



SAR TEST REPORT

Applicant Guangdong OPPO Mobile
Telecommunications Corp., Ltd.

FCC ID R9C-CPH2125

Product Mobile Phone

Brand OPPO

Model CPH2125

Report No. R2008A0550-S1

Issue Date September 15, 2020

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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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 electromagnetic emissions measurements.

A2LA (Certificate Number: 3857.01)

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

1.3 Testing Location

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

Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 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	0.634	0.148	0.293	NA
GSM 1900	0.718	0.295	0.991	NA
WCDMA Band II	0.956	0.351	0.943	NA
WCDMA Band IV	1.059	0.642	0.737	NA
WCDMA Band V	0.561	0.200	0.243	NA
LTE FDD 2	1.064	0.296	1.165	NA
LTE FDD 4	1.134	0.511	0.858	NA
LTE FDD 5	0.587	0.206	0.270	NA
LTE FDD 7	0.423	0.580	1.082	NA
LTE FDD 12	0.082	0.129	0.143	NA
LTE FDD 17	0.090	0.126	0.113	NA
LTE FDD 26	0.576	0.220	0.301	NA
LTE TDD 38	0.769	0.235	0.410	NA
LTE TDD 41	0.869	0.198	0.462	NA
LTE FDD 66	1.027	0.341	0.738	NA
Wi-Fi (2.4G)	0.716	0.245	0.158	NA
Wi-Fi (5G)	1.179	1.030	0.806	1.374
BT	0.463	NA	0.105	NA
Date of Testing:	August 17, 2020~ September 7, 2020			
Date of Sample Receiving:	August 17, 2020			
Note: 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.				



Table 2: Highest Simultaneous Transmission SAR

Exposure Configuration	1g SAR Head	1g SAR Body-worn (Separation 15mm)	1g SAR Hotspot (Separation 10mm)	Product Specific 10-g SAR (Separation 0mm)
Highest Simultaneous Transmission SAR (W/kg)	1.494	1.272	1.494	1.374
Note: 1. The detail for simultaneous transmission consideration is described in chapter 10.5.				

3 Description of Equipment under Test

Client Information

Applicant	Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Applicant address	NO.18 HaiBin Road, Wusha village, Chang An Town, DongGuan City, GuangDong, China
Manufacturer	Guangdong OPPO Mobile Telecommunications Corp., Ltd.
Manufacturer address	NO.18 HaiBin Road, Wusha village, Chang An Town, DongGuan City, GuangDong, China

General Technologies

Application Purpose:	Original Grant
EUT Stage:	Identical Prototype
Model:	CPH2125
IMEI:	866018050626014
Hardware Version:	11
Software Version:	ColorOS 7.2
Antenna Type:	Internal Antenna
Device Class:	B
Wi-Fi Hotspot:	Wi-Fi 2.4G Wi-Fi 5G U-NII-1&U-NII-3
Power Class:	GSM 850:4 GSM 1900:1 UMTS Band II/IV/V:3 LTE FDD 2/4/5/7/12/17/26/66:3 LTE TDD 38/41:3
Power Level:	GSM 850:level 5 GSM 1900:level 0 UMTS Band II/IV/V:all up bits LTE FDD 2/4/5/7/12/17/26/66:max power LTE TDD 38/41:max power
EUT Accessory	
Battery	Manufacturer: TWS Technology (Guangzhou) Limited Model: BLP779(ATL cell)
Earphone	Manufacturer: Guangdong OPPO Mobile Telecommunications Corp., Ltd. Model: MH156
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) EGPRS(GMSK,8PSK)	☐ Multi-slot Class:8-1UP ☐ Multi-slot Class:10-2UP ☒ Multi-slot Class:12-4UP ☐ Multi-slot Class:33-4UP	824 ~ 849
	1900		1850 ~ 1910	
	Does this device support DTM (Dual Transfer Mode)? ☐ Yes ☒ No			
UMTS	Band II	QPSK	HSDPA UE Category:24 HSUPA UE Category:7	1850 ~ 1910
	Band IV			1710 ~ 1755
	Band V			824 ~ 849
LTE	FDD 2	QPSK, 16QAM, 64QAM	Rel.12 /Category 12	1850 ~ 1910
	FDD 4			1710 ~ 1755
	FDD 5			824 ~ 849
	FDD 7			2500 ~ 2570
	FDD 12			699 ~ 716
	FDD 17			704 ~ 716
	FDD 26			814 ~ 849
	TDD 38			2570 ~ 2620
	TDD 41			2496 ~ 2690
	FDD 66			1710~ 1780
	Does this device support Carrier Aggregation (CA) ☒ Yes ☐ No			
	Does this device support SV-LTE (1xRTT-LTE)? ☐ Yes ☒ No			
	BT	2.4G	Version 5.1 LE	
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 ☐ Yes ☒ 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:

IEC 62209-1

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

5.3 Test Positions

5.3.1 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".

5.3.2 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 $> 1.2 \text{ W/kg}$, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a 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.

5.3.3 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 ≤ 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.

5.4 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 ≥ 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 ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).
- 3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 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.

5.5 Test Configuration

5.5.1 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 3: 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.

5.5.2 UMTS Test Configuration

5.5.2.1 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.

5.5.2.2 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.

5.5.2.3 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

5.5.2.4 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(β_c , β_d), and HS-DPCCH power offset parameters (Δ_{ACK} , Δ_{NACK} , Δ_{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 4: Subtests for UMTS Release 5 HSDPA

Sub-set	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (note 1, note 2)	CM(dB) (note 3)	MPR(dB)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (note 4)	15/15 (note 4)	64	12/15 (note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5
Note1: Δ_{ACK}, Δ_{NACK} and $\Delta_{CQI} = 8 \Rightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Rightarrow \beta_{hs} = 30/15 * \beta_c$ Note2: CM=1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. Note3: For subtest 2 the β_c/β_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 $\beta_d = 15/15$.							

5.5.2.5 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 β 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 5: Sub-Test 5 Setup for Release 6 HSUPA

Sub-set	β_c	β_d	β_d (SF)	β_c/β_d	$\beta_{hs}^{(1)}$	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM ⁽²⁾ (dB)	MPR (dB)	AG ⁽⁴⁾ Index	E-TFCI
1	11/15 ⁽³⁾	15/15 ⁽³⁾	64	11/15 ⁽³⁾	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	β_{ed1} 47/15 β_{ed2} 47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 ⁽⁴⁾	15/15 ⁽⁴⁾	64	15/15 ⁽⁴⁾	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK} , Δ_{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 β_c/β_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 β_c/β_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: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Table 6: HSUPA UE category

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E- DCH TTI (ms)	Minimum Spreading Factor	Maximum E-DCH Transport Block Bits	Max Rate (Mbps)
1	1	4	10	4	7110	0.7296
2	2	8	2	4	2798	1.4592
	2	4	10	4	14484	
3	2	4	10	4	14484	1.4592
4	2	8	2	2	5772	2.9185
	2	4	10	2	20000	2.00
5	2	4	10	2	20000	2.00
6	4	8	2	2 SE2 & 2 SE4	11484	5.76



(No DPDCH)	4	4	10		20000	2.00
7	4	8	2	2 SF2 & 2 SF4	22996	?
(No DPDCH)	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)						

5.5.3 LTE Test Configuration

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

A) Spectrum Plots for RB Configurations

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

B) MPR

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

C) A-MPR

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

D) Largest channel bandwidth standalone SAR test requirements

1) QPSK with 1 RB allocation

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 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 ≤ 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.

5.2.3 LTE CA specification

The device supports LTE advanced Rel. 12, Carrier Aggregation (CA) on downlink for Intra band and inter-band. Uplink CA is supported for Intra band only, more details information is provided in tables below:

1) DL CA Intra band contiguous

E-UTRA CA configuration / Bandwidth combination set						
E-UTRA CA configuration	Uplink CA configurations	Component carriers in order of increasing carrier frequency			Bandwidth combination set	
		Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]		
CA_7C	CA_7C	15	15		40	0
		20	20			
		10	20		40	1
		15	15, 20			
		20	10, 15, 20			
		15	10, 15		40	2
		20	15, 20			
		15	15			
		20	10, 15, 20			
CA_38C	CA_38C	15	15		40	0
		20	20			
CA_41C	CA_41C	10	20		40	0
		15	15, 20			
		20	10, 15, 20			
		5, 10	20		40	1
		15	15, 20			
		20	5, 10, 15, 20			
		10	15, 20		40	2
		15	10, 15, 20			
		20	10, 15, 20			
		10	20		40	3
		20	20			

NOTE 1: The CA configuration refers to an operating band and a CA bandwidth class specified in Table 5.6A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.

5.5.4 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

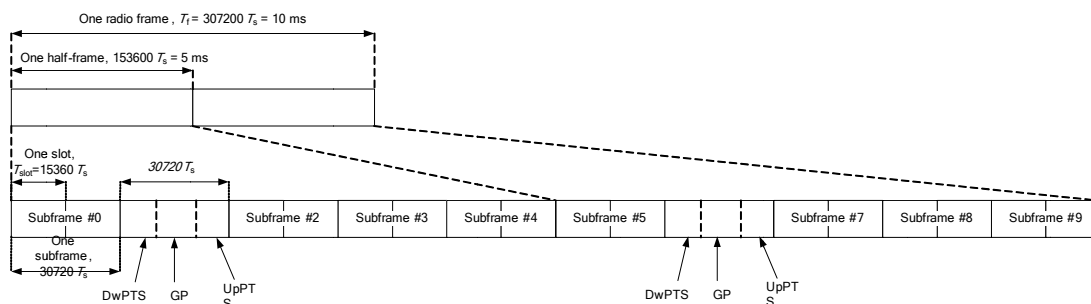


Table 7: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

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:

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

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.

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

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			
				Normal cyclic prefix in uplink		Extended cyclic prefix in uplink		Normal cyclic prefix in uplink		Extended cyclic prefix in uplink	
	D	S	U	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

Physical Cell Setup

- DL Cell Bandwidth: 20.0 MHz
- UL Cell Bandwidth: 20.0 MHz
- Physical Cell ID: 0
- Cyclic Prefix: Normal
- Sounding RS (SRS): ☐
- SRS: ☐
- TDD: ☒
 - Use Carrier Specific: ☐
 - Uplink Downlink Configuration: 0
 - Subframe Number: 0 1 2 3 4 5 6 7 8 9
 - Direction: ↓ S ↑ ↑ ↑ ↓ S ↑ ↑ ↑
 - Special Subframe: 7
- PRACH: ☐
- Network: ☐
- Connection: ☐
- QoS Reporting: ☐

LTE

LTE 1 TX Meas.

LTE 1 RX Meas.

Go to...

Routing

LTE Signaling

ON

Config ...

5.5.5 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:

- ≤ 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 ≤ 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 ≤ 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.

5.5.6 BT Test Configuration

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

5.5.7 Power Reduction Configuration

This mobile phone device supports the receiver detection mechanism. This device uses the receiver to indicate whether the user is making a call in head or body.

When there is a voice call (including VOIP) and the audio is actively routed through the earpiece receiver, which indicating the head exposure condition it will trigger the head exposure reduced the power.

When there is a voice call (including VOIP), and the audio is actively routed through the headset or speaker, which indicating the body exposure conditions will trigger the body exposure reduced the power.

When this device used data mode only, and the receiver will not work too, the reduced the power are same as body exposure.

WWAN Reduced power level table

Receiver state	Antenna	Transmitting conditions	Power reduced bands	/
On (head scenario)	Up	WWAN Use Only	GSM1900; WCDMA B2/4; LTE B2/4/7/66/38/41	/
On (head scenario)	Up	WWAN + WLAN 2.4G	GSM 850/GSM1900; WCDMA B2/4; LTE B2/4/5/7/66/38/41	/
On (head scenario)	Up	WWAN + WLAN 5G	GSM 850/GSM1900; WCDMA B2/4; LTE B2/4/5/7/66/38/41	/
Off (Body scenario)	Up	WWAN Use Only	GSM1900; WCDMA B2/4; LTE B2/4/7/66	/
Off (Body scenario)	Up	WWAN + WLAN 2.4G	GSM1900; WCDMA B2/4; LTE B2/4/7/66	/
Off (Body scenario)	Up	WWAN + WLAN 5G	GSM1900; WCDMA B2/4; LTE B2/4/7/66	/
Off (Body scenario)	Down	WWAN Use Only	WCDMA B4; LTE B4/66	/



Off (Body scenario)	Down	WWAN + WLAN 2.4G	WCDMA B2/4; LTE B4/66	/
Off (Body scenario)	Down	WWAN + WLAN 5G	WCDMA B2/4; LTE B4/66	/

WLAN Reduced power level table

Reduced level	Receiver state	Transmitting conditions	Power reduced bands
Level 1	On (head scenario)	WLAN Use Only	WWLAN 2.4G
Level 2&4		WWAN + WLAN	
	Off (Body scenario)	WLAN Use Only	
WWAN + WLAN			
Level 4	On (head scenario)	WLAN Use Only	WLAN 5G
Level 2		WWAN + WLAN	
Level 1	Off (Body scenario)	WLAN Use Only	
Level 4		WWAN + WLAN	

WWAN Antenna Up Power table

Mode	WWAN Antenna						
	Full Power	Head			Body		
		Receiver on			Receiver off		
		Standalone	Simultaneous transmission		Standalone	Simultaneous transmission	
			Body-worn&Hotspot			Body-worn&Hotspot	
			+2.4G WLAN	+5G WLAN		+2.4G WLAN	+5G WLAN
GSM 850	33.30	33.30	30.30	30.30	30.30	30.30	30.30
GPRS850 1 Tx Slot	33.30	33.30	30.30	30.30	30.30	30.30	30.30
GPRS850 2 Tx Slots	31.30	31.30	27.80	27.80	27.80	27.80	27.80
GPRS850 3 Tx Slots	30.30	30.30	25.80	25.80	25.80	25.80	25.80
GPRS850 4 Tx Slots	29.30	29.30	24.80	24.80	24.80	24.80	24.80
EGPRS850 1 Tx Slot	30.80	30.80	24.30	24.30	24.30	24.30	24.30
EGPRS850 2 Tx Slots	28.30	28.30	22.30	22.30	22.30	22.30	22.30
EGPRS850 3 Tx Slots	26.80	26.80	19.30	19.30	19.30	19.30	19.30
EGPRS850 4 Tx Slots	25.80	25.80	17.80	17.80	17.80	17.80	17.80



GSM 1900	30.30	25.80	23.80	23.80	29.30	28.30	28.30
GPRS1900 1 Tx Slot	30.30	25.80	23.80	23.80	29.30	28.30	28.30
GPRS1900 2 Tx Slots	28.30	22.80	20.80	20.80	26.30	25.30	25.30
GPRS1900 3 Tx Slots	27.30	20.80	18.80	18.80	24.30	23.30	23.30
GPRS1900 4 Tx Slots	26.30	19.80	17.80	17.80	23.30	22.30	22.30
EGPRS1900 1 Tx Slot	28.30	19.80	18.80	18.80	24.30	23.30	23.30
EGPRS1900 2 Tx Slots	26.30	15.80	15.80	15.80	21.30	20.30	20.30
EGPRS1900 3 Tx Slots	25.30	14.80	13.80	13.80	19.30	18.30	18.30
EGPRS1900 4 Tx Slots	24.30	12.80	11.80	11.80	17.30	16.30	16.30
WCDMA Band2 RMC	24.10	17.10	14.10	19.10	19.10	18.60	18.60
HSDPA Subtest-1	23.10	15.10	13.10	13.10	18.10	17.60	17.60
HSDPA Subtest-2	23.10	15.10	13.10	13.10	18.10	17.60	17.60
HSDPA Subtest-3	22.60	15.60	12.60	12.60	17.60	17.10	17.10
HSDPA Subtest-4	22.60	14.60	12.60	12.60	17.60	17.10	17.10
HSUPA Subtest-1	21.10	15.60	12.60	12.60	17.60	17.10	17.10
HSUPA Subtest-2	20.10	16.80	12.10	12.10	17.10	16.60	16.60
HSUPA Subtest-3	21.10	16.80	13.10	13.10	18.10	17.60	17.60
HSUPA Subtest-4	20.10	15.80	11.60	11.60	16.60	16.10	16.10
HSUPA Subtest-5	22.10	15.80	13.10	13.10	18.10	17.60	17.60
WCDMA Band4 RMC	24.10	17.60	14.60	14.60	20.10	19.60	19.60
HSDPA Subtest-1	23.10	16.60	13.60	13.60	19.10	18.60	18.60
HSDPA Subtest-2	23.10	16.60	13.60	13.60	19.10	18.60	18.60
HSDPA Subtest-3	22.60	16.10	13.10	13.10	18.60	18.10	18.10
HSDPA Subtest-4	22.60	16.10	13.10	13.10	18.60	18.10	18.10
HSUPA Subtest-1	22.60	16.10	13.10	13.10	18.60	18.10	18.10
HSUPA Subtest-2	22.60	15.60	12.60	12.60	18.10	17.60	17.60
HSUPA Subtest-3	23.60	16.60	13.60	13.60	19.10	18.60	18.60
HSUPA Subtest-4	22.10	15.10	12.10	12.10	17.60	17.10	17.10
HSUPA Subtest-5	23.60	16.60	13.60	13.60	19.10	18.60	18.60
WCDMA Band5 RMC	24.30	24.30	24.30	24.30	24.30	24.30	24.30
HSDPA Subtest-1	23.30	23.30	23.30	23.30	23.30	23.30	23.30
HSDPA Subtest-2	23.30	23.30	23.30	23.30	23.30	23.30	23.30
HSDPA Subtest-3	22.80	22.80	22.80	22.80	22.80	22.80	22.80
HSDPA Subtest-4	22.80	22.80	22.80	22.80	22.80	22.80	22.80
HSUPA Subtest-1	22.80	22.80	22.80	22.80	22.80	22.80	22.80
HSUPA Subtest-2	22.30	22.30	22.30	22.30	22.30	22.30	22.30
HSUPA Subtest-3	23.30	23.30	23.30	23.30	23.30	23.30	23.30
HSUPA Subtest-4	21.80	21.80	21.80	21.80	21.80	21.80	21.80
HSUPA Subtest-5	23.30	23.30	23.30	23.30	23.30	23.30	23.30
LTE Band2	23.80	17.30	16.30	16.30	18.30	17.80	17.80
LTE Band4	23.80	18.30	15.30	15.30	19.80	19.30	19.30
LTE Band5	24.30	24.30	23.30	23.30	24.30	24.30	24.30
LTE Band7	23.80	15.80	14.80	14.80	22.80	21.80	21.80



LTE Band12	23.80	23.80	23.80	23.80	23.80	23.80	23.80
LTE Band17	23.80	23.80	23.80	23.80	23.80	23.80	23.80
LTE Band26	24.30	24.30	24.30	24.30	24.30	24.30	24.30
LTE Band66	24.10	17.60	14.60	14.60	20.10	20.10	20.10
LTE Band38	23.80	20.80	20.30	20.30	23.80	23.80	23.80
LTE Band41	23.80	20.80	20.30	20.30	23.80	23.80	23.80

WWAN Antenna Down Power table

Mode	WWAN Antenna						
	Full Power	Head			Body		
		Receiver on			Receiver off		
		Standalone	Simultaneous transmission		Standalone	Simultaneous transmission	
			+2.4G WLAN	+5G WLAN		+2.4G WLAN	+5G WLAN
GSM 850	33.30	33.30	33.30	33.30	33.30	33.30	33.30
GPRS850 1 Tx Slot	33.30	33.30	33.30	33.30	33.30	33.30	33.30
GPRS850 2 Tx Slots	31.30	31.30	31.30	31.30	31.30	31.30	31.30
GPRS850 3 Tx Slots	30.30	30.30	30.30	30.30	30.30	30.30	30.30
GPRS850 4 Tx Slots	29.30	29.30	29.30	29.30	29.30	29.30	29.30
EGPRS850 1 Tx Slot	30.80	30.80	30.80	30.80	30.80	30.80	30.80
EGPRS850 2 Tx Slots	28.30	28.30	28.30	28.30	28.30	28.30	28.30
EGPRS850 3 Tx Slots	26.80	26.80	26.80	26.80	26.80	26.80	26.80
EGPRS850 4 Tx Slots	25.80	25.80	25.80	25.80	25.80	25.80	25.80
GSM 1900	30.30	30.30	30.30	30.30	30.30	30.30	30.30
GPRS1900 1 Tx Slot	30.30	30.30	30.30	30.30	30.30	30.30	30.30
GPRS1900 2 Tx Slots	28.30	28.30	28.30	28.30	28.30	28.30	28.30
GPRS1900 3 Tx Slots	27.30	27.30	27.30	27.30	27.30	27.30	27.30
GPRS1900 4 Tx Slots	26.30	26.30	26.30	26.30	26.30	26.30	26.30
EGPRS1900 1 Tx Slot	28.30	25.30	25.30	25.30	25.30	25.30	25.30
EGPRS1900 2 Tx Slots	26.30	23.30	23.30	23.30	23.30	23.30	23.30
EGPRS1900 3 Tx Slots	25.30	22.30	22.30	22.30	22.30	22.30	22.30
EGPRS1900 4 Tx Slots	24.30	21.30	21.30	21.30	21.30	21.30	21.30
WCDMA Band2 RMC	24.10	24.10	24.10	24.10	24.10	23.10	23.10
HSDPA Subtest-1	23.10	23.10	23.10	23.10	23.10	23.10	23.10
HSDPA Subtest-2	23.10	23.10	23.10	23.10	23.10	23.10	23.10
HSDPA Subtest-3	22.60	22.60	22.60	22.60	22.60	22.60	22.60
HSDPA Subtest-4	22.60	22.60	22.60	22.60	22.60	22.60	22.60
HSUPA Subtest-1	21.10	22.60	22.60	22.60	22.60	21.60	21.60
HSUPA Subtest-2	20.10	22.10	22.10	22.10	22.10	21.10	21.10
HSUPA Subtest-3	21.10	23.10	23.10	23.10	23.10	22.10	22.10
HSUPA Subtest-4	20.10	21.60	21.60	21.60	21.60	20.60	20.60
HSUPA Subtest-5	22.10	23.10	23.10	23.10	23.10	22.10	22.10



WCDMA Band4 RMC	24.10	24.10	24.10	24.10	23.10	22.10	22.10
HSDPA Subtest-1	23.10	23.10	23.10	23.10	22.10	22.10	22.10
HSDPA Subtest-2	23.10	23.10	23.10	23.10	22.10	22.10	22.10
HSDPA Subtest-3	22.60	22.60	22.60	22.60	21.60	21.60	21.60
HSDPA Subtest-4	22.60	22.60	22.60	22.60	21.60	21.60	21.60
HSUPA Subtest-1	22.60	22.60	22.60	22.60	21.60	20.60	20.60
HSUPA Subtest-2	22.60	22.10	22.10	22.10	21.10	20.10	20.10
HSUPA Subtest-3	23.60	23.10	23.10	23.10	22.10	21.10	21.10
HSUPA Subtest-4	22.10	21.60	21.60	21.60	20.60	19.60	19.60
HSUPA Subtest-5	23.60	23.10	23.10	23.10	22.10	21.10	21.10
WCDMA Band5 RMC	24.30	24.30	24.30	24.30	24.30	24.30	24.30
HSDPA Subtest-1	23.30	23.30	23.30	23.30	23.30	23.30	23.30
HSDPA Subtest-2	23.30	23.30	23.30	23.30	23.30	23.30	23.30
HSDPA Subtest-3	22.80	22.80	22.80	22.80	22.80	22.80	22.80
HSDPA Subtest-4	22.80	22.80	22.80	22.80	22.80	22.80	22.80
HSUPA Subtest-1	22.30	22.80	22.80	22.80	22.80	22.80	22.80
HSUPA Subtest-2	22.30	22.30	22.30	22.30	22.30	22.30	22.30
HSUPA Subtest-3	23.30	23.30	23.30	23.30	23.30	23.30	23.30
HSUPA Subtest-4	21.80	21.80	21.80	21.80	21.80	21.80	21.80
HSUPA Subtest-5	23.30	23.30	23.30	23.30	23.30	23.30	23.30
LTE Band2	23.80	23.80	23.80	23.80	23.80	23.80	23.80
LTE Band4	23.80	23.80	23.80	23.80	22.30	21.80	21.80
LTE Band5	24.30	24.30	24.30	24.30	24.30	24.30	24.30
LTE Band7	23.80	23.80	23.80	23.80	23.80	23.80	23.80
LTE Band12	23.80	23.80	23.80	23.80	23.80	23.80	23.80
LTE Band17	23.80	23.80	23.80	23.80	23.80	23.80	23.80
LTE Band26	24.30	24.30	24.30	24.30	24.30	24.30	24.30
LTE Band66	24.10	24.10	24.10	24.10	22.10	22.10	22.10
LTE Band38	23.80	23.80	23.80	23.80	23.80	23.80	23.80
LTE Band41	23.80	23.80	23.80	23.80	23.80	23.80	23.80

WLAN and Bluetooth Antenna Power table

Mode	WLAN Antenna				
	Full Power	Head		Body	
		Receiver on		Receiver off	
		Standalone	Simultaneous transmission	Standalone	Simultaneous transmission
			+WWAN		+WWAN
2.4G WLAN 802.11b	20.00	16.00	14.50	20.00	14.50
2.4G WLAN 802.11g	18.00	15.50	14.50	18.00	14.50
2.4G WLAN 802.11n20	18.00	15.50	14.50	18.00	14.50
5.2G&5.3G WLAN 802.11a	20.00	14.50	12.50	17.00	14.50

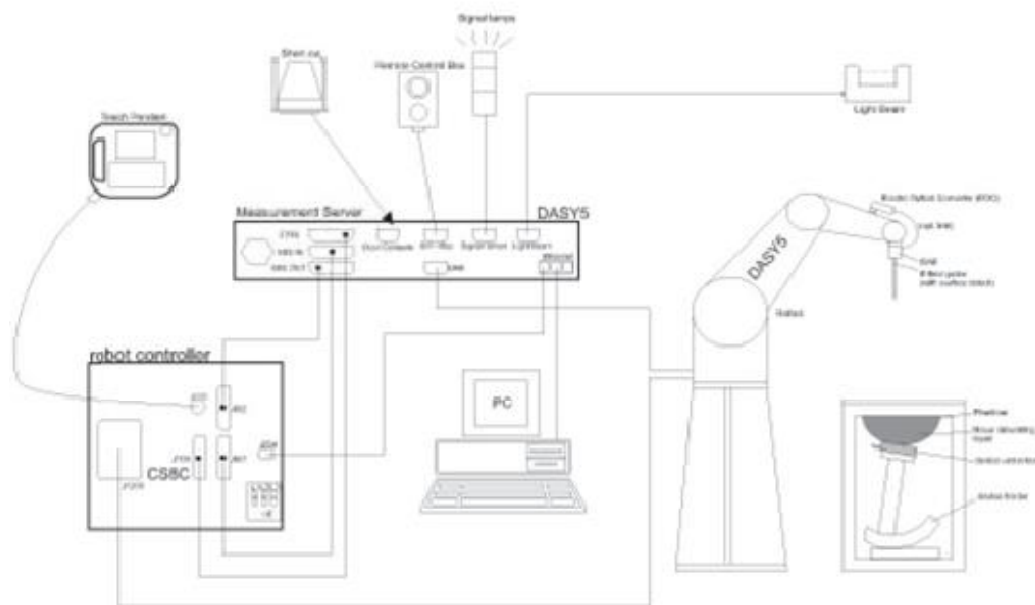


5.2G&5.3G WLAN 802.11nHT20	20.00	14.50	12.50	17.00	14.50
5.2G&5.3G WLAN 802.11nHT40	19.00	14.50	12.50	17.00	14.50
5.2G&5.3G WLAN 802.11acHT20	20.00	14.50	12.50	17.00	14.50
5.2G&5.3G WLAN 802.11acHT40	19.00	14.50	12.50	17.00	14.50
5.2G&5.3G WLAN 802.11acHT80	19.00	14.50	12.50	17.00	14.50
5.6G WLAN 802.11a	20.00	14.50	11.50	15.50	14.50
5.6G WLAN 802.11nHT20	20.00	14.50	11.50	15.50	14.50
5.6G WLAN 802.11nHT40	19.00	14.50	11.50	15.50	14.50
5.6G WLAN 802.11acHT20	20.00	14.50	11.50	15.50	14.50
5.6G WLAN 802.11acHT40	19.00	14.50	11.50	15.50	14.50
5.6G WLAN 802.11acHT80	19.00	14.50	11.50	15.50	14.50
5.8G WLAN 802.11a	20.00	14.50	11.50	14.50	14.50
5.8G WLAN 802.11nHT20	20.00	14.50	11.50	14.50	14.50
5.8G WLAN 802.11nHT40	19.00	14.50	11.50	14.50	14.50
5.8G WLAN 802.11acHT20	20.00	14.50	11.50	14.50	14.50
5.8G WLAN 802.11acHT40	19.00	14.50	11.50	14.50	14.50
5.8G WLAN 802.11acHT80	19.00	14.50	11.50	14.50	14.50
Bluetooth	13.00	13.00	13.00	13.00	13.00

6 SAR Measurements System Configuration

6.3 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.

6.4 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: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 μ W/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 μ 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 ± 0.25 dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.

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

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



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

Where: Δt = Exposure time (30 seconds),

C = Heat capacity of tissue (brain or muscle),

ΔT = Temperature increase due to RF exposure.

Or

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

Where: σ = Simulated tissue conductivity,

ρ = Tissue density (kg/m^3).

6.5 SAR Measurement Procedure

Power Reference Measurement

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

Area Scan

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

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

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ 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: $\Delta x_{\text{Area}}, \Delta y_{\text{Area}}$	≤ 2 GHz: ≤ 15 mm $2 - 3$ GHz: ≤ 12 mm	$3 - 4$ GHz: ≤ 12 mm $4 - 6$ GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

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: $\Delta x_{\text{zoom}}\Delta y_{\text{zoom}}$			≤2GHz: ≤8mm 2 – 3GHz: ≤5mm*	3 – 4GHz: ≤5mm* 4 – 6GHz: ≤4mm*
Maximum zoom scan spatial resolution, normal to phantom surface	Uniform grid: $\Delta z_{\text{zoom}}(n)$		≤5mm	3 – 4GHz: ≤4mm 4 – 5GHz: ≤3mm 5 – 6GHz: ≤2mm
	Graded grid	$\Delta z_{\text{zoom}}(1)$: between 1 st two points closest to phantom surface	≤4mm	3 – 4GHz: ≤3mm 4 – 5GHz: ≤2.5mm 5 – 6GHz: ≤2mm
		$\Delta z_{\text{zoom}}(n>1)$: between subsequent points	≤1.5• $\Delta z_{\text{zoom}}(n-1)$	
Minimum zoom scan volume	X, y, z		≥30mm	3 – 4GHz: ≥28mm 4 – 5GHz: ≥25mm 5 – 6GHz: ≥22mm
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.				
* When zoom scan is required and the <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.				

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 DASY 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	2020-05-17	2021-05-16
Dielectric Probe Kit	Agilent	85070E	US44020115	2020-05-17	2021-05-16
Power meter	Agilent	E4417A	GB41291714	2020-05-17	2021-05-16
Power sensor	Agilent	N8481H	MY50350004	2020-05-17	2021-05-16
Power sensor	Agilent	E9327A	US40441622	2020-05-17	2021-05-16
Signal Generator	Agilent	N5181A	MY50140143	2020-05-17	2021-05-16
Dual directional coupler	Agilent	778D-012	50519	/	/
Dual directional coupler	Agilent	777D	50146	/	/
Dual directional coupler	UCL	UCL-DDC0 56G-S	20010600118	/	/
Amplifier	INDEXSAR	IXA-020	0401	2020-05-17	2021-05-16
Wireless communication tester	Anritsu	MT8820C	6201342015	2020-05-17	2021-05-16
Wireless communication tester	Key sight	E5515C	MY48360988	2019-12-15	2020-12-14
Wideband radio communication tester	R&S	CMW 500	113645	2020-05-17	2021-05-16
Base Station Simulator	R&S	CMW270	100673	2020-05-17	2021-05-16
E-field Probe	SPEAG	EX3DV4	3677	2020-07-06	2021-07-05
DAE	SPEAG	DAE4	1317	2019-10-23	2020-10-22
Validation Kit 750MHz	SPEAG	D750V3	1045	2017-08-27	2020-08-26
Validation Kit 835MHz	SPEAG	D835V2	4d020	2017-08-28	2020-08-27
Validation Kit 1750MHz	SPEAG	D1750V2	1033	2020-02-25	2023-02-24
Validation Kit 1900MHz	SPEAG	D1900V2	5d060	2017-08-26	2020-08-25
Validation Kit 2450MHz	SPEAG	D2450V2	786	2017-08-29	2020-08-28
Validation Kit 2600MHz	SPEAG	D2600V2	1025	2018-05-02	2021-05-01
Validation Kit 5GHz	SPEAG	D5GHzV2	1151	2020-02-27	2023-02-26
Temperature Probe	Tianjin jinming	JM222	381	2020-05-25	2021-05-24
Hygrothermograph	Anymetr	NT-311	20150731	2020-05-17	2021-05-16



Twin SAM Phantom	Speag	SAM1	TP-1534	/	/
Software for Test	Speag	DASY52	/	/	/
Software for Tissue	Agilent	85070	/	/	/

8 Tissue Dielectric Parameter Measurements & System Verification

8.3 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)	Water (%)	Salt (%)	Sugar (%)	Glycol (%)	Preventol (%)	Cellulose (%)	ϵ_r	$\sigma(\text{s/m})$
750	41.448	1.452	56	0	0.1	1.0	41.9	0.89
835	41.45	1.45	56	0	0.1	1.0	41.5	0.90
1750	55.24	0.31	0	44.45	0	0	40.1	1.37
1900	55.242	0.306	0	44.452	0	0	40.0	1.40
2450	62.7	0.5	0	36.8	0	0	39.2	1.80
2600	55.242	0.306	0	44.452	0	0	39.0	1.96
Frequency (MHz)	Water (%)	Diethylenglycol monohexylether			Triton X-100		ϵ_r	$\sigma(\text{s/m})$
5250	65.53	17.24			17.23		35.9	4.71
5600	65.53	17.24			17.23		35.5	5.07
5750	65.53	17.24			17.23		35.4	5.22

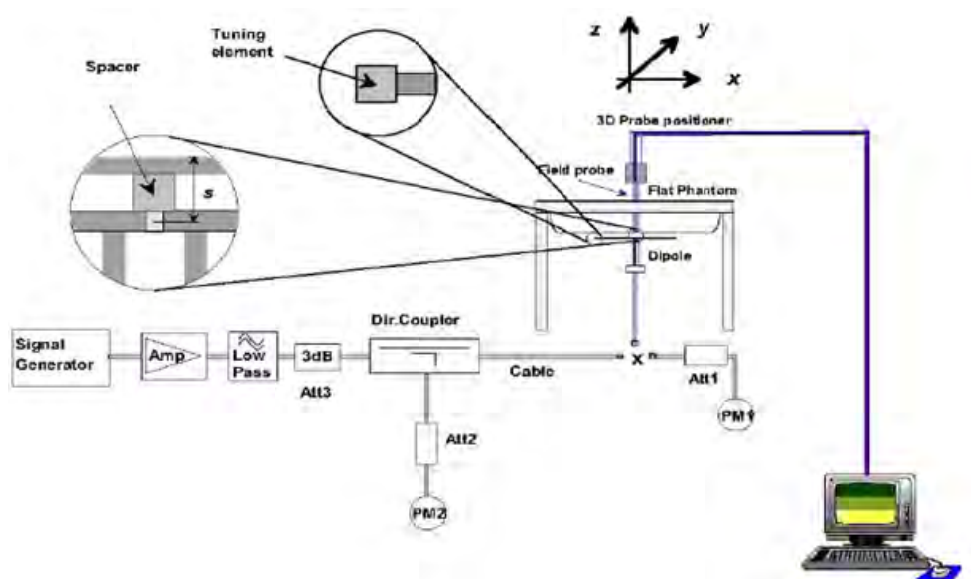
Measurements results

Frequency (MHz)	Test Date	Temp ℃	Measured Dielectric Parameters		Target Dielectric Parameters		Limit (Within $\pm 5\%$)	
			ϵ_r	σ (s/m)	ϵ_r	σ (s/m)	Dev ϵ_r (%)	Dev σ (%)
750	8/18/2020	21.5	42.3	0.88	41.9	0.89	0.95	-1.12
	8/20/2020	21.5	42.0	0.87	41.9	0.89	0.24	-2.25
835	8/17/2020	21.5	41.4	0.88	41.5	0.90	-0.24	-2.22
	8/19/2020	21.5	41.3	0.87	41.5	0.90	-0.48	-3.33
	8/21/2020	21.5	41.4	0.92	41.5	0.90	-0.24	2.22
1750	8/25/2020	21.5	40.2	1.34	40.1	1.37	0.25	-2.19
	8/26/2020	21.5	40.1	1.34	40.1	1.37	0.00	-2.19
	8/28/2020	21.5	40.2	1.36	40.1	1.37	0.25	-0.73
	8/30/2020	21.5	40.3	1.38	40.1	1.37	0.50	0.73
1900	8/22/2020	21.5	40.1	1.41	40.0	1.40	0.25	0.71
	8/23/2020	21.5	40.2	1.43	40.0	1.40	0.50	2.14
	8/24/2020	21.5	40.3	1.42	40.0	1.40	0.75	1.43
2450	8/27/2020	21.5	38.6	1.81	39.2	1.80	-1.53	0.56
2600	9/1/2020	21.5	38.2	2.01	39.0	1.96	-2.05	2.55
	9/3/2020	21.5	38.4	1.94	39.0	1.96	-1.54	-1.02
	9/4/2020	21.5	38.3	1.99	39.0	1.96	-1.79	1.53
	9/7/2020	21.5	38.5	1.95	39.0	1.96	-1.28	-0.51
5250	9/2/2020	21.5	35.5	4.80	35.9	4.71	-1.11	1.91
5600	9/5/2020	21.5	34.2	5.21	35.5	5.07	-3.66	2.76
5750	9/5/2020	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 ≥ 15.0 cm for SAR measurements ≤ 3 GHz and ≥ 10.0 cm for measurements > 3 GHz.								

8.4 System Performance Check

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

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



Picture 1 System Performance Check setup



Picture 2 Setup Photo

**Justification for Extended SAR Dipole Calibrations**

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

Dipole		Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	$\Delta\Omega$
Dipole D750V3 SN: 1045	Head Liquid	8/27/2017	-28.5	/	52.5	/
		8/26/2018	-27.6	3.3	53.2	-0.7
		8/25/2019	-27.5	0.4	54.1	-0.9
Dipole D835V2 SN: 4d020	Head Liquid	8/28/2017	-31.9	/	50.3	/
		8/27/2018	-29.0	10.0	46.6	3.7
		8/26/2019	-29.4	-1.4	45.9	0.7
Dipole D1900V2 SN: 5d060	Head Liquid	8/26/2017	-23.4	/	52.0	/
		8/25/2018	-24.7	-5.3	54.4	-2.4
		8/24/2019	-24.9	-0.8	56.2	-1.8
Dipole D2450V2 SN: 786	Head Liquid	8/29/2017	-25.5	/	53.4	/
		8/28/2018	-23.0	10.9	57.2	-3.8
		8/27/2019	-22.2	3.6	56.4	0.8
Dipole D2600V2 SN: 1025	Head Liquid	5/2/2018	-22.0	/	48.1	/
		5/1/2019	-22.5	-2.2	48.7	-0.6

System Check results

Frequency (MHz)	Test Date	Temp °C	250mW /100mW Measured SAR _{1g} (W/kg)	1W Normalized SAR _{1g} (W/kg)	1W Target SAR _{1g} (W/kg)	Δ % (Limit $\pm 10\%$)	Plot No.
750	8/18/2020	21.5	2.13	8.52	8.34	2.16	1
	8/20/2020	21.5	2.10	8.40	8.34	0.72	2
835	8/17/2020	21.5	2.44	9.76	9.45	3.28	3
	8/19/2020	21.5	2.46	9.84	9.45	4.13	4
	8/21/2020	21.5	2.43	9.72	9.45	2.86	5
1750	8/25/2020	21.5	8.95	35.80	35.90	-0.28	6
	8/26/2020	21.5	9.11	36.44	35.90	1.50	7
	8/28/2020	21.5	8.96	35.84	35.90	-0.17	8
	8/30/2020	21.5	8.92	35.68	35.90	-0.61	9
1900	8/22/2020	21.5	9.88	39.52	40.10	-1.45	10
	8/23/2020	21.5	9.85	39.40	40.10	-1.75	11
	8/24/2020	21.5	10.55	42.20	40.10	5.24	12
2450	8/27/2020	21.5	13.70	54.80	52.60	4.18	13
2600	9/1/2020	21.5	13.90	55.60	54.10	2.77	14
	9/3/2020	21.5	13.88	55.52	54.10	2.62	15



	9/4/2020	21.5	13.94	55.76	54.10	3.07	16
	9/7/2020	21.5	13.90	55.60	54.10	2.77	17
5250	9/2/2020	21.5	7.87	78.70	78.00	0.90	18
5600	9/5/2020	21.5	7.67	76.70	80.50	-4.72	19
5750	9/5/2020	21.5	7.66	76.60	77.40	-1.03	20
Note: Target Values used derive from the calibration certificate Data Storage and Evaluation.							

8.5 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			Mod. Validation		
								Sensitivity	Probe Linearity	Probe Isotropy	Mod. Type	Duty Factor	PAR
750	6/25/2019	3677	EX3DV4	750	Head	42.81	0.85	PASS	PASS	PASS	FDD	PASS	N/A
835	6/25/2019	3677	EX3DV4	835	Head	42.22	0.90	PASS	PASS	PASS	GMSK	PASS	N/A
1750	6/25/2019	3677	EX3DV4	1750	Head	39.91	1.32	PASS	PASS	PASS	NA	N/A	N/A
1900	6/25/2019	3677	EX3DV4	1900	Head	39.43	1.42	PASS	PASS	PASS	GMSK	PASS	N/A
2450	6/25/2019	3677	EX3DV4	2450	Head	38.19	1.83	PASS	PASS	PASS	OFDM	PASS	PASS
2600	6/25/2019	3677	EX3DV4	2600	Head	37.60	1.99	PASS	PASS	PASS	TDD	PASS	N/A
5250	6/25/2019	3677	EX3DV4	5250	Head	35.36	4.83	PASS	PASS	PASS	OFDM	N/A	PASS
5600	6/25/2019	3677	EX3DV4	5600	Head	34.43	5.29	PASS	PASS	PASS	OFDM	N/A	PASS
5750	6/25/2019	3677	EX3DV4	5750	Head	34.07	5.47	PASS	PASS	PASS	OFDM	N/A	PASS
750	6/25/2019	3677	EX3DV4	750	Body	55.35	0.99	PASS	PASS	PASS	FDD	PASS	N/A
835	6/25/2019	3677	EX3DV4	835	Body	54.88	0.98	PASS	PASS	PASS	GMSK	PASS	N/A
1750	6/25/2019	3677	EX3DV4	1750	Body	51.24	1.44	PASS	PASS	PASS	NA	N/A	N/A
1900	6/25/2019	3677	EX3DV4	1900	Body	50.98	1.56	PASS	PASS	PASS	GMSK	PASS	N/A
2450	6/25/2019	3677	EX3DV4	2450	Body	50.59	1.95	PASS	PASS	PASS	OFDM	PASS	PASS
2600	6/25/2019	3677	EX3DV4	2600	Body	50.14	2.13	PASS	PASS	PASS	TDD	PASS	N/A
5250	6/25/2019	3677	EX3DV4	5250	Body	47.37	5.44	PASS	PASS	PASS	OFDM	N/A	PASS
5600	6/25/2019	3677	EX3DV4	5600	Body	46.42	5.99	PASS	PASS	PASS	OFDM	N/A	PASS
5750	6/25/2019	3677	EX3DV4	5750	Body	46.02	6.23	PASS	PASS	PASS	OFDM	N/A	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.

9.3 GSM Mode

WWAN Antenna Down & WWAN Antenna Up

GSM 850		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	128 /824.2	190 /836.6	251 /848.8		MAX	128 /824.2	190 /836.6	251 /848.8
GSM	CS	33.30	31.90	32.24	32.56	9.03	24.27	22.87	23.21	23.53
GPRS/EGPRS (GMSK)	1 Tx Slot	33.30	31.98	32.33	32.57	9.03	24.27	22.95	23.30	23.54
	2 Tx Slots	31.30	29.56	29.91	30.20	6.02	25.28	23.54	23.89	24.18
	3 Tx Slots	30.30	28.51	28.89	29.19	4.26	26.04	24.25	24.63	24.93
	4 Tx Slots	29.30	27.51	27.93	28.19	3.01	26.29	24.50	24.92	25.18
EGPRS (8PSK)	1 Tx Slot	30.80	29.21	29.68	29.77	9.03	21.77	20.18	20.65	20.74
	2 Tx Slots	28.30	26.46	26.71	27.24	6.02	22.28	20.44	20.69	21.22
	3 Tx Slots	26.80	25.35	25.58	26.10	4.26	22.54	21.09	21.32	21.84
	4 Tx Slots	25.80	24.06	24.37	24.74	3.01	22.79	21.05	21.36	21.73
GSM 1900		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	512 /1850.2	661 /1880	810 /1909.8		MAX	512 /1850.2	661 /1880	810 /1909.8
GSM	CS	30.30	29.28	29.22	29.19	9.03	21.27	20.25	20.19	20.16
GPRS/EGPRS (GMSK)	1 Tx Slot	30.30	29.29	29.21	29.21	9.03	21.27	20.26	20.18	20.18
	2 Tx Slots	28.30	27.07	26.97	26.92	6.02	22.28	21.05	20.95	20.90
	3 Tx Slots	27.30	26.07	25.95	25.90	4.26	23.04	21.81	21.69	21.64
	4 Tx Slots	26.30	25.05	24.93	24.88	3.01	23.29	22.04	21.92	21.87
EGPRS (8PSK)	1 Tx Slot	28.30	27.64	27.54	27.41	9.03	19.27	18.61	18.51	18.38
	2 Tx Slots	26.30	26.01	25.96	25.99	6.02	20.28	19.99	19.94	19.97
	3 Tx Slots	25.30	24.84	24.80	24.71	4.26	21.04	20.58	20.54	20.45
	4 Tx Slots	24.30	23.87	23.77	23.57	3.01	21.29	20.86	20.76	20.56
Notes:The worst-case configuration and mode for SAR testing is determined to be as follows:										
1. Standalone: GSM 850 GMSK (GPRS) mode with 4 time slots for Max power, GSM 1900 GMSK (GPRS) mode with 4 time slots for Max power,based on the output power measurements above.										



WWAN Antenna Up

GSM 850 head(WWAN+2.4G/ 5G)		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	128 /824.2	190 /836.6	251 /848.8		MAX	128 /824.2	190 /836.6	251 /848.8
GSM	CS	30.30	29.87	30.04	30.10	9.03	21.27	20.84	21.01	21.07
GPRS/ EGPRS (GMSK)	1 Tx Slot	30.30	29.86	30.02	30.10	9.03	21.27	20.83	20.99	21.07
	2 Tx Slots	27.30	26.82	26.98	27.05	6.02	21.28	20.80	20.96	21.03
	3 Tx Slots	25.80	25.08	25.27	25.34	4.26	21.54	20.82	21.01	21.08
	4 Tx Slots	24.80	23.82	24.03	24.11	3.01	21.79	20.81	21.02	21.10
EGPRS (8PSK)	1 Tx Slot	24.30	23.58	23.97	24.14	9.03	15.27	14.55	14.94	15.11
	2 Tx Slots	21.30	20.40	20.64	21.01	6.02	15.28	14.38	14.62	14.99
	3 Tx Slots	19.30	18.37	18.67	18.93	4.26	15.04	14.11	14.41	14.67
	4 Tx Slots	17.80	17.03	17.32	17.50	3.01	14.79	14.02	14.31	14.49

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

1. Standalone: GSM 850 GMSK (GPRS) mode with 4 time slots for Max power, based on the output power measurements above.

GSM 1900 head(standalone)		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	512 /1850.2	661 /1880	810 /1909.8		MAX	512 /1850.2	661 /1880	810 /1909.8
GSM	CS	25.80	24.99	24.95	24.97	9.03	16.77	15.96	15.92	15.94
GPRS/ EGPRS (GMSK)	1 Tx Slot	25.80	24.98	24.93	24.92	9.03	16.77	15.95	15.90	15.89
	2 Tx Slots	22.80	21.94	21.87	21.87	6.02	16.78	15.92	15.85	15.85
	3 Tx Slots	20.80	20.17	20.10	20.06	4.26	16.54	15.91	15.84	15.80
	4 Tx Slots	19.80	18.90	18.82	18.78	3.01	16.79	15.89	15.81	15.77
EGPRS (8PSK)	1 Tx Slot	19.80	18.48	18.47	18.56	9.03	10.77	9.45	9.44	9.53
	2 Tx Slots	15.80	15.17	15.04	15.16	6.02	9.78	9.15	9.02	9.14
	3 Tx Slots	14.80	13.17	13.77	13.27	4.26	10.54	8.91	9.51	9.01
	4 Tx Slots	12.80	11.79	11.73	11.84	3.01	9.79	8.78	8.72	8.83
GSM 1900 head(WWAN+2.4G/ 5G)		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	512 /1850.2	661 /1880	810 /1909.8		MAX	512 /1850.2	661 /1880	810 /1909.8
GSM	CS	23.80	22.92	22.88	22.90	9.03	14.77	13.89	13.85	13.87
GPRS/ EGPRS (GMSK)	1 Tx Slot	23.80	22.92	22.88	22.91	9.03	14.77	13.89	13.85	13.88
	2 Tx Slots	20.80	19.89	19.84	19.84	6.02	14.78	13.87	13.82	13.82
	3 Tx Slots	18.80	18.11	18.04	18.03	4.26	14.54	13.85	13.78	13.77
	4 Tx Slots	17.80	16.85	16.77	16.77	3.01	14.79	13.84	13.76	13.76
EGPRS	1 Tx Slot	18.80	17.86	17.96	18.03	9.03	9.77	8.83	8.93	9.00



(8PSK)	2 Tx Slots	15.80	15.52	14.66	14.95	6.02	9.78	9.50	8.64	8.93
	3 Tx Slots	13.80	12.47	12.53	12.97	4.26	9.54	8.21	8.27	8.71
	4 Tx Slots	11.80	11.04	11.29	11.50	3.01	8.79	8.03	8.28	8.49
GSM 1900 Body(standalone)		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	512 /1850.2	661 /1880	810 /1909.8		MAX	512 /1850.2	661 /1880	810 /1909.8
GSM	CS	29.30	28.41	28.40	28.41	9.03	20.27	19.38	19.37	19.38
GPRS/ EGPRS (GMSK)	1 Tx Slot	29.30	28.42	28.43	28.43	9.03	20.27	19.39	19.40	19.40
	2 Tx Slots	26.30	25.38	25.32	25.30	6.02	20.28	19.36	19.30	19.28
	3 Tx Slots	24.30	23.61	23.54	23.53	4.26	20.04	19.35	19.28	19.27
	4 Tx Slots	23.30	22.39	22.32	22.31	3.01	20.29	19.38	19.31	19.30
EGPRS (8PSK)	1 Tx Slot	24.30	23.18	23.03	23.35	9.03	15.27	14.15	14.00	14.32
	2 Tx Slots	21.30	20.08	20.03	20.07	6.02	15.28	14.06	14.01	14.05
	3 Tx Slots	19.30	18.08	18.10	18.15	4.26	15.04	13.82	13.84	13.89
	4 Tx Slots	17.30	16.50	16.67	16.81	3.01	14.29	13.49	13.66	13.80
GSM 1900 Body(WWAN+2.4G/ 5G)		Burst-Averaged output power(dBm)				Division Factors	Frame-Averaged output power(dBm)			
		Tune-up	Channel/Frenqucy(MHz)				Tune-up	Channel/Frenqucy(MHz)		
		MAX	512 /1850.2	661 /1880	810 /1909.8		MAX	512 /1850.2	661 /1880	810 /1909.8
GSM	CS	28.30	27.46	27.41	27.43	9.03	19.27	18.43	18.38	18.40
GPRS/ EGPRS (GMSK)	1 Tx Slot	28.30	27.43	27.39	27.40	9.03	19.27	18.40	18.36	18.37
	2 Tx Slots	25.30	24.43	24.36	24.37	6.02	19.28	18.41	18.34	18.35
	3 Tx Slots	23.30	22.65	22.57	22.59	4.26	19.04	18.39	18.31	18.33
	4 Tx Slots	22.30	21.34	21.28	21.25	3.01	19.29	18.33	18.27	18.24
EGPRS (8PSK)	1 Tx Slot	23.30	22.26	22.44	22.48	9.03	14.27	13.23	13.41	13.45
	2 Tx Slots	20.30	19.07	19.11	19.05	6.02	14.28	13.05	13.09	13.03
	3 Tx Slots	18.30	17.76	17.12	17.29	4.26	14.04	13.50	12.86	13.03
	4 Tx Slots	16.30	15.52	16.26	15.84	3.01	13.29	12.51	13.25	12.83

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

1. Standalone: GSM 1900 GMSK (GPRS) mode with 4 time slots for Max power, based on the output power measurements above.



9.4 WCDMA Mode

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

WWAN Antenna Down & WWAN Antenna Up

WCDMA		Band II(dBm)				Band IV(dBm)				Band V(dBm)			
Tx Channel		9262	9400	9538	Tune-up Limit	1312	1413	1513	Tune-up Limit	4132	4183	4233	Tune-up Limit
Frequency(MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.6	846.6	
RMC	12.2kbps	23.19	23.00	23.16	24.10	22.83	22.96	23.00	24.10	23.81	23.79	23.87	24.30
HSDPA	Sub 1	22.98	22.85	23.01	23.10	22.86	23.04	23.03	23.10	22.80	22.84	22.91	23.30
	Sub 2	22.96	22.84	22.94	23.10	22.81	22.98	23.02	23.10	22.80	22.75	22.84	23.30
	Sub 3	22.52	22.32	22.45	22.60	22.34	22.50	22.49	22.60	22.27	22.26	22.34	22.80
	Sub 4	22.52	22.32	22.44	22.60	22.28	22.51	22.52	22.60	22.30	22.28	22.29	22.80
HSUPA	Sub 1	20.91	20.78	20.87	21.10	22.10	22.14	22.21	22.60	21.69	21.62	21.67	22.30
	Sub 2	19.97	19.73	19.89	20.10	22.06	22.15	22.19	22.60	21.69	21.68	21.71	22.30
	Sub 3	20.95	20.75	20.89	21.10	23.11	23.13	23.18	23.60	22.71	22.68	22.68	23.30
	Sub 4	19.44	19.23	19.36	20.10	21.59	21.63	21.72	22.10	21.21	21.22	21.23	21.80
	Sub 5	21.92	21.72	21.86	22.10	23.08	23.14	23.19	23.60	22.69	22.63	22.68	23.30

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".

WWAN Antenna Down

WCDMA		Band IV(dBm)			
Tx Channel		Body(standalone)			Tune-up Limit
Frequency(MHz)		1312	1413	1513	
		1712.4	1732.6	1752.6	Limit
RMC	12.2kbps	21.59	21.56	21.54	23.10
HSDPA	Sub 1	21.82	21.59	21.66	22.10
	Sub 2	21.78	21.82	21.78	22.10
	Sub 3	21.37	21.35	21.12	21.60
	Sub 4	21.14	21.37	21.13	21.60
HSUPA	Sub 1	21.13	21.07	21.03	21.60
	Sub 2	20.83	20.73	20.81	21.10
	Sub 3	21.69	21.59	21.63	22.10
	Sub 4	20.27	20.31	20.33	20.60
	Sub 5	21.76	21.87	21.60	22.10

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(dBm) Body(WWAN+2.4G/5G)				Band IV(dBm) Body(WWAN+2.4G/5G)			
Tx Channel		9262	9400	9538	Tune-up Limit	1312	1413	1513	Tune-u p Limit
Frequency(MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
RMC	12.2kbps	21.90	21.71	21.88	23.10	20.54	20.52	20.58	22.10
HSDPA	Sub 1	21.54	21.34	21.51	23.10	20.47	20.48	20.54	22.10
	Sub 2	21.38	21.26	21.34	23.10	20.67	20.69	20.51	22.10
	Sub 3	21.12	20.81	20.89	22.60	20.00	20.09	20.10	21.60
	Sub 4	21.04	20.89	20.98	22.60	20.21	20.08	20.06	21.60
HSUPA	Sub 1	19.78	19.76	19.84	21.60	19.03	19.10	18.81	20.60
	Sub 2	19.57	19.22	19.36	21.10	18.54	18.53	18.47	20.10
	Sub 3	20.61	20.22	20.36	22.10	19.60	19.69	19.61	21.10
	Sub 4	19.13	18.76	19.03	20.60	18.09	18.22	18.17	19.60
	Sub 5	20.56	20.15	20.43	22.10	19.55	19.60	19.55	21.10

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".

WWAN Antenna Up

WCDMA		Band II(dBm) head(standalone)				Band IV(dBm) head(standalone)			
Tx Channel		9262	9400	9538	Tune-up Limit	1312	1413	1513	Tune-u p Limit
Frequency(MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
RMC	12.2kbps	15.73	15.59	15.79	17.10	16.21	15.88	15.95	17.60
HSDPA	Sub 1	14.36	14.29	14.27	15.10	15.81	15.80	15.83	16.60
	Sub 2	14.13	13.68	13.83	15.10	15.72	15.56	15.67	16.60
	Sub 3	15.16	14.72	15.01	15.60	15.19	15.10	15.18	16.10
	Sub 4	13.51	13.23	13.27	14.60	15.05	15.17	15.29	16.10
HSUPA	Sub 1	15.11	14.96	14.86	15.60	15.17	14.93	15.01	16.10
	Sub 2	15.79	15.82	15.99	16.80	14.45	14.82	14.75	15.60
	Sub 3	16.06	16.03	15.75	16.80	15.63	15.68	15.49	16.60
	Sub 4	15.41	15.32	15.27	15.80	14.20	14.18	14.18	15.10
	Sub 5	15.53	15.50	15.37	15.80	15.60	15.37	15.75	16.60

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(dBm) Body(standalone)				Band IV(dBm) Body(standalone)			
Tx Channel		9262	9400	9538	Tune-up Limit	1312	1413	1513	Tune-u p Limit
Frequency(MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
RMC	12.2kbps	18.14	18.02	18.23	19.10	18.36	18.36	18.43	20.10
HSDPA	Sub 1	17.30	17.11	17.02	18.10	18.28	18.21	18.31	19.10
	Sub 2	17.15	17.18	17.01	18.10	17.97	17.99	18.15	19.10
	Sub 3	16.60	16.79	16.55	17.60	17.64	17.89	17.73	18.60
	Sub 4	16.61	16.28	16.58	17.60	17.68	17.74	17.61	18.60
HSUPA	Sub 1	16.45	16.20	16.36	17.60	17.74	17.49	17.41	18.60
	Sub 2	16.26	16.09	16.03	17.10	17.21	17.18	16.96	18.10
	Sub 3	17.10	17.09	16.92	18.10	18.15	18.06	18.14	19.10
	Sub 4	15.75	15.26	15.36	16.60	16.84	16.47	16.45	17.60
	Sub 5	17.09	17.02	17.28	18.10	17.98	18.25	17.93	19.10
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(dBm) head(WWAN+2.4G/5G)				Band IV(dBm) head(WWAN+2.4G/5G)			
Tx Channel		9262	9400	9538	Tune-up Limit	1312	1413	1513	Tune-u p Limit
Frequency(MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
RMC	12.2kbps	12.63	12.53	12.72	14.10	12.88	12.85	12.91	14.60
HSDPA	Sub 1	12.17	11.82	12.05	13.10	12.70	12.65	12.84	13.60
	Sub 2	12.25	12.01	12.13	13.10	12.45	12.56	12.76	13.60
	Sub 3	11.60	11.61	11.51	12.60	12.26	12.34	11.96	13.10
	Sub 4	11.66	11.77	11.44	12.60	12.18	11.95	12.15	13.10
HSUPA	Sub 1	11.52	11.45	11.51	12.60	11.72	12.12	12.00	13.10
	Sub 2	11.10	10.93	10.85	12.10	11.75	11.40	11.52	12.60
	Sub 3	11.91	12.06	12.09	13.10	12.52	12.84	12.76	13.60
	Sub 4	10.44	10.49	10.41	11.60	10.92	11.13	11.26	12.10
	Sub 5	12.12	11.90	12.15	13.10	12.56	12.61	12.73	13.60
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(dBm) Body(WWAN+2.4G/5G)				Band IV(dBm) Body(WWAN+2.4G/5G)			
Tx Channel		9262	9400	9538	Tune-up	1312	1413	1513	Tune-u
Frequency(MHz)		1852.4	1880	1907.6	Limit	1712.4	1732.6	1752.6	p Limit
RMC	12.2kbps	17.64	17.53	17.79	18.60	18.12	18.17	18.14	19.60
HSDPA	Sub 1	16.69	16.34	16.60	17.60	17.82	17.62	17.95	18.60
	Sub 2	16.63	16.66	16.62	17.60	17.80	17.59	17.77	18.60
	Sub 3	16.26	16.01	16.08	17.10	17.35	17.20	17.22	18.10
	Sub 4	15.94	16.05	16.29	17.10	17.14	17.13	17.19	18.10
HSUPA	Sub 1	16.03	15.84	15.73	17.10	16.87	17.12	16.95	18.10
	Sub 2	15.86	15.71	15.57	16.60	16.83	16.47	16.53	17.60
	Sub 3	16.65	16.49	16.69	17.60	17.45	17.47	17.60	18.60
	Sub 4	15.02	15.04	15.05	16.10	16.27	16.07	15.98	17.10
	Sub 5	16.45	16.39	16.45	17.60	17.55	17.77	17.65	18.60
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".									

9.5 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_{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

WWAN Antenna Down & WWAN Antenna Up

LTE FDD Band 2				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	22.81	22.84	22.77	23.80
		1	2	22.89	22.92	22.82	23.80
		1	5	22.87	22.86	22.83	23.80
		3	0	22.99	23.00	22.95	23.80
		3	2	23.05	23.02	22.98	23.80
		3	3	23.01	23.00	22.99	23.80
		6	0	21.41	21.63	21.51	22.80
	16QAM	1	0	21.27	21.81	21.25	22.80
		1	2	21.49	21.73	21.44	22.80
		1	5	21.47	21.66	21.46	22.80
		3	0	21.57	21.89	21.64	22.80
		3	2	21.45	21.85	21.68	22.80
		3	3	21.66	21.73	21.57	22.80
		6	0	20.62	20.48	20.72	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	22.71	22.94	22.85	23.80
		1	7	22.96	22.99	23.01	23.80
		1	14	22.95	23.01	23.05	23.80
		8	0	21.74	21.66	21.64	22.80
		8	4	21.62	21.71	21.56	22.80
		8	7	21.43	21.72	21.73	22.80
		15	0	21.60	21.65	21.50	22.80
	16QAM	1	0	21.08	21.84	21.32	22.80
		1	7	21.38	21.86	21.34	22.80
		1	14	21.26	21.66	21.17	22.80
		8	0	20.72	20.56	20.66	21.80



		8	4	20.83	20.76	20.68	21.80
		8	7	20.44	20.75	20.41	21.80
		15	0	20.48	20.53	20.42	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	22.87	23.00	22.82	23.80
		1	13	22.87	23.01	23.13	23.80
		1	24	22.79	22.86	23.02	23.80
		12	0	21.56	21.62	21.59	22.80
		12	6	21.62	21.65	21.62	22.80
		12	13	21.54	21.57	21.55	22.80
		25	0	21.64	21.69	21.46	22.80
	16QAM	1	0	21.72	22.26	21.81	22.80
		1	13	21.79	22.16	21.66	22.80
		1	24	21.81	22.15	21.69	22.80
		12	0	20.70	20.87	20.64	21.80
		12	6	20.57	20.97	20.64	21.80
		12	13	20.56	20.80	20.58	21.80
		25	0	20.64	20.85	20.58	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	22.97	22.91	22.88	23.80
		1	25	22.75	23.19	23.24	23.80
		1	49	22.88	22.99	23.17	23.80
		25	0	21.70	21.79	21.58	22.80
		25	13	21.79	21.82	21.69	22.80
		25	25	21.53	21.61	21.56	22.80
		50	0	21.64	21.59	21.58	22.80
	16QAM	1	0	21.64	22.14	21.68	22.80
		1	25	21.66	22.21	21.63	22.80
		1	49	21.51	22.06	21.65	22.80
		25	0	20.58	20.53	20.84	21.80
		25	13	20.58	20.94	20.65	21.80
		25	25	20.70	20.89	20.84	21.80
		50	0	20.55	20.61	20.67	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	22.77	23.06	22.84	23.80
		1	38	22.83	23.00	23.19	23.80
		1	74	22.78	22.90	23.21	23.80
		36	0	21.50	21.70	21.54	22.80
		36	18	21.62	21.71	21.75	22.80
		36	39	21.43	21.74	21.54	22.80



	16QAM	75	0	21.66	21.62	21.48	22.80
		1	0	21.43	21.96	22.32	22.80
		1	38	21.72	22.05	22.23	22.80
		1	74	21.60	22.00	21.78	22.80
		36	0	20.51	20.60	20.68	21.80
		36	18	20.53	20.65	20.65	21.80
		36	39	20.56	20.70	20.55	21.80
		75	0	20.53	20.73	20.75	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	22.75	23.12	22.92	23.80
		1	50	22.88	23.15	23.23	23.80
		1	99	22.73	22.92	23.04	23.80
		50	0	21.46	21.55	21.71	22.80
		50	25	21.73	21.65	21.79	22.80
		50	50	21.39	21.61	21.65	22.80
		100	0	21.54	21.53	21.57	22.80
	16QAM	1	0	22.27	22.25	22.08	22.80
		1	50	22.22	22.13	22.13	22.80
		1	99	21.98	22.06	21.95	22.80
		50	0	20.67	20.77	20.94	21.80
		50	25	20.90	20.72	20.85	21.80
		50	50	20.74	20.81	20.75	21.80
		100	0	20.70	20.69	20.84	21.80

LTE FDD Band 4				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	22.79	22.86	22.74	23.80
		1	2	22.95	22.83	22.87	23.80
		1	5	22.73	22.66	23.07	23.80
		3	0	22.80	22.79	22.98	23.80
		3	2	23.03	22.76	22.94	23.80
		3	3	22.85	22.92	23.13	23.80
		6	0	21.61	21.50	21.73	22.80
	16QAM	1	0	21.64	21.85	21.85	22.80
		1	2	21.86	21.95	21.71	22.80
		1	5	21.75	21.86	21.84	22.80
		3	0	21.63	21.90	21.94	22.80
		3	2	21.93	21.73	22.11	22.80
		3	3	21.91	21.87	21.93	22.80
		6	0	20.87	20.72	21.18	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up



				19965/1711.5	20175/1732.5	20385/1753.5	Limit
3MHz	QPSK	1	0	22.62	22.68	22.78	23.80
		1	7	22.62	22.59	22.86	23.80
		1	14	22.56	22.80	22.62	23.80
		8	0	21.60	21.39	21.35	22.80
		8	4	21.52	21.45	21.62	22.80
		8	7	21.46	21.41	21.38	22.80
		15	0	21.49	21.33	21.55	22.80
	16QAM	1	0	21.34	21.91	21.72	22.80
		1	7	21.61	21.94	21.59	22.80
		1	14	21.27	21.76	21.71	22.80
		8	0	20.95	20.90	20.76	21.80
		8	4	20.99	20.87	21.05	21.80
		8	7	20.75	20.72	20.79	21.80
		15	0	20.68	20.75	20.85	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	22.85	22.92	22.98	23.80
		1	13	22.90	23.00	23.03	23.80
		1	24	23.02	22.79	22.99	23.80
		12	0	21.56	21.42	21.59	22.80
		12	6	21.55	21.53	21.65	22.80
		12	13	21.37	21.49	21.56	22.80
		25	0	21.59	21.56	21.49	22.80
	16QAM	1	0	22.07	22.18	22.05	22.80
		1	13	22.22	22.44	21.88	22.80
		1	24	22.01	22.21	21.81	22.80
		12	0	20.95	20.95	21.02	21.80
		12	6	21.09	21.02	21.03	21.80
		12	13	21.01	20.78	20.89	21.80
		25	0	20.85	20.87	21.02	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	22.91	23.18	22.96	23.80
		1	25	23.13	23.11	22.99	23.80
		1	49	22.88	23.10	23.12	23.80
		25	0	21.49	21.40	21.48	22.80
		25	13	21.51	21.52	21.67	22.80
		25	25	21.63	21.50	21.48	22.80
		50	0	21.52	21.57	21.57	22.80
	16QAM	1	0	21.91	22.21	21.90	22.80
		1	25	21.96	22.29	21.98	22.80
		1	49	21.81	22.31	21.86	22.80



		25	0	21.07	20.62	20.93	21.80
		25	13	20.84	20.99	20.98	21.80
		25	25	20.96	20.73	21.00	21.80
		50	0	21.04	20.90	20.86	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20025/1717.5	20175/1732.5	20325/1747.5	
15MHz	QPSK	1	0	22.94	23.09	23.09	23.80
		1	38	23.02	23.17	23.09	23.80
		1	74	23.06	22.93	23.07	23.80
		36	0	21.62	21.37	21.56	22.80
		36	18	21.60	21.60	21.72	22.80
		36	39	21.63	21.40	21.49	22.80
		75	0	21.58	21.38	21.70	22.80
	16QAM	1	0	21.67	22.26	22.34	22.80
		1	38	21.96	22.23	22.36	22.80
		1	74	21.81	21.99	22.18	22.80
		36	0	20.84	20.67	20.83	21.80
		36	18	20.84	20.73	20.98	21.80
		36	39	21.02	20.74	20.70	21.80
		75	0	20.91	20.69	21.01	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	23.18	22.92	23.04	23.80
		1	50	22.98	23.16	23.09	23.80
		1	99	23.05	23.00	23.06	23.80
		50	0	21.65	21.53	21.79	22.80
		50	25	21.69	21.53	21.53	22.80
		50	50	21.70	21.65	21.53	22.80
		100	0	21.78	21.31	21.64	22.80
	16QAM	1	0	22.41	22.28	22.22	22.80
		1	50	22.42	22.34	22.35	22.80
		1	99	22.34	22.28	22.07	22.80
		50	0	21.08	20.65	20.97	21.80
		50	25	20.95	20.90	20.79	21.80
		50	50	21.11	20.88	20.80	21.80
		100	0	20.97	20.91	20.90	21.80

LTE FDD Band 5				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	23.32	23.40	23.37	24.30
		1	2	23.27	23.46	23.42	24.30



		1	5	23.26	23.45	23.37	24.30
		3	0	23.44	23.52	23.46	24.30
		3	2	23.43	23.57	23.51	24.30
		3	3	23.31	23.54	23.42	24.30
		6	0	21.93	22.07	22.02	23.30
	16QAM	1	0	21.94	22.39	21.91	23.30
		1	2	21.97	22.29	21.95	23.30
		1	5	21.90	22.26	21.90	23.30
		3	0	21.96	22.27	22.16	23.30
		3	2	21.99	22.24	22.20	23.30
		3	3	21.99	22.26	22.17	23.30
		6	0	21.14	20.97	21.23	22.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20415/825.5	20525/836.5	20635/847.5	
3MHz	QPSK	1	0	22.63	23.34	23.11	24.30
		1	7	23.22	23.39	23.36	24.30
		1	14	22.46	23.16	22.72	24.30
		8	0	21.92	22.03	22.02	23.30
		8	4	21.90	22.13	22.01	23.30
		8	7	21.80	22.01	21.96	23.30
		15	0	21.83	21.99	22.03	23.30
	16QAM	1	0	21.68	22.26	21.87	23.30
		1	7	21.68	22.36	21.93	23.30
		1	14	21.55	22.24	21.80	23.30
		8	0	21.05	21.20	21.04	22.30
		8	4	21.01	21.21	21.12	22.30
		8	7	20.94	21.12	20.99	22.30
		15	0	20.94	21.08	20.94	22.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20425/826.5	20525/836.5	20625/846.5	
5MHz	QPSK	1	0	23.44	23.61	23.55	24.30
		1	13	23.55	23.73	23.64	24.30
		1	24	23.48	23.63	23.50	24.30
		12	0	21.97	22.10	22.08	23.30
		12	6	21.97	22.16	22.10	23.30
		12	13	21.95	22.07	22.01	23.30
		25	0	21.97	22.12	22.07	23.30
	16QAM	1	0	22.11	22.61	22.26	23.30
		1	13	22.18	22.72	22.26	23.30
		1	24	22.12	22.59	22.18	23.30
		12	0	21.09	21.29	21.18	22.30
		12	6	21.15	21.36	21.21	22.30
		12	13	21.10	21.29	21.04	22.30



Bandwidth	Modulation	25	0	21.07	21.26	21.08	22.30
		RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20450/829	20525/836.5	20600/844	
10MHz	QPSK	1	0	23.23	23.66	23.64	24.30
		1	25	23.51	23.65	23.67	24.30
		1	49	23.64	23.69	23.53	24.30
		25	0	21.87	22.06	22.14	23.30
		25	13	22.09	22.22	22.20	23.30
		25	25	22.18	22.13	21.99	23.30
		50	0	22.13	22.03	22.11	23.30
	16QAM	1	0	22.00	22.60	22.18	23.30
		1	25	21.99	22.55	22.26	23.30
		1	49	22.10	22.61	22.15	23.30
		25	0	20.97	21.16	21.30	22.30
		25	13	21.20	21.28	21.32	22.30
		25	25	21.29	21.20	21.19	22.30
		50	0	21.11	21.12	21.16	22.30

