_LAT	RMC 12.2Kbps	Right Cheek	0	Full	1413	1732.6	23.65	24.80	1.303	0.14	0.144	0.188
	WCDMA IV_LAT	RMC 12.2Kbps	Right Tilted	0	Full	1413	1732.6	23.65	24.80	1.303	-0.07	0.111	0.145
	WCDMA IV_LAT	RMC 12.2Kbps	Left Cheek	0	Full	1413	1732.6	23.65	24.80	1.303	-0.07	0.170	0.222
	WCDMA IV_LAT	RMC 12.2Kbps	Left Tilted	0	Full	1413	1732.6	23.65	24.80	1.303	0.15	0.096	0.125
	WCDMA IV_LAT	RMC 12.2Kbps	Left Cheek	0	Full	1312	1712.4	23.60	24.80	1.318	0.1	0.150	0.198
	WCDMA IV_LAT	RMC 12.2Kbps	Left Cheek	0	Full	1513	1752.6	23.63	24.80	1.309	0.04	0.156	0.204
	WCDMA II_UAT	RMC 12.2Kbps	Right Cheek	0	Reduced power level 1/2/3/4	9400	1880	17.16	17.50	1.081	0.1	0.635	0.687
	WCDMA II_UAT	RMC 12.2Kbps	Right Tilted	0	Reduced power level 1/2/3/4	9400	1880	17.16	17.50	1.081	0.13	0.627	0.678
	WCDMA II_UAT	RMC 12.2Kbps	Left Cheek	0	Reduced power level 1/2/3/4	9400	1880	17.16	17.50	1.081	0.02	0.395	0.427
	WCDMA II_UAT	RMC 12.2Kbps	Left Tilted	0	Reduced power level 1/2/3/4	9400	1880	17.16	17.50	1.081	0.02	0.455	0.492
	WCDMA II_UAT	RMC 12.2Kbps	Right Cheek	0	Reduced power level 1/2/3/4	9262	1852.4	17.02	17.50	1.117	0.15	0.510	0.570
05	WCDMA II_UAT	RMC 12.2Kbps	Right Cheek	0	Reduced power level 1/2/3/4	9538	1907.6	17.03	17.50	1.114	0.18	0.656	0.731
	WCDMA II_LAT	RMC 12.2Kbps	Right Cheek	0	Full	9400	1880	24.01	24.80	1.199	0.13	0.104	0.125
	WCDMA II_LAT	RMC 12.2Kbps	Right Tilted	0	Full	9400	1880	24.01	24.80	1.199	0.14	0.094	0.113
	WCDMA II_LAT	RMC 12.2Kbps	Left Cheek	0	Full	9400	1880	24.01	24.80	1.199	0.02	0.122	0.146
	WCDMA II_LAT	RMC 12.2Kbps	Left Tilted	0	Full	9400	1880	24.01	24.80	1.199	0.06	0.062	0.074
	WCDMA II_LAT	RMC 12.2Kbps	Left Cheek	0	Full	9262	1852.4	23.93	24.80	1.222	-0.08	0.133	0.162
	WCDMA II_LAT	RMC 12.2Kbps	Left Cheek	0	Full	9538	1907.6	23.97	24.80	1.211	0.08	0.138	0.167



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
06	LTE Band 12_UAT	10M	QPSK	1	49	Right Cheek	0	Full	23095	707.5	22.77	23.50	1.183	-0.09	0.710	0.840
	LTE Band 12_UAT	10M	QPSK	1	49	Right Tilted	0	Full	23095	707.5	22.77	23.50	1.183	0.1	0.116	0.137
	LTE Band 12_UAT	10M	QPSK	1	49	Left Cheek	0	Full	23095	707.5	22.77	23.50	1.183	0.03	0.694	0.821
	LTE Band 12_UAT	10M	QPSK	1	49	Left Tilted	0	Full	23095	707.5	22.77	23.50	1.183	0.11	0.117	0.138
	LTE Band 12_UAT	10M	QPSK	25	12	Right Cheek	0	Full	23095	707.5	21.94	22.50	1.138	0.06	0.573	0.652
	LTE Band 12_UAT	10M	QPSK	25	12	Right Tilted	0	Full	23095	707.5	21.94	22.50	1.138	0.17	0.088	0.100
	LTE Band 12_UAT	10M	QPSK	25	12	Left Cheek	0	Full	23095	707.5	21.94	22.50	1.138	0.02	0.554	0.630
	LTE Band 12_UAT	10M	QPSK	25	12	Left Tilted	0	Full	23095	707.5	21.94	22.50	1.138	0.11	0.090	0.102
	LTE Band 12_UAT	10M	QPSK	50	0	Right Cheek	0	Full	23095	707.5	21.91	22.50	1.146	0.06	0.554	0.635
	LTE Band 12_UAT	10M	QPSK	50	0	Left Cheek	0	Full	23095	707.5	21.91	22.50	1.146	0.02	0.539	0.617
	LTE Band 12_UAT	10M	QPSK	1	49	Right Cheek	0	Reduced power level 2/3/4	23095	707.5	21.75	22.50	1.189	0.06	0.559	0.664
	LTE Band 12_UAT	10M	QPSK	1	49	Right Tilted	0	Reduced power level 2/3/4	23095	707.5	21.75	22.50	1.189	0.09	0.091	0.108
	LTE Band 12_UAT	10M	QPSK	1	49	Left Cheek	0	Reduced power level 2/3/4	23095	707.5	21.75	22.50	1.189	0.14	0.542	0.644
	LTE Band 12_UAT	10M	QPSK	1	49	Left Tilted	0	Reduced power level 2/3/4	23095	707.5	21.75	22.50	1.189	0.08	0.095	0.113
	LTE Band 12_UAT	10M	QPSK	25	12	Right Cheek	0	Reduced power level 2/3/4	23095	707.5	21.69	22.50	1.205	0.18	0.541	0.652
	LTE Band 12_UAT	10M	QPSK	25	12	Right Tilted	0	Reduced power level 2/3/4	23095	707.5	21.69	22.50	1.205	0.09	0.088	0.106
	LTE Band 12_UAT	10M	QPSK	25	12	Left Cheek	0	Reduced power level 2/3/4	23095	707.5	21.69	22.50	1.205	0.14	0.530	0.639
	LTE Band 12_UAT	10M	QPSK	25	12	Left Tilted	0	Reduced power level 2/3/4	23095	707.5	21.69	22.50	1.205	-0.02	0.090	0.108
	LTE Band 12_LAT	10M	QPSK	1	49	Right Cheek	0	Full	23095	707.5	22.54	23.80	1.337	-0.12	0.083	0.111
	LTE Band 12_LAT	10M	QPSK	1	49	Right Tilted	0	Full	23095	707.5	22.54	23.80	1.337	-0.03	0.061	0.082
	LTE Band 12_LAT	10M	QPSK	1	49	Left Cheek	0	Full	23095	707.5	22.54	23.80	1.337	0.17	0.114	0.152
	LTE Band 12_LAT	10M	QPSK	1	49	Left Tilted	0	Full	23095	707.5	22.54	23.80	1.337	-0.11	0.071	0.095
	LTE Band 12_LAT	10M	QPSK	25	12	Right Cheek	0	Full	23095	707.5	21.66	22.80	1.300	0.12	0.068	0.088
	LTE Band 12_LAT	10M	QPSK	25	12	Right Tilted	0	Full	23095	707.5	21.66	22.80	1.300	0.01	0.048	0.062
	LTE Band 12_LAT	10M	QPSK	25	12	Left Cheek	0	Full	23095	707.5	21.66	22.80	1.300	0.18	0.103	0.134
	LTE Band 12_LAT	10M	QPSK	25	12	Left Tilted	0	Full	23095	707.5	21.66	22.80	1.300	-0.12	0.059	0.077
	LTE Band 5_UAT	10M	QPSK	1	0	Right Cheek	0	Reduced power level 1	20525	836.5	21.19	22.00	1.205	-0.01	0.561	0.676
	LTE Band 5_UAT	10M	QPSK	1	0	Right Tilted	0	Reduced power level 1	20525	836.5	21.19	22.00	1.205	0.11	0.093	0.112
07	LTE Band 5_UAT	10M	QPSK	1	0	Left Cheek	0	Reduced power level 1	20525	836.5	21.19	22.00	1.205	0.03	0.607	0.731
	LTE Band 5_UAT	10M	QPSK	1	0	Left Tilted	0	Reduced power level 1	20525	836.5	21.19	22.00	1.205	0.06	0.089	0.107
	LTE Band 5_UAT	10M	QPSK	25	12	Right Cheek	0	Reduced power level 1	20525	836.5	21.16	22.00	1.213	0.13	0.552	0.670
	LTE Band 5_UAT	10M	QPSK	25	12	Right Tilted	0	Reduced power level 1	20525	836.5	21.16	22.00	1.213	-0.01	0.085	0.103
	LTE Band 5_UAT	10M	QPSK	25	12	Left Cheek	0	Reduced power level 1	20525	836.5	21.16	22.00	1.213	0.12	0.587	0.712
	LTE Band 5_UAT	10M	QPSK	25	12	Left Tilted	0	Reduced power level 1	20525	836.5	21.16	22.00	1.213	-0.07	0.083	0.101
	LTE Band 5_UAT	10M	QPSK	1	0	Right Cheek	0	Reduced power level 2/3/4	20525	836.5	20.39	21.00	1.151	-0.09	0.464	0.534
	LTE Band 5_UAT	10M	QPSK	1	0	Right Tilted	0	Reduced power level 2/3/4	20525	836.5	20.39	21.00	1.151	0.08	0.073	0.084
	LTE Band 5_UAT	10M	QPSK	1	0	Left Cheek	0	Reduced power level 2/3/4	20525	836.5	20.39	21.00	1.151	0.03	0.490	0.564
	LTE Band 5_UAT	10M	QPSK	1	0	Left Tilted	0	Reduced power level 2/3/4	20525	836.5	20.39	21.00	1.151	0.17	0.062	0.071
	LTE Band 5_UAT	10M	QPSK	25	12	Right Cheek	0	Reduced power level 2/3/4	20525	836.5	20.10	21.00	1.230	0.03	0.432	0.531
	LTE Band 5_UAT	10M	QPSK	25	12	Right Tilted	0	Reduced power level 2/3/4	20525	836.5	20.10	21.00	1.230	0.09	0.065	0.080
	LTE Band 5_UAT	10M	QPSK	25	12	Left Cheek	0	Reduced power level 2/3/4	20525	836.5	20.10	21.00	1.230	0.15	0.455	0.560
	LTE Band 5_UAT	10M	QPSK	25	12	Left Tilted	0	Reduced power level 2/3/4	20525	836.5	20.10	21.00	1.230	-0.03	0.055	0.068
	LTE Band 5_LAT	10M	QPSK	1	0	Right Cheek	0	Full	20525	836.5	22.55	23.80	1.334	-0.05	0.098	0.131
	LTE Band 5_LAT	10M	QPSK	1	0	Right Tilted	0	Full	20525	836.5	22.55	23.80	1.334	0.11	0.044	0.059
	LTE Band 5_LAT	10M	QPSK	1	0	Left Cheek	0	Full	20525	836.5	22.55	23.80	1.334	0.09	0.163	0.217
	LTE Band 5_LAT	10M	QPSK	1	0	Left Tilted	0	Full	20525	836.5	22.55	23.80	1.334	-0.07	0.094	0.125
	LTE Band 5_LAT	10M	QPSK	25	12	Right Cheek	0	Full	20525	836.5	21.62	22.80	1.312	0.03	0.082	0.108
	LTE Band 5_LAT	10M	QPSK	25	12	Right Tilted	0	Full	20525	836.5	21.62	22.80	1.312	0.03	0.032	0.042
	LTE Band 5_LAT	10M	QPSK	25	12	Left Cheek	0	Full	20525	836.5	21.62	22.80	1.312	-0.11	0.127	0.167
	LTE Band 5_LAT	10M	QPSK	25	12	Left Tilted	0	Full	20525	836.5	21.62	22.80	1.312	0.08	0.071	0.093



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 26_UAT	15M	QPSK	1	0	Right Cheek	0	Reduced power level 1	26965	841.5	20.19	21.30	1.291	0.07	0.405	0.523
	LTE Band 26_UAT	15M	QPSK	1	0	Right Tilted	0	Reduced power level 1	26965	841.5	20.19	21.30	1.291	0.06	0.064	0.083
	LTE Band 26_UAT	15M	QPSK	1	0	Left Cheek	0	Reduced power level 1	26965	841.5	20.19	21.30	1.291	0.09	0.417	0.538
	LTE Band 26_UAT	15M	QPSK	1	0	Left Tilted	0	Reduced power level 1	26965	841.5	20.19	21.30	1.291	0.01	0.057	0.074
	LTE Band 26_UAT	15M	QPSK	36	20	Right Cheek	0	Reduced power level 1	26965	841.5	20.08	21.30	1.324	0.03	0.418	0.554
	LTE Band 26_UAT	15M	QPSK	36	20	Right Tilted	0	Reduced power level 1	26965	841.5	20.08	21.30	1.324	0.09	0.066	0.087
	LTE Band 26_UAT	15M	QPSK	36	20	Left Cheek	0	Reduced power level 1	26965	841.5	20.08	21.30	1.324	-0.01	0.425	0.563
	LTE Band 26_UAT	15M	QPSK	36	20	Left Tilted	0	Reduced power level 1	26965	841.5	20.08	21.30	1.324	-0.02	0.065	0.086
08	LTE Band 26_UAT	15M	QPSK	36	20	Left Cheek	0	Reduced power level 1	26765	821.5	20.03	21.30	1.340	0.05	0.575	0.770
	LTE Band 26_UAT	15M	QPSK	36	20	Left Cheek	0	Reduced power level 1	26865	831.5	20.05	21.30	1.334	0.09	0.442	0.589
	LTE Band 26_UAT	15M	QPSK	1	0	Right Cheek	0	Reduced power level 2/3/4	26965	841.5	19.11	20.30	1.315	0.11	0.323	0.425
	LTE Band 26_UAT	15M	QPSK	1	0	Right Tilted	0	Reduced power level 2/3/4	26965	841.5	19.11	20.30	1.315	-0.05	0.050	0.066
	LTE Band 26_UAT	15M	QPSK	1	0	Left Cheek	0	Reduced power level 2/3/4	26965	841.5	19.11	20.30	1.315	-0.04	0.338	0.445
	LTE Band 26_UAT	15M	QPSK	1	0	Left Tilted	0	Reduced power level 2/3/4	26965	841.5	19.11	20.30	1.315	0.09	0.046	0.061
	LTE Band 26_UAT	15M	QPSK	36	20	Right Cheek	0	Reduced power level 2/3/4	26965	841.5	19.03	20.30	1.340	0.11	0.334	0.447
	LTE Band 26_UAT	15M	QPSK	36	20	Right Tilted	0	Reduced power level 2/3/4	26965	841.5	19.03	20.30	1.340	0.06	0.052	0.070
	LTE Band 26_UAT	15M	QPSK	36	20	Left Cheek	0	Reduced power level 2/3/4	26965	841.5	19.03	20.30	1.340	0.1	0.349	0.468
	LTE Band 26_UAT	15M	QPSK	36	20	Left Tilted	0	Reduced power level 2/3/4	26965	841.5	19.03	20.30	1.340	-0.12	0.050	0.067
	LTE Band 26_UAT	15M	QPSK	36	20	Left Cheek	0	Reduced power level 2/3/4	26765	821.5	19.02	20.30	1.343	-0.07	0.483	0.649
	LTE Band 26_UAT	15M	QPSK	36	20	Left Cheek	0	Reduced power level 2/3/4	26865	831.5	18.94	20.30	1.368	0.03	0.349	0.477
	LTE Band 26_LAT	15M	QPSK	1	0	Right Cheek	0	Full	26965	841.5	22.58	23.80	1.324	-0.02	0.103	0.136
	LTE Band 26_LAT	15M	QPSK	1	0	Right Tilted	0	Full	26965	841.5	22.58	23.80	1.324	0.15	0.072	0.095
	LTE Band 26_LAT	15M	QPSK	1	0	Left Cheek	0	Full	26965	841.5	22.58	23.80	1.324	0.1	0.151	0.200
	LTE Band 26_LAT	15M	QPSK	1	0	Left Tilted	0	Full	26965	841.5	22.58	23.80	1.324	0.15	0.082	0.109
	LTE Band 26_LAT	15M	QPSK	1	0	Left Cheek	0	Full	26765	821.5	22.53	23.80	1.340	0.05	0.154	0.206
	LTE Band 26_LAT	15M	QPSK	1	0	Left Cheek	0	Full	26865	831.5	22.51	23.80	1.346	0.12	0.164	0.221
	LTE Band 26_LAT	15M	QPSK	36	20	Right Cheek	0	Full	26965	841.5	21.65	22.80	1.303	-0.04	0.088	0.115
	LTE Band 26_LAT	15M	QPSK	36	20	Right Tilted	0	Full	26965	841.5	21.65	22.80	1.303	0.15	0.055	0.072
	LTE Band 26_LAT	15M	QPSK	36	20	Left Cheek	0	Full	26965	841.5	21.65	22.80	1.303	-0.02	0.122	0.159
	LTE Band 26_LAT	15M	QPSK	36	20	Left Tilted	0	Full	26965	841.5	21.65	22.80	1.303	0.08	0.070	0.091



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 66_UAT	20M	QPSK	1	0	Right Cheek	0	Reduced power level 1/2/3/4	132322	1745	16.67	18.00	1.358	-0.08	0.360	0.489
	LTE Band 66_UAT	20M	QPSK	1	0	Right Tilted	0	Reduced power level 1/2/3/4	132322	1745	16.67	18.00	1.358	-0.05	0.555	0.754
	LTE Band 66_UAT	20M	QPSK	1	0	Left Cheek	0	Reduced power level 1/2/3/4	132322	1745	16.67	18.00	1.358	-0.12	0.312	0.424
	LTE Band 66_UAT	20M	QPSK	1	0	Left Tilted	0	Reduced power level 1/2/3/4	132322	1745	16.67	18.00	1.358	0.13	0.205	0.278
	LTE Band 66_UAT	20M	QPSK	50	24	Right Cheek	0	Reduced power level 1/2/3/4	132322	1745	16.63	18.00	1.371	-0.06	0.365	0.500
	LTE Band 66_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2/3/4	132322	1745	16.63	18.00	1.371	0.1	0.561	0.769
	LTE Band 66_UAT	20M	QPSK	50	24	Left Cheek	0	Reduced power level 1/2/3/4	132322	1745	16.63	18.00	1.371	0.02	0.322	0.441
	LTE Band 66_UAT	20M	QPSK	50	24	Left Tilted	0	Reduced power level 1/2/3/4	132322	1745	16.63	18.00	1.371	0.15	0.233	0.319
	LTE Band 66_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2/3/4	132072	1720	16.57	18.00	1.390	0.07	0.461	0.641
09	LTE Band 66_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2/3/4	132572	1770	16.61	18.00	1.377	0.03	0.572	0.788
	LTE Band 66_LAT	20M	QPSK	1	0	Right Cheek	0	Full	132322	1745	22.54	23.80	1.337	-0.04	0.114	0.152
	LTE Band 66_LAT	20M	QPSK	1	0	Right Tilted	0	Full	132322	1745	22.54	23.80	1.337	0.12	0.082	0.110
	LTE Band 66_LAT	20M	QPSK	1	0	Left Cheek	0	Full	132322	1745	22.54	23.80	1.337	-0.02	0.116	0.155
	LTE Band 66_LAT	20M	QPSK	1	0	Left Tilted	0	Full	132322	1745	22.54	23.80	1.337	0.14	0.070	0.094
	LTE Band 66_LAT	20M	QPSK	1	0	Left Cheek	0	Full	132072	1720	22.42	23.80	1.374	-0.1	0.112	0.154
	LTE Band 66_LAT	20M	QPSK	1	0	Left Cheek	0	Full	132572	1770	22.40	23.80	1.380	0.12	0.119	0.164
	LTE Band 66_LAT	20M	QPSK	50	24	Right Cheek	0	Full	132322	1745	21.51	22.80	1.346	0.18	0.082	0.110
	LTE Band 66_LAT	20M	QPSK	50	24	Right Tilted	0	Full	132322	1745	21.51	22.80	1.346	-0.04	0.063	0.085
	LTE Band 66_LAT	20M	QPSK	50	24	Left Cheek	0	Full	132322	1745	21.51	22.80	1.346	0.04	0.093	0.125
	LTE Band 66_LAT	20M	QPSK	50	24	Left Tilted	0	Full	132322	1745	21.51	22.80	1.346	0.01	0.058	0.078
	LTE Band 2_UAT	20M	QPSK	1	0	Right Cheek	0	Reduced power level 1/2/3/4	18900	1880	16.92	18.00	1.282	-0.03	0.557	0.714
	LTE Band 2_UAT	20M	QPSK	1	0	Right Tilted	0	Reduced power level 1/2/3/4	18900	1880	16.92	18.00	1.282	-0.09	0.589	0.755
	LTE Band 2_UAT	20M	QPSK	1	0	Left Cheek	0	Reduced power level 1/2/3/4	18900	1880	16.92	18.00	1.282	-0.1	0.323	0.414
	LTE Band 2_UAT	20M	QPSK	1	0	Left Tilted	0	Reduced power level 1/2/3/4	18900	1880	16.92	18.00	1.282	0.03	0.401	0.514
	LTE Band 2_UAT	20M	QPSK	50	24	Right Cheek	0	Reduced power level 1/2/3/4	18900	1880	16.88	18.00	1.294	-0.05	0.561	0.726
10	LTE Band 2_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2/3/4	18900	1880	16.88	18.00	1.294	-0.04	0.591	0.765
	LTE Band 2_UAT	20M	QPSK	50	24	Left Cheek	0	Reduced power level 1/2/3/4	18900	1880	16.88	18.00	1.294	-0.05	0.336	0.435
	LTE Band 2_UAT	20M	QPSK	50	24	Left Tilted	0	Reduced power level 1/2/3/4	18900	1880	16.88	18.00	1.294	0.16	0.403	0.522
	LTE Band 2_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2/3/4	18700	1860	16.82	18.00	1.312	-0.1	0.571	0.749
	LTE Band 2_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2/3/4	19100	1900	16.80	18.00	1.318	-0.07	0.552	0.728
	LTE Band 2_LAT	20M	QPSK	1	0	Right Cheek	0	Full	18900	1880	22.65	23.80	1.303	0.04	0.088	0.115
	LTE Band 2_LAT	20M	QPSK	1	0	Right Tilted	0	Full	18900	1880	22.65	23.80	1.303	-0.09	0.045	0.059
	LTE Band 2_LAT	20M	QPSK	1	0	Left Cheek	0	Full	18900	1880	22.65	23.80	1.303	0.04	0.104	0.136
	LTE Band 2_LAT	20M	QPSK	1	0	Left Tilted	0	Full	18900	1880	22.65	23.80	1.303	-0.1	0.002	0.003
	LTE Band 2_LAT	20M	QPSK	1	0	Left Cheek	0	Full	18700	1860	22.56	23.80	1.330	-0.06	0.094	0.125
	LTE Band 2_LAT	20M	QPSK	1	0	Left Cheek	0	Full	19100	1900	22.64	23.80	1.306	0.05	0.111	0.145
	LTE Band 2_LAT	20M	QPSK	50	24	Right Cheek	0	Full	18900	1880	21.77	22.80	1.268	-0.04	0.072	0.091
	LTE Band 2_LAT	20M	QPSK	50	24	Right Tilted	0	Full	18900	1880	21.77	22.80	1.268	0.13	0.035	0.044
	LTE Band 2_LAT	20M	QPSK	50	24	Left Cheek	0	Full	18900	1880	21.77	22.80	1.268	0.09	0.086	0.109
	LTE Band 2_LAT	20M	QPSK	50	24	Left Tilted	0	Full	18900	1880	21.77	22.80	1.268	0.14	0.001	0.002



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7_UAT	20M	QPSK	1	0	Right Cheek	0	Reduced power level 1/2	20850	2510	14.96	16.00	1.271	-0.01	0.489	0.621
	LTE Band 7_UAT	20M	QPSK	1	0	Right Tilted	0	Reduced power level 1/2	20850	2510	14.96	16.00	1.271	-0.08	0.665	0.845
	LTE Band 7_UAT	20M	QPSK	1	0	Left Cheek	0	Reduced power level 1/2	20850	2510	14.96	16.00	1.271	0.05	0.329	0.418
	LTE Band 7_UAT	20M	QPSK	1	0	Left Tilted	0	Reduced power level 1/2	20850	2510	14.96	16.00	1.271	0.03	0.383	0.487
	LTE Band 7_UAT	20M	QPSK	1	0	Right Tilted	0	Reduced power level 1/2	21100	2535	14.94	16.00	1.276	0.07	0.741	0.946
	LTE Band 7_UAT	20M	QPSK	1	0	Right Tilted	0	Reduced power level 1/2	21350	2560	14.83	16.00	1.309	0.06	0.699	0.915
	LTE Band 7_UAT	20M	QPSK	50	24	Right Cheek	0	Reduced power level 1/2	20850	2510	14.95	16.00	1.274	0.01	0.501	0.638
	LTE Band 7_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2	20850	2510	14.95	16.00	1.274	0.08	0.680	0.866
	LTE Band 7_UAT	20M	QPSK	50	24	Left Cheek	0	Reduced power level 1/2	20850	2510	14.95	16.00	1.274	-0.05	0.339	0.432
	LTE Band 7_UAT	20M	QPSK	50	24	Left Tilted	0	Reduced power level 1/2	20850	2510	14.95	16.00	1.274	0.03	0.413	0.526
	LTE Band 7_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2	21100	2535	14.93	16.00	1.279	0.07	0.758	0.970
	LTE Band 7_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2	21350	2560	14.84	16.00	1.306	0.02	0.712	0.930
11	LTE Band 7C_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1	21100(PCC)+20902(SCC)	2535(PCC)+2515.2(SCC)	15.12	16.00	1.225	0.05	0.825	1.010
	LTE Band 7C_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1	20850(PCC)+21048(SCC)	2510(PCC)+2529.8(SCC)	15.03	16.00	1.250	0.08	0.739	0.924
	LTE Band 7C_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1	21350(PCC)+21152(SCC)	2560(PCC)+2540.2(SCC)	15.11	16.00	1.227	0.07	0.795	0.976
	LTE Band 7_UAT	20M	QPSK	100	0	Right Tilted	0	Reduced power level 1/2	20850	2510	14.94	16.00	1.276	0.04	0.655	0.836
	LTE Band 7_UAT	20M	QPSK	1	0	Right Cheek	0	Reduced power level 3/4	20850	2510	12.95	14.00	1.274	0.03	0.299	0.381
	LTE Band 7_UAT	20M	QPSK	1	0	Right Tilted	0	Reduced power level 3/4	20850	2510	12.95	14.00	1.274	-0.06	0.402	0.512
	LTE Band 7_UAT	20M	QPSK	1	0	Left Cheek	0	Reduced power level 3/4	20850	2510	12.95	14.00	1.274	0.05	0.205	0.261
	LTE Band 7_UAT	20M	QPSK	1	0	Left Tilted	0	Reduced power level 3/4	20850	2510	12.95	14.00	1.274	0.11	0.243	0.309
	LTE Band 7_UAT	20M	QPSK	50	24	Right Cheek	0	Reduced power level 3/4	20850	2510	12.85	14.00	1.303	0.09	0.308	0.401
	LTE Band 7_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 3/4	20850	2510	12.85	14.00	1.303	0.04	0.416	0.542
	LTE Band 7_UAT	20M	QPSK	50	24	Left Cheek	0	Reduced power level 3/4	20850	2510	12.85	14.00	1.303	0.03	0.214	0.279
	LTE Band 7_UAT	20M	QPSK	50	24	Left Tilted	0	Reduced power level 3/4	20850	2510	12.85	14.00	1.303	0.08	0.251	0.327
	LTE Band 7_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 3/4	21100	2535	12.76	14.00	1.330	0.11	0.452	0.601
	LTE Band 7_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 3/4	21350	2560	12.72	14.00	1.343	-0.06	0.434	0.583
	LTE Band 7C_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 2	21100(PCC)+20902(SCC)	2535(PCC)+2515.2(SCC)	13.11	14.00	1.227	0.03	0.495	0.608
	LTE Band 7_LAT	20M	QPSK	1	0	Right Cheek	0	Full	20850	2510	22.60	23.80	1.318	-0.12	0.381	0.502
	LTE Band 7_LAT	20M	QPSK	1	0	Right Tilted	0	Full	20850	2510	22.60	23.80	1.318	0.07	0.084	0.111
	LTE Band 7_LAT	20M	QPSK	1	0	Left Cheek	0	Full	20850	2510	22.60	23.80	1.318	-0.05	0.239	0.315
	LTE Band 7_LAT	20M	QPSK	1	0	Left Tilted	0	Full	20850	2510	22.60	23.80	1.318	-0.03	0.162	0.214
	LTE Band 7_LAT	20M	QPSK	1	0	Right Cheek	0	Full	21100	2535	22.52	23.80	1.343	0.05	0.394	0.529
	LTE Band 7_LAT	20M	QPSK	1	0	Right Cheek	0	Full	21350	2560	22.43	23.80	1.371	0.07	0.372	0.510
	LTE Band 7C_LAT	20M	QPSK	1	0	Right Cheek	0	Full	21100(PCC)+20902(SCC)	2535(PCC)+2515.2(SCC)	22.47	23.80	1.358	0.05	0.420	0.570
	LTE Band 7_LAT	20M	QPSK	50	24	Right Cheek	0	Full	20850	2510	21.78	22.80	1.265	0.08	0.314	0.397
	LTE Band 7_LAT	20M	QPSK	50	24	Right Tilted	0	Full	20850	2510	21.78	22.80	1.265	0.13	0.068	0.086
	LTE Band 7_LAT	20M	QPSK	50	24	Left Cheek	0	Full	20850	2510	21.78	22.80	1.265	0.18	0.192	0.243
	LTE Band 7_LAT	20M	QPSK	50	24	Left Tilted	0	Full	20850	2510	21.78	22.80	1.265	0.1	0.136	0.172



FCC SAR TEST REPORT

Report No. : FA042007-02

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41_UAT	20M	QPSK	1	99	Right Cheek	0	Reduced power level 1/2	40620	2593	17.14	18.50	1.368	62.9	1.006	-0.08	0.427	0.588
	LTE Band 41_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 1/2	40620	2593	17.14	18.50	1.368	62.9	1.006	-0.07	0.655	0.901
	LTE Band 41_UAT	20M	QPSK	1	99	Left Cheek	0	Reduced power level 1/2	40620	2593	17.14	18.50	1.368	62.9	1.006	0.12	0.272	0.374
	LTE Band 41_UAT	20M	QPSK	1	99	Left Tilted	0	Reduced power level 1/2	40620	2593	17.14	18.50	1.368	62.9	1.006	-0.04	0.289	0.398
	LTE Band 41_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 1/2	39750	2506	16.74	18.50	1.500	62.9	1.006	0.12	0.564	0.851
	LTE Band 41_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 1/2	40185	2549.5	16.96	18.50	1.426	62.9	1.006	-0.08	0.563	0.807
	LTE Band 41_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 1/2	41055	2636.5	17.13	18.50	1.371	62.9	1.006	0.05	0.646	0.891
	LTE Band 41_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 1/2	41490	2680	17.02	18.50	1.406	62.9	1.006	0.03	0.638	0.902
	LTE Band 41_UAT	20M	QPSK	50	24	Right Cheek	0	Reduced power level 1/2	40620	2593	17.12	18.50	1.374	62.9	1.006	0.18	0.433	0.599
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2	40620	2593	17.12	18.50	1.374	62.9	1.006	-0.04	0.662	0.915
	LTE Band 41_UAT	20M	QPSK	50	24	Left Cheek	0	Reduced power level 1/2	40620	2593	17.12	18.50	1.374	62.9	1.006	0.04	0.276	0.382
	LTE Band 41_UAT	20M	QPSK	50	24	Left Tilted	0	Reduced power level 1/2	40620	2593	17.12	18.50	1.374	62.9	1.006	0.01	0.294	0.406
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2	39750	2506	16.76	18.50	1.493	62.9	1.006	-0.04	0.576	0.865
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2	40185	2549.5	17.10	18.50	1.380	62.9	1.006	0.04	0.587	0.815
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2	41055	2636.5	17.08	18.50	1.387	62.9	1.006	0.01	0.661	0.922
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2	41490	2680	17.03	18.50	1.403	62.9	1.006	0.18	0.657	0.927
12	LTE Band 41C_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1	41490(PCC)+41292(SCC)	2680(PCC)+2660.2(SCC)	17.34	18.50	1.306	62.9	1.006	0.07	0.779	1.024
	LTE Band 41C_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1	40620(PCC)+40422(SCC)	2593(PCC)+2573.2(SCC)	17.35	18.50	1.303	62.9	1.006	0.02	0.631	0.827
	LTE Band 41C_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1	39750(PCC)+39948(SCC)	2506(PCC)+2525.8(SCC)	16.93	18.50	1.435	62.9	1.006	0.07	0.526	0.760
	LTE Band 41C_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1	40185(PCC)+40383(SCC)	2549.5(PCC)+2569.3(SCC)	17.29	18.50	1.321	62.9	1.006	0.04	0.636	0.845
	LTE Band 41C_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1	41055(PCC)+40857(SCC)	2636.5(PCC)+2616.7(SCC)	17.27	18.50	1.327	62.9	1.006	0.12	0.665	0.888
	LTE Band 41_UAT	20M	QPSK	100	0	Right Tilted	0	Reduced power level 1/2	40620	2593	17.13	18.50	1.371	62.9	1.006	0.13	0.647	0.892
	LTE Band 41_UAT	20M	QPSK	1	99	Right Cheek	0	Reduced power level 3/4	40620	2593	16.50	17.50	1.259	62.9	1.006	-0.05	0.352	0.446
	LTE Band 41_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 3/4	40620	2593	16.50	17.50	1.259	62.9	1.006	0.15	0.562	0.712
	LTE Band 41_UAT	20M	QPSK	1	99	Left Cheek	0	Reduced power level 3/4	40620	2593	16.50	17.50	1.259	62.9	1.006	-0.02	0.219	0.277
	LTE Band 41_UAT	20M	QPSK	1	99	Left Tilted	0	Reduced power level 3/4	40620	2593	16.50	17.50	1.259	62.9	1.006	-0.09	0.244	0.309
	LTE Band 41_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 3/4	39750	2506	15.94	17.50	1.432	62.9	1.006	-0.05	0.457	0.658
	LTE Band 41_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 3/4	40185	2549.5	16.14	17.50	1.368	62.9	1.006	0.06	0.458	0.630
	LTE Band 41_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 3/4	41055	2636.5	16.49	17.50	1.262	62.9	1.006	-0.08	0.533	0.677
	LTE Band 41_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 3/4	41490	2680	16.27	17.50	1.327	62.9	1.006	-0.06	0.520	0.694
	LTE Band 41_UAT	20M	QPSK	50	24	Right Cheek	0	Reduced power level 3/4	40620	2593	16.35	17.50	1.303	62.9	1.006	0.1	0.355	0.465
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 3/4	40620	2593	16.35	17.50	1.303	62.9	1.006	-0.05	0.549	0.720
	LTE Band 41_UAT	20M	QPSK	50	24	Left Cheek	0	Reduced power level 3/4	40620	2593	16.35	17.50	1.303	62.9	1.006	-0.11	0.224	0.294
	LTE Band 41_UAT	20M	QPSK	50	24	Left Tilted	0	Reduced power level 3/4	40620	2593	16.35	17.50	1.303	62.9	1.006	0.18	0.253	0.332
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 3/4	39750	2506	15.94	17.50	1.432	62.9	1.006	0.16	0.476	0.686
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 3/4	40185	2549.5	16.26	17.50	1.330	62.9	1.006	-0.07	0.475	0.636
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 3/4	41055	2636.5	16.33	17.50	1.309	62.9	1.006	0.15	0.534	0.703
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 3/4	41490	2680	16.17	17.50	1.358	62.9	1.006	-0.08	0.528	0.721
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 2	41490(PCC)+41292(SCC)	2680(PCC)+2660.2(SCC)	16.44	17.50	1.276	62.9	1.006	0.08	0.611	0.785
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 2	40620(PCC)+40422(SCC)	2593(PCC)+2573.2(SCC)	16.61	17.50	1.227	62.9	1.006	0.02	0.542	0.669
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 2	39750(PCC)+39948(SCC)	2506(PCC)+2525.8(SCC)	16.37	17.50	1.297	62.9	1.006	-0.06	0.451	0.589
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 2	40185(PCC)+40383(SCC)	2549.5(PCC)+2569.3(SCC)	16.59	17.50	1.233	62.9	1.006	0.05	0.532	0.660
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 2	41055(PCC)+40857(SCC)	2636.5(PCC)+2616.7(SCC)	16.39	17.50	1.291	62.9	1.006	0.07	0.582	0.756
	LTE Band 41_UAT	20M	QPSK	100	0	Right Tilted	0	Reduced power level 3/4	40620	2593	16.49	17.50	1.262	62.9	1.006	0.02	0.549	0.697
	LTE Band 41_LAT	20M	QPSK	1	99	Right Cheek	0	Full	40620	2593	22.51	23.80	1.346	62.9	1.006	-0.07	0.183	0.248
	LTE Band 41_LAT	20M	QPSK	1	99	Right Tilted	0	Full	40620	2593	22.51	23.80	1.346	62.9	1.006	0.17	0.043	0.058
	LTE Band 41_LAT	20M	QPSK	1	99	Left Cheek	0	Full	40620	2593	22.51	23.80	1.346	62.9	1.006	0.06	0.104	0.141
	LTE Band 41_LAT	20M	QPSK	1	99	Left Tilted	0	Full	40620	2593	22.51	23.80	1.346	62.9	1.006	-0.08	0.079	0.107
	LTE Band 41_LAT	20M	QPSK	1	99	Right Cheek	0	Full	39750	2506	22.45	23.80	1.365	62.9	1.006	0.12	0.168	0.231
	LTE Band 41_LAT	20M	QPSK	1	99	Right Cheek	0	Full	40185	2549.5	22.36	23.80	1.393	62.9	1.006	-0.04	0.182	0.255



