



# SAR TEST REPORT

**Applicant** Honor Device Co., Ltd.  
**FCC ID** 2AYGCRKY-LX3  
**Product** Smart Phone  
**Model** RKY-LX3  
**Report No.** R2210A0923-S1V1  
**Issue Date** November 9, 2022

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **IEEE 1528-2013, ANSI C95.1: 1992, IEEE C95.1: 1991**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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Version	Revision description	Issue Date
Rev.0	Initial issue of report.	November 9, 2022
Rev.1	Update description in Page 24~26.	November 9, 2022

Note: This revised report (Report No. R2210A0923-S1V1) supersedes and replaces the previously issued report (Report No. R2210A0923-S1). Please discard or destroy the previously issued report and dispose of it accordingly.

# 1 Test Laboratory

## 1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein .Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

## 1.2 Test Facility

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

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

### A2LA (Certificate Number: 3857.01)

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

## 1.3 Testing Location

Company: TA Technology (Shanghai) Co., Ltd.  
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## 1.4 Laboratory Environment

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

## 2 Statement of Compliance

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

Table 1: Highest Reported SAR

Mode	Highest Reported SAR (W/kg)			
	1g SAR Head	1g SAR Body-worn (Separation 15mm)	1g SAR Hotspot (Separation 10mm)	Product Specific 10-g SAR (Separation 0mm)
GSM 850	0.15	0.30	0.48	NA
GSM 1900	0.74	0.27	0.46	NA
WCDMA Band II	0.77	0.43	0.70	NA
WCDMA Band IV	0.89	0.43	0.69	NA
WCDMA Band V	0.21	0.33	0.67	NA
LTE FDD 2	0.87	0.47	0.67	NA
LTE FDD 4	0.78	0.44	0.71	NA
LTE FDD 5	0.18	0.26	0.54	NA
LTE FDD 7	0.87	0.44	0.41	<b>1.73</b>
LTE FDD 13	0.11	0.36	0.39	NA
LTE FDD 26	0.16	0.34	0.44	NA
LTE TDD 38	<b>0.92</b>	<b>0.50</b>	0.53	1.47
LTE TDD 66	0.77	0.34	<b>0.71</b>	NA
Wi-Fi (2.4G)	0.32	0.42	0.41	NA
Wi-Fi (5G)	0.52	0.42	0.69	1.48
Bluetooth	0.10	0.12	0.12	NA

Date of Testing: October 18, 2022 ~ November 4, 2022

Date of Sample Received: October 12, 2022

Note:

- The device is in compliance with SAR for Uncontrolled Environment /General Population exposure limits (1.6 W/kg and 4.0 W/kg) specified in ANSI C95.1: 1992/IEEE C95.1: 1991, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013.
- All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.



Note:

1) The Highest Reported SAR are as follows:

Head (W/kg)	Body-worn (W/kg)	Hotspot (W/kg)	Product Specific 10-g SAR (W/kg)	Simultaneous Transmission Exposure Conditions (W/kg)
0.92	0.50	0.71	1.73	1.49 for SAR <sub>1g</sub> 3.22 for SAR <sub>10g</sub>

2) For body worn operation, this device has been tested and meets FCC RF exposure guidelines when used with any accessory that contains no metal and that positions the handset a minimum of 15mm from the body. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

The device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits according to the FCC rule § 2.1093, the ANSI C95.1: 1992/IEEE C95.1: 1991, and had been tested in accordance with the measurement methods and procedures specified in IEEE Std 1528-2013.

### 3 Description of Equipment Under Test

#### Client Information

Applicant	Honor Device Co., Ltd.
Applicant address	Shum Yip Sky Park, No. 8089, Hongli West Road, Shenzhen, China
Manufacturer	Honor Device Co., Ltd.
Manufacturer address	Shum Yip Sky Park, No. 8089, Hongli West Road, Shenzhen, China

#### General Technologies

Application Purpose	Original Grant		
EUT Stage	Identical Prototype		
Model	RKY-LX3		
SN	A93Q9X2921G00020		
Hardware Version	HL1RKYM		
Software Version	2.1.0.34(SP10C900E34R1P1)		
Antenna Type	Internal Antenna		
Device Class	B		
Support VOIP	VoLTE or pre-installed VOIP applications are considered.		
Wi-Fi Hotspot	Wi-Fi 2.4G Wi-Fi 5G U-NII-1&U-NII-3		
Power Class	GSM 850: 4 GSM 1900: 1 WCDMA Band II/IV/V: 3 LTE FDD 2/4/5/7/13/26/66: 3 LTE TDD 38: 3		
Power Level	GSM 850: level 5 GSM 1900: level 0 WCDMA Band II/IV/V: all up bits LTE FDD 2/4/5/7/13/26/66: max power LTE TDD 38: max power		
EUT Accessory			
<b>Accessory</b>	<b>Model</b>	<b>Manufacture</b>	<b>No.</b>
Battery	HB5066A1EGW-A	Honor Device Co., Ltd. (Factory: Sunwoda)	1
		Honor Device Co., Ltd. (Factory: NVT)	2
Earphone	MEND1532B528A11	LC	1
	1293-3283-3.5mm-339	QC	2
Note: The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.			



**Wireless Technology and Frequency Range**

Wireless Technology		Modulation	Operating mode	Tx (MHz)
GSM	850	Voice(GMSK) GPRS(GMSK)	<input type="checkbox"/> Multi-slot Class:8-1UP <input type="checkbox"/> Multi-slot Class:10-2UP	824 ~ 849
	1900	EGPRS(GMSK,8PSK)	<input checked="" type="checkbox"/> Multi-slot Class:12-4UP <input type="checkbox"/> Multi-slot Class:33-4UP	1850 ~ 1910
Does this device support DTM (Dual Transfer Mode)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
WCDMA	Band II	QPSK, 16QAM	HSDPA UE Category: 12	1850 ~ 1910
	Band IV		HSUPA UE Category: 6	1710 ~ 1755
	Band V		DC-HSDPA UE Category: 24 HSUPA+ Category: 7	824 ~ 849
LTE	FDD 2	QPSK, 16QAM 64QAM	Rel.10/Category 4	1850 ~ 1910
	FDD 4			1710 ~ 1755
	FDD 5			824 ~ 849
	FDD 7			2500 ~ 2570
	FDD 13			777 ~ 787
	FDD 26			814 ~ 849
	TDD 38			2570 ~ 2620
	FDD 66			1710 ~ 1780
Does this device support Carrier Aggregation (CA) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Does this device support SV-LTE (1xRTT-LTE)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Bluetooth	2.4G	Version 5.1 BR/EDR + LE		2402 ~ 2480
Wi-Fi	2.4G	DSSS, OFDM	802.11b/g/n HT20	2412 ~ 2462
	5G	OFDM	802.11a/n HT20/ HT40/ ac VHT20/ VHT40/ VHT80	5150 ~ 5350 5470 ~ 5850
Does this device support MIMO <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				



## 4 Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE 1528- 2013, ANSI C95.1: 1992, IEEE C95.1: 1991, the following FCC Published RF exposure KDB procedures:

### Reference Standards

KDB 248227 D01 802.11Wi-Fi SAR v02r02

KDB 447498 D01 General RF Exposure Guidance v06

KDB 648474 D04 Handset SAR v01r03

KDB 690783 D01 SAR Listings on Grants v01r03

KDB 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04

KDB 865664 D02 RF Exposure Reporting v01r02

KDB 941225 D01 3G SAR Procedures v03r01

KDB 941225 D05 SAR for LTE Devices v02r05

KDB 941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02

KDB 941225 D06 Hotspot Mode v02r01

## 5 Operational Conditions during Test

### 5.1 Test Positions

#### 5.1.1 Against Phantom Head

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

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

#### 5.1.2 Body Worn Configuration

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

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

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

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

### 5.1.3 Phablet SAR Test Considerations

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

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

## 5.2 Measurement Variability

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

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

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

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

## 5.3 Test Configuration

### 5.3.1 GSM Test Configuration

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

Output power of reductions:

**Table 2: The allowed power reduction in the multi-slot configuration**

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

SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data 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. GSM voice and GPRS data use GMSK, which is a constant amplitude modulation with minimal peak to average power difference within the time-slot burst. For EDGE, GMSK is used for MCS 1 – MCS 4 and 8-PSK is used for MCS 5 – MCS 9; where 8-PSK has an inherently higher peak-to-average power ratio. The GMSK and 8-PSK EDGE configurations are considered separately for SAR compliance. The GMSK EDGE configurations are grouped with GPRS and considered with respect to time-averaged maximum output power to determine compliance. The 3G SAR test reduction procedure is applied to 8-PSK EDGE with GMSK GPRS/EDGE as the primary mode.

### 5.3.2 WCDMA Test Configuration

#### 5.3.2.1 3G SAR Test Reduction Procedure

The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement channel) configured in Test Loop Mode 1. SAR is selectively confirmed for other physical channel configurations modes according to output power, exposure conditions and device operating capabilities. Maximum output power is verified by applying the applicable versions of 3GPP TS 34.121.

#### 5.3.2.2 Head SAR

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

### 5.3.2.3 Body-worn Accessory SAR

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

### 5.3.2.4 Release 5 HSDPA Test Configuration

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

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

**Table 3: Subtests for WCDMA Release 5 HSDPA**

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

Note 1:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$   
 Note 2: CM=1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ .  
 Note 3: For subtest 2 the  $\beta_c/\beta_d$  ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TFC1, TF1) to  $\beta_c = 11/15$  and  $\beta_d = 15/15$ .

### 5.3.2.5 Release 6 HSUPA Test Configuration

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

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

**Table 4: Sub-Test 5 Setup for Release 6 HSUPA**

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

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

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

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

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

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

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

**Table 5: HSUPA UE Category**

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCHTTI (ms)	Minimum Spreading Factor	Maximum E-DCH Transport Block Bits	Max Rate (Mbps)
1	1	4	10	4	7110	0.7296
2	2	8	2	4	2798	1.4592
	2	4	10	4	14484	
3	2	4	10	4	14484	1.4592





4	2	8	2	2	5772	2.9185
	2	4	10	2	20000	2.00
5	2	4	10	2	20000	2.00
6 (No DPDCH)	4	8	2	2 SF2 & 2	11484	5.76
	4	4	10	SF4	20000	2.00
7 (No DPDCH)	4	8	2	2 SF2 & 2 SF4	22996	?
	4	4	10		20000	?

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

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

SAR test exclusion may apply to 3GPP Rel. 6 HSPA and Rel. 8 DC-HSDPA. When SAR measurement is required for HSPA or DC-HSDPA, a KDB inquiry is required to confirm that the wireless mode configurations in the test setup have remained stable throughout the SAR measurements. Without prior KDB confirmation to determine the SAR results are acceptable, a PAG is required for equipment approval.

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

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

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

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

4) Regardless of whether a PBA is required, the following information must be verified and included in the SAR report for devices supporting HSPA, HSPA+ or DC-HSDPA:

a) The output power measurement results and applicable release version(s) of 3GPP TS 34.121. Power measurement difficulties due to test equipment setup or availability must be resolved between the grantee and its test lab.

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

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

5) When SAR measurement is required, the test configurations, procedures and power measurement

results must be clearly described to confirm that the required test parameters are used, including E-TFCI and AG index stability and output power conditions.

**Table 6: HS-DSCH UE Category**

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

**5.3.3 LTE Test Configuration**

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

**A) Spectrum Plots for RB Configurations**

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

**B) MPR**

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

**C) A-MPR**

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

**D) Largest Channel Bandwidth Standalone SAR Test Requirements**

## 1) QPSK with 1 RB allocation

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

## 2) QPSK with 50% RB allocation

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

## 3) QPSK with 100% RB allocation

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

## 4) Higher order modulations

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

**E) Other Channel Bandwidth Standalone SAR Test Requirements**

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

**5.3.4 Additional Requirements for TDD LTE Specification**

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

TDD LTE Band supports 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table: Uplink-downlink configurations for uplink-downlink configurations and Table: Configuration of special subframe (lengths of DwPTS/GP/UpPTS) for Special subframe configurations.

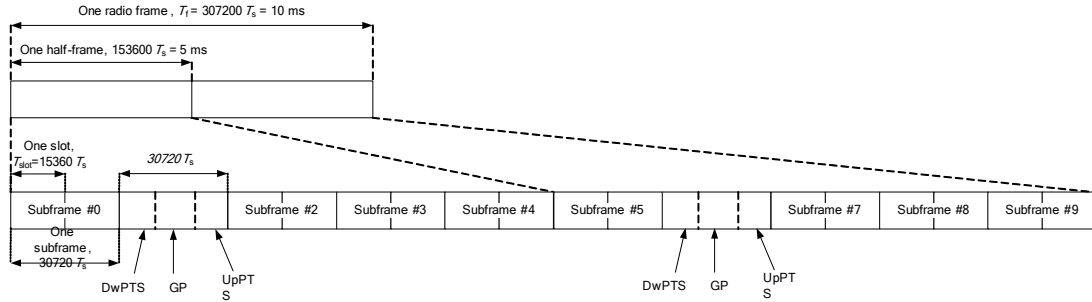


Figure 1: Frame structure type 2

**Table 7: 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	$26336 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$			$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$	-	-	-	-	-
9	$13168 \cdot T_s$	-	-	-	-	-

**Table 8: Uplink-Downlink Configurations**

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

According to Figure 1, one radio frame is configured by 10 subframes, which consist of Uplink-subframe, Downlink-subframe and Special subframe. For TDD-LTE, the Duty Cycle should be calculated on Uplink-subframes and Special subframes, due to Special subframe containing both

Uplink transmissions. So for one radio frame, Duty Cycle can be calculated with formula as below. The count of Uplink subframes are according to Table: Uplink-downlink configurations:

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

About the uplink component of Special subframes, we can figure out by Table: Configuration of special subframe (lengths of DwPTS/GP/UpPTS):

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

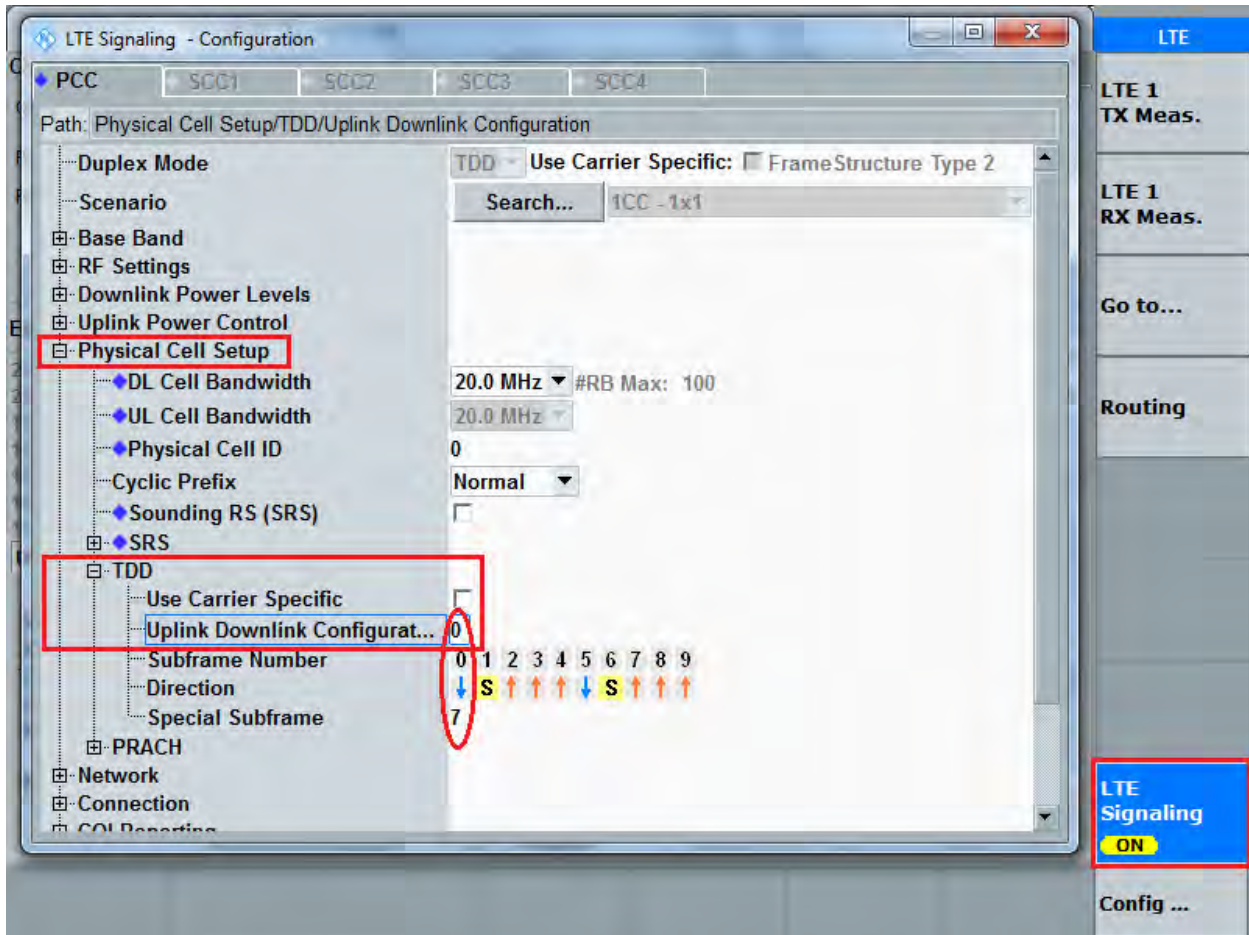
In conclusion, for the TDD LTE Band, Duty Cycle can be calculated with formula as below. All these sets are ok when we test, or we can set as below.

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

And we can get different Duty cycles under different configurations:

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

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



### 5.3.5 Wi-Fi Test Configuration

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

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

- $\leq 0.4$  W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and wireless mode combination within the frequency band or aggregated band. DSSS and OFDM configurations are considered separately according to the required SAR procedures.
- 0.4 W/kg, SAR is repeated using the same wireless mode test configuration tested in the *initial test position* to measure the subsequent next closet/smallest test separation distance and maximum coupling test position, on the highest maximum output power channel, until the *reported SAR* is  $\leq 0.8$  W/kg or all required test positions are tested.
  - ◇ For subsequent test positions with equivalent test separation distance or when exposure is dominated by coupling conditions, the position for maximum coupling condition should be tested.
  - ◇ When it is unclear, all equivalent conditions must be tested.
- For all positions/configurations tested using the *initial test position* and subsequent test positions, when the *reported SAR* is  $> 0.8$  W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the *reported SAR* is  $\leq 1.2$  W/kg or all required test channels are considered.
  - ◇ The additional power measurements required for this step should be limited to those necessary for identifying subsequent highest output power channels to apply the test reduction.

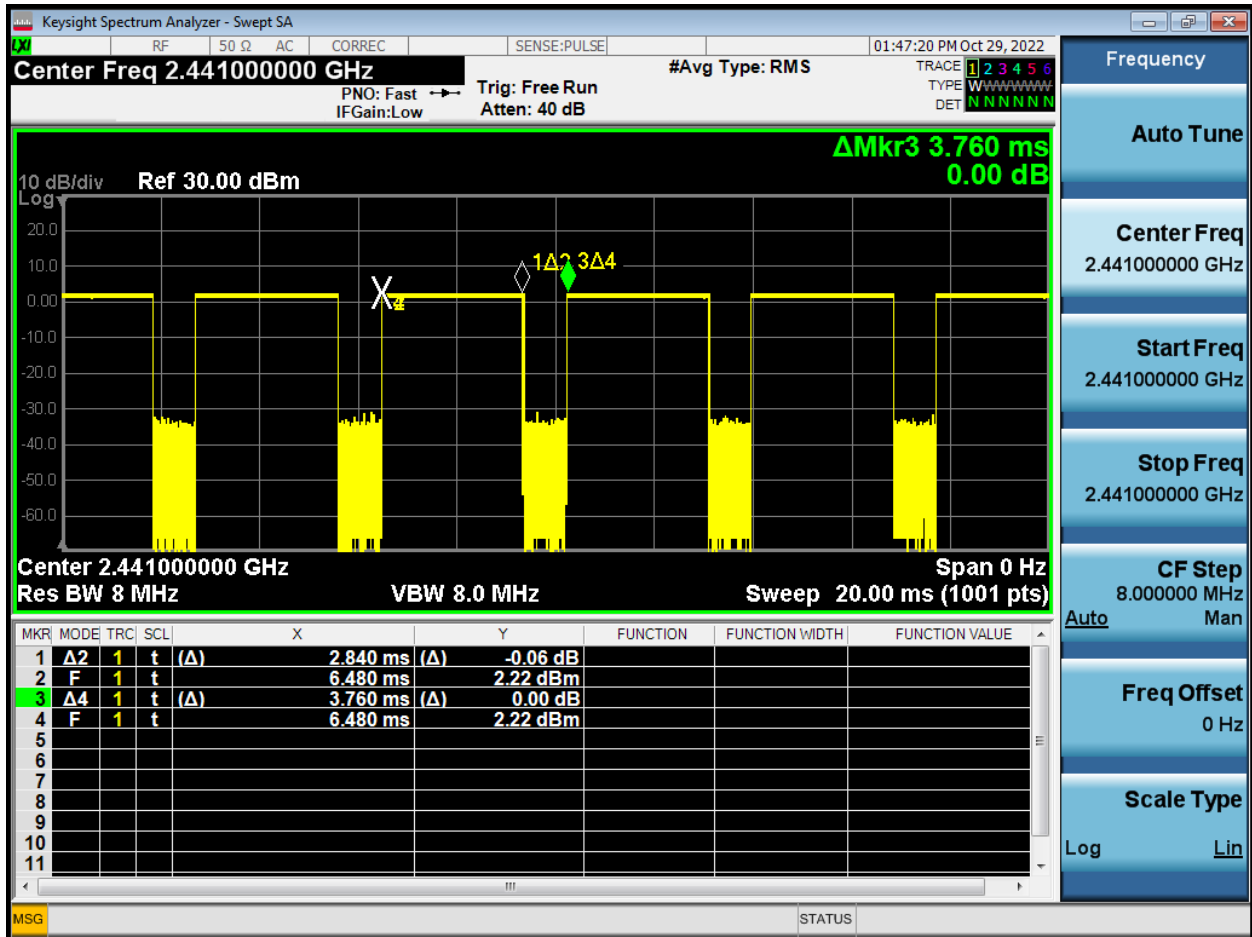
To determine the initial test position, Area Scans were performed to determine the position with the Maximum Value of SAR (measured). The position that produced the highest Maximum Value of SAR is considered the worst case position; thus used as the initial test position.

A Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement.

### 5.3.6 Bluetooth Test Configuration

For Bluetooth SAR testing, Bluetooth engineering testing software installed on the EUT can provide continuous transmitting RF signal with maximum output power. And the CBT control the EUT operating with hopping off and data rate set for DH5.

The SAR measurement takes full account of the Bluetooth duty cycle and is reflected in the report, and the duty factor of the device is as follow:



Note: Duty factor= Ton (ms)/ T(on+off) (ms)=2.840/3.760\*100%=76%

### 5.3.7 SAR Detection Mechanism Specification

This device support the receiver and hotspot detection mechanism, the main purpose is to minimize triggering associated with power reduction scenarios and provide enhanced user experience.

More details information followings:

Main Antenna		Power Reduction Level Amount (dB)												
Power Reduction Scenario	Receiver/Hotspot	GSM9850	GSM1900	WCDMA B2	WCDMA B4	WCDMA B5	LTE B2	LTE B4	LTE B5	LTE B7	LTE B13	LTE B26	LTE B38	LTE B66
Standalone	Full power	33.50	30.50	24.50	24.80	25.00	24.50	24.80	25.00	24.50	24.50	25.00	24.50	24.80
	on	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	off	0.00	0.00	1.20	1.92	0.00	1.00	1.40	0.00	2.40	0.00	0.00	0.30	1.50
Simultaneous	Receiver off+Hotspot	0.00	0.00	1.20	1.92	0.00	1.00	1.40	0.00	2.40	0.00	0.00	0.30	1.70
	Wi-Fi on	0.00	0.00	1.20	1.92	0.00	1.00	1.40	0.00	2.40	0.00	0.00	0.30	1.70

Div Antenna		Power Reduction Level Amount (dB)							
Power Reduction Scenario	Receiver/Hotspot	GSM1900	WCDMA B2	WCDMA B4	LTE B2	LTE B4	LTE B7	LTE B38	LTE B66
Standalone	Full power	30.50	24.50	24.80	24.50	24.80	24.50	24.50	24.80
	on	1.10	5.00	5.00	4.50	4.80	7.00	4.60	5.00
	off	0.00	2.30	2.80	1.80	2.40	3.30	0.00	2.70
Simultaneous	Receiver off+Hotspot	5.00	6.60	7.50	6.60	7.00	8.30	5.00	7.30
	Wi-Fi on	5.00	6.60	7.50	6.60	7.00	8.30	5.00	7.30

Wi-Fi Antenna		Power Reduction Level Amount (dB)								
Power Reduction Scenario	Receiver/Hotspot	WiFi 2.4G 802.11b	WiFi 2.4G 802.11g	WiFi 2.4G 802.11n HT20	WiFi 5G 802.11a	WiFi 5G 802.11n HT20	WiFi 5G 802.11n HT40	WiFi 5G 802.11ac VHT20	WiFi 5G 802.11ac VHT40	WiFi 5G 802.11ac VHT80
Standalone	Full power	20.00	19.50	19.50	17.10	17.10	17.10	17.10	17.10	16.10
	on	4.50	4.00	4.00	6.00	6.00	6.00	6.00	6.00	5.00
	off	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Simultaneous	Receiver off+Hotspot	2.00	1.50	1.50	2.00	2.00	2.00	2.00	2.00	1.00
	Wi-Fi on	2.00	1.50	1.50	2.00	2.00	2.00	2.00	2.00	1.00

#### SAR test Plan

##### Summary of Receiver detection mechanism

Antenna	Receiver on (head scenario)	Receiver off (Body/other scenario)
2G&3G&4G Div Ant	Power Level A1	Power Level B1
2G&3G&4G Main Ant	Power Level A2	Power Level B2
Wi-Fi Ant	Power Level A3	Power Level B3

Based on the Summary table of Receiver detection mechanism above,

For Head SAR test,

- 1) Standalone Head SAR of 2G&3G&4G Div ant is evaluated at power level A1 (Receiver on);
- 2) Standalone Head SAR of 2G&3G&4G Main ant is evaluated at power level A2 (Receiver on);
- 3) Standalone Head SAR of Wi-Fi ant is evaluated at power level A3 (Receiver on);

For Body SAR test,

- 1) Standalone Body SAR of 2G&3G&4G Div ant is evaluated at power level B1 (Receiver off);
- 2) Standalone Body SAR of 2G&3G&4G Main ant is evaluated at power level B2 (Receiver off);
- 3) Standalone Body SAR of Wi-Fi ant is evaluated at power level B3 (Receiver off);



### 5.3.8 Country Code Detection Mechanism

The device uses the mobile country code (MCC) to indicate whether the users in CE countries or FCC countries. The selection between CE countries and FCC countries power levels is based on the country code detection mechanism. It can determine the countries where users are and set the relevant power level for 2G&3G&4G and Wi-Fi antennas accordingly.

Table: Summary of country code detection mechanism

Antenna	scene	MCC OF CE COUNTRY	MCC OF FCC COUNTRY	MCC OF France country
		(CE standard) power reduce(dB)	(FCC standard) power reduce(dB)	France power reduce(dB)
LTE Band 2 ant0	receiver on limb	0	0	0
LTE Band 4 ant0	receiver on limb	0	0	0
LTE Band 7 ant0	receiver on limb	0	0	0
LTE Band 66 ant0	receiver on limb	0	0	0
LTE Band 38 ant0	receiver on limb	0	0	0
GSM1900 ant0	receiver on limb	0	0	0
WCDMA Band II ant0	receiver on limb	0	0	0
WCDMA Band IV ant0	receiver on limb	0	0	0
LTE Band2 ant2	receiver on limb	4.5	4.5	0
LTE Band4 ant2	receiver on limb	4.8	4.8	0.7
LTE Band7 ant2	receiver on limb	7	7	0.7
LTE Band 66 ant2	receiver on limb	5	5	1.5
LTE Band 38 ant2	receiver on limb	4.6	4.6	0
GSM1900 ant2	receiver on limb	1.1	1.1	0
WCDMA Band II ant2	receiver on limb	5	5	0.5
WCDMA Band IV ant2	receiver on limb	5	5	1
2.4G Wi-Fi	receiver on limb	2	4.5	4
5G Wi-Fi	receiver on limb	4	8	7

Antenna	scene	MCC OF CE COUNTRY	MCC OF FCC COUNTRY	MCC OF France country
		(CE standard) power reduce(dB)	(FCC standard) power reduce(dB)	France power reduce(dB)
LTE Band 2 ant0	receiver off limb	1	1	1
LTE Band 4 ant0	receiver off limb	1.4	1.4	1.4
LTE Band 7 ant0	receiver off limb	2.4	2.4	2.4
LTE Band 66 ant0	receiver off limb	1.5	1.5	1.5
LTE Band 38 ant0	receiver off limb	0.3	0.3	0.3
GSM1900 ant0	receiver off limb	0	0	0
WCDMA Band 2 ant0	receiver off limb	1.2	1.2	1.2
WCDMA Band 4 ant0	receiver off limb	1.92	1.92	1.92
LTE Band 2 ant2	receiver off limb	1.8	1.8	1.8
LTE Band 4 ant2	receiver off limb	2.4	2.4	2.4



LTE Band 7 ant2	receiver off limb	3.3	3.3	3.3
LTE Band 66 ant2	receiver off limb	2.7	2.7	2.7
LTE Band 38 ant2	receiver off limb	0	0	0
GSM1900 ant2	receiver off limb	0	0	0
WCDMA Band II ant2	receiver off limb	2.3	2.3	2.3
WCDMA Band IV ant2	receiver off limb	2.8	2.8	2.8
2.4G Wi-Fi	receiver off limb	0	0	0
5G Wi-Fi	receiver off limb	2	2	2

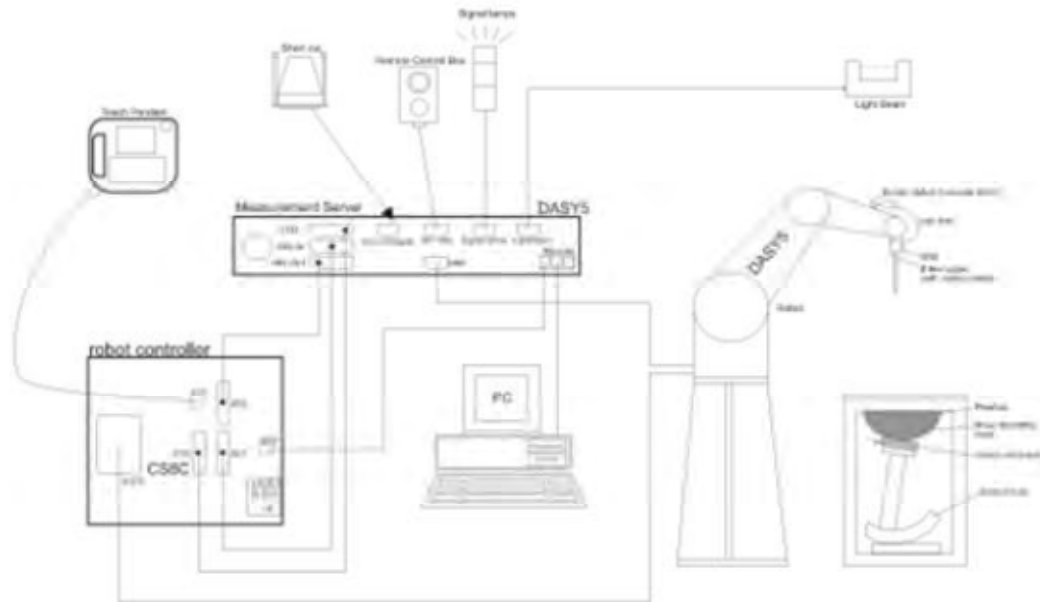
Based on the summary table of countries detection mechanism above, we plan to perform the SAR test as below:

For conducted power test, both the full power level and reduced power level will be tested by setting different MCC to validate that the country code detection mechanism works

## 6 SAR Measurements System Configuration

### 6.1 SAR Measurement Set-up

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



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

## 6.2 DASY5 E-field Probe System

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

### EX3DV4 Probe Specification

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



### E-field Probe Calibration

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

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

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



$$\text{SAR} = C \Delta T / \Delta t$$

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

Or

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

Where:  $\sigma$  = Simulated tissue conductivity,  
 $\rho$  = Tissue density ( $\text{kg}/\text{m}^3$ ).

### 6.3 SAR Measurement Procedure

#### Power Reference Measurement

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

#### Area Scan

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

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

	$\leq 3$ GHz	$> 3$ GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	$5 \pm 1$ 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: $\Delta x_{\text{Area}}, \Delta y_{\text{Area}}$	$\leq 2$ GHz: $\leq 15$ mm $2 - 3$ GHz: $\leq 12$ mm	$3 - 4$ GHz: $\leq 12$ mm $4 - 6$ GHz: $\leq 10$ 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.	

### Zoom Scan

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

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

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

### Volume Scan Procedures

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

### Power Drift Monitoring

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



## 7 Main Test Equipment

Name of Equipment	Manufacturer	Type/Model	Serial Number	Last Cal.	Cal. Due Date
Network Analyzer	Agilent	E5071B	MY42404014	2022-05-14	2023-05-13
Dielectric Probe Kit	Agilent	85070E	US44020115	/	/
Power Meter	Agilent	E4417A	GB41291714	2022-05-14	2023-05-13
Power Sensor	Agilent	N8481H	MY50350004	2022-05-14	2023-05-13
Power Sensor	Agilent	E9327A	US40441622	2022-05-14	2023-05-13
Power Sensor	Agilent	NRP18S	101955	2022-05-14	2023-05-13
Signal Generator	Agilent	N5181A	MY50140143	2022-05-14	2023-05-13
Dual Directional Coupler	UCL	UCL-DDC0 56G-S	20010600118	/	/
Amplifier	INDEXSAR	TPA-005060 G01	13030502	2022-05-14	2023-05-13
Wireless Communication Tester	Anritsu	MT8820C	6201342015	2021-12-12	2022-12-11
Wireless Communication Tester	R&S	CMW 500	146734	2022-05-14	2023-05-13
E-Field Probe	SPEAG	EX3DV4	3677	2022-07-08	2023-07-07
DAE	SPEAG	DAE4	1291	2022-03-24	2023-03-23
Validation Kit 750MHz	SPEAG	D750V3	1045	2020-08-28	2023-08-27
Validation Kit 835MHz	SPEAG	D835V2	4d020	2020-08-28	2023-08-27
Validation Kit 1750MHz	SPEAG	D1750V2	1033	2020-02-25	2023-02-24
Validation Kit 1900MHz	SPEAG	D1900V2	5d060	2020-08-27	2023-08-26
Validation Kit 2450MHz	SPEAG	D2450V2	786	2020-08-27	2023-08-26
Validation Kit 2600MHz	SPEAG	D2600V2	1025	2021-04-23	2024-04-22
Validation Kit 5GHz	SPEAG	D5GHzV2	1151	2020-02-27	2023-02-26
Software for Tissue	Agilent	85070	/	/	/
Temperature Probe	Tianjin jinming	JM222	381	2022-05-14	2023-05-13
Twin SAM Phantom	SPEAG	SAM1	1667	/	/
Twin SAM Phantom	SPEAG	SAM2	1666	/	/
Hygrothermograph	Anymetr	HTC - 1	TY2020A003	2022-05-14	2023-05-13
TX90 XL	SPEAG	Staubli TX90 XL	/	/	/
Software for Test	SPEAG	DASY52	52.10.4.1527	/	/

## 8 Tissue Dielectric Parameter Measurements & System Check

### 8.1 Tissue Verification

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within  $\pm 2^\circ\text{C}$  of the temperature when the tissue parameters are characterized. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 24 hours of use; or earlier if the dielectric parameters can become out of tolerance.

#### Target Values

Frequency (MHz)	$\epsilon_r$	$\sigma(\text{s/m})$
750	41.9	0.89
835	41.5	0.90
1750	40.1	1.37
1900	40.0	1.40
2450	39.2	1.80
2600	39.0	1.96
5250	35.9	4.71
5600	35.5	5.07
5750	35.4	5.22



**Measurements Results**

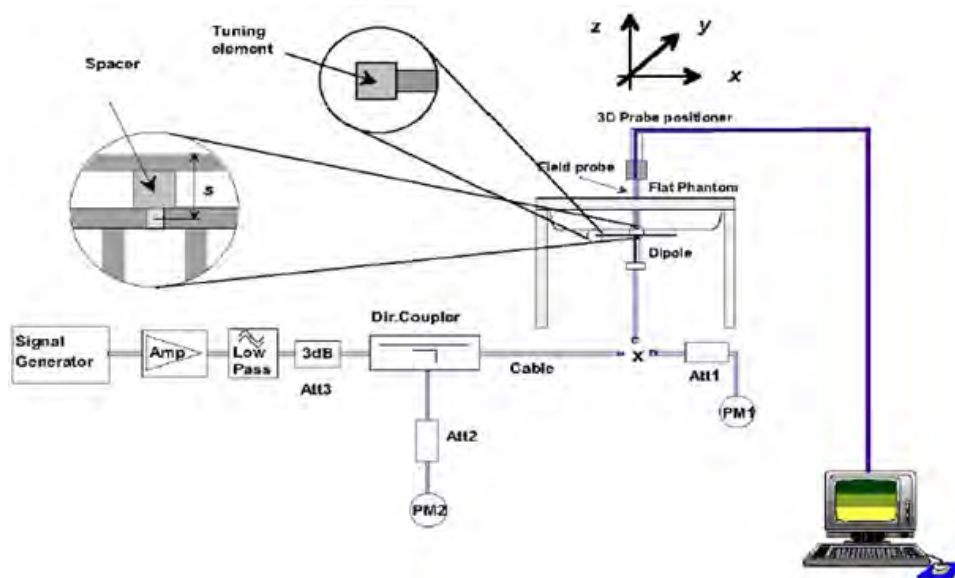
Frequency (MHz)	Test Date	Temp °C	Measured Dielectric Parameters		Target Dielectric Parameters		Limit (Within ±5%)	
			$\epsilon_r$	$\sigma$ (s/m)	$\epsilon_r$	$\sigma$ (s/m)	Dev $\epsilon_r$ (%)	Dev $\sigma$ (%)
750	2022/10/22	21.5	42.3	0.88	41.9	0.89	0.95	-1.12
835	2022/10/19	21.5	41.4	0.88	41.5	0.90	-0.24	-2.22
	2022/10/23	21.5	41.3	0.87	41.5	0.90	-0.48	-3.33
1750	2022/10/24	21.5	40.2	1.34	40.1	1.37	0.25	-2.19
	2022/10/26	21.5	40.1	1.34	40.1	1.37	0.00	-2.19
	2022/10/28	21.5	40.2	1.36	40.1	1.37	0.25	-0.73
1900	2022/10/18	21.5	40.1	1.41	40.0	1.40	0.25	0.71
	2022/10/20	21.5	40.2	1.43	40.0	1.40	0.50	2.14
	2022/10/21	21.5	40.0	1.40	40.0	1.40	0.00	0.00
2450	2022/10/25	21.5	38.6	1.81	39.2	1.80	-1.53	0.56
2600	2022/10/27	21.5	38.2	2.01	39.0	1.96	-2.05	2.55
	2022/10/29	21.5	38.4	1.94	39.0	1.96	-1.54	-1.02
	2022/10/30	21.5	38.3	1.99	39.0	1.96	-1.79	1.53
	2022/10/31	21.5	39.0	1.98	39.0	1.96	0.00	1.02
5250	2022/11/1	21.5	35.5	4.80	35.9	4.71	-1.11	1.91
	2022/11/2	21.5	35.7	4.74	35.9	4.71	-0.56	0.64
5600	2022/11/3	21.5	34.2	5.21	35.5	5.07	-3.66	2.76
5750	2022/11/4	21.5	34.9	5.21	35.4	5.22	-1.41	-0.19

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

## 8.2 System Check

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

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



Picture 1 System Check setup



Picture 2 Setup Photo

**Justification for Extended SAR Dipole Calibrations**

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

Dipole		Date of Measurement	Return Loss (dB)	$\Delta$ %	Impedance ( $\Omega$ )			
					Real	$\Delta\Omega$	Imaginary	$\Delta\Omega$
Dipole D750V3 SN: 1045	Head Liquid	8/28/2020	26.6	/	54.3	/	-2.29	/
		8/27/2021	26.2	-1.5	53.9	-0.4	-2.28	0.01
		8/26/2022	26.0	-0.8	52.1	-1.8	-2.25	0.03
Dipole D835V2 SN: 4d020	Head Liquid	8/28/2020	26.2	/	54.8	/	1.73	/
		8/27/2021	26.5	1.1	55.2	0.4	1.74	0.01
		8/26/2022	27.2	2.6	55.5	0.3	1.74	0
Dipole D1750V2 SN: 1033	Head Liquid	2/25/2020	38.3	/	48.8	/	-0.06	/
		2/24/2021	40.0	4.4	49.9	1.1	-0.06	0
		2/23/2022	40.6	1.5	51.1	1.2	-0.05	0.01
Dipole D1900V2 SN: 5d060	Head Liquid	8/27/2020	23.3	/	52.5	/	6.58	/
		8/26/2021	23.0	-1.3	51.9	-0.6	6.54	-0.04
		8/25/2022	22.2	-3.5	51.2	-0.7	6.53	-0.01
Dipole D2450V2 SN: 786	Head Liquid	8/27/2020	27.1	0.7	53.8	-0.7	1.43	-0.01
		8/26/2021	27.4	1.1	53.4	-0.4	1.43	0
		8/25/2022	22.9	/	50.1	/	-7.19	/
Dipole D2600V2 SN: 1025	Head Liquid	4/23/2021	22.4	-2.2	50.7	0.6	-7.23	-0.04
		4/22/2022	27.5	/	48.2	/	3.80	/
Dipole D5GHzV2 SN: 1151 (5250MHz)	Head Liquid	2/27/2020	23.4	/	52.4	/	-6.47	/
		2/26/2021	23.8	1.7	50.0	-2.4	-6.31	0.16
		2/25/2022	23.9	0.4	49.3	-0.7	-6.42	-0.11
Dipole D5GHzV2 SN: 1151 (5600MHz)	Head Liquid	2/27/2020	22.6	/	57.0	/	-3.86	/
		2/26/2021	21.5	-4.9	56.5	-0.9	-3.77	0.09
		2/25/2022	20.9	-2.8	56.3	-0.4	-3.83	-0.06
Dipole D5GHzV2 SN: 1151 (5750MHz)	Head Liquid	2/27/2020	25.0	/	55.9	/	0.16	/
		2/26/2021	26.8	-1.8	52.5	-3.4	0.15	-0.01
		2/25/2022	27.1	1.1	52.1	-0.4	0.16	0.01



## System Check results

Frequency (MHz)	Test Date	Temp °C	250mW Measured SAR <sub>1g</sub> (W/kg)	1W Normalized SAR <sub>1g</sub> (W/kg)	1W Target SAR <sub>1g</sub> (W/kg)	Δ % (Limit ±10%)	Plot No.
750	2022/10/22	21.5	2.13	8.52	8.37	1.79	1
835	2022/10/19	21.5	2.44	9.76	9.65	1.14	2
	2022/10/23	21.5	2.46	9.84	9.65	1.97	3
1750	2022/10/24	21.5	8.95	35.80	35.90	-0.28	4
	2022/10/26	21.5	9.11	36.44	35.90	1.50	5
	2022/10/28	21.5	8.96	35.84	35.90	-0.17	6
1900	2022/10/18	21.5	9.88	39.52	39.50	0.05	7
	2022/10/20	21.5	9.85	39.40	39.50	-0.25	8
	2022/10/21	21.5	9.55	38.20	39.50	-3.29	9
2450	2022/10/25	21.5	13.70	54.80	52.30	4.78	10
2600	2022/10/27	21.5	13.90	55.60	56.10	-0.89	11
	2022/10/29	21.5	13.88	55.52	56.10	-1.03	12
	2022/10/30	21.5	13.94	55.76	56.10	-0.61	13
	2022/10/31	21.5	13.85	55.60	56.10	-0.89	14
Frequency (MHz)	Test Date	Temp °C	100mW Measured SAR <sub>1g</sub> (W/kg)	1W Normalized SAR <sub>1g</sub> (W/kg)	1W Target SAR <sub>1g</sub> (W/kg)	Δ % (Limit ±10%)	Plot No.
5250	2022/11/1	21.5	7.87	78.70	78.00	0.90	15
	2022/11/2	21.5	7.54	75.40	78.00	-3.33	16
5600	2022/11/3	21.5	7.67	76.70	80.50	-4.72	17
5750	2022/11/4	21.5	7.66	76.60	77.40	-1.03	18
Note: Target Values used derive from the calibration certificate Data Storage and Evaluation.							

### 8.3 SAR System Validation

Per FCC KDB 865664 D02v01, SAR system verification is required to confirm measurement accuracy. The SAR systems (including SAR probes, system components and software versions) used for this device were validated against its performance specifications prior to the SAR measurements. Reference dipoles are used with the required tissue-equivalent media for system validation, according to the procedures outlined in FCC KDB 865664 D01 and IEEE 1528-2013. Since SAR probe calibrations are frequency dependent, each probe calibration point must be validated at a frequency within the valid frequency range of the probe calibration point, using the system that normally operates with the probe for routine SAR measurements and according to the required tissue-equivalent media.

A tabulated summary of the system validation status, measurement frequencies, SAR probes, calibrated signal type(s) and tissue dielectric parameters has been included.

Frequency [MHz]	Date	Probe SN	Probe Type	Probe Cal Point		PERM (Er)	COND (Σ)	CW Validation		
								Sensitivity	Probe Linearity	Probe Isotropy
750	2022/7/8	3677	EX3DV4	750	Head	41.9	0.89	PASS	PASS	PASS
835	2022/7/8	3677	EX3DV4	835	Head	41.5	0.90	PASS	PASS	PASS
1750	2022/7/8	3677	EX3DV4	1750	Head	40.1	1.37	PASS	PASS	PASS
1900	2022/7/8	3677	EX3DV4	1900	Head	40.0	1.40	PASS	PASS	PASS
2450	2022/7/8	3677	EX3DV4	2450	Head	39.2	1.80	PASS	PASS	PASS
2600	2022/7/8	3677	EX3DV4	2600	Head	39.0	1.96	PASS	PASS	PASS
5250	2022/7/8	3677	EX3DV4	5250	Head	35.9	4.71	PASS	PASS	PASS
5600	2022/7/8	3677	EX3DV4	5600	Head	35.5	5.07	PASS	PASS	PASS
5750	2022/7/8	3677	EX3DV4	5750	Head	35.4	5.22	PASS	PASS	PASS

NOTE: While the probes have been calibrated for both CW and modulated signals, all measurements were performed using communication systems calibrated for CW signals only. Modulations in the table above represent test configurations for which the measurement system has been validated per FCC KDB Publication 865664D01v01 for scenarios when CW probe calibrations are used with other signal types. SAR systems were validated for modulated signals with a periodic duty cycle, such as GMSK, or with a high peak to average ratio (>5dB), such as OFDM according to KDB 865664.

## 9 Normal and Maximum Output Power

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

### 9.1 GSM Mode

#### Main- Antenna

GSM 850 Receiver on & Body SAR & Hotspot--Main Ant1		Burst-Averaged Output Power(dBm)				Division Factors	Frame-Averaged Output Power(dBm)			
		Tune-up	Channel/Frequency(MHz)				Tune-up	Channel/Frequency(MHz)		
		MAX	128 /824.2	190 /836.6	251 /848.8		MAX	128 /824.2	190 /836.6	251 /848.8
GSM	CS	33.50	32.01	<b>32.31</b>	31.95	9.03	24.47	22.98	23.28	22.92
GPRS/ EGPRS (GMSK)	1 Tx Slot	33.50	32.00	32.25	31.84	9.03	24.47	22.97	23.22	22.81
	2 Tx Slots	30.50	29.45	<b>29.79</b>	29.33	6.02	<b>24.48</b>	23.43	23.77	23.31
	3 Tx Slots	28.60	27.55	27.78	27.43	4.26	24.34	23.29	23.52	23.17
	4 Tx Slots	27.00	26.10	26.41	25.96	3.01	23.99	23.09	23.40	22.95
EGPRS (8PSK)	1 Tx Slot	27.80	26.14	26.93	26.25	9.03	18.77	17.11	17.90	17.22
	2 Tx Slots	24.80	23.20	23.13	23.14	6.02	18.78	17.18	17.11	17.12
	3 Tx Slots	23.00	21.33	21.40	21.23	4.26	18.74	17.07	17.14	16.97
	4 Tx Slots	21.80	20.12	20.13	20.04	3.01	18.79	17.11	17.12	17.03

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

Standalone: GSM 850 GMSK (GPRS) mode with 2 time slots for Max power based on the output power measurements above..

GSM 1900 Receiver on & Body SAR & Hotspot--Main Ant0		Burst-Averaged Output Power(dBm)				Division Factors	Frame-Averaged Output Power(dBm)			
		Tune-up	Channel/Frequency(MHz)				Tune-up	Channel/Frequency(MHz)		
		MAX	512 /1850.2	661 /1880	810 /1909.8		MAX	512 /1850.2	661 /1880	810 /1909.8
GSM	CS	30.50	29.06	<b>29.11</b>	28.95	9.03	21.47	20.03	20.08	19.92
GPRS/ EGPRS (GMSK)	1 Tx Slot	30.50	29.03	29.15	28.94	9.03	21.47	20.00	20.12	19.91
	2 Tx Slots	27.50	26.57	<b>26.64</b>	26.47	6.02	<b>21.48</b>	20.55	20.62	20.45
	3 Tx Slots	25.60	24.78	24.87	24.71	4.26	21.34	20.52	20.61	20.45
	4 Tx Slots	24.20	23.35	23.52	23.38	3.01	21.19	20.34	20.51	20.37
EGPRS (8PSK)	1 Tx Slot	26.50	25.41	25.47	25.58	9.03	17.47	16.38	16.44	16.55
	2 Tx Slots	24.00	22.31	22.57	22.33	6.02	17.98	16.29	16.55	16.31
	3 Tx Slots	21.70	19.78	20.31	20.04	4.26	17.44	15.52	16.05	15.78
	4 Tx Slots	20.50	18.77	18.65	18.72	3.01	17.49	15.76	15.64	15.71

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

Standalone: GSM 1900 GMSK (GPRS) mode with 2 time slots for Max power, based on the output power measurements above..



**Div – Antenna**

GSM 1900 Receiver on--Div Ant2		Burst-Averaged Output Power(dBm)				Division Factors	Frame-Averaged Output Power(dBm)			
		Tune-up	Channel/Frequency(MHz)				Tune-up	Channel/Frequency(MHz)		
		MAX	512 /1850.2	661 /1880	810 /1909.8		MAX	512 /1850.2	661 /1880	810 /1909.8
GSM	CS	29.40	27.98	<b>27.92</b>	27.76	9.03	20.37	18.95	18.89	18.73
GPRS/ EGPRS (GMSK)	1 Tx Slot	29.40	27.96	27.95	27.80	9.03	20.37	18.93	18.92	18.77
	2 Tx Slots	26.40	25.15	<b>25.12</b>	24.95	6.02	<b>20.38</b>	19.13	19.10	18.93
	3 Tx Slots	24.50	23.14	23.17	23.04	4.26	20.24	18.88	18.91	18.78
	4 Tx Slots	23.10	22.04	22.12	22.01	3.01	20.09	19.03	19.11	19.00
EGPRS (8PSK)	1 Tx Slot	25.40	24.47	24.34	24.30	9.03	16.37	15.44	15.31	15.27
	2 Tx Slots	22.90	21.01	21.23	21.02	6.02	16.88	14.99	15.21	15.00
	3 Tx Slots	20.60	18.83	18.98	18.75	4.26	16.34	14.57	14.72	14.49
	4 Tx Slots	19.40	17.48	17.50	17.58	3.01	16.39	14.47	14.49	14.57
GSM 1900 Body SAR--Div Ant2		Burst-Averaged Output Power(dBm)				Division Factors	Frame-Averaged Output Power(dBm)			
		Tune-up	Channel/Frequency(MHz)				Tune-up	Channel/Frequency(MHz)		
		MAX	512 /1850.2	661 /1880	810 /1909.8		MAX	512 /1850.2	661 /1880	810 /1909.8
GSM	CS	30.50	28.80	<b>28.74</b>	28.58	9.03	21.47	19.77	19.71	19.55
GPRS/ EGPRS (GMSK)	1 Tx Slot	30.50	28.85	28.76	28.55	9.03	21.47	19.82	19.73	19.52
	2 Tx Slots	27.50	26.33	<b>26.27</b>	26.10	6.02	<b>21.48</b>	20.31	20.25	20.08
	3 Tx Slots	25.60	24.54	24.52	24.35	4.26	21.34	20.28	20.26	20.09
	4 Tx Slots	24.20	23.13	23.16	23.04	3.01	21.19	20.12	20.15	20.03
EGPRS (8PSK)	1 Tx Slot	26.50	25.48	25.73	25.52	9.03	17.47	16.45	16.70	16.49
	2 Tx Slots	24.00	22.12	22.40	22.44	6.02	17.98	16.10	16.38	16.42
	3 Tx Slots	21.70	20.00	20.18	19.73	4.26	17.44	15.74	15.92	15.47
	4 Tx Slots	20.50	18.71	18.67	18.56	3.01	17.49	15.70	15.66	15.55
GSM 1900 Hotspot--Div Ant2		Burst-Averaged Output Power(dBm)				Division Factors	Frame-Averaged Output Power(dBm)			
		Tune-up	Channel/Frequency(MHz)				Tune-up	Channel/Frequency(MHz)		
		MAX	512 /1850.2	661 /1880	810 /1909.8		MAX	512 /1850.2	661 /1880	810 /1909.8
GSM	CS	25.50	24.42	<b>24.34</b>	24.22	9.03	16.47	15.39	15.31	15.19
GPRS/ EGPRS (GMSK)	1 Tx Slot	25.50	24.45	24.36	24.28	9.03	16.47	15.42	15.33	15.25
	2 Tx Slots	22.50	21.21	<b>21.29</b>	21.18	6.02	<b>16.48</b>	15.19	15.27	15.16
	3 Tx Slots	20.60	19.26	19.44	19.37	4.26	16.34	15.00	15.18	15.11
	4 Tx Slots	19.20	18.14	18.29	18.34	3.01	16.19	15.13	15.28	15.33
EGPRS (8PSK)	1 Tx Slot	21.50	20.41	20.67	20.53	9.03	12.47	11.38	11.64	11.50
	2 Tx Slots	19.00	17.41	17.38	17.46	6.02	12.98	11.39	11.36	11.44
	3 Tx Slots	16.70	15.20	15.11	15.04	4.26	12.44	10.94	10.85	10.78
	4 Tx Slots	15.50	13.81	13.79	13.63	3.01	12.49	10.80	10.78	10.62

Notes: The worst-case configuration and mode for SAR testing is determined to be as follows:  
 Standalone: GSM 1900 GMSK (GPRS) mode with 2 time slots for Max power, based on the output power measurements above..

## 9.2 WCDMA Mode

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

### Main- Antenna

WCDMA Band II					
Receiver on--Main Ant0		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		9262/1852.4	9400/1880	9538/1907.6	
RMC	12.2k	23.08	<b>22.92</b>	22.82	24.50
AMR	12.2k	23.14	23.08	22.76	24.50
HSDPA	Subtest 1	22.56	22.40	22.30	24.00
	Subtest 2	22.56	22.38	22.20	24.00
	Subtest 3	21.94	22.02	21.68	23.50
	Subtest 4	22.24	22.02	21.66	23.50
HSUPA	Subtest 1	20.56	20.48	20.20	22.00
	Subtest 2	20.50	20.42	20.16	22.00
	Subtest 3	21.26	21.14	20.96	22.80
	Subtest 4	19.98	19.74	19.66	21.40
	Subtest 5	21.52	21.10	21.22	22.80
DC-HSDPA	Subtest 1	22.74	22.40	22.34	24.00
	Subtest 2	22.68	22.42	22.22	24.00
	Subtest 3	22.16	21.78	21.90	23.50
	Subtest 4	22.22	21.98	21.82	23.50
HSPA+	16QAM	22.22	22.12	21.94	23.60

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

WCDMA Band II					
Body SAR & Hotspot--Main Ant0		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		9262/1852.4	9400/1880	9538/1907.6	
RMC	12.2k	21.75	<b>21.74</b>	21.71	23.30
AMR	12.2k	21.65	21.84	21.71	23.30
HSDPA	Subtest 1	21.33	21.10	21.31	22.80
	Subtest 2	21.13	21.38	21.17	22.80
	Subtest 3	20.77	20.60	20.73	22.30
	Subtest 4	20.85	20.64	20.67	22.30
HSUPA	Subtest 1	19.37	19.36	19.11	20.80
	Subtest 2	19.35	19.38	19.37	20.80
	Subtest 3	20.21	19.98	20.17	21.60
	Subtest 4	18.53	18.54	18.49	20.20





	Subtest 5	20.01	20.04	20.03	21.60
DC-HSDPA	Subtest 1	21.33	21.40	21.37	22.80
	Subtest 2	21.37	21.10	21.21	22.80
	Subtest 3	20.69	20.86	20.85	22.30
	Subtest 4	20.59	20.60	20.73	22.30
HSPA+	16QAM	20.89	20.96	20.77	22.40

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

WCDMA Band IV					
Receiver on--Main Ant0		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		1312/1712.4	1413/1732.6	1513/1752.6	
RMC	12.2k	23.25	<b>23.27</b>	23.27	24.80
AMR	12.2k	23.33	23.43	23.41	24.80
HSDPA	Subtest 1	22.15	22.25	22.25	23.80
	Subtest 2	22.31	22.35	22.31	23.80
	Subtest 3	21.91	21.69	21.75	23.30
	Subtest 4	21.87	21.79	21.75	23.30
HSUPA	Subtest 1	20.33	20.37	20.39	22.00
	Subtest 2	20.57	20.47	20.53	22.00
	Subtest 3	21.15	21.23	21.17	22.80
	Subtest 4	19.87	19.87	19.93	21.40
	Subtest 5	21.31	21.15	21.11	22.80
DC-HSDPA	Subtest 1	22.37	22.59	22.57	24.00
	Subtest 2	22.41	22.59	22.51	24.00
	Subtest 3	21.81	22.11	21.99	23.50
	Subtest 4	21.97	22.11	21.83	23.50
HSPA+	16QAM	22.45	22.53	22.31	23.60

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

WCDMA Band IV					
Body SAR & Hotspot--Main Ant0		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		1312/1712.4	1413/1732.6	1513/1752.6	
RMC	12.2k	21.38	<b>21.24</b>	21.31	22.88
AMR	12.2k	21.42	21.34	21.23	22.88
HSDPA	Subtest 1	20.22	20.12	20.47	21.88
	Subtest 2	20.30	20.36	20.37	21.88
	Subtest 3	20.00	19.84	19.79	21.38
	Subtest 4	19.84	19.90	19.69	21.38
HSUPA	Subtest 1	18.52	18.58	18.37	20.08



	Subtest 2	18.70	18.40	18.51	20.08
	Subtest 3	19.36	19.36	19.33	20.88
	Subtest 4	18.04	17.92	17.93	19.48
	Subtest 5	19.26	19.32	19.47	20.88
DC-HSDPA	Subtest 1	20.52	20.54	20.63	22.08
	Subtest 2	20.48	20.56	20.49	22.08
	Subtest 3	20.20	19.94	19.95	21.58
	Subtest 4	19.96	20.00	19.91	21.58
HSPA+	16QAM	20.70	20.38	20.57	21.68
Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".					