LTE FDD Band 7				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	23.16	23.07	23.35	23.80
		1	13	23.50	23.09	23.46	23.80
		1	24	23.26	22.89	23.24	23.80
		12	0	21.76	21.33	21.75	22.80
		12	6	21.79	21.52	21.69	22.80
		12	13	21.68	21.52	21.81	22.80
		25	0	21.64	21.51	21.72	22.80
	16QAM	1	0	22.17	22.31	21.98	22.80
		1	13	22.19	22.44	22.10	22.80
		1	24	22.03	22.01	21.85	22.80
		12	0	21.29	20.76	21.20	21.80
		12	6	21.30	20.85	21.20	21.80
		12	13	20.98	20.83	20.97	21.80
		25	0	21.06	20.90	20.94	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	23.30	23.11	23.38	23.80
		1	25	23.38	23.00	23.25	23.80
		1	49	23.30	23.18	23.41	23.80
		25	0	21.69	21.47	21.82	22.80
		25	13	21.88	21.58	21.64	22.80
		25	25	21.65	21.34	21.60	22.80



	16QAM	50	0	21.79	21.61	21.75	22.80
		1	0	22.01	22.16	22.04	22.80
		1	25	22.06	22.10	22.00	22.80
		1	49	22.03	22.06	21.83	22.80
		25	0	21.14	20.90	21.31	21.80
		25	13	21.11	20.86	21.12	21.80
		25	25	21.14	20.93	21.00	21.80
		50	0	20.95	20.95	20.91	21.80
		50	0	20.95	20.95	20.91	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	23.21	23.21	23.32	23.80
		1	38	23.19	23.17	23.33	23.80
		1	74	22.90	23.21	23.03	23.80
		36	0	21.96	21.67	21.90	22.80
		36	18	21.88	21.72	21.72	22.80
		36	39	21.67	21.36	21.70	22.80
		75	0	21.70	21.57	21.66	22.80
	16QAM	1	0	22.13	22.11	22.28	22.80
		1	38	21.95	22.20	22.50	22.80
		1	74	21.81	22.25	22.34	22.80
		36	0	21.11	21.00	21.15	21.80
		36	18	20.92	20.71	20.95	21.80
		36	39	20.74	20.82	21.03	21.80
		75	0	20.93	20.74	21.09	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	23.43	22.95	23.10	23.80
		1	50	23.40	23.20	23.42	23.80
		1	99	23.00	23.18	23.13	23.80
		50	0	21.74	21.45	21.63	22.80
		50	25	21.85	21.60	21.73	22.80
		50	50	21.58	21.51	21.38	22.80
		100	0	21.90	21.54	21.56	22.80
	16QAM	1	0	22.44	22.14	22.25	22.80
		1	50	22.71	22.34	22.51	22.80
		1	99	22.31	22.14	22.23	22.80
		50	0	21.00	20.73	21.03	21.80
		50	25	21.15	20.79	21.00	21.80
		50	50	20.90	20.87	20.90	21.80
		100	0	21.08	20.75	21.06	21.80

LTE FDD Band 12				Conducted Power(dBm)	Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)	



				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	22.75	22.65	22.62	23.80
		1	2	22.76	22.72	22.79	23.80
		1	5	22.71	22.69	22.69	23.80
		3	0	22.85	22.81	22.85	23.80
		3	2	22.91	22.84	22.88	23.80
		3	3	22.88	22.84	22.86	23.80
		6	0	21.41	21.39	21.35	22.80
	16QAM	1	0	21.40	21.63	21.23	22.80
		1	2	21.44	21.61	21.30	22.80
		1	5	21.34	21.61	21.25	22.80
		3	0	21.44	21.56	21.51	22.80
		3	2	21.45	21.52	21.57	22.80
		3	3	21.47	21.55	21.56	22.80
		6	0	20.62	20.31	20.54	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23025/700.5	23095/707.5	23165/714.5	
3MHz	QPSK	1	0	22.56	22.55	22.55	23.80
		1	7	22.64	22.63	22.67	23.80
		1	14	22.60	22.52	22.58	23.80
		8	0	21.34	21.24	21.32	22.80
		8	4	21.40	21.36	21.36	22.80
		8	7	21.26	21.23	21.30	22.80
		15	0	21.26	21.23	21.28	22.80
	16QAM	1	0	21.07	21.50	21.18	22.80
		1	7	21.12	21.54	21.19	22.80
		1	14	21.02	21.44	21.06	22.80
		8	0	20.47	20.40	20.36	21.80
		8	4	20.51	20.51	20.44	21.80
		8	7	20.43	20.37	20.35	21.80
		15	0	20.39	20.32	20.28	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23035/701.5	23095/707.5	23155/713.5	
5MHz	QPSK	1	0	22.86	22.88	22.77	23.80
		1	13	22.99	22.94	22.86	23.80
		1	24	22.86	22.81	22.82	23.80
		12	0	21.34	21.34	21.32	22.80
		12	6	21.44	21.41	21.40	22.80
		12	13	21.39	21.31	21.27	22.80
		25	0	21.40	21.42	21.34	22.80
	16QAM	1	0	21.53	21.91	21.43	22.80
		1	13	21.68	22.02	21.57	22.80
		1	24	21.59	21.87	21.49	22.80



		12	0	20.44	20.52	20.38	21.80
		12	6	20.56	20.58	20.51	21.80
		12	13	20.46	20.56	20.39	21.80
		25	0	20.51	20.48	20.38	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23060/704	23095/707.5	23130/711	
10MHz	QPSK	1	0	22.93	22.92	22.93	23.80
		1	25	22.93	22.92	22.92	23.80
		1	49	22.86	22.89	22.99	23.80
		25	0	21.34	21.38	21.34	22.80
		25	13	21.46	21.43	21.40	22.80
		25	25	21.42	21.45	21.36	22.80
		50	0	21.42	21.43	21.35	22.80
	16QAM	1	0	21.43	21.86	21.46	22.80
		1	25	21.40	21.82	21.48	22.80
		1	49	21.37	21.79	21.45	22.80
		25	0	20.41	20.46	20.49	21.80
		25	13	20.53	20.59	20.57	21.80
		25	25	20.48	20.48	20.43	21.80
		50	0	20.40	20.46	20.41	21.80

LTE FDD Band 17				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				23755/706.5	23790/710	23825/713.5	
5MHz	QPSK	1	0	22.89	22.90	22.92	23.80
		1	13	23.03	23.04	23.04	23.80
		1	24	22.91	22.85	22.88	23.80
		12	0	21.42	21.39	21.43	22.80
		12	6	21.47	21.43	21.47	22.80
		12	13	21.44	21.43	21.35	22.80
		25	0	21.45	21.44	21.41	22.80
	16QAM	1	0	21.65	21.97	21.52	22.80
		1	13	21.73	22.02	21.65	22.80
		1	24	21.60	21.88	21.59	22.80
		12	0	20.57	20.57	20.51	21.80
		12	6	20.57	20.62	20.56	21.80
		12	13	20.53	20.63	20.45	21.80
		25	0	20.54	20.59	20.46	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				23780/709	23790/710	23800/711	
10MHz	QPSK	1	0	22.96	22.94	23.01	23.80
		1	25	22.93	22.99	23.00	23.80
		1	49	22.91	22.97	23.00	23.80



		25	0	21.37	21.38	21.36	22.80
		25	13	21.47	21.49	21.52	22.80
		25	25	21.47	21.43	21.43	22.80
		50	0	21.45	21.42	21.44	22.80
	16QAM	1	0	21.44	21.86	21.56	22.80
		1	25	21.45	21.85	21.57	22.80
		1	49	21.38	21.81	21.54	22.80
		25	0	20.44	20.46	20.54	21.80
		25	13	20.58	20.59	20.70	21.80
		25	25	20.53	20.51	20.53	21.80
		50	0	20.46	20.47	20.48	21.80

LTE FDD Band 26				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				26697/814.7	26865/831.5	27033/848.3	
1.4MHz	QPSK	1	0	23.21	23.18	23.20	24.30
		1	2	23.33	23.15	23.24	24.30
		1	5	23.05	23.19	23.12	24.30
		3	0	23.38	23.35	23.15	24.30
		3	2	23.18	23.39	23.23	24.30
		3	3	23.36	23.31	23.33	24.30
		6	0	21.70	21.96	21.74	23.30
	16QAM	1	0	22.14	22.47	22.13	23.30
		1	2	22.26	22.61	21.87	23.30
		1	5	22.05	22.33	22.01	23.30
		3	0	22.01	22.38	22.32	23.30
		3	2	22.25	22.48	22.25	23.30
		3	3	22.07	22.25	22.23	23.30
		6	0	21.36	21.11	21.21	22.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26705/815.5	26865/831.5	27025/847.5	
3MHz	QPSK	1	0	23.02	23.05	22.61	24.30
		1	7	23.15	23.35	23.27	24.30
		1	14	22.86	23.09	22.79	24.30
		8	0	21.91	21.90	21.73	23.30
		8	4	21.99	21.74	21.87	23.30
		8	7	21.73	21.70	21.76	23.30
		15	0	21.82	21.85	21.75	23.30
	16QAM	1	0	21.89	22.29	22.02	23.30
		1	7	21.97	22.46	21.87	23.30
		1	14	21.78	22.24	21.84	23.30
		8	0	21.35	21.32	21.17	22.30
		8	4	21.19	21.16	21.10	22.30



		8	7	21.08	21.15	20.92	22.30
		15	0	21.03	21.04	20.90	22.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26715/816.5	26865/831.5	27015/846.5	
5MHz	QPSK	1	0	23.47	23.26	23.43	24.30
		1	13	23.43	23.33	23.40	24.30
		1	24	23.25	23.35	23.11	24.30
		12	0	21.91	21.73	22.04	23.30
		12	6	21.97	21.82	21.97	23.30
		12	13	21.85	21.94	21.81	23.30
		25	0	21.80	21.87	21.97	23.30
	16QAM	1	0	22.35	22.84	22.31	23.30
		1	13	22.53	22.72	22.28	23.30
		1	24	22.50	22.70	22.31	23.30
		12	0	21.19	21.21	21.21	22.30
		12	6	21.32	21.42	21.30	22.30
		12	13	21.41	21.13	21.19	22.30
		25	0	21.20	21.45	21.33	22.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26750/820	26865/831.5	26990/844	
10MHz	QPSK	1	0	23.34	23.52	23.38	24.30
		1	25	23.51	23.38	23.46	24.30
		1	49	23.29	23.47	23.42	24.30
		25	0	21.83	21.81	22.03	23.30
		25	13	22.01	21.95	21.78	23.30
		25	25	21.94	21.96	21.69	23.30
		50	0	21.88	21.98	21.71	23.30
	16QAM	1	0	22.17	22.68	22.42	23.30
		1	25	22.10	22.66	22.34	23.30
		1	49	22.22	22.57	22.19	23.30
		25	0	21.34	21.46	21.20	22.30
		25	13	21.50	21.36	21.29	22.30
		25	25	21.18	21.38	21.01	22.30
		50	0	21.36	21.19	21.06	22.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				26775/822.5	26865/831.5	26965/841.5	
15MHz	QPSK	1	0	23.31	23.48	23.36	24.30
		1	38	23.40	23.65	23.68	24.30
		1	74	23.64	23.50	23.50	24.30
		36	0	22.10	21.89	21.98	23.30
		36	18	22.10	21.99	22.04	23.30
		36	39	21.85	22.03	21.75	23.30
		75	0	22.11	22.13	22.03	23.30



	16QAM	1	0	22.29	22.64	22.70	23.30
		1	38	22.46	22.89	22.71	23.30
		1	74	22.27	22.61	22.74	23.30
		36	0	21.17	21.46	21.24	22.30
		36	18	21.39	21.46	21.31	22.30
		36	39	21.50	21.48	21.06	22.30
		75	0	21.47	21.42	21.23	22.30

LTE TDD Band 38				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	22.77	23.04	23.06	23.80
		1	13	22.88	23.15	23.18	23.80
		1	24	22.79	23.09	23.04	23.80
		12	0	21.23	21.49	21.52	22.80
		12	6	21.31	21.51	21.52	22.80
		12	13	21.25	21.51	21.52	22.80
		25	0	20.73	20.99	21.01	22.80
	16QAM	1	0	21.43	21.76	21.87	22.80
		1	13	21.59	21.87	21.98	22.80
		1	24	21.48	21.78	21.87	22.80
		12	0	20.25	20.45	20.57	21.80
		12	6	20.33	20.46	20.59	21.80
		12	13	20.27	20.48	20.58	21.80
		25	0	19.75	20.03	19.99	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	22.84	23.10	23.22	23.80
		1	25	22.88	23.17	23.19	23.80
		1	49	22.87	23.17	23.14	23.80
		25	0	21.29	21.50	21.57	22.80
		25	13	21.28	21.57	21.60	22.80
		25	25	21.24	21.57	21.57	22.80
		50	0	21.26	21.54	21.61	22.80
	16QAM	1	0	21.58	21.95	22.03	22.80
		1	25	21.61	22.02	21.99	22.80
		1	49	21.61	22.00	21.95	22.80
		25	0	20.30	20.52	20.57	21.80
		25	13	20.26	20.58	20.63	21.80
		25	25	20.27	20.54	20.57	21.80
		50	0	20.26	20.50	20.64	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37825/2577.5	38000/2595	38175/2612.5	



15MHz	QPSK	1	0	22.82	22.98	23.17	23.80
		1	38	22.88	23.17	23.24	23.80
		1	74	22.87	23.15	23.09	23.80
		36	0	21.28	21.48	21.60	22.80
		36	18	21.34	21.58	21.63	22.80
		36	39	21.33	21.54	21.61	22.80
		75	0	21.28	21.55	21.61	22.80
	16QAM	1	0	21.55	21.88	21.91	22.80
		1	38	21.60	22.03	21.97	22.80
		1	74	21.59	21.99	21.81	22.80
		36	0	20.23	20.43	20.60	21.80
		36	18	20.29	20.56	20.63	21.80
		36	39	20.26	20.51	20.62	21.80
		75	0	20.26	20.51	20.58	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	22.77	22.91	23.18	23.80
		1	50	22.91	23.10	23.30	23.80
		1	99	22.90	23.02	23.07	23.80
		50	0	21.25	21.49	21.56	22.80
		50	25	21.33	21.55	21.64	22.80
		50	50	21.34	21.57	21.58	22.80
		100	0	20.77	21.00	21.04	22.80
	16QAM	1	0	21.51	21.54	21.96	22.80
		1	50	21.69	21.77	22.05	22.80
		1	99	21.64	21.70	21.89	22.80
		50	0	20.20	20.46	20.61	21.80
		50	25	20.29	20.54	20.63	21.80
		50	50	20.29	20.51	20.61	21.80
		100	0	19.76	19.96	20.09	21.80

LTE TDD Band 41				Conducted Power(dBm)					Tune-up Limit
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)					
				39675/2498.5	40148/2545.8	40620/2593	41093/640.3	41565/2687.5	
5MHz	QPSK	1	0	22.97	23.05	23.01	22.95	22.71	23.80
		1	13	23.06	22.92	23.14	23.17	22.84	23.80
		1	24	22.93	23.05	23.05	22.86	22.72	23.80
		12	0	21.38	21.25	21.48	21.27	21.19	22.80
		12	6	21.47	21.54	21.58	21.59	21.23	22.80
		12	13	21.45	21.31	21.54	21.55	21.15	22.80
		25	0	21.40	21.54	21.49	21.27	21.16	22.80



	16QAM	1	0	21.64	21.63	21.74	21.62	21.58	22.80
		1	13	21.73	21.61	21.88	21.78	21.67	22.80
		1	24	21.61	21.67	21.79	21.75	21.53	22.80
		12	0	20.40	20.38	20.44	20.53	20.29	21.80
		12	6	20.48	20.51	20.52	20.35	20.31	21.80
		12	13	20.44	20.35	20.51	20.44	20.26	21.80
		25	0	20.43	20.49	20.52	20.40	20.22	21.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)					Tune-up Limit
				39700/2501	40160/2547	40620/2593	41080/2639	41540/2685	
10MHz	QPSK	1	0	23.10	23.07	23.07	22.84	22.87	23.80
		1	25	23.05	23.00	23.17	22.97	22.86	23.80
		1	49	22.98	22.84	23.18	22.78	22.81	23.80
		25	0	21.43	21.41	21.50	21.28	21.28	22.80
		25	13	21.42	21.58	21.56	21.53	21.32	22.80
		25	25	21.44	21.39	21.58	21.46	21.22	22.80
		50	0	21.47	21.45	21.56	21.30	21.28	22.80
	16QAM	1	0	21.78	21.74	21.94	21.50	21.74	22.80
		1	25	21.80	21.63	22.06	21.70	21.70	22.80
		1	49	21.72	21.60	22.02	21.55	21.65	22.80
		25	0	20.40	20.42	20.50	20.36	20.36	21.80
		25	13	20.45	20.41	20.57	20.53	20.30	21.80
		25	25	20.46	20.36	20.59	20.32	20.24	21.80
		50	0	20.45	20.46	20.53	20.41	20.30	21.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)					Tune-up Limit
				39725/2503.5	40173/2548.3	40620/2593	41068/2637.8	41515/2682.5	
15MHz	QPSK	1	0	22.98	22.94	23.04	22.89	22.83	23.80
		1	38	23.02	23.01	23.18	23.14	22.87	23.80
		1	74	22.86	23.04	23.15	22.92	22.73	23.80
		36	0	21.47	21.33	21.52	21.31	21.32	22.80
		36	18	21.46	21.50	21.57	21.54	21.29	22.80
		36	39	21.43	21.46	21.59	21.38	21.22	22.80
		75	0	21.47	21.54	21.57	21.40	21.28	22.80
	16QAM	1	0	21.75	21.53	21.93	21.72	21.63	22.80
		1	38	21.74	21.76	22.08	21.74	21.66	22.80
		1	74	21.61	21.54	22.01	21.47	21.50	22.80
		36	0	20.41	20.34	20.47	20.35	20.32	21.80
		36	18	20.43	20.42	20.53	20.47	20.31	21.80
		36	39	20.37	20.51	20.54	20.33	20.20	21.80
		75	0	20.41	20.52	20.55	20.48	20.26	21.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)					Tune-up Limit
				39750/2	40185/25	40620/2	41055/26	41490/2	



		ion		506	49.5	593	36.5	680	Limit
20MHz	QPSK	1	0	22.97	22.88	22.91	23.08	22.87	23.80
		1	50	23.01	23.11	23.14	22.91	22.95	23.80
		1	99	22.84	22.95	23.07	22.94	22.71	23.80
		50	0	21.37	21.27	21.46	21.32	21.30	22.80
		50	25	21.48	21.52	21.58	21.53	21.32	22.80
		50	50	21.43	21.47	21.61	21.34	21.16	22.80
		100	0	21.37	21.43	21.51	21.52	21.25	22.80
	16QAM	1	0	21.74	21.77	21.61	21.59	21.65	22.80
		1	50	21.77	21.58	21.80	21.74	21.75	22.80
		1	99	21.57	21.52	21.75	21.75	21.53	22.80
		50	0	20.34	20.46	20.48	20.40	20.34	21.80
		50	25	20.39	20.35	20.56	20.36	20.34	21.80
		50	50	20.36	20.50	20.59	20.30	20.19	21.80
		100	0	20.34	20.57	20.52	20.45	20.23	21.80

LTE TDD Band 66				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				131979/1710.7	132322/1745	132665/1779.3	
1.4MHz	QPSK	1	0	22.71	22.74	23.08	24.10
		1	2	22.74	22.73	23.19	24.10
		1	5	22.77	22.83	22.90	24.10
		3	0	22.95	22.74	23.04	24.10
		3	2	22.85	22.94	23.08	24.10
		3	3	22.82	22.76	23.07	24.10
		6	0	21.54	21.41	21.59	23.10
	16QAM	1	0	21.76	21.96	21.89	23.10
		1	2	21.69	22.07	21.85	23.10
		1	5	21.59	21.81	21.77	23.10
		3	0	21.58	21.89	22.12	23.10
		3	2	21.68	21.94	21.92	23.10
		3	3	21.79	21.81	21.93	23.10
		6	0	20.83	20.52	21.22	22.10
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				131987/1711.5	132322/1745	132657/1778.5	
3MHz	QPSK	1	0	22.75	22.72	22.70	24.10
		1	7	22.73	22.65	23.08	24.10
		1	14	22.81	22.52	22.69	24.10
		8	0	21.57	21.43	21.38	23.10
		8	4	21.35	21.51	21.63	23.10
		8	7	21.26	21.34	21.55	23.10
		15	0	21.45	21.39	21.56	23.10
	16QAM	1	0	21.20	21.90	21.83	23.10



		1	7	21.50	21.95	21.65	23.10
		1	14	21.40	21.74	21.55	23.10
		8	0	20.84	20.81	20.97	22.10
		8	4	20.89	20.88	20.88	22.10
		8	7	20.74	20.75	20.87	22.10
		15	0	20.61	20.61	20.81	22.10
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				131997/1712.5	132322/1745	132647/1777.5	
5MHz	QPSK	1	0	22.79	22.81	22.93	24.10
		1	13	23.02	22.93	23.06	24.10
		1	24	22.84	22.96	23.04	24.10
		12	0	21.62	21.37	21.77	23.10
		12	6	21.51	21.52	21.64	23.10
		12	13	21.45	21.40	21.76	23.10
	16QAM	25	0	21.56	21.34	21.71	23.10
		1	0	21.95	22.14	21.94	23.10
		1	13	21.97	22.33	22.07	23.10
		1	24	21.83	22.26	21.93	23.10
		12	0	20.91	20.79	21.00	22.10
		12	6	21.00	20.80	20.96	22.10
		12	13	20.66	20.94	20.99	22.10
		25	0	20.66	20.90	21.05	22.10
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				132022/1715	132322/1745	132622/1775	
10MHz	QPSK	1	0	23.01	23.07	22.99	24.10
		1	25	23.04	22.90	23.09	24.10
		1	49	23.11	22.85	22.90	24.10
		25	0	21.59	21.60	21.74	23.10
		25	13	21.54	21.56	21.80	23.10
		25	25	21.41	21.52	21.62	23.10
		50	0	21.40	21.60	21.73	23.10
	16QAM	1	0	21.69	22.24	21.87	23.10
		1	25	21.83	22.12	21.97	23.10
		1	49	21.77	22.21	21.84	23.10
		25	0	21.03	20.80	21.07	22.10
		25	13	20.75	21.03	21.03	22.10
		25	25	20.76	20.80	20.88	22.10
		50	0	20.83	20.86	21.00	22.10
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				132047/1717.5	132322/1745	132597/1772.5	
15MHz	QPSK	1	0	23.11	23.06	23.20	24.10
		1	38	22.89	22.94	23.05	24.10
		1	74	22.99	22.87	23.03	24.10



		36	0	21.57	21.37	21.48	23.10
		36	18	21.42	21.47	21.54	23.10
		36	39	21.52	21.41	21.63	23.10
		75	0	21.58	21.50	21.76	23.10
	16QAM	1	0	21.84	21.97	22.20	23.10
		1	38	21.67	22.33	22.35	23.10
		1	74	21.72	22.10	22.16	23.10
		36	0	20.75	20.74	20.76	22.10
		36	18	20.74	20.72	20.87	22.10
		36	39	20.89	20.81	20.68	22.10
		75	0	20.71	20.70	20.80	22.10
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				132072/1720	132322/1745	132572/1770	
20MHz	QPSK	1	0	22.82	23.04	23.03	24.10
		1	50	23.12	22.92	22.95	24.10
		1	99	22.86	22.98	23.01	24.10
		50	0	21.69	21.59	21.55	23.10
		50	25	21.55	21.44	21.51	23.10
		50	50	21.57	21.55	21.37	23.10
		100	0	21.72	21.55	21.48	23.10
	16QAM	1	0	22.29	22.28	22.31	23.10
		1	50	22.47	22.40	22.38	23.10
		1	99	22.04	22.05	22.12	23.10
		50	0	20.80	20.84	20.76	22.10
		50	25	20.98	20.69	20.84	22.10
		50	50	20.88	20.64	20.80	22.10
		100	0	21.02	20.81	20.89	22.10



WWAN Antenna Down

LTE FDD Band 4 Body(standalone)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	20.67	20.79	20.73	22.30
		1	2	21.09	21.11	20.89	22.30
		1	5	20.85	21.03	20.99	22.30
		3	0	21.13	20.81	21.01	22.30
		3	2	20.87	21.16	20.98	22.30
		3	3	20.92	21.06	20.89	22.30
		6	0	21.11	21.05	20.82	22.30
	16QAM	1	0	21.38	21.63	21.13	22.30
		1	2	21.47	21.69	21.26	22.30
		1	5	21.22	21.34	21.20	22.30
		3	0	19.94	19.89	19.92	22.30
		3	2	19.94	20.08	20.15	22.30
		3	3	19.99	20.07	20.03	22.30
		6	0	19.97	20.07	20.02	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	20.91	20.85	20.85	22.30
		1	7	20.86	21.16	21.11	22.30
		1	14	20.79	20.98	20.77	22.30
		8	0	20.87	20.81	20.87	22.30
		8	4	21.15	21.09	20.92	22.30
		8	7	20.99	21.14	21.04	22.30
		15	0	21.00	21.03	20.82	22.30
	16QAM	1	0	21.54	21.43	21.24	22.30
		1	7	21.56	21.53	21.29	22.30
		1	14	21.33	21.12	21.18	22.30
		8	0	20.13	19.99	20.02	21.80
		8	4	20.04	20.25	20.15	21.80
		8	7	20.27	20.09	19.80	21.80
		15	0	20.13	20.06	20.04	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	20.70	20.81	20.88	22.30
		1	13	20.94	21.07	20.96	22.30
		1	24	20.91	20.99	20.94	22.30
		12	0	21.12	20.87	20.92	22.30
		12	6	20.96	21.14	21.18	22.30
		12	13	21.05	21.15	21.03	22.30



		25	0	21.14	20.80	21.04	22.30
	16QAM	1	0	21.32	21.59	21.35	22.30
		1	13	21.68	21.64	21.26	22.30
		1	24	21.20	21.10	21.30	22.30
		12	0	20.15	19.85	20.13	21.80
		12	6	20.19	20.10	20.14	21.80
		12	13	20.10	20.22	19.92	21.80
		25	0	20.06	20.05	19.91	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	20.72	20.87	20.85	22.30
		1	25	21.09	21.11	20.99	22.30
		1	49	20.91	21.08	20.97	22.30
		25	0	20.92	20.75	21.10	22.30
		25	13	21.00	20.92	21.00	22.30
		25	25	21.11	21.17	20.78	22.30
		50	0	21.18	20.81	21.04	22.30
	16QAM	1	0	21.42	21.60	21.24	22.30
		1	25	21.53	21.58	21.32	22.30
		1	49	21.23	21.18	21.05	22.30
		25	0	19.97	19.79	20.01	21.80
		25	13	20.19	20.11	20.10	21.80
		25	25	20.24	20.21	20.05	21.80
		50	0	20.11	20.02	20.14	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20025/1717.5	20175/1732.5	20325/1747.5	
15MHz	QPSK	1	0	20.66	21.00	20.82	22.30
		1	38	20.92	21.21	21.12	22.30
		1	74	20.75	21.04	20.79	22.30
		36	0	20.99	20.79	20.81	22.30
		36	18	21.11	21.17	21.12	22.30
		36	39	21.10	20.91	20.99	22.30
		75	0	21.09	20.95	20.97	22.30
	16QAM	1	0	21.57	21.44	21.13	22.30
		1	38	21.51	21.42	21.51	22.30
		1	74	21.19	21.15	21.12	22.30
		36	0	19.96	20.04	20.08	21.80
		36	18	20.11	20.07	20.11	21.80
		36	39	20.01	20.29	19.90	21.80
		75	0	20.14	19.91	20.11	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	20.79	20.89	20.83	22.30



		1	50	20.95	21.06	21.01	22.30
		1	99	20.88	20.98	20.86	22.30
		50	0	20.98	20.90	20.95	22.30
		50	25	21.02	21.07	21.04	22.30
		50	50	21.06	21.06	20.90	22.30
		100	0	21.04	20.94	20.92	22.30
	16QAM	1	0	21.42	21.52	21.20	22.30
		1	50	21.55	21.57	21.40	22.30
		1	99	21.18	21.19	21.17	22.30
		50	0	20.09	19.94	19.99	21.80
		50	25	20.08	20.13	20.05	21.80
		50	50	20.13	20.14	19.90	21.80
		100	0	20.10	19.95	19.99	21.80

LTE FDD Band 4 Body(WWAN+2.4G/5G)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	20.07	20.14	20.22	21.80
		1	2	20.20	20.24	20.26	21.80
		1	5	20.14	20.21	20.25	21.80
		3	0	20.32	20.33	20.37	21.80
		3	2	20.33	20.39	20.40	21.80
		3	3	20.37	20.32	20.35	21.80
		6	0	20.38	20.38	20.40	21.80
	16QAM	1	0	21.15	21.23	21.05	21.80
		1	2	21.33	21.17	21.23	21.80
		1	5	21.00	21.17	21.10	21.80
		3	0	21.33	21.07	21.27	21.80
		3	2	21.22	21.20	21.21	21.80
		3	3	21.33	21.24	21.23	21.80
		6	0	21.24	21.00	21.24	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	20.03	20.05	20.08	21.80
		1	7	20.13	20.22	20.13	21.80
		1	14	20.04	20.15	20.07	21.80
		8	0	20.38	20.36	20.29	21.80
		8	4	20.38	20.40	20.37	21.80
		8	7	20.26	20.37	20.31	21.80
		15	0	20.27	20.28	20.34	21.80
	16QAM	1	0	21.31	21.31	21.25	21.80
		1	7	21.16	21.20	21.24	21.80



		1	14	21.11	21.03	21.05	21.80
		8	0	21.38	21.02	21.34	21.80
		8	4	21.34	21.19	21.13	21.80
		8	7	21.24	21.05	21.10	21.80
		15	0	21.41	21.20	21.25	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	21.17	21.28	21.09	21.80
		1	13	21.23	21.20	21.20	21.80
		1	24	20.98	21.02	21.18	21.80
		12	0	21.28	21.14	21.38	21.80
		12	6	21.16	21.22	21.20	21.80
		12	13	21.21	21.04	21.18	21.80
		25	0	21.43	21.24	21.32	21.80
	16QAM	1	0	21.13	21.14	21.19	21.80
		1	13	21.24	21.18	21.19	21.80
		1	24	20.98	21.13	20.96	21.80
		12	0	21.34	21.09	21.21	21.80
		12	6	21.39	21.21	21.18	21.80
		12	13	21.41	21.25	21.24	21.80
		25	0	21.22	21.00	21.29	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	21.15	21.15	21.06	21.80
		1	25	21.12	21.16	21.12	21.80
		1	49	21.09	21.04	20.97	21.80
		25	0	21.32	21.13	21.34	21.80
		25	13	21.28	21.34	21.12	21.80
		25	25	21.44	21.06	21.15	21.80
		50	0	21.32	21.12	21.26	21.80
	16QAM	1	0	21.34	21.25	21.22	21.80
		1	25	21.26	21.29	21.25	21.80
		1	49	21.11	21.10	21.08	21.80
		25	0	21.37	20.97	21.21	21.80
		25	13	21.27	21.31	21.28	21.80
		25	25	21.43	21.09	21.18	21.80
		50	0	21.26	21.08	21.34	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20025/1717.5	20175/1732.5	20325/1747.5	
15MHz	QPSK	1	0	21.20	21.27	21.23	21.80
		1	38	21.18	21.20	21.10	21.80
		1	74	21.13	21.19	21.12	21.80
		36	0	21.45	21.13	21.23	21.80



		36	18	21.25	21.10	21.31	21.80
		36	39	21.20	21.03	21.11	21.80
		75	0	21.29	21.17	21.12	21.80
	16QAM	1	0	21.10	21.31	21.09	21.80
		1	38	21.35	21.26	21.26	21.80
		1	74	21.01	21.22	20.99	21.80
		36	0	21.26	20.98	21.32	21.80
		36	18	21.30	21.18	21.22	21.80
		36	39	21.38	21.08	21.10	21.80
		75	0	21.25	21.22	21.28	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	20.35	20.40	20.37	21.80
		1	50	20.47	20.55	20.53	21.80
		1	99	20.45	20.49	20.39	21.80
		50	0	20.54	20.37	20.50	21.80
		50	25	20.53	20.57	20.56	21.80
		50	50	20.58	20.60	20.48	21.80
		100	0	20.55	20.45	20.49	21.80
	16QAM	1	0	21.09	21.24	21.20	21.80
		1	50	21.16	21.29	21.20	21.80
		1	99	21.16	21.09	21.00	21.80
		50	0	21.26	21.14	21.43	21.80
		50	25	21.22	21.22	21.32	21.80
		50	50	21.32	21.18	21.07	21.80
		100	0	21.35	21.03	21.17	21.80

LTE TDD Band 66 Body(standalone) Body(WWAN+2.4G/5G)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				131979/1710.7	132322/1745	132665/1779.3	
1.4MHz	QPSK	1	0	21.76	21.88	21.76	22.10
		1	2	21.82	21.89	22.02	22.10
		1	5	21.72	21.88	21.90	22.10
		3	0	21.53	21.43	21.21	22.10
		3	2	21.55	21.51	21.48	22.10
		3	3	21.46	21.30	21.20	22.10
		6	0	21.42	21.28	21.24	22.10
	16QAM	1	0	21.61	21.87	21.70	22.10
		1	2	21.78	22.00	21.95	22.10
		1	5	21.78	21.77	21.92	22.10
		3	0	21.34	21.51	21.20	22.10



		3	2	21.44	21.49	21.39	22.10
		3	3	21.47	21.24	21.24	22.10
		6	0	21.32	21.26	21.29	22.10
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				1319871711.5	132322/1745	132657/1778.5	
3MHz	QPSK	1	0	21.74	21.87	21.81	22.10
		1	7	21.93	22.04	21.89	22.10
		1	14	21.74	21.86	21.95	22.10
		8	0	21.51	21.43	21.27	22.10
		8	4	21.50	21.45	21.50	22.10
		8	7	21.50	21.33	21.25	22.10
		15	0	21.34	21.24	21.25	22.10
	16QAM	1	0	21.76	21.75	21.70	22.10
		1	7	21.79	22.03	21.82	22.10
		1	14	21.78	21.78	21.93	22.10
		8	0	21.41	21.41	21.31	22.10
		8	4	21.37	21.43	21.50	22.10
		8	7	21.52	21.27	21.19	22.10
		15	0	21.37	21.31	21.35	22.10
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				131997/1712.5	132322/1745	132647/1777.5	
5MHz	QPSK	1	0	21.62	21.74	21.75	22.10
		1	13	21.87	22.04	21.83	22.10
		1	24	21.90	21.92	21.85	22.10
		12	0	21.46	21.38	21.26	22.10
		12	6	21.53	21.39	21.38	22.10
		12	13	21.51	21.30	21.20	22.10
		25	0	21.35	21.42	21.31	22.10
	16QAM	1	0	21.63	21.81	21.70	22.10
		1	13	21.95	21.97	21.99	22.10
		1	24	21.81	21.87	21.92	22.10
		12	0	21.44	21.46	21.33	22.10
		12	6	21.38	21.52	21.45	22.10
		12	13	21.50	21.43	21.25	22.10
		25	0	21.52	21.41	21.21	22.10
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				132022/1715	132322/1745	132622/1775	
10MHz	QPSK	1	0	21.64	21.90	21.75	22.10
		1	25	21.93	21.86	21.87	22.10
		1	49	21.79	21.88	21.83	22.10
		25	0	21.41	21.44	21.21	22.10
		25	13	21.40	21.47	21.48	22.10
		25	25	21.41	21.42	21.21	22.10



	16QAM	50	0	21.36	21.41	21.18	22.10
		1	0	21.66	21.84	21.89	22.10
		1	25	21.80	21.93	21.87	22.10
		1	49	21.87	21.89	21.87	22.10
		25	0	21.38	21.53	21.24	22.10
		25	13	21.46	21.45	21.50	22.10
		25	25	21.37	21.31	21.24	22.10
		50	0	21.40	21.38	21.32	22.10
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				132047/1717.5	132322/1745	132597/1772.5	
15MHz	QPSK	1	0	21.62	21.80	21.83	22.10
		1	38	21.84	21.90	21.91	22.10
		1	74	21.72	21.91	21.85	22.10
		36	0	21.50	21.50	21.13	22.10
		36	18	21.49	21.51	21.38	22.10
		36	39	21.57	21.24	21.28	22.10
		75	0	21.32	21.29	21.22	22.10
	16QAM	1	0	21.72	21.72	21.72	22.10
		1	38	21.95	21.92	21.87	22.10
		1	74	21.81	21.85	21.85	22.10
		36	0	21.51	21.40	21.25	22.10
		36	18	21.44	21.42	21.45	22.10
		36	39	21.41	21.25	21.19	22.10
		75	0	21.33	21.41	21.17	22.10
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				132072/1720	132322/1745	132572/1770	
20MHz	QPSK	1	0	21.66	21.77	21.75	22.10
		1	50	21.82	21.90	21.87	22.10
		1	99	21.75	21.81	21.80	22.10
		50	0	21.38	21.38	21.18	22.10
		50	25	21.40	21.41	21.37	22.10
		50	50	21.42	21.29	21.24	22.10
		100	0	21.37	21.27	21.22	22.10
	16QAM	1	0	21.66	21.91	21.71	22.10
		1	50	21.85	21.97	22.02	22.10
		1	99	21.88	21.95	21.85	22.10
		50	0	21.49	21.38	21.14	22.10
		50	25	21.55	21.39	21.50	22.10
		50	50	21.45	21.24	21.36	22.10
		100	0	21.52	21.31	21.31	22.10



WWAN Antenna Up

LTE FDD Band 2 head(standalone)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	15.86	15.95	15.83	17.30
		1	2	15.77	15.89	15.76	17.30
		1	5	15.94	15.89	15.63	17.30
		3	0	15.66	15.93	15.97	17.30
		3	2	15.97	16.04	16.00	17.30
		3	3	15.98	16.03	15.81	17.30
		6	0	15.70	15.79	15.90	17.30
	16QAM	1	0	15.77	15.87	15.66	17.30
		1	2	15.98	15.88	15.82	17.30
		1	5	15.94	15.92	15.88	17.30
		3	0	15.95	15.94	16.09	17.30
		3	2	15.81	16.02	15.83	17.30
		3	3	15.93	15.80	15.77	17.30
		6	0	15.91	15.93	16.08	17.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	15.79	15.79	15.60	17.30
		1	7	15.81	16.04	15.91	17.30
		1	14	15.95	15.74	15.71	17.30
		8	0	15.80	15.78	15.94	17.30
		8	4	15.74	15.91	15.88	17.30
		8	7	15.92	15.94	15.87	17.30
		15	0	15.81	15.89	15.86	17.30
	16QAM	1	0	15.83	15.95	15.64	17.30
		1	7	15.90	16.06	15.93	17.30
		1	14	15.69	15.87	15.61	17.30
		8	0	15.73	15.79	16.05	17.30
		8	4	15.81	16.02	16.05	17.30
		8	7	15.75	15.81	15.99	17.30
		15	0	15.87	15.93	16.03	17.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	15.70	15.90	15.79	17.30
		1	13	15.89	16.05	15.81	17.30
		1	24	15.86	15.82	15.75	17.30
		12	0	15.71	15.89	15.89	17.30
		12	6	15.89	16.11	15.91	17.30
		12	13	15.92	15.98	15.81	17.30



	16QAM	25	0	15.72	15.95	15.95	17.30
		1	0	15.58	15.87	15.76	17.30
		1	13	15.75	15.79	15.99	17.30
		1	24	15.69	15.85	15.78	17.30
		12	0	15.93	15.84	16.01	17.30
		12	6	15.93	16.06	15.87	17.30
		12	13	15.73	15.86	15.78	17.30
		25	0	15.73	15.91	15.92	17.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	15.61	15.76	15.59	17.30
		1	25	15.75	15.94	15.96	17.30
		1	49	15.88	15.78	15.75	17.30
		25	0	15.91	15.93	16.04	17.30
		25	13	15.82	15.91	15.87	17.30
		25	25	15.98	15.82	15.93	17.30
		50	0	15.82	15.85	15.99	17.30
	16QAM	1	0	15.80	15.76	15.68	17.30
		1	25	15.89	15.90	15.76	17.30
		1	49	15.77	15.78	15.69	17.30
		25	0	15.86	15.91	15.92	17.30
		25	13	15.81	15.99	15.97	17.30
		25	25	15.76	15.91	15.93	17.30
		50	0	15.82	15.93	15.85	17.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	15.78	15.73	15.74	17.30
		1	38	15.76	15.91	15.78	17.30
		1	74	15.93	15.73	15.75	17.30
		36	0	15.95	15.73	16.05	17.30
		36	18	15.74	15.94	16.02	17.30
		36	39	15.92	15.97	15.94	17.30
		75	0	15.89	15.98	16.04	17.30
	16QAM	1	0	15.60	15.88	15.71	17.30
		1	38	15.89	15.78	15.74	17.30
		1	74	15.80	15.81	15.86	17.30
		36	0	15.77	15.91	15.90	17.30
		36	18	15.91	15.88	15.91	17.30
		36	39	15.87	15.87	15.94	17.30
		75	0	15.89	15.87	15.89	17.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	15.71	15.81	15.72	17.30



		1	50	15.88	15.92	15.88	17.30
		1	99	15.80	15.85	15.75	17.30
		50	0	15.80	15.84	15.98	17.30
		50	25	15.85	15.96	15.93	17.30
		50	50	15.85	15.92	15.90	17.30
		100	0	15.83	15.91	15.94	17.30
	16QAM	1	0	15.64	15.69	15.70	17.30
		1	50	15.86	15.86	16.01	17.30
		1	99	15.85	15.88	15.65	17.30
		50	0	15.95	15.81	16.09	17.30
		50	25	15.85	15.89	16.05	17.30
		50	50	15.92	15.84	15.85	17.30
		100	0	15.90	15.76	15.79	17.30

LTE FDD Band 2 Body(standalone)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	16.95	16.86	17.02	18.30
		1	2	16.98	16.96	17.18	18.30
		1	5	16.87	16.92	17.08	18.30
		3	0	16.99	17.07	17.23	18.30
		3	2	17.14	17.10	17.01	18.30
		3	3	17.12	17.02	17.09	18.30
		6	0	17.03	17.00	17.10	18.30
	16QAM	1	0	16.73	16.92	17.11	18.30
		1	2	16.89	17.12	17.01	18.30
		1	5	16.81	17.13	17.10	18.30
		3	0	17.09	17.09	17.16	18.30
		3	2	17.15	17.00	17.07	18.30
		3	3	16.87	17.09	16.98	18.30
		6	0	16.91	16.92	17.23	18.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	16.82	17.07	17.07	18.30
		1	7	16.88	17.05	17.12	18.30
		1	14	17.05	17.00	17.05	18.30
		8	0	17.14	17.07	17.27	18.30
		8	4	16.92	17.02	17.06	18.30
		8	7	16.98	17.15	17.07	18.30
		15	0	17.04	17.18	17.13	18.30
	16QAM	1	0	16.72	17.15	16.97	18.30
		1	7	17.15	17.19	16.99	18.30



		1	14	16.89	17.06	17.02	18.30
		8	0	16.85	17.09	17.18	18.30
		8	4	16.95	17.20	17.09	18.30
		8	7	17.05	17.18	17.19	18.30
		15	0	16.89	16.92	17.29	18.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	16.93	16.99	17.13	18.30
		1	13	17.15	16.95	17.22	18.30
		1	24	16.84	16.91	17.15	18.30
		12	0	17.05	17.15	17.11	18.30
		12	6	17.00	17.06	17.04	18.30
		12	13	16.89	16.96	17.12	18.30
		25	0	17.05	17.10	17.24	18.30
	16QAM	1	0	16.89	16.86	16.93	18.30
		1	13	17.14	17.01	17.19	18.30
		1	24	16.91	17.02	17.14	18.30
		12	0	17.05	17.07	17.15	18.30
		12	6	17.06	17.10	17.16	18.30
		12	13	16.87	17.12	16.99	18.30
		25	0	16.99	17.13	17.26	18.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	16.78	16.88	17.12	18.30
		1	25	16.95	17.04	17.06	18.30
		1	49	16.91	17.08	17.02	18.30
		25	0	16.85	17.01	17.08	18.30
		25	13	17.12	17.04	17.22	18.30
		25	25	16.97	17.23	17.15	18.30
		50	0	17.19	17.08	17.09	18.30
	16QAM	1	0	16.84	16.91	17.15	18.30
		1	25	17.09	17.01	17.08	18.30
		1	49	16.85	17.06	17.21	18.30
		25	0	16.88	17.22	17.09	18.30
		25	13	17.15	17.23	17.09	18.30
		25	25	17.11	17.11	16.94	18.30
		50	0	16.91	17.19	17.23	18.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	16.85	17.11	16.94	18.30
		1	38	16.89	16.98	17.02	18.30
		1	74	16.89	16.94	17.06	18.30
		36	0	17.00	17.21	17.16	18.30



		36	18	16.96	17.23	17.22	18.30
		36	39	16.91	16.97	17.11	18.30
		75	0	17.17	17.14	17.28	18.30
	16QAM	1	0	16.91	16.98	17.09	18.30
		1	38	16.88	17.21	17.14	18.30
		1	74	17.05	16.94	17.09	18.30
		36	0	17.14	17.00	17.17	18.30
		36	18	17.05	17.20	17.06	18.30
		36	39	17.06	17.15	17.00	18.30
		75	0	17.11	17.21	17.12	18.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	16.85	17.00	17.06	18.30
		1	50	17.00	17.08	17.14	18.30
		1	99	16.96	16.99	17.06	18.30
		50	0	16.99	17.09	17.22	18.30
		50	25	17.06	17.15	17.14	18.30
		50	50	17.02	17.11	17.09	18.30
		100	0	17.04	17.06	17.17	18.30
	16QAM	1	0	16.93	16.86	16.95	18.30
		1	50	16.93	17.07	17.05	18.30
		1	99	16.89	16.91	17.18	18.30
		50	0	17.09	17.07	17.25	18.30
		50	25	17.09	17.12	17.16	18.30
		50	50	17.10	17.24	17.02	18.30
		100	0	17.02	16.93	17.20	18.30

LTE FDD Band 2 head(WWAN+2.4G/5G)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	14.76	14.71	14.58	16.30
		1	2	14.70	15.04	14.94	16.30
		1	5	14.58	14.82	14.78	16.30
		3	0	14.74	14.91	14.87	16.30
		3	2	14.71	14.82	14.82	16.30
		3	3	14.78	14.78	14.77	16.30
		6	0	14.91	14.98	14.98	16.30
	16QAM	1	0	14.72	14.73	14.63	16.30
		1	2	14.89	14.97	14.92	16.30
		1	5	14.58	14.90	14.63	16.30
		3	0	14.63	14.73	14.90	16.30
		3	2	14.92	14.85	15.00	16.30



		3	3	14.68	14.90	14.81	16.30
		6	0	14.80	15.02	15.01	16.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	14.80	14.83	14.84	16.30
		1	7	14.83	15.04	14.71	16.30
		1	14	14.79	15.02	14.70	16.30
		8	0	14.81	14.90	14.92	16.30
		8	4	14.98	14.97	15.06	16.30
		8	7	14.85	14.94	14.71	16.30
		15	0	14.68	14.95	14.80	16.30
	16QAM	1	0	14.68	14.71	14.64	16.30
		1	7	14.77	14.95	14.87	16.30
		1	14	14.77	14.88	14.65	16.30
		8	0	14.82	14.84	14.83	16.30
		8	4	14.98	14.83	14.88	16.30
		8	7	14.71	14.73	14.80	16.30
		15	0	14.87	14.87	15.10	16.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	14.63	14.69	14.73	16.30
		1	13	14.91	14.99	14.85	16.30
		1	24	14.61	14.82	14.79	16.30
		12	0	14.86	14.72	14.99	16.30
		12	6	14.97	15.00	14.95	16.30
		12	13	14.96	14.74	14.71	16.30
		25	0	14.63	14.95	14.96	16.30
	16QAM	1	0	14.83	14.68	14.72	16.30
		1	13	14.82	14.76	14.89	16.30
		1	24	14.74	15.01	14.75	16.30
		12	0	14.75	14.68	15.04	16.30
		12	6	14.96	15.00	14.85	16.30
		12	13	14.82	14.99	14.96	16.30
		25	0	14.89	14.76	14.89	16.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	14.67	14.79	14.82	16.30
		1	25	14.92	14.75	14.92	16.30
		1	49	14.85	14.82	14.64	16.30
		25	0	14.80	14.81	14.86	16.30
		25	13	14.83	14.91	14.95	16.30
		25	25	14.85	14.75	14.77	16.30
		50	0	14.91	14.84	15.01	16.30



	16QAM	1	0	14.74	14.75	14.60	16.30
		1	25	14.88	14.88	14.92	16.30
		1	49	14.61	14.79	14.59	16.30
		25	0	14.63	14.87	14.83	16.30
		25	13	14.98	14.82	14.87	16.30
		25	25	14.81	14.99	14.91	16.30
		50	0	14.63	14.87	14.87	16.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	14.73	14.71	14.72	16.30
		1	38	14.92	14.98	14.88	16.30
		1	74	14.69	14.80	14.81	16.30
		36	0	14.84	14.70	15.05	16.30
		36	18	14.78	14.93	14.80	16.30
		36	39	14.87	14.89	14.70	16.30
		75	0	14.75	14.86	15.09	16.30
	16QAM	1	0	14.75	14.89	14.84	16.30
		1	38	14.74	15.03	14.82	16.30
		1	74	14.70	14.91	14.58	16.30
		36	0	14.90	14.82	14.93	16.30
		36	18	14.78	15.04	14.97	16.30
		36	39	14.70	14.82	14.74	16.30
		75	0	14.81	14.95	14.98	16.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	14.68	14.78	14.71	16.30
		1	50	14.83	14.90	14.86	16.30
		1	99	14.72	14.87	14.71	16.30
		50	0	14.75	14.82	14.97	16.30
		50	25	14.84	14.94	14.92	16.30
		50	50	14.82	14.85	14.83	16.30
		100	0	14.78	14.88	14.95	16.30
	16QAM	1	0	14.79	14.88	14.61	16.30
		1	50	14.83	14.82	14.84	16.30
		1	99	14.68	14.97	14.79	16.30
		50	0	14.85	14.68	14.95	16.30
		50	25	14.83	14.86	14.98	16.30
		50	50	14.74	14.89	14.94	16.30
		100	0	14.77	14.86	14.80	16.30



LTE FDD Band 2 Body(WWAN+2.4G/5G)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				18607/1850.7	18900/1880	19193/1909.3	
1.4MHz	QPSK	1	0	16.31	16.59	16.67	17.80
		1	2	16.44	16.72	16.57	17.80
		1	5	16.51	16.51	16.46	17.80
		3	0	16.63	16.48	16.69	17.80
		3	2	16.55	16.55	16.57	17.80
		3	3	16.54	16.64	16.60	17.80
		6	0	16.61	16.60	16.67	17.80
	16QAM	1	0	16.52	16.50	16.65	17.80
		1	2	16.51	16.60	16.63	17.80
		1	5	16.47	16.46	16.63	17.80
		3	0	16.48	16.50	16.79	17.80
		3	2	16.56	16.58	16.55	17.80
		3	3	16.47	16.70	16.62	17.80
		6	0	16.54	16.51	16.58	17.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18615/1851.5	18900/1880	19185/1908.5	
3MHz	QPSK	1	0	16.38	16.68	16.65	17.80
		1	7	16.42	16.74	16.59	17.80
		1	14	16.42	16.53	16.52	17.80
		8	0	16.43	16.53	16.68	17.80
		8	4	16.53	16.56	16.59	17.80
		8	7	16.73	16.79	16.58	17.80
		15	0	16.43	16.63	16.73	17.80
	16QAM	1	0	16.42	16.50	16.55	17.80
		1	7	16.67	16.76	16.72	17.80
		1	14	16.59	16.67	16.69	17.80
		8	0	16.44	16.45	16.61	17.80
		8	4	16.60	16.53	16.66	17.80
		8	7	16.74	16.69	16.82	17.80
		15	0	16.50	16.61	16.70	17.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18625/1852.5	18900/1880	19175/1907.5	
5MHz	QPSK	1	0	16.59	16.57	16.71	17.80
		1	13	16.42	16.62	16.65	17.80
		1	24	16.60	16.66	16.42	17.80
		12	0	16.59	16.47	16.90	17.80
		12	6	16.72	16.68	16.62	17.80
		12	13	16.67	16.55	16.77	17.80
		25	0	16.61	16.48	16.76	17.80



	16QAM	1	0	16.56	16.56	16.72	17.80
		1	13	16.54	16.50	16.75	17.80
		1	24	16.35	16.43	16.52	17.80
		12	0	16.58	16.46	16.87	17.80
		12	6	16.73	16.62	16.57	17.80
		12	13	16.60	16.51	16.60	17.80
		25	0	16.51	16.65	16.58	17.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18650/1855	18900/1880	19150/1905	
10MHz	QPSK	1	0	16.57	16.54	16.64	17.80
		1	25	16.67	16.69	16.63	17.80
		1	49	16.37	16.64	16.59	17.80
		25	0	16.46	16.45	16.64	17.80
		25	13	16.61	16.79	16.77	17.80
		25	25	16.74	16.74	16.55	17.80
		50	0	16.61	16.56	16.60	17.80
	16QAM	1	0	16.52	16.53	16.68	17.80
		1	25	16.65	16.54	16.52	17.80
		1	49	16.42	16.55	16.70	17.80
		25	0	16.62	16.49	16.68	17.80
		25	13	16.73	16.72	16.73	17.80
		25	25	16.70	16.57	16.60	17.80
		50	0	16.56	16.77	16.75	17.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18675/1857.5	18900/1880	19125/1902.5	
15MHz	QPSK	1	0	16.58	16.53	16.58	17.80
		1	38	16.58	16.63	16.77	17.80
		1	74	16.38	16.49	16.43	17.80
		36	0	16.41	16.57	16.87	17.80
		36	18	16.60	16.54	16.80	17.80
		36	39	16.71	16.61	16.64	17.80
		75	0	16.60	16.56	16.59	17.80
	16QAM	1	0	16.53	16.46	16.44	17.80
		1	38	16.55	16.54	16.55	17.80
		1	74	16.58	16.45	16.45	17.80
		36	0	16.61	16.49	16.77	17.80
		36	18	16.50	16.77	16.76	17.80
		36	39	16.60	16.72	16.68	17.80
		75	0	16.47	16.54	16.65	17.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				18700/1860	18900/1880	19100/1900	
20MHz	QPSK	1	0	16.45	16.55	16.58	17.80
		1	50	16.55	16.64	16.65	17.80



		1	99	16.48	16.54	16.56	17.80
		50	0	16.56	16.54	16.75	17.80
		50	25	16.62	16.67	16.69	17.80
		50	50	16.60	16.66	16.67	17.80
		100	0	16.58	16.63	16.71	17.80
	16QAM	1	0	16.54	16.54	16.66	17.80
		1	50	16.43	16.59	16.74	17.80
		1	99	16.51	16.52	16.44	17.80
		50	0	16.64	16.45	16.77	17.80
		50	25	16.69	16.78	16.60	17.80
		50	50	16.48	16.52	16.59	17.80
		100	0	16.69	16.62	16.74	17.80

LTE FDD Band 4 head(standalone)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	17.33	17.39	17.53	18.30
		1	2	17.48	17.53	17.20	18.30
		1	5	17.55	17.13	17.28	18.30
		3	0	17.51	17.57	17.40	18.30
		3	2	17.54	17.37	17.14	18.30
		3	3	17.57	17.36	17.24	18.30
		6	0	17.26	17.24	17.13	18.30
	16QAM	1	0	16.98	17.03	17.03	18.30
		1	2	16.91	16.86	16.96	18.30
		1	5	16.94	16.61	16.86	18.30
		3	0	17.04	16.84	16.89	18.30
		3	2	16.97	16.88	16.64	18.30
		3	3	16.92	16.82	16.86	18.30
		6	0	17.33	17.40	17.26	18.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	17.32	17.44	17.55	18.30
		1	7	17.49	17.34	17.39	18.30
		1	14	17.51	17.12	17.33	18.30
		8	0	17.49	17.30	17.34	18.30
		8	4	17.46	17.39	17.14	18.30
		8	7	17.58	17.35	17.24	18.30
		15	0	17.45	17.46	17.22	18.30
	16QAM	1	0	16.78	17.01	16.90	18.30
		1	7	16.77	16.97	16.66	18.30
		1	14	17.18	16.73	17.02	18.30



		8	0	16.97	17.01	16.90	18.30
		8	4	17.05	17.11	16.86	18.30
		8	7	16.88	16.95	16.87	18.30
		15	0	17.32	17.25	17.17	18.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	17.32	17.40	17.29	18.30
		1	13	17.38	17.49	17.34	18.30
		1	24	17.41	17.16	17.36	18.30
		12	0	17.56	17.56	17.42	18.30
		12	6	17.42	17.58	17.24	18.30
		12	13	17.36	17.20	17.33	18.30
		25	0	17.32	17.47	17.28	18.30
	16QAM	1	0	16.97	16.88	17.01	18.30
		1	13	16.99	16.91	16.82	18.30
		1	24	17.14	16.62	16.88	18.30
		12	0	16.96	16.80	17.02	18.30
		12	6	17.08	16.97	16.86	18.30
		12	13	16.96	16.80	16.73	18.30
		25	0	17.23	17.31	17.15	18.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	17.44	17.57	17.49	18.30
		1	25	17.36	17.33	17.22	18.30
		1	49	17.62	17.15	17.31	18.30
		25	0	17.48	17.57	17.44	18.30
		25	13	17.39	17.44	17.29	18.30
		25	25	17.42	17.27	17.34	18.30
		50	0	17.38	17.22	17.27	18.30
	16QAM	1	0	16.79	16.97	16.96	18.30
		1	25	16.95	16.97	16.72	18.30
		1	49	16.99	16.75	16.99	18.30
		25	0	17.04	16.87	16.99	18.30
		25	13	17.08	16.88	16.76	18.30
		25	25	16.83	16.75	16.97	18.30
		50	0	17.20	17.18	17.15	18.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20025/1717.5	20175/1732.5	20325/1747.5	
15MHz	QPSK	1	0	17.25	17.49	17.40	18.30
		1	38	17.22	17.28	17.18	18.30
		1	74	17.45	17.30	17.54	18.30
		36	0	17.51	17.31	17.42	18.30
		36	18	17.57	17.35	17.23	18.30



		36	39	17.42	17.28	17.35	18.30
		75	0	17.18	17.21	17.19	18.30
	16QAM	1	0	16.87	16.91	16.96	18.30
		1	38	16.89	17.03	16.96	18.30
		1	74	17.08	16.75	16.95	18.30
		36	0	16.77	16.90	16.93	18.30
		36	18	16.99	16.90	16.82	18.30
		36	39	16.95	16.81	16.76	18.30
		75	0	17.22	17.34	17.31	18.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	17.35	17.43	17.40	18.30
		1	50	17.35	17.38	17.31	18.30
		1	99	17.53	17.22	17.40	18.30
		50	0	17.41	17.44	17.48	18.30
		50	25	17.44	17.50	17.29	18.30
		50	50	17.47	17.35	17.34	18.30
		100	0	17.32	17.33	17.25	18.30
	16QAM	1	0	16.80	17.05	16.76	18.30
		1	50	16.75	16.77	16.70	18.30
		1	99	16.89	16.60	16.97	18.30
		50	0	17.01	16.94	17.13	18.30
		50	25	16.87	16.91	16.74	18.30
		50	50	16.89	17.00	16.88	18.30
		100	0	17.43	17.23	17.16	18.30

LTE FDD Band 4 Body(standalone)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	19.13	19.29	19.32	19.80
		1	2	19.32	19.37	19.35	19.80
		1	5	19.03	19.21	19.32	19.80
		3	0	19.35	19.20	19.48	19.80
		3	2	19.43	19.35	19.34	19.80
		3	3	19.53	19.26	19.08	19.80
		6	0	19.47	19.28	19.22	19.80
	16QAM	1	0	19.12	19.20	19.13	19.80
		1	2	19.36	19.30	19.38	19.80
		1	5	19.03	19.18	19.25	19.80
		3	0	19.40	19.23	19.30	19.80
		3	2	19.45	19.26	19.30	19.80
		3	3	19.34	19.35	19.24	19.80



		6	0	19.32	19.23	19.31	19.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	19.08	19.27	19.19	19.80
		1	7	19.36	19.28	19.31	19.80
		1	14	19.08	19.21	19.45	19.80
		8	0	19.47	19.09	19.48	19.80
		8	4	19.25	19.25	19.43	19.80
		8	7	19.39	19.38	19.23	19.80
		15	0	19.36	19.17	19.36	19.80
	16QAM	1	0	19.16	19.07	19.13	19.80
		1	7	19.23	19.28	19.41	19.80
		1	14	19.18	19.20	19.45	19.80
		8	0	19.49	19.23	19.33	19.80
		8	4	19.36	19.35	19.24	19.80
		8	7	19.36	19.18	19.26	19.80
		15	0	19.44	19.17	19.30	19.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	19.03	19.26	19.28	19.80
		1	13	19.33	19.21	19.32	19.80
		1	24	19.14	19.26	19.21	19.80
		12	0	19.43	19.17	19.40	19.80
		12	6	19.25	19.25	19.24	19.80
		12	13	19.41	19.36	19.31	19.80
		25	0	19.46	19.33	19.40	19.80
	16QAM	1	0	19.20	19.14	19.17	19.80
		1	13	19.13	19.24	19.36	19.80
		1	24	19.04	19.20	19.25	19.80
		12	0	19.37	19.19	19.41	19.80
		12	6	19.45	19.35	19.40	19.80
		12	13	19.32	19.30	19.23	19.80
		25	0	19.38	19.32	19.32	19.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	19.07	19.11	19.30	19.80
		1	25	19.23	19.34	19.39	19.80
		1	49	19.08	19.31	19.21	19.80
		25	0	19.30	19.11	19.36	19.80
		25	13	19.25	19.23	19.25	19.80
		25	25	19.35	19.27	19.17	19.80
		50	0	19.41	19.33	19.20	19.80
	16QAM	1	0	19.01	19.29	19.30	19.80



		1	25	19.29	19.36	19.40	19.80
		1	49	19.01	19.30	19.38	19.80
		25	0	19.45	19.17	19.33	19.80
		25	13	19.25	19.31	19.42	19.80
		25	25	19.30	19.24	19.22	19.80
		50	0	19.40	19.33	19.35	19.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20025/1717.5	20175/1732.5	20325/1747.5	
15MHz	QPSK	1	0	19.11	19.25	19.24	19.80
		1	38	19.25	19.32	19.44	19.80
		1	74	19.12	19.32	19.45	19.80
		36	0	19.46	19.06	19.28	19.80
		36	18	19.22	19.43	19.40	19.80
		36	39	19.50	19.24	19.24	19.80
		75	0	19.26	19.26	19.37	19.80
	16QAM	1	0	19.16	19.11	19.36	19.80
		1	38	19.23	19.20	19.38	19.80
		1	74	19.22	19.14	19.38	19.80
		36	0	19.48	19.12	19.51	19.80
		36	18	19.35	19.27	19.33	19.80
		36	39	19.33	19.30	19.18	19.80
		75	0	19.46	19.34	19.29	19.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	19.02	19.11	19.14	19.80
		1	50	19.19	19.26	19.35	19.80
		1	99	19.14	19.22	19.23	19.80
		50	0	19.31	19.07	19.29	19.80
		50	25	19.28	19.28	19.33	19.80
		50	50	19.33	19.34	19.13	19.80
		100	0	19.30	19.24	19.22	19.80
	16QAM	1	0	19.10	19.32	19.29	19.80
		1	50	19.27	19.21	19.25	19.80
		1	99	19.01	19.26	19.38	19.80
		50	0	19.50	19.23	19.35	19.80
		50	25	19.27	19.21	19.44	19.80
		50	50	19.52	19.35	19.19	19.80
		100	0	19.30	19.24	19.37	19.80



LTE FDD Band 4 head(WWAN+2.4G/5G)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	13.83	14.08	13.90	15.30
		1	2	13.90	14.08	14.29	15.30
		1	5	14.08	13.97	14.27	15.30
		3	0	14.22	13.84	14.17	15.30
		3	2	14.07	14.18	14.14	15.30
		3	3	14.35	14.18	14.17	15.30
		6	0	14.24	14.17	14.16	15.30
	16QAM	1	0	13.93	13.84	13.91	15.30
		1	2	14.10	14.25	14.18	15.30
		1	5	14.08	14.17	14.24	15.30
		3	0	14.10	13.78	14.18	15.30
		3	2	14.28	14.07	14.30	15.30
		3	3	14.16	14.18	13.92	15.30
		6	0	14.35	13.97	13.97	15.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	13.97	14.10	14.04	15.30
		1	7	14.05	14.04	14.05	15.30
		1	14	14.00	14.14	14.14	15.30
		8	0	14.10	13.95	14.20	15.30
		8	4	14.08	14.17	14.34	15.30
		8	7	14.09	14.16	14.05	15.30
		15	0	14.28	14.13	14.17	15.30
	16QAM	1	0	13.80	13.97	13.87	15.30
		1	7	13.90	14.03	14.24	15.30
		1	14	14.05	13.91	14.17	15.30
		8	0	14.28	14.06	14.20	15.30
		8	4	14.08	14.28	14.16	15.30
		8	7	14.15	14.29	14.07	15.30
		15	0	14.35	14.18	14.09	15.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	13.81	14.04	14.08	15.30
		1	13	13.95	14.08	14.17	15.30
		1	24	13.92	14.17	14.09	15.30
		12	0	14.39	14.02	14.13	15.30
		12	6	14.19	14.14	14.15	15.30
		12	13	14.25	14.29	13.96	15.30



		25	0	14.13	14.12	14.04	15.30
	16QAM	1	0	13.88	13.95	13.95	15.30
		1	13	14.19	14.24	14.33	15.30
		1	24	14.16	13.90	14.18	15.30
		12	0	14.29	13.94	14.10	15.30
		12	6	14.19	14.24	14.23	15.30
		12	13	14.14	14.07	13.95	15.30
		25	0	14.14	13.94	14.00	15.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	14.04	14.10	14.09	15.30
		1	25	14.00	14.11	14.10	15.30
		1	49	13.99	13.91	14.07	15.30
		25	0	14.21	13.88	14.12	15.30
		25	13	14.12	14.34	14.33	15.30
		25	25	14.26	14.31	13.91	15.30
		50	0	14.32	14.07	14.09	15.30
	16QAM	1	0	13.91	14.02	13.89	15.30
		1	25	14.15	14.10	14.04	15.30
		1	49	13.87	13.91	14.01	15.30
		25	0	14.37	13.97	14.04	15.30
		25	13	14.06	14.32	14.25	15.30
		25	25	14.25	14.29	14.19	15.30
		50	0	14.35	14.10	14.13	15.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20025/1717.5	20175/1732.5	20325/1747.5	
15MHz	QPSK	1	0	13.95	13.87	14.15	15.30
		1	38	13.91	14.25	14.12	15.30
		1	74	14.15	14.05	14.02	15.30
		36	0	14.12	13.85	14.07	15.30
		36	18	14.23	14.35	14.23	15.30
		36	39	14.10	14.31	14.05	15.30
		75	0	14.33	14.19	14.05	15.30
	16QAM	1	0	13.90	14.02	14.15	15.30
		1	38	14.17	14.23	14.29	15.30
		1	74	13.99	13.93	14.00	15.30
		36	0	14.13	13.85	14.22	15.30
		36	18	14.23	14.26	14.15	15.30
		36	39	14.34	14.24	13.98	15.30
		75	0	14.15	14.16	13.96	15.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	13.92	13.98	14.02	15.30



		1	50	14.05	14.13	14.19	15.30
		1	99	14.01	14.03	14.14	15.30
		50	0	14.25	13.93	14.12	15.30
		50	25	14.15	14.21	14.24	15.30
		50	50	14.20	14.21	14.05	15.30
		100	0	14.22	14.08	14.08	15.30
	16QAM	1	0	14.05	14.08	14.01	15.30
		1	50	14.14	14.19	14.05	15.30
		1	99	14.00	13.93	14.24	15.30
		50	0	14.37	13.87	14.16	15.30
		50	25	14.07	14.17	14.33	15.30
		50	50	14.34	14.30	14.15	15.30
		100	0	14.24	14.04	14.19	15.30

LTE FDD Band 4 Body(WWAN+2.4G/5G)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				19957/1710.7	20175/1732.5	20393/1754.3	
1.4MHz	QPSK	1	0	18.27	18.12	18.10	19.80
		1	2	18.33	18.28	18.14	19.80
		1	5	18.19	18.24	18.34	19.80
		3	0	18.37	18.20	18.22	19.80
		3	2	18.10	18.40	18.14	19.80
		3	3	18.25	18.32	18.19	19.80
		6	0	18.48	18.29	18.09	19.80
	16QAM	1	0	18.06	18.14	18.15	19.80
		1	2	18.40	18.31	18.18	19.80
		1	5	18.08	18.07	18.07	19.80
		3	0	18.21	18.20	18.31	19.80
		3	2	18.31	18.21	18.26	19.80
		3	3	18.25	18.32	18.25	19.80
		6	0	18.28	18.03	18.12	19.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19965/1711.5	20175/1732.5	20385/1753.5	
3MHz	QPSK	1	0	18.16	18.16	18.12	19.30
		1	7	18.35	18.32	18.36	19.30
		1	14	18.23	17.98	18.29	19.30
		8	0	18.35	18.14	18.36	19.30
		8	4	18.11	18.19	18.43	19.30
		8	7	18.29	18.33	17.98	19.30
		15	0	18.38	18.02	18.12	19.30
	16QAM	1	0	18.17	18.14	18.30	19.30
		1	7	18.40	18.31	18.44	19.30



		1	14	18.22	18.01	18.25	19.30
		8	0	18.38	18.17	18.18	19.30
		8	4	18.23	18.45	18.37	19.30
		8	7	18.47	18.28	18.13	19.30
		15	0	18.27	18.24	18.35	19.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				19975/1712.5	20175/1732.5	20375/1752.5	
5MHz	QPSK	1	0	18.04	18.01	18.03	19.30
		1	13	18.21	18.31	18.37	19.30
		1	24	18.37	18.02	18.30	19.30
		12	0	18.24	18.00	18.22	19.30
		12	6	18.23	18.17	18.41	19.30
		12	13	18.29	18.42	17.99	19.30
		25	0	18.25	18.28	18.23	19.30
	16QAM	1	0	18.05	18.01	18.09	19.30
		1	13	18.28	18.27	18.28	19.30
		1	24	18.18	18.16	18.20	19.30
		12	0	18.41	18.07	18.44	19.30
		12	6	18.26	18.33	18.33	19.30
		12	13	18.28	18.33	18.23	19.30
		25	0	18.42	18.20	18.22	19.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20000/1715	20175/1732.5	20350/1750	
10MHz	QPSK	1	0	18.18	18.06	18.29	19.30
		1	25	18.45	18.15	18.31	19.30
		1	49	18.16	18.01	18.12	19.30
		25	0	18.32	17.99	18.36	19.30
		25	13	18.35	18.42	18.30	19.30
		25	25	18.39	18.31	18.15	19.30
		50	0	18.37	18.20	18.31	19.30
	16QAM	1	0	18.11	18.09	18.18	19.30
		1	25	18.21	18.18	18.16	19.30
		1	49	18.35	18.14	18.18	19.30
		25	0	18.28	18.24	18.25	19.30
		25	13	18.37	18.41	18.40	19.30
		25	25	18.41	18.26	17.96	19.30
		50	0	18.42	18.24	18.14	19.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20025/1717.5	20175/1732.5	20325/1747.5	
15MHz	QPSK	1	0	18.26	17.93	18.25	19.30
		1	38	18.43	18.13	18.36	19.30
		1	74	18.35	18.23	18.30	19.30
		36	0	18.50	18.05	18.25	19.30



		36	18	18.21	18.39	18.19	19.30
		36	39	18.20	18.17	18.05	19.30
		75	0	18.42	18.17	18.22	19.30
	16QAM	1	0	18.23	17.94	18.17	19.30
		1	38	18.22	18.22	18.39	19.30
		1	74	18.18	18.11	18.05	19.30
		36	0	18.42	18.07	18.39	19.30
		36	18	18.16	18.23	18.20	19.30
		36	39	18.47	18.24	18.02	19.30
		75	0	18.46	18.22	18.21	19.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20050/1720	20175/1732.5	20300/1745	
20MHz	QPSK	1	0	18.14	18.05	18.15	19.30
		1	50	18.31	18.23	18.29	19.30
		1	99	18.22	18.13	18.20	19.30
		50	0	18.36	18.09	18.30	19.30
		50	25	18.25	18.31	18.28	19.30
		50	50	18.32	18.31	18.11	19.30
		100	0	18.33	18.17	18.20	19.30
	16QAM	1	0	18.12	18.20	18.18	19.30
		1	50	18.36	18.25	18.41	19.30
		1	99	18.37	18.16	18.08	19.30
		50	0	18.27	18.10	18.16	19.30
		50	25	18.15	18.42	18.22	19.30
		50	50	18.45	18.32	18.23	19.30
		100	0	18.42	18.31	18.29	19.30