FCC SAR TEST REPORT

Report No. : FA042007-02

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41_LAT	20M	QPSK	1	99	Right Cheek	0	Full	41055	2636.5	22.40	23.80	1.380	62.9	1.006	0.15	0.166	0.231
	LTE Band 41_LAT	20M	QPSK	1	99	Right Cheek	0	Full	41490	2680	22.37	23.80	1.390	62.9	1.006	0.12	0.171	0.239
	LTE Band 41C_LAT	20M	QPSK	1	99	Right Cheek	0	Full	40185(PCC)+40383(SCC)	2549.5(PCC)+2569.3(SCC)	22.39	23.80	1.384	62.9	1.006	0.03	0.203	0.283
	LTE Band 41_LAT	20M	QPSK	50	24	Right Cheek	0	Full	40620	2593	21.59	22.80	1.321	62.9	1.006	0.12	0.150	0.199
	LTE Band 41_LAT	20M	QPSK	50	24	Right Tilted	0	Full	40620	2593	21.59	22.80	1.321	62.9	1.006	0.16	0.033	0.044
	LTE Band 41_LAT	20M	QPSK	50	24	Left Cheek	0	Full	40620	2593	21.59	22.80	1.321	62.9	1.006	0.14	0.078	0.104
	LTE Band 41_LAT	20M	QPSK	50	24	Left Tilted	0	Full	40620	2593	21.59	22.80	1.321	62.9	1.006	0.14	0.066	0.088
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Right Cheek	0	Reduced power level 1/2	40620	2593	19.59	20.20	1.151	42.9	1.009	0.03	0.507	0.589
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 1/2	40620	2593	19.59	20.20	1.151	42.9	1.009	-0.12	0.676	0.785
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Left Cheek	0	Reduced power level 1/2	40620	2593	19.59	20.20	1.151	42.9	1.009	-0.01	0.316	0.367
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Left Tilted	0	Reduced power level 1/2	40620	2593	19.59	20.20	1.151	42.9	1.009	-0.1	0.335	0.389
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 1/2	39750	2506	18.97	20.20	1.327	42.9	1.009	0.17	0.552	0.739
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 1/2	40185	2549.5	19.47	20.20	1.183	42.9	1.009	0.16	0.662	0.790
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 1/2	41055	2636.5	19.56	20.20	1.159	42.9	1.009	0.14	0.741	0.866
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 1/2	41490	2680	19.40	20.20	1.202	42.9	1.009	0.16	0.745	0.904
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Right Cheek	0	Reduced power level 1/2	40620	2593	19.55	20.20	1.161	42.9	1.009	0.02	0.510	0.598
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2	40620	2593	19.55	20.20	1.161	42.9	1.009	0.1	0.690	0.809
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Left Cheek	0	Reduced power level 1/2	40620	2593	19.55	20.20	1.161	42.9	1.009	-0.12	0.318	0.373
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Left Tilted	0	Reduced power level 1/2	40620	2593	19.55	20.20	1.161	42.9	1.009	0.18	0.339	0.397
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2	39750	2506	19.05	20.20	1.303	42.9	1.009	-0.01	0.569	0.748
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2	40185	2549.5	19.38	20.20	1.208	42.9	1.009	-0.18	0.677	0.825
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2	41055	2636.5	19.54	20.20	1.164	42.9	1.009	0.07	0.761	0.894
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 1/2	41490	2680	19.46	20.20	1.186	42.9	1.009	-0.13	0.763	0.913
	LTE Band 41(HPUE)_UAT	20M	QPSK	100	0	Right Tilted	0	Reduced power level 1/2	40620	2593	19.54	20.20	1.164	42.9	1.009	0.14	0.663	0.779
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Right Cheek	0	Reduced power level 3/4	40620	2593	18.69	19.20	1.125	42.9	1.009	0.08	0.408	0.463
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 3/4	40620	2593	18.69	19.20	1.125	42.9	1.009	0.17	0.536	0.608
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Left Cheek	0	Reduced power level 3/4	40620	2593	18.69	19.20	1.125	42.9	1.009	-0.02	0.261	0.296
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Left Tilted	0	Reduced power level 3/4	40620	2593	18.69	19.20	1.125	42.9	1.009	0.12	0.277	0.314
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 3/4	39750	2506	18.10	19.20	1.288	42.9	1.009	0.08	0.456	0.593
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 3/4	40185	2549.5	18.52	19.20	1.169	42.9	1.009	-0.08	0.507	0.598
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 3/4	41055	2636.5	18.67	19.20	1.130	42.9	1.009	0.12	0.574	0.654
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Right Tilted	0	Reduced power level 3/4	41490	2680	18.48	19.20	1.180	42.9	1.009	0.16	0.577	0.687
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Right Cheek	0	Reduced power level 3/4	40620	2593	18.65	19.20	1.135	42.9	1.009	0.1	0.412	0.472
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 3/4	40620	2593	18.65	19.20	1.135	42.9	1.009	-0.05	0.556	0.637
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Left Cheek	0	Reduced power level 3/4	40620	2593	18.65	19.20	1.135	42.9	1.009	0.08	0.266	0.305
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Left Tilted	0	Reduced power level 3/4	40620	2593	18.65	19.20	1.135	42.9	1.009	-0.02	0.280	0.321
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 3/4	39750	2506	18.00	19.20	1.318	42.9	1.009	0.18	0.466	0.620
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 3/4	40185	2549.5	18.34	19.20	1.219	42.9	1.009	0.14	0.533	0.656
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 3/4	41055	2636.5	18.52	19.20	1.169	42.9	1.009	-0.06	0.592	0.699
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Right Tilted	0	Reduced power level 3/4	41490	2680	18.46	19.20	1.186	42.9	1.009	0.07	0.599	0.717
	LTE Band 41(HPUE)_UAT	20M	QPSK	100	0	Right Tilted	0	Reduced power level 3/4	40620	2593	18.59	19.20	1.151	42.9	1.009	0.03	0.523	0.607
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Right Cheek	0	Full	40620	2593	25.60	26.80	1.318	42.9	1.009	0.09	0.236	0.314
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Right Tilted	0	Full	40620	2593	25.60	26.80	1.318	42.9	1.009	0.17	0.053	0.070
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Left Cheek	0	Full	40620	2593	25.60	26.80	1.318	42.9	1.009	0.16	0.130	0.173
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Left Tilted	0	Full	40620	2593	25.60	26.80	1.318	42.9	1.009	0.16	0.103	0.137
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Right Cheek	0	Full	39750	2506	25.02	26.80	1.507	42.9	1.009	-0.04	0.188	0.286
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Right Cheek	0	Full	40185	2549.5	25.37	26.80	1.390	42.9	1.009	0.04	0.206	0.289
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Right Cheek	0	Full	41055	2636.5	25.55	26.80	1.334	42.9	1.009	0.01	0.194	0.261
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Right Cheek	0	Full	41490	2680	25.55	26.80	1.334	42.9	1.009	0.18	0.211	0.284
	LTE Band 41(HPUE)_LAT	20M	QPSK	50	24	Right Cheek	0	Full	40620	2593	24.68	25.80	1.294	42.9	1.009	-0.1	0.195	0.255
	LTE Band 41(HPUE)_LAT	20M	QPSK	50	24	Right Tilted	0	Full	40620	2593	24.68	25.80	1.294	42.9	1.009	0.06	0.041	0.054
	LTE Band 41(HPUE)_LAT	20M	QPSK	50	24	Left Cheek	0	Full	40620	2593	24.68	25.80	1.294	42.9	1.009	-0.08	0.101	0.132
	LTE Band 41(HPUE)_LAT	20M	QPSK	50	24	Left Tilted	0	Full	40620	2593	24.68	25.80	1.294	42.9	1.009	0.15	0.082	0.107



<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Right Cheek	0	1	Reduced	39	2441	10.50	12.50	1.585	77.2	1.079	0.08	0.055	0.094
	Bluetooth	1Mbps	Right Tilted	0	1	Reduced	39	2441	10.50	12.50	1.585	77.2	1.079	0.06	0.060	0.103
13	Bluetooth	1Mbps	Left Cheek	0	1	Reduced	39	2441	10.50	12.50	1.585	77.2	1.079	0.13	0.108	0.185
	Bluetooth	1Mbps	Left Tilted	0	1	Reduced	39	2441	10.50	12.50	1.585	77.2	1.079	0.12	0.091	0.156
	Bluetooth	1Mbps	Left Cheek	0	1	Reduced	0	2402	9.60	11.60	1.585	77.2	1.079	0.03	0.080	0.137
	Bluetooth	1Mbps	Left Cheek	0	1	Reduced	78	2480	9.50	11.50	1.585	77.2	1.079	-0.04	0.066	0.113

<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0	1+2	Reduced power level 1	11	2462	17.01	19.01	1.585	99.31	1.007	0.06	0.194	0.310
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0	1+2	Reduced power level 1	11	2462	17.01	19.01	1.585	99.31	1.007	-0.13	0.231	0.369
14	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0	1+2	Reduced power level 1	11	2462	17.01	19.01	1.585	99.31	1.007	-0.05	0.583	0.930
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0	1+2	Reduced power level 1	11	2462	17.01	19.01	1.585	99.31	1.007	0.12	0.388	0.619
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0	1+2	Reduced power level 1	1	2412	16.82	18.82	1.585	99.31	1.007	0.05	0.532	0.849
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0	1+2	Reduced power level 1	6	2437	16.81	18.81	1.585	99.31	1.007	0.02	0.544	0.868
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0	1+2	Reduced power level 2	11	2462	15.01	17.01	1.585	99.31	1.007	0.04	0.118	0.188
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0	1+2	Reduced power level 2	11	2462	15.01	17.01	1.585	99.31	1.007	0.12	0.135	0.215
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0	1+2	Reduced power level 2	11	2462	15.01	17.01	1.585	99.31	1.007	-0.05	0.368	0.587
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0	1+2	Reduced power level 2	11	2462	15.01	17.01	1.585	99.31	1.007	-0.03	0.216	0.345
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0	1+2	Reduced power level 2	1	2412	14.87	16.87	1.585	99.31	1.007	-0.08	0.320	0.511
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0	1+2	Reduced power level 2	6	2437	14.91	16.91	1.585	99.31	1.007	0.14	0.325	0.519



<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0	1+2	Reduced power level 1	52	5260	15.94	17.94	1.585	97.59	1.025	0.07	0.330	0.536
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0	1+2	Reduced power level 1	52	5260	15.94	17.94	1.585	97.59	1.025	0.13	0.322	0.523
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0	1+2	Reduced power level 1	52	5260	15.94	17.94	1.585	97.59	1.025	0.05	0.360	0.585
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 1	52	5260	15.94	17.94	1.585	97.59	1.025	-0.06	0.492	0.799
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 1	56	5280	15.69	17.69	1.585	97.59	1.025	0.14	0.530	0.861
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 1	60	5300	15.60	17.60	1.585	97.59	1.025	0.02	0.528	0.858
15	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 1	64	5320	15.66	17.66	1.585	97.59	1.025	0.12	0.559	0.908
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0	1+2	Reduced power level 2	52	5260	14.87	16.87	1.585	97.59	1.025	0.13	0.258	0.419
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0	1+2	Reduced power level 2	52	5260	14.87	16.87	1.585	97.59	1.025	0.09	0.247	0.401
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0	1+2	Reduced power level 2	52	5260	14.87	16.87	1.585	97.59	1.025	-0.1	0.285	0.463
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 2	52	5260	14.87	16.87	1.585	97.59	1.025	0.13	0.398	0.647
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 2	56	5280	14.59	16.59	1.585	97.59	1.025	0.01	0.428	0.695
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 2	60	5300	14.62	16.62	1.585	97.59	1.025	0.02	0.424	0.689
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 2	64	5320	14.69	16.69	1.585	97.59	1.025	0.11	0.441	0.716
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0	1+2	Reduced power level 3	52	5260	13.87	15.87	1.585	97.59	1.025	0.09	0.207	0.336
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0	1+2	Reduced power level 3	52	5260	13.87	15.87	1.585	97.59	1.025	-0.12	0.199	0.323
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0	1+2	Reduced power level 3	52	5260	13.87	15.87	1.585	97.59	1.025	-0.09	0.211	0.343
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 3	52	5260	13.87	15.87	1.585	97.59	1.025	0.15	0.310	0.504
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 3	56	5280	13.68	15.68	1.585	97.59	1.025	-0.07	0.331	0.538
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 3	60	5300	13.62	15.62	1.585	97.59	1.025	-0.06	0.325	0.528
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 3	64	5320	13.69	15.69	1.585	97.59	1.025	0.05	0.350	0.569
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	0	1+2	Reduced power level 1	116	5580	14.32	16.32	1.585	97.59	1.025	0.09	0.270	0.439
	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	0	1+2	Reduced power level 1	116	5580	14.32	16.32	1.585	97.59	1.025	0.07	0.330	0.536
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	0	1+2	Reduced power level 1	116	5580	14.32	16.32	1.585	97.59	1.025	-0.05	0.319	0.518
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 1	116	5580	14.32	16.32	1.585	97.59	1.025	0.12	0.552	0.897
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 1	100	5500	14.22	16.22	1.585	97.59	1.025	0.06	0.546	0.887
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 1	124	5620	14.30	16.30	1.585	97.59	1.025	0.11	0.557	0.905
16	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 1	132	5660	14.27	16.27	1.585	97.59	1.025	-0.04	0.576	0.936
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 1	140	5700	14.26	16.26	1.585	97.59	1.025	0.03	0.537	0.872
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 1	144	5720	14.14	16.14	1.585	97.59	1.025	0.06	0.498	0.809
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	0	1+2	Reduced power level 2	116	5580	13.33	15.33	1.585	97.59	1.025	0.17	0.211	0.343
	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	0	1+2	Reduced power level 2	116	5580	13.33	15.33	1.585	97.59	1.025	-0.06	0.272	0.442
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	0	1+2	Reduced power level 2	116	5580	13.33	15.33	1.585	97.59	1.025	0.12	0.255	0.414
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 2	116	5580	13.33	15.33	1.585	97.59	1.025	0.15	0.426	0.692
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 2	100	5500	13.28	15.28	1.585	97.59	1.025	0.04	0.419	0.681
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 2	124	5620	13.21	15.21	1.585	97.59	1.025	0.01	0.422	0.686
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 2	132	5660	13.19	15.19	1.585	97.59	1.025	0.06	0.455	0.739
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 2	140	5700	13.27	15.27	1.585	97.59	1.025	0.13	0.415	0.674
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 2	144	5720	13.16	15.16	1.585	97.59	1.025	-0.02	0.401	0.651
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	0	1+2	Reduced power level 3	116	5580	12.33	14.33	1.585	97.59	1.025	-0.1	0.171	0.278
	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	0	1+2	Reduced power level 3	116	5580	12.33	14.33	1.585	97.59	1.025	0.05	0.215	0.349
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	0	1+2	Reduced power level 3	116	5580	12.33	14.33	1.585	97.59	1.025	0.12	0.205	0.333
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 3	116	5580	12.33	14.33	1.585	97.59	1.025	0.03	0.335	0.544
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 3	100	5500	12.28	14.28	1.585	97.59	1.025	0.02	0.323	0.525
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 3	124	5620	12.30	14.30	1.585	97.59	1.025	0.12	0.331	0.538
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 3	132	5660	12.28	14.28	1.585	97.59	1.025	0.14	0.348	0.565
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 3	140	5700	12.27	14.27	1.585	97.59	1.025	0.08	0.323	0.525
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 3	144	5720	12.16	14.16	1.585	97.59	1.025	-0.09	0.305	0.495



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5.8GHz	802.11a 6Mbps	Right Cheek	0	1+2	Reduced power level 1	157	5785	15.30	17.30	1.585	97.59	1.025	0.07	0.284	0.461
	WLAN5.8GHz	802.11a 6Mbps	Right Tilted	0	1+2	Reduced power level 1	157	5785	15.30	17.30	1.585	97.59	1.025	0.02	0.359	0.583
	WLAN5.8GHz	802.11a 6Mbps	Left Cheek	0	1+2	Reduced power level 1	157	5785	15.30	17.30	1.585	97.59	1.025	0.09	0.307	0.499
	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 1	157	5785	15.30	17.30	1.585	97.59	1.025	0.02	0.543	0.882
17	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 1	149	5745	15.19	17.19	1.585	97.59	1.025	-0.13	0.572	0.929
	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 1	165	5825	15.19	17.19	1.585	97.59	1.025	0.11	0.534	0.867
	WLAN5.8GHz	802.11a 6Mbps	Right Cheek	0	1+2	Reduced power level 2	157	5785	14.65	16.65	1.585	97.59	1.025	0.14	0.215	0.349
	WLAN5.8GHz	802.11a 6Mbps	Right Tilted	0	1+2	Reduced power level 2	157	5785	14.65	16.65	1.585	97.59	1.025	-0.1	0.271	0.440
	WLAN5.8GHz	802.11a 6Mbps	Left Cheek	0	1+2	Reduced power level 2	157	5785	14.65	16.65	1.585	97.59	1.025	0.13	0.246	0.400
	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 2	157	5785	14.65	16.65	1.585	97.59	1.025	0.11	0.430	0.699
	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 2	149	5745	14.54	16.54	1.585	97.59	1.025	-0.04	0.445	0.723
	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 2	165	5825	14.51	16.51	1.585	97.59	1.025	-0.11	0.413	0.671
	WLAN5.8GHz	802.11a 6Mbps	Right Cheek	0	1+2	Reduced power level 3	157	5785	13.26	15.26	1.585	97.59	1.025	0.16	0.161	0.262
	WLAN5.8GHz	802.11a 6Mbps	Right Tilted	0	1+2	Reduced power level 3	157	5785	13.26	15.26	1.585	97.59	1.025	0.05	0.230	0.374
	WLAN5.8GHz	802.11a 6Mbps	Left Cheek	0	1+2	Reduced power level 3	157	5785	13.26	15.26	1.585	97.59	1.025	0.13	0.190	0.309
	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 3	157	5785	13.26	15.26	1.585	97.59	1.025	0.16	0.337	0.547
	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 3	149	5745	13.14	15.14	1.585	97.59	1.025	0.1	0.360	0.585
	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	0	1+2	Reduced power level 3	165	5825	13.14	15.14	1.585	97.59	1.025	0.11	0.331	0.538



16.2 Hotspot SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850_UAT	GPRS(4 Tx slots)	Front	10	Full	128	824.2	27.99	28.30	1.074	-0.05	0.410	0.440
	GSM850_UAT	GPRS(4 Tx slots)	Back	10	Full	128	824.2	27.99	28.30	1.074	-0.02	0.481	0.517
	GSM850_UAT	GPRS(4 Tx slots)	Left Side	10	Full	128	824.2	27.99	28.30	1.074	-0.05	0.544	0.584
	GSM850_UAT	GPRS(4 Tx slots)	Right Side	10	Full	128	824.2	27.99	28.30	1.074	-0.12	0.023	0.024
	GSM850_UAT	GPRS(4 Tx slots)	Top Side	10	Full	128	824.2	27.99	28.30	1.074	0.18	0.013	0.014
	GSM850_UAT	GPRS(4 Tx slots)	Left Side	10	Full	189	836.4	27.75	28.30	1.135	-0.03	0.496	0.563
18	GSM850_UAT	GPRS(4 Tx slots)	Left Side	10	Full	251	848.8	27.87	28.30	1.104	0.15	0.536	0.592
	GSM850_LAT	GPRS(4 Tx slots)	Front	10	Full	128	824.2	27.81	28.30	1.119	0.03	0.170	0.190
	GSM850_LAT	GPRS(4 Tx slots)	Back	10	Full	128	824.2	27.81	28.30	1.119	-0.12	0.198	0.222
	GSM850_LAT	GPRS(4 Tx slots)	Left Side	10	Full	128	824.2	27.81	28.30	1.119	-0.01	0.142	0.159
	GSM850_LAT	GPRS(4 Tx slots)	Right Side	10	Full	128	824.2	27.81	28.30	1.119	0.02	0.092	0.103
	GSM850_LAT	GPRS(4 Tx slots)	Bottom Side	10	Full	128	824.2	27.81	28.30	1.119	-0.1	0.195	0.218
	GSM850_LAT	GPRS(4 Tx slots)	Back	10	Full	189	836.4	27.55	28.30	1.189	-0.05	0.231	0.275
	GSM850_LAT	GPRS(4 Tx slots)	Back	10	Full	251	848.8	27.48	28.30	1.208	0.17	0.245	0.296
	GSM1900_UAT	GPRS(4 Tx slots)	Front	10	Full	512	1850.2	24.26	25.00	1.186	0.18	0.231	0.274
	GSM1900_UAT	GPRS(4 Tx slots)	Back	10	Full	512	1850.2	24.26	25.00	1.186	-0.03	0.366	0.434
	GSM1900_UAT	GPRS(4 Tx slots)	Left Side	10	Full	512	1850.2	24.26	25.00	1.186	0.14	0.109	0.129
	GSM1900_UAT	GPRS(4 Tx slots)	Right Side	10	Full	512	1850.2	24.26	25.00	1.186	0.06	0.056	0.066
	GSM1900_UAT	GPRS(4 Tx slots)	Top Side	10	Full	512	1850.2	24.26	25.00	1.186	-0.05	0.441	0.523
19	GSM1900_UAT	GPRS(4 Tx slots)	Top Side	10	Full	661	1880	23.88	25.00	1.294	0.01	0.524	0.678
	GSM1900_UAT	GPRS(4 Tx slots)	Top Side	10	Full	810	1909.8	24.20	25.00	1.202	0.02	0.504	0.606
	GSM1900_LAT	GPRS(4 Tx slots)	Front	10	Full	512	1850.2	24.51	25.50	1.256	0.16	0.202	0.254
	GSM1900_LAT	GPRS(4 Tx slots)	Back	10	Full	512	1850.2	24.51	25.50	1.256	0.03	0.287	0.360
	GSM1900_LAT	GPRS(4 Tx slots)	Left Side	10	Full	512	1850.2	24.51	25.50	1.256	-0.01	0.114	0.143
	GSM1900_LAT	GPRS(4 Tx slots)	Right Side	10	Full	512	1850.2	24.51	25.50	1.256	-0.07	0.172	0.216
	GSM1900_LAT	GPRS(4 Tx slots)	Bottom Side	10	Full	512	1850.2	24.51	25.50	1.256	0.05	0.438	0.550
	GSM1900_LAT	GPRS(4 Tx slots)	Bottom Side	10	Full	661	1880	24.30	25.50	1.318	-0.11	0.457	0.602
	GSM1900_LAT	GPRS(4 Tx slots)	Bottom Side	10	Full	810	1909.8	24.46	25.50	1.271	-0.04	0.494	0.628



<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA V_UAT	RMC 12.2Kbps	Front	10	Full	4182	836.4	24.05	24.50	1.109	-0.09	0.381	0.423
	WCDMA V_UAT	RMC 12.2Kbps	Back	10	Full	4182	836.4	24.05	24.50	1.109	0.08	0.475	0.527
	WCDMA V_UAT	RMC 12.2Kbps	Left Side	10	Full	4182	836.4	24.05	24.50	1.109	0.09	0.531	0.589
	WCDMA V_UAT	RMC 12.2Kbps	Right Side	10	Full	4182	836.4	24.05	24.50	1.109	0.03	0.021	0.023
	WCDMA V_UAT	RMC 12.2Kbps	Top Side	10	Full	4182	836.4	24.05	24.50	1.109	0.07	0.012	0.013
20	WCDMA V_UAT	RMC 12.2Kbps	Left Side	10	Full	4132	826.4	24.03	24.50	1.114	0.12	0.743	0.828
	WCDMA V_UAT	RMC 12.2Kbps	Left Side	10	Full	4233	846.6	24.01	24.50	1.119	-0.12	0.603	0.675
	WCDMA V_LAT	RMC 12.2Kbps	Front	10	Full	4182	836.4	23.86	24.80	1.242	0.08	0.238	0.296
	WCDMA V_LAT	RMC 12.2Kbps	Back	10	Full	4182	836.4	23.86	24.80	1.242	0.03	0.323	0.401
	WCDMA V_LAT	RMC 12.2Kbps	Left Side	10	Full	4182	836.4	23.86	24.80	1.242	0.06	0.180	0.223
	WCDMA V_LAT	RMC 12.2Kbps	Right Side	10	Full	4182	836.4	23.86	24.80	1.242	-0.04	0.085	0.106
	WCDMA V_LAT	RMC 12.2Kbps	Bottom Side	10	Full	4182	836.4	23.86	24.80	1.242	0.12	0.292	0.363
	WCDMA V_LAT	RMC 12.2Kbps	Back	10	Full	4132	826.4	23.82	24.80	1.253	0.03	0.330	0.414
	WCDMA V_LAT	RMC 12.2Kbps	Back	10	Full	4233	846.6	23.80	24.80	1.259	0.15	0.362	0.456
	WCDMA IV_UAT	RMC 12.2Kbps	Front	10	Reduced	1413	1732.6	20.75	21.50	1.189	0.16	0.262	0.311
	WCDMA IV_UAT	RMC 12.2Kbps	Back	10	Reduced	1413	1732.6	20.75	21.50	1.189	-0.04	0.398	0.473
	WCDMA IV_UAT	RMC 12.2Kbps	Left Side	10	Reduced	1413	1732.6	20.75	21.50	1.189	0.03	0.183	0.217
	WCDMA IV_UAT	RMC 12.2Kbps	Right Side	10	Reduced	1413	1732.6	20.75	21.50	1.189	0.05	0.101	0.120
	WCDMA IV_UAT	RMC 12.2Kbps	Top Side	10	Reduced	1413	1732.6	20.75	21.50	1.189	0.05	0.564	0.670
	WCDMA IV_UAT	RMC 12.2Kbps	Top Side	10	Reduced	1312	1712.4	20.61	21.50	1.227	0.09	0.456	0.560
	WCDMA IV_UAT	RMC 12.2Kbps	Top Side	10	Reduced	1513	1752.6	20.70	21.50	1.202	0.11	0.591	0.711
	WCDMA IV_LAT	RMC 12.2Kbps	Front	10	Reduced	1413	1732.6	22.05	23.30	1.334	0.07	0.419	0.559
	WCDMA IV_LAT	RMC 12.2Kbps	Back	10	Reduced	1413	1732.6	22.05	23.30	1.334	0.03	0.606	0.808
	WCDMA IV_LAT	RMC 12.2Kbps	Left Side	10	Reduced	1413	1732.6	22.05	23.30	1.334	0.05	0.149	0.199
	WCDMA IV_LAT	RMC 12.2Kbps	Right Side	10	Reduced	1413	1732.6	22.05	23.30	1.334	0.12	0.283	0.377
	WCDMA IV_LAT	RMC 12.2Kbps	Bottom Side	10	Reduced	1413	1732.6	22.05	23.30	1.334	-0.06	0.786	1.048
	WCDMA IV_LAT	RMC 12.2Kbps	Bottom Side	10	Reduced	1312	1712.4	21.88	23.30	1.387	0.05	0.702	0.974
21	WCDMA IV_LAT	RMC 12.2Kbps	Bottom Side	10	Reduced	1513	1752.6	21.98	23.30	1.355	0.13	0.798	1.081
	WCDMA IV_LAT	RMC 12.2Kbps	Back	10	Reduced	1312	1712.4	21.88	23.30	1.387	-0.15	0.563	0.781
	WCDMA IV_LAT	RMC 12.2Kbps	Back	10	Reduced	1513	1752.6	21.98	23.30	1.355	0.02	0.603	0.817
	WCDMA II_UAT	RMC 12.2Kbps	Front	10	Reduced	9400	1880	20.79	21.00	1.050	0.02	0.245	0.257
	WCDMA II_UAT	RMC 12.2Kbps	Back	10	Reduced	9400	1880	20.79	21.00	1.050	0.1	0.355	0.373
	WCDMA II_UAT	RMC 12.2Kbps	Left Side	10	Reduced	9400	1880	20.79	21.00	1.050	-0.12	0.174	0.183
	WCDMA II_UAT	RMC 12.2Kbps	Right Side	10	Reduced	9400	1880	20.79	21.00	1.050	-0.03	0.097	0.102
	WCDMA II_UAT	RMC 12.2Kbps	Top Side	10	Reduced	9400	1880	20.79	21.00	1.050	0.18	0.564	0.592
	WCDMA II_UAT	RMC 12.2Kbps	Top Side	10	Reduced	9262	1852.4	20.64	21.00	1.086	-0.12	0.567	0.616
	WCDMA II_UAT	RMC 12.2Kbps	Top Side	10	Reduced	9538	1907.6	20.70	21.00	1.072	-0.01	0.577	0.618
	WCDMA II_LAT	RMC 12.2Kbps	Front	10	Reduced	9400	1880	23.00	23.80	1.202	0.02	0.326	0.392
	WCDMA II_LAT	RMC 12.2Kbps	Back	10	Reduced	9400	1880	23.00	23.80	1.202	-0.02	0.450	0.541
	WCDMA II_LAT	RMC 12.2Kbps	Left Side	10	Reduced	9400	1880	23.00	23.80	1.202	0.02	0.130	0.156
	WCDMA II_LAT	RMC 12.2Kbps	Right Side	10	Reduced	9400	1880	23.00	23.80	1.202	-0.06	0.196	0.236
	WCDMA II_LAT	RMC 12.2Kbps	Bottom Side	10	Reduced	9400	1880	23.00	23.80	1.202	0.04	0.649	0.780
	WCDMA II_LAT	RMC 12.2Kbps	Bottom Side	10	Reduced	9262	1852.4	22.85	23.80	1.245	-0.12	0.634	0.789
22	WCDMA II_LAT	RMC 12.2Kbps	Bottom Side	10	Reduced	9538	1907.6	22.93	23.80	1.222	-0.06	0.695	0.849



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 12_UAT	10M	QPSK	1	49	Front	10	Full	23095	707.5	22.77	23.50	1.183	-0.08	0.360	0.426
	LTE Band 12_UAT	10M	QPSK	1	49	Back	10	Full	23095	707.5	22.77	23.50	1.183	-0.09	0.409	0.484
23	LTE Band 12_UAT	10M	QPSK	1	49	Left Side	10	Full	23095	707.5	22.77	23.50	1.183	0.07	0.608	0.719
	LTE Band 12_UAT	10M	QPSK	1	49	Right Side	10	Full	23095	707.5	22.77	23.50	1.183	0.03	0.047	0.055
	LTE Band 12_UAT	10M	QPSK	1	49	Top Side	10	Full	23095	707.5	22.77	23.50	1.183	0.02	0.013	0.015
	LTE Band 12_UAT	10M	QPSK	25	12	Front	10	Full	23095	707.5	21.94	22.50	1.138	0.09	0.294	0.334
	LTE Band 12_UAT	10M	QPSK	25	12	Back	10	Full	23095	707.5	21.94	22.50	1.138	0.17	0.349	0.397
	LTE Band 12_UAT	10M	QPSK	25	12	Left Side	10	Full	23095	707.5	21.94	22.50	1.138	0.11	0.486	0.553
	LTE Band 12_UAT	10M	QPSK	25	12	Right Side	10	Full	23095	707.5	21.94	22.50	1.138	0.02	0.034	0.038
	LTE Band 12_UAT	10M	QPSK	25	12	Top Side	10	Full	23095	707.5	21.94	22.50	1.138	0.08	0.009	0.010
	LTE Band 12_LAT	10M	QPSK	1	49	Front	10	Full	23095	707.5	22.54	23.80	1.337	0.09	0.130	0.174
	LTE Band 12_LAT	10M	QPSK	1	49	Back	10	Full	23095	707.5	22.54	23.80	1.337	-0.08	0.134	0.179
	LTE Band 12_LAT	10M	QPSK	1	49	Left Side	10	Full	23095	707.5	22.54	23.80	1.337	0.04	0.181	0.242
	LTE Band 12_LAT	10M	QPSK	1	49	Right Side	10	Full	23095	707.5	22.54	23.80	1.337	0.06	0.037	0.050
	LTE Band 12_LAT	10M	QPSK	1	49	Bottom Side	10	Full	23095	707.5	22.54	23.80	1.337	-0.04	0.230	0.307
	LTE Band 12_LAT	10M	QPSK	25	12	Front	10	Full	23095	707.5	21.66	22.80	1.300	0.02	0.108	0.140
	LTE Band 12_LAT	10M	QPSK	25	12	Back	10	Full	23095	707.5	21.66	22.80	1.300	0.13	0.113	0.147
	LTE Band 12_LAT	10M	QPSK	25	12	Left Side	10	Full	23095	707.5	21.66	22.80	1.300	0.14	0.143	0.186
	LTE Band 12_LAT	10M	QPSK	25	12	Right Side	10	Full	23095	707.5	21.66	22.80	1.300	0.03	0.027	0.035
	LTE Band 12_LAT	10M	QPSK	25	12	Bottom Side	10	Full	23095	707.5	21.66	22.80	1.300	-0.05	0.188	0.244
	LTE Band 5_UAT	10M	QPSK	1	0	Front	10	Full	20525	836.5	22.85	23.50	1.161	-0.07	0.350	0.407
	LTE Band 5_UAT	10M	QPSK	1	0	Back	10	Full	20525	836.5	22.85	23.50	1.161	-0.11	0.458	0.532
24	LTE Band 5_UAT	10M	QPSK	1	0	Left Side	10	Full	20525	836.5	22.85	23.50	1.161	-0.05	0.528	0.613
	LTE Band 5_UAT	10M	QPSK	1	0	Right Side	10	Full	20525	836.5	22.85	23.50	1.161	0.12	0.026	0.030
	LTE Band 5_UAT	10M	QPSK	1	0	Top Side	10	Full	20525	836.5	22.85	23.50	1.161	0.08	0.013	0.015
	LTE Band 5_UAT	10M	QPSK	25	12	Front	10	Full	20525	836.5	21.92	22.50	1.143	0.02	0.265	0.303
	LTE Band 5_UAT	10M	QPSK	25	12	Back	10	Full	20525	836.5	21.92	22.50	1.143	0.12	0.374	0.427
	LTE Band 5_UAT	10M	QPSK	25	12	Left Side	10	Full	20525	836.5	21.92	22.50	1.143	0.06	0.422	0.482
	LTE Band 5_UAT	10M	QPSK	25	12	Right Side	10	Full	20525	836.5	21.92	22.50	1.143	0.04	0.019	0.022
	LTE Band 5_UAT	10M	QPSK	25	12	Top Side	10	Full	20525	836.5	21.92	22.50	1.143	0.05	0.009	0.011
	LTE Band 5_LAT	10M	QPSK	1	0	Front	10	Full	20525	836.5	22.55	23.80	1.334	0.13	0.196	0.261
	LTE Band 5_LAT	10M	QPSK	1	0	Back	10	Full	20525	836.5	22.55	23.80	1.334	0.09	0.306	0.408
	LTE Band 5_LAT	10M	QPSK	1	0	Left Side	10	Full	20525	836.5	22.55	23.80	1.334	0.03	0.186	0.248
	LTE Band 5_LAT	10M	QPSK	1	0	Right Side	10	Full	20525	836.5	22.55	23.80	1.334	0.05	0.108	0.144
	LTE Band 5_LAT	10M	QPSK	1	0	Bottom Side	10	Full	20525	836.5	22.55	23.80	1.334	0.1	0.290	0.387
	LTE Band 5_LAT	10M	QPSK	25	12	Front	10	Full	20525	836.5	21.62	22.80	1.312	0.07	0.165	0.217
	LTE Band 5_LAT	10M	QPSK	25	12	Back	10	Full	20525	836.5	21.62	22.80	1.312	0.15	0.257	0.337
	LTE Band 5_LAT	10M	QPSK	25	12	Left Side	10	Full	20525	836.5	21.62	22.80	1.312	-0.02	0.159	0.209
	LTE Band 5_LAT	10M	QPSK	25	12	Right Side	10	Full	20525	836.5	21.62	22.80	1.312	-0.02	0.080	0.105
	LTE Band 5_LAT	10M	QPSK	25	12	Bottom Side	10	Full	20525	836.5	21.62	22.80	1.312	-0.06	0.225	0.295



FCC SAR TEST REPORT

Report No. : FA042007-02

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 26_UAT	15M	QPSK	1	0	Front	10	Full	26965	841.5	22.72	23.80	1.282	-0.11	0.328	0.421
	LTE Band 26_UAT	15M	QPSK	1	0	Back	10	Full	26965	841.5	22.72	23.80	1.282	0.07	0.410	0.526
25	LTE Band 26_UAT	15M	QPSK	1	0	Left Side	10	Full	26965	841.5	22.72	23.80	1.282	0.13	0.725	0.930
	LTE Band 26_UAT	15M	QPSK	1	0	Right Side	10	Full	26965	841.5	22.72	23.80	1.282	0.03	0.018	0.023
	LTE Band 26_UAT	15M	QPSK	1	0	Top Side	10	Full	26965	841.5	22.72	23.80	1.282	0.02	0.013	0.017
	LTE Band 26_UAT	15M	QPSK	1	0	Left Side	10	Full	26765	821.5	22.70	23.80	1.288	-0.03	0.711	0.916
	LTE Band 26_UAT	15M	QPSK	1	0	Left Side	10	Full	26865	831.5	22.69	23.80	1.291	0.14	0.560	0.723
	LTE Band 26_UAT	15M	QPSK	36	20	Front	10	Full	26965	841.5	21.88	22.80	1.236	0.13	0.277	0.342
	LTE Band 26_UAT	15M	QPSK	36	20	Back	10	Full	26965	841.5	21.88	22.80	1.236	0.11	0.347	0.429
	LTE Band 26_UAT	15M	QPSK	36	20	Left Side	10	Full	26965	841.5	21.88	22.80	1.236	-0.11	0.569	0.703
	LTE Band 26_UAT	15M	QPSK	36	20	Right Side	10	Full	26965	841.5	21.88	22.80	1.236	0.07	0.015	0.019
	LTE Band 26_UAT	15M	QPSK	36	20	Top Side	10	Full	26965	841.5	21.88	22.80	1.236	0.09	0.010	0.012
	LTE Band 26_UAT	15M	QPSK	75	0	Left Side	10	Full	26965	841.5	21.85	22.80	1.245	-0.04	0.560	0.697
	LTE Band 26_LAT	15M	QPSK	1	0	Front	10	Full	26965	841.5	22.58	23.80	1.324	-0.01	0.200	0.265
	LTE Band 26_LAT	15M	QPSK	1	0	Back	10	Full	26965	841.5	22.58	23.80	1.324	0.11	0.273	0.362
	LTE Band 26_LAT	15M	QPSK	1	0	Left Side	10	Full	26965	841.5	22.58	23.80	1.324	0.18	0.163	0.216
	LTE Band 26_LAT	15M	QPSK	1	0	Right Side	10	Full	26965	841.5	22.58	23.80	1.324	0.03	0.099	0.132
	LTE Band 26_LAT	15M	QPSK	1	0	Bottom Side	10	Full	26965	841.5	22.58	23.80	1.324	-0.07	0.214	0.283
	LTE Band 26_LAT	15M	QPSK	1	0	Back	10	Full	26765	821.5	22.53	23.80	1.340	-0.09	0.246	0.330
	LTE Band 26_LAT	15M	QPSK	1	0	Back	10	Full	26865	831.5	22.51	23.80	1.346	-0.11	0.267	0.359
	LTE Band 26_LAT	15M	QPSK	36	20	Front	10	Full	26965	841.5	21.65	22.80	1.303	0.04	0.164	0.214
	LTE Band 26_LAT	15M	QPSK	36	20	Back	10	Full	26965	841.5	21.65	22.80	1.303	-0.12	0.243	0.317
	LTE Band 26_LAT	15M	QPSK	36	20	Left Side	10	Full	26965	841.5	21.65	22.80	1.303	0.03	0.142	0.185
	LTE Band 26_LAT	15M	QPSK	36	20	Right Side	10	Full	26965	841.5	21.65	22.80	1.303	0.09	0.081	0.105
	LTE Band 26_LAT	15M	QPSK	36	20	Bottom Side	10	Full	26965	841.5	21.65	22.80	1.303	0.06	0.162	0.211
	LTE Band 66_UAT	20M	QPSK	1	0	Front	10	Reduced	132322	1745	21.26	22.50	1.330	0.02	0.322	0.428
	LTE Band 66_UAT	20M	QPSK	1	0	Back	10	Reduced	132322	1745	21.26	22.50	1.330	0.11	0.432	0.575
	LTE Band 66_UAT	20M	QPSK	1	0	Left Side	10	Reduced	132322	1745	21.26	22.50	1.330	0.17	0.123	0.164
	LTE Band 66_UAT	20M	QPSK	1	0	Right Side	10	Reduced	132322	1745	21.26	22.50	1.330	0.12	0.051	0.068
	LTE Band 66_UAT	20M	QPSK	1	0	Top Side	10	Reduced	132322	1745	21.26	22.50	1.330	0.03	0.592	0.788
	LTE Band 66_UAT	20M	QPSK	1	0	Top Side	10	Reduced	132072	1720	21.09	22.50	1.384	0.13	0.480	0.664
	LTE Band 66_UAT	20M	QPSK	1	0	Top Side	10	Reduced	132572	1770	21.13	22.50	1.371	0.15	0.611	0.838
	LTE Band 66_UAT	20M	QPSK	50	24	Front	10	Reduced	132322	1745	21.14	22.50	1.368	0.08	0.307	0.420
	LTE Band 66_UAT	20M	QPSK	50	24	Back	10	Reduced	132322	1745	21.14	22.50	1.368	-0.02	0.411	0.562
	LTE Band 66_UAT	20M	QPSK	50	24	Left Side	10	Reduced	132322	1745	21.14	22.50	1.368	0.06	0.110	0.150
	LTE Band 66_UAT	20M	QPSK	50	24	Right Side	10	Reduced	132322	1745	21.14	22.50	1.368	-0.12	0.038	0.052
	LTE Band 66_UAT	20M	QPSK	50	24	Top Side	10	Reduced	132322	1745	21.14	22.50	1.368	0.07	0.571	0.781
	LTE Band 66_UAT	20M	QPSK	100	0	Top Side	10	Reduced	132322	1745	21.11	22.50	1.377	0.05	0.570	0.785
	LTE Band 66_LAT	20M	QPSK	1	0	Front	10	Reduced	132322	1745	21.48	22.80	1.355	0.07	0.326	0.442
	LTE Band 66_LAT	20M	QPSK	1	0	Back	10	Reduced	132322	1745	21.48	22.80	1.355	0.02	0.502	0.680
	LTE Band 66_LAT	20M	QPSK	1	0	Left Side	10	Reduced	132322	1745	21.48	22.80	1.355	-0.05	0.098	0.133
	LTE Band 66_LAT	20M	QPSK	1	0	Right Side	10	Reduced	132322	1745	21.48	22.80	1.355	-0.12	0.165	0.224
	LTE Band 66_LAT	20M	QPSK	1	0	Bottom Side	10	Reduced	132322	1745	21.48	22.80	1.355	0.06	0.617	0.836
	LTE Band 66_LAT	20M	QPSK	1	0	Bottom Side	10	Reduced	132072	1720	21.39	22.80	1.384	0.17	0.617	0.854
	LTE Band 66_LAT	20M	QPSK	1	0	Bottom Side	10	Reduced	132572	1770	21.45	22.80	1.365	0.09	0.658	0.898
	LTE Band 66_LAT	20M	QPSK	50	24	Front	10	Reduced	132322	1745	21.44	22.80	1.368	0.03	0.344	0.470
	LTE Band 66_LAT	20M	QPSK	50	24	Back	10	Reduced	132322	1745	21.44	22.80	1.368	0.08	0.528	0.722
	LTE Band 66_LAT	20M	QPSK	50	24	Left Side	10	Reduced	132322	1745	21.44	22.80	1.368	0.03	0.104	0.142
	LTE Band 66_LAT	20M	QPSK	50	24	Right Side	10	Reduced	132322	1745	21.44	22.80	1.368	0.12	0.170	0.233
	LTE Band 66_LAT	20M	QPSK	50	24	Bottom Side	10	Reduced	132322	1745	21.44	22.80	1.368	-0.09	0.636	0.870
	LTE Band 66_LAT	20M	QPSK	50	24	Bottom Side	10	Reduced	132072	1720	21.39	22.80	1.384	0.03	0.562	0.778
26	LTE Band 66_LAT	20M	QPSK	50	24	Bottom Side	10	Reduced	132572	1770	21.43	22.80	1.371	-0.01	0.661	0.906
	LTE Band 66_LAT	20M	QPSK	100	0	Bottom Side	10	Reduced	132322	1745	21.43	22.80	1.371	0.08	0.610	0.836