WCDMA Band V					
Receiver on&Body SAR&Hotspot--Main Ant1		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		4132/826.4	4183/836.6	4233/846.6	
RMC	12.2k	23.56	<b>23.52</b>	23.55	25.00
AMR	12.2k	23.70	23.60	23.47	25.00
HSDPA	Subtest 1	23.04	22.76	22.97	24.40
	Subtest 2	22.88	22.94	22.83	24.40
	Subtest 3	22.56	22.64	22.67	24.00
	Subtest 4	22.66	22.50	22.39	24.00
HSUPA	Subtest 1	21.10	21.28	21.23	22.60
	Subtest 2	21.22	20.96	21.19	22.60
	Subtest 3	22.24	22.12	22.03	23.60
	Subtest 4	20.92	20.86	20.87	22.20
	Subtest 5	22.16	22.16	21.99	23.60
DC-HSDPA	Subtest 1	23.08	22.84	22.93	24.40
	Subtest 2	23.00	22.76	23.01	24.40
	Subtest 3	22.42	22.56	22.51	24.00
	Subtest 4	22.62	22.44	22.55	24.00
HSPA+	16QAM	22.70	22.86	22.87	24.00
Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".					



## Div – Antenna

WCDMA Band II					
Receiver on--Div Ant2		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		9262/1852.4	9400/1880	9538/1907.6	
RMC	12.2k	18.03	<b>18.01</b>	18.04	19.50
AMR	12.2k	17.93	17.95	17.90	19.50
HSDPA	Subtest 1	17.51	17.35	17.54	19.00
	Subtest 2	17.43	17.37	17.46	19.00
	Subtest 3	17.11	16.89	17.00	18.50
	Subtest 4	17.05	16.93	17.10	18.50
HSUPA	Subtest 1	15.41	15.67	15.52	17.00
	Subtest 2	15.55	15.65	15.48	17.00
	Subtest 3	16.19	16.25	16.22	17.80
	Subtest 4	14.93	14.87	14.94	16.40
	Subtest 5	16.23	16.21	16.22	17.80
DC-HSDPA	Subtest 1	17.57	17.65	17.52	19.00
	Subtest 2	17.45	17.43	17.46	19.00
	Subtest 3	16.99	16.95	17.02	18.50
	Subtest 4	17.01	16.87	16.92	18.50
HSPA+	16QAM	17.29	17.05	17.24	18.50

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

WCDMA Band II					
Body SAR--Div Ant2		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		9262/1852.4	9400/1880	9538/1907.6	
RMC	12.2k	20.74	<b>20.63</b>	20.72	22.20
AMR	12.2k	20.84	20.65	20.58	22.20
HSDPA	Subtest 1	20.18	20.29	20.10	21.70
	Subtest 2	20.36	20.19	20.08	21.70
	Subtest 3	19.66	19.79	19.74	21.20
	Subtest 4	19.82	19.65	19.56	21.20
HSUPA	Subtest 1	18.10	18.01	18.18	19.70
	Subtest 2	18.38	18.01	18.28	19.70
	Subtest 3	19.20	18.81	18.98	20.50
	Subtest 4	17.52	17.37	17.56	19.10
	Subtest 5	19.16	19.01	18.90	20.50
DC-HSDPA	Subtest 1	20.32	20.01	20.32	21.70
	Subtest 2	20.16	20.27	20.24	21.70
	Subtest 3	19.88	19.71	19.62	21.20
	Subtest 4	19.72	19.55	19.84	21.20



HSPA+	16QAM	19.86	19.73	19.94	21.20
Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".					

WCDMA Band II					
Hotspot--Div Ant2		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		9262/1852.4	9400/1880	9538/1907.6	
RMC	12.2k	16.43	<b>16.42</b>	16.41	17.90
AMR	12.2k	16.59	16.38	16.37	17.90
HSDPA	Subtest 1	16.03	16.08	15.89	17.40
	Subtest 2	15.77	15.88	16.07	17.40
	Subtest 3	15.29	15.54	15.43	16.90
	Subtest 4	15.49	15.54	15.53	16.90
HSUPA	Subtest 1	13.77	13.92	13.99	15.40
	Subtest 2	14.09	13.98	13.75	15.40
	Subtest 3	14.71	14.84	14.63	16.20
	Subtest 4	13.39	13.30	13.31	14.80
	Subtest 5	14.83	14.66	14.85	16.20
DC-HSDPA	Subtest 1	15.89	15.92	15.79	17.40
	Subtest 2	16.09	16.02	16.03	17.40
	Subtest 3	15.59	15.58	15.57	16.90
	Subtest 4	15.55	15.44	15.55	16.90
HSPA+	16QAM	15.71	15.58	15.47	16.90
Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".					

WCDMA Band IV					
Receiver on--Div Ant2		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		1312/1712.4	1413/1732.6	1513/1752.6	
RMC	12.2k	18.24	<b>18.15</b>	18.17	19.80
AMR	12.2k	18.12	18.31	18.15	19.80
HSDPA	Subtest 1	17.08	17.05	17.15	18.80
	Subtest 2	17.34	17.27	17.15	18.80
	Subtest 3	16.74	16.57	16.77	18.30
	Subtest 4	16.66	16.51	16.73	18.30
HSUPA	Subtest 1	15.36	15.47	15.25	17.00
	Subtest 2	15.34	15.43	15.41	17.00
	Subtest 3	16.30	16.01	16.09	17.80
	Subtest 4	14.80	14.61	14.73	16.40
	Subtest 5	16.16	16.07	16.03	17.80
DC-HSDPA	Subtest 1	17.46	17.41	17.23	19.00



	Subtest 2	17.56	17.43	17.33	19.00
	Subtest 3	16.90	16.69	16.75	18.50
	Subtest 4	16.98	17.01	17.03	18.50
HSPA+	16QAM	17.34	17.49	17.43	18.50

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

WCDMA Band IV					
Body SAR--Div Ant2		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		1312/1712.4	1413/1732.6	1513/1752.6	
RMC	12.2k	20.37	<b>20.34</b>	20.22	22.00
AMR	12.2k	20.33	20.42	20.38	22.00
HSDPA	Subtest 1	19.37	19.32	19.14	21.00
	Subtest 2	19.21	19.30	19.26	21.00
	Subtest 3	18.71	18.92	18.56	20.50
	Subtest 4	18.87	18.80	18.68	20.50
HSUPA	Subtest 1	17.71	17.68	17.32	19.20
	Subtest 2	17.43	17.68	17.26	19.20
	Subtest 3	18.49	18.24	18.16	20.00
	Subtest 4	16.87	17.00	16.84	18.60
	Subtest 5	18.25	18.34	18.26	20.00
DC-HSDPA	Subtest 1	19.45	19.66	19.52	21.20
	Subtest 2	19.57	19.46	19.28	21.20
	Subtest 3	19.09	19.18	18.88	20.70
	Subtest 4	18.91	18.90	18.78	20.70
HSPA+	16QAM	19.73	19.52	19.40	20.70

Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".

WCDMA Band IV					
Hotspot--Div Ant2		Maximum Output Power (dBm)			
		Channel/Frequency(MHz)			Tune-up
		1312/1712.4	1413/1732.6	1513/1752.6	
RMC	12.2k	15.79	<b>15.74</b>	15.73	17.30
AMR	12.2k	15.67	15.82	15.67	17.30
HSDPA	Subtest 1	14.81	14.86	14.81	16.30
	Subtest 2	14.65	14.64	14.77	16.30
	Subtest 3	14.41	14.26	14.09	15.80
	Subtest 4	14.31	14.16	14.11	15.80
HSUPA	Subtest 1	13.01	12.92	12.85	14.50
	Subtest 2	12.83	13.04	13.05	14.50
	Subtest 3	13.69	13.86	13.57	15.30



	Subtest 4	12.51	12.30	12.21	13.90
	Subtest 5	13.75	13.74	13.65	15.30
DC-HSDPA	Subtest 1	15.05	14.94	14.99	16.50
	Subtest 2	14.85	14.92	14.81	16.50
	Subtest 3	14.59	14.42	14.49	16.00
	Subtest 4	14.65	14.30	14.39	16.00
HSPA+	16QAM	14.89	15.02	14.79	16.00
Note: 1.Per KDB 941225 D01, SAR for each exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".					

### 9.3 LTE Mode

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

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

Modulation	Channel bandwidth / Transmission bandwidth (N <sub>RB</sub> )						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3

#### Main- Antenna

LTE Band 2							
Receiver on-Main Ant0				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	23.44	23.41	23.36	24.50
		1	2	23.77	23.66	23.64	24.50
		1	5	23.33	23.25	23.29	24.50
		3	0	23.63	23.56	23.65	24.50
		3	2	23.62	23.63	23.54	24.50
		3	3	23.62	23.58	23.52	24.50
		6	0	22.64	22.63	22.65	23.50
	16QAM	1	0	23.14	22.76	22.64	23.50
		1	2	23.12	23.04	22.89	23.50
		1	5	22.61	22.62	22.57	23.50
		3	0	22.56	22.53	22.59	23.50
		3	2	22.64	22.60	22.58	23.50
		3	3	22.59	22.62	22.51	23.50
		6	0	21.62	21.67	21.67	22.50
	64QAM	1	0	21.58	21.51	21.62	22.50
		1	2	21.90	21.81	21.85	22.50
		1	5	21.47	21.46	21.45	22.50
		3	0	21.56	21.56	21.62	22.50
		3	2	21.62	21.64	21.58	22.50
		3	3	21.59	21.63	21.47	22.50
		6	0	20.63	20.66	20.63	21.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
3MHz	QPSK	1	0	18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	23.46	23.45	23.39	24.50



		1	7	23.75	23.69	23.68	24.50	
		1	14	23.36	23.30	23.33	24.50	
		8	0	22.73	22.68	22.78	23.50	
		8	4	22.74	22.73	22.66	23.50	
		8	7	22.72	22.69	22.62	23.50	
		15	0	22.64	22.67	22.68	23.50	
	16QAM	1	0	23.17	22.78	22.67	23.50	
		1	7	23.15	23.04	22.93	23.50	
		1	14	22.63	22.66	22.60	23.50	
		8	0	21.67	21.66	21.71	22.50	
		8	4	21.75	21.73	21.70	22.50	
		8	7	21.69	21.74	21.64	22.50	
	64QAM	15	0	21.65	21.71	21.70	22.50	
		1	0	21.61	21.53	21.65	22.50	
		1	7	21.93	21.81	21.87	22.50	
		1	14	21.49	21.45	21.48	22.50	
		8	0	20.67	20.69	20.74	21.50	
		8	4	20.73	20.77	20.70	21.50	
		8	7	20.69	20.75	20.60	21.50	
		15	0	20.66	20.70	20.66	21.50	
		<b>Bandwidth</b>	<b>Modulation</b>	<b>RB allocation</b>	<b>offset</b>	<b>Channel/Frequency(MHz)</b>		
					18625/1852.5	18900/1880	19175/1907.5	
<b>5MHz</b>		QPSK	1	0	23.44	23.40	23.36	24.50
			1	13	23.74	23.69	23.66	24.50
	1		24	23.32	23.24	23.28	24.50	
	12		0	22.71	22.64	22.75	23.50	
	12		6	22.72	22.69	22.61	23.50	
	12		13	22.69	22.68	22.59	23.50	
	16QAM	25	0	22.66	22.64	22.65	23.50	
		1	0	23.11	22.75	22.64	23.50	
		1	13	23.13	23.03	22.91	23.50	
		1	24	22.60	22.62	22.56	23.50	
		12	0	21.65	21.65	21.69	22.50	
		12	6	21.71	21.67	21.65	22.50	
	64QAM	12	13	21.67	21.70	21.61	22.50	
		25	0	21.63	21.67	21.65	22.50	
		1	0	21.55	21.50	21.62	22.50	
		1	13	21.91	21.80	21.85	22.50	
		1	24	21.50	21.44	21.48	22.50	
		12	0	20.67	20.72	20.76	21.50	
	12	6	20.70	20.73	20.68	21.50		
	12	13	20.67	20.71	20.57	21.50		
	25	0	20.64	20.66	20.61	21.50		





Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	23.45	23.44	23.38	24.50
		1	25	23.76	23.70	23.69	24.50
		1	49	23.35	23.29	23.32	24.50
		25	0	22.73	22.68	22.78	23.50
		25	13	22.75	22.74	22.65	23.50
		25	25	22.72	22.71	22.63	23.50
		50	0	22.68	22.68	22.70	23.50
	16QAM	1	0	23.16	22.77	22.66	23.50
		1	25	23.15	23.06	22.93	23.50
		1	49	22.63	22.66	22.59	23.50
		25	0	21.68	21.67	21.72	22.50
		25	13	21.74	21.72	21.69	22.50
		25	25	21.69	21.74	21.64	22.50
		50	0	21.66	21.72	21.69	22.50
	64QAM	1	0	21.60	21.52	21.64	22.50
		1	25	21.93	21.83	21.87	22.50
		1	49	21.49	21.45	21.47	22.50
		25	0	20.68	20.70	20.75	21.50
		25	13	20.72	20.76	20.69	21.50
		25	25	20.69	20.75	20.60	21.50
		50	0	20.67	20.71	20.65	21.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	23.43	23.43	23.35	24.50
		1	38	23.73	23.65	23.65	24.50
		1	74	23.33	23.25	23.29	24.50
		36	0	22.70	22.63	22.74	23.50
		36	18	22.72	22.69	22.61	23.50
		36	39	22.70	22.67	22.58	23.50
		75	0	22.64	22.66	22.66	23.50
	16QAM	1	0	23.14	22.74	22.64	23.50
		1	38	23.12	23.02	22.90	23.50
		1	74	22.60	22.64	22.56	23.50
		36	0	21.65	21.62	21.68	22.50
		36	18	21.72	21.68	21.66	22.50
		36	39	21.66	21.69	21.60	22.50
		75	0	21.63	21.67	21.65	22.50
	64QAM	1	0	21.58	21.53	21.62	22.50
		1	38	21.90	21.83	21.84	22.50
		1	74	21.50	21.43	21.44	22.50
		36	0	20.65	20.65	20.75	21.50



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18700/1860	18900/1880	19100/1900	
				36	18	20.70	
36	39	20.66	20.70	20.56	21.50		
75	0	20.64	20.66	20.61	21.50		
20MHz	QPSK	1	0	23.41	23.36	23.33	24.50
		1	50	<b>23.73</b>	23.65	23.64	24.50
		1	99	23.30	23.23	23.25	24.50
		50	0	22.68	22.59	<b>22.71</b>	23.50
		50	25	22.70	22.65	22.58	23.50
		50	50	22.66	22.63	22.55	23.50
		100	0	22.63	22.59	22.61	23.50
	16QAM	1	0	22.69	22.71	22.59	23.50
		1	50	23.09	23.01	22.87	23.50
		1	99	22.58	22.59	22.54	23.50
		50	0	21.62	21.61	21.66	22.50
		50	25	21.68	21.65	21.62	22.50
		50	50	21.64	21.65	21.57	22.50
		100	0	21.61	21.63	21.62	22.50
	64QAM	1	0	21.53	21.46	21.57	22.50
		1	50	21.87	21.78	21.81	22.50
		1	99	21.44	21.38	21.42	22.50
		50	0	20.62	20.64	20.69	21.50
		50	25	20.66	20.69	20.62	21.50
		50	50	20.64	20.66	20.53	21.50
		100	0	20.62	20.62	20.58	21.50

LTE Band 2							
Body SAR & Hotshot-Main Ant0				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	23.19	22.44	22.34	23.50
		1	2	23.32	22.74	22.64	23.50
		1	5	23.18	22.30	22.28	23.50
		3	0	22.73	22.69	22.70	23.50
		3	2	22.73	22.76	22.64	23.50
		3	3	22.66	22.66	22.59	23.50
		6	0	22.63	22.64	22.61	23.50
	16QAM	1	0	23.02	22.66	22.66	23.50
		1	2	23.00	22.93	22.93	23.50
		1	5	22.61	22.57	22.60	23.50
		3	0	22.59	22.51	22.60	23.50
		3	2	22.65	22.57	22.53	23.50



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				18615/1851.5	18900/1880	19185/1908.5		
	64QAM	3	3	22.60	22.53	22.45	23.50	
		6	0	21.65	21.62	21.61	22.50	
		1	0	21.65	21.60	21.51	22.50	
		1	2	22.00	21.90	21.82	22.50	
		1	5	21.53	21.58	21.44	22.50	
		3	0	21.61	21.50	21.55	22.50	
		3	2	21.61	21.57	21.49	22.50	
		3	3	21.55	21.57	21.42	22.50	
		6	0	20.65	20.64	20.61	21.50	
3MHz	QPSK	1	0	23.21	22.48	22.37	23.50	
		1	7	23.30	22.77	22.68	23.50	
		1	14	23.21	22.35	22.32	23.50	
		8	0	22.73	22.71	22.73	23.50	
		8	4	22.75	22.76	22.66	23.50	
		8	7	22.66	22.67	22.59	23.50	
		15	0	22.63	22.68	22.64	23.50	
	16QAM	1	0	23.05	22.68	22.69	23.50	
		1	7	23.03	22.93	22.97	23.50	
		1	14	22.63	22.61	22.63	23.50	
		8	0	21.70	21.64	21.72	22.50	
		8	4	21.76	21.70	21.65	22.50	
		8	7	21.70	21.65	21.58	22.50	
		15	0	21.68	21.66	21.64	22.50	
	64QAM	1	0	21.68	21.62	21.54	22.50	
		1	7	22.03	21.90	21.84	22.50	
		1	14	21.55	21.57	21.47	22.50	
		8	0	20.72	20.63	20.67	21.50	
		8	4	20.72	20.70	20.61	21.50	
		8	7	20.65	20.69	20.55	21.50	
		15	0	20.68	20.68	20.64	21.50	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					18625/1852.5	18900/1880	19175/1907.5	
	5MHz	QPSK	1	0	23.18	22.46	22.33	23.50
1			13	23.28	22.73	22.65	23.50	
1			24	23.18	22.30	22.28	23.50	
12			0	22.70	22.66	22.69	23.50	
12			6	22.73	22.72	22.61	23.50	
12			13	22.64	22.65	22.55	23.50	
25			0	22.63	22.67	22.62	23.50	
16QAM		1	0	23.02	22.64	22.66	23.50	
		1	13	23.00	22.91	22.94	23.50	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up		
				18650/1855	18900/1880	19150/1905			
		1	24	22.60	22.59	22.59	23.50		
		12	0	21.68	21.60	21.69	22.50		
		12	6	21.73	21.65	21.61	22.50		
		12	13	21.67	21.60	21.54	22.50		
		25	0	21.66	21.62	21.59	22.50		
		1	0	21.65	21.62	21.51	22.50		
		1	13	22.00	21.92	21.81	22.50		
	64QAM	1	24	21.56	21.55	21.43	22.50		
		12	0	20.70	20.59	20.68	21.50		
		12	6	20.69	20.65	20.57	21.50		
		12	13	20.62	20.64	20.51	21.50		
		25	0	20.66	20.64	20.59	21.50		
		10MHz	QPSK	1	0	23.20	22.47	22.36	23.50
				1	25	23.31	22.78	22.69	23.50
1	49			23.20	22.34	22.31	23.50		
25	0			22.73	22.71	22.73	23.50		
25	13			22.76	22.77	22.65	23.50		
25	25			22.66	22.69	22.60	23.50		
50	0			22.67	22.69	22.66	23.50		
16QAM	1	0	23.04	22.67	22.68	23.50			
	1	25	23.03	22.95	22.97	23.50			
	1	49	22.63	22.61	22.62	23.50			
	25	0	21.71	21.65	21.73	22.50			
	25	13	21.75	21.69	21.64	22.50			
	25	25	21.70	21.65	21.58	22.50			
	50	0	21.69	21.67	21.63	22.50			
64QAM	1	0	21.67	21.61	21.53	22.50			
	1	25	22.03	21.92	21.84	22.50			
	1	49	21.55	21.57	21.46	22.50			
	25	0	20.73	20.64	20.68	21.50			
	25	13	20.71	20.69	20.60	21.50			
	25	25	20.65	20.69	20.55	21.50			
	50	0	20.69	20.69	20.63	21.50			
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up		
				18675/1857.5	18900/1880	19125/1902.5			
15MHz	QPSK	1	0	23.19	22.43	22.34	23.50		
		1	38	23.29	22.77	22.66	23.50		
		1	74	23.17	22.29	22.27	23.50		
		36	0	22.71	22.67	22.70	23.50		
		36	18	22.73	22.72	22.61	23.50		
		36	39	22.63	22.66	22.56	23.50		



	16QAM	75	0	22.65	22.65	22.61	23.50
		1	0	22.99	22.65	22.66	23.50
		1	38	23.01	22.92	22.95	23.50
		1	74	22.60	22.57	22.59	23.50
		36	0	21.68	21.63	21.70	22.50
		36	18	21.72	21.64	21.60	22.50
		36	39	21.68	21.61	21.55	22.50
		75	0	21.66	21.62	21.59	22.50
	64QAM	1	0	21.62	21.59	21.51	22.50
		1	38	22.01	21.89	21.82	22.50
		1	74	21.56	21.56	21.47	22.50
		36	0	20.72	20.66	20.69	21.50
		36	18	20.69	20.66	20.59	21.50
		36	39	20.63	20.65	20.52	21.50
75		0	20.66	20.64	20.59	21.50	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	23.16	22.39	22.31	23.50
		1	50	<b>23.28</b>	22.73	22.64	23.50
		1	99	23.15	22.28	22.24	23.50
		50	0	22.68	22.62	22.66	23.50
		50	25	<b>22.71</b>	22.68	22.58	23.50
		50	50	22.60	22.61	22.52	23.50
		100	0	22.62	22.60	22.57	23.50
	16QAM	1	0	22.73	22.61	22.61	23.50
		1	50	22.97	22.90	22.91	23.50
		1	99	22.58	22.54	22.57	23.50
		50	0	21.65	21.59	21.67	22.50
		50	25	21.69	21.62	21.57	22.50
		50	50	21.65	21.56	21.51	22.50
		100	0	21.64	21.58	21.56	22.50
	64QAM	1	0	21.60	21.55	21.46	22.50
		1	50	21.97	21.87	21.78	22.50
		1	99	21.50	21.50	21.41	22.50
		50	0	20.67	20.58	20.62	21.50
		50	25	20.65	20.62	20.53	21.50
		50	50	20.60	20.60	20.48	21.50
		100	0	20.64	20.60	20.56	21.50



LTE Band 4							
Receiver on-Main Ant0				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	23.75	23.65	23.68	24.80
		1	2	24.03	23.89	23.91	24.80
		1	5	23.49	23.39	23.46	24.80
		3	0	23.87	23.84	23.90	24.80
		3	2	23.84	23.91	23.86	24.80
		3	3	23.81	23.78	23.82	24.80
		6	0	22.89	22.87	22.91	23.80
	16QAM	1	0	23.21	22.89	22.92	23.80
		1	2	23.19	23.10	23.17	23.80
		1	5	22.68	22.64	22.75	23.80
		3	0	22.82	22.76	22.85	23.80
		3	2	22.86	22.85	22.86	23.80
		3	3	22.79	22.74	22.74	23.80
		6	0	21.85	21.86	21.88	22.80
	64QAM	1	0	21.83	21.91	21.79	22.80
		1	2	22.20	22.07	22.14	22.80
		1	5	21.73	21.67	21.64	22.80
		3	0	21.88	21.88	21.96	22.80
		3	2	21.93	21.96	21.95	22.80
		3	3	21.89	21.91	21.88	22.80
		6	0	20.97	21.03	21.02	21.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	23.77	23.69	23.71	24.80
		1	7	24.01	23.92	23.95	24.80
		1	14	23.52	23.44	23.50	24.80
		8	0	22.97	22.96	23.03	23.80
		8	4	22.96	23.01	22.98	23.80
		8	7	22.91	22.89	22.92	23.80
		15	0	22.89	22.91	22.94	23.80
	16QAM	1	0	23.24	22.91	22.95	23.80
		1	7	23.22	23.10	23.21	23.80
		1	14	22.70	22.68	22.78	23.80
		8	0	21.93	21.89	21.97	22.80
		8	4	21.97	21.98	21.98	22.80
		8	7	21.89	21.86	21.87	22.80
		15	0	21.88	21.90	21.91	22.80
	64QAM	1	0	21.86	21.93	21.82	22.80
1		7	22.23	22.07	22.16	22.80	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				19975/1712.5	20175/1732.5	20375/1752.5		
		1	14	21.75	21.66	21.67	22.80	
		8	0	20.99	21.01	21.08	21.80	
		8	4	21.04	21.09	21.07	21.80	
		8	7	20.99	21.03	21.01	21.80	
		15	0	21.00	21.07	21.05	21.80	
5MHz	QPSK	1	0	23.74	23.67	23.67	24.80	
		1	13	23.99	23.88	23.92	24.80	
		1	24	23.49	23.39	23.46	24.80	
		12	0	22.94	22.91	22.99	23.80	
		12	6	22.94	22.97	22.93	23.80	
		12	13	22.89	22.87	22.88	23.80	
		25	0	22.89	22.90	22.92	23.80	
	16QAM	1	0	23.21	22.87	22.92	23.80	
		1	13	23.19	23.08	23.18	23.80	
		1	24	22.67	22.66	22.74	23.80	
		12	0	21.91	21.85	21.94	22.80	
		12	6	21.94	21.93	21.94	22.80	
		12	13	21.86	21.81	21.83	22.80	
		25	0	21.86	21.86	21.86	22.80	
	64QAM	1	0	21.83	21.93	21.79	22.80	
		1	13	22.20	22.09	22.13	22.80	
		1	24	21.76	21.64	21.63	22.80	
		12	0	20.97	20.97	21.09	21.80	
		12	6	21.01	21.04	21.03	21.80	
		12	13	20.96	20.98	20.97	21.80	
		25	0	20.98	21.03	21.00	21.80	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					20000/1715	20175/1732.5	20350/1750	
	10MHz	QPSK	1	0	23.76	23.68	23.70	24.80
1			25	24.02	23.93	23.96	24.80	
1			49	23.51	23.43	23.49	24.80	
25			0	22.97	22.96	23.03	23.80	
25			13	22.97	23.02	22.97	23.80	
25			25	22.91	22.91	22.93	23.80	
50			0	22.93	22.92	22.96	23.80	
16QAM		1	0	23.23	22.90	22.94	23.80	
		1	25	23.22	23.12	23.21	23.80	
		1	49	22.70	22.68	22.77	23.80	
		25	0	21.94	21.90	21.98	22.80	
		25	13	21.96	21.97	21.97	22.80	
		25	25	21.89	21.86	21.87	22.80	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				20025/1717.5	20175/1732.5	20325/1747.5		
	64QAM	50	0	21.89	21.91	21.90	22.80	
		1	0	21.85	21.92	21.81	22.80	
		1	25	22.23	22.09	22.16	22.80	
		1	49	21.75	21.66	21.66	22.80	
		25	0	21.00	21.02	21.09	21.80	
		25	13	21.03	21.08	21.06	21.80	
		25	25	20.99	21.03	21.01	21.80	
		50	0	21.01	21.08	21.04	21.80	
15MHz	QPSK	1	0	23.75	23.64	23.68	24.80	
		1	38	24.00	23.92	23.93	24.80	
		1	74	23.48	23.38	23.45	24.80	
		36	0	22.95	22.92	23.00	23.80	
		36	18	22.94	22.97	22.93	23.80	
		36	39	22.88	22.88	22.89	23.80	
		75	0	22.91	22.88	22.91	23.80	
	16QAM	1	0	23.18	22.88	22.92	23.80	
		1	38	23.20	23.09	23.19	23.80	
		1	74	22.67	22.64	22.74	23.80	
		36	0	21.91	21.88	21.95	22.80	
		36	18	21.93	21.92	21.93	22.80	
		36	39	21.87	21.82	21.84	22.80	
		75	0	21.86	21.86	21.86	22.80	
	64QAM	1	0	21.80	21.90	21.79	22.80	
		1	38	22.21	22.06	22.14	22.80	
		1	74	21.76	21.65	21.67	22.80	
		36	0	20.99	21.04	21.10	21.80	
		36	18	21.01	21.05	21.05	21.80	
		36	39	20.97	20.99	20.98	21.80	
		75	0	20.98	21.03	21.00	21.80	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					20050/1720	20175/1732.5	20300/1745	
	20MHz	QPSK	1	0	23.72	23.60	23.65	24.80
1			50	<b>23.99</b>	23.88	23.91	24.80	
1			99	23.46	23.37	23.42	24.80	
50			0	22.92	22.87	<b>22.96</b>	23.80	
50			25	22.92	22.93	22.90	23.80	
50			50	22.85	22.83	22.85	23.80	
100			0	22.88	22.83	22.87	23.80	
16QAM		1	0	22.85	22.84	22.87	23.80	
		1	50	23.16	23.07	23.15	23.80	
	1	99	22.65	22.61	22.72	23.80		





		50	0	21.88	21.84	21.92	22.80
		50	25	21.90	21.90	21.90	22.80
		50	50	21.84	21.77	21.80	22.80
		100	0	21.84	21.82	21.83	22.80
	64QAM	1	0	21.78	21.86	21.74	22.80
		1	50	22.17	22.04	22.10	22.80
		1	99	21.70	21.59	21.61	22.80
		50	0	20.94	20.96	21.03	21.80
		50	25	20.97	21.01	20.99	21.80
		50	50	20.94	20.94	20.94	21.80
		100	0	20.96	20.99	20.97	21.80

LTE Band 4							
Body SAR & Hotshot-Main Ant0				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	22.22	22.15	22.07	23.40
		1	2	22.49	22.37	22.40	23.40
		1	5	22.01	21.87	21.91	23.40
		3	0	23.02	23.01	23.02	23.40
		3	2	23.00	23.06	23.05	23.40
		3	3	22.99	22.93	22.96	23.40
		6	0	22.35	22.30	22.37	23.40
	16QAM	1	0	22.70	22.40	22.23	23.40
		1	2	22.68	22.58	22.52	23.40
		1	5	22.20	22.05	22.09	23.40
		3	0	22.76	22.70	22.79	23.40
		3	2	22.80	22.78	22.81	23.40
		3	3	22.74	22.70	22.71	23.40
		6	0	21.77	21.78	21.85	22.80
	64QAM	1	0	21.83	21.78	21.82	22.80
		1	2	21.99	22.02	22.12	22.80
		1	5	21.55	21.56	21.63	22.80
		3	0	21.83	21.82	21.89	22.80
		3	2	21.87	21.85	21.87	22.80
		3	3	21.86	21.82	21.79	22.80
		6	0	20.88	20.87	20.97	21.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	22.23	22.18	22.09	23.40
		1	7	22.48	22.41	22.45	23.40
		1	14	22.03	21.91	21.94	23.40
		8	0	22.42	22.43	22.45	23.40



		8	4	22.43	22.47	22.46	23.40
		8	7	22.39	22.36	22.37	23.40
		15	0	22.39	22.35	22.42	23.40
	16QAM	1	0	22.72	22.41	22.25	23.40
		1	7	22.71	22.60	22.56	23.40
		1	14	22.22	22.09	22.11	23.40
		8	0	21.88	21.84	21.92	22.80
		8	4	21.90	21.90	21.92	22.80
		8	7	21.84	21.82	21.84	22.80
		15	0	21.81	21.83	21.87	22.80
	64QAM	1	0	21.85	21.79	21.84	22.80
		1	7	22.02	22.04	22.14	22.80
		1	14	21.57	21.55	21.65	22.80
		8	0	20.95	20.96	21.02	21.80
		8	4	20.97	20.97	20.98	21.80
8		7	20.96	20.94	20.92	21.80	
15		0	20.92	20.92	20.99	21.80	
<b>Bandwidth</b>	<b>Modulation</b>	<b>RB allocation</b>	<b>offset</b>	<b>Channel/Frequency(MHz)</b>			<b>Tune-up</b>
				19975/1712.5	20175/1732.5	20375/1752.5	
<b>5MHz</b>	QPSK	1	0	22.21	22.17	22.06	23.40
		1	13	22.45	22.36	22.41	23.40
		1	24	22.01	21.87	21.91	23.40
		12	0	22.39	22.38	22.41	23.40
		12	6	22.40	22.42	22.42	23.40
		12	13	22.37	22.32	22.32	23.40
		25	0	22.35	22.33	22.38	23.40
	16QAM	1	0	22.70	22.38	22.23	23.40
		1	13	22.68	22.56	22.53	23.40
		1	24	22.19	22.07	22.08	23.40
		12	0	21.85	21.79	21.88	22.80
		12	6	21.88	21.86	21.89	22.80
		12	13	21.81	21.77	21.80	22.80
		25	0	21.78	21.78	21.83	22.80
	64QAM	1	0	21.83	21.80	21.82	22.80
		1	13	21.99	22.04	22.11	22.80
		1	24	21.58	21.53	21.62	22.80
		12	0	20.92	20.91	21.02	21.80
		12	6	20.95	20.93	20.95	21.80
		12	13	20.93	20.89	20.88	21.80
		25	0	20.89	20.87	20.95	21.80
<b>Bandwidth</b>	<b>Modulation</b>	<b>RB allocation</b>	<b>offset</b>	<b>Channel/Frequency(MHz)</b>			<b>Tune-up</b>
				20000/1715	20175/1732.5	20350/1750	
<b>10MHz</b>	QPSK	1	0	22.24	22.19	22.10	23.40



		1	25	22.47	22.40	22.44	23.40	
		1	49	22.04	21.92	21.95	23.40	
		25	0	22.42	22.43	22.45	23.40	
		25	13	22.42	22.46	22.47	23.40	
		25	25	22.39	22.34	22.36	23.40	
		50	0	22.35	22.34	22.40	23.40	
	16QAM	1	0	22.73	22.42	22.26	23.40	
		1	25	22.71	22.58	22.56	23.40	
		1	49	22.22	22.09	22.12	23.40	
		25	0	21.87	21.83	21.91	22.80	
		25	13	21.91	21.91	21.93	22.80	
		25	25	21.84	21.82	21.84	22.80	
	64QAM	50	0	21.80	21.82	21.88	22.80	
		1	0	21.86	21.80	21.85	22.80	
		1	25	22.02	22.02	22.14	22.80	
		1	49	21.57	21.55	21.66	22.80	
		25	0	20.94	20.95	21.01	21.80	
		25	13	20.98	20.98	20.99	21.80	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					20025/1717.5	20175/1732.5	20325/1747.5	
	15MHz	QPSK	1	0	22.22	22.14	22.07	23.40
1			38	22.46	22.40	22.42	23.40	
1			74	22.00	21.86	21.90	23.40	
36			0	22.40	22.39	22.42	23.40	
36			18	22.40	22.42	22.42	23.40	
36			39	22.36	22.33	22.33	23.40	
75			0	22.37	22.31	22.37	23.40	
16QAM		1	0	22.67	22.39	22.23	23.40	
		1	38	22.69	22.57	22.54	23.40	
		1	74	22.19	22.05	22.08	23.40	
		36	0	21.85	21.82	21.89	22.80	
		36	18	21.87	21.85	21.88	22.80	
		36	39	21.82	21.78	21.81	22.80	
		75	0	21.78	21.78	21.83	22.80	
64QAM		1	0	21.80	21.77	21.82	22.80	
		1	38	22.00	22.01	22.12	22.80	
		1	74	21.58	21.54	21.66	22.80	
		36	0	20.94	20.98	21.03	21.80	
		36	18	20.95	20.94	20.97	21.80	
		36	39	20.94	20.90	20.89	21.80	
		75	0	20.89	20.87	20.95	21.80	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	22.19	22.10	22.04	23.40
		1	50	<b>22.45</b>	22.36	22.40	23.40
		1	99	21.98	21.85	21.87	23.40
		50	0	22.37	22.34	22.38	23.40
		50	25	22.38	22.38	<b>22.39</b>	23.40
		50	50	22.33	22.28	22.29	23.40
		100	0	22.34	22.26	22.33	23.40
	16QAM	1	0	22.30	22.35	22.18	23.40
		1	50	22.65	22.55	22.50	23.40
		1	99	22.17	22.02	22.06	23.40
		50	0	21.82	21.78	21.86	22.80
		50	25	21.84	21.83	21.85	22.80
		50	50	21.79	21.73	21.77	22.80
		100	0	21.76	21.74	21.80	22.80
	64QAM	1	0	21.78	21.73	21.77	22.80
		1	50	21.96	21.99	22.08	22.80
		1	99	21.52	21.48	21.60	22.80
		50	0	20.89	20.90	20.96	21.80
		50	25	20.91	20.90	20.91	21.80
		50	50	20.91	20.85	20.85	21.80
		100	0	20.87	20.83	20.92	21.80

LTE Band 5							
Receiver on & Body SAR & Hotspot--Main Ant1				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	23.90	23.91	23.90	25.00
		1	2	24.02	24.02	23.95	25.00
		1	5	23.93	23.90	23.95	25.00
		3	0	23.92	23.93	23.94	25.00
		3	2	23.91	23.99	23.91	25.00
		3	3	23.95	23.92	23.89	25.00
		6	0	23.02	23.03	23.01	24.00
	16QAM	1	0	23.28	23.08	23.17	24.00
		1	2	23.26	23.27	23.21	24.00
		1	5	23.12	23.13	23.20	24.00
		3	0	22.92	22.93	22.94	24.00
		3	2	22.97	22.98	22.87	24.00
		3	3	22.97	22.97	22.81	24.00
		6	0	22.04	22.05	21.97	23.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20415/825.5	20525/836.5	20635/847.5	
3MHz	64QAM	1	0	22.17	22.14	22.17	23.00
		1	2	22.19	22.34	22.19	23.00
		1	5	22.11	22.16	22.15	23.00
		3	0	21.94	21.93	21.98	23.00
		3	2	21.96	22.00	21.96	23.00
		3	3	21.99	21.98	21.89	23.00
		6	0	21.05	21.03	21.01	22.00
3MHz	QPSK	1	0	23.92	23.95	23.93	25.00
		1	7	24.00	24.05	23.99	25.00
		1	14	23.96	23.95	23.99	25.00
		8	0	23.02	23.05	23.07	24.00
		8	4	23.03	23.09	23.03	24.00
		8	7	23.05	23.03	22.99	24.00
		15	0	23.02	23.07	23.04	24.00
	16QAM	1	0	23.31	23.10	23.20	24.00
		1	7	23.29	23.27	23.25	24.00
		1	14	23.14	23.17	23.23	24.00
		8	0	22.03	22.06	22.06	23.00
		8	4	22.08	22.11	21.99	23.00
		8	7	22.07	22.09	21.94	23.00
		15	0	22.07	22.09	22.00	23.00
	64QAM	1	0	22.20	22.16	22.20	23.00
		1	7	22.22	22.34	22.21	23.00
		1	14	22.13	22.15	22.18	23.00
		8	0	21.05	21.06	21.10	22.00
		8	4	21.07	21.13	21.08	22.00
		8	7	21.09	21.10	21.02	22.00
		15	0	21.08	21.07	21.04	22.00
5MHz	QPSK	1	0	23.89	23.93	23.89	25.00
		1	13	23.98	24.01	23.96	25.00
1		24	23.93	23.90	23.95	25.00	
12		0	22.99	23.00	23.03	24.00	
12		6	23.01	23.05	22.98	24.00	
12		13	23.03	23.01	22.95	24.00	
25		0	23.02	23.06	23.02	24.00	
16QAM	1	0	23.28	23.06	23.17	24.00	
	1	13	23.26	23.25	23.22	24.00	
	1	24	23.11	23.15	23.19	24.00	
	12	0	22.01	22.02	22.03	23.00	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				20450/829	20525/836.5	20600/844		
10MHz	64QAM	12	6	22.05	22.06	21.95	23.00	
		12	13	22.04	22.04	21.90	23.00	
		25	0	22.05	22.05	21.95	23.00	
		1	0	22.17	22.16	22.17	23.00	
		1	13	22.19	22.36	22.18	23.00	
		1	24	22.14	22.13	22.14	23.00	
		12	0	21.03	21.02	21.11	22.00	
		12	6	21.04	21.08	21.04	22.00	
		12	13	21.06	21.05	20.98	22.00	
	25	0	21.06	21.03	20.99	22.00		
	10MHz	QPSK	1	0	23.87	23.86	23.87	25.00
			1	25	23.98	<b>24.01</b>	23.95	25.00
			1	49	23.90	23.88	23.91	25.00
			25	0	22.97	22.96	23.00	24.00
			25	13	22.99	<b>23.01</b>	22.95	24.00
			25	25	22.98	22.97	22.92	24.00
			50	0	23.01	22.99	22.97	24.00
		16QAM	1	0	23.14	23.03	23.12	24.00
1			25	23.23	23.24	23.19	24.00	
1			49	23.09	23.10	23.17	24.00	
25			0	21.98	22.01	22.01	23.00	
25			13	22.01	22.03	21.91	23.00	
25			25	22.02	22.00	21.87	23.00	
50			0	22.03	22.01	21.92	23.00	
64QAM		1	0	22.12	22.09	22.12	23.00	
		1	25	22.16	22.31	22.15	23.00	
		1	49	22.08	22.08	22.12	23.00	
		25	0	21.00	21.01	21.05	22.00	
	25	13	21.00	21.05	21.00	22.00		
	25	25	21.04	21.01	20.95	22.00		
	50	0	21.04	20.99	20.96	22.00		

LTE Band 7							
Receiver on-Main Ant0				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	23.38	23.53	22.97	24.50
		1	13	23.74	23.35	23.52	24.50
		1	24	23.35	22.98	23.23	24.50
		12	0	22.29	22.49	22.46	23.50
		12	6	22.69	22.46	22.63	23.50



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				20800/2505	21100/2535	21400/2565		
10MHz	16QAM	12	13	22.77	22.49	22.69	23.50	
		25	0	22.56	22.50	22.60	23.50	
		1	0	23.04	22.78	22.33	23.50	
		1	13	23.02	22.67	22.86	23.50	
		1	24	22.62	22.35	22.51	23.50	
		12	0	21.33	21.48	21.43	22.50	
		12	6	21.66	21.45	21.61	22.50	
		12	13	21.71	21.47	21.70	22.50	
	64QAM	25	0	21.52	21.45	21.57	22.50	
		1	0	21.43	21.74	21.32	22.50	
		1	13	22.38	21.60	21.85	22.50	
		1	24	22.11	21.26	21.49	22.50	
		12	0	20.85	20.51	20.43	21.50	
		12	6	21.24	20.44	20.59	21.50	
		12	13	21.31	20.51	20.64	21.50	
		25	0	21.11	20.47	20.51	21.50	
	10MHz	QPSK	1	0	23.40	23.54	23.00	24.50
			1	25	23.77	23.40	23.56	24.50
			1	49	23.37	23.02	23.26	24.50
			25	0	22.32	22.54	22.50	23.50
			25	13	22.72	22.51	22.67	23.50
			25	25	22.79	22.53	22.74	23.50
			50	0	22.60	22.52	22.64	23.50
		16QAM	1	0	23.06	22.81	22.35	23.50
			1	25	23.05	22.71	22.89	23.50
			1	49	22.65	22.37	22.54	23.50
			25	0	21.36	21.53	21.47	22.50
			25	13	21.68	21.49	21.64	22.50
25			25	21.74	21.52	21.74	22.50	
50			0	21.55	21.50	21.61	22.50	
64QAM		1	0	21.45	21.73	21.34	22.50	
		1	25	22.41	21.60	21.88	22.50	
		1	49	22.10	21.28	21.52	22.50	
		25	0	20.88	20.56	20.43	21.50	
		25	13	21.26	20.48	20.62	21.50	
		25	25	21.34	20.56	20.68	21.50	
		50	0	21.14	20.52	20.55	21.50	
Bandwidth		Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					20825/2507.5	21100/2535	21375/2562.5	
15MHz		QPSK	1	0	23.39	23.50	22.98	24.50
			1	38	23.75	23.39	23.53	24.50



		1	74	23.34	22.97	23.22	24.50
		36	0	22.30	22.50	22.47	23.50
		36	18	22.69	22.46	22.63	23.50
		36	39	22.76	22.50	22.70	23.50
		75	0	22.58	22.48	22.59	23.50
		1	0	23.01	22.79	22.33	23.50
		1	38	23.03	22.68	22.87	23.50
	16QAM	1	74	22.62	22.33	22.51	23.50
		36	0	21.33	21.51	21.44	22.50
		36	18	21.65	21.44	21.60	22.50
		36	39	21.72	21.48	21.71	22.50
		75	0	21.52	21.45	21.57	22.50
		1	0	21.40	21.71	21.32	22.50
		1	38	22.39	21.57	21.86	22.50
	64QAM	1	74	22.11	21.27	21.53	22.50
		36	0	20.87	20.58	20.44	21.50
		36	18	21.24	20.45	20.61	21.50
		36	39	21.32	20.52	20.65	21.50
		75	0	21.11	20.47	20.51	21.50
		1	0	21.40	21.71	21.32	22.50
		1	38	22.39	21.57	21.86	22.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	23.36	23.46	22.95	24.50
		1	50	<b>23.74</b>	23.35	23.51	24.50
		1	99	23.32	22.96	23.19	24.50
		50	0	22.27	22.43	22.43	23.50
		50	25	22.67	22.42	22.60	23.50
		50	50	<b>22.73</b>	22.45	22.66	23.50
		100	0	22.55	22.43	22.55	23.50
	16QAM	1	0	22.60	22.75	22.28	23.50
		1	50	22.99	22.66	22.83	23.50
		1	99	22.60	22.30	22.49	23.50
		50	0	21.30	21.47	21.41	22.50
		50	25	21.62	21.42	21.57	22.50
		50	50	21.69	21.43	21.67	22.50
		100	0	21.50	21.41	21.54	22.50
	64QAM	1	0	21.38	21.67	21.27	22.50
		1	50	22.35	21.55	21.82	22.50
		1	99	22.05	21.21	21.47	22.50
		50	0	20.82	20.50	20.37	21.50
		50	25	21.20	20.41	20.55	21.50
		50	50	21.29	20.47	20.61	21.50
		100	0	21.09	20.43	20.48	21.50





LTE Band 7							
Body SAR & Hotshot-Main Ant0				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	20.92	21.02	20.63	22.10
		1	13	22.02	20.92	21.16	22.10
		1	24	21.68	20.63	20.85	22.10
		12	0	21.62	21.02	20.93	22.10
		12	6	21.95	20.99	21.15	22.10
		12	13	22.06	20.99	21.16	22.10
		25	0	21.80	20.99	21.07	22.10
	16QAM	1	0	21.36	21.32	20.89	22.10
		1	13	21.34	21.23	21.43	22.10
		1	24	21.90	20.88	21.08	22.10
		12	0	21.61	21.00	20.97	22.10
		12	6	21.97	21.01	21.14	22.10
		12	13	22.06	20.99	21.16	22.10
		25	0	21.85	21.04	21.07	22.10
	64QAM	1	0	21.14	21.19	20.70	22.10
		1	13	22.03	21.03	21.26	22.10
		1	24	21.60	20.72	20.96	22.10
		12	0	20.91	20.52	20.43	21.50
		12	6	21.28	20.47	20.66	21.50
		12	13	21.35	20.52	20.71	21.50
		25	0	21.14	20.51	20.62	21.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	20.89	21.00	20.59	22.10
		1	25	22.00	20.88	21.13	22.10
		1	49	21.65	20.58	20.81	22.10
		25	0	21.59	20.97	20.89	22.10
		25	13	21.93	20.95	21.10	22.10
		25	25	22.04	20.97	21.12	22.10
		50	0	21.80	20.98	21.05	22.10
	16QAM	1	0	21.33	21.28	20.86	22.10
		1	25	21.31	21.21	21.40	22.10
		1	49	21.87	20.86	21.04	22.10
		25	0	21.59	20.96	20.94	22.10
		25	13	21.94	20.96	21.10	22.10
		25	25	22.03	20.94	21.12	22.10
		50	0	21.83	21.00	21.02	22.10
	64QAM	1	0	21.11	21.19	20.67	22.10
		1	25	22.00	21.05	21.23	22.10



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				20825/2507.5	21100/2535	21375/2562.5		
		1	49	21.61	20.70	20.92	22.10	
		25	0	20.89	20.48	20.44	21.50	
		25	13	21.25	20.42	20.62	21.50	
		25	25	21.32	20.47	20.67	21.50	
		50	0	21.12	20.47	20.57	21.50	
15MHz	QPSK	1	0	20.91	21.01	20.62	22.10	
		1	38	22.03	20.93	21.17	22.10	
	QPSK	1	74	21.67	20.62	20.84	22.10	
		36	0	21.62	21.02	20.93	22.10	
		36	18	21.96	21.00	21.14	22.10	
		36	39	22.06	21.01	21.17	22.10	
		75	0	21.84	21.00	21.09	22.10	
		16QAM	1	0	21.35	21.31	20.88	22.10
			1	38	21.34	21.25	21.43	22.10
	1		74	21.90	20.88	21.07	22.10	
	36		0	21.62	21.01	20.98	22.10	
	36		18	21.96	21.00	21.13	22.10	
	36		39	22.06	20.99	21.16	22.10	
	75		0	21.86	21.05	21.06	22.10	
	64QAM	1	0	21.13	21.18	20.69	22.10	
		1	38	22.03	21.05	21.26	22.10	
		1	74	21.60	20.72	20.95	22.10	
		36	0	20.92	20.53	20.44	21.50	
		36	18	21.27	20.46	20.65	21.50	
		36	39	21.35	20.52	20.71	21.50	
		75	0	21.15	20.52	20.61	21.50	
	20MHz	QPSK	1	0	20.87	20.93	20.57	22.10
			1	50	<b>22.00</b>	20.88	21.12	22.10
	QPSK	1	99	21.62	20.56	20.77	22.10	
		50	0	21.57	20.92	20.86	22.10	
		50	25	21.91	20.91	21.07	22.10	
		50	50	<b>22.00</b>	20.93	21.09	22.10	
		100	0	21.79	20.91	21.00	22.10	
		16QAM	1	0	21.20	21.25	20.81	22.10
	1		50	21.28	21.20	21.37	22.10	
	1		99	21.85	20.81	21.02	22.10	
	50		0	21.56	20.95	20.92	22.10	
	50		25	21.90	20.93	21.06	22.10	
	50		50	22.01	20.90	21.09	22.10	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
20850/2510					21100/2535	21350/2560		



		100	0	21.81	20.96	20.99	22.10
	64QAM	1	0	21.06	21.12	20.62	22.10
		1	50	21.97	21.00	21.20	22.10
		1	99	21.55	20.65	20.90	22.10
		50	0	20.86	20.47	20.38	21.50
		50	25	21.21	20.39	20.58	21.50
		50	50	21.30	20.43	20.64	21.50
		100	0	21.10	20.43	20.54	21.50

LTE Band 13							
Receiver on & Body SAR & Hotspot--Main Ant1				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				23205/779.5	23230/782	23255/784.5	
5MHz	QPSK	1	0	23.51	23.49	23.48	24.50
		1	13	23.63	23.57	23.62	24.50
		1	24	23.60	23.55	23.58	24.50
		12	0	22.61	22.54	22.58	23.50
		12	6	22.69	22.64	22.67	23.50
		12	13	22.68	22.59	22.63	23.50
		25	0	22.67	22.64	22.67	23.50
	16QAM	1	0	22.95	22.75	22.81	23.50
		1	13	22.93	22.85	22.89	23.50
		1	24	22.85	22.83	22.83	23.50
		12	0	21.65	21.56	21.61	22.50
		12	6	21.72	21.66	21.69	22.50
		12	13	21.71	21.64	21.68	22.50
		25	0	21.66	21.61	21.64	22.50
	64QAM	1	0	21.30	21.23	21.25	21.50
		1	13	21.35	21.31	21.31	21.50
		1	24	21.39	21.26	21.29	21.50
		12	0	20.23	20.06	20.19	20.50
		12	6	20.27	20.16	20.21	20.50
		12	13	20.23	20.16	20.20	20.50
		25	0	20.20	20.15	20.18	20.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
10MHz	QPSK	1	0	/	23.42	/	24.50
		1	25	/	<b>23.57</b>	/	24.50
		1	49	/	23.53	/	24.50
		25	0	/	22.50	/	23.50
		25	13	/	<b>22.60</b>	/	23.50
		25	25	/	22.55	/	23.50
		50	0	/	22.57	/	23.50



	16QAM	1	0	/	22.72	/	23.50
		1	25	/	22.84	/	23.50
		1	49	/	22.78	/	23.50
		25	0	/	21.55	/	22.50
		25	13	/	21.63	/	22.50
		25	25	/	21.60	/	22.50
		50	0	/	21.57	/	22.50
	64QAM	1	0	/	21.16	/	21.50
		1	25	/	21.26	/	21.50
		1	49	/	21.21	/	21.50
		25	0	/	20.05	/	20.50
		25	13	/	20.13	/	20.50
		25	25	/	20.12	/	20.50
		50	0	/	20.11	/	20.50

LTE Band 26							
Receiver on & Body SAR & Hotspot--Main Ant1				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				26697/814.7	26865/831.5	27033/848.3	
1.4MHz	QPSK	1	0	23.16	23.22	23.21	25.00
		1	2	23.34	23.36	23.34	25.00
		1	5	23.05	23.06	23.05	25.00
		3	0	23.16	23.31	23.19	25.00
		3	2	23.22	23.31	23.28	25.00
		3	3	23.27	23.20	23.21	25.00
		6	0	22.26	22.37	22.29	24.00
	16QAM	1	0	22.24	22.36	22.36	24.00
		1	2	22.39	22.46	22.45	24.00
		1	5	22.20	22.13	22.15	24.00
		3	0	22.08	22.14	22.07	24.00
		3	2	22.13	22.16	22.14	24.00
		3	3	22.14	22.12	22.09	24.00
		6	0	21.16	21.22	21.20	23.00
	64QAM	1	0	21.17	21.23	21.21	23.00
		1	2	21.27	21.33	21.32	23.00
		1	5	21.09	21.09	21.08	23.00
		3	0	21.05	21.11	21.03	23.00
		3	2	21.11	21.11	21.12	23.00
		3	3	21.12	21.07	21.06	23.00
		6	0	20.11	20.21	20.14	22.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				26705/815.5	26865/831.5	27025/847.5	
3MHz	QPSK	1	0	23.18	23.26	23.24	25.00
		1	7	23.32	23.39	23.38	25.00
		1	14	23.08	23.11	23.09	25.00
		8	0	22.26	22.43	22.32	24.00
		8	4	22.34	22.41	22.40	24.00
		8	7	22.37	22.31	22.31	24.00
		15	0	22.26	22.41	22.32	24.00
	16QAM	1	0	22.24	22.38	22.39	24.00
		1	7	22.39	22.46	22.49	24.00
		1	14	22.22	22.17	22.18	24.00
		8	0	21.11	21.27	21.19	23.00
		8	4	21.24	21.29	21.26	23.00
		8	7	21.24	21.24	21.22	23.00
		15	0	21.19	21.26	21.23	23.00
	64QAM	1	0	21.20	21.25	21.24	23.00
		1	7	21.30	21.33	21.34	23.00
		1	14	21.11	21.08	21.11	23.00
		8	0	20.08	20.24	20.15	22.00
		8	4	20.22	20.24	20.24	22.00
		8	7	20.22	20.19	20.19	22.00
		15	0	20.14	20.25	20.17	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
5MHz	QPSK	1	0	23.15	23.24	23.20	25.00
		1	13	23.30	23.35	23.35	25.00
		1	24	23.05	23.06	23.05	25.00
		12	0	22.23	22.38	22.28	24.00
		12	6	22.32	22.37	22.35	24.00
		12	13	22.35	22.29	22.27	24.00
		25	0	22.26	22.40	22.30	24.00
	16QAM	1	0	22.24	22.34	22.36	24.00
		1	13	22.39	22.44	22.46	24.00
		1	24	22.19	22.15	22.14	24.00
		12	0	21.09	21.23	21.16	23.00
		12	6	21.21	21.24	21.22	23.00
		12	13	21.21	21.19	21.18	23.00
		25	0	21.17	21.22	21.18	23.00
	64QAM	1	0	21.17	21.25	21.21	23.00
		1	13	21.27	21.35	21.31	23.00
		1	24	21.12	21.06	21.07	23.00
		12	0	20.06	20.20	20.16	22.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				26740/819	26865/831.5	26990/844	
		12	6	20.19	20.19	20.20	22.00
		12	13	20.19	20.14	20.15	22.00
		25	0	20.12	20.21	20.12	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				26740/819	26865/831.5	26990/844	
10MHz	QPSK	1	0	23.17	23.25	23.23	25.00
		1	25	23.33	23.40	23.39	25.00
		1	49	23.07	23.10	23.08	25.00
		25	0	22.26	22.43	22.32	24.00
		25	13	22.35	22.42	22.39	24.00
		25	25	22.37	22.33	22.32	24.00
		50	0	22.30	22.42	22.34	24.00
	16QAM	1	0	22.28	22.37	22.38	24.00
		1	25	22.43	22.48	22.49	24.00
		1	49	22.22	22.17	22.17	24.00
		25	0	21.12	21.28	21.20	23.00
		25	13	21.23	21.28	21.25	23.00
		25	25	21.24	21.24	21.22	23.00
		50	0	21.20	21.27	21.22	23.00
	64QAM	1	0	21.19	21.24	21.23	23.00
		1	25	21.30	21.35	21.34	23.00
		1	49	21.11	21.08	21.10	23.00
		25	0	20.09	20.25	20.16	22.00
		25	13	20.21	20.23	20.23	22.00
		25	25	20.22	20.19	20.19	22.00
		50	0	20.15	20.26	20.16	22.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				26765/821.5	26865/831.5	26965/841.5	
15MHz	QPSK	1	0	24.52	24.47	24.48	25.00
		1	38	<b>24.72</b>	24.66	24.64	25.00
		1	74	24.53	24.60	24.52	25.00
		36	0	23.69	23.64	23.75	24.00
		36	18	23.72	23.75	<b>23.77</b>	24.00
		36	39	23.71	23.71	23.64	24.00
		75	0	23.75	23.67	23.69	24.00
	16QAM	1	0	23.31	23.25	23.30	24.00
		1	38	23.49	23.44	23.39	24.00
		1	74	23.32	23.37	23.32	24.00
		36	0	22.24	21.76	22.21	23.00
		36	18	22.20	22.19	22.23	23.00
		36	39	22.15	22.21	22.14	23.00
		75	0	22.24	22.15	22.17	23.00
	64QAM	1	0	21.98	21.94	22.22	23.00