LTE FDD Band 5 head(WWAN+2.4G/5G)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20407/824.7	20525/836.5	20643/848.3	
1.4MHz	QPSK	1	0	21.95	22.30	22.19	23.30
		1	2	21.98	22.10	22.25	23.30
		1	5	22.04	22.28	22.00	23.30
		3	0	21.43	21.53	21.60	23.30
		3	2	21.50	21.74	21.63	23.30
		3	3	21.74	21.63	21.36	23.30
		6	0	21.69	21.58	21.50	23.30
	16QAM	1	0	21.44	22.06	21.74	23.30
		1	2	21.62	22.11	21.77	23.30
		1	5	21.58	22.12	21.57	23.30
		3	0	20.46	20.70	20.87	23.30



		3	2	20.82	20.91	20.70	23.30
		3	3	20.80	20.74	20.64	23.30
		6	0	20.53	20.68	20.69	22.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20415/825.5	20525/836.5	20635/847.5	
3MHz	QPSK	1	0	22.14	22.18	22.20	23.30
		1	7	22.00	22.13	22.09	23.30
		1	14	22.05	22.08	21.94	23.30
		8	0	21.39	21.50	21.53	23.30
		8	4	21.55	21.70	21.61	23.30
		8	7	21.63	21.70	21.42	23.30
		15	0	21.67	21.70	21.45	23.30
	16QAM	1	0	21.46	22.16	21.76	23.30
		1	7	21.62	21.97	21.62	23.30
		1	14	21.61	22.21	21.64	23.30
		8	0	20.62	20.83	20.69	22.30
		8	4	20.85	20.87	20.87	22.30
		8	7	20.71	20.72	20.53	22.30
		15	0	20.53	20.68	20.57	22.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20425/826.5	20525/836.5	20625/846.5	
5MHz	QPSK	1	0	22.11	22.27	22.13	23.30
		1	13	22.02	22.12	22.21	23.30
		1	24	22.00	22.19	22.04	23.30
		12	0	21.56	21.54	21.63	23.30
		12	6	21.54	21.66	21.66	23.30
		12	13	21.65	21.60	21.38	23.30
		25	0	21.50	21.62	21.41	23.30
	16QAM	1	0	21.51	22.14	21.77	23.30
		1	13	21.46	21.96	21.73	23.30
		1	24	21.52	22.03	21.64	23.30
		12	0	20.48	20.82	20.81	22.30
		12	6	20.83	20.75	20.78	22.30
		12	13	20.69	20.78	20.61	22.30
		25	0	20.59	20.79	20.62	22.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20450/829	20525/836.5	20600/844	
10MHz	QPSK	1	0	22.00	22.15	22.06	23.30
		1	25	21.96	22.07	22.10	23.30
		1	49	22.04	22.13	21.99	23.30
		25	0	21.44	21.54	21.58	23.30
		25	13	21.54	21.63	21.56	23.30
		25	25	21.62	21.62	21.36	23.30



		50	0	21.54	21.58	21.46	23.30
	16QAM	1	0	21.47	22.07	21.64	23.30
		1	25	21.48	22.00	21.66	23.30
		1	49	21.57	22.07	21.54	23.30
		25	0	20.49	20.71	20.74	22.30
		25	13	20.70	20.76	20.74	22.30
		25	25	20.68	20.70	20.50	22.30
		50	0	20.55	20.64	20.54	22.30

LTE FDD Band 7 head(standalone)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	15.02	14.84	15.34	15.80
		1	13	15.22	15.05	15.26	15.80
		1	24	14.86	15.16	15.01	15.80
		12	0	15.05	14.99	15.41	15.80
		12	6	15.17	15.19	15.38	15.80
		12	13	15.06	15.11	15.11	15.80
		25	0	15.13	14.89	15.13	15.80
	16QAM	1	0	15.14	14.71	15.20	15.80
		1	13	15.18	15.16	15.41	15.80
		1	24	14.82	15.06	15.15	15.80
		12	0	15.01	14.90	15.32	15.80
		12	6	15.19	15.24	15.31	15.80
		12	13	15.03	14.99	15.19	15.80
		25	0	15.09	14.91	15.14	15.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	15.16	14.88	15.31	15.80
		1	25	15.02	15.19	15.44	15.80
		1	49	14.80	15.17	15.10	15.80
		25	0	15.02	14.95	15.35	15.80
		25	13	15.16	15.07	15.29	15.80
		25	25	14.91	15.09	15.09	15.80
		50	0	15.12	14.91	15.20	15.80
	16QAM	1	0	15.03	14.72	15.23	15.80
		1	25	15.14	15.17	15.38	15.80
		1	49	14.81	15.19	15.01	15.80
		25	0	15.14	14.83	15.25	15.80
		25	13	15.05	15.05	15.37	15.80
		25	25	14.96	15.05	15.27	15.80



		50	0	15.09	15.04	15.13	15.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	15.14	14.78	15.26	15.80
		1	38	15.07	15.01	15.35	15.80
		1	74	15.00	15.22	15.04	15.80
		36	0	15.18	14.80	15.24	15.80
		36	18	15.03	15.14	15.43	15.80
		36	39	14.98	15.09	15.27	15.80
		75	0	14.95	14.91	15.23	15.80
	16QAM	1	0	15.13	14.84	15.19	15.80
		1	38	15.05	15.01	15.41	15.80
		1	74	14.93	15.11	15.02	15.80
		36	0	15.11	14.99	15.30	15.80
		36	18	15.03	15.23	15.25	15.80
		36	39	14.95	14.99	15.21	15.80
		75	0	14.97	14.97	15.20	15.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	15.07	14.76	15.22	15.80
		1	50	15.07	15.05	15.29	15.80
		1	99	14.85	15.07	15.03	15.80
		50	0	15.04	14.84	15.26	15.80
		50	25	15.05	15.10	15.29	15.80
		50	50	14.92	15.04	15.12	15.80
		100	0	15.00	14.93	15.15	15.80
	16QAM	1	0	15.06	14.90	15.30	15.80
		1	50	15.16	15.00	15.26	15.80
		1	99	14.80	15.14	15.18	15.80
		50	0	15.13	14.99	15.41	15.80
		50	25	15.11	15.19	15.40	15.80
		50	50	15.03	15.10	15.10	15.80
		100	0	14.96	15.04	15.20	15.80

LTE FDD Band 7 Body(standalone)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	22.34	22.06	22.47	22.80
		1	13	22.18	22.28	22.49	22.80
		1	24	22.13	22.44	22.35	22.80
		12	0	21.65	21.57	21.99	22.80
		12	6	21.66	21.77	22.07	22.80



		12	13	21.74	21.79	21.76	22.80
		25	0	21.65	21.64	22.02	22.80
	16QAM	1	0	22.13	22.27	21.96	22.80
		1	13	22.10	22.47	22.22	22.80
		1	24	22.03	22.05	21.89	22.80
		12	0	20.97	20.64	21.00	21.80
		12	6	21.15	20.72	21.00	21.80
		12	13	20.84	20.80	20.88	21.80
		25	0	21.13	20.85	20.93	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	22.34	22.16	22.45	22.80
		1	25	22.30	22.29	22.59	22.80
		1	49	21.97	22.49	22.20	22.80
		25	0	21.67	21.62	22.10	22.80
		25	13	21.69	21.76	22.01	22.80
		25	25	21.65	21.78	21.93	22.80
		50	0	21.80	21.70	21.88	22.80
	16QAM	1	0	22.16	22.31	21.98	22.80
		1	25	22.12	22.34	22.21	22.80
		1	49	22.18	21.89	21.72	22.80
		25	0	20.89	20.77	21.18	21.80
		25	13	21.23	20.68	20.96	21.80
		25	25	20.95	20.93	21.03	21.80
		50	0	21.00	20.64	21.01	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	22.29	22.02	22.41	22.80
		1	38	22.30	22.43	22.48	22.80
		1	74	22.05	22.48	22.23	22.80
		36	0	21.78	21.44	22.09	22.80
		36	18	21.74	21.75	21.99	22.80
		36	39	21.67	21.70	21.95	22.80
		75	0	21.66	21.69	21.92	22.80
	16QAM	1	0	22.23	22.42	21.88	22.80
		1	38	22.26	22.53	22.17	22.80
		1	74	22.13	22.05	21.72	22.80
		36	0	21.02	20.79	20.88	21.80
		36	18	21.03	20.75	21.12	21.80
		36	39	20.82	20.91	20.97	21.80
		75	0	20.99	20.77	21.19	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	



20MHz	QPSK	1	0	22.28	22.03	22.45	22.80
		1	50	22.19	22.31	22.53	22.80
		1	99	22.02	22.40	22.22	22.80
		50	0	21.70	21.47	22.00	22.80
		50	25	21.70	21.75	21.98	22.80
		50	50	21.62	21.70	21.81	22.80
		100	0	21.66	21.61	21.90	22.80
	16QAM	1	0	22.41	22.16	22.31	22.80
		1	50	22.56	22.19	22.50	22.80
		1	99	22.28	22.02	22.38	22.80
		50	0	21.10	20.62	20.96	21.80
		50	25	21.11	20.65	21.13	21.80
		50	50	20.92	20.81	20.87	21.80
		100	0	21.19	20.72	21.07	21.80

LTE FDD Band 7 head(WWAN+2.4G/5G)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	14.27	13.93	14.38	14.80
		1	13	14.12	14.22	14.39	14.80
		1	24	13.97	14.29	14.00	14.80
		12	0	14.25	14.07	14.46	14.80
		12	6	14.23	14.33	14.34	14.80
		12	13	14.09	14.38	14.25	14.80
		25	0	14.09	14.17	14.40	14.80
	16QAM	1	0	14.24	13.98	14.26	14.80
		1	13	14.19	14.17	14.41	14.80
		1	24	13.88	14.36	14.05	14.80
		12	0	14.25	14.00	14.33	14.80
		12	6	14.29	14.34	14.45	14.80
		12	13	14.05	14.31	14.25	14.80
		25	0	14.06	14.12	14.35	14.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	14.17	13.95	14.23	14.80
		1	25	14.10	14.23	14.34	14.80
		1	49	14.04	14.43	14.04	14.80
		25	0	14.14	14.00	14.46	14.80
		25	13	14.18	14.33	14.54	14.80
		25	25	14.09	14.31	14.25	14.80
		50	0	14.15	14.09	14.27	14.80
	16QAM	1	0	14.16	13.97	14.27	14.80



		1	25	14.11	14.27	14.37	14.80
		1	49	13.93	14.28	14.01	14.80
		25	0	14.16	14.00	14.39	14.80
		25	13	14.12	14.20	14.48	14.80
		25	25	14.17	14.27	14.34	14.80
		50	0	14.25	14.13	14.32	14.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	14.23	14.05	14.36	14.80
		1	38	14.07	14.17	14.40	14.80
		1	74	14.00	14.41	14.12	14.80
		36	0	14.06	13.93	14.47	14.80
		36	18	14.13	14.26	14.42	14.80
		36	39	14.19	14.29	14.25	14.80
		75	0	14.17	14.17	14.28	14.80
	16QAM	1	0	14.23	13.98	14.37	14.80
		1	38	14.12	14.32	14.46	14.80
		1	74	14.07	14.25	14.12	14.80
		36	0	14.16	13.93	14.45	14.80
		36	18	14.30	14.25	14.45	14.80
		36	39	14.12	14.20	14.21	14.80
		75	0	14.19	14.07	14.44	14.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	14.14	13.98	14.27	14.80
		1	50	14.12	14.22	14.34	14.80
		1	99	13.93	14.29	14.05	14.80
		50	0	14.11	13.94	14.38	14.80
		50	25	14.15	14.23	14.39	14.80
		50	50	14.04	14.23	14.25	14.80
		100	0	14.10	14.05	14.31	14.80
	16QAM	1	0	14.11	14.11	14.30	14.80
		1	50	14.14	14.19	14.37	14.80
		1	99	13.88	14.30	14.04	14.80
		50	0	14.24	14.09	14.43	14.80
		50	25	14.18	14.27	14.39	14.80
		50	50	14.19	14.19	14.22	14.80
		100	0	14.11	14.03	14.27	14.80

LTE FDD Band 7 Body(WWAN+2.4G/5G)				Conducted Power(dBm)	Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)	



				20775/2502.5	21100/2535	21425/2567.5	
5MHz	QPSK	1	0	20.37	19.96	20.53	21.80
		1	13	20.29	20.31	20.59	21.80
		1	24	20.07	20.34	20.18	21.80
		12	0	20.26	20.06	20.47	21.80
		12	6	20.10	20.24	20.55	21.80
		12	13	20.11	20.34	20.36	21.80
		25	0	20.07	20.07	20.45	21.80
	16QAM	1	0	20.36	20.11	20.41	21.80
		1	13	20.11	20.28	20.58	21.80
		1	24	20.15	20.28	20.13	21.80
		12	0	20.26	20.08	20.40	21.80
		12	6	20.24	20.26	20.60	21.80
		12	13	20.13	20.24	20.25	21.80
		25	0	20.15	20.07	20.38	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20800/2505	21100/2535	21400/2565	
10MHz	QPSK	1	0	20.35	20.07	20.50	21.80
		1	25	20.28	20.31	20.60	21.80
		1	49	19.97	20.39	20.20	21.80
		25	0	20.27	19.95	20.53	21.80
		25	13	20.13	20.26	20.42	21.80
		25	25	20.05	20.27	20.19	21.80
		50	0	20.20	20.06	20.37	21.80
	16QAM	1	0	20.28	20.04	20.45	21.80
		1	25	20.12	20.24	20.61	21.80
		1	49	20.15	20.30	20.21	21.80
		25	0	20.17	20.06	20.42	21.80
		25	13	20.12	20.18	20.53	21.80
		25	25	20.13	20.28	20.30	21.80
		50	0	20.19	20.15	20.39	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20825/2507.5	21100/2535	21375/2562.5	
15MHz	QPSK	1	0	20.19	20.10	20.53	21.80
		1	38	20.26	20.39	20.57	21.80
		1	74	20.10	20.23	20.23	21.80
		36	0	20.11	20.08	20.49	21.80
		36	18	20.16	20.36	20.54	21.80
		36	39	20.02	20.29	20.26	21.80
		75	0	20.09	20.07	20.27	21.80
	16QAM	1	0	20.25	19.94	20.48	21.80
		1	38	20.13	20.40	20.51	21.80
		1	74	19.99	20.31	20.21	21.80



		36	0	20.29	20.10	20.55	21.80
		36	18	20.13	20.30	20.59	21.80
		36	39	20.03	20.26	20.34	21.80
		75	0	20.12	20.05	20.39	21.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				20850/2510	21100/2535	21350/2560	
20MHz	QPSK	1	0	20.23	19.96	20.39	21.80
		1	50	20.16	20.25	20.48	21.80
		1	99	20.00	20.25	20.12	21.80
		50	0	20.16	20.00	20.44	21.80
		50	25	20.15	20.23	20.45	21.80
		50	50	20.05	20.21	20.23	21.80
		100	0	20.11	20.01	20.30	21.80
	16QAM	1	0	20.37	20.01	20.52	21.80
		1	50	20.18	20.32	20.47	21.80
		1	99	19.99	20.29	20.20	21.80
		50	0	20.22	19.95	20.48	21.80
		50	25	20.26	20.28	20.56	21.80
		50	50	20.16	20.26	20.36	21.80
		100	0	20.10	20.16	20.39	21.80

LTE TDD Band 38 head(standalone)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	20.00	19.87	19.99	20.80
		1	13	20.12	19.99	20.06	20.80
		1	24	19.90	20.06	19.79	20.80
		12	0	19.79	19.97	19.98	20.80
		12	6	19.89	20.00	20.00	20.80
		12	13	19.90	19.94	19.92	20.80
		25	0	19.46	19.40	19.46	20.80
	16QAM	1	0	19.93	19.92	19.99	20.80
		1	13	20.12	20.11	20.05	20.80
		1	24	19.99	19.98	19.80	20.80
		12	0	19.81	19.90	19.89	20.80
		12	6	19.87	20.05	19.94	20.80
		12	13	19.94	20.07	19.99	20.80
		25	0	19.44	19.44	19.42	20.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	19.98	19.97	20.02	20.80



		1	25	19.97	20.08	20.07	20.80
		1	49	20.01	20.00	19.74	20.80
		25	0	19.83	19.88	19.96	20.80
		25	13	19.97	20.09	20.02	20.80
		25	25	19.87	20.06	20.02	20.80
		50	0	19.26	19.55	19.41	20.80
	16QAM	1	0	19.95	19.80	19.97	20.80
		1	25	20.02	20.10	20.04	20.80
		1	49	19.92	19.88	19.81	20.80
		25	0	19.77	20.04	19.88	20.80
		25	13	19.85	20.12	20.01	20.80
		25	25	19.80	20.04	19.85	20.80
		50	0	19.33	19.38	19.42	20.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	20.06	19.97	19.84	20.80
		1	38	19.98	20.12	20.04	20.80
		1	74	19.99	20.08	19.80	20.80
		36	0	19.79	19.88	19.85	20.80
		36	18	19.87	20.14	20.09	20.80
		36	39	19.89	20.02	19.89	20.80
		75	0	19.30	19.55	19.36	20.80
	16QAM	1	0	19.97	19.96	19.86	20.80
		1	38	19.95	20.12	19.97	20.80
		1	74	19.87	19.97	19.85	20.80
		36	0	19.93	19.87	20.00	20.80
		36	18	19.92	19.99	19.97	20.80
		36	39	19.83	19.95	19.86	20.80
		75	0	19.39	19.51	19.46	20.80
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	19.91	19.83	19.87	20.80
		1	50	20.00	20.03	19.97	20.80
		1	99	19.90	19.93	19.71	20.80
		50	0	19.79	19.90	19.90	20.80
		50	25	19.83	19.99	19.96	20.80
		50	50	19.83	19.98	19.90	20.80
		100	0	19.31	19.42	19.36	20.80
	16QAM	1	0	19.91	19.81	20.02	20.80
		1	50	20.06	20.14	20.03	20.80
		1	99	19.88	20.02	19.71	20.80
		50	0	19.86	20.02	19.89	20.80
		50	25	19.85	20.02	19.98	20.80



		50	50	19.93	19.95	19.86	20.80
		100	0	19.31	19.44	19.46	20.80

LTE TDD Band 38 head(WWAN+2.4G/5G)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			
				37775/2572.5	38000/2595	38225/2617.5	
5MHz	QPSK	1	0	19.31	19.30	19.64	20.30
		1	13	19.33	19.52	19.66	20.30
		1	24	19.29	19.41	19.40	20.30
		12	0	19.25	19.34	19.38	20.30
		12	6	19.41	19.42	19.38	20.30
		12	13	19.34	19.57	19.45	20.30
		25	0	18.83	18.91	18.83	20.30
	16QAM	1	0	19.37	19.30	19.49	20.30
		1	13	19.39	19.45	19.66	20.30
		1	24	19.23	19.44	19.41	20.30
		12	0	19.24	19.53	19.54	20.30
		12	6	19.36	19.48	19.57	20.30
		12	13	19.37	19.47	19.36	20.30
		25	0	18.93	18.96	19.00	20.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37800/2575	38000/2595	38200/2615	
10MHz	QPSK	1	0	19.20	19.31	19.48	20.30
		1	25	19.31	19.55	19.52	20.30
		1	49	19.43	19.44	19.45	20.30
		25	0	19.40	19.39	19.50	20.30
		25	13	19.37	19.60	19.38	20.30
		25	25	19.27	19.50	19.41	20.30
		50	0	18.94	18.90	18.97	20.30
	16QAM	1	0	19.24	19.28	19.48	20.30
		1	25	19.41	19.58	19.66	20.30
		1	49	19.24	19.44	19.42	20.30
		25	0	19.35	19.44	19.47	20.30
		25	13	19.35	19.58	19.50	20.30
		25	25	19.38	19.51	19.36	20.30
		50	0	18.80	19.05	18.97	20.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37825/2577.5	38000/2595	38175/2612.5	
15MHz	QPSK	1	0	19.33	19.42	19.46	20.30
		1	38	19.33	19.44	19.71	20.30
		1	74	19.43	19.35	19.45	20.30



		36	0	19.25	19.34	19.48	20.30
		36	18	19.40	19.48	19.42	20.30
		36	39	19.43	19.41	19.39	20.30
		75	0	18.89	19.02	18.91	20.30
	16QAM	1	0	19.25	19.42	19.51	20.30
		1	38	19.35	19.56	19.58	20.30
		1	74	19.36	19.33	19.28	20.30
		36	0	19.23	19.35	19.40	20.30
		36	18	19.32	19.59	19.50	20.30
		36	39	19.33	19.58	19.53	20.30
		75	0	18.77	18.99	18.93	20.30
Bandwidth	Modulation	RB size	RB offset	Channel/Frequency (MHz)			Tune-up Limit
				37850/2580	38000/2595	38150/2610	
20MHz	QPSK	1	0	19.22	19.27	19.49	20.30
		1	50	19.34	19.48	19.57	20.30
		1	99	19.28	19.35	19.31	20.30
		50	0	19.27	19.38	19.41	20.30
		50	25	19.30	19.46	19.43	20.30
		50	50	19.29	19.46	19.41	20.30
		100	0	18.80	18.94	18.85	20.30
	16QAM	1	0	19.34	19.40	19.59	20.30
		1	50	19.39	19.47	19.68	20.30
		1	99	19.28	19.37	19.32	20.30
		50	0	19.22	19.35	19.43	20.30
		50	25	19.40	19.46	19.55	20.30
		50	50	19.26	19.58	19.45	20.30
		100	0	18.95	18.98	18.98	20.30

LTE TDD Band 41 head(standalone)				Conducted Power(dBm)					Tune-up Limit
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)					
				39675/ 2498.5	40148/ 2545.8	40620/ 2593	41093/ 2640.3	41565/ 2687.5	
5MHz	QPSK	1	0	19.42	19.49	19.39	19.29	19.58	20.80
		1	13	19.50	19.45	19.62	19.56	19.65	20.80
		1	24	19.19	19.31	19.55	19.20	19.29	20.80
		12	0	19.32	19.40	19.56	19.29	19.42	20.80
		12	6	19.45	19.58	19.54	19.34	19.43	20.80
		12	13	19.54	19.39	19.58	19.47	19.42	20.80
		25	0	19.39	19.50	19.59	19.42	19.29	20.80
	16QAM	1	0	19.45	19.28	19.37	19.34	19.39	20.80
		1	13	19.55	19.58	19.62	19.42	19.67	20.80
		1	24	19.27	19.06	19.50	19.08	19.43	20.80



		12	0	19.37	19.35	19.44	19.45	19.37	20.80
		12	6	19.45	19.40	19.67	19.51	19.49	20.80
		12	13	19.51	19.54	19.61	19.58	19.28	20.80
		25	0	19.46	19.43	19.52	19.48	19.41	20.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)					Tune-up Limit
				39700/ 2501	40160/ 2547	40620/ 2593	41080/ 2639	41540/ 2685	
10MHz	QPSK	1	0	19.46	19.51	19.38	19.33	19.56	20.80
		1	25	19.40	19.45	19.51	19.37	19.66	20.80
		1	49	19.32	19.10	19.56	19.22	19.41	20.80
		25	0	19.27	19.37	19.58	19.27	19.37	20.80
		25	13	19.55	19.52	19.62	19.51	19.48	20.80
		25	25	19.42	19.68	19.58	19.54	19.35	20.80
		50	0	19.35	19.34	19.51	19.48	19.29	20.80
	16QAM	1	0	19.47	19.40	19.28	19.48	19.53	20.80
		1	25	19.45	19.62	19.65	19.45	19.53	20.80
		1	49	19.33	19.07	19.53	19.26	19.37	20.80
		25	0	19.35	19.22	19.46	19.36	19.56	20.80
		25	13	19.45	19.32	19.64	19.50	19.45	20.80
		25	25	19.41	19.46	19.66	19.49	19.40	20.80
		50	0	19.45	19.40	19.54	19.38	19.41	20.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)					Tune-up Limit
				39725/ 2503.5	40173/ 2548.3	40620/ 2593	41068/ 2637.8	41515/ 2682.5	
15MHz	QPSK	1	0	19.40	19.45	19.36	19.42	19.45	20.80
		1	38	19.55	19.41	19.50	19.38	19.56	20.80
		1	74	19.29	19.10	19.52	19.14	19.42	20.80
		36	0	19.34	19.45	19.43	19.20	19.38	20.80
		36	18	19.36	19.53	19.66	19.40	19.42	20.80
		36	39	19.48	19.46	19.59	19.54	19.35	20.80
		75	0	19.37	19.42	19.44	19.52	19.39	20.80
	16QAM	1	0	19.33	19.52	19.28	19.42	19.38	20.80
		1	38	19.45	19.49	19.68	19.60	19.68	20.80
		1	74	19.20	19.33	19.59	19.10	19.38	20.80
		36	0	19.39	19.24	19.57	19.30	19.44	20.80
		36	18	19.54	19.52	19.61	19.42	19.42	20.80
		36	39	19.44	19.52	19.58	19.65	19.33	20.80
		75	0	19.47	19.48	19.54	19.35	19.43	20.80
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)					Tune-up Limit
				39750/ 2506	40185/ 2549.5	40620/ 2593	41055/ 2636.5	41490/ 2680	
20MHz	QPSK	1	0	19.34	19.38	19.33	19.57	19.43	20.80
		1	50	19.42	19.58	19.53	19.49	19.54	20.80



		1	99	19.23	19.26	19.44	19.05	19.32	20.80
		50	0	19.29	19.47	19.43	19.23	19.41	20.80
		50	25	19.40	19.38	19.53	19.59	19.39	20.80
		50	50	19.40	19.43	19.54	19.46	19.29	20.80
		100	0	19.37	19.43	19.47	19.31	19.34	20.80
	16QAM	1	0	19.47	19.47	19.45	19.50	19.38	20.80
		1	50	19.44	19.44	19.68	19.62	19.54	20.80
		1	99	19.27	19.25	19.57	19.25	19.31	20.80
		50	0	19.44	19.27	19.43	19.26	19.48	20.80
		50	25	19.46	19.47	19.56	19.60	19.53	20.80
		50	50	19.50	19.61	19.61	19.45	19.25	20.80
		100	0	19.43	19.54	19.47	19.37	19.35	20.80

LTE TDD Band 41 head(WWAN+2.4G/5G)				Conducted Power(dBm)					Tune-up Limit
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)					
				39675/ 2498.5	40148/ 2545.8	40620/ 2593	41093/ 2640.3	41565/ 2687.5	
5MHz	QPSK	1	0	19.03	19.11	18.99	19.00	18.99	20.30
		1	13	19.02	18.96	19.13	19.16	19.28	20.30
		1	24	19.04	18.96	19.04	18.99	18.85	20.30
		12	0	18.86	18.71	19.17	19.00	19.03	20.30
		12	6	19.04	19.07	19.05	19.10	19.06	20.30
		12	13	19.08	19.22	19.05	19.06	18.97	20.30
		25	0	19.12	19.02	19.12	19.05	18.94	20.30
	16QAM	1	0	19.02	19.07	19.00	18.92	19.13	20.30
		1	13	19.08	19.12	19.22	18.93	19.19	20.30
		1	24	19.04	19.00	19.04	19.17	18.72	20.30
		12	0	18.86	18.97	19.14	18.78	19.18	20.30
		12	6	19.11	19.19	19.06	19.18	19.11	20.30
		12	13	18.93	19.02	19.00	19.19	18.97	20.30
		25	0	18.97	18.97	19.14	19.20	18.94	20.30
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)					Tune-up Limit
				39700/ 2501	40160/ 2547	40620/ 2593	41080/ 2639	41540/ 2685	
10MHz	QPSK	1	0	19.06	19.14	19.03	18.92	19.06	20.30
		1	25	19.05	18.90	19.26	19.14	19.26	20.30
		1	49	18.89	18.92	18.92	18.98	18.75	20.30
		25	0	18.80	18.72	19.18	18.91	19.08	20.30
		25	13	19.08	18.94	19.05	18.91	19.10	20.30
		25	25	18.96	19.03	19.08	19.00	18.97	20.30
		50	0	18.97	19.08	19.16	19.08	18.87	20.30



	16QAM	1	0	18.99	18.92	19.11	19.07	19.02	20.30
		1	25	19.05	19.04	19.16	18.92	19.11	20.30
		1	49	19.01	18.98	18.92	19.08	18.88	20.30
		25	0	18.88	18.76	19.18	18.80	18.99	20.30
		25	13	19.14	19.11	19.07	19.13	19.09	20.30
		25	25	18.90	19.07	19.14	19.00	18.82	20.30
		50	0	19.13	19.08	19.13	19.23	18.85	20.30
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)					Tune-up Limit
				39725/ 2503.5	40173/ 2548.3	40620/ 2593	41068/ 2637.8	41515/ 2682.5	
15MHz	QPSK	1	0	19.04	19.09	18.94	19.11	19.06	20.30
		1	38	18.90	18.91	19.14	19.17	19.30	20.30
		1	74	18.93	19.01	18.95	19.06	18.91	20.30
		36	0	18.74	18.88	19.10	18.94	19.14	20.30
		36	18	19.02	19.04	19.02	18.96	18.99	20.30
		36	39	19.03	19.16	19.12	19.21	18.88	20.30
		75	0	19.11	19.23	19.06	19.00	18.86	20.30
	16QAM	1	0	19.02	19.16	18.98	19.00	19.03	20.30
		1	38	18.93	18.87	19.16	19.04	19.20	20.30
		1	74	19.00	18.94	18.92	19.11	18.81	20.30
		36	0	18.76	18.87	19.08	18.90	19.00	20.30
		36	18	19.05	19.05	19.01	18.95	19.06	20.30
		36	39	19.01	19.11	19.14	19.11	18.87	20.30
		75	0	19.13	19.20	19.10	19.20	18.84	20.30
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)					Tune-up Limit
				39750/ 2506	40185/ 2549.5	40620/ 2593	41055/ 2636.5	41490/ 2680	
20MHz	QPSK	1	0	19.03	19.02	18.97	18.93	19.03	20.30
		1	50	18.93	18.97	19.12	18.89	19.16	20.30
		1	99	18.89	18.89	18.94	19.07	18.76	20.30
		50	0	18.79	18.99	19.11	18.78	19.04	20.30
		50	25	19.01	19.07	19.00	18.97	18.96	20.30
		50	50	18.93	18.99	19.04	19.20	18.87	20.30
		100	0	19.02	19.20	19.02	19.10	18.81	20.30
	16QAM	1	0	19.06	19.04	19.01	19.01	19.07	20.30
		1	50	18.97	18.87	19.25	18.95	19.21	20.30
		1	99	18.91	18.91	18.97	19.19	18.80	20.30
		50	0	18.82	18.83	19.17	18.95	19.05	20.30
		50	25	19.12	18.98	19.13	19.03	18.91	20.30
		50	50	18.98	18.99	19.11	19.01	18.91	20.30
		100	0	19.11	19.17	19.09	19.19	18.87	20.30

LTE TDD Band 66

Conducted Power(dBm)

Tune-up



head(standalone)							Limit
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				131979/1710.7	132322/1745	132665/1779.3	
1.4MHz	QPSK	1	0	16.17	16.30	16.44	17.60
		1	2	16.45	16.55	16.39	17.60
		1	5	16.34	16.41	16.42	17.60
		3	0	16.52	16.46	16.27	17.60
		3	2	16.33	16.51	16.53	17.60
		3	3	16.59	16.43	16.45	17.60
		6	0	16.71	16.41	16.26	17.60
	16QAM	1	0	16.39	16.40	16.27	17.60
		1	2	16.45	16.48	16.65	17.60
		1	5	16.27	16.54	16.45	17.60
		3	0	16.69	16.58	16.30	17.60
		3	2	16.33	16.52	16.41	17.60
		3	3	16.63	16.20	16.37	17.60
		6	0	16.59	16.40	16.35	17.60
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				1319871711.5	132322/1745	132657/1778.5	
3MHz	QPSK	1	0	16.20	16.42	16.51	17.60
		1	7	16.54	16.61	16.50	17.60
		1	14	16.40	16.47	16.50	17.60
		8	0	16.70	16.55	16.13	17.60
		8	4	16.57	16.43	16.39	17.60
		8	7	16.37	16.44	16.21	17.60
		15	0	16.63	16.44	16.31	17.60
	16QAM	1	0	16.41	16.36	16.44	17.60
		1	7	16.54	16.49	16.54	17.60
		1	14	16.45	16.53	16.44	17.60
		8	0	16.53	16.31	16.26	17.60
		8	4	16.44	16.43	16.32	17.60
		8	7	16.48	16.18	16.32	17.60
		15	0	16.63	16.35	16.31	17.60
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				131997/1712.5	132322/1745	132647/1777.5	
5MHz	QPSK	1	0	16.31	16.32	16.45	17.60
		1	13	16.39	16.60	16.63	17.60
		1	24	16.37	16.49	16.63	17.60
		12	0	16.61	16.53	16.14	17.60
		12	6	16.52	16.59	16.32	17.60
		12	13	16.55	16.21	16.16	17.60
		25	0	16.47	16.25	16.18	17.60
	16QAM	1	0	16.41	16.26	16.42	17.60



		1	13	16.31	16.51	16.63	17.60
		1	24	16.26	16.47	16.36	17.60
		12	0	16.65	16.51	16.36	17.60
		12	6	16.37	16.57	16.57	17.60
		12	13	16.44	16.43	16.15	17.60
		25	0	16.71	16.49	16.29	17.60
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				132022/1715	132322/1745	132622/1775	
10MHz	QPSK	1	0	16.25	16.32	16.50	17.60
		1	25	16.28	16.65	16.64	17.60
		1	49	16.44	16.34	16.65	17.60
		25	0	16.66	16.53	16.33	17.60
		25	13	16.40	16.49	16.57	17.60
		25	25	16.43	16.30	16.29	17.60
		50	0	16.41	16.23	16.25	17.60
	16QAM	1	0	16.17	16.19	16.40	17.60
		1	25	16.35	16.54	16.42	17.60
		1	49	16.49	16.32	16.62	17.60
		25	0	16.61	16.33	16.22	17.60
		25	13	16.34	16.52	16.45	17.60
		25	25	16.60	16.39	16.15	17.60
		50	0	16.52	16.36	16.16	17.60
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				132047/1717.5	132322/1745	132597/1772.5	
15MHz	QPSK	1	0	16.24	16.36	16.26	17.60
		1	38	16.47	16.41	16.41	17.60
		1	74	16.20	16.41	16.53	17.60
		36	0	16.40	16.37	16.32	17.60
		36	18	16.59	16.52	16.50	17.60
		36	39	16.54	16.43	16.38	17.60
		75	0	16.54	16.28	16.24	17.60
	16QAM	1	0	16.17	16.39	16.41	17.60
		1	38	16.36	16.43	16.40	17.60
		1	74	16.41	16.59	16.41	17.60
		36	0	16.41	16.44	16.34	17.60
		36	18	16.56	16.47	16.30	17.60
		36	39	16.44	16.31	16.35	17.60
		75	0	16.59	16.28	16.36	17.60
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				132072/1720	132322/1745	132572/1770	
20MHz	QPSK	1	0	16.26	16.34	16.38	17.60
		1	50	16.40	16.52	16.51	17.60
		1	99	16.35	16.44	16.50	17.60



		50	0	16.55	16.45	16.25	17.60
		50	25	16.45	16.49	16.44	17.60
		50	50	16.52	16.30	16.30	17.60
		100	0	16.56	16.37	16.29	17.60
	16QAM	1	0	16.12	16.49	16.39	17.60
		1	50	16.36	16.43	16.40	17.60
		1	99	16.27	16.44	16.41	17.60
		50	0	16.55	16.36	16.29	17.60
		50	25	16.38	16.61	16.29	17.60
		50	50	16.44	16.18	16.16	17.60
		100	0	16.49	16.46	16.33	17.60

LTE TDD Band 66 Body(standalone) Body(WWAN+2.4G/5G)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				131979/1710.7	132322/1745	132665/1779.3	
1.4MHz	QPSK	1	0	19.59	19.51	19.53	20.10
		1	2	19.57	19.80	19.45	20.10
		1	5	19.49	19.73	19.43	20.10
		3	0	19.56	19.65	19.50	20.10
		3	2	19.50	19.65	19.73	20.10
		3	3	19.68	19.64	19.46	20.10
		6	0	19.56	19.74	19.34	20.10
	16QAM	1	0	19.40	19.54	19.38	20.10
		1	2	19.48	19.81	19.69	20.10
		1	5	19.63	19.49	19.67	20.10
		3	0	19.83	19.61	19.50	20.10
		3	2	19.53	19.72	19.53	20.10
		3	3	19.70	19.52	19.53	20.10
		6	0	19.75	19.47	19.36	20.10
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				1319871711.5	132322/1745	132657/1778.5	
3MHz	QPSK	1	0	19.41	19.58	19.45	20.10
		1	7	19.73	19.56	19.68	20.10
		1	14	19.39	19.57	19.40	20.10
		8	0	19.60	19.73	19.33	20.10
		8	4	19.62	19.58	19.71	20.10
		8	7	19.78	19.54	19.45	20.10
		15	0	19.59	19.49	19.43	20.10
	16QAM	1	0	19.47	19.57	19.42	20.10
		1	7	19.66	19.57	19.54	20.10



		1	14	19.46	19.47	19.63	20.10
		8	0	19.76	19.63	19.41	20.10
		8	4	19.70	19.81	19.70	20.10
		8	7	19.70	19.65	19.33	20.10
		15	0	19.71	19.57	19.34	20.10
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				131997/1712.5	132322/1745	132647/1777.5	
5MHz	QPSK	1	0	19.32	19.64	19.31	20.10
		1	13	19.58	19.58	19.59	20.10
		1	24	19.47	19.62	19.55	20.10
		12	0	19.55	19.55	19.58	20.10
		12	6	19.64	19.65	19.67	20.10
		12	13	19.65	19.41	19.48	20.10
		25	0	19.76	19.48	19.53	20.10
	16QAM	1	0	19.35	19.41	19.53	20.10
		1	13	19.46	19.74	19.74	20.10
		1	24	19.45	19.66	19.68	20.10
		12	0	19.79	19.53	19.38	20.10
		12	6	19.77	19.55	19.60	20.10
		12	13	19.69	19.65	19.61	20.10
		25	0	19.71	19.54	19.36	20.10
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				132022/1715	132322/1745	132622/1775	
10MHz	QPSK	1	0	19.54	19.51	19.39	20.10
		1	25	19.63	19.72	19.65	20.10
		1	49	19.35	19.71	19.69	20.10
		25	0	19.81	19.60	19.41	20.10
		25	13	19.68	19.68	19.59	20.10
		25	25	19.69	19.61	19.41	20.10
		50	0	19.80	19.73	19.52	20.10
	16QAM	1	0	19.39	19.59	19.34	20.10
		1	25	19.62	19.56	19.50	20.10
		1	49	19.52	19.76	19.61	20.10
		25	0	19.84	19.61	19.37	20.10
		25	13	19.60	19.61	19.68	20.10
		25	25	19.62	19.62	19.46	20.10
		50	0	19.85	19.59	19.45	20.10
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				132047/1717.5	132322/1745	132597/1772.5	
15MHz	QPSK	1	0	19.32	19.62	19.44	20.10
		1	38	19.53	19.81	19.62	20.10
		1	74	19.56	19.64	19.50	20.10
		36	0	19.76	19.55	19.47	20.10



		36	18	19.75	19.58	19.54	20.10
		36	39	19.77	19.42	19.62	20.10
		75	0	19.57	19.48	19.55	20.10
	16QAM	1	0	19.58	19.51	19.29	20.10
		1	38	19.46	19.71	19.55	20.10
		1	74	19.37	19.63	19.66	20.10
		36	0	19.69	19.64	19.37	20.10
		36	18	19.61	19.73	19.72	20.10
		36	39	19.53	19.64	19.59	20.10
		75	0	19.74	19.60	19.49	20.10
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				132072/1720	132322/1745	132572/1770	
20MHz	QPSK	1	0	19.47	19.49	19.44	20.10
		1	50	19.58	19.67	19.59	20.10
		1	99	19.50	19.62	19.54	20.10
		50	0	19.70	19.68	19.43	20.10
		50	25	19.64	19.68	19.62	20.10
		50	50	19.68	19.50	19.47	20.10
		100	0	19.70	19.61	19.45	20.10
	16QAM	1	0	19.38	19.36	19.50	20.10
		1	50	19.65	19.53	19.54	20.10
		1	99	19.44	19.74	19.54	20.10
		50	0	19.78	19.80	19.35	20.10
		50	25	19.52	19.56	19.56	20.10
		50	50	19.58	19.62	19.38	20.10
		100	0	19.66	19.65	19.35	20.10

LTE TDD Band 66 head(WWAN+2.4G/5G)				Conducted Power(dBm)			Tune-up Limit
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			
				131979/1710.7	132322/1745	132665/1779.3	
1.4MHz	QPSK	1	0	14.09	14.33	14.55	14.60
		1	2	14.33	14.21	14.47	14.60
		1	5	14.32	14.37	14.33	14.60
		3	0	14.26	14.39	14.26	14.60
		3	2	14.37	14.33	14.47	14.60
		3	3	14.39	14.20	14.34	14.60
		6	0	14.44	14.25	14.40	14.60
	16QAM	1	0	14.22	14.23	14.50	14.60
		1	2	14.29	14.52	14.52	14.60
		1	5	14.44	14.51	14.39	14.60
		3	0	14.48	14.57	14.38	14.60



		3	2	14.42	14.50	14.55	14.60
		3	3	14.44	14.33	14.39	14.60
		6	0	14.54	14.36	14.33	14.60
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				1319871711.5	132322/1745	132657/1778.5	
3MHz	QPSK	1	0	14.20	14.38	14.46	14.60
		1	7	14.37	14.51	14.50	14.60
		1	14	14.24	14.56	14.55	14.60
		8	0	14.55	14.46	14.30	14.60
		8	4	14.45	14.36	14.41	14.60
		8	7	14.36	14.35	14.32	14.60
		15	0	14.53	14.49	14.24	14.60
	16QAM	1	0	14.36	14.48	14.36	14.60
		1	7	14.29	14.55	14.42	14.60
		1	14	14.47	14.38	14.52	14.60
		8	0	14.46	14.55	14.46	14.60
		8	4	14.46	14.51	14.46	14.60
		8	7	14.56	14.38	14.36	14.60
		15	0	14.49	14.52	14.18	14.60
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				131997/1712.5	132322/1745	132647/1777.5	
5MHz	QPSK	1	0	14.32	14.35	14.44	14.60
		1	13	14.24	14.44	14.49	14.60
		1	24	14.48	14.50	14.44	14.60
		12	0	14.45	14.58	14.40	14.60
		12	6	14.44	14.59	14.45	14.60
		12	13	14.37	14.27	14.50	14.60
		25	0	14.47	14.26	14.48	14.60
	16QAM	1	0	14.26	14.31	14.44	14.60
		1	13	14.46	14.53	14.50	14.60
		1	24	14.45	14.58	14.38	14.60
		12	0	14.59	14.45	14.48	14.60
		12	6	14.59	14.38	14.38	14.60
		12	13	14.45	14.29	14.37	14.60
		25	0	14.37	14.35	14.27	14.60
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				132022/1715	132322/1745	132622/1775	
10MHz	QPSK	1	0	14.38	14.38	14.29	14.60
		1	25	14.25	14.33	14.42	14.60
		1	49	14.32	14.41	14.52	14.60
		25	0	14.55	14.42	14.44	14.60
		25	13	14.52	14.40	14.58	14.60
		25	25	14.43	14.40	14.30	14.60



	16QAM	50	0	14.49	14.28	14.34	14.60
		1	0	14.26	14.51	14.36	14.60
		1	25	14.45	14.50	14.52	14.60
		1	49	14.33	14.55	14.38	14.60
		25	0	14.36	14.42	14.49	14.60
		25	13	14.57	14.54	14.36	14.60
		25	25	14.55	14.24	14.37	14.60
		50	0	14.48	14.31	14.22	14.60
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				132047/1717.5	132322/1745	132597/1772.5	
15MHz	QPSK	1	0	14.28	14.34	14.55	14.60
		1	38	14.48	14.50	14.54	14.60
		1	74	14.36	14.34	14.53	14.60
		36	0	14.54	14.44	14.37	14.60
		36	18	14.39	14.45	14.48	14.60
		36	39	14.53	14.39	14.43	14.60
		75	0	14.52	14.23	14.26	14.60
	16QAM	1	0	14.10	14.49	14.53	14.60
		1	38	14.32	14.49	14.50	14.60
		1	74	14.45	14.40	14.25	14.60
		36	0	14.55	14.50	14.33	14.60
		36	18	14.56	14.41	14.48	14.60
		36	39	14.52	14.22	14.36	14.60
		75	0	14.44	14.48	14.18	14.60
Bandwidth	Modulation	RB allocation	offset	Channel/Frequency(MHz)			Tune-up Limit
				132072/1720	132322/1745	132572/1770	
20MHz	QPSK	1	0	14.24	14.37	14.41	14.60
		1	50	14.38	14.48	14.56	14.60
		1	99	14.33	14.47	14.53	14.60
		50	0	14.58	14.47	14.34	14.60
		50	25	14.50	14.51	14.54	14.60
		50	50	14.56	14.33	14.36	14.60
		100	0	14.59	14.38	14.33	14.60
	16QAM	1	0	14.12	14.38	14.49	14.60
		1	50	14.24	14.50	14.54	14.60
		1	99	14.43	14.51	14.52	14.60
		50	0	14.46	14.57	14.23	14.60
		50	25	14.45	14.39	14.39	14.60
		50	50	14.57	14.42	14.51	14.60
		100	0	14.46	14.27	14.24	14.60

**Intra-Band Uplink CA Normal Power**

Note:

1. This device supports intra-band uplink CA of 7C/38C/41C
2. For intra-band uplink carrier aggregation power verification and measurement is selected highest PCC and SCC bandwidth combination to do and was according to 3GPP 36.52101 section 6.2.2A.1 and section 6.2.2A.2 test procedure.
3. For intra-band uplink CA output power was measured high / middle / low channel combination, and for SAR verification is selected highest output power combination with each exposure condition in each frequency band using the highest SAR configuration test in standalone LTE mode.

LTE Uplink 2CA_ Band 7-Level5&6									
Combination 20MHz+20MHz(100RB+100RB)									
PCC	SCC	Bandwidth	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)
				RB Size	RB Pos.	RB Size	RB Pos.		
20850	21048	20	QPSK	1	High	1	Low	2	21.34
21100	21298	20	QPSK	1	High	1	Low	2	21.33
21350	21152	20	QPSK	1	Low	1	High	2	21.21

LTE Uplink 2CA_ Band 38									
Combination 20MHz+20MHz(100RB+100RB)									
PCC	SCC	Bandwidth	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)
				RB Size	RB Pos.	RB Size	RB Pos.		
37850	38048	20	QPSK	1	High	1	Low	2	23.51
38000	38198	20	QPSK	1	High	1	Low	2	23.47
38150	37952	20	QPSK	1	Low	1	High	2	23.53

LTE Uplink 2CA_ Band 38-Level1									
Combination 20MHz+20MHz(100RB+100RB)									
PCC	SCC	Bandwidth	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)
				RB Size	RB Pos.	RB Size	RB Pos.		
37850	38048	20	QPSK	1	High	1	Low	2	20.41
38000	38198	20	QPSK	1	High	1	Low	2	20.35
38150	37952	20	QPSK	1	Low	1	High	2	20.43

LTE Uplink 2CA_ Band 38-Level2&3									
Combination 20MHz+20MHz(100RB+100RB)									
PCC	SCC	Bandwidth	Modulation	PCC		SCC		Total	Measured



				RB Size	RB Pos.	RB Size	RB Pos.	RB Size	Power(dBm)
37850	38048	20	QPSK	1	High	1	Low	2	19.81
38000	38198	20	QPSK	1	High	1	Low	2	19.75
38150	37952	20	QPSK	1	Low	1	High	2	19.83

LTE Uplink 2CA_ Band41									
Combination 20MHz+20MHz(100RB+100RB)									
PCC	SCC	Bandwidth	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)
				RB Size	RB Pos.	RB Size	RB Pos.		
39750	39948	20	QPSK	1	High	1	Low	2	23.19
40620	40818	20	QPSK	1	High	1	Low	2	23.18
41490	41292	20	QPSK	1	Low	1	High	2	23.24

LTE Uplink 2CA_ Band41-Level1									
Combination 20MHz+20MHz(100RB+100RB)									
PCC	SCC	Bandwidth	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)
				RB Size	RB Pos.	RB Size	RB Pos.		
39750	39948	20	QPSK	1	High	1	Low	2	20.09
40620	40818	20	QPSK	1	High	1	Low	2	20.17
41490	41292	20	QPSK	1	Low	1	High	2	20.21

LTE Uplink 2CA_ Band41-Level2&3									
Combination 20MHz+20MHz(100RB+100RB)									
PCC	SCC	Bandwidth	Modulation	PCC		SCC		Total RB Size	Measured Power(dBm)
				RB Size	RB Pos.	RB Size	RB Pos.		
39750	39948	20	QPSK	1	High	1	Low	2	19.65
40620	40818	20	QPSK	1	High	1	Low	2	19.57
41490	41292	20	QPSK	1	Low	1	High	2	19.71



9.6 WLAN Mode

WLAN

Wi-Fi 2.4G Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
802.11b (1M)	1/2412	10.00	9.72	10
	6/2437	20.00	18.05	18
	11/2462	12.00	11.60	12
802.11g (6M)	1/2412	18.00	16.04	17
	6/2437	18.00	16.83	17
	11/2462	17.00	15.49	16
802.11n-HT20 (MCS0)	1/2412	18.00	16.05	17
	6/2437	18.00	16.73	17
	11/2462	17.00	15.39	17

Note: Initial test configuration is 802.11b mode.

Wi-Fi 5G (U-NII-1) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
802.11a (6M)	36/5180	16.00	15.84	16
	44/5220	20.00	18.52	19
	48/5240	18.00	17.71	18
802.11n-HT20 (MCS0)	36/5180	18.00	17.41	17.5
	44/5220	20.00	18.63	18
	48/5240	18.00	17.87	18
802.11n-HT40 (MCS0)	38/5190	14.50	13.63	14
	46/5230	19.00	17.23	17
802.11ac-VHT20 (MCS0)	36/5180	18.00	17.85	18
	44/5220	20.00	18.51	18
	48/5240	18.00	17.90	18
802.11ac-VHT40 (MCS0)	38/5190	16.00	15.09	15.5
	46/5230	19.00	17.18	17
802.11ac-VHT80 (MCS0)	42/5210	16.00	15.11	15

Note. Initial test configuration is 802.11n-HT20 mode.



Wi-Fi 5G (U-NII-2A)	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
Mode				
802.11a (6M)	52/5260	20.00	18.65	18
	60/5300	18.00	17.71	18
	64/5320	17.00	16.88	17
802.11n-HT20 (MCS0)	52/5260	18.00	17.83	18
	60/5300	20.00	18.27	18
	64/5320	16.00	15.27	15.5
802.11n-HT40 (MCS0)	54/5270	19.00	17.10	17
	62/5310	14.50	13.46	14
802.11ac-HT20 (MCS0)	52/5260	20.00	18.36	18
	60/5300	18.00	17.81	18
	64/5320	17.00	16.39	16.5
802.11ac-HT40 (MCS0)	54/5270	19.00	17.10	17
	62/5310	15.00	14.25	14.5
802.11ac-HT80 (MCS0)	58/5290	16.50	14.66	14.5

Note. Initial test configuration is 802.11a mode, since the highest maximum output power, the largest channel bandwidth, and lowest order.

Wi-Fi 5G (U-NII-2C)	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
Mode				
802.11a (6M)	100/5500	17.00	16.77	17
	116/5580	20.00	18.24	18
	140/5700	18.00	17.92	18
802.11n-HT20 (MCS0)	100/5500	16.00	15.95	16
	116/5580	20.00	18.39	18
	140/5700	18.00	17.27	17.5
802.11n-HT40 (MCS0)	102/5510	14.50	13.99	14.5
	110/5550	19.00	17.19	17
	134/5670	17.00	16.48	17
802.11ac-HT20 (MCS0)	100/5500	18.00	17.17	17.5
	116/5580	20.00	18.24	18
	140/5700	18.00	17.09	17.5
802.11ac-HT40 (MCS0)	102/5510	15.00	14.51	15
	110/5550	19.00	17.18	17
	134/5670	17.00	16.63	17



802.11ac-HT80 (MCS0)	106/5530	14.50	14.41	14.5
	122/5610	19.00	17.09	17

Note. Initial test configuration is 802.11n-HT20 mode.

Wi-Fi 5G (U-NII-3) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
802.11a (6M)	149/5745	18.00	17.94	18
	157/5785	20.00	18.29	18
	165/5825	18.00	17.79	18
802.11n-HT20 (MCS0)	149/5745	18.00	17.89	18
	157/5785	20.00	18.44	18
	165/5825	18.00	17.75	18
802.11n-HT40 (MCS0)	151/5755	19.00	17.06	17
	159/5795	17.00	16.50	17
802.11ac-HT20 (MCS0)	149/5745	18.00	17.61	18
	157/5785	20.00	18.35	18
	165/5825	18.00	17.88	18
802.11ac-HT40 (MCS0)	151/5755	17.00	16.72	17
	159/5795	19.00	17.12	17
802.11ac-HT80 (MCS0)	155/5775	17.00	16.40	17

Note. Initial test configuration is 802.11n-HT20 mode.

WLAN-L1

Wi-Fi 2.4G Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
802.11b (1M)	1/2412	10.00	9.72	10
	6/2437	16.00	15.60	16
	11/2462	12.00	11.60	12
802.11g (6M)	1/2412	15.50	15.01	15.5
	6/2437	15.50	15.03	15.5
	11/2462	15.50	15.11	15.5
802.11n-HT20 (MCS0)	1/2412	15.50	15.02	15.5
	6/2437	15.50	14.89	15.5
	11/2462	15.50	15.23	15.5

Note: Initial test configuration is 802.11b mode.



Wi-Fi 5G (U-NII-1)	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
Mode				
802.11a (6M)	36/5180	16.00	15.84	16
	44/5220	17.00	16.70	17
	48/5240	17.00	16.51	17
802.11n-HT20 (MCS0)	36/5180	17.00	16.66	17
	44/5220	17.00	16.63	17
	48/5240	17.00	16.70	17
802.11n-HT40 (MCS0)	38/5190	14.00	13.63	14
	46/5230	17.00	16.38	17
802.11ac-VHT20 (MCS0)	36/5180	17.00	16.75	17
	44/5220	17.00	16.67	17
	48/5240	17.00	16.52	17
802.11ac-VHT40 (MCS0)	38/5190	17.00	15.09	17
	46/5230	17.00	16.45	17
802.11ac-VHT80 (MCS0)	42/5210	16.00	15.11	16
Note. Initial test configuration is 802.11ac-VHT20 mode.				

Wi-Fi 5G (U-NII-2A)	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
Mode				
802.11a (6M)	52/5260	17.00	16.57	17
	60/5300	17.00	16.51	17
	64/5320	17.00	16.88	17
802.11n-HT20 (MCS0)	52/5260	17.00	16.60	17
	60/5300	17.00	16.61	17
	64/5320	17.00	15.27	17
802.11n-HT40 (MCS0)	54/5270	17.00	16.95	17
	62/5310	14.00	13.46	14
802.11ac-HT20 (MCS0)	52/5260	17.00	16.61	17
	60/5300	17.00	16.62	17
	64/5320	17.00	16.39	17
802.11ac-HT40 (MCS0)	54/5270	17.00	16.48	17
	62/5310	15.00	14.25	15
802.11ac-HT80 (MCS0)	58/5290	14.00	13.87	14
Note. Initial test configuration is 802.11n-HT40 mode.				



Wi-Fi 5G (U-NII-2C)	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
Mode				
802.11a (6M)	100/5500	15.50	14.74	15.5
	116/5580	15.50	14.74	15.5
	140/5700	15.50	14.69	15.5
802.11n-HT20 (MCS0)	100/5500	15.50	14.61	15.5
	116/5580	15.50	14.77	15.5
	140/5700	15.50	14.56	15.5
802.11n-HT40 (MCS0)	102/5510	15.50	13.99	15.5
	110/5550	15.50	14.55	15.5
	134/5670	15.50	14.64	15.5
802.11ac-HT20 (MCS0)	100/5500	15.50	14.78	15.5
	116/5580	15.50	14.51	15.5
	140/5700	15.50	14.71	15.5
802.11ac-HT40 (MCS0)	102/5510	15.50	14.51	15.5
	110/5550	15.50	14.79	15.5
	134/5670	15.50	14.68	15.5
802.11ac-HT80 (MCS0)	106/5530	14.00	13.96	14
	122/5610	15.50	15.14	15.5
Note. Initial test configuration is 802.11ac-HT80 mode.				

Wi-Fi 5G (U-NII-3)	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
Mode				
802.11a (6M)	149/5745	14.50	13.58	14.5
	157/5785	14.50	13.64	14.5
	165/5825	14.50	13.68	14.5
802.11n-HT20 (MCS0)	149/5745	14.50	13.79	14.5
	157/5785	14.50	13.69	14.5
	165/5825	14.50	13.74	14.5
802.11n-HT40 (MCS0)	151/5755	14.50	13.51	14.5
	159/5795	14.50	13.71	14.5
802.11ac-HT20 (MCS0)	149/5745	14.50	13.50	14.5
	157/5785	14.50	13.70	14.5
	165/5825	14.50	13.67	14.5
802.11ac-HT40 (MCS0)	151/5755	14.50	13.63	14.5
	159/5795	14.50	13.66	14.5
802.11ac-HT80	155/5775	14.50	14.38	14.5



(MCS0)

Note. Initial test configuration is 802.11ac-HT80 mode.

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Wi-Fi 5G (U-NII-1)	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
802.11a (6M)	36/5180	12.50	12.01	12.5
	44/5220	12.50	11.81	12.5
	48/5240	12.50	12.02	12.5
802.11n-HT20 (MCS0)	36/5180	12.50	11.90	12.5
	44/5220	12.50	12.04	12.5
	48/5240	12.50	12.07	12.5
802.11n-HT40 (MCS0)	38/5190	12.50	12.02	12.5
	46/5230	12.50	11.92	12.5
802.11ac-VHT20 (MCS0)	36/5180	12.50	11.92	12.5
	44/5220	12.50	11.84	12.5
	48/5240	12.50	12.09	12.5
802.11ac-VHT40 (MCS0)	38/5190	12.50	11.81	12.5
	46/5230	12.50	11.85	12.5
802.11ac-VHT80 (MCS0)	42/5210	12.50	11.98	12.5

Note. Initial test configuration is 802.11ac-VHT20 mode.

Wi-Fi 5G (U-NII-2A)	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
802.11a (6M)	52/5260	12.50	11.96	12.5
	60/5300	12.50	11.88	12.5
	64/5320	12.50	11.80	12.5
802.11n-HT20 (MCS0)	52/5260	12.50	11.88	12.5
	60/5300	12.50	12.05	12.5
	64/5320	12.50	11.81	12.5
802.11n-HT40 (MCS0)	54/5270	12.50	11.99	12.5
	62/5310	12.50	12.08	12.5
802.11ac-HT20 (MCS0)	52/5260	12.50	12.00	12.5
	60/5300	12.50	12.00	12.5
	64/5320	12.50	12.10	12.5
802.11ac-HT40 (MCS0)	54/5270	12.50	11.87	12.5
	62/5310	12.50	11.90	12.5



802.11ac-HT80 (MCS0)	58/5290	12.50	12.24	12.5
Note. Initial test configuration is 802.11ac-HT80 mode.				

Wi-Fi 5G (U-NII-2C)	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
Mode				
802.11a (6M)	100/5500	11.50	10.56	11.5
	116/5580	11.50	10.60	11.5
	140/5700	11.50	10.56	11.5
802.11n-HT20 (MCS0)	100/5500	11.50	10.65	11.5
	116/5580	11.50	10.79	11.5
	140/5700	11.50	10.60	11.5
802.11n-HT40 (MCS0)	102/5510	11.50	10.66	11.5
	110/5550	11.50	10.67	11.5
	134/5670	11.50	10.56	11.5
802.11ac-HT20 (MCS0)	100/5500	11.50	10.74	11.5
	116/5580	11.50	10.56	11.5
	140/5700	11.50	10.75	11.5
802.11ac-HT40 (MCS0)	102/5510	11.50	10.59	11.5
	110/5550	11.50	10.77	11.5
	134/5670	11.50	10.79	11.5
802.11ac-HT80 (MCS0)	106/5530	11.50	10.70	11.5
	122/5610	11.50	10.65	11.5
Note. Initial test configuration is 802.11n-HT20 & 802.11ac-HT40 mode.				

Wi-Fi 5G (U-NII-3)	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
Mode				
802.11a (6M)	149/5745	11.50	10.75	11.5
	157/5785	11.50	10.64	11.5
	165/5825	11.50	10.54	11.5
802.11n-HT20 (MCS0)	149/5745	11.50	10.60	11.5
	157/5785	11.50	10.73	11.5
	165/5825	11.50	10.60	11.5
802.11n-HT40 (MCS0)	151/5755	11.50	10.69	11.5
	159/5795	11.50	10.65	11.5
802.11ac-HT20 (MCS0)	149/5745	11.50	10.52	11.5
	157/5785	11.50	10.50	11.5
	165/5825	11.50	10.70	11.5



802.11ac-HT40 (MCS0)	151/5755	11.50	10.59	11.5
	159/5795	11.50	10.64	11.5
802.11ac-HT80 (MCS0)	155/5775	11.50	10.81	11.5
Note. Initial test configuration is 802.11ac-HT80 mode.				

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Wi-Fi 5G (U-NII-1)	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
802.11a (6M)	36/5180	17.50	15.84	17.5
	44/5220	17.50	17.34	17.5
	48/5240	17.50	17.42	17.5
802.11n-HT20 (MCS0)	36/5180	17.50	17.28	17.5
	44/5220	17.50	17.11	17.5
	48/5240	17.50	17.08	17.5
802.11n-HT40 (MCS0)	38/5190	14.50	13.63	14.5
	46/5230	17.50	17.08	17.5
802.11ac-VHT20 (MCS0)	36/5180	17.50	17.12	17.5
	44/5220	17.50	17.33	17.5
	48/5240	17.50	17.22	17.5
802.11ac-VHT40 (MCS0)	38/5190	17.00	15.09	17
	46/5230	17.50	16.45	17.5
802.11ac-VHT80 (MCS0)	42/5210	14.50	14.25	14.5

Note. Initial test configuration is 802.11a mode, since the highest maximum output power, the largest channel bandwidth, and lowest order.

Wi-Fi 5G (U-NII-2A)	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
802.11a (6M)	52/5260	17.50	17.11	17.5
	60/5300	17.50	17.02	17.5
	64/5320	17.50	16.88	17.5
802.11n-HT20 (MCS0)	52/5260	17.50	17.12	17.5
	60/5300	17.50	17.15	17.5
	64/5320	17.00	15.27	17
802.11n-HT40 (MCS0)	54/5270	17.50	17.06	17.5
	62/5310	14.50	13.46	14.5



802.11ac-HT20 (MCS0)	52/5260	17.50	17.11	17.5
	60/5300	17.50	17.12	17.5
	64/5320	17.50	16.39	17.5
802.11ac-HT40 (MCS0)	54/5270	17.50	16.48	17.5
	62/5310	17.50	14.25	17.5
802.11ac-HT80 (MCS0)	58/5290	14.50	13.87	14.5

Note. Initial test configuration is 802.11n-HT20 mode.

Wi-Fi 5G (U-NII-2C) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
802.11a (6M)	100/5500	18.50	16.77	18.5
	116/5580	18.50	17.74	18.5
	140/5700	18.50	17.92	18.5
802.11n-HT20 (MCS0)	100/5500	17.50	15.95	17.5
	116/5580	18.50	17.76	18.5
	140/5700	18.50	17.27	18.5
802.11n-HT40 (MCS0)	102/5510	14.50	13.99	14.5
	110/5550	18.50	17.33	18.5
	134/5670	17.50	16.48	17.5
802.11ac-HT20 (MCS0)	100/5500	18.50	17.17	18.5
	116/5580	18.50	17.73	18.5
	140/5700	18.50	17.09	18.5
802.11ac-HT40 (MCS0)	102/5510	15.50	14.51	15.5
	110/5550	17.50	16.38	17.5
	134/5670	17.50	16.63	17.5
802.11ac-HT80 (MCS0)	106/5530	15.00	13.96	15
	122/5610	17.50	16.49	17.5

Note. Initial test configuration is 802.11a mode, since the highest maximum output power, the largest channel bandwidth, and lowest order.



Wi-Fi 5G (U-NII-3)	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
Mode				
802.11a (6M)	149/5745	18.50	17.94	18.5
	157/5785	18.50	17.78	18.5
	165/5825	18.50	17.79	18.5
802.11n-HT20 (MCS0)	149/5745	18.50	17.77	18.5
	157/5785	18.50	17.89	18.5
	165/5825	18.50	17.75	18.5
802.11n-HT40 (MCS0)	151/5755	18.50	17.04	18.5
	159/5795	17.50	16.50	17.5
802.11ac-HT20 (MCS0)	149/5745	18.50	17.61	18.5
	157/5785	18.50	17.78	18.5
	165/5825	18.50	17.88	18.5
802.11ac-HT40 (MCS0)	151/5755	18.50	16.72	18.5
	159/5795	18.50	16.62	18.5
802.11ac-HT80 (MCS0)	155/5775	17.50	16.40	17.5

Note. Initial test configuration is 802.11a mode, since the highest maximum output power, the largest channel bandwidth, and lowest order.

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Wi-Fi 5G (U-NII-1)	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
Mode				
802.11a (6M)	36/5180	14.50	13.86	14.5
	44/5220	14.50	13.55	14.5
	48/5240	14.50	13.94	14.5
802.11n-HT20 (MCS0)	36/5180	14.50	14.18	14.5
	44/5220	14.50	13.60	14.5
	48/5240	14.50	13.59	14.5
802.11n-HT40 (MCS0)	38/5190	14.50	13.63	14.5
	46/5230	14.50	14.39	14.5
802.11ac-VHT20 (MCS0)	36/5180	14.50	14.34	14.5
	44/5220	14.50	14.05	14.5
	48/5240	14.50	14.12	14.5
802.11ac-VHT40 (MCS0)	38/5190	14.50	13.50	14.5
	46/5230	14.50	13.74	14.5
802.11ac-VHT80 (MCS0)	42/5210	14.50	14.25	14.5



Note. Initial test configuration is 802.11n-HT40 mode.

Wi-Fi 5G (U-NII-2A)	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
Mode				
802.11a (6M)	52/5260	14.50	13.56	14.5
	60/5300	14.50	14.10	14.5
	64/5320	14.50	13.98	14.5
802.11n-HT20 (MCS0)	52/5260	14.50	14.26	14.5
	60/5300	14.50	14.13	14.5
	64/5320	14.50	14.36	14.5
802.11n-HT40 (MCS0)	54/5270	14.50	14.00	14.5
	62/5310	14.50	13.46	14.5
802.11ac-HT20 (MCS0)	52/5260	14.50	14.15	14.5
	60/5300	14.50	14.19	14.5
	64/5320	14.50	14.01	14.5
802.11ac-HT40 (MCS0)	54/5270	14.50	13.77	14.5
	62/5310	14.50	14.17	14.5
802.11ac-HT80 (MCS0)	58/5290	14.50	13.87	14.5

Note. Initial test configuration is 802.11n-HT20 mode.

Wi-Fi 5G (U-NII-2C)	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
Mode				
802.11a (6M)	100/5500	14.50	13.82	14.5
	116/5580	14.50	13.64	14.5
	140/5700	14.50	13.65	14.5
802.11n-HT20 (MCS0)	100/5500	14.50	13.57	14.5
	116/5580	14.50	13.75	14.5
	140/5700	14.50	13.97	14.5
802.11n-HT40 (MCS0)	102/5510	14.50	13.99	14.5
	110/5550	14.50	14.12	14.5
	134/5670	14.50	13.75	14.5
802.11ac-HT20 (MCS0)	100/5500	14.50	14.30	14.5
	116/5580	14.50	14.02	14.5
	140/5700	14.50	13.59	14.5
802.11ac-HT40 (MCS0)	102/5510	14.50	14.37	14.5
	110/5550	14.50	14.26	14.5



	134/5670	14.50	14.31	14.5
802.11ac-HT80 (MCS0)	106/5530	14.50	14.41	14.5
	122/5610	14.50	14.17	14.5

Note. Initial test configuration is 802.11ac-HT80 mode.

Wi-Fi 5G (U-NII-3) Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
802.11a (6M)	149/5745	14.50	13.58	14.5
	157/5785	14.50	13.64	14.5
	165/5825	14.50	13.68	14.5
802.11n-HT20 (MCS0)	149/5745	14.50	13.79	14.5
	157/5785	14.50	13.69	14.5
	165/5825	14.50	13.74	14.5
802.11n-HT40 (MCS0)	151/5755	14.50	13.51	14.5
	159/5795	14.50	13.71	14.5
802.11ac-HT20 (MCS0)	149/5745	14.50	13.50	14.5
	157/5785	14.50	13.70	14.5
	165/5825	14.50	13.67	14.5
802.11ac-HT40 (MCS0)	151/5755	14.50	13.63	14.5
	159/5795	14.50	13.66	14.5
802.11ac-HT80 (MCS0)	155/5775	14.50	14.38	14.5

Note. Initial test configuration is 802.11ac-HT80 mode.

WLAN-L2&L4

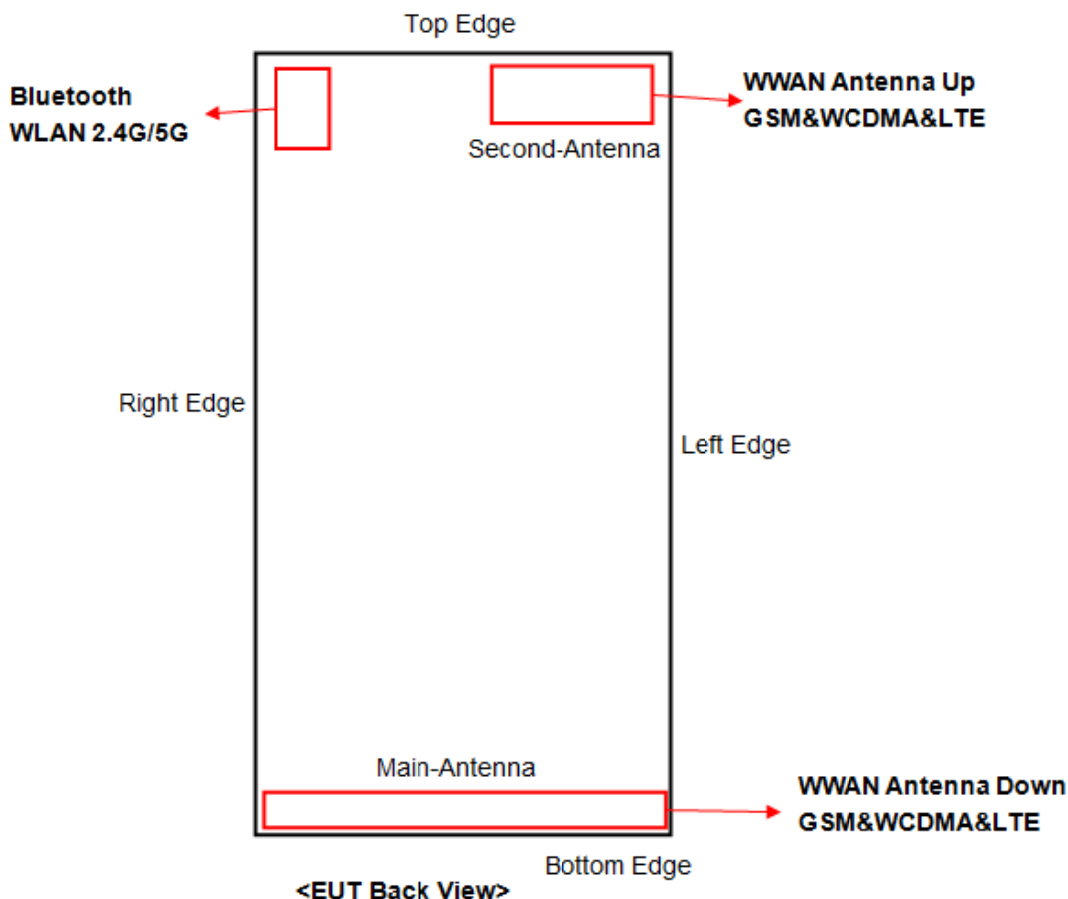
Wi-Fi 2.4G Mode	Channel /Frequency(MHz)	Maximum Output Power (dBm)		
		Tune-up	Meas.	TP Set Level
802.11b (1M)	1/2412	10.00	9.72	10
	6/2437	14.50	13.66	14.5
	11/2462	12.00	11.60	12
802.11g (6M)	1/2412	14.50	13.41	14.5
	6/2437	14.50	13.25	14.5
	11/2462	14.50	13.33	14.5
802.11n-HT20 (MCS0)	1/2412	14.50	13.28	14.5
	6/2437	14.50	13.18	14.5
	11/2462	14.50	13.30	14.5
Note: Initial test configuration is 802.11b mode.				