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2_UAT	20M	QPSK	1	0	Front	10	Reduced	18900	1880	20.39	21.50	1.291	0.18	0.244	0.315
	LTE Band 2_UAT	20M	QPSK	1	0	Back	10	Reduced	18900	1880	20.39	21.50	1.291	-0.05	0.354	0.457
	LTE Band 2_UAT	20M	QPSK	1	0	Left Side	10	Reduced	18900	1880	20.39	21.50	1.291	0.1	0.118	0.152
	LTE Band 2_UAT	20M	QPSK	1	0	Right Side	10	Reduced	18900	1880	20.39	21.50	1.291	-0.02	0.082	0.106
	LTE Band 2_UAT	20M	QPSK	1	0	Top Side	10	Reduced	18900	1880	20.39	21.50	1.291	0.03	0.528	0.682
	LTE Band 2_UAT	20M	QPSK	50	24	Front	10	Reduced	18900	1880	20.37	21.50	1.297	0.03	0.259	0.336
	LTE Band 2_UAT	20M	QPSK	50	24	Back	10	Reduced	18900	1880	20.37	21.50	1.297	0.13	0.364	0.472
	LTE Band 2_UAT	20M	QPSK	50	24	Left Side	10	Reduced	18900	1880	20.37	21.50	1.297	0.14	0.122	0.158
	LTE Band 2_UAT	20M	QPSK	50	24	Right Side	10	Reduced	18900	1880	20.37	21.50	1.297	0.04	0.091	0.118
	LTE Band 2_UAT	20M	QPSK	50	24	Top Side	10	Reduced	18900	1880	20.37	21.50	1.297	-0.01	0.535	0.694
	LTE Band 2_UAT	20M	QPSK	50	24	Top Side	10	Reduced	18700	1860	20.36	21.50	1.300	-0.1	0.524	0.681
	LTE Band 2_UAT	20M	QPSK	50	24	Top Side	10	Reduced	19100	1900	20.35	21.50	1.303	-0.03	0.580	0.756
	LTE Band 2_LAT	20M	QPSK	1	0	Front	10	Full	18900	1880	22.65	23.80	1.303	0.06	0.364	0.474
	LTE Band 2_LAT	20M	QPSK	1	0	Back	10	Full	18900	1880	22.65	23.80	1.303	0.02	0.523	0.682
	LTE Band 2_LAT	20M	QPSK	1	0	Left Side	10	Full	18900	1880	22.65	23.80	1.303	0.12	0.147	0.192
	LTE Band 2_LAT	20M	QPSK	1	0	Right Side	10	Full	18900	1880	22.65	23.80	1.303	0.16	0.213	0.278
27	LTE Band 2_LAT	20M	QPSK	1	0	Bottom Side	10	Full	18900	1880	22.65	23.80	1.303	0.09	0.749	0.976
	LTE Band 2_LAT	20M	QPSK	1	0	Bottom Side	10	Full	18700	1860	22.56	23.80	1.330	0.02	0.564	0.750
	LTE Band 2_LAT	20M	QPSK	1	0	Bottom Side	10	Full	19100	1900	22.64	23.80	1.306	-0.02	0.710	0.927
	LTE Band 2_LAT	20M	QPSK	50	24	Front	10	Full	18900	1880	21.77	22.80	1.268	0.12	0.300	0.380
	LTE Band 2_LAT	20M	QPSK	50	24	Back	10	Full	18900	1880	21.77	22.80	1.268	0.05	0.433	0.549
	LTE Band 2_LAT	20M	QPSK	50	24	Left Side	10	Full	18900	1880	21.77	22.80	1.268	-0.03	0.114	0.145
	LTE Band 2_LAT	20M	QPSK	50	24	Right Side	10	Full	18900	1880	21.77	22.80	1.268	-0.07	0.171	0.217
	LTE Band 2_LAT	20M	QPSK	50	24	Bottom Side	10	Full	18900	1880	21.77	22.80	1.268	0.11	0.606	0.768
	LTE Band 2_LAT	20M	QPSK	100	0	Bottom Side	10	Full	18900	1880	21.70	22.80	1.288	0.02	0.597	0.769



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7_UAT	20M	QPSK	1	0	Front	10	Reduced	20850	2510	19.49	20.50	1.262	0.08	0.202	0.255
	LTE Band 7_UAT	20M	QPSK	1	0	Back	10	Reduced	20850	2510	19.49	20.50	1.262	0.09	0.305	0.385
	LTE Band 7_UAT	20M	QPSK	1	0	Left Side	10	Reduced	20850	2510	19.49	20.50	1.262	0.17	0.050	0.063
	LTE Band 7_UAT	20M	QPSK	1	0	Right Side	10	Reduced	20850	2510	19.49	20.50	1.262	0.11	0.155	0.196
	LTE Band 7_UAT	20M	QPSK	1	0	Top Side	10	Reduced	20850	2510	19.49	20.50	1.262	0.01	0.532	0.671
	LTE Band 7_UAT	20M	QPSK	50	24	Front	10	Reduced	20850	2510	19.45	20.50	1.274	0.04	0.212	0.270
	LTE Band 7_UAT	20M	QPSK	50	24	Back	10	Reduced	20850	2510	19.45	20.50	1.274	-0.08	0.312	0.397
	LTE Band 7_UAT	20M	QPSK	50	24	Left Side	10	Reduced	20850	2510	19.45	20.50	1.274	-0.09	0.053	0.067
	LTE Band 7_UAT	20M	QPSK	50	24	Right Side	10	Reduced	20850	2510	19.45	20.50	1.274	0.05	0.166	0.211
	LTE Band 7_UAT	20M	QPSK	50	24	Top Side	10	Reduced	20850	2510	19.45	20.50	1.274	0.12	0.534	0.680
	LTE Band 7_UAT	20M	QPSK	50	24	Top Side	10	Reduced	21100	2535	19.43	20.50	1.279	0.09	0.542	0.693
	LTE Band 7_UAT	20M	QPSK	50	24	Top Side	10	Reduced	21350	2560	19.41	20.50	1.285	-0.04	0.665	0.855
	LTE Band 7C_UAT	20M	QPSK	50	24	Top Side	10	Reduced	21350(PCC) + 21152(SCC)	2560(PCC) + 2540.2(SCC)	19.57	20.50	1.239	-0.09	0.663	0.821
	LTE Band 7C_UAT	20M	QPSK	50	24	Top Side	10	Reduced	20850(PCC) + 21048(SCC)	2510(PCC) + 2529.8(SCC)	19.45	20.50	1.274	-0.08	0.529	0.674
	LTE Band 7C_UAT	20M	QPSK	50	24	Top Side	10	Reduced	21100(PCC) + 20902(SCC)	2535(PCC) + 2515.2(SCC)	19.48	20.50	1.265	0.05	0.587	0.742
	LTE Band 7_UAT	20M	QPSK	100	0	Top Side	10	Reduced	20850	2510	19.45	20.50	1.274	0.08	0.518	0.660
	LTE Band 7_LAT	20M	QPSK	1	0	Front	10	Reduced	20850	2510	21.67	22.80	1.297	0.08	0.482	0.625
	LTE Band 7_LAT	20M	QPSK	1	0	Back	10	Reduced	20850	2510	21.67	22.80	1.297	0.05	0.816	1.058
	LTE Band 7_LAT	20M	QPSK	1	0	Left Side	10	Reduced	20850	2510	21.67	22.80	1.297	0.15	0.120	0.156
	LTE Band 7_LAT	20M	QPSK	1	0	Right Side	10	Reduced	20850	2510	21.67	22.80	1.297	0.02	0.324	0.420
	LTE Band 7_LAT	20M	QPSK	1	0	Bottom Side	10	Reduced	20850	2510	21.67	22.80	1.297	0.13	0.595	0.772
28	LTE Band 7_LAT	20M	QPSK	1	0	Back	10	Reduced	21100	2535	21.62	22.80	1.312	0.06	0.827	1.085
	LTE Band 7_LAT	20M	QPSK	1	0	Back	10	Reduced	21350	2560	21.64	22.80	1.306	-0.05	0.755	0.986
	LTE Band 7C_LAT	20M	QPSK	1	0	Back	10	Reduced	21100(PCC) + 20902(SCC)	2535(PCC) + 2515.2(SCC)	21.63	22.80	1.309	-0.08	0.801	1.049
	LTE Band 7C_LAT	20M	QPSK	1	0	Back	10	Reduced	20850(PCC) + 21048(SCC)	2510(PCC) + 2529.8(SCC)	21.55	22.80	1.334	0.05	0.754	1.005
	LTE Band 7C_LAT	20M	QPSK	1	0	Back	10	Reduced	21350(PCC) + 21152(SCC)	2560(PCC) + 2540.2(SCC)	21.79	22.80	1.262	-0.1	0.726	0.916
	LTE Band 7_LAT	20M	QPSK	50	24	Front	10	Reduced	20850	2510	21.64	22.80	1.306	0.13	0.475	0.620
	LTE Band 7_LAT	20M	QPSK	50	24	Back	10	Reduced	20850	2510	21.64	22.80	1.306	-0.07	0.803	1.049
	LTE Band 7_LAT	20M	QPSK	50	24	Left Side	10	Reduced	20850	2510	21.64	22.80	1.306	0.08	0.108	0.141
	LTE Band 7_LAT	20M	QPSK	50	24	Right Side	10	Reduced	20850	2510	21.64	22.80	1.306	0.13	0.314	0.410
	LTE Band 7_LAT	20M	QPSK	50	24	Bottom Side	10	Reduced	20850	2510	21.64	22.80	1.306	0.11	0.582	0.760
	LTE Band 7_LAT	20M	QPSK	50	24	Back	10	Reduced	21100	2535	21.58	22.80	1.324	0.11	0.792	1.049
	LTE Band 7_LAT	20M	QPSK	50	24	Back	10	Reduced	21350	2560	21.60	22.80	1.318	-0.04	0.750	0.989
	LTE Band 7_LAT	20M	QPSK	100	0	Back	10	Reduced	20850	2510	21.61	22.80	1.315	0.07	0.793	1.043



<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41_UAT	20M	QPSK	1	99	Front	10	Reduced	40620	2593	21.74	23.00	1.337	62.9	1.006	0.11	0.207	0.278
	LTE Band 41_UAT	20M	QPSK	1	99	Back	10	Reduced	40620	2593	21.74	23.00	1.337	62.9	1.006	0.12	0.348	0.468
	LTE Band 41_UAT	20M	QPSK	1	99	Left Side	10	Reduced	40620	2593	21.74	23.00	1.337	62.9	1.006	-0.04	0.058	0.078
	LTE Band 41_UAT	20M	QPSK	1	99	Right Side	10	Reduced	40620	2593	21.74	23.00	1.337	62.9	1.006	-0.012	0.122	0.164
	LTE Band 41_UAT	20M	QPSK	1	99	Top Side	10	Reduced	40620	2593	21.74	23.00	1.337	62.9	1.006	-0.04	0.532	0.715
	LTE Band 41_UAT	20M	QPSK	1	99	Top Side	10	Reduced	39750	2506	21.15	23.00	1.531	62.9	1.006	0.07	0.356	0.548
	LTE Band 41_UAT	20M	QPSK	1	99	Top Side	10	Reduced	40185	2549.5	21.42	23.00	1.439	62.9	1.006	0.08	0.476	0.689
	LTE Band 41_UAT	20M	QPSK	1	99	Top Side	10	Reduced	41055	2636.5	21.64	23.00	1.368	62.9	1.006	-0.03	0.547	0.753
	LTE Band 41_UAT	20M	QPSK	1	99	Top Side	10	Reduced	41490	2680	21.62	23.00	1.374	62.9	1.006	0.17	0.568	0.785
	LTE Band 41_UAT	20M	QPSK	50	24	Front	10	Reduced	40620	2593	21.69	23.00	1.352	62.9	1.006	-0.03	0.213	0.290
	LTE Band 41_UAT	20M	QPSK	50	24	Back	10	Reduced	40620	2593	21.69	23.00	1.352	62.9	1.006	-0.1	0.354	0.482
	LTE Band 41_UAT	20M	QPSK	50	24	Left Side	10	Reduced	40620	2593	21.69	23.00	1.352	62.9	1.006	-0.02	0.070	0.095
	LTE Band 41_UAT	20M	QPSK	50	24	Right Side	10	Reduced	40620	2593	21.69	23.00	1.352	62.9	1.006	-0.15	0.126	0.171
	LTE Band 41_UAT	20M	QPSK	50	24	Top Side	10	Reduced	40620	2593	21.69	23.00	1.352	62.9	1.006	-0.1	0.540	0.734
	LTE Band 41_UAT	20M	QPSK	50	24	Top Side	10	Reduced	39750	2506	21.21	23.00	1.510	62.9	1.006	0.08	0.393	0.597
	LTE Band 41_UAT	20M	QPSK	50	24	Top Side	10	Reduced	40185	2549.5	21.54	23.00	1.400	62.9	1.006	0.09	0.488	0.687
	LTE Band 41_UAT	20M	QPSK	50	24	Top Side	10	Reduced	41055	2636.5	21.66	23.00	1.361	62.9	1.006	-0.03	0.550	0.753
	LTE Band 41_UAT	20M	QPSK	50	24	Top Side	10	Reduced	41490	2680	21.60	23.00	1.380	62.9	1.006	0.03	0.569	0.790
	LTE Band 41C_UAT	20M	QPSK	50	24	Top Side	10	Reduced	41490(PCC)+ 41292(SCC)	2680(PCC)+ 2660.2(SCC)	21.66	23.00	1.361	62.9	1.006	0.18	0.563	0.771
	LTE Band 41C_UAT	20M	QPSK	50	24	Top Side	10	Reduced	40620(PCC)+ 40422(SCC)	2593(PCC)+ 2573.2(SCC)	21.93	23.00	1.279	62.9	1.006	0.04	0.554	0.713
	LTE Band 41C_UAT	20M	QPSK	50	24	Top Side	10	Reduced	39750(PCC)+ 39948(SCC)	2506(PCC)+ 2525.8(SCC)	21.49	23.00	1.416	62.9	1.006	0.08	0.391	0.557
	LTE Band 41C_UAT	20M	QPSK	50	24	Top Side	10	Reduced	40185(PCC)+ 40383(SCC)	2549.5(PCC)+ 2569.3(SCC)	21.87	23.00	1.297	62.9	1.006	-0.03	0.515	0.672
	LTE Band 41C_UAT	20M	QPSK	50	24	Top Side	10	Reduced	41055(PCC)+ 40857(SCC)	2636.5(PCC)+ 2616.7(SCC)	21.77	23.00	1.327	62.9	1.006	0.13	0.563	0.752
	LTE Band 41_UAT	20M	QPSK	100	0	Top Side	10	Reduced	40620	2593	21.70	23.00	1.349	62.9	1.006	0.05	0.518	0.703
	LTE Band 41_LAT	20M	QPSK	1	99	Front	10	Full	40620	2593	22.51	23.80	1.346	62.9	1.006	-0.09	0.311	0.421
	LTE Band 41_LAT	20M	QPSK	1	99	Back	10	Full	40620	2593	22.51	23.80	1.346	62.9	1.006	0.03	0.481	0.651
	LTE Band 41_LAT	20M	QPSK	1	99	Left Side	10	Full	40620	2593	22.51	23.80	1.346	62.9	1.006	0.12	0.072	0.097
	LTE Band 41_LAT	20M	QPSK	1	99	Right Side	10	Full	40620	2593	22.51	23.80	1.346	62.9	1.006	0.1	0.174	0.236
	LTE Band 41_LAT	20M	QPSK	1	99	Bottom Side	10	Full	40620	2593	22.51	23.80	1.346	62.9	1.006	0.01	0.397	0.538
	LTE Band 41_LAT	20M	QPSK	1	99	Back	10	Full	39750	2506	22.45	23.80	1.365	62.9	1.006	-0.06	0.446	0.612
	LTE Band 41_LAT	20M	QPSK	1	99	Back	10	Full	40185	2549.5	22.36	23.80	1.393	62.9	1.006	-0.01	0.466	0.653
	LTE Band 41_LAT	20M	QPSK	1	99	Back	10	Full	41055	2636.5	22.40	23.80	1.380	62.9	1.006	-0.07	0.429	0.596
	LTE Band 41_LAT	20M	QPSK	1	99	Back	10	Full	41490	2680	22.37	23.80	1.390	62.9	1.006	0.13	0.493	0.689
	LTE Band 41C_LAT	20M	QPSK	1	99	Back	10	Full	41490(PCC)+ 41292(SCC)	2680(PCC)+ 2660.2(SCC)	22.47	23.80	1.358	62.9	1.006	-0.07	0.532	0.727
	LTE Band 41C_LAT	20M	QPSK	1	99	Back	10	Full	40620(PCC)+ 40422(SCC)	2593(PCC)+ 2573.2(SCC)	22.50	23.80	1.349	62.9	1.006	-0.06	0.426	0.578
	LTE Band 41C_LAT	20M	QPSK	1	99	Back	10	Full	39750(PCC)+ 39948(SCC)	2506(PCC)+ 2525.8(SCC)	22.10	23.80	1.479	62.9	1.006	-0.07	0.396	0.589
	LTE Band 41C_LAT	20M	QPSK	1	99	Back	10	Full	40185(PCC)+ 40383(SCC)	2549.5(PCC)+ 2569.3(SCC)	22.39	23.80	1.384	62.9	1.006	0.11	0.377	0.525
	LTE Band 41C_LAT	20M	QPSK	1	99	Back	10	Full	41055(PCC)+ 40857(SCC)	2636.5(PCC)+ 2616.7(SCC)	22.23	23.80	1.435	62.9	1.006	-0.08	0.400	0.578
	LTE Band 41_LAT	20M	QPSK	50	24	Front	10	Full	40620	2593	21.59	22.80	1.321	62.9	1.006	0.1	0.253	0.336
	LTE Band 41_LAT	20M	QPSK	50	24	Back	10	Full	40620	2593	21.59	22.80	1.321	62.9	1.006	0.13	0.405	0.538
	LTE Band 41_LAT	20M	QPSK	50	24	Left Side	10	Full	40620	2593	21.59	22.80	1.321	62.9	1.006	-0.03	0.051	0.068
	LTE Band 41_LAT	20M	QPSK	50	24	Right Side	10	Full	40620	2593	21.59	22.80	1.321	62.9	1.006	-0.09	0.142	0.189
	LTE Band 41_LAT	20M	QPSK	50	24	Bottom Side	10	Full	40620	2593	21.59	22.80	1.321	62.9	1.006	-0.08	0.315	0.419
	LTE Band 41_LAT	20M	QPSK	100	0	Back	10	Full	40620	2593	21.55	22.80	1.334	62.9	1.006	0.04	0.396	0.531



FCC SAR TEST REPORT

Report No. : FA042007-02

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Front	10	Reduced	40620	2593	24.15	24.70	1.135	42.9	1.009	0.15	0.267	0.306
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Back	10	Reduced	40620	2593	24.15	24.70	1.135	42.9	1.009	-0.03	0.398	0.456
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Left Side	10	Reduced	40620	2593	24.15	24.70	1.135	42.9	1.009	0.07	0.073	0.084
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Right Side	10	Reduced	40620	2593	24.15	24.70	1.135	42.9	1.009	0.12	0.135	0.155
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Top Side	10	Reduced	40620	2593	24.15	24.70	1.135	42.9	1.009	-0.07	0.618	0.708
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Top Side	10	Reduced	39750	2506	23.55	24.70	1.303	42.9	1.009	-0.01	0.457	0.601
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Top Side	10	Reduced	40185	2549.5	23.99	24.70	1.178	42.9	1.009	0.13	0.599	0.712
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Top Side	10	Reduced	41055	2636.5	24.05	24.70	1.161	42.9	1.009	0.04	0.652	0.764
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Top Side	10	Reduced	41490	2680	23.92	24.70	1.197	42.9	1.009	0.15	0.695	0.839
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Front	10	Reduced	40620	2593	24.11	24.70	1.146	42.9	1.009	0.13	0.270	0.312
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Back	10	Reduced	40620	2593	24.11	24.70	1.146	42.9	1.009	0.15	0.404	0.467
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Left Side	10	Reduced	40620	2593	24.11	24.70	1.146	42.9	1.009	0.12	0.078	0.090
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Right Side	10	Reduced	40620	2593	24.11	24.70	1.146	42.9	1.009	0.03	0.146	0.169
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Top Side	10	Reduced	40620	2593	24.11	24.70	1.146	42.9	1.009	-0.11	0.633	0.732
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Top Side	10	Reduced	39750	2506	23.68	24.70	1.265	42.9	1.009	0.08	0.464	0.592
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Top Side	10	Reduced	40185	2549.5	24.03	24.70	1.167	42.9	1.009	0.02	0.595	0.700
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Top Side	10	Reduced	41055	2636.5	24.06	24.70	1.159	42.9	1.009	0.15	0.675	0.789
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Top Side	10	Reduced	41490	2680	24.05	24.70	1.161	42.9	1.009	0.07	0.664	0.778
	LTE Band 41(HPUE)_UAT	20M	QPSK	100	0	Top Side	10	Reduced	40620	2593	24.10	24.70	1.148	42.9	1.009	0.15	0.628	0.728
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Front	10	Full	40620	2593	25.60	26.80	1.318	42.9	1.009	-0.07	0.407	0.541
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Back	10	Full	40620	2593	25.60	26.80	1.318	42.9	1.009	0.16	0.617	0.821
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Left Side	10	Full	40620	2593	25.60	26.80	1.318	42.9	1.009	0.02	0.082	0.109
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Right Side	10	Full	40620	2593	25.60	26.80	1.318	42.9	1.009	0.18	0.216	0.287
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Bottom Side	10	Full	40620	2593	25.60	26.80	1.318	42.9	1.009	0.17	0.463	0.616
29	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Back	10	Full	39750	2506	25.02	26.80	1.507	42.9	1.009	-0.03	0.591	0.898
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Back	10	Full	40185	2549.5	25.37	26.80	1.390	42.9	1.009	-0.1	0.511	0.717
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Back	10	Full	41055	2636.5	25.55	26.80	1.334	42.9	1.009	0.04	0.595	0.801
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Back	10	Full	41490	2680	25.55	26.80	1.334	42.9	1.009	0.17	0.636	0.856
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Bottom Side	10	Full	39750	2506	25.02	26.80	1.507	42.9	1.009	0.12	0.450	0.684
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Bottom Side	10	Full	40185	2549.5	25.37	26.80	1.390	42.9	1.009	0.09	0.468	0.656
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Bottom Side	10	Full	41055	2636.5	25.55	26.80	1.334	42.9	1.009	-0.14	0.437	0.588
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Bottom Side	10	Full	41490	2680	25.55	26.80	1.334	42.9	1.009	0.03	0.450	0.605
	LTE Band 41(HPUE)_LAT	20M	QPSK	50	24	Front	10	Full	40620	2593	24.68	25.80	1.294	42.9	1.009	0.03	0.341	0.445
	LTE Band 41(HPUE)_LAT	20M	QPSK	50	24	Back	10	Full	40620	2593	24.68	25.80	1.294	42.9	1.009	-0.1	0.509	0.665
	LTE Band 41(HPUE)_LAT	20M	QPSK	50	24	Left Side	10	Full	40620	2593	24.68	25.80	1.294	42.9	1.009	0.12	0.069	0.090
	LTE Band 41(HPUE)_LAT	20M	QPSK	50	24	Right Side	10	Full	40620	2593	24.68	25.80	1.294	42.9	1.009	0.1	0.176	0.230
	LTE Band 41(HPUE)_LAT	20M	QPSK	50	24	Bottom Side	10	Full	40620	2593	24.68	25.80	1.294	42.9	1.009	0.02	0.370	0.483
	LTE Band 41(HPUE)_LAT	20M	QPSK	50	24	Back	10	Full	39750	2506	24.33	25.80	1.403	42.9	1.009	0.05	0.502	0.711
	LTE Band 41(HPUE)_LAT	20M	QPSK	50	24	Back	10	Full	40185	2549.5	24.63	25.80	1.309	42.9	1.009	0.01	0.429	0.567
	LTE Band 41(HPUE)_LAT	20M	QPSK	50	24	Back	10	Full	41055	2636.5	24.67	25.80	1.297	42.9	1.009	-0.1	0.489	0.640
	LTE Band 41(HPUE)_LAT	20M	QPSK	50	24	Back	10	Full	41490	2680	24.67	25.80	1.297	42.9	1.009	0.12	0.495	0.648
	LTE Band 41(HPUE)_LAT	20M	QPSK	100	0	Back	10	Full	40620	2593	24.71	25.80	1.285	42.9	1.009	0.05	0.493	0.639
	LTE Band 41(HPUE)_LAT	20M	QPSK	100	0	Bottom Side	10	Full	40620	2593	24.71	25.80	1.285	42.9	1.009	0.07	0.363	0.471



<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	10	1	Full	39	2441	13.50	15.50	1.585	77.2	1.079	0.03	0.049	0.084
30	Bluetooth	1Mbps	Back	10	1	Full	39	2441	13.50	15.50	1.585	77.2	1.079	0.05	0.078	0.133
	Bluetooth	1Mbps	Left Side	10	1	Full	39	2441	13.50	15.50	1.585	77.2	1.079	0.04	0.023	0.039
	Bluetooth	1Mbps	Right Side	10	1	Full	39	2441	13.50	15.50	1.585	77.2	1.079	0.01	0.042	0.072
	Bluetooth	1Mbps	Top Side	10	1	Full	39	2441	13.50	15.50	1.585	77.2	1.079	0.01	0.058	0.099
	Bluetooth	1Mbps	Back	10	1	Full	0	2402	12.60	14.60	1.585	77.2	1.079	-0.12	0.061	0.105
	Bluetooth	1Mbps	Back	10	1	Full	78	2480	12.00	14.00	1.585	77.2	1.079	0.14	0.052	0.088

<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	10	1+2	Reduced power level 1	11	2462	20.86	22.86	1.585	99.31	1.007	-0.1	0.319	0.509
	WLAN2.4GHz	802.11b 1Mbps	Back	10	1+2	Reduced power level 1	11	2462	20.86	22.86	1.585	99.31	1.007	0.18	0.605	0.966
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10	1+2	Reduced power level 1	11	2462	20.86	22.86	1.585	99.31	1.007	-0.12	0.015	0.024
31	WLAN2.4GHz	802.11b 1Mbps	Right Side	10	1+2	Reduced power level 1	11	2462	20.86	22.86	1.585	99.31	1.007	0.01	0.626	0.999
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10	1+2	Reduced power level 1	11	2462	20.86	22.86	1.585	99.31	1.007	0.14	0.273	0.436
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10	1+2	Reduced power level 1	1	2412	20.77	22.77	1.585	99.31	1.007	-0.05	0.498	0.795
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10	1+2	Reduced power level 1	6	2437	20.76	22.76	1.585	99.31	1.007	0.04	0.615	0.982
	WLAN2.4GHz	802.11b 1Mbps	Back	10	1+2	Reduced power level 1	1	2412	20.77	22.77	1.585	99.31	1.007	0.05	0.513	0.819
	WLAN2.4GHz	802.11b 1Mbps	Back	10	1+2	Reduced power level 1	6	2437	20.76	22.76	1.585	99.31	1.007	0.12	0.576	0.919
	WLAN2.4GHz	802.11b 1Mbps	Front	10	1+2	Reduced power level 2	11	2462	18.86	20.86	1.585	99.31	1.007	-0.11	0.193	0.308
	WLAN2.4GHz	802.11b 1Mbps	Back	10	1+2	Reduced power level 2	11	2462	18.86	20.86	1.585	99.31	1.007	0.01	0.365	0.583
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10	1+2	Reduced power level 2	11	2462	18.86	20.86	1.585	99.31	1.007	-0.1	0.009	0.014
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10	1+2	Reduced power level 2	11	2462	18.86	20.86	1.585	99.31	1.007	-0.07	0.406	0.648
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10	1+2	Reduced power level 2	11	2462	18.86	20.86	1.585	99.31	1.007	0.03	0.180	0.287
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10	1+2	Reduced power level 2	1	2412	18.72	20.72	1.585	99.31	1.007	-0.05	0.331	0.528
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10	1+2	Reduced power level 2	6	2437	18.76	20.76	1.585	99.31	1.007	0.02	0.378	0.603



<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
32	WLAN5.2GHz	802.11a 6Mbps	Front	10	1+2	Reduced power level 1	36	5180	19.93	21.93	1.585	97.59	1.025	0.08	0.229	0.372
	WLAN5.2GHz	802.11a 6Mbps	Back	10	1+2	Reduced power level 1	36	5180	19.93	21.93	1.585	97.59	1.025	0.05	0.495	0.804
	WLAN5.2GHz	802.11a 6Mbps	Left Side	10	1+2	Reduced power level 1	36	5180	19.93	21.93	1.585	97.59	1.025	0.04	0.402	0.653
	WLAN5.2GHz	802.11a 6Mbps	Right Side	10	1+2	Reduced power level 1	36	5180	19.93	21.93	1.585	97.59	1.025	0.11	0.197	0.320
	WLAN5.2GHz	802.11a 6Mbps	Top Side	10	1+2	Reduced power level 1	36	5180	19.93	21.93	1.585	97.59	1.025	0.02	0.462	0.751
	WLAN5.2GHz	802.11a 6Mbps	Back	10	1+2	Reduced power level 1	40	5200	19.91	21.91	1.585	97.59	1.025	-0.08	0.484	0.786
	WLAN5.2GHz	802.11a 6Mbps	Back	10	1+2	Reduced power level 1	44	5220	19.84	21.84	1.585	97.59	1.025	0.14	0.479	0.778
	WLAN5.2GHz	802.11a 6Mbps	Back	10	1+2	Reduced power level 1	48	5240	19.87	21.87	1.585	97.59	1.025	-0.08	0.477	0.775
	WLAN5.2GHz	802.11a 6Mbps	Front	10	1+2	Reduced power level 2/3	36	5180	16.91	18.91	1.585	97.59	1.025	0.11	0.101	0.164
	WLAN5.2GHz	802.11a 6Mbps	Back	10	1+2	Reduced power level 2/3	36	5180	16.91	18.91	1.585	97.59	1.025	0.01	0.234	0.380
	WLAN5.2GHz	802.11a 6Mbps	Left Side	10	1+2	Reduced power level 2/3	36	5180	16.91	18.91	1.585	97.59	1.025	0.17	0.183	0.297
	WLAN5.2GHz	802.11a 6Mbps	Right Side	10	1+2	Reduced power level 2/3	36	5180	16.91	18.91	1.585	97.59	1.025	0.03	0.094	0.153
	WLAN5.2GHz	802.11a 6Mbps	Top Side	10	1+2	Reduced power level 2/3	36	5180	16.91	18.91	1.585	97.59	1.025	-0.06	0.204	0.331
	WLAN5.2GHz	802.11a 6Mbps	Back	10	1+2	Reduced power level 2/3	40	5200	16.90	18.90	1.585	97.59	1.025	-0.08	0.228	0.370
	WLAN5.2GHz	802.11a 6Mbps	Back	10	1+2	Reduced power level 2/3	44	5220	16.83	18.83	1.585	97.59	1.025	-0.02	0.223	0.362
	WLAN5.2GHz	802.11a 6Mbps	Back	10	1+2	Reduced power level 2/3	48	5240	16.85	18.85	1.585	97.59	1.025	0.16	0.217	0.353
	WLAN5.8GHz	802.11a 6Mbps	Front	10	1+2	Reduced power level 1	157	5785	18.33	20.33	1.585	97.59	1.025	0.17	0.152	0.247
	WLAN5.8GHz	802.11a 6Mbps	Back	10	1+2	Reduced power level 1	157	5785	18.33	20.33	1.585	97.59	1.025	0.17	0.326	0.530
	WLAN5.8GHz	802.11a 6Mbps	Left Side	10	1+2	Reduced power level 1	157	5785	18.33	20.33	1.585	97.59	1.025	0.04	0.362	0.588
	WLAN5.8GHz	802.11a 6Mbps	Right Side	10	1+2	Reduced power level 1	157	5785	18.33	20.33	1.585	97.59	1.025	0.03	0.128	0.208
	WLAN5.8GHz	802.11a 6Mbps	Top Side	10	1+2	Reduced power level 1	157	5785	18.33	20.33	1.585	97.59	1.025	-0.02	0.563	0.915
	WLAN5.8GHz	802.11a 6Mbps	Top Side	10	1+2	Reduced power level 1	149	5745	18.17	20.17	1.585	97.59	1.025	0.04	0.591	0.960
	WLAN5.8GHz	802.11a 6Mbps	Top Side	10	1+2	Reduced power level 1	165	5825	18.18	20.18	1.585	97.59	1.025	0.09	0.613	0.996
	WLAN5.8GHz	802.11a 6Mbps	Front	10	1+2	Reduced power level 2/3	157	5785	14.65	16.65	1.585	97.59	1.025	0.07	0.057	0.093
	WLAN5.8GHz	802.11a 6Mbps	Back	10	1+2	Reduced power level 2/3	157	5785	14.65	16.65	1.585	97.59	1.025	0.15	0.112	0.182
	WLAN5.8GHz	802.11a 6Mbps	Left Side	10	1+2	Reduced power level 2/3	157	5785	14.65	16.65	1.585	97.59	1.025	0.11	0.121	0.197
	WLAN5.8GHz	802.11a 6Mbps	Right Side	10	1+2	Reduced power level 2/3	157	5785	14.65	16.65	1.585	97.59	1.025	-0.1	0.055	0.089
	WLAN5.8GHz	802.11a 6Mbps	Top Side	10	1+2	Reduced power level 2/3	157	5785	14.65	16.65	1.585	97.59	1.025	-0.08	0.199	0.323
	WLAN5.8GHz	802.11a 6Mbps	Top Side	10	1+2	Reduced power level 2/3	149	5745	14.54	16.54	1.585	97.59	1.025	0.09	0.208	0.338
	WLAN5.8GHz	802.11a 6Mbps	Top Side	10	1+2	Reduced power level 2/3	165	5825	14.51	16.51	1.585	97.59	1.025	0.18	0.211	0.343

**16.3 Body Worn Accessory SAR****<GSM SAR>**

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850_UAT	GPRS(4 Tx slots)	Front	15	Full	128	824.2	27.99	28.30	1.074	0.16	0.157	0.169
	GSM850_UAT	GPRS(4 Tx slots)	Back	15	Full	128	824.2	27.99	28.30	1.074	0.07	0.236	0.253
	GSM850_UAT	GPRS(4 Tx slots)	Back	15	Full	189	836.4	27.75	28.30	1.135	0.01	0.212	0.241
34	GSM850_UAT	GPRS(4 Tx slots)	Back	15	Full	251	848.8	27.87	28.30	1.104	-0.03	0.234	0.258
	GSM850_LAT	GPRS(4 Tx slots)	Front	15	Full	128	824.2	27.81	28.30	1.119	0.14	0.191	0.214
	GSM850_LAT	GPRS(4 Tx slots)	Back	15	Full	128	824.2	27.81	28.30	1.119	-0.06	0.202	0.226
	GSM850_LAT	GPRS(4 Tx slots)	Back	15	Full	189	836.4	27.55	28.30	1.189	-0.11	0.161	0.191
	GSM850_LAT	GPRS(4 Tx slots)	Back	15	Full	251	848.8	27.48	28.30	1.208	0.08	0.150	0.181
	GSM1900_UAT	GPRS(4 Tx slots)	Front	15	Full	512	1850.2	24.26	25.00	1.186	0.1	0.104	0.123
	GSM1900_UAT	GPRS(4 Tx slots)	Back	15	Full	512	1850.2	24.26	25.00	1.186	0.11	0.163	0.193
	GSM1900_UAT	GPRS(4 Tx slots)	Back	15	Full	661	1880	23.88	25.00	1.294	0.13	0.158	0.204
	GSM1900_UAT	GPRS(4 Tx slots)	Back	15	Full	810	1909.8	24.20	25.00	1.202	-0.08	0.174	0.209
	GSM1900_LAT	GPRS(4 Tx slots)	Front	15	Full	512	1850.2	24.51	25.50	1.256	0.02	0.129	0.162
	GSM1900_LAT	GPRS(4 Tx slots)	Back	15	Full	512	1850.2	24.51	25.50	1.256	0.07	0.134	0.168
	GSM1900_LAT	GPRS(4 Tx slots)	Back	15	Full	661	1880	24.30	25.50	1.318	0.01	0.194	0.256
35	GSM1900_LAT	GPRS(4 Tx slots)	Back	15	Full	810	1909.8	24.46	25.50	1.271	-0.06	0.277	0.352