		1	38	22.48	22.26	22.17	23.00
		1	74	22.43	22.34	21.91	23.00
		36	0	21.13	21.05	21.13	22.00
		36	18	21.24	21.03	21.08	22.00
		36	39	21.13	21.16	21.24	22.00
		75	0	21.17	21.12	21.11	22.00

LTE Band 38							
Receiver on-Main Ant0				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	23.10	23.20	23.13	24.50
		1	13	23.57	23.55	23.49	24.50
		1	24	23.20	23.17	23.19	24.50
		12	0	22.36	22.47	22.44	23.50
		12	6	22.47	22.44	22.53	23.50
		12	13	22.43	22.45	22.49	23.50
		25	0	22.40	22.50	22.48	23.50
	16QAM	1	0	22.85	22.37	22.33	23.50
		1	13	22.83	22.71	22.72	23.50
		1	24	22.37	22.32	22.36	23.50
		12	0	21.47	21.50	21.48	22.50
		12	6	21.55	21.50	21.57	22.50
		12	13	21.48	21.54	21.54	22.50
		25	0	21.45	21.55	21.54	22.50
	64QAM	1	0	21.21	21.23	21.22	22.50
		1	13	21.60	21.49	21.61	22.50
		1	24	21.25	21.24	21.21	22.50
		12	0	20.42	20.48	20.42	21.50
		12	6	20.52	20.55	20.54	21.50
		12	13	20.52	20.51	20.52	21.50
		25	0	20.47	20.51	20.51	21.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	23.07	23.18	23.09	24.50
		1	25	23.55	23.51	23.46	24.50
		1	49	23.17	23.12	23.15	24.50
		25	0	22.33	22.42	22.40	23.50
		25	13	22.45	22.40	22.48	23.50
		25	25	22.41	22.43	22.45	23.50
		50	0	22.40	22.49	22.46	23.50
	16QAM	1	0	22.82	22.33	22.30	23.50
		1	25	22.80	22.69	22.69	23.50



		1	49	22.34	22.30	22.32	23.50	
		25	0	21.45	21.46	21.45	22.50	
		25	13	21.52	21.45	21.53	22.50	
		25	25	21.45	21.49	21.50	22.50	
		50	0	21.43	21.51	21.49	22.50	
		64QAM	1	0	21.18	21.23	21.19	22.50
			1	25	21.57	21.51	21.58	22.50
			1	49	21.26	21.22	21.17	22.50
			25	0	20.40	20.44	20.43	21.50
			25	13	20.49	20.50	20.50	21.50
			25	25	20.49	20.46	20.48	21.50
			50	0	20.45	20.47	20.46	21.50
		Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)		
37825/2577.5	38000/2595					38175/2612.5		
15MHz	QPSK	1	0	23.08	23.15	23.10	24.50	
		1	38	23.56	23.55	23.47	24.50	
		1	74	23.16	23.11	23.14	24.50	
		36	0	22.34	22.43	22.41	23.50	
		36	18	22.45	22.40	22.48	23.50	
		36	39	22.40	22.44	22.46	23.50	
		75	0	22.42	22.47	22.45	23.50	
	16QAM	1	0	22.79	22.34	22.30	23.50	
		1	38	22.81	22.70	22.70	23.50	
		1	74	22.34	22.28	22.32	23.50	
		36	0	21.45	21.49	21.46	22.50	
		36	18	21.51	21.44	21.52	22.50	
		36	39	21.46	21.50	21.51	22.50	
		75	0	21.43	21.51	21.49	22.50	
	64QAM	1	0	21.15	21.20	21.19	22.50	
		1	38	21.58	21.48	21.59	22.50	
		1	74	21.26	21.23	21.21	22.50	
		36	0	20.42	20.51	20.44	21.50	
		36	18	20.49	20.51	20.52	21.50	
		36	39	20.50	20.47	20.49	21.50	
		75	0	20.45	20.47	20.46	21.50	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					37850/2580	38000/2595	38150/2610	
	20MHz	QPSK	1	0	23.05	23.11	23.07	24.50
1			50	<b>23.55</b>	23.51	23.45	24.50	
1			99	23.14	23.10	23.11	24.50	
50			0	22.31	22.38	22.37	23.50	
50			25	22.43	22.36	<b>22.45</b>	23.50	
50			50	22.37	22.39	22.42	23.50	





		100	0	22.39	22.42	22.41	23.50
	16QAM	1	0	22.21	22.30	22.25	23.50
		1	50	22.77	22.68	22.66	23.50
		1	99	22.32	22.25	22.30	23.50
		50	0	21.42	21.45	21.43	22.50
		50	25	21.48	21.42	21.49	22.50
		50	50	21.43	21.45	21.47	22.50
		100	0	21.41	21.47	21.46	22.50
	64QAM	1	0	21.13	21.16	21.14	22.50
		1	50	21.54	21.46	21.55	22.50
		1	99	21.20	21.17	21.15	22.50
		50	0	20.37	20.43	20.37	21.50
		50	25	20.45	20.47	20.46	21.50
		50	50	20.47	20.42	20.45	21.50
		100	0	20.43	20.43	20.43	21.50

LTE Band 38							
Body SAR & Hotshot-Main Ant0				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	22.74	22.79	22.75	24.20
		1	13	23.16	23.17	23.12	24.20
		1	24	22.84	22.80	22.77	24.20
		12	0	22.39	22.48	22.43	23.50
		12	6	22.44	22.36	22.49	23.50
		12	13	22.46	22.44	22.48	23.50
		25	0	22.43	22.49	22.45	23.50
	16QAM	1	0	22.78	22.30	22.34	23.50
		1	13	22.76	22.69	22.70	23.50
		1	24	22.38	22.34	22.32	23.50
		12	0	21.42	21.48	21.45	22.50
		12	6	21.56	21.51	21.56	22.50
		12	13	21.50	21.56	21.53	22.50
		25	0	21.43	21.51	21.51	22.50
	64QAM	1	0	21.21	21.20	21.19	22.50
		1	13	21.60	21.45	21.58	22.50
		1	24	21.22	21.23	21.20	22.50
		12	0	20.39	20.43	20.43	21.50
		12	6	20.50	20.51	20.54	21.50
		12	13	20.51	20.51	20.50	21.50
		25	0	20.47	20.51	20.49	21.50



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	22.71	22.77	22.71	24.20
		1	25	23.14	23.13	23.09	24.20
		1	49	22.81	22.75	22.73	24.20
		25	0	22.36	22.43	22.39	23.50
		25	13	22.42	22.32	22.44	23.50
		25	25	22.44	22.42	22.44	23.50
		50	0	22.43	22.48	22.43	23.50
	16QAM	1	0	22.75	22.26	22.31	23.50
		1	25	22.73	22.67	22.67	23.50
		1	49	22.35	22.32	22.28	23.50
		25	0	21.40	21.44	21.42	22.50
		25	13	21.53	21.46	21.52	22.50
		25	25	21.47	21.51	21.49	22.50
		50	0	21.41	21.47	21.46	22.50
	64QAM	1	0	21.18	21.20	21.16	22.50
		1	25	21.57	21.47	21.55	22.50
		1	49	21.23	21.21	21.16	22.50
		25	0	20.37	20.39	20.44	21.50
		25	13	20.47	20.46	20.50	21.50
		25	25	20.48	20.46	20.46	21.50
		50	0	20.45	20.47	20.44	21.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
15MHz	QPSK	1	0	22.73	22.78	22.74	24.20
		1	38	23.17	23.18	23.13	24.20
		1	74	22.83	22.79	22.76	24.20
		36	0	22.39	22.48	22.43	23.50
		36	18	22.45	22.37	22.48	23.50
		36	39	22.46	22.46	22.49	23.50
		75	0	22.47	22.50	22.47	23.50
	16QAM	1	0	22.77	22.29	22.33	23.50
		1	38	22.76	22.71	22.70	23.50
		1	74	22.38	22.34	22.31	23.50
		36	0	21.43	21.49	21.46	22.50
		36	18	21.55	21.50	21.55	22.50
		36	39	21.50	21.56	21.53	22.50
		75	0	21.44	21.52	21.50	22.50
	64QAM	1	0	21.20	21.19	21.18	22.50
		1	38	21.60	21.47	21.58	22.50
		1	74	21.22	21.23	21.19	22.50
		36	0	20.40	20.44	20.44	21.50



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	36	18	20.49	20.50	20.53	21.50
		36	39	20.51	20.51	20.50	21.50
		75	0	20.48	20.52	20.48	21.50
		1	0	22.69	22.70	22.69	24.20
		1	50	<b>23.14</b>	23.13	23.08	24.20
		1	99	22.78	22.73	22.69	24.20
		50	0	22.34	22.39	22.36	23.50
	50	25	22.40	22.28	<b>22.41</b>	23.50	
	50	50	22.39	22.38	22.40	23.50	
	100	0	22.42	22.41	22.38	23.50	
	16QAM	1	0	22.23	22.23	22.26	23.50
		1	50	22.70	22.66	22.64	23.50
		1	99	22.33	22.27	22.26	23.50
		50	0	21.37	21.43	21.40	22.50
		50	25	21.49	21.43	21.48	22.50
		50	50	21.45	21.47	21.46	22.50
		100	0	21.39	21.43	21.43	22.50
	64QAM	1	0	21.13	21.13	21.11	22.50
		1	50	21.54	21.42	21.52	22.50
		1	99	21.17	21.16	21.14	22.50
		50	0	20.34	20.38	20.38	21.50
		50	25	20.43	20.43	20.46	21.50
		50	50	20.46	20.42	20.43	21.50
		100	0	20.43	20.43	20.41	21.50

LTE Band 66							
Receiver on-Main Ant0				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				131979/1710.7	132322/1745	132665/1779.3	
1.4MHz	QPSK	1	0	23.78	23.77	23.73	24.80
		1	2	24.13	23.93	24.05	24.80
		1	5	23.63	23.59	23.65	24.80
		3	0	23.97	24.04	24.13	24.80
		3	2	23.99	24.08	24.11	24.80
		3	3	23.97	23.91	24.01	24.80
		6	0	23.01	23.07	23.14	23.80
	16QAM	1	0	23.39	22.94	23.10	23.80
		1	2	23.37	23.15	23.36	23.80
		1	5	22.88	22.81	22.91	23.80
		3	0	22.96	22.96	23.05	23.80
		3	2	23.02	23.00	23.09	23.80



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				1319871711.5	132322/1745	132657/1778.5		
	64QAM	3	3	22.95	22.92	22.95	23.80	
		6	0	21.99	22.02	22.12	22.80	
		1	0	22.02	21.98	21.97	22.80	
		1	2	22.32	22.27	22.36	22.80	
		1	5	21.79	21.88	21.89	22.80	
		3	0	22.00	22.02	22.12	22.80	
		3	2	22.08	22.03	22.13	22.80	
		3	3	22.03	21.97	22.00	22.80	
		6	0	21.09	21.09	21.17	21.80	
3MHz	QPSK	1	0	23.80	23.81	23.76	24.80	
		1	7	24.11	23.96	24.09	24.80	
		1	14	23.66	23.64	23.69	24.80	
		8	0	23.07	23.16	23.26	23.80	
		8	4	23.11	23.18	23.23	23.80	
		8	7	23.07	23.02	23.11	23.80	
		15	0	23.01	23.11	23.17	23.80	
	16QAM	1	0	23.42	22.96	23.13	23.80	
		1	7	23.40	23.15	23.40	23.80	
		1	14	22.90	22.85	22.94	23.80	
		8	0	22.07	22.09	22.17	22.80	
		8	4	22.13	22.13	22.21	22.80	
		8	7	22.05	22.04	22.08	22.80	
		15	0	22.02	22.06	22.15	22.80	
	64QAM	1	0	22.05	22.00	22.00	22.80	
		1	7	22.35	22.27	22.38	22.80	
		1	14	21.81	21.87	21.92	22.80	
		8	0	21.11	21.15	21.24	21.80	
		8	4	21.19	21.16	21.25	21.80	
		8	7	21.13	21.09	21.13	21.80	
		15	0	21.12	21.13	21.20	21.80	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					131997/1712.5	132322/1745	132647/1777.5	
	5MHz	QPSK	1	0	23.77	23.79	23.72	24.80
1			13	24.09	23.92	24.06	24.80	
1			24	23.63	23.59	23.65	24.80	
12			0	23.04	23.11	23.22	23.80	
12			6	23.09	23.14	23.18	23.80	
12			13	23.05	23.00	23.07	23.80	
25			0	23.01	23.10	23.15	23.80	
16QAM		1	0	23.39	22.92	23.10	23.80	
		1	13	23.37	23.13	23.37	23.80	



		1	24	22.87	22.83	22.90	23.80	
		12	0	22.05	22.05	22.14	22.80	
		12	6	22.10	22.08	22.17	22.80	
		12	13	22.02	21.99	22.04	22.80	
		25	0	22.00	22.02	22.10	22.80	
	64QAM	1	0	22.02	22.00	21.97	22.80	
		1	13	22.32	22.29	22.35	22.80	
		1	24	21.82	21.85	21.88	22.80	
		12	0	21.09	21.11	21.25	21.80	
		12	6	21.16	21.11	21.21	21.80	
		12	13	21.10	21.04	21.09	21.80	
		25	0	21.10	21.09	21.15	21.80	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				132022/1715	132322/1745	132622/1775		
10MHz	QPSK	1	0	23.79	23.80	23.75	24.80	
		1	25	24.12	23.97	24.10	24.80	
		1	49	23.65	23.63	23.68	24.80	
		25	0	23.07	23.16	23.26	23.80	
		25	13	23.12	23.19	23.22	23.80	
		25	25	23.07	23.04	23.12	23.80	
		50	0	23.05	23.12	23.19	23.80	
	16QAM	1	0	23.41	22.95	23.12	23.80	
		1	25	23.40	23.17	23.40	23.80	
		1	49	22.90	22.85	22.93	23.80	
		25	0	22.08	22.10	22.18	22.80	
		25	13	22.12	22.12	22.20	22.80	
		25	25	22.05	22.04	22.08	22.80	
		50	0	22.03	22.07	22.14	22.80	
	64QAM	1	0	22.04	21.99	21.99	22.80	
		1	25	22.35	22.29	22.38	22.80	
		1	49	21.81	21.87	21.91	22.80	
		25	0	21.12	21.16	21.25	21.80	
		25	13	21.18	21.15	21.24	21.80	
		25	25	21.13	21.09	21.13	21.80	
		50	0	21.13	21.14	21.19	21.80	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					132047/1717.5	132322/1745	132597/1772.5	
15MHz	QPSK	1	0	23.78	23.76	23.73	24.80	
		1	38	24.10	23.96	24.07	24.80	
		1	74	23.62	23.58	23.64	24.80	
		36	0	23.05	23.12	23.23	23.80	
		36	18	23.09	23.14	23.18	23.80	
		36	39	23.04	23.01	23.08	23.80	



	16QAM	75	0	23.03	23.08	23.14	23.80
		1	0	23.36	22.93	23.10	23.80
		1	38	23.38	23.14	23.38	23.80
		1	74	22.87	22.81	22.90	23.80
		36	0	22.05	22.08	22.15	22.80
		36	18	22.09	22.07	22.16	22.80
		36	39	22.03	22.00	22.05	22.80
		75	0	22.00	22.02	22.10	22.80
	64QAM	1	0	21.99	21.97	21.97	22.80
		1	38	22.33	22.26	22.36	22.80
		1	74	21.82	21.86	21.92	22.80
		36	0	21.11	21.18	21.26	21.80
		36	18	21.16	21.12	21.23	21.80
		36	39	21.11	21.05	21.10	21.80
75		0	21.10	21.09	21.15	21.80	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				132072/1720	132322/1745	132572/1770	
20MHz	QPSK	1	0	23.75	23.72	23.70	24.80
		1	50	<b>24.09</b>	23.92	24.05	24.80
		1	99	23.60	23.57	23.61	24.80
		50	0	23.02	23.07	<b>23.19</b>	23.80
		50	25	23.07	23.10	23.15	23.80
		50	50	23.01	22.96	23.04	23.80
		100	0	23.00	23.03	23.10	23.80
	16QAM	1	0	22.98	22.89	23.05	23.80
		1	50	23.34	23.12	23.34	23.80
		1	99	22.85	22.78	22.88	23.80
		50	0	22.02	22.04	22.12	22.80
		50	25	22.06	22.05	22.13	22.80
		50	50	22.00	21.95	22.01	22.80
		100	0	21.98	21.98	22.07	22.80
	64QAM	1	0	21.97	21.93	21.92	22.80
		1	50	22.29	22.24	22.32	22.80
		1	99	21.76	21.80	21.86	22.80
		50	0	21.06	21.10	21.19	21.80
		50	25	21.12	21.08	21.17	21.80
		50	50	21.08	21.00	21.06	21.80
		100	0	21.08	21.05	21.12	21.80



LTE Band 66							
Body SAR-Main Ant0				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				131979/1710.7	132322/1745	132665/1779.3	
1.4MHz	QPSK	1	0	22.26	22.28	22.29	23.30
		1	2	22.65	22.54	22.60	23.30
		1	5	22.11	22.11	22.21	23.30
		3	0	22.63	22.72	22.80	23.30
		3	2	22.65	22.70	22.79	23.30
		3	3	22.65	22.59	22.67	23.30
		6	0	22.50	22.54	22.60	23.80
	16QAM	1	0	22.93	22.52	22.58	23.80
		1	2	22.91	22.72	22.89	23.80
		1	5	22.40	22.38	22.42	23.80
		3	0	22.92	22.96	23.05	23.80
		3	2	23.01	23.00	23.07	23.80
		3	3	22.91	22.89	22.94	23.80
		6	0	21.99	21.98	22.10	22.80
	64QAM	1	0	21.81	21.83	21.93	22.80
		1	2	22.22	22.06	22.30	22.80
		1	5	21.72	21.75	21.78	22.80
		3	0	21.97	22.01	22.09	22.80
		3	2	22.03	22.03	22.10	22.80
		3	3	22.02	21.96	21.97	22.80
		6	0	21.04	21.09	21.14	21.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				131987/1711.5	132322/1745	132657/1778.5	
3MHz	QPSK	1	0	22.28	22.32	22.32	23.30
		1	7	22.63	22.57	22.64	23.30
		1	14	22.14	22.16	22.25	23.30
		8	0	22.53	22.64	22.73	23.30
		8	4	22.57	22.60	22.71	23.30
		8	7	22.55	22.50	22.57	23.30
		15	0	22.50	22.58	22.63	23.30
	16QAM	1	0	22.96	22.54	22.61	23.30
		1	7	22.94	22.72	22.93	23.30
		1	14	22.42	22.42	22.45	23.30
		8	0	22.03	22.09	22.17	22.80
		8	4	22.12	22.13	22.19	22.80
		8	7	22.01	22.01	22.07	22.80
		15	0	22.02	22.02	22.13	22.80
	64QAM	1	0	21.84	21.85	21.96	22.80



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				131997/1712.5	132322/1745	132647/1777.5		
		1	7	22.25	22.06	22.32	22.80	
		1	14	21.74	21.74	21.81	22.80	
		8	0	21.08	21.14	21.21	21.80	
		8	4	21.14	21.16	21.22	21.80	
		8	7	21.12	21.08	21.10	21.80	
		15	0	21.07	21.13	21.17	21.80	
5MHz	QPSK	1	0	22.25	22.30	22.28	23.30	
		1	13	22.61	22.53	22.61	23.30	
		1	24	22.11	22.11	22.21	23.30	
		12	0	22.50	22.59	22.69	23.30	
		12	6	22.55	22.56	22.66	23.30	
		12	13	22.53	22.48	22.53	23.30	
		25	0	22.50	22.57	22.61	23.30	
	16QAM	1	0	22.93	22.50	22.58	23.30	
		1	13	22.91	22.70	22.90	23.30	
		1	24	22.39	22.40	22.41	23.30	
		12	0	22.01	22.05	22.14	22.80	
		12	6	22.09	22.08	22.15	22.80	
		12	13	21.98	21.96	22.03	22.80	
		25	0	22.00	21.98	22.08	22.80	
	64QAM	1	0	21.81	21.85	21.93	22.80	
		1	13	22.22	22.08	22.29	22.80	
		1	24	21.75	21.72	21.77	22.80	
		12	0	21.06	21.10	21.22	21.80	
		12	6	21.11	21.11	21.18	21.80	
		12	13	21.09	21.03	21.06	21.80	
		25	0	21.05	21.09	21.12	21.80	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					132022/1715	132322/1745	132622/1775	
	10MHz	QPSK	1	0	22.27	22.31	22.31	23.30
			1	25	22.64	22.58	22.65	23.30
			1	49	22.13	22.15	22.24	23.30
			25	0	22.53	22.64	22.73	23.30
			25	13	22.58	22.61	22.70	23.30
25			25	22.55	22.52	22.58	23.30	
50			0	22.54	22.59	22.65	23.30	
16QAM		1	0	22.95	22.53	22.60	23.30	
		1	25	22.94	22.74	22.93	23.30	
		1	49	22.42	22.42	22.44	23.30	
		25	0	22.04	22.10	22.18	22.80	
		25	13	22.11	22.12	22.18	22.80	





		25	25	22.01	22.01	22.07	22.80	
		50	0	22.03	22.03	22.12	22.80	
	64QAM	1	0	21.83	21.84	21.95	22.80	
		1	25	22.25	22.08	22.32	22.80	
		1	49	21.74	21.74	21.80	22.80	
		25	0	21.09	21.15	21.22	21.80	
		25	13	21.13	21.15	21.21	21.80	
		25	25	21.12	21.08	21.10	21.80	
		50	0	21.08	21.14	21.16	21.80	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				132047/1717.5	132322/1745	132597/1772.5		
15MHz	QPSK	1	0	22.26	22.27	22.29	23.30	
		1	38	22.62	22.57	22.62	23.30	
		1	74	22.10	22.10	22.20	23.30	
		36	0	22.51	22.60	22.70	23.30	
		36	18	22.55	22.56	22.66	23.30	
		36	39	22.52	22.49	22.54	23.30	
		75	0	22.52	22.55	22.60	23.30	
	16QAM	1	0	22.90	22.51	22.58	23.30	
		1	38	22.92	22.71	22.91	23.30	
		1	74	22.39	22.38	22.41	23.30	
		36	0	22.01	22.08	22.15	22.80	
		36	18	22.08	22.07	22.14	22.80	
		36	39	21.99	21.97	22.04	22.80	
		75	0	22.00	21.98	22.08	22.80	
	64QAM	1	0	21.78	21.82	21.93	22.80	
		1	38	22.23	22.05	22.30	22.80	
		1	74	21.75	21.73	21.81	22.80	
		36	0	21.08	21.17	21.23	21.80	
		36	18	21.11	21.12	21.20	21.80	
		36	39	21.10	21.04	21.07	21.80	
		75	0	21.05	21.09	21.12	21.80	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					132072/1720	132322/1745	132572/1770	
	20MHz	QPSK	1	0	22.23	22.23	22.26	23.30
1			50	<b>22.61</b>	22.53	22.60	23.30	
1			99	22.08	22.09	22.17	23.30	
50			0	22.48	22.55	<b>22.66</b>	23.30	
50			25	22.53	22.52	22.63	23.30	
50			50	22.49	22.44	22.50	23.30	
100			0	22.49	22.50	22.56	23.30	
16QAM		1	0	22.51	22.47	22.53	23.30	
		1	50	22.88	22.69	22.87	23.30	



		1	99	22.37	22.35	22.39	23.30
		50	0	21.98	22.04	22.12	22.80
		50	25	22.05	22.05	22.11	22.80
		50	50	21.96	21.92	22.00	22.80
		100	0	21.98	21.94	22.05	22.80
	64QAM	1	0	21.76	21.78	21.88	22.80
		1	50	22.19	22.03	22.26	22.80
		1	99	21.69	21.67	21.75	22.80
		50	0	21.03	21.09	21.16	21.80
		50	25	21.07	21.08	21.14	21.80
		50	50	21.07	20.99	21.03	21.80
		100	0	21.03	21.05	21.09	21.80

LTE Band 66								
Hotshot-Main Ant0				Maximum Output Power (dBm)			Tune-up	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)				
				131979/1710.7	132322/1745	132665/1779.3		
1.4MHz	QPSK	1	0	21.61	21.65	21.74	23.10	
		1	2	21.94	21.90	21.98	23.10	
		1	5	21.41	21.48	21.57	23.10	
		3	0	22.74	22.90	22.94	23.10	
		3	2	22.79	22.92	22.92	23.10	
		3	3	22.77	22.82	22.84	23.10	
		6	0	21.79	21.96	21.96	22.80	
	16QAM	1	0	22.29	21.98	21.99	22.80	
		1	2	22.27	22.23	22.31	22.80	
		1	5	21.73	21.83	21.87	22.80	
		3	0	22.54	22.53	22.66	22.80	
		3	2	22.62	22.62	22.71	22.80	
		3	3	22.55	22.52	22.52	22.80	
		6	0	21.58	21.62	21.67	22.80	
	64QAM	1	0	21.54	21.39	21.55	22.80	
		1	2	21.91	21.74	21.92	22.80	
		1	5	21.42	21.39	21.49	22.80	
		3	0	21.56	21.61	21.71	22.80	
		3	2	21.65	21.63	21.72	22.80	
		3	3	21.63	21.59	21.63	22.80	
		6	0	20.70	20.71	20.80	21.80	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
	3MHz	QPSK			1319871711.5	132322/1745	132657/1778.5	
			1	0	21.63	21.69	21.77	23.10
1			7	21.92	21.93	22.02	23.10	
		1	14	21.44	21.53	21.61	23.10	



		8	0	21.84	22.02	22.07	23.10	
		8	4	21.91	22.02	22.04	23.10	
		8	7	21.87	21.93	21.94	23.10	
		15	0	21.79	22.00	21.99	23.10	
	16QAM	1	0	22.32	22.00	22.02	23.10	
		1	7	22.30	22.23	22.35	23.10	
		1	14	21.75	21.87	21.90	22.80	
		8	0	21.65	21.66	21.78	22.80	
		8	4	21.73	21.75	21.83	22.80	
		8	7	21.65	21.64	21.65	22.80	
		15	0	21.61	21.66	21.70	22.80	
	64QAM	1	0	21.57	21.41	21.58	22.80	
		1	7	21.94	21.74	21.94	22.80	
		1	14	21.44	21.38	21.52	22.80	
		8	0	20.67	20.74	20.83	21.80	
		8	4	20.76	20.76	20.84	21.80	
		8	7	20.73	20.71	20.76	21.80	
		15	0	20.73	20.75	20.83	21.80	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					131997/1712.5	132322/1745	132647/1777.5	
	5MHz	QPSK	1	0	21.62	21.68	21.76	23.10
1			13	21.93	21.94	22.03	23.10	
1			24	21.43	21.52	21.60	23.10	
12			0	21.84	22.02	22.07	23.10	
12			6	21.92	22.03	22.03	23.10	
12			13	21.87	21.95	21.95	23.10	
25			0	21.83	22.01	22.01	23.10	
16QAM		1	0	22.31	21.99	22.01	23.10	
		1	13	22.30	22.25	22.35	23.10	
		1	24	21.75	21.87	21.89	22.80	
		12	0	21.66	21.67	21.79	22.80	
		12	6	21.72	21.74	21.82	22.80	
		12	13	21.65	21.64	21.65	22.80	
		25	0	21.62	21.67	21.69	22.80	
64QAM		1	0	21.56	21.40	21.57	22.80	
		1	13	21.94	21.76	21.94	22.80	
		1	24	21.44	21.38	21.51	22.80	
		12	0	20.68	20.75	20.84	21.80	
		12	6	20.75	20.75	20.83	21.80	
		12	13	20.73	20.71	20.76	21.80	
		25	0	20.74	20.76	20.82	21.80	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				132022/1715	132322/1745	132622/1775	
10MHz	QPSK	1	0	21.60	21.67	21.73	23.10
		1	25	21.90	21.89	21.99	23.10
		1	49	21.41	21.48	21.57	23.10
		25	0	21.81	21.97	22.03	23.10
		25	13	21.89	21.98	21.99	23.10
		25	25	21.85	21.91	21.90	23.10
		50	0	21.79	21.99	21.97	23.10
	16QAM	1	0	22.29	21.96	21.99	23.10
		1	25	22.27	22.21	22.32	23.10
		1	49	21.72	21.85	21.86	22.80
		25	0	21.63	21.62	21.75	22.80
		25	13	21.70	21.70	21.79	22.80
		25	25	21.62	21.59	21.61	22.80
		50	0	21.59	21.62	21.65	22.80
	64QAM	1	0	21.54	21.41	21.55	22.80
		1	25	21.91	21.76	21.91	22.80
		1	49	21.45	21.36	21.48	22.80
		25	0	20.65	20.70	20.84	21.80
		25	13	20.73	20.71	20.80	21.80
		25	25	20.70	20.66	20.72	21.80
		50	0	20.71	20.71	20.78	21.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				132047/1717.5	132322/1745	132597/1772.5	
15MHz	QPSK	1	0	21.61	21.64	21.74	23.10
		1	38	21.91	21.93	22.00	23.10
		1	74	21.40	21.47	21.56	23.10
		36	0	21.82	21.98	22.04	23.10
		36	18	21.89	21.98	21.99	23.10
		36	39	21.84	21.92	21.91	23.10
		75	0	21.81	21.97	21.96	23.10
	16QAM	1	0	22.26	21.97	21.99	23.10
		1	38	22.28	22.22	22.33	23.10
		1	74	21.72	21.83	21.86	22.80
		36	0	21.63	21.65	21.76	22.80
		36	18	21.69	21.69	21.78	22.80
		36	39	21.63	21.60	21.62	22.80
		75	0	21.59	21.62	21.65	22.80
	64QAM	1	0	21.51	21.38	21.55	22.80
		1	38	21.92	21.73	21.92	22.80
		1	74	21.45	21.37	21.52	22.80
		36	0	20.67	20.77	20.85	21.80



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				132072/1720	132322/1745	132572/1770	
20MHz		36	18	20.73	20.72	20.82	21.80
		36	39	20.71	20.67	20.73	21.80
		75	0	20.71	20.71	20.78	21.80
	QPSK	1	0	21.58	21.60	21.71	23.10
		1	50	21.90	21.89	<b>21.98</b>	23.10
		1	99	21.38	21.46	21.53	23.10
		50	0	21.79	21.93	<b>22.00</b>	23.10
		50	25	21.87	21.94	21.96	23.10
		50	50	21.81	21.87	21.87	23.10
		100	0	21.78	21.91	21.92	23.10
	16QAM	1	0	22.01	21.93	21.94	23.10
		1	50	22.24	22.20	22.29	23.10
		1	99	21.70	21.80	21.84	22.80
		50	0	21.60	21.61	21.73	22.80
		50	25	21.66	21.67	21.75	22.80
		50	50	21.60	21.55	21.58	22.80
		100	0	21.57	21.58	21.62	22.80
	64QAM	1	0	21.49	21.34	21.50	22.80
		1	50	21.88	21.71	21.88	22.80
		1	99	21.39	21.31	21.46	22.80
		50	0	20.62	20.69	20.78	21.80
		50	25	20.69	20.68	20.76	21.80
		50	50	20.68	20.62	20.69	21.80
		100	0	20.69	20.67	20.75	21.80



## Div - Antenna

LTE Band 2							
Receiver on-Div Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	19.21	19.06	19.03	20.00
		1	2	19.47	19.34	19.32	20.00
		1	5	19.33	18.96	19.01	20.00
		3	0	19.29	19.32	19.42	20.00
		3	2	19.28	19.32	19.29	20.00
		3	3	19.24	19.27	19.35	20.00
		6	0	19.26	19.32	19.38	20.00
	16QAM	1	0	19.32	19.36	19.26	20.00
		1	2	19.58	19.60	19.57	20.00
		1	5	19.22	19.27	19.22	20.00
		3	0	19.32	19.31	19.43	20.00
		3	2	19.29	19.33	19.34	20.00
		3	3	19.28	19.31	19.34	20.00
		6	0	19.29	19.31	19.42	20.00
	64QAM	1	0	19.17	19.29	19.29	20.00
		1	2	19.47	19.54	19.55	20.00
		1	5	19.09	19.18	19.22	20.00
		3	0	19.30	19.29	19.43	20.00
		3	2	19.32	19.32	19.28	20.00
		3	3	19.22	19.36	19.32	20.00
		6	0	19.28	19.32	19.37	20.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	19.23	19.10	19.06	20.00
		1	7	19.47	19.36	19.36	20.00
		1	14	19.36	19.01	19.05	20.00
		8	0	19.33	19.39	19.49	20.00
		8	4	19.31	19.40	19.35	20.00
		8	7	19.28	19.32	19.39	20.00
		15	0	19.28	19.36	19.41	20.00
	16QAM	1	0	19.35	19.38	19.29	20.00
		1	7	19.61	19.62	19.61	20.00
		1	14	19.24	19.31	19.25	20.00
		8	0	19.37	19.35	19.46	20.00
		8	4	19.34	19.40	19.40	20.00
		8	7	19.32	19.37	19.41	20.00
		15	0	19.32	19.35	19.45	20.00
	64QAM	1	0	19.20	19.31	19.32	20.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18625/1852.5	18900/1880	19175/1907.5	
		1	7	19.50	19.56	19.59	20.00
		1	14	19.11	19.22	19.25	20.00
		8	0	19.35	19.33	19.46	20.00
		8	4	19.37	19.39	19.34	20.00
		8	7	19.26	19.42	19.39	20.00
		15	0	19.30	19.38	19.42	20.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	19.21	19.07	19.04	20.00
		1	13	19.46	19.36	19.35	20.00
		1	24	19.34	18.98	19.03	20.00
		12	0	19.31	19.38	19.47	20.00
		12	6	19.31	19.39	19.33	20.00
		12	13	19.26	19.30	19.39	20.00
		25	0	19.26	19.36	19.40	20.00
	16QAM	1	0	19.31	19.32	19.26	20.00
		1	13	19.60	19.63	19.56	20.00
		1	24	19.22	19.27	19.23	20.00
		12	0	19.33	19.35	19.44	20.00
		12	6	19.30	19.34	19.37	20.00
		12	13	19.31	19.36	19.36	20.00
		25	0	19.29	19.33	19.40	20.00
	64QAM	1	0	19.17	19.26	19.30	20.00
		1	13	19.49	19.56	19.56	20.00
		1	24	19.08	19.17	19.22	20.00
		12	0	19.35	19.33	19.42	20.00
		12	6	19.32	19.35	19.29	20.00
		12	13	19.24	19.38	19.38	20.00
		25	0	19.30	19.37	19.38	20.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	19.20	19.08	19.02	20.00
		1	25	19.45	19.32	19.33	20.00
		1	49	19.33	18.96	19.01	20.00
		25	0	19.30	19.34	19.45	20.00
		25	13	19.29	19.36	19.30	20.00
		25	25	19.26	19.30	19.35	20.00
		50	0	19.26	19.35	19.39	20.00
	16QAM	1	0	19.32	19.34	19.26	20.00
		1	25	19.58	19.60	19.58	20.00
		1	49	19.21	19.29	19.21	20.00
		25	0	19.35	19.31	19.43	20.00
		25	13	19.31	19.35	19.36	20.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				18675/1857.5	18900/1880	19125/1902.5		
	64QAM	25	25	19.29	19.32	19.37	20.00	
		50	0	19.30	19.31	19.40	20.00	
		1	0	19.17	19.27	19.29	20.00	
		1	25	19.47	19.54	19.56	20.00	
		1	49	19.08	19.20	19.21	20.00	
		25	0	19.33	19.29	19.43	20.00	
		25	13	19.34	19.34	19.30	20.00	
		25	25	19.23	19.37	19.35	20.00	
		50	0	19.28	19.34	19.37	20.00	
15MHz	QPSK	1	0	19.21	19.05	19.03	20.00	
		1	38	19.46	19.36	19.34	20.00	
		1	74	19.32	18.95	19.00	20.00	
		36	0	19.31	19.35	19.46	20.00	
		36	18	19.29	19.36	19.30	20.00	
		36	39	19.25	19.31	19.36	20.00	
		75	0	19.29	19.33	19.38	20.00	
	16QAM	1	0	19.29	19.35	19.26	20.00	
		1	38	19.59	19.61	19.59	20.00	
		1	74	19.21	19.27	19.21	20.00	
		36	0	19.35	19.34	19.44	20.00	
		36	18	19.30	19.34	19.35	20.00	
		36	39	19.30	19.33	19.38	20.00	
		75	0	19.30	19.31	19.40	20.00	
	64QAM	1	0	19.14	19.28	19.29	20.00	
		1	38	19.48	19.55	19.57	20.00	
		1	74	19.08	19.18	19.21	20.00	
		36	0	19.33	19.32	19.44	20.00	
		36	18	19.33	19.33	19.29	20.00	
		36	39	19.24	19.38	19.36	20.00	
		75	0	19.28	19.34	19.37	20.00	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					18700/1860	18900/1880	19100/1900	
	20MHz	QPSK	1	0	19.18	19.01	19.00	20.00
1			50	<b>19.45</b>	19.32	19.32	20.00	
1			99	19.30	18.94	18.97	20.00	
50			0	19.28	19.30	<b>19.42</b>	20.00	
50			25	19.27	19.32	19.27	20.00	
50			50	19.22	19.26	19.32	20.00	
100			0	19.26	19.28	19.34	20.00	
16QAM		1	0	19.27	19.31	19.21	20.00	
		1	50	19.55	19.59	19.55	20.00	





		1	99	19.19	19.24	19.19	20.00
		50	0	19.32	19.30	19.41	20.00
		50	25	19.27	19.32	19.32	20.00
		50	50	19.27	19.28	19.34	20.00
		100	0	19.28	19.27	19.37	20.00
	64QAM	1	0	19.12	19.24	19.24	20.00
		1	50	19.44	19.53	19.53	20.00
		1	99	19.06	19.15	19.19	20.00
		50	0	19.30	19.28	19.41	20.00
		50	25	19.30	19.31	19.26	20.00
		50	50	19.21	19.33	19.32	20.00
		100	0	19.26	19.30	19.34	20.00

LTE Band 2							
Body SAR-Div Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	21.58	21.68	21.66	22.70
		1	2	21.94	21.95	21.98	22.70
		1	5	21.49	21.62	21.66	22.70
		3	0	21.90	21.92	21.99	22.70
		3	2	21.89	22.01	21.95	22.70
		3	3	21.90	21.94	21.92	22.70
		6	0	21.86	21.94	21.98	22.70
	16QAM	1	0	22.36	21.98	21.94	22.70
		1	2	22.34	22.27	22.24	22.70
		1	5	21.92	21.86	21.91	22.70
		3	0	21.81	21.80	21.92	22.70
		3	2	21.86	21.86	21.86	22.70
		3	3	21.78	21.83	21.80	22.70
		6	0	21.72	21.78	21.85	22.50
	64QAM	1	0	21.70	21.60	21.69	22.50
		1	2	22.02	21.90	21.99	22.50
		1	5	21.60	21.56	21.62	22.50
		3	0	21.69	21.68	21.82	22.50
		3	2	21.74	21.75	21.74	22.50
		3	3	21.71	21.75	21.68	22.50
		6	0	20.74	20.79	20.85	21.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	21.60	21.72	21.69	22.70
		1	7	21.92	21.98	22.02	22.70
		1	14	21.52	21.67	21.70	22.70



		8	0	21.90	21.94	22.02	22.70	
		8	4	21.91	22.01	21.97	22.70	
		8	7	21.90	21.95	21.92	22.70	
		15	0	21.86	21.98	22.01	22.70	
	16QAM	1	0	22.39	22.00	21.97	22.70	
		1	7	22.37	22.27	22.28	22.70	
		1	14	21.94	21.90	21.94	22.70	
		8	0	21.82	21.83	21.94	22.50	
		8	4	21.87	21.89	21.88	22.50	
		8	7	21.78	21.85	21.83	22.50	
		15	0	21.75	21.82	21.88	22.50	
	64QAM	1	0	21.73	21.62	21.72	22.50	
		1	7	22.05	21.90	22.01	22.50	
		1	14	21.62	21.55	21.65	22.50	
		8	0	20.80	20.81	20.94	21.50	
		8	4	20.85	20.88	20.86	21.50	
		8	7	20.81	20.87	20.81	21.50	
		15	0	20.77	20.83	20.88	21.50	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					18625/1852.5	18900/1880	19175/1907.5	
	5MHz	QPSK	1	0	21.57	21.70	21.65	22.70
1			13	21.90	21.94	21.99	22.70	
1			24	21.49	21.62	21.66	22.70	
12			0	21.87	21.89	21.98	22.70	
12			6	21.89	21.97	21.92	22.70	
12			13	21.88	21.93	21.88	22.70	
25			0	21.86	21.97	21.99	22.70	
16QAM		1	0	22.36	21.96	21.94	22.70	
		1	13	22.34	22.25	22.25	22.70	
		1	24	21.91	21.88	21.90	22.70	
		12	0	21.80	21.79	21.91	22.50	
		12	6	21.84	21.84	21.84	22.50	
		12	13	21.75	21.80	21.79	22.50	
		25	0	21.73	21.78	21.83	22.50	
64QAM		1	0	21.70	21.62	21.69	22.50	
		1	13	22.02	21.92	21.98	22.50	
		1	24	21.63	21.53	21.61	22.50	
		12	0	20.78	20.77	20.95	21.50	
		12	6	20.82	20.83	20.82	21.50	
		12	13	20.78	20.82	20.77	21.50	
		25	0	20.75	20.79	20.83	21.50	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				18650/1855	18900/1880	19150/1905		



10MHz	QPSK	1	0	21.59	21.71	21.68	22.70
		1	25	21.93	21.99	22.03	22.70
		1	49	21.51	21.66	21.69	22.70
		25	0	21.90	21.94	22.02	22.70
		25	13	21.92	22.02	21.96	22.70
		25	25	21.90	21.97	21.93	22.70
		50	0	21.90	21.99	22.03	22.70
	16QAM	1	0	22.38	21.99	21.96	22.70
		1	25	22.37	22.29	22.28	22.70
		1	49	21.94	21.90	21.93	22.70
		25	0	21.83	21.84	21.95	22.50
		25	13	21.86	21.88	21.87	22.50
		25	25	21.78	21.85	21.83	22.50
		50	0	21.76	21.83	21.87	22.50
	64QAM	1	0	21.72	21.61	21.71	22.50
		1	25	22.05	21.92	22.01	22.50
		1	49	21.62	21.55	21.64	22.50
		25	0	20.81	20.82	20.95	21.50
		25	13	20.84	20.87	20.85	21.50
		25	25	20.81	20.87	20.81	21.50
		50	0	20.78	20.84	20.87	21.50
<b>Bandwidth</b>	<b>Modulation</b>	<b>RB allocation</b>	<b>offset</b>	<b>Channel/Frequency(MHz)</b>			<b>Tune-up</b>
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	21.58	21.67	21.66	22.70
		1	38	21.91	21.98	22.00	22.70
		1	74	21.48	21.61	21.65	22.70
		36	0	21.88	21.90	21.99	22.70
		36	18	21.89	21.97	21.92	22.70
		36	39	21.87	21.94	21.89	22.70
		75	0	21.88	21.95	21.98	22.70
	16QAM	1	0	22.33	21.97	21.94	22.70
		1	38	22.35	22.26	22.26	22.70
		1	74	21.91	21.86	21.90	22.70
		36	0	21.80	21.82	21.92	22.50
		36	18	21.83	21.83	21.83	22.50
		36	39	21.76	21.81	21.80	22.50
		75	0	21.73	21.78	21.83	22.50
	64QAM	1	0	21.67	21.59	21.69	22.50
		1	38	22.03	21.89	21.99	22.50
		1	74	21.63	21.54	21.65	22.50
		36	0	20.80	20.84	20.96	21.50
		36	18	20.82	20.84	20.84	21.50
		36	39	20.79	20.83	20.78	21.50



Bandwidth	Modulation	75	0	20.75	20.79	20.83	21.50
		RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	21.55	21.63	21.63	22.70
		1	50	21.90	21.94	<b>21.98</b>	22.70
		1	99	21.46	21.60	21.62	22.70
		50	0	21.85	21.85	<b>21.95</b>	22.70
		50	25	21.87	21.93	21.89	22.70
		50	50	21.84	21.89	21.85	22.70
		100	0	21.85	21.90	21.94	22.70
	16QAM	1	0	21.97	21.93	21.89	22.70
		1	50	22.31	22.24	22.22	22.70
		1	99	21.89	21.83	21.88	22.70
		50	0	21.77	21.78	21.89	22.50
		50	25	21.80	21.81	21.80	22.50
		50	50	21.73	21.76	21.76	22.50
		100	0	21.71	21.74	21.80	22.50
	64QAM	1	0	21.65	21.55	21.64	22.50
		1	50	21.99	21.87	21.95	22.50
		1	99	21.57	21.48	21.59	22.50
		50	0	20.75	20.76	20.89	21.50
		50	25	20.78	20.80	20.78	21.50
		50	50	20.76	20.78	20.74	21.50
		100	0	20.73	20.75	20.80	21.50

LTE Band 2							
Hotspot-Div Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	16.95	16.99	17.05	17.90
		1	2	17.19	17.30	17.19	17.90
		1	5	16.83	16.81	16.89	17.90
		3	0	17.20	17.21	17.32	17.90
		3	2	17.20	17.22	17.19	17.90
		3	3	17.12	17.13	17.20	17.90
		6	0	17.14	17.21	17.30	17.90
	16QAM	1	0	17.17	17.23	17.20	17.90
		1	2	17.47	17.47	17.45	17.90
		1	5	17.12	17.13	17.11	17.90
		3	0	17.24	17.20	17.34	17.90
		3	2	17.21	17.19	17.20	17.90
		3	3	17.13	17.21	17.19	17.90
		6	0	17.16	17.18	17.30	17.90



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				18615/1851.5	18900/1880	19185/1908.5		
	64QAM	1	0	17.06	17.15	17.14	17.90	
		1	2	17.33	17.40	17.45	17.90	
		1	5	16.94	17.06	17.13	17.90	
		3	0	17.19	17.20	17.36	17.90	
		3	2	17.24	17.20	17.19	17.90	
		3	3	17.16	17.18	17.17	17.90	
		6	0	17.14	17.20	17.27	17.90	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				18615/1851.5	18900/1880	19185/1908.5		
3MHz	QPSK	1	0	16.97	17.03	17.08	17.90	
		1	7	17.19	17.32	17.23	17.90	
		1	14	16.86	16.86	16.93	17.90	
		8	0	17.24	17.28	17.39	17.90	
		8	4	17.23	17.30	17.25	17.90	
		8	7	17.16	17.18	17.24	17.90	
		15	0	17.16	17.25	17.33	17.90	
	16QAM	1	0	17.20	17.25	17.23	17.90	
		1	7	17.50	17.49	17.49	17.90	
		1	14	17.14	17.17	17.14	17.90	
		8	0	17.29	17.24	17.37	17.90	
		8	4	17.26	17.26	17.26	17.90	
		8	7	17.17	17.27	17.26	17.90	
		15	0	17.19	17.22	17.33	17.90	
	64QAM	1	0	17.09	17.17	17.17	17.90	
		1	7	17.36	17.42	17.49	17.90	
		1	14	16.96	17.10	17.16	17.90	
		8	0	17.24	17.24	17.39	17.90	
		8	4	17.29	17.27	17.25	17.90	
		8	7	17.20	17.24	17.24	17.90	
		15	0	17.16	17.26	17.32	17.90	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					18625/1852.5	18900/1880	19175/1907.5	
	5MHz	QPSK	1	0	16.94	17.01	17.04	17.90
			1	13	17.17	17.28	17.20	17.90
			1	24	16.83	16.81	16.89	17.90
			12	0	17.21	17.23	17.35	17.90
			12	6	17.21	17.26	17.20	17.90
12			13	17.14	17.16	17.20	17.90	
25			0	17.14	17.24	17.31	17.90	
16QAM		1	0	17.17	17.21	17.20	17.90	
		1	13	17.47	17.47	17.46	17.90	
		1	24	17.11	17.15	17.10	17.90	
		12	0	17.27	17.20	17.34	17.90	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				18650/1855	18900/1880	19150/1905		
		12	6	17.23	17.21	17.22	17.90	
		12	13	17.14	17.22	17.22	17.90	
		25	0	17.17	17.18	17.28	17.90	
	64QAM	1	0	17.06	17.13	17.14	17.90	
		1	13	17.33	17.40	17.46	17.90	
		1	24	16.93	17.08	17.12	17.90	
		12	0	17.22	17.20	17.36	17.90	
		12	6	17.26	17.22	17.21	17.90	
		12	13	17.17	17.19	17.20	17.90	
		25	0	17.14	17.22	17.27	17.90	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				18650/1855	18900/1880	19150/1905		
10MHz	QPSK	1	0	16.95	17.00	17.06	17.90	
		1	25	17.18	17.32	17.22	17.90	
		1	49	16.84	16.83	16.91	17.90	
		25	0	17.22	17.27	17.37	17.90	
		25	13	17.23	17.29	17.23	17.90	
		25	25	17.14	17.16	17.24	17.90	
		50	0	17.14	17.25	17.32	17.90	
	16QAM	1	0	17.16	17.19	17.20	17.90	
		1	25	17.49	17.50	17.44	17.90	
		1	49	17.12	17.13	17.12	17.90	
		25	0	17.25	17.24	17.35	17.90	
		25	13	17.22	17.20	17.23	17.90	
		25	25	17.16	17.26	17.21	17.90	
		50	0	17.16	17.20	17.28	17.90	
	64QAM	1	0	17.06	17.12	17.15	17.90	
		1	25	17.35	17.42	17.46	17.90	
		1	49	16.93	17.05	17.13	17.90	
		25	0	17.24	17.24	17.35	17.90	
		25	13	17.24	17.23	17.20	17.90	
		25	25	17.18	17.20	17.23	17.90	
		50	0	17.16	17.25	17.28	17.90	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					18675/1857.5	18900/1880	19125/1902.5	
	15MHz	QPSK	1	0	16.95	16.98	17.05	17.90
1			38	17.18	17.32	17.21	17.90	
1			74	16.82	16.80	16.88	17.90	
36			0	17.22	17.24	17.36	17.90	
36			18	17.21	17.26	17.20	17.90	
36			39	17.13	17.17	17.21	17.90	
75			0	17.17	17.22	17.30	17.90	
16QAM		1	0	17.14	17.22	17.20	17.90	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				18700/1860	18900/1880	19100/1900		
		1	38	17.48	17.48	17.47	17.90	
		1	74	17.11	17.13	17.10	17.90	
		36	0	17.27	17.23	17.35	17.90	
		36	18	17.22	17.20	17.21	17.90	
		36	39	17.15	17.23	17.23	17.90	
		75	0	17.17	17.18	17.28	17.90	
	64QAM	1	0	17.03	17.14	17.14	17.90	
		1	38	17.34	17.41	17.47	17.90	
		1	74	16.93	17.06	17.12	17.90	
		36	0	17.22	17.23	17.37	17.90	
		36	18	17.25	17.21	17.20	17.90	
		36	39	17.18	17.20	17.21	17.90	
	20MHz	QPSK	1	0	16.92	16.94	17.02	17.90
			1	50	17.17	<b>17.28</b>	17.19	17.90
1			99	16.80	16.79	16.85	17.90	
50			0	17.19	17.19	<b>17.32</b>	17.90	
50			25	17.20	17.22	17.17	17.90	
50			50	17.10	17.12	17.17	17.90	
100			0	17.14	17.17	17.26	17.90	
16QAM		1	0	17.12	17.18	17.15	17.90	
		1	50	17.44	17.46	17.43	17.90	
		1	99	17.09	17.10	17.08	17.90	
		50	0	17.24	17.19	17.32	17.90	
		50	25	17.19	17.18	17.18	17.90	
		50	50	17.12	17.18	17.19	17.90	
		100	0	17.15	17.14	17.25	17.90	
64QAM	1	0	17.01	17.10	17.09	17.90		
	1	50	17.30	17.39	17.43	17.90		
	1	99	16.91	17.03	17.10	17.90		
	50	0	17.19	17.19	17.34	17.90		
	50	25	17.22	17.19	17.17	17.90		
	50	50	17.15	17.15	17.17	17.90		
	100	0	17.12	17.18	17.24	17.90		

LTE Band 4							
Receiver on-Div Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	18.77	18.86	18.83	20.00
		1	2	19.16	19.11	19.18	20.00



		1	5	18.70	18.64	18.73	20.00	
		3	0	19.04	19.01	19.17	20.00	
		3	2	19.07	19.08	19.09	20.00	
		3	3	19.07	18.98	18.99	20.00	
		6	0	19.03	18.98	19.05	20.00	
	16QAM	1	0	19.15	19.26	19.10	20.00	
		1	2	19.51	19.42	19.42	20.00	
		1	5	19.08	18.94	18.99	20.00	
		3	0	19.08	19.01	19.16	20.00	
		3	2	19.07	19.09	19.09	20.00	
		3	3	19.16	19.02	18.92	20.00	
	64QAM	6	0	19.10	19.02	19.05	20.00	
		1	0	18.99	18.94	18.90	20.00	
		1	2	19.31	19.17	19.21	20.00	
		1	5	18.84	18.70	18.79	20.00	
		3	0	19.08	19.01	19.12	20.00	
		3	2	19.08	19.08	19.05	20.00	
		3	3	19.13	19.03	18.94	20.00	
	6	0	19.10	19.01	19.06	20.00		
	<b>Bandwidth</b>	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					19965/1711.5	20175/1732.5	20385/1753.5	
<b>3MHz</b>	QPSK	1	0	18.79	18.90	18.86	20.00	
		1	7	19.16	19.13	19.22	20.00	
		1	14	18.73	18.69	18.77	20.00	
		8	0	19.08	19.08	19.24	20.00	
		8	4	19.10	19.16	19.15	20.00	
		8	7	19.11	19.03	19.03	20.00	
		15	0	19.05	19.02	19.08	20.00	
	16QAM	1	0	19.18	19.28	19.13	20.00	
		1	7	19.54	19.44	19.46	20.00	
		1	14	19.10	18.98	19.02	20.00	
		8	0	19.13	19.05	19.19	20.00	
		8	4	19.12	19.16	19.15	20.00	
		8	7	19.20	19.08	18.99	20.00	
		15	0	19.13	19.06	19.08	20.00	
	64QAM	1	0	19.02	18.96	18.93	20.00	
		1	7	19.34	19.19	19.25	20.00	
		1	14	18.86	18.74	18.82	20.00	
		8	0	19.13	19.05	19.15	20.00	
		8	4	19.13	19.15	19.11	20.00	
		8	7	19.17	19.09	19.01	20.00	
		15	0	19.12	19.07	19.11	20.00	





Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	18.76	18.88	18.82	20.00
		1	13	19.14	19.09	19.19	20.00
		1	24	18.70	18.64	18.73	20.00
		12	0	19.05	19.03	19.20	20.00
		12	6	19.08	19.12	19.10	20.00
		12	13	19.09	19.01	18.99	20.00
		25	0	19.03	19.01	19.06	20.00
	16QAM	1	0	19.15	19.24	19.10	20.00
		1	13	19.51	19.42	19.43	20.00
		1	24	19.07	18.96	18.98	20.00
		12	0	19.11	19.01	19.16	20.00
		12	6	19.09	19.11	19.11	20.00
		12	13	19.17	19.03	18.95	20.00
		25	0	19.11	19.02	19.03	20.00
	64QAM	1	0	18.99	18.92	18.90	20.00
		1	13	19.31	19.17	19.22	20.00
		1	24	18.83	18.72	18.78	20.00
		12	0	19.11	19.01	19.12	20.00
		12	6	19.10	19.10	19.07	20.00
		12	13	19.14	19.04	18.97	20.00
		25	0	19.10	19.03	19.06	20.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
10MHz	QPSK	1	0	18.77	18.87	18.84	20.00
		1	25	19.15	19.13	19.21	20.00
		1	49	18.71	18.66	18.75	20.00
		25	0	19.06	19.07	19.22	20.00
		25	13	19.10	19.15	19.13	20.00
		25	25	19.09	19.01	19.03	20.00
		50	0	19.03	19.02	19.07	20.00
	16QAM	1	0	19.14	19.22	19.10	20.00
		1	25	19.53	19.45	19.41	20.00
		1	49	19.08	18.94	19.00	20.00
		25	0	19.09	19.05	19.17	20.00
		25	13	19.08	19.10	19.12	20.00
		25	25	19.19	19.07	18.94	20.00
		50	0	19.10	19.04	19.03	20.00
	64QAM	1	0	18.99	18.91	18.91	20.00
		1	25	19.33	19.19	19.22	20.00
		1	49	18.83	18.69	18.79	20.00
		25	0	19.13	19.05	19.11	20.00