9.7 Bluetooth Mode

BT	Conducted Power(dBm)			Tune-up Limit (dBm)
	Channel/Frequency(MHz)			
	Ch 0/2402 MHz	Ch 39/2441 MHz	Ch 78/2480 MHz	
GFSK	11.07	11.22	11.17	13.00
π /4DQPSK	9.90	9.98	10.04	11.00
8DPSK	9.91	10.04	10.06	11.00
BLE	Ch 0/2402 MHz	Ch 19/2440 MHz	Ch 39/2480 MHz	Tune-up Limit (dBm)
GFSK(1M)	5.34	6.25	5.25	7.00
GFSK(2M)	5.04	6.02	5.27	7.00

10 Measured and Reported (Scaled) SAR Results

10.3 EUT Antenna Locations



Overall (Length x Width): 161mm x 75mm						
Overall Diagonal: 167mm/Display Diagonal:159mm						
Distance of the Antenna to the EUT surface/edge						
Antenna	Back Side	Front side	Left Edge	Right Edge	Top Edge	Bottom Edge
WWAN Antenna Down	<25mm	<25mm	<25mm	<25mm	>25mm	<25mm
WWAN Antenna Up	<25mm	<25mm	<25mm	>25mm	<25mm	>25mm
BT/Wi-Fi Antenna	<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
WWAN Antenna Down	Yes	Yes	Yes	Yes	N/A	Yes
WWAN Antenna Up	Yes	Yes	Yes	N/A	Yes	N/A
BT/Wi-Fi Antenna	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 165.5mm.Per KDB 648474 D04, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension> 16.0 cm, product specific 10-g SAR must						



be tested as a phablet to determine SAR compliance. For Phablet, Since hotspot mode 1-g *reported* SAR < 1.2 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) ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
- b) ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
- c) ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

4. When the original highest measured SAR is ≥ 0.80 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 ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.



10.4 Measured SAR Results

Table 9: GSM 850 (WWAN Antenna Down)

Test Position	Cover Type	Time slot	Duty Cycle	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
							Measur edSAR 10g	Measur edSAR 1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR(FULL)												
Left Cheek	standard	GSM	1:8.3	190/836.6	33.30	32.24	0.093	0.122	-0.031	1.28	0.156	21
Left Tilt	standard	GSM	1:8.3	190/836.6	33.30	32.24	0.043	0.063	0.118	1.28	0.080	/
Right Cheek	standard	GSM	1:8.3	190/836.6	33.30	32.24	0.083	0.103	0.118	1.28	0.131	/
Right Tilt	standard	GSM	1:8.3	190/836.6	33.30	32.24	0.037	0.055	0.084	1.28	0.070	/
Body-worn SAR (Distance 15mm)(FULL)												
Back Side	standard	GSM	1:8.3	190/836.6	33.30	32.24	0.089	0.116	0.090	1.28	0.148	22
Front Side	standard	GSM	1:8.3	190/836.6	33.30	32.24	0.072	0.093	0.030	1.28	0.119	/
Hotspot SAR(Distance 10mm)(FULL)												
Back Side	standard	4Txslots	1:2.07	190/836.6	29.30	27.93	0.160	0.214	-0.100	1.37	0.293	23
Front Side	standard	4Txslots	1:2.07	190/836.6	29.30	27.93	0.117	0.198	-0.120	1.37	0.271	/
Left Edge	standard	4Txslots	1:2.07	190/836.6	29.30	27.93	0.143	0.205	0.080	1.37	0.281	/
Right Edge	standard	4Txslots	1:2.07	190/836.6	29.30	27.93	0.093	0.144	0.025	1.37	0.197	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	4Txslots	1:2.07	190/836.6	29.30	27.93	0.105	0.182	0.030	1.37	0.250	/
Note: 1.The value with blue color is the maximum SAR Value of each test band.												
2.When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.												



Table 10: GSM 1900(WWAN Antenna Down)

Test Position	Cover Type	Time slot	Duty Cycle	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
							Measur edSAR 10g	Measur edSAR 1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR(FULL)												
Left Cheek	standard	GSM	1:8.3	661/1880	30.30	29.22	0.041	0.067	0.051	1.28	0.086	24
Left Tilt	standard	GSM	1:8.3	661/1880	30.30	29.22	0.025	0.042	0.022	1.28	0.054	/
Right Cheek	standard	GSM	1:8.3	661/1880	30.30	29.22	0.023	0.049	0.036	1.28	0.063	/
Right Tilt	standard	GSM	1:8.3	661/1880	30.30	29.22	0.019	0.032	0.046	1.28	0.041	/
Body-worn SAR (Distance 15mm) (FULL)												
Back Side	standard	GSM	1:8.3	661/1880	30.30	29.22	0.140	0.230	-0.080	1.28	0.295	25
Front Side	standard	GSM	1:8.3	661/1880	30.30	29.22	0.089	0.191	0.023	1.28	0.245	/
Hotspot SAR(Distance 10mm) (FULL)												
Back Side	standard	4Txslots	1:2.07	661/1880	26.30	24.93	0.266	0.461	0.015	1.37	0.632	/
Front Side	standard	4Txslots	1:2.07	661/1880	26.30	24.93	0.177	0.304	-0.090	1.37	0.417	/
Left Edge	standard	4Txslots	1:2.07	661/1880	26.30	24.93	0.050	0.083	0.021	1.37	0.114	/
Right Edge	standard	4Txslots	1:2.07	661/1880	26.30	24.93	0.057	0.097	0.062	1.37	0.133	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	4Txslots	1:2.07	512/1850.2	26.30	25.05	0.362	0.665	-0.010	1.33	0.886	/
	standard	4Txslots	1:2.07	661/1880	26.30	24.93	0.407	0.723	0.023	1.37	0.991	26
	standard	4Txslots	1:2.07	810/1909.8	26.30	24.88	0.348	0.618	0.060	1.39	0.857	/
Bottom Edge	repeated	4Txslots	1:2.07	661/1880	26.30	24.93	0.410	0.719	0.019	1.37	0.986	/
Note: 1.The value with blue color is the maximum SAR Value of each test band.												
2.When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.												

Measurement Variability

Test Position	Channel/ Frequency(MHz)	MAX Measured SAR _{1g} (W/kg)	1 st Repeated SAR _{1g} (W/kg)	Ratio
Bottom Edge	661/1880	0.723	0.719	1.01
Note: 1) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).				
2) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.				



Table 11: UMTS Band II (WWAN Antenna Down)

Test Position	Cover Type	Channel Type	Duty Cycle	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
							Measur edSAR 10g	Measur edSAR 1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (FULL)												
Left Cheek	standard	RMC 12.2K	1:1	9400/1880	24.10	22.80	0.048	0.065	0.041	1.35	0.088	27
Left Tilt	standard	RMC 12.2K	1:1	9400/1880	24.10	22.80	0.039	0.049	0.145	1.35	0.066	/
Right Cheek	standard	RMC 12.2K	1:1	9400/1880	24.10	22.80	0.034	0.058	0.062	1.35	0.078	/
Right Tilt	standard	RMC 12.2K	1:1	9400/1880	24.10	22.80	0.023	0.039	0.062	1.35	0.053	/
Body-worn SAR (Distance 15mm) (FULL)												
Back Side	standard	RMC 12.2K	1:1	9400/1880	24.10	22.80	0.147	0.235	0.080	1.35	0.317	28
Front Side	standard	RMC 12.2K	1:1	9400/1880	24.10	22.80	0.124	0.199	0.022	1.35	0.268	/
Hotspot SAR(Distance 10mm) (Body(WWAN+2.4G/5G)-ANT Down)												
Back Side	standard	RMC 12.2K	1:1	9400/1880	23.10	21.71	0.257	0.448	0.030	1.38	0.617	/
Front Side	standard	RMC 12.2K	1:1	9400/1880	23.10	21.71	0.178	0.299	0.019	1.38	0.412	/
Left Edge	standard	RMC 12.2K	1:1	9400/1880	23.10	21.71	0.032	0.059	-0.038	1.38	0.081	/
Right Edge	standard	RMC 12.2K	1:1	9400/1880	23.10	21.71	0.039	0.072	0.090	1.38	0.099	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	RMC 12.2K	1:1	9262/1852.4	23.10	21.90	0.231	0.501	-0.102	1.32	0.660	/
	standard	RMC 12.2K	1:1	9400/1880	23.10	21.71	0.387	0.685	-0.031	1.38	0.943	29
	standard	RMC 12.2K	1:1	9538/1907.6	23.10	21.88	0.360	0.642	-0.040	1.32	0.850	/
Bottom Edge	repeated	RMC 12.2K	1:1	9400/1880	23.10	21.71	0.395	0.681	0.028	1.38	0.938	/

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

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

Measurement Variability

Test Position	Channel/ Frequency(MHz)	MAX Measured SAR _{1g} (W/kg)	1 st Repeated SAR _{1g} (W/kg)	Ratio
Bottom Edge	9400/1880	0.685	0.681	1.01

Note: 1) 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 ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).

2) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .



Test Position	Channel Type	Duty Cycle	Channel Frequency(MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)			Need to test
						Measured SAR1g	Scaling Factor	Report SAR1g	
Back Side	RMC 12.2K	1:1	9400/1880	24.10	23.10	0.617	1.26	0.777	no
Front Side	RMC 12.2K	1:1	9400/1880	24.10	23.10	0.412	1.26	0.518	no
Left Edge	RMC 12.2K	1:1	9400/1880	24.10	23.10	0.081	1.26	0.102	no
Right Edge	RMC 12.2K	1:1	9400/1880	24.10	23.10	0.099	1.26	0.125	no
Bottom Edge	RMC 12.2K	1:1	9400/1880	24.10	23.10	0.943	1.26	1.188	no

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



Table 12: UMTS Band IV (WWAN Antenna Down)

Test Position	Cover Type	Channel Type	Duty Cycle	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
							Measur edSAR 10g	Measur edSAR 1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (FULL)												
Left Cheek	standard	RMC 12.2K	1:1	1413/1732.6	24.10	22.96	0.033	0.062	0.028	1.30	0.081	/
Left Tilt	standard	RMC 12.2K	1:1	1413/1732.6	24.10	22.96	0.024	0.048	0.061	1.30	0.062	/
Right Cheek	standard	RMC 12.2K	1:1	1413/1732.6	24.10	22.96	0.032	0.069	0.157	1.30	0.090	30
Right Tilt	standard	RMC 12.2K	1:1	1413/1732.6	24.10	22.96	0.021	0.043	0.063	1.30	0.056	/
Body-worn SAR (Distance 15mm) (Body(standalone)-ANT Down)												
Back Side	standard	RMC 12.2K	1:1	1413/1732.6	23.10	21.56	0.272	0.426	0.060	1.43	0.607	31
Front Side	standard	RMC 12.2K	1:1	1413/1732.6	23.10	21.56	0.131	0.240	-0.021	1.43	0.342	/
Hotspot SAR(Distance 10mm) (Body(WWAN+2.4G/5G)-ANT Down)												
Back Side	standard	RMC 12.2K	1:1	1413/1732.6	22.10	20.52	0.286	0.512	-0.112	1.44	0.737	32
Front Side	standard	RMC 12.2K	1:1	1413/1732.6	22.10	20.52	0.214	0.357	0.033	1.44	0.514	/
Left Edge	standard	RMC 12.2K	1:1	1413/1732.6	22.10	20.52	0.041	0.070	0.010	1.44	0.101	/
Right Edge	standard	RMC 12.2K	1:1	1413/1732.6	22.10	20.52	0.070	0.123	0.125	1.44	0.177	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	RMC 12.2K	1:1	1413/1732.6	22.10	20.52	0.159	0.279	0.190	1.44	0.401	/

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

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

Test Position	Time slot	Duty Cycle	Channel Frequency(MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)			Need to test
						Measured SAR1g	Scaling Factor	Report SAR1g	
Back Side	RMC 12.2K	1:1	1413/1732.6	23.10	22.10	0.737	1.26	0.927	no
Front Side	RMC 12.2K	1:1	1413/1732.6	23.10	22.10	0.514	1.26	0.647	no
Left Edge	RMC 12.2K	1:1	1413/1732.6	23.10	22.10	0.101	1.26	0.127	no
Right Edge	RMC 12.2K	1:1	1413/1732.6	23.10	22.10	0.177	1.26	0.223	no
Bottom Edge	RMC 12.2K	1:1	1413/1732.6	23.10	22.10	0.401	1.26	0.505	no

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



Table 13: UMTS Band V (WWAN Antenna Down)

Test Position	Cover Type	Channel Type	Duty Cycle	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
							Measur edSAR 10g	Measur edSAR 1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (FULL)												
Left Cheek	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.061	0.082	0.175	1.12	0.092	/
Left Tilt	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.046	0.059	0.039	1.12	0.066	/
Right Cheek	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.084	0.105	0.031	1.12	0.118	33
Right Tilt	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.041	0.053	0.054	1.12	0.059	/
Body-worn SAR (Distance 15mm) (FULL)												
Back Side	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.135	0.178	0.060	1.12	0.200	34
Front Side	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.126	0.162	0.022	1.12	0.182	/
Hotspot SAR(Distance 10mm) (FULL)												
Back Side	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.162	0.216	0.010	1.12	0.243	35
Front Side	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.134	0.186	0.010	1.12	0.209	/
Left Edge	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.123	0.185	-0.033	1.12	0.208	/
Right Edge	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.042	0.065	-0.040	1.12	0.073	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.089	0.163	0.021	1.12	0.183	/
Note: 1.The value with blue color is the maximum SAR Value of each test band.												
2. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.												



Table 14: LTE Band 2 (20MHz, WWAN Antenna Down)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10g	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (QPSK) (FULL)													
Left Cheek	standard	1:1	1	50	19100/1900	23.80	23.23	0.075	0.121	0.150	1.14	0.138	36
Left Tilt	standard	1:1	1	50	19100/1900	23.80	23.23	0.051	0.087	0.060	1.14	0.099	/
Right Cheek	standard	1:1	1	50	19100/1900	23.80	23.23	0.049	0.089	0.050	1.14	0.101	/
Right Tilt	standard	1:1	1	50	19100/1900	23.80	23.23	0.041	0.065	0.095	1.14	0.074	/
Left Cheek	standard	1:1	50%	25	19100/1900	22.80	21.79	0.057	0.095	0.133	1.26	0.120	/
Left Tilt	standard	1:1	50%	25	19100/1900	22.80	21.79	0.039	0.069	0.023	1.26	0.087	/
Right Cheek	standard	1:1	50%	25	19100/1900	22.80	21.79	0.045	0.077	0.088	1.26	0.097	/
Right Tilt	standard	1:1	50%	25	19100/1900	22.80	21.79	0.036	0.051	-0.060	1.26	0.064	/
Body-worn SAR (QPSK, Distance 15mm) (FULL)													
Back Side	standard	1:1	1	50	19100/1900	23.80	23.23	0.160	0.260	-0.060	1.14	0.296	37
Front Side	standard	1:1	1	50	19100/1900	23.80	23.23	0.121	0.193	0.062	1.14	0.220	/
Back Side	standard	1:1	50%	25	19100/1900	22.80	21.79	0.113	0.187	0.050	1.26	0.236	/
Front Side	standard	1:1	50%	25	19100/1900	22.80	21.79	0.085	0.136	0.124	1.26	0.172	/
Hotspot SAR(QPSK, Distance 10mm) (FULL)													
Back Side	standard	1:1	1	50	19100/1900	23.80	23.23	0.308	0.537	0.010	1.14	0.612	/
Front Side	standard	1:1	1	50	19100/1900	23.80	23.23	0.223	0.370	0.024	1.14	0.422	/
Left Edge	standard	1:1	1	50	19100/1900	23.80	23.23	0.045	0.076	0.033	1.14	0.087	/
Right Edge	standard	1:1	1	50	19100/1900	23.80	23.23	0.073	0.131	-0.060	1.14	0.149	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	1	50	18700/1860	23.80	22.88	0.533	0.943	0.026	1.24	1.165	38
	standard	1:1	1	50	18900/1880	23.80	23.15	0.519	0.918	0.020	1.16	1.066	/
	standard	1:1	1	50	19100/1900	23.80	23.23	0.472	0.847	0.110	1.14	0.966	/
Back Side	standard	1:1	50%	25	19100/1900	22.80	21.79	0.220	0.384	0.015	1.26	0.485	/
Front Side	standard	1:1	50%	25	19100/1900	22.80	21.79	0.158	0.265	0.027	1.26	0.334	/
Left Edge	standard	1:1	50%	25	19100/1900	22.80	21.79	0.036	0.059	-0.010	1.26	0.074	/
Right Edge	standard	1:1	50%	25	19100/1900	22.80	21.79	0.051	0.092	0.011	1.26	0.116	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	50%	25	19100/1900	22.80	21.79	0.368	0.623	0.090	1.26	0.786	/
Bottom Edge	standard	1:1	100%	0	18700/1860	22.80	21.54	0.312	0.543	0.110	1.34	0.726	/
	standard	1:1	100%	0	18900/1880	22.80	21.53	0.327	0.568	0.050	1.34	0.761	/
	standard	1:1	100%	0	19100/1900	22.80	21.57	0.379	0.653	0.030	1.33	0.867	/
Bottom Edge	repeated	1:1	1	50	18700/1860	23.80	22.88	0.526	0.939	0.070	1.24	1.161	/



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

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are $\geq 50\%$ limit(1g).

Measurement Variability

Test Position	Channel/ Frequency(MHz)	MAX Measured SAR _{1g} (W/kg)	1 st Repeated SAR _{1g} (W/kg)	Ratio
Bottom Edge	18700/1860	0.943	0.939	1.00

Note: 1) 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 ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).

2) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .



Table 15: LTE Band 4 (20MHz, WWAN Antenna Down)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10 g	Measured SAR1 g	Power Drift (dB)	Scaling Factor	Report SAR1 g	
Head SAR (QPSK) (FULL)													
Left Cheek	standard	1:1	1	0	20050/1720	23.80	23.18	0.012	0.026	0.107	1.15	0.030	/
Left Tilt	standard	1:1	1	0	20050/1720	23.80	23.18	0.016	0.035	0.056	1.15	0.040	/
Right Cheek	standard	1:1	1	0	20050/1720	23.80	23.18	0.021	0.037	0.104	1.15	0.043	/
Right Tilt	standard	1:1	1	0	20050/1720	23.80	23.18	0.026	0.050	0.025	1.15	0.057	/
Left Cheek	standard	1:1	50%	0	20300/1745	22.80	21.79	0.018	0.037	0.112	1.26	0.047	/
Left Tilt	standard	1:1	50%	0	20300/1745	22.80	21.79	0.019	0.043	0.126	1.26	0.054	/
Right Cheek	standard	1:1	50%	0	20300/1745	22.80	21.79	0.022	0.044	0.049	1.26	0.056	/
Right Tilt	standard	1:1	50%	0	20300/1745	22.80	21.79	0.031	0.055	-0.047	1.26	0.069	39
Body-worn SAR (Body(standalone)-ANT Down)													
Back Side	standard	1:1	1	50	20175/1732.5	22.30	21.06	0.242	0.384	-0.020	1.33	0.511	40
Front Side	standard	1:1	1	50	20175/1732.5	22.30	21.06	0.131	0.214	0.160	1.33	0.285	/
Back Side	standard	1:1	50%	25	20175/1732.5	22.30	21.07	0.194	0.320	0.020	1.33	0.425	/
Front Side	standard	1:1	50%	25	20175/1732.5	22.30	21.07	0.128	0.209	-0.150	1.33	0.277	/
Hotspot SAR(QPSK, Distance 10mm) (Body(WWAN+2.4G/5G)-ANT Down)													
Back Side	standard	1:1	1	50	20175/1732.5	21.80	20.55	0.311	0.502	0.031	1.33	0.669	/
Front Side	standard	1:1	1	50	20175/1732.5	21.80	20.55	0.272	0.349	0.030	1.33	0.465	/
Left Edge	standard	1:1	1	50	20175/1732.5	21.80	20.55	0.059	0.105	-0.020	1.33	0.140	/
Right Edge	standard	1:1	1	50	20175/1732.5	21.80	20.55	0.049	0.085	-0.180	1.33	0.113	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	1	50	20175/1732.5	21.80	20.55	0.335	0.589	-0.180	1.33	0.785	/
Back Side	standard	1:1	50%	50	20175/1732.5	21.80	20.60	0.319	0.516	-0.070	1.32	0.680	/
Front Side	standard	1:1	50%	50	20175/1732.5	21.80	20.60	0.263	0.353	0.094	1.32	0.465	/
Left Edge	standard	1:1	50%	50	20175/1732.5	21.80	20.60	0.064	0.112	0.033	1.32	0.148	/
Right Edge	standard	1:1	50%	50	20175/1732.5	21.80	20.60	0.035	0.063	0.037	1.32	0.083	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	50%	50	20050/1720	21.80	20.58	0.349	0.623	-0.014	1.32	0.825	/
	standard	1:1	50%	50	20175/1732.5	21.80	20.60	0.371	0.651	0.035	1.32	0.858	41
	standard	1:1	50%	25	20300/1745	21.80	20.56	0.325	0.619	0.080	1.33	0.824	/
Bottom Edge	repeated	1:1	50%	50	20175/1732.5	21.80	20.60	0.362	0.646	0.029	1.32	0.852	/

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

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are $\geq$ 50% limit(1g).



Measurement Variability				
Test Position	Channel/ Frequency(MHz)	MAX Measured SAR _{1g} (W/kg)	1 st Repeated SAR _{1g} (W/kg)	Ratio
Bottom Edge	20175/1732.5	0.651	0.646	1.01
Note: 1) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit). 2) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.				

Test Position	Mode	Duty Cycle	RB allocation	offset	Channel Frequency(MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR _{1g}	Scaling Factor	Report SAR _{1g}	Need to test
Back Side	QPSK	1:1	1	50	20175/1732.5	22.30	21.80	0.669	1.12	0.751	no
Front Side	QPSK	1:1	1	50	20175/1732.5	22.30	21.80	0.465	1.12	0.522	no
Left Edge	QPSK	1:1	1	50	20175/1732.5	22.30	21.80	0.140	1.12	0.157	no
Right Edge	QPSK	1:1	1	50	20175/1732.5	22.30	21.80	0.113	1.12	0.127	no
Bottom Edge	QPSK	1:1	1	50	20175/1732.5	22.30	21.80	0.785	1.12	0.881	no
Back Side	QPSK	1:1	50%	50	20175/1732.5	22.30	21.80	0.680	1.12	0.763	no
Front Side	QPSK	1:1	50%	50	20175/1732.5	22.30	21.80	0.465	1.12	0.522	no
Left Edge	QPSK	1:1	50%	50	20175/1732.5	22.30	21.80	0.148	1.12	0.166	no
Right Edge	QPSK	1:1	50%	50	20175/1732.5	22.30	21.80	0.083	1.12	0.093	no
Bottom Edge	QPSK	1:1	50%	50	20175/1732.5	22.30	21.80	0.858	1.12	0.963	no
Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.											



Table 16: LTE Band 5 (10MHz, WWAN Antenna Down)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10g	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (QPSK) (FULL)													
Left Cheek	standard	1:1	1	49	20525/836.5	24.30	23.69	0.098	0.131	0.032	1.15	0.151	/
Left Tilt	standard	1:1	1	49	20525/836.5	24.30	23.69	0.030	0.045	0.046	1.15	0.052	/
Right Cheek	standard	1:1	1	49	20525/836.5	24.30	23.69	0.109	0.141	-0.033	1.15	0.162	42
Right Tilt	standard	1:1	1	49	20525/836.5	24.30	23.69	0.043	0.055	-0.059	1.15	0.064	/
Left Cheek	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.071	0.094	0.056	1.28	0.120	/
Left Tilt	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.030	0.039	0.047	1.28	0.049	/
Right Cheek	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.064	0.083	0.058	1.28	0.107	/
Right Tilt	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.031	0.040	0.046	1.28	0.051	/
Body-worn SAR (FULL)													
Back Side	standard	1:1	1	49	20525/836.5	24.30	23.69	0.128	0.179	-0.082	1.15	0.206	43
Front Side	standard	1:1	1	49	20525/836.5	24.30	23.69	0.106	0.147	0.010	1.15	0.169	/
Back Side	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.109	0.154	0.101	1.28	0.197	/
Front Side	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.090	0.125	0.160	1.28	0.160	/
Hotspot SAR(QPSK, Distance 10mm) (FULL)													
Back Side	standard	1:1	1	49	20525/836.5	24.30	23.69	0.142	0.235	-0.028	1.15	0.270	44
Front Side	standard	1:1	1	49	20525/836.5	24.30	23.69	0.109	0.151	0.000	1.15	0.174	/
Left Edge	standard	1:1	1	49	20525/836.5	24.30	23.69	0.097	0.146	-0.120	1.15	0.168	/
Right Edge	standard	1:1	1	49	20525/836.5	24.30	23.69	0.069	0.104	0.050	1.15	0.120	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	1	49	20525/836.5	24.30	23.69	0.072	0.129	0.150	1.15	0.148	/
Back Side	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.127	0.176	0.050	1.28	0.226	/
Front Side	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.092	0.127	0.050	1.28	0.163	/
Left Edge	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.077	0.116	0.080	1.28	0.149	/
Right Edge	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.043	0.064	0.070	1.28	0.082	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.059	0.107	-0.022	1.28	0.137	/
Note: 1. The value with blue color is the maximum SAR Value of each test band.													
2.For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are≥ 50% limit(1g).													



Table 17: LTE Band 7 (20MHz, WWAN Antenna Down)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10g	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (QPSK) (FULL)													
Left Cheek	standard	1:1	1	0	20850/2510	23.80	23.43	0.073	0.130	-0.083	1.09	0.142	/
Left Tilt	standard	1:1	1	0	20850/2510	23.80	23.43	0.071	0.137	-0.110	1.09	0.149	/
Right Cheek	standard	1:1	1	0	20850/2510	23.80	23.43	0.126	0.225	0.031	1.09	0.245	45
Right Tilt	standard	1:1	1	0	20850/2510	23.80	23.43	0.094	0.182	-0.047	1.09	0.198	/
Left Cheek	standard	1:1	50%	25	20850/2510	22.80	21.85	0.042	0.087	0.136	1.24	0.108	/
Left Tilt	standard	1:1	50%	25	20850/2510	22.80	21.85	0.045	0.087	-0.078	1.24	0.108	/
Right Cheek	standard	1:1	50%	25	20850/2510	22.80	21.85	0.102	0.180	0.050	1.24	0.224	/
Right Tilt	standard	1:1	50%	25	20850/2510	22.80	21.85	0.069	0.132	0.040	1.24	0.164	/
Right Cheek	standard	1:1	1	99	20850/2510	23.80	23.53	0.108	0.184	0.019	1.06	0.196	/
			1	0	21048/2529.8								
Body-worn SAR (FULL)													
Back Side	standard	1:1	1	49	20525/836.5	23.80	23.43	0.257	0.533	0.010	1.09	0.580	46
Front Side	standard	1:1	1	49	20525/836.5	23.80	23.43	0.158	0.297	0.029	1.09	0.323	/
Back Side	standard	1:1	50%	13	20525/836.5	22.80	21.85	0.161	0.329	0.190	1.24	0.409	/
Front Side	standard	1:1	50%	13	20525/836.5	22.80	21.85	0.115	0.206	0.050	1.24	0.256	/
Back Side	standard	1:1	1	99	20850/2510	23.80	23.53	0.203	0.429	-0.056	1.06	0.457	/
			1	0	21048/2529.8								
Hotspot SAR(QPSK, Distance 10mm) (FULL)													
Back Side	standard	1:1	1	0	20850/2510	23.80	23.43	0.423	0.994	0.038	1.09	1.082	47
	standard	1:1	1	50	21100/2535	23.80	23.20	0.342	0.649	0.180	1.15	0.745	/
	standard	1:1	1	50	21350/2560	23.80	23.42	0.380	0.726	0.057	1.09	0.792	/
Front Side	standard	1:1	1	0	20850/2510	23.80	23.43	0.254	0.444	-0.163	1.09	0.483	/
Left Edge	standard	1:1	1	0	20850/2510	23.80	23.43	0.103	0.193	-0.104	1.09	0.210	/
Right Edge	standard	1:1	1	0	20850/2510	23.80	23.43	0.151	0.286	0.081	1.09	0.311	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	1	0	20850/2510	23.80	23.43	0.366	0.766	-0.152	1.09	0.834	/
	standard	1:1	1	50	21100/2535	23.80	23.20	0.336	0.689	0.180	1.15	0.791	/
	standard	1:1	1	50	21350/2560	23.80	23.42	0.332	0.653	0.010	1.09	0.713	/
Back Side	standard	1:1	50%	25	20850/2510	22.80	21.85	0.276	0.607	0.033	1.24	0.755	/
Front Side	standard	1:1	50%	25	20850/2510	22.80	21.85	0.173	0.305	0.067	1.24	0.380	/
Left Edge	standard	1:1	50%	25	20850/2510	22.80	21.85	0.065	0.125	-0.056	1.24	0.156	/
Right Edge	standard	1:1	50%	25	20850/2510	22.80	21.85	0.096	0.180	0.032	1.24	0.224	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	50%	25	20850/2510	22.80	21.85	0.229	0.492	0.057	1.24	0.612	/



Back Side	standard	1:1	100%	0	20850/2510	22.80	21.90	0.254	0.581	0.050	1.23	0.715	/
Back Side	repeated	1:1	1	0	20850/2510	23.80	23.43	0.416	0.982	0.012	1.09	1.069	/
Back Side	standard	1:1	1	99	20850/2510	23.80	23.53	0.395	0.846	0.064	1.06	0.900	/
			1	0	21048/2529.8								

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

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are $\geq$ 50% limit(1g).

Measurement Variability

Test Position	Channel/ Frequency(MHz)	MAX Measured SAR _{1g} (W/kg)	1 st Repeated SAR _{1g} (W/kg)	Ratio
Back Side	20850/2510	0.994	0.982	1.01

Note: 1) 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 ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).

2) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .



Table 18: LTE Band 12 (10MHz, WWAN Antenna Down)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10g	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (QPSK) (FULL)													
Left Cheek	standard	1:1	1	49	23130/711	23.80	22.99	0.039	0.050	0.027	1.21	0.060	48
Left Tilt	standard	1:1	1	49	23130/711	23.80	22.99	0.016	0.020	0.049	1.21	0.024	/
Right Cheek	standard	1:1	1	49	23130/711	23.80	22.99	0.034	0.043	0.085	1.21	0.051	/
Right Tilt	standard	1:1	1	49	23130/711	23.80	22.99	0.014	0.018	0.037	1.21	0.021	/
Left Cheek	standard	1:1	50%	13	23060/704	22.80	21.46	0.023	0.030	0.054	1.36	0.040	/
Left Tilt	standard	1:1	50%	13	23060/704	22.80	21.46	0.009	0.011	0.107	1.36	0.016	/
Right Cheek	standard	1:1	50%	13	23060/704	22.80	21.46	0.030	0.039	0.033	1.36	0.053	/
Right Tilt	standard	1:1	50%	13	23060/704	22.80	21.46	0.013	0.016	0.038	1.36	0.022	/
Body-worn SAR (FULL)													
Back Side	standard	1:1	1	49	23130/711	23.80	22.99	0.084	0.107	0.040	1.21	0.129	49
Front Side	standard	1:1	1	49	23130/711	23.80	22.99	0.061	0.084	0.026	1.21	0.101	/
Back Side	standard	1:1	50%	13	23060/704	22.80	21.46	0.045	0.062	0.093	1.36	0.084	/
Front Side	standard	1:1	50%	13	23060/704	22.80	21.46	0.033	0.046	-0.050	1.36	0.063	/
Hotspot SAR(QPSK, Distance 10mm) (FULL)													
Back Side	standard	1:1	1	49	23130/711	23.80	22.99	0.086	0.119	-0.060	1.21	0.143	50
Front Side	standard	1:1	1	49	23130/711	23.80	22.99	0.055	0.076	-0.022	1.21	0.092	/
Left Edge	standard	1:1	1	49	23130/711	23.80	22.99	0.048	0.072	0.035	1.21	0.087	/
Right Edge	standard	1:1	1	49	23130/711	23.80	22.99	0.039	0.059	0.090	1.21	0.071	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	1	49	23130/711	23.80	22.99	0.028	0.045	0.080	1.21	0.054	/
Back Side	standard	1:1	50%	13	23060/704	22.80	21.46	0.052	0.072	0.024	1.36	0.098	/
Front Side	standard	1:1	50%	13	23060/704	22.80	21.46	0.033	0.046	0.019	1.36	0.063	/
Left Edge	standard	1:1	50%	13	23060/704	22.80	21.46	0.027	0.044	0.046	1.36	0.060	/
Right Edge	standard	1:1	50%	13	23060/704	22.80	21.46	0.019	0.032	0.050	1.36	0.044	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	50%	13	23060/704	22.80	21.46	0.008	0.028	0.080	1.36	0.038	/
Note: 1. The value with blue color is the maximum SAR Value of each test band.													
2.For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are≥ 50% limit(1g).													



Table 19: LTE Band 17 (10MHz, WWAN Antenna Down)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10g	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (QPSK) (FULL)													
Left Cheek	standard	1:1	1	0	23800/711	23.80	23.01	0.036	0.046	0.168	1.20	0.056	51
Left Tilt	standard	1:1	1	0	23800/711	23.80	23.01	0.015	0.018	0.081	1.20	0.022	/
Right Cheek	standard	1:1	1	0	23800/711	23.80	23.01	0.031	0.039	0.041	1.20	0.047	/
Right Tilt	standard	1:1	1	0	23800/711	23.80	23.01	0.014	0.017	0.042	1.20	0.020	/
Left Cheek	standard	1:1	50%	13	23800/711	22.80	21.52	0.026	0.033	0.032	1.34	0.044	/
Left Tilt	standard	1:1	50%	13	23800/711	22.80	21.52	0.010	0.013	0.048	1.34	0.018	/
Right Cheek	standard	1:1	50%	13	23800/711	22.80	21.52	0.022	0.028	0.038	1.34	0.038	/
Right Tilt	standard	1:1	50%	13	23800/711	22.80	21.52	0.006	0.009	0.062	1.34	0.011	/
Body-worn SAR (FULL)													
Back Side	standard	1:1	1	0	23800/711	23.80	23.01	0.082	0.105	0.070	1.20	0.126	52
Front Side	standard	1:1	1	0	23800/711	23.80	23.01	0.056	0.081	0.020	1.20	0.097	/
Back Side	standard	1:1	50%	13	23800/711	22.80	21.52	0.057	0.081	-0.060	1.34	0.109	/
Front Side	standard	1:1	50%	13	23800/711	22.80	21.52	0.041	0.057	0.013	1.34	0.077	/
Hotspot SAR(QPSK, Distance 10mm) (FULL)													
Back Side	standard	1:1	1	0	23800/711	23.80	23.01	0.074	0.094	0.080	1.20	0.113	53
Front Side	standard	1:1	1	0	23800/711	23.80	23.01	0.048	0.066	0.025	1.20	0.079	/
Left Edge	standard	1:1	1	0	23800/711	23.80	23.01	0.047	0.070	0.034	1.20	0.084	/
Right Edge	standard	1:1	1	0	23800/711	23.80	23.01	0.037	0.056	0.020	1.20	0.067	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	1	0	23800/711	23.80	23.01	0.041	0.058	0.000	1.20	0.070	/
Back Side	standard	1:1	50%	13	23800/711	22.80	21.52	0.056	0.078	0.090	1.34	0.105	/
Front Side	standard	1:1	50%	13	23800/711	22.80	21.52	0.038	0.055	0.035	1.34	0.074	/
Left Edge	standard	1:1	50%	13	23800/711	22.80	21.52	0.034	0.052	0.030	1.34	0.070	/
Right Edge	standard	1:1	50%	13	23800/711	22.80	21.52	0.010	0.029	0.012	1.34	0.039	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	50%	13	23800/711	22.80	21.52	0.014	0.032	-0.010	1.34	0.043	/
Note: 1. The value with blue color is the maximum SAR Value of each test band.													
2.For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are≥ 50% limit(1g).													



Table 20: LTE Band 26 (15MHz, WWAN Antenna Down)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10g	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (QPSK) (FULL)													
Left Cheek	standard	1:1	1	38	26965/841.5	24.30	23.68	0.155	0.205	0.020	1.15	0.236	54
Left Tilt	standard	1:1	1	38	26965/841.5	24.30	23.68	0.058	0.076	0.180	1.15	0.088	/
Right Cheek	standard	1:1	1	38	26965/841.5	24.30	23.68	0.132	0.171	0.031	1.15	0.197	/
Right Tilt	standard	1:1	1	38	26965/841.5	24.30	23.68	0.062	0.079	0.090	1.15	0.091	/
Left Cheek	standard	1:1	50%	0	26765/821.5	23.30	22.10	0.056	0.074	0.105	1.32	0.097	/
Left Tilt	standard	1:1	50%	0	26765/821.5	23.30	22.10	0.023	0.031	0.047	1.32	0.041	/
Right Cheek	standard	1:1	50%	0	26765/821.5	23.30	22.10	0.050	0.065	0.084	1.32	0.086	/
Right Tilt	standard	1:1	50%	0	26765/821.5	23.30	22.10	0.023	0.029	-0.110	1.32	0.038	/
Body-worn SAR (FULL)													
Back Side	standard	1:1	1	38	26965/841.5	24.30	23.68	0.146	0.191	-0.032	1.15	0.220	55
Front Side	standard	1:1	1	38	26965/841.5	24.30	23.68	0.117	0.164	0.030	1.15	0.189	/
Back Side	standard	1:1	50%	18	26765/821.5	23.30	22.10	0.081	0.113	0.129	1.32	0.149	/
Front Side	standard	1:1	50%	18	26765/821.5	23.30	22.10	0.065	0.091	0.062	1.32	0.120	/
Hotspot SAR(QPSK, Distance 10mm) (FULL)													
Back Side	standard	1:1	1	38	26965/841.5	24.30	23.68	0.158	0.261	-0.040	1.15	0.301	56
Front Side	standard	1:1	1	38	26965/841.5	24.30	23.68	0.121	0.167	0.021	1.15	0.193	/
Left Edge	standard	1:1	1	38	26965/841.5	24.30	23.68	0.114	0.173	0.036	1.15	0.200	/
Right Edge	standard	1:1	1	38	26965/841.5	24.30	23.68	0.067	0.102	-0.010	1.15	0.118	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	1	38	26965/841.5	24.30	23.68	0.086	0.153	0.025	1.15	0.176	/
Back Side	standard	1:1	50%	18	18	23.30	22.10	0.094	0.130	0.068	1.32	0.171	/
Front Side	standard	1:1	50%	18	18	23.30	22.10	0.066	0.093	0.090	1.32	0.123	/
Left Edge	standard	1:1	50%	18	18	23.30	22.10	0.049	0.073	0.012	1.32	0.096	/
Right Edge	standard	1:1	50%	18	18	23.30	22.10	0.042	0.066	0.016	1.32	0.087	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	50%	18	26765/821.5	23.30	22.10	0.037	0.067	0.080	1.32	0.088	/
Note: 1. The value with blue color is the maximum SAR Value of each test band.													
2.For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are≥ 50% limit(1g).													



Table 21: LTE Band 38 (20MHz, WWAN Antenna Down)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10g	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (QPSK) (FULL)													
Left Cheek	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.053	0.097	0.045	1.12	0.109	/
Left Tilt	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.042	0.082	-0.073	1.12	0.092	/
Right Cheek	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.098	0.184	0.086	1.12	0.206	57
Right Tilt	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.040	0.081	-0.110	1.12	0.090	/
Left Cheek	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.034	0.065	-0.044	1.31	0.084	/
Left Tilt	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.029	0.058	0.070	1.31	0.075	/
Right Cheek	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.068	0.128	-0.022	1.31	0.167	/
Right Tilt	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.027	0.055	0.126	1.31	0.071	/
Right Cheek	standard	1:1.58	1	0	38150/2610	23.80	23.53	0.061	0.126	0.082	1.06	0.134	/
			1	99	37952/2590.2								
Body-worn SAR (FULL)													
Back Side	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.072	0.189	-0.010	1.12	0.212	/
Front Side	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.114	0.209	0.069	1.12	0.235	58
Back Side	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.079	0.158	0.029	1.31	0.206	/
Front Side	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.072	0.169	0.035	1.31	0.221	/
Back Side	standard	1:1.58	1	0	38150/2610	23.80	23.53	0.083	0.157	0.070	1.06	0.167	/
			1	99	37952/2590.2								
Hotspot SAR(QPSK, Distance 10mm) (FULL)													
Back Side	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.123	0.222	0.011	1.12	0.249	/
Front Side	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.121	0.217	0.023	1.12	0.243	/
Left Edge	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.029	0.050	-0.089	1.12	0.056	/
Right Edge	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.069	0.135	0.050	1.12	0.151	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.090	0.182	0.020	1.12	0.204	/
Back Side	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.112	0.222	0.060	1.31	0.290	59
Front Side	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.122	0.218	0.015	1.31	0.285	/
Left Edge	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.030	0.010	0.090	1.31	0.013	/
Right Edge	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.088	0.167	-0.064	1.31	0.218	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	50%	25	38150/2610	22.80	21.64	0.094	0.195	0.030	1.31	0.255	/
Back Side	standard	1:1	1	0	38150/2610	23.80	23.53	0.062	0.135	0.026	1.06	0.144	/
			1	0	21048/2529.8								

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

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are ≥



50% limit(1g).



Table 22: LTE Band 41 (20MHz, WWAN Antenna Down)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10g	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (QPSK) (FULL)													
Left Cheek	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.055	0.098	-0.027	1.16	0.114	/
Left Tilt	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.042	0.081	0.022	1.16	0.095	/
Right Cheek	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.093	0.173	0.080	1.16	0.201	60
Right Tilt	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.041	0.081	0.027	1.16	0.095	/
Left Cheek	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.036	0.065	0.026	1.32	0.086	/
Left Tilt	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.026	0.055	-0.022	1.32	0.072	/
Right Cheek	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.065	0.120	-0.023	1.32	0.158	/
Right Tilt	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.028	0.055	-0.170	1.32	0.072	/
Right Cheek	standard	1:1.58	1	0	41490/2680	23.80	23.53	0.061	0.136	0.082	1.06	0.145	/
			1	99	41292/2660.2								
Body-worn SAR (FULL)													
Back Side	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.088	0.170	0.038	1.16	0.198	61
Front Side	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.072	0.125	0.022	1.16	0.146	/
Back Side	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.049	0.088	0.030	1.32	0.116	/
Front Side	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.049	0.087	-0.027	1.32	0.114	/
Back Side	standard	1:1.58	1	0	41490/2680	23.80	23.53	0.055	0.104	0.082	1.06	0.111	/
			1	99	41292/2660.2								
Hotspot SAR(QPSK, Distance 10mm) (FULL)													
Back Side	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.156	0.306	0.150	1.16	0.356	62
Front Side	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.126	0.225	0.110	1.16	0.262	/
Left Edge	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.029	0.050	-0.020	1.16	0.058	/
Right Edge	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.074	0.147	0.066	1.16	0.171	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.098	0.196	-0.053	1.16	0.228	/
Back Side	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.077	0.169	0.010	1.32	0.222	/
Front Side	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.087	0.156	-0.090	1.32	0.205	/
Left Edge	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.016	0.038	0.100	1.32	0.050	/
Right Edge	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.055	0.105	0.016	1.32	0.138	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.065	0.134	0.030	1.32	0.176	/
Back Side	standard	1:1.58	1	0	41490/2680	23.80	23.53	0.126	0.232	0.041	1.06	0.247	/
			1	0	21048/2529.8								
Note: 1.The value with blue color is the maximum SAR Value of each test band.													
2.For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are $\geq 50\%$ limit(1g).													



Table 23: LTE Band 66 (20MHz, WWAN Antenna Down)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measure d SAR10g	Measur ed SAR1g	Power Drift (dB)	Scalin g Factor	Report SAR1 g	
Head SAR (QPSK) (FULL)													
Left Cheek	standard	1:1	1	50	132072/1720	24.10	23.12	0.076	0.117	-0.042	1.25	0.147	63
Left Tilt	standard	1:1	1	50	132072/1720	24.10	23.12	0.025	0.043	0.000	1.25	0.054	/
Right Cheek	standard	1:1	1	50	132072/1720	24.10	23.12	0.054	0.077	-0.099	1.25	0.097	/
Right Tilt	standard	1:1	1	50	132072/1720	24.10	23.12	0.036	0.060	0.120	1.25	0.076	/
Left Cheek	standard	1:1	50%	0	132072/1720	23.10	21.69	0.054	0.083	0.059	1.38	0.115	/
Left Tilt	standard	1:1	50%	0	132072/1720	23.10	21.69	0.018	0.031	0.028	1.38	0.043	/
Right Cheek	standard	1:1	50%	0	132072/1720	23.10	21.69	0.037	0.053	0.034	1.38	0.073	/
Right Tilt	standard	1:1	50%	0	132072/1720	23.10	21.69	0.024	0.041	0.020	1.38	0.057	/
Body-worn SAR (Body(standalone)-ANT Down)													
Back Side	standard	1:1	1	50	132322/1745	22.10	21.90	0.152	0.274	0.030	1.05	0.287	/
Front Side	standard	1:1	1	50	132322/1745	22.10	21.90	0.133	0.214	-0.015	1.05	0.224	/
Back Side	standard	1:1	50%	50	132072/1720	22.10	21.42	0.187	0.292	0.070	1.17	0.341	64
Front Side	standard	1:1	50%	50	132072/1720	22.10	21.42	0.142	0.228	0.092	1.17	0.267	/
Hotspot SAR(QPSK, Distance 10mm) (Body(standalone)-ANT Down)													
Back Side	standard	1:1	1	50	132322/1745	22.10	21.90	0.344	0.595	-0.051	1.05	0.623	/
Front Side	standard	1:1	1	50	132322/1745	22.10	21.90	0.226	0.375	0.010	1.05	0.393	/
Left Edge	standard	1:1	1	50	132322/1745	22.10	21.90	0.029	0.049	0.065	1.05	0.051	/
Right Edge	standard	1:1	1	50	132322/1745	22.10	21.90	0.049	0.092	0.033	1.05	0.096	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	1	50	132322/1745	22.10	21.90	0.351	0.625	-0.030	1.05	0.654	/
Back Side	standard	1:1	50%	50	132072/1720	22.10	21.42	0.361	0.621	0.089	1.17	0.726	/
Front Side	standard	1:1	50%	50	132072/1720	22.10	21.42	0.236	0.390	0.040	1.17	0.456	/
Left Edge	standard	1:1	50%	50	132072/1720	22.10	21.42	0.037	0.062	0.033	1.17	0.073	/
Right Edge	standard	1:1	50%	50	132072/1720	22.10	21.42	0.058	0.103	0.028	1.17	0.120	/
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	standard	1:1	50%	50	132072/1720	22.10	21.41	0.353	0.630	-0.040	1.17	0.738	65
Note: 1.The value with blue color is the maximum SAR Value of each test band.													
2.For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are≥ 50% limit(1g).													



Table 24: GSM 850 (WWAN Antenna Up)

Test Position	Cover Type	Time slot	Duty Cycle	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
							Measur edSAR 10g	Measur edSAR 1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR(FULL)												
Left Cheek	standard	GSM	1:8.3	190/836.6	33.30	32.24	0.245	0.366	-0.020	1.28	0.467	/
Left Tilt	standard	GSM	1:8.3	190/836.6	33.30	32.24	0.209	0.342	-0.060	1.28	0.437	/
Right Cheek	standard	GSM	1:8.3	190/836.6	33.30	32.24	0.287	0.464	0.110	1.28	0.592	/
Right Tilt	standard	GSM	1:8.3	190/836.6	33.30	32.24	0.250	0.497	0.020	1.28	0.634	66
Body-worn SAR (Distance 15mm)(FULL)												
Back Side	standard	GSM	1:8.3	190/836.6	33.30	32.24	0.071	0.099	0.010	1.28	0.126	67
Front Side	standard	GSM	1:8.3	190/836.6	33.30	32.24	0.061	0.085	0.050	1.28	0.108	/
Hotspot SAR(Distance 10mm)(FULL)												
Back Side	standard	4Txslots	1:2.07	190/836.6	29.30	27.93	0.126	0.174	0.095	1.37	0.239	/
Front Side	standard	4Txslots	1:2.07	190/836.6	29.30	27.93	0.110	0.177	0.056	1.37	0.243	68
Left Edge	standard	4Txslots	1:2.07	190/836.6	29.30	27.93	0.083	0.129	0.044	1.37	0.177	/
Right Edge	standard	4Txslots	1:2.07	190/836.6	29.30	27.93	0.057	0.086	-0.023	1.37	0.118	/
Top Edge	standard	4Txslots	1:2.07	190/836.6	29.30	27.93	0.076	0.140	0.050	1.37	0.192	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Note: 1.The value with blue color is the maximum SAR Value of each test band.												
2.When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.												



Table 25: GSM 1900 (WWAN Antenna Up)

Test Position	Cover Type	Time slot	Duty Cycle	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
							Measur edSAR 10g	Measur edSAR 1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR(head(standalone)-ANT Up)												
Left Cheek	standard	GSM	1:8.3	661/1880	25.80	24.95	0.166	0.332	0.061	1.22	0.404	/
Left Tilt	standard	GSM	1:8.3	661/1880	25.80	24.95	0.205	0.415	0.100	1.22	0.505	/
Right Cheek	standard	GSM	1:8.3	661/1880	25.80	24.95	0.207	0.439	-0.040	1.22	0.534	/
Right Tilt	standard	GSM	1:8.3	661/1880	25.80	24.95	0.272	0.590	0.150	1.22	0.718	69
Body-worn SAR (Distance 15mm)(Body(standalone)-ANT Up)												
Back Side	standard	GSM	1:8.3	661/1880	29.30	28.40	0.128	0.230	-0.170	1.23	0.283	70
Front Side	standard	GSM	1:8.3	661/1880	29.30	28.40	0.075	0.152	0.030	1.23	0.187	/
Hotspot SAR(Distance 10mm)(Body(WWAN+2.4G/5G)-ANT Up)												
Back Side	standard	4Txslots	1:2.07	661/1880	22.30	21.82	0.110	0.211	-0.019	1.12	0.236	/
Front Side	standard	4Txslots	1:2.07	661/1880	22.30	21.82	0.086	0.171	0.080	1.12	0.191	/
Left Edge	standard	4Txslots	1:2.07	661/1880	22.30	21.82	0.011	0.029	0.025	1.12	0.032	/
Right Edge	standard	4Txslots	1:2.07	661/1880	22.30	21.82	0.006	0.015	0.060	1.12	0.017	/
Top Edge	standard	4Txslots	1:2.07	661/1880	22.30	21.82	0.212	0.411	0.047	1.12	0.459	71
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Note: 1.The value with blue color is the maximum SAR Value of each test band.												
2.When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.												

Test Position	Time slot	Duty Cycle	Channel Frequency(MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)			Need to test
						Measured SAR1g	Scaling Factor	Report SAR1g	
Back Side	4Txslots	1:2.07	661/1880	23.30	22.30	0.236	1.26	0.297	no
Front Side	4Txslots	1:2.07	661/1880	23.30	22.30	0.191	1.26	0.240	no
Left Edge	4Txslots	1:2.07	661/1880	23.30	22.30	0.032	1.26	0.041	no
Right Edge	4Txslots	1:2.07	661/1880	23.30	22.30	0.017	1.26	0.021	no
Top Edge	4Txslots	1:2.07	661/1880	23.30	22.30	0.459	1.26	0.578	no

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



Table 26: UMTS Band II (WWAN Antenna Up)

Test Position	Cover Type	Channel Type	Duty Cycle	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
							Measur edSAR 10g	Measur edSAR 1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (head(standalone)-ANT Up)												
Left Cheek	standard	RMC 12.2K	1:1	9400/1880	17.10	15.59	0.158	0.320	-0.060	1.42	0.453	/
Left Tilt	standard	RMC 12.2K	1:1	9400/1880	17.10	15.59	0.248	0.521	0.023	1.42	0.738	/
Right Cheek	standard	RMC 12.2K	1:1	9400/1880	17.10	15.59	0.209	0.446	0.010	1.42	0.631	/
Right Tilt	standard	RMC 12.2K	1:1	9262/1852.4	17.10	15.73	0.297	0.670	0.080	1.37	0.918	/
	standard	RMC 12.2K	1:1	9400/1880	17.10	15.59	0.298	0.654	0.100	1.42	0.926	/
	standard	RMC 12.2K	1:1	9538/1907.6	17.10	15.79	0.313	0.707	0.190	1.35	0.956	72
Right Tilt	repeated	RMC 12.2K	1:1	9538/1907.6	17.10	15.79	0.302	0.699	-0.030	1.35	0.945	/
Body-worn SAR (Distance 15mm) (Body(standalone)-ANT Up)												
Back Side	standard	RMC 12.2K	1:1	9400/1880	19.10	18.02	0.169	0.274	0.020	1.28	0.351	73
Front Side	standard	RMC 12.2K	1:1	9400/1880	19.10	18.02	0.107	0.186	0.050	1.28	0.239	/
Hotspot SAR(Distance 10mm) (Body(WWAN+2.4G/5G)-ANT Up)												
Back Side	standard	RMC 12.2K	1:1	9400/1880	18.60	17.53	0.109	0.204	0.070	1.28	0.261	/
Front Side	standard	RMC 12.2K	1:1	9400/1880	18.60	17.53	0.082	0.171	0.030	1.28	0.219	/
Left Edge	standard	RMC 12.2K	1:1	9400/1880	18.60	17.53	0.003	0.010	0.021	1.28	0.013	/
Right Edge	standard	RMC 12.2K	1:1	9400/1880	18.60	17.53	0.019	0.042	0.100	1.28	0.054	/
Top Edge	standard	RMC 12.2K	1:1	9400/1880	18.60	17.53	0.207	0.412	0.043	1.28	0.527	74
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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

Measurement Variability

Test Position	Channel/ Frequency(MHz)	MAX Measured SAR _{1g} (W/kg)	1 st Repeated SAR _{1g} (W/kg)	Ratio
Right Tilt	9538/1907.6	0.707	0.699	1.01

Note: 1) 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 ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).

2) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .



Test Position	Channel Type	Duty Cycle	Channel Frequency(MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)			Need to test
						Measured SAR1g	Scaling Factor	Report SAR1g	
Back Side	RMC 12.2K	1:1	9400/1880	19.10	18.60	0.261	1.12	0.293	no
Front Side	RMC 12.2K	1:1	9400/1880	19.10	18.60	0.219	1.12	0.245	no
Left Edge	RMC 12.2K	1:1	9400/1880	19.10	18.60	0.013	1.12	0.014	no
Right Edge	RMC 12.2K	1:1	9400/1880	19.10	18.60	0.054	1.12	0.060	no
Top Edge	RMC 12.2K	1:1	9400/1880	19.10	18.60	0.527	1.12	0.591	no

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



Table 27: UMTS Band IV (WWAN Antenna Up)

Test Position	Cover Type	Channel Type	Duty Cycle	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
							Measur edSAR 10g	Measur edSAR 1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (head(standalone)-ANT Up)												
Left Cheek	standard	RMC 12.2K	1:1	1413/1732.6	17.60	15.88	0.191	0.377	-0.030	1.49	0.560	/
Left Tilt	standard	RMC 12.2K	1:1	1312/1712.4	17.60	16.21	0.310	0.622	0.065	1.38	0.857	/
	standard	RMC 12.2K	1:1	1413/1732.6	17.60	15.88	0.271	0.554	0.031	1.49	0.823	/
	standard	RMC 12.2K	1:1	1513/1752.6	17.60	15.95	0.296	0.588	-0.032	1.46	0.860	/
Right Cheek	standard	RMC 12.2K	1:1	1413/1732.6	17.60	15.88	0.232	0.493	0.170	1.49	0.733	/
Right Tilt	standard	RMC 12.2K	1:1	1312/1712.4	17.60	16.61	0.346	0.761	0.020	1.26	0.956	75
	standard	RMC 12.2K	1:1	1413/1732.6	17.60	15.88	0.318	0.691	0.020	1.49	1.027	/
	standard	RMC 12.2K	1:1	1513/1752.6	17.60	15.95	0.322	0.724	0.012	1.46	1.059	/
Right Tilt	repeated	RMC 12.2K	1:1	1312/1712.4	17.60	16.21	0.342	0.759	0.025	1.38	1.045	/
Body-worn SAR (Distance 15mm) (Body(standalone)-ANT Up)												
Back Side	standard	RMC 12.2K	1:1	1413/1732.6	20.10	18.36	0.250	0.430	-0.030	1.49	0.642	76
Front Side	standard	RMC 12.2K	1:1	1413/1732.6	20.10	18.36	0.159	0.263	0.021	1.49	0.393	/
Hotspot SAR(Distance 10mm) (Body(WWAN+2.4G/5G)-ANT Up)												
Back Side	standard	RMC 12.2K	1:1	1413/1732.6	19.60	18.17	0.142	0.255	0.060	1.39	0.354	/
Front Side	standard	RMC 12.2K	1:1	1413/1732.6	19.60	18.17	0.117	0.230	0.022	1.39	0.320	/
Left Edge	standard	RMC 12.2K	1:1	1413/1732.6	19.60	18.17	0.004	0.012	0.011	1.39	0.017	/
Right Edge	standard	RMC 12.2K	1:1	1413/1732.6	19.60	18.17	0.010	0.019	-0.123	1.39	0.026	/
Top Edge	standard	RMC 12.2K	1:1	1413/1732.6	19.60	18.17	0.254	0.495	-0.043	1.39	0.688	77
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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

Test Position	Channel Type	Duty Cycle	Channel Frequency(MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)			Need to test
						Measured SAR1g	Scaling Factor	Report SAR1g	
Back Side	RMC 12.2K	1:1	1413/1732.6	20.10	19.60	0.354	1.12	0.398	no
Front Side	RMC 12.2K	1:1	1413/1732.6	20.10	19.60	0.320	1.12	0.359	no
Left Edge	RMC 12.2K	1:1	1413/1732.6	20.10	19.60	0.017	1.12	0.019	no
Right Edge	RMC 12.2K	1:1	1413/1732.6	20.10	19.60	0.026	1.12	0.030	no
Top Edge	RMC 12.2K	1:1	1413/1732.6	20.10	19.60	0.688	1.12	0.772	no

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



Table 28: UMTS Band V (WWAN Antenna Up)

Test Position	Cover Type	Channel Type	Duty Cycle	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
							Measur edSAR 10g	Measur edSAR 1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (FULL)												
Left Cheek	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.248	0.376	0.000	1.12	0.423	/
Left Tilt	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.191	0.321	0.160	1.12	0.361	/
Right Cheek	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.290	0.499	0.000	1.12	0.561	/
Right Tilt	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.231	0.466	0.030	1.12	0.524	78
Body-worn SAR (Distance 15mm) (FULL)												
Back Side	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.053	0.069	-0.020	1.12	0.078	79
Front Side	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.045	0.062	0.023	1.12	0.070	/
Hotspot SAR(Distance 10mm) (FULL)												
Back Side	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.058	0.094	-0.025	1.12	0.106	/
Front Side	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.069	0.115	0.060	1.12	0.129	80
Left Edge	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.031	0.048	0.047	1.12	0.054	/
Right Edge	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.041	0.062	0.022	1.12	0.070	/
Top Edge	standard	RMC 12.2K	1:1	4183/836.6	24.30	23.79	0.048	0.081	0.010	1.12	0.091	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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



Table 29: LTE Band 2 (20MHz, WWAN Antenna Up)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10g	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (QPSK) (head(standalone)-ANT Up)													
Left Cheek	standard	1:1	1	50	18900/1880	17.30	15.92	0.191	0.387	-0.020	1.37	0.532	/
Left Tilt	standard	1:1	1	50	18900/1880	17.30	15.92	0.262	0.548	0.054	1.37	0.753	/
Right Cheek	standard	1:1	1	50	18900/1880	17.30	15.92	0.237	0.512	0.080	1.37	0.704	/
Right Tilt	standard	1:1	1	50	18700/1860	17.30	15.88	0.211	0.587	0.052	1.39	0.814	/
	standard	1:1	1	50	18900/1880	17.30	15.92	0.242	0.616	-0.050	1.37	0.846	/
	standard	1:1	1	50	19100/1900	17.30	15.88	0.262	0.623	0.120	1.39	0.864	/
Left Cheek	standard	1:1	50%	0	19100/1900	17.30	15.98	0.205	0.418	0.040	1.36	0.566	/
Left Tilt	standard	1:1	50%	0	19100/1900	17.30	15.98	0.280	0.590	0.120	1.36	0.800	/
Right Cheek	standard	1:1	50%	0	19100/1900	17.30	15.98	0.257	0.559	0.050	1.36	0.758	/
Right Tilt	standard	1:1	50%	25	18700/1860	17.30	15.85	0.274	0.621	0.080	1.40	0.867	/
	standard	1:1	50%	25	18900/1880	17.30	15.96	0.279	0.633	0.080	1.36	0.862	/
	standard	1:1	50%	0	19100/1900	17.30	15.98	0.292	0.651	-0.050	1.36	0.882	/
Right Tilt	standard	1:1	100%	0	18700/1860	17.30	15.83	0.312	0.695	0.170	1.40	0.975	/
	standard	1:1	100%	0	18900/1880	17.30	15.91	0.317	0.708	0.020	1.38	0.975	/
	standard	1:1	100%	0	19100/1900	17.30	15.94	0.346	0.775	0.010	1.37	1.060	/
Right Tilt	repeated	1:1	100%	0	19100/1900	17.30	15.94	0.343	0.778	0.026	1.37	1.064	81
Body-worn SAR (Body(standalone)-ANT Up)													
Back Side	standard	1:1	1	50	19100/1900	18.30	17.14	0.069	0.108	0.013	1.31	0.141	/
Front Side	standard	1:1	1	50	19100/1900	18.30	17.14	0.039	0.072	0.060	1.31	0.094	/
Back Side	standard	1:1	50%	0	19100/1900	18.30	17.22	0.078	0.138	-0.031	1.28	0.177	82
Front Side	standard	1:1	50%	0	19100/1900	18.30	17.22	0.043	0.080	0.028	1.28	0.103	/
Hotspot SAR(QPSK, Distance 10mm) (Body(WWAN+2.4G/5G)-ANT Up)													
Back Side	standard	1:1	1	50	19100/1900	17.80	16.65	0.094	0.177	0.032	1.30	0.231	/
Front Side	standard	1:1	1	50	19100/1900	17.80	16.65	0.081	0.161	0.050	1.30	0.210	/
Left Edge	standard	1:1	1	50	19100/1900	17.80	16.65	0.013	0.025	0.080	1.30	0.033	/
Right Edge	standard	1:1	1	50	19100/1900	17.80	16.65	0.016	0.031	0.060	1.30	0.040	/
Top Edge	standard	1:1	1	50	19100/1900	17.80	16.65	0.216	0.437	-0.045	1.30	0.569	83
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	0	19100/1900	17.80	16.75	0.099	0.190	-0.021	1.27	0.242	/
Front Side	standard	1:1	50%	0	19100/1900	17.80	16.75	0.084	0.157	0.034	1.27	0.200	/
Left Edge	standard	1:1	50%	0	19100/1900	17.80	16.75	0.004	0.012	0.020	1.27	0.015	/
Right Edge	standard	1:1	50%	0	19100/1900	17.80	16.75	0.007	0.019	0.034	1.27	0.024	/
Top Edge	standard	1:1	50%	0	19100/1900	17.80	16.75	0.206	0.413	0.011	1.27	0.526	/



Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
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Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are $\geq$ 50% limit(1g).

Measurement Variability

Test Position	Channel/ Frequency(MHz)	MAX Measured SAR _{1g} (W/kg)	1 st Repeated SAR _{1g} (W/kg)	Ratio
Right Tilt	19100/1900	0.775	0.778	1.00

Note: 1) 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 ≥ 1.45 W/kg ($\sim 10\%$ from the 1-g SAR limit).

2) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

Test Position	Mode	Duty Cycle	RB allocation	offset	Channel Frequency(MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR _{1g}	Scaling Factor	Report SAR _{1g}	Need to test
Back Side	QPSK	1:1	1	50	19100/1900	18.30	17.80	0.231	1.12	0.259	no
Front Side	QPSK	1:1	1	50	19100/1900	18.30	17.80	0.210	1.12	0.235	no
Left Edge	QPSK	1:1	1	50	19100/1900	18.30	17.80	0.033	1.12	0.037	no
Right Edge	QPSK	1:1	1	50	19100/1900	18.30	17.80	0.040	1.12	0.045	no
Top Edge	QPSK	1:1	1	50	19100/1900	18.30	17.80	0.569	1.12	0.639	no
Back Side	QPSK	1:1	50%	0	19100/1900	18.30	17.80	0.242	1.12	0.271	no
Front Side	QPSK	1:1	50%	0	19100/1900	18.30	17.80	0.200	1.12	0.224	no
Left Edge	QPSK	1:1	50%	0	19100/1900	18.30	17.80	0.015	1.12	0.017	no
Right Edge	QPSK	1:1	50%	0	19100/1900	18.30	17.80	0.024	1.12	0.027	no
Top Edge	QPSK	1:1	50%	0	19100/1900	18.30	17.80	0.526	1.12	0.590	no

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



Table 30: LTE Band 4 (20MHz, WWAN Antenna Up)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10g	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (QPSK) (head(standalone)-ANT Up)													
Left Cheek	standard	1:1	1	99	20050/1720	18.30	17.53	0.237	0.467	-0.130	1.19	0.558	/
Left Tilt	standard	1:1	1	99	20050/1720	18.30	17.53	0.324	0.648	-0.030	1.19	0.774	/
	standard	1:1	1	0	20175/1732.5	18.30	17.43	0.310	0.627	-0.020	1.22	0.766	/
	standard	1:1	1	0	20300/1745	18.30	17.40	0.308	0.626	-0.080	1.23	0.770	/
Right Cheek	standard	1:1	1	99	20050/1720	18.30	17.53	0.267	0.566	0.050	1.19	0.676	/
Right Tilt	standard	1:1	1	99	20050/1720	18.30	17.53	0.374	0.814	0.031	1.19	0.972	/
	standard	1:1	1	0	20175/1732.5	18.30	17.43	0.409	0.888	0.000	1.22	1.085	/
	standard	1:1	1	0	20300/1745	18.30	17.40	0.405	0.880	-0.040	1.23	1.083	/
Left Cheek	standard	1:1	50%	25	20175/1732.5	18.30	17.50	0.241	0.476	-0.030	1.20	0.572	/
Left Tilt	standard	1:1	50%	50	20050/1720	18.30	17.47	0.321	0.651	0.020	1.21	0.788	/
	standard	1:1	50%	25	20175/1732.5	18.30	17.50	0.330	0.673	0.050	1.20	0.809	/
	standard	1:1	50%	0	20300/1745	18.30	17.48	0.309	0.632	-0.100	1.21	0.763	/
Right Cheek	standard	1:1	50%	50	20050/1720	18.30	17.50	0.306	0.679	0.090	1.20	0.816	/
	standard	1:1	50%	25	20175/1732.5	18.30	17.50	0.331	0.721	0.010	1.20	0.867	/
	standard	1:1	50%	0	20300/1745	18.30	17.50	0.312	0.704	-0.021	1.20	0.846	/
Right Tilt	standard	1:1	50%	50	20050/1720	18.30	17.47	0.374	0.811	0.050	1.21	0.982	/
	standard	1:1	50%	25	20175/1732.5	18.30	17.50	0.431	0.943	0.020	1.20	1.134	84
	standard	1:1	50%	0	20300/1745	18.30	17.48	0.376	0.818	0.140	1.21	0.988	/
Right Tilt	standard	1:1	100%	0	20050/1720	18.30	17.32	0.379	0.825	0.026	1.25	1.034	/
	standard	1:1	100%	0	20175/1732.5	18.30	17.33	0.413	0.880	0.026	1.25	1.100	/
	standard	1:1	100%	0	20300/1745	18.30	17.25	0.405	0.873	0.026	1.27	1.112	/
Right Tilt	repeated	1:1	50%	25	20175/1732.5	18.30	17.50	0.426	0.937	0.052	1.20	1.127	/
Head SAR (QPSK) Simultaneous with Wi-Fi2.4G/ 5G													
Right Tilt	standard	1:1	50%	25	20175/1732.5	15.30	14.21	0.190	0.411	0.090	1.29	0.528	/
Body-worn SAR (Body(standalone)-ANT Up)													
Back Side	standard	1:1	1	50	20300/1745	19.80	19.35	0.120	0.200	0.040	1.11	0.222	85
Front Side	standard	1:1	1	50	20300/1745	19.80	19.35	0.095	0.163	-0.024	1.11	0.181	/
Back Side	standard	1:1	50%	50	20175/1732.5	19.80	19.34	0.107	0.184	0.100	1.11	0.205	/
Front Side	standard	1:1	50%	50	20175/1732.5	19.80	19.34	0.086	0.154	0.022	1.11	0.171	/
Hotspot SAR(QPSK, Distance 10mm) (Body(WWAN+2.4G/5G)-ANT Up)													
Back Side	standard	1:1	1	50	20050/1720	19.30	18.31	0.127	0.232	0.059	1.26	0.291	/
Front Side	standard	1:1	1	50	20050/1720	19.30	18.31	0.116	0.222	0.120	1.26	0.279	/
Left Edge	standard	1:1	1	50	20050/1720	19.30	18.31	0.021	0.039	0.041	1.26	0.049	/



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Right Edge	standard	1:1	1	50	20050/1720	19.30	18.31	0.019	0.035	0.140	1.26	0.044	/
Top Edge	standard	1:1	1	50	20050/1720	19.30	18.31	0.246	0.526	0.190	1.26	0.661	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	0	20050/1720	19.30	18.56	0.121	0.217	0.121	1.19	0.257	/
Front Side	standard	1:1	50%	0	20050/1720	19.30	18.56	0.113	0.207	0.000	1.19	0.245	/
Left Edge	standard	1:1	50%	0	20050/1720	19.30	18.56	0.018	0.021	0.174	1.19	0.025	/
Right Edge	standard	1:1	50%	0	20050/1720	19.30	18.56	0.020	0.026	0.033	1.19	0.031	/
Top Edge	standard	1:1	50%	0	20050/1720	19.30	18.56	0.298	0.576	0.030	1.19	0.683	86
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are $\geq$ 50% limit(1g).

Measurement Variability

Test Position	Channel/ Frequency(MHz)	MAX Measured SAR _{1g} (W/kg)	1 st Repeated SAR _{1g} (W/kg)	Ratio
Right Tilt	20175/1732.5	0.943	0.937	1.01

Note: 1) 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 ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).

2) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

Test Position	Mode	Duty Cycle	RB allocation	offset	Channel Frequency(MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR _{1g}	Scaling Factor	Report SAR _{1g}	Need to test
Back Side	QPSK	1:1	1	50	20300/1745	19.80	19.30	0.291	1.12	0.327	no
Front Side	QPSK	1:1	1	50	20300/1745	19.80	19.30	0.279	1.12	0.313	no
Left Edge	QPSK	1:1	1	50	20300/1745	19.80	19.30	0.049	1.12	0.055	no
Right Edge	QPSK	1:1	1	50	20300/1745	19.80	19.30	0.044	1.12	0.049	no
Top Edge	QPSK	1:1	1	50	20300/1745	19.80	19.30	0.661	1.12	0.741	no
Back Side	QPSK	1:1	50%	0	20050/1720	19.80	19.30	0.269	1.12	0.302	no
Front Side	QPSK	1:1	50%	0	20050/1720	19.80	19.30	0.257	1.12	0.288	no
Left Edge	QPSK	1:1	50%	0	20050/1720	19.80	19.30	0.026	1.12	0.029	no
Right Edge	QPSK	1:1	50%	0	20050/1720	19.80	19.30	0.032	1.12	0.036	no
Top Edge	QPSK	1:1	50%	0	20050/1720	19.80	19.30	0.715	1.12	0.802	no

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



Table 31: LTE Band 5 (10MHz, WWAN Antenna Up)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10g	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (QPSK) (FULL)													
Left Cheek	standard	1:1	1	49	20525/836.5	24.30	23.69	0.24	0.358	0.140	1.15	0.412	/
Left Tilt	standard	1:1	1	49	20525/836.5	24.30	23.69	0.21	0.354	0.060	1.15	0.407	/
Right Cheek	standard	1:1	1	49	20525/836.5	24.30	23.69	0.29	0.510	0.040	1.15	0.587	87
Right Tilt	standard	1:1	1	49	20525/836.5	24.30	23.69	0.23	0.475	0.110	1.15	0.547	/
Left Cheek	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.17	0.249	-0.090	1.28	0.319	/
Left Tilt	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.14	0.232	0.010	1.28	0.298	/
Right Cheek	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.20	0.343	0.110	1.28	0.440	/
Right Tilt	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.17	0.344	0.000	1.28	0.441	/
Body-worn SAR (FULL)													
Back Side	standard	1:1	1	49	20525/836.5	24.30	23.69	0.575	0.074	-0.160	1.15	0.085	88
Front Side	standard	1:1	1	49	20525/836.5	24.30	23.69	0.044	0.062	-0.050	1.15	0.071	/
Back Side	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.035	0.048	0.061	1.28	0.062	/
Front Side	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.032	0.046	0.036	1.28	0.059	/
Hotspot SAR(QPSK, Distance 10mm) (FULL)													
Back Side	standard	1:1	1	49	20525/836.5	24.30	23.69	0.063	0.102	0.066	1.15	0.117	89
Front Side	standard	1:1	1	49	20525/836.5	24.30	23.69	0.061	0.096	0.062	1.15	0.110	/
Left Edge	standard	1:1	1	49	20525/836.5	24.30	23.69	0.029	0.045	0.103	1.15	0.052	/
Right Edge	standard	1:1	1	49	20525/836.5	24.30	23.69	0.036	0.055	0.116	1.15	0.063	/
Top Edge	standard	1:1	1	49	20525/836.5	24.30	23.69	0.054	0.098	-0.150	1.15	0.113	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.041	0.066	0.125	1.28	0.085	/
Front Side	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.039	0.062	0.086	1.28	0.080	/
Left Edge	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.018	0.032	0.063	1.28	0.041	/
Right Edge	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.019	0.035	-0.120	1.28	0.045	/
Top Edge	standard	1:1	50%	13	20525/836.5	23.30	22.22	0.032	0.062	0.110	1.28	0.080	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Note: 1. The value with blue color is the maximum SAR Value of each test band.													
2.For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are≥ 50% limit(1g).													