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA V_UAT	RMC 12.2Kbps	Front	15	Full	4182	836.4	24.05	24.50	1.109	-0.04	0.190	0.211
	WCDMA V_UAT	RMC 12.2Kbps	Back	15	Full	4182	836.4	24.05	24.50	1.109	-0.09	0.327	0.363
36	WCDMA V_UAT	RMC 12.2Kbps	Back	15	Full	4132	826.4	24.03	24.50	1.114	0.05	0.328	0.365
	WCDMA V_UAT	RMC 12.2Kbps	Back	15	Full	4233	846.6	24.01	24.50	1.119	-0.1	0.281	0.315
	WCDMA V_LAT	RMC 12.2Kbps	Front	15	Full	4182	836.4	23.86	24.80	1.242	0.01	0.187	0.232
	WCDMA V_LAT	RMC 12.2Kbps	Back	15	Full	4182	836.4	23.86	24.80	1.242	0.15	0.189	0.235
	WCDMA V_LAT	RMC 12.2Kbps	Back	15	Full	4132	826.4	23.82	24.80	1.253	0.06	0.194	0.243
	WCDMA V_LAT	RMC 12.2Kbps	Back	15	Full	4233	846.6	23.80	24.80	1.259	-0.11	0.167	0.210
	WCDMA IV_UAT	RMC 12.2Kbps	Front	15	Full	1413	1732.6	23.56	24.00	1.107	0.03	0.238	0.263
	WCDMA IV_UAT	RMC 12.2Kbps	Back	15	Full	1413	1732.6	23.56	24.00	1.107	0.01	0.338	0.374
	WCDMA IV_UAT	RMC 12.2Kbps	Back	15	Full	1312	1712.4	23.45	24.00	1.135	0.02	0.359	0.407
	WCDMA IV_UAT	RMC 12.2Kbps	Back	15	Full	1513	1752.6	23.44	24.00	1.138	-0.01	0.319	0.363
	WCDMA IV_LAT	RMC 12.2Kbps	Front	15	Full	1413	1732.6	23.65	24.80	1.303	0.13	0.348	0.454
	WCDMA IV_LAT	RMC 12.2Kbps	Back	15	Full	1413	1732.6	23.65	24.80	1.303	0.06	0.438	0.571
	WCDMA IV_LAT	RMC 12.2Kbps	Back	15	Full	1312	1712.4	23.60	24.80	1.318	-0.03	0.411	0.542
37	WCDMA IV_LAT	RMC 12.2Kbps	Back	15	Full	1513	1752.6	23.63	24.80	1.309	0.17	0.476	0.623
	WCDMA II_UAT	RMC 12.2Kbps	Front	15	Full	9400	1880	23.75	24.00	1.059	-0.08	0.214	0.227
	WCDMA II_UAT	RMC 12.2Kbps	Back	15	Full	9400	1880	23.75	24.00	1.059	0.09	0.336	0.356
	WCDMA II_UAT	RMC 12.2Kbps	Back	15	Full	9262	1852.4	23.62	24.00	1.091	0.07	0.307	0.335
	WCDMA II_UAT	RMC 12.2Kbps	Back	15	Full	9538	1907.6	23.65	24.00	1.084	0.14	0.343	0.372
	WCDMA II_LAT	RMC 12.2Kbps	Front	15	Full	9400	1880	24.01	24.80	1.199	-0.11	0.224	0.269
38	WCDMA II_LAT	RMC 12.2Kbps	Back	15	Full	9400	1880	24.01	24.80	1.199	-0.05	0.361	0.433
	WCDMA II_LAT	RMC 12.2Kbps	Back	15	Full	9262	1852.4	24.93	24.80	0.971	0.07	0.332	0.322
	WCDMA II_LAT	RMC 12.2Kbps	Back	15	Full	9538	1907.6	24.97	24.80	0.962	0.09	0.318	0.306



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 12_UAT	10M	QPSK	1	49	Front	15	Full	23095	707.5	22.77	23.50	1.183	0.15	0.231	0.273
39	LTE Band 12_UAT	10M	QPSK	1	49	Back	15	Full	23095	707.5	22.77	23.50	1.183	-0.03	0.235	0.278
	LTE Band 12_UAT	10M	QPSK	25	12	Front	15	Full	23095	707.5	21.94	22.50	1.138	-0.02	0.187	0.213
	LTE Band 12_UAT	10M	QPSK	25	12	Back	15	Full	23095	707.5	21.94	22.50	1.138	0.01	0.191	0.217
	LTE Band 12_LAT	10M	QPSK	1	49	Front	15	Full	23095	707.5	22.54	23.80	1.337	0.04	0.130	0.174
	LTE Band 12_LAT	10M	QPSK	1	49	Back	15	Full	23095	707.5	22.54	23.80	1.337	-0.09	0.140	0.187
	LTE Band 12_LAT	10M	QPSK	25	12	Front	15	Full	23095	707.5	21.66	22.80	1.300	-0.07	0.105	0.137
	LTE Band 12_LAT	10M	QPSK	25	12	Back	15	Full	23095	707.5	21.66	22.80	1.300	0.02	0.114	0.148
	LTE Band 5_UAT	10M	QPSK	1	0	Front	15	Full	20525	836.5	22.85	23.50	1.161	-0.12	0.232	0.269
40	LTE Band 5_UAT	10M	QPSK	1	0	Back	15	Full	20525	836.5	22.85	23.50	1.161	-0.1	0.260	0.302
	LTE Band 5_UAT	10M	QPSK	25	12	Front	15	Full	20525	836.5	21.92	22.50	1.143	-0.1	0.177	0.202
	LTE Band 5_UAT	10M	QPSK	25	12	Back	15	Full	20525	836.5	21.92	22.50	1.143	0.07	0.202	0.231
	LTE Band 5_LAT	10M	QPSK	1	0	Front	15	Full	20525	836.5	22.55	23.80	1.334	0.03	0.159	0.212
	LTE Band 5_LAT	10M	QPSK	1	0	Back	15	Full	20525	836.5	22.55	23.80	1.334	0.11	0.161	0.215
	LTE Band 5_LAT	10M	QPSK	25	12	Front	15	Full	20525	836.5	21.62	22.80	1.312	-0.03	0.125	0.164
	LTE Band 5_LAT	10M	QPSK	25	12	Back	15	Full	20525	836.5	21.62	22.80	1.312	0.09	0.126	0.165
	LTE Band 26_UAT	15M	QPSK	1	0	Front	15	Full	26965	841.5	22.72	23.80	1.282	-0.01	0.186	0.239
	LTE Band 26_UAT	15M	QPSK	1	0	Back	15	Full	26965	841.5	22.72	23.80	1.282	0.14	0.199	0.255
41	LTE Band 26_UAT	15M	QPSK	1	0	Back	15	Full	26765	821.5	22.70	23.80	1.288	0.07	0.344	0.443
	LTE Band 26_UAT	15M	QPSK	1	0	Back	15	Full	26865	831.5	22.69	23.80	1.291	0.16	0.215	0.278
	LTE Band 26_UAT	15M	QPSK	36	20	Front	15	Full	26965	841.5	21.88	22.80	1.236	-0.12	0.152	0.188
	LTE Band 26_UAT	15M	QPSK	36	20	Back	15	Full	26965	841.5	21.88	22.80	1.236	0.04	0.166	0.205
	LTE Band 26_LAT	15M	QPSK	1	0	Front	15	Full	26965	841.5	22.58	23.80	1.324	-0.01	0.126	0.167
	LTE Band 26_LAT	15M	QPSK	1	0	Back	15	Full	26965	841.5	22.58	23.80	1.324	-0.07	0.170	0.225
	LTE Band 26_LAT	15M	QPSK	1	0	Back	15	Full	26765	821.5	22.53	23.80	1.340	0.17	0.154	0.206
	LTE Band 26_LAT	15M	QPSK	1	0	Back	15	Full	26865	831.5	22.51	23.80	1.346	0.08	0.156	0.210
	LTE Band 26_LAT	15M	QPSK	36	20	Front	15	Full	26965	841.5	21.65	22.80	1.303	0.09	0.098	0.128
	LTE Band 26_LAT	15M	QPSK	36	20	Back	15	Full	26965	841.5	21.65	22.80	1.303	0.01	0.108	0.141
	LTE Band 66_UAT	20M	QPSK	1	0	Front	15	Full	132322	1745	22.36	23.50	1.300	-0.06	0.176	0.229
	LTE Band 66_UAT	20M	QPSK	1	0	Back	15	Full	132322	1745	22.36	23.50	1.300	0.05	0.218	0.283
	LTE Band 66_UAT	20M	QPSK	1	0	Back	15	Full	132072	1720	22.35	23.50	1.303	0.08	0.191	0.249
	LTE Band 66_UAT	20M	QPSK	1	0	Back	15	Full	132572	1770	22.23	23.50	1.340	0.12	0.304	0.407
	LTE Band 66_UAT	20M	QPSK	50	24	Front	15	Full	132322	1745	21.36	22.50	1.300	-0.09	0.136	0.177
	LTE Band 66_UAT	20M	QPSK	50	24	Back	15	Full	132322	1745	21.36	22.50	1.300	0.16	0.179	0.233
	LTE Band 66_LAT	20M	QPSK	1	0	Front	15	Full	132322	1745	22.54	23.80	1.337	0.13	0.269	0.360
	LTE Band 66_LAT	20M	QPSK	1	0	Back	15	Full	132322	1745	22.54	23.80	1.337	-0.01	0.332	0.444
42	LTE Band 66_LAT	20M	QPSK	1	0	Back	15	Full	132072	1720	22.42	23.80	1.374	-0.02	0.352	0.484
	LTE Band 66_LAT	20M	QPSK	1	0	Back	15	Full	132572	1770	22.40	23.80	1.380	0.06	0.320	0.442
	LTE Band 66_LAT	20M	QPSK	50	24	Front	15	Full	132322	1745	21.51	22.80	1.346	0.14	0.208	0.280
	LTE Band 66_LAT	20M	QPSK	50	24	Back	15	Full	132322	1745	21.51	22.80	1.346	0.08	0.265	0.357



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2_UAT	20M	QPSK	1	0	Front	15	Full	18900	1880	22.37	23.50	1.297	0.13	0.185	0.240
	LTE Band 2_UAT	20M	QPSK	1	0	Back	15	Full	18900	1880	22.37	23.50	1.297	0.09	0.282	0.366
	LTE Band 2_UAT	20M	QPSK	1	0	Back	15	Full	18700	1860	22.25	23.50	1.334	0.09	0.230	0.307
	LTE Band 2_UAT	20M	QPSK	1	0	Back	15	Full	19100	1900	22.35	23.50	1.303	0.18	0.243	0.317
	LTE Band 2_UAT	20M	QPSK	50	24	Front	15	Full	18900	1880	21.45	22.50	1.274	0.11	0.151	0.192
	LTE Band 2_UAT	20M	QPSK	50	24	Back	15	Full	18900	1880	21.45	22.50	1.274	0.04	0.231	0.294
	LTE Band 2_LAT	20M	QPSK	1	0	Front	15	Full	18900	1880	22.65	23.80	1.303	0.1	0.179	0.233
43	LTE Band 2_LAT	20M	QPSK	1	0	Back	15	Full	18900	1880	22.65	23.80	1.303	0.03	0.285	0.371
	LTE Band 2_LAT	20M	QPSK	1	0	Back	15	Full	18700	1860	22.56	23.80	1.330	-0.03	0.245	0.326
	LTE Band 2_LAT	20M	QPSK	1	0	Back	15	Full	19100	1900	22.64	23.80	1.306	0.13	0.250	0.327
	LTE Band 2_LAT	20M	QPSK	50	24	Front	15	Full	18900	1880	21.77	22.80	1.268	0.17	0.149	0.189
	LTE Band 2_LAT	20M	QPSK	50	24	Back	15	Full	18900	1880	21.77	22.80	1.268	0.15	0.231	0.293
	LTE Band 7_UAT	20M	QPSK	1	0	Front	15	Full	20850	2510	22.51	23.50	1.256	0.02	0.317	0.398
	LTE Band 7_UAT	20M	QPSK	1	0	Back	15	Full	20850	2510	22.51	23.50	1.256	0.1	0.450	0.565
	LTE Band 7_UAT	20M	QPSK	1	0	Back	15	Full	21100	2535	22.41	23.50	1.285	-0.09	0.435	0.559
	LTE Band 7_UAT	20M	QPSK	1	0	Back	15	Full	21350	2560	22.35	23.50	1.303	-0.12	0.462	0.602
	LTE Band 7C_UAT	20M	QPSK	1	0	Back	15	Full	21350(PCC)+21152(SCC)	2560(PCC)+2540.2(SCC)	22.45	23.50	1.274	0.05	0.355	0.452
	LTE Band 7_UAT	20M	QPSK	50	24	Front	15	Full	20850	2510	21.71	22.50	1.199	-0.03	0.273	0.327
	LTE Band 7_UAT	20M	QPSK	50	24	Back	15	Full	20850	2510	21.71	22.50	1.199	0.1	0.363	0.435
	LTE Band 7_LAT	20M	QPSK	1	0	Front	15	Full	20850	2510	22.60	23.80	1.318	0.03	0.267	0.352
	LTE Band 7_LAT	20M	QPSK	1	0	Back	15	Full	20850	2510	22.60	23.80	1.318	0.01	0.473	0.624
	LTE Band 7_LAT	20M	QPSK	1	0	Back	15	Full	21100	2535	22.52	23.80	1.343	-0.03	0.486	0.653
	LTE Band 7_LAT	20M	QPSK	1	0	Back	15	Full	21350	2560	22.43	23.80	1.371	0.09	0.464	0.636
44	LTE Band 7C_LAT	20M	QPSK	1	0	Back	15	Full	21100(PCC)+20902(SCC)	2535(PCC)+2515.2(SCC)	22.47	23.80	1.358	0.08	0.592	0.804
	LTE Band 7C_LAT	20M	QPSK	1	0	Back	15	Full	20850(PCC)+21048(SCC)	2510(PCC)+2529.8(SCC)	22.58	23.80	1.324	0.12	0.528	0.699
	LTE Band 7C_LAT	20M	QPSK	1	0	Back	15	Full	21350(PCC)+21152(SCC)	2560(PCC)+2540.2(SCC)	22.53	23.80	1.340	-0.03	0.495	0.663
	LTE Band 7_LAT	20M	QPSK	50	24	Front	15	Full	20850	2510	21.78	22.80	1.265	0.01	0.217	0.274
	LTE Band 7_LAT	20M	QPSK	50	24	Back	15	Full	20850	2510	21.78	22.80	1.265	0.05	0.401	0.507



<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41_UAT	20M	QPSK	1	99	Front	15	Full	40620	2593	22.77	24.00	1.327	62.9	1.006	0.02	0.155	0.207
	LTE Band 41_UAT	20M	QPSK	1	99	Back	15	Full	40620	2593	22.77	24.00	1.327	62.9	1.006	0.15	0.260	0.347
	LTE Band 41_UAT	20M	QPSK	1	99	Back	15	Full	39750	2506	22.06	24.00	1.563	62.9	1.006	-0.02	0.214	0.337
	LTE Band 41_UAT	20M	QPSK	1	99	Back	15	Full	40185	2549.5	22.57	24.00	1.390	62.9	1.006	0.1	0.208	0.291
	LTE Band 41_UAT	20M	QPSK	1	99	Back	15	Full	41055	2636.5	22.68	24.00	1.355	62.9	1.006	0.14	0.248	0.338
	LTE Band 41_UAT	20M	QPSK	1	99	Back	15	Full	41490	2680	22.49	24.00	1.416	62.9	1.006	0.17	0.289	0.412
	LTE Band 41C_UAT	20M	QPSK	1	99	Back	15	Full	41490(PCC)+41292(SCC)	2680(PCC)+2660.2(SCC)	22.63	24.00	1.371	62.9	1.006	0.02	0.290	0.400
	LTE Band 41_UAT	20M	QPSK	50	24	Front	15	Full	40620	2593	21.88	23.00	1.294	62.9	1.006	-0.08	0.131	0.171
	LTE Band 41_UAT	20M	QPSK	50	24	Back	15	Full	40620	2593	21.88	23.00	1.294	62.9	1.006	-0.06	0.217	0.283
	LTE Band 41_LAT	20M	QPSK	1	99	Front	15	Full	40620	2593	22.51	23.80	1.346	62.9	1.006	0.12	0.165	0.223
	LTE Band 41_LAT	20M	QPSK	1	99	Back	15	Full	40620	2593	22.51	23.80	1.346	62.9	1.006	0.1	0.265	0.359
	LTE Band 41_LAT	20M	QPSK	1	99	Back	15	Full	39750	2506	22.45	23.80	1.365	62.9	1.006	-0.07	0.249	0.342
	LTE Band 41_LAT	20M	QPSK	1	99	Back	15	Full	40185	2549.5	22.36	23.80	1.393	62.9	1.006	0.06	0.259	0.363
	LTE Band 41_LAT	20M	QPSK	1	99	Back	15	Full	41055	2636.5	22.40	23.80	1.380	62.9	1.006	0.05	0.265	0.368
	LTE Band 41_LAT	20M	QPSK	1	99	Back	15	Full	41490	2680	22.37	23.80	1.390	62.9	1.006	0.16	0.258	0.361
	LTE Band 41C_LAT	20M	QPSK	1	99	Back	15	Full	41055(PCC)+40857(SCC)	2636.5(PCC)+2616.7(SCC)	22.23	23.80	1.435	62.9	1.006	0.06	0.265	0.383
	LTE Band 41_LAT	20M	QPSK	50	24	Front	15	Full	40620	2593	21.59	22.80	1.321	62.9	1.006	0.11	0.129	0.171
	LTE Band 41_LAT	20M	QPSK	50	24	Back	15	Full	40620	2593	21.59	22.80	1.321	62.9	1.006	0.07	0.218	0.290
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Front	15	Full	40620	2593	25.75	26.20	1.109	42.9	1.009	0.14	0.190	0.213
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Back	15	Full	40620	2593	25.75	26.20	1.109	42.9	1.009	-0.07	0.304	0.340
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Back	15	Full	39750	2506	25.11	26.20	1.285	42.9	1.009	0.05	0.223	0.289
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Back	15	Full	40185	2549.5	25.46	26.20	1.186	42.9	1.009	-0.07	0.264	0.316
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Back	15	Full	41055	2636.5	25.60	26.20	1.148	42.9	1.009	0.01	0.315	0.365
	LTE Band 41(HPUE)_UAT	20M	QPSK	1	99	Back	15	Full	41490	2680	25.39	26.20	1.205	42.9	1.009	0.07	0.318	0.387
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Front	15	Full	40620	2593	24.90	25.20	1.072	42.9	1.009	0.08	0.155	0.168
	LTE Band 41(HPUE)_UAT	20M	QPSK	50	24	Back	15	Full	40620	2593	24.90	25.20	1.072	42.9	1.009	0.01	0.241	0.261
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Front	15	Full	40620	2593	25.60	26.80	1.318	42.9	1.009	0.08	0.157	0.209
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Back	15	Full	40620	2593	25.60	26.80	1.318	42.9	1.009	0.09	0.296	0.394
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Back	15	Full	39750	2506	25.02	26.80	1.507	42.9	1.009	0.05	0.272	0.413
45	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Back	15	Full	40185	2549.5	25.37	26.80	1.390	42.9	1.009	0.06	0.309	0.433
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Back	15	Full	41055	2636.5	25.55	26.80	1.334	42.9	1.009	-0.01	0.291	0.392
	LTE Band 41(HPUE)_LAT	20M	QPSK	1	99	Back	15	Full	41490	2680	25.55	26.80	1.334	42.9	1.009	0.08	0.295	0.397
	LTE Band 41(HPUE)_LAT	20M	QPSK	50	24	Front	15	Full	40620	2593	24.68	25.80	1.294	42.9	1.009	0.08	0.119	0.155
	LTE Band 41(HPUE)_LAT	20M	QPSK	50	24	Back	15	Full	40620	2593	24.68	25.80	1.294	42.9	1.009	0.02	0.227	0.296

**<Bluetooth SAR>**

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	15	1	Full	39	2441	13.50	15.50	1.585	77.2	1.079	0.05	0.030	0.051
46	Bluetooth	1Mbps	Back	15	1	Full	39	2441	13.50	15.50	1.585	77.2	1.079	0.08	0.034	0.058
	Bluetooth	1Mbps	Back	15	1	Full	0	2402	12.60	14.60	1.585	77.2	1.079	-0.12	0.031	0.053
	Bluetooth	1Mbps	Back	15	1	Full	78	2480	12.00	14.00	1.585	77.2	1.079	-0.05	0.023	0.039

<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	15	1+2	Full	11	2462	21.91	23.91	1.585	99.31	1.007	-0.07	0.228	0.364
47	WLAN2.4GHz	802.11b 1Mbps	Back	15	1+2	Full	11	2462	21.91	23.91	1.585	99.31	1.007	0.11	0.352	0.562
	WLAN2.4GHz	802.11b 1Mbps	Back	15	1+2	Full	1	2412	21.77	23.77	1.585	99.31	1.007	0.11	0.269	0.429
	WLAN2.4GHz	802.11b 1Mbps	Back	15	1+2	Full	6	2437	21.81	23.81	1.585	99.31	1.007	-0.03	0.318	0.508

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5.3GHz	802.11a 6Mbps	Front	15	1+2	Full	52	5260	19.95	21.95	1.585	97.59	1.025	0.12	0.124	0.201
	WLAN5.3GHz	802.11a 6Mbps	Back	15	1+2	Full	52	5260	19.95	21.95	1.585	97.59	1.025	0.08	0.234	0.380
48	WLAN5.3GHz	802.11a 6Mbps	Back	15	1+2	Full	56	5280	19.69	21.69	1.585	97.59	1.025	-0.11	0.244	0.396
	WLAN5.3GHz	802.11a 6Mbps	Back	15	1+2	Full	60	5300	19.64	21.64	1.585	97.59	1.025	0.03	0.235	0.382
	WLAN5.3GHz	802.11a 6Mbps	Back	15	1+2	Full	64	5320	19.70	21.70	1.585	97.59	1.025	0.05	0.239	0.388
	WLAN5.5GHz	802.11a 6Mbps	Front	15	1+2	Full	116	5580	20.32	22.32	1.585	97.59	1.025	0.09	0.254	0.413
	WLAN5.5GHz	802.11a 6Mbps	Back	15	1+2	Full	116	5580	20.32	22.32	1.585	97.59	1.025	0.12	0.347	0.564
	WLAN5.5GHz	802.11a 6Mbps	Back	15	1+2	Full	100	5500	20.26	22.26	1.585	97.59	1.025	0.06	0.343	0.557
	WLAN5.5GHz	802.11a 6Mbps	Back	15	1+2	Full	124	5620	20.31	22.31	1.585	97.59	1.025	0.04	0.363	0.590
49	WLAN5.5GHz	802.11a 6Mbps	Back	15	1+2	Full	132	5660	20.29	22.29	1.585	97.59	1.025	-0.09	0.365	0.593
	WLAN5.5GHz	802.11a 6Mbps	Back	15	1+2	Full	140	5700	20.27	22.27	1.585	97.59	1.025	0.03	0.343	0.557
	WLAN5.5GHz	802.11a 6Mbps	Back	15	1+2	Full	144	5720	20.16	22.16	1.585	97.59	1.025	-0.02	0.336	0.546
	WLAN5.8GHz	802.11a 6Mbps	Front	15	1+2	Full	157	5785	20.33	22.33	1.585	97.59	1.025	0.08	0.158	0.257
	WLAN5.8GHz	802.11a 6Mbps	Back	15	1+2	Full	157	5785	20.33	22.33	1.585	97.59	1.025	0.01	0.274	0.445
50	WLAN5.8GHz	802.11a 6Mbps	Back	15	1+2	Full	149	5745	20.22	22.22	1.585	97.59	1.025	-0.12	0.288	0.468
	WLAN5.8GHz	802.11a 6Mbps	Back	15	1+2	Full	165	5825	20.20	22.20	1.585	97.59	1.025	0.07	0.259	0.421

**16.4 Product Specific SAR****<WCDMA SAR>**

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WCDMA IV_UAT	RMC 12.2Kbps	Top Side	0	Reduced	1413	1732.6	19.74	20.50	1.191	-0.04	1.560	1.858
	WCDMA IV_UAT	RMC 12.2Kbps	Top Side	0	Reduced	1312	1712.4	19.70	20.50	1.202	0.09	1.570	1.888
	WCDMA IV_UAT	RMC 12.2Kbps	Top Side	0	Reduced	1513	1752.6	19.60	20.50	1.230	0.03	1.590	1.956
	WCDMA IV_UAT	RMC 12.2Kbps	Top Side	8	Full	1413	1732.6	23.56	24.00	1.107	0.05	1.130	1.250
	WCDMA IV_UAT	RMC 12.2Kbps	Top Side	8	Full	1312	1712.4	23.45	24.00	1.135	0.14	0.909	1.032
	WCDMA IV_UAT	RMC 12.2Kbps	Top Side	8	Full	1513	1752.6	23.44	24.00	1.138	0.07	0.923	1.050
	WCDMA IV_LAT	RMC 12.2Kbps	Bottom Side	0	Reduced	1413	1732.6	21.49	22.00	1.125	0.04	1.750	1.968
	WCDMA IV_LAT	RMC 12.2Kbps	Bottom Side	0	Reduced	1312	1712.4	21.40	22.00	1.148	0.06	1.670	1.917
51	WCDMA IV_LAT	RMC 12.2Kbps	Bottom Side	0	Reduced	1513	1752.6	21.46	22.00	1.132	0.05	1.930	2.186
	WCDMA IV_LAT	RMC 12.2Kbps	Bottom Side	8	Full	1413	1732.6	23.65	24.80	1.303	0.09	0.801	1.044
	WCDMA IV_LAT	RMC 12.2Kbps	Bottom Side	8	Full	1312	1712.4	23.60	24.80	1.318	-0.03	0.795	1.048
	WCDMA IV_LAT	RMC 12.2Kbps	Bottom Side	8	Full	1513	1752.6	23.63	24.80	1.309	0.12	0.823	1.077
	WCDMA II_UAT	RMC 12.2Kbps	Top Side	0	Reduced	9400	1880	21.17	21.50	1.079	0.02	1.770	1.910
52	WCDMA II_UAT	RMC 12.2Kbps	Top Side	0	Reduced	9262	1852.4	21.01	21.50	1.119	-0.06	1.750	1.959
	WCDMA II_UAT	RMC 12.2Kbps	Top Side	0	Reduced	9538	1907.6	21.07	21.50	1.104	0.09	1.740	1.921
	WCDMA II_UAT	RMC 12.2Kbps	Top Side	8	Full	9400	1880	23.75	24.00	1.059	0.05	0.755	0.800
	WCDMA II_UAT	RMC 12.2Kbps	Top Side	8	Full	9262	1852.4	23.62	24.00	1.091	0.13	0.768	0.838
	WCDMA II_UAT	RMC 12.2Kbps	Top Side	8	Full	9538	1907.6	23.65	24.00	1.084	0.06	0.839	0.909

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	LTE Band 7_UAT	20M	QPSK	1	0	Top Side	0	Reduced	20850	2510	17.19	18.00	1.205	0.06	1.130	1.362
	LTE Band 7_UAT	20M	QPSK	50	24	Top Side	0	Reduced	20850	2510	17.10	18.00	1.230	0.08	1.180	1.452
	LTE Band 7_UAT	20M	QPSK	50	24	Top Side	0	Reduced	21100	2535	16.95	18.00	1.274	-0.05	1.300	1.656
	LTE Band 7_UAT	20M	QPSK	50	24	Top Side	0	Reduced	21350	2560	17.07	18.00	1.239	-0.12	1.280	1.586
	LTE Band 7C_UAT	20M	QPSK	50	24	Top Side	0	Reduced	21100(PCC)+20902(SCC)	2535(PCC)+2515.2(SCC)	17.01	18.00	1.256	-0.05	1.450	1.821
	LTE Band 7_UAT	20M	QPSK	1	0	Top Side	8	Full	20850	2510	22.51	23.50	1.256	0.02	0.989	1.242
	LTE Band 7_UAT	20M	QPSK	1	0	Top Side	8	Full	21100	2535	22.41	23.50	1.285	0.07	1.078	1.386
	LTE Band 7_UAT	20M	QPSK	1	0	Top Side	8	Full	21350	2560	22.35	23.50	1.303	0.12	1.230	1.603
	LTE Band 7_UAT	20M	QPSK	50	24	Top Side	8	Full	20850	2510	21.71	22.50	1.199	-0.06	0.819	0.982
	LTE Band 7_LAT	20M	QPSK	1	0	Back	0	Reduced	20850	2510	18.74	19.80	1.276	0.09	1.820	2.323
	LTE Band 7_LAT	20M	QPSK	1	0	Back	0	Reduced	21100	2535	18.69	19.80	1.291	0.16	1.890	2.440
	LTE Band 7_LAT	20M	QPSK	1	0	Back	0	Reduced	21350	2560	18.71	19.80	1.285	0.12	1.860	2.391
	LTE Band 7_LAT	20M	QPSK	50	24	Back	0	Reduced	20850	2510	18.71	19.80	1.285	0.02	1.880	2.416
53	LTE Band 7_LAT	20M	QPSK	50	24	Back	0	Reduced	21100	2535	18.65	19.80	1.303	-0.12	1.920	2.502
	LTE Band 7_LAT	20M	QPSK	50	24	Back	0	Reduced	21350	2560	18.69	19.80	1.291	0.09	1.910	2.466
	LTE Band 7C_LAT	20M	QPSK	50	24	Back	0	Reduced	21100(PCC)+20902(SCC)	2535(PCC)+2515.2(SCC)	18.74	19.80	1.276	0.15	1.740	2.221
	LTE Band 7C_LAT	20M	QPSK	50	24	Back	0	Reduced	20850(PCC)+21048(SCC)	2510(PCC)+2529.8(SCC)	18.68	19.80	1.294	-0.05	1.850	2.394
	LTE Band 7C_LAT	20M	QPSK	50	24	Back	0	Reduced	21350(PCC)+21152(SCC)	2560(PCC)+2540.2(SCC)	18.82	19.80	1.253	-0.06	1.720	2.155
	LTE Band 7C_LAT	20M	QPSK	100	0	Back	0	Reduced	20850	2510	18.68	19.80	1.294	0.09	1.810	2.342
	LTE Band 7_LAT	20M	QPSK	1	0	Back	8	Full	20850	2510	22.60	23.80	1.318	0.07	0.953	1.256
	LTE Band 7_LAT	20M	QPSK	1	0	Back	8	Full	21100	2535	22.52	23.80	1.343	0.12	0.951	1.277
	LTE Band 7_LAT	20M	QPSK	1	0	Back	8	Full	21350	2560	22.43	23.80	1.371	0.03	0.881	1.208
	LTE Band 7_LAT	20M	QPSK	50	24	Back	8	Full	20850	2510	21.78	22.80	1.265	-0.06	0.802	1.014



<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Back	0	1+2	Full	11	2462	21.91	23.91	1.585	99.31	1.007	0.09	1.570	2.506
54	WLAN2.4GHz	802.11b 1Mbps	Right Side	0	1+2	Full	11	2462	21.91	23.91	1.585	99.31	1.007	0.08	1.580	2.522
	WLAN2.4GHz	802.11b 1Mbps	Right Side	0	1+2	Full	1	2412	21.77	23.77	1.585	99.31	1.007	0.11	1.390	2.218
	WLAN2.4GHz	802.11b 1Mbps	Right Side	0	1+2	Full	6	2437	21.81	23.81	1.585	99.31	1.007	-0.03	1.500	2.394
	WLAN2.4GHz	802.11b 1Mbps	Back	0	1+2	Full	1	2412	21.77	23.77	1.585	99.31	1.007	0.03	1.310	2.091
	WLAN2.4GHz	802.11b 1Mbps	Back	0	1+2	Full	6	2437	21.81	23.81	1.585	99.31	1.007	0.01	1.450	2.314
	WLAN2.4GHz	802.11b 1Mbps	Back	0	1+2	Reduced power level 2	11	2462	20.86	22.86	1.585	99.31	1.007	0.09	1.190	1.899
	WLAN2.4GHz	802.11b 1Mbps	Right Side	0	1+2	Reduced power level 2	11	2462	20.86	22.86	1.585	99.31	1.007	-0.05	1.260	2.011
	WLAN2.4GHz	802.11b 1Mbps	Right Side	0	1+2	Reduced power level 2	1	2412	20.77	22.77	1.585	99.31	1.007	0.01	1.190	1.899
	WLAN2.4GHz	802.11b 1Mbps	Right Side	0	1+2	Reduced power level 2	6	2437	20.76	22.76	1.585	99.31	1.007	-0.08	1.250	1.995

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WLAN5.2GHz	802.11a 6Mbps	Front	0	1+2	Full	36	5180	19.93	21.93	1.585	97.59	1.025	0.04	0.395	0.642
	WLAN5.2GHz	802.11a 6Mbps	Back	0	1+2	Full	36	5180	19.93	21.93	1.585	97.59	1.025	0.09	0.754	1.225
	WLAN5.2GHz	802.11a 6Mbps	Left Side	0	1+2	Full	36	5180	19.93	21.93	1.585	97.59	1.025	-0.11	0.879	1.428
	WLAN5.2GHz	802.11a 6Mbps	Right Side	0	1+2	Full	36	5180	19.93	21.93	1.585	97.59	1.025	0.1	0.077	0.125
	WLAN5.2GHz	802.11a 6Mbps	Top Side	0	1+2	Full	36	5180	19.93	21.93	1.585	97.59	1.025	-0.03	0.896	1.456
	WLAN5.2GHz	802.11a 6Mbps	Top Side	0	1+2	Full	40	5200	19.91	21.91	1.585	97.59	1.025	0.06	0.900	1.462
55	WLAN5.2GHz	802.11a 6Mbps	Top Side	0	1+2	Full	44	5220	19.84	21.84	1.585	97.59	1.025	0.18	0.913	1.483
	WLAN5.2GHz	802.11a 6Mbps	Top Side	0	1+2	Full	48	5240	19.87	21.87	1.585	97.59	1.025	0.02	0.897	1.457
	WLAN5.2GHz	802.11a 6Mbps	Front	0	1+2	Reduced power level 2	36	5180	17.81	19.81	1.585	97.59	1.025	0.03	0.252	0.409
	WLAN5.2GHz	802.11a 6Mbps	Back	0	1+2	Reduced power level 2	36	5180	17.81	19.81	1.585	97.59	1.025	-0.1	0.486	0.790
	WLAN5.2GHz	802.11a 6Mbps	Left Side	0	1+2	Reduced power level 2	36	5180	17.81	19.81	1.585	97.59	1.025	0.12	0.558	0.906
	WLAN5.2GHz	802.11a 6Mbps	Right Side	0	1+2	Reduced power level 2	36	5180	17.81	19.81	1.585	97.59	1.025	0.1	0.049	0.080
	WLAN5.2GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	36	5180	17.81	19.81	1.585	97.59	1.025	0.02	0.609	0.989
	WLAN5.2GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	40	5200	17.74	19.74	1.585	97.59	1.025	0.05	0.611	0.993
	WLAN5.2GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	44	5220	17.78	19.78	1.585	97.59	1.025	0.02	0.633	1.028
	WLAN5.2GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	48	5240	17.80	19.80	1.585	97.59	1.025	0.07	0.629	1.022
	WLAN5.3GHz	802.11a 6Mbps	Front	0	1+2	Full	52	5260	19.95	21.95	1.585	97.59	1.025	0.01	0.469	0.762
	WLAN5.3GHz	802.11a 6Mbps	Back	0	1+2	Full	52	5260	19.95	21.95	1.585	97.59	1.025	-0.02	0.878	1.426
	WLAN5.3GHz	802.11a 6Mbps	Left Side	0	1+2	Full	52	5260	19.95	21.95	1.585	97.59	1.025	-0.03	0.867	1.408
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0	1+2	Full	52	5260	19.95	21.95	1.585	97.59	1.025	-0.09	0.160	0.260
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	1+2	Full	52	5260	19.95	21.95	1.585	97.59	1.025	-0.04	0.992	1.612
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	1+2	Full	56	5280	19.69	21.69	1.585	97.59	1.025	0.16	1.100	1.787
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	1+2	Full	60	5300	19.64	21.64	1.585	97.59	1.025	0.03	1.130	1.836
56	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	1+2	Full	64	5320	19.70	21.70	1.585	97.59	1.025	0.06	1.190	1.933
	WLAN5.3GHz	802.11a 6Mbps	Front	0	1+2	Reduced power level 2	52	5260	17.82	19.82	1.585	97.59	1.025	0.03	0.285	0.463
	WLAN5.3GHz	802.11a 6Mbps	Back	0	1+2	Reduced power level 2	52	5260	17.82	19.82	1.585	97.59	1.025	0.05	0.515	0.837
	WLAN5.3GHz	802.11a 6Mbps	Left Side	0	1+2	Reduced power level 2	52	5260	17.82	19.82	1.585	97.59	1.025	0.04	0.519	0.843
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0	1+2	Reduced power level 2	52	5260	17.82	19.82	1.585	97.59	1.025	0.01	0.102	0.166
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	52	5260	17.82	19.82	1.585	97.59	1.025	0.01	0.637	1.035
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	56	5280	17.62	19.62	1.585	97.59	1.025	-0.03	0.652	1.059
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	60	5300	17.57	19.57	1.585	97.59	1.025	0.06	0.670	1.088
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	64	5320	17.64	19.64	1.585	97.59	1.025	0.18	0.683	1.110



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WLAN5.5GHz	802.11a 6Mbps	Front	0	1+2	Full	116	5580	20.32	22.32	1.585	97.59	1.025	0.09	0.709	1.152
	WLAN5.5GHz	802.11a 6Mbps	Back	0	1+2	Full	116	5580	20.32	22.32	1.585	97.59	1.025	0.02	0.934	1.517
	WLAN5.5GHz	802.11a 6Mbps	Left Side	0	1+2	Full	116	5580	20.32	22.32	1.585	97.59	1.025	-0.03	1.110	1.803
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0	1+2	Full	116	5580	20.32	22.32	1.585	97.59	1.025	-0.07	0.236	0.383
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	1+2	Full	116	5580	20.32	22.32	1.585	97.59	1.025	0.05	1.620	2.632
57	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	1+2	Full	100	5500	20.26	22.26	1.585	97.59	1.025	0.02	1.690	2.745
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	1+2	Full	124	5620	20.31	22.31	1.585	97.59	1.025	0.07	1.680	2.729
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	1+2	Full	132	5660	20.29	22.29	1.585	97.59	1.025	0.17	1.620	2.632
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	1+2	Full	140	5700	20.27	22.27	1.585	97.59	1.025	-0.09	1.520	2.469
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	1+2	Full	144	5720	20.16	22.16	1.585	97.59	1.025	0.17	1.550	2.518
	WLAN5.5GHz	802.11a 6Mbps	Front	0	1+2	Reduced power level 2	116	5580	16.35	18.35	1.585	97.59	1.025	-0.08	0.285	0.463
	WLAN5.5GHz	802.11a 6Mbps	Back	0	1+2	Reduced power level 2	116	5580	16.35	18.35	1.585	97.59	1.025	0.09	0.361	0.586
	WLAN5.5GHz	802.11a 6Mbps	Left Side	0	1+2	Reduced power level 2	116	5580	16.35	18.35	1.585	97.59	1.025	0.18	0.437	0.710
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0	1+2	Reduced power level 2	116	5580	16.35	18.35	1.585	97.59	1.025	0.04	0.102	0.166
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	116	5580	16.35	18.35	1.585	97.59	1.025	0.03	0.646	1.049
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	100	5500	16.29	18.29	1.585	97.59	1.025	-0.02	0.675	1.097
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	124	5620	16.31	18.31	1.585	97.59	1.025	0.11	0.653	1.061
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	132	5660	16.30	18.30	1.585	97.59	1.025	-0.1	0.713	1.158
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	140	5700	16.29	18.29	1.585	97.59	1.025	-0.08	0.599	0.973
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	144	5720	16.18	18.18	1.585	97.59	1.025	0.09	0.622	1.010
	WLAN5.8GHz	802.11a 6Mbps	Top Side	0	1+2	Full	157	5785	20.33	22.33	1.585	97.59	1.025	0.16	1.420	2.307
	WLAN5.8GHz	802.11a 6Mbps	Top Side	0	1+2	Full	149	5745	20.22	22.22	1.585	97.59	1.025	0.03	1.390	2.258
58	WLAN5.8GHz	802.11a 6Mbps	Top Side	0	1+2	Full	165	5825	20.20	22.20	1.585	97.59	1.025	0.04	1.470	2.388
	WLAN5.8GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	157	5785	17.32	19.32	1.585	97.59	1.025	0.05	0.727	1.181
	WLAN5.8GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	149	5745	17.20	19.20	1.585	97.59	1.025	0.02	0.703	1.142
	WLAN5.8GHz	802.11a 6Mbps	Top Side	0	1+2	Reduced power level 2	165	5825	17.19	19.19	1.585	97.59	1.025	0.12	0.729	1.184

16.5 Repeated SAR Measurement

<1g>

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	GSM1900_UAT	-	-	-	-	GPRS(4 Tx slot)	Right Tilted	0mm	Reduced power level 1	810	1909.8	21.83	22.50	1.167	-0.02	0.928	1	1.083
2nd	GSM1900_UAT	-	-	-	-	GPRS(4 Tx slot)	Right Tilted	0mm	Reduced power level 1	810	1909.8	21.83	22.50	1.167	0.04	0.912	1.018	1.064
1st	LTE Band 7_LAT	20M	QPSK	1	0	-	Back	10mm	Hotspot	21100	2535	21.62	22.80	1.312	0.06	0.827	1	1.085
2nd	LTE Band 7_LAT	20M	QPSK	1	0	-	Back	10mm	Hotspot	21100	2535	21.62	22.80	1.312	0.09	0.820	1.009	1.076

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR < 1.45 W/kg, only one repeated measurement is required.
3. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, 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.
4. The ratio is the difference in percentage between original and repeated *measured SAR*.
5. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

17. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product Specific
1.	GSM Voice + 2.4GHz WLAN MIMO	Yes	Yes		Yes
2.	GPRS/EDGE + 2.4GHz WLAN MIMO	Yes	Yes	Yes	Yes
3.	WCDMA + 2.4GHz WLAN MIMO	Yes	Yes	Yes	Yes
4.	LTE + 2.4GHz WLAN MIMO	Yes	Yes	Yes	Yes
5.	GSM Voice + WLAN5.3/5.5GHz MIMO	Yes	Yes		Yes
6.	GPRS/EDGE + WLAN5.3/5.5GHz MIMO	Yes	Yes		Yes
7.	WCDMA + WLAN5.3/5.5GHz MIMO	Yes	Yes		Yes
8.	LTE + WLAN5.3/5.5GHz MIMO	Yes	Yes		Yes
9.	GSM Voice + WLAN5.2/5.8GHz MIMO	Yes	Yes		Yes
10.	GPRS/EDGE + WLAN5.2/5.8GHz MIMO	Yes	Yes	Yes	Yes
11.	WCDMA + WLAN5.2/5.8GHz MIMO	Yes	Yes	Yes	Yes
12.	LTE + WLAN5.2/5.8GHz MIMO	Yes	Yes	Yes	Yes
13.	GSM Voice + Bluetooth	Yes	Yes		Yes
14.	GPRS/EDGE + Bluetooth	Yes	Yes	Yes	Yes
15.	WCDMA + Bluetooth	Yes	Yes	Yes	Yes
16.	LTE + Bluetooth	Yes	Yes	Yes	Yes
17.	WLAN5.3/5.5GHz MIMO + Bluetooth	Yes	Yes	Yes	Yes
18.	WLAN5.2/5.8GHz MIMO + Bluetooth	Yes	Yes	Yes	Yes
19.	GSM Voice + WLAN5.3/5.5GHz MIMO + Bluetooth	Yes	Yes		Yes
20.	GPRS/EDGE + WLAN5.3/5.5GHz MIMO + Bluetooth	Yes	Yes		Yes
21.	WCDMA + WLAN5.3/5.5GHz MIMO + Bluetooth	Yes	Yes		Yes
22.	LTE + WLAN5.3/5.5GHz MIMO + Bluetooth	Yes	Yes		Yes
23.	GSM Voice + WLAN5.2/5.8GHz MIMO + Bluetooth	Yes	Yes		Yes
24.	GPRS/EDGE + WLAN5.2/5.8GHz MIMO + Bluetooth	Yes	Yes	Yes	Yes
25.	WCDMA + WLAN5.2/5.8GHz MIMO + Bluetooth	Yes	Yes	Yes	Yes
26.	LTE + WLAN5.2/5.8GHz MIMO + Bluetooth	Yes	Yes	Yes	Yes

General Note:

- This device 2.4GHz WLAN/ 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz supports WLAN Direct (GC only).
- 2.4GHz WLAN and Bluetooth share the same antenna, and cannot transmit simultaneously.
- All licensed modes share the same antenna part and cannot transmit simultaneously.
- According to the EUT character, WLAN 5GHz and Bluetooth can transmit simultaneously.
- According to the EUT character, WLAN 5GHz and 2.4GHz WLAN cannot transmit simultaneously.
- For simultaneously analysis, since the SAR summation of 3 transmitters can cover others combination of 2 transmitters, therefore in this section did not additional to evaluate 2TX combination of simultaneously transmission.
- The Scaled SAR summation is calculated based on the same configuration and test position.
- Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
 - $SPLSR = (SAR1 + SAR2)^{1.5} / (\min. \text{ separation distance, mm})$, 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.
 - If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneously transmission SAR measurement is not necessary.
 - Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.
 - The SPLSR calculated results please refer to section 17.5.