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20025/1717.5	20175/1732.5	20325/1747.5	
		25	13	19.08	19.11	19.06	20.00
		25	25	19.15	19.05	19.00	20.00
		50	0	19.12	19.06	19.07	20.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20025/1717.5	20175/1732.5	20325/1747.5	
15MHz	QPSK	1	0	18.77	18.85	18.83	20.00
		1	38	19.15	19.13	19.20	20.00
		1	74	18.69	18.63	18.72	20.00
		36	0	19.06	19.04	19.21	20.00
		36	18	19.08	19.12	19.10	20.00
		36	39	19.08	19.02	19.00	20.00
		75	0	19.06	18.99	19.05	20.00
	16QAM	1	0	19.12	19.25	19.10	20.00
		1	38	19.52	19.43	19.44	20.00
		1	74	19.07	18.94	18.98	20.00
		36	0	19.11	19.04	19.17	20.00
		36	18	19.08	19.10	19.10	20.00
		36	39	19.18	19.04	18.96	20.00
		75	0	19.11	19.02	19.03	20.00
	64QAM	1	0	18.96	18.93	18.90	20.00
		1	38	19.32	19.18	19.23	20.00
		1	74	18.83	18.70	18.78	20.00
		36	0	19.11	19.04	19.13	20.00
		36	18	19.09	19.09	19.06	20.00
		36	39	19.15	19.05	18.98	20.00
		75	0	19.10	19.03	19.06	20.00
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	18.74	18.81	18.80	20.00
		1	50	19.14	19.09	<b>19.18</b>	20.00
		1	99	18.67	18.62	18.69	20.00
		50	0	19.03	18.99	<b>19.17</b>	20.00
		50	25	19.06	19.08	19.07	20.00
		50	50	19.05	18.97	18.96	20.00
		100	0	19.03	18.94	19.01	20.00
	16QAM	1	0	19.10	19.21	19.05	20.00
		1	50	19.48	19.41	19.40	20.00
		1	99	19.05	18.91	18.96	20.00
		50	0	19.08	19.00	19.14	20.00
		50	25	19.05	19.08	19.07	20.00
		50	50	19.15	18.99	18.92	20.00
		100	0	19.09	18.98	19.00	20.00
	64QAM	1	0	18.94	18.89	18.85	20.00



		1	50	19.28	19.16	19.19	20.00
		1	99	18.81	18.67	18.76	20.00
		50	0	19.08	19.00	19.10	20.00
		50	25	19.06	19.07	19.03	20.00
		50	50	19.12	19.00	18.94	20.00
		100	0	19.08	18.99	19.03	20.00

LTE Band 4							
Body SAR-Div Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	21.10	21.19	21.17	22.40
		1	2	21.48	21.45	21.49	22.40
		1	5	21.03	20.96	21.03	22.40
		3	0	21.56	21.51	21.61	22.40
		3	2	21.52	21.60	21.61	22.40
		3	3	21.56	21.53	21.52	22.40
		6	0	21.40	21.39	21.43	22.40
	16QAM	1	0	21.84	21.46	21.41	22.40
		1	2	21.82	21.60	21.72	22.40
		1	5	21.25	21.13	21.28	22.40
		3	0	21.54	21.46	21.57	22.40
		3	2	21.60	21.59	21.55	22.40
		3	3	21.57	21.53	21.43	22.40
		6	0	21.40	21.32	21.38	22.40
	64QAM	1	0	21.37	21.36	21.26	22.40
		1	2	21.76	21.64	21.63	22.40
		1	5	21.27	21.11	21.13	22.40
		3	0	21.88	21.82	21.92	22.40
		3	2	21.93	21.91	21.90	22.40
		3	3	21.96	21.82	21.79	22.40
		6	0	20.99	20.94	20.92	21.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
3MHz	QPSK	1	0	21.12	21.23	21.20	22.40
		1	7	21.46	21.48	21.53	22.40
		1	14	21.06	21.01	21.07	22.40
		8	0	21.46	21.43	21.54	22.40
		8	4	21.44	21.50	21.53	22.40
		8	7	21.46	21.44	21.42	22.40
		15	0	21.41	21.43	21.46	22.40
	16QAM	1	0	21.42	21.48	21.44	22.40
		1	7	21.85	21.60	21.76	22.40



		1	14	21.27	21.17	21.31	22.40	
		8	0	21.45	21.39	21.49	22.40	
		8	4	21.51	21.52	21.47	22.40	
		8	7	21.47	21.45	21.36	22.40	
		15	0	21.43	21.36	21.41	22.40	
		64QAM	1	0	21.40	21.38	21.29	22.40
			1	7	21.79	21.64	21.65	22.40
			1	14	21.29	21.10	21.16	22.40
			8	0	20.99	20.95	21.04	21.80
			8	4	21.04	21.04	21.02	21.80
			8	7	21.06	20.94	20.92	21.80
			15	0	21.02	20.98	20.95	21.80
		Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)		
19975/1712.5	20175/1732.5					20375/1752.5		
5MHz	QPSK	1	0	21.09	21.21	21.16	22.40	
		1	13	21.44	21.44	21.50	22.40	
		1	24	21.03	20.96	21.03	22.40	
		12	0	21.43	21.38	21.50	22.40	
		12	6	21.42	21.46	21.48	22.40	
		12	13	21.44	21.42	21.38	22.40	
		25	0	21.39	21.42	21.44	22.40	
	16QAM	1	0	21.39	21.44	21.41	22.40	
		1	13	21.82	21.58	21.73	22.40	
		1	24	21.24	21.15	21.27	22.40	
		12	0	21.43	21.35	21.46	22.40	
		12	6	21.48	21.47	21.43	22.40	
		12	13	21.44	21.40	21.32	22.40	
		25	0	21.41	21.32	21.36	22.40	
	64QAM	1	0	21.37	21.34	21.26	22.40	
		1	13	21.76	21.62	21.62	22.40	
		1	24	21.26	21.08	21.12	22.40	
		12	0	20.97	20.91	21.01	21.80	
		12	6	21.01	20.99	20.98	21.80	
		12	13	21.03	20.89	20.88	21.80	
		25	0	21.00	20.94	20.90	21.80	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					20000/1715	20175/1732.5	20350/1750	
	10MHz	QPSK	1	0	21.10	21.20	21.18	22.40
			1	25	21.45	21.48	21.52	22.40
			1	49	21.04	20.98	21.05	22.40
			25	0	21.44	21.42	21.52	22.40
			25	13	21.44	21.49	21.51	22.40
25			25	21.44	21.42	21.42	22.40	



	16QAM	50	0	21.39	21.43	21.45	22.40
		1	0	21.38	21.42	21.41	22.40
		1	25	21.84	21.61	21.71	22.40
		1	49	21.25	21.13	21.29	22.40
		25	0	21.41	21.39	21.47	22.40
		25	13	21.47	21.46	21.44	22.40
		25	25	21.46	21.44	21.31	22.40
		50	0	21.40	21.34	21.36	22.40
	64QAM	1	0	21.37	21.33	21.27	22.40
		1	25	21.78	21.64	21.62	22.40
		1	49	21.26	21.05	21.13	22.40
		25	0	20.99	20.95	21.00	21.80
		25	13	20.99	21.00	20.97	21.80
		25	25	21.04	20.90	20.91	21.80
		50	0	21.02	20.97	20.91	21.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20025/1717.5	20175/1732.5	20325/1747.5	
15MHz	QPSK	1	0	21.10	21.18	21.17	22.40
		1	38	21.45	21.48	21.51	22.40
		1	74	21.02	20.95	21.02	22.40
		36	0	21.44	21.39	21.51	22.40
		36	18	21.42	21.46	21.48	22.40
		36	39	21.43	21.43	21.39	22.40
		75	0	21.42	21.40	21.43	22.40
	16QAM	1	0	21.36	21.45	21.41	22.40
		1	38	21.83	21.59	21.74	22.40
		1	74	21.24	21.13	21.27	22.40
		36	0	21.43	21.38	21.47	22.40
		36	18	21.47	21.46	21.42	22.40
		36	39	21.45	21.41	21.33	22.40
		75	0	21.41	21.32	21.36	22.40
	64QAM	1	0	21.34	21.35	21.26	22.40
		1	38	21.77	21.63	21.63	22.40
		1	74	21.26	21.06	21.12	22.40
		36	0	20.97	20.94	21.02	21.80
		36	18	21.00	20.98	20.97	21.80
		36	39	21.04	20.90	20.89	21.80
		75	0	21.00	20.94	20.90	21.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	21.07	21.14	21.14	22.40
		1	50	21.44	21.44	<b>21.49</b>	22.40
		1	99	21.00	20.94	20.99	22.40



		50	0	21.41	21.34	<b>21.47</b>	22.40
		50	25	21.40	21.42	21.45	22.40
		50	50	21.40	21.38	21.35	22.40
		100	0	21.39	21.35	21.39	22.40
	16QAM	1	0	21.34	21.41	21.36	22.40
		1	50	21.79	21.57	21.70	22.40
		1	99	21.22	21.10	21.25	22.40
		50	0	21.40	21.34	21.44	22.40
		50	25	21.44	21.44	21.39	22.40
		50	50	21.42	21.36	21.29	22.40
		100	0	21.39	21.28	21.33	22.40
	64QAM	1	0	21.32	21.31	21.21	22.40
		1	50	21.73	21.61	21.59	22.40
		1	99	21.24	21.03	21.10	22.40
		50	0	20.94	20.90	20.99	21.80
		50	25	20.97	20.96	20.94	21.80
		50	50	21.01	20.85	20.85	21.80
		100	0	20.98	20.90	20.87	21.80

LTE Band 4							
Hotspot-Div Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	16.57	16.86	16.76	17.80
		1	2	16.89	16.95	16.94	17.80
		1	5	16.55	16.46	16.57	17.80
		3	0	16.95	16.87	17.03	17.80
		3	2	16.95	16.97	16.96	17.80
		3	3	16.96	16.88	16.83	17.80
		6	0	16.91	16.89	16.94	17.80
	16QAM	1	0	16.96	17.05	16.94	17.80
		1	2	17.34	17.19	17.21	17.80
		1	5	16.82	16.72	16.81	17.80
		3	0	16.94	16.85	17.03	17.80
		3	2	16.96	16.93	16.94	17.80
		3	3	16.97	16.88	16.82	17.80
		6	0	16.95	16.86	16.90	17.80
	64QAM	1	0	16.86	16.89	16.78	17.80
		1	2	17.21	17.10	17.12	17.80
		1	5	16.72	16.54	16.64	17.80
		3	0	16.94	16.86	17.02	17.80
		3	2	16.96	16.92	16.93	17.80
		3	3	16.93	16.85	16.79	17.80



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up			
				6	0	16.95		16.86	16.90	17.80
				19965/1711.5	20175/1732.5	20385/1753.5				
3MHz	QPSK	1	0	16.59	16.90	16.79	17.80			
		1	7	16.89	16.97	16.98	17.80			
		1	14	16.58	16.51	16.61	17.80			
		8	0	16.99	16.94	17.10	17.80			
		8	4	16.98	17.05	17.02	17.80			
		8	7	17.00	16.93	16.87	17.80			
		15	0	16.93	16.93	16.97	17.80			
	16QAM	1	0	16.99	17.07	16.97	17.80			
		1	7	17.37	17.21	17.25	17.80			
		1	14	16.84	16.76	16.84	17.80			
		8	0	16.99	16.89	17.06	17.80			
		8	4	17.01	17.00	17.00	17.80			
		8	7	17.01	16.94	16.89	17.80			
		15	0	16.98	16.90	16.93	17.80			
	64QAM	1	0	16.89	16.91	16.81	17.80			
		1	7	17.24	17.12	17.16	17.80			
		1	14	16.74	16.58	16.67	17.80			
		8	0	16.99	16.90	17.05	17.80			
		8	4	17.01	16.99	16.99	17.80			
		8	7	16.97	16.91	16.86	17.80			
		15	0	16.97	16.92	16.95	17.80			
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up			
				6	0	16.95		16.86	16.90	17.80
				19975/1712.5	20175/1732.5	20375/1752.5				
5MHz	QPSK	1	0	16.57	16.87	16.77	17.80			
		1	13	16.88	16.97	16.97	17.80			
		1	24	16.56	16.48	16.59	17.80			
		12	0	16.97	16.93	17.08	17.80			
		12	6	16.98	17.04	17.00	17.80			
		12	13	16.98	16.91	16.87	17.80			
		25	0	16.91	16.93	16.96	17.80			
	16QAM	1	0	16.95	17.01	16.94	17.80			
		1	13	17.36	17.22	17.20	17.80			
		1	24	16.82	16.72	16.82	17.80			
		12	0	16.95	16.89	17.04	17.80			
		12	6	16.97	16.94	16.97	17.80			
		12	13	17.00	16.93	16.84	17.80			
		25	0	16.95	16.88	16.88	17.80			
	64QAM	1	0	16.86	16.86	16.79	17.80			
		1	13	17.23	17.12	17.13	17.80			
		1	24	16.71	16.53	16.64	17.80			



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				20000/1715	20175/1732.5	20350/1750		
		12	0	16.99	16.90	17.01	17.80	
		12	6	16.96	16.95	16.94	17.80	
		12	13	16.95	16.87	16.85	17.80	
		25	0	16.97	16.91	16.91	17.80	
10MHz	QPSK	1	0	16.56	16.88	16.75	17.80	
		1	25	16.87	16.93	16.95	17.80	
		1	49	16.55	16.46	16.57	17.80	
		25	0	16.96	16.89	17.06	17.80	
		25	13	16.96	17.01	16.97	17.80	
		25	25	16.98	16.91	16.83	17.80	
		50	0	16.91	16.92	16.95	17.80	
	16QAM	1	0	16.96	17.03	16.94	17.80	
		1	25	17.34	17.19	17.22	17.80	
		1	49	16.81	16.74	16.80	17.80	
		25	0	16.97	16.85	17.03	17.80	
		25	13	16.98	16.95	16.96	17.80	
		25	25	16.98	16.89	16.85	17.80	
		50	0	16.96	16.86	16.88	17.80	
	64QAM	1	0	16.86	16.87	16.78	17.80	
		1	25	17.21	17.10	17.13	17.80	
		1	49	16.71	16.56	16.63	17.80	
		25	0	16.97	16.86	17.02	17.80	
		25	13	16.98	16.94	16.95	17.80	
		25	25	16.94	16.86	16.82	17.80	
		50	0	16.95	16.88	16.90	17.80	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					20025/1717.5	20175/1732.5	20325/1747.5	
	15MHz	QPSK	1	0	16.57	16.85	16.76	17.80
			1	38	16.88	16.97	16.96	17.80
			1	74	16.54	16.45	16.56	17.80
			36	0	16.97	16.90	17.07	17.80
			36	18	16.96	17.01	16.97	17.80
36			39	16.97	16.92	16.84	17.80	
75			0	16.94	16.90	16.94	17.80	
16QAM		1	0	16.93	17.04	16.94	17.80	
		1	38	17.35	17.20	17.23	17.80	
		1	74	16.81	16.72	16.80	17.80	
		36	0	16.97	16.88	17.04	17.80	
		36	18	16.97	16.94	16.95	17.80	
		36	39	16.99	16.90	16.86	17.80	
		75	0	16.96	16.86	16.88	17.80	





Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20050/1720	20175/1732.5	20300/1745	
	64QAM	1	0	16.83	16.88	16.78	17.80
		1	38	17.22	17.11	17.14	17.80
		1	74	16.71	16.54	16.63	17.80
		36	0	16.97	16.89	17.03	17.80
		36	18	16.97	16.93	16.94	17.80
		36	39	16.95	16.87	16.83	17.80
		75	0	16.95	16.88	16.90	17.80
20MHz	QPSK	1	0	16.54	16.81	16.73	17.80
		1	50	16.87	16.93	<b>16.94</b>	17.80
		1	99	16.52	16.44	16.53	17.80
		50	0	16.96	16.85	<b>17.03</b>	17.80
		50	25	16.94	16.97	16.94	17.80
		50	50	16.94	16.87	16.80	17.80
		100	0	16.91	16.85	16.90	17.80
	16QAM	1	0	16.91	17.00	16.89	17.80
		1	50	17.31	17.18	17.19	17.80
		1	99	16.79	16.69	16.78	17.80
		50	0	16.94	16.84	17.01	17.80
		50	25	16.94	16.92	16.92	17.80
		50	50	16.96	16.85	16.82	17.80
		100	0	16.94	16.82	16.85	17.80
	64QAM	1	0	16.81	16.84	16.73	17.80
		1	50	17.18	17.09	17.10	17.80
		1	99	16.69	16.51	16.61	17.80
		50	0	16.94	16.85	17.00	17.80
		50	25	16.94	16.91	16.91	17.80
		50	50	16.92	16.82	16.79	17.80
		100	0	16.93	16.84	16.87	17.80

LTE Band 7							
Receiver on-Div Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	16.87	16.33	16.64	17.50
		1	13	17.21	16.73	16.81	17.50
		1	24	16.52	16.78	16.75	17.50
		12	0	17.17	16.61	16.79	17.50
		12	6	17.21	16.80	16.86	17.50
		12	13	17.01	17.08	17.00	17.50
		25	0	17.11	16.83	16.90	17.50
	16QAM	1	0	17.19	16.50	16.92	17.50



		1	13	17.11	17.07	17.10	17.50
		1	24	16.58	17.10	17.01	17.50
		12	0	17.15	16.58	16.76	17.50
		12	6	17.21	16.86	16.88	17.50
		12	13	17.00	17.08	16.96	17.50
		25	0	17.09	16.83	16.85	17.50
	64QAM	1	0	17.04	16.41	16.84	17.50
		1	13	17.41	16.99	16.99	17.50
		1	24	16.83	16.96	16.74	17.50
		12	0	17.17	16.55	16.72	17.50
		12	6	17.21	16.85	16.85	17.50
		12	13	16.97	17.05	16.94	17.50
	25	0	17.11	16.84	16.87	17.50	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)		
20800/2505					21100/2535	21400/2565	
10MHz	QPSK	1	0	16.85	16.30	16.62	17.50
		1	25	17.20	16.73	16.80	17.50
		1	49	16.50	16.75	16.73	17.50
		25	0	17.15	16.60	16.77	17.50
		25	13	17.21	16.79	16.84	17.50
		25	25	16.99	17.06	17.00	17.50
		50	0	17.09	16.83	16.89	17.50
	16QAM	1	0	17.15	16.44	16.89	17.50
		1	25	17.20	17.08	17.05	17.50
		1	49	16.56	17.06	16.99	17.50
		25	0	17.11	16.58	16.74	17.50
		25	13	17.17	16.80	16.85	17.50
		25	25	16.99	17.07	16.91	17.50
		50	0	17.06	16.81	16.80	17.50
	64QAM	1	0	17.01	16.36	16.82	17.50
		1	25	17.40	16.99	16.96	17.50
		1	49	16.80	16.91	16.71	17.50
		25	0	17.17	16.55	16.68	17.50
		25	13	17.16	16.81	16.80	17.50
		25	25	16.95	17.01	16.93	17.50
		50	0	17.11	16.83	16.83	17.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	16.85	16.28	16.61	17.50
		1	38	17.20	16.73	16.79	17.50
		1	74	16.48	16.72	16.70	17.50
		36	0	17.15	16.57	16.76	17.50
		36	18	17.19	16.76	16.81	17.50



		36	39	16.98	17.07	16.97	17.50
		75	0	17.12	16.80	16.87	17.50
	16QAM	1	0	17.13	16.47	16.89	17.50
		1	38	17.12	17.06	17.08	17.50
		1	74	16.55	17.06	16.97	17.50
		36	0	17.13	16.57	16.74	17.50
		36	18	17.17	16.80	16.83	17.50
		36	39	16.98	17.04	16.93	17.50
		75	0	17.07	16.79	16.80	17.50
	64QAM	1	0	16.98	16.38	16.81	17.50
		1	38	17.39	16.98	16.97	17.50
		1	74	16.80	16.92	16.70	17.50
		36	0	17.15	16.54	16.70	17.50
		36	18	17.17	16.79	16.80	17.50
36		39	16.95	17.01	16.91	17.50	
75		0	17.09	16.80	16.82	17.50	
<b>Bandwidth</b>	<b>Modulation</b>	<b>RB allocation</b>	<b>offset</b>	<b>Channel/Frequency(MHz)</b>			<b>Tune-up</b>
				<b>20850/2510</b>	<b>21100/2535</b>	<b>21350/2560</b>	
<b>20MHz</b>	QPSK	1	0	16.82	16.24	16.58	17.50
		1	50	<b>17.19</b>	16.69	16.77	17.50
		1	99	16.46	16.71	16.67	17.50
		50	0	17.12	16.52	16.72	17.50
		50	25	<b>17.17</b>	16.72	16.78	17.50
		50	50	16.95	17.02	16.93	17.50
		100	0	17.09	16.75	16.83	17.50
	16QAM	1	0	17.11	16.43	16.84	17.50
		1	50	17.48	17.04	17.04	17.50
		1	99	16.53	17.03	16.95	17.50
		50	0	17.10	16.53	16.71	17.50
		50	25	17.14	16.78	16.80	17.50
		50	50	16.95	16.99	16.89	17.50
		100	0	17.05	16.75	16.77	17.50
	64QAM	1	0	16.96	16.34	16.76	17.50
		1	50	17.35	16.96	16.93	17.50
		1	99	16.78	16.89	16.68	17.50
		50	0	17.12	16.50	16.67	17.50
		50	25	17.14	16.77	16.77	17.50
		50	50	16.92	16.96	16.87	17.50
		100	0	17.07	16.76	16.79	17.50



LTE Band 7							
Body SAR-Div Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	20.27	19.84	20.18	21.20
		1	13	20.71	20.45	20.38	21.20
		1	24	19.82	20.32	20.31	21.20
		12	0	20.60	20.20	20.30	21.20
		12	6	20.61	20.42	20.42	21.20
		12	13	20.40	20.58	20.52	21.20
		25	0	20.46	20.45	20.44	21.20
	16QAM	1	0	20.54	20.12	20.48	21.20
		1	13	20.98	20.68	20.67	21.20
		1	24	20.02	20.62	20.58	21.20
		12	0	20.58	20.18	20.30	21.20
		12	6	20.62	20.45	20.42	21.20
		12	13	20.35	20.59	20.54	21.20
		25	0	20.46	20.42	20.45	21.20
	64QAM	1	0	20.85	20.07	20.49	21.20
		1	13	20.95	20.53	20.70	21.20
		1	24	20.28	20.55	20.55	21.20
		12	0	21.04	20.17	20.30	21.20
		12	6	21.04	20.42	20.42	21.20
		12	13	20.78	20.63	20.49	21.20
		25	0	20.90	20.40	20.46	21.20
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	20.24	19.82	20.14	21.20
		1	25	20.69	20.41	20.35	21.20
		1	49	19.79	20.27	20.27	21.20
		25	0	20.57	20.15	20.26	21.20
		25	13	20.59	20.38	20.37	21.20
		25	25	20.38	20.56	20.48	21.20
		50	0	20.44	20.44	20.42	21.20
	16QAM	1	0	20.51	20.08	20.45	21.20
		1	25	20.95	20.66	20.64	21.20
		1	49	19.99	20.60	20.54	21.20
		25	0	20.56	20.14	20.27	21.20
		25	13	20.59	20.40	20.38	21.20
		25	25	20.32	20.54	20.50	21.20
		50	0	20.44	20.38	20.40	21.20
	64QAM	1	0	20.82	20.03	20.46	21.20
		1	25	20.92	20.51	20.67	21.20



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				20825/2507.5	21100/2535	21375/2562.5		
		1	49	20.25	20.53	20.51	21.20	
		25	0	21.02	20.13	20.27	21.20	
		25	13	21.01	20.37	20.38	21.20	
		25	25	20.75	20.58	20.45	21.20	
		50	0	20.88	20.36	20.41	21.20	
15MHz	QPSK	1	0	20.25	19.81	20.16	21.20	
		1	38	20.70	20.45	20.37	21.20	
	QPSK	1	74	19.80	20.29	20.29	21.20	
		36	0	20.58	20.19	20.28	21.20	
		36	18	20.61	20.41	20.40	21.20	
		36	39	20.38	20.56	20.52	21.20	
		75	0	20.44	20.45	20.43	21.20	
		16QAM	1	0	20.50	20.06	20.45	21.20
			1	38	20.97	20.69	20.62	21.20
	1		74	20.00	20.58	20.56	21.20	
	36		0	20.54	20.18	20.28	21.20	
	36		18	20.58	20.39	20.39	21.20	
	36		39	20.34	20.58	20.49	21.20	
	75		0	20.43	20.40	20.40	21.20	
	64QAM	1	0	20.82	20.02	20.47	21.20	
		1	38	20.94	20.53	20.67	21.20	
		1	74	20.25	20.50	20.52	21.20	
		36	0	21.04	20.17	20.26	21.20	
		36	18	20.99	20.38	20.37	21.20	
		36	39	20.76	20.59	20.48	21.20	
		75	0	20.90	20.39	20.42	21.20	
	20MHz	QPSK	1	0	20.22	19.75	20.12	21.20
			1	50	<b>20.69</b>	20.41	20.34	21.20
	QPSK	1	99	19.76	20.25	20.23	21.20	
		50	0	20.55	20.11	20.23	21.20	
		50	25	<b>20.57</b>	20.34	20.34	21.20	
		50	50	20.34	20.52	20.45	21.20	
		100	0	20.44	20.37	20.37	21.20	
		16QAM	1	0	20.46	20.05	20.40	21.20
	1		50	20.92	20.65	20.61	21.20	
	1		99	19.97	20.55	20.52	21.20	
	50		0	20.53	20.13	20.25	21.20	
	50		25	20.55	20.37	20.34	21.20	
	50		50	20.30	20.50	20.47	21.20	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
20850/2510					21100/2535	21350/2560		



		100	0	20.42	20.34	20.37	21.20
	64QAM	1	0	20.77	20.00	20.41	21.20
		1	50	20.89	20.50	20.64	21.20
		1	99	20.23	20.48	20.49	21.20
		50	0	20.99	20.12	20.25	21.20
		50	25	20.97	20.34	20.34	21.20
		50	50	20.73	20.54	20.42	21.20
		100	0	20.86	20.32	20.38	21.20

LTE Band 7							
Hotspot-Div Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	15.32	15.34	15.77	16.20
		1	13	15.74	15.41	15.37	16.20
		1	24	14.75	15.39	15.28	16.20
		12	0	15.64	15.18	15.38	16.20
		12	6	15.59	15.44	15.43	16.20
		12	13	15.41	15.71	15.55	16.20
		25	0	15.52	15.48	15.51	16.20
	16QAM	1	0	15.69	15.04	15.64	16.20
		1	13	15.99	15.68	15.78	16.20
		1	24	14.98	15.71	15.60	16.20
		12	0	15.64	15.21	15.38	16.20
		12	6	15.62	15.44	15.46	16.20
		12	13	15.43	15.73	15.55	16.20
		25	0	15.53	15.46	15.50	16.20
	64QAM	1	0	15.98	15.03	15.46	16.20
		1	13	15.78	15.67	15.55	16.20
		1	24	15.36	15.68	15.45	16.20
		12	0	16.02	15.16	15.40	16.20
		12	6	16.01	15.44	15.43	16.20
		12	13	15.81	15.70	15.55	16.20
		25	0	15.96	15.47	15.51	16.20
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	15.33	15.33	15.79	16.20
		1	25	15.75	15.45	15.39	16.20
		1	49	14.76	15.41	15.30	16.20
		25	0	15.65	15.22	15.40	16.20
		25	13	15.61	15.47	15.46	16.20
		25	25	15.41	15.71	15.59	16.20
		50	0	15.52	15.49	15.52	16.20



	16QAM	1	0	15.68	15.02	15.64	16.20	
		1	25	16.01	15.71	15.76	16.20	
		1	49	14.99	15.69	15.62	16.20	
		25	0	15.62	15.25	15.39	16.20	
		25	13	15.61	15.43	15.47	16.20	
		25	25	15.45	15.77	15.54	16.20	
		50	0	15.52	15.48	15.50	16.20	
	64QAM	1	0	15.98	15.02	15.47	16.20	
		1	25	15.80	15.69	15.55	16.20	
		1	49	15.36	15.65	15.46	16.20	
		25	0	16.04	15.20	15.39	16.20	
		25	13	15.99	15.45	15.42	16.20	
		25	25	15.82	15.71	15.58	16.20	
		50	0	15.98	15.50	15.52	16.20	
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				20825/2507.5	21100/2535	21375/2562.5		
15MHz	QPSK	1	0	15.33	15.31	15.78	16.20	
		1	38	15.75	15.45	15.38	16.20	
		1	74	14.74	15.38	15.27	16.20	
		36	0	15.65	15.19	15.39	16.20	
		36	18	15.59	15.44	15.43	16.20	
		36	39	15.40	15.72	15.56	16.20	
		75	0	15.55	15.46	15.50	16.20	
	16QAM	1	0	15.66	15.05	15.64	16.20	
		1	38	16.00	15.69	15.79	16.20	
		1	74	14.98	15.69	15.60	16.20	
		36	0	15.64	15.24	15.39	16.20	
		36	18	15.61	15.43	15.45	16.20	
		36	39	15.44	15.74	15.56	16.20	
		75	0	15.53	15.46	15.50	16.20	
	64QAM	1	0	15.95	15.04	15.46	16.20	
		1	38	15.79	15.68	15.56	16.20	
		1	74	15.36	15.66	15.45	16.20	
		36	0	16.02	15.19	15.41	16.20	
		36	18	16.00	15.43	15.42	16.20	
		36	39	15.82	15.71	15.56	16.20	
		75	0	15.96	15.47	15.51	16.20	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					20850/2510	21100/2535	21350/2560	
	20MHz	QPSK	1	0	15.30	15.27	<b>15.75</b>	16.20
			1	50	15.74	15.41	15.36	16.20
			1	99	14.72	15.37	15.24	16.20
			50	0	15.62	15.14	15.35	16.20



		50	25	15.57	15.40	15.40	16.20
		50	50	15.37	<b>15.67</b>	15.52	16.20
		100	0	15.52	15.41	15.46	16.20
	16QAM	1	0	15.64	15.01	15.59	16.20
		1	50	15.96	15.67	15.75	16.20
		1	99	14.96	15.66	15.58	16.20
		50	0	15.61	15.20	15.36	16.20
		50	25	15.58	15.41	15.42	16.20
		50	50	15.41	15.69	15.52	16.20
		100	0	15.51	15.42	15.47	16.20
		64QAM	1	0	15.93	15.00	15.41
	1		50	15.75	15.66	15.52	16.20
	1		99	15.34	15.63	15.43	16.20
	50		0	15.99	15.15	15.38	16.20
	50		25	15.97	15.41	15.39	16.20
	50		50	15.79	15.66	15.52	16.20
	100		0	15.94	15.43	15.48	16.20

LTE Band 38							
Receiver on-Div Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	18.65	18.63	18.55	19.90
		1	13	18.95	18.89	18.88	19.90
		1	24	18.60	18.87	18.86	19.90
		12	0	19.00	18.94	18.89	19.90
		12	6	19.03	19.01	18.97	19.90
		12	13	18.99	19.20	19.15	19.90
		25	0	19.03	19.08	19.02	19.90
	16QAM	1	0	18.74	18.75	18.72	19.90
		1	13	18.98	19.18	19.16	19.90
		1	24	18.86	18.74	18.69	19.90
		12	0	19.00	18.96	18.94	19.90
		12	6	18.97	19.04	19.02	19.90
		12	13	19.07	19.08	19.03	19.90
		25	0	19.01	19.05	19.01	19.90
	64QAM	1	0	18.55	18.64	18.57	19.90
		1	13	18.80	18.91	18.85	19.90
		1	24	18.70	18.66	18.57	19.90
		12	0	19.13	18.98	18.96	19.90
		12	6	19.02	18.99	18.94	19.90
		12	13	19.07	19.05	19.00	19.90
		25	0	19.08	19.00	18.96	19.90





Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	18.61	18.63	18.56	19.90
		1	25	18.95	18.95	18.89	19.90
		1	49	18.72	18.57	18.85	19.90
		25	0	18.91	18.98	18.90	19.90
		25	13	18.94	19.01	18.97	19.90
		25	25	18.99	18.95	19.16	19.90
		50	0	18.94	19.02	19.01	19.90
	16QAM	1	0	18.70	18.73	18.72	19.90
		1	25	19.11	18.97	19.17	19.90
		1	49	18.78	18.84	18.69	19.90
		25	0	18.99	18.97	18.95	19.90
		25	13	19.00	18.93	19.01	19.90
		25	25	18.96	19.05	19.04	19.90
		50	0	18.95	18.99	19.01	19.90
	64QAM	1	0	18.57	18.50	18.57	19.90
		1	25	18.86	18.77	18.86	19.90
		1	49	18.54	18.64	18.61	19.90
		25	0	18.98	19.10	18.97	19.90
		25	13	18.95	18.98	18.96	19.90
		25	25	18.98	19.05	19.01	19.90
		50	0	18.96	19.06	18.96	19.90
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
15MHz	QPSK	1	0	18.58	18.59	18.53	19.90
		1	38	18.94	18.91	18.87	19.90
		1	74	18.70	18.56	18.82	19.90
		36	0	18.88	18.93	18.86	19.90
		36	18	18.92	18.97	18.94	19.90
		36	39	18.96	18.90	19.12	19.90
		75	0	18.91	18.97	18.97	19.90
	16QAM	1	0	18.67	18.69	18.67	19.90
		1	38	19.08	18.95	19.13	19.90
		1	74	18.75	18.81	18.67	19.90
		36	0	18.96	18.93	18.92	19.90
		36	18	18.97	18.91	18.98	19.90
		36	39	18.93	19.00	19.00	19.90
		75	0	18.93	18.95	18.98	19.90
	64QAM	1	0	18.55	18.46	18.52	19.90
		1	38	18.82	18.75	18.82	19.90
		1	74	18.48	18.58	18.55	19.90
		36	0	18.93	19.02	18.90	19.90



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	36	18	18.91	18.94	18.90	19.90
		36	39	18.95	19.00	18.97	19.90
		75	0	18.94	19.02	18.93	19.90
		1	0	18.54	18.51	18.48	19.90
		1	50	<b>18.91</b>	18.86	18.82	19.90
		1	99	18.65	18.50	18.75	19.90
		50	0	18.83	18.84	18.79	19.90
	50	25	18.87	18.88	18.87	19.90	
	50	50	18.90	18.82	<b>19.04</b>	19.90	
	100	0	18.86	18.88	18.88	19.90	
	16QAM	1	0	18.62	18.63	18.60	19.90
		1	50	19.03	18.90	19.07	19.90
		1	99	18.70	18.74	18.62	19.90
		50	0	18.90	18.87	18.86	19.90
		50	25	18.91	18.84	18.91	19.90
		50	50	18.88	18.91	18.93	19.90
		100	0	18.88	18.86	18.91	19.90
	64QAM	1	0	18.48	18.40	18.45	19.90
		1	50	18.76	18.70	18.76	19.90
		1	99	18.43	18.51	18.50	19.90
		50	0	18.87	18.96	18.84	19.90
		50	25	18.85	18.87	18.83	19.90
		50	50	18.90	18.91	18.90	19.90
		100	0	18.89	18.93	18.86	19.90

LTE Band 38							
Body SAR-Div Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	23.32	23.39	23.30	24.50
		1	13	23.71	23.71	23.65	24.50
		1	24	23.41	23.36	23.36	24.50
		12	0	22.64	22.68	22.59	23.50
		12	6	22.64	22.69	22.68	23.50
		12	13	22.71	22.64	22.68	23.50
		25	0	22.66	22.67	22.63	23.50
	16QAM	1	0	22.95	22.58	22.50	23.50
		1	13	22.93	22.87	22.89	23.50
		1	24	22.56	22.53	22.52	23.50
		12	0	21.64	21.67	21.64	22.50
		12	6	21.75	21.74	21.76	22.50



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				37800/2575	38000/2595	38200/2615		
	64QAM	12	13	21.74	21.73	21.72	22.50	
		25	0	21.71	21.74	21.71	22.50	
		1	0	21.37	21.41	21.39	22.50	
		1	13	21.78	21.77	21.76	22.50	
		1	24	21.48	21.41	21.37	22.50	
		12	0	20.66	20.64	20.57	21.50	
		12	6	20.73	20.72	20.67	21.50	
		12	13	20.73	20.70	20.70	21.50	
		25	0	20.68	20.67	20.67	21.50	
10MHz	QPSK	1	0	23.29	23.37	23.26	24.50	
		1	25	23.69	23.67	23.62	24.50	
		1	49	23.38	23.31	23.32	24.50	
		25	0	22.61	22.63	22.55	23.50	
		25	13	22.62	22.65	22.63	23.50	
		25	25	22.69	22.62	22.64	23.50	
		50	0	22.66	22.66	22.61	23.50	
	16QAM	1	0	22.92	22.54	22.47	23.50	
		1	25	22.90	22.85	22.86	23.50	
		1	49	22.53	22.51	22.48	23.50	
		25	0	21.62	21.63	21.61	22.50	
		25	13	21.72	21.69	21.72	22.50	
		25	25	21.71	21.68	21.68	22.50	
		50	0	21.69	21.70	21.66	22.50	
	64QAM	1	0	21.34	21.41	21.36	22.50	
		1	25	21.75	21.79	21.73	22.50	
		1	49	21.49	21.39	21.33	22.50	
		25	0	20.64	20.60	20.58	21.50	
		25	13	20.70	20.67	20.63	21.50	
		25	25	20.70	20.65	20.66	21.50	
		50	0	20.66	20.63	20.62	21.50	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					37825/2577.5	38000/2595	38175/2612.5	
	15MHz	QPSK	1	0	23.30	23.34	23.27	24.50
1			38	23.70	23.71	23.63	24.50	
1			74	23.37	23.30	23.31	24.50	
36			0	22.62	22.64	22.56	23.50	
36			18	22.62	22.65	22.63	23.50	
36			39	22.68	22.63	22.65	23.50	
75			0	22.68	22.64	22.60	23.50	
16QAM		1	0	22.89	22.55	22.47	23.50	
		1	38	22.91	22.86	22.87	23.50	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up		
				37850/2580	38000/2595	38150/2610			
		1	74	22.53	22.49	22.48	23.50		
		36	0	21.62	21.66	21.62	22.50		
		36	18	21.71	21.68	21.71	22.50		
		36	39	21.72	21.69	21.69	22.50		
		75	0	21.69	21.70	21.66	22.50		
		1	0	21.31	21.38	21.36	22.50		
		1	38	21.76	21.76	21.74	22.50		
	64QAM	1	74	21.49	21.40	21.37	22.50		
		36	0	20.66	20.67	20.59	21.50		
		36	18	20.70	20.68	20.65	21.50		
		36	39	20.71	20.66	20.67	21.50		
		75	0	20.66	20.63	20.62	21.50		
		20MHz	QPSK	1	0	23.27	23.30	23.24	24.50
				1	50	<b>23.69</b>	23.67	23.61	24.50
1	99			23.35	23.29	23.28	24.50		
50	0			22.59	22.59	22.52	23.50		
50	25			22.60	22.61	22.60	23.50		
50	50			<b>22.65</b>	22.58	22.61	23.50		
100	0			22.65	22.59	22.56	23.50		
16QAM	1		0	22.47	22.51	22.42	23.50		
	1		50	22.87	22.84	22.83	23.50		
	1		99	22.51	22.46	22.46	23.50		
	50		0	21.59	21.62	21.59	22.50		
	50		25	21.68	21.66	21.68	22.50		
	50		50	21.69	21.64	21.65	22.50		
	100		0	21.67	21.66	21.63	22.50		
64QAM	1	0	21.29	21.34	21.31	22.50			
	1	50	21.72	21.74	21.70	22.50			
	1	99	21.43	21.34	21.31	22.50			
	50	0	20.61	20.59	20.52	21.50			
	50	25	20.66	20.64	20.59	21.50			
	50	50	20.68	20.61	20.63	21.50			
	100	0	20.64	20.59	20.59	21.50			

LTE Band 38							
Hotspot-Div Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	18.41	18.46	18.33	19.50
		1	13	18.76	18.79	18.75	19.50
		1	24	18.43	18.41	18.39	19.50



		12	0	18.67	18.73	18.63	19.50	
		12	6	18.70	18.72	18.72	19.50	
		12	13	18.70	18.69	18.69	19.50	
		25	0	18.66	18.71	18.69	19.50	
	16QAM	1	0	18.64	18.65	18.60	19.50	
		1	13	18.99	18.99	18.92	19.50	
		1	24	18.62	18.66	18.61	19.50	
		12	0	18.73	18.71	18.68	19.50	
		12	6	18.77	18.76	18.76	19.50	
		12	13	18.71	18.76	18.74	19.50	
		25	0	18.69	18.73	18.71	19.50	
		64QAM	1	0	18.45	18.48	18.42	19.50
	1		13	18.86	18.80	18.73	19.50	
	1		24	18.51	18.46	18.42	19.50	
	12		0	18.68	18.68	18.66	19.50	
	12		6	18.74	18.76	18.73	19.50	
	12		13	18.70	18.73	18.71	19.50	
	25		0	18.71	18.73	18.72	19.50	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					37800/2575	38000/2595	38200/2615	
	10MHz	QPSK	1	0	18.38	18.44	18.29	19.50
1			25	18.74	18.75	18.72	19.50	
1			49	18.40	18.36	18.35	19.50	
25			0	18.64	18.68	18.59	19.50	
25			13	18.68	18.68	18.67	19.50	
25			25	18.68	18.67	18.65	19.50	
50			0	18.64	18.70	18.67	19.50	
16QAM		1	0	18.61	18.61	18.57	19.50	
		1	25	18.96	18.97	18.89	19.50	
		1	49	18.59	18.64	18.57	19.50	
		25	0	18.71	18.67	18.65	19.50	
		25	13	18.74	18.71	18.72	19.50	
		25	25	18.68	18.71	18.70	19.50	
		50	0	18.67	18.69	18.66	19.50	
64QAM		1	0	18.42	18.44	18.39	19.50	
		1	25	18.83	18.78	18.70	19.50	
		1	49	18.48	18.44	18.38	19.50	
		25	0	18.66	18.64	18.63	19.50	
		25	13	18.71	18.71	18.69	19.50	
		25	25	18.67	18.68	18.67	19.50	
		50	0	18.69	18.69	18.67	19.50	



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	18.39	18.43	18.31	19.50
		1	38	18.75	18.79	18.74	19.50
		1	74	18.41	18.38	18.37	19.50
		36	0	18.65	18.72	18.61	19.50
		36	18	18.70	18.71	18.70	19.50
		36	39	18.68	18.67	18.69	19.50
		75	0	18.64	18.71	18.68	19.50
	16QAM	1	0	18.60	18.59	18.57	19.50
		1	38	18.98	19.00	18.87	19.50
		1	74	18.60	18.62	18.59	19.50
		36	0	18.69	18.71	18.66	19.50
		36	18	18.73	18.70	18.73	19.50
		36	39	18.70	18.75	18.69	19.50
		75	0	18.66	18.71	18.66	19.50
	64QAM	1	0	18.42	18.43	18.40	19.50
		1	38	18.85	18.80	18.70	19.50
		1	74	18.48	18.41	18.39	19.50
		36	0	18.68	18.68	18.62	19.50
		36	18	18.69	18.72	18.68	19.50
		36	39	18.68	18.69	18.70	19.50
		75	0	18.71	18.72	18.68	19.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
20MHz	QPSK	1	0	18.36	18.37	18.27	19.50
		1	50	18.74	<b>18.75</b>	18.71	19.50
		1	99	18.37	18.34	18.31	19.50
		50	0	18.62	18.63	18.56	19.50
		50	25	<b>18.66</b>	18.64	18.64	19.50
		50	50	18.64	18.63	18.62	19.50
		100	0	18.64	18.63	18.62	19.50
	16QAM	1	0	18.56	18.58	18.52	19.50
		1	50	18.93	18.96	18.86	19.50
		1	99	18.57	18.59	18.55	19.50
		50	0	18.68	18.66	18.63	19.50
		50	25	18.70	18.68	18.68	19.50
		50	50	18.66	18.67	18.67	19.50
		100	0	18.65	18.65	18.63	19.50
	64QAM	1	0	18.37	18.41	18.34	19.50
		1	50	18.80	18.77	18.67	19.50
		1	99	18.46	18.39	18.36	19.50
		50	0	18.63	18.63	18.61	19.50



		50	25	18.67	18.68	18.65	19.50
		50	50	18.65	18.64	18.64	19.50
		100	0	18.67	18.65	18.64	19.50

LTE Band 66							
Receiver on-Div Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				131979/1710.7	132322/1745	132665/1779.3	
1.4MHz	QPSK	1	0	18.65	18.85	18.81	19.80
		1	2	19.03	19.04	19.19	19.80
		1	5	18.58	18.66	18.80	19.80
		3	0	18.94	19.09	19.14	19.80
		3	2	18.95	19.00	19.12	19.80
		3	3	18.96	18.85	19.11	19.80
		6	0	18.93	19.02	19.18	19.80
	16QAM	1	0	19.06	19.15	19.20	19.80
		1	2	19.40	19.38	19.51	19.80
		1	5	18.90	19.03	19.11	19.80
		3	0	18.98	19.10	19.20	19.80
		3	2	19.01	19.04	19.16	19.80
		3	3	19.01	18.92	19.14	19.80
		6	0	19.00	19.03	19.19	19.80
	64QAM	1	0	18.92	18.92	19.03	19.80
		1	2	19.26	19.16	19.30	19.80
		1	5	18.83	18.88	18.88	19.80
		3	0	18.98	19.08	19.20	19.80
		3	2	19.00	19.04	19.18	19.80
		3	3	19.01	18.90	19.10	19.80
		6	0	18.99	19.03	19.15	19.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
3MHz	QPSK	1	0	18.67	18.89	18.84	19.80
		1	7	19.03	19.06	19.23	19.80
		1	14	18.61	18.71	18.84	19.80
		8	0	18.98	19.16	19.21	19.80
		8	4	18.98	19.08	19.18	19.80
		8	7	19.00	18.90	19.15	19.80
		15	0	18.95	19.06	19.21	19.80
	16QAM	1	0	19.09	19.17	19.23	19.80
		1	7	19.43	19.40	19.55	19.80
		1	14	18.92	19.07	19.14	19.80
		8	0	19.03	19.14	19.23	19.80
		8	4	19.06	19.11	19.22	19.80
		131987/1711.5	132322/1745	132657/1778.5			



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up	
				131997/1712.5	132322/1745	132647/1777.5		
	64QAM	8	7	19.05	18.98	19.21	19.80	
		15	0	19.03	19.07	19.22	19.80	
		1	0	18.95	18.94	19.06	19.80	
		1	7	19.29	19.18	19.34	19.80	
		1	14	18.85	18.92	18.91	19.80	
		8	0	19.03	19.12	19.23	19.80	
		8	4	19.05	19.11	19.24	19.80	
		8	7	19.05	18.96	19.17	19.80	
		15	0	19.01	19.09	19.20	19.80	
5MHz	QPSK	1	0	18.64	18.87	18.80	19.80	
		1	13	19.01	19.02	19.20	19.80	
		1	24	18.58	18.66	18.80	19.80	
		12	0	18.95	19.11	19.17	19.80	
		12	6	18.96	19.04	19.13	19.80	
		12	13	18.98	18.88	19.11	19.80	
		25	0	18.93	19.05	19.19	19.80	
	16QAM	1	0	19.06	19.13	19.20	19.80	
		1	13	19.40	19.38	19.52	19.80	
		1	24	18.89	19.05	19.10	19.80	
		12	0	19.01	19.10	19.20	19.80	
		12	6	19.03	19.06	19.18	19.80	
		12	13	19.02	18.93	19.17	19.80	
		25	0	19.01	19.03	19.17	19.80	
	64QAM	1	0	18.92	18.90	19.03	19.80	
		1	13	19.26	19.16	19.31	19.80	
		1	24	18.82	18.90	18.87	19.80	
		12	0	19.01	19.08	19.20	19.80	
		12	6	19.02	19.06	19.20	19.80	
		12	13	19.02	18.91	19.13	19.80	
		25	0	18.99	19.05	19.15	19.80	
	Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
					132022/1715	132322/1745	132622/1775	
	10MHz	QPSK	1	0	18.65	18.86	18.82	19.80
1			25	19.02	19.06	19.22	19.80	
1			49	18.59	18.68	18.82	19.80	
25			0	18.96	19.15	19.19	19.80	
25			13	18.98	19.07	19.16	19.80	
25			25	18.98	18.88	19.15	19.80	
50			0	18.93	19.06	19.20	19.80	
16QAM		1	0	19.05	19.11	19.20	19.80	
		1	25	19.42	19.41	19.50	19.80	





		1	49	18.90	19.03	19.12	19.80
		25	0	18.99	19.14	19.21	19.80
		25	13	19.02	19.05	19.19	19.80
		25	25	19.04	18.97	19.16	19.80
		50	0	19.00	19.05	19.17	19.80
	64QAM	1	0	18.92	18.89	19.04	19.80
		1	25	19.28	19.18	19.31	19.80
		1	49	18.82	18.87	18.88	19.80
		25	0	19.03	19.12	19.19	19.80
		25	13	19.00	19.07	19.19	19.80
		25	25	19.03	18.92	19.16	19.80
		50	0	19.01	19.08	19.16	19.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				132047/1717.5	132322/1745	132597/1772.5	
15MHz	QPSK	1	0	18.65	18.84	18.81	19.80
		1	38	19.02	19.06	19.21	19.80
		1	74	18.57	18.65	18.79	19.80
		36	0	18.96	19.12	19.18	19.80
		36	18	18.96	19.04	19.13	19.80
		36	39	18.97	18.89	19.12	19.80
		75	0	18.96	19.03	19.18	19.80
	16QAM	1	0	19.03	19.14	19.20	19.80
		1	38	19.41	19.39	19.53	19.80
		1	74	18.89	19.03	19.10	19.80
		36	0	19.01	19.13	19.21	19.80
		36	18	19.02	19.05	19.17	19.80
		36	39	19.03	18.94	19.18	19.80
		75	0	19.01	19.03	19.17	19.80
	64QAM	1	0	18.89	18.91	19.03	19.80
		1	38	19.27	19.17	19.32	19.80
		1	74	18.82	18.88	18.87	19.80
		36	0	19.01	19.11	19.21	19.80
		36	18	19.01	19.05	19.19	19.80
		36	39	19.03	18.92	19.14	19.80
		75	0	18.99	19.05	19.15	19.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				132072/1720	132322/1745	132572/1770	
20MHz	QPSK	1	0	18.62	18.80	18.78	19.80
		1	50	19.01	19.02	<b>19.19</b>	19.80
		1	99	18.55	18.64	18.76	19.80
		50	0	18.93	19.07	<b>19.14</b>	19.80
		50	25	18.94	19.00	19.10	19.80
		50	50	18.93	18.84	19.08	19.80



	16QAM	100	0	18.93	18.98	19.14	19.80
		1	0	19.01	19.10	19.15	19.80
		1	50	19.37	19.37	19.49	19.80
		1	99	18.87	19.00	19.08	19.80
		50	0	18.98	19.09	19.18	19.80
		50	25	18.99	19.03	19.14	19.80
		50	50	19.00	18.89	19.14	19.80
		100	0	18.99	18.99	19.14	19.80
	64QAM	1	0	18.87	18.87	18.98	19.80
		1	50	19.23	19.15	19.28	19.80
		1	99	18.80	18.85	18.85	19.80
		50	0	18.98	19.07	19.18	19.80
		50	25	18.98	19.03	19.16	19.80
		50	50	19.00	18.87	19.10	19.80
		100	0	18.97	19.01	19.12	19.80

LTE Band 66							
Body SAR-Div Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				131979/1710.7	132322/1745	132665/1779.3	
1.4MHz	QPSK	1	0	20.97	20.98	21.02	22.10
		1	2	21.30	21.24	21.41	22.10
		1	5	20.83	20.86	21.01	22.10
		3	0	21.22	21.32	21.38	22.10
		3	2	21.24	21.27	21.40	22.10
		3	3	21.26	21.16	21.38	22.10
		6	0	21.24	21.23	21.39	22.10
	16QAM	1	0	21.32	21.21	21.37	22.10
		1	2	21.66	21.46	21.70	22.10
		1	5	21.15	21.12	21.26	22.10
		3	0	21.23	21.29	21.42	22.10
		3	2	21.32	21.23	21.41	22.10
		3	3	21.23	21.15	21.36	22.10
		6	0	21.26	21.22	21.38	22.10
	64QAM	1	0	21.22	21.17	21.23	22.10
		1	2	21.53	21.40	21.62	22.10
		1	5	21.05	21.10	21.10	22.10
		3	0	21.33	21.38	21.52	22.10
		3	2	21.38	21.37	21.54	22.10
		3	3	21.43	21.31	21.52	22.10
		6	0	21.02	21.01	21.22	21.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				1319871711.5	132322/1745	132657/1778.5	



3MHz	QPSK	1	0	20.99	21.02	21.05	22.10
		1	7	21.30	21.26	21.45	22.10
		1	14	20.86	20.91	21.05	22.10
		8	0	21.26	21.39	21.45	22.10
		8	4	21.27	21.35	21.46	22.10
		8	7	21.30	21.21	21.42	22.10
		15	0	21.25	21.27	21.42	22.10
	16QAM	1	0	21.71	21.23	21.40	22.10
		1	7	21.69	21.48	21.74	22.10
		1	14	21.17	21.16	21.29	22.10
		8	0	21.28	21.33	21.45	22.10
		8	4	21.37	21.30	21.47	22.10
		8	7	21.27	21.21	21.43	22.10
		15	0	21.29	21.26	21.41	22.10
	64QAM	1	0	21.25	21.19	21.26	22.10
		1	7	21.56	21.40	21.64	22.10
		1	14	21.07	21.09	21.13	22.10
		8	0	21.04	21.11	21.24	21.80
		8	4	21.09	21.10	21.26	21.80
		8	7	21.13	21.03	21.25	21.80
		15	0	21.05	21.05	21.25	21.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				131997/1712.5	132322/1745	132647/1777.5	
5MHz	QPSK	1	0	20.96	21.00	21.01	22.10
		1	13	21.28	21.22	21.42	22.10
		1	24	20.83	20.86	21.01	22.10
		12	0	21.23	21.34	21.41	22.10
		12	6	21.25	21.31	21.41	22.10
		12	13	21.28	21.19	21.38	22.10
		25	0	21.25	21.26	21.40	22.10
	16QAM	1	0	21.68	21.19	21.37	22.10
		1	13	21.66	21.46	21.71	22.10
		1	24	21.14	21.14	21.25	22.10
		12	0	21.26	21.29	21.42	22.10
		12	6	21.34	21.25	21.43	22.10
		12	13	21.24	21.16	21.39	22.10
		25	0	21.27	21.22	21.36	22.10
	64QAM	1	0	21.22	21.19	21.23	22.10
		1	13	21.53	21.42	21.61	22.10
		1	24	21.08	21.07	21.09	22.10
		12	0	21.02	21.07	21.25	21.80
		12	6	21.06	21.05	21.22	21.80
		12	13	21.10	20.98	21.21	21.80



Bandwidth	Modulation	25	0	21.03	21.01	21.20	21.80
		RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				132022/1715	132322/1745	132622/1775	
10MHz	QPSK	1	0	20.98	21.01	21.04	22.10
		1	25	21.31	21.27	21.46	22.10
		1	49	20.85	20.90	21.04	22.10
		25	0	21.26	21.39	21.45	22.10
		25	13	21.28	21.36	21.45	22.10
		25	25	21.30	21.23	21.43	22.10
		50	0	21.29	21.28	21.44	22.10
	16QAM	1	0	21.70	21.22	21.39	22.10
		1	25	21.69	21.50	21.74	22.10
		1	49	21.17	21.16	21.28	22.10
		25	0	21.29	21.34	21.46	22.10
		25	13	21.36	21.29	21.46	22.10
		25	25	21.27	21.21	21.43	22.10
		50	0	21.30	21.27	21.40	22.10
	64QAM	1	0	21.24	21.18	21.25	22.10
		1	25	21.56	21.42	21.64	22.10
		1	49	21.07	21.09	21.12	22.10
		25	0	21.05	21.12	21.25	21.80
		25	13	21.08	21.09	21.25	21.80
		25	25	21.13	21.03	21.25	21.80
		50	0	21.06	21.06	21.24	21.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				132047/1717.5	132322/1745	132597/1772.5	
		15MHz	QPSK	1	0	20.97	20.97
1	38			21.29	21.26	21.43	22.10
1	74			20.82	20.85	21.00	22.10
36	0			21.24	21.35	21.42	22.10
36	18			21.25	21.31	21.41	22.10
36	39			21.27	21.20	21.39	22.10
75	0			21.27	21.24	21.39	22.10
16QAM	1		0	21.65	21.20	21.37	22.10
	1		38	21.67	21.47	21.72	22.10
	1		74	21.14	21.12	21.25	22.10
	36		0	21.26	21.32	21.43	22.10
	36		18	21.33	21.24	21.42	22.10
	36		39	21.25	21.17	21.40	22.10
	75		0	21.27	21.22	21.36	22.10
64QAM	1		0	21.19	21.16	21.23	22.10
	1		38	21.54	21.39	21.62	22.10
	1		74	21.08	21.08	21.13	22.10



Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				132072/1720	132322/1745	132572/1770	
20MHz	QPSK	36	0	21.04	21.14	21.26	21.80
		36	18	21.06	21.06	21.24	21.80
		36	39	21.11	20.99	21.22	21.80
		75	0	21.03	21.01	21.20	21.80
		1	0	20.94	20.93	20.99	22.10
		1	50	21.28	21.22	<b>21.41</b>	22.10
		1	99	20.80	20.84	20.97	22.10
	16QAM	50	0	21.21	21.30	<b>21.38</b>	22.10
		50	25	21.23	21.27	21.37	22.10
		50	50	21.24	21.15	21.35	22.10
		100	0	21.24	21.19	21.35	22.10
		1	0	21.27	21.16	21.32	22.10
		1	50	21.63	21.45	21.68	22.10
		1	99	21.12	21.09	21.23	22.10
	64QAM	50	0	21.23	21.28	21.40	22.10
		50	25	21.30	21.22	21.39	22.10
		50	50	21.22	21.12	21.36	22.10
		100	0	21.25	21.18	21.33	22.10
		1	0	21.17	21.12	21.18	22.10
		1	50	21.50	21.37	21.58	22.10
		1	99	21.02	21.02	21.07	22.10
	50	0	20.99	21.06	21.19	21.80	
	50	25	21.02	21.02	21.18	21.80	
	50	50	21.08	20.94	21.18	21.80	
	100	0	21.01	20.97	21.17	21.80	