Table 32: LTE Band 7 (20MHz, WWAN Antenna Up)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10g	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (QPSK) (head(standalone)-ANT Up)													
Left Cheek	standard	1:1	1	50	21350/2560	15.80	15.29	0.073	0.130	-0.100	1.12	0.146	/
Left Tilt	standard	1:1	1	50	21350/2560	15.80	15.29	0.077	0.142	0.090	1.12	0.160	/
Right Cheek	standard	1:1	1	50	21350/2560	15.80	15.29	0.149	0.318	0.040	1.12	0.358	/
Right Tilt	standard	1:1	1	50	21350/2560	15.80	15.29	0.163	0.376	-0.010	1.12	0.423	90
Left Cheek	standard	1:1	50%	25	21350/2560	15.80	15.29	0.070	0.125	-0.050	1.12	0.141	/
Left Tilt	standard	1:1	50%	25	21350/2560	15.80	15.29	0.008	0.146	0.100	1.12	0.164	/
Right Cheek	standard	1:1	50%	25	21350/2560	15.80	15.29	0.150	0.312	0.080	1.12	0.351	/
Right Tilt	standard	1:1	50%	25	21350/2560	15.80	15.29	0.160	0.361	0.050	1.12	0.406	/
Right Tilt	standard	1:1	1	99	20850/2510	15.80	15.31	0.123	0.298	0.028	1.12	0.334	/
			1	0	21048/2529.8								
Body-worn SAR (Body(standalone)-ANT Up)													
Back Side	standard	1:1	1	50	21350/2560	22.80	22.53	0.110	0.196	-0.080	1.06	0.209	91
Front Side	standard	1:1	1	50	21350/2560	22.80	22.53	0.071	0.131	-0.011	1.06	0.139	/
Back Side	standard	1:1	50%	0	21350/2560	22.80	22.00	0.084	0.154	0.038	1.20	0.185	/
Front Side	standard	1:1	50%	0	21350/2560	22.80	22.00	0.070	0.129	0.029	1.20	0.155	/
Back Side	standard	1:1	1	99	20850/2510	22.80	22.38	0.063	0.125	-0.050	1.10	0.138	/
			1	0	21048/2529.8								
Hotspot SAR(QPSK, Distance 10mm) (Body(WWAN+2.4G/5G)-ANT Up)													
Back Side	standard	1:1	1	50	21350/2560	21.80	20.48	0.165	0.303	-0.078	1.36	0.411	/
Front Side	standard	1:1	1	50	21350/2560	21.80	20.48	0.139	0.263	-0.020	1.36	0.356	/
Left Edge	standard	1:1	1	50	21350/2560	21.80	20.48	0.140	0.262	-0.170	1.36	0.355	/
Right Edge	standard	1:1	1	50	21350/2560	21.80	20.48	0.132	0.249	0.052	1.36	0.337	/
Top Edge	standard	1:1	1	50	21350/2560	21.80	20.48	0.159	0.340	-0.060	1.36	0.461	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	25	21350/2560	21.80	20.45	0.160	0.301	0.020	1.36	0.411	/
Front Side	standard	1:1	50%	25	21350/2560	21.80	20.45	0.136	0.262	0.051	1.36	0.358	/
Left Edge	standard	1:1	50%	25	21350/2560	21.80	20.45	0.110	0.201	0.010	1.36	0.274	/
Right Edge	standard	1:1	50%	25	21350/2560	21.80	20.45	0.103	0.192	0.031	1.36	0.262	/
Top Edge	standard	1:1	50%	25	21350/2560	21.80	20.45	0.152	0.362	0.058	1.36	0.494	92
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	standard	1:1	1	99	20850/2510	21.80	21.34	0.125	0.248	0.021	1.11	0.276	/
			1	0	21048/2529.8								

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

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are ≥



50% limit(1g).

Test Position	Mode	Duty Cycle	RB allocation	offset	Channel Frequency(MHz)	Tune-up (dBm)	Measured power (dBm)	Measured SAR1g	Scaling Factor	Report SAR1g	Need to test
Back Side	QPSK	1:1	1	50	21350/2560	22.80	21.80	0.411	1.26	0.517	no
Front Side	QPSK	1:1	1	50	21350/2560	22.80	21.80	0.356	1.26	0.449	no
Left Edge	QPSK	1:1	1	50	21350/2560	22.80	21.80	0.355	1.26	0.447	no
Right Edge	QPSK	1:1	1	50	21350/2560	22.80	21.80	0.337	1.26	0.425	no
Top Edge	QPSK	1:1	1	50	21350/2560	22.80	21.80	0.461	1.26	0.580	no
Back Side	QPSK	1:1	50%	25	21350/2560	22.80	21.80	0.411	1.26	0.517	no
Front Side	QPSK	1:1	50%	25	21350/2560	22.80	21.80	0.358	1.26	0.450	no
Left Edge	QPSK	1:1	50%	25	21350/2560	22.80	21.80	0.274	1.26	0.345	no
Right Edge	QPSK	1:1	50%	25	21350/2560	22.80	21.80	0.262	1.26	0.330	no
Top Edge	QPSK	1:1	50%	25	21350/2560	22.80	21.80	0.494	1.26	0.622	no

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



Table 33: LTE Band 12 (10MHz, WWAN Antenna Up)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10g	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (QPSK) (FULL)													
Left Cheek	standard	1:1	1	49	23130/711	23.80	22.99	0.029	0.047	-0.046	1.21	0.056	/
Left Tilt	standard	1:1	1	49	23130/711	23.80	22.99	0.023	0.043	0.020	1.21	0.051	/
Right Cheek	standard	1:1	1	49	23130/711	23.80	22.99	0.028	0.035	0.171	1.21	0.042	/
Right Tilt	standard	1:1	1	49	23130/711	23.80	22.99	0.018	0.023	0.048	1.21	0.027	/
Left Cheek	standard	1:1	50%	13	23060/704	22.80	21.46	0.022	0.035	0.110	1.36	0.047	/
Left Tilt	standard	1:1	50%	13	23060/704	22.80	21.46	0.020	0.037	0.034	1.36	0.051	/
Right Cheek	standard	1:1	50%	13	23060/704	22.80	21.46	0.029	0.054	0.120	1.36	0.074	/
Right Tilt	standard	1:1	50%	13	23060/704	22.80	21.46	0.028	0.060	0.100	1.36	0.082	93
Body-worn SAR (FULL)													
Back Side	standard	1:1	1	49	23130/711	23.80	22.99	0.007	0.010	-0.020	1.21	0.012	94
Front Side	standard	1:1	1	49	23130/711	23.80	22.99	0.003	0.006	0.000	1.21	0.007	/
Back Side	standard	1:1	50%	13	23060/704	22.80	21.46	0.002	0.005	0.099	1.36	0.007	/
Front Side	standard	1:1	50%	13	23060/704	22.80	21.46	0.001	0.003	0.000	1.36	0.004	/
Hotspot SAR(QPSK, Distance 10mm) (FULL)													
Back Side	standard	1:1	1	49	23130/711	23.80	22.99	0.012	0.019	0.071	1.21	0.022	95
Front Side	standard	1:1	1	49	23130/711	23.80	22.99	0.004	0.011	0.035	1.21	0.013	/
Left Edge	standard	1:1	1	49	23130/711	23.80	22.99	0.002	0.006	0.000	1.21	0.007	/
Right Edge	standard	1:1	1	49	23130/711	23.80	22.99	0.001	0.003	0.010	1.21	0.004	/
Top Edge	standard	1:1	1	49	23130/711	23.80	22.99	0.003	0.009	0.092	1.21	0.011	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	13	23060/704	22.80	21.46	0.007	0.010	0.000	1.36	0.014	/
Front Side	standard	1:1	50%	13	23060/704	22.80	21.46	0.002	0.006	0.080	1.36	0.008	/
Left Edge	standard	1:1	50%	13	23060/704	22.80	21.46	0.001	0.002	-0.099	1.36	0.003	/
Right Edge	standard	1:1	50%	13	23060/704	22.80	21.46	0.001	0.001	0.000	1.36	0.001	/
Top Edge	standard	1:1	50%	13	23060/704	22.80	21.46	0.001	0.003	0.000	1.36	0.004	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Note: 1. The value with blue color is the maximum SAR Value of each test band.													
2.For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are≥ 50% limit(1g).													



Table 34: LTE Band 17 (10MHz, WWAN Antenna Up)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10g	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (QPSK) (FULL)													
Left Cheek	standard	1:1	1	0	23800/711	23.80	23.01	0.028	0.044	-0.060	1.20	0.052	/
Left Tilt	standard	1:1	1	0	23800/711	23.80	23.01	0.026	0.048	0.100	1.20	0.057	/
Right Cheek	standard	1:1	1	0	23800/711	23.80	23.01	0.032	0.058	0.040	1.20	0.070	/
Right Tilt	standard	1:1	1	0	23800/711	23.80	23.01	0.034	0.073	0.130	1.20	0.087	96
Left Cheek	standard	1:1	50%	13	23800/711	22.80	21.52	0.025	0.042	0.000	1.34	0.056	/
Left Tilt	standard	1:1	50%	13	23800/711	22.80	21.52	0.022	0.041	0.130	1.34	0.055	/
Right Cheek	standard	1:1	50%	13	23800/711	22.80	21.52	0.032	0.058	0.070	1.34	0.078	/
Right Tilt	standard	1:1	50%	13	23800/711	22.80	21.52	0.031	0.067	-0.020	1.34	0.090	/
Body-worn SAR (FULL)													
Back Side	standard	1:1	1	0	23800/711	23.80	23.01	0.006	0.010	0.075	1.20	0.012	97
Front Side	standard	1:1	1	0	23800/711	23.80	23.01	0.004	0.008	0.010	1.20	0.010	/
Back Side	standard	1:1	50%	13	23800/711	22.80	21.52	0.001	0.004	0.000	1.34	0.005	/
Front Side	standard	1:1	50%	13	23800/711	22.80	21.52	0.001	0.002	0.099	1.34	0.003	/
Hotspot SAR(QPSK, Distance 10mm) (FULL)													
Back Side	standard	1:1	1	0	23800/711	23.80	23.01	0.011	0.018	0.074	1.20	0.022	98
Front Side	standard	1:1	1	0	23800/711	23.80	23.01	0.005	0.013	0.099	1.20	0.016	/
Left Edge	standard	1:1	1	0	23800/711	23.80	23.01	0.002	0.004	0.060	1.20	0.005	/
Right Edge	standard	1:1	1	0	23800/711	23.80	23.01	0.001	0.001	-0.011	1.20	0.001	/
Top Edge	standard	1:1	1	0	23800/711	23.80	23.01	0.002	0.005	0.080	1.20	0.006	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	13	23800/711	22.80	21.52	0.004	0.009	0.000	1.34	0.012	/
Front Side	standard	1:1	50%	13	23800/711	22.80	21.52	0.003	0.007	0.060	1.34	0.009	/
Left Edge	standard	1:1	50%	13	23800/711	22.80	21.52	0.001	0.001	0.000	1.34	0.001	/
Right Edge	standard	1:1	50%	13	23800/711	22.80	21.52	0.001	0.001	0.099	1.34	0.001	/
Top Edge	standard	1:1	50%	13	23800/711	22.80	21.52	0.001	0.002	0.000	1.34	0.003	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Note: 1. The value with blue color is the maximum SAR Value of each test band.													
2.For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are≥ 50% limit(1g).													



Table 35: LTE Band 26 (15MHz, WWAN Antenna Up)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10g	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (QPSK) (FULL)													
Left Cheek	standard	1:1	1	38	26965/841.5	24.30	23.68	0.240	0.368	0.020	1.15	0.424	/
Left Tilt	standard	1:1	1	38	26965/841.5	24.30	23.68	0.206	0.343	0.020	1.15	0.396	/
Right Cheek	standard	1:1	1	38	26965/841.5	24.30	23.68	0.254	0.434	0.040	1.15	0.501	/
Right Tilt	standard	1:1	1	38	26965/841.5	24.30	23.68	0.246	0.499	0.070	1.15	0.576	99
Left Cheek	standard	1:1	50%	0	26765/821.5	23.30	22.10	0.118	0.174	0.060	1.32	0.229	/
Left Tilt	standard	1:1	50%	0	26765/821.5	23.30	22.10	0.098	0.161	0.020	1.32	0.212	/
Right Cheek	standard	1:1	50%	0	26765/821.5	23.30	22.10	0.140	0.240	0.120	1.32	0.316	/
Right Tilt	standard	1:1	50%	0	26765/821.5	23.30	22.10	0.113	0.230	0.090	1.32	0.303	/
Body-worn SAR (FULL)													
Back Side	standard	1:1	1	38	26965/841.5	24.30	23.68	0.048	0.062	0.050	1.15	0.071	100
Front Side	standard	1:1	1	38	26965/841.5	24.30	23.68	0.042	0.057	0.016	1.15	0.066	/
Back Side	standard	1:1	50%	18	26765/821.5	23.30	22.10	0.034	0.049	-0.060	1.32	0.065	/
Front Side	standard	1:1	50%	18	26765/821.5	23.30	22.10	0.031	0.046	0.038	1.32	0.061	/
Hotspot SAR(QPSK, Distance 10mm) (FULL)													
Back Side	standard	1:1	1	38	26965/841.5	24.30	23.68	0.062	0.099	0.160	1.15	0.114	101
Front Side	standard	1:1	1	38	26965/841.5	24.30	23.68	0.061	0.096	0.022	1.15	0.111	/
Left Edge	standard	1:1	1	38	26965/841.5	24.30	23.68	0.015	0.038	0.038	1.15	0.044	/
Right Edge	standard	1:1	1	38	26965/841.5	24.30	23.68	0.046	0.070	-0.010	1.15	0.081	/
Top Edge	standard	1:1	1	38	26965/841.5	24.30	23.68	0.047	0.086	0.016	1.15	0.099	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	18	26765/821.5	23.30	22.10	0.038	0.055	0.050	1.32	0.073	/
Front Side	standard	1:1	50%	18	26765/821.5	23.30	22.10	0.029	0.045	0.087	1.32	0.059	/
Left Edge	standard	1:1	50%	18	26765/821.5	23.30	22.10	0.004	0.012	0.032	1.32	0.016	/
Right Edge	standard	1:1	50%	18	26765/821.5	23.30	22.10	0.021	0.058	0.011	1.32	0.076	/
Top Edge	standard	1:1	50%	18	26765/821.5	23.30	22.10	0.029	0.062	0.026	1.32	0.082	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Note: 1. The value with blue color is the maximum SAR Value of each test band.													
2.For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are≥ 50% limit(1g).													



Table 36: LTE Band 38 (20MHz, WWAN Antenna Up)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measure d SAR10g	Measur ed SAR1g	Power Drift (dB)	Scalin g Factor	Report SAR1 g	
Head SAR (QPSK) (head(standalone)-ANT Up)													
Left Cheek	standard	1:1.58	1	50	38000/2595	20.80	20.03	0.121	0.242	-0.050	1.19	0.289	/
Left Tilt	standard	1:1.58	1	50	38000/2595	20.80	20.03	0.113	0.228	0.110	1.19	0.272	/
Right Cheek	standard	1:1.58	1	50	38000/2595	20.80	20.03	0.251	0.528	-0.030	1.19	0.630	/
Right Tilt	standard	1:1.58	1	50	38000/2595	20.80	20.03	0.285	0.644	0.020	1.19	0.769	102
Left Cheek	standard	1:1.58	50%	25	38000/2595	20.80	19.99	0.123	0.246	-0.070	1.21	0.296	/
Left Tilt	standard	1:1.58	50%	25	38000/2595	20.80	19.99	0.120	0.237	-0.100	1.21	0.286	/
Right Cheek	standard	1:1.58	50%	25	38000/2595	20.80	19.99	0.258	0.543	0.100	1.21	0.654	/
Right Tilt	standard	1:1.58	50%	50	38000/2595	20.80	19.99	0.249	0.574	0.090	1.21	0.692	/
Right Tilt	standard	1:1.58	1	0	38150/2610	20.80	19.83	0.185	0.476	0.012	1.25	0.595	/
			1	99	37952/2590.2								
Body-worn SAR (FULL)													
Back Side	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.116	0.206	0.027	1.12	0.231	103
Front Side	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.065	0.137	-0.060	1.12	0.154	/
Back Side	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.085	0.172	0.010	1.31	0.225	/
Front Side	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.041	0.089	0.043	1.31	0.116	/
Back Side	standard	1:1.58	1	0	38150/2610	23.80	23.53	0.058	0.129	0.033	1.06	0.137	/
			1	99	37952/2590.2								
Hotspot SAR(QPSK, Distance 10mm) (FULL)													
Back Side	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.172	0.365	-0.063	1.12	0.410	104
Front Side	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.107	0.231	0.020	1.12	0.259	/
Left Edge	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.061	0.215	-0.010	1.12	0.241	/
Right Edge	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.018	0.046	0.025	1.12	0.052	/
Top Edge	standard	1:1.58	1	50	38150/2610	23.80	23.30	0.133	0.303	0.190	1.12	0.340	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.142	0.312	0.051	1.31	0.408	/
Front Side	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.062	0.179	0.042	1.31	0.234	/
Left Edge	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.059	0.151	-0.080	1.31	0.197	/
Right Edge	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.013	0.032	0.016	1.31	0.042	/
Top Edge	standard	1:1.58	50%	25	38150/2610	22.80	21.64	0.113	0.268	0.020	1.31	0.350	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1.58	1	0	38150/2610	23.80	23.53	0.143	0.328	0.065	1.06	0.349	/
			1	99	37952/2590.2								

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

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are $\geq$ 50% limit(1g).



Table 37: LTE Band 41 (20MHz, WWAN Antenna Up)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10g	Measured SAR1g	Power Drift (dB)	Scaling Factor	Report SAR1g	
Head SAR (QPSK) (head(standalone)-ANT Up)													
Left Cheek	standard	1:1.58	1	50	40185/2549.5	20.80	19.58	0.146	0.289	0.000	1.32	0.383	/
Left Tilt	standard	1:1.58	1	50	40185/2549.5	20.80	19.58	0.138	0.292	-0.030	1.32	0.387	/
Right Cheek	standard	1:1.58	1	50	40185/2549.5	20.80	19.58	0.192	0.457	0.021	1.32	0.605	/
Right Tilt	standard	1:1.58	1	50	39750/2506	20.80	19.42	0.239	0.518	0.039	1.37	0.712	/
	standard	1:1.58	1	50	40185/2549.5	20.80	19.58	0.285	0.656	0.070	1.32	0.869	105
	standard	1:1.58	1	50	40620/2593	20.80	19.53	0.241	0.539	0.062	1.34	0.722	/
	standard	1:1.58	1	0	41055/2636.5	20.80	19.57	0.190	0.438	0.110	1.33	0.581	/
	standard	1:1.58	1	50	41490/2680	20.80	19.54	0.161	0.369	0.080	1.34	0.493	/
Left Cheek	standard	1:1.58	50%	25	41055/2636.5	20.80	19.59	0.106	0.206	-0.020	1.32	0.272	/
Left Tilt	standard	1:1.58	50%	25	41055/2636.5	20.80	19.59	0.094	0.187	0.090	1.32	0.247	/
Right Cheek	standard	1:1.58	50%	25	41055/2636.5	20.80	19.59	0.245	0.475	0.060	1.32	0.628	/
Right Tilt	standard	1:1.58	50%	25	41055/2636.5	20.80	19.59	0.215	0.469	0.055	1.32	0.620	/
Right Tilt	standard	1:1.58	100%	0	40620/2593	20.80	19.47	0.226	0.498	0.000	1.36	0.676	/
Right Tilt	repeated	1:1.58	1	50	40185/2549.5	20.80	19.58	0.279	0.651	0.090	1.32	0.862	/
Right Tilt	standard	1:1.58	1	0	41490/2680	20.80	19.71	0.241	0.548	0.024	1.29	0.704	/
			1	99	41292/2660.2								
Body-worn SAR (FULL)													
Back Side	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.084	0.165	-0.106	1.16	0.192	106
Front Side	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.049	0.106	0.025	1.16	0.123	/
Back Side	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.054	0.123	0.030	1.32	0.162	/
Front Side	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.038	0.072	-0.062	1.32	0.095	/
Back Side	standard	1:1.58	1	0	41490/2680	23.80	23.53	0.043	0.098	0.055	1.06	0.104	/
			1	99	41292/2660.2								
Hotspot SAR(QPSK, Distance 10mm) (FULL)													
Back Side	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.191	0.397	0.021	1.16	0.462	107
Front Side	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.075	0.144	-0.090	1.16	0.168	/
Left Edge	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.077	0.146	0.024	1.16	0.170	/
Right Edge	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.007	0.029	0.061	1.16	0.034	/
Top Edge	standard	1:1.58	1	50	40620/2593	23.80	23.14	0.089	0.229	0.052	1.16	0.267	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.164	0.301	0.029	1.32	0.396	/
Front Side	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.051	0.098	0.041	1.32	0.129	/
Left Edge	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.047	0.087	0.022	1.32	0.114	/

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Right Edge	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.008	0.032	-0.090	1.32	0.042	/
Top Edge	standard	1:1.58	50%	50	40620/2593	22.80	21.61	0.053	0.108	0.047	1.32	0.142	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1.58	1	0	41490/2680	23.80	23.53	0.098	0.257	-0.032	1.06	0.273	/
			1	99	41292/2660.2								

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

2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are $\geq$ 50% limit(1g).



Table 38: LTE Band 66 (20MHz, WWAN Antenna Down)

Test Position	Cover Type	Duty Cycle	RB allocation	RB offset	Channel/ Frequency (MHz)	Tune-up (dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
								Measured SAR10 g	Measured SAR1 g	Power Drift (dB)	Scaling Factor	Report SAR1 g	
Head SAR (QPSK) (head(standalone)-ANT Up)													
Left Cheek	standard	1:1	1	50	132322/1745	17.60	16.52	0.199	0.390	-0.100	1.28	0.500	/
Left Tilt	standard	1:1	1	50	132322/1745	17.60	16.52	0.282	0.569	0.000	1.28	0.730	/
Right Cheek	standard	1:1	1	50	132322/1745	17.60	16.52	0.275	0.586	0.015	1.28	0.751	/
Right Tilt	standard	1:1	1	50	132072/1720	17.60	16.40	0.308	0.663	0.120	1.32	0.874	/
	standard	1:1	1	50	132322/1745	17.60	16.52	0.348	0.752	-0.020	1.28	0.964	/
	standard	1:1	1	50	132572/1770	17.60	16.51	0.359	0.799	-0.010	1.29	1.027	108
Left Cheek	standard	1:1	50%	0	132072/1720	17.60	16.55	0.195	0.381	0.051	1.27	0.485	/
Left Tilt	standard	1:1	50%	0	132072/1720	17.60	16.55	0.281	0.569	0.160	1.27	0.725	/
Right Cheek	standard	1:1	50%	0	132072/1720	17.60	16.55	0.241	0.514	-0.030	1.27	0.655	/
Right Tilt	standard	1:1	50%	0	132072/1720	17.60	16.55	0.310	0.672	0.030	1.27	0.856	/
	standard	1:1	50%	25	132322/1745	17.60	16.49	0.356	0.779	-0.020	1.29	1.006	/
	standard	1:1	50%	25	132572/1770	17.60	16.44	0.344	0.758	-0.030	1.31	0.990	/
Right Tilt	standard	1:1	100%	0	132072/1720	17.60	16.56	0.346	0.748	-0.030	1.27	0.950	/
	standard	1:1	100%	0	132322/1745	17.60	16.37	0.349	0.766	0.020	1.33	1.017	/
	standard	1:1	100%	0	132572/1770	17.60	16.29	0.327	0.709	0.020	1.35	0.959	/
Right Tilt	repeated	1:1	1	50	132572/1770	17.60	16.51	0.355	0.792	0.060	1.29	1.018	/
Body-worn SAR (Body(standalone)-ANT Up)													
Back Side	standard	1:1	1	50	132322/1745	20.10	19.67	0.103	0.173	0.060	1.10	0.191	109
Front Side	standard	1:1	1	50	132322/1745	20.10	19.67	0.082	0.144	0.021	1.10	0.159	/
Back Side	standard	1:1	50%	0	132072/1720	20.10	19.70	0.091	0.156	0.019	1.10	0.171	/
Front Side	standard	1:1	50%	0	132072/1720	20.10	19.70	0.081	0.142	0.052	1.10	0.156	/
Hotspot SAR(QPSK, Distance 10mm) (Body(standalone)-ANT Up)													
Back Side	standard	1:1	1	50	132322/1745	20.10	19.67	0.170	0.307	0.012	1.10	0.339	/
Front Side	standard	1:1	1	50	132322/1745	20.10	19.67	0.152	0.293	0.035	1.10	0.323	/
Left Edge	standard	1:1	1	0	132322/1745	20.10	19.67	0.027	0.046	0.044	1.10	0.051	/
Right Edge	standard	1:1	1	0	132322/1745	20.10	19.67	0.021	0.038	-0.080	1.10	0.042	/
Top Edge	standard	1:1	1	50	132322/1745	20.10	19.67	0.282	0.548	-0.050	1.10	0.605	110
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Back Side	standard	1:1	50%	0	132072/1720	20.10	19.70	0.167	0.303	0.063	1.10	0.332	/
Front Side	standard	1:1	50%	0	132072/1720	20.10	19.70	0.152	0.280	0.024	1.10	0.307	/
Left Edge	standard	1:1	50%	0	132072/1720	20.10	19.70	0.025	0.043	-0.055	1.10	0.047	/
Right Edge	standard	1:1	50%	0	132072/1720	20.10	19.70	0.014	0.021	0.060	1.10	0.023	/
Top Edge	standard	1:1	50%	0	132072/1720	20.10	19.70	0.257	0.515	0.180	1.10	0.565	/



Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Note: 1. The value with blue color is the maximum SAR Value of each test band. 2. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are $\geq$ 50% limit(1g).												



Table 39: Wi-Fi (2.4G)

Test Position	Cover Type	Mode 802.11b	Duty Cycle	Channel/ Frequency (MHz)	Tune-up dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
							Measured SAR10g	Measure dSAR1g	Power Drift (dB)	Scaling Factor	Report SAR 1g	
Head SAR(WLAN-L1)												
Left Cheek	standard	DSSS	99.2%	6/2437	16.00	15.60	0.299	0.648	-0.180	1.11	0.716	111
Left Tilt	standard	DSSS	99.2%	6/2437	16.00	15.60	0.237	0.573	-0.020	1.11	0.634	/
Right Cheek	standard	DSSS	99.2%	6/2437	16.00	15.60	0.165	0.317	-0.130	1.11	0.350	/
Right Tilt	standard	DSSS	99.2%	6/2437	16.00	15.60	0.125	0.250	0.110	1.11	0.276	/
Body-worn SAR (Distance 15mm) (WLAN)												
Back Side	standard	DSSS	99.2%	6/2437	20.00	18.05	0.065	0.132	0.020	1.58	0.209	/
Front Side	standard	DSSS	99.2%	6/2437	20.00	18.05	0.085	0.155	-0.140	1.58	0.245	112
Hotspot SAR(Distance 10mm)(WLAN-L2&4)												
Back Side	standard	DSSS	99.2%	6/2437	14.50	13.66	0.054	0.098	-0.020	1.22	0.120	/
Front Side	standard	DSSS	99.2%	6/2437	14.50	13.66	0.057	0.102	0.014	1.22	0.125	/
Left Edge	standard	DSSS	99.2%	6/2437	14.50	13.66	0.006	0.025	0.022	1.22	0.031	N/A
Right Edge	standard	DSSS	99.2%	6/2437	14.50	13.66	0.040	0.074	0.157	1.22	0.091	/
Top Edge	standard	DSSS	99.2%	6/2437	14.50	13.66	0.063	0.129	-0.011	1.22	0.158	113
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Note: 1. The value with blue color is the maximum SAR Value of each test band.												

MAX Adjusted SAR							
Mode	Test Position	Channel/ Frequency (MHz)	MAX Reported SAR _{1g} (W/kg)	802.11b Tune-up limit (dBm)	Tune-up limit (dBm)	Scaling Factor	Adjusted SAR _{1g} (W/kg)
802.11g	Left Cheek	6/2437	0.716	16.00	15.50	0.89	0.638
802.11n HT20	Left Cheek	6/2437	0.716	16.00	15.50	0.89	0.638
Note: SAR is not required for OFDM when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.							



Table 40: Wi-Fi (5G,U-NII-1)

Test Position	Cover Type	Mode	Duty Cycle	Channel/ Frequency (MHz)	Tune-up dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
							Measured SAR10g	Measure dSAR1g	Power Drift (dB)	Scaling Factor	Report SAR 1g	
Head SAR(WLAN-L4) 802.11n-HT40												
Left Cheek	standard	OFDM	93.5%	46/5230	14.50	14.39	0.154	0.543	0.157	1.10	0.596	/
Left Tilt	standard	OFDM	93.5%	38/5190	14.50	13.63	0.170	0.645	-0.034	1.31	0.843	/
	standard	OFDM	93.5%	46/5230	14.50	14.39	0.203	0.767	-0.100	1.10	0.841	114
Right Cheek	standard	OFDM	93.5%	46/5230	14.50	14.39	0.157	0.526	0.064	1.10	0.577	/
Right Tilt	standard	OFDM	93.5%	46/5230	14.50	14.39	0.159	0.492	0.051	1.10	0.540	/
Head SAR(WLAN-L2) Simultaneous with WWAN 802.11ac-VHT80												
Left Tilt	standard	OFDM	88.1%	42/5210	12.50	11.98	0.076	0.265	-0.140	1.28	0.339	/
Right Tilt	standard	OFDM	88.1%	42/5210	12.50	11.98	0.095	0.285	0.189	1.28	0.365	/
Body-worn SAR (Distance 15mm) (WLAN 1)802.11ac-VHT20												
Back Side	standard	OFDM	95.3%	36/5180	17.00	16.75	0.345	0.858	-0.195	1.11	0.954	115
	standard	OFDM	95.3%	44/5220	17.00	16.67	0.324	0.825	0.038	1.13	0.934	/
	standard	OFDM	95.3%	48/5240	17.00	16.52	0.295	0.757	-0.010	1.17	0.887	/
Front Side	standard	OFDM	95.3%	36/5180	17.00	16.75	0.046	0.134	0.035	1.11	0.149	/
Body-worn SAR(WLAN-L4) Simultaneous with WWAN802.11ac-VHT80												
Back Side	standard	OFDM	88.1%	42/5210	14.50	14.25	0.169	0.419	-0.047	1.20	0.504	/
Hotspot SAR(Distance 10mm) (WLAN-L4) 802.11n-HT40												
Back Side	standard	OFDM	93.5%	46/5230	14.50	14.39	0.190	0.474	-0.025	1.10	0.520	116
Front Side	standard	OFDM	93.5%	46/5230	14.50	14.39	0.042	0.114	0.021	1.10	0.125	/
Left Edge	standard	OFDM	93.5%	46/5230	14.50	14.39	0.025	0.122	-0.035	1.10	0.134	N/A
Right Edge	standard	OFDM	93.5%	46/5230	14.50	14.39	0.046	0.107	0.090	1.10	0.117	/
Top Edge	standard	OFDM	93.5%	46/5230	14.50	14.39	0.104	0.284	0.011	1.10	0.312	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Note: 1. The value with blue color is the maximum SAR Value of each test band.												
2.Since the band U-NII-2A does not support hotspot function, hotspot SAR for U-NII-1 is required.												

Table 41: Wi-Fi (5G,U-NII-2A)

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

Test Position	Cover Type	Mode	Duty Cycle	Channel/ Frequency (MHz)	Tune-up dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
							Measured SAR10g	Measure dSAR1g	Power Drift (dB)	Scaling Factor	Report SAR 1g	
Head SAR(WLAN-L4) 802.11ac-VHT80												
Left Cheek	standard	OFDM	88.1%	58/5290	14.50	13.87	0.156	0.512	-0.072	1.31	0.672	/
Left Tilt	standard	OFDM	88.1%	58/5290	14.50	13.87	0.199	0.772	-0.068	1.31	1.013	117
Right Cheek	standard	OFDM	88.1%	58/5290	14.50	13.87	0.141	0.408	0.089	1.31	0.535	/
Right Tilt	standard	OFDM	88.1%	58/5290	14.50	13.87	0.176	0.528	0.058	1.31	0.693	/
Head SAR(WLAN-L2) Simultaneous with WWAN 802.11ac-VHT80												
Left Tilt	standard	OFDM	88.1%	58/5290	12.50	12.24	0.120	0.464	-0.196	1.21	0.559	/
Right Tilt	standard	OFDM	88.1%	58/5290	12.50	12.24	0.102	0.304	0.032	1.21	0.366	/
Body-worn SAR (Distance 15mm) (WLAN 1) 802.11nHT40												
Back Side	standard	OFDM	93.5%	54/5270	17.00	16.95	0.374	0.952	-0.195	1.08	1.030	118
	standard	OFDM	93.5%	62/5310	14.00	13.46	0.163	0.445	0.018	1.21	0.539	/
Front Side	standard	OFDM	93.5%	54/5270	17.00	16.95	0.052	0.128	0.024	1.08	0.138	/
Body-worn SAR(WLAN-L4) Simultaneous with WWAN802.11ac-VHT80												
Back Side	standard	OFDM	88.1%	58/5290	14.50	13.87	0.191	0.480	-0.105	1.31	0.630	/
Test Position	Cover Type	Mode	Duty Cycle	Channel/ Frequency (MHz)	Tune-up dBm)	Measured power (dBm)	Limit of SAR 4 W/kg (mW/g)					Plot No.
							Measured SAR10g	Measure dSAR1g	Power Drift (dB)	Scaling Factor	Report SAR 10g	
Product Specific 10-g SAR (Distance 0mm) (WLAN 1) 802.11nHT40												
Back Side	standard	OFDM	93.5%	54/5270	17.00	16.95	0.694	1.880	-0.094	1.08	0.751	/
Front Side	standard	OFDM	93.5%	54/5270	17.00	16.95	0.612	1.340	0.010	1.08	0.662	/
Left Edge	standard	OFDM	93.5%	54/5270	17.00	16.95	0.027	0.083	-0.055	1.08	0.029	N/A
Right Edge	standard	OFDM	93.5%	54/5270	17.00	16.95	0.187	0.484	0.021	1.08	0.202	/
Top Edge	standard	OFDM	93.5%	54/5270	17.00	16.95	1.270	5.610	-0.113	1.08	1.374	119
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Note: 1. The value with blue color is the maximum SAR Value of each test band.												



Table 42: Wi-Fi (5G,U-NII-2C)

Test Position	Cover Type	Mode	Duty Cycle	Channel/ Frequency (MHz)	Tune-up dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
							Measured SAR10g	Measure dSAR1g	Power Drift (dB)	Scaling Factor	Report SAR 1g	
Head SAR(WLAN-L4) 802.11ac-VHT80												
Left Cheek	standard	OFDM	88.1%	106/5530	14.50	14.41	0.193	0.694	-0.150	1.16	0.804	/
Left Tilt	standard	OFDM	88.1%	106/5530	14.50	14.41	0.220	0.790	-0.087	1.16	0.915	120
	standard	OFDM	88.1%	122/5610	14.50	14.17	0.204	0.738	0.062	1.22	0.904	/
Right Cheek	standard	OFDM	88.1%	106/5530	14.50	14.41	0.153	0.431	-0.041	1.16	0.499	/
Right Tilt	standard	OFDM	88.1%	106/5530	14.50	14.41	0.191	0.548	0.030	1.16	0.635	/
Head SAR(WLAN-L2) Simultaneous with WWAN 802.11ac-VHT80												
Left Tilt	standard	OFDM	88.1%	106/5530	11.50	10.70	0.114	0.423	-0.095	1.36	0.577	/
Right Tilt	standard	OFDM	88.1%	106/5530	11.50	10.70	0.106	0.314	-0.170	1.36	0.429	/
Body-worn SAR (Distance 15mm) (WLAN 1) 802.11ac-VHT80												
Back Side	standard	OFDM	88.1%	122/5610	15.5	15.14	0.053	0.102	0.025	1.23	0.126	121
Front Side	standard	OFDM	88.1%	122/5610	15.5	15.14	0.055	0.122	-0.030	1.23	0.150	/
Test Position	Cover Type	Mode	Duty Cycle	Channel/ Frequency (MHz)	Tune-up dBm)	Measured power (dBm)	Limit of SAR 4 W/kg (mW/g)					Plot No.
							Measured SAR10g	Measure dSAR1g	Power Drift (dB)	Scaling Factor	Report SAR 10g	
Product Specific 10-g SAR (Distance 0mm) (WLAN 1) 802.11ac-VHT80												
Back Side	standard	OFDM	88.1%	122/5610	15.5	15.14	0.428	1.690	0.064	1.23	0.528	/
Front Side	standard	OFDM	88.1%	122/5610	15.5	15.14	0.372	1.210	0.012	1.23	0.459	/
Left Edge	standard	OFDM	88.1%	122/5610	15.5	15.14	0.027	0.082	0.030	1.23	0.033	N/A
Right Edge	standard	OFDM	88.1%	122/5610	15.5	15.14	0.106	0.284	0.018	1.23	0.131	/
Top Edge	standard	OFDM	88.1%	122/5610	15.5	15.14	0.845	3.630	-0.027	1.23	1.042	122
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Note: 1. The value with blue color is the maximum SAR Value of each test band.												



Table 43: Wi-Fi (5G,U-NII-3)

Test Position	Cover Type	Mode	Duty Cycle	Channel/ Frequency (MHz)	Tune-up dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
							Measured SAR10g	Measure dSAR1g	Power Drift (dB)	Scaling Factor	Report SAR 1g	
Head SAR(WLAN-L4) 802.11ac-VHT80												
Left Cheek	standard	OFDM	88.1%	155/5775	14.50	14.38	0.219	0.761	-0.086	1.17	0.888	/
Left Tilt	standard	OFDM	88.1%	155/5775	14.50	14.38	0.304	1.010	-0.140	1.17	1.179	123
Right Cheek	standard	OFDM	88.1%	155/5775	14.50	14.38	0.224	0.640	-0.055	1.17	0.747	/
Right Tilt	standard	OFDM	88.1%	155/5775	14.50	14.38	0.283	0.822	0.140	1.17	0.959	/
Head SAR(WLAN-L2) Simultaneous with WWAN 802.11ac-VHT80												
Left Tilt	standard	OFDM	88.1%	155/5775	11.50	10.81	0.108	0.405	-0.032	1.33	0.539	/
Right Cheek	standard	OFDM	88.1%	155/5775	11.50	10.81	0.080	0.222	0.021	1.33	0.295	/
Right Tilt	standard	OFDM	88.1%	155/5775	11.50	10.81	0.108	0.310	0.105	1.33	0.412	/
Body-worn SAR (Distance 15mm) (WLAN 1) 802.11ac-VHT80												
Back Side	standard	OFDM	88.1%	155/5775	14.50	14.38	0.037	0.084	-0.043	1.17	0.098	124
Front Side	standard	OFDM	88.1%	155/5775	14.50	14.38	0.024	0.072	0.061	1.17	0.084	/
Hotspot SAR(Distance 10mm) (WLAN-L4) 802.11ac-VHT80												
Back Side	standard	OFDM	88.1%	155/5775	14.50	14.38	0.093	0.251	0.060	1.17	0.293	/
Front Side	standard	OFDM	88.1%	155/5775	14.50	14.38	0.058	0.154	0.028	1.17	0.180	/
Left Edge	standard	OFDM	88.1%	155/5775	14.50	14.38	0.036	0.171	0.013	1.17	0.200	N/A
Right Edge	standard	OFDM	88.1%	155/5775	14.50	14.38	0.028	0.085	0.010	1.17	0.099	/
Top Edge	standard	OFDM	88.1%	155/5775	14.50	14.38	0.227	0.691	-0.055	1.17	0.806	125
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Note: 1. The value with blue color is the maximum SAR Value of each test band.												



Table 44: BT

Test Position	Cover Type	Mode	Duty Cycle	Channel/ Frequency (MHz)	Tune-up dBm)	Measured power (dBm)	Limit of SAR 1.6 W/kg (mW/g)					Plot No.
							Measured SAR10g	Measure dSAR1g	Power Drift (dB)	Scaling Factor	Report SAR 1g	
Head SAR												
Left Cheek	standard	GFSK	76.5%	39/2441	13.00	11.22	0.106	0.235	-0.030	1.97	0.463	126
Left Tilt	standard	GFSK	76.5%	39/2441	13.00	11.22	0.078	0.188	0.010	1.97	0.370	/
Right Cheek	standard	GFSK	76.5%	39/2441	13.00	11.22	0.052	0.102	-0.024	1.97	0.201	/
Right Tilt	standard	GFSK	76.5%	39/2441	13.00	11.22	0.034	0.069	0.030	1.97	0.135	/
Body SAR (Distance 10mm)												
Back Side	standard	GFSK	76.5%	39/2441	13.00	11.22	0.023	0.048	-0.049	1.97	0.095	/
Front Side	standard	GFSK	76.5%	39/2441	13.00	11.22	0.028	0.054	-0.132	1.97	0.105	127
Left Edge	standard	GFSK	76.5%	39/2441	13.00	11.22	0.001	0.002	0.010	1.97	0.004	N/A
Right Edge	standard	GFSK	76.5%	39/2441	13.00	11.22	0.015	0.030	-0.030	1.97	0.059	/
Top Edge	standard	GFSK	76.5%	39/2441	13.00	11.22	0.018	0.037	-0.032	1.97	0.074	/
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Note: 1. The value with blue color is the maximum SAR Value of each test band.												

10.5 Simultaneous Transmission Analysis

Simultaneous Transmission Configurations	Head	Body-worn	Hotspot	Product Specific 10-g SAR
GSM(Voice) + BT	Yes	Yes	Yes	Yes
GPRS/EDGE(Data) + BT	Yes	Yes	Yes	Yes
WCDMA(Voice) + BT	Yes	Yes	Yes	Yes
WCDMA(Data) + BT	Yes	Yes	Yes	Yes
LTE + BT	Yes	Yes	Yes	Yes
GSM(Voice) + Wi-Fi-2.4GHz	Yes	Yes	Yes	Yes
GPRS/EDGE(Data) + Wi-Fi-2.4GHz	Yes	Yes	Yes	Yes
WCDMA(Voice) + Wi-Fi-2.4GHz	Yes	Yes	Yes	Yes
WCDMA(Data) + Wi-Fi-2.4GHz	Yes	Yes	Yes	Yes
LTE + Wi-Fi-2.4GHz	Yes	Yes	Yes	Yes
GSM(Voice) + Wi-Fi-5GHz	Yes	Yes	Yes	Yes
GPRS/EDGE(Data) + Wi-Fi-5GHz	Yes	Yes	Yes	Yes
WCDMA(Voice) + Wi-Fi-5GHz	Yes	Yes	Yes	Yes
WCDMA(Data) + Wi-Fi-5GHz	Yes	Yes	Yes	Yes
LTE + Wi-Fi-5GHz	Yes	Yes	Yes	Yes
Wi-Fi-2.4GHz + BT	N/A	N/A	N/A	N/A
Wi-Fi-5GHz + BT	Yes	Yes	Yes	Yes
Wi-Fi-2.4GHz + Wi-Fi-5GHz	N/A	N/A	N/A	N/A
WWAN Antenna Down+ WWAN Antenna Up	N/A	N/A	N/A	N/A

General Note:

- The Scaled SAR summation is calculated based on the same configuration and test position.
- Per KDB 447498 D01, simultaneous transmission SAR is compliant if,
 - Scalar SAR summation $< 1.6\text{W/kg}$, simultaneously transmission SAR measurement is not necessary.
 - $\text{SPLSR} = (\text{SAR1} + \text{SAR2})^{1.5} / (\text{min. separation distance, mm})$, 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.
 - If $\text{SPLSR} \leq 0.04$, simultaneously transmission SAR measurement is not necessary.

The maximum SAR_{1g/10g} Value for WWAN Antenna Down

SAR _{1g/10g} (W/kg)		GSM 850	GSM 1900	WCDMA Band II	WCDMA Band IV	WCDMA Band V	LTE FDD 2	LTE FDD 4	LTE FDD 5	LTE FDD 7	LTE FDD 12	LTE FDD 17	LTE FDD 26	LTE TDD 38	LTE TDD 41	LTE FDD 66	MAX. SAR _{1g}
Test Position																	
Left Cheek		0.156	0.086	0.088	0.081	0.092	0.138	0.047	0.151	0.142	0.060	0.056	0.236	0.109	0.114	0.147	0.236
Left Tilt		0.080	0.054	0.066	0.062	0.066	0.099	0.054	0.052	0.149	0.024	0.022	0.088	0.092	0.095	0.054	0.149
Right Cheek		0.131	0.063	0.078	0.090	0.118	0.101	0.056	0.162	0.245	0.053	0.047	0.197	0.206	0.201	0.097	0.245
Right Tilt		0.070	0.041	0.053	0.056	0.059	0.074	0.069	0.064	0.198	0.022	0.020	0.091	0.090	0.095	0.076	0.198
Body worn	Back Side	0.148	0.295	0.317	0.607	0.200	0.296	0.511	0.206	0.580	0.129	0.126	0.220	0.212	0.198	0.341	0.607
	Front Side	0.119	0.245	0.268	0.342	0.182	0.220	0.285	0.169	0.323	0.101	0.097	0.189	0.235	0.146	0.267	0.342
Hotspot	Back Side	0.293	0.632	0.617	0.737	0.243	0.612	0.680	0.270	1.082	0.143	0.113	0.301	0.290	0.356	0.726	1.082
	Front Side	0.271	0.417	0.412	0.514	0.209	0.422	0.465	0.174	0.483	0.092	0.079	0.193	0.285	0.262	0.456	0.514
	Left Edge	0.281	0.114	0.081	0.101	0.208	0.087	0.148	0.168	0.210	0.087	0.084	0.200	0.056	0.058	0.073	0.281
	Right Edge	0.197	0.133	0.099	0.177	0.073	0.149	0.113	0.120	0.311	0.071	0.067	0.118	0.218	0.171	0.120	0.311
	Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000
	Bottom Edge	0.250	0.991	0.943	0.401	0.183	1.165	0.858	0.148	0.834	0.054	0.070	0.176	0.255	0.228	0.738	1.165
Product Specific 10-g SAR	Back Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Front Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Left Edge	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Right Edge	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Top Edge	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Bottom Edge	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

The maximum SAR_{1g/10g} Value for WWAN Antenna Up

SAR _{1g/10g} (W/kg) Test Position		GSM 850	GSM 1900	WCDMA Band II	WCDMA Band IV	WCDMA Band V	LTE FDD 2	LTE FDD 4	LTE FDD 5	LTE FDD 7	LTE FDD 12	LTE FDD 17	LTE FDD 26	LTE TDD 38	LTE TDD 41	LTE FDD 66	MAX. SAR _{1g}
Left Cheek		0.467	0.404	0.453	0.560	0.423	0.566	0.572	0.412	0.146	0.056	0.056	0.424	0.296	0.383	0.500	0.572
Left Tilt		0.437	0.505	0.738	0.860	0.361	0.800	0.809	0.407	0.164	0.051	0.057	0.396	0.286	0.387	0.730	0.860
Right Cheek		0.592	0.534	0.631	0.733	0.561	0.758	0.867	0.587	0.358	0.074	0.078	0.501	0.654	0.628	0.751	0.867
Right Tilt		0.634	0.718	0.956	1.059	0.524	1.064	1.134	0.547	0.423	0.082	0.090	0.576	0.769	0.869	1.027	1.134
Body worn	Back Side	0.126	0.283	0.351	0.642	0.078	0.177	0.222	0.085	0.209	0.012	0.012	0.071	0.231	0.192	0.191	0.642
	Front Side	0.108	0.187	0.239	0.393	0.070	0.103	0.181	0.071	0.155	0.007	0.010	0.066	0.154	0.123	0.159	0.393
Hotspot	Back Side	0.239	0.236	0.261	0.354	0.106	0.242	0.291	0.117	0.411	0.022	0.022	0.114	0.410	0.462	0.339	0.462
	Front Side	0.243	0.191	0.219	0.320	0.129	0.210	0.279	0.110	0.358	0.013	0.016	0.111	0.259	0.168	0.323	0.358
	Left Edge	0.177	0.032	0.013	0.017	0.054	0.033	0.049	0.052	0.355	0.007	0.005	0.044	0.241	0.170	0.051	0.355
	Right Edge	0.118	0.017	0.054	0.026	0.070	0.040	0.044	0.063	0.337	0.004	0.001	0.081	0.052	0.042	0.042	0.337
	Top Edge	0.192	0.459	0.527	0.688	0.091	0.569	0.683	0.113	0.494	0.011	0.006	0.099	0.350	0.267	0.605	0.688
	Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.000
Product Specific 10-g SAR	Back Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Front Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Left Edge	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Right Edge	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Top Edge	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Bottom Edge	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

**The maximum SAR_{1g/10g} for WiFi-5G**

SAR _{1g/10g} (W/kg)		U-NII-1	U-NII-2A	U-NII-2C	U-NII-3	MAX. SAR _{1g}
Test Position						
Left Cheek		0.596	0.672	0.804	0.888	0.888
Left Tilt		0.843	1.013	0.915	1.179	1.179
Right Cheek		0.577	0.535	0.499	0.747	0.747
Right Tilt		0.540	0.693	0.635	0.959	0.959
Body worn	Back Side	0.954	1.030	0.126	0.098	1.030
	Front Side	0.149	0.138	0.150	0.084	0.150
Hotspot	Back Side	0.520	0.000	0.000	0.293	0.520
	Front Side	0.125	0.000	0.000	0.180	0.180
	Left Edge	0.134	0.000	0.000	0.200	0.200
	Right Edge	0.117	0.000	0.000	0.099	0.117
	Top Edge	0.312	0.000	0.000	0.806	0.806
	Bottom Edge	N/A	0.000	0.000	N/A	0.000
Product Specific 10-g SAR	Back Side	0.000	0.751	0.528	0.000	0.751
	Front Side	0.000	0.662	0.459	0.000	0.662
	Left Edge	0.000	0.029	0.033	0.000	0.033
	Right Edge	0.000	0.202	0.131	0.000	0.202
	Top Edge	0.000	1.374	1.042	0.000	1.374
	Bottom Edge	0.000	N/A	N/A	0.000	0.000

The maximum SAR_{1g/10g} for WiFi-5G Simultaneous

SAR _{1g/10g} (W/kg)		U-NII-1	U-NII-2A	U-NII-2C	U-NII-3	MAX. SAR _{1g}
Test Position						
Left Cheek		0.596	0.672	0.804	0.888	0.888
Left Tilt		0.339	0.559	0.577	0.539	0.577
Right Cheek		0.577	0.535	0.499	0.295	0.577
Right Tilt		0.365	0.366	0.429	0.412	0.429
Body worn	Back Side	0.504	0.630	0.126	0.098	0.630
	Front Side	0.149	0.138	0.150	0.084	0.150
Hotspot	Back Side	0.520	0.000	0.000	0.293	0.520
	Front Side	0.125	0.000	0.000	0.180	0.180
	Left Edge	0.134	0.000	0.000	0.200	0.200
	Right Edge	0.117	0.000	0.000	0.099	0.117
	Top Edge	0.312	0.000	0.000	0.806	0.806
	Bottom Edge	N/A	0.000	0.000	N/A	0.000
Product Specific 10-g SAR	Back Side	0.000	0.751	0.528	0.000	0.751
	Front Side	0.000	0.662	0.459	0.000	0.662
	Left Edge	0.000	0.029	0.033	0.000	0.033

**SAR Test Report****Report No.: R2008A0550-S1**

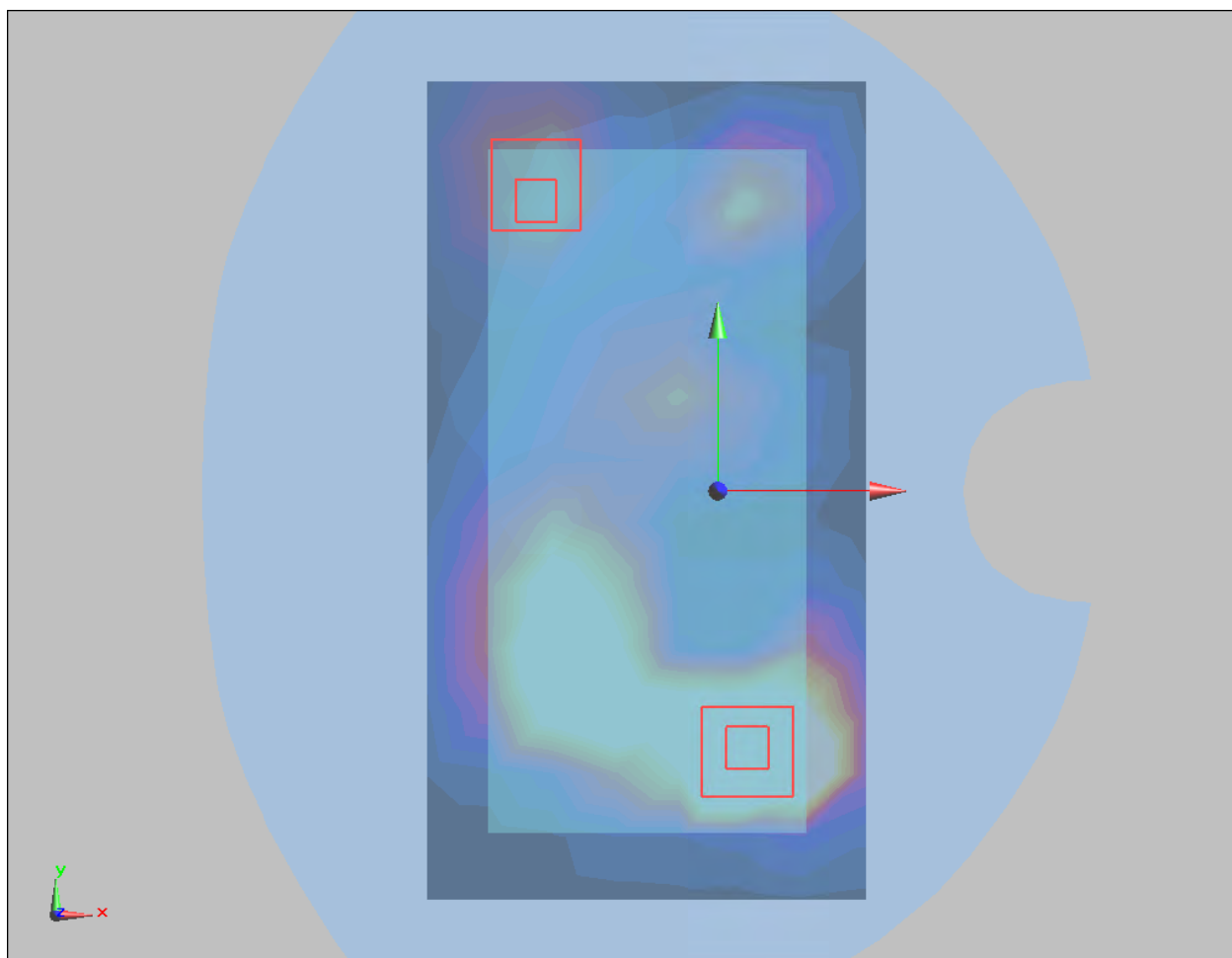
	Right Edge	0.000	0.202	0.131	0.000	0.202
	Top Edge	0.000	1.374	1.042	0.000	1.374
	Bottom Edge	0.000	N/A	N/A	0.000	0.000



WWAN Antenna Down Simultaneous with WLAN and BT

SAR _{1g/10g} (W/kg) Test Position		WWAN Antenna Down	Wi-Fi 2.4G	Wi-Fi 5G	BT	WWAN Antenna Down + Wi-Fi 2.4G	WWAN Antenna Down + Wi-Fi 5G	WWAN Antenna Down + BT	Wi-Fi 5G+ BT
Left Cheek		0.236	0.716	0.888	0.463	0.952	1.124	0.699	1.351
Left Tilt		0.149	0.634	0.577	0.370	0.783	0.726	0.519	0.947
Right Cheek		0.245	0.350	0.577	0.201	0.595	0.822	0.446	0.778
Right Tilt		0.198	0.276	0.429	0.135	0.474	0.627	0.333	0.564
Body worn	Back Side	0.607	0.209	0.630	0.000	0.816	1.237	0.607	0.630
	Front Side	0.342	0.245	0.150	0.000	0.587	0.492	0.342	0.150
Hotspot	Back Side	1.082	0.120	0.520	0.095	1.202	1.602	1.177	0.615
	Front Side	0.514	0.125	0.180	0.105	0.639	0.694	0.619	0.285
	Left Edge	0.281	0.031	0.200	0.004	0.312	0.481	0.285	0.204
	Right Edge	0.311	0.091	0.117	0.059	0.402	0.428	0.370	0.176
	Top Edge	0.000	0.158	0.806	0.074	0.158	0.806	0.074	0.880
	Bottom Edge	1.165	0.000	0.000	0.000	1.165	1.165	1.165	0.000
Product Specific 10-g SAR	Back Side	0.000	0.000	0.751	0.000	0.000	0.751	0.000	0.751
	Front Side	0.000	0.000	0.662	0.000	0.000	0.662	0.000	0.662
	Left Edge	0.000	0.000	0.033	0.000	0.000	0.033	0.000	0.033
	Right Edge	0.000	0.000	0.202	0.000	0.000	0.202	0.000	0.202
	Top Edge	0.000	0.000	1.374	0.000	0.000	1.374	0.000	1.374
	Bottom Edge	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Note: 1. The value with blue color is the maximum Σ SAR _{1g/10g} Value. 2. MAX. Σ SAR _{1g/10g} = Unlicensed SAR _{MAX} + Licensed SAR _{MAX}									

Hotspot MAX (Wi-Fi 5G and LTE Band 7) $\Sigma \text{SAR}_{1g} = 1.602 \text{ W/kg} > 1.50 \text{ W/kg}$, so the SAR to peak location separation ratio should be considered.



So the distribution of hot spots does not overlap, of the two SAR values 1.082 W/kg is higher.

**Second- Antenna Simultaneous with WLAN and BT**

SAR _{1g/10g} (W/kg) Test Position		Second- Antenna	Wi-Fi 2.4G	Wi-Fi 5G	BT	WWAN Antenna Up + Wi-Fi 2.4G	WWAN Antenna Up + Wi-Fi 5G	WWAN Antenna Up + BT	Wi-Fi 5G+ BT
Left Cheek		0.572	0.716	0.888	0.463	1.288	1.460	1.035	1.351
Left Tilt		0.860	0.634	0.577	0.370	1.494	1.437	1.230	0.947
Right Cheek		0.867	0.350	0.577	0.201	1.217	1.444	1.068	0.778
Right Tilt		1.064	0.276	0.429	0.135	1.340	1.493	1.199	0.564
Body worn	Back Side	0.642	0.209	0.630	0.000	0.851	1.272	0.642	0.630
	Front Side	0.393	0.245	0.150	0.000	0.638	0.543	0.393	0.150
Hotspot	Back Side	0.462	0.120	0.520	0.095	0.582	0.982	0.557	0.615
	Front Side	0.358	0.125	0.180	0.105	0.483	0.538	0.463	0.285
	Left Edge	0.355	0.031	0.200	0.004	0.386	0.555	0.359	0.204
	Right Edge	0.337	0.091	0.117	0.059	0.428	0.454	0.396	0.176
	Top Edge	0.688	0.158	0.806	0.074	0.846	1.494	0.762	0.880
	Bottom Edge	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Product Specific 10-g SAR	Back Side	0.000	0.000	0.751	0.000	0.000	0.751	0.000	0.751
	Front Side	0.000	0.000	0.662	0.000	0.000	0.662	0.000	0.662
	Left Edge	0.000	0.000	0.033	0.000	0.000	0.033	0.000	0.033
	Right Edge	0.000	0.000	0.202	0.000	0.000	0.202	0.000	0.202
	Top Edge	0.000	0.000	1.374	0.000	0.000	1.374	0.000	1.374
	Bottom Edge	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

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

2. MAX. Σ SAR_{1g/10g} = Unlicensed SAR_{MAX} + Licensed SAR_{MAX}

MAX. Σ SAR_{1g} = 1.494 W/kg < 1.5W/kg and MAX. Σ SAR_{10g} = 1.374 W/kg < 2.8W/kg ,

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



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.

ANNEX A: Test Layout

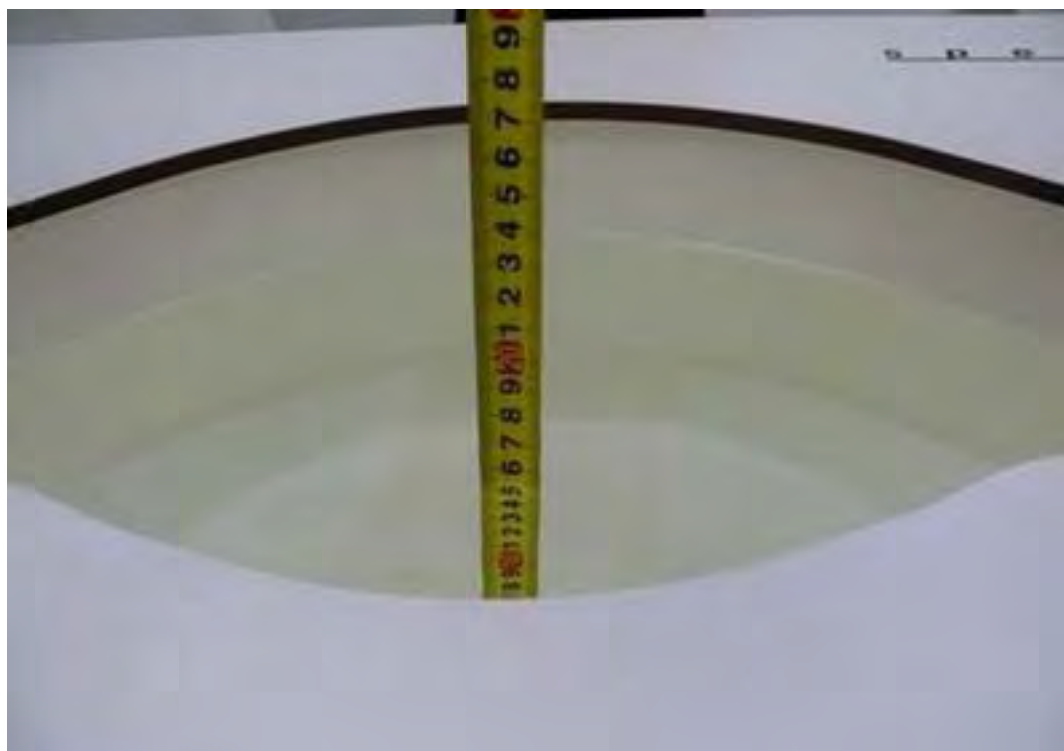


Tissue Simulating Liquids

For the measurement of the field distribution inside the flat phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For Head and Body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Picture 3 and Picture 4.