17.1 Head Exposure Conditions

WWAN Band		Exposure Position	1	4	6	1+6 Summed 1g SAR (W/kg)	4+6 Summed 1g SAR (W/kg)
			WWAN 1g SAR (W/kg)	5GHz WLAN Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)		
GSM	GSM850_UAT	Right Cheek	0.789	0.536	0.094	0.88	0.63
		Right Tilted	0.122	0.583	0.103	0.23	0.69
		Left Cheek	0.822	0.585	0.185	1.01	0.77
		Left Tilted	0.113	0.936	0.156	0.27	1.09
	GSM1900_UAT	Right Cheek	0.790	0.536	0.094	0.88	0.63
		Right Tilted	1.083	0.583	0.103	1.19	0.69
		Left Cheek	0.446	0.585	0.185	0.63	0.77
		Left Tilted	0.529	0.936	0.156	0.69	1.09
WCDMA	WCDMA V_UAT	Right Cheek	0.476	0.536	0.094	0.57	0.63
		Right Tilted	0.145	0.583	0.103	0.25	0.69
		Left Cheek	0.701	0.585	0.185	0.89	0.77
		Left Tilted	0.142	0.936	0.156	0.30	1.09
	WCDMA IV_UAT	Right Cheek	0.742	0.536	0.094	0.84	0.63
		Right Tilted	0.788	0.583	0.103	0.89	0.69
		Left Cheek	0.347	0.585	0.185	0.53	0.77
		Left Tilted	0.556	0.936	0.156	0.71	1.09
	WCDMA II_UAT	Right Cheek	0.731	0.536	0.094	0.83	0.63
		Right Tilted	0.678	0.583	0.103	0.78	0.69
		Left Cheek	0.427	0.585	0.185	0.61	0.77
		Left Tilted	0.492	0.936	0.156	0.65	1.09
LTE	LTE Band 12_UAT	Right Cheek	0.840	0.536	0.094	0.93	0.63
		Right Tilted	0.137	0.583	0.103	0.24	0.69
		Left Cheek	0.821	0.585	0.185	1.01	0.77
		Left Tilted	0.138	0.936	0.156	0.29	1.09
	LTE Band 5_UAT	Right Cheek	0.676	0.536	0.094	0.77	0.63
		Right Tilted	0.112	0.583	0.103	0.22	0.69
		Left Cheek	0.731	0.585	0.185	0.92	0.77
		Left Tilted	0.107	0.936	0.156	0.26	1.09
	LTE Band 26_UAT	Right Cheek	0.554	0.536	0.094	0.65	0.63
		Right Tilted	0.087	0.583	0.103	0.19	0.69
		Left Cheek	0.770	0.585	0.185	0.96	0.77
		Left Tilted	0.086	0.936	0.156	0.24	1.09
	LTE Band 66_UAT	Right Cheek	0.500	0.536	0.094	0.59	0.63
		Right Tilted	0.788	0.583	0.103	0.89	0.69
		Left Cheek	0.441	0.585	0.185	0.63	0.77
		Left Tilted	0.319	0.936	0.156	0.48	1.09
	LTE Band 2_UAT	Right Cheek	0.726	0.536	0.094	0.82	0.63
		Right Tilted	0.765	0.583	0.103	0.87	0.69
		Left Cheek	0.435	0.585	0.185	0.62	0.77
		Left Tilted	0.522	0.936	0.156	0.68	1.09
	LTE Band 7_UAT	Right Cheek	0.638	0.536	0.094	0.73	0.63
		Right Tilted	1.010	0.583	0.103	1.11	0.69
		Left Cheek	0.432	0.585	0.185	0.62	0.77
		Left Tilted	0.526	0.936	0.156	0.68	1.09
	LTE Band 41_UAT	Right Cheek	0.599	0.536	0.094	0.69	0.63
		Right Tilted	1.024	0.583	0.103	1.13	0.69
		Left Cheek	0.382	0.585	0.185	0.57	0.77
		Left Tilted	0.406	0.936	0.156	0.56	1.09
	LTE Band 41(HPUE)_UAT	Right Cheek	0.598	0.536	0.094	0.69	0.63
		Right Tilted	0.913	0.583	0.103	1.02	0.69
		Left Cheek	0.373	0.585	0.185	0.56	0.77
		Left Tilted	0.397	0.936	0.156	0.55	1.09



WWAN Band		Exposure Position	1	2	1+2 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 1+2	
			1g SAR (W/kg)	1g SAR (W/kg)	
GSM	GSM850_UAT	Right Cheek	0.579	0.188	0.77
		Right Tilted	0.087	0.215	0.30
		Left Cheek	0.602	0.587	1.19
		Left Tilted	0.098	0.345	0.44
	GSM1900_UAT	Right Cheek	0.655	0.188	0.84
		Right Tilted	0.789	0.215	1.00
		Left Cheek	0.376	0.587	0.96
		Left Tilted	0.455	0.345	0.80
WCDMA	WCDMA V_UAT	Right Cheek	0.371	0.188	0.56
		Right Tilted	0.109	0.215	0.32
		Left Cheek	0.519	0.587	1.11
		Left Tilted	0.105	0.345	0.45
	WCDMA IV_UAT	Right Cheek	0.742	0.188	0.93
		Right Tilted	0.788	0.215	1.00
		Left Cheek	0.347	0.587	0.93
		Left Tilted	0.556	0.345	0.90
	WCDMA II_UAT	Right Cheek	0.731	0.188	0.92
		Right Tilted	0.678	0.215	0.89
		Left Cheek	0.427	0.587	1.01
		Left Tilted	0.492	0.345	0.84
LTE	LTE Band 12_UAT	Right Cheek	0.664	0.188	0.85
		Right Tilted	0.108	0.215	0.32
		Left Cheek	0.644	0.587	1.23
		Left Tilted	0.113	0.345	0.46
	LTE Band 5_UAT	Right Cheek	0.534	0.188	0.72
		Right Tilted	0.084	0.215	0.30
		Left Cheek	0.564	0.587	1.15
		Left Tilted	0.071	0.345	0.42
	LTE Band 26_UAT	Right Cheek	0.447	0.188	0.64
		Right Tilted	0.070	0.215	0.29
		Left Cheek	0.649	0.587	1.24
		Left Tilted	0.067	0.345	0.41
	LTE Band 66_UAT	Right Cheek	0.500	0.188	0.69
		Right Tilted	0.788	0.215	1.00
		Left Cheek	0.441	0.587	1.03
		Left Tilted	0.319	0.345	0.66
	LTE Band 2_UAT	Right Cheek	0.726	0.188	0.91
		Right Tilted	0.765	0.215	0.98
		Left Cheek	0.435	0.587	1.02
		Left Tilted	0.522	0.345	0.87
	LTE Band 7_UAT	Right Cheek	0.638	0.188	0.83
		Right Tilted	1.010	0.215	1.23
		Left Cheek	0.432	0.587	1.02
		Left Tilted	0.526	0.345	0.87
	LTE Band 41_UAT	Right Cheek	0.599	0.188	0.79
		Right Tilted	1.024	0.215	1.24
		Left Cheek	0.382	0.587	0.97
		Left Tilted	0.406	0.345	0.75
	LTE Band 41(HPUE)_UAT	Right Cheek	0.598	0.188	0.79
		Right Tilted	0.913	0.215	1.13
		Left Cheek	0.373	0.587	0.96
		Left Tilted	0.397	0.345	0.74



WWAN Band		Exposure Position	1	4	1+4 Summed 1g SAR (W/kg)
			WWAN	5GHz WLAN Ant 1+2	
			1g SAR (W/kg)	1g SAR (W/kg)	
GSM	GSM850_UAT	Right Cheek	0.579	0.419	1.00
		Right Tilted	0.087	0.442	0.53
		Left Cheek	0.602	0.463	1.07
		Left Tilted	0.098	0.739	0.84
	GSM1900_UAT	Right Cheek	0.655	0.419	1.07
		Right Tilted	0.789	0.442	1.23
		Left Cheek	0.376	0.463	0.84
		Left Tilted	0.455	0.739	1.19
WCDMA	WCDMA V_UAT	Right Cheek	0.371	0.419	0.79
		Right Tilted	0.109	0.442	0.55
		Left Cheek	0.519	0.463	0.98
		Left Tilted	0.105	0.739	0.84
	WCDMA IV_UAT	Right Cheek	0.742	0.419	1.16
		Right Tilted	0.788	0.442	1.23
		Left Cheek	0.347	0.463	0.81
		Left Tilted	0.556	0.739	1.30
	WCDMA II_UAT	Right Cheek	0.731	0.419	1.15
		Right Tilted	0.678	0.442	1.12
		Left Cheek	0.427	0.463	0.89
		Left Tilted	0.492	0.739	1.23
LTE	LTE Band 12_UAT	Right Cheek	0.664	0.419	1.08
		Right Tilted	0.108	0.442	0.55
		Left Cheek	0.644	0.463	1.11
		Left Tilted	0.113	0.739	0.85
	LTE Band 5_UAT	Right Cheek	0.534	0.419	0.95
		Right Tilted	0.084	0.442	0.53
		Left Cheek	0.564	0.463	1.03
		Left Tilted	0.071	0.739	0.81
	LTE Band 26_UAT	Right Cheek	0.447	0.419	0.87
		Right Tilted	0.070	0.442	0.51
		Left Cheek	0.649	0.463	1.11
		Left Tilted	0.067	0.739	0.81
	LTE Band 66_UAT	Right Cheek	0.500	0.419	0.92
		Right Tilted	0.788	0.442	1.23
		Left Cheek	0.441	0.463	0.90
		Left Tilted	0.319	0.739	1.06
	LTE Band 2_UAT	Right Cheek	0.726	0.419	1.15
		Right Tilted	0.765	0.442	1.21
		Left Cheek	0.435	0.463	0.90
		Left Tilted	0.522	0.739	1.26
	LTE Band 7_UAT	Right Cheek	0.401	0.419	0.82
		Right Tilted	0.608	0.442	1.05
		Left Cheek	0.279	0.463	0.74
		Left Tilted	0.327	0.739	1.07
	LTE Band 41_UAT	Right Cheek	0.465	0.419	0.88
		Right Tilted	0.785	0.442	1.23
		Left Cheek	0.294	0.463	0.76
		Left Tilted	0.332	0.739	1.07
	LTE Band 41(HPUE)_UAT	Right Cheek	0.472	0.419	0.89
		Right Tilted	0.717	0.442	1.16
		Left Cheek	0.305	0.463	0.77
		Left Tilted	0.321	0.739	1.06



WWAN Band		Exposure Position	1	4	6	1+4+6 Summed 1g SAR (W/kg)
			WWAN	5GHz WLAN Ant 1+2	Bluetooth Ant 1	
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
GSM	GSM850_UAT	Right Cheek	0.579	0.336	0.094	1.01
		Right Tilted	0.087	0.374	0.103	0.56
		Left Cheek	0.602	0.343	0.185	1.13
		Left Tilted	0.098	0.585	0.156	0.84
	GSM1900_UAT	Right Cheek	0.655	0.336	0.094	1.09
		Right Tilted	0.789	0.374	0.103	1.27
		Left Cheek	0.376	0.343	0.185	0.90
		Left Tilted	0.455	0.585	0.156	1.20
WCDMA	WCDMA V_UAT	Right Cheek	0.371	0.336	0.094	0.80
		Right Tilted	0.109	0.374	0.103	0.59
		Left Cheek	0.519	0.343	0.185	1.05
		Left Tilted	0.105	0.585	0.156	0.85
	WCDMA IV_UAT	Right Cheek	0.742	0.336	0.094	1.17
		Right Tilted	0.788	0.374	0.103	1.27
		Left Cheek	0.347	0.343	0.185	0.88
		Left Tilted	0.556	0.585	0.156	1.30
	WCDMA II_UAT	Right Cheek	0.731	0.336	0.094	1.16
		Right Tilted	0.678	0.374	0.103	1.16
		Left Cheek	0.427	0.343	0.185	0.96
		Left Tilted	0.492	0.585	0.156	1.23
LTE	LTE Band 12_UAT	Right Cheek	0.664	0.336	0.094	1.09
		Right Tilted	0.108	0.374	0.103	0.59
		Left Cheek	0.644	0.343	0.185	1.17
		Left Tilted	0.113	0.585	0.156	0.85
	LTE Band 5_UAT	Right Cheek	0.534	0.336	0.094	0.96
		Right Tilted	0.084	0.374	0.103	0.56
		Left Cheek	0.564	0.343	0.185	1.09
		Left Tilted	0.071	0.585	0.156	0.81
	LTE Band 26_UAT	Right Cheek	0.447	0.336	0.094	0.88
		Right Tilted	0.070	0.374	0.103	0.55
		Left Cheek	0.649	0.343	0.185	1.18
		Left Tilted	0.067	0.585	0.156	0.81
	LTE Band 66_UAT	Right Cheek	0.500	0.336	0.094	0.93
		Right Tilted	0.788	0.374	0.103	1.27
		Left Cheek	0.441	0.343	0.185	0.97
		Left Tilted	0.319	0.585	0.156	1.06
	LTE Band 2_UAT	Right Cheek	0.726	0.336	0.094	1.16
		Right Tilted	0.765	0.374	0.103	1.24
		Left Cheek	0.435	0.343	0.185	0.96
		Left Tilted	0.522	0.585	0.156	1.26
	LTE Band 7_UAT	Right Cheek	0.401	0.336	0.094	0.83
		Right Tilted	0.608	0.374	0.103	1.09
		Left Cheek	0.279	0.343	0.185	0.81
		Left Tilted	0.327	0.585	0.156	1.07
	LTE Band 41_UAT	Right Cheek	0.465	0.336	0.094	0.90
		Right Tilted	0.785	0.374	0.103	1.26
		Left Cheek	0.294	0.343	0.185	0.82
		Left Tilted	0.332	0.585	0.156	1.07
	LTE Band 41(HPUE)_UAT	Right Cheek	0.472	0.336	0.094	0.90
		Right Tilted	0.717	0.374	0.103	1.19
		Left Cheek	0.305	0.343	0.185	0.83
		Left Tilted	0.321	0.585	0.156	1.06



WWAN Band		Exposure Position	1	4	6	1+6 Summed 1g SAR (W/kg)	4+6 Summed 1g SAR (W/kg)
			WWAN	5GHz WLAN Ant 1+2	Bluetooth Ant 1		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
GSM	GSM850_LAT	Right Cheek	0.158	0.536	0.094	0.25	0.63
		Right Tilted	0.103	0.583	0.103	0.21	0.69
		Left Cheek	0.242	0.585	0.185	0.43	0.77
		Left Tilted	0.121	0.936	0.156	0.28	1.09
	GSM1900_LAT	Right Cheek	0.077	0.536	0.094	0.17	0.63
		Right Tilted	0.035	0.583	0.103	0.14	0.69
		Left Cheek	0.093	0.585	0.185	0.28	0.77
		Left Tilted	0.003	0.936	0.156	0.16	1.09
WCDMA	WCDMA V_LAT	Right Cheek	0.181	0.536	0.094	0.28	0.63
		Right Tilted	0.140	0.583	0.103	0.24	0.69
		Left Cheek	0.257	0.585	0.185	0.44	0.77
		Left Tilted	0.109	0.936	0.156	0.27	1.09
	WCDMA IV_LAT	Right Cheek	0.188	0.536	0.094	0.28	0.63
		Right Tilted	0.145	0.583	0.103	0.25	0.69
		Left Cheek	0.222	0.585	0.185	0.41	0.77
		Left Tilted	0.125	0.936	0.156	0.28	1.09
	WCDMA II_LAT	Right Cheek	0.125	0.536	0.094	0.22	0.63
		Right Tilted	0.113	0.583	0.103	0.22	0.69
		Left Cheek	0.167	0.585	0.185	0.35	0.77
		Left Tilted	0.074	0.936	0.156	0.23	1.09
LTE	LTE Band 12_LAT	Right Cheek	0.111	0.536	0.094	0.21	0.63
		Right Tilted	0.082	0.583	0.103	0.19	0.69
		Left Cheek	0.152	0.585	0.185	0.34	0.77
		Left Tilted	0.095	0.936	0.156	0.25	1.09
	LTE Band 5_LAT	Right Cheek	0.131	0.536	0.094	0.23	0.63
		Right Tilted	0.059	0.583	0.103	0.16	0.69
		Left Cheek	0.217	0.585	0.185	0.40	0.77
		Left Tilted	0.125	0.936	0.156	0.28	1.09
	LTE Band 26_LAT	Right Cheek	0.136	0.536	0.094	0.23	0.63
		Right Tilted	0.095	0.583	0.103	0.20	0.69
		Left Cheek	0.221	0.585	0.185	0.41	0.77
		Left Tilted	0.109	0.936	0.156	0.27	1.09
	LTE Band 66_LAT	Right Cheek	0.152	0.536	0.094	0.25	0.63
		Right Tilted	0.110	0.583	0.103	0.21	0.69
		Left Cheek	0.164	0.585	0.185	0.35	0.77
		Left Tilted	0.094	0.936	0.156	0.25	1.09
	LTE Band 2_LAT	Right Cheek	0.115	0.536	0.094	0.21	0.63
		Right Tilted	0.059	0.583	0.103	0.16	0.69
		Left Cheek	0.145	0.585	0.185	0.33	0.77
		Left Tilted	0.003	0.936	0.156	0.16	1.09
	LTE Band 7_LAT	Right Cheek	0.570	0.536	0.094	0.66	0.63
		Right Tilted	0.111	0.583	0.103	0.21	0.69
		Left Cheek	0.315	0.585	0.185	0.50	0.77
		Left Tilted	0.214	0.936	0.156	0.37	1.09
	LTE Band 41_LAT	Right Cheek	0.283	0.536	0.094	0.38	0.63
		Right Tilted	0.058	0.583	0.103	0.16	0.69
		Left Cheek	0.141	0.585	0.185	0.33	0.77
		Left Tilted	0.107	0.936	0.156	0.26	1.09
	LTE Band 41(HPUE)_LAT	Right Cheek	0.314	0.536	0.094	0.41	0.63
		Right Tilted	0.070	0.583	0.103	0.17	0.69
		Left Cheek	0.173	0.585	0.185	0.36	0.77
		Left Tilted	0.137	0.936	0.156	0.29	1.09



WWAN Band		Exposure Position	1	2	4	1+2 Summed 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 1+2	5GHz WLAN Ant 1+2		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
GSM	GSM850_LAT	Right Cheek	0.158	0.188	0.419	0.35	0.58
		Right Tilted	0.103	0.215	0.442	0.32	0.55
		Left Cheek	0.242	0.587	0.463	0.83	0.71
		Left Tilted	0.121	0.345	0.739	0.47	0.86
	GSM1900_LAT	Right Cheek	0.077	0.188	0.419	0.27	0.50
		Right Tilted	0.035	0.215	0.442	0.25	0.48
		Left Cheek	0.093	0.587	0.463	0.68	0.56
		Left Tilted	0.003	0.345	0.739	0.35	0.74
WCDMA	WCDMA V_LAT	Right Cheek	0.181	0.188	0.419	0.37	0.60
		Right Tilted	0.140	0.215	0.442	0.36	0.58
		Left Cheek	0.257	0.587	0.463	0.84	0.72
		Left Tilted	0.109	0.345	0.739	0.45	0.85
	WCDMA IV_LAT	Right Cheek	0.188	0.188	0.419	0.38	0.61
		Right Tilted	0.145	0.215	0.442	0.36	0.59
		Left Cheek	0.222	0.587	0.463	0.81	0.69
		Left Tilted	0.125	0.345	0.739	0.47	0.86
	WCDMA II_LAT	Right Cheek	0.125	0.188	0.419	0.31	0.54
		Right Tilted	0.113	0.215	0.442	0.33	0.56
		Left Cheek	0.146	0.587	0.463	0.73	0.61
		Left Tilted	0.074	0.345	0.739	0.42	0.81
LTE	LTE Band 12_LAT	Right Cheek	0.111	0.188	0.419	0.30	0.53
		Right Tilted	0.082	0.215	0.442	0.30	0.52
		Left Cheek	0.152	0.587	0.463	0.74	0.62
		Left Tilted	0.095	0.345	0.739	0.44	0.83
	LTE Band 5_LAT	Right Cheek	0.131	0.188	0.419	0.32	0.55
		Right Tilted	0.059	0.215	0.442	0.27	0.50
		Left Cheek	0.217	0.587	0.463	0.80	0.68
		Left Tilted	0.125	0.345	0.739	0.47	0.86
	LTE Band 26_LAT	Right Cheek	0.136	0.188	0.419	0.32	0.56
		Right Tilted	0.095	0.215	0.442	0.31	0.54
		Left Cheek	0.221	0.587	0.463	0.81	0.68
		Left Tilted	0.109	0.345	0.739	0.45	0.85
	LTE Band 66_LAT	Right Cheek	0.152	0.188	0.419	0.34	0.57
		Right Tilted	0.110	0.215	0.442	0.33	0.55
		Left Cheek	0.164	0.587	0.463	0.75	0.63
		Left Tilted	0.094	0.345	0.739	0.44	0.83
	LTE Band 2_LAT	Right Cheek	0.115	0.188	0.419	0.30	0.53
		Right Tilted	0.059	0.215	0.442	0.27	0.50
		Left Cheek	0.145	0.587	0.463	0.73	0.61
		Left Tilted	0.003	0.345	0.739	0.35	0.74
	LTE Band 7_LAT	Right Cheek	0.570	0.188	0.419	0.76	0.99
		Right Tilted	0.111	0.215	0.442	0.33	0.55
		Left Cheek	0.315	0.587	0.463	0.90	0.78
		Left Tilted	0.214	0.345	0.739	0.56	0.95
	LTE Band 41_LAT	Right Cheek	0.283	0.188	0.419	0.47	0.70
		Right Tilted	0.058	0.215	0.442	0.27	0.50
		Left Cheek	0.141	0.587	0.463	0.73	0.60
		Left Tilted	0.107	0.345	0.739	0.45	0.85
	LTE Band 41(HPUE)_LAT	Right Cheek	0.314	0.188	0.419	0.50	0.73
		Right Tilted	0.070	0.215	0.442	0.29	0.51
		Left Cheek	0.173	0.587	0.463	0.76	0.64
		Left Tilted	0.137	0.345	0.739	0.48	0.88



WWAN Band		Exposure Position	1	4	6	1+4+6 Summed 1g SAR (W/kg)
			WWAN	5GHz WLAN Ant 1+2	Bluetooth Ant 1	
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
GSM	GSM850_LAT	Right Cheek	0.158	0.336	0.094	0.59
		Right Tilted	0.103	0.374	0.103	0.58
		Left Cheek	0.242	0.343	0.185	0.77
		Left Tilted	0.121	0.585	0.156	0.86
	GSM1900_LAT	Right Cheek	0.077	0.336	0.094	0.51
		Right Tilted	0.035	0.374	0.103	0.51
		Left Cheek	0.093	0.343	0.185	0.62
		Left Tilted	0.003	0.585	0.156	0.74
WCDMA	WCDMA V_LAT	Right Cheek	0.181	0.336	0.094	0.61
		Right Tilted	0.140	0.374	0.103	0.62
		Left Cheek	0.257	0.343	0.185	0.79
		Left Tilted	0.109	0.585	0.156	0.85
	WCDMA IV_LAT	Right Cheek	0.188	0.336	0.094	0.62
		Right Tilted	0.145	0.374	0.103	0.62
		Left Cheek	0.222	0.343	0.185	0.75
		Left Tilted	0.125	0.585	0.156	0.87
	WCDMA II_LAT	Right Cheek	0.125	0.336	0.094	0.56
		Right Tilted	0.113	0.374	0.103	0.59
		Left Cheek	0.146	0.343	0.185	0.67
		Left Tilted	0.074	0.585	0.156	0.82
LTE	LTE Band 12_LAT	Right Cheek	0.111	0.336	0.094	0.54
		Right Tilted	0.082	0.374	0.103	0.56
		Left Cheek	0.152	0.343	0.185	0.68
		Left Tilted	0.095	0.585	0.156	0.84
	LTE Band 5_LAT	Right Cheek	0.131	0.336	0.094	0.56
		Right Tilted	0.059	0.374	0.103	0.54
		Left Cheek	0.217	0.343	0.185	0.75
		Left Tilted	0.125	0.585	0.156	0.87
	LTE Band 26_LAT	Right Cheek	0.136	0.336	0.094	0.57
		Right Tilted	0.095	0.374	0.103	0.57
		Left Cheek	0.221	0.343	0.185	0.75
		Left Tilted	0.109	0.585	0.156	0.85
	LTE Band 66_LAT	Right Cheek	0.152	0.336	0.094	0.58
		Right Tilted	0.110	0.374	0.103	0.59
		Left Cheek	0.164	0.343	0.185	0.69
		Left Tilted	0.094	0.585	0.156	0.84
	LTE Band 2_LAT	Right Cheek	0.115	0.336	0.094	0.55
		Right Tilted	0.059	0.374	0.103	0.54
		Left Cheek	0.145	0.343	0.185	0.67
		Left Tilted	0.003	0.585	0.156	0.74
	LTE Band 7_LAT	Right Cheek	0.570	0.336	0.094	1.00
		Right Tilted	0.111	0.374	0.103	0.59
		Left Cheek	0.315	0.343	0.185	0.84
		Left Tilted	0.214	0.585	0.156	0.96
	LTE Band 41_LAT	Right Cheek	0.283	0.336	0.094	0.71
		Right Tilted	0.058	0.374	0.103	0.54
		Left Cheek	0.141	0.343	0.185	0.67
		Left Tilted	0.107	0.585	0.156	0.85
	LTE Band 41(HPUE)_LAT	Right Cheek	0.314	0.336	0.094	0.74
		Right Tilted	0.070	0.374	0.103	0.55
		Left Cheek	0.173	0.343	0.185	0.70
		Left Tilted	0.137	0.585	0.156	0.88



17.2 Hotspot Exposure Conditions

WWAN Band		Exposure Position	1	4	6	1+6 Summed 1g SAR (W/kg)	4+6 Summed 1g SAR (W/kg)
			WWAN	5GHz WLAN Ant 1+2	Bluetooth Ant 1		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
GSM	GSM850_UAT	Front	0.440	0.372	0.084	0.52	0.46
		Back	0.517	0.804	0.133	0.65	0.94
		Left side	0.592	0.653	0.039	0.63	0.69
		Right side	0.024	0.320	0.072	0.10	0.39
		Top side	0.014	0.996	0.099	0.11	1.10
		Bottom side				0.00	0.00
	GSM1900_UAT	Front	0.274	0.372	0.084	0.36	0.46
		Back	0.434	0.804	0.133	0.57	0.94
		Left side	0.129	0.653	0.039	0.17	0.69
		Right side	0.066	0.320	0.072	0.14	0.39
		Top side	0.678	0.996	0.099	0.78	1.10
		Bottom side				0.00	0.00
WCDMA	WCDMA V_UAT	Front	0.423	0.372	0.084	0.51	0.46
		Back	0.527	0.804	0.133	0.66	0.94
		Left side	0.828	0.653	0.039	0.87	0.69
		Right side	0.023	0.320	0.072	0.10	0.39
		Top side	0.013	0.996	0.099	0.11	1.10
		Bottom side				0.00	0.00
	WCDMA IV_UAT	Front	0.311	0.372	0.084	0.40	0.46
		Back	0.473	0.804	0.133	0.61	0.94
		Left side	0.217	0.653	0.039	0.26	0.69
		Right side	0.120	0.320	0.072	0.19	0.39
		Top side	0.711	0.996	0.099	0.81	1.10
		Bottom side				0.00	0.00
	WCDMA II_UAT	Front	0.257	0.372	0.084	0.34	0.46
		Back	0.373	0.804	0.133	0.51	0.94
		Left side	0.183	0.653	0.039	0.22	0.69
		Right side	0.102	0.320	0.072	0.17	0.39
		Top side	0.618	0.996	0.099	0.72	1.10
		Bottom side				0.00	0.00
LTE	LTE Band 12_UAT	Front	0.426	0.372	0.084	0.51	0.46
		Back	0.484	0.804	0.133	0.62	0.94
		Left side	0.719	0.653	0.039	0.76	0.69
		Right side	0.055	0.320	0.072	0.13	0.39
		Top side	0.015	0.996	0.099	0.11	1.10
		Bottom side				0.00	0.00
	LTE Band 5_UAT	Front	0.407	0.372	0.084	0.49	0.46
		Back	0.532	0.804	0.133	0.67	0.94
		Left side	0.613	0.653	0.039	0.65	0.69
		Right side	0.030	0.320	0.072	0.10	0.39
		Top side	0.015	0.996	0.099	0.11	1.10
		Bottom side				0.00	0.00
	LTE Band 26_UAT	Front	0.421	0.372	0.084	0.51	0.46
		Back	0.526	0.804	0.133	0.66	0.94
		Left side	0.930	0.653	0.039	0.97	0.69
		Right side	0.023	0.320	0.072	0.10	0.39
		Top side	0.017	0.996	0.099	0.12	1.10
		Bottom side				0.00	0.00
	LTE Band 66_UAT	Front	0.428	0.372	0.084	0.51	0.46
		Back	0.575	0.804	0.133	0.71	0.94
		Left side	0.164	0.653	0.039	0.20	0.69

		Right side	0.068	0.320	0.072	0.14	0.39
		Top side	0.838	0.996	0.099	0.94	1.10
		Bottom side				0.00	0.00
	LTE Band 2_UAT	Front	0.336	0.372	0.084	0.42	0.46
		Back	0.472	0.804	0.133	0.61	0.94
		Left side	0.158	0.653	0.039	0.20	0.69
		Right side	0.118	0.320	0.072	0.19	0.39
		Top side	0.756	0.996	0.099	0.86	1.10
		Bottom side				0.00	0.00
	LTE Band 7_UAT	Front	0.270	0.372	0.084	0.35	0.46
		Back	0.397	0.804	0.133	0.53	0.94
		Left side	0.067	0.653	0.039	0.11	0.69
		Right side	0.211	0.320	0.072	0.28	0.39
		Top side	0.855	0.996	0.099	0.95	1.10
		Bottom side				0.00	0.00
	LTE Band 41_UAT	Front	0.290	0.372	0.084	0.37	0.46
		Back	0.482	0.804	0.133	0.62	0.94
		Left side	0.095	0.653	0.039	0.13	0.69
		Right side	0.171	0.320	0.072	0.24	0.39
		Top side	0.790	0.996	0.099	0.89	1.10
		Bottom side				0.00	0.00
	LTE Band 41(HPUE)_UAT	Front	0.312	0.372	0.084	0.40	0.46
		Back	0.467	0.804	0.133	0.60	0.94
		Left side	0.090	0.653	0.039	0.13	0.69
		Right side	0.169	0.320	0.072	0.24	0.39
		Top side	0.839	0.996	0.099	0.94	1.10
		Bottom side				0.00	0.00



WWAN Band		Exposure Position	1	2	1+2 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 1+2	
			1g SAR (W/kg)	1g SAR (W/kg)	
GSM	GSM850_UAT	Front	0.440	0.308	0.75
		Back	0.517	0.583	1.10
		Left side	0.592	0.014	0.61
		Right side	0.024	0.648	0.67
		Top side	0.014	0.287	0.30
		Bottom side			0.00
	GSM1900_UAT	Front	0.274	0.308	0.58
		Back	0.434	0.583	1.02
		Left side	0.129	0.014	0.14
		Right side	0.066	0.648	0.71
		Top side	0.678	0.287	0.97
		Bottom side			0.00
WCDMA	WCDMA V_UAT	Front	0.423	0.308	0.73
		Back	0.527	0.583	1.11
		Left side	0.828	0.014	0.84
		Right side	0.023	0.648	0.67
		Top side	0.013	0.287	0.30
		Bottom side			0.00
	WCDMA IV_UAT	Front	0.311	0.308	0.62
		Back	0.473	0.583	1.06
		Left side	0.217	0.014	0.23
		Right side	0.120	0.648	0.77
		Top side	0.711	0.287	1.00
		Bottom side			0.00
	WCDMA II_UAT	Front	0.257	0.308	0.57
		Back	0.373	0.583	0.96
		Left side	0.183	0.014	0.20
		Right side	0.102	0.648	0.75
		Top side	0.618	0.287	0.91
		Bottom side			0.00
LTE	LTE Band 12_UAT	Front	0.426	0.308	0.73
		Back	0.484	0.583	1.07
		Left side	0.719	0.014	0.73
		Right side	0.055	0.648	0.70
		Top side	0.015	0.287	0.30
		Bottom side			0.00
	LTE Band 5_UAT	Front	0.407	0.308	0.72
		Back	0.532	0.583	1.12
		Left side	0.613	0.014	0.63
		Right side	0.030	0.648	0.68
		Top side	0.015	0.287	0.30
		Bottom side			0.00
	LTE Band 26_UAT	Front	0.421	0.308	0.73
		Back	0.526	0.583	1.11
		Left side	0.930	0.014	0.94
		Right side	0.023	0.648	0.67
		Top side	0.017	0.287	0.30
		Bottom side			0.00
	LTE Band 66_UAT	Front	0.428	0.308	0.74
		Back	0.575	0.583	1.16
		Left side	0.164	0.014	0.18

		Right side	0.068	0.648	0.72
		Top side	0.838	0.287	1.13
		Bottom side			0.00
	LTE Band 2_UAT	Front	0.336	0.308	0.64
		Back	0.472	0.583	1.06
		Left side	0.158	0.014	0.17
		Right side	0.118	0.648	0.77
		Top side	0.756	0.287	1.04
		Bottom side			0.00
	LTE Band 7_UAT	Front	0.270	0.308	0.58
		Back	0.397	0.583	0.98
		Left side	0.067	0.014	0.08
		Right side	0.211	0.648	0.86
		Top side	0.855	0.287	1.14
		Bottom side			0.00
	LTE Band 41_UAT	Front	0.290	0.308	0.60
		Back	0.482	0.583	1.07
		Left side	0.095	0.014	0.11
		Right side	0.171	0.648	0.82
		Top side	0.790	0.287	1.08
		Bottom side			0.00
	LTE Band 41(HPUE)_UAT	Front	0.312	0.308	0.62
		Back	0.467	0.583	1.05
		Left side	0.090	0.014	0.10
		Right side	0.169	0.648	0.82
		Top side	0.839	0.287	1.13
		Bottom side			0.00



WWAN Band		Exposure Position	1	4	1+4 Summed 1g SAR (W/kg)
			WWAN	5GHz WLAN Ant 1+2	
			1g SAR (W/kg)	1g SAR (W/kg)	
GSM	GSM850_UAT	Front	0.440	0.164	0.60
		Back	0.517	0.380	0.90
		Left side	0.592	0.297	0.89
		Right side	0.024	0.153	0.18
		Top side	0.014	0.343	0.36
		Bottom side			0.00
	GSM1900_UAT	Front	0.274	0.164	0.44
		Back	0.434	0.380	0.81
		Left side	0.129	0.297	0.43
		Right side	0.066	0.153	0.22
		Top side	0.678	0.343	1.02
		Bottom side			0.00
WCDMA	WCDMA V_UAT	Front	0.423	0.164	0.59
		Back	0.527	0.380	0.91
		Left side	0.828	0.297	1.13
		Right side	0.023	0.153	0.18
		Top side	0.013	0.343	0.36
		Bottom side			0.00
	WCDMA IV_UAT	Front	0.311	0.164	0.48
		Back	0.473	0.380	0.85
		Left side	0.217	0.297	0.51
		Right side	0.120	0.153	0.27
		Top side	0.711	0.343	1.05
		Bottom side			0.00
	WCDMA II_UAT	Front	0.257	0.164	0.42
		Back	0.373	0.380	0.75
		Left side	0.183	0.297	0.48
		Right side	0.102	0.153	0.26
		Top side	0.618	0.343	0.96
		Bottom side			0.00
LTE	LTE Band 12_UAT	Front	0.426	0.164	0.59
		Back	0.484	0.380	0.86
		Left side	0.719	0.297	1.02
		Right side	0.055	0.153	0.21
		Top side	0.015	0.343	0.36
		Bottom side			0.00
	LTE Band 5_UAT	Front	0.407	0.164	0.57
		Back	0.532	0.380	0.91
		Left side	0.613	0.297	0.91
		Right side	0.030	0.153	0.18
		Top side	0.015	0.343	0.36
		Bottom side			0.00
	LTE Band 26_UAT	Front	0.421	0.164	0.59
		Back	0.526	0.380	0.91
		Left side	0.930	0.297	1.23
		Right side	0.023	0.153	0.18
		Top side	0.017	0.343	0.36
		Bottom side			0.00
	LTE Band 66_UAT	Front	0.428	0.164	0.59
		Back	0.575	0.380	0.96
		Left side	0.164	0.297	0.46