LTE Band 66							
Hotspot-Div Ant2				Maximum Output Power (dBm)			Tune-up
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				131979/1710.7	132322/1745	132665/1779.3	
1.4MHz	QPSK	1	0	16.28	16.59	16.69	17.50
		1	2	16.63	16.65	16.77	17.50
		1	5	16.20	16.28	16.37	17.50
		3	0	16.57	16.71	16.73	17.50
		3	2	16.59	16.61	16.74	17.50
		3	3	16.63	16.48	16.73	17.50
	16QAM	6	0	16.56	16.63	16.76	17.50
		1	0	16.63	16.69	16.76	17.50
		1	2	17.00	16.94	17.09	17.50
		1	5	16.49	16.58	16.68	17.50
		3	0	16.56	16.68	16.82	17.50



		3	2	16.60	16.63	16.78	17.50
		3	3	16.60	16.48	16.72	17.50
		6	0	16.59	16.61	16.80	17.50
	64QAM	1	0	16.58	16.56	16.56	17.50
		1	2	16.92	16.78	16.89	17.50
		1	5	16.46	16.43	16.43	17.50
		3	0	16.55	16.68	16.81	17.50
		3	2	16.58	16.63	16.80	17.50
		3	3	16.60	16.49	16.73	17.50
		6	0	16.61	16.59	16.78	17.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				1319871711.5	132322/1745	132657/1778.5	
3MHz	QPSK	1	0	16.28	16.60	16.70	17.50
		1	7	16.62	16.67	16.80	17.50
		1	14	16.21	16.30	16.39	17.50
		8	0	16.59	16.77	16.78	17.50
		8	4	16.62	16.68	16.78	17.50
		8	7	16.65	16.51	16.77	17.50
		15	0	16.56	16.67	16.78	17.50
	16QAM	1	0	16.62	16.65	16.76	17.50
		1	7	17.02	16.97	17.08	17.50
		1	14	16.49	16.58	16.69	17.50
		8	0	16.57	16.72	16.83	17.50
		8	4	16.61	16.64	16.81	17.50
		8	7	16.63	16.53	16.74	17.50
		15	0	16.59	16.63	16.78	17.50
	64QAM	1	0	16.58	16.53	16.57	17.50
		1	7	16.94	16.80	16.90	17.50
		1	14	16.45	16.42	16.43	17.50
		8	0	16.60	16.72	16.80	17.50
		8	4	16.58	16.66	16.81	17.50
		8	7	16.62	16.51	16.79	17.50
		15	0	16.63	16.64	16.79	17.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				131997/1712.5	132322/1745	132647/1777.5	
5MHz	QPSK	1	0	16.30	16.63	16.72	17.50
		1	13	16.63	16.67	16.81	17.50
		1	24	16.23	16.33	16.41	17.50
		12	0	16.61	16.78	16.80	17.50
		12	6	16.62	16.69	16.80	17.50
		12	13	16.67	16.53	16.77	17.50
		25	0	16.58	16.67	16.79	17.50
	16QAM	1	0	16.66	16.71	16.79	17.50



		1	13	17.03	16.96	17.13	17.50
		1	24	16.51	16.62	16.71	17.50
		12	0	16.61	16.72	16.85	17.50
		12	6	16.65	16.70	16.84	17.50
		12	13	16.64	16.54	16.79	17.50
		25	0	16.62	16.65	16.83	17.50
	64QAM	1	0	16.61	16.58	16.59	17.50
		1	13	16.95	16.80	16.93	17.50
		1	24	16.48	16.47	16.46	17.50
		12	0	16.60	16.72	16.84	17.50
		12	6	16.63	16.70	16.86	17.50
		12	13	16.64	16.55	16.80	17.50
		25	0	16.63	16.65	16.83	17.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				132022/1715	132322/1745	132622/1775	
10MHz	QPSK	1	0	16.27	16.61	16.68	17.50
		1	25	16.61	16.63	16.78	17.50
		1	49	16.20	16.28	16.37	17.50
		25	0	16.58	16.73	16.76	17.50
		25	13	16.60	16.65	16.75	17.50
		25	25	16.65	16.51	16.73	17.50
		50	0	16.56	16.66	16.77	17.50
	16QAM	1	0	16.63	16.67	16.76	17.50
		1	25	17.00	16.94	17.10	17.50
		1	49	16.48	16.60	16.67	17.50
		25	0	16.59	16.68	16.82	17.50
		25	13	16.62	16.65	16.80	17.50
		25	25	16.61	16.49	16.75	17.50
		50	0	16.60	16.61	16.78	17.50
	64QAM	1	0	16.58	16.54	16.56	17.50
		1	25	16.92	16.78	16.90	17.50
		1	49	16.45	16.45	16.42	17.50
		25	0	16.58	16.68	16.81	17.50
		25	13	16.60	16.65	16.82	17.50
		25	25	16.61	16.50	16.76	17.50
		50	0	16.61	16.61	16.78	17.50
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up
				132047/1717.5	132322/1745	132597/1772.5	
15MHz	QPSK	1	0	16.28	16.58	16.69	17.50
		1	38	16.62	16.67	16.79	17.50
		1	74	16.19	16.27	16.36	17.50
		36	0	16.59	16.74	16.77	17.50
		36	18	16.60	16.65	16.75	17.50



		36	39	16.64	16.52	16.74	17.50	
		75	0	16.59	16.64	16.76	17.50	
	16QAM	1	0	16.60	16.68	16.76	17.50	
		1	38	17.01	16.95	17.11	17.50	
		1	74	16.48	16.58	16.67	17.50	
		36	0	16.59	16.71	16.83	17.50	
		36	18	16.61	16.64	16.79	17.50	
		36	39	16.62	16.50	16.76	17.50	
		75	0	16.60	16.61	16.78	17.50	
		64QAM	1	0	16.55	16.55	16.56	17.50
	1		38	16.93	16.79	16.91	17.50	
	1		74	16.45	16.43	16.42	17.50	
	36		0	16.58	16.71	16.82	17.50	
	36		18	16.59	16.64	16.81	17.50	
	36		39	16.62	16.51	16.77	17.50	
	75		0	16.61	16.61	16.78	17.50	
	<b>Bandwidth</b>	<b>Modulation</b>	<b>RB allocation</b>	<b>offset</b>	<b>Channel/Frequency(MHz)</b>			<b>Tune-up</b>
					132072/1720	132322/1745	132572/1770	
<b>20MHz</b>	QPSK	1	0	16.25	16.54	16.66	17.50	
		1	50	16.61	16.63	<b>16.77</b>	17.50	
		1	99	16.17	16.26	16.33	17.50	
		50	0	16.56	16.69	<b>16.73</b>	17.50	
		50	25	16.58	16.61	16.72	17.50	
		50	50	16.61	16.47	16.70	17.50	
		100	0	16.56	16.59	16.72	17.50	
	16QAM	1	0	16.58	16.64	16.71	17.50	
		1	50	16.97	16.93	17.07	17.50	
		1	99	16.46	16.55	16.65	17.50	
		50	0	16.56	16.67	16.80	17.50	
		50	25	16.58	16.62	16.76	17.50	
		50	50	16.59	16.45	16.72	17.50	
		100	0	16.58	16.57	16.75	17.50	
	64QAM	1	0	16.53	16.51	16.51	17.50	
		1	50	16.89	16.77	16.87	17.50	
		1	99	16.43	16.40	16.40	17.50	
		50	0	16.55	16.67	16.79	17.50	
		50	25	16.56	16.62	16.78	17.50	
		50	50	16.59	16.46	16.73	17.50	
		100	0	16.59	16.57	16.75	17.50	



### 9.4 WLAN Mode

Wi-Fi 2.4G Receiver on Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11b (1M)	1/2412	15.50	<b>14.18</b>
	6/2437	15.50	14.01
	11/2462	15.50	14.09
802.11g (6M)	1/2412	15.60	14.01
	6/2437	15.50	13.89
	11/2462	14.10	12.39
802.11n-HT20 (MCS0)	1/2412	15.60	13.90
	6/2437	15.50	13.78
	11/2462	14.10	12.29

Wi-Fi 2.4G Receiver off Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11b (1M)	1/2412	20.00	<b>18.71</b>
	6/2437	20.00	18.45
	11/2462	20.00	18.53
802.11g (6M)	1/2412	16.10	14.48
	6/2437	19.50	17.77
	11/2462	14.10	12.45
802.11n-HT20 (MCS0)	1/2412	16.10	14.51
	6/2437	19.50	17.63
	11/2462	14.10	12.29

Wi-Fi 2.4G Hotspot Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11b (1M)	1/2412	18.00	16.80
	6/2437	18.00	16.74
	11/2462	18.00	16.68
802.11g (6M)	1/2412	16.10	14.48
	6/2437	18.00	16.60
	11/2462	14.10	12.45
802.11n-HT20 (MCS0)	1/2412	16.10	14.51
	6/2437	18.00	16.50
	11/2462	14.10	12.29



Wi-Fi 5G (U-NII-1) Receiver on Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	36/5180	11.00	9.61
	40/5200	11.00	9.52
	44/5220	11.00	9.48
	48/5240	11.00	9.44
802.11n-HT20 (MCS0)	36/5180	11.00	9.47
	40/5200	11.00	9.36
	44/5220	11.00	9.39
	48/5240	11.00	9.36
802.11n-HT40 (MCS0)	38/5190	11.00	9.35
	46/5230	11.00	9.37
802.11ac-VHT20 (MCS0)	36/5180	11.00	9.50
	40/5200	11.00	9.47
	44/5220	11.00	9.42
	48/5240	11.00	9.32
802.11ac-VHT40 (MCS0)	38/5190	11.00	9.35
	46/5230	11.00	9.45
802.11ac-VHT80 (MCS0)	42/5210	11.00	<b>9.06</b>

Wi-Fi 5G (U-NII-1) Receiver off Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	36/5180	14.60	11.23
	40/5200	17.00	15.91
	44/5220	17.00	15.86
	48/5240	17.00	15.81
802.11n-HT20 (MCS0)	36/5180	14.50	11.11
	40/5200	17.00	15.74
	44/5220	17.00	15.78
	48/5240	17.00	15.61
802.11n-HT40 (MCS0)	38/5190	13.10	9.36
	46/5230	17.00	<b>15.48</b>
802.11ac-VHT20 (MCS0)	36/5180	16.00	14.71
	40/5200	17.00	15.63
	44/5220	17.00	15.76
	48/5240	17.00	15.68
802.11ac-VHT40	38/5190	12.50	10.97



(MCS0)	46/5230	17.00	15.62
802.11ac-VHT80 (MCS0)	42/5210	11.50	9.57

Wi-Fi 5G (U-NII-1) Hotspot Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	36/5180	14.60	11.23
	40/5200	15.10	<b>13.81</b>
	44/5220	15.10	13.58
	48/5240	15.10	13.62
802.11n-HT20 (MCS0)	36/5180	14.50	11.11
	40/5200	15.00	13.51
	44/5220	15.00	13.48
	48/5240	15.00	13.46
802.11n-HT40 (MCS0)	38/5190	13.10	9.36
	46/5230	15.00	13.51
802.11ac-VHT20 (MCS0)	36/5180	14.50	13.13
	40/5200	15.00	13.66
	44/5220	15.00	13.53
	48/5240	15.00	13.56
802.11ac-VHT40 (MCS0)	38/5190	13.10	11.43
	46/5230	15.00	13.54
802.11ac-VHT80 (MCS0)	42/5210	11.60	9.50

Wi-Fi 5G (U-NII-2A) Receiver on Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	52/5260	11.00	9.52
	56/5280	11.00	9.57
	60/5300	11.00	9.51
	64/5320	11.00	9.53
802.11n-HT20 (MCS0)	52/5260	11.00	9.45
	56/5280	11.00	9.45
	60/5300	11.00	9.36
	64/5320	11.00	9.34
802.11n-HT40 (MCS0)	54/5270	11.00	9.31
	62/5310	11.00	9.35
802.11ac-VHT20	52/5260	11.00	9.40



(MCS0)	56/5280	11.00	9.37
	60/5300	11.00	9.39
	64/5320	11.00	9.33
802.11ac-VHT40 (MCS0)	54/5270	11.00	9.32
	62/5310	11.00	9.19
802.11ac-VHT80 (MCS0)	58/5290	11.00	<b>9.01</b>

Wi-Fi 5G (U-NII-2A) Receiver off Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	52/5260	17.00	15.85
	56/5280	17.00	15.63
	60/5300	17.00	15.80
	64/5320	14.60	11.14
802.11n-HT20 (MCS0)	52/5260	17.00	15.73
	56/5280	17.00	15.67
	60/5300	17.00	15.63
	64/5320	14.50	10.80
802.11n-HT40 (MCS0)	54/5270	17.00	<b>15.42</b>
	62/5310	12.10	8.25
802.11ac-VHT20 (MCS0)	52/5260	17.00	15.70
	56/5280	17.00	15.62
	60/5300	17.00	15.58
	64/5320	15.00	13.57
802.11ac-VHT40 (MCS0)	54/5270	17.00	15.46
	62/5310	11.50	9.78
802.11ac-VHT80 (MCS0)	58/5290	11.60	7.28

Wi-Fi 5G (U-NII-2A) Hotspot Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	52/5260	15.10	13.60
	56/5280	15.10	<b>13.63</b>
	60/5300	15.10	13.57
	64/5320	14.60	11.14
802.11n-HT20 (MCS0)	52/5260	15.00	13.43
	56/5280	15.00	13.50



	60/5300	15.00	13.48
	64/5320	14.50	10.80
802.11n-HT40 (MCS0)	54/5270	15.00	13.44
	62/5310	12.10	8.25
802.11ac-VHT20 (MCS0)	52/5260	15.00	13.50
	56/5280	15.00	13.43
	60/5300	15.00	13.50
	64/5320	14.50	12.85
802.11ac-VHT40 (MCS0)	54/5270	15.00	13.33
	62/5310	12.10	10.20
802.11ac-VHT80 (MCS0)	58/5290	11.60	7.28

Wi-Fi 5G (U-NII-2C) Receiver on Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	100/5500	11.00	9.13
	108/5540	11.00	9.15
	116/5580	11.00	9.16
	132/5660	11.00	9.19
	140/5700	11.00	9.14
802.11n-HT20 (MCS0)	100/5500	11.00	8.84
	116/5580	11.00	9.15
	132/5660	11.00	9.15
	140/5700	11.00	9.18
802.11n-HT40 (MCS0)	102/5510	11.00	8.84
	110/5550	11.00	9.04
	118/5590	11.00	9.13
	134/5670	11.00	9.06
802.11ac-VHT20 (MCS0)	100/5500	11.00	8.82
	116/5580	11.00	9.08
	132/5660	11.00	9.12
	140/5700	11.00	9.12
802.11ac-VHT40 (MCS0)	102/5510	11.00	8.82
	110/5550	11.00	9.01
	118/5590	11.00	9.04
	134/5670	11.00	9.07
802.11ac-VHT80 (MCS0)	106/5530	11.00	8.63
	122/5610	11.00	<b>8.81</b>



Wi-Fi 5G (U-NII-2C) Receiver off Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	100/5500	16.60	14.71
	108/5540	17.00	15.48
	116/5580	17.00	15.52
	132/5660	17.00	15.32
	140/5700	14.50	12.98
802.11n-HT20 (MCS0)	100/5500	16.50	14.75
	116/5580	17.00	15.35
	132/5660	17.00	15.36
	140/5700	14.60	12.64
802.11n-HT40 (MCS0)	102/5510	15.10	11.05
	110/5550	17.00	15.26
	118/5590	17.00	<b>15.31</b>
	134/5670	15.60	13.76
802.11ac-VHT20 (MCS0)	100/5500	16.50	14.60
	116/5580	17.00	15.42
	132/5660	17.00	15.47
	140/5700	14.50	12.83
802.11ac-VHT40 (MCS0)	102/5510	14.50	12.37
	110/5550	17.00	15.14
	118/5590	17.00	15.13
	134/5670	15.50	13.62
802.11ac-VHT80 (MCS0)	106/5530	12.00	9.67
	122/5610	14.50	12.42

Wi-Fi 5G (U-NII-2C) Hotspot Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	100/5500	15.10	13.48
	108/5540	15.10	13.51
	116/5580	15.10	13.44
	132/5660	15.10	13.46
	140/5700	14.60	13.13
802.11n-HT20 (MCS0)	100/5500	15.00	13.28
	116/5580	15.00	13.35



	132/5660	15.00	13.37
	140/5700	14.50	12.99
802.11n-HT40 (MCS0)	102/5510	15.10	13.05
	110/5550	15.00	13.20
	118/5590	15.00	13.13
	134/5670	15.10	13.34
802.11ac-VHT20 (MCS0)	100/5500	15.00	13.25
	116/5580	15.00	13.32
	132/5660	15.00	13.27
	140/5700	14.50	12.98
802.11ac-VHT40 (MCS0)	102/5510	15.10	13.03
	110/5550	15.00	13.05
	118/5590	15.00	13.26
	134/5670	15.10	13.18
802.11ac-VHT80 (MCS0)	106/5530	12.10	9.67
	122/5610	15.10	<b>12.98</b>

Wi-Fi 5G (U-NII-3) Receiver on Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	149/5745	11.10	9.40
	157/5785	11.10	9.36
	165/5825	11.10	9.42
802.11n-HT20 (MCS0)	149/5745	11.10	9.16
	157/5785	11.10	9.35
	165/5825	11.10	9.40
802.11n-HT40 (MCS0)	151/5755	11.10	9.22
	159/5795	11.10	9.26
802.11ac-VHT20 (MCS0)	149/5745	11.10	9.34
	157/5785	11.10	9.23
	165/5825	11.10	9.32
802.11ac-VHT40 (MCS0)	151/5755	11.10	9.15
	159/5795	11.10	9.23
802.11ac-VHT80 (MCS0)	155/5775	11.10	<b>8.99</b>



Wi-Fi 5G (U-NII-3) Receiver off Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	149/5745	17.10	15.46
	157/5785	17.10	15.63
	165/5825	17.10	15.81
802.11n-HT20 (MCS0)	149/5745	17.10	15.48
	157/5785	17.10	15.60
	165/5825	17.10	15.58
802.11n-HT40 (MCS0)	151/5755	17.10	<b>15.44</b>
	159/5795	17.10	15.41
802.11ac-VHT20 (MCS0)	149/5745	17.10	15.42
	157/5785	17.10	15.61
	165/5825	17.10	15.57
802.11ac-VHT40 (MCS0)	151/5755	17.10	15.42
	159/5795	17.10	15.38
802.11ac-VHT80 (MCS0)	155/5775	16.60	12.78

Wi-Fi 5G (U-NII-3) Hotspot Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)	
		Tune-up	Meas.
802.11a (6M)	149/5745	15.10	13.65
	157/5785	15.10	13.78
	165/5825	15.10	13.73
802.11n-HT20 (MCS0)	149/5745	15.00	13.48
	157/5785	15.00	13.51
	165/5825	15.00	13.60
802.11n-HT40 (MCS0)	151/5755	15.00	13.46
	159/5795	15.00	13.45
802.11ac-VHT20 (MCS0)	149/5745	15.00	13.47
	157/5785	15.00	13.66
	165/5825	15.00	13.52
802.11ac-VHT40 (MCS0)	151/5755	15.00	13.56
	159/5795	15.00	13.41
802.11ac-VHT80 (MCS0)	155/5775	15.10	<b>13.30</b>



## 9.5 Bluetooth Mode

Bluetooth	Conducted Power(dBm)			Tune-up Limit (dBm)
	Channel/Frequency(MHz)			
	Ch 0/2402 MHz	Ch 39/2441 MHz	Ch 78/2480 MHz	
GFSK	10.48	10.96	10.27	11.50
$\pi/4$ DQPSK	5.56	8.13	7.76	9.00
8DPSK	5.72	8.28	7.93	9.00
BLE	Ch 0/2402 MHz	Ch 19/2440 MHz	Ch 39/2480 MHz	Tune-up Limit (dBm)
GFSK(1M)	4.05	6.21	5.21	7.50
GFSK(2M)	2.34	4.49	3.51	7.50



## 10 Measured and Reported (Scaled) SAR Results

### 10.1 EUT Antenna Locations

The Detailed Antenna Locations refer to *Antenna Locations*.

Main-Antenna(Ant 0)	GSM 1900; WCDMA Band II/IV; LTE2/4/7/38/66
Main-Antenna(Ant 1)	GSM 850; WCDMA Band V; LTE5/13/26
Div-Antenna(Ant 2)	GSM 1900; WCDMA Band II/IV; LTE2/4/7/38/66
Wi-Fi 5G Antenna (Ant 6)	Wi-Fi 5G
Bluetooth/Wi-Fi 2.4G Antenna (Ant 9)	Bluetooth/ Wi-Fi2.4G

Overall (Length x Width): 167.5 mm x 77.0mm Overall Diagonal: 184.3 mm/Display Diagonal: 167.0mm						
Distance of the Antenna to the EUT Surface/Edge						
Antenna	Back Side	Front Side	Left Edge	Right Edge	Top Edge	Bottom Edge
Main-Antenna(Ant 0)	<25mm	<25mm	>25mm	<25mm	>25mm	<25mm
Main-Antenna(Ant 1)	<25mm	<25mm	<25mm	>25mm	>25mm	<25mm
Div-Antenna(Ant 2)	<25mm	<25mm	<25mm	<25mm	<25mm	>25mm
Wi-Fi 5G Antenna (Ant 6)	<25mm	<25mm	>25mm	<25mm	<25mm	>25mm
Bluetooth/Wi-Fi 2.4G Antenna (Ant 9)	<25mm	<25mm	>25mm	<25mm	<25mm	>25mm
Hotspot mode, Positions for SAR tests						
Mode	Back Side	Front Side	Left Edge	Right Edge	Top Edge	Bottom Edge
Main-Antenna(Ant 0)	Yes	Yes	N/A	Yes	N/A	Yes
Main-Antenna(Ant 1)	Yes	Yes	Yes	N/A	N/A	Yes
Div-Antenna(Ant 2)	Yes	Yes	Yes	Yes	Yes	N/A
Wi-Fi 5G Antenna (Ant 6)	Yes	Yes	N/A	Yes	Yes	N/A
Bluetooth/Wi-Fi 2.4G Antenna (Ant 9)	Yes	Yes	N/A	Yes	Yes	N/A
Note:						
1. Per KDB 941225 D06, when the overall device length and width are $\geq 9\text{cm} \times 5\text{cm}$ , the test distance is 10mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.						
2. For smart phones with an overall diagonal dimension is 184.3mm. Per KDB 648474 D04, for smart phones with a display diagonal dimension $> 15.0\text{ cm}$ or an overall diagonal dimension $> 16.0\text{ cm}$ , product specific 10-g SAR must be tested as a phablet to determine SAR compliance. For Phablet, Since hotspot mode 1-g <i>reported</i> SAR $< 1.2\text{W/kg}$ , product specific 10-g SAR is not required.						
3. Per FCC KDB 447498 D01, 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:						
a) $\leq 0.8\text{ W/kg}$ or $2.0\text{ W/kg}$ , for 1-g or 10-g respectively, when the transmission band is $\leq 100\text{MHz}$						
b) $\leq 0.6\text{ W/kg}$ or $1.5\text{ W/kg}$ , for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.						
c) $\leq 0.4\text{ W/kg}$ or $1.0\text{ W/kg}$ , for 1-g or 10-g respectively, when the transmission band is $\geq 200\text{ MHz}$ .						
4. When the original highest measured SAR is $\geq 0.80\text{ W/kg}$ , the measurement was repeated once.						
5. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was $\leq 1.2\text{ W/kg}$ , no additional SAR evaluations using a headset cable were required.						



## 10.2 Measured SAR Results

Note:

- The value with blue color is the maximum SAR Value of each test band.
- For GSM, when multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.
- For WCDMA, When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq 1/4$  dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode.
- For LTE, QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq 50\%$  limit(1g).
- The highest reported SAR for a test configuration is  $> 1.2$  W/kg, SAR is required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR. Since the band U-NII-2A does not support hotspot function, hotspot SAR for U-NII-1 is required.

### Head SAR

Band	Antenna	Test Position	Dist. (mm)	Mode	Power Reduction	RB	Offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g(W/Kg)	Power Drift (dB)	Scaling Factor	Report SAR1g(W/kg)	Plot No.
GSM 850	Main (Ant1)	Left Cheek	0	GSM	Receiver on	-	-	190/836.6	33.50	32.31	0.117	0.025	1.32	0.154	19
		Left Tilt	0	GSM	Receiver on	-	-	190/836.6	33.50	32.31	0.065	0.015	1.32	0.086	/
		Right Cheek	0	GSM	Receiver on	-	-	190/836.6	33.50	32.31	0.115	0.025	1.32	0.151	/
		Right Tilt	0	GSM	Receiver on	-	-	190/836.6	33.50	32.31	0.059	0.033	1.32	0.077	/
	Main (Ant1)	Left Cheek (Battery2)	0	GSM	Receiver on	-	-	190/836.6	33.50	32.31	0.112	0.040	1.32	0.147	/
GSM 1900	Main (Ant0)	Left Cheek	0	GSM	Receiver on	-	-	661/1880	30.50	29.11	0.042	0.012	1.38	0.057	/
		Left Tilt	0	GSM	Receiver on	-	-	661/1880	30.50	29.11	0.032	0.190	1.38	0.044	/
		Right Cheek	0	GSM	Receiver on	-	-	661/1880	30.50	29.11	0.037	0.019	1.38	0.051	/
		Right Tilt	0	GSM	Receiver on	-	-	661/1880	30.50	29.11	0.041	0.040	1.38	0.057	/
	Div (Ant2)	Left Cheek	0	GSM	Receiver on	-	-	661/1880	29.40	27.92	0.458	-0.010	1.41	0.644	/
		Left Tilt	0	GSM	Receiver on	-	-	661/1880	29.40	27.92	0.485	0.020	1.41	0.682	/
		Right Cheek	0	GSM	Receiver on	-	-	661/1880	29.40	27.92	0.401	0.160	1.41	0.564	/
		Right Tilt	0	GSM	Receiver on	-	-	661/1880	29.40	27.92	0.529	-0.010	1.41	0.744	20
	Div (Ant2)	Right Tilt (Battery2)	0	GSM	Receiver on	-	-	661/1880	29.40	27.92	0.517	-0.100	1.41	0.727	/
	WCDMA II	Main (Ant0)	Left Cheek	0	RMC 12.2K	Receiver on	-	-	9400/1880	24.50	22.92	0.094	0.038	1.44	0.135
Left Tilt			0	RMC 12.2K	Receiver on	-	-	9400/1880	24.50	22.92	0.075	0.013	1.44	0.108	/
Right Cheek			0	RMC 12.2K	Receiver on	-	-	9400/1880	24.50	22.92	0.093	0.067	1.44	0.134	/
Right Tilt			0	RMC 12.2K	Receiver on	-	-	9400/1880	24.50	22.92	0.084	0.025	1.44	0.121	/
Div (Ant2)		Left Cheek	0	RMC 12.2K	Receiver on	-	-	9400/1880	19.50	18.01	0.415	0.060	1.41	0.585	/
		Left Tilt	0	RMC 12.2K	Receiver on	-	-	9400/1880	19.50	18.01	0.507	0.050	1.41	0.715	/
		Right Cheek	0	RMC 12.2K	Receiver on	-	-	9400/1880	19.50	18.01	0.442	0.190	1.41	0.623	/



		Right Tilt	0	RMC 12.2K	Receiver on	-	-	9400/1880	19.50	18.01	0.548	0.090	1.41	0.772	21	
	Div (Ant2)	Right Tilt (Battery2)	0	RMC 12.2K	Receiver on	-	-	9400/1880	19.50	18.01	0.525	0.070	1.41	0.740	/	
WCDMA IV	Main (Ant0)	Left Cheek	0	RMC 12.2K	Receiver on	-	-	1413/1732.6	24.80	23.27	0.083	0.036	1.42	0.118	/	
		Left Tilt	0	RMC 12.2K	Receiver on	-	-	1413/1732.6	24.80	23.27	0.069	0.190	1.42	0.098	/	
		Right Cheek	0	RMC 12.2K	Receiver on	-	-	1413/1732.6	24.80	23.27	0.095	0.071	1.42	0.136	/	
		Right Tilt	0	RMC 12.2K	Receiver on	-	-	1413/1732.6	24.80	23.27	0.093	0.051	1.42	0.133	/	
	Div (Ant2)	Left Cheek	0	RMC 12.2K	Receiver on	-	-	1413/1732.6	19.80	18.15	0.445	0.100	1.46	0.651	/	
		Left Tilt	0	RMC 12.2K	Receiver on	-	-	1413/1732.6	19.80	18.15	0.533	-0.022	1.46	0.779	/	
		Right Cheek	0	RMC 12.2K	Receiver on	-	-	1413/1732.6	19.80	18.15	0.507	0.100	1.46	0.741	/	
		Right Tilt	0	RMC 12.2K	Receiver on	-	-	1413/1732.6	19.80	18.15	0.610	0.020	1.46	0.892	22	
		Right Tilt	0	RMC 12.2K	Receiver on	-	-	1312/1712.4	19.80	18.24	0.510	0.050	1.43	0.730	/	
		Right Tilt (Battery2)	0	RMC 12.2K	Receiver on	-	-	1513/1752.6	19.80	18.17	0.552	-0.060	1.46	0.803	/	
WCDMA V	Main (Ant1)	Left Cheek	0	RMC 12.2K	Receiver on	-	-	4183/836.6	25.00	23.52	0.149	0.070	1.41	0.210	23	
		Left Tilt	0	RMC 12.2K	Receiver on	-	-	4183/836.6	25.00	23.52	0.084	0.023	1.41	0.118	/	
		Right Cheek	0	RMC 12.2K	Receiver on	-	-	4183/836.6	25.00	23.52	0.147	0.027	1.41	0.207	/	
		Right Tilt	0	RMC 12.2K	Receiver on	-	-	4183/836.6	25.00	23.52	0.063	0.011	1.41	0.088	/	
	Main (Ant1)	Left Cheek (Battery2)	0	RMC 12.2K	Receiver on	-	-	4183/836.6	25.00	23.52	0.143	0.020	1.41	0.201	/	
	LTE 2	Main (Ant0)	Left Cheek	0	QPSK	Receiver on	1	50	18700/1860	24.50	23.73	0.100	0.040	1.19	0.119	/
				0	QPSK	Receiver on	50%	0	19100/1900	23.50	22.71	0.088	-0.030	1.20	0.106	/
			Left Tilt	0	QPSK	Receiver on	1	50	18700/1860	24.50	23.73	0.059	-0.031	1.19	0.070	/
0				QPSK	Receiver on	50%	0	19100/1900	23.50	22.71	0.037	-0.100	1.20	0.044	/	
Right Cheek			0	QPSK	Receiver on	1	50	18700/1860	24.50	23.73	0.098	0.040	1.19	0.117	/	
			0	QPSK	Receiver on	50%	0	19100/1900	23.50	22.71	0.089	0.030	1.20	0.107	/	
Right Tilt		0	QPSK	Receiver on	1	50	18700/1860	24.50	23.73	0.072	0.030	1.19	0.086	/		
		0	QPSK	Receiver on	50%	0	19100/1900	23.50	22.71	0.056	-0.040	1.20	0.067	/		
Div (Ant2)		Left Cheek	0	QPSK	Receiver on	1	50	18700/1860	20.00	19.45	0.466	0.010	1.14	0.529	/	
			0	QPSK	Receiver on	50%	0	19100/1900	20.00	19.42	0.491	0.040	1.14	0.561	/	
	Left Tilt	0	QPSK	Receiver on	1	50	18700/1860	20.00	19.45	0.531	0.050	1.14	0.603	/		
		0	QPSK	Receiver on	50%	0	19100/1900	20.00	19.42	0.584	0.040	1.14	0.667	/		
	Right Cheek	0	QPSK	Receiver on	1	50	18700/1860	20.00	19.45	0.489	-0.030	1.14	0.555	/		
		0	QPSK	Receiver on	50%	0	19100/1900	20.00	19.42	0.500	0.000	1.14	0.571	/		
	Right Tilt	0	QPSK	Receiver on	1	50	18700/1860	20.00	19.45	0.685	0.020	1.14	0.777	/		
		0	QPSK	Receiver on	50%	0	19100/1900	20.00	19.42	0.737	-0.020	1.14	0.842	24		
Right Tilt	0	QPSK	Receiver on	50%	0	18700/1860	20.00	19.28	0.735	0.010	1.18	0.868	/			
Right Tilt (Battery2)	0	QPSK	Receiver on	50%	25	18900/1880	20.00	19.42	0.661	0.050	1.14	0.755	/			
	0	QPSK	Receiver on	100%	0	19100/1900	20.00	19.34	0.670	0.029	1.16	0.780	/			
	0	QPSK	Receiver on	50%	0	19100/1900	20.00	19.42	0.710	0.014	1.14	0.811	/			
LTE	Main	Left Cheek	0	QPSK	Receiver on	1	50	20050/1720	24.80	23.99	0.131	0.013	1.21	0.158	/	



4	(Ant0)		0	QPSK	Receiver on	50%	0	20300/1745	23.80	22.96	0.109	0.017	1.21	0.132	/	
		Left Tilt	0	QPSK	Receiver on	1	50	20050/1720	24.80	23.99	0.079	0.000	1.21	0.095	/	
			0	QPSK	Receiver on	50%	0	20300/1745	23.80	22.96	0.065	0.050	1.21	0.079	/	
		Right Cheek	0	QPSK	Receiver on	1	50	20050/1720	24.80	23.99	0.092	0.064	1.21	0.111	/	
			0	QPSK	Receiver on	50%	0	20300/1745	23.80	22.96	0.078	0.046	1.21	0.095	/	
		Right Tilt	0	QPSK	Receiver on	1	50	20050/1720	24.80	23.99	0.092	0.040	1.21	0.111	/	
	0		QPSK	Receiver on	50%	0	20300/1745	23.80	22.96	0.077	0.029	1.21	0.093	/		
	Div (Ant2)	Left Cheek	0	QPSK	Receiver on	1	50	20300/1745	20.00	19.18	0.440	0.050	1.21	0.531	/	
			0	QPSK	Receiver on	50%	0	20300/1745	20.00	19.17	0.436	0.020	1.21	0.528	/	
		Left Tilt	0	QPSK	Receiver on	1	50	20300/1745	20.00	19.18	0.636	0.000	1.21	0.768	/	
			0	QPSK	Receiver on	50%	0	20300/1745	20.00	19.17	0.628	-0.040	1.21	0.760	/	
		Right Cheek	0	QPSK	Receiver on	1	50	20300/1745	20.00	19.18	0.571	-0.020	1.21	0.690	/	
			0	QPSK	Receiver on	50%	0	20300/1745	20.00	19.17	0.570	-0.030	1.21	0.690	/	
	Right Tilt	0	QPSK	Receiver on	1	50	20300/1745	20.00	19.18	0.643	0.014	1.21	0.777	25		
		0	QPSK	Receiver on	50%	0	20300/1745	20.00	19.17	0.633	-0.020	1.21	0.766	/		
	Div (Ant2)	Right Tilt (Battery2)	0	QPSK	Receiver on	1	50	20300/1745	20.00	19.18	0.615	-0.030	1.21	0.743	/	
	LTE 5	Main (Ant1)	Left Cheek	0	QPSK	Receiver on	1	25	20525/836.5	25.00	24.01	0.137	0.021	1.26	0.172	/
				0	QPSK	Receiver on	50%	13	20525/836.5	24.00	23.01	0.073	0.090	1.26	0.091	/
			Left Tilt	0	QPSK	Receiver on	1	25	20525/836.5	25.00	24.01	0.107	0.047	1.26	0.134	/
				0	QPSK	Receiver on	50%	13	20525/836.5	24.00	23.01	0.063	0.024	1.26	0.079	/
			Right Cheek	0	QPSK	Receiver on	1	25	20525/836.5	25.00	24.01	0.144	0.066	1.26	0.181	26
				0	QPSK	Receiver on	50%	13	20525/836.5	24.00	23.01	0.075	0.010	1.26	0.094	/
		Right Tilt	0	QPSK	Receiver on	1	25	20525/836.5	25.00	24.01	0.113	0.079	1.26	0.142	/	
			0	QPSK	Receiver on	50%	13	20525/836.5	24.00	23.01	0.057	0.026	1.26	0.072	/	
Main (Ant1)		Right Cheek (Battery2)	0	QPSK	Receiver on	1	25	20525/836.5	25.00	24.01	0.128	0.041	1.26	0.161	/	
LTE 7		Main (Ant0)	Left Cheek	0	QPSK	Receiver on	1	50	20850/2510	24.50	23.74	0.350	0.064	1.19	0.417	/
				0	QPSK	Receiver on	50%	50	20850/2510	23.50	22.73	0.264	0.096	1.19	0.315	/
			Left Tilt	0	QPSK	Receiver on	1	50	20850/2510	24.50	23.74	0.272	0.020	1.19	0.324	/
	0			QPSK	Receiver on	50%	50	20850/2510	23.50	22.73	0.213	0.190	1.19	0.254	/	
	Right Cheek		0	QPSK	Receiver on	1	50	20850/2510	24.50	23.74	0.296	0.100	1.19	0.353	/	
			0	QPSK	Receiver on	50%	50	20850/2510	23.50	22.73	0.293	0.095	1.19	0.350	/	
	Right Tilt	0	QPSK	Receiver on	1	50	20850/2510	24.50	23.74	0.138	0.070	1.19	0.164	/		
		0	QPSK	Receiver on	50%	50	20850/2510	23.50	22.73	0.131	0.024	1.19	0.156	/		
	Div (Ant2)	Left Cheek	0	QPSK	Receiver on	1	50	20850/2510	17.50	17.19	0.647	-0.030	1.07	0.695	/	
			0	QPSK	Receiver on	50%	25	20850/2510	17.50	17.17	0.638	-0.010	1.08	0.688	/	
		Left Tilt	0	QPSK	Receiver on	1	50	20850/2510	17.50	17.19	0.691	-0.010	1.07	0.742	/	
			0	QPSK	Receiver on	50%	25	20850/2510	17.50	17.17	0.682	0.010	1.08	0.736	/	
Right Cheek		0	QPSK	Receiver on	1	50	20850/2510	17.50	17.19	0.653	-0.023	1.07	0.701	/		
		0	QPSK	Receiver on	50%	25	20850/2510	17.50	17.17	0.531	0.021	1.08	0.573	/		
Right Tilt	0	QPSK	Receiver on	1	50	20850/2510	17.50	17.19	0.813	-0.170	1.07	0.873	27			
	0	QPSK	Receiver on	1	50	21100/2535	17.50	16.69	0.491	0.070	1.21	0.592	/			



		0	QPSK	Receiver on	1	50	21350/2560	17.50	16.77	0.724	0.060	1.18	0.857	/		
		0	QPSK	Receiver on	50%	25	20850/2510	17.50	17.17	0.542	-0.025	1.08	0.585	/		
		Right Tilt	0	QPSK	Receiver on	100%	0	20850/2510	17.50	17.09	0.697	0.080	1.10	0.766	/	
		Right Tilt (Battery2)	0	QPSK	Receiver on	1	50	20850/2510	17.50	17.19	0.809	0.070	1.07	0.869	/	
		Right Tilt	0	QPSK	Receiver on	1	50	20850/2510	17.50	17.19	0.793	-0.150	1.07	0.852	/	
LTE 13	Main (Ant1)	Left Cheek	0	QPSK	Receiver on	1	25	23230/782	24.50	23.57	0.091	0.044	1.24	0.113	28	
		0	QPSK	Receiver on	50%	13	23230/782	23.50	22.60	0.073	0.057	1.23	0.090	/		
		Left Tilt	0	QPSK	Receiver on	1	25	23230/782	24.50	23.57	0.042	0.033	1.24	0.052	/	
		0	QPSK	Receiver on	50%	13	23230/782	23.50	22.60	0.034	0.027	1.23	0.042	/		
		Right Cheek	0	QPSK	Receiver on	1	25	23230/782	24.50	23.57	0.084	0.000	1.24	0.104	/	
		0	QPSK	Receiver on	50%	13	23230/782	23.50	22.60	0.080	0.021	1.23	0.098	/		
		Right Tilt	0	QPSK	Receiver on	1	25	23230/782	24.50	23.57	0.043	-0.023	1.24	0.053	/	
		0	QPSK	Receiver on	50%	13	23230/782	23.50	22.60	0.034	0.011	1.23	0.042	/		
		Left Cheek (Battery2)	0	QPSK	Receiver on	1	25	23230/782	24.50	23.57	0.087	-0.020	1.24	0.108	/	
LTE 26	Main (Ant1)	Left Cheek	0	QPSK	Receiver on	1	38	26765/821.5	25.00	24.22	0.136	0.117	1.20	0.163	29	
		0	QPSK	Receiver on	50%	18	26965/841.5	24.00	23.27	0.112	-0.030	1.18	0.133	/		
		Left Tilt	0	QPSK	Receiver on	1	38	26765/821.5	25.00	24.22	0.064	-0.020	1.20	0.077	/	
		0	QPSK	Receiver on	50%	18	26965/841.5	24.00	23.27	0.052	-0.011	1.18	0.062	/		
		Right Cheek	0	QPSK	Receiver on	1	38	26765/821.5	25.00	24.22	0.134	0.021	1.20	0.160	/	
		0	QPSK	Receiver on	50%	18	26965/841.5	24.00	23.27	0.100	-0.023	1.18	0.118	/		
		Right Tilt	0	QPSK	Receiver on	1	38	26765/821.5	25.00	24.22	0.070	-0.021	1.20	0.084	/	
		0	QPSK	Receiver on	50%	18	26965/841.5	24.00	23.27	0.058	0.011	1.18	0.069	/		
	Main (Ant1)	Left Cheek (Battery2)	0	QPSK	Receiver on	1	38	26765/821.5	25.00	24.22	0.129	0.020	1.20	0.154	/	
	LTE 38	Main (Ant0)	Left Cheek	0	QPSK	Receiver on	1	50	37850/2580	24.50	23.55	0.164	0.010	1.24	0.204	/
			0	QPSK	Receiver on	50%	25	38150/2610	23.50	22.45	0.135	0.050	1.27	0.172	/	
Left Tilt			0	QPSK	Receiver on	1	50	37850/2580	24.50	23.55	0.147	0.090	1.24	0.183	/	
0			QPSK	Receiver on	50%	25	38150/2610	23.50	22.45	0.119	0.080	1.27	0.152	/		
Right Cheek			0	QPSK	Receiver on	1	50	37850/2580	24.50	23.55	0.227	0.025	1.24	0.283	/	
0			QPSK	Receiver on	50%	25	38150/2610	23.50	22.45	0.210	0.040	1.27	0.267	/		
Right Tilt			0	QPSK	Receiver on	1	50	37850/2580	24.50	23.55	0.094	0.020	1.24	0.117	/	
0			QPSK	Receiver on	50%	25	38150/2610	23.50	22.45	0.068	0.040	1.27	0.087	/		
Div (Ant2)			Left Cheek	0	QPSK	Receiver on	1	50	37850/2580	19.90	18.91	0.582	0.079	1.26	0.731	/
		0	QPSK	Receiver on	50%	50	37850/2580	19.90	18.90	0.612	-0.060	1.26	0.770	/		
		0	QPSK	Receiver on	50%	25	38000/2595	19.90	18.88	0.632	-0.050	1.26	0.799	/		
		0	QPSK	Receiver on	50%	50	38150/2610	19.90	19.04	0.660	-0.020	1.22	0.805	/		
		Left Tilt	0	QPSK	Receiver on	1	50	37850/2580	19.90	18.91	0.680	-0.014	1.26	0.854	/	
		0	QPSK	Receiver on	1	50	38000/2595	19.90	18.86	0.687	-0.039	1.27	0.873	/		
			Left Tilt	0	QPSK	Receiver on	1	50	38150/2610	19.90	18.82	0.718	-0.070	1.28	0.921	/
			0	QPSK	Receiver on	50%	50	37850/2580	19.90	18.90	0.653	-0.040	1.26	0.822	/	
			0	QPSK	Receiver on	50%	25	38000/2595	19.90	18.88	0.671	-0.020	1.26	0.849	/	



		Right Cheek	0	QPSK	Receiver on	50%	50	38150/2610	19.90	19.04	0.724	-0.030	1.22	0.883	30
			0	QPSK	Receiver on	1	50	37850/2580	19.90	18.91	0.512	-0.050	1.26	0.643	/
		Right Tilt	0	QPSK	Receiver on	1	50	37850/2580	19.90	18.91	0.594	-0.030	1.26	0.746	/
			0	QPSK	Receiver on	50%	50	38150/2610	19.90	19.04	0.626	-0.050	1.22	0.763	/
		Left Tilt	0	QPSK	Receiver on	100%	0	38150/2610	19.90	18.88	0.706	-0.120	1.26	0.893	/
		Left Tilt (Battery2)	0	QPSK	Receiver on	1	50	38150/2610	19.90	18.82	0.693	0.024	1.28	0.889	/
		LTE 66	Main (Ant1)	Left Cheek	0	QPSK	Receiver on	1	50	132072/1720	24.80	24.09	0.126	-0.050	1.18
0	QPSK				Receiver on	50%	0	132572/1770	23.80	23.19	0.083	-0.025	1.15	0.096	/
Left Tilt	0			QPSK	Receiver on	1	50	132072/1720	24.80	24.09	0.065	0.017	1.18	0.077	/
	0			QPSK	Receiver on	50%	0	132572/1770	23.80	23.19	0.047	0.011	1.15	0.054	/
Right Cheek	0			QPSK	Receiver on	1	50	132072/1720	24.80	24.09	0.073	0.012	1.18	0.086	/
	0			QPSK	Receiver on	50%	0	132572/1770	23.80	23.19	0.061	0.015	1.15	0.070	/
Right Tilt	0			QPSK	Receiver on	1	50	132072/1720	24.80	24.09	0.095	0.011	1.18	0.112	/
	0			QPSK	Receiver on	50%	0	132572/1770	23.80	23.19	0.070	-0.023	1.15	0.081	/
Div (Ant2)	Left Cheek		0	QPSK	Receiver on	1	50	132572/1770	19.80	19.19	0.325	0.021	1.15	0.374	/
			0	QPSK	Receiver on	50%	0	132572/1770	19.80	19.14	0.429	0.120	1.16	0.499	/
	Left Tilt		0	QPSK	Receiver on	1	50	132572/1770	19.80	19.19	0.416	-0.036	1.15	0.479	/
			0	QPSK	Receiver on	50%	0	132572/1770	19.80	19.14	0.398	0.036	1.16	0.463	/
	Right Cheek		0	QPSK	Receiver on	1	50	132572/1770	19.80	19.19	0.400	0.032	1.15	0.460	/
			0	QPSK	Receiver on	50%	0	132572/1770	19.80	19.14	0.520	-0.011	1.16	0.605	/
	Right Tilt		0	QPSK	Receiver on	1	50	132572/1770	19.80	19.19	0.666	0.030	1.15	0.766	31
			0	QPSK	Receiver on	50%	0	132572/1770	19.80	19.14	0.613	0.012	1.16	0.714	/
Div (Ant2)	Right Tilt (Battery2)		0	QPSK	Receiver on	1	50	132572/1770	19.80	19.19	0.627	0.039	1.15	0.722	/

Band	Antenna	Test Position	Dist. (mm)	Mode	Duty Cycle	Power Reduction	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g (W/Kg)	Power Drift (dB)	Scaling Factor	Report SAR1g (W/kg)	Plot No.
2.4G	Wi-Fi	Left Cheek	0	802.11b	99.6%	Receiver on	1/2412	15.50	14.18	0.235	0.025	1.36	0.320	32
		Left Tilt	0	802.11b	99.6%	Receiver on	1/2412	15.50	14.18	0.114	0.054	1.36	0.155	/
		Right Cheek	0	802.11b	99.6%	Receiver on	1/2412	15.50	14.18	0.064	0.020	1.36	0.087	/
		Right Tilt	0	802.11b	99.6%	Receiver on	1/2412	15.50	14.18	0.065	0.032	1.36	0.088	/
		Left Cheek (Battery2)	0	802.11b	99.6%	Receiver on	1/2412	15.50	14.18	0.207	0.030	1.36	0.282	/
U-NII-1	Wi-Fi	Left Cheek	0	802.11ac-VHT80	88.6%	Receiver on	42/5210	11.00	9.06	0.102	0.080	1.76	0.180	/
		Left Tilt	0	802.11ac-VHT80	88.6%	Receiver on	42/5210	11.00	9.06	0.297	0.040	1.76	0.524	33
		Right Cheek	0	802.11ac-VHT80	88.6%	Receiver on	42/5210	11.00	9.06	0.097	-0.140	1.76	0.171	/
		Right Tilt	0	802.11ac-VHT80	88.6%	Receiver on	42/5210	11.00	9.06	0.117	-0.033	1.76	0.206	/
		Left Tilt (Battery2)	0	802.11ac-VHT80	88.6%	Receiver on	42/5210	11.00	9.06	0.275	-0.020	1.76	0.485	/
U-NII-2A	Wi-Fi	Left Cheek	0	802.11ac-VHT80	88.6%	Receiver on	58/5290	11.00	9.01	0.122	0.190	1.78	0.218	/



		Left Tilt	0	802.11ac-VHT80	88.6%	Receiver on	58/5290	11.00	9.01	0.244	-0.110	1.78	0.435	/
		Right Cheek	0	802.11ac-VHT80	88.6%	Receiver on	58/5290	11.00	9.01	0.122	-0.035	1.78	0.218	/
		Right Tilt	0	802.11ac-VHT80	88.6%	Receiver on	58/5290	11.00	9.01	0.147	-0.071	1.78	0.262	/
		Left Tilt (Battery2)	0	802.11ac-VHT80	88.6%	Receiver on	58/5290	11.00	9.01	0.237	-0.020	1.78	0.423	/
U-NII-2C	Wi-Fi	Left Cheek	0	802.11ac-VHT80	88.6%	Receiver on	122/5610	11.00	8.81	0.142	0.000	1.87	0.265	/
		Left Tilt	0	802.11ac-VHT80	88.6%	Receiver on	122/5610	11.00	8.81	0.263	-0.074	1.87	0.491	/
		Right Cheek	0	802.11ac-VHT80	88.6%	Receiver on	122/5610	11.00	8.81	0.151	0.065	1.87	0.282	/
		Right Tilt	0	802.11ac-VHT80	88.6%	Receiver on	122/5610	11.00	8.81	0.178	0.000	1.87	0.333	/
		Left Tilt (Battery2)	0	802.11ac-VHT80	88.6%	Receiver on	122/5610	11.00	8.81	0.249	-0.011	1.87	0.465	/
U-NII-3	Wi-Fi	Left Cheek	0	802.11ac-VHT80	88.6%	Receiver on	155/5775	11.00	8.99	0.133	-0.050	1.79	0.238	/
		Left Tilt	0	802.11ac-VHT80	88.6%	Receiver on	155/5775	11.00	8.99	0.236	0.070	1.79	0.423	/
		Right Cheek	0	802.11ac-VHT80	88.6%	Receiver on	155/5775	11.00	8.99	0.131	0.021	1.79	0.235	/
		Right Tilt	0	802.11ac-VHT80	88.6%	Receiver on	155/5775	11.00	8.99	0.158	0.100	1.79	0.283	/
		Left Tilt (Battery2)	0	802.11ac-VHT80	88.6%	Receiver on	155/5775	11.00	8.99	0.227	0.050	1.79	0.407	/
Bluetooth	Bluetooth	Left Cheek	0	DH5	76.0%	Full Power	39/2441	11.50	10.96	0.068	0.015	1.49	0.102	34
		Left Tilt	0	DH5	76.0%	Full Power	39/2441	11.50	10.96	0.031	0.110	1.49	0.046	/
		Right Cheek	0	DH5	76.0%	Full Power	39/2441	11.50	10.96	0.025	0.011	1.49	0.037	/
		Right Tilt	0	DH5	76.0%	Full Power	39/2441	11.50	10.96	0.010	0.083	1.49	0.015	/
		Left Cheek (Battery2)	0	DH5	76.0%	Full Power	39/2441	11.50	10.96	0.059	-0.031	1.49	0.088	/









		Back Side (Battery2)	15	QPSK	Body SAR	1	50	37850/2580	24.50	23.69	0.414	0.063	1.21	0.499	46
		Back Side (SIM 2)	15	QPSK	Body SAR	1	50	37850/2580	24.50	23.69	0.397	0.022	1.21	0.478	/
LTE 66	Main (Ant0)	Back Side	15	QPSK	Body SAR	1	50	132072/1720	23.30	22.61	0.260	0.033	1.17	0.305	/
			15	QPSK	Body SAR	50%	0	132572/1770	23.30	22.66	0.291	-0.029	1.16	0.337	47
		Front Side	15	QPSK	Body SAR	1	50	132072/1720	23.30	22.61	0.229	-0.160	1.17	0.268	/
			15	QPSK	Body SAR	50%	0	132572/1770	23.30	22.66	0.264	-0.013	1.16	0.306	/
	Div (Ant2)	Back Side	15	QPSK	Body SAR	1	50	132572/1770	22.10	21.41	0.274	0.026	1.17	0.321	/
			15	QPSK	Body SAR	50%	0	132572/1770	22.10	21.38	0.261	0.090	1.18	0.308	/
		Front Side	15	QPSK	Body SAR	1	50	132572/1770	22.10	21.41	0.182	0.050	1.17	0.213	/
			15	QPSK	Body SAR	50%	0	132572/1770	22.10	21.38	0.172	0.011	1.18	0.203	/
	Main (Ant0)	Back Side (Battery2)	15	QPSK	Body SAR	50%	0	132572/1770	23.30	22.66	0.284	0.033	1.16	0.329	/

Band	Antenna	Test Position	Dist. (mm)	Mode	Duty Cycle	Power Reduction	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g(W/Kg)	Power Drift (dB)	Scaling Factor	Report SAR1g(W/kg)	Plot No.
2.4G	Wi-Fi	Back Side	15	802.11b	99.6%	Receiver off	1/2412	20.00	18.71	0.174	0.019	1.35	0.235	/
		Front Side	15	802.11b	99.6%	Receiver off	1/2412	20.00	18.71	0.083	-0.030	1.35	0.112	/
		Back Side (Battery2)	15	802.11b	99.6%	Receiver off	1/2412	20.00	18.71	0.309	0.050	1.35	0.418	48
U-NII-1	Wi-Fi	Back Side	15	802.11n HT40	94.0%	Receiver off	46/5230	17.00	15.48	0.210	0.051	1.51	0.317	/
		Front Side	15	802.11n HT40	94.0%	Receiver off	46/5230	17.00	15.48	0.091	0.037	1.51	0.137	/
		Back Side (Battery2)	15	802.11n HT40	94.0%	Receiver off	46/5230	17.00	15.48	0.260	0.090	1.51	0.393	/
U-NII-2A	Wi-Fi	Back Side	15	802.11n HT40	94.0%	Receiver off	54/5270	17.00	15.42	0.232	0.022	1.53	0.355	/
		Front Side	15	802.11n HT40	94.0%	Receiver off	54/5270	17.00	15.42	0.105	-0.067	1.53	0.161	/
		Back Side (Battery2)	15	802.11n HT40	94.0%	Receiver off	54/5270	17.00	15.42	0.277	0.090	1.53	0.424	49
U-NII-2C	Wi-Fi	Back Side	15	802.11n HT40	94.0%	Receiver off	118/5590	17.00	15.31	0.237	0.100	1.57	0.372	/
		Front Side	15	802.11n HT40	94.0%	Receiver off	118/5590	17.00	15.31	0.131	-0.020	1.57	0.206	/
		Back Side (Battery2)	15	802.11n HT40	94.0%	Receiver off	118/5590	17.00	15.31	0.256	0.060	1.57	0.402	/
U-NII-3	Wi-Fi	Back Side	15	802.11n HT40	94.0%	Receiver off	151/5755	17.10	15.44	0.241	0.055	1.56	0.376	/
		Front Side	15	802.11n HT40	94.0%	Receiver off	151/5755	17.10	15.44	0.144	0.033	1.56	0.225	/
		Back Side (Battery2)	15	802.11n HT40	94.0%	Receiver off	151/5755	17.10	15.44	0.245	0.090	1.56	0.382	/

















		Left Edge	10	802.11ac-VHT80	94.0%	Hotspot	155/5775	15.10	13.30	0.087	0.011	1.61	0.140	/
		Right Edge	10	802.11ac-VHT80	94.0%	Hotspot	155/5775	15.10	13.30	0.074	0.029	1.61	0.119	/
		Top Edge	10	802.11ac-VHT80	94.0%	Hotspot	155/5775	15.10	13.30	0.428	0.100	1.61	0.689	/
		Bottom Edge	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
		Top Edge (Battery2)	10	802.11ac-VHT80	94.0%	Hotspot	155/5775	15.10	13.30	0.415	0.090	1.61	0.668	/
Bluetooth	Bluetooth	Back Side	10	DH5	76.0%	Full Power	39/2441	11.50	10.96	0.078	-0.030	1.49	0.116	65
		Front Side	10	DH5	76.0%	Full Power	39/2441	11.50	10.96	0.000	0.000	1.49	0.000	/
		Left Edge	10	DH5	76.0%	Full Power	39/2441	11.50	10.96	0.000	0.000	1.49	0.000	/
		Right Edge	10	DH5	76.0%	Full Power	39/2441	11.50	10.96	0.061	-0.021	1.49	0.091	/
		Top Edge	10	DH5	76.0%	Full Power	39/2441	11.50	10.96	0.000	0.000	1.49	0.000	/
		Bottom Edge	10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
		Back Side (Battery2)	10	DH5	76.0%	Full Power	39/2441	11.50	10.96	0.064	0.019	1.49	0.095	/







## Product-specific 10g SAR

Band	Antenna	Test Position	Dist. (mm)	Mode	Duty Cycle	Power Reduction	RB	Offset	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR10g(W/Kg)	Power Drift (dB)	Scaling Factor	Report SAR10g(W/kg)	Plot No.
LTE 7	Div (Ant2)	Top Edge	0	QPSK	-	Body SAR	1	0	21350/2560	21.20	20.34	1.420	0.150	1.22	1.731	66
LTE 38	Div (Ant2)	Top Edge	0	QPSK	-	Body SAR	50%	50	37850/2580	23.50	22.65	1.210	0.061	1.22	1.472	67

Band	Antenna	Test Position	Dist. (mm)	Mode	Duty Cycle	Power Reduction	Ch./Freq. (MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR10g (W/Kg)	Power Drift (dB)	Scaling Factor	Report SAR10g (W/kg)	Plot No.	
U-NII-2A	Wi-Fi	Back Side	0	802.11n HT40	94.0%	Receiver off	54/5270	17.00	15.42	0.537	-0.030	1.53	0.822	/	
		Front Side	0	802.11n HT40	94.0%	Receiver off	54/5270	17.00	15.42	0.380	0.060	1.53	0.582	/	
		Left Edge	0	802.11n HT40	94.0%	Receiver off	54/5270	17.00	15.42	0.080	0.090	1.53	0.122	/	
		Right Edge	0	802.11n HT40	94.0%	Receiver off	54/5270	17.00	15.42	0.063	-0.100	1.53	0.096	/	
		Top Edge	0	802.11n HT40	94.0%	Receiver off	54/5270	17.00	15.42	0.940	0.021	1.53	1.439	/	
		Bottom Edge	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
		Top Edge (Battery2)	0	802.11n HT40	94.0%	Receiver off	54/5270	17.00	15.42	0.946	-0.020	1.53	1.448	68	
U-NII-2C	Wi-Fi	Back Side	0	802.11n HT40	94.0%	Receiver off	118/5590	17.00	15.31	0.668	0.033	1.57	1.049	/	
		Front Side	0	802.11n HT40	94.0%	Receiver off	118/5590	17.00	15.31	0.426	-0.040	1.57	0.669	/	
		Left Edge	0	802.11n HT40	94.0%	Receiver off	118/5590	17.00	15.31	0.092	0.070	1.57	0.144	/	
		Right Edge	0	802.11n HT40	94.0%	Receiver off	118/5590	17.00	15.31	0.106	-0.066	1.57	0.166	/	
		Top Edge	0	802.11n HT40	94.0%	Receiver off	118/5590	17.00	15.31	0.937	0.020	1.57	1.471	/	
		Bottom Edge	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	/
		Top Edge	0	802.11n HT40	94.0%	Receiver off	118/5590	17.00	15.31	0.945	-0.042	1.57	1.484	/	

### 10.3 Simultaneous Transmission Analysis

Simultaneous Transmission Configurations	Head	Body-worn	Hotspot	Product Specific 10-g SAR
Main Antenna + Wi-Fi 2.4G	Yes	Yes	Yes	Yes
Main Antenna + Wi-Fi 5G	Yes	Yes	Yes	Yes
Main Antenna + Bluetooth	Yes	Yes	Yes	Yes
Main Antenna + Wi-Fi 5G + Bluetooth	Yes	Yes	Yes	Yes
Div Antenna + Wi-Fi 2.4G	Yes	Yes	Yes	Yes
Div Antenna + Wi-Fi 5G	Yes	Yes	Yes	Yes
Div Antenna + Bluetooth	Yes	Yes	Yes	Yes
Div Antenna + Wi-Fi 5G + Bluetooth	Yes	Yes	Yes	Yes
Wi-Fi 2.4G + Bluetooth	NA	NA	NA	NA
Wi-Fi 5G + Bluetooth	Yes	Yes	Yes	Yes
Wi-Fi 2.4G + Wi-Fi 5G	NA	NA	NA	NA
Main Antenna + Div Antenna	NA	NA	NA	NA

**General Note:**

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





**About Wi-Fi 2.4G and WWAN Antenna**

SAR <sub>1g/10g</sub> (W/kg)		Main antenna	Div Antenna	Wi-Fi 2.4G	MAX. ΣSAR <sub>1g/10g</sub>
Head	Left Cheek	0.417	<b>0.805</b>	<b>0.320</b>	<b>1.125</b>
	Left Tilt	0.324	<b>0.921</b>	<b>0.155</b>	1.076
	Right Cheek	0.353	<b>0.741</b>	<b>0.087</b>	0.828
	Right Tilt	0.164	<b>0.892</b>	<b>0.088</b>	0.980
Body worn	Back Side	0.337	<b>0.499</b>	<b>0.418</b>	0.917
	Front Side	<b>0.358</b>	0.252	<b>0.112</b>	0.470
Hotspot	Back Side	<b>0.673</b>	0.282	<b>0.409</b>	1.082
	Front Side	<b>0.352</b>	0.159	<b>0.238</b>	0.590
	Left Edge	<b>0.298</b>	0.073	<b>0.000</b>	0.298
	Right Edge	<b>0.384</b>	0.064	<b>0.400</b>	0.784
	Top Edge	N/A	<b>0.530</b>	<b>0.095</b>	0.625
	Bottom Edge	<b>0.709</b>	N/A	N/A	0.709
Product Specific 10-g SAR	Back Side	N/A	N/A	N/A	0.000
	Front Side	N/A	N/A	N/A	0.000
	Left Edge	N/A	N/A	N/A	0.000
	Right Edge	N/A	N/A	N/A	0.000
	Top Edge	N/A	<b>1.731</b>	N/A	<b>1.731</b>
	Bottom Edge	N/A	N/A	N/A	0.000

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

**About Bluetooth and Wi-Fi 5G and WWAN Antenna**

SAR <sub>1g/10g</sub> (W/kg)		Main antenna	Div Antenna	Wi-Fi 5G				Bluetooth	MAX. ΣSAR <sub>1g/10g</sub>
				U-NII-1	U-NII-2A	U-NII-2C	U-NII-3		
Head	Left Cheek	0.417	<b>0.805</b>	0.180	0.218	0.265	0.238	<b>0.102</b>	1.172
	Left Tilt	0.324	<b>0.921</b>	<b>0.524</b>	0.435	0.491	0.423	<b>0.046</b>	<b>1.491</b>
	Right Cheek	0.353	<b>0.741</b>	0.171	0.218	<b>0.282</b>	0.235	<b>0.037</b>	1.060
	Right Tilt	0.164	<b>0.892</b>	0.206	0.262	<b>0.333</b>	0.283	<b>0.015</b>	1.240
Body worn	Back Side	0.337	<b>0.499</b>	0.393	<b>0.424</b>	0.402	0.382	<b>0.116</b>	1.039
	Front Side	<b>0.358</b>	0.252	0.137	0.161	0.206	<b>0.225</b>	<b>0.000</b>	0.583
Hotspot	Back Side	<b>0.673</b>	0.282	0.408	N/A	N/A	0.349	<b>0.116</b>	1.197
	Front Side	<b>0.352</b>	0.159	0.147	N/A	N/A	0.221	<b>0.000</b>	0.573
	Left Edge	<b>0.298</b>	0.073	0.084	N/A	N/A	<b>0.140</b>	<b>0.000</b>	0.438
	Right Edge	<b>0.384</b>	0.064	0.079	N/A	N/A	0.119	<b>0.091</b>	0.594
	Top Edge	N/A	<b>0.530</b>	0.677	N/A	N/A	<b>0.689</b>	<b>0.000</b>	1.219
	Bottom Edge	<b>0.709</b>	N/A	N/A	N/A	N/A	N/A	N/A	0.709
Product Specific 10-g SAR	Back Side	N/A	N/A	N/A	0.822	<b>1.049</b>	N/A	N/A	1.049
	Front Side	N/A	N/A	N/A	0.582	<b>0.669</b>	N/A	N/A	0.669
	Left Edge	N/A	N/A	N/A	0.122	<b>0.144</b>	N/A	N/A	0.144





	<b>Right Edge</b>	N/A	N/A	N/A	0.096	<b>0.166</b>	N/A	N/A	0.166
	<b>Top Edge</b>	N/A	<b>1.731</b>	N/A	1.448	<b>1.484</b>	N/A	N/A	<b>3.215</b>
	<b>Bottom Edge</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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

MAX.  $\Sigma SAR_{1g} = 1.491 \text{ W/kg} < 1.6 \text{ W/kg}$  and MAX.  $\Sigma SAR_{10g} = 3.215 \text{ W/kg} < 4 \text{ W/kg}$ , so the Simultaneous transmission SAR with volume scan are not required for Bluetooth/ Wi-Fi and Main-Antenna/ Div-Antenna.