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: 8/18/2020

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

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.88 \text{ S/m}$; $\epsilon_r = 42.3$; $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.78, 9.78, 9.78); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

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

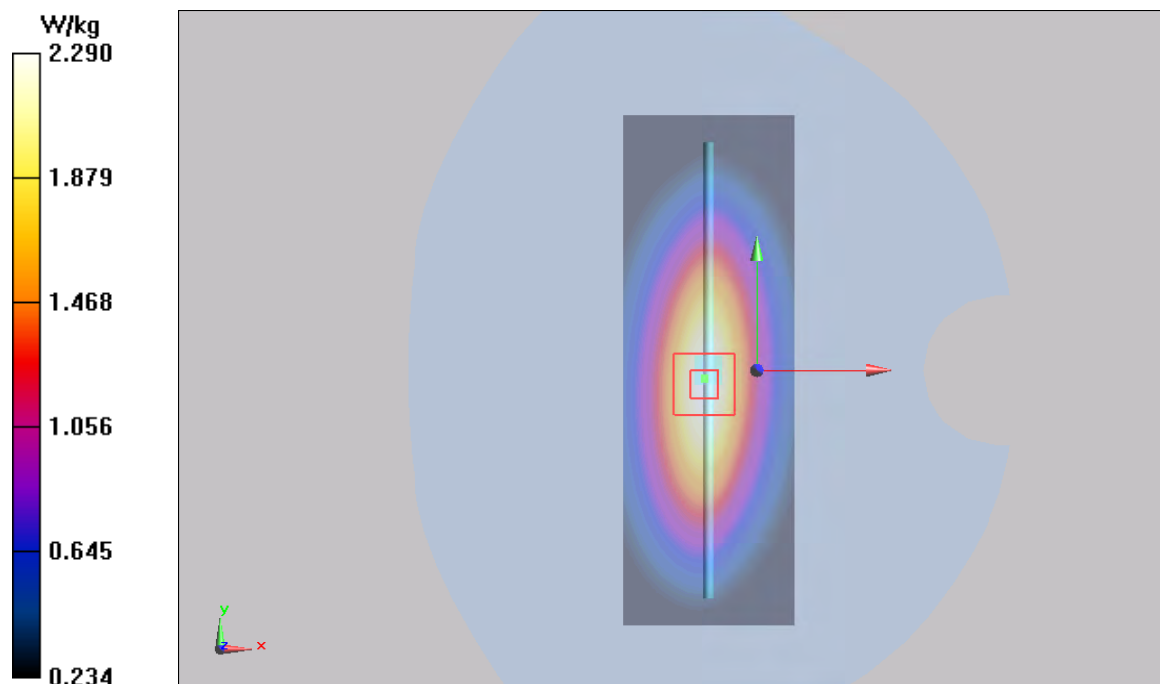
d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

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

Peak SAR (extrapolated) = 3.16 W/kg

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

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



Plot 2 System Performance Check at 750 MHz TSL

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

Date: 8/20/2020

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

Medium parameters used: $f = 750 \text{ MHz}$; $\sigma = 0.87 \text{ S/m}$; $\epsilon_r = 42.0$; $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.78, 9.78, 9.78); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

Maximum value of SAR (measured) = 2.31 W/kg

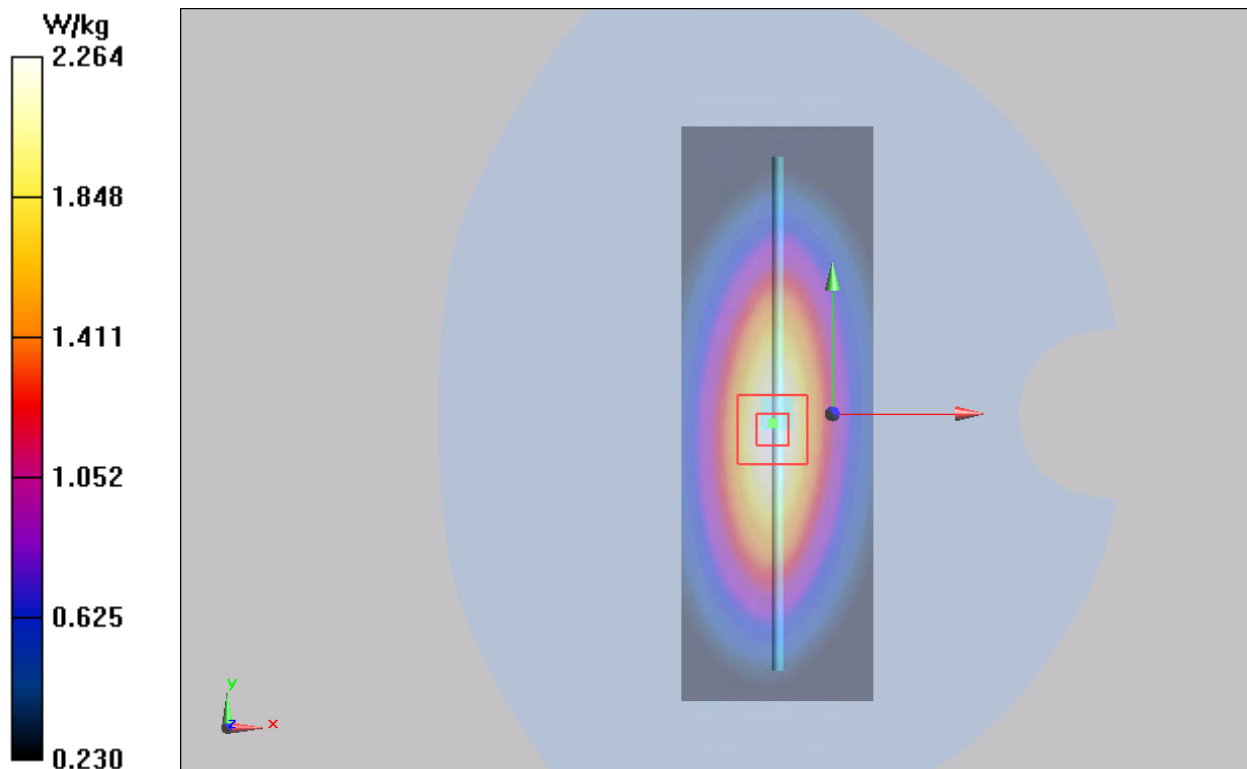
d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 50.557 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 3.14 W/kg

SAR(1 g) = 2.10 W/kg; SAR(10 g) = 1.37 W/kg

Maximum value of SAR (measured) = 2.264 W/kg



Plot 3 System Performance Check at 835 MHz TSL

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

Date: 8/17/2020

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°C

Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

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

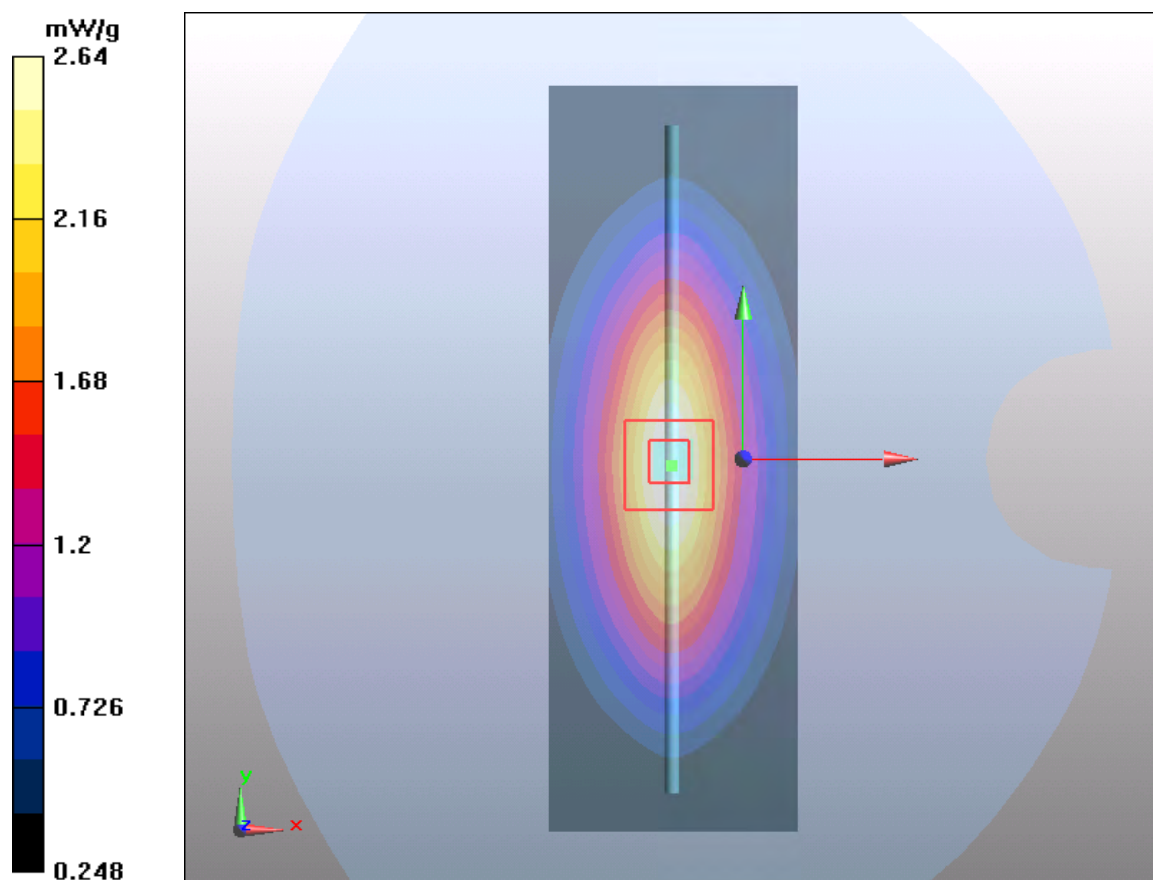
d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

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

Peak SAR (extrapolated) = 3.67 W/kg

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

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



Plot 4 System Performance Check at 835 MHz TSL

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

Date: 8/19/2020

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°C

Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

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

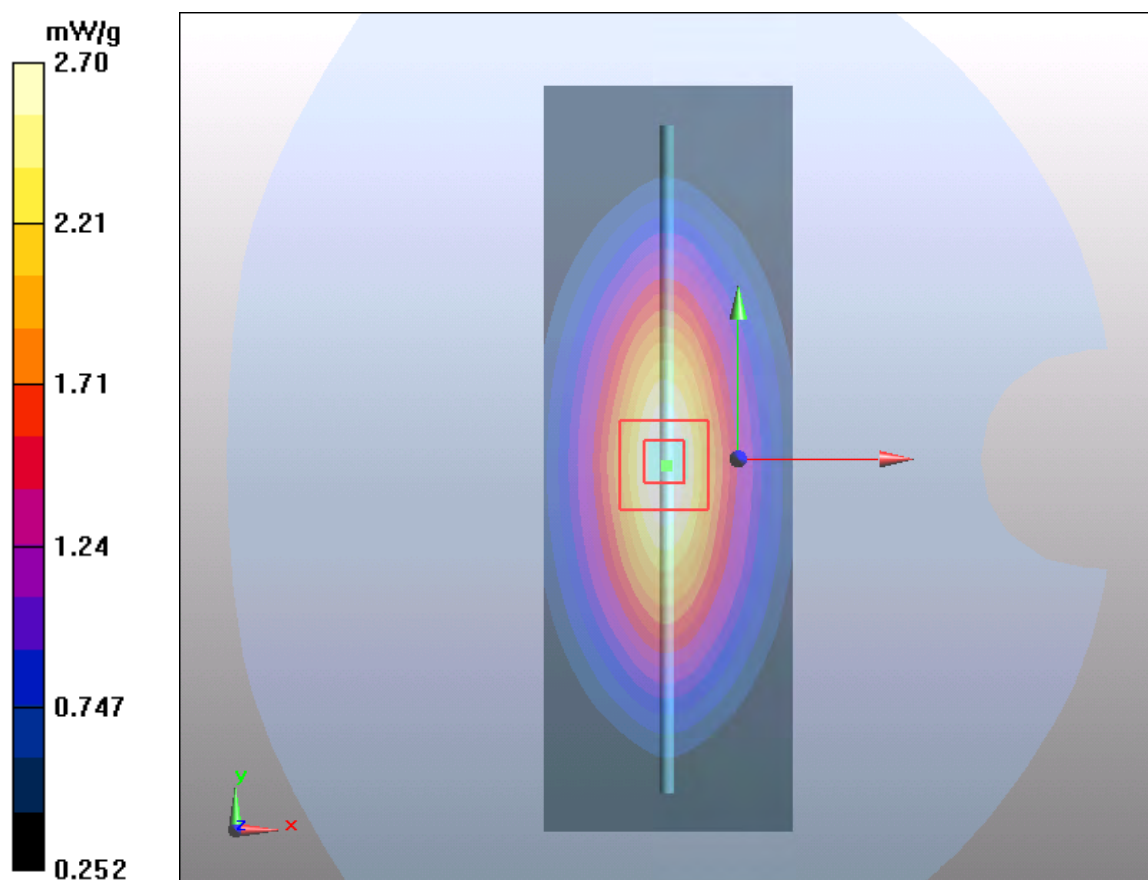
d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

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

Peak SAR (extrapolated) = 3.67 W/kg

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

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



Plot 5 System Performance Check at 835 MHz TSL

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

Date: 8/21/2020

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

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.92 \text{ S/m}$; $\epsilon_r = 41.4$; $\rho = 1000 \text{ kg/m}^3$

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

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

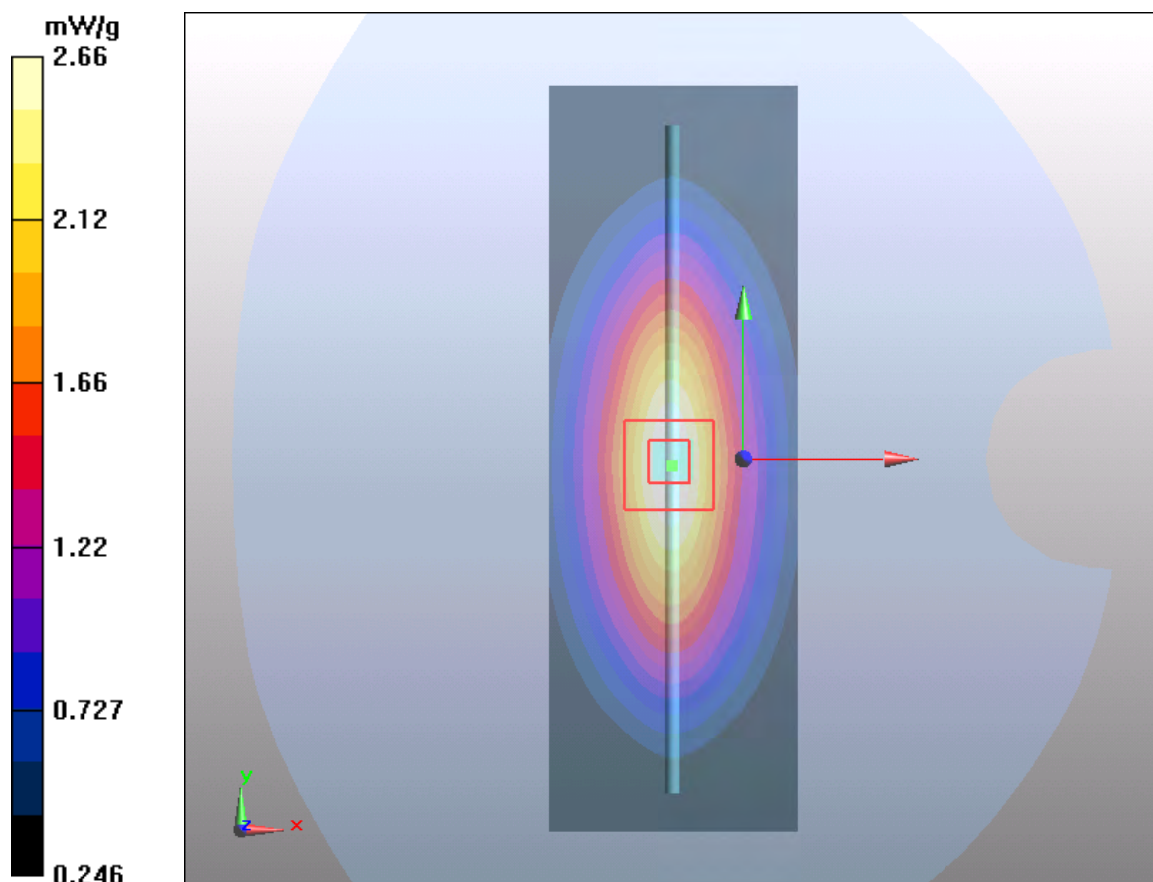
d=15mm, Pin=250mW/Zoom Scan(5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

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

Peak SAR (extrapolated) = 3.67 W/kg

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

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



Plot 6 System Performance Check at 1750 MHz TSL

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

Date: 8/25/2020

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

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.34$ S/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

Maximum value of SAR (measured) = 9.78 mW/g

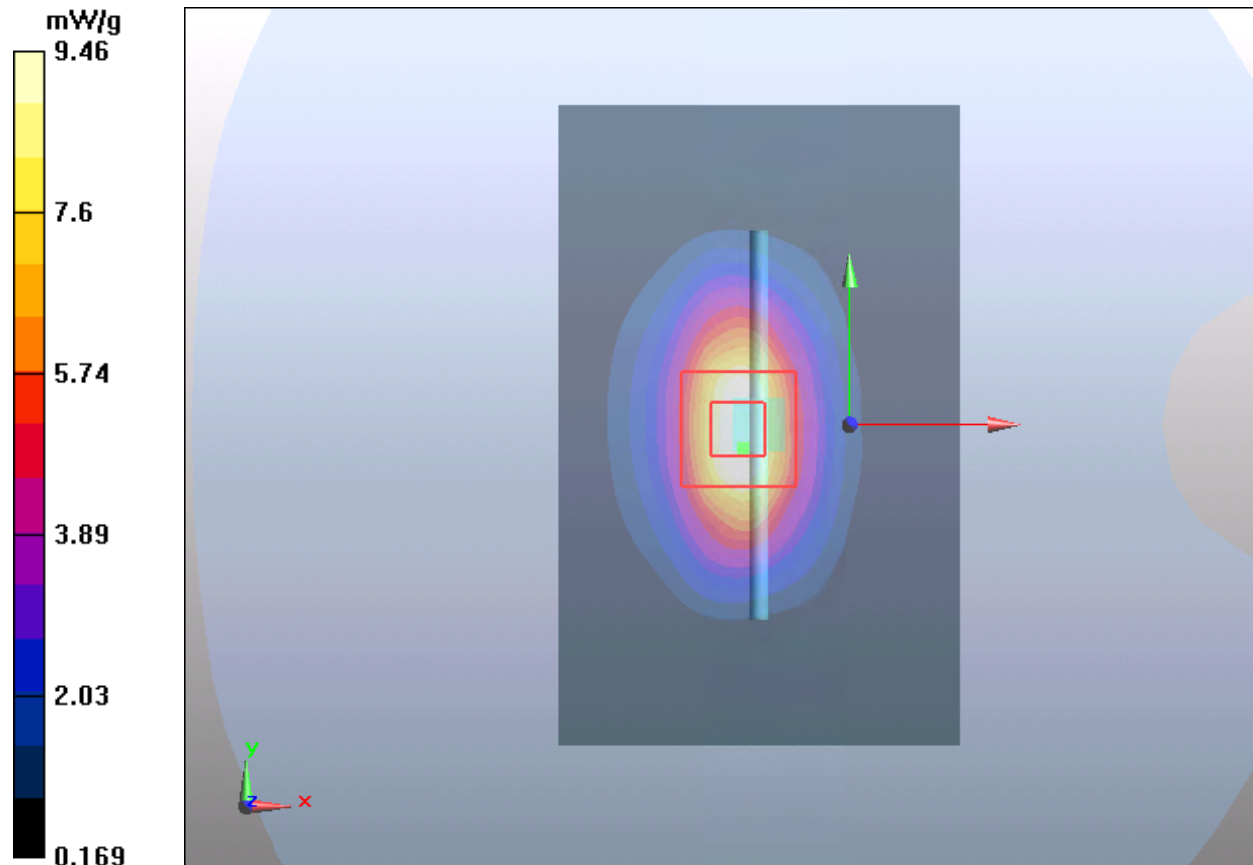
d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 80 V/m; Power Drift = 0.075 dB

Peak SAR (extrapolated) = 15.5 W/kg

SAR(1 g) = 8.95 mW/g; SAR(10 g) = 4.5 mW/g

Maximum value of SAR (measured) = 9.46 mW/g



Plot 7 System Performance Check at 1750 MHz TSL

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

Date: 8/26/2020

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

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.34$ S/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

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

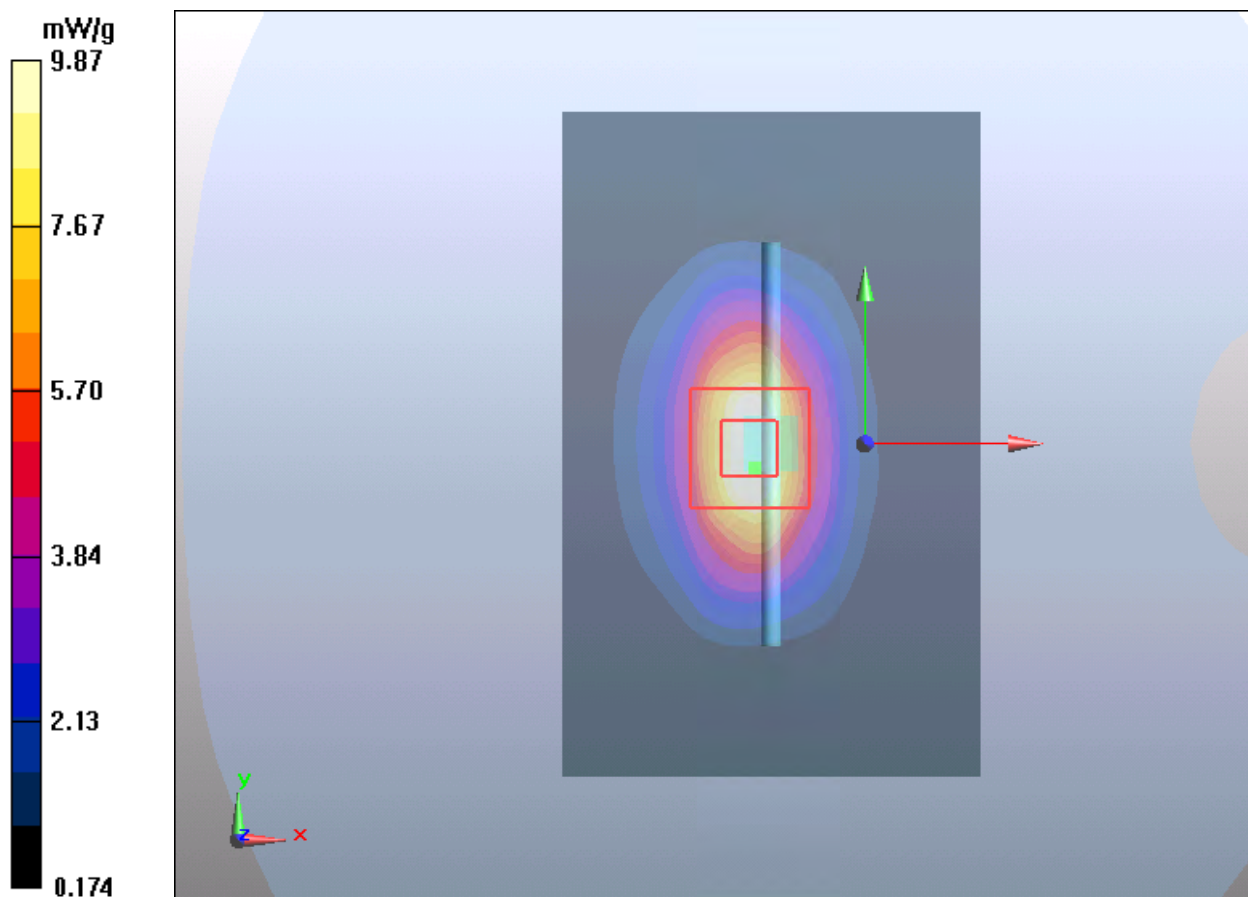
d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

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

Peak SAR (extrapolated) = 15.51 W/kg

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

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



Plot 8 System Performance Check at 1750 MHz TSL

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

Date: 8/28/2020

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

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

Maximum value of SAR (measured) = 9.11 mW/g

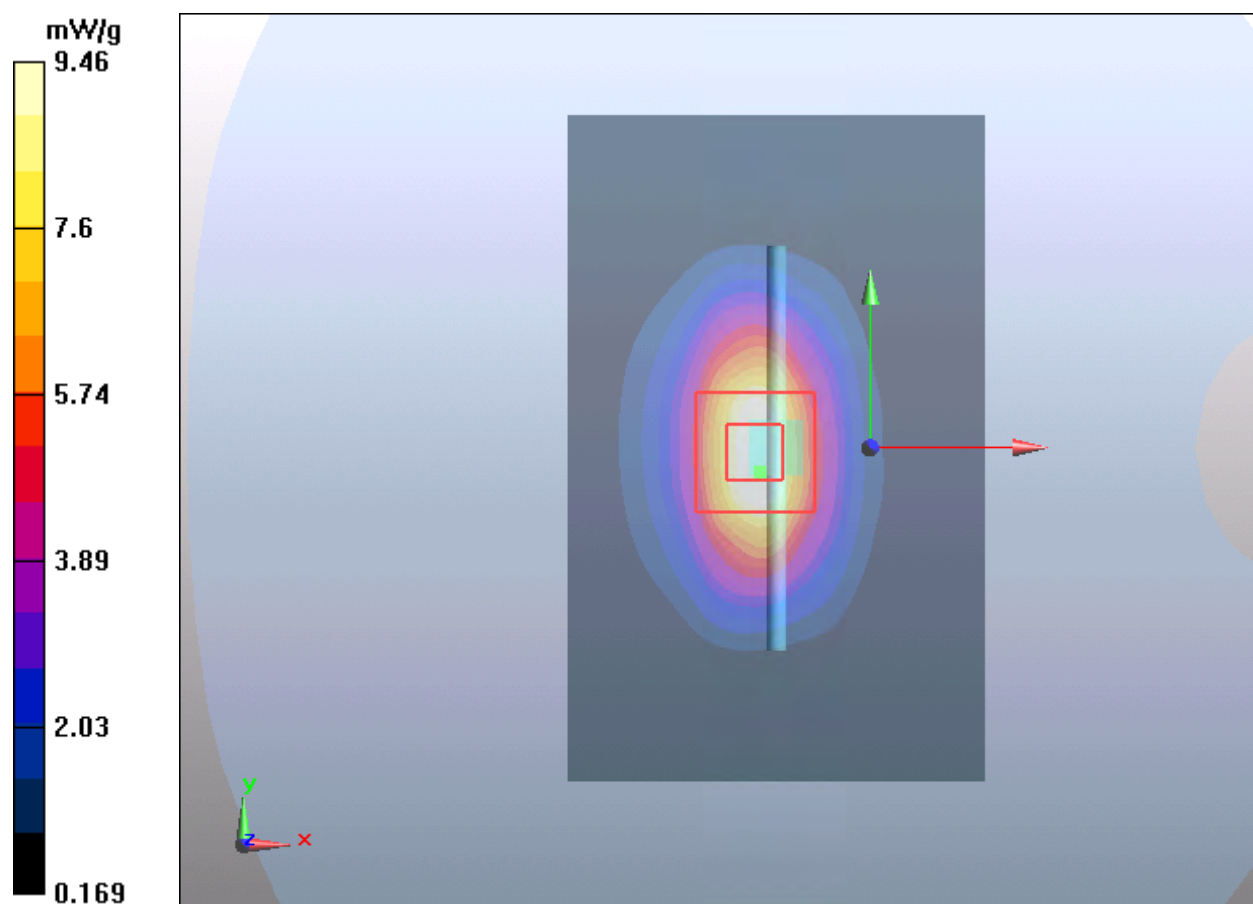
d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 80 V/m; Power Drift = 0.075 dB

Peak SAR (extrapolated) = 15.47 W/kg

SAR(1 g) = 8.96 mW/g; SAR(10 g) = 4.75 mW/g

Maximum value of SAR (measured) = 9.46 mW/g



Plot 9 System Performance Check at 1750 MHz TSL

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

Date: 8/30/2020

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

Medium parameters used: $f = 1750$ MHz; $\sigma = 1.38$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

Maximum value of SAR (measured) = 9.11 mW/g

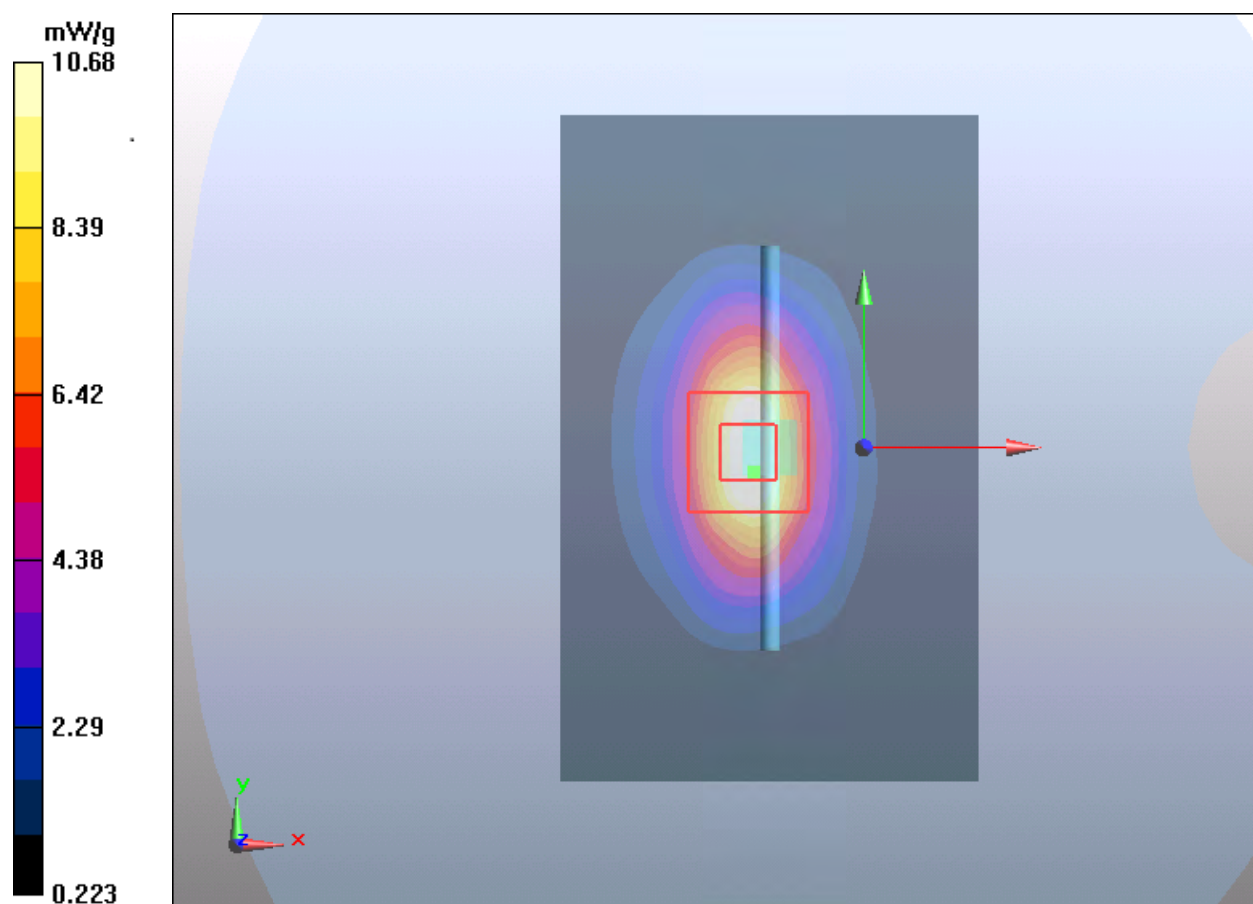
d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 80 V/m; Power Drift = 0.065 dB

Peak SAR (extrapolated) = 14.8 W/kg

SAR(1 g) = 8.92 mW/g; SAR(10 g) = 4.76 mW/g

Maximum value of SAR (measured) = 10.68 mW/g



Plot 10 System Performance Check at 1900 MHz TSL

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

Date: 8/22/2020

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.41$ S/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

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

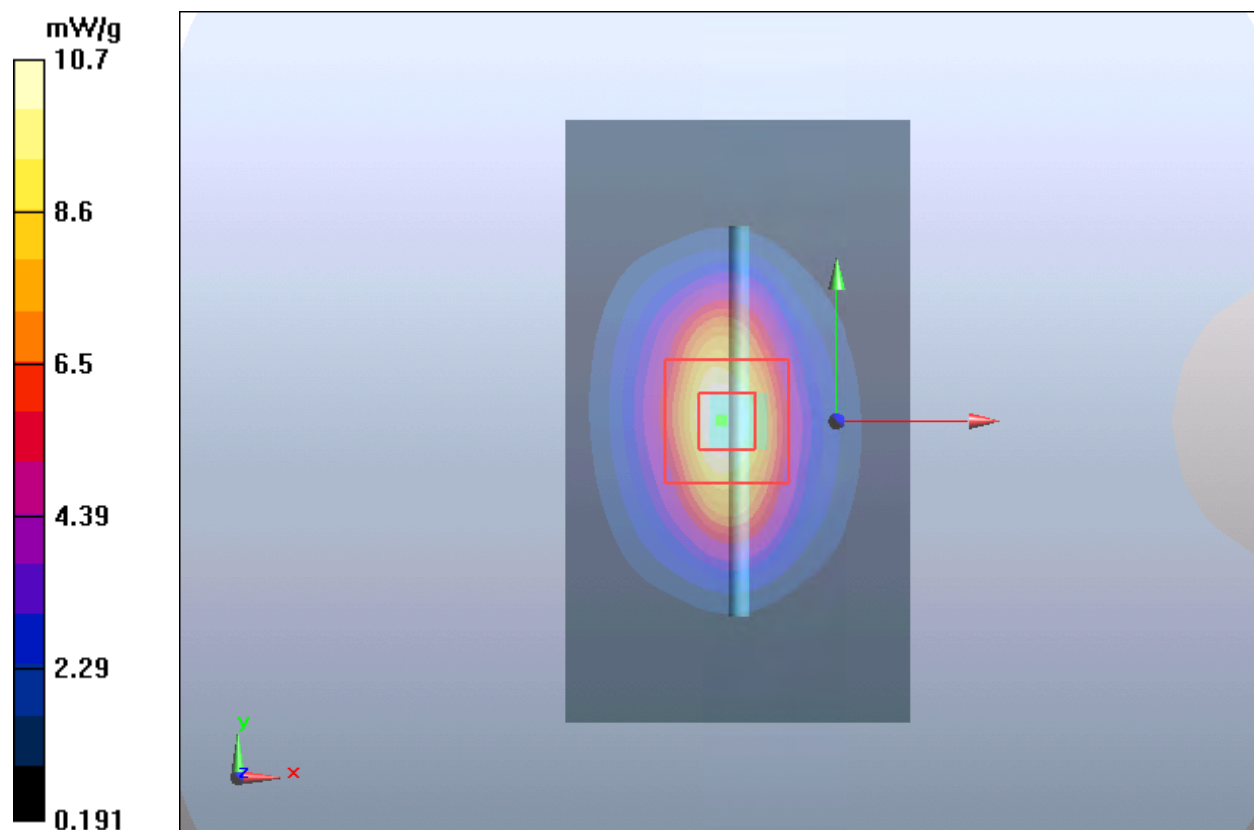
d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

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

Peak SAR (extrapolated) = 17.8 W/kg

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

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



Plot 11 System Performance Check at 1900 MHz TSL

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

Date: 8/23/2020

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/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

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

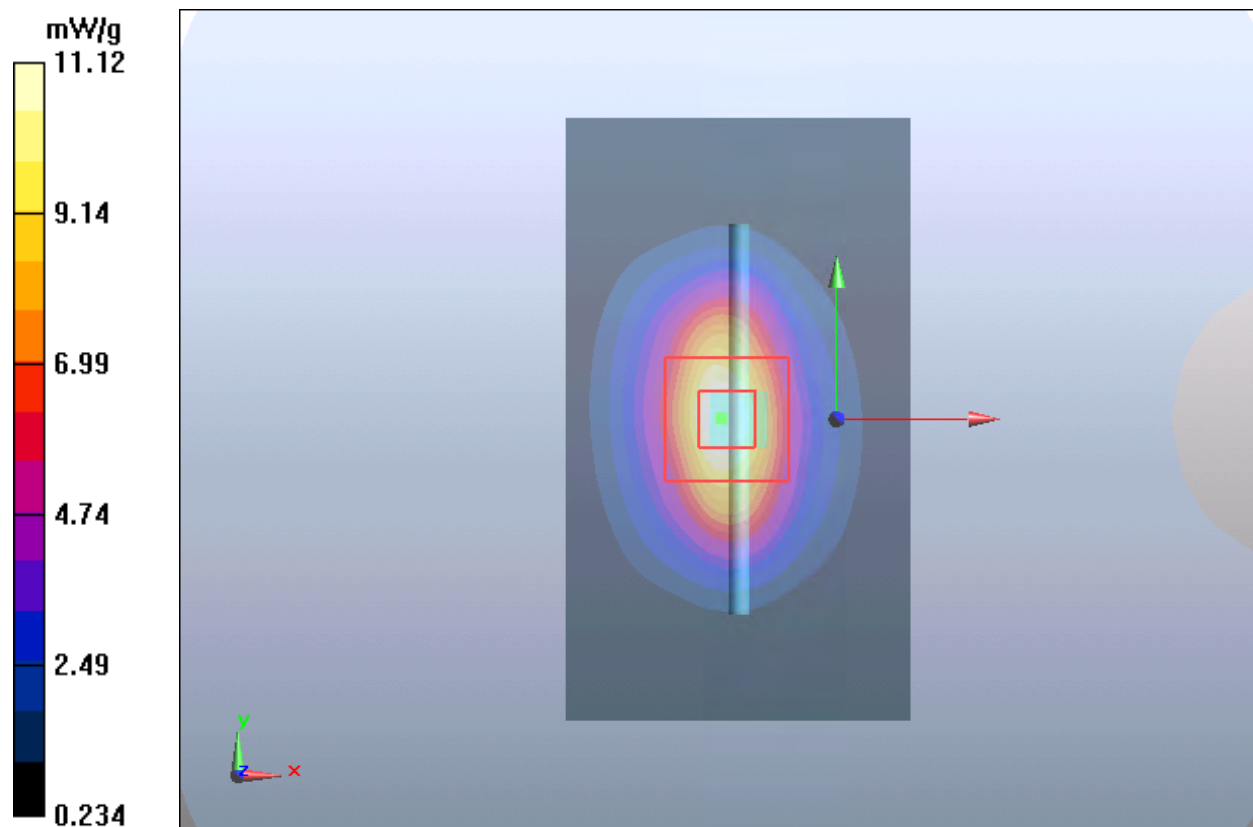
d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

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

Peak SAR (extrapolated) = 17.8 W/kg

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

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



Plot 12 System Performance Check at 1900 MHz

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

Date: 8/24/2020

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C

Liquid Temperature: 21.5 °C

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

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

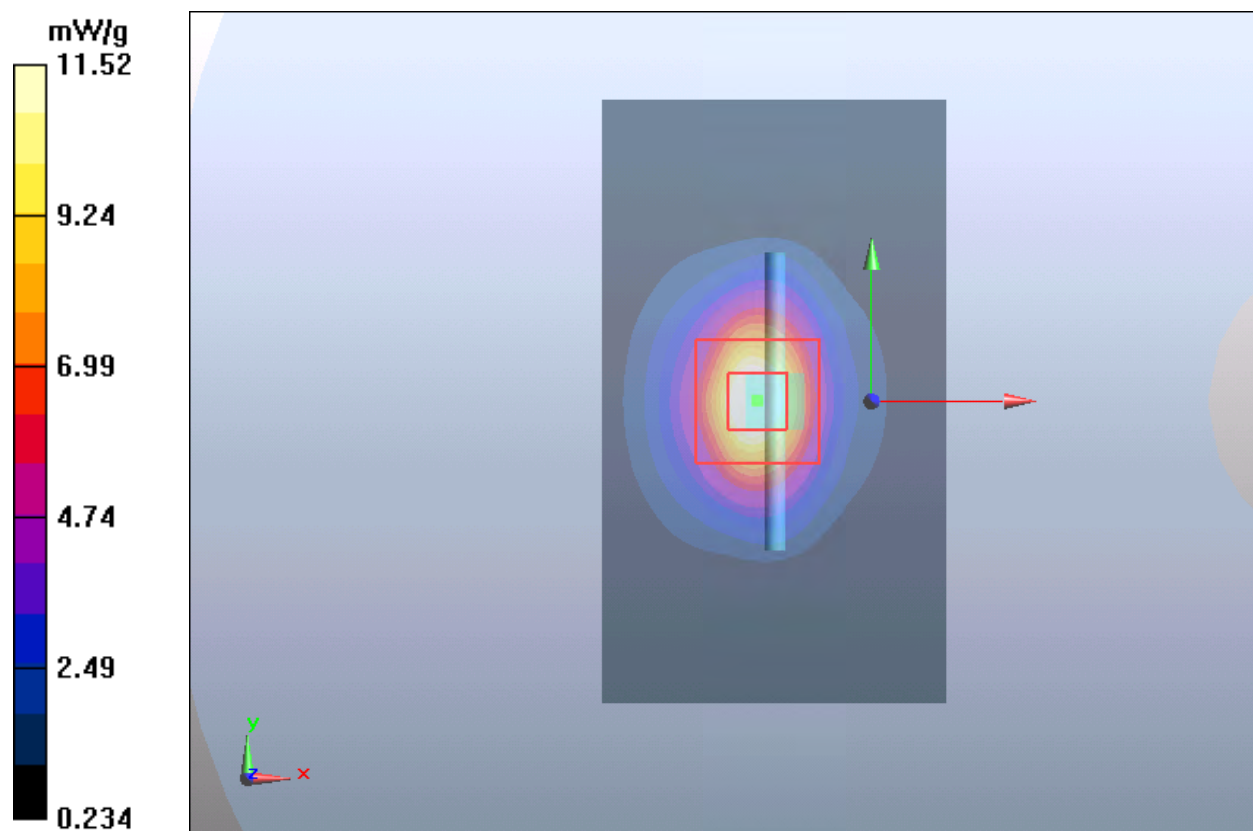
d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

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

Peak SAR (extrapolated) = 20.1 W/kg

SAR(1 g) = 10.55 mW/g; SAR(10 g) = 5.39 mW/g

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



Plot 13 System Performance Check at 2450 MHz TSL

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

Date: 8/27/2020

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/m³

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(7.54, 7.54, 7.54); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

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

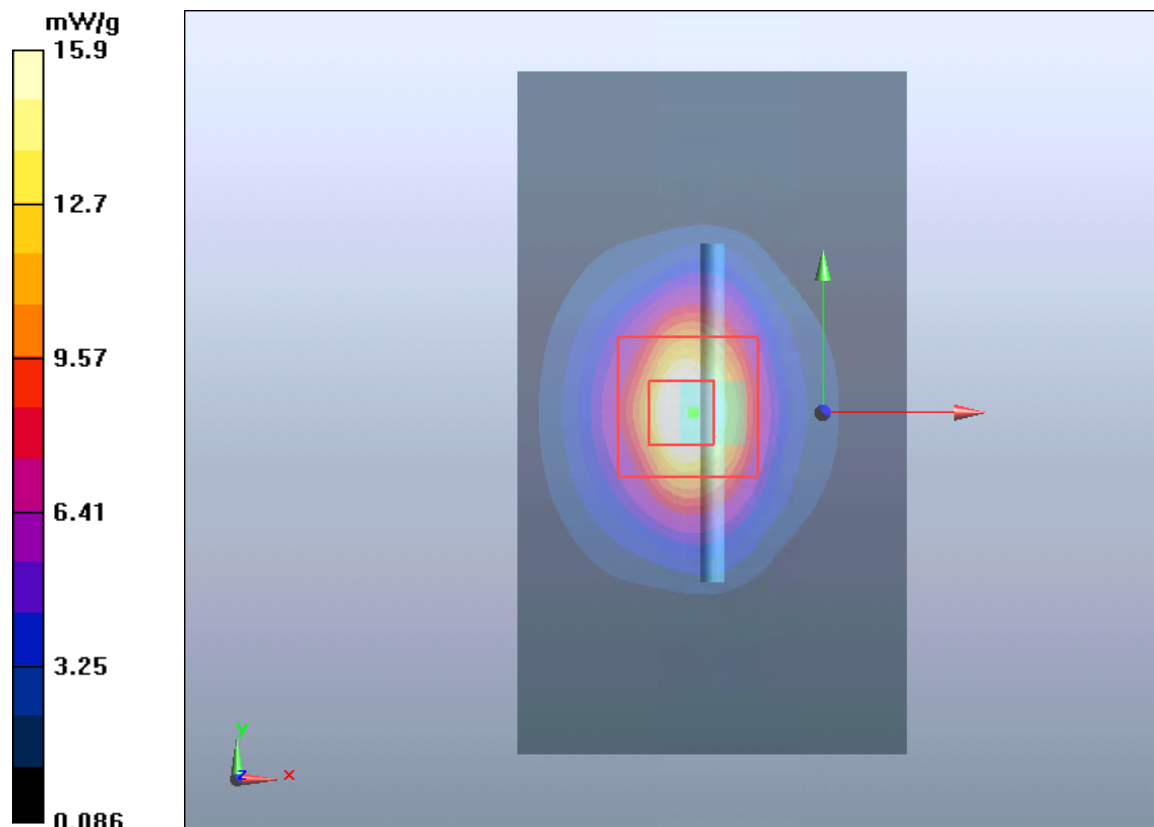
d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

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

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



Plot 14 System Performance Check at 2600 MHz TSL

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

Date: 9/1/2020

Communication System: CW; Frequency: 2600 MHz

Medium parameters used: $f = 2600$ MHz; $\sigma = 2.01$ S/m; $\epsilon_r = 38.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.26, 7.26, 7.26); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

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

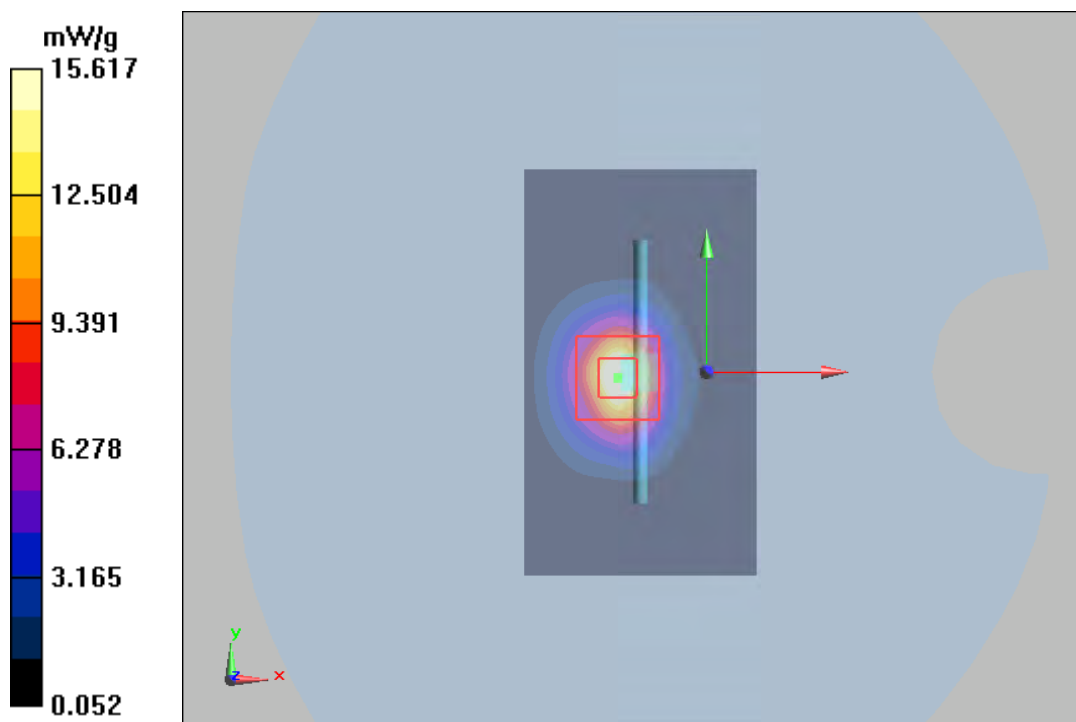
d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

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

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



Plot 15 System Performance Check at 2600 MHz TSL

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

Date: 9/3/2020

Communication System: CW; Frequency: 2600 MHz

Medium parameters used: $f = 2600$ MHz; $\sigma = 1.94$ S/m; $\epsilon_r = 38.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.26, 7.26, 7.26); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

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



Plot 16 System Performance Check at 2600 MHz TSL

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

Date: 9/4/2020

Communication System: CW; Frequency: 2600 MHz

Medium parameters used: $f = 2600$ MHz; $\sigma = 1.99$ mho/m; $\epsilon_r = 38.3$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(7.26, 7.26, 7.26); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

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

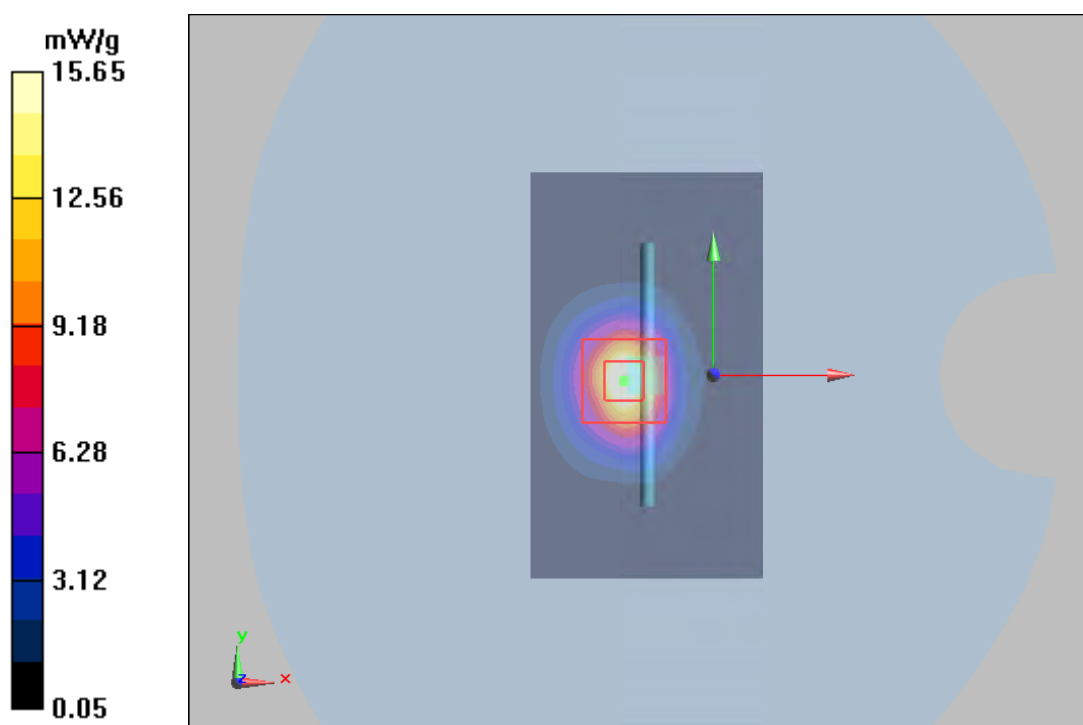
d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

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

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



Plot 17 System Performance Check at 2600 MHz TSL

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

Date: 9/7/2020

Communication System: CW; Frequency: 2600 MHz

Medium parameters used: $f = 2600$ MHz; $\sigma = 1.95$ mho/m; $\epsilon_r = 38.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.26, 7.26, 7.26); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

d=10mm, Pin=250mW/Area Scan (6x10x1): Measurement grid: dx=12mm, dy=12mm

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

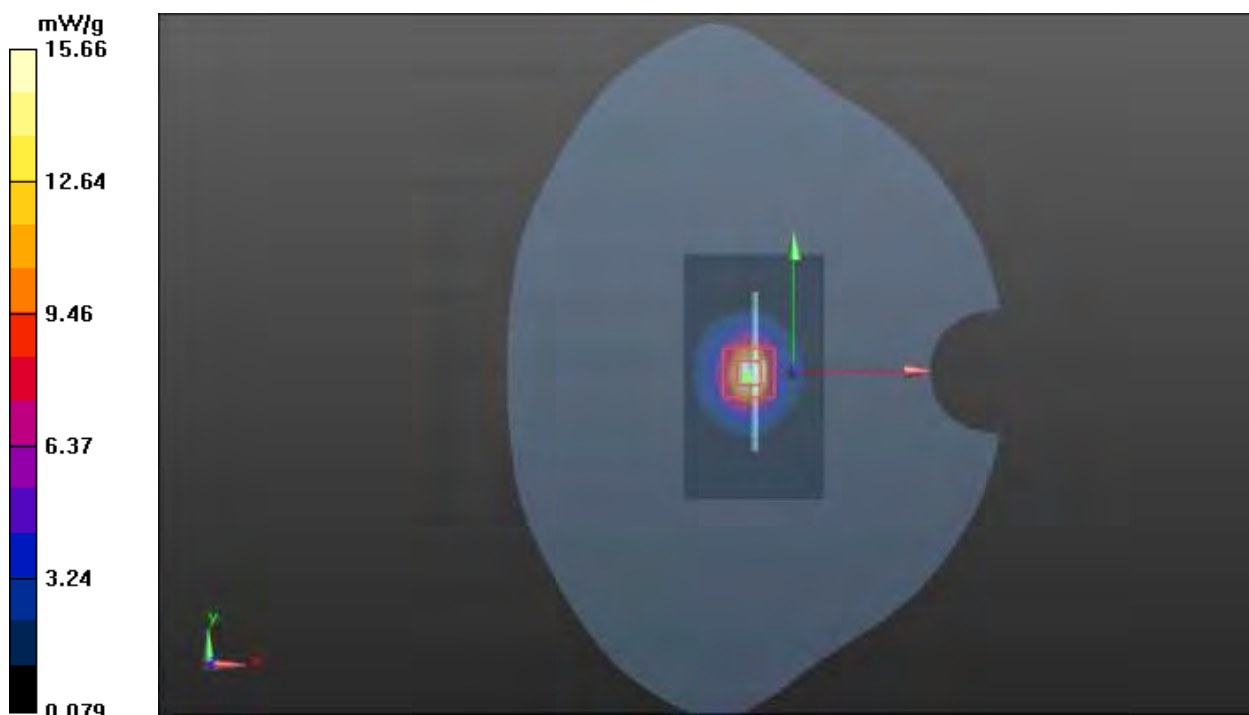
d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

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

Peak SAR (extrapolated) = 31.858 W/kg

SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.09 mW/g

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



Plot 18 System Performance Check at 5250 MHz TSL

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

Date: 9/2/2020

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/m³

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(5.55, 5.55, 5.55); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

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

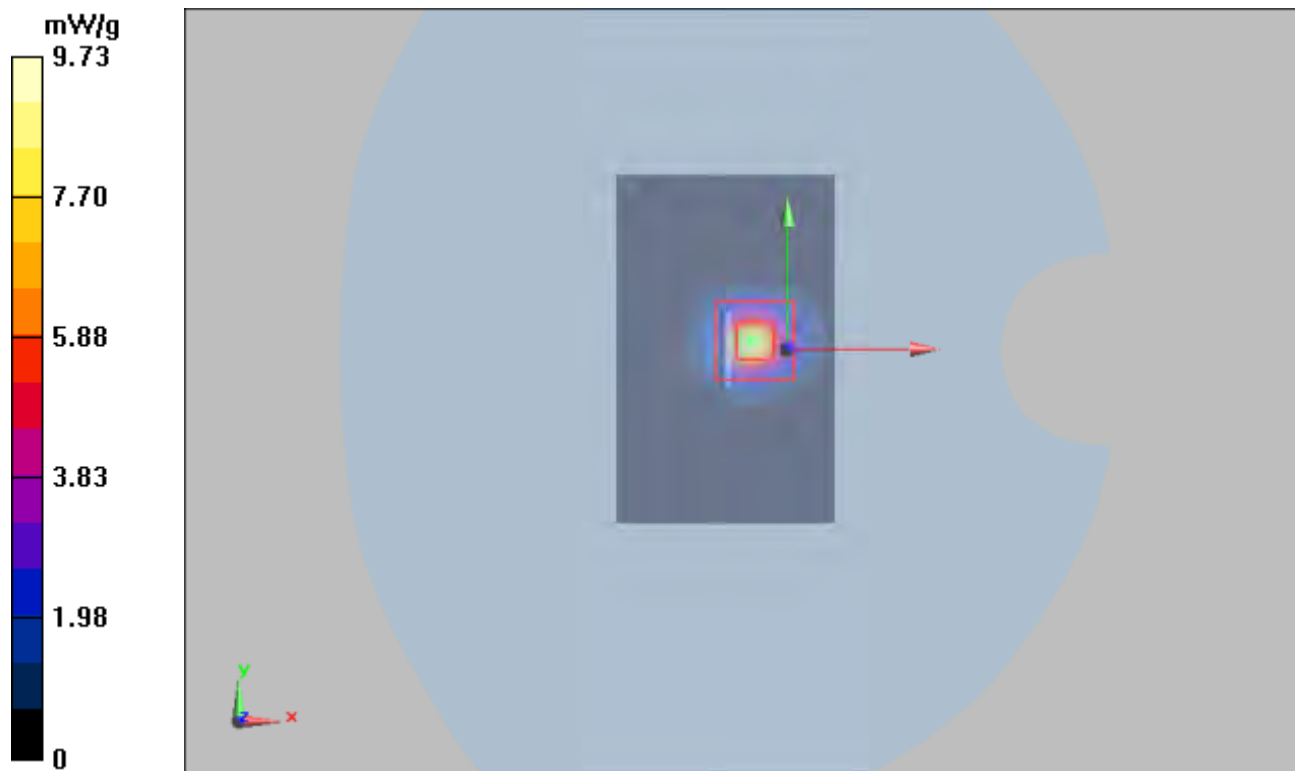
d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

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

Peak SAR (extrapolated) = 52.2 W/kg

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

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



Plot 19 System Performance Check at 5600 MHz TSL

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

Date: 9/5/2020

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/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

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

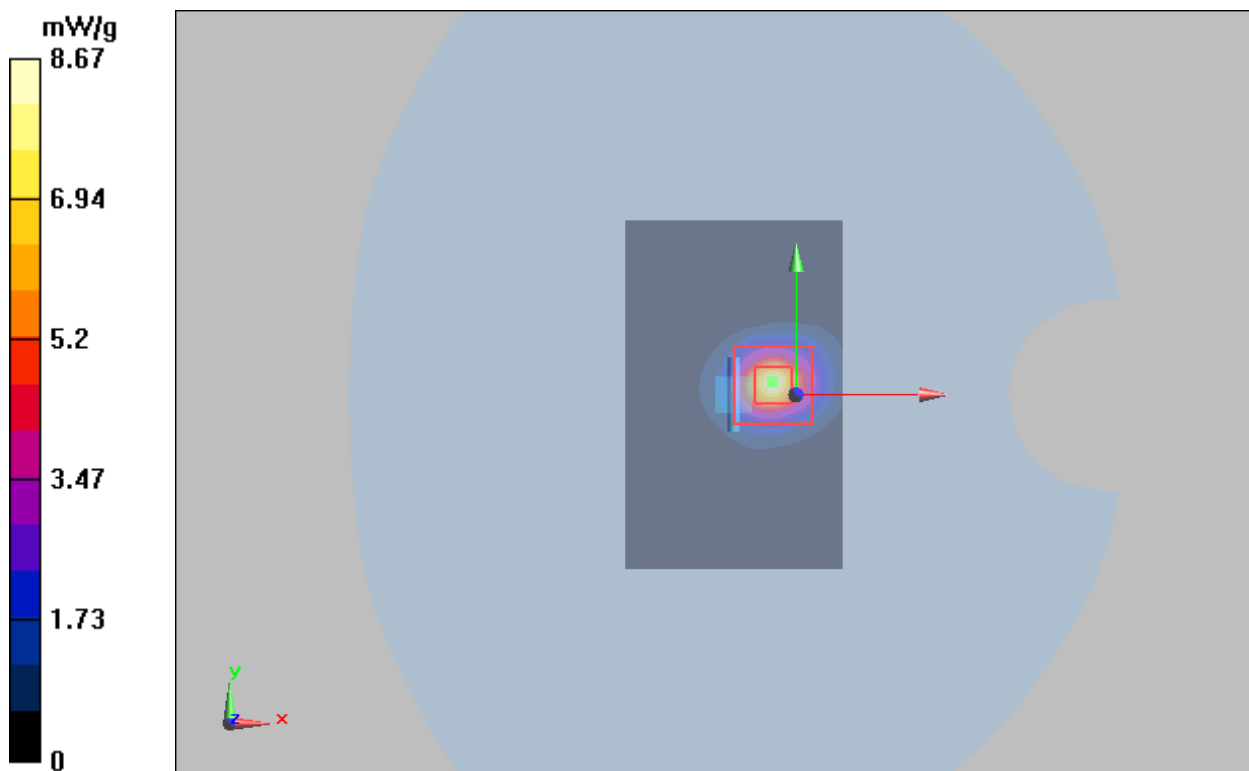
d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

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

Peak SAR (extrapolated) = 22.9 W/kg

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

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



Plot 20 System Performance Check at 5750 MHz TSL

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

Date: 9/5/2020

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/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

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

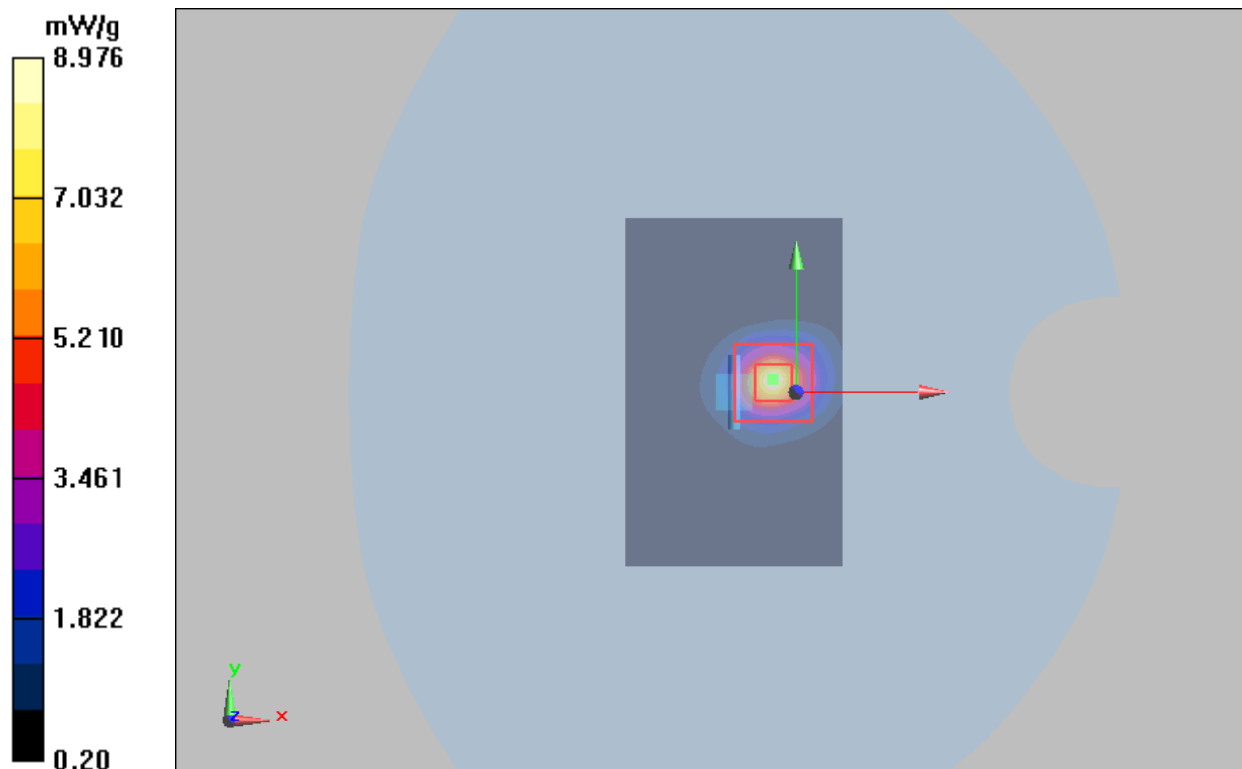
d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm

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

Peak SAR (extrapolated) = 23.4 W/kg

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

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



ANNEX C: Highest Graph Results

Plot 21 GSM 850 Left Cheek Middle (WWAN Antenna Down)

Date: 8/17/2020

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $f = 837$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 42.201$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Left Cheek Middle/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.127 W/kg

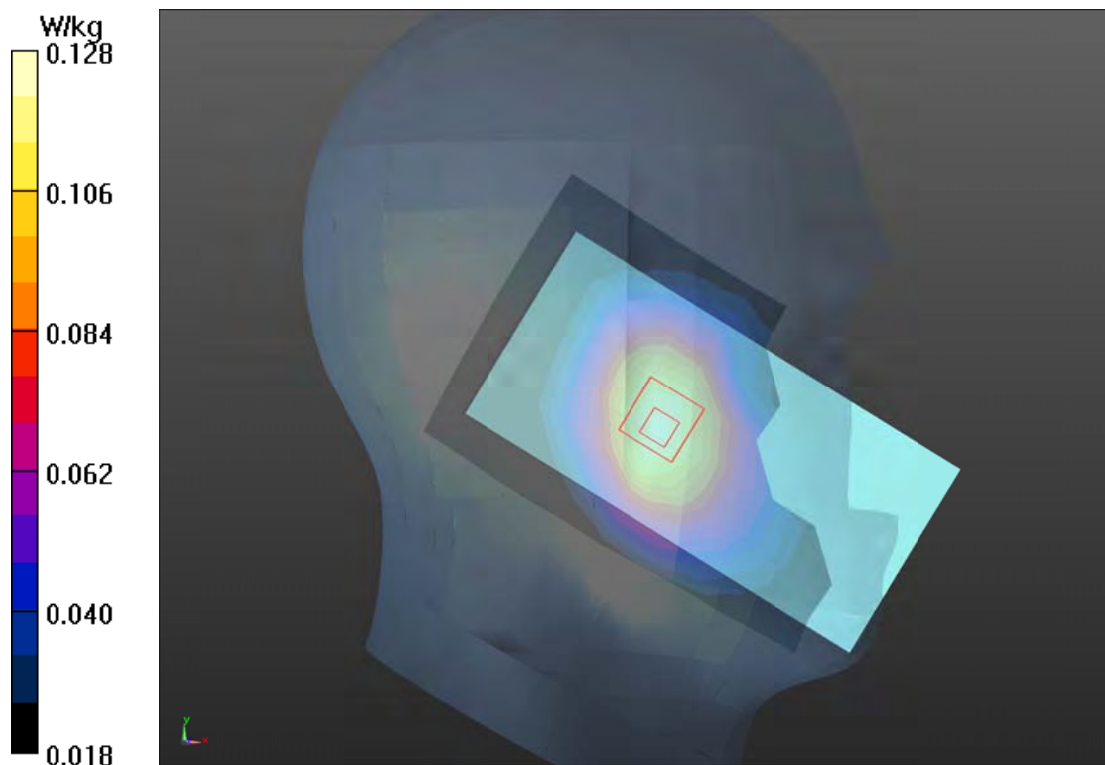
Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.610 V/m; Power Drift = -0.031 dB

Peak SAR (extrapolated) = 0.151 W/kg

SAR(1 g) = 0.122 W/kg; SAR(10 g) = 0.093 W/kg

Maximum value of SAR (measured) = 0.128 W/kg



Plot 22 GSM 850 Back Side Middle (Distance 15mm, WWAN Antenna Down)

Date: 8/17/2020

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $f = 837$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 42.201$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.119 W/kg

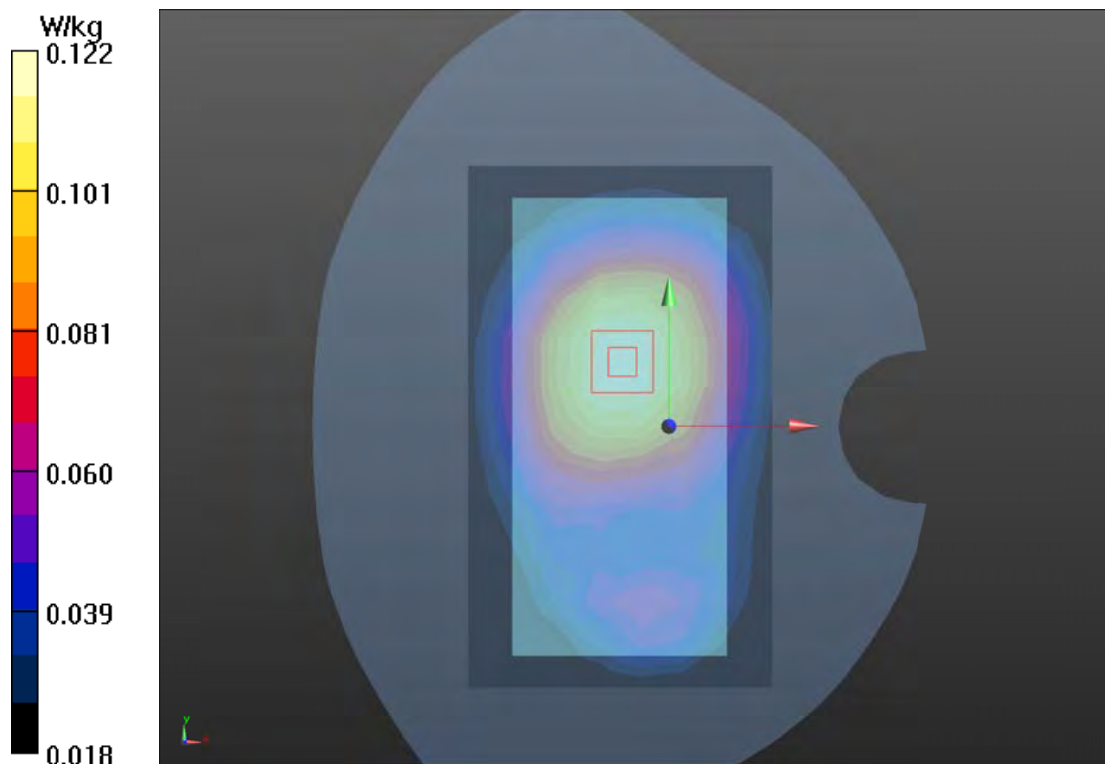
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.63 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.143 W/kg

SAR(1 g) = 0.116 W/kg; SAR(10 g) = 0.089 W/kg

Maximum value of SAR (measured) = 0.122 W/kg



Plot 23 GSM 850 GPRS (4Txslots) Back Side Middle (Distance 10mm, WWAN Antenna Down)

Date: 8/17/2020

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:2.07

Medium parameters used: $f = 837$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 42.201$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.224 W/kg

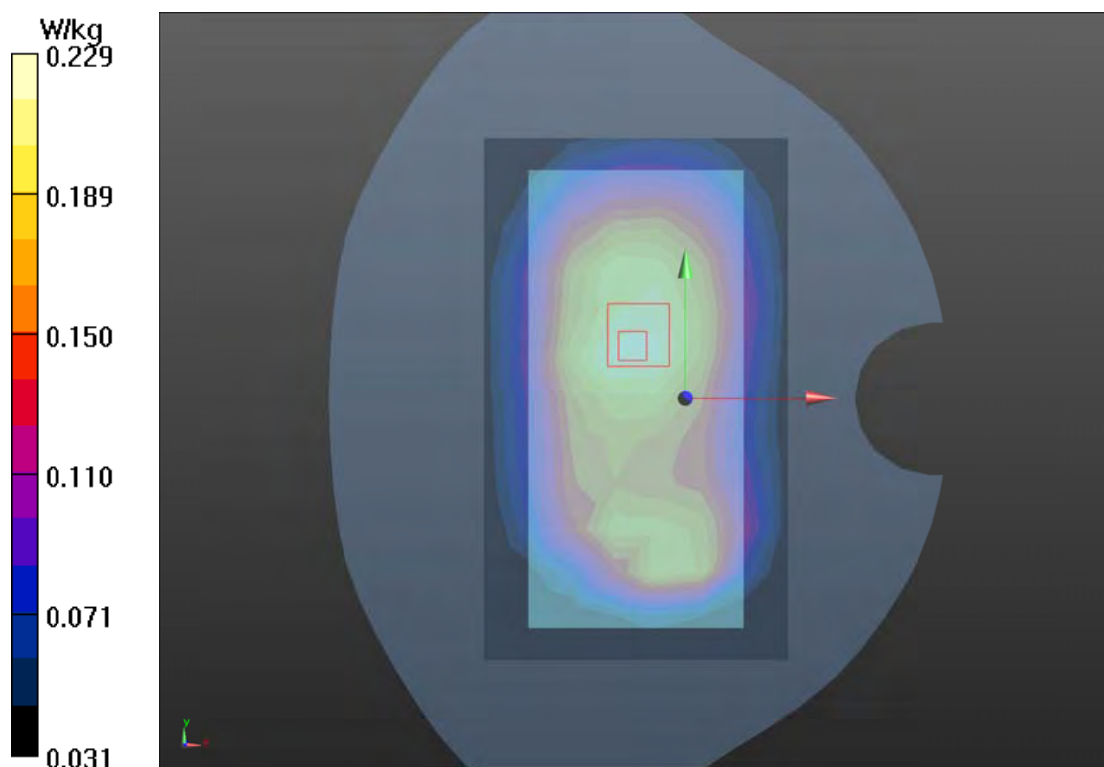
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.50 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.279 W/kg

SAR(1 g) = 0.214 W/kg; SAR(10 g) = 0.160 W/kg

Maximum value of SAR (measured) = 0.229 W/kg



Plot 24 GSM 1900 Left Cheek Middle (WWAN Antenna Down)

Date: 8/22/2020

Communication System: UID 0, GSM (0); Frequency: 1880 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.393$ S/m; $\epsilon_r = 38.344$; $\rho = 1000$ kg/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

Maximum value of SAR (measured) = 0.070 W/kg

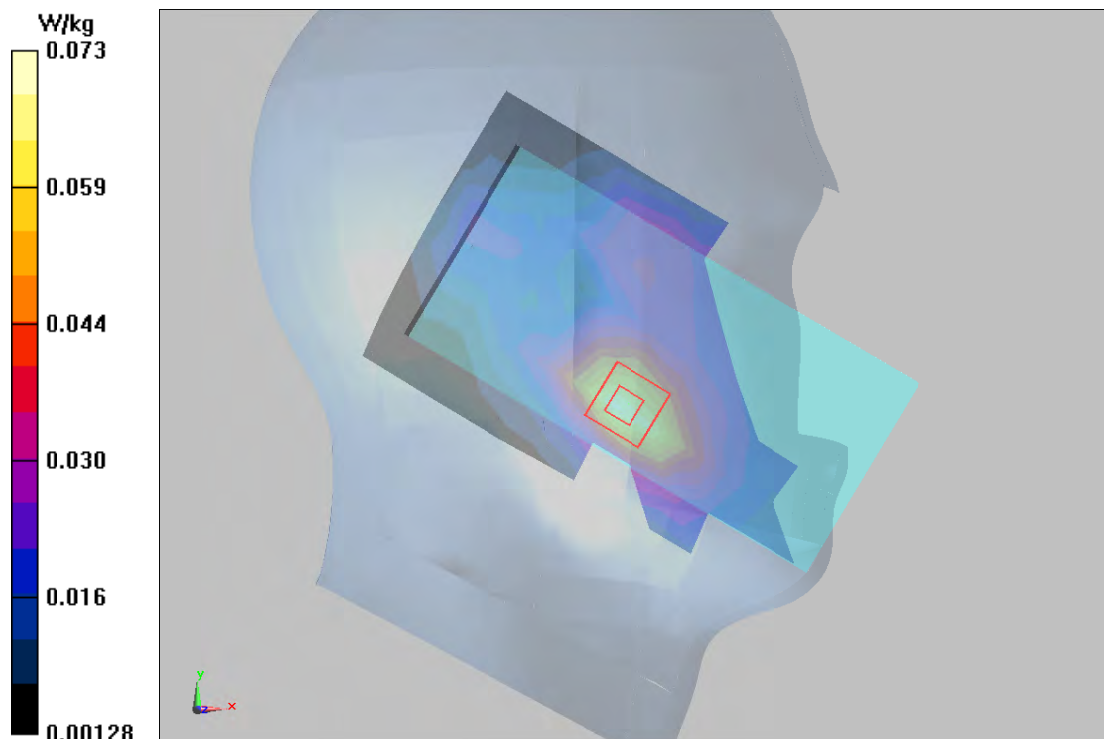
Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.019 V/m; Power Drift = 0.051 dB

Peak SAR (extrapolated) = 0.107 W/kg

SAR(1 g) = 0.067 W/kg; SAR(10 g) = 0.041 W/kg

Maximum value of SAR (measured) = 0.073 W/kg



Plot 25 GSM 1900 Back Side Middle (Distance 15mm, WWAN Antenna Down)

Date: 8/22/2020

Communication System: UID 0, GSM (0); Frequency: 1880 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.393$ S/m; $\epsilon_r = 38.344$; $\rho = 1000$ kg/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.234 W/kg

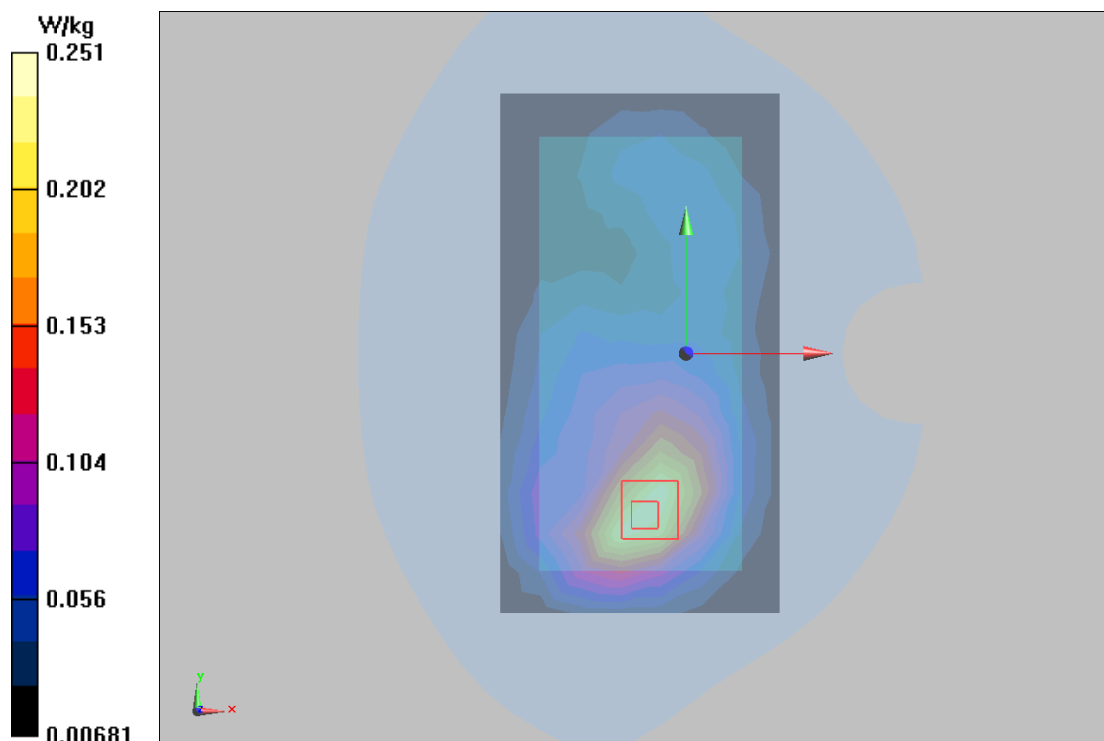
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.773 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.366 W/kg

SAR(1 g) = 0.230 W/kg; SAR(10 g) = 0.140 W/kg

Maximum value of SAR (measured) = 0.251 W/kg



Plot 26 GSM 1900 GPRS (4Txslots) Bottom Edge Middle (Distance 10mm, WWAN Antenna Down)

Date: 8/22/2020

Communication System: UID 0, GPRS 4TX (0); Frequency: 1880 MHz; Duty Cycle: 1:2.07491

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.393$ S/m; $\epsilon_r = 38.344$; $\rho = 1000$ kg/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Bottom Edge Middle/Area Scan (4x8x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.790 W/kg

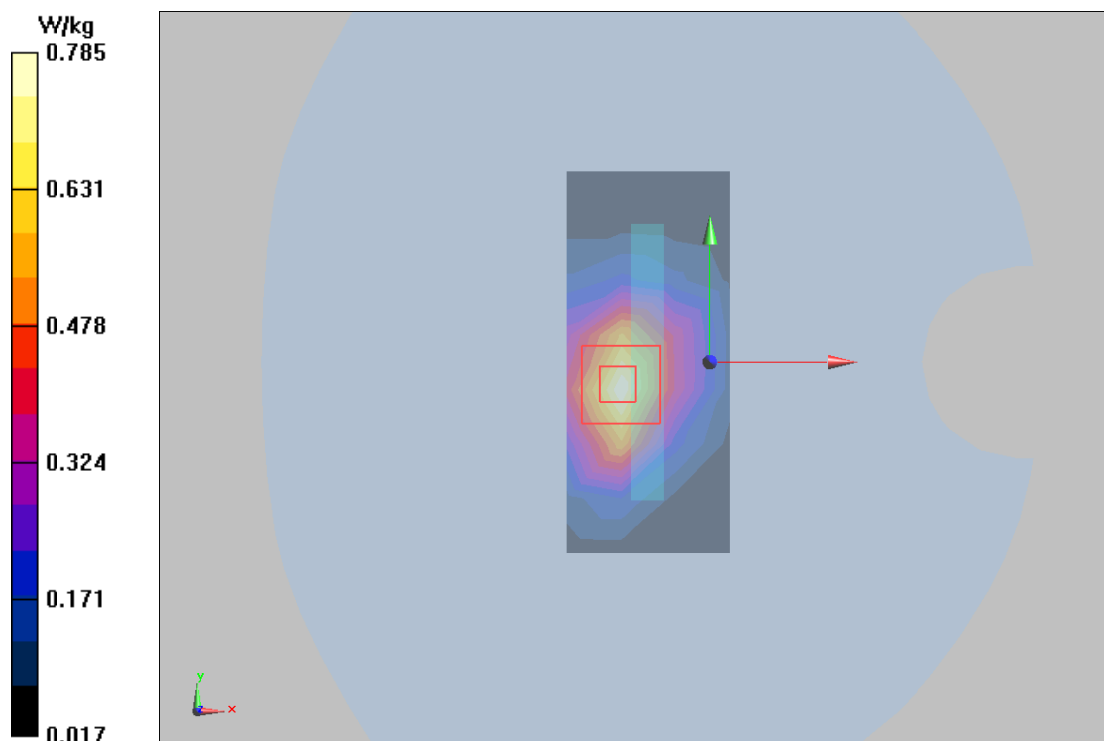
Bottom Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 21.47 V/m; Power Drift = 0.023 dB

Peak SAR (extrapolated) = 1.23 W/kg

SAR(1 g) = 0.723 W/kg; SAR(10 g) = 0.407 W/kg

Maximum value of SAR (measured) = 0.785 W/kg



Plot 27 UMTS Band II Left Cheek Middle (WWAN Antenna Down)

Date: 8/23/2020

Communication System: UID 0, WCDMA 1900 (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/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Left Cheek Middle/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.0150 W/kg