		Right side	0.068	0.153	0.22
		Top side	0.838	0.343	1.18
		Bottom side			0.00
	LTE Band 2_UAT	Front	0.336	0.164	0.50
		Back	0.472	0.380	0.85
		Left side	0.158	0.297	0.46
		Right side	0.118	0.153	0.27
		Top side	0.756	0.343	1.10
		Bottom side			0.00
	LTE Band 7_UAT	Front	0.270	0.164	0.43
		Back	0.397	0.380	0.78
		Left side	0.067	0.297	0.36
		Right side	0.211	0.153	0.36
		Top side	0.855	0.343	1.20
		Bottom side			0.00
	LTE Band 41_UAT	Front	0.290	0.164	0.45
		Back	0.482	0.380	0.86
		Left side	0.095	0.297	0.39
		Right side	0.171	0.153	0.32
		Top side	0.790	0.343	1.13
		Bottom side			0.00
	LTE Band 41(HPUE)_UAT	Front	0.312	0.164	0.48
		Back	0.467	0.380	0.85
		Left side	0.090	0.297	0.39
		Right side	0.169	0.153	0.32
		Top side	0.839	0.343	1.18
		Bottom side			0.00



WWAN Band		Exposure Position	1	4	6	1+4+6 Summed 1g SAR (W/kg)
			WWAN	5GHz WLAN Ant 1+2	Bluetooth Ant 1	
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
GSM	GSM850_UAT	Front	0.440	0.164	0.084	0.69
		Back	0.517	0.380	0.133	1.03
		Left side	0.592	0.297	0.039	0.93
		Right side	0.024	0.153	0.072	0.25
		Top side	0.014	0.343	0.099	0.46
		Bottom side				0.00
	GSM1900_UAT	Front	0.274	0.164	0.084	0.52
		Back	0.434	0.380	0.133	0.95
		Left side	0.129	0.297	0.039	0.47
		Right side	0.066	0.153	0.072	0.29
		Top side	0.678	0.343	0.099	1.12
		Bottom side				0.00
WCDMA	WCDMA V_UAT	Front	0.423	0.164	0.084	0.67
		Back	0.527	0.380	0.133	1.04
		Left side	0.828	0.297	0.039	1.16
		Right side	0.023	0.153	0.072	0.25
		Top side	0.013	0.343	0.099	0.46
		Bottom side				0.00
	WCDMA IV_UAT	Front	0.311	0.164	0.084	0.56
		Back	0.473	0.380	0.133	0.99
		Left side	0.217	0.297	0.039	0.55
		Right side	0.120	0.153	0.072	0.35
		Top side	0.711	0.343	0.099	1.15
		Bottom side				0.00
	WCDMA II_UAT	Front	0.257	0.164	0.084	0.51
		Back	0.373	0.380	0.133	0.89
		Left side	0.183	0.297	0.039	0.52
		Right side	0.102	0.153	0.072	0.33
		Top side	0.618	0.343	0.099	1.06
		Bottom side				0.00
LTE	LTE Band 12_UAT	Front	0.426	0.164	0.084	0.67
		Back	0.484	0.380	0.133	1.00
		Left side	0.719	0.297	0.039	1.06
		Right side	0.055	0.153	0.072	0.28
		Top side	0.015	0.343	0.099	0.46
		Bottom side				0.00
	LTE Band 5_UAT	Front	0.407	0.164	0.084	0.66
		Back	0.532	0.380	0.133	1.05
		Left side	0.613	0.297	0.039	0.95
		Right side	0.030	0.153	0.072	0.26
		Top side	0.015	0.343	0.099	0.46
		Bottom side				0.00
	LTE Band 26_UAT	Front	0.421	0.164	0.084	0.67
		Back	0.526	0.380	0.133	1.04
		Left side	0.930	0.297	0.039	1.27
		Right side	0.023	0.153	0.072	0.25
		Top side	0.017	0.343	0.099	0.46
		Bottom side				0.00
	LTE Band 66_UAT	Front	0.428	0.164	0.084	0.68
		Back	0.575	0.380	0.133	1.09
		Left side	0.164	0.297	0.039	0.50

		Right side	0.068	0.153	0.072	0.29
		Top side	0.838	0.343	0.099	1.28
		Bottom side				0.00
	LTE Band 2_UAT	Front	0.336	0.164	0.084	0.58
		Back	0.472	0.380	0.133	0.99
		Left side	0.158	0.297	0.039	0.49
		Right side	0.118	0.153	0.072	0.34
		Top side	0.756	0.343	0.099	1.20
		Bottom side				0.00
	LTE Band 7_UAT	Front	0.270	0.164	0.084	0.52
		Back	0.397	0.380	0.133	0.91
		Left side	0.067	0.297	0.039	0.40
		Right side	0.211	0.153	0.072	0.44
		Top side	0.855	0.343	0.099	1.30
		Bottom side				0.00
	LTE Band 41_UAT	Front	0.290	0.164	0.084	0.54
		Back	0.482	0.380	0.133	1.00
		Left side	0.095	0.297	0.039	0.43
		Right side	0.171	0.153	0.072	0.40
		Top side	0.790	0.343	0.099	1.23
		Bottom side				0.00
	LTE Band 41(HPUE)_UAT	Front	0.312	0.164	0.084	0.56
		Back	0.467	0.380	0.133	0.98
		Left side	0.090	0.297	0.039	0.43
		Right side	0.169	0.153	0.072	0.39
		Top side	0.839	0.343	0.099	1.28
		Bottom side				0.00



WWAN Band		Exposure Position	1	4	6	1+6 Summed 1g SAR (W/kg)	4+6 Summed 1g SAR (W/kg)
			WWAN	5GHz WLAN Ant 1+2	Bluetooth Ant 1		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
GSM	GSM850_LAT	Front	0.190	0.372	0.084	0.27	0.46
		Back	0.296	0.804	0.133	0.43	0.94
		Left side	0.159	0.653	0.039	0.20	0.69
		Right side	0.103	0.320	0.072	0.18	0.39
		Top side		0.996	0.099	0.10	1.10
		Bottom side	0.218			0.22	0.00
	GSM1900_LAT	Front	0.254	0.372	0.084	0.34	0.46
		Back	0.360	0.804	0.133	0.49	0.94
		Left side	0.143	0.653	0.039	0.18	0.69
		Right side	0.216	0.320	0.072	0.29	0.39
		Top side		0.996	0.099	0.10	1.10
		Bottom side	0.628			0.63	0.00
WCDMA	WCDMA V_LAT	Front	0.296	0.372	0.084	0.38	0.46
		Back	0.456	0.804	0.133	0.59	0.94
		Left side	0.223	0.653	0.039	0.26	0.69
		Right side	0.106	0.320	0.072	0.18	0.39
		Top side		0.996	0.099	0.10	1.10
		Bottom side	0.363			0.36	0.00
	WCDMA IV_LAT	Front	0.559	0.372	0.084	0.64	0.46
		Back	0.817	0.804	0.133	0.95	0.94
		Left side	0.199	0.653	0.039	0.24	0.69
		Right side	0.377	0.320	0.072	0.45	0.39
		Top side		0.996	0.099	0.10	1.10
		Bottom side	1.081			1.08	0.00
	WCDMA II_LAT	Front	0.392	0.372	0.084	0.48	0.46
		Back	0.541	0.804	0.133	0.67	0.94
		Left side	0.156	0.653	0.039	0.20	0.69
		Right side	0.236	0.320	0.072	0.31	0.39
		Top side		0.996	0.099	0.10	1.10
		Bottom side	0.849			0.85	0.00
LTE	LTE Band 12_LAT	Front	0.174	0.372	0.084	0.26	0.46
		Back	0.179	0.804	0.133	0.31	0.94
		Left side	0.242	0.653	0.039	0.28	0.69
		Right side	0.050	0.320	0.072	0.12	0.39
		Top side		0.996	0.099	0.10	1.10
		Bottom side	0.307			0.31	0.00
	LTE Band 5_LAT	Front	0.261	0.372	0.084	0.35	0.46
		Back	0.408	0.804	0.133	0.54	0.94
		Left side	0.248	0.653	0.039	0.29	0.69
		Right side	0.144	0.320	0.072	0.22	0.39
		Top side		0.996	0.099	0.10	1.10
		Bottom side	0.387			0.39	0.00
	LTE Band 26_LAT	Front	0.265	0.372	0.084	0.35	0.46
		Back	0.417	0.804	0.133	0.55	0.94
		Left side	0.216	0.653	0.039	0.26	0.69
		Right side	0.132	0.320	0.072	0.20	0.39
		Top side		0.996	0.099	0.10	1.10
		Bottom side	0.283			0.28	0.00
	LTE Band 66_LAT	Front	0.470	0.372	0.084	0.55	0.46
		Back	0.722	0.804	0.133	0.86	0.94
		Left side	0.142	0.653	0.039	0.18	0.69

		Right side	0.233	0.320	0.072	0.31	0.39
		Top side		0.996	0.099	0.10	1.10
		Bottom side	0.906			0.91	0.00
	LTE Band 2_LAT	Front	0.474	0.372	0.084	0.56	0.46
		Back	0.682	0.804	0.133	0.82	0.94
		Left side	0.192	0.653	0.039	0.23	0.69
		Right side	0.278	0.320	0.072	0.35	0.39
		Top side		0.996	0.099	0.10	1.10
		Bottom side	0.976			0.98	0.00
	LTE Band 7_LAT	Front	0.625	0.372	0.084	0.71	0.46
		Back	1.085	0.804	0.133	1.22	0.94
		Left side	0.156	0.653	0.039	0.20	0.69
		Right side	0.420	0.320	0.072	0.49	0.39
		Top side		0.996	0.099	0.10	1.10
		Bottom side	0.772			0.77	0.00
	LTE Band 41_LAT	Front	0.421	0.372	0.084	0.51	0.46
		Back	0.727	0.804	0.133	0.86	0.94
		Left side	0.097	0.653	0.039	0.14	0.69
		Right side	0.236	0.320	0.072	0.31	0.39
		Top side		0.996	0.099	0.10	1.10
		Bottom side	0.538			0.54	0.00
	LTE Band 41(HPUE)_LAT	Front	0.541	0.372	0.084	0.63	0.46
		Back	0.898	0.804	0.133	1.03	0.94
		Left side	0.109	0.653	0.039	0.15	0.69
		Right side	0.287	0.320	0.072	0.36	0.39
		Top side		0.996	0.099	0.10	1.10
		Bottom side	0.690			0.69	0.00



WWAN Band		Exposure Position	1	2	4	1+2 Summed 1g SAR (W/kg)	SPLSR	Case No	1+4 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 1+2	5GHz WLAN Ant 1+2				
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)				
GSM	GSM850_LAT	Front	0.190	0.308	0.164	0.50			0.35
		Back	0.296	0.583	0.380	0.88			0.68
		Left side	0.159	0.014	0.297	0.17			0.46
		Right side	0.103	0.648	0.153	0.75			0.26
		Top side		0.287	0.343	0.29			0.34
		Bottom side	0.218			0.22			0.22
	GSM1900_LAT	Front	0.254	0.308	0.164	0.56			0.42
		Back	0.360	0.583	0.380	0.94			0.74
		Left side	0.143	0.014	0.297	0.16			0.44
		Right side	0.216	0.648	0.153	0.86			0.37
		Top side		0.287	0.343	0.29			0.34
		Bottom side	0.628			0.63			0.63
WCDMA	WCDMA V_LAT	Front	0.296	0.308	0.164	0.60			0.46
		Back	0.456	0.583	0.380	1.04			0.84
		Left side	0.223	0.014	0.297	0.24			0.52
		Right side	0.106	0.648	0.153	0.75			0.26
		Top side		0.287	0.343	0.29			0.34
		Bottom side	0.363			0.36			0.36
	WCDMA IV_LAT	Front	0.559	0.308	0.164	0.87			0.72
		Back	0.817	0.583	0.380	1.40			1.20
		Left side	0.199	0.014	0.297	0.21			0.50
		Right side	0.377	0.648	0.153	1.03			0.53
		Top side		0.287	0.343	0.29			0.34
		Bottom side	1.081			1.08			1.08
	WCDMA II_LAT	Front	0.392	0.308	0.164	0.70			0.56
		Back	0.541	0.583	0.380	1.12			0.92
		Left side	0.156	0.014	0.297	0.17			0.45
		Right side	0.236	0.648	0.153	0.88			0.39
		Top side		0.287	0.343	0.29			0.34
		Bottom side	0.849			0.85			0.85
LTE	LTE Band 12_LAT	Front	0.174	0.308	0.164	0.48			0.34
		Back	0.179	0.583	0.380	0.76			0.56
		Left side	0.242	0.014	0.297	0.26			0.54
		Right side	0.050	0.648	0.153	0.70			0.20
		Top side		0.287	0.343	0.29			0.34
		Bottom side	0.307			0.31			0.31
	LTE Band 5_LAT	Front	0.261	0.308	0.164	0.57			0.43
		Back	0.408	0.583	0.380	0.99			0.79
		Left side	0.248	0.014	0.297	0.26			0.55
		Right side	0.144	0.648	0.153	0.79			0.30
		Top side		0.287	0.343	0.29			0.34
		Bottom side	0.387			0.39			0.39
	LTE Band 26_LAT	Front	0.265	0.308	0.164	0.57			0.43
		Back	0.417	0.583	0.380	1.00			0.80
		Left side	0.216	0.014	0.297	0.23			0.51
		Right side	0.132	0.648	0.153	0.78			0.29
		Top side		0.287	0.343	0.29			0.34
		Bottom side	0.283			0.28			0.28
	LTE Band 66_LAT	Front	0.470	0.308	0.164	0.78			0.63
		Back	0.722	0.583	0.380	1.31			1.10
		Left side	0.142	0.014	0.297	0.16			0.44



		Right side	0.233	0.648	0.153	0.88			0.39
		Top side		0.287	0.343	0.29			0.34
		Bottom side	0.906			0.91			0.91
	LTE Band 2_LAT	Front	0.474	0.308	0.164	0.78			0.64
		Back	0.682	0.583	0.380	1.27			1.06
		Left side	0.192	0.014	0.297	0.21			0.49
		Right side	0.278	0.648	0.153	0.93			0.43
		Top side		0.287	0.343	0.29			0.34
		Bottom side	0.976			0.98			0.98
	LTE Band 7_LAT	Front	0.625	0.308	0.164	0.93			0.79
		Back	1.085	0.583	0.380	1.67	0.02	#01	1.47
		Left side	0.156	0.014	0.297	0.17			0.45
		Right side	0.420	0.648	0.153	1.07			0.57
		Top side		0.287	0.343	0.29			0.34
		Bottom side	0.772			0.77			0.77
	LTE Band 41_LAT	Front	0.421	0.308	0.164	0.73			0.59
		Back	0.727	0.583	0.380	1.31			1.11
		Left side	0.097	0.014	0.297	0.11			0.39
		Right side	0.236	0.648	0.153	0.88			0.39
		Top side		0.287	0.343	0.29			0.34
		Bottom side	0.538			0.54			0.54
	LTE Band 41(HPUE)_LAT	Front	0.541	0.308	0.164	0.85			0.71
		Back	0.898	0.583	0.380	1.48			1.28
		Left side	0.109	0.014	0.297	0.12			0.41
		Right side	0.287	0.648	0.153	0.94			0.44
		Top side		0.287	0.343	0.29			0.34
		Bottom side	0.690			0.69			0.69



WWAN Band		Exposure Position	1	4	6	1+4+6 Summed 1g SAR (W/kg)
			WWAN	5GHz WLAN Ant 1+2	Bluetooth Ant 1	
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
GSM	GSM850_LAT	Front	0.190	0.164	0.084	0.44
		Back	0.296	0.380	0.133	0.81
		Left side	0.159	0.297	0.039	0.50
		Right side	0.103	0.153	0.072	0.33
		Top side		0.343	0.099	0.44
		Bottom side	0.218			0.22
	GSM1900_LAT	Front	0.254	0.164	0.084	0.50
		Back	0.360	0.380	0.133	0.87
		Left side	0.143	0.297	0.039	0.48
		Right side	0.216	0.153	0.072	0.44
		Top side		0.343	0.099	0.44
		Bottom side	0.628			0.63
WCDMA	WCDMA V_LAT	Front	0.296	0.164	0.084	0.54
		Back	0.456	0.380	0.133	0.97
		Left side	0.223	0.297	0.039	0.56
		Right side	0.106	0.153	0.072	0.33
		Top side		0.343	0.099	0.44
		Bottom side	0.363			0.36
	WCDMA IV_LAT	Front	0.559	0.164	0.084	0.81
		Back	0.817	0.380	0.133	1.33
		Left side	0.199	0.297	0.039	0.54
		Right side	0.377	0.153	0.072	0.60
		Top side		0.343	0.099	0.44
		Bottom side	1.081			1.08
	WCDMA II_LAT	Front	0.392	0.164	0.084	0.64
		Back	0.541	0.380	0.133	1.05
		Left side	0.156	0.297	0.039	0.49
		Right side	0.236	0.153	0.072	0.46
		Top side		0.343	0.099	0.44
		Bottom side	0.849			0.85
LTE	LTE Band 12_LAT	Front	0.174	0.164	0.084	0.42
		Back	0.179	0.380	0.133	0.69
		Left side	0.242	0.297	0.039	0.58
		Right side	0.050	0.153	0.072	0.28
		Top side		0.343	0.099	0.44
		Bottom side	0.307			0.31
	LTE Band 5_LAT	Front	0.261	0.164	0.084	0.51
		Back	0.408	0.380	0.133	0.92
		Left side	0.248	0.297	0.039	0.58
		Right side	0.144	0.153	0.072	0.37
		Top side		0.343	0.099	0.44
		Bottom side	0.387			0.39
	LTE Band 26_LAT	Front	0.265	0.164	0.084	0.51
		Back	0.417	0.380	0.133	0.93
		Left side	0.216	0.297	0.039	0.55
		Right side	0.132	0.153	0.072	0.36
		Top side		0.343	0.099	0.44
		Bottom side	0.283			0.28
	LTE Band 66_LAT	Front	0.470	0.164	0.084	0.72
		Back	0.722	0.380	0.133	1.24
		Left side	0.142	0.297	0.039	0.48



		Right side	0.233	0.153	0.072	0.46
		Top side		0.343	0.099	0.44
		Bottom side	0.906			0.91
	LTE Band 2_LAT	Front	0.474	0.164	0.084	0.72
		Back	0.682	0.380	0.133	1.20
		Left side	0.192	0.297	0.039	0.53
		Right side	0.278	0.153	0.072	0.50
		Top side		0.343	0.099	0.44
		Bottom side	0.976			0.98
	LTE Band 7_LAT	Front	0.625	0.164	0.084	0.87
		Back	1.085	0.380	0.133	1.60
		Left side	0.156	0.297	0.039	0.49
		Right side	0.420	0.153	0.072	0.65
		Top side		0.343	0.099	0.44
		Bottom side	0.772			0.77
	LTE Band 41_LAT	Front	0.421	0.164	0.084	0.67
		Back	0.727	0.380	0.133	1.24
		Left side	0.097	0.297	0.039	0.43
		Right side	0.236	0.153	0.072	0.46
		Top side		0.343	0.099	0.44
		Bottom side	0.538			0.54
	LTE Band 41(HPUE)_LAT	Front	0.541	0.164	0.084	0.79
		Back	0.898	0.380	0.133	1.41
		Left side	0.109	0.297	0.039	0.45
		Right side	0.287	0.153	0.072	0.51
		Top side		0.343	0.099	0.44
		Bottom side	0.690			0.69



17.3 Body-Worn Accessory Exposure Conditions

General Note:

Chose the higher SAR base on 5mm SAR and Sensor off distance SAR to do co-located with WWAN analysis.

WWAN Band		Exposure Position	1	4	6	1+6 Summed 1g SAR (W/kg)	4+6 Summed 1g SAR (W/kg)
			WWAN	5GHz WLAN Ant 1+2	Bluetooth Ant 1		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
GSM	GSM850_UAT	Front	0.169	0.413	0.051	0.22	0.46
		Back	0.258	0.593	0.058	0.32	0.65
	GSM1900_UAT	Front	0.123	0.413	0.051	0.17	0.46
		Back	0.209	0.593	0.058	0.27	0.65
WCDMA	WCDMA V_UAT	Front	0.211	0.413	0.051	0.26	0.46
		Back	0.365	0.593	0.058	0.42	0.65
	WCDMA IV_UAT	Front	0.263	0.413	0.051	0.31	0.46
		Back	0.407	0.593	0.058	0.47	0.65
	WCDMA II_UAT	Front	0.227	0.413	0.051	0.28	0.46
		Back	0.372	0.593	0.058	0.43	0.65
LTE	LTE Band 12_UAT	Front	0.273	0.413	0.051	0.32	0.46
		Back	0.278	0.593	0.058	0.34	0.65
	LTE Band 5_UAT	Front	0.269	0.413	0.051	0.32	0.46
		Back	0.302	0.593	0.058	0.36	0.65
	LTE Band 26_UAT	Front	0.239	0.413	0.051	0.29	0.46
		Back	0.443	0.593	0.058	0.50	0.65
	LTE Band 66_UAT	Front	0.229	0.413	0.051	0.28	0.46
		Back	0.407	0.593	0.058	0.47	0.65
	LTE Band 2_UAT	Front	0.240	0.413	0.051	0.29	0.46
		Back	0.366	0.593	0.058	0.42	0.65
	LTE Band 7_UAT	Front	0.398	0.413	0.051	0.45	0.46
		Back	0.602	0.593	0.058	0.66	0.65
	LTE Band 41_UAT	Front	0.207	0.413	0.051	0.26	0.46
		Back	0.412	0.593	0.058	0.47	0.65
	LTE Band 41(HPUE)_UAT	Front	0.213	0.413	0.051	0.26	0.46
		Back	0.387	0.593	0.058	0.45	0.65

WWAN Band		Exposure Position	1	2	1+2 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 1+2	
			1g SAR (W/kg)	1g SAR (W/kg)	
GSM	GSM850_UAT	Front	0.169	0.364	0.53
		Back	0.258	0.562	0.82
	GSM1900_UAT	Front	0.123	0.364	0.49
		Back	0.209	0.562	0.77
WCDMA	WCDMA V_UAT	Front	0.211	0.364	0.58
		Back	0.365	0.562	0.93
	WCDMA IV_UAT	Front	0.263	0.364	0.63
		Back	0.407	0.562	0.97
	WCDMA II_UAT	Front	0.227	0.364	0.59
		Back	0.372	0.562	0.93
	LTE Band 12_UAT	Front	0.273	0.364	0.64
		Back	0.278	0.562	0.84
LTE	LTE Band 5_UAT	Front	0.269	0.364	0.63
		Back	0.302	0.562	0.86
	LTE Band 26_UAT	Front	0.239	0.364	0.60
		Back	0.443	0.562	1.01
	LTE Band 66_UAT	Front	0.229	0.364	0.59
		Back	0.407	0.562	0.97
	LTE Band 2_UAT	Front	0.240	0.364	0.60
		Back	0.366	0.562	0.93
	LTE Band 7_UAT	Front	0.398	0.364	0.76
		Back	0.602	0.562	1.16
	LTE Band 41_UAT	Front	0.207	0.364	0.57
		Back	0.412	0.562	0.97
	LTE Band 41(HPUE)_UAT	Front	0.213	0.364	0.58
		Back	0.387	0.562	0.95

WWAN Band		Exposure Position	1	4	1+4 Summed 1g SAR (W/kg)
			WWAN	5GHz WLAN Ant 1+2	
			1g SAR (W/kg)	1g SAR (W/kg)	
GSM	GSM850_UAT	Front	0.169	0.413	0.58
		Back	0.258	0.593	0.85
	GSM1900_UAT	Front	0.123	0.413	0.54
		Back	0.209	0.593	0.80
WCDMA	WCDMA V_UAT	Front	0.211	0.413	0.62
		Back	0.365	0.593	0.96
	WCDMA IV_UAT	Front	0.263	0.413	0.68
		Back	0.407	0.593	1.00
	WCDMA II_UAT	Front	0.227	0.413	0.64
		Back	0.372	0.593	0.97
	LTE Band 12_UAT	Front	0.273	0.413	0.69
		Back	0.278	0.593	0.87
LTE	LTE Band 5_UAT	Front	0.269	0.413	0.68
		Back	0.302	0.593	0.90
	LTE Band 26_UAT	Front	0.239	0.413	0.65
		Back	0.443	0.593	1.04
	LTE Band 66_UAT	Front	0.229	0.413	0.64
		Back	0.407	0.593	1.00
	LTE Band 2_UAT	Front	0.240	0.413	0.65
		Back	0.366	0.593	0.96
	LTE Band 7_UAT	Front	0.398	0.413	0.81
		Back	0.602	0.593	1.20
	LTE Band 41_UAT	Front	0.207	0.413	0.62
		Back	0.412	0.593	1.01
	LTE Band 41(HPUE)_UAT	Front	0.213	0.413	0.63
		Back	0.387	0.593	0.98



WWAN Band		Exposure Position	1	4	6	1+4+6 Summed 1g SAR (W/kg)
			WWAN	5GHz WLAN Ant 1+2	Bluetooth Ant 1	
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
GSM	GSM850_UAT	Front	0.169	0.413	0.051	0.63
		Back	0.258	0.593	0.058	0.91
	GSM1900_UAT	Front	0.123	0.413	0.051	0.59
		Back	0.209	0.593	0.058	0.86
WCDMA	WCDMA V_UAT	Front	0.211	0.413	0.051	0.68
		Back	0.365	0.593	0.058	1.02
	WCDMA IV_UAT	Front	0.263	0.413	0.051	0.73
		Back	0.407	0.593	0.058	1.06
	WCDMA II_UAT	Front	0.227	0.413	0.051	0.69
		Back	0.372	0.593	0.058	1.02
LTE	LTE Band 12_UAT	Front	0.273	0.413	0.051	0.74
		Back	0.278	0.593	0.058	0.93
	LTE Band 5_UAT	Front	0.269	0.413	0.051	0.73
		Back	0.302	0.593	0.058	0.95
	LTE Band 26_UAT	Front	0.239	0.413	0.051	0.70
		Back	0.443	0.593	0.058	1.09
	LTE Band 66_UAT	Front	0.229	0.413	0.051	0.69
		Back	0.407	0.593	0.058	1.06
	LTE Band 2_UAT	Front	0.240	0.413	0.051	0.70
		Back	0.366	0.593	0.058	1.02
	LTE Band 7_UAT	Front	0.398	0.413	0.051	0.86
		Back	0.602	0.593	0.058	1.25
	LTE Band 41_UAT	Front	0.207	0.413	0.051	0.67
		Back	0.412	0.593	0.058	1.06
	LTE Band 41(HPUE)_UAT	Front	0.213	0.413	0.051	0.68
		Back	0.387	0.593	0.058	1.04



WWAN Band		Exposure Position	1	4	6	1+6 Summed 1g SAR (W/kg)	4+6 Summed 1g SAR (W/kg)
			WWAN	5GHz WLAN Ant 1+2	Bluetooth Ant 1		
			1g SAR (W/kg)	1g SAR (W/kg)	Estimated 1g SAR (W/kg)		
GSM	GSM850_LAT	Front	0.214	0.413	0.051	0.27	0.46
		Back	0.226	0.593	0.058	0.28	0.65
	GSM1900_LAT	Front	0.162	0.413	0.051	0.21	0.46
		Back	0.352	0.593	0.058	0.41	0.65
WCDMA	WCDMA V_LAT	Front	0.232	0.413	0.051	0.28	0.46
		Back	0.243	0.593	0.058	0.30	0.65
	WCDMA IV_LAT	Front	0.454	0.413	0.051	0.51	0.46
		Back	0.623	0.593	0.058	0.68	0.65
	WCDMA II_LAT	Front	0.269	0.413	0.051	0.32	0.46
		Back	0.433	0.593	0.058	0.49	0.65
LTE	LTE Band 12_LAT	Front	0.174	0.413	0.051	0.23	0.46
		Back	0.187	0.593	0.058	0.25	0.65
	LTE Band 5_LAT	Front	0.212	0.413	0.051	0.26	0.46
		Back	0.215	0.593	0.058	0.27	0.65
	LTE Band 26_LAT	Front	0.167	0.413	0.051	0.22	0.46
		Back	0.225	0.593	0.058	0.28	0.65
	LTE Band 66_LAT	Front	0.360	0.413	0.051	0.41	0.46
		Back	0.484	0.593	0.058	0.54	0.65
	LTE Band 2_LAT	Front	0.233	0.413	0.051	0.28	0.46
		Back	0.371	0.593	0.058	0.43	0.65
	LTE Band 7_LAT	Front	0.352	0.413	0.051	0.40	0.46
		Back	0.804	0.593	0.058	0.86	0.65
	LTE Band 41_LAT	Front	0.223	0.413	0.051	0.27	0.46
		Back	0.383	0.593	0.058	0.44	0.65
	LTE Band 41(HPUE)_LAT	Front	0.209	0.413	0.051	0.26	0.46
		Back	0.469	0.593	0.058	0.53	0.65



WWAN Band		Exposure Position	1	2	4	1+2 Summed 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 1+2	5GHz WLAN Ant 1+2		
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)		
GSM	GSM850_LAT	Front	0.214	0.364	0.413	0.58	0.63
		Back	0.226	0.562	0.593	0.79	0.82
	GSM1900_LAT	Front	0.162	0.364	0.413	0.53	0.58
		Back	0.352	0.562	0.593	0.91	0.95
WCDMA	WCDMA V_LAT	Front	0.232	0.364	0.413	0.60	0.65
		Back	0.243	0.562	0.593	0.81	0.84
	WCDMA IV_LAT	Front	0.454	0.364	0.413	0.82	0.87
		Back	0.623	0.562	0.593	1.19	1.22
	WCDMA II_LAT	Front	0.269	0.364	0.413	0.63	0.68
		Back	0.433	0.562	0.593	1.00	1.03
LTE	LTE Band 12_LAT	Front	0.174	0.364	0.413	0.54	0.59
		Back	0.187	0.562	0.593	0.75	0.78
	LTE Band 5_LAT	Front	0.212	0.364	0.413	0.58	0.63
		Back	0.215	0.562	0.593	0.78	0.81
	LTE Band 26_LAT	Front	0.167	0.364	0.413	0.53	0.58
		Back	0.225	0.562	0.593	0.79	0.82
	LTE Band 66_LAT	Front	0.360	0.364	0.413	0.72	0.77
		Back	0.484	0.562	0.593	1.05	1.08
	LTE Band 2_LAT	Front	0.233	0.364	0.413	0.60	0.65
		Back	0.371	0.562	0.593	0.93	0.96
	LTE Band 7_LAT	Front	0.352	0.364	0.413	0.72	0.77
		Back	0.804	0.562	0.593	1.37	1.40
	LTE Band 41_LAT	Front	0.223	0.364	0.413	0.59	0.64
		Back	0.383	0.562	0.593	0.95	0.98
	LTE Band 41(HPUE)_LAT	Front	0.209	0.364	0.413	0.57	0.62
		Back	0.469	0.562	0.593	1.03	1.06



WWAN Band		Exposure Position	1	4	6	1+4+6 Summed 1g SAR (W/kg)
			WWAN	5GHz WLAN Ant 1+2	Bluetooth Ant 1	
			1g SAR (W/kg)	1g SAR (W/kg)	Estimated 1g SAR (W/kg)	
GSM	GSM850_LAT	Front	0.214	0.413	0.051	0.68
		Back	0.226	0.593	0.058	0.88
	GSM1900_LAT	Front	0.162	0.413	0.051	0.63
		Back	0.352	0.593	0.058	1.00
WCDMA	WCDMA V_LAT	Front	0.232	0.413	0.051	0.70
		Back	0.243	0.593	0.058	0.89
	WCDMA IV_LAT	Front	0.454	0.413	0.051	0.92
		Back	0.623	0.593	0.058	1.27
	WCDMA II_LAT	Front	0.269	0.413	0.051	0.73
		Back	0.433	0.593	0.058	1.08
LTE	LTE Band 12_LAT	Front	0.174	0.413	0.051	0.64
		Back	0.187	0.593	0.058	0.84
	LTE Band 5_LAT	Front	0.212	0.413	0.051	0.68
		Back	0.215	0.593	0.058	0.87
	LTE Band 26_LAT	Front	0.167	0.413	0.051	0.63
		Back	0.225	0.593	0.058	0.88
	LTE Band 66_LAT	Front	0.360	0.413	0.051	0.82
		Back	0.484	0.593	0.058	1.14
	LTE Band 2_LAT	Front	0.233	0.413	0.051	0.70
		Back	0.371	0.593	0.058	1.02
	LTE Band 7_LAT	Front	0.352	0.413	0.051	0.82
		Back	0.804	0.593	0.058	1.46
	LTE Band 41_LAT	Front	0.223	0.413	0.051	0.69
		Back	0.383	0.593	0.058	1.03
	LTE Band 41(HPUE)_LAT	Front	0.209	0.413	0.051	0.67
		Back	0.469	0.593	0.058	1.12

17.4 Product Specific Exposure Conditions

General Note:

Chose the higher SAR base on 0mm SAR and Sensor off distance SAR to do co-located with WWAN analysis.

WWAN Band		Exposure Position	1	2	4	1+2 Summed 10g SAR (W/kg)	1+4 Summed 10g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 1+2	5GHz WLAN Ant 1+2		
			10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)		
WCDMA	WCDMA IV_UAT	Front			0.463	0.00	0.46
		Back		1.899	0.837	1.90	0.84
		Left side			0.906	0.00	0.91
		Right side		2.011	0.166	2.01	0.17
		Top side	1.956		1.184	1.96	3.14
		Bottom side				0.00	0.00
	WCDMA II_UAT	Front			0.463	0.00	0.46
		Back		1.899	0.837	1.90	0.84
		Left side			0.906	0.00	0.91
		Right side		2.011	0.166	2.01	0.17
		Top side	1.959		1.184	1.96	3.14
		Bottom side				0.00	0.00
LTE	LTE Band 7_UAT	Front			0.463	0.00	0.46
		Back		1.899	0.837	1.90	0.84
		Left side			0.906	0.00	0.91
		Right side		2.011	0.166	2.01	0.17
		Top side	1.821		1.184	1.82	3.01
		Bottom side				0.00	0.00

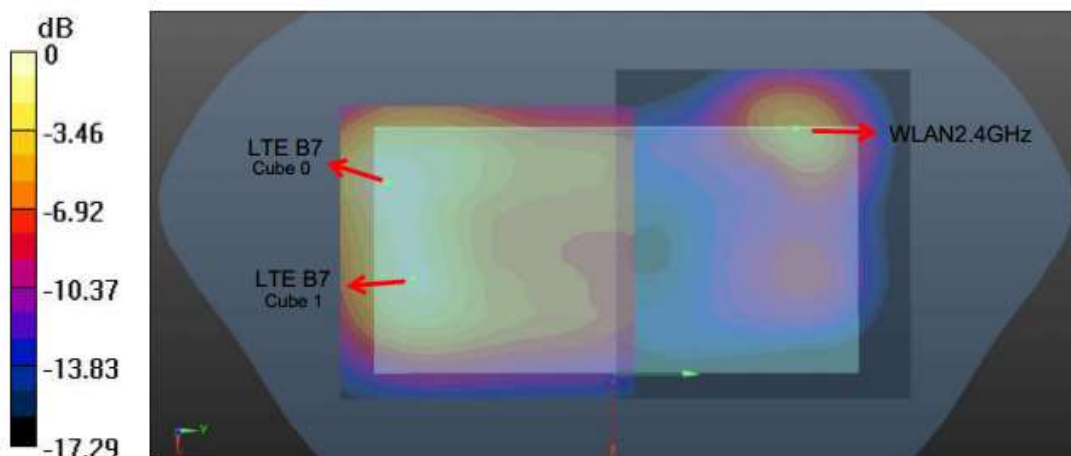
WWAN Band		Exposure Position	1	2	4	1+2 Summed 10g SAR (W/kg)	SPLSR	Case No	1+4 Summed 10g SAR (W/kg)	SPLSR	Case No
			WWAN	2.4GHz WLAN Ant 1+2	5GHz WLAN Ant 1+2						
			10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)						
WCDMA	WCDMA IV_LAT	Front			0.463	0.00			0.46		
		Back		1.899	0.837	1.90			0.84		
		Left side			0.906	0.00			0.91		
		Right side		2.011	0.166	2.01			0.17		
		Top side			1.184	0.00			1.18		
		Bottom side	2.186			2.19			2.19		
LTE	LTE Band 7_LAT	Front			0.463	0.00			0.46		
		Back	2.502	1.899	0.837	4.40	0.07	#02	3.34	0.04	#03
		Left side			0.906	0.00			0.91		
		Right side		2.011	0.166	2.01			0.17		
		Top side			1.184	0.00			1.18		
		Bottom side				0.00			0.00		

17.5 SPLSR Evaluation and Analysis

General Note:

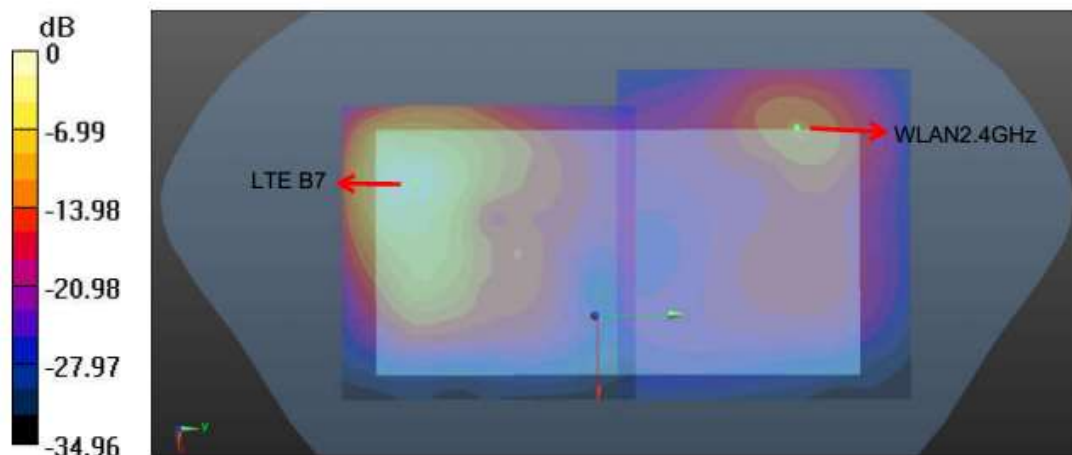
- When standalone SAR is measured for both antennas in the pair, the peak location separation distance is computed by the square root of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$, where (x_1, y_1, z_1) and (x_2, y_2, z_2) are the coordinates in the area scans or extrapolated peak SAR locations in the zoom scans, as appropriate.
- $SPLSR = (SAR_1 + SAR_2)1.5 / (\text{min. separation distance, mm})$. If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneously transmission SAR measurement is not necessary.