#### Conclusion:

According to the KDB 690783 D01 section 1) d) i), when the sum of 1-g SAR applies for simultaneous transmission SAR test exclusion, the highest sum of 1-g SAR according to the highest reported stand-alone SAR values is used, and the highest Reported SAR for simultaneous transmission exposure conditions is 1.491 W/kg



## 11 Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is  $< 1.5$  W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528- 2013 is not required in SAR reports submitted for equipment approval. This also applies to the 10-g SAR required for phablets in KDB Publication 648474.

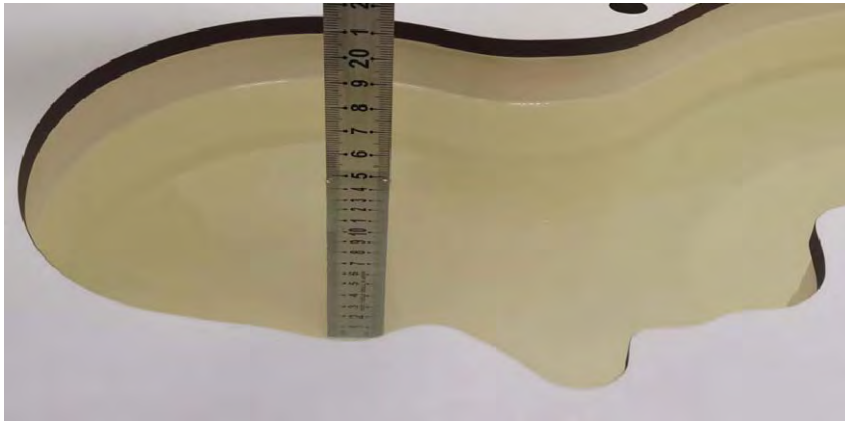
\*\*\*\*\*END OF REPORT \*\*\*\*\*

## ANNEX A: Test Layout

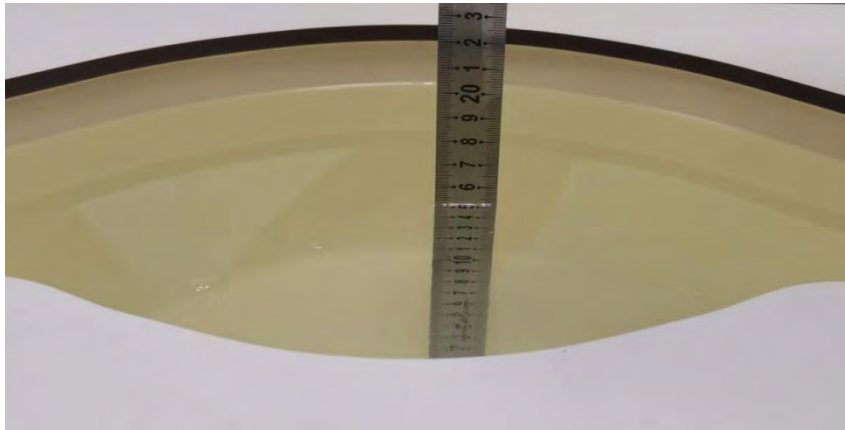


### Tissue Simulating Liquids

For the measurement of the field distribution inside the flat phantom with DASY, the phantom must be filled with around 25 liters of homogeneous tissue simulating liquid. For SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is  $> 15$  cm, which is shown as below.



Picture 3: liquid depth in the head Phantom



Picture 4: Liquid depth in the flat Phantom

## ANNEX B: System Check Results

### Plot 1 System Performance Check at 750 MHz TSL

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3

Date: 2022/10/22

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

Medium parameters used:  $f = 750$  MHz;  $\sigma = 0.88$  S/m;  $\epsilon_r = 42.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.63, 9.63, 9.63); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=15mm, Pin=250mW/Area Scan (4x12x1):** Measurement grid: dx=15mm, dy=15mm

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

**d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

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

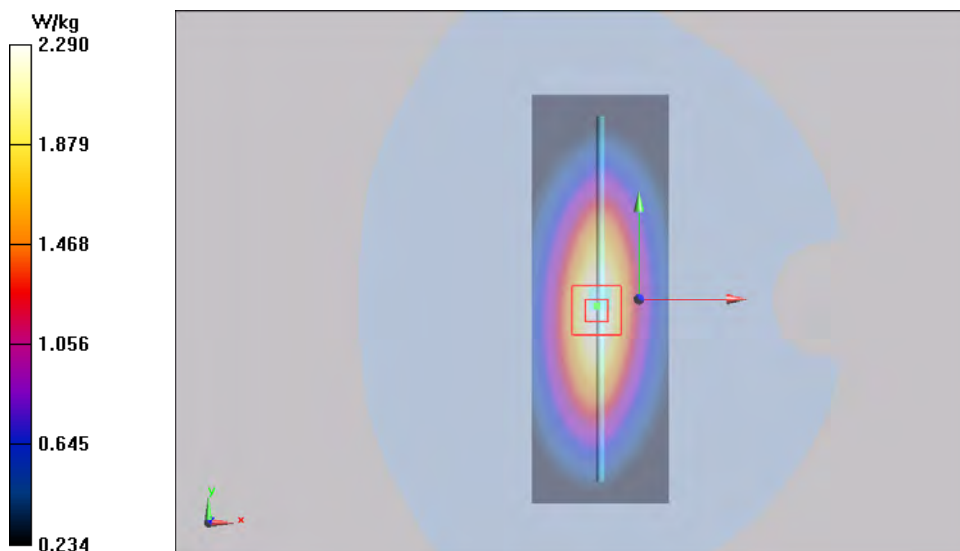
Peak SAR (extrapolated) = 3.16 W/kg

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

Smallest distance from peaks to all points 3 dB below = 10 mm

Ratio of SAR at M2 to SAR at M1 = 68.7%

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



**Plot 2 System Performance Check at 835 MHz TSL**

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2**

Date: 2022/10/19

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

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.88 \text{ S/m}$ ;  $\epsilon_r = 41.4$ ;  $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=15mm, Pin=250mW/Area Scan (4x12x1):** Measurement grid: dx=15mm, dy=15mm

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

**d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

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

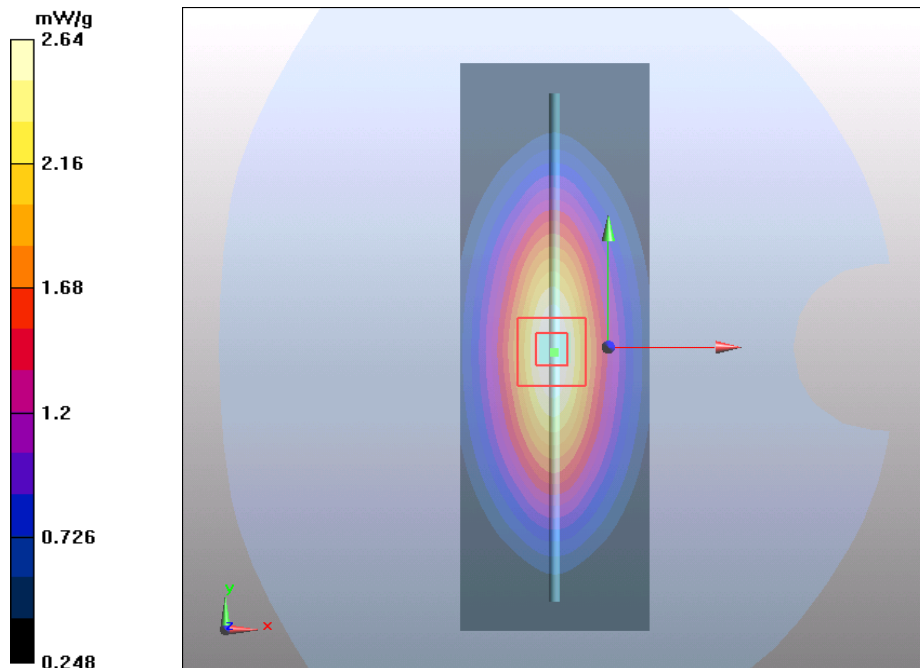
Peak SAR (extrapolated) = 3.67 W/kg

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

Smallest distance from peaks to all points 3 dB below = 16.6 mm

Ratio of SAR at M2 to SAR at M1 = 68.1%

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



**Plot 3 System Performance Check at 835 MHz TSL**

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2**

Date: 2022/10/23

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

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.87 \text{ S/m}$ ;  $\epsilon_r = 41.3$ ;  $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=15mm, Pin=250mW/Area Scan (4x12x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 2.59 mW/g

**d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.3 V/m; Power Drift = -0.06 dB

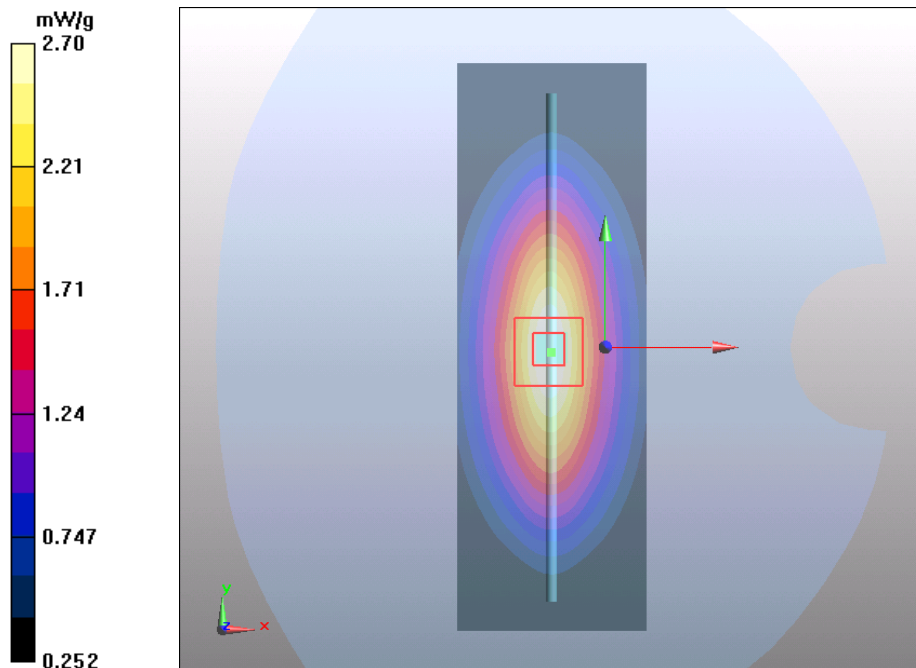
Peak SAR (extrapolated) = 3.67 W/kg

**SAR(1 g) = 2.46 mW/g; SAR(10 g) = 1.65 mW/g**

Smallest distance from peaks to all points 3 dB below = 16.6 mm

Ratio of SAR at M2 to SAR at M1 = 68.1%

Maximum value of SAR (measured) = 2.70 mW/g



**Plot 4 System Performance Check at 1750 MHz TSL**

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2**

Date: 2022/10/24

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750 \text{ MHz}$ ;  $\sigma = 1.34 \text{ S/m}$ ;  $\epsilon_r = 40.2$ ;  $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (5x8x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) =  $9.78 \text{ mW/g}$

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

Reference Value =  $80 \text{ V/m}$ ; Power Drift =  $0.075 \text{ dB}$

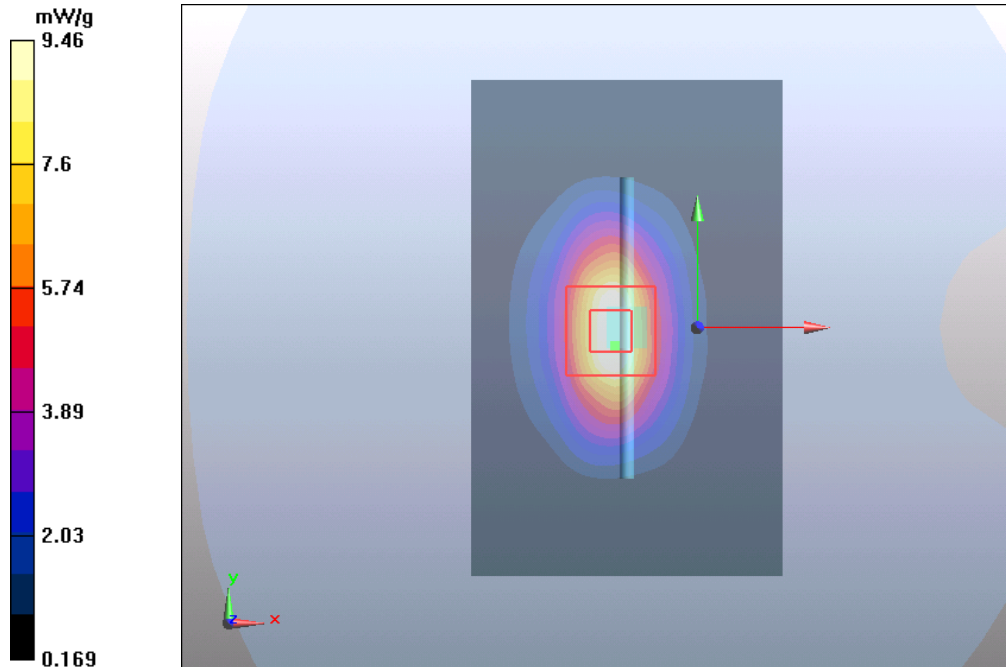
Peak SAR (extrapolated) =  $15.5 \text{ W/kg}$

**SAR(1 g) =  $8.95 \text{ mW/g}$ ; SAR(10 g) =  $4.5 \text{ mW/g}$**

Smallest distance from peaks to all points 3 dB below =  $10\text{mm}$

Ratio of SAR at M2 to SAR at M1 =  $53.5\%$

Maximum value of SAR (measured) =  $9.46 \text{ mW/g}$





**Plot 5 System Performance Check at 1750 MHz TSL**

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2**

Date: 2022/10/26

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750 \text{ MHz}$ ;  $\sigma = 1.34 \text{ S/m}$ ;  $\epsilon_r = 40.1$ ;  $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (5x8x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 9.77 mW/g

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

Reference Value = 80 V/m; Power Drift = 0.055 dB

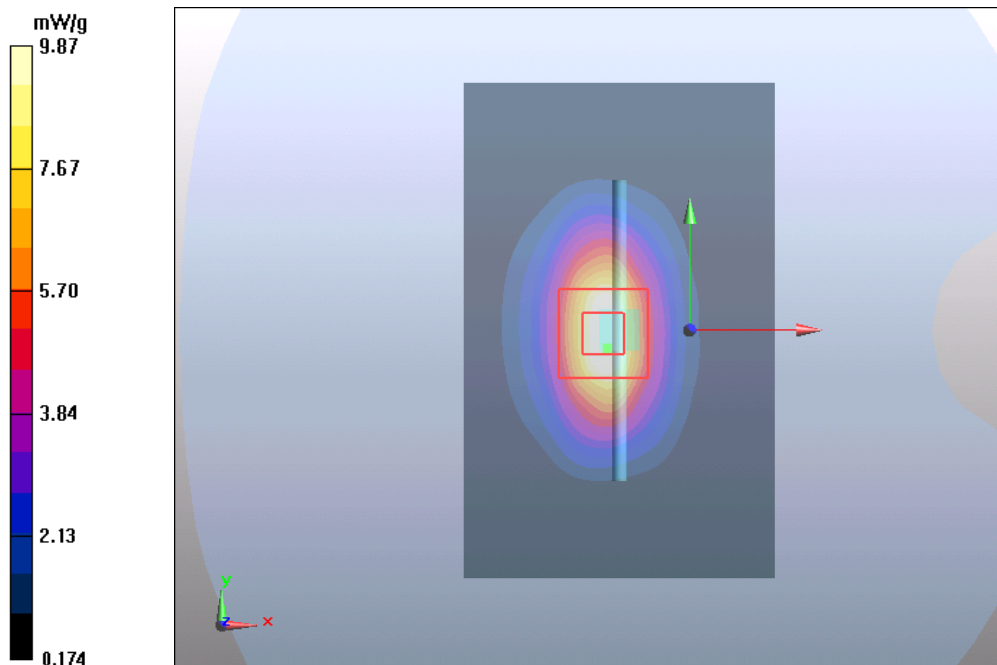
Peak SAR (extrapolated) = 15.51 W/kg

**SAR(1 g) = 9.11 mW/g; SAR(10 g) = 4.77 mW/g**

Smallest distance from peaks to all points 3 dB below = 10mm

Ratio of SAR at M2 to SAR at M1 = 53.5%

Maximum value of SAR (measured) = 9.87 mW/g



**Plot 6 System Performance Check at 1750 MHz TSL**

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2**

Date: 2022/10/28

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750 \text{ MHz}$ ;  $\sigma = 1.36 \text{ S/m}$ ;  $\epsilon_r = 40.2$ ;  $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (5x8x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) =  $9.11 \text{ mW/g}$

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

Reference Value =  $80 \text{ V/m}$ ; Power Drift =  $0.075 \text{ dB}$

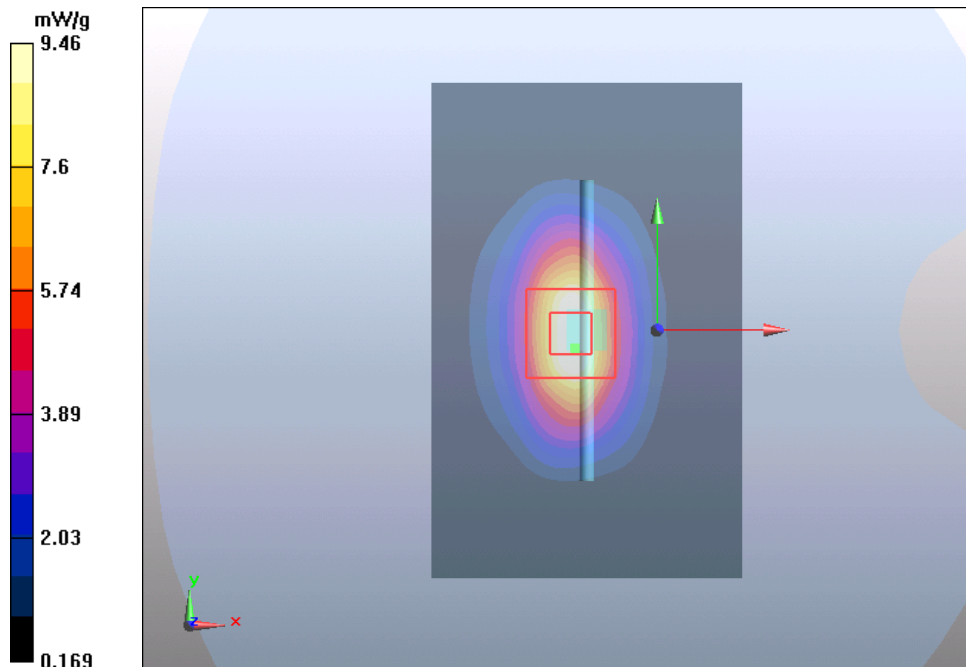
Peak SAR (extrapolated) =  $15.47 \text{ W/kg}$

**SAR(1 g) =  $8.96 \text{ mW/g}$ ; SAR(10 g) =  $4.75 \text{ mW/g}$**

Smallest distance from peaks to all points 3 dB below =  $10\text{mm}$

Ratio of SAR at M2 to SAR at M1 =  $53.5\%$

Maximum value of SAR (measured) =  $9.46 \text{ mW/g}$



**Plot 7 System Performance Check at 1900 MHz TSL**

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2**

Date: 2022/10/18

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.41 \text{ S/m}$ ;  $\epsilon_r = 40.1$ ;  $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (4x7x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 11.3 mW/g

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

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

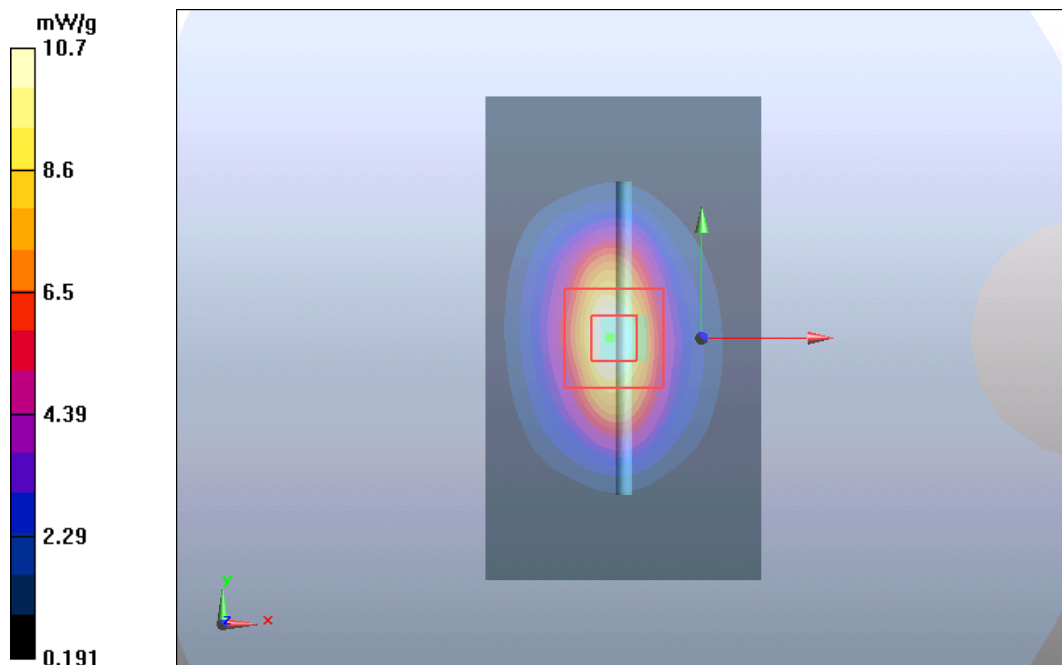
Peak SAR (extrapolated) = 17.8 W/kg

**SAR(1 g) = 9.88 mW/g; SAR(10 g) = 4.9 mW/g**

Smallest distance from peaks to all points 3 dB below = 10 mm

Ratio of SAR at M2 to SAR at M1 = 51.9%

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



**Plot 8 System Performance Check at 1900 MHz TSL****DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2**

Date: 2022/10/20

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.43$  S/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (4x7x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 11.23 mW/g

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

Reference Value = 85.0 V/m; Power Drift = 0.01 dB

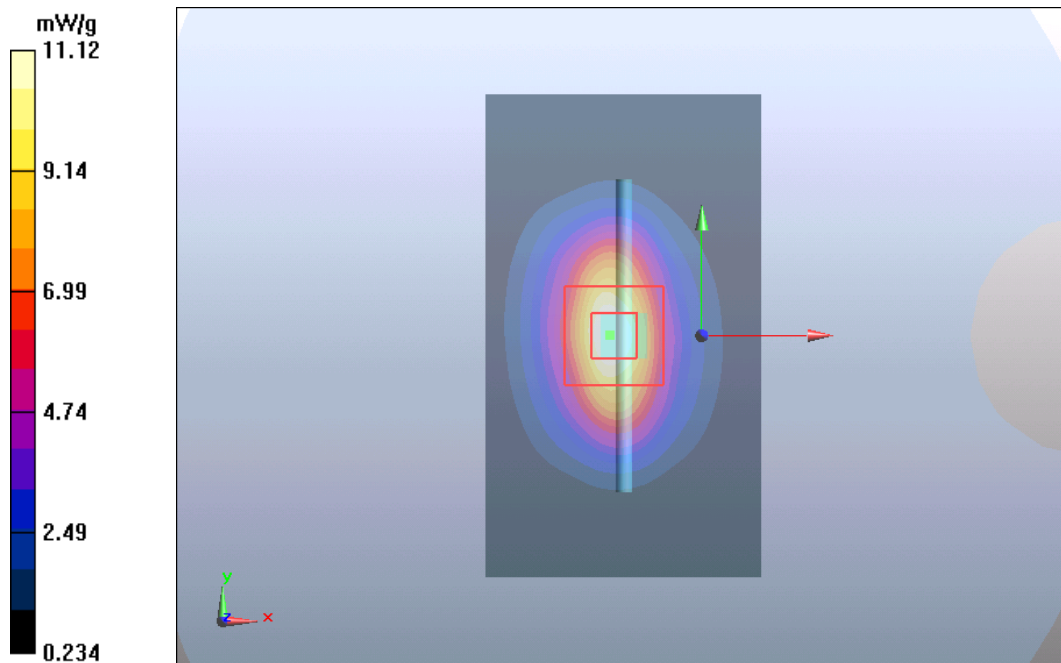
Peak SAR (extrapolated) = 17.8 W/kg

**SAR(1 g) = 9.85 mW/g; SAR(10 g) = 4.93 mW/g**

Smallest distance from peaks to all points 3 dB below = 10 mm

Ratio of SAR at M2 to SAR at M1 = 51.9%

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



**Plot 9 System Performance Check at 1900 MHz****DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2**

Date: 2022/10/21

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.40$  S/m;  $\epsilon_r = 40.0$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (4x7x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 12.9 mW/g

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

Reference Value = 87.8 V/m; Power Drift = 0.030 dB

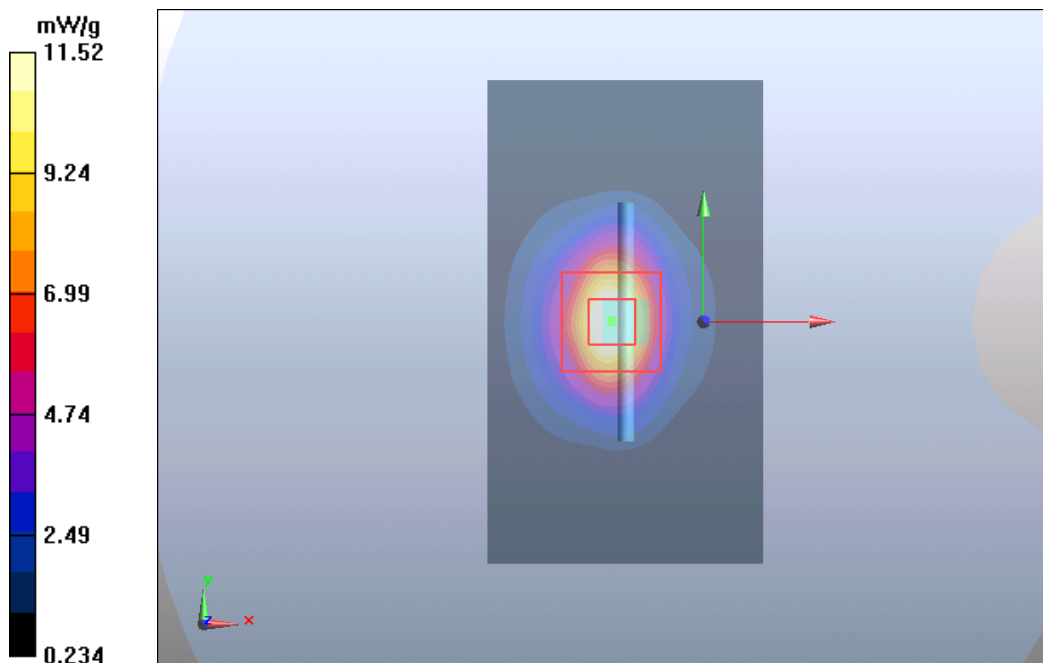
Peak SAR (extrapolated) = 20.1 W/kg

**SAR(1 g) = 9.55 mW/g; SAR(10 g) = 4.99 mW/g**

Smallest distance from peaks to all points 3 dB below = 10 mm

Ratio of SAR at M2 to SAR at M1 = 51.9%

Maximum value of SAR (measured) = 11.52 mW/g



**Plot 10 System Performance Check at 2450 MHz TSL**

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2**

Date: 2022/10/25

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.81$  S/m;  $\epsilon_r = 38.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.46, 7.46, 7.46); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (4x7x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 18.2 mW/g

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

Reference Value = 88.8 V/m; Power Drift = 0.075 dB

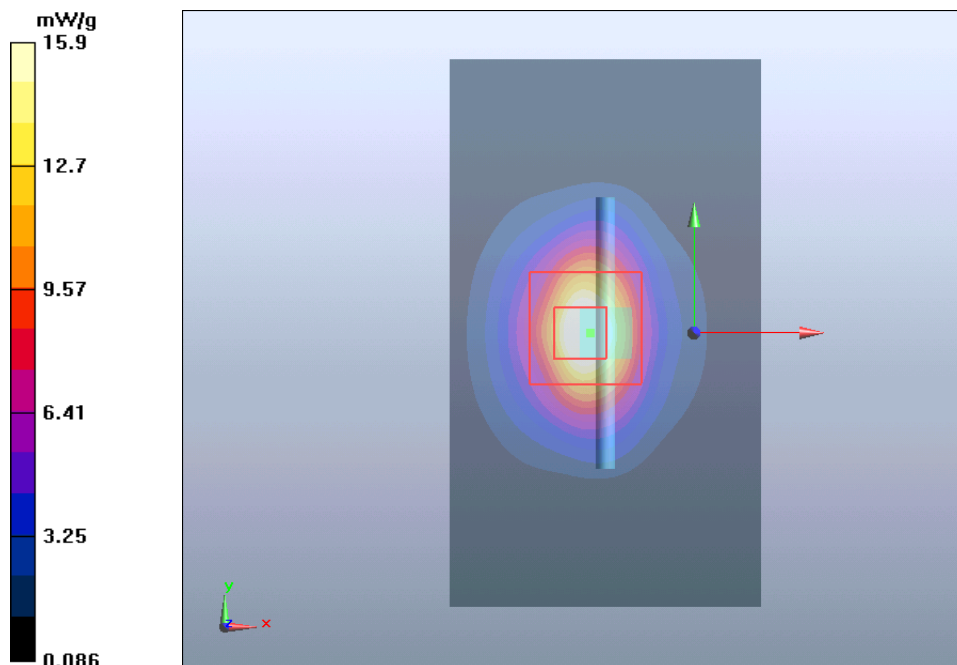
Peak SAR (extrapolated) = 30 W/kg

**SAR(1 g) = 13.7 mW/g; SAR(10 g) = 6.22 mW/g**

Smallest distance from peaks to all points 3 dB below = 8.9 mm

Ratio of SAR at M2 to SAR at M1 = 47%

Maximum value of SAR (measured) = 15.9 mW/g



**Plot 11 System Performance Check at 2600 MHz TSL**

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2**

Date: 2022/10/27

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.01$  S/m;  $\epsilon_r = 38.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (4x7x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 17.439 mW/g

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

Reference Value = 87.998 V/m; Power Drift = -0.04 dB

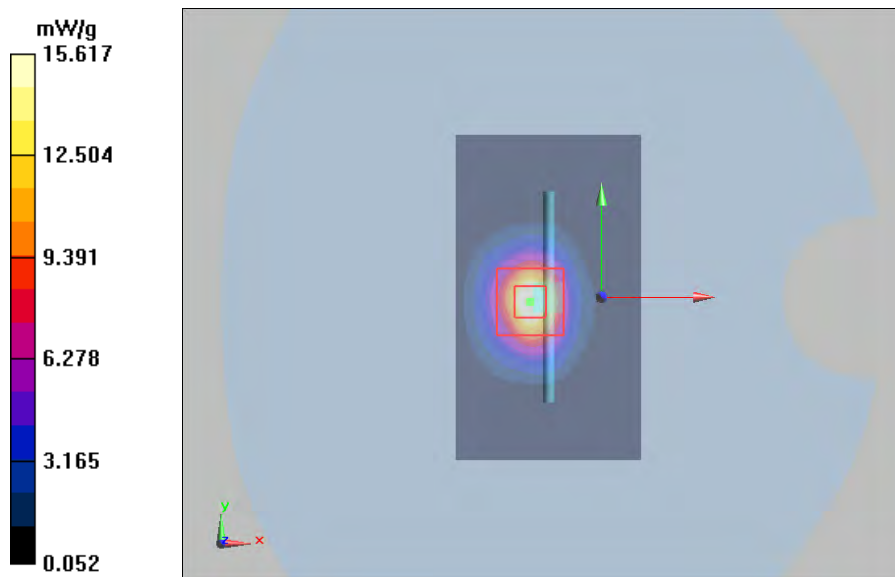
Peak SAR (extrapolated) = 31.858 W/kg

**SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.07 mW/g**

Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1 = 44%

Maximum value of SAR (measured) = 15.617 mW/g



**Plot 12 System Performance Check at 2600 MHz TSL****DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2**

Date: 2022/10/29

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 1.94$  S/m;  $\epsilon_r = 38.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (4x7x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 17.59 mW/g

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

Reference Value = 87.998 V/m; Power Drift = -0.04 dB

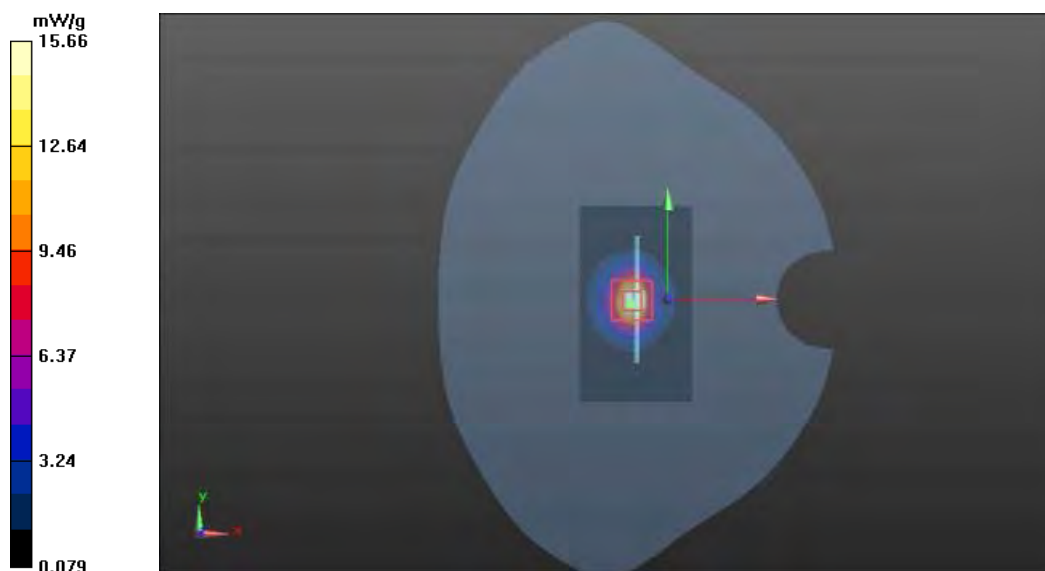
Peak SAR (extrapolated) = 31.858 W/kg

**SAR(1 g) = 13.88 mW/g; SAR(10 g) = 6.09 mW/g**

Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1 = 44%

Maximum value of SAR (measured) = 15.66 mW/g





**Plot 13 System Performance Check at 2600 MHz TSL**

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2**

Date: 2022/10/30

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 1.99$  S/m;  $\epsilon_r = 38.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (4x7x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 17.32 mW/g

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

Reference Value = 87.465 V/m; Power Drift = 0.146 dB

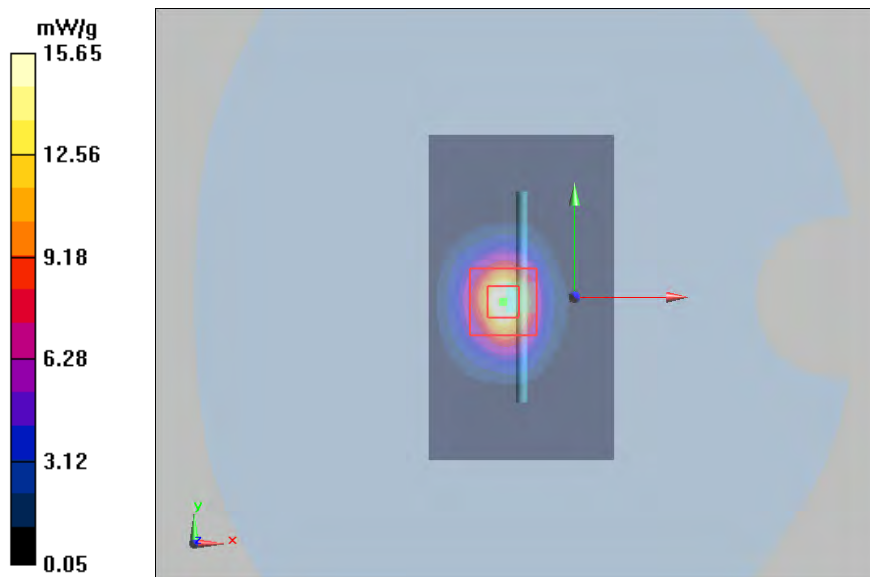
Peak SAR (extrapolated) = 31.85 W/kg

**SAR(1 g) = 13.94 mW/g; SAR(10 g) = 6.11 mW/g**

Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1 = 44%

Maximum value of SAR (measured) = 15.65 mW/g



**Plot 14 System Performance Check at 2600 MHz TSL**

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2**

Date: 2022/10/31

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600 \text{ MHz}$ ;  $\sigma = 1.98 \text{ S/m}$ ;  $\epsilon_r = 39.0$ ;  $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=250mW/Area Scan (4x7x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 17.7 mW/g

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

Reference Value = 74 V/m; Power Drift = -0.0027 dB

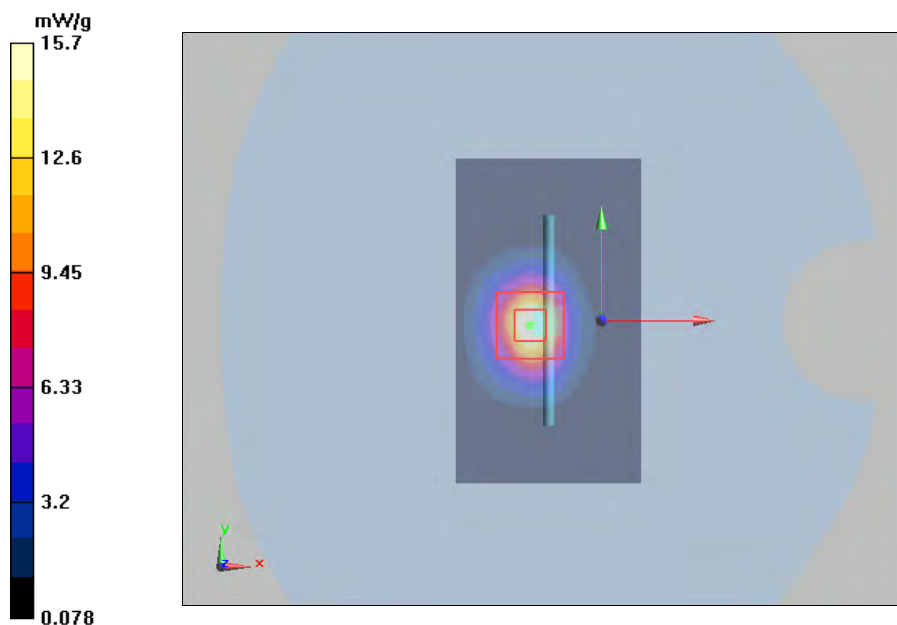
Peak SAR (extrapolated) = 28.5 W/kg

**SAR(1 g) = 13.85 mW/g; SAR(10 g) = 5.99 mW/g**

Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1= 44%

Maximum value of SAR (measured) = 15.7 mW/g



**Plot 15 System Performance Check at 5250 MHz TSL****DUT: Dipole 5250 MHz; Type: D5GHzV2; Serial: D5GHzV2**

Date: 2022/11/1

Communication System: CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5250$  MHz;  $\sigma = 4.80$  S/m;  $\epsilon_r = 35.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.48, 5.48, 5.48); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=100mW/Area Scan (6x10x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 9.14 mW/g

**d=10mm, Pin=100mW/Zoom Scan (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

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

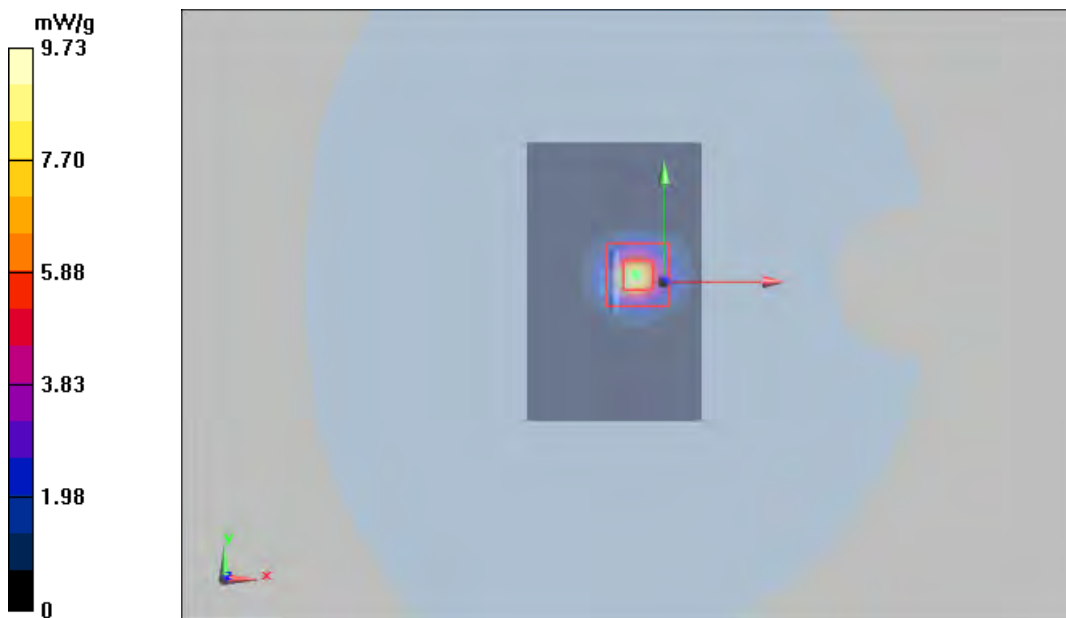
Peak SAR (extrapolated) = 52.2 W/kg

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

Smallest distance from peaks to all points 3 dB below = 7.2 mm

Ratio of SAR at M2 to SAR at M1 = 63%

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



**Plot 16 System Performance Check at 5250 MHz TSL**

**DUT: Dipole 5250 MHz; Type: D5GHzV2; Serial: D5GHzV2**

Date: 2022/11/2

Communication System: CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5200$  MHz;  $\sigma = 4.74$  S/m;  $\epsilon_r = 35.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.48, 5.48, 5.48); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=100mW/Area Scan (6x10x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 9.4 mW/g

**d=10mm, Pin=100mW/Zoom Scan (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 33.6 V/m; Power Drift = -0.15 dB

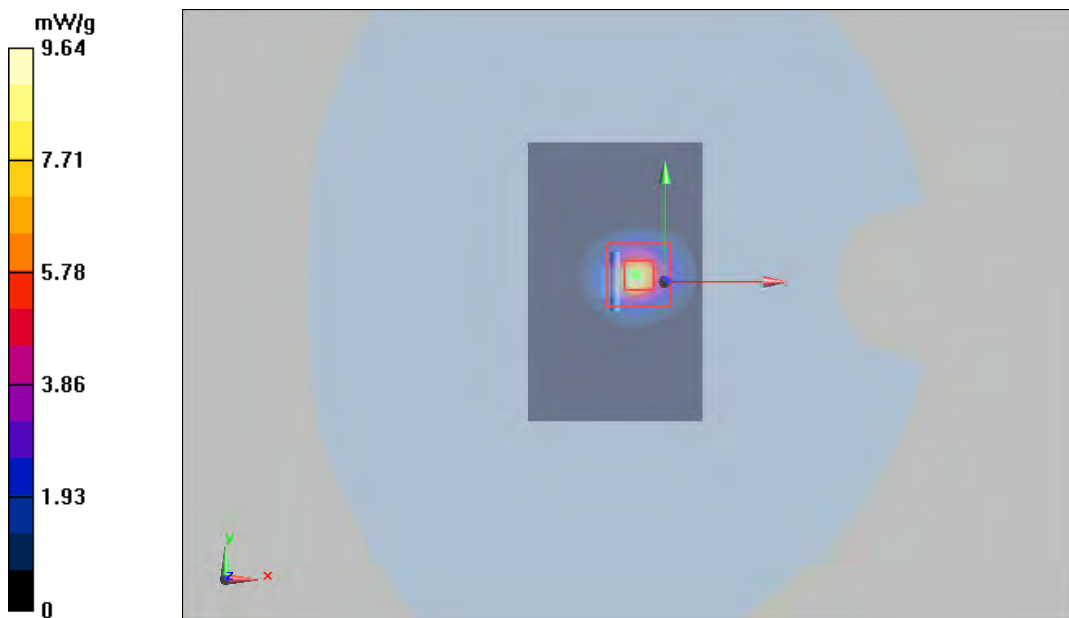
Peak SAR (extrapolated) = 52.2 W/kg

**SAR(1 g) = 7.54 mW/g; SAR(10 g) = 2.27 mW/g**

Smallest distance from peaks to all points 3 dB below = 7.2 mm

Ratio of SAR at M2 to SAR at M1 = 63%

Maximum value of SAR (measured) = 9.64 mW/g



**Plot 17 System Performance Check at 5600 MHz TSL**

**DUT: Dipole 5600 MHz; Type: D5GHzV2; Serial: D5GHzV2**

Date: 2022/11/3

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

Medium parameters used:  $f = 5600$  MHz;  $\sigma = 5.21$  S/m;  $\epsilon_r = 34.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.97, 4.97, 4.97); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=100mW/Area Scan (6x10x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 8.25 mW/g

**d=10mm, Pin=100mW/Zoom Scan (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 23.1 V/m; Power Drift = -0.028 dB

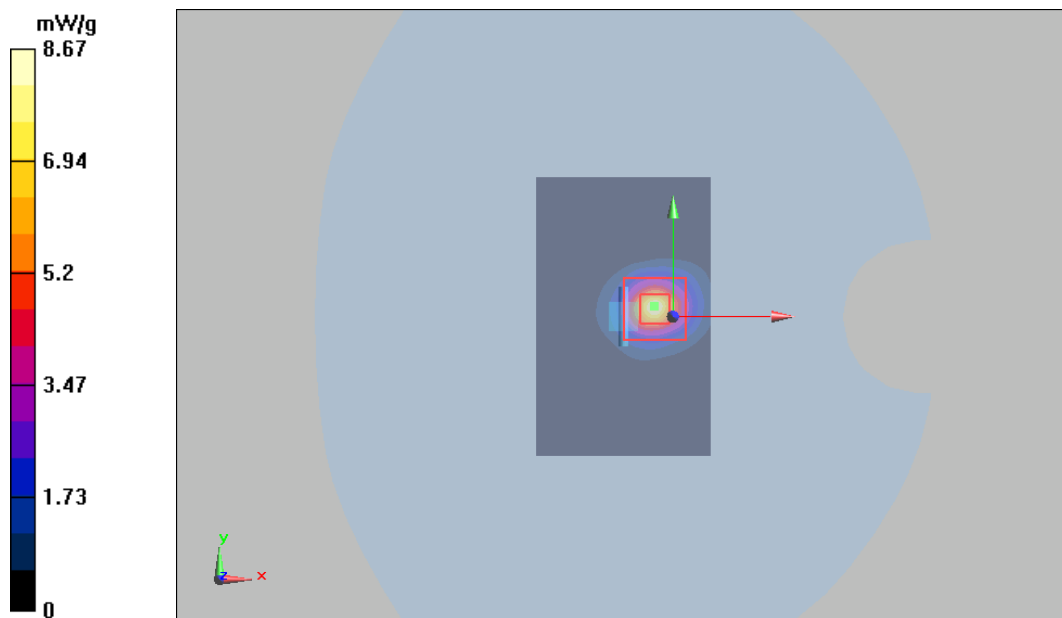
Peak SAR (extrapolated) = 22.9 W/kg

**SAR(1 g) = 7.67 mW/g; SAR(10 g) = 2.27 mW/g**

Smallest distance from peaks to all points 3 dB below = 7.2 mm

Ratio of SAR at M2 to SAR at M1 = 61.4%

Maximum value of SAR (measured) = 8.67 mW/g



**Plot 18 System Performance Check at 5750 MHz TSL**

**DUT: Dipole 5750 MHz; Type: D5GHzV2; Serial: D5GHzV2**

Date: 2022/11/4

Communication System: CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5750$  MHz;  $\sigma = 5.21$  S/m;  $\epsilon_r = 34.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.00, 5.00, 5.00); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**d=10mm, Pin=100mW/Area Scan (6x10x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 8.31 mW/g

**d=10mm, Pin=100mW/Zoom Scan (8x8x7)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

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

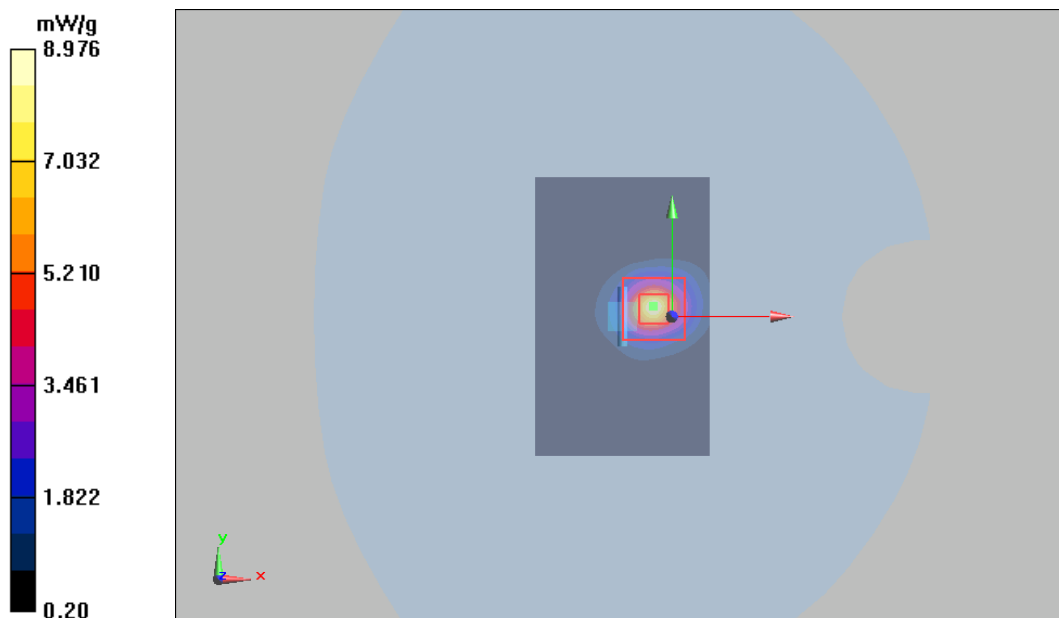
Peak SAR (extrapolated) = 23.4 W/kg

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

Smallest distance from peaks to all points 3 dB below = 7.2 mm

Ratio of SAR at M2 to SAR at M1 = 59.9%

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



## ANNEX C: Highest Graph Results

### Plot 19 GSM 850 Left Cheek Middle

Date: 2022/10/23

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.30

Medium parameters used:  $f = 837 \text{ MHz}$ ;  $\sigma = 0.944 \text{ S/m}$ ;  $\epsilon_r = 41.288$ ;  $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Left Cheek Middle/Area Scan (8x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) =  $0.117 \text{ W/kg}$