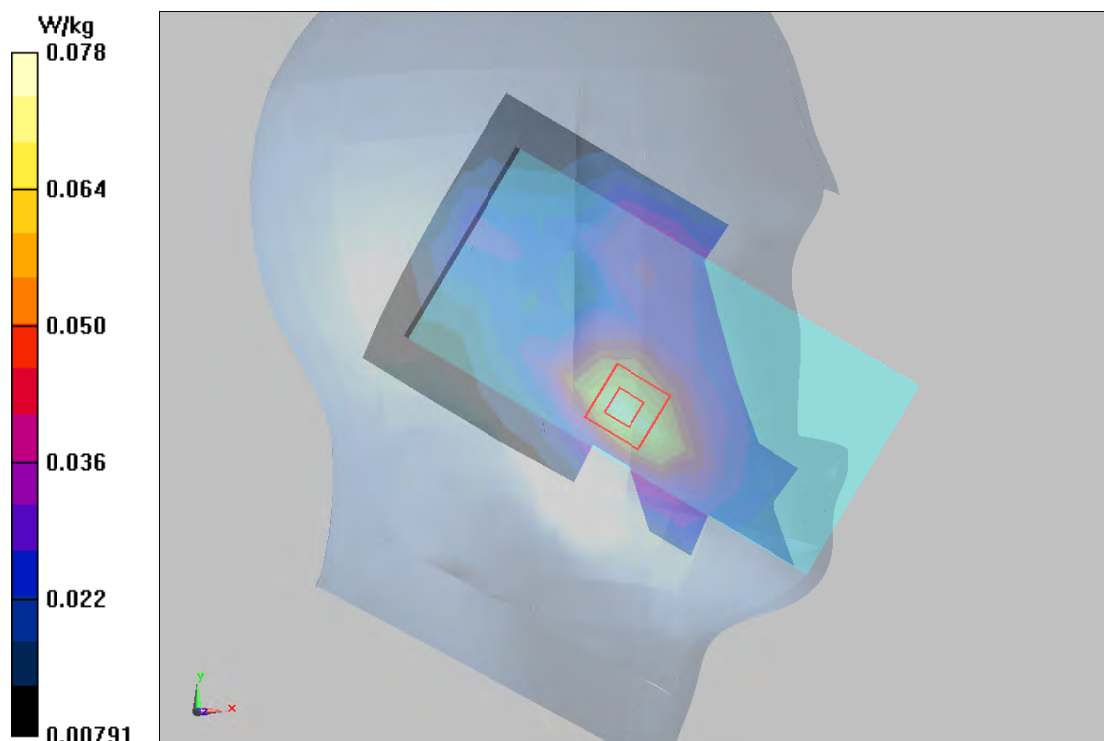
Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.697 V/m; Power Drift = 0.041 dB

Peak SAR (extrapolated) = 0.125 W/kg

SAR(1 g) = 0.065 W/kg; SAR(10 g) = 0.048 W/kg

Maximum value of SAR (measured) = 0.078 W/kg



Plot 28 UMTS Band II Back Side Middle (Distance 15mm, WWAN Antenna Down)

Date: 8/23/2020

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/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.245 W/kg

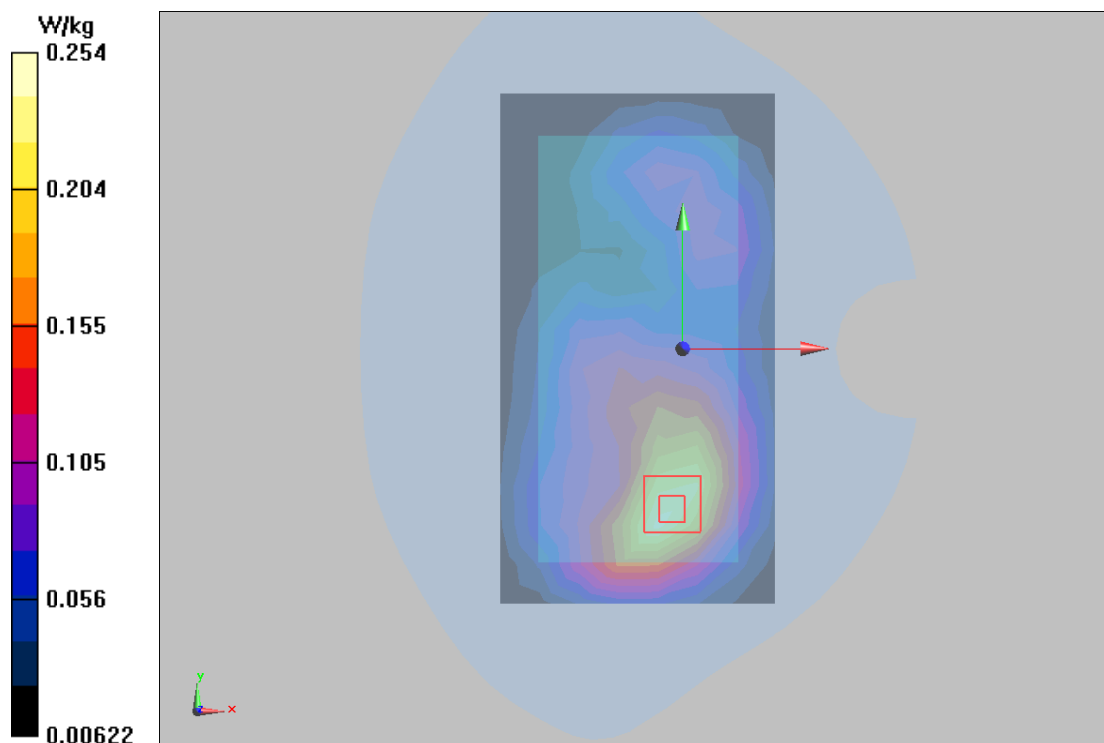
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.510 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.367 W/kg

SAR(1 g) = 0.235 W/kg; SAR(10 g) = 0.147 W/kg

Maximum value of SAR (measured) = 0.254 W/kg



Plot 29 UMTS Band II Bottom Edge Middle (Distance 10mm, WWAN Antenna Down)

Date: 8/23/2020

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/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Bottom Edge Middle/Area Scan (4x8x1): Measurement grid: dx=15mm, dy=15mm

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

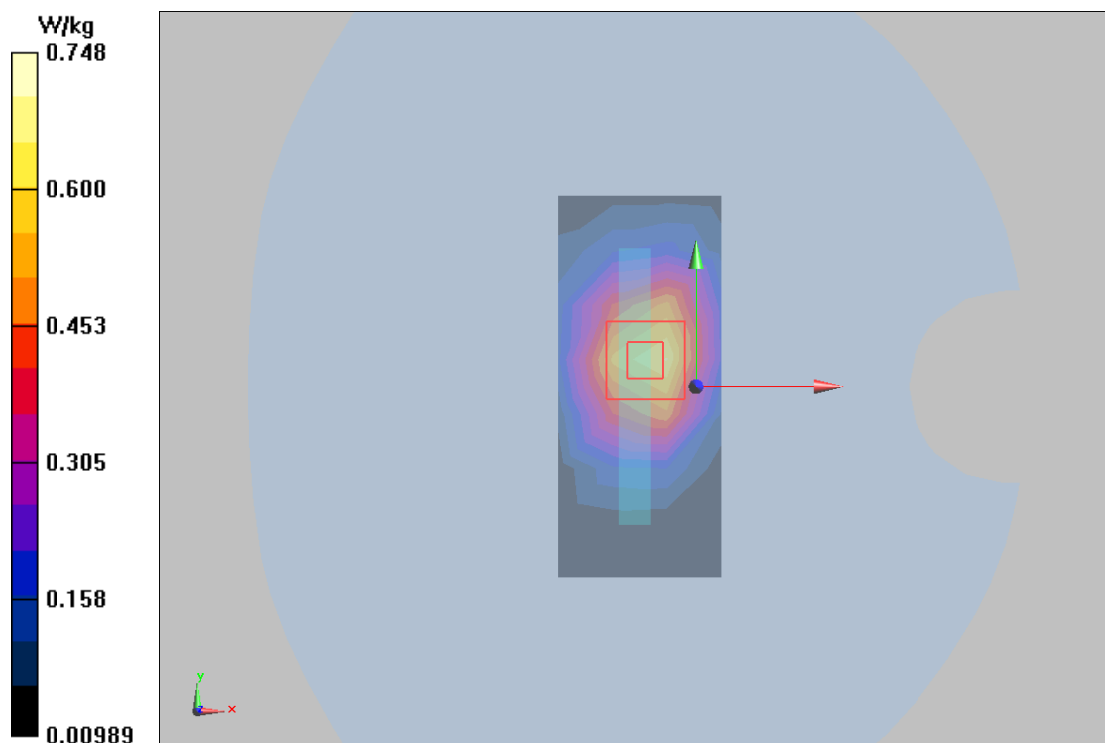
Bottom Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.42 V/m; Power Drift = -0.031 dB

Peak SAR (extrapolated) = 1.16 W/kg

SAR(1 g) = 0.685 W/kg; SAR(10 g) = 0.387 W/kg

Maximum value of SAR (measured) = 0.748 W/kg



Plot 30 UMTS Band IV Right Cheek Middle(WWAN Antenna Down)

Date: 8/25/2020

Communication System: UID 0, WCDMA-1700 (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/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Right Cheek Middle/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.078 W/kg

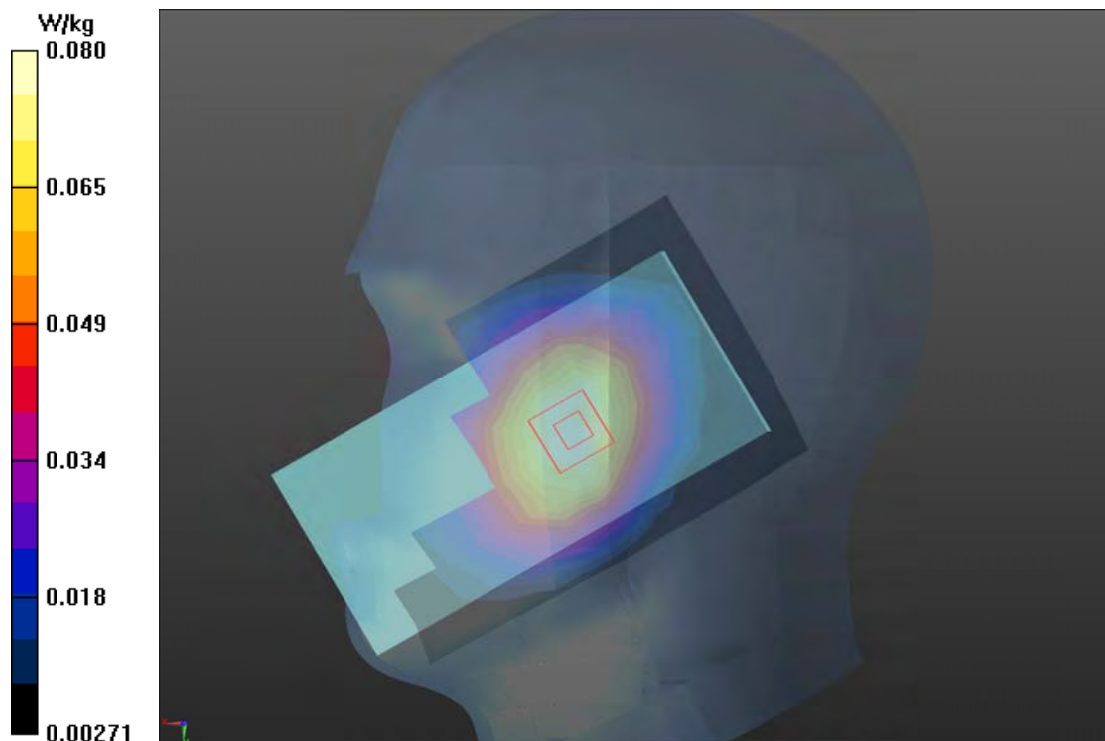
Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.032 V/m; Power Drift = 0.157 dB

Peak SAR (extrapolated) = 0.203 W/kg

SAR(1 g) = 0.069 W/kg; SAR(10 g) = 0.032 W/kg

Maximum value of SAR (measured) = 0.080 W/kg



Plot 31 UMTS Band IV Back Side Middle(Distance 15mm, WWAN Antenna Down)

Date: 8/25/2020

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/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.455 W/kg

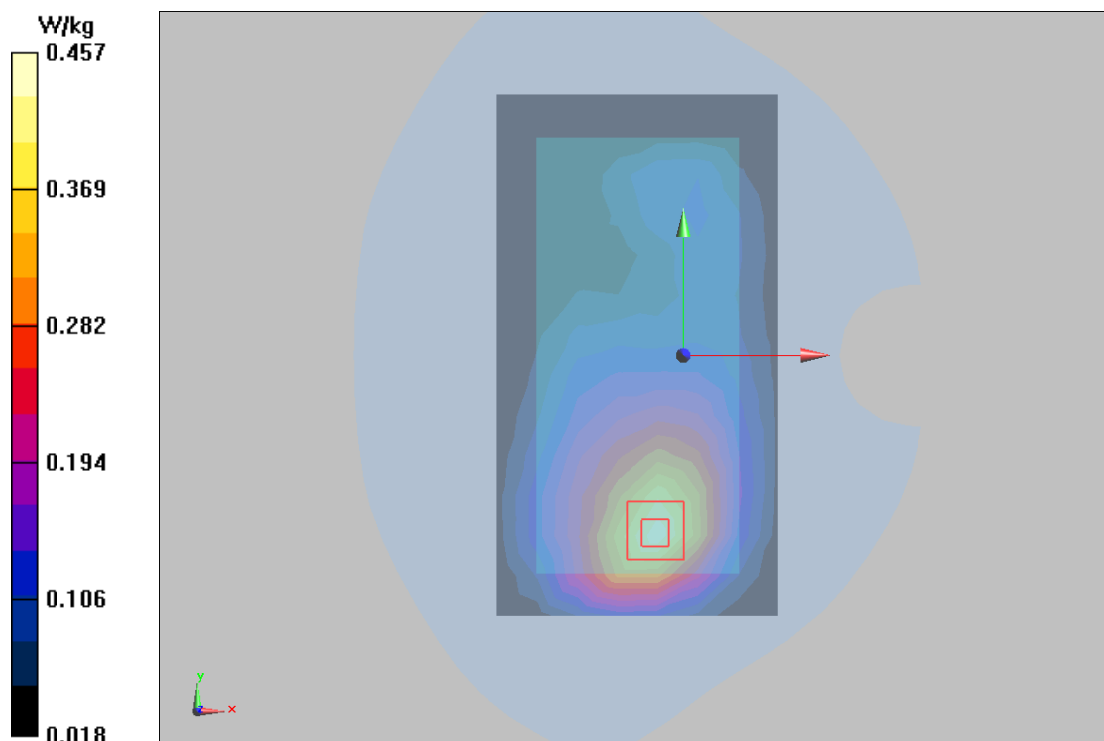
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.421 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.638 W/kg

SAR(1 g) = 0.426 W/kg; SAR(10 g) = 0.272 W/kg

Maximum value of SAR (measured) = 0.457 W/kg



Plot 32 UMTS Band IV Back Side Middle(Distance 10mm, WWAN Antenna Down)

Date: 8/25/2020

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/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.490 W/kg

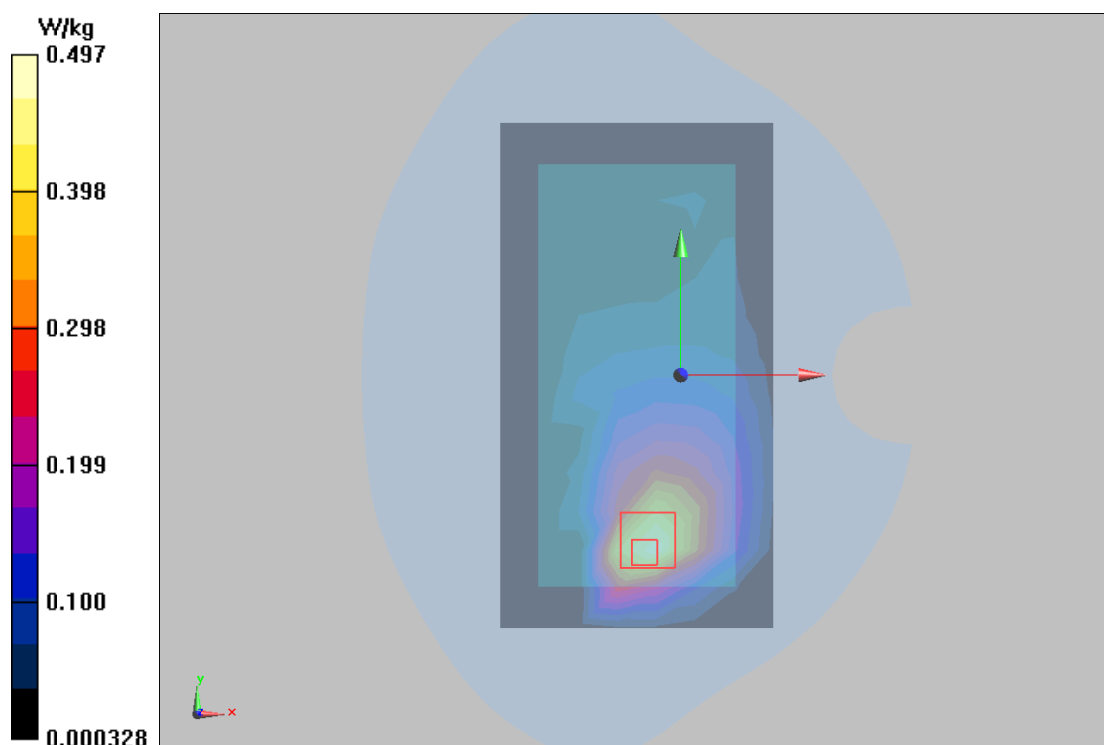
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.598 V/m; Power Drift = -0.112 dB

Peak SAR (extrapolated) = 1.09 W/kg

SAR(1 g) = 0.512 W/kg; SAR(10 g) = 0.286 W/kg

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



Plot 33 UMTS Band V Right Cheek Middle (WWAN Antenna Down)

Date: 8/17/2020

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

Medium parameters used: $f = 837$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 42.201$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Right Cheek Middle/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.120 W/kg

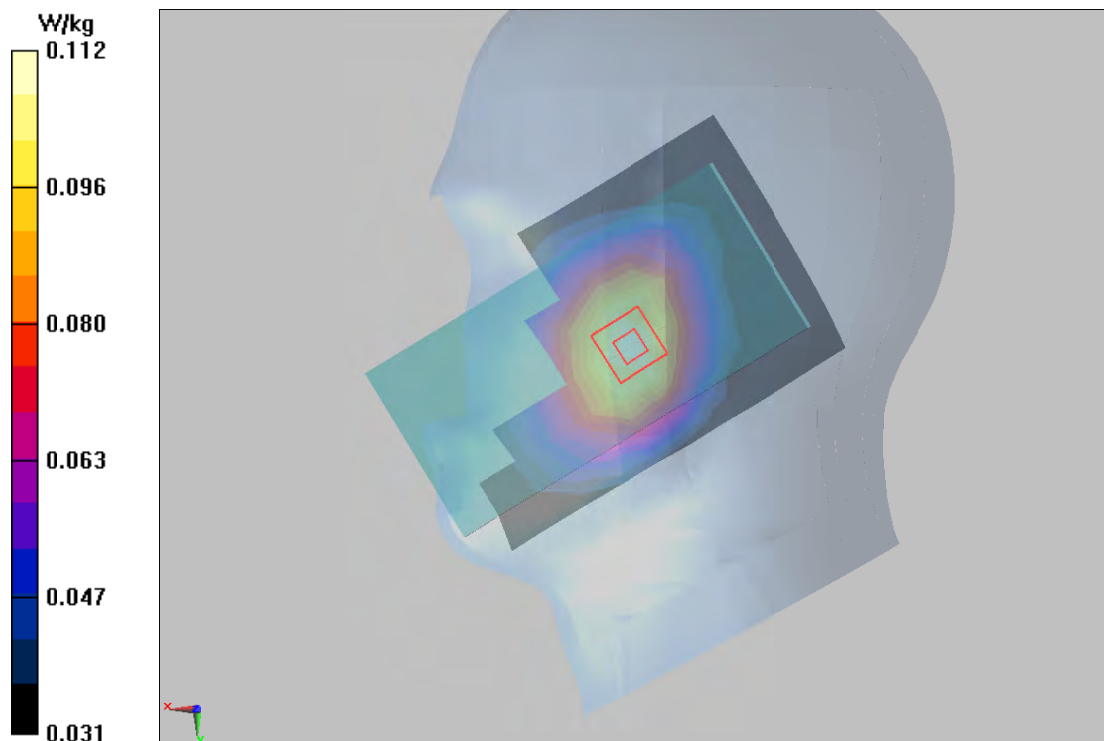
Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.684 V/m; Power Drift = 0.031 dB

Peak SAR (extrapolated) = 0.248 W/kg

SAR(1 g) = 0.105 W/kg; SAR(10 g) = 0.084 W/kg

Maximum value of SAR (measured) = 0.112 W/kg



Plot 34 UMTS Band V Back Side Middle(Distance 15mm, WWAN Antenna Down)

Date: 8/17/2020

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

Medium parameters used: $f = 837$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 42.201$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.188 W/kg

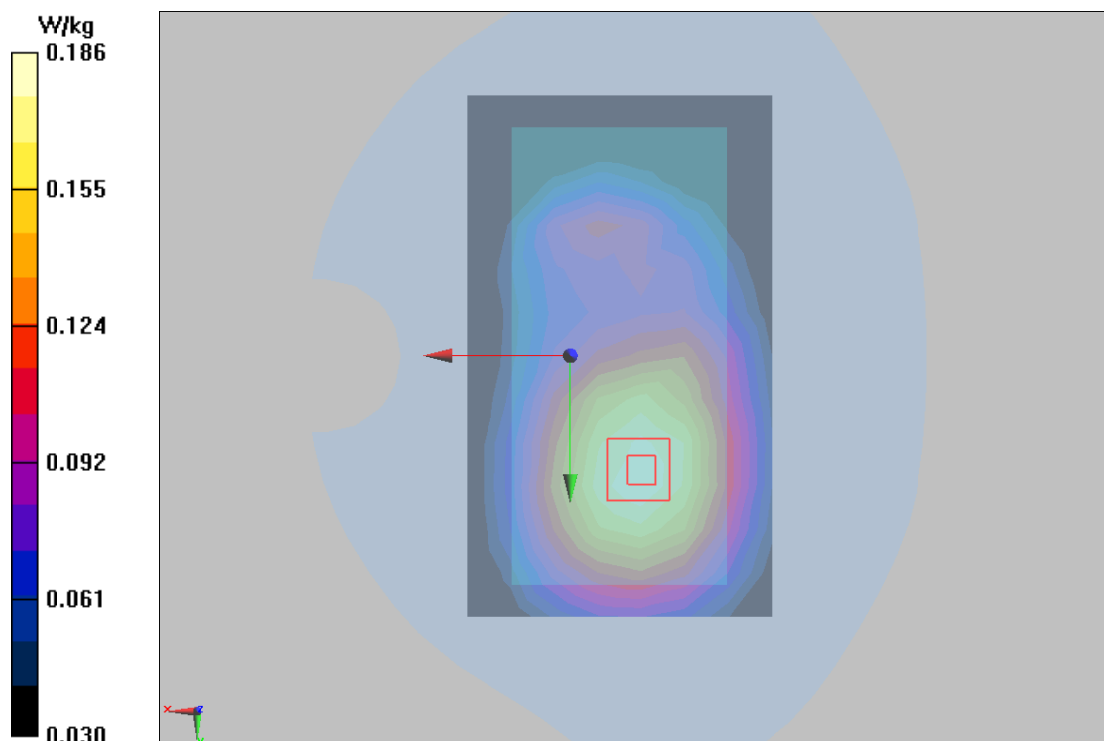
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.12 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.219 W/kg

SAR(1 g) = 0.178 W/kg; SAR(10 g) = 0.135 W/kg

Maximum value of SAR (measured) = 0.186 W/kg



Plot 35 UMTS Band V Back Side Middle (Distance 10mm, WWAN Antenna Down)

Date: 8/17/2020

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

Medium parameters used: $f = 837$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 42.201$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.228 W/kg

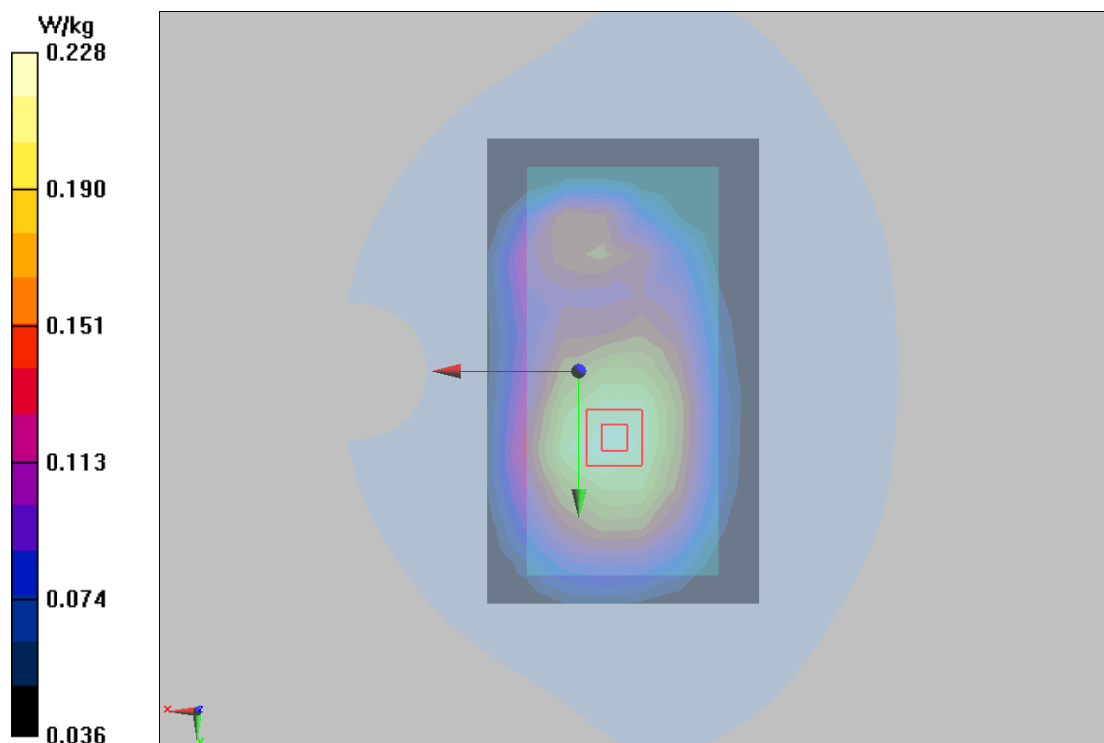
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.22 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.272 W/kg

SAR(1 g) = 0.216 W/kg; SAR(10 g) = 0.162 W/kg

Maximum value of SAR (measured) = 0.228 W/kg



Plot 36 LTE Band 2 1RB Left Cheek High (WWAN Antenna Down)

Date: 8/23/2020

Communication System: UID 0, LTE-FDD (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/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Left Cheek High/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.136 W/kg

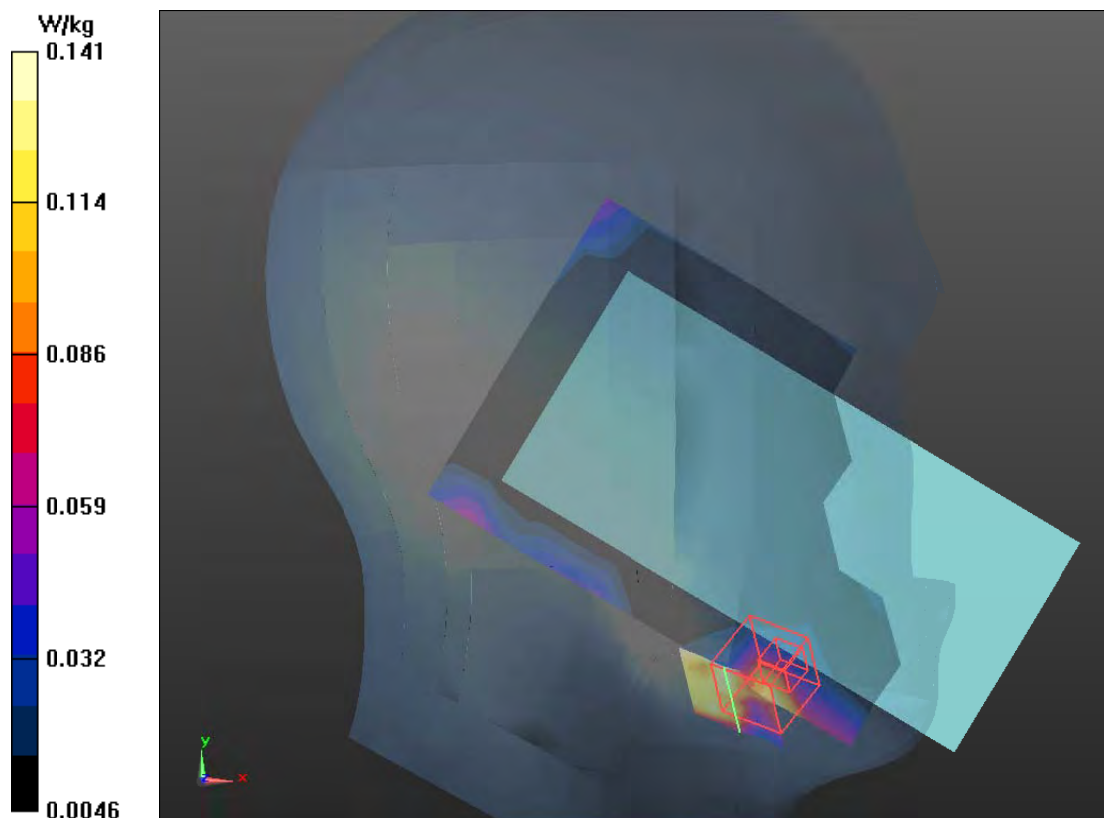
Left Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.662 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.345 W/kg

SAR(1 g) = 0.121 W/kg; SAR(10 g) = 0.075 W/kg

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



Plot 37 LTE Band 2 1RB Back Side High(Distance 15mm, WWAN Antenna Down)

Date: 8/23/2020

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/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side High/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.282 W/kg

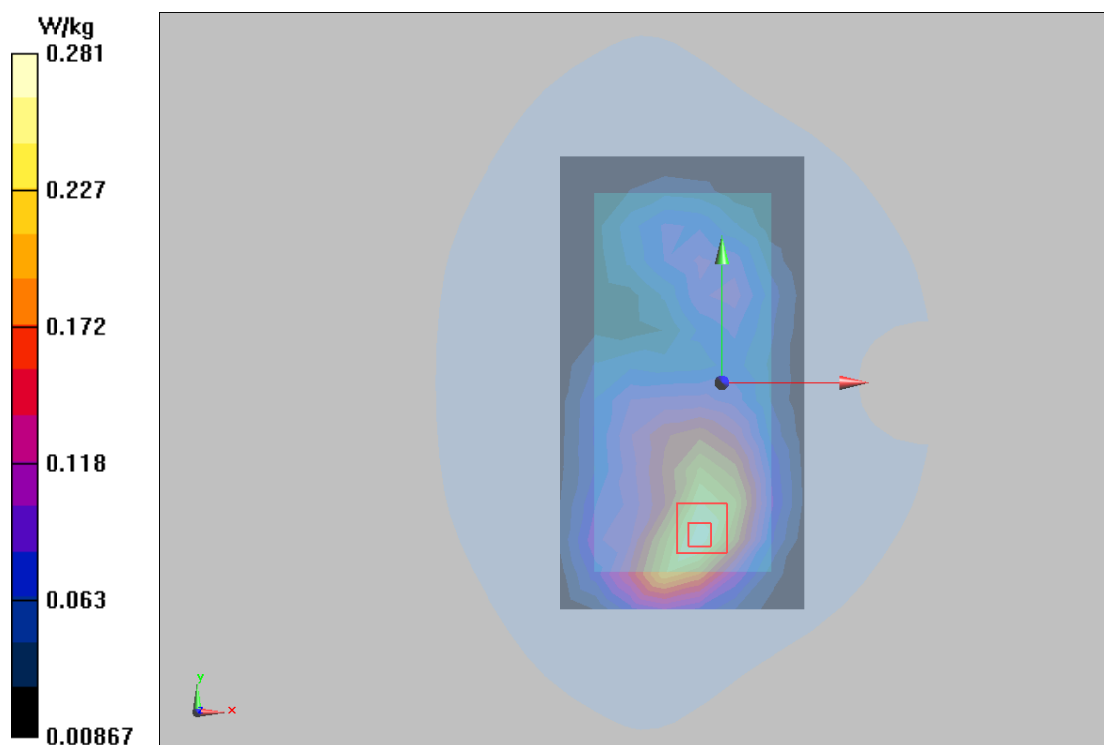
Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.248 V/m; Power Drift = -0.060 dB

Peak SAR (extrapolated) = 0.406 W/kg

SAR(1 g) = 0.260 W/kg; SAR(10 g) = 0.160 W/kg

Maximum value of SAR (measured) = 0.281 W/kg



Plot 38 LTE Band 2 1RB Bottom Edge Low (Distance 10mm, WWAN Antenna Down)

Date: 8/23/2020

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/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Bottom Edge Low/Area Scan (4x8x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 1.01 W/kg

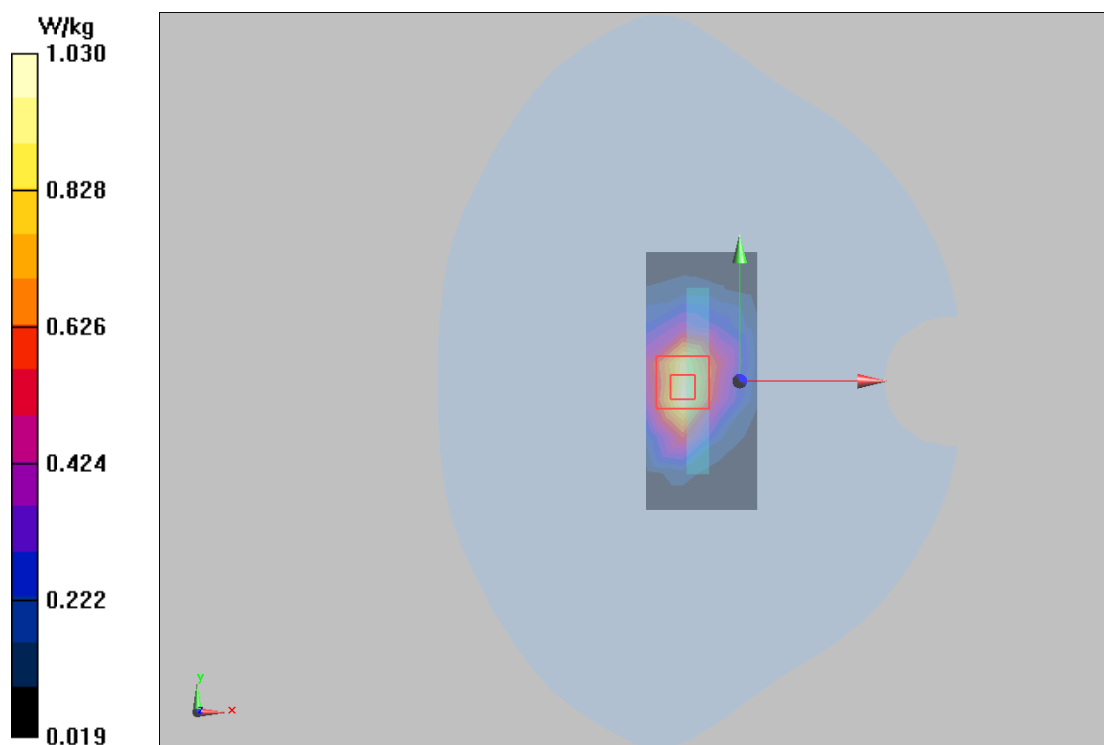
Bottom Edge Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.43 V/m; Power Drift = 0.026 dB

Peak SAR (extrapolated) = 1.59 W/kg

SAR(1 g) = 0.943 W/kg; SAR(10 g) = 0.533 W/kg

Maximum value of SAR (measured) = 1.030 W/kg



Plot 39 LTE Band 4 50%RB Right Tilt High (WWAN Antenna Down)

Date: 8/26/2020

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

Medium parameters used: $f = 1745$ MHz; $\sigma = 1.301$ S/m; $\epsilon_r = 38.753$; $\rho = 1000$ kg/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

Maximum value of SAR (measured) = 0.0592 W/kg

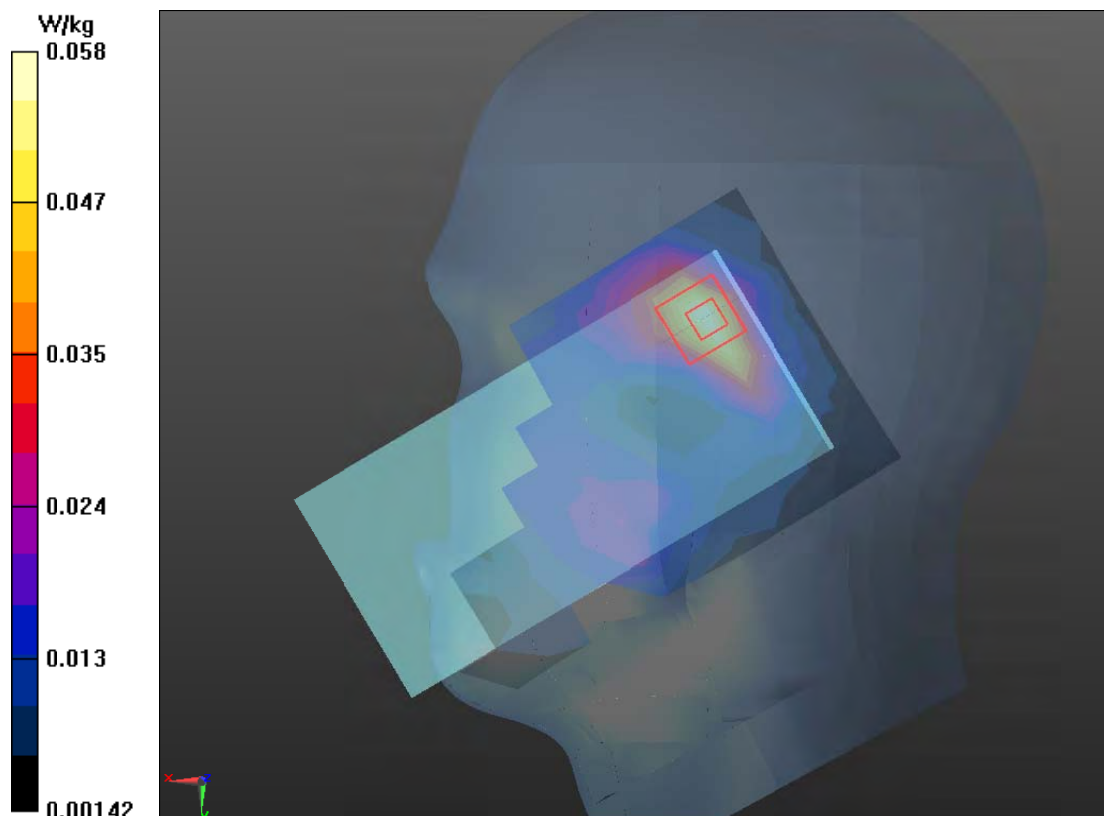
Right Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.599 V/m; Power Drift = -0.047 dB

Peak SAR (extrapolated) = 0.0900 W/kg

SAR(1 g) = 0.055 W/kg; SAR(10 g) = 0.031 W/kg

Maximum value of SAR (measured) = 0.0580 W/kg



Plot 40 LTE Band 4 1RB Back Side Middle (Distance 15mm, WWAN Antenna Down)

Date: 8/26/2020

Communication System: UID 0, LTE (0); Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.313$ S/m; $\epsilon_r = 39.384$; $\rho = 1000$ kg/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.375 W/kg

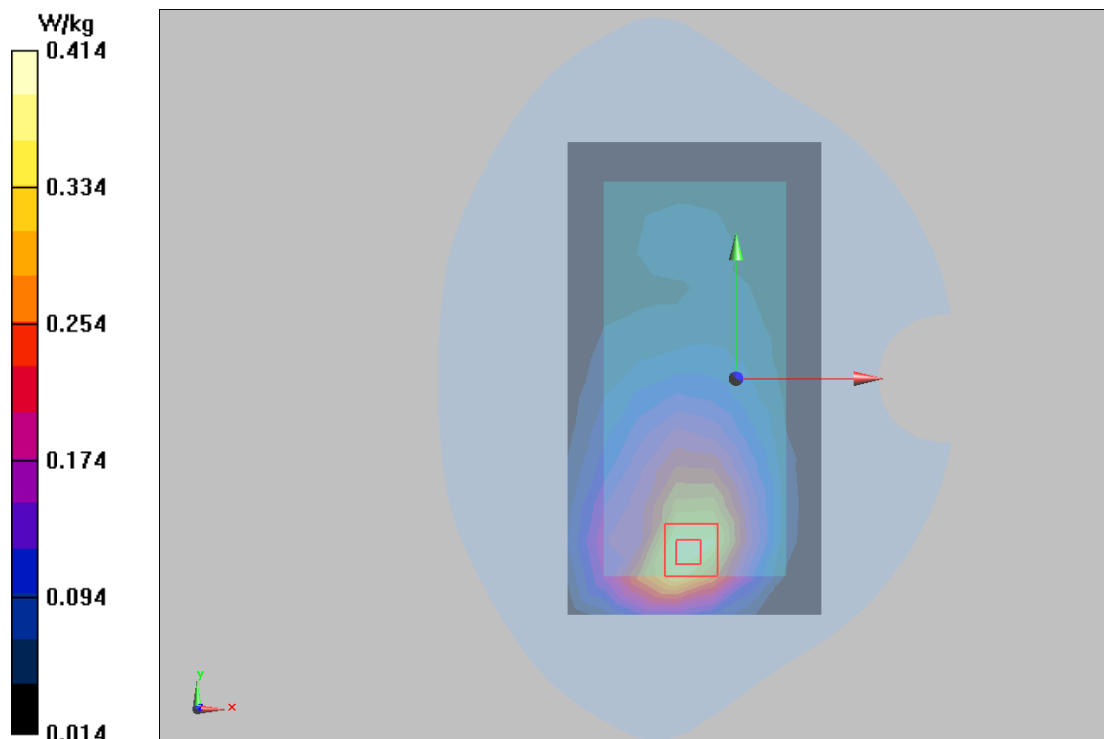
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.902 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.582 W/kg

SAR(1 g) = 0.384 W/kg; SAR(10 g) = 0.242 W/kg

Maximum value of SAR (measured) = 0.414 W/kg



Plot 41 LTE Band 4 50%RB Bottom Edge Middle (Distance 10mm, WWAN Antenna Down)

Date: 8/26/2020

Communication System: UID 0, LTE (0); Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.293$ S/m; $\epsilon_r = 38.785$; $\rho = 1000$ kg/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Bottom Edge Middle/Area Scan (4x8x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.695 W/kg

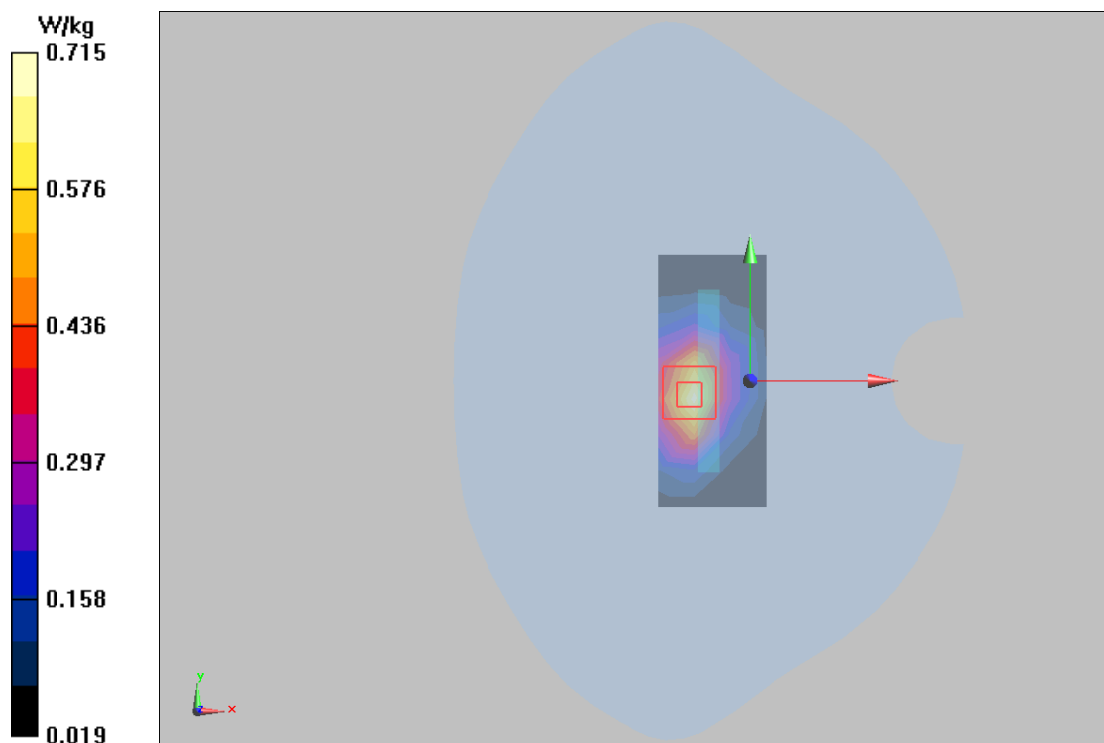
Bottom Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 20.67 V/m; Power Drift = 0.035 dB

Peak SAR (extrapolated) = 1.08 W/kg

SAR(1 g) = 0.651 W/kg; SAR(10 g) = 0.371 W/kg

Maximum value of SAR (measured) = 0.715 W/kg



Plot 42 LTE Band 5 1RB Right Cheek Middle(WWAN Antenna Down)

Date: 8/19/2020

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

Medium parameters used (interpolated): $f = 836.5$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 42.199$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Right Cheek Middle/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.154 W/kg

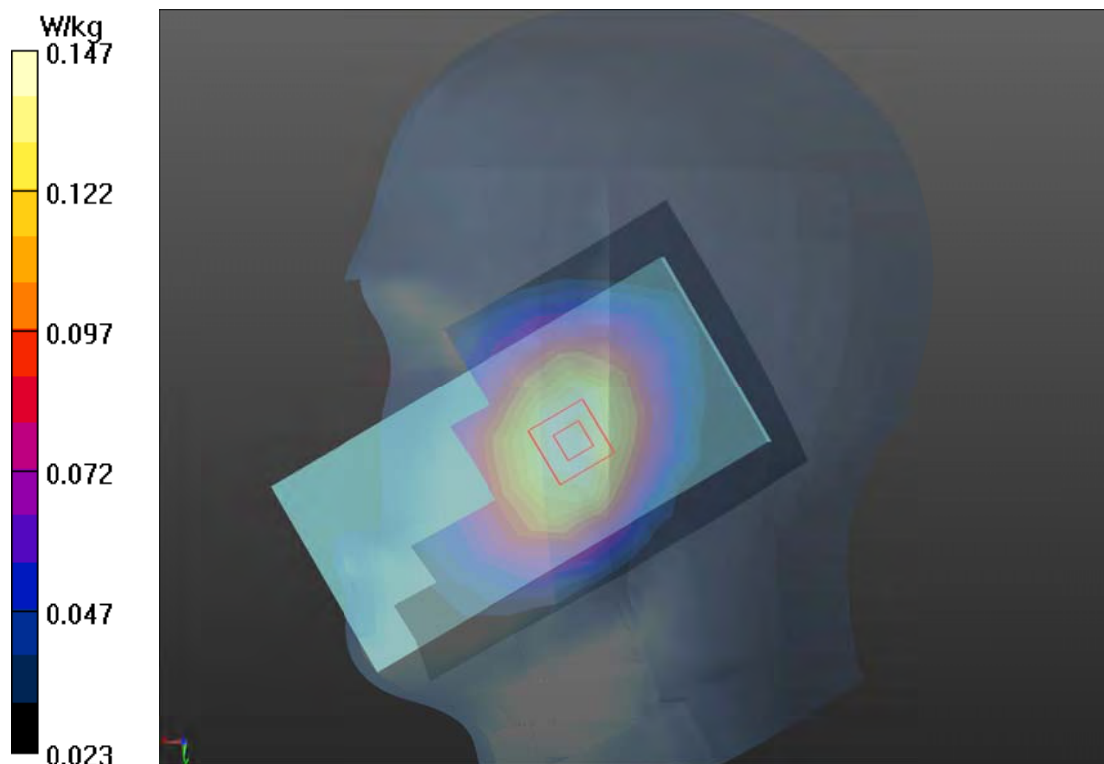
Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.765 V/m; Power Drift = -0.033 dB

Peak SAR (extrapolated) = 0.169 W/kg

SAR(1 g) = 0.141 W/kg; SAR(10 g) = 0.109 W/kg

Maximum value of SAR (measured) = 0.147 W/kg



Plot 43 LTE Band 5 1RB Back Side Middle(Distance 15mm, WWAN Antenna Down)

Date: 8/19/2020

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

Medium parameters used (interpolated): $f = 836.5$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 42.199$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.165 W/kg

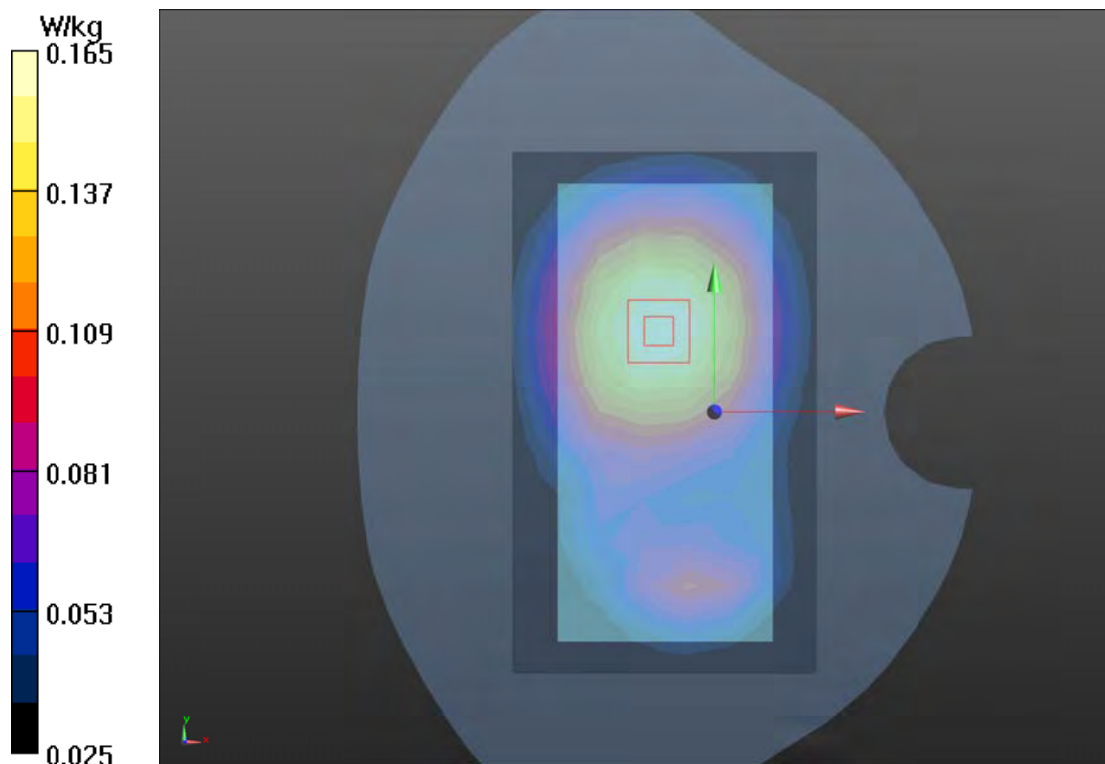
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.49 V/m; Power Drift = -0.082 dB

Peak SAR (extrapolated) = 0.194 W/kg

SAR(1 g) = 0.179 W/kg; SAR(10 g) = 0.121 W/kg

Maximum value of SAR (measured) = 0.165 W/kg



Plot 44 LTE Band 5 1RB Back Side Middle (Distance 10mm, WWAN Antenna Down)

Date: 8/19/2020

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

Medium parameters used (interpolated): $f = 836.5$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 42.199$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.263 W/kg

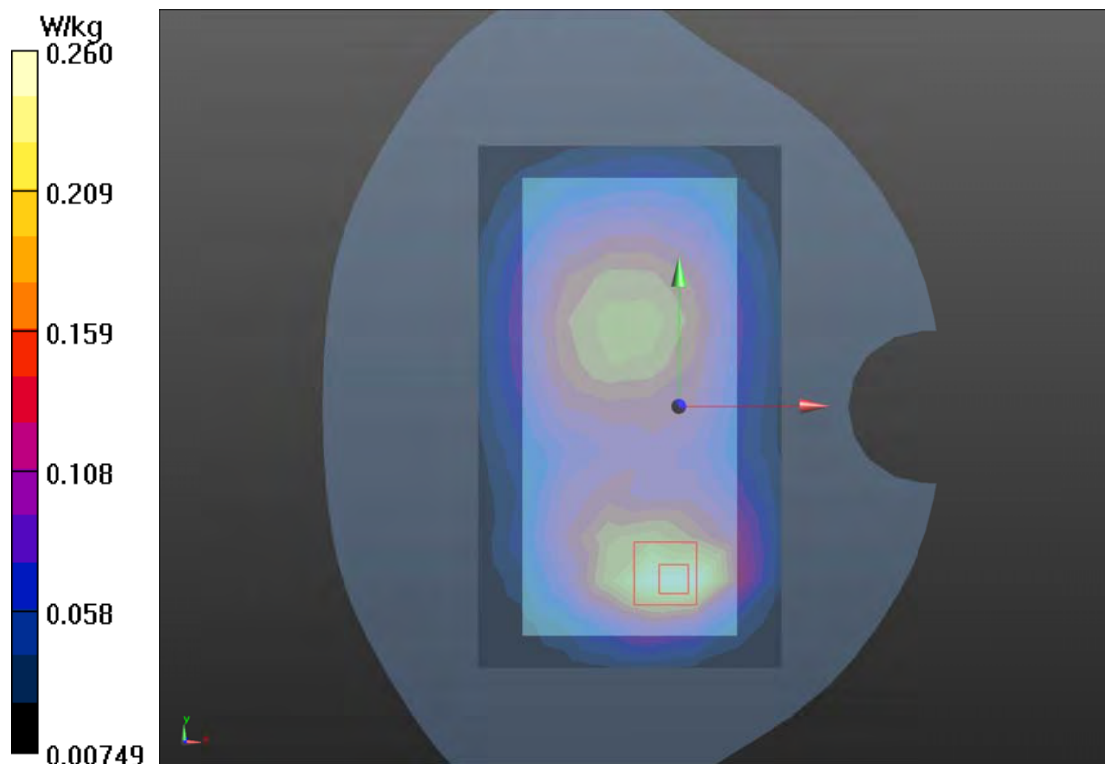
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.50 V/m; Power Drift = -0.028 dB

Peak SAR (extrapolated) = 0.410 W/kg

SAR(1 g) = 0.235 W/kg; SAR(10 g) = 0.142 W/kg

Maximum value of SAR (measured) = 0.260 W/kg



Plot 45 LTE Band 7 1RB Right Cheek Low (WWAN Antenna Down)

Date: 9/1/2020

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

Medium parameters used: $f = 2510$ MHz; $\sigma = 1.876$ S/m; $\epsilon_r = 38.352$; $\rho = 1000$ kg/m³

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(7.26, 7.26, 7.26); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Right Cheek Low/Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.224 W/kg

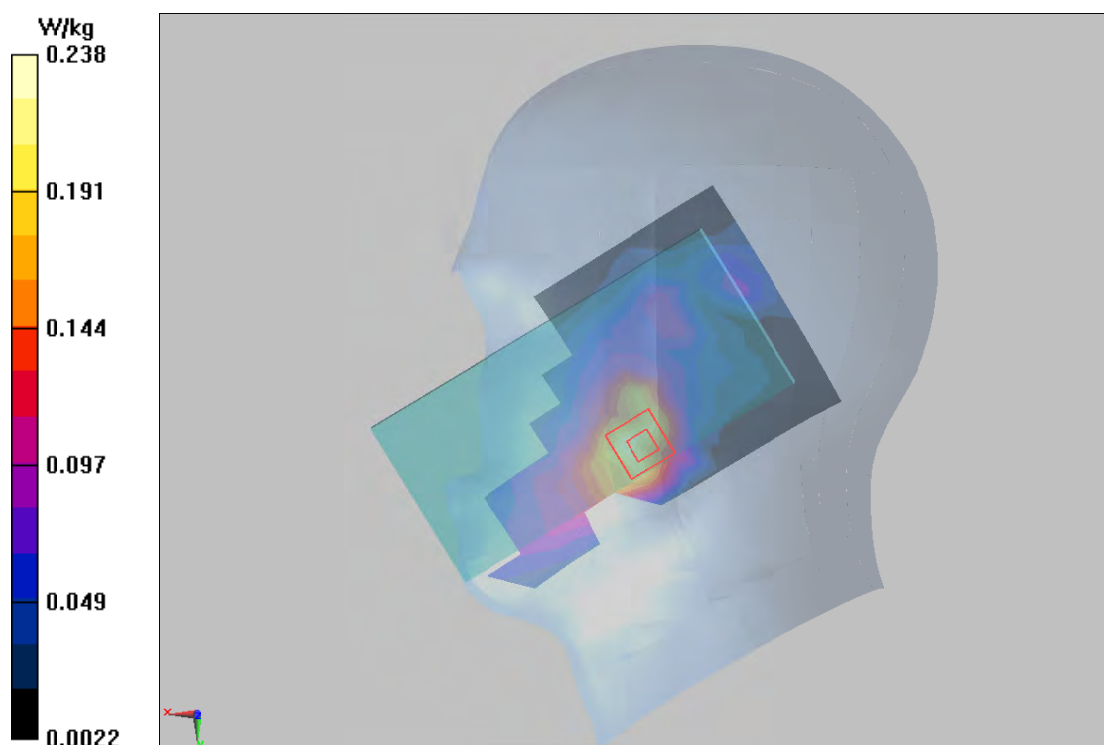
Right Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.296 V/m; Power Drift = 0.031 dB

Peak SAR (extrapolated) = 0.405 W/kg

SAR(1 g) = 0.225 W/kg; SAR(10 g) = 0.126 W/kg

Maximum value of SAR (measured) = 0.238 W/kg



Plot 46 LTE Band 7 1RB Back Side Low (Distance 15mm, WWAN Antenna Down)

Date: 9/1/2020

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

Medium parameters used: $f = 2510$ MHz; $\sigma = 1.876$ S/m; $\epsilon_r = 38.352$; $\rho = 1000$ kg/m³

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(7.26, 7.26, 7.26); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Low/Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.440 W/kg

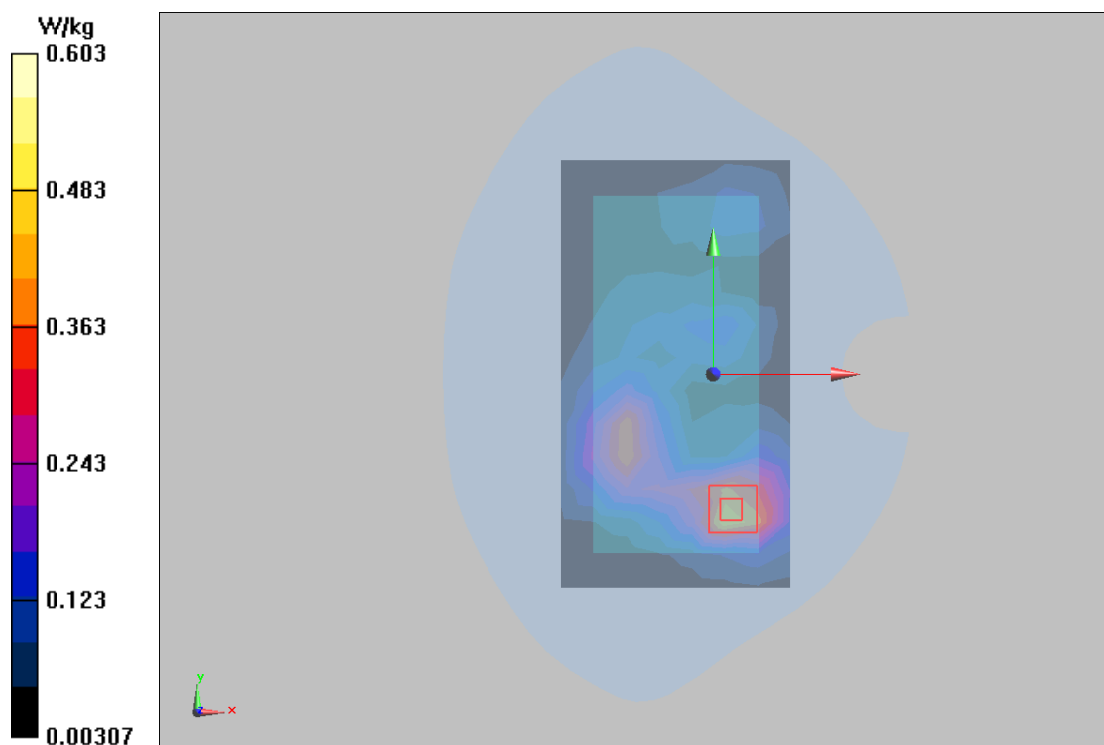
Back Side Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.622 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.08 W/kg

SAR(1 g) = 0.533 W/kg; SAR(10 g) = 0.257 W/kg

Maximum value of SAR (measured) = 0.603 W/kg



Plot 47 LTE Band 7 1RB Back Side Low (Distance 10mm, WWAN Antenna Down)

Date: 9/1/2020

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

Medium parameters used: $f = 2510$ MHz; $\sigma = 1.876$ S/m; $\epsilon_r = 38.352$; $\rho = 1000$ kg/m³

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(7.26, 7.26, 7.26); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Low/Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.764 W/kg

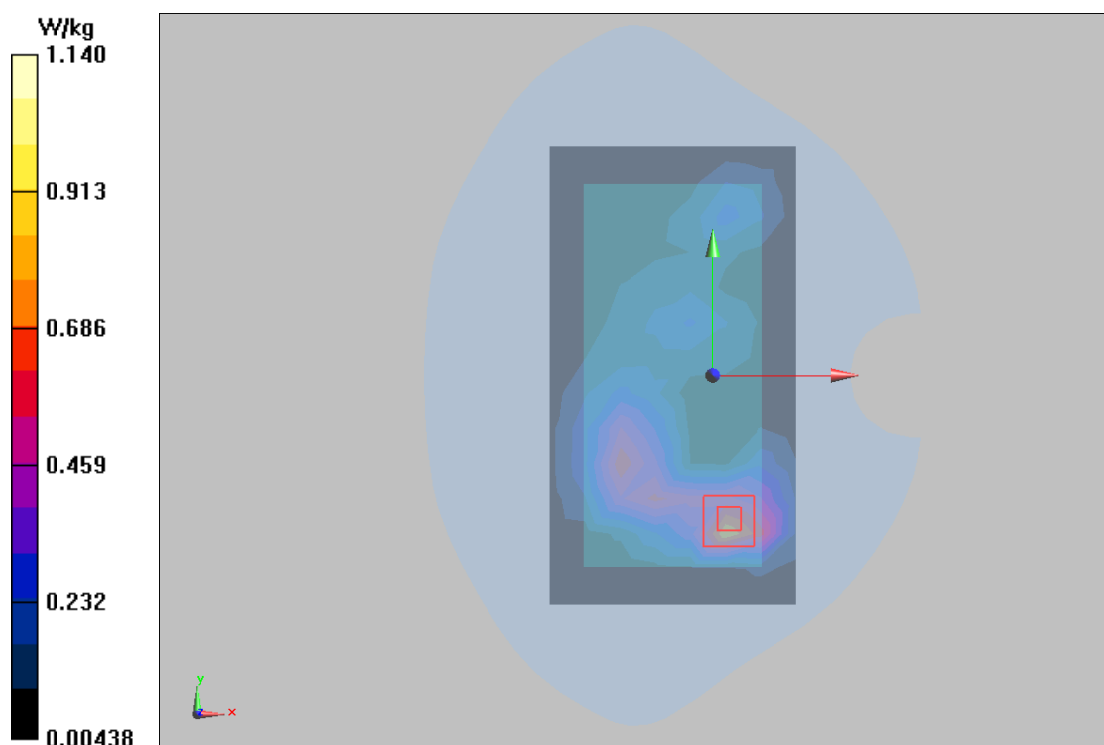
Back Side Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.017 V/m; Power Drift = 0.038 dB

Peak SAR (extrapolated) = 2.27 W/kg

SAR(1 g) = 0.994 W/kg; SAR(10 g) = 0.423 W/kg

Maximum value of SAR (measured) = 1.140 W/kg



Plot 48 LTE Band 12 1RB Left Cheek High (WWAN Antenna Down)

Date: 8/18/2020

Communication System: UID 0, LTE (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 711$ MHz; $\sigma = 0.85$ S/m; $\epsilon_r = 42.755$; $\rho = 1000$ kg/m³

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(9.78, 9.78, 9.78); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Left Cheek High/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.0517 W/kg

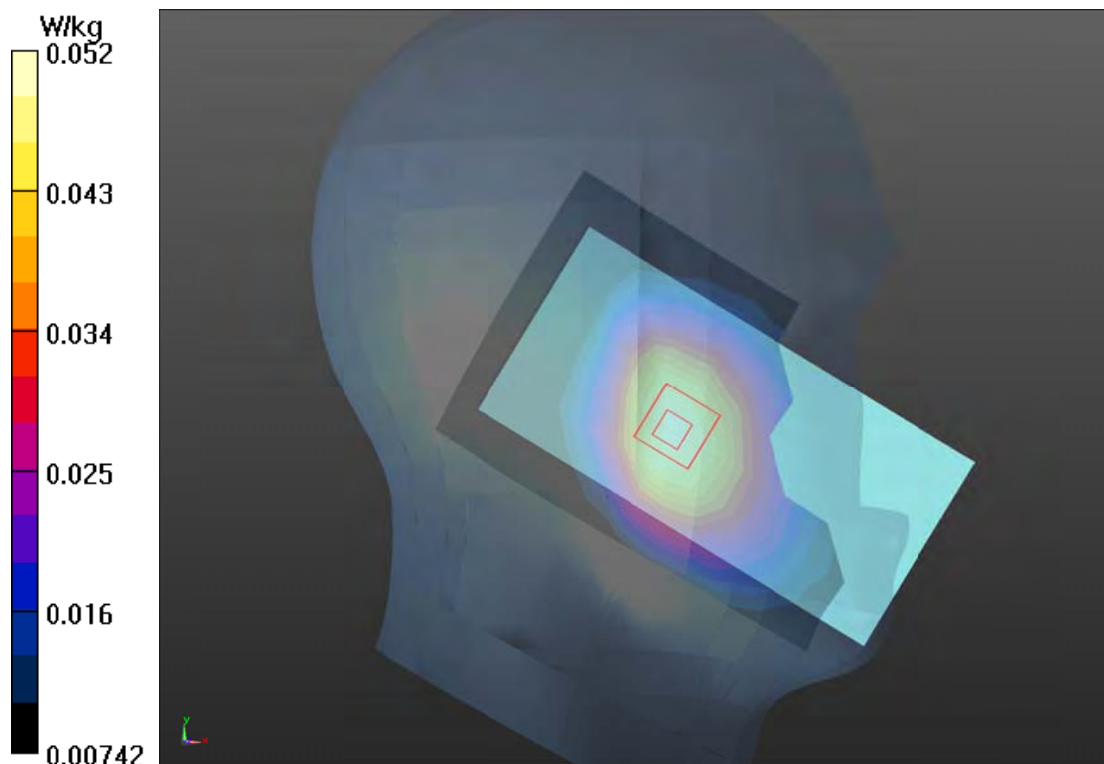
Left Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.623 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 0.0620 W/kg

SAR(1 g) = 0.050 W/kg; SAR(10 g) = 0.039 W/kg

Maximum value of SAR (measured) = 0.0520 W/kg



Plot 49 LTE Band 12 1RB Back Side High (Distance 15mm, WWAN Antenna Down)

Date: 8/18/2020

Communication System: UID 0, LTE (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 711 \text{ MHz}$; $\sigma = 0.85 \text{ S/m}$; $\epsilon_r = 42.755$; $\rho = 1000 \text{ kg/m}^3$

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(9.78, 9.78, 9.78); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side High/Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (measured) = 0.110 W/kg

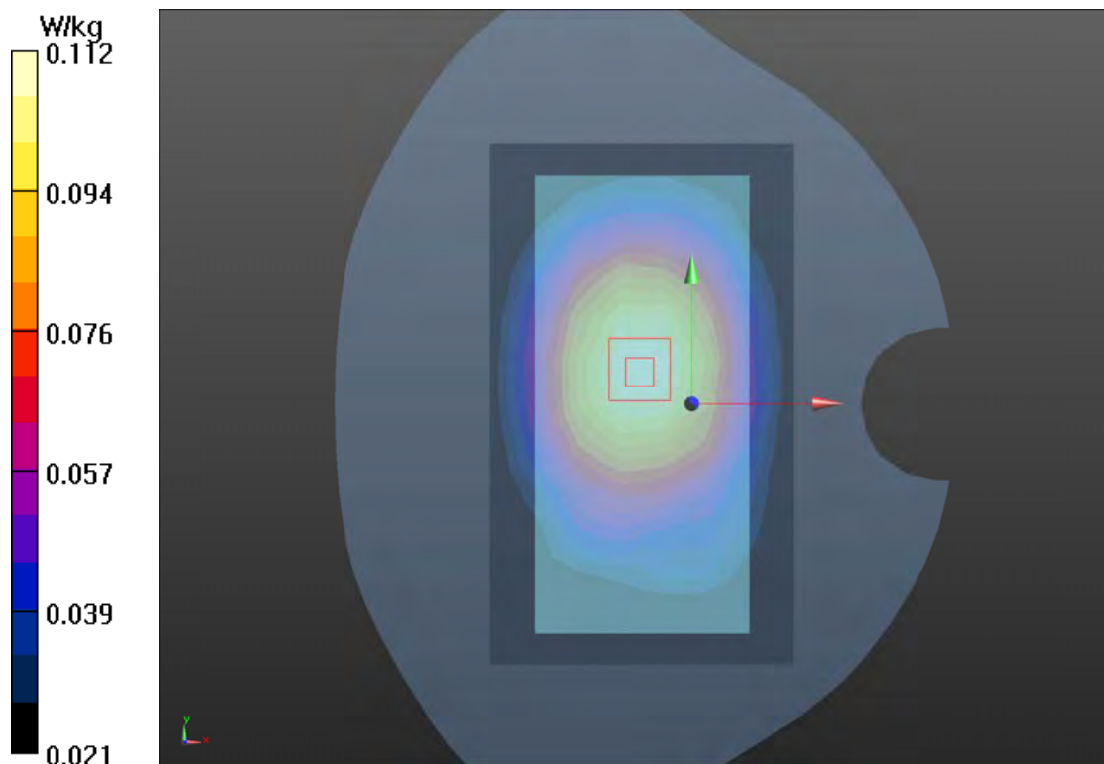
Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 11.39 V/m ; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.130 W/kg

SAR(1 g) = 0.107 W/kg ; SAR(10 g) = 0.084 W/kg

Maximum value of SAR (measured) = 0.112 W/kg



Plot 50 LTE Band 12 1RB Back Side High (Distance 10mm, WWAN Antenna Down)

Date: 8/18/2020

Communication System: UID 0, LTE (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 711 \text{ MHz}$; $\sigma = 0.85 \text{ S/m}$; $\epsilon_r = 42.755$; $\rho = 1000 \text{ kg/m}^3$

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(9.78, 9.78, 9.78); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side High/Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (measured) = 0.102 W/kg

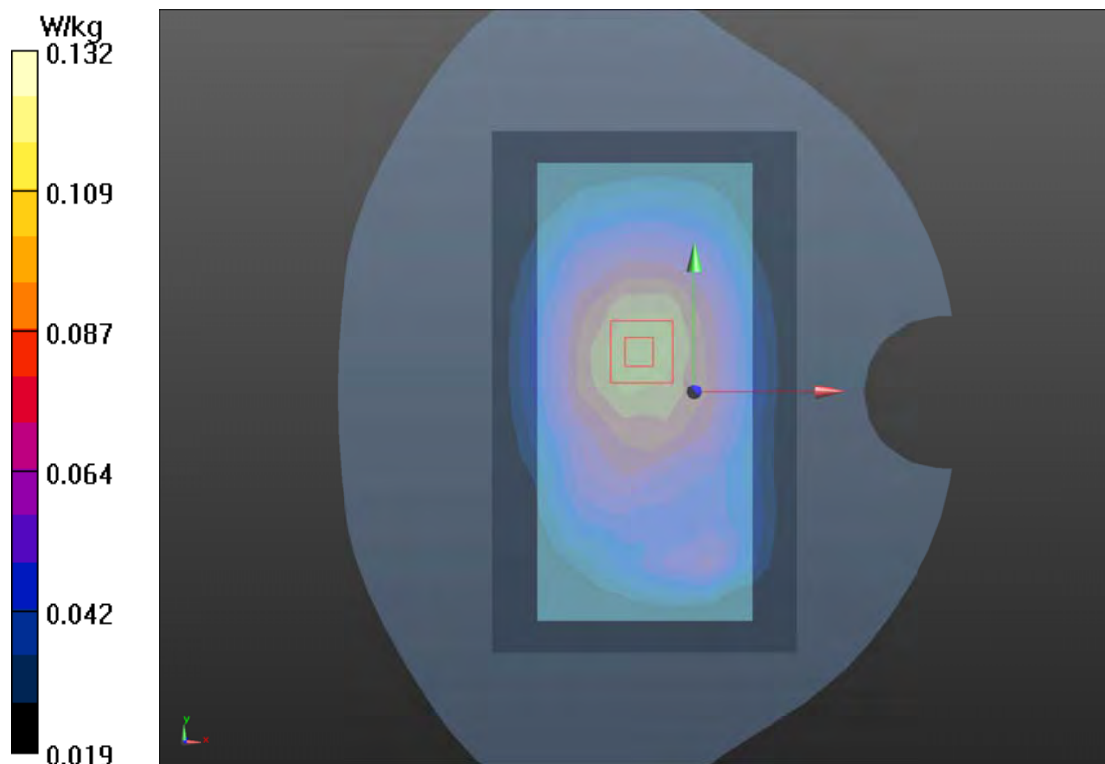
Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.75 V/m ; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.115 W/kg