Case #01	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 7_LAT Cube 0	Back	1.085	10	-0.0398	-0.0744	-0.205	136.1	1.67	0.02	Not required
	WLAN2.4GHz		0.583	10	-0.0614	0.06	-0.206				
	LTE Band 7_LAT Cube 1	Back	0.995	10	-0.0148	-0.0636	-0.206	132.1	1.58	0.02	Not required
	WLAN2.4GHz		0.583	10	-0.0614	0.06	-0.206				



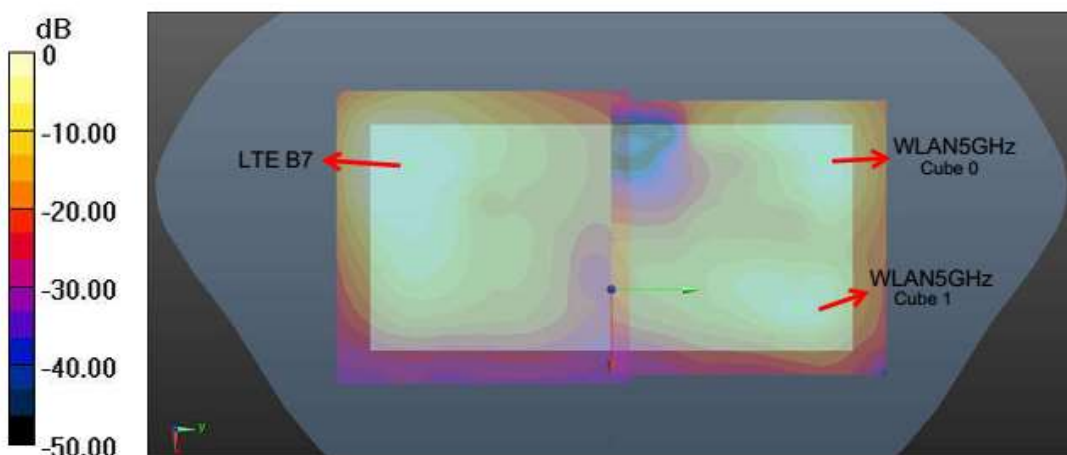
Back (10mm) +2.4G (10mm)

Case #02	Band	Position	10g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 7_LAT	Back	2.502	0	-0.0398	-0.071	-0.206	133.4	4.40	0.07	Not required
	WLAN2.4GHz		1.899	0	-0.0578	0.0612	-0.206				



Back (0mm) +2.4G (0mm)

Case #03	Band	Position	10g SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 7_LAT	Back	2.502	0	-0.0398	-0.071	-0.206	141.0	3.34	0.04	Not required
	WLAN5GHz Cube 0		0.837	0	-0.04	0.07	-0.205				
	LTE Band 7_LAT	Back	2.502	0	-0.0398	-0.071	-0.206	135.6	3.01	0.04	Not required
	WLAN5GHz Cube 1		0.508	0	0.005	0.057	-0.205				



Back (0mm) +5G (0mm)

18. Supplemental tuner tests results

General Note:

1. This device implements aperture tuner (16 status) + impedance tuner (144 status) antenna tuning techniques in the WCDMA B5, LTE 5/12/17/26 for Ant1.
2. This device implements impedance tuner (144 status) antenna tuning techniques in the WCDMA B2/4, LTE 2/4/7/38/41/41(HPUE)/66 for Ant2 and Ant3.
3. SAR test proposal was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing and this design will provide the highest power at different user scenarios and would not influence to the antenna characteristics other than impedance matching.
4. The following test procedure was followed to demonstrate that the SAR results in this report represent the appropriate SAR test conditions. For bands with dynamic tuning implemented, SAR will be measured according to the required FCC SAR test procedures with the dynamic tuner active to allow the device to automatically tune to the antenna state for the respective RF exposure test configurations. Additional single point SAR time-sweep measurements will be evaluated for other tuner states to determine that the other tuner configurations would result in equivalent or lower SAR values.
5. To evaluate all of the tuner states, the 144 tuner states are divided evenly among band, mode and exposure combinations so that at least one single point SAR measurement is measured in each configuration. Single point time-sweep measurements will be performed at the peak SAR location determined by the zoom scan of the configuration with the highest reported SAR for each combination. The tuner state will be established remotely so that the device is not moved for the entire series of single point SAR for the tuner states in each combination. The SAR probe will remain stationary at the same position throughout the entire series of single point measurements for each combination.
6. The device supports LTE B4/B66, B12/17, B38/B41. Since the supported frequency span for LTE B4/B17/B38 falls completely within the supported frequency span for LTE B66/B12/B41, and both bands have the same target power and both LTE bands share the same transmission path, therefore standalone SAR was only assessed for LTE B66/B12/B41. The single point SAR time-sweep measurements were treated independently for each supported ACL frequency band. For the LTE B4/B17/B38 single point SAR measurement selected the highest measured SAR configuration and exposure condition of LTE B66/B12/B41.
7. According to TCBC 201904 workshop, total number tuner states divided evenly among each supported band / air interface and exposure condition combination.
8. According to TCBC 201904 workshop, if any single point SAR measurement result is > 1.2 W/kg for a band/exposure condition combination set, all supported tuner states are evaluated with single point SAR measurements for the combination.
9. The tuner state was established remotely through Wi-Fi so that the device is not moved for the entire series of single point SAR for the tuner states in each combination (band, mode, exposure conditions).

18.1 Supplemental Tuner Head & Body SAR Results

Please refer to Appendix F.

Test Engineer : Changlin Huang, Bin He, Mengming Dai



19. Uncertainty Assessment

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be $\leq 30\%$, for a confidence interval of $k = 2$. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg and highest measured 10-g SAR is less 3.75W/kg. Therefore, the measurement uncertainty table is not required in this report.

20. References

- [1] FCC 47 CFR Part 2 "Frequency Allocations and Radio Treaty Matters; General Rules and Regulations"
- [2] ANSI/IEEE Std. C95.1-1992, "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz", September 1992
- [3] IEEE Std. 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", Sep 2013
- [4] SPEAG DASY System Handbook
- [5] FCC KDB 248227 D01 v02r02, "SAR Guidance for IEEE 802.11 (WiFi) Transmitters", Oct 2015.
- [6] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015
- [7] FCC KDB 648474 D04 v01r03, "SAR Evaluation Considerations for Wireless Handsets", Oct 2015.
- [8] FCC KDB 941225 D01 v03r01, "3G SAR MEAUREMENT PROCEDURES", Oct 2015
- [9] FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015
- [10] FCC KDB 941225 D05A v01r02, "Rel. 10 LTE SAR Test Guidance and KDB Inquiries", Oct 2015
- [11] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.
- [12] FCC KDB 616217 D04 v01r02, "SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers", Oct 2015
- [13] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [14] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.



Appendix A. Plots of System Performance Check

The plots are shown as follows.

System Check_Head_750MHz

DUT: D750V3-SN:1099

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

Medium: HSL_750_200510 Medium parameters used: $f = 750$ MHz; $\sigma = 0.878$ S/m; $\epsilon_r = 40.673$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(10.71, 10.71, 10.71); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.56 W/kg

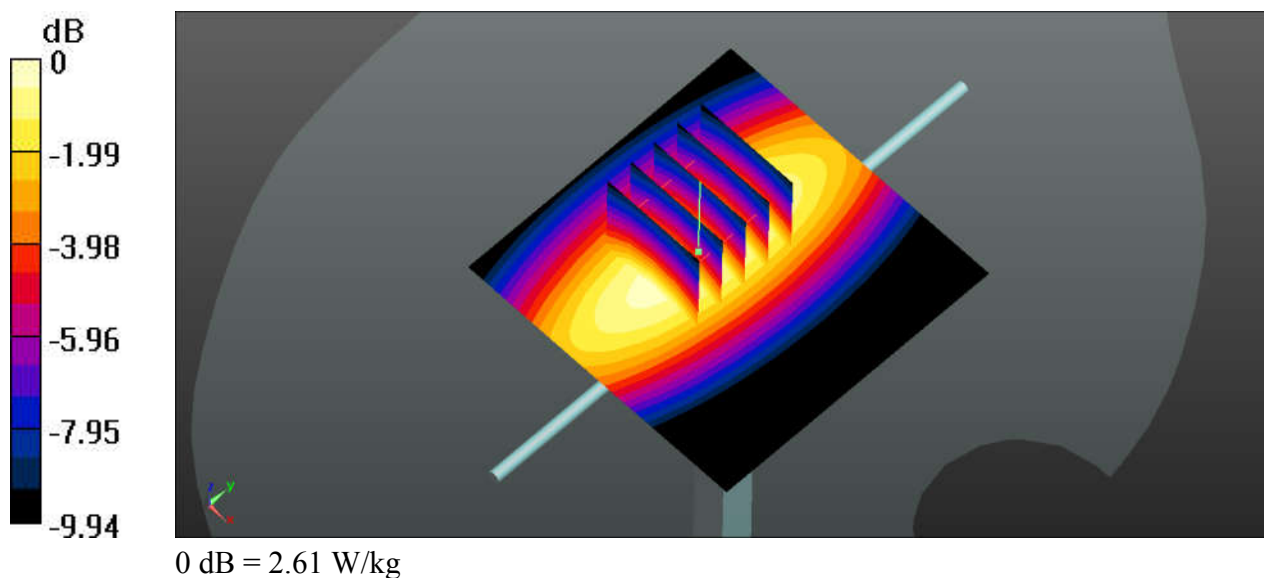
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 50.46 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 3.05 W/kg

SAR(1 g) = 2.1 W/kg; SAR(10 g) = 1.42 W/kg

Maximum value of SAR (measured) = 2.61 W/kg



System Check_Head_835MHz

DUT: D835V2-SN:4d162

Communication System: UID 0, CW (0); Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL_835_200508 Medium parameters used: $f = 835$ MHz; $\sigma = 0.902$ S/m; $\epsilon_r = 40.749$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(10.45, 10.45, 10.45); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.98 W/kg

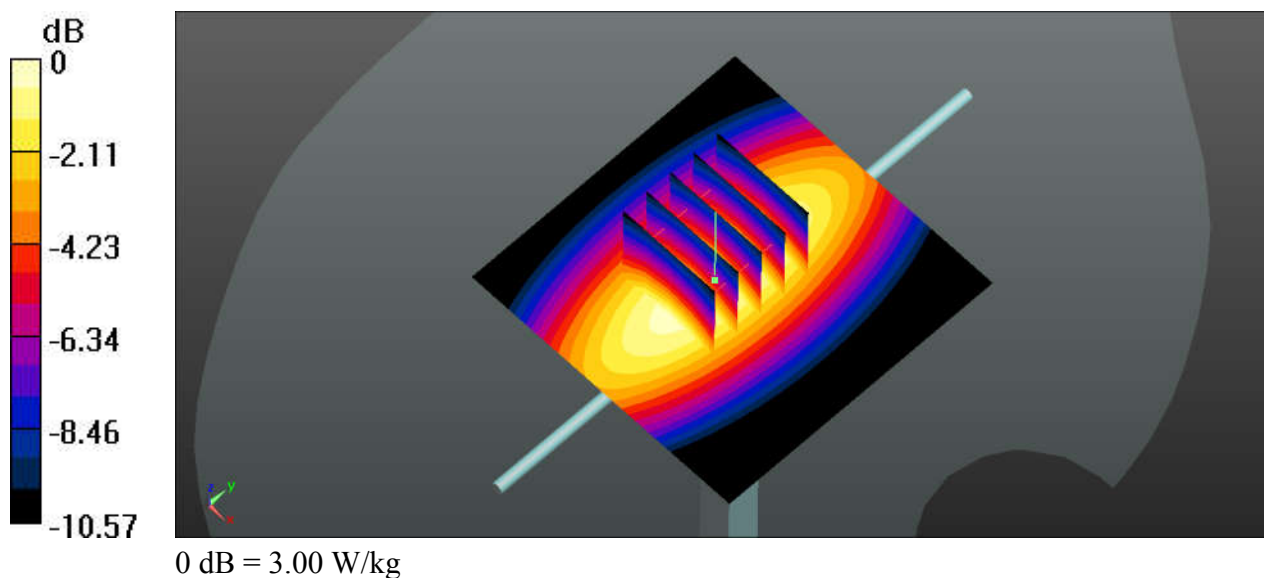
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 58.33 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 3.48 W/kg

SAR(1 g) = 2.38 W/kg; SAR(10 g) = 1.57 W/kg

Maximum value of SAR (measured) = 3.00 W/kg



System Check_Head_835MHz

DUT: D835V2-SN:4d162

Communication System: UID 0, CW (0); Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL_835_200520 Medium parameters used: $f = 835$ MHz; $\sigma = 0.929$ S/m; $\epsilon_r = 41.793$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(10.45, 10.45, 10.45); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 3.08 W/kg

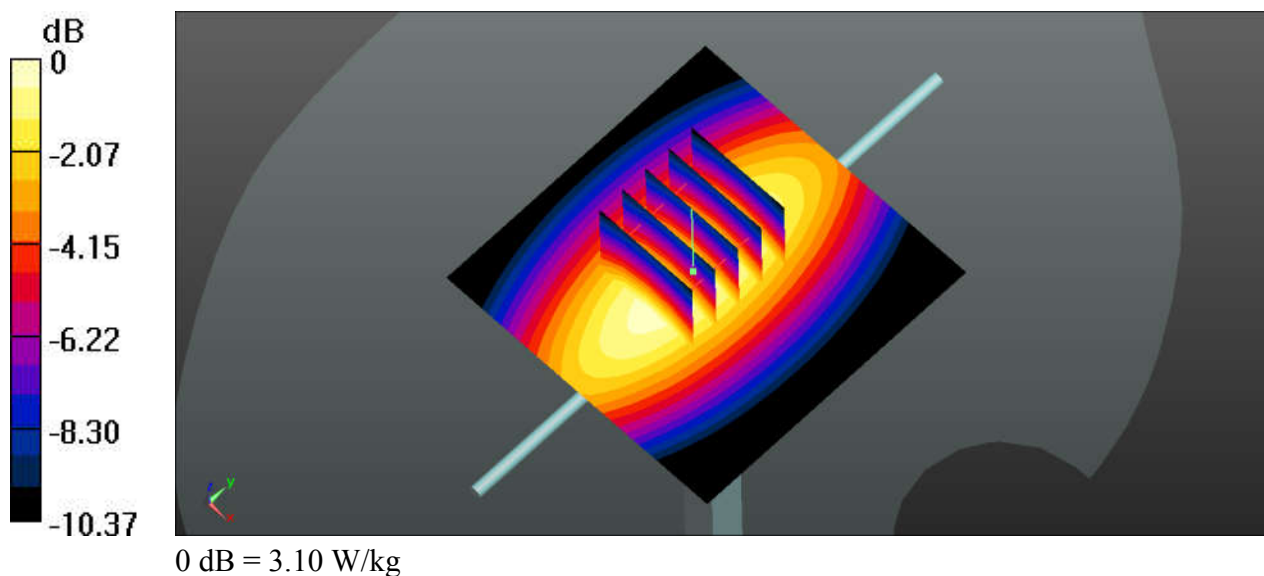
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 59.53 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 3.60 W/kg

SAR(1 g) = 2.48 W/kg; SAR(10 g) = 1.65 W/kg

Maximum value of SAR (measured) = 3.10 W/kg



System Check_Head_1750MHz

DUT: D1750V2-SN:1137

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: HSL_1750_200504 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.375$ S/m; $\epsilon_r = 41.541$;

$\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(8.88, 8.88, 8.88); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 12.3 W/kg

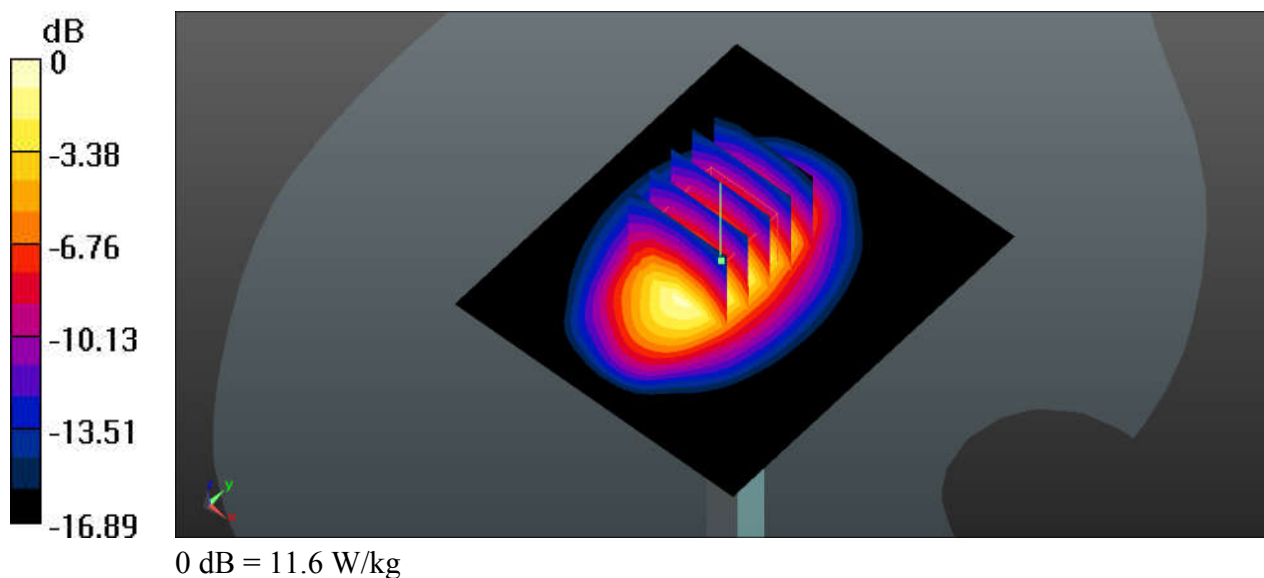
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 86.32 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 14.4 W/kg

SAR(1 g) = 8.42 W/kg; SAR(10 g) = 4.55 W/kg

Maximum value of SAR (measured) = 11.6 W/kg



System Check_Head_1750MHz

DUT: D1750V2-SN:1137

Communication System: UID 0, CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: HSL_1750_200517 Medium parameters used: $f = 1750$ MHz; $\sigma = 1.407$ S/m; $\epsilon_r = 41.718$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(8.88, 8.88, 8.88); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 12.6 W/kg

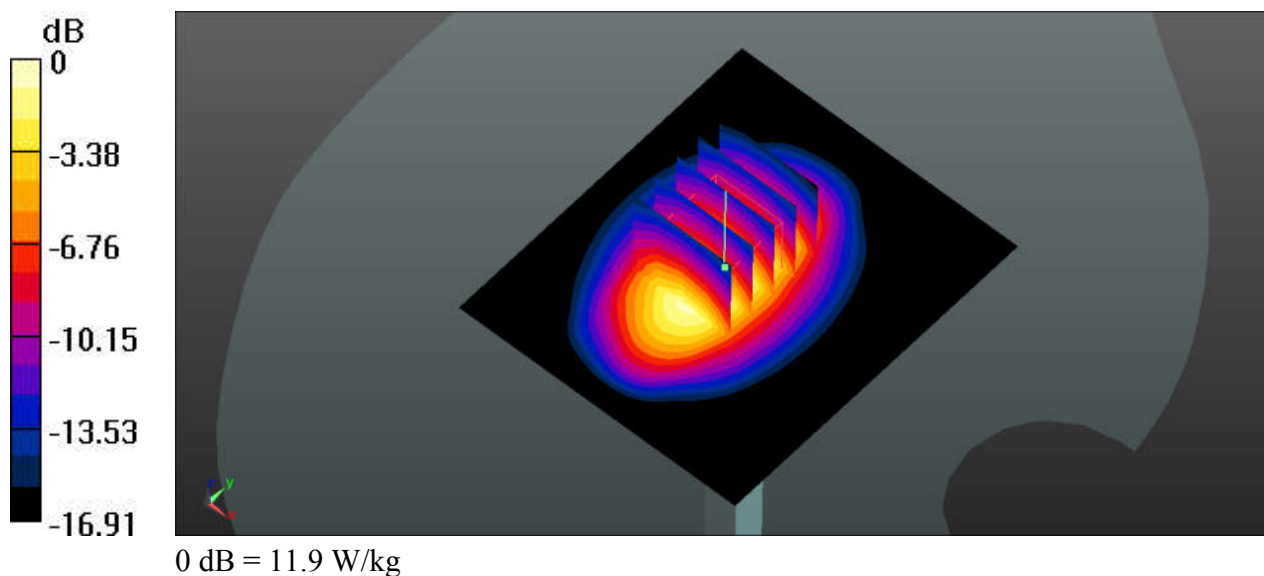
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 86.32 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 14.8 W/kg

SAR(1 g) = 8.55 W/kg; SAR(10 g) = 4.64 W/kg

Maximum value of SAR (measured) = 11.9 W/kg



System Check_Head_1900MHz

DUT: D1900V2-SN:5d182

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL_1900_200506 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.439$ S/m; $\epsilon_r = 40.038$;
 $\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(8.58, 8.58, 8.58); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 13.9 W/kg

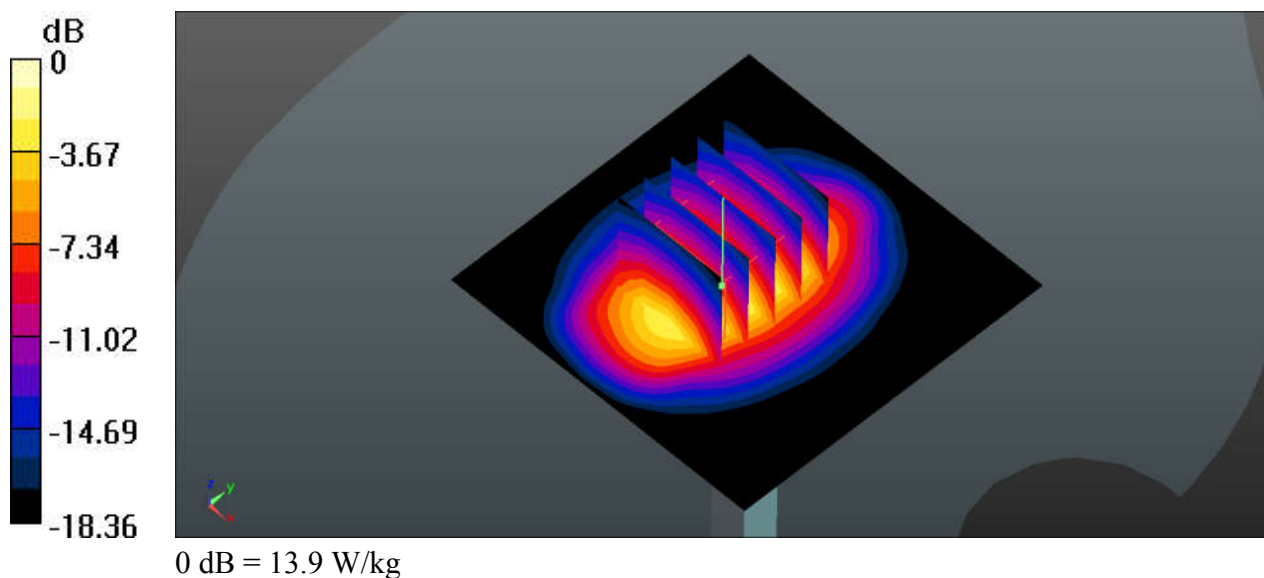
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 94.74 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 17.5 W/kg

SAR(1 g) = 9.57 W/kg; SAR(10 g) = 4.95 W/kg

Maximum value of SAR (measured) = 13.9 W/kg



System Check_Head_1900MHz

DUT: D1900V2-SN:5d182

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL_1900_200519 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.45$ S/m; $\epsilon_r = 40.004$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(8.58, 8.58, 8.58); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 14.0 W/kg

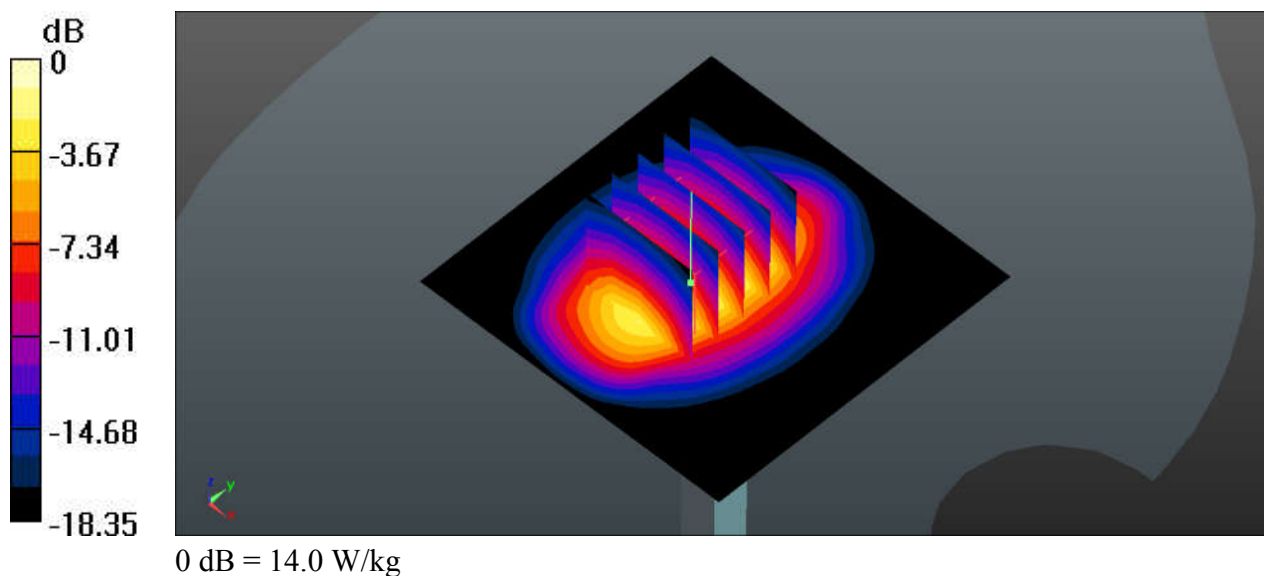
Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 94.74 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 17.7 W/kg

SAR(1 g) = 9.65 W/kg; SAR(10 g) = 4.99 W/kg

Maximum value of SAR (measured) = 14.0 W/kg



System Check_Head_2450MHz

DUT: D2450V2-SN:924

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: HSL_2450_200522 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.856$ S/m; $\epsilon_r = 37.685$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C; Liquid Temperature : 22.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(7.76, 7.76, 7.76); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 21.5 W/kg

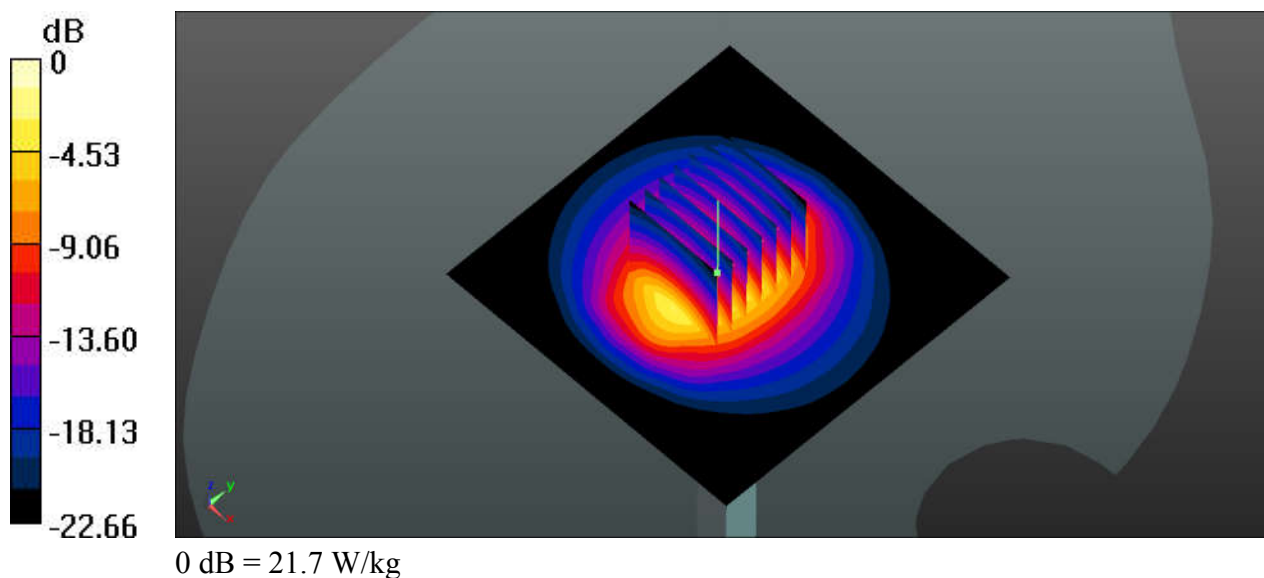
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 90.83 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 29.8 W/kg

SAR(1 g) = 13.9 W/kg; SAR(10 g) = 6.3 W/kg

Maximum value of SAR (measured) = 21.7 W/kg



System Check_Head_2600MHz

DUT: D2600V2-SN:1070

Communication System: UID 0, CW (0); Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: HSL_2600_200511 Medium parameters used: $f = 2600$ MHz; $\sigma = 2.053$ S/m; $\epsilon_r = 38.335$;

$\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(7.47, 7.47, 7.47); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (71x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 25.1 W/kg

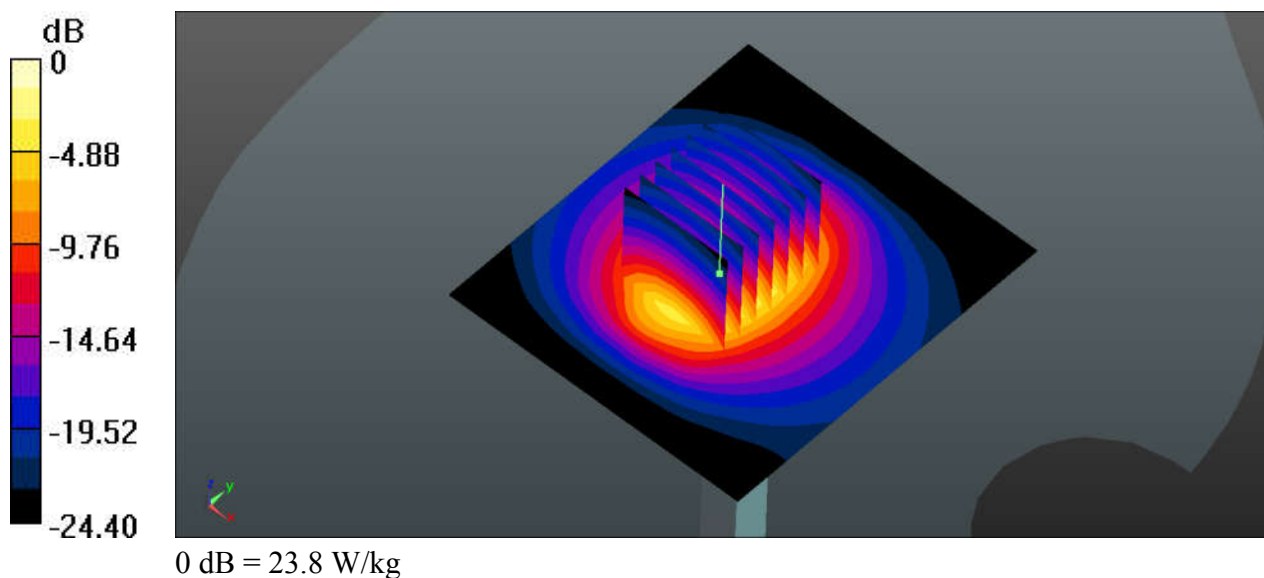
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 105.1 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 33.9 W/kg

SAR(1 g) = 15.1 W/kg; SAR(10 g) = 6.58 W/kg

Maximum value of SAR (measured) = 23.8 W/kg



System Check_Head_2600MHz

DUT: D2600V2-SN:1070

Communication System: UID 0, CW (0); Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: HSL_2600_200525 Medium parameters used: $f = 2600$ MHz; $\sigma = 2.052$ S/m; $\epsilon_r = 38.007$;

$\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C ; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(7.47, 7.47, 7.47); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (71x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 24.5 W/kg

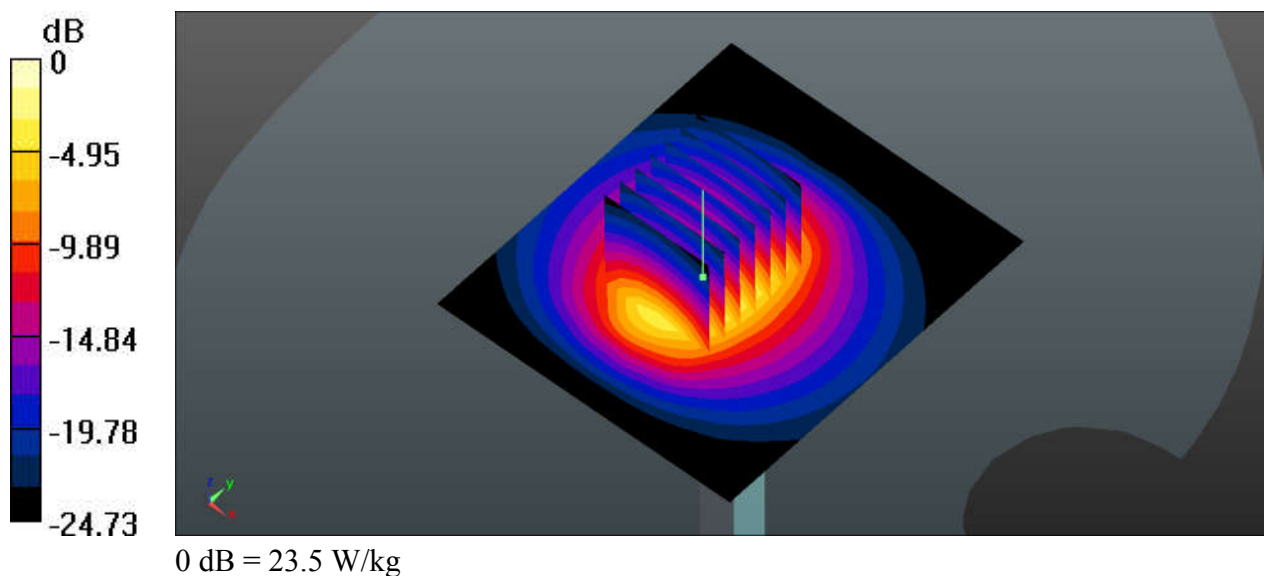
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 101.6 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 33.2 W/kg

SAR(1 g) = 14.8 W/kg; SAR(10 g) = 6.4 W/kg

Maximum value of SAR (measured) = 23.5 W/kg



System Check_Head_5250MHz**DUT: D5GHzV2-SN:1167**

Communication System: UID 0, CW (0); Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: HSL_5250_200513 Medium parameters used: $f = 5250$ MHz; $\sigma = 4.638$ S/m; $\epsilon_r = 37.088$;

$\rho = 1000$ kg/m³

Ambient Temperature : 23.4 °C; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(5.2, 5.2, 5.2); Calibrated: 2020.01.22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=100mW/Area Scan (71x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 18.3 W/kg

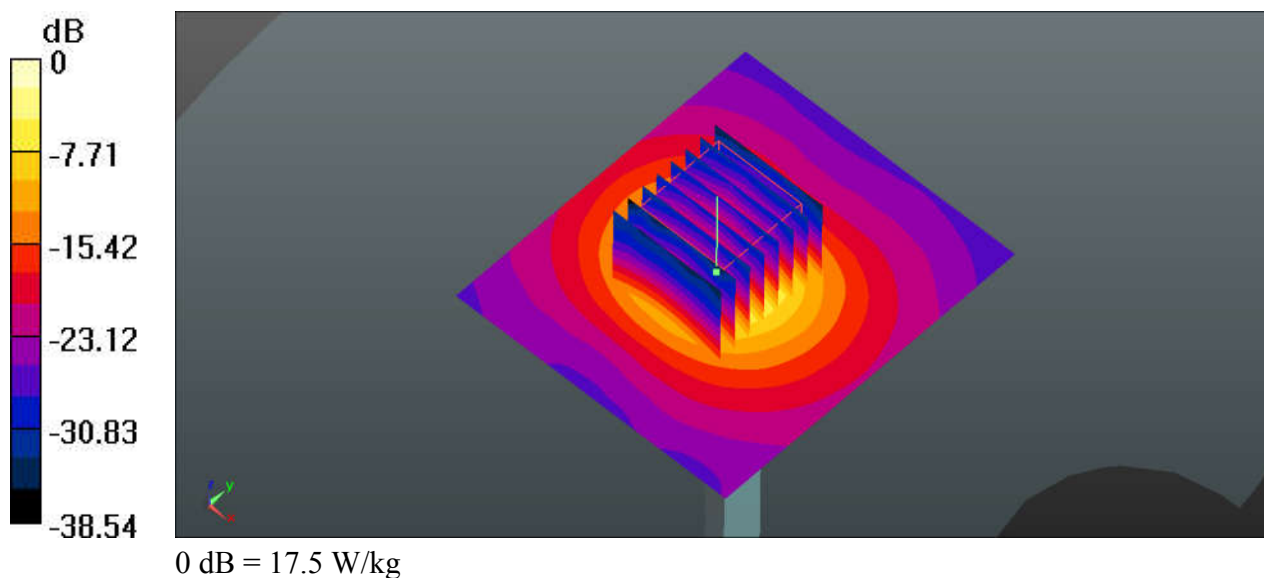
Pin=100mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 52.54 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 28.6 W/kg

SAR(1 g) = 7.11 W/kg; SAR(10 g) = 2.04 W/kg

Maximum value of SAR (measured) = 17.5 W/kg



System Check_Head_5250MHz**DUT: D5GHzV2-SN:1167**

Communication System: UID 0, CW (0); Frequency: 5250 MHz; Duty Cycle: 1:1

Medium: HSL_5250_200527 Medium parameters used: $f = 5250$ MHz; $\sigma = 4.699$ S/m; $\epsilon_r = 36.046$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C ; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(5.2, 5.2, 5.2); Calibrated: 2020.01.22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 20.6 W/kg

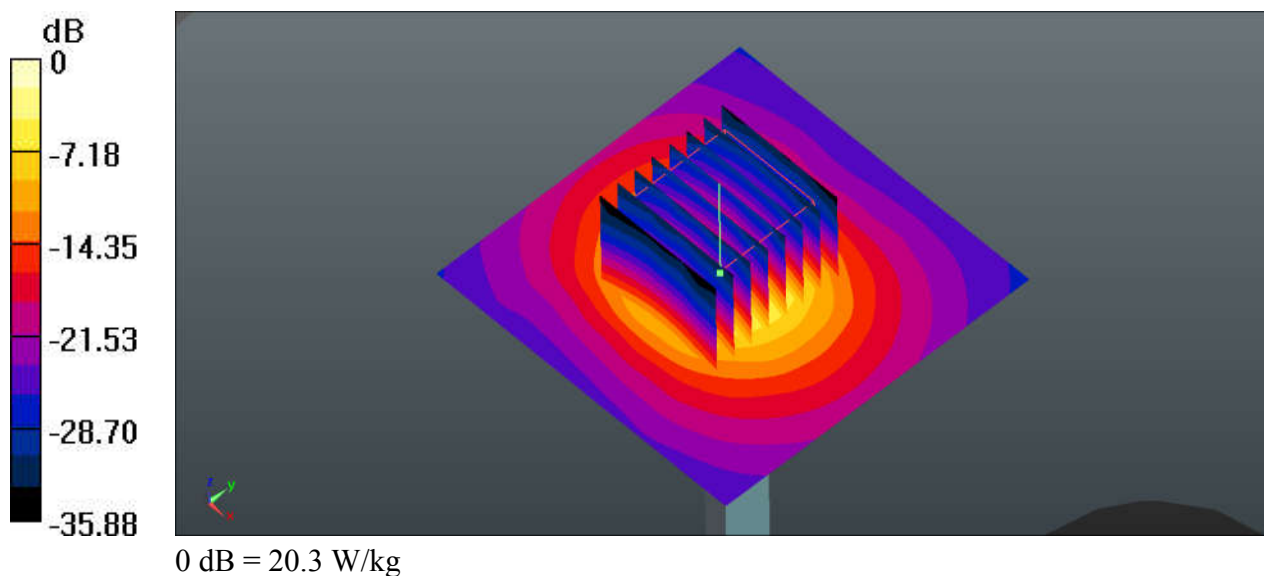
Pin=100mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 58.95 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 34.2 W/kg

SAR(1 g) = 8.08 W/kg; SAR(10 g) = 2.26 W/kg

Maximum value of SAR (measured) = 20.3 W/kg



System Check_Head_5600MHz

DUT: D5GHzV2-SN:1167

Communication System: UID 0, CW (0); Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: HSL_5600_200512 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.048$ S/m; $\epsilon_r = 36.534$;