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

Reference Value =  $2.464 \text{ V/m}$ ; Power Drift =  $0.025 \text{ dB}$

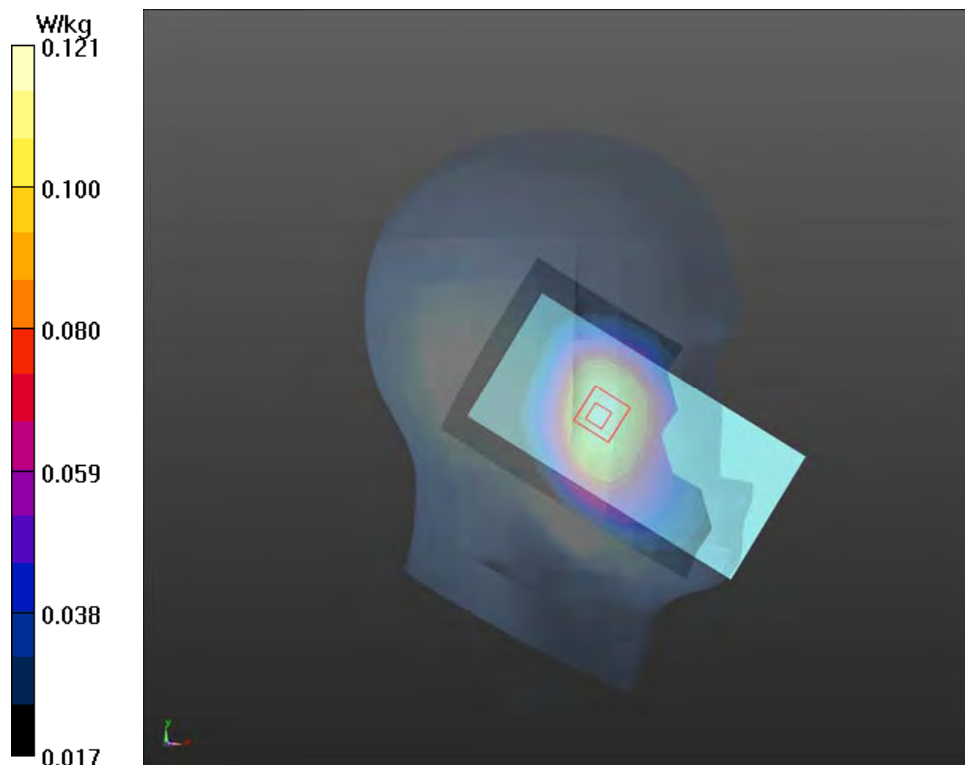
Peak SAR (extrapolated) =  $0.141 \text{ W/kg}$

**SAR(1 g) =  $0.117 \text{ W/kg}$ ; SAR(10 g) =  $0.091 \text{ W/kg}$**

Smallest distance from peaks to all points 3 dB below =  $8.8 \text{ mm}$

Ratio of SAR at M2 to SAR at M1 =  $80.6\%$

Maximum value of SAR (measured) =  $0.121 \text{ W/kg}$



**Plot 20 GSM 1900 Right Tilt Middle**

Date: 2022/10/18

Communication System: UID 0, GSM (0); Frequency: 1880 MHz; Duty Cycle: 1:8.30

Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.42 \text{ S/m}$ ;  $\epsilon_r = 38.948$ ;  $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Right Tilt Middle/Area Scan (8x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) =  $0.590 \text{ W/kg}$

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

Reference Value =  $14.46 \text{ V/m}$ ; Power Drift =  $-0.010 \text{ dB}$

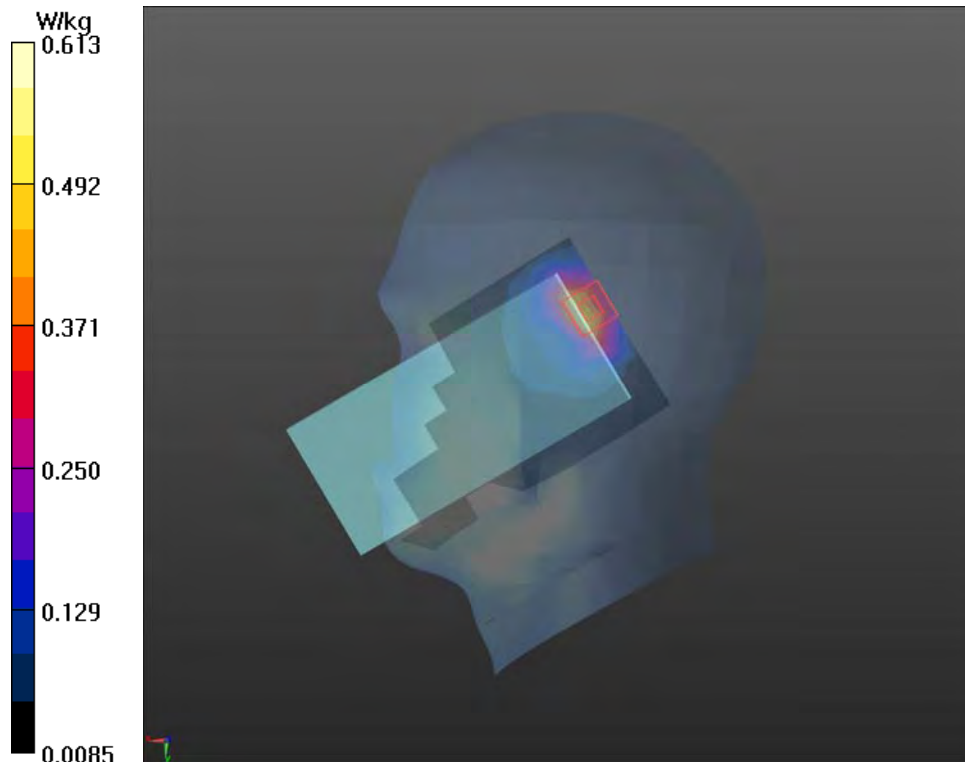
Peak SAR (extrapolated) =  $0.966 \text{ W/kg}$

**SAR(1 g) =  $0.529 \text{ W/kg}$ ; SAR(10 g) =  $0.270 \text{ W/kg}$**

Smallest distance from peaks to all points 3 dB below =  $9.6 \text{ mm}$

Ratio of SAR at M2 to SAR at M1 =  $55.1\%$

Maximum value of SAR (measured) =  $0.613 \text{ W/kg}$





**Plot 21 WCDMA Band II Right Tilt Middle**

Date: 2022/10/18

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.42$  S/m;  $\epsilon_r = 38.948$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Right Tilt Middle/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.570 W/kg

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

Reference Value = 13.94 V/m; Power Drift = 0.090 dB

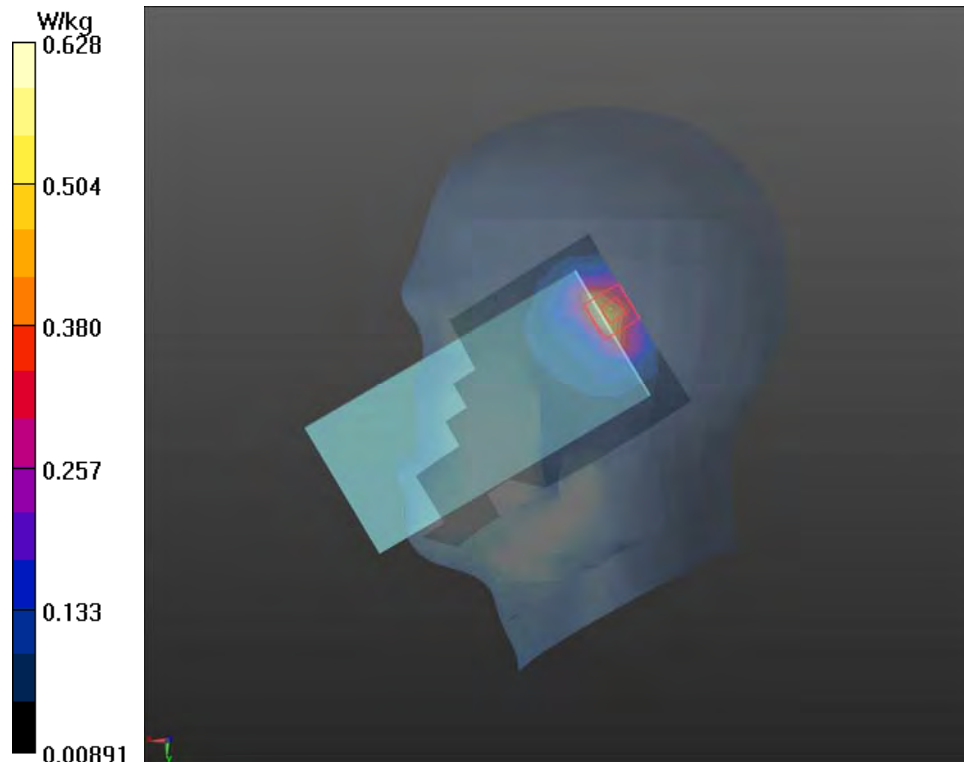
Peak SAR (extrapolated) = 0.993 W/kg

**SAR(1 g) = 0.548 W/kg; SAR(10 g) = 0.280 W/kg**

Smallest distance from peaks to all points 3 dB below = 10.1 mm

Ratio of SAR at M2 to SAR at M1 = 55.7%

Maximum value of SAR (measured) = 0.628 W/kg



**Plot 22 WCDMA Band IV Right Tilt Middle**

Date: 2022/10/24

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

Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.312$  S/m;  $\epsilon_r = 39.365$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Right Tilt Middle/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.620 W/kg

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

Reference Value = 15.80 V/m; Power Drift = 0.020 dB

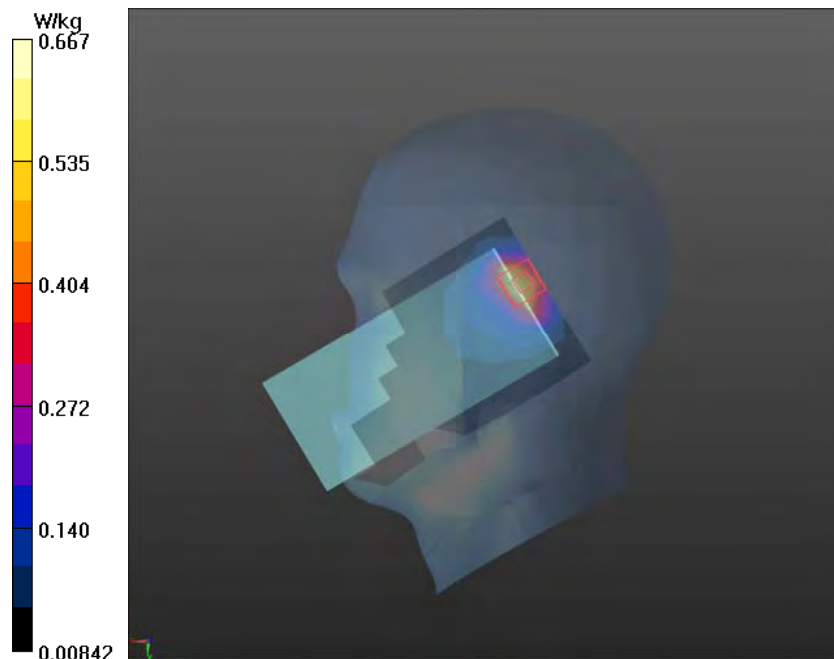
Peak SAR (extrapolated) = 1.08 W/kg

**SAR(1 g) = 0.610 W/kg; SAR(10 g) = 0.322 W/kg**

Smallest distance from peaks to all points 3 dB below = 11.2 mm

Ratio of SAR at M2 to SAR at M1 = 57.6%

Maximum value of SAR (measured) = 0.667 W/kg



**Plot 23 WCDMA Band V Left Cheek Middle**

Date: 2022/10/19

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

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.944$  S/m;  $\epsilon_r = 41.288$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Left Cheek Middle/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.150 W/kg

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

Reference Value = 3.416 V/m; Power Drift = 0.070 dB

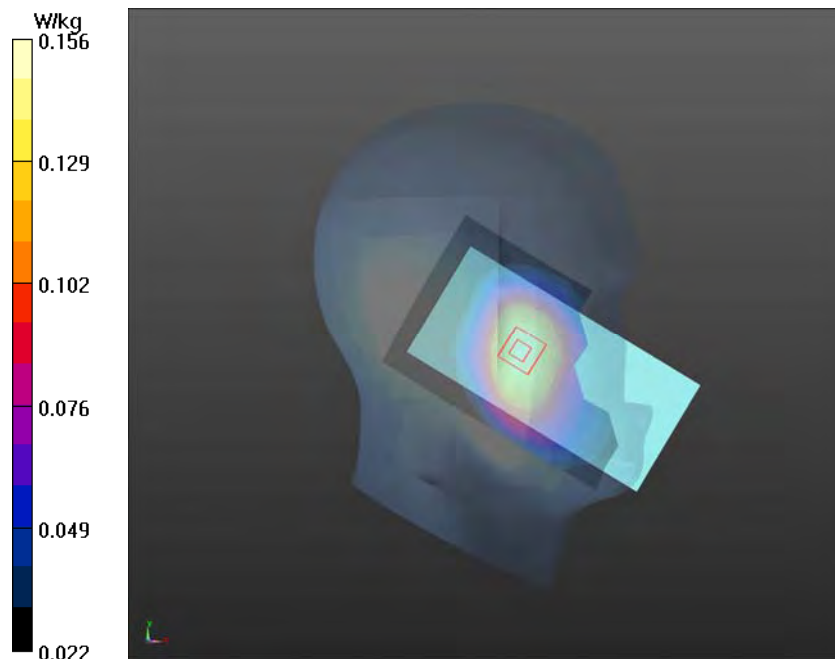
Peak SAR (extrapolated) = 0.183 W/kg

**SAR(1 g) = 0.149 W/kg; SAR(10 g) = 0.116 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.9 mm

Ratio of SAR at M2 to SAR at M1 = 80.1%

Maximum value of SAR (measured) = 0.156 W/kg



**Plot 24 LTE Band 2 50%RB Right Tilt High**

Date: 2022/10/18

Communication System: UID 0, LTE (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.452$  S/m;  $\epsilon_r = 37.286$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Right Tilt High/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.767 W/kg

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

Reference Value = 18.46 V/m; Power Drift = -0.020 dB

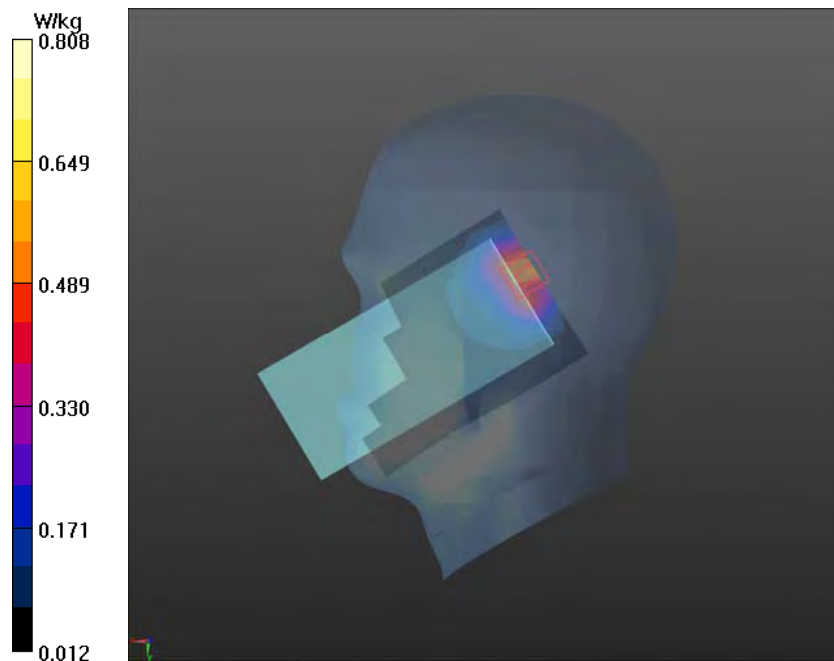
Peak SAR (extrapolated) = 1.30 W/kg

**SAR(1 g) = 0.737 W/kg; SAR(10 g) = 0.388 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.6 mm

Ratio of SAR at M2 to SAR at M1 = 56.5%

Maximum value of SAR (measured) = 0.808 W/kg



**Plot 25 LTE Band 4 1RB Right Tilt High**

Date: 2022/10/26

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

Medium parameters used:  $f = 1745$  MHz;  $\sigma = 1.338$  S/m;  $\epsilon_r = 37.717$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Right Tilt High /Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.655 W/kg

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

Reference Value = 18.79 V/m; Power Drift = 0.014 dB

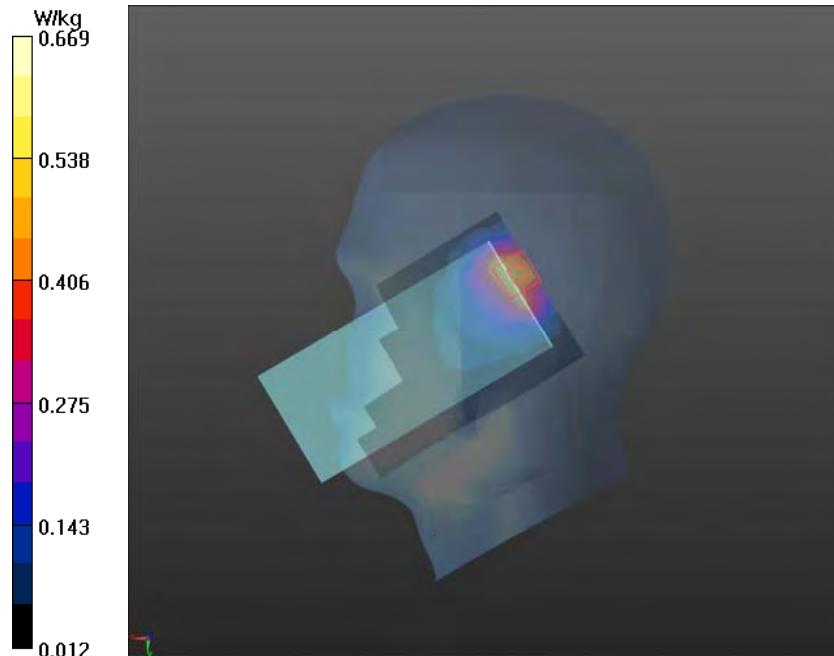
Peak SAR (extrapolated) = 1.13 W/kg

**SAR(1 g) = 0.643 W/kg; SAR(10 g) = 0.346 W/kg**

Smallest distance from peaks to all points 3 dB below = 11.2 mm

Ratio of SAR at M2 to SAR at M1 = 58.7%

Maximum value of SAR (measured) = 0.669 W/kg



**Plot 26 LTE Band 5 1RB Right Cheek Middle**

Date: 2022/10/19

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

Medium parameters used (interpolated):  $f = 836.5$  MHz;  $\sigma = 0.944$  S/m;  $\epsilon_r = 41.288$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Right Cheek Middle/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.144 W/kg

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

Reference Value = 3.838 V/m; Power Drift = 0.066 dB

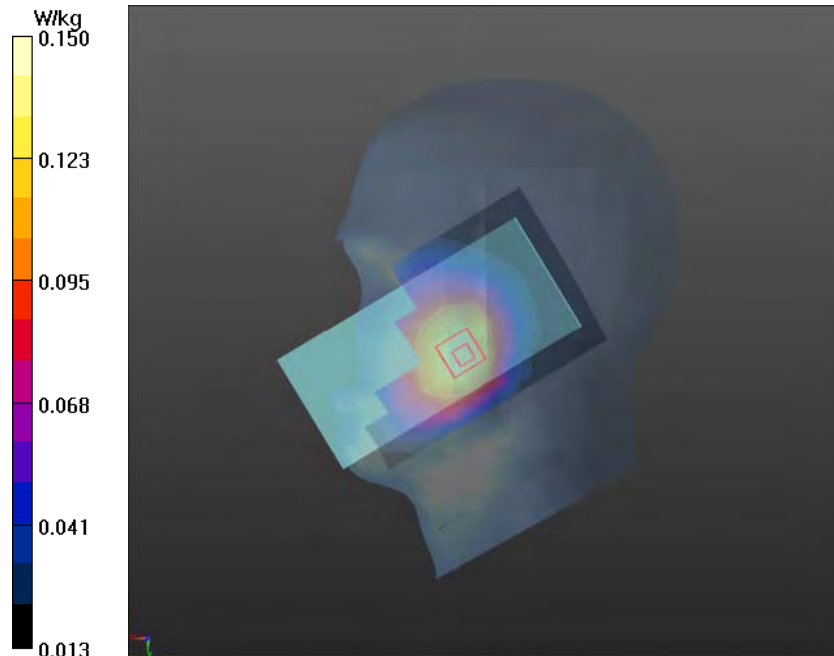
Peak SAR (extrapolated) = 0.181 W/kg

**SAR(1 g) = 0.144 W/kg; SAR(10 g) = 0.110 W/kg**

Smallest distance from peaks to all points 3 dB below = 23.7 mm

Ratio of SAR at M2 to SAR at M1 = 79.4%

Maximum value of SAR (measured) = 0.150 W/kg



**Plot 27 LTE Band 7 1RB Right Tilt Low**

Date: 2022/10/27

Communication System: UID 0, LTE (0); Frequency: 2510 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 1.91$  S/m;  $\epsilon_r = 37.398$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Right Tilt Low/Area Scan (10x18x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.836 W/kg

**Right Tilt Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.51 V/m; Power Drift = -0.170 dB

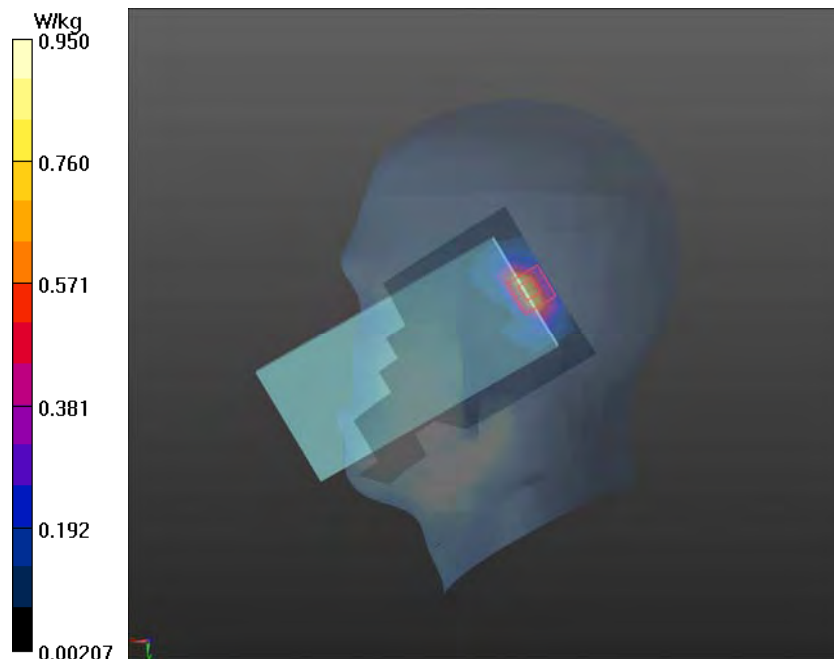
Peak SAR (extrapolated) = 1.92 W/kg

**SAR(1 g) = 0.813 W/kg; SAR(10 g) = 0.342 W/kg**

Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1 = 46.8%

Maximum value of SAR (measured) = 0.950 W/kg



**Plot 28 LTE Band 13 1RB Left Cheek Middle**

Date: 2022/10/22

Communication System: UID 0, LTE (0); Frequency: 782 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 782 \text{ MHz}$ ;  $\sigma = 0.909 \text{ S/m}$ ;  $\epsilon_r = 41.607$ ;  $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.63, 9.63, 9.63); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Left Cheek Middle/Area Scan (8x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) =  $0.0946 \text{ W/kg}$

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

Reference Value =  $3.731 \text{ V/m}$ ; Power Drift =  $0.044 \text{ dB}$

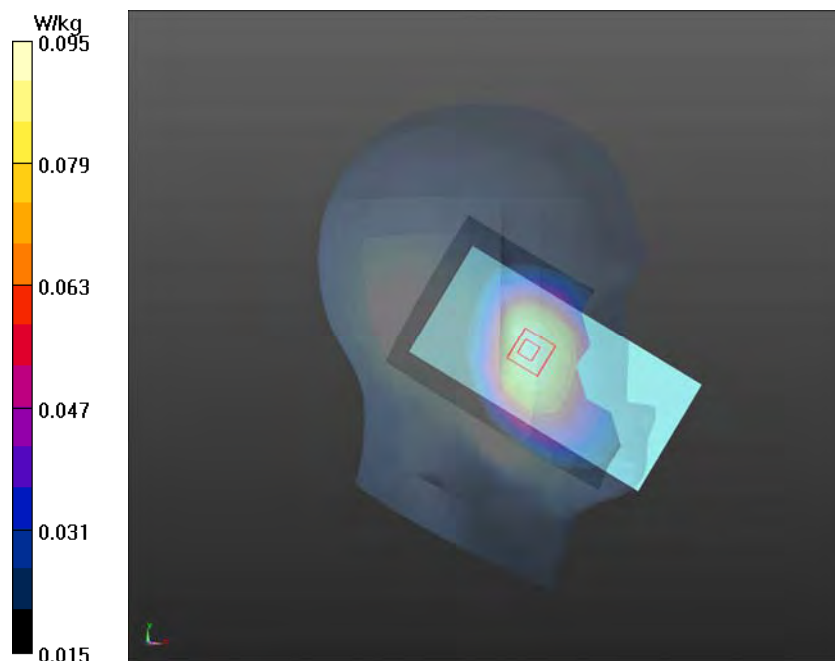
Peak SAR (extrapolated) =  $0.109 \text{ W/kg}$

**SAR(1 g) =  $0.091 \text{ W/kg}$ ; SAR(10 g) =  $0.073 \text{ W/kg}$**

Smallest distance from peaks to all points 3 dB below =  $9 \text{ mm}$

Ratio of SAR at M2 to SAR at M1 =  $83.8\%$

Maximum value of SAR (measured) =  $0.095 \text{ W/kg}$





**Plot 29 LTE Band 26 1RB Left Cheek Low**

Date: 2022/10/23

Communication System: UID 0, LTE (0); Frequency: 821.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 821.5$  MHz;  $\sigma = 0.934$  S/m;  $\epsilon_r = 41.409$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Left Cheek Low/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.136 W/kg

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

Reference Value = 3.963 V/m; Power Drift = 0.117 dB

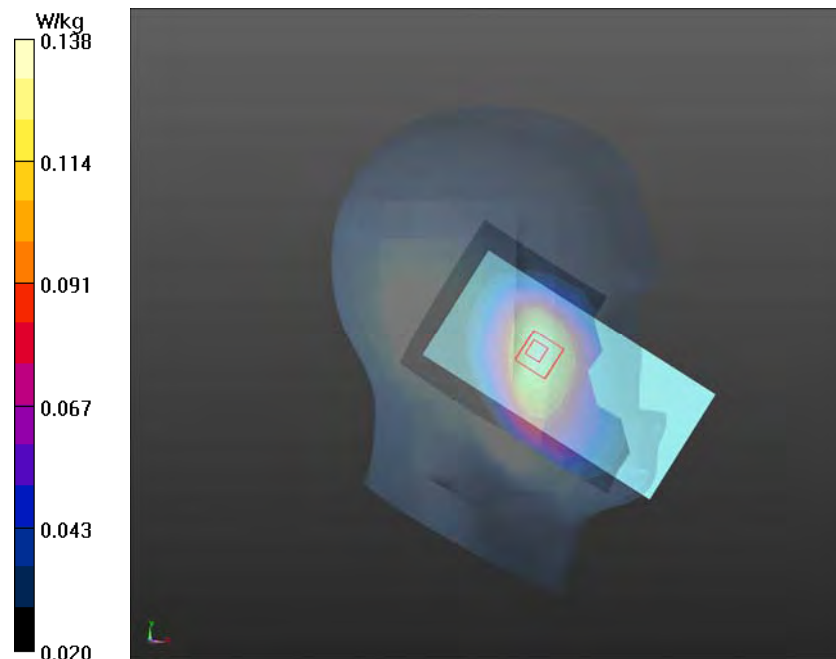
Peak SAR (extrapolated) = 0.165 W/kg

**SAR(1 g) = 0.136 W/kg; SAR(10 g) = 0.094 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.7 mm

Ratio of SAR at M2 to SAR at M1 = 80.1%

Maximum value of SAR (measured) = 0.138 W/kg



**Plot 30 LTE Band 38 50%RB Left Tilt High**

Date: 2022/10/27

Communication System: UID 0, LTE (0); Frequency: 2610 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2610$  MHz;  $\sigma = 2.027$  S/m;  $\epsilon_r = 37.056$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Left Tilt High/Area Scan (10x18x1):** Measurement grid: dx=12mm, dy=12mm

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

**Left Tilt High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 23.81 V/m; Power Drift = -0.030 dB

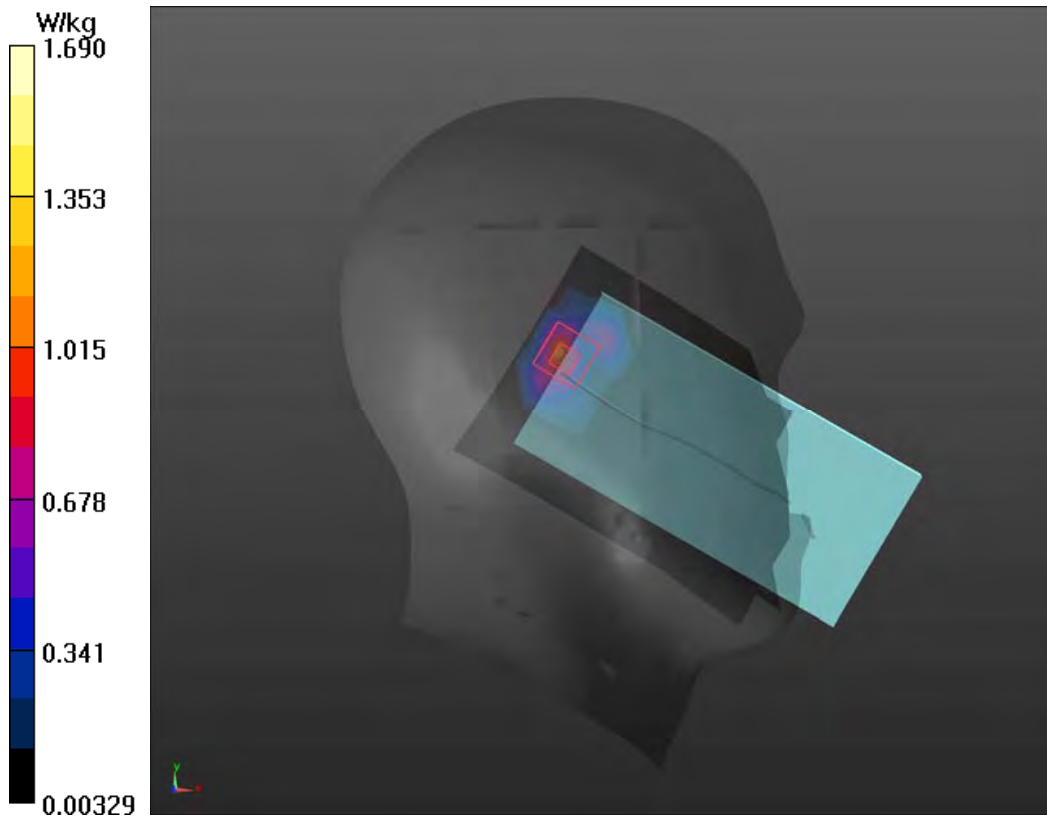
Peak SAR (extrapolated) = 2.19 W/kg

**SAR(1 g) = 0.724 W/kg; SAR(10 g) = 0.292 W/kg**

Smallest distance from peaks to all points 3 dB below = 8.4 mm

Ratio of SAR at M2 to SAR at M1 = 46.1%

Maximum value of SAR (measured) = 1.69 W/kg



**Plot 31 LTE Band 66 1RB Right Tilt High**

Date: 2022/10/28

Communication System: UID 0, LTE (0); Frequency: 1770 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1770$  MHz;  $\sigma = 1.358$  S/m;  $\epsilon_r = 37.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Right Tilt High/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.739 W/kg

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

Reference Value = 18.30 V/m; Power Drift = 0.030 dB

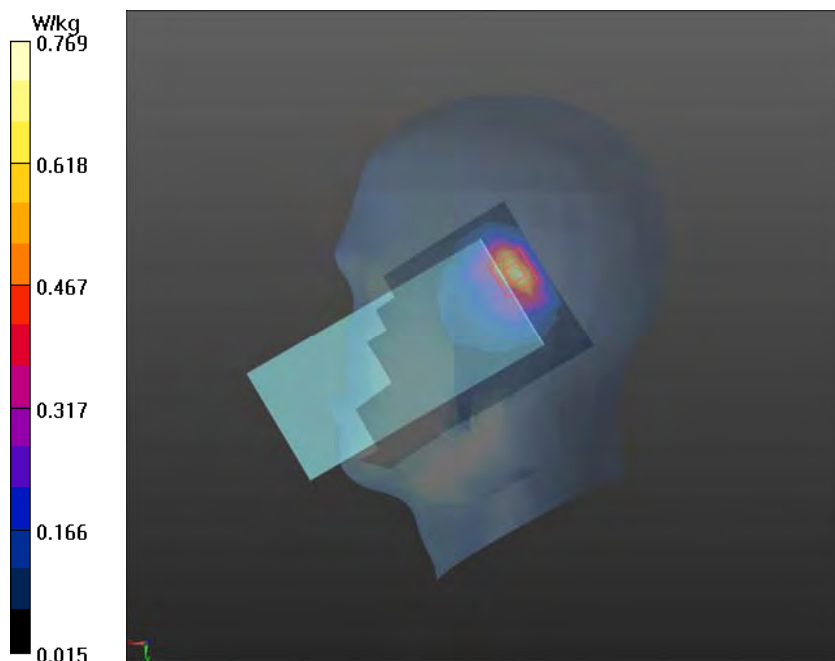
Peak SAR (extrapolated) = 1.17 W/kg

**SAR(1 g) = 0.666 W/kg; SAR(10 g) = 0.357 W/kg**

Smallest distance from peaks to all points 3 dB below = 11.2 mm

Ratio of SAR at M2 to SAR at M1 = 57.7%

Maximum value of SAR (measured) = 0.769 W/kg



**Plot 32 802.11b Left Cheek Low**

Date: 2022/10/25

Communication System: UID 0, 802.11b (0); Frequency: 2412 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2412$  MHz;  $\sigma = 1.801$  S/m;  $\epsilon_r = 37.737$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.46, 7.46, 7.46); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Left Cheek Low/Area Scan (10x18x1):** Measurement grid: dx=12mm, dy=12mm

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

**Left Cheek Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.579 V/m; Power Drift = 0.025 dB

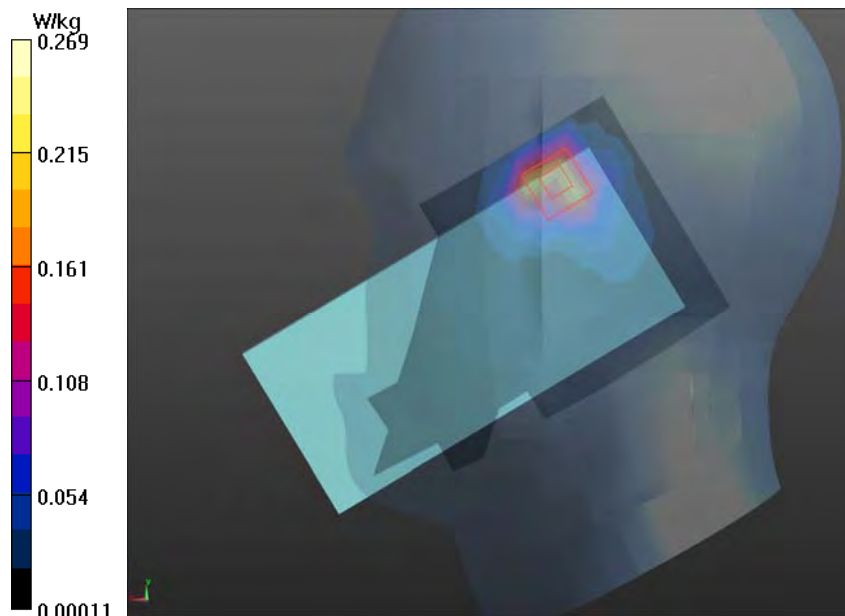
Peak SAR (extrapolated) = 0.564 W/kg

**SAR(1 g) = 0.235 W/kg; SAR(10 g) = 0.105 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.4 mm

Ratio of SAR at M2 to SAR at M1 = 43.3%

Maximum value of SAR (measured) = 0.269 W/kg



**Plot 33 802.11ac VHT80 U-NII-1 Left Tilt Middle**

Date: 2022/11/1

Communication System: UID 0, 802.11ac 80M (0); Frequency: 5210 MHz; Duty Cycle: 1:1.13

Medium parameters used:  $f = 5210$  MHz;  $\sigma = 4.847$  S/m;  $\epsilon_r = 36.715$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.48, 5.48, 5.48); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Left Tilt Middle /Area Scan (12x21x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.351 W/kg

**Left Tilt Middle /Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.541 V/m; Power Drift = 0.04 dB

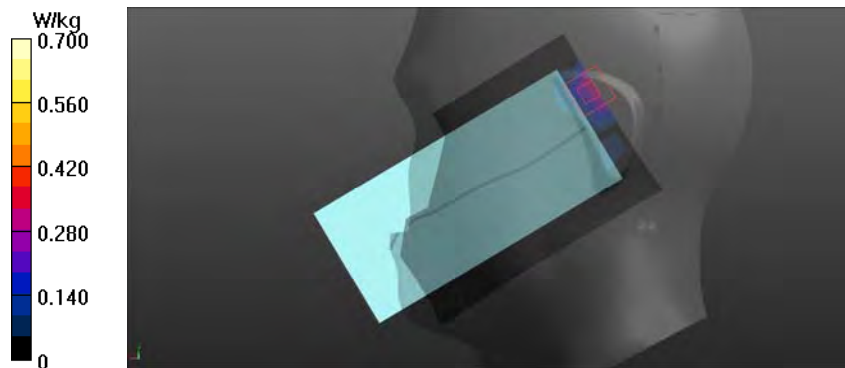
Peak SAR (extrapolated) = 1.46 W/kg

**SAR(1 g) = 0.297 W/kg; SAR(10 g) = 0.075 W/kg**

Smallest distance from peaks to all points 3 dB below = 4.8 mm

Ratio of SAR at M2 to SAR at M1 = 39.6%

Maximum value of SAR (measured) = 0.700 W/kg



**Plot 34 Bluetooth Left Cheek Middle**

Date: 2022/10/25

Communication System: UID 0, BT (0); Frequency: 2441 MHz; Duty Cycle: 1:1.32

Medium parameters used:  $f = 2441$  MHz;  $\sigma = 1.834$  S/m;  $\epsilon_r = 37.585$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.46, 7.46, 7.46); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Left Cheek Middle/Area Scan (10x18x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.076 W/kg

**Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.378 V/m; Power Drift = 0.015 dB

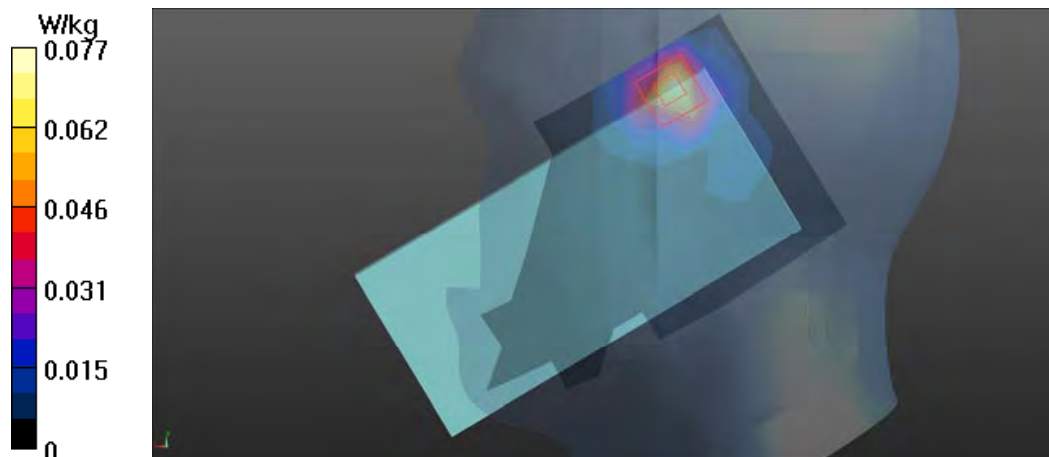
Peak SAR (extrapolated) = 0.154 W/kg

**SAR(1 g) = 0.068 W/kg; SAR(10 g) = 0.031 W/kg**

Smallest distance from peaks to all points 3 dB below = 10.1 mm

Ratio of SAR at M2 to SAR at M1 = 42.5%

Maximum value of SAR (measured) = 0.077 W/kg



**Plot 35 GSM 850 Back Side Middle (Distance 15mm)**

Date: 2022/10/19

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.939$  S/m;  $\epsilon_r = 41.856$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Middle/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.241 W/kg

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

Reference Value = 10.540 V/m; Power Drift = 0.090 dB

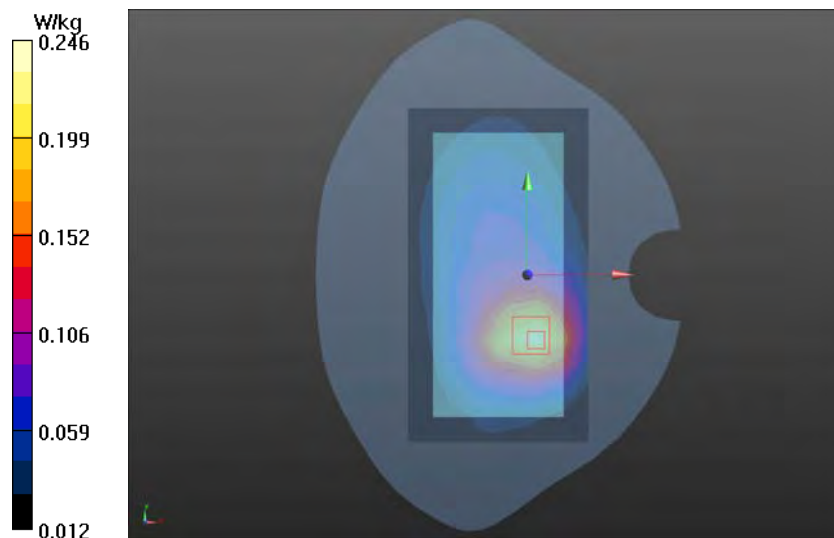
Peak SAR (extrapolated) = 0.341 W/kg

**SAR(1 g) = 0.224 W/kg; SAR(10 g) = 0.146 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.4 mm

Ratio of SAR at M2 to SAR at M1 = 67.1%

Maximum value of SAR (measured) = 0.246 W/kg



**Plot 36 GSM 1900 Back Side Middle (Distance 15mm)**

Date: 2022/10/18

Communication System: UID 0, GSM (0); Frequency: 1880 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.42$  S/m;  $\epsilon_r = 38.948$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Middle/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.205 W/kg

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

Reference Value = 6.158 V/m; Power Drift = 0.020 dB

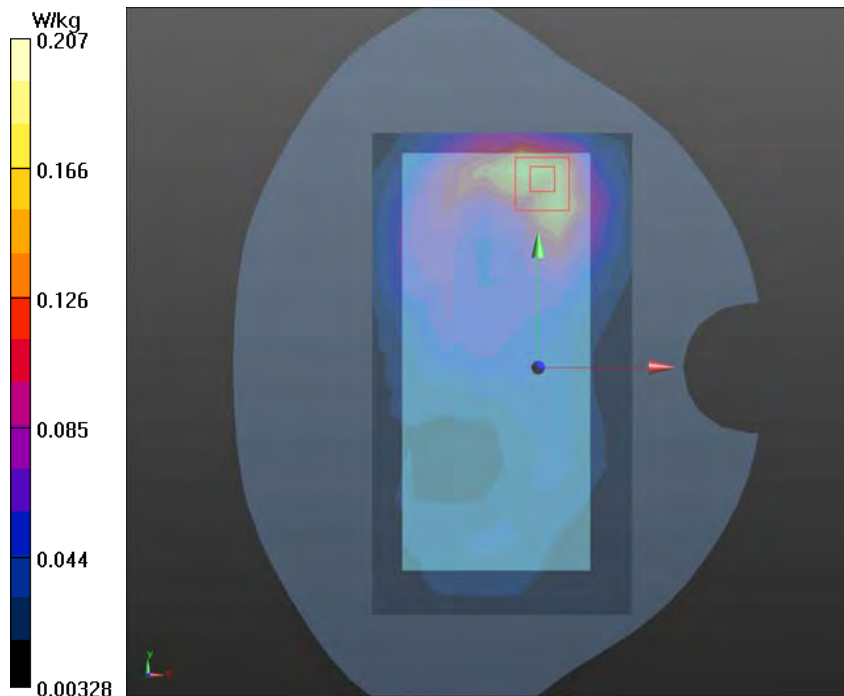
Peak SAR (extrapolated) = 0.302 W/kg

**SAR(1 g) = 0.192 W/kg; SAR(10 g) = 0.108 W/kg**

Smallest distance from peaks to all points 3 dB below = 14.3 mm

Ratio of SAR at M2 to SAR at M1 = 58.5%

Maximum value of SAR (measured) = 0.207 W/kg





**Plot 37 WCDMA Band II Back Side Middle (Battery2 Distance 15mm)**

Date: 2022/10/20

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.42$  S/m;  $\epsilon_r = 38.948$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Middle/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 8.073 V/m; Power Drift = 0.020 dB

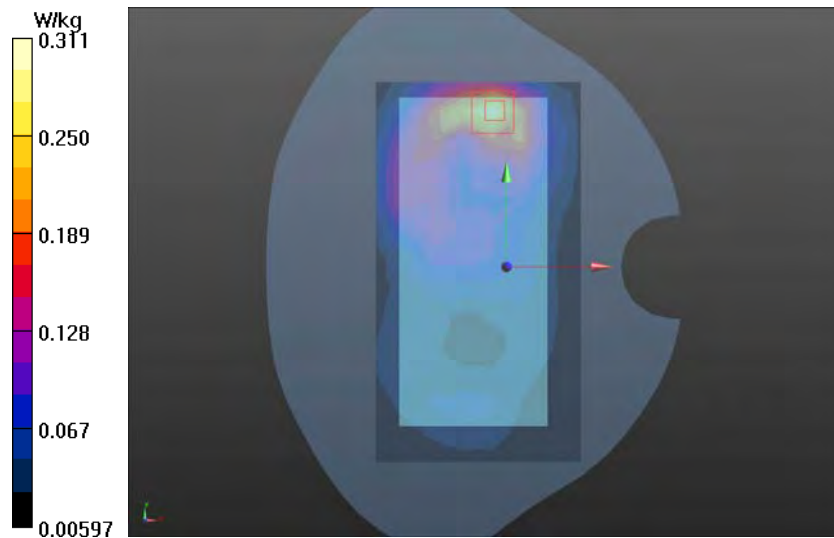
Peak SAR (extrapolated) = 0.467 W/kg

**SAR(1 g) = 0.298 W/kg; SAR(10 g) = 0.170 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.9 mm

Ratio of SAR at M2 to SAR at M1 = 59.2%

Maximum value of SAR (measured) = 0.311 W/kg



**Plot 38 WCDMA Band IV Back Side Middle (Distance 15mm)**

Date: 2022/10/24

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

Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.312$  S/m;  $\epsilon_r = 39.365$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Middle/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.318 W/kg

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

Reference Value = 9.237 V/m; Power Drift = 0.080 dB

Peak SAR (extrapolated) = 0.487 W/kg

**SAR(1 g) = 0.293 W/kg; SAR(10 g) = 0.169 W/kg**

Smallest distance from peaks to all points 3 dB below = 13.7 mm

Ratio of SAR at M2 to SAR at M1 = 60.7%

Maximum value of SAR (measured) = 0.322 W/kg



**Plot 39 WCDMA Band V Back Side Middle (Distance 15mm)**

Date: 2022/10/23

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

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.939$  S/m;  $\epsilon_r = 41.856$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Middle/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.236 W/kg

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

Reference Value = 14.020 V/m; Power Drift = -0.040 dB

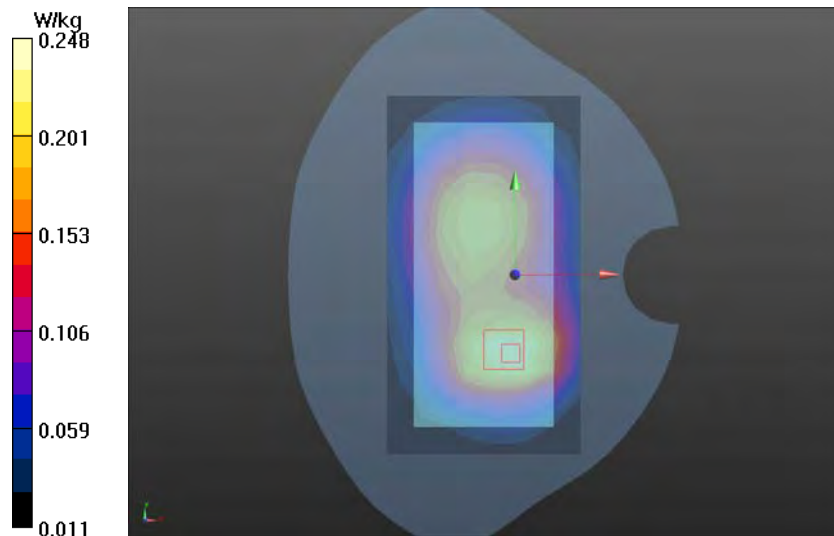
Peak SAR (extrapolated) = 0.350 W/kg

**SAR(1 g) = 0.232 W/kg; SAR(10 g) = 0.159 W/kg**

Smallest distance from peaks to all points 3 dB below = 10.1 mm

Ratio of SAR at M2 to SAR at M1 = 66.6%

Maximum value of SAR (measured) = 0.248 W/kg



**Plot 40 LTE Band 2 50%RB Back Side High (Distance 15mm)**

Date: 2022/10/20

Communication System: UID 0, LTE (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.434$  S/m;  $\epsilon_r = 38.861$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side High/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.401 W/kg

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

Reference Value = 8.396 V/m; Power Drift = 0.180 dB

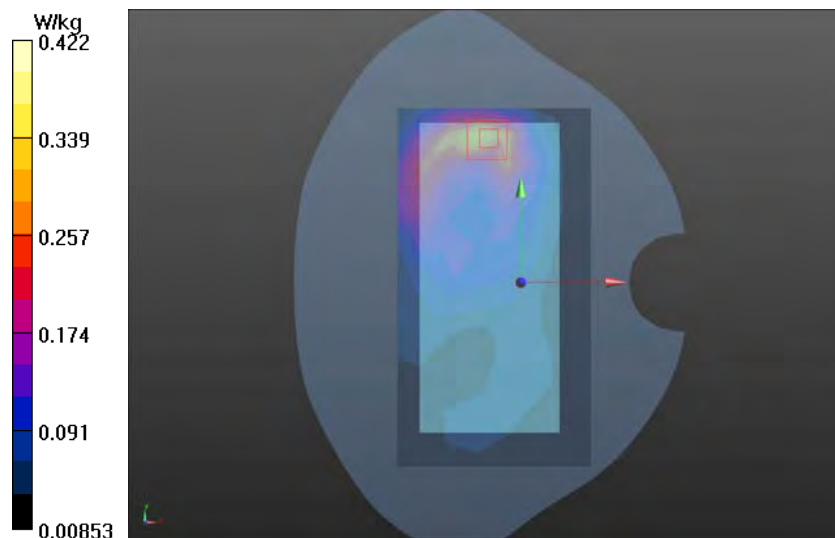
Peak SAR (extrapolated) = 0.551 W/kg

**SAR(1 g) = 0.392 W/kg; SAR(10 g) = 0.220 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.8 mm

Ratio of SAR at M2 to SAR at M1 = 58.5%

Maximum value of SAR (measured) = 0.442 W/kg



**Plot 41 LTE Band 4 1RB Back Side High (Distance 15mm)**

Date: 2022/10/26

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

Medium parameters used:  $f = 1745$  MHz;  $\sigma = 1.323$  S/m;  $\epsilon_r = 39.378$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side High/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.366 W/kg

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

Reference Value = 10.780 V/m; Power Drift = 0.090 dB

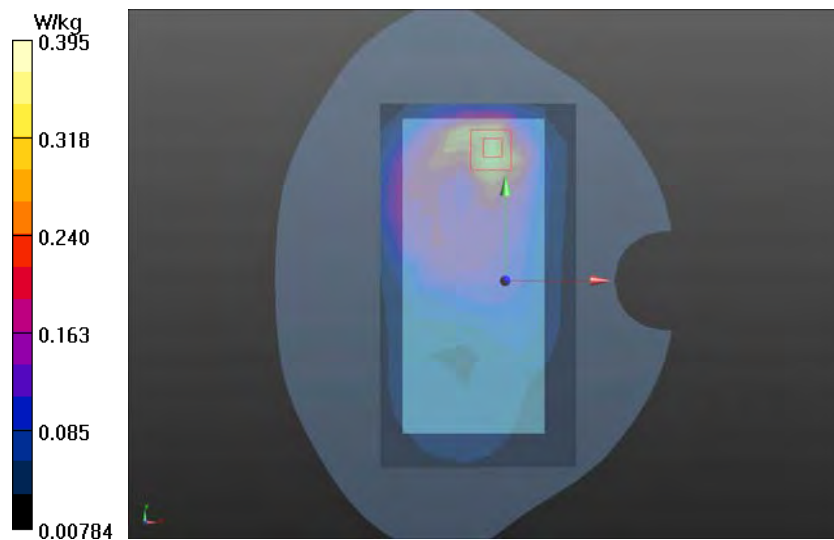
Peak SAR (extrapolated) = 0.603 W/kg

**SAR(1 g) = 0.360 W/kg; SAR(10 g) = 0.207 W/kg**

Smallest distance from peaks to all points 3 dB below = 13.7 mm

Ratio of SAR at M2 to SAR at M1 = 60.2%

Maximum value of SAR (measured) = 0.395 W/kg



**Plot 42 LTE Band 5 1RB Back Side Middle (Distance 15mm)**

Date: 2022/10/19

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

Medium parameters used (interpolated):  $f = 836.5$  MHz;  $\sigma = 0.939$  S/m;  $\epsilon_r = 41.86$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Middle/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.209 W/kg

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

Reference Value = 11.990 V/m; Power Drift = 0.090 dB

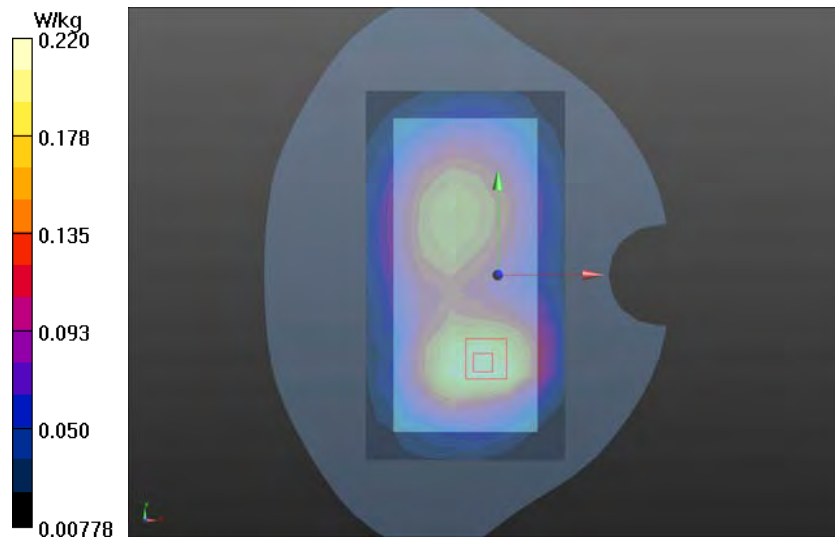
Peak SAR (extrapolated) = 0.312 W/kg

**SAR(1 g) = 0.209 W/kg; SAR(10 g) = 0.132 W/kg**

Smallest distance from peaks to all points 3 dB below = 28.5 mm

Ratio of SAR at M2 to SAR at M1 = 66.5%

Maximum value of SAR (measured) = 0.220 W/kg



**Plot 43 LTE Band 7 1RB Back Side Low (Distance 15mm)**

Date: 2022/10/29

Communication System: UID 0, LTE (0); Frequency: 2510 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 1.91$  S/m;  $\epsilon_r = 37.398$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Low/Area Scan (10x18x1):** Measurement grid: dx=12mm, dy=12mm