$\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(4.62, 4.62, 4.62); Calibrated: 2020.01.22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=100mW/Area Scan (71x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 21.7 W/kg

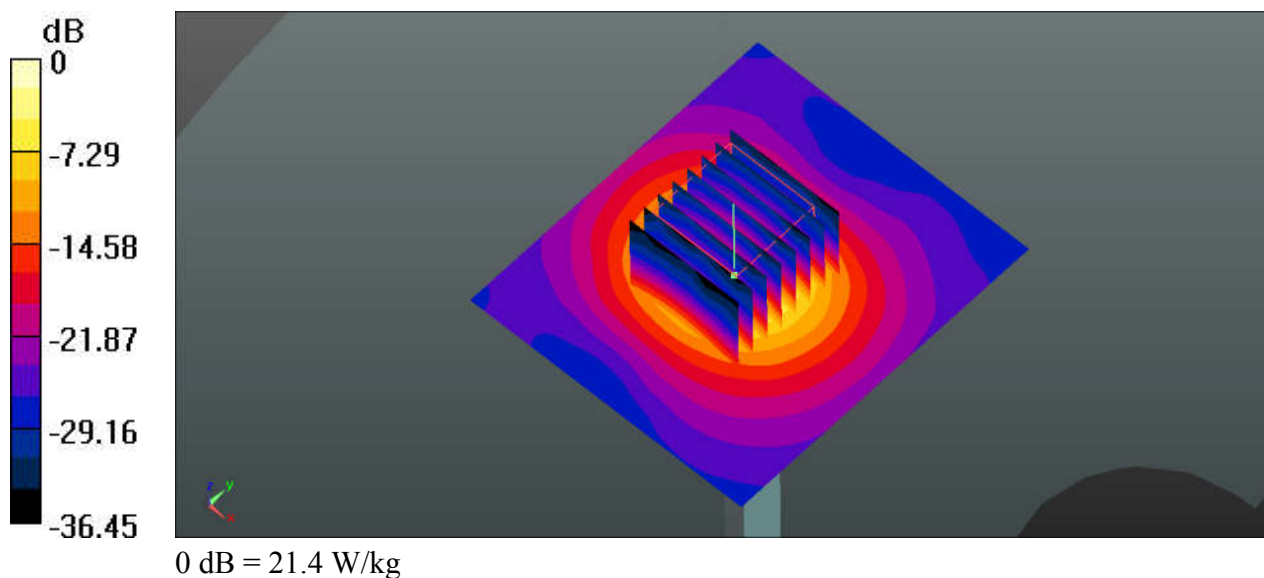
Pin=100mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 54.36 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 36.1 W/kg

SAR(1 g) = 8.22 W/kg; SAR(10 g) = 2.33 W/kg

Maximum value of SAR (measured) = 21.4 W/kg



System Check_Head_5600MHz

DUT: D5GHzV2-SN:1167

Communication System: UID 0, CW (0); Frequency: 5600 MHz; Duty Cycle: 1:1

Medium: HSL_5600_200529 Medium parameters used: $f = 5600$ MHz; $\sigma = 5.125$ S/m; $\epsilon_r = 35.435$;

$\rho = 1000$ kg/m³

Ambient Temperature : 23.8 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(4.62, 4.62, 4.62); Calibrated: 2020.01.22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=100mW/Area Scan (71x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 23.8 W/kg

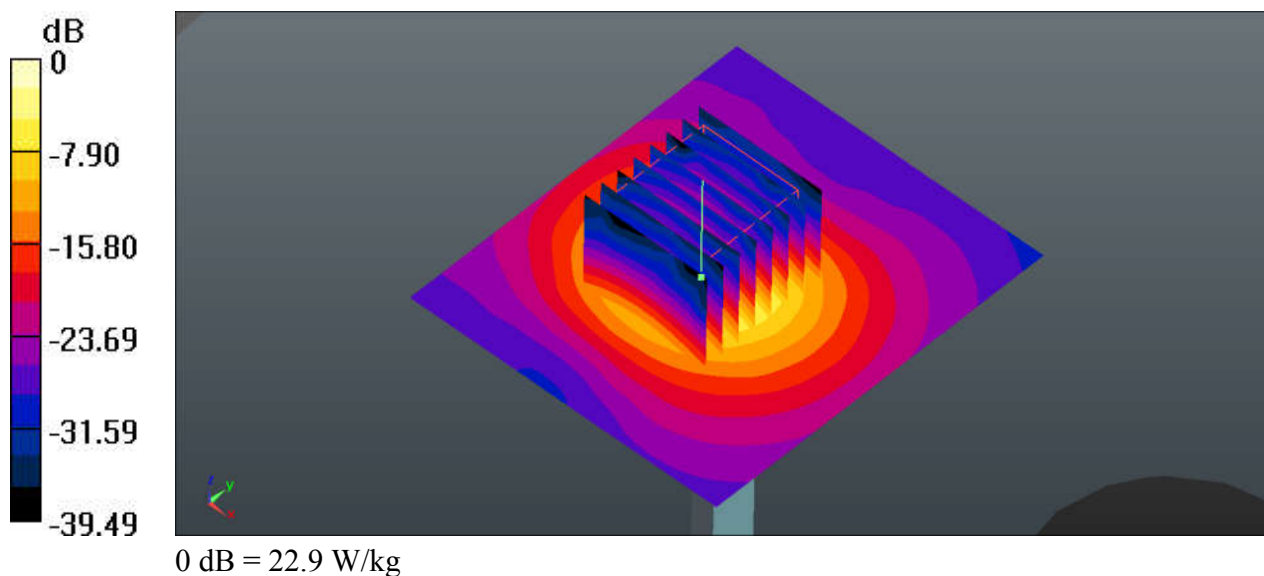
Pin=100mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 55.21 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 39.1 W/kg

SAR(1 g) = 8.53 W/kg; SAR(10 g) = 2.37 W/kg

Maximum value of SAR (measured) = 22.9 W/kg



System Check_Head_5750MHz**DUT: D5GHzV2-SN:1167**

Communication System: UID 0, CW (0); Frequency: 5750 MHz; Duty Cycle: 1:1

Medium: HSL_5750_200515 Medium parameters used: $f = 5750$ MHz; $\sigma = 5.22$ S/m; $\epsilon_r = 36.277$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.7 °C; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(4.83, 4.83, 4.83); Calibrated: 2020.01.22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=100mW/Area Scan (71x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 19.8 W/kg

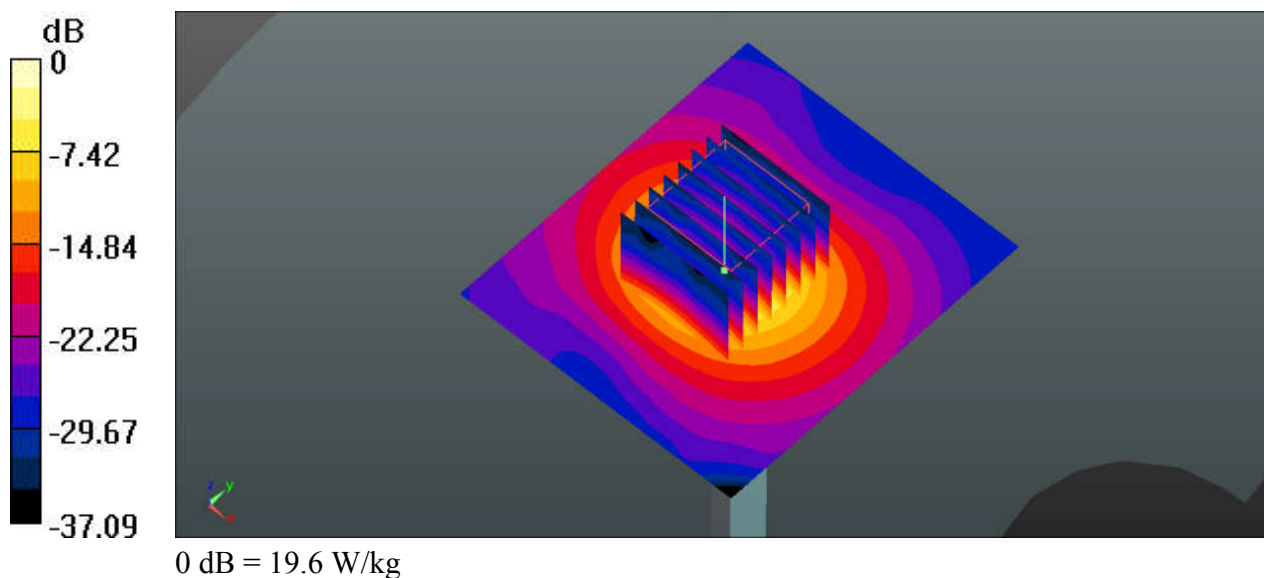
Pin=100mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 51.54 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 33.8 W/kg

SAR(1 g) = 7.46 W/kg; SAR(10 g) = 2.12 W/kg

Maximum value of SAR (measured) = 19.6 W/kg



System Check_Head_5750MHz**DUT: D5GHzV2-SN:1167**

Communication System: UID 0, CW (0); Frequency: 5750 MHz; Duty Cycle: 1:1

Medium: HSL_5750_200531 Medium parameters used: $f = 5750$ MHz; $\sigma = 5.25$ S/m; $\epsilon_r = 35.137$; $\rho = 1000$ kg/m³

Ambient Temperature : 23.6 °C ; Liquid Temperature : 22.6 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(4.83, 4.83, 4.83); Calibrated: 2020.01.22;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=100mW/Area Scan (71x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 22.0 W/kg

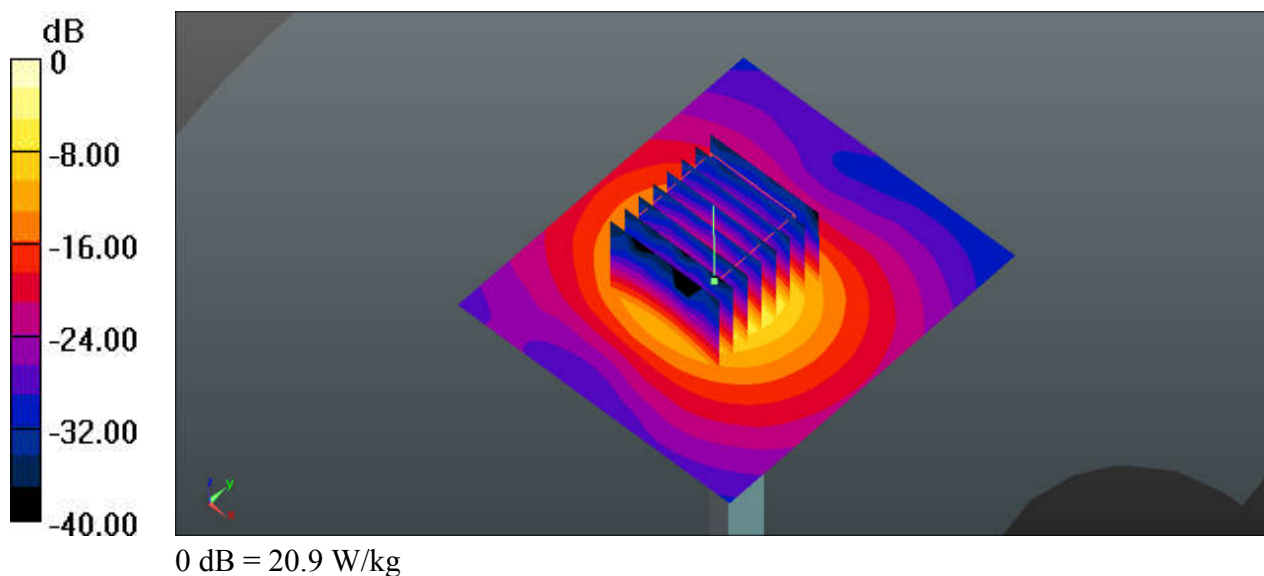
Pin=100mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 50.57 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 36.3 W/kg

SAR(1 g) = 7.92 W/kg; SAR(10 g) = 2.25 W/kg

Maximum value of SAR (measured) = 20.9 W/kg





Appendix B. Plots of SAR Measurement

The plots are shown as follows.

01_GSM850_GPRS(4 Tx slot)_Left Cheek_Ch251

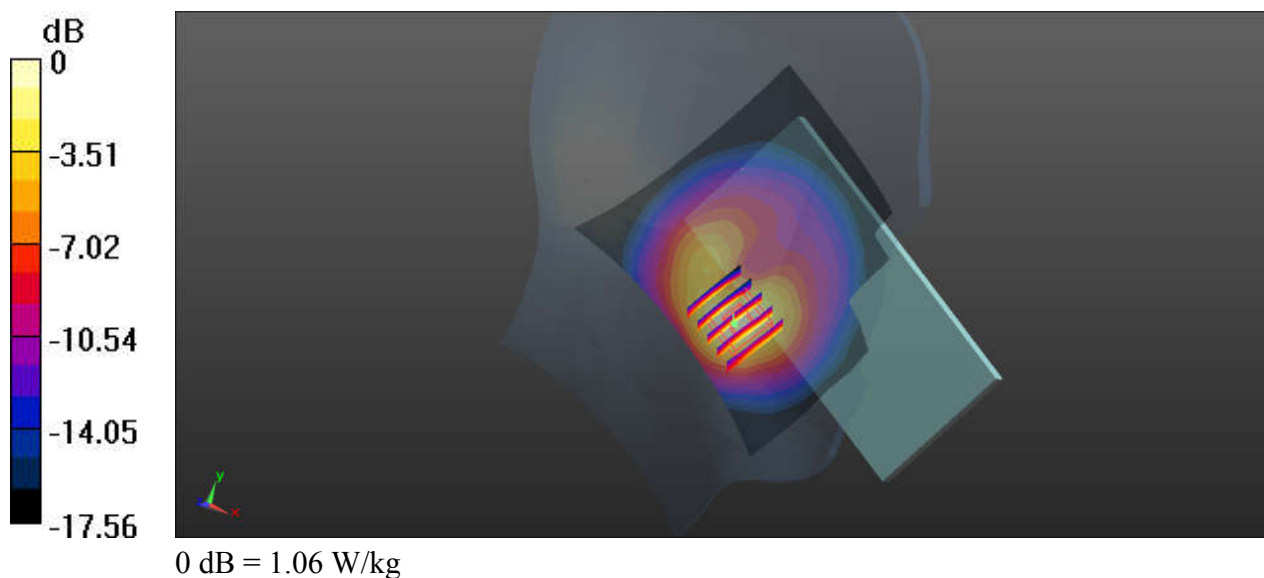
Communication System: UID 0, GPRS/EDGE12 (0); Frequency: 848.8 MHz; Duty Cycle: 1:2.08
Medium: HSL_835_200520 Medium parameters used: $f = 848.8$ MHz; $\sigma = 0.941$ S/m; $\epsilon_r = 41.625$;
 $\rho = 1000$ kg/m³
Ambient Temperature : 23.6 °C ; Liquid Temperature : 22.8 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(10.45, 10.45, 10.45); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch251/Area Scan (81x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.06 W/kg

Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.749 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.46 W/kg
SAR(1 g) = 0.736 W/kg; SAR(10 g) = 0.386 W/kg
Maximum value of SAR (measured) = 1.04 W/kg



02_GSM1900_GPRS(4 Tx slot)_Right Tilted_Ch810

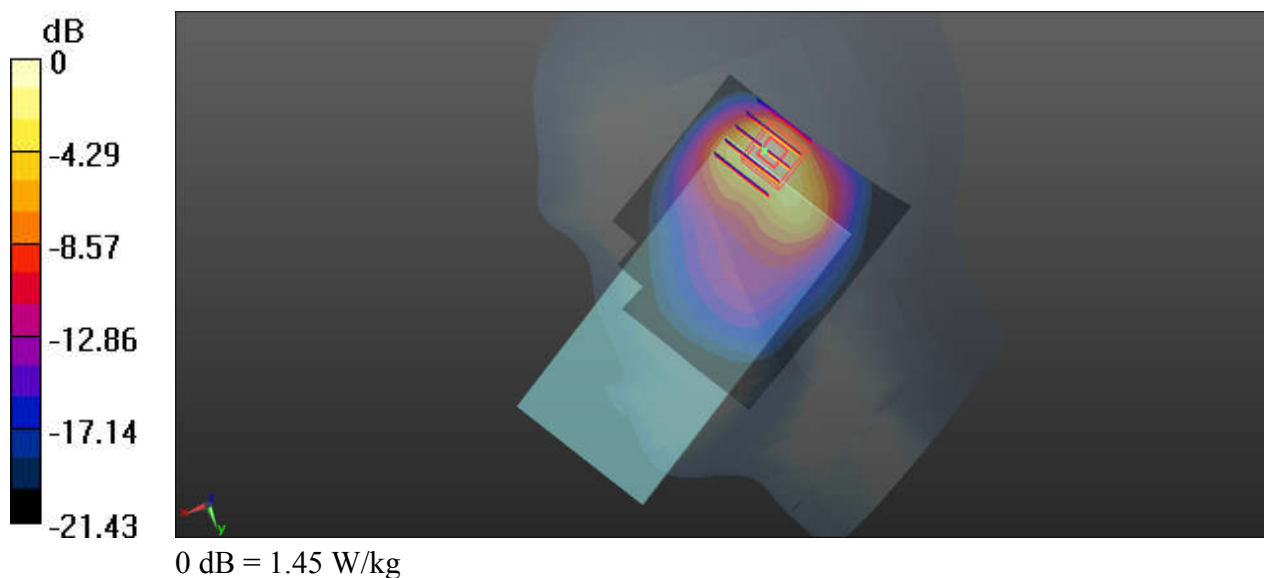
Communication System: UID 0, GPRS/EDGE12 (0); Frequency: 1909.8 MHz; Duty Cycle: 1:2.08
Medium: HSL_1900_200519 Medium parameters used: $f = 1909.8$ MHz; $\sigma = 1.46$ S/m; $\epsilon_r = 39.962$;
 $\rho = 1000$ kg/m³
Ambient Temperature : 23.7 °C; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(8.58, 8.58, 8.58); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch810/Area Scan (71x81x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm
Maximum value of SAR (interpolated) = 1.60 W/kg

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8$ mm, $dy=8$ mm, $dz=5$ mm
Reference Value = 22.46 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 2.01 W/kg
SAR(1 g) = 0.928 W/kg; SAR(10 g) = 0.421 W/kg
Maximum value of SAR (measured) = 1.45 W/kg



03_WCDMA V_RMC 12.2Kbps_Left Cheek_Ch4132

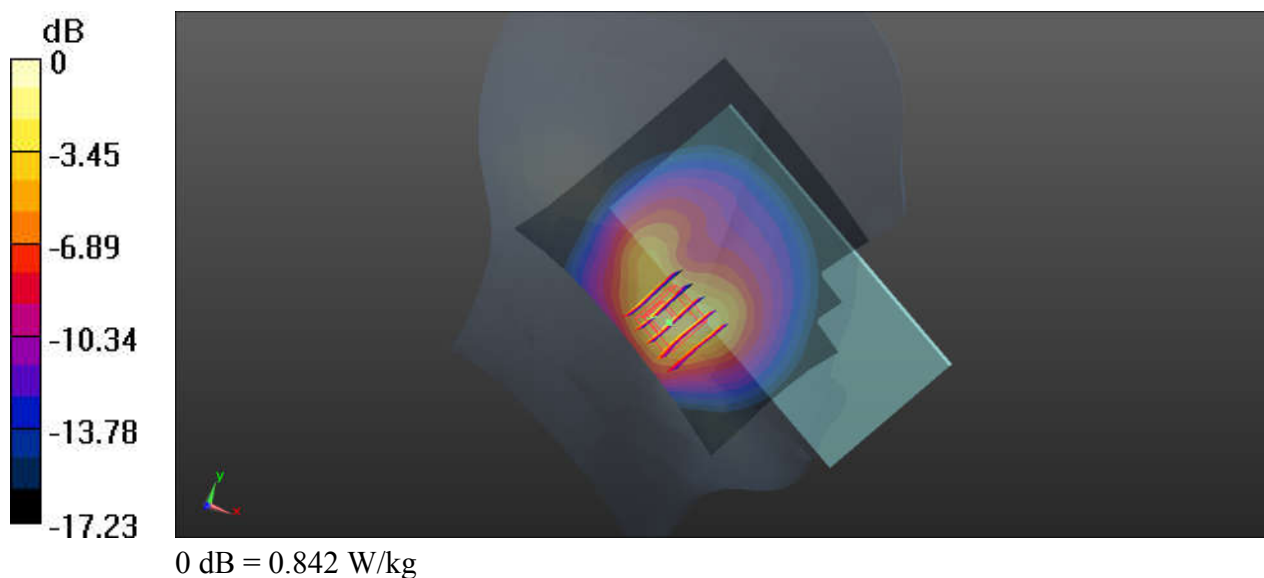
Communication System: UID 0, UMTS (0); Frequency: 826.4 MHz; Duty Cycle: 1:1
Medium: HSL_835_200508 Medium parameters used: $f = 826.4$ MHz; $\sigma = 0.894$ S/m; $\epsilon_r = 40.831$;
 $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(10.45, 10.45, 10.45); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch4132/Area Scan (81x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.613 W/kg

Ch4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.718 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.601 W/kg; SAR(10 g) = 0.321 W/kg
Maximum value of SAR (measured) = 0.842 W/kg



04_WCDMA IV_RMC 12.2Kbps_Right Tilted_Ch1413

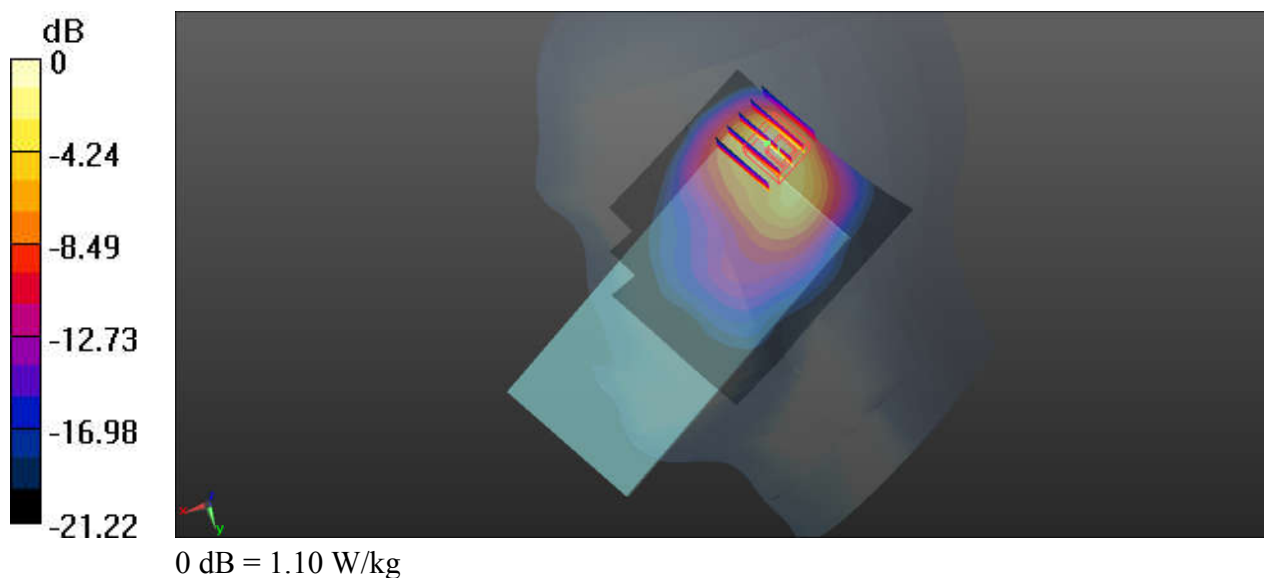
Communication System: UID 0, UMTS (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1
Medium: HSL_1750_200504 Medium parameters used: $f = 1732.6$ MHz; $\sigma = 1.359$ S/m; $\epsilon_r = 41.63$;
 $\rho = 1000$ kg/m³
Ambient Temperature : 23.6 °C; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(8.88, 8.88, 8.88); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch1413/Area Scan (71x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.15 W/kg

Ch1413/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.79 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.43 W/kg
SAR(1 g) = 0.709 W/kg; SAR(10 g) = 0.306 W/kg
Maximum value of SAR (measured) = 1.10 W/kg



05_WCDMA II_RMC 12.2Kbps_Right Cheek_Ch9538

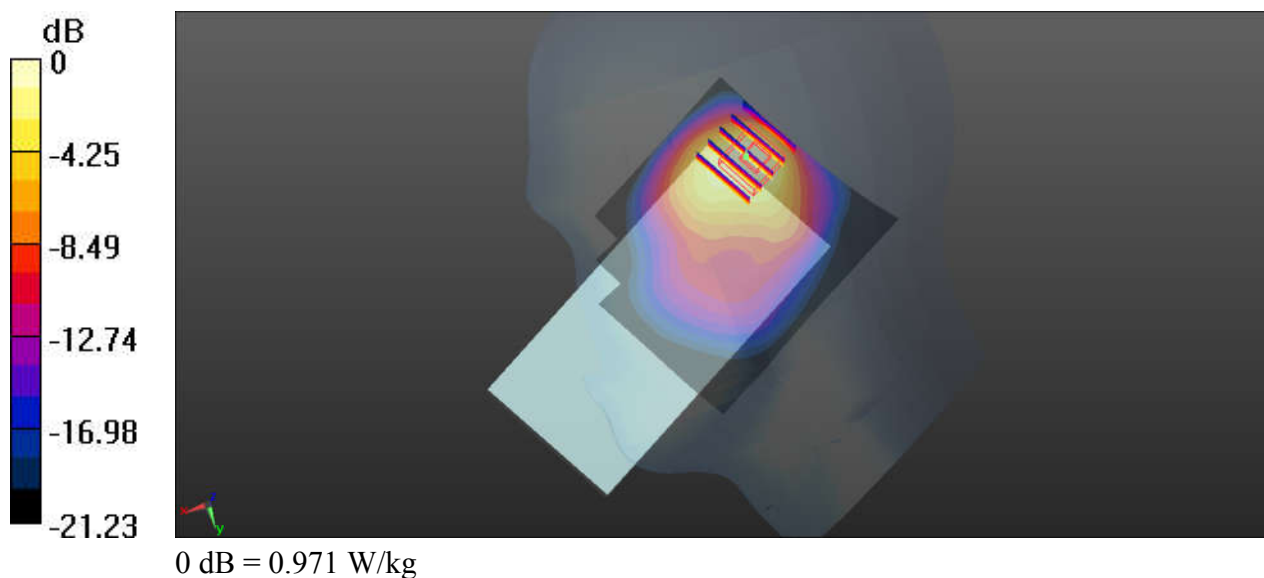
Communication System: UID 0, UMTS (0); Frequency: 1907.6 MHz; Duty Cycle: 1:1
Medium: HSL_1900_200506 Medium parameters used: $f = 1907.6$ MHz; $\sigma = 1.446$ S/m; $\epsilon_r = 40.004$;
 $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(8.58, 8.58, 8.58); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch9538/Area Scan (71x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.17 W/kg

Ch9538/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.69 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 0.656 W/kg; SAR(10 g) = 0.315 W/kg
Maximum value of SAR (measured) = 0.971 W/kg



06_LTE Band 12_10M_QPSK_1RB_49Offset_Right Cheek_Ch23095

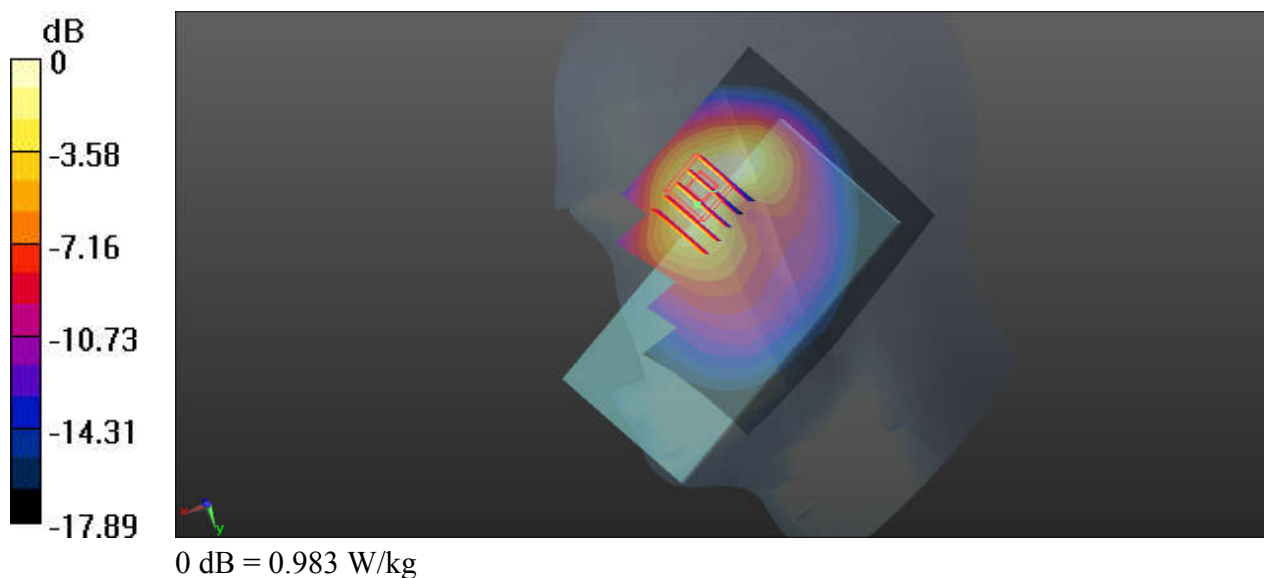
Communication System: UID 0, LTE (0); Frequency: 707.5 MHz; Duty Cycle: 1:1
Medium: HSL_750_200510 Medium parameters used: $f = 707.5$ MHz; $\sigma = 0.856$ S/m; $\epsilon_r = 41.609$;
 $\rho = 1000$ kg/m³
Ambient Temperature : 23.4 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(10.71, 10.71, 10.71); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch23095/Area Scan (81x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.942 W/kg

Ch23095/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.988 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.38 W/kg
SAR(1 g) = 0.710 W/kg; SAR(10 g) = 0.383 W/kg
Maximum value of SAR (measured) = 0.983 W/kg



07_LTE Band 5_10M_QPSK_1RB_0Offset_Left Cheek_Ch20525

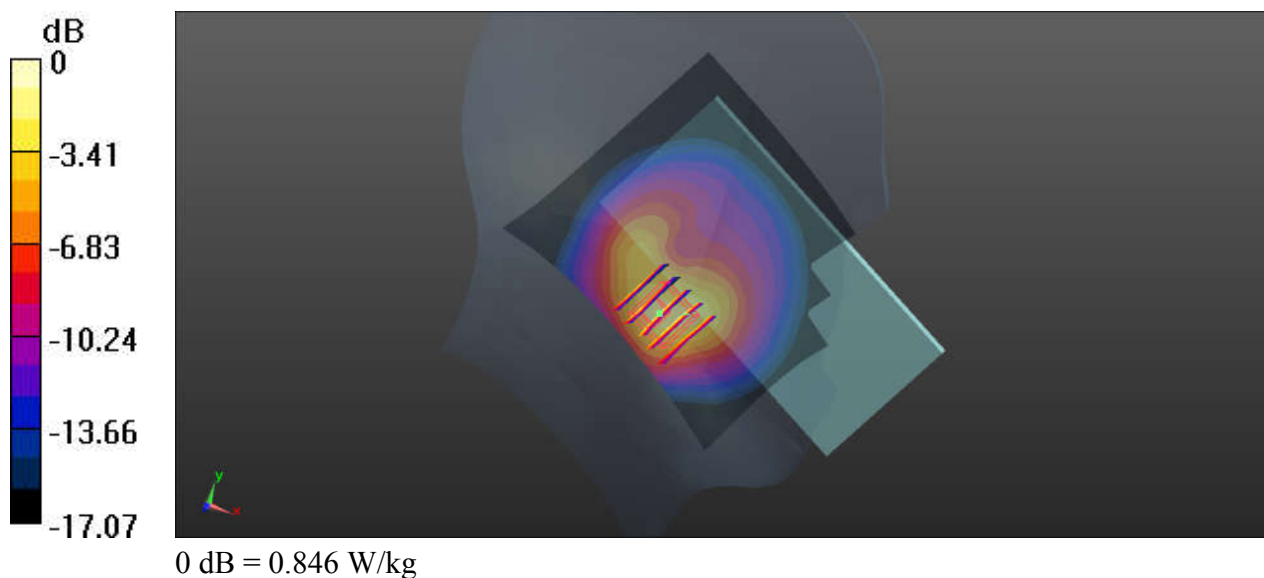
Communication System: UID 0, LTE (0); Frequency: 836.5 MHz; Duty Cycle: 1:1
Medium: HSL_835_200508 Medium parameters used: $f = 836.5$ MHz; $\sigma = 0.903$ S/m; $\epsilon_r = 40.74$;
 $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(10.45, 10.45, 10.45); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20525/Area Scan (81x91x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.630 W/kg

Ch20525/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.230 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 0.607 W/kg; SAR(10 g) = 0.322 W/kg
Maximum value of SAR (measured) = 0.846 W/kg



08_LTE Band 26_15M_QPSK_36RB_20Offset_Left Cheek_Ch26765

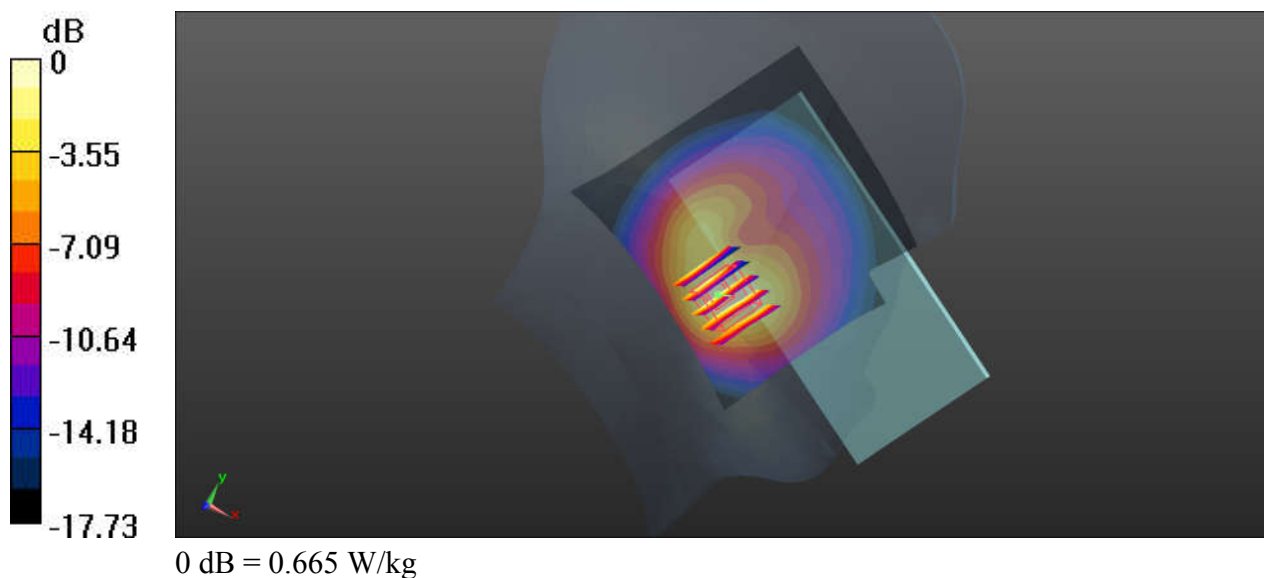
Communication System: UID 0, LTE (0); Frequency: 821.5 MHz; Duty Cycle: 1:1
Medium: HSL_835_200508 Medium parameters used: $f = 821.5$ MHz; $\sigma = 0.89$ S/m; $\epsilon_r = 40.875$;
 $\rho = 1000$ kg/m³
Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.7 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(10.45, 10.45, 10.45); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch26765/Area Scan (81x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.665 W/kg

Ch26765/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.266 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.14 W/kg
SAR(1 g) = 0.575 W/kg; SAR(10 g) = 0.301 W/kg
Maximum value of SAR (measured) = 0.832 W/kg



09_LTE Band 66_20M_QPSK_50RB_24Offset_Right Tilted_Ch132572

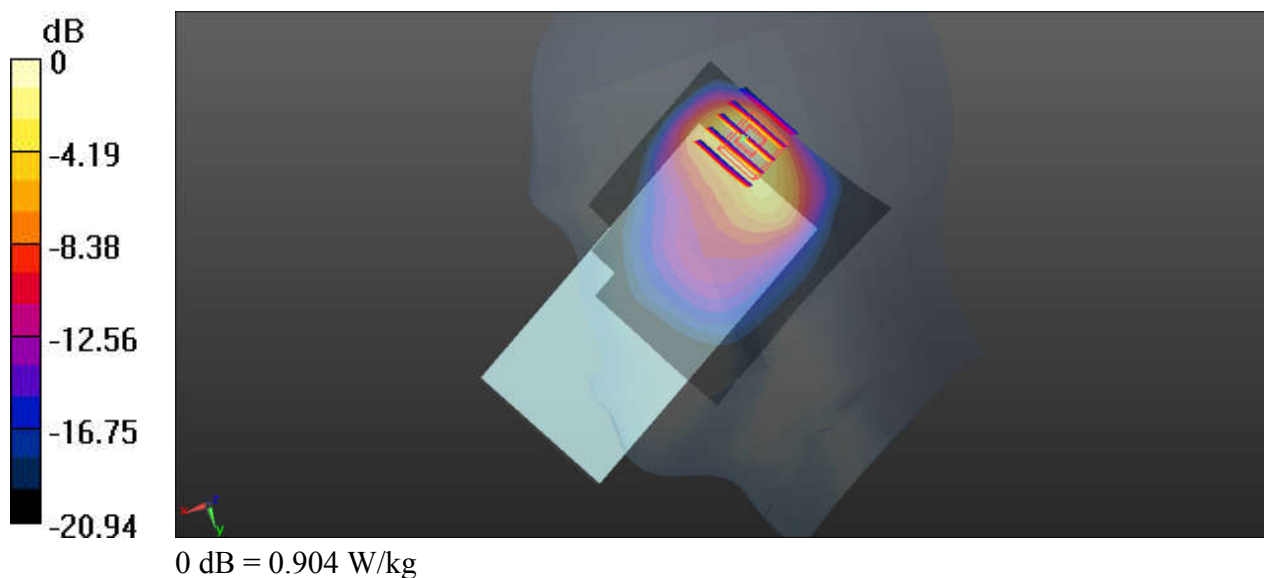
Communication System: UID 0, LTE (0); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium: HSL_1750_200504 Medium parameters used: $f = 1770$ MHz; $\sigma = 1.4$ S/m; $\epsilon_r = 41.445$;
 $\rho = 1000$ kg/m³
Ambient Temperature : 23.6 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(8.88, 8.88, 8.88); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch132572/Area Scan (71x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.973 W/kg

Ch132572/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.59 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.19 W/kg
SAR(1 g) = 0.572 W/kg; SAR(10 g) = 0.263 W/kg
Maximum value of SAR (measured) = 0.904 W/kg



10_LTE Band 2_20M_QPSK_50RB_24Offset_Right Tilted_Ch18900

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

Medium: HSL_1900_200506 Medium parameters used: $f = 1880$ MHz; $\sigma = 1.418$ S/m; $\epsilon_r = 40.128$;

$\rho = 1000$ kg/m³

Ambient Temperature : 23.5 °C ; Liquid Temperature : 22.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN7576; ConvF(8.58, 8.58, 8.58); Calibrated: 2020.01.22;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2020.01.08
- Phantom: SAM (Front) with CRP v5.0; Type: QD000P40CD; Serial: TP:1795
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch18900/Area Scan (71x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.999 W/kg

Ch18900/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.72 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.28 W/kg

SAR(1 g) = 0.591 W/kg; SAR(10 g) = 0.267 W/kg

Maximum value of SAR (measured) = 0.969 W/kg