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

**Back Side Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.365 V/m; Power Drift = 0.188 dB

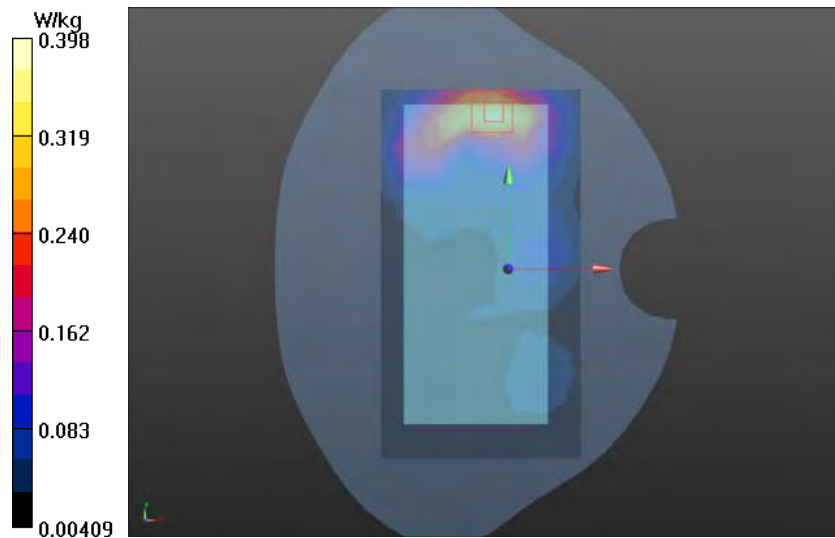
Peak SAR (extrapolated) = 0.710 W/kg

**SAR(1 g) = 0.388 W/kg; SAR(10 g) = 0.202 W/kg**

Smallest distance from peaks to all points 3 dB below = 13.7 mm

Ratio of SAR at M2 to SAR at M1 = 51.2%

Maximum value of SAR (measured) = 0.398 W/kg



**Plot 44 LTE Band 13 1RB Back Side Middle (Distance 15mm)**

Date: 2022/10/22

Communication System: UID 0, LTE (0); Frequency: 782 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 782 \text{ MHz}$ ;  $\sigma = 0.921 \text{ S/m}$ ;  $\epsilon_r = 41.805$ ;  $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature:  $22.3 \text{ }^\circ\text{C}$       Liquid Temperature:  $21.5 \text{ }^\circ\text{C}$ 

Phantom section: Flat Section

DASY5 Configuration:

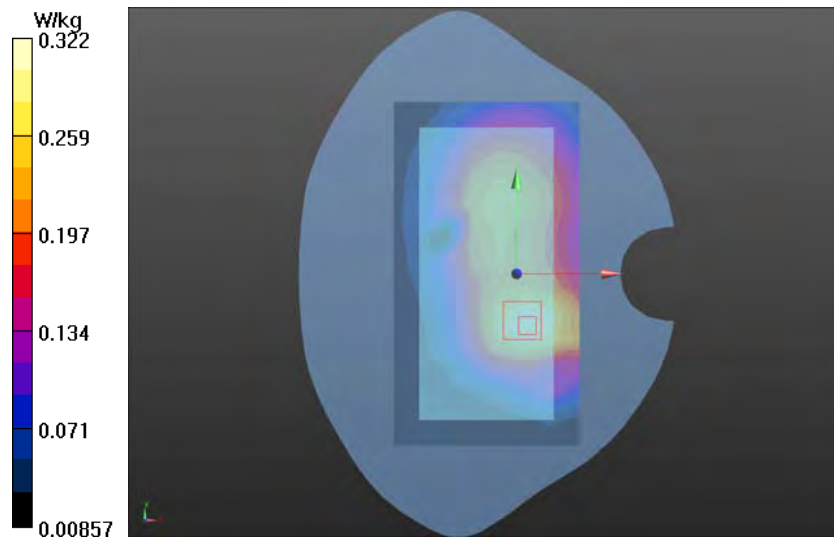
Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.63, 9.63, 9.63); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Middle/Area Scan (8x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$ Maximum value of SAR (measured) =  $0.301 \text{ W/kg}$ **Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$ Reference Value =  $11.440 \text{ V/m}$ ; Power Drift =  $-0.030 \text{ dB}$ Peak SAR (extrapolated) =  $0.332 \text{ W/kg}$ **SAR(1 g) =  $0.289 \text{ W/kg}$ ; SAR(10 g) =  $0.196 \text{ W/kg}$** Smallest distance from peaks to all points 3 dB below =  $9.5$ Ratio of SAR at M2 to SAR at M1 =  $70.7\%$ Maximum value of SAR (measured) =  $0.322 \text{ W/kg}$ 



**Plot 45 LTE Band 26 1RB Back Side Low (Distance 15mm)**

Date: 2022/10/23

Communication System: UID 0, LTE (0); Frequency: 821.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 821.5 \text{ MHz}$ ;  $\sigma = 0.933 \text{ S/m}$ ;  $\epsilon_r = 41.904$ ;  $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Low/Area Scan (8x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) =  $0.322 \text{ W/kg}$

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

Reference Value =  $12.190 \text{ V/m}$ ; Power Drift =  $-0.160 \text{ dB}$

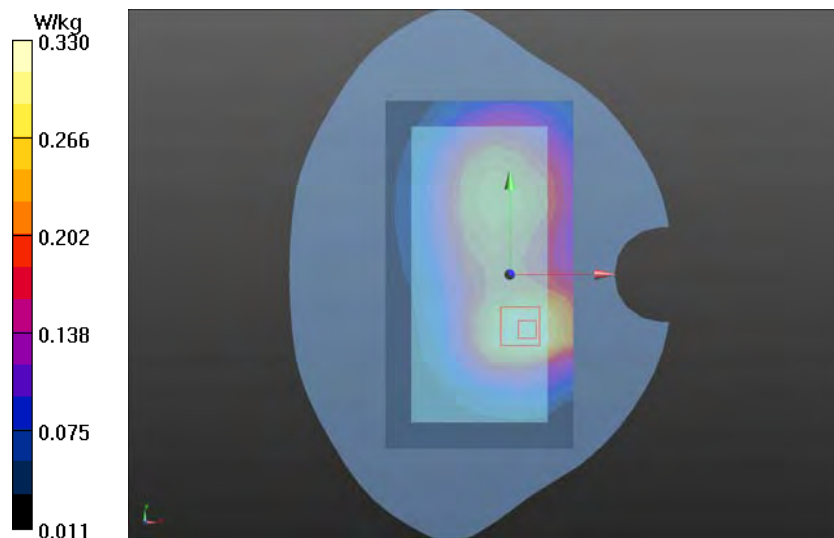
Peak SAR (extrapolated) =  $0.412 \text{ W/kg}$

**SAR(1 g) =  $0.316 \text{ W/kg}$ ; SAR(10 g) =  $0.205 \text{ W/kg}$**

Smallest distance from peaks to all points 3 dB below =  $14.1 \text{ mm}$

Ratio of SAR at M2 to SAR at M1 =  $66.7\%$

Maximum value of SAR (measured) =  $0.330 \text{ W/kg}$



**Plot 46 LTE Band 38 1RB Back Side Low (Battery2 Distance 15mm)**

Date: 2022/10/29

Communication System: UID 0, LTE (0); Frequency: 2580 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2580$  MHz;  $\sigma = 1.995$  S/m;  $\epsilon_r = 37.164$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Low/Area Scan (10x18x1):** Measurement grid: dx=12mm, dy=12mm

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

**Back Side Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.170 V/m; Power Drift = 0.063 dB

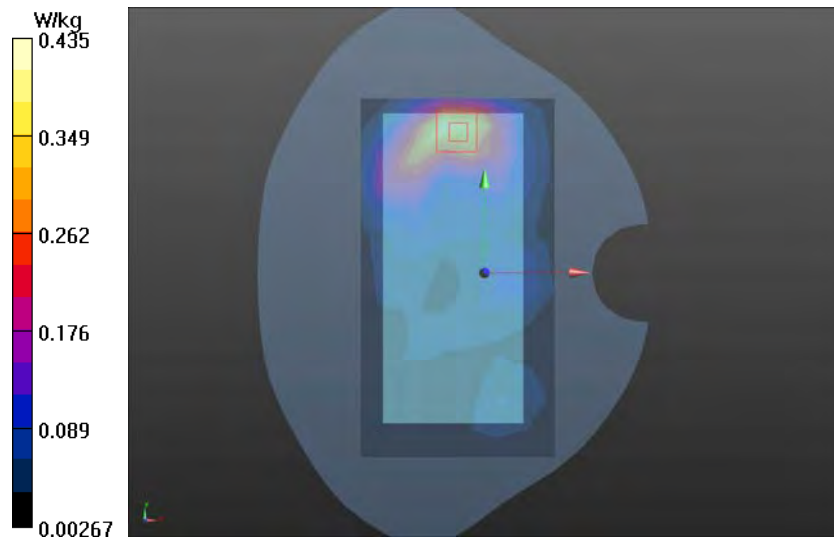
Peak SAR (extrapolated) = 0.800 W/kg

**SAR(1 g) = 0.414 W/kg; SAR(10 g) = 0.213 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.9 mm

Ratio of SAR at M2 to SAR at M1 = 50.3%

Maximum value of SAR (measured) = 0.435 W/kg



**Plot 47 LTE Band 66 50%RB Back Side High (Distance 15mm)**

Date: 2022/10/28

Communication System: UID 0, LTE (0); Frequency: 1770 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1770$  MHz;  $\sigma = 1.358$  S/m;  $\epsilon_r = 37.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side High/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.311 W/kg

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

Reference Value = 9.340 V/m; Power Drift = -0.029 dB

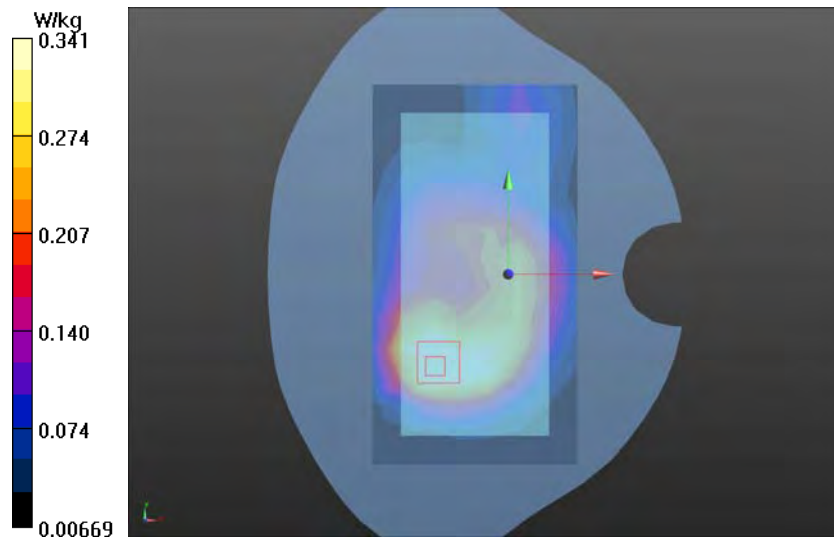
Peak SAR (extrapolated) = 0.472 W/kg

**SAR(1 g) = 0.291 W/kg; SAR(10 g) = 0.188 W/kg**

Smallest distance from peaks to all points 3 dB below = 17.9 mm

Ratio of SAR at M2 to SAR at M1 = 62.7%

Maximum value of SAR (measured) = 0.341 W/kg



**Plot 48 802.11b Back Side Low (Distance 15mm)**

Date: 2022/10/25

Communication System: UID 0, 802.11b (0); Frequency: 2412 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2412$  MHz;  $\sigma = 1.801$  S/m;  $\epsilon_r = 37.737$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.46, 7.46, 7.46); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Low/Area Scan (10x18x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.323 W/kg

**Back Side Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.798 V/m; Power Drift = 0.05 dB

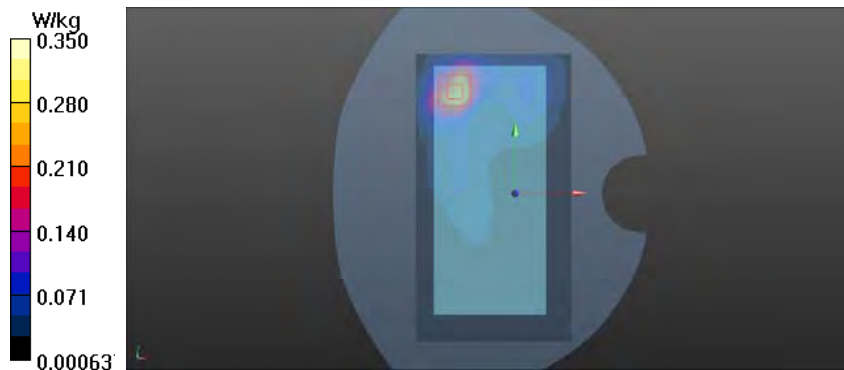
Peak SAR (extrapolated) = 0.638 W/kg

**SAR(1 g) = 0.309 W/kg; SAR(10 g) = 0.145 W/kg**

Smallest distance from peaks to all points 3 dB below = 10.2 mm

Ratio of SAR at M2 to SAR at M1 = 50.2%

Maximum value of SAR (measured) = 0.350 W/kg



**Plot 49 802.11n HT40 U-NII-2A Back Side Low (Battery2 Distance 15mm)**

Date: 2022/11/1

Communication System: UID 0, 802.11n (0); Frequency: 5270 MHz; Duty Cycle: 1:1.06

Medium parameters used:  $f = 5270$  MHz;  $\sigma = 4.8$  S/m;  $\epsilon_r = 36.809$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.48, 5.48, 5.48); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Low/Area Scan (12x21x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.287 W/kg

**Back Side Low/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.09 dB

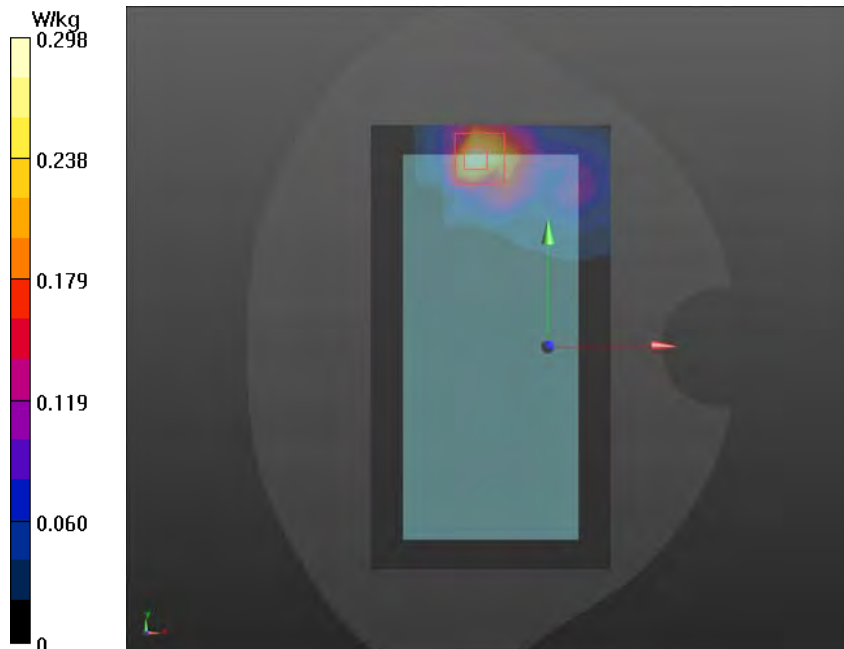
Peak SAR (extrapolated) = 0.532 W/kg

**SAR(1 g) = 0.277 W/kg; SAR(10 g) = 0.109 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.1 mm

Ratio of SAR at M2 to SAR at M1 = 40.9%

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



**Plot 50 GSM 850 GPRS (2Txslots) Back Side Middle (Distance 10mm)**

Date: 2022/10/19

Communication System: UID 0, GPRS 2TX (0); Frequency: 836.6 MHz; Duty Cycle: 1:4.15

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.944$  S/m;  $\epsilon_r = 41.288$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Middle/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 15.83 V/m; Power Drift = -0.05 dB

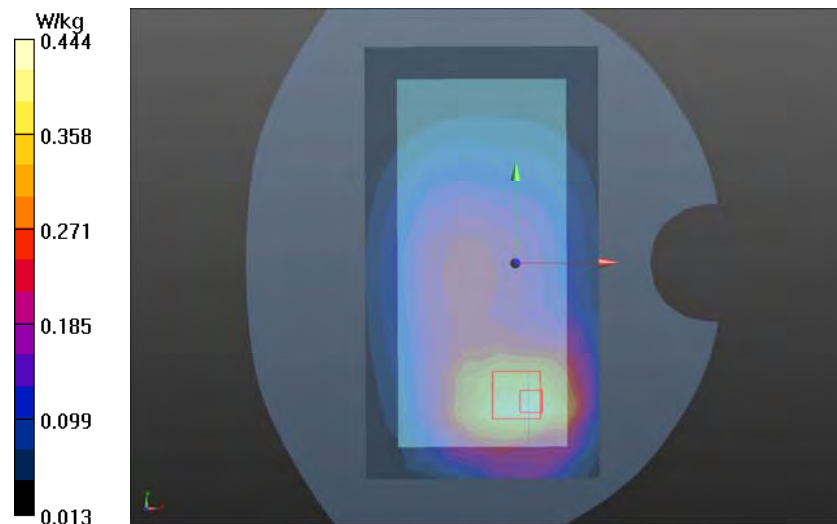
Peak SAR (extrapolated) = 0.699 W/kg

**SAR(1 g) = 0.410 W/kg; SAR(10 g) = 0.259 W/kg**

Smallest distance from peaks to all points 3 dB below = 17.6 mm

Ratio of SAR at M2 to SAR at M1 = 59.5%

Maximum value of SAR (measured) = 0.444 W/kg



**Plot 51 GSM 1900 GPRS (2Txslots) Bottom Edge Middle (Battery2 Distance 10mm)**

Date: 2022/10/20

Communication System: UID 0, GPRS 2TX (0); Frequency: 1880 MHz; Duty Cycle: 1:4.15

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.437$  S/m;  $\epsilon_r = 37.208$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Bottom Edge Middle/Area Scan (4x8x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.359 W/kg

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

Reference Value = 11.79 V/m; Power Drift = 0.02 dB

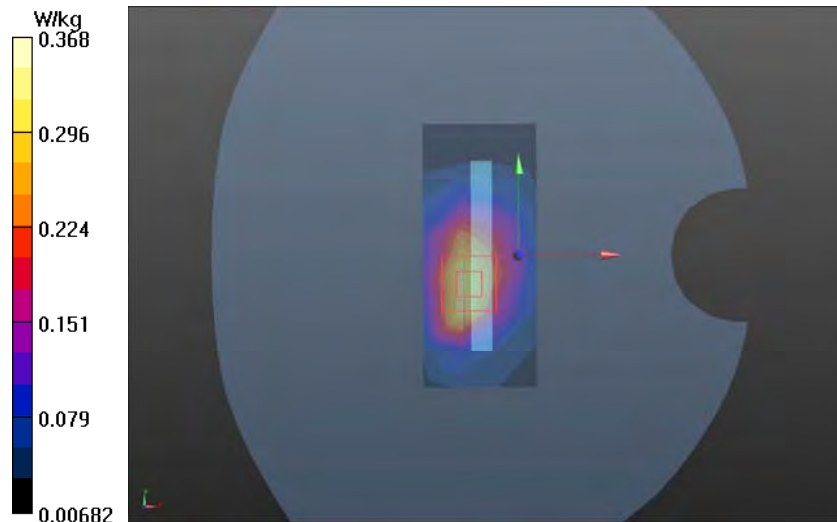
Peak SAR (extrapolated) = 0.561 W/kg

**SAR(1 g) = 0.350 W/kg; SAR(10 g) = 0.195 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.8 mm

Ratio of SAR at M2 to SAR at M1 = 61%

Maximum value of SAR (measured) = 0.368 W/kg



**Plot 52 WCDMA Band II Bottom Edge Middle (Distance 10mm)**

Date: 2022/10/21

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

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.42$  S/m;  $\epsilon_r = 38.948$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Bottom Edge Middle/Area Scan (4x8x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.669 W/kg

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

Reference Value = 17.91 V/m; Power Drift = 0.09 dB

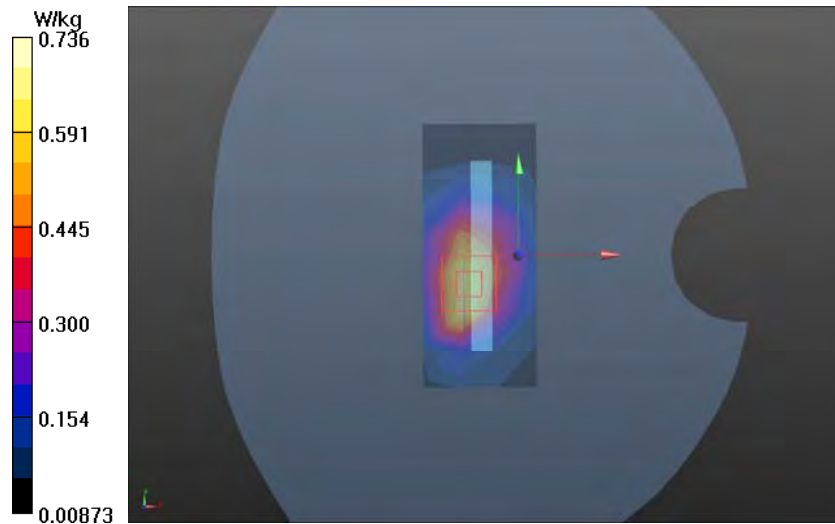
Peak SAR (extrapolated) = 0.921 W/kg

**SAR(1 g) = 0.485 W/kg; SAR(10 g) = 0.267 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.8 mm

Ratio of SAR at M2 to SAR at M1 = 50.9%

Maximum value of SAR (measured) = 0.736 W/kg





**Plot 53 WCDMA Band IV Bottom Edge Middle (Distance 10mm)**

Date: 2022/10/24

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

Medium parameters used:  $f = 1732.6$  MHz;  $\sigma = 1.312$  S/m;  $\epsilon_r = 39.365$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Bottom Edge Middle/Area Scan (4x8x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.665 W/kg

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

Reference Value = 17.85 V/m; Power Drift = 0.08 dB

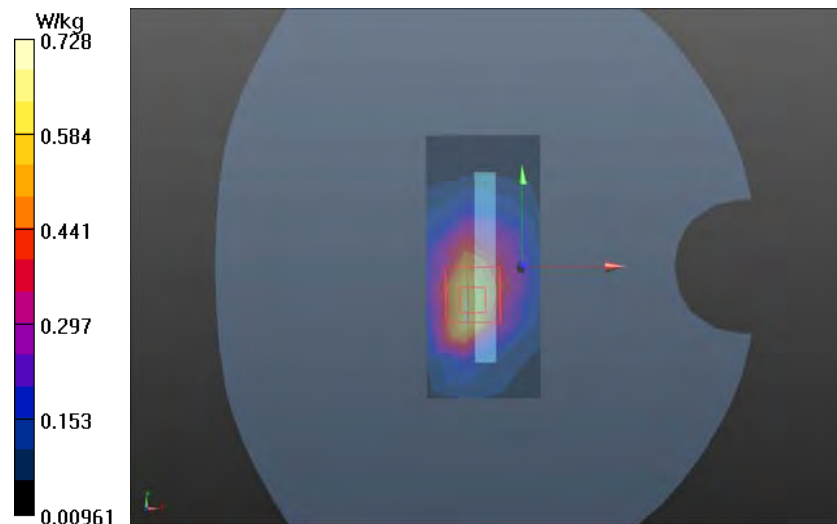
Peak SAR (extrapolated) = 0.894 W/kg

**SAR(1 g) = 0.475 W/kg; SAR(10 g) = 0.265 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.2 mm

Ratio of SAR at M2 to SAR at M1 = 52.8%

Maximum value of SAR (measured) = 0.728 W/kg



**Plot 54 WCDMA Band V Back Side Middle (Distance 10mm)**

Date: 2022/10/23

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

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.944$  S/m;  $\epsilon_r = 41.288$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Middle/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.508 W/kg

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

Reference Value = 15.79 V/m; Power Drift = -0.034 dB

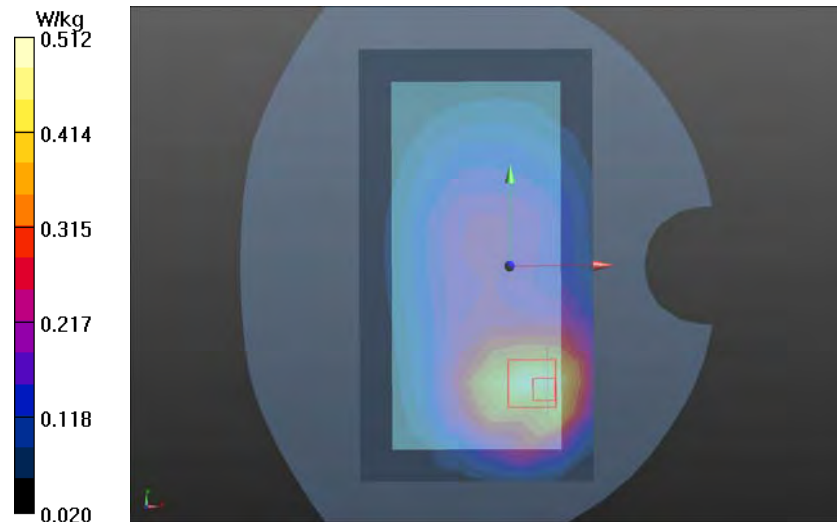
Peak SAR (extrapolated) = 0.814 W/kg

**SAR(1 g) = 0.479 W/kg; SAR(10 g) = 0.294 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.3 mm

Ratio of SAR at M2 to SAR at M1 = 57.1%

Maximum value of SAR (measured) = 0.512 W/kg



**Plot 55 LTE Band 2 50%RB Bottom Edge Low (Battery2 Distance 10mm)**

Date: 2022/10/21

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

Medium parameters used:  $f = 1860$  MHz;  $\sigma = 1.407$  S/m;  $\epsilon_r = 39.071$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.84, 7.84, 7.84); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Bottom Edge Low/Area Scan (4x8x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.569 W/kg

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

Reference Value = 18.75 V/m; Power Drift = 0.081 dB

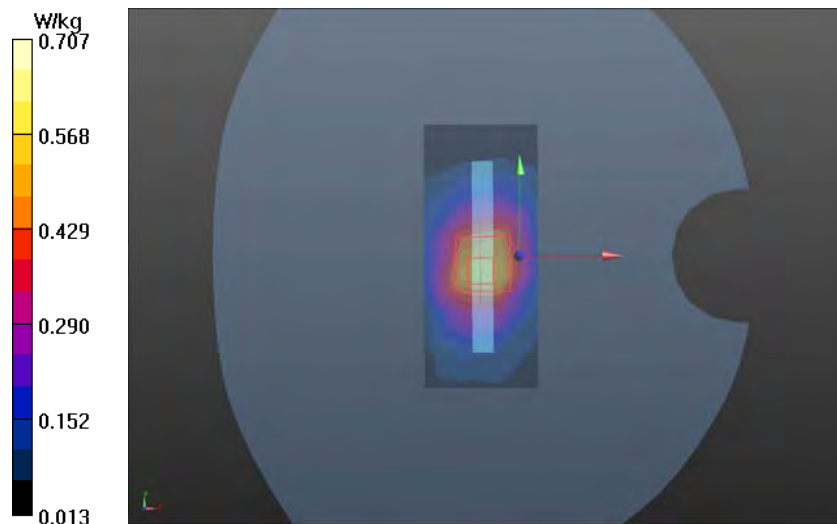
Peak SAR (extrapolated) = 0.875 W/kg

**SAR(1 g) = 0.560 W/kg; SAR(10 g) = 0.305 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.9 mm

Ratio of SAR at M2 to SAR at M1 = 53.1%

Maximum value of SAR (measured) = 0.707 W/kg



**Plot 56 LTE Band 4 50%RB Bottom Edge High (Battery2 Distance 10mm)**

Date: 2022/10/26

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

Medium parameters used:  $f = 1745$  MHz;  $\sigma = 1.323$  S/m;  $\epsilon_r = 39.378$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Bottom Edge High/Area Scan (4x8x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.569 W/kg

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

Reference Value = 19.21 V/m; Power Drift = 0.01 dB

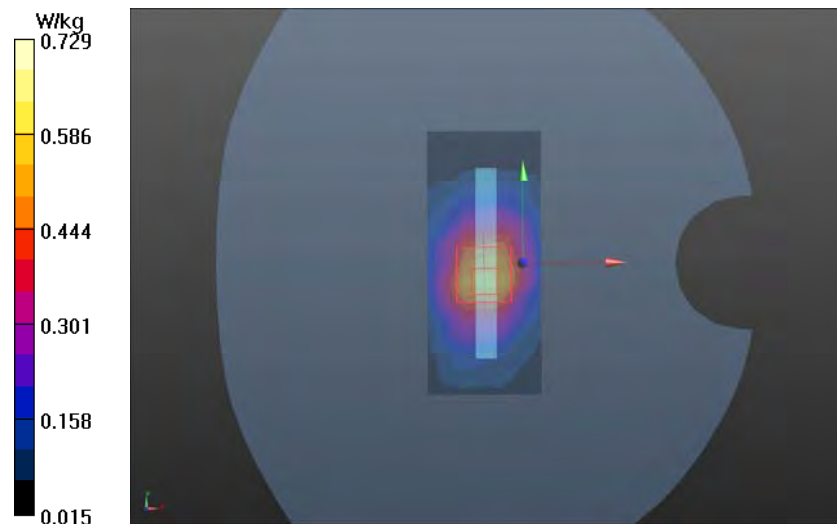
Peak SAR (extrapolated) = 0.903 W/kg

**SAR(1 g) = 0.561 W/kg; SAR(10 g) = 0.295 W/kg**

Smallest distance from peaks to all points 3 dB below = 12.2 mm

Ratio of SAR at M2 to SAR at M1 = 52.8%

Maximum value of SAR (measured) = 0.729 W/kg



**Plot 57 LTE Band 5 1RB Back Side Middle (Distance 10mm)**

Date: 2022/10/19

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

Medium parameters used (interpolated):  $f = 836.5$  MHz;  $\sigma = 0.944$  S/m;  $\epsilon_r = 41.288$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Middle/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.444 W/kg

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

Reference Value = 14.84 V/m; Power Drift = -0.013 dB

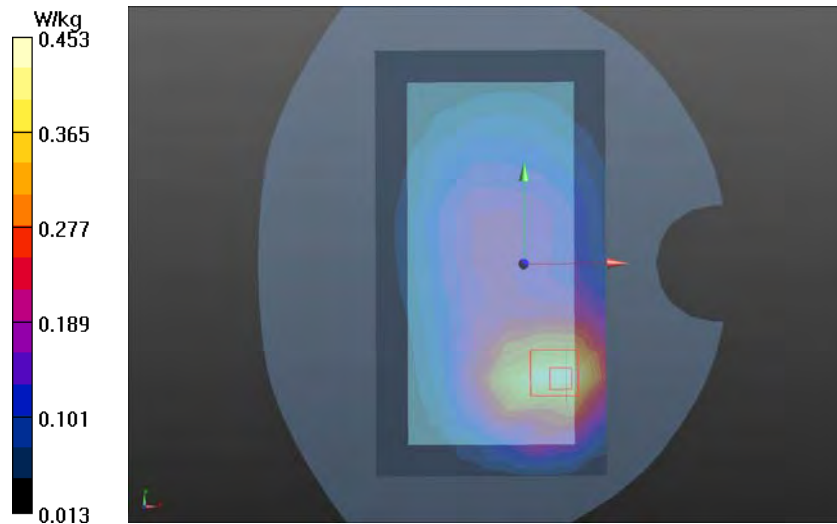
Peak SAR (extrapolated) = 0.728 W/kg

**SAR(1 g) = 0.426 W/kg; SAR(10 g) = 0.265 W/kg**

Smallest distance from peaks to all points 3 dB below = 20.5 mm

Ratio of SAR at M2 to SAR at M1 = 61.8%

Maximum value of SAR (measured) = 0.453 W/kg



**Plot 58 LTE Band 7 1RB Top Edge High (Distance 10mm)**

Date: 2022/10/30

Communication System: UID 0, LTE (0); Frequency: 2560 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2560$  MHz;  $\sigma = 1.971$  S/m;  $\epsilon_r = 37.231$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Top Edge High/Area Scan (4x8x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.565 W/kg

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

Reference Value = 13.38 V/m; Power Drift = 0.17 dB

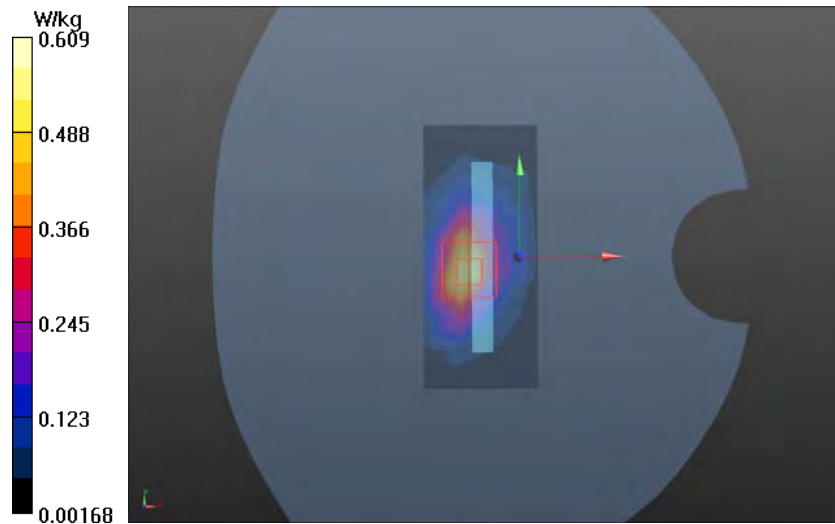
Peak SAR (extrapolated) = 0.768 W/kg

**SAR(1 g) = 0.365 W/kg; SAR(10 g) = 0.171 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.7 mm

Ratio of SAR at M2 to SAR at M1 = 47.7%

Maximum value of SAR (measured) = 0.609 W/kg



**Plot 59 LTE Band 13 1RB Back Side Middle (Battery2 Distance 10mm)**

Date: 2022/10/22

Communication System: UID 0, LTE (0); Frequency: 782 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 782 \text{ MHz}$ ;  $\sigma = 0.909 \text{ S/m}$ ;  $\epsilon_r = 41.607$ ;  $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.63, 9.63, 9.63); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Middle/Area Scan (8x14x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) =  $0.324 \text{ W/kg}$

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

Reference Value =  $12.77 \text{ V/m}$ ; Power Drift =  $0.043 \text{ dB}$

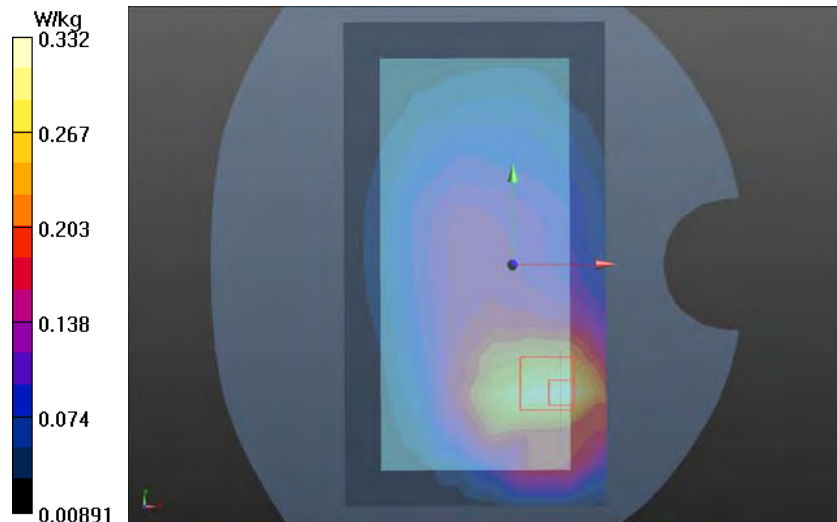
Peak SAR (extrapolated) =  $0.580 \text{ W/kg}$

**SAR(1 g) =  $0.318 \text{ W/kg}$ ; SAR(10 g) =  $0.196 \text{ W/kg}$**

Smallest distance from peaks to all points 3 dB below =  $22.7 \text{ mm}$

Ratio of SAR at M2 to SAR at M1 =  $61.5\%$

Maximum value of SAR (measured) =  $0.332 \text{ W/kg}$



**Plot 60 LTE Band 26 1RB Back Side Low (Battery2 Distance 10mm)**

Date: 2022/10/23

Communication System: UID 0, LTE (0); Frequency: 821.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 821.5$  MHz;  $\sigma = 0.934$  S/m;  $\epsilon_r = 41.409$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.34, 9.34, 9.34); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Low/Area Scan (8x14x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.422 W/kg

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

Reference Value = 14.67 V/m; Power Drift = 0.029 dB

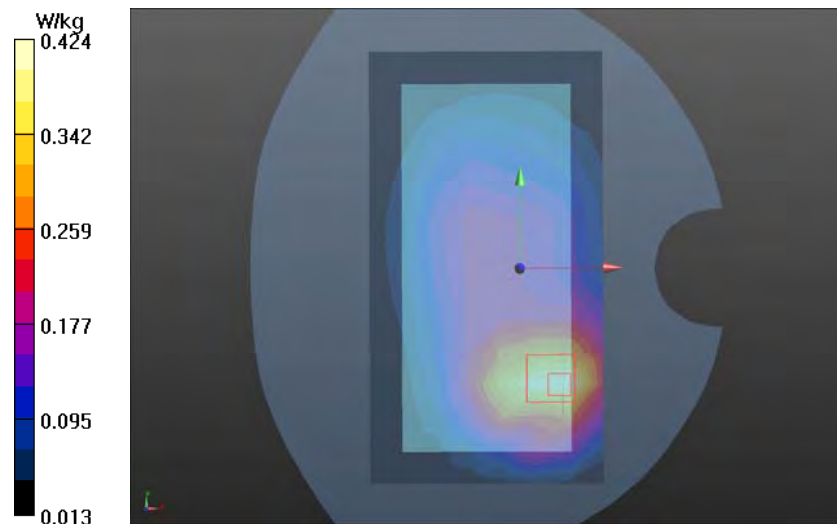
Peak SAR (extrapolated) = 0.672 W/kg

**SAR(1 g) = 0.408 W/kg; SAR(10 g) = 0.262 W/kg**

Smallest distance from peaks to all points 3 dB below = 21.5 mm

Ratio of SAR at M2 to SAR at M1 = 62%

Maximum value of SAR (measured) = 0.424 W/kg





**Plot 61 LTE Band 38 50%RB Top Edge Low (Battery2 Distance 10mm)**

Date: 2022/10/30

Communication System: UID 0, LTE (0); Frequency: 2580 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2580$  MHz;  $\sigma = 1.995$  S/m;  $\epsilon_r = 37.164$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Top Edge Low/Area Scan (5x10x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.610 W/kg

**Top Edge Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.05 V/m; Power Drift = 0.03 dB

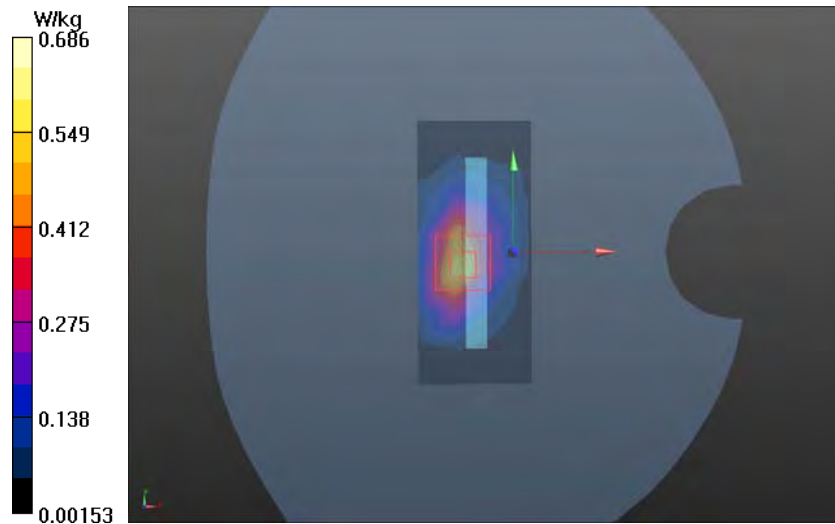
Peak SAR (extrapolated) = 0.865 W/kg

**SAR(1 g) = 0.437 W/kg; SAR(10 g) = 0.191 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.6 mm

Ratio of SAR at M2 to SAR at M1 = 46.4%

Maximum value of SAR (measured) = 0.686 W/kg



**Plot 62 LTE Band 66 1RB Bottom Edge High (Distance 10mm)**

Date: 2022/10/28

Communication System: UID 0, LTE (0); Frequency: 1770 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1770$  MHz;  $\sigma = 1.358$  S/m;  $\epsilon_r = 37.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.25, 8.25, 8.25); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Bottom Edge High/Area Scan (4x8x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.593 W/kg

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

Reference Value = 18.27 V/m; Power Drift = 0.19 dB

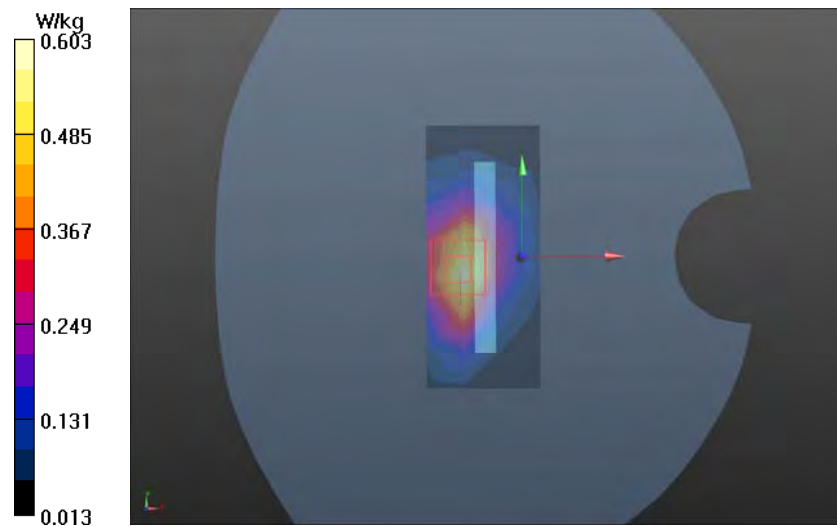
Peak SAR (extrapolated) = 0.913 W/kg

**SAR(1 g) = 0.548 W/kg; SAR(10 g) = 0.310 W/kg**

Smallest distance from peaks to all points 3 dB below = 13.7 mm

Ratio of SAR at M2 to SAR at M1 = 61.9%

Maximum value of SAR (measured) = 0.603 W/kg



**Plot 63 802.11b Right Edge Low (Distance 10mm)**

Date: 2022/10/25

Communication System: UID 0, 802.11b (0); Frequency: 2412 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2412$  MHz;  $\sigma = 1.801$  S/m;  $\epsilon_r = 37.737$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.46, 7.46, 7.46); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Low/Area Scan (10x18x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.320 W/kg

**Back Side Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.999 V/m; Power Drift = 0.069 dB

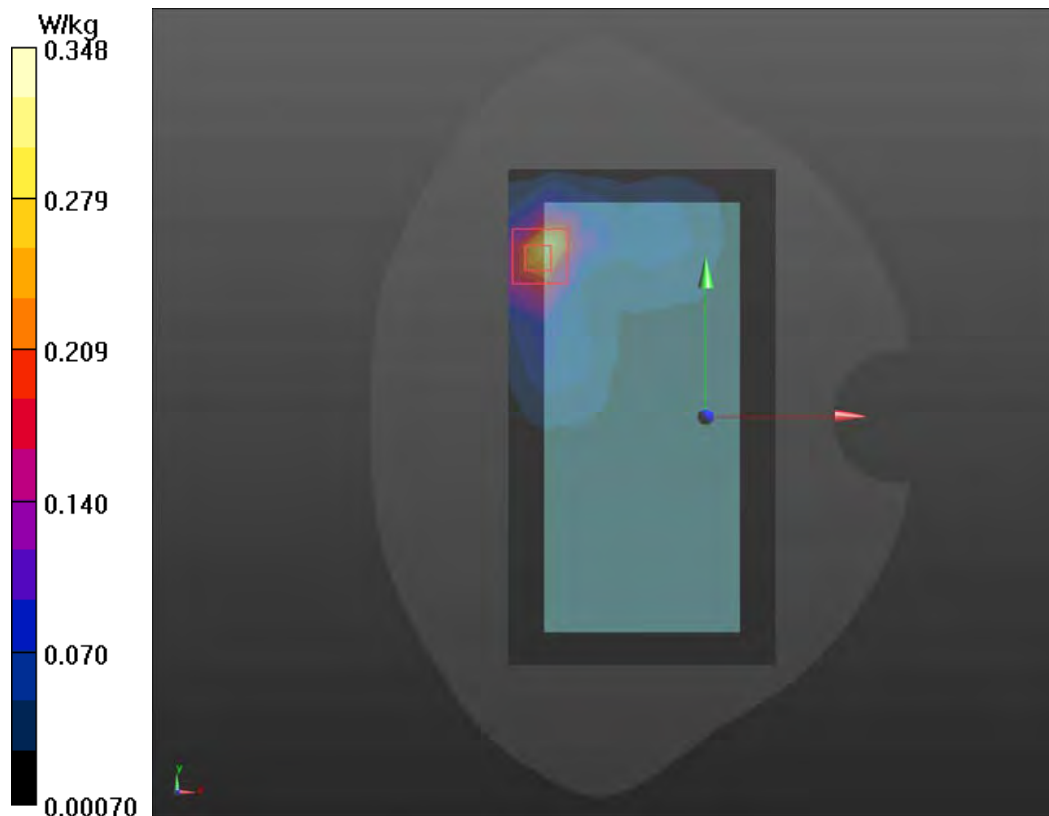
Peak SAR (extrapolated) = 0.654 W/kg

**SAR(1 g) = 0.309 W/kg; SAR(10 g) = 0.144 W/kg**

Smallest distance from peaks to all points 3 dB below = 10.2 mm

Ratio of SAR at M2 to SAR at M1 = 50.5%

Maximum value of SAR (measured) = 0.348 W/kg



**Plot 64 802.11n HT40 U-NII-1 Top Edge High (Distance 10mm)**

Date: 2022/11/2

Communication System: UID 0, 802.11n HT40 (0); Frequency: 5230 MHz; Duty Cycle: 1:1.06

Medium parameters used:  $f = 5230$  MHz;  $\sigma = 4.858$  S/m;  $\epsilon_r = 36.82$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.48, 5.48, 5.48); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Top Edge High/Area Scan (8x15x1):** Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.698 W/kg

**Top Edge High/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 5.789 V/m; Power Drift = -0.026 dB

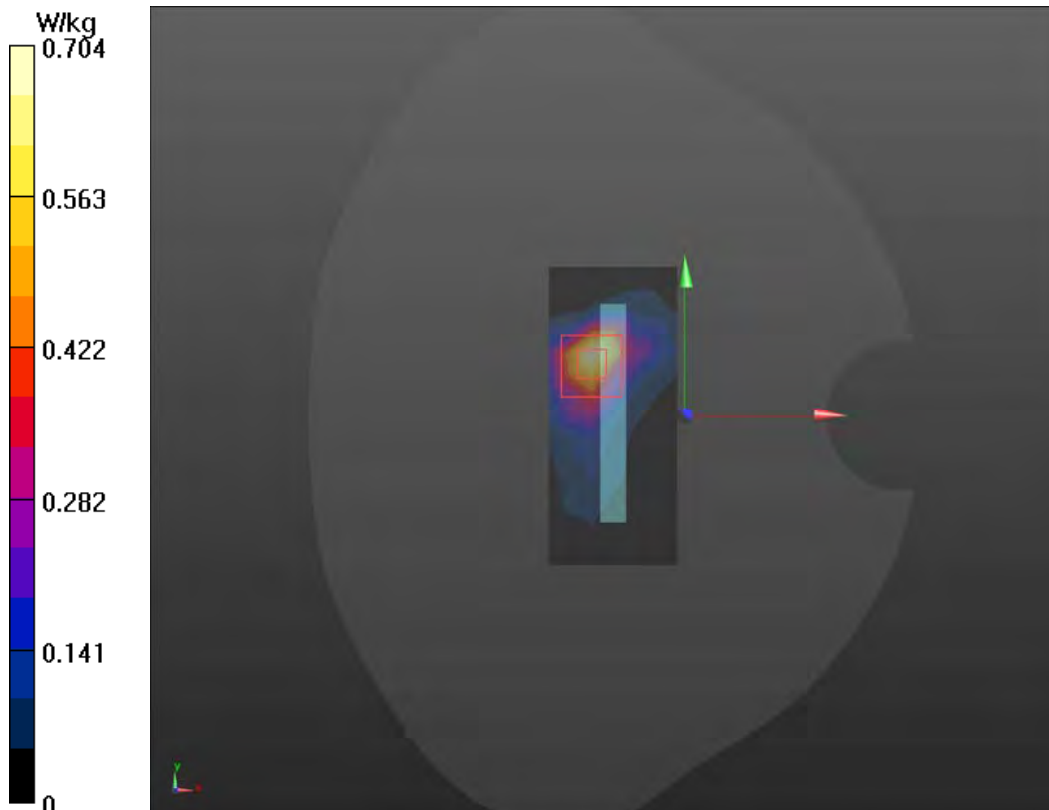
Peak SAR (extrapolated) = 1.150 W/kg

**SAR(1 g) = 0.473 W/kg; SAR(10 g) = 0.163 W/kg**

Smallest distance from peaks to all points 3 dB below = 9 mm

Ratio of SAR at M2 to SAR at M1 = 32.8%

Maximum value of SAR (measured) = 0.704 W/kg



**Plot 65 Bluetooth Back Side Middle (Distance 10mm)**

Date: 2022/10/25

Communication System: UID 0, BT (0); Frequency: 2441 MHz; Duty Cycle: 1:1.32

Medium parameters used:  $f = 2441$  MHz;  $\sigma = 1.834$  S/m;  $\epsilon_r = 37.585$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.46, 7.46, 7.46); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Back Side Middle/Area Scan (10x18x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.081 W/kg

**Back Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.6710 V/m; Power Drift = -0.03 dB

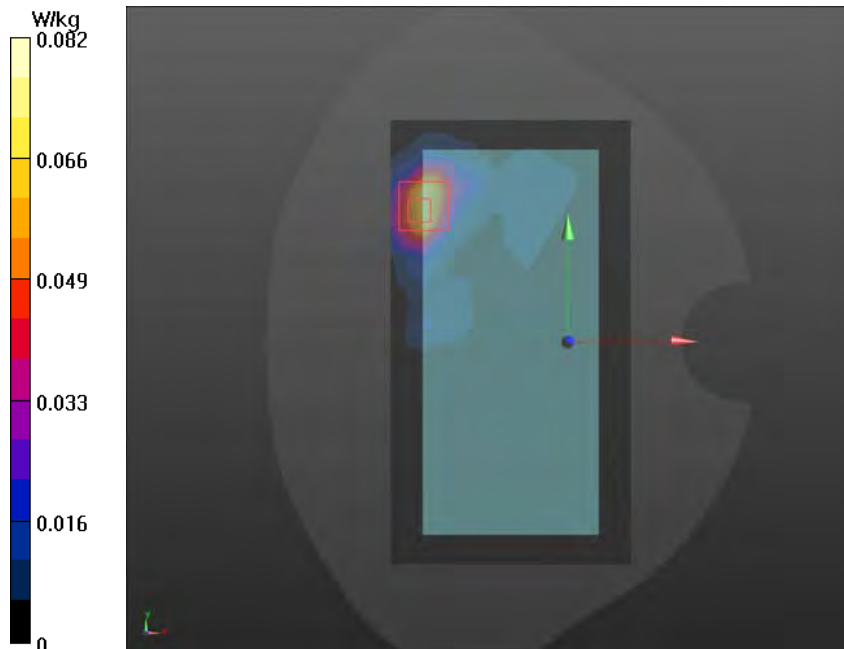
Peak SAR (extrapolated) = 0.153 W/kg

**SAR(1 g) = 0.078 W/kg; SAR(10 g) = 0.035 W/kg**

Smallest distance from peaks to all points 3 dB below = 11 mm

Ratio of SAR at M2 to SAR at M1 = 41.8%

Maximum value of SAR (measured) = 0.082 W/kg



**Plot 66 LTE Band 7 1RB Top Edge High (Distance 0mm)**

Date: 2022/10/31

Communication System: UID 0, LTE (0); Frequency: 2560 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2560$  MHz;  $\sigma = 1.971$  S/m;  $\epsilon_r = 37.231$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Top Edge High/Area Scan (5x10x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 4.09 W/kg

**Top Edge High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 45.46 V/m; Power Drift = 0.15 dB

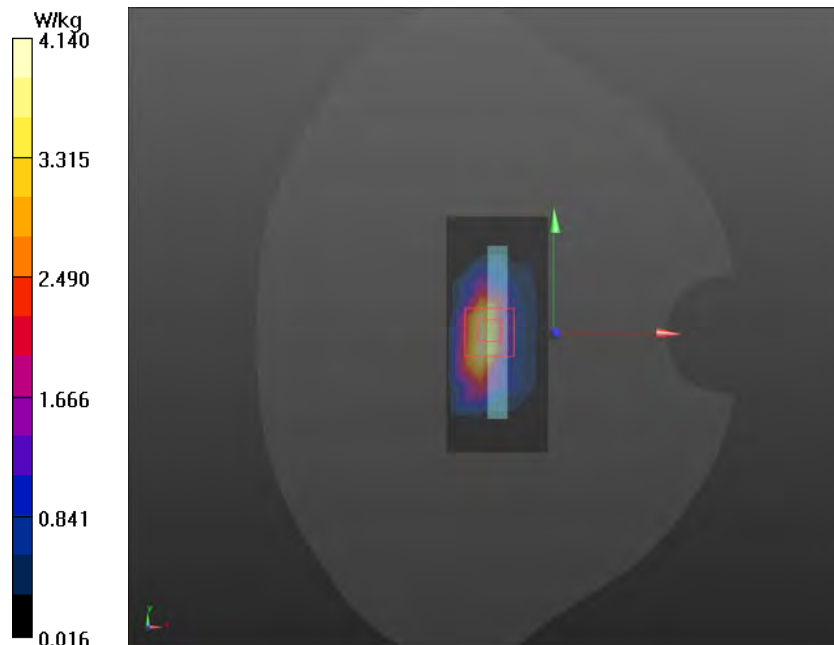
Peak SAR (extrapolated) = 10.3 W/kg

**SAR(1 g) = 3.89 W/kg; SAR(10 g) = 1.42 W/kg**

Smallest distance from peaks to all points 3 dB below = 11.4 mm

Ratio of SAR at M2 to SAR at M1 = 42.4%

Maximum value of SAR (measured) = 4.14 W/kg



**Plot 67 LTE Band 38 50%RB Top Edge Low (Distance 0mm)**

Date: 2022/10/31

Communication System: UID 0, LTE (0); Frequency: 2580 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2580$  MHz;  $\sigma = 1.995$  S/m;  $\epsilon_r = 37.164$ ;  $\rho = 1000$  kg/m<sup>3</sup>

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.27, 7.27, 7.27); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Top Edge Low/Area Scan (5x10x1):** Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 3.49 W/kg

**Top Edge Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 39.19 V/m; Power Drift = 0.061 dB

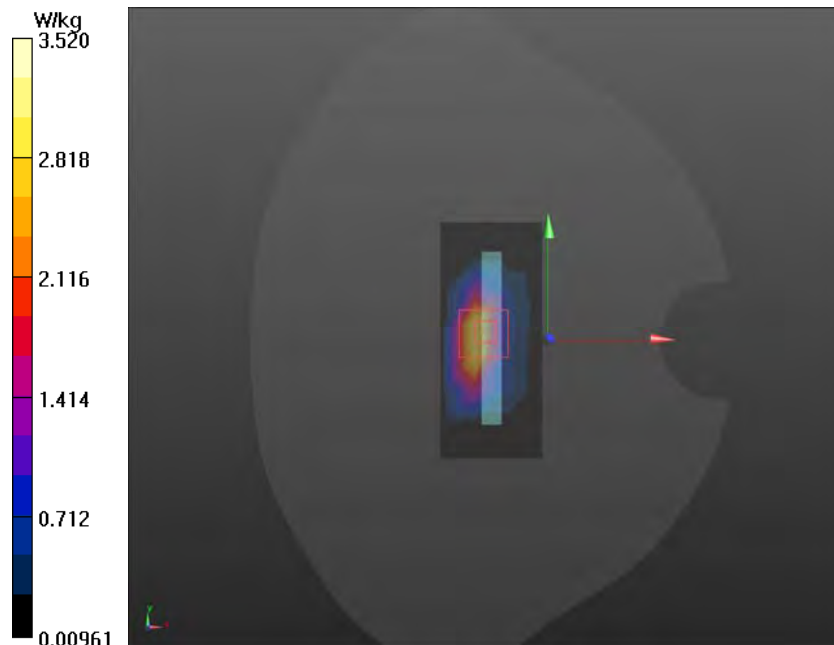
Peak SAR (extrapolated) = 5.94 W/kg

**SAR(1 g) = 3.34 W/kg; SAR(10 g) = 1.21 W/kg**

Smallest distance from peaks to all points 3 dB below = 9.4 mm

Ratio of SAR at M2 to SAR at M1 = 41.7%

Maximum value of SAR (measured) = 3.52 W/kg



**Plot 68 802.11n HT40 U-NII-2A Top Edge Low (Battery2 Distance 0mm)**

Date: 2022/11/2

Communication System: UID 0, 802.11nHT40; Frequency: 5270 MHz; Duty Cycle: 1:1.06

Medium parameters used:  $f = 5270 \text{ MHz}$ ;  $\sigma = 4.8 \text{ S/m}$ ;  $\epsilon_r = 36.809$ ;  $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.48, 5.48, 5.48); Calibrated: 2022/7/8

Electronics: DAE4 SN1291; Calibrated: 2022/3/24

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

**Top Edge Low/Area Scan (6x12x1):** Measurement grid:  $dx=12\text{mm}$ ,  $dy=12\text{mm}$

Maximum value of SAR (measured) =  $4.08 \text{ W/kg}$

**Top Edge Low/Zoom Scan (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value =  $10.70 \text{ V/m}$ ; Power Drift =  $-0.020 \text{ dB}$

Peak SAR (extrapolated) =  $7.85 \text{ W/kg}$

**SAR(1 g) =  $3.87 \text{ W/kg}$ ; SAR(10 g) =  $0.946 \text{ W/kg}$**

Smallest distance from peaks to all points 3 dB below =  $8.5 \text{ mm}$

Ratio of SAR at M2 to SAR at M1 =  $37.3\%$

Maximum value of SAR (measured) =  $4.12 \text{ W/kg}$