SAR(1 g) = 0.119 W/kg ; SAR(10 g) = 0.086 W/kg

Maximum value of SAR (measured) = 0.132 W/kg



Plot 51 LTE Band 17 1RB Left Cheek High (WWAN Antenna Down)

Date: 8/20/2020

Communication System: UID 0, LTE (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 711 \text{ MHz}$; $\sigma = 0.85 \text{ S/m}$; $\epsilon_r = 42.755$; $\rho = 1000 \text{ kg/m}^3$

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(9.78, 9.78, 9.78); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Left Cheek High/Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (measured) = 0.0472 W/kg

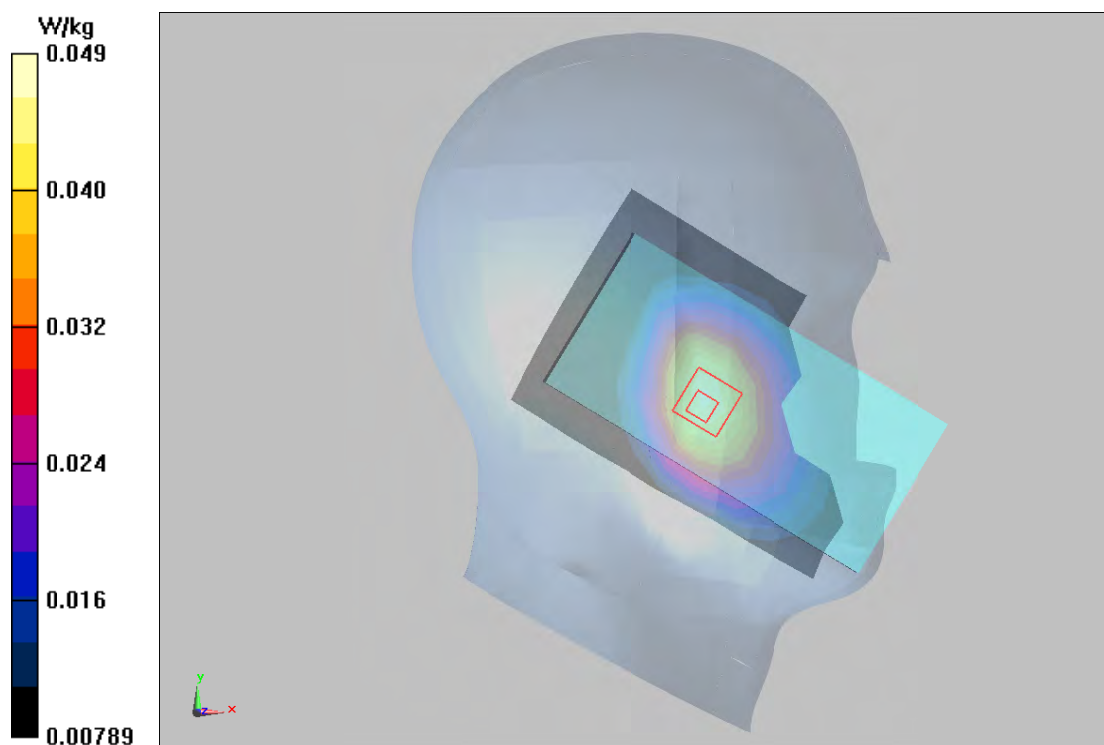
Left Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 1.830 V/m ; Power Drift = 0.168 dB

Peak SAR (extrapolated) = 0.0570 W/kg

SAR(1 g) = 0.046 W/kg ; SAR(10 g) = 0.036 W/kg

Maximum value of SAR (measured) = 0.049 W/kg



Plot 52 LTE Band 17 1RB Back Side High (Distance 15mm, WWAN Antenna Down)

Date: 8/20/2020

Communication System: UID 0, LTE (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 711$ MHz; $\sigma = 0.85$ S/m; $\epsilon_r = 42.755$; $\rho = 1000$ kg/m³

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(9.78, 9.78, 9.78); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side High/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.107 W/kg

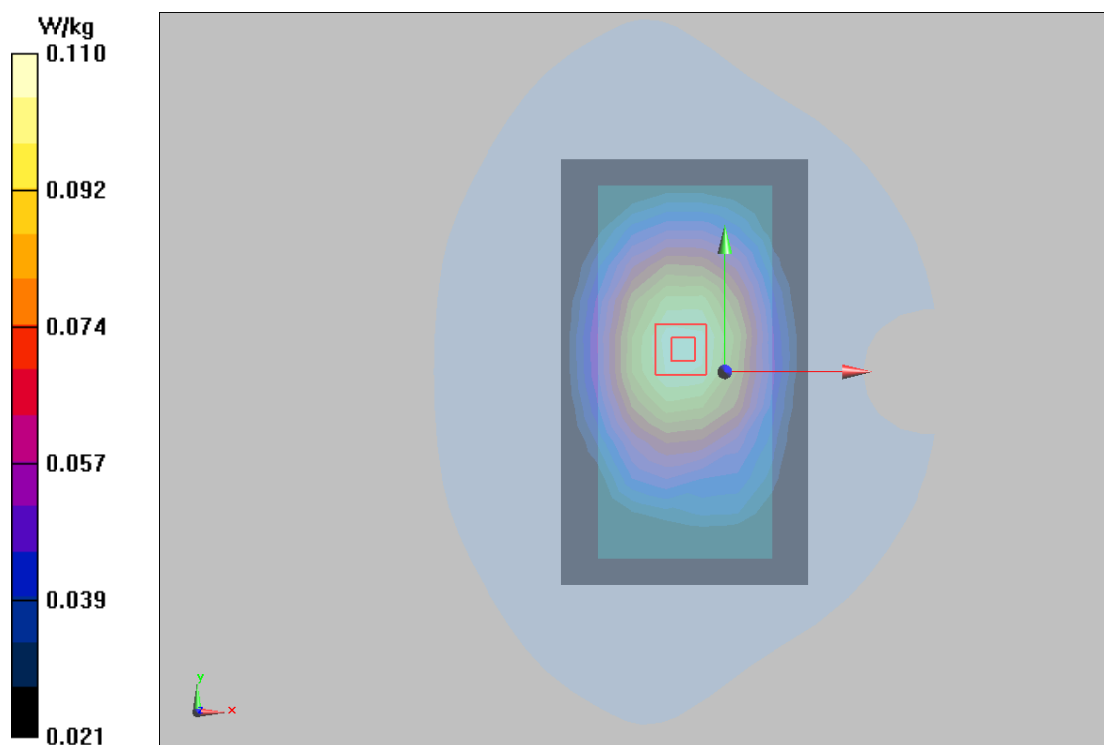
Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.31 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.127 W/kg

SAR(1 g) = 0.105 W/kg; SAR(10 g) = 0.082 W/kg

Maximum value of SAR (measured) = 0.110 W/kg



Plot 53 LTE Band 17 1RB Back Side High (Distance 10mm, WWAN Antenna Down)

Date: 8/20/2020

Communication System: UID 0, LTE (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 711 \text{ MHz}$; $\sigma = 0.85 \text{ S/m}$; $\epsilon_r = 42.755$; $\rho = 1000 \text{ kg/m}^3$

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(9.78, 9.78, 9.78); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side High/Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (measured) = 0.0963 W/kg

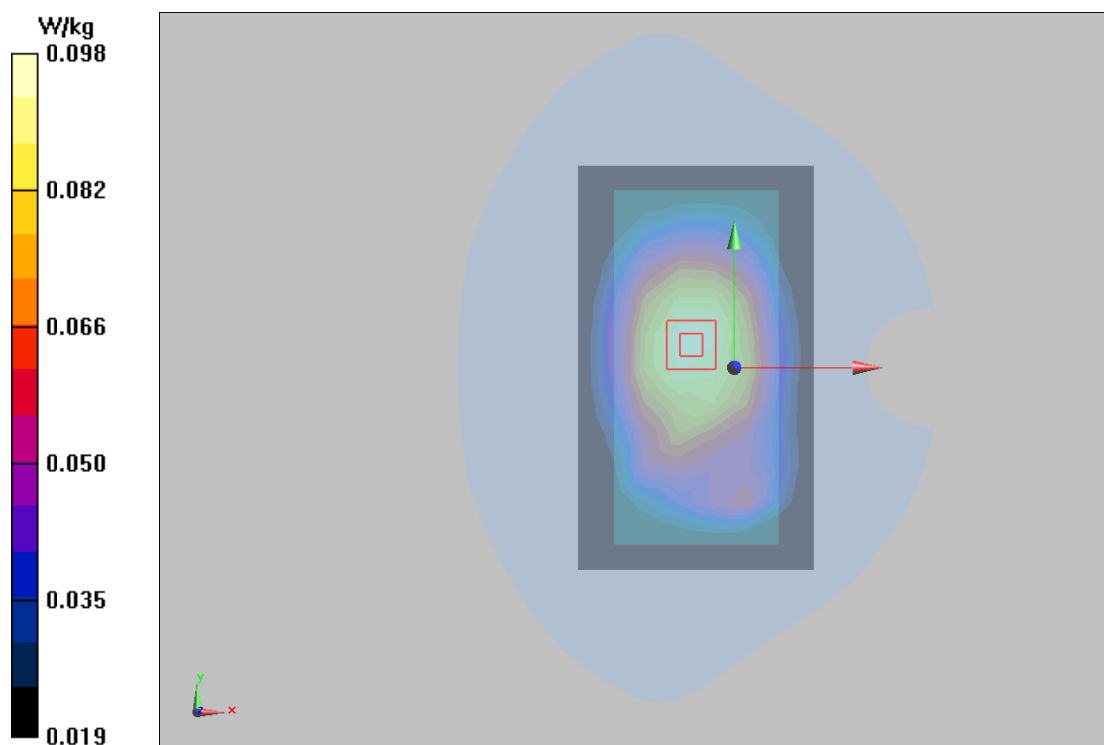
Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 10.62 V/m ; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.112 W/kg

SAR(1 g) = 0.094 W/kg ; SAR(10 g) = 0.074 W/kg

Maximum value of SAR (measured) = 0.0978 W/kg



Plot 54 LTE Band 26 1RB Left Cheek High (WWAN Antenna Down)

Date: 8/21/2020

Communication System: UID 0, LTE (0); Frequency: 841.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 841.5$ MHz; $\sigma = 0.927$ S/m; $\epsilon_r = 42.208$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Left Cheek High/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

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

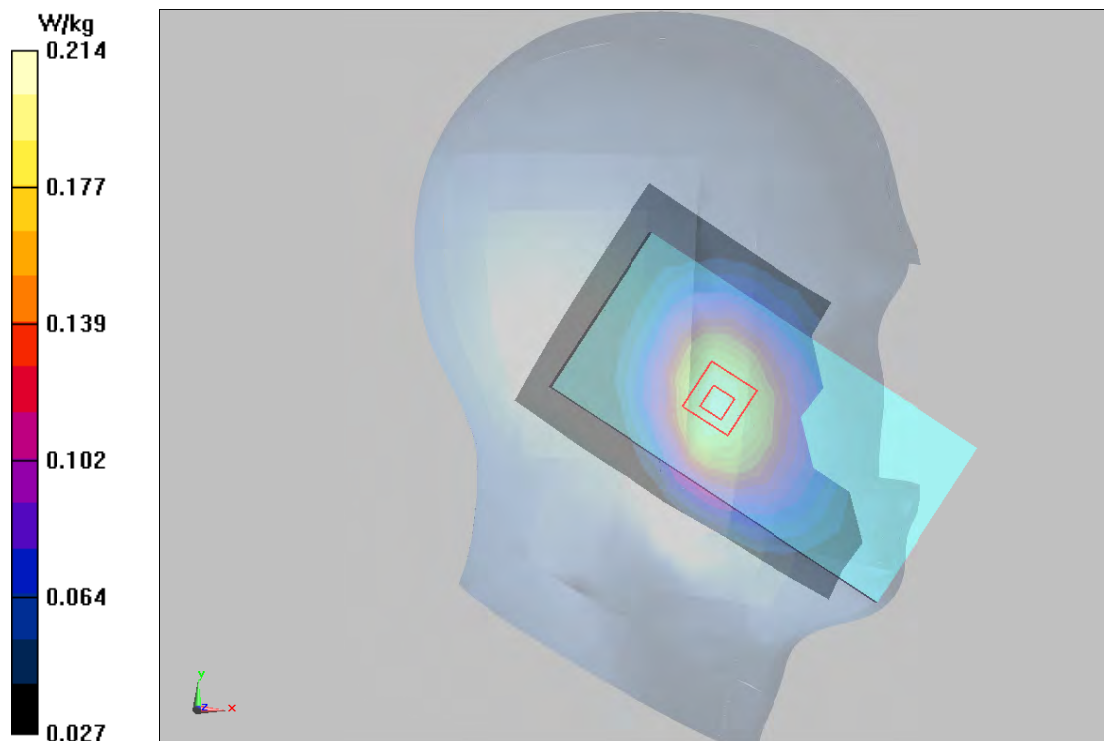
Left Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.841 V/m; Power Drift = 0.020 dB

Peak SAR (extrapolated) = 0.258 W/kg

SAR(1 g) = 0.205 W/kg; SAR(10 g) = 0.155 W/kg

Maximum value of SAR (measured) = 0.214 W/kg



Plot 55 LTE Band 26 1RB Back Side High (Distance 15mm, WWAN Antenna Down)

Date: 8/21/2020

Communication System: UID 0, LTE (0); Frequency: 841.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 841.5$ MHz; $\sigma = 0.927$ S/m; $\epsilon_r = 42.208$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side High/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.205 W/kg

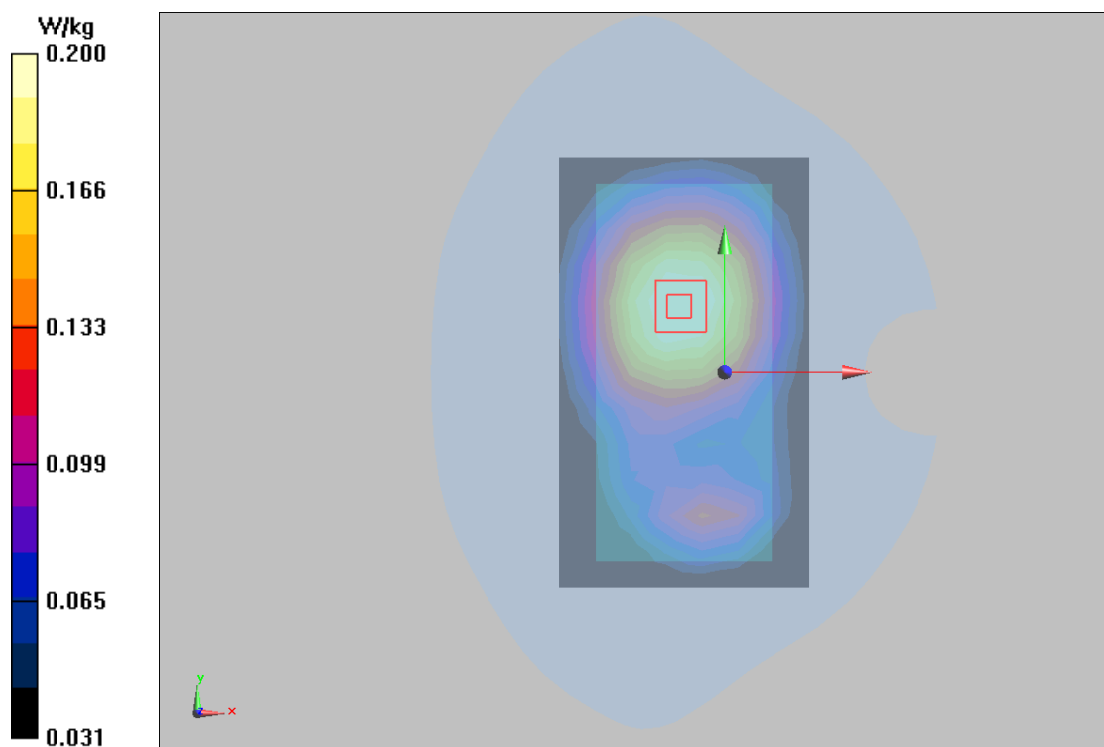
Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.19 V/m; Power Drift = -0.032 dB

Peak SAR (extrapolated) = 0.234 W/kg

SAR(1 g) = 0.191 W/kg; SAR(10 g) = 0.146 W/kg

Maximum value of SAR (measured) = 0.200 W/kg



Plot 56 LTE Band 26 1RB Back Side High (Distance 10mm, WWAN Antenna Down)

Date: 8/21/2020

Communication System: UID 0, LTE (0); Frequency: 841.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 841.5$ MHz; $\sigma = 0.927$ S/m; $\epsilon_r = 42.208$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side High/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.282 W/kg

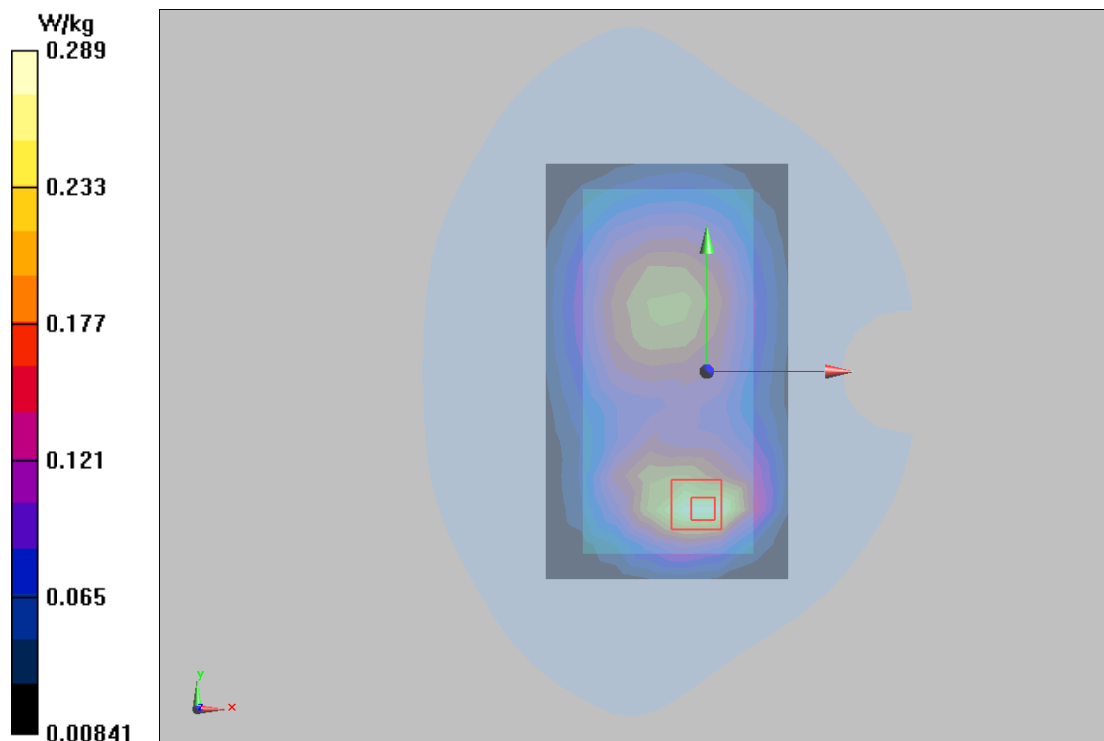
Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.94 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.452 W/kg

SAR(1 g) = 0.261 W/kg; SAR(10 g) = 0.158 W/kg

Maximum value of SAR (measured) = 0.289 W/kg



Plot 57 LTE Band 38 1RB Right Cheek High(WWAN Antenna Down)

Date: 9/3/2020

Communication System: UID 0, LTE (0); Frequency: 2610 MHz; Duty Cycle: 1:1.58

Medium parameters used: $f = 2610$ MHz; $\sigma = 1.987$ S/m; $\epsilon_r = 37.993$; $\rho = 1000$ kg/m³

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(7.26, 7.26, 7.26); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Right Cheek High/Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.175 W/kg

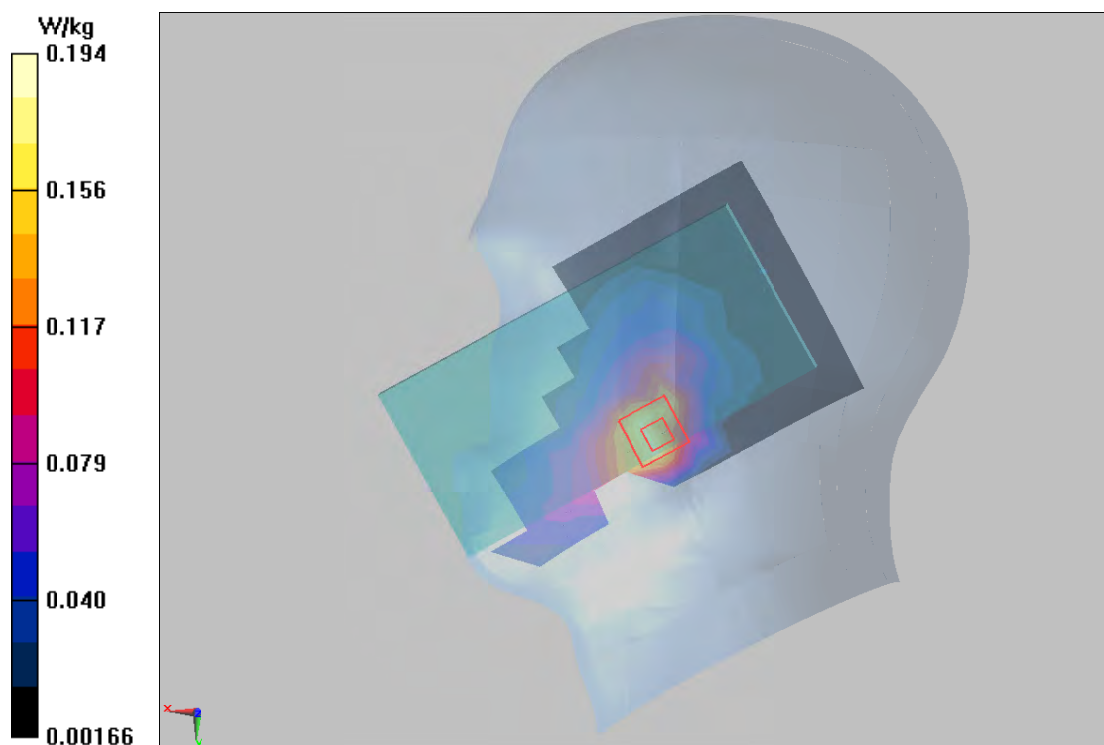
Right Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.316 V/m; Power Drift = 0.086 dB

Peak SAR (extrapolated) = 0.353 W/kg

SAR(1 g) = 0.184 W/kg; SAR(10 g) = 0.098 W/kg

Maximum value of SAR (measured) = 0.194 W/kg



Plot 58 LTE Band 38 1RB Front Side High (Distance 15mm, WWAN Antenna Down)

Date: 9/3/2020

Communication System: UID 0, LTE (0); Frequency: 2610 MHz; Duty Cycle: 1:1.58

Medium parameters used: $f = 2610$ MHz; $\sigma = 1.987$ S/m; $\epsilon_r = 37.993$; $\rho = 1000$ kg/m³

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(7.26, 7.26, 7.26); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Front Side High/Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.226 W/kg

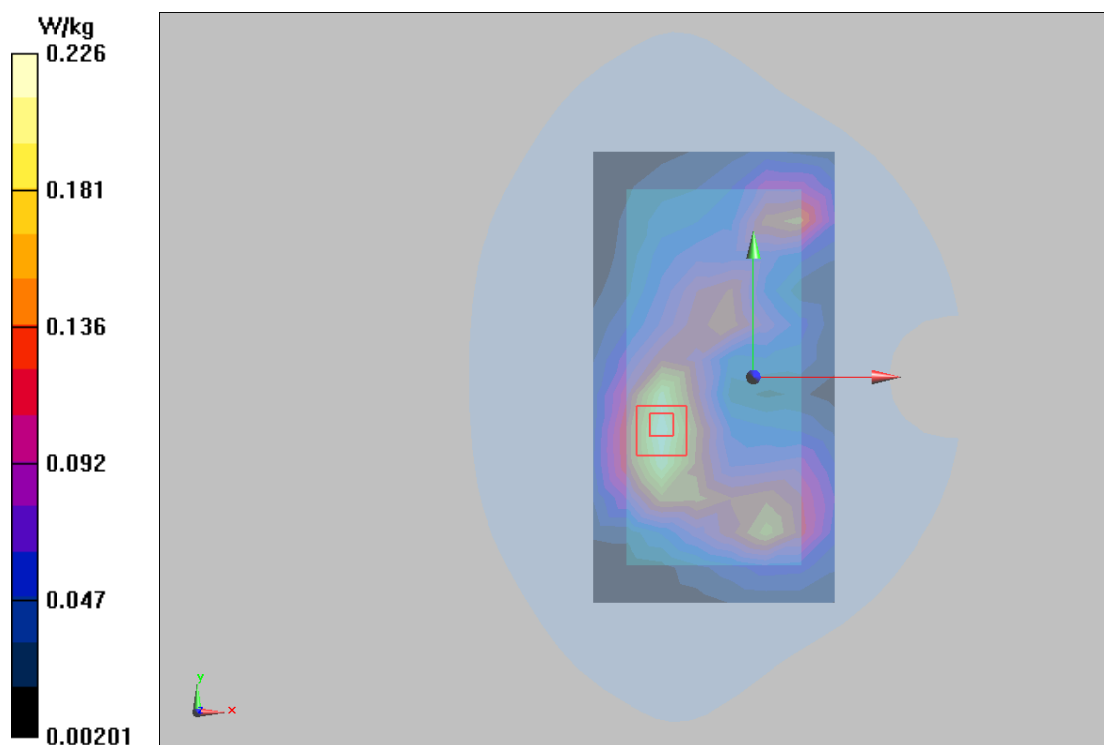
Front Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.799 V/m; Power Drift = 0.069 dB

Peak SAR (extrapolated) = 0.400 W/kg

SAR(1 g) = 0.209 W/kg; SAR(10 g) = 0.114 W/kg

Maximum value of SAR (measured) = 0.226 W/kg



Plot 59 LTE Band 38 50%RB Back Side High (Distance 10mm, WWAN Antenna Down)

Date: 9/3/2020

Communication System: UID 0, LTE (0); Frequency: 2610 MHz; Duty Cycle: 1:1.58

Medium parameters used: $f = 2610$ MHz; $\sigma = 1.987$ S/m; $\epsilon_r = 37.993$; $\rho = 1000$ kg/m³

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(7.26, 7.26, 7.26); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side High/Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.229 W/kg

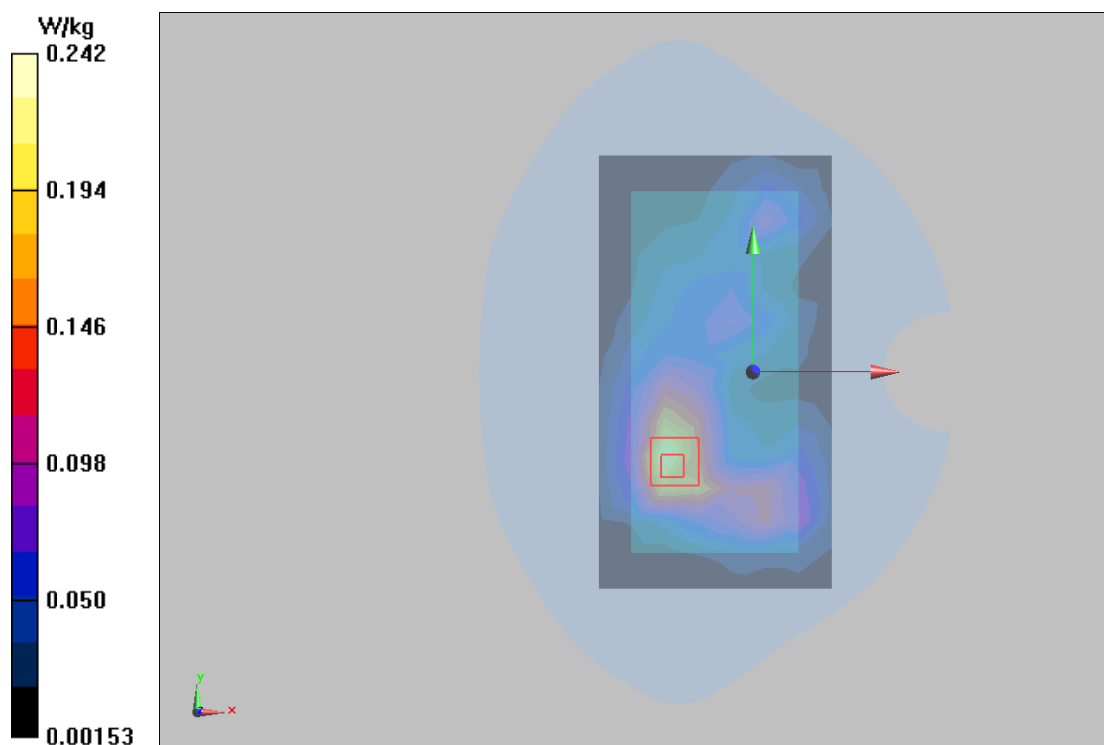
Back Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.831 V/m; Power Drift = 0.060 dB

Peak SAR (extrapolated) = 0.450 W/kg

SAR(1 g) = 0.222 W/kg; SAR(10 g) = 0.112 W/kg

Maximum value of SAR (measured) = 0.242 W/kg



Plot 60 LTE Band 41 1RB Right Cheek Middle(WWAN Antenna Down)

Date: 9/4/2020

Communication System: UID 0, LTE (0); Frequency: 2593 MHz; Duty Cycle: 1:1.58

Medium parameters used: $f = 2593$ MHz; $\sigma = 1.969$ S/m; $\epsilon_r = 38.05$; $\rho = 1000$ kg/m³

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(7.26, 7.26, 7.26); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Right Cheek Middle/Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.166 W/kg

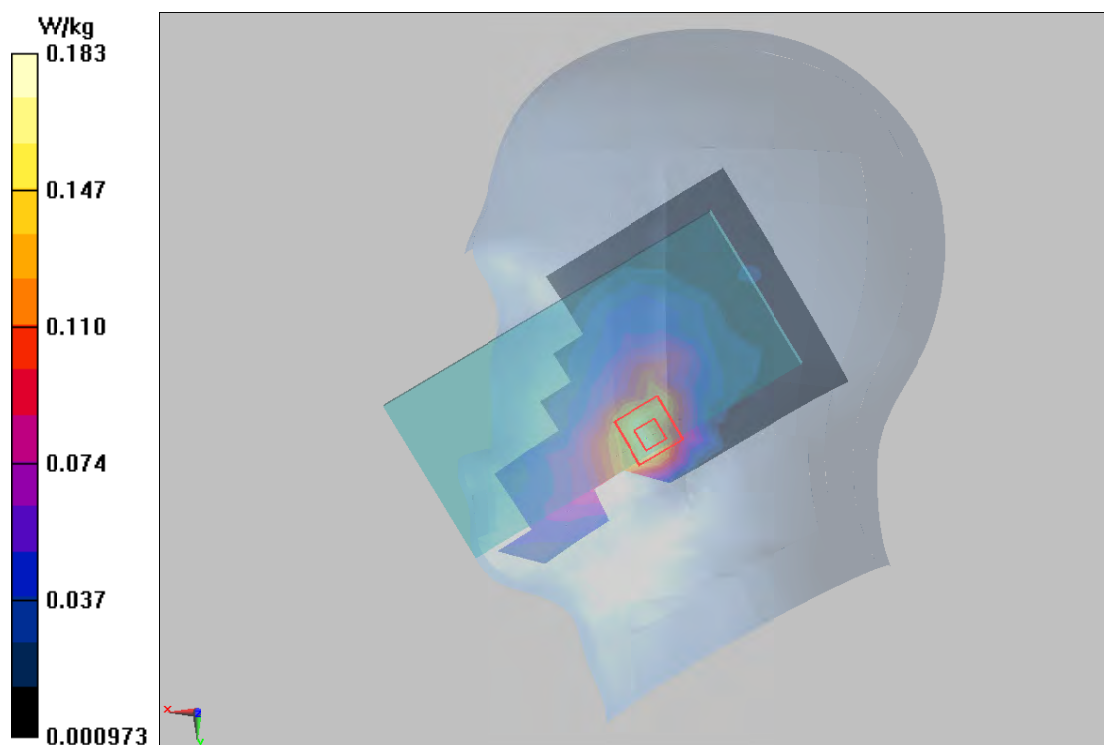
Right Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.446 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.326 W/kg

SAR(1 g) = 0.173 W/kg; SAR(10 g) = 0.093 W/kg

Maximum value of SAR (measured) = 0.183 W/kg



Plot 61 LTE Band 41 1RB Back Side Middle (Distance 15mm, WWAN Antenna Down)

Date: 9/4/2020

Communication System: UID 0, LTE (0); Frequency: 2593 MHz; Duty Cycle: 1:1.58

Medium parameters used: $f = 2593$ MHz; $\sigma = 1.969$ S/m; $\epsilon_r = 38.05$; $\rho = 1000$ kg/m³

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(7.26, 7.26, 7.26); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.176 W/kg

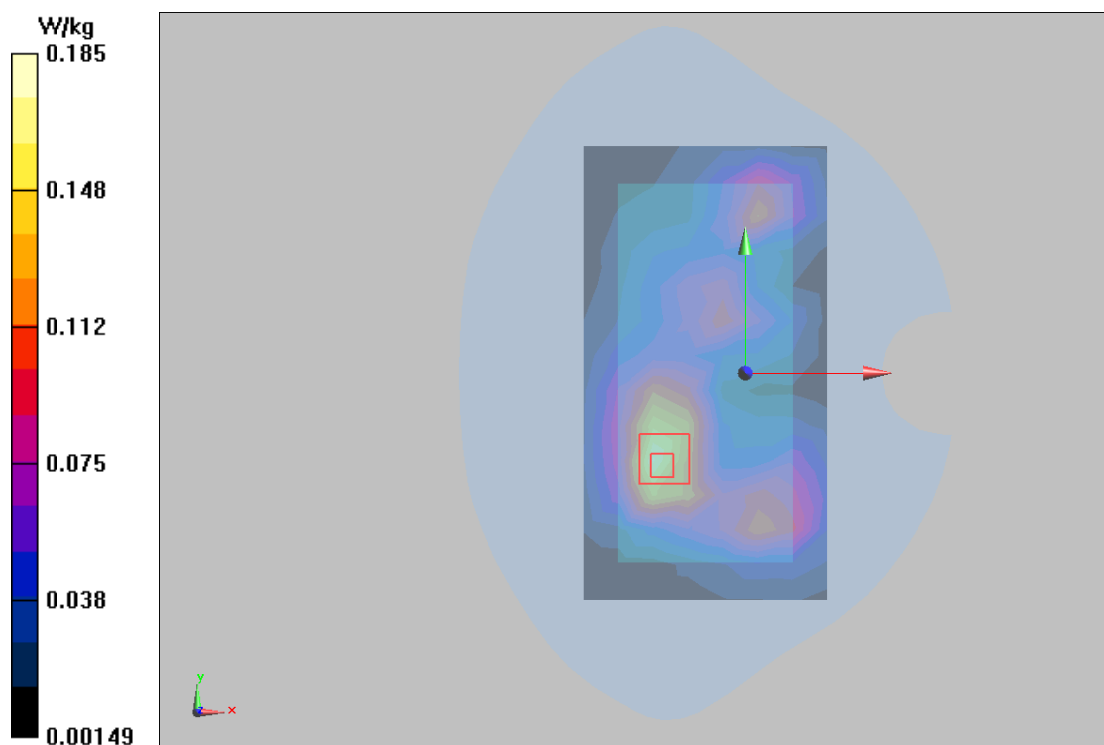
Back Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.562 V/m; Power Drift = 0.038 dB

Peak SAR (extrapolated) = 0.350 W/kg

SAR(1 g) = 0.170 W/kg; SAR(10 g) = 0.088 W/kg

Maximum value of SAR (measured) = 0.185 W/kg



Plot 62 LTE Band 41 1RB Back Side Middle (Distance 10mm, WWAN Antenna Down)

Date: 9/4/2020

Communication System: UID 0, LTE (0); Frequency: 2593 MHz; Duty Cycle: 1:1.58

Medium parameters used: $f = 2593$ MHz; $\sigma = 1.969$ S/m; $\epsilon_r = 38.05$; $\rho = 1000$ kg/m³

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(7.26, 7.26, 7.26); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (10x17x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (measured) = 0.318 W/kg

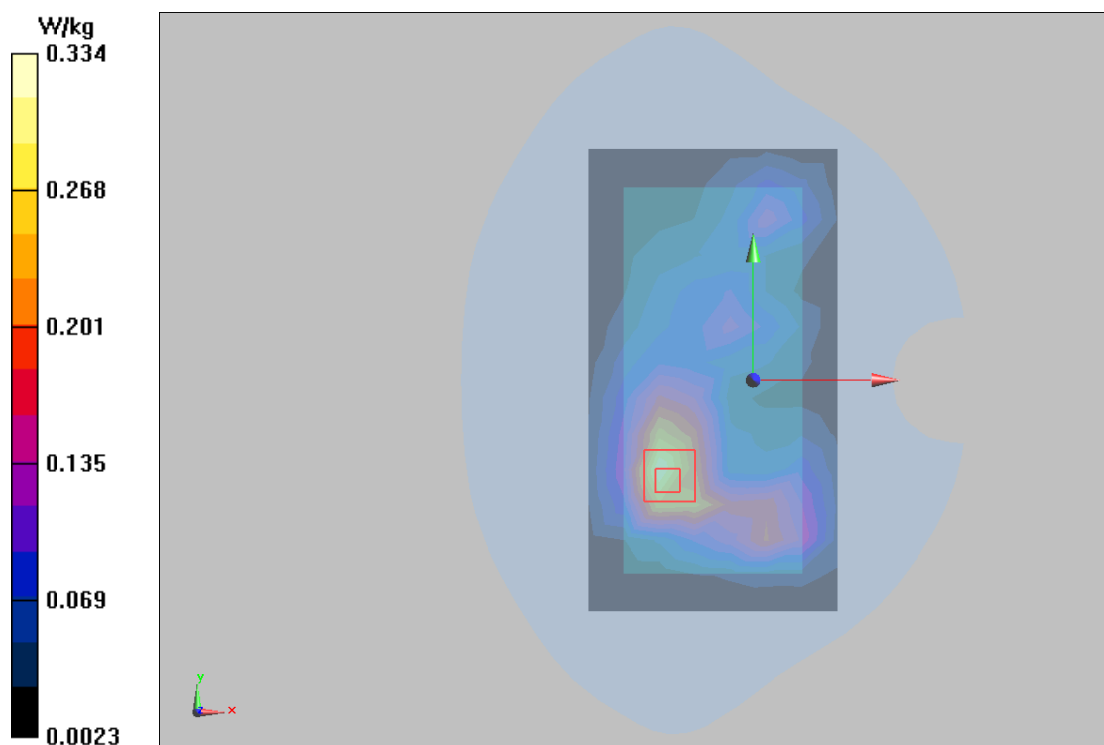
Back Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.734 V/m; Power Drift = 0.150 dB

Peak SAR (extrapolated) = 0.628 W/kg

SAR(1 g) = 0.306 W/kg; SAR(10 g) = 0.156 W/kg

Maximum value of SAR (measured) = 0.334 W/kg



Plot 63 LTE Band 66 1RB Left Cheek Low (WWAN Antenna Down)

Date: 8/28/2020

Communication System: UID 0, LTE (0); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1720$ MHz; $\sigma = 1.284$ S/m; $\epsilon_r = 38.855$; $\rho = 1000$ kg/m³

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(8.25, 8.25, 8.25); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

Maximum value of SAR (measured) = 0.121 W/kg

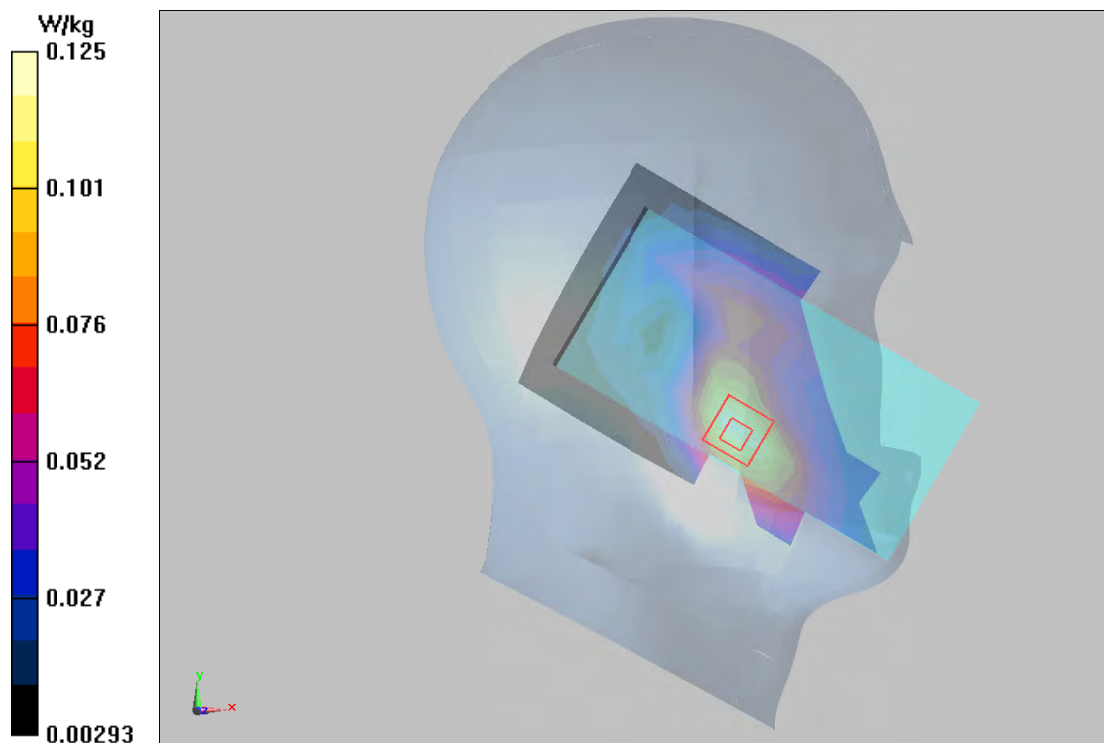
Left Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.305 V/m; Power Drift = -0.042 dB

Peak SAR (extrapolated) = 0.171 W/kg

SAR(1 g) = 0.117 W/kg; SAR(10 g) = 0.076 W/kg

Maximum value of SAR (measured) = 0.125 W/kg



Plot 64 LTE Band 66 50%RB Back Side Low (Distance 15mm, WWAN Antenna Down)

Date: 8/28/2020

Communication System: UID 0, LTE (0); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1720$ MHz; $\sigma = 1.303$ S/m; $\epsilon_r = 39.467$; $\rho = 1000$ kg/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Low/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

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

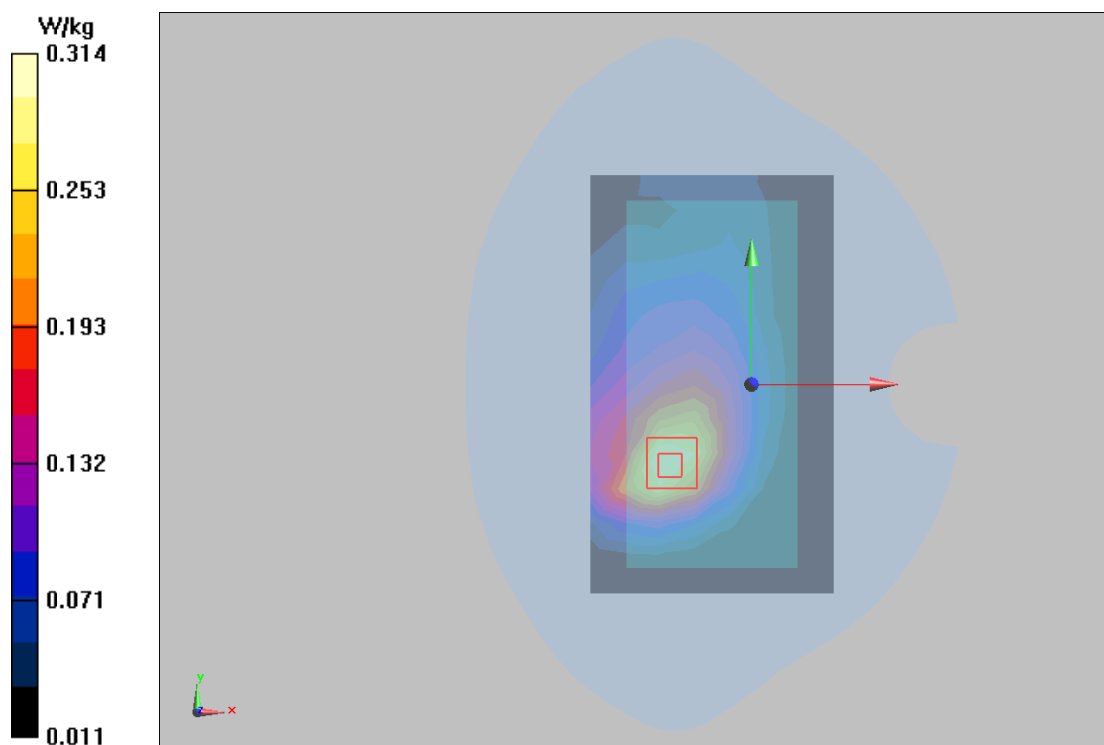
Back Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.22 V/m; Power Drift = 0.070 dB

Peak SAR (extrapolated) = 0.431 W/kg

SAR(1 g) = 0.292 W/kg; SAR(10 g) = 0.187 W/kg

Maximum value of SAR (measured) = 0.314 W/kg



Plot 65 LTE Band 66 50%RB Bottom Edge Low (Distance 10mm, WWAN Antenna Down)

Date: 8/28/2020

Communication System: UID 0, LTE (0); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1720$ MHz; $\sigma = 1.303$ S/m; $\epsilon_r = 39.467$; $\rho = 1000$ kg/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Bottom Edge Low/Area Scan (4x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.507 W/kg

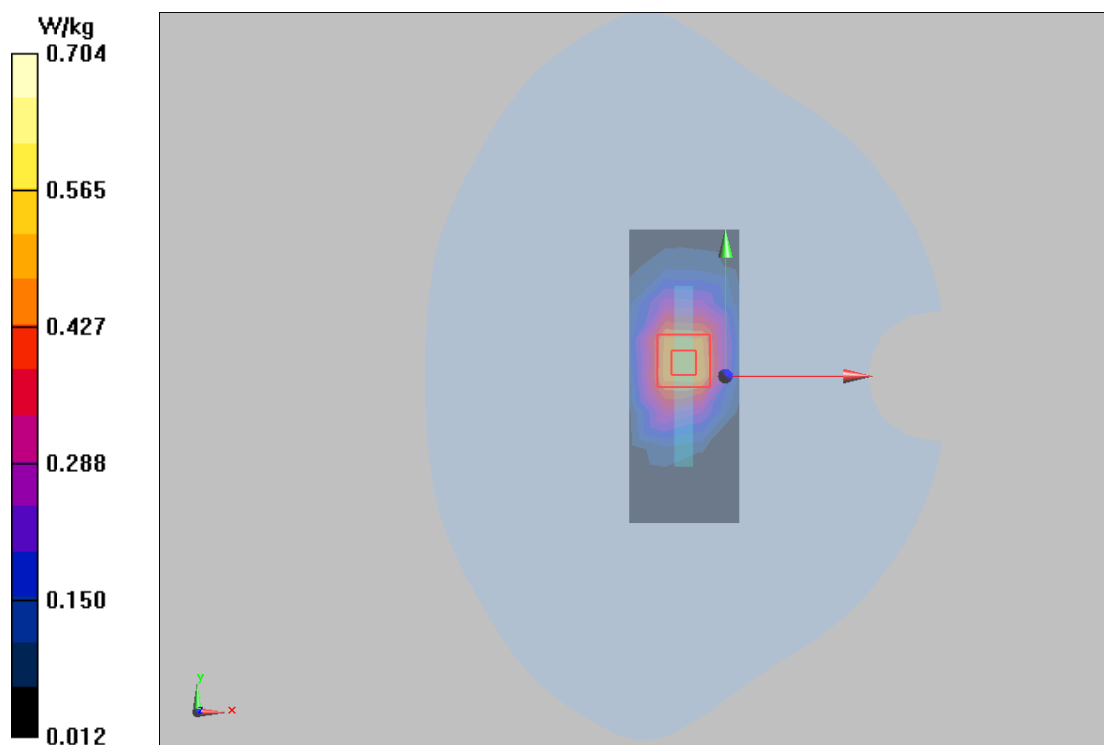
Bottom Edge Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.06 V/m; Power Drift = -0.040 dB

Peak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.630 W/kg; SAR(10 g) = 0.353 W/kg

Maximum value of SAR (measured) = 0.704 W/kg



Plot 66 GSM 850 Right Tilt Middle (WWAN Antenna Up)

Date: 8/17/2020

Communication System: UID 0, GSM 850 (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 837$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 42.201$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Right Tilt Middle/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.376 W/kg

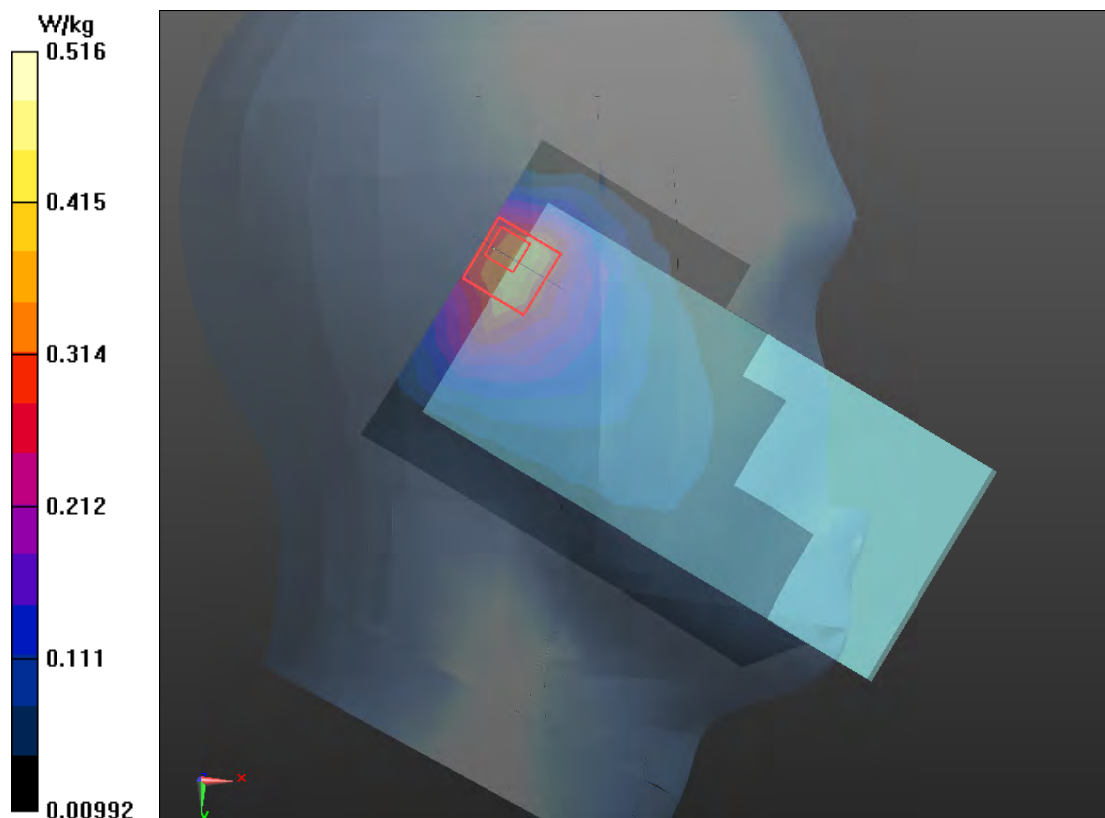
Right Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.72 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.497 W/kg; SAR(10 g) = 0.250 W/kg

Maximum value of SAR (measured) = 0.516 W/kg



Plot 67 GSM 850 Back Side Middle (Distance 15mm, WWAN Antenna Up)

Date: 8/17/2020

Communication System: UID 0, GSM 850 (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 837$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 42.201$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.104 W/kg

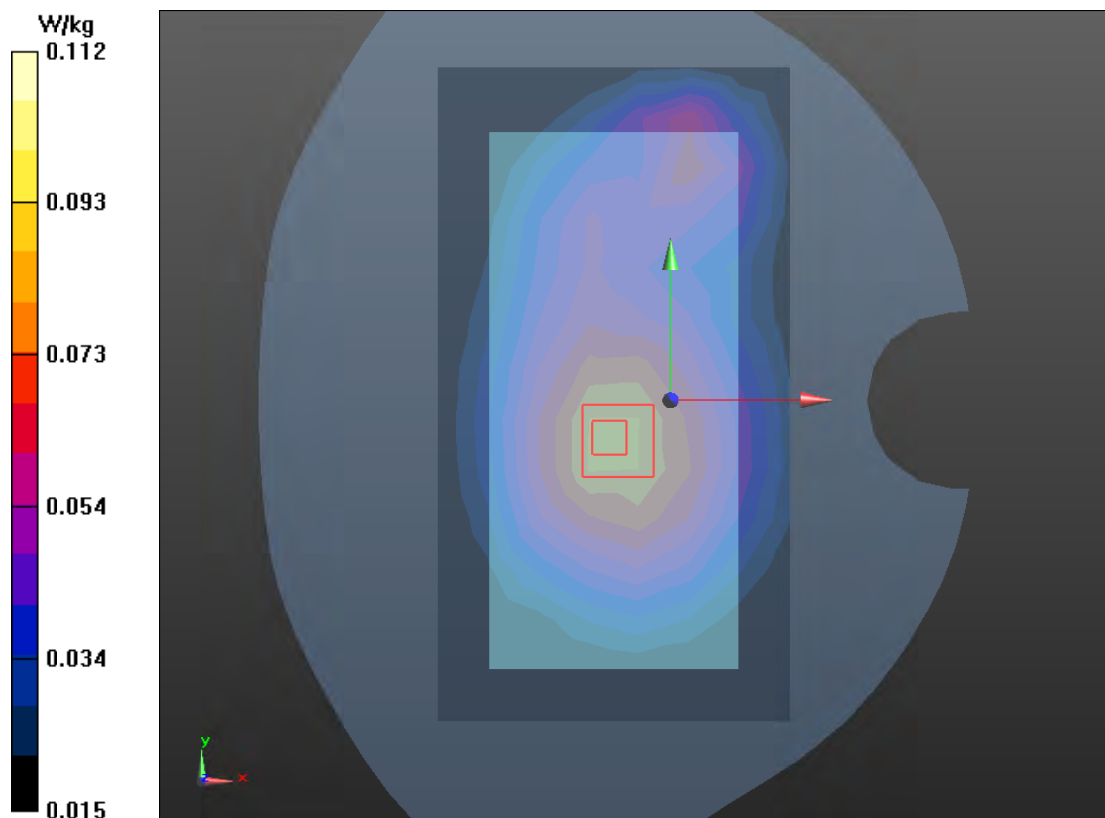
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.727 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.120 W/kg

SAR(1 g) = 0.099 W/kg; SAR(10 g) = 0.071 W/kg

Maximum value of SAR (measured) = 0.112 W/kg



Plot 68 GSM 850 GPRS (4Txslots) Back Side Middle (Distance 10mm, WWAN Antenna Up)

Date: 8/17/2020

Communication System: UID 0, GPRS-4UP (0); Frequency: 836.6 MHz; Duty Cycle: 1:2.07

Medium parameters used: $f = 837$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 42.201$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.180 W/kg

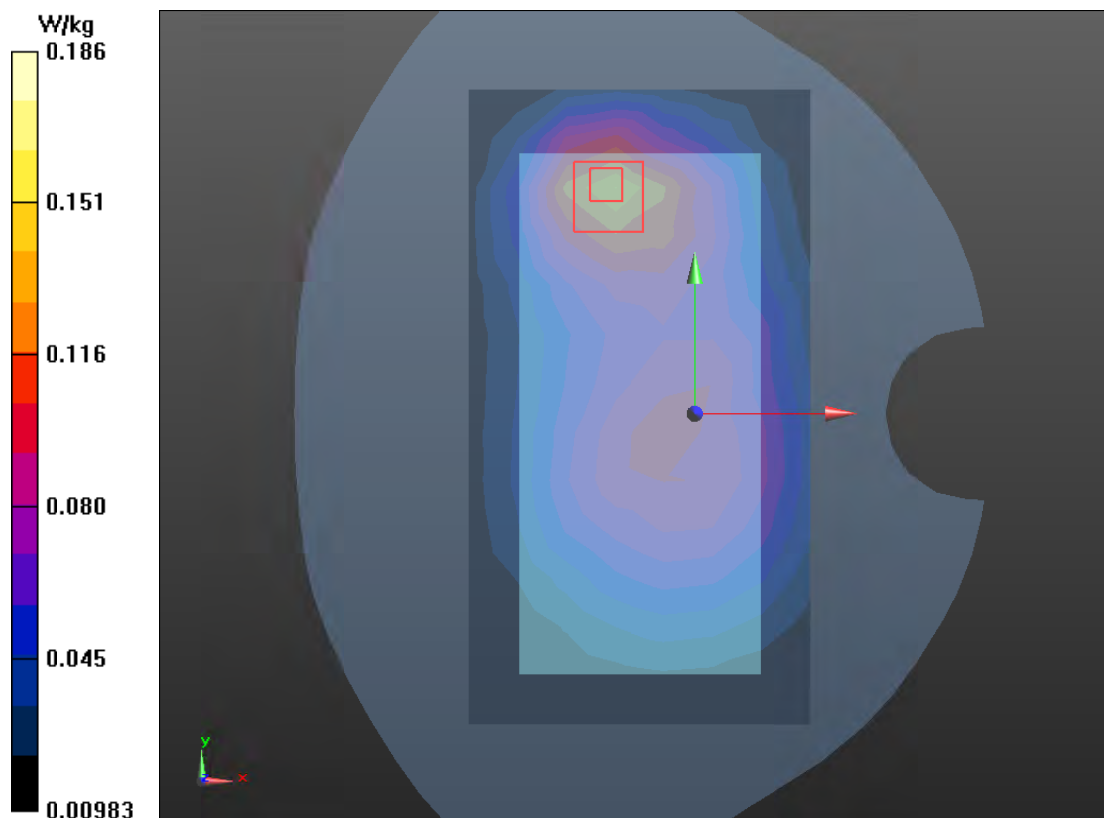
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.31 V/m; Power Drift = 0.056 dB

Peak SAR (extrapolated) = 0.220 W/kg

SAR(1 g) = 0.177 W/kg; SAR(10 g) = 0.110 W/kg

Maximum value of SAR (measured) = 0.186 W/kg



Plot 69 GSM 1900 Right Tilt Middle (WWAN Antenna Up)

Date: 8/24/2020

Communication System: UID 0, GSM1900 (0); Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.42$ S/m; $\epsilon_r = 38.948$; $\rho = 1000$ kg/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Right Tilt Middle/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.640 W/kg

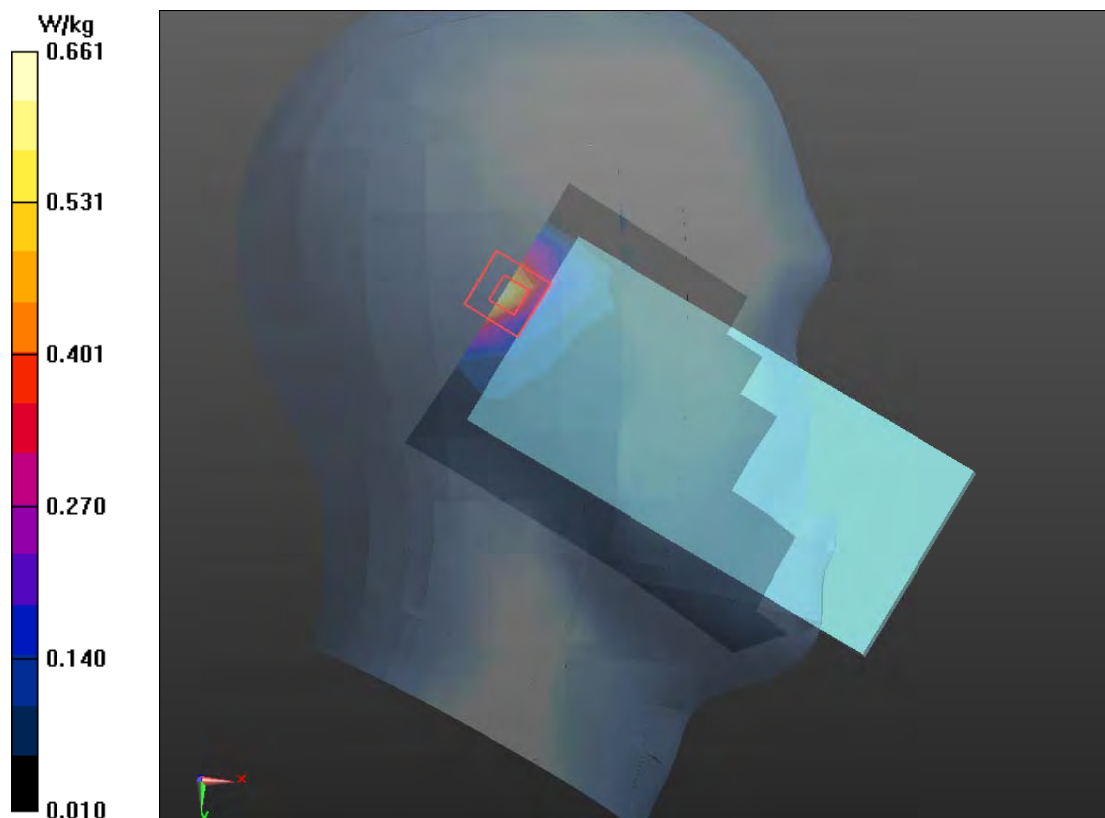
Right Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.64 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 1.21 W/kg

SAR(1 g) = 0.590 W/kg; SAR(10 g) = 0.272 W/kg

Maximum value of SAR (measured) = 0.661 W/kg



Plot 70 GSM 1900 Back Side Middle (Distance 15mm, WWAN Antenna Up)

Date: 8/24/2020

Communication System: UID 0, GSM (0); Frequency: 1880 MHz; Duty Cycle: 1:8.30042

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.393$ S/m; $\epsilon_r = 38.344$; $\rho = 1000$ kg/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.222 W/kg

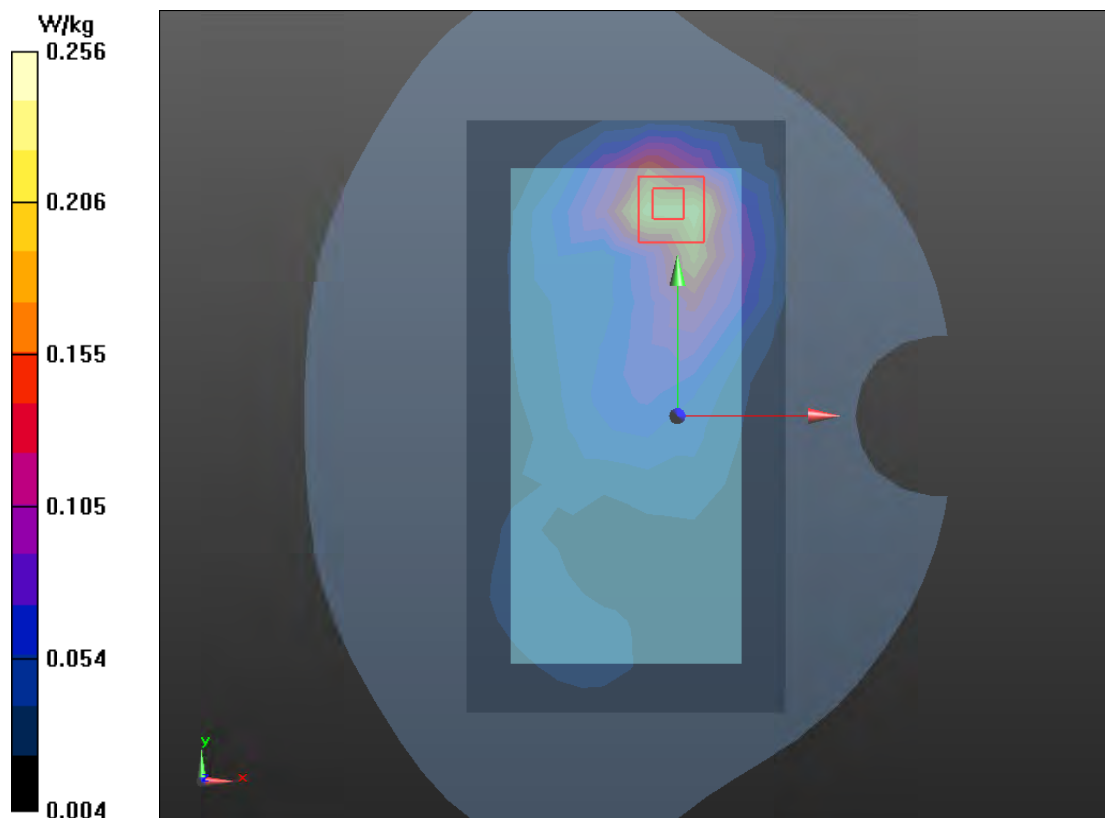
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.036 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 0.398 W/kg

SAR(1 g) = 0.230 W/kg; SAR(10 g) = 0.128 W/kg

Maximum value of SAR (measured) = 0.256 W/kg



Plot 71 GSM 1900 GPRS (4Txslots) Top Edge Middle (Distance 10mm, WWAN Antenna Up)

Date: 8/24/2020

Communication System: UID 0, GPRS 4TX (0); Frequency: 1880 MHz; Duty Cycle: 1:2.07491

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.393$ S/m; $\epsilon_r = 38.344$; $\rho = 1000$ kg/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Top Edge Middle/Area Scan (4x8x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.458 W/kg

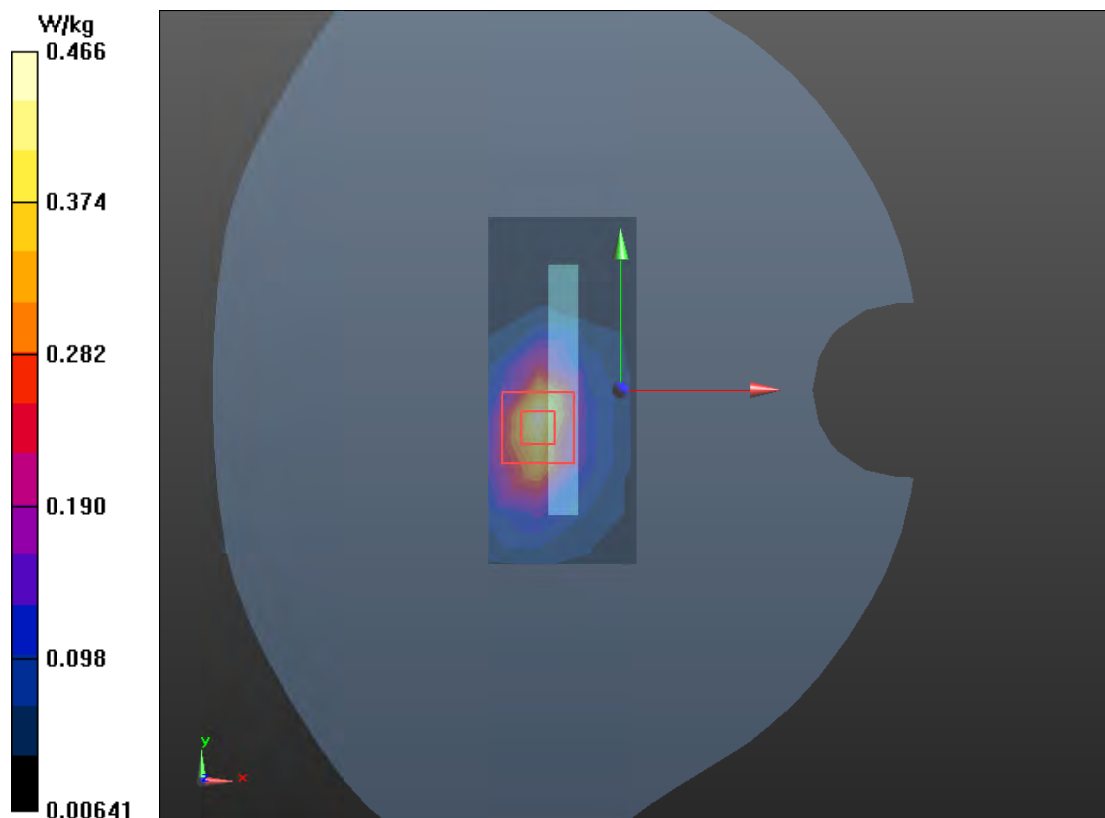
Top Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.74 V/m; Power Drift = 0.047 dB

Peak SAR (extrapolated) = 0.740 W/kg

SAR(1 g) = 0.411 W/kg; SAR(10 g) = 0.212 W/kg

Maximum value of SAR (measured) = 0.466 W/kg



Plot 72 UMTS Band II Right Tilt High (WWAN Antenna Up)

Date: 8/24/2020

Communication System: UID 0, WCDMA (0); Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1908$ MHz; $\sigma = 1.44$ S/m; $\epsilon_r = 38.828$; $\rho = 1000$ kg/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

Maximum value of SAR (measured) = 0.828 W/kg

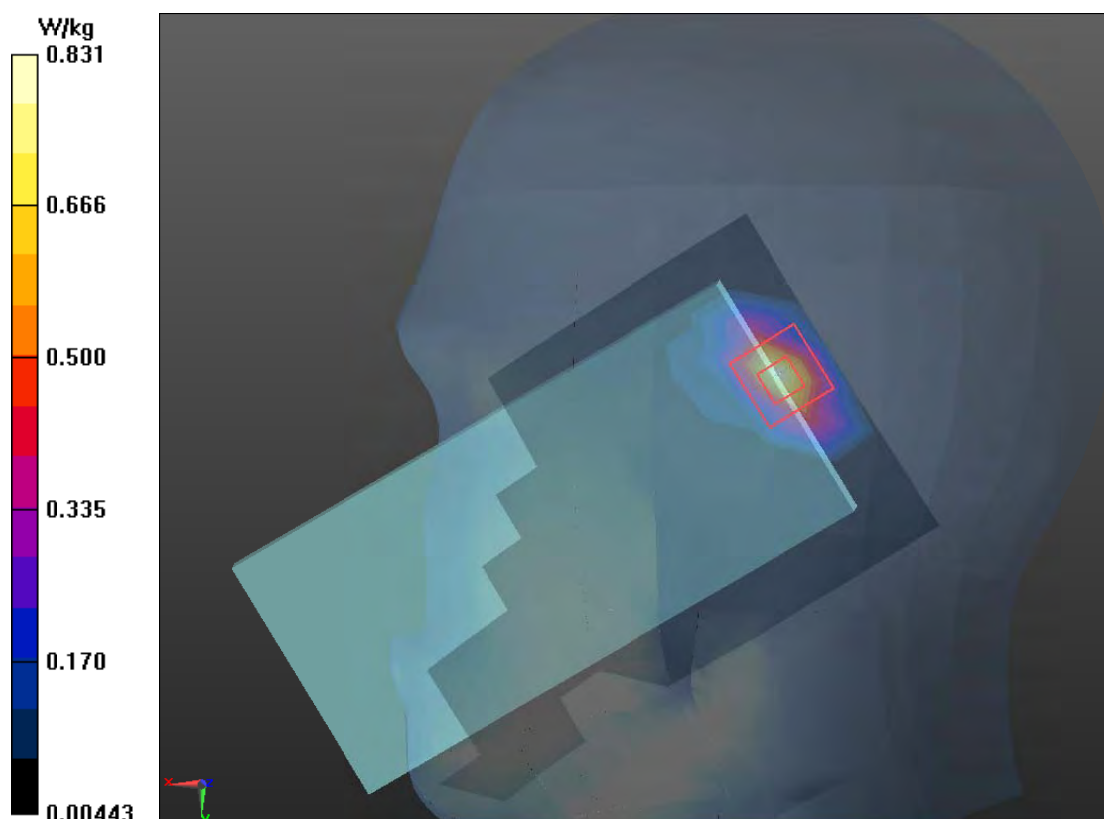
Right Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 20.02 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 1.51 W/kg

SAR(1 g) = 0.707 W/kg; SAR(10 g) = 0.313 W/kg

Maximum value of SAR (measured) = 0.831 W/kg



Plot 73 UMTS Band II Back Side Middle (Distance 15mm, WWAN Antenna Up)

Date: 8/24/2020

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/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.296 W/kg

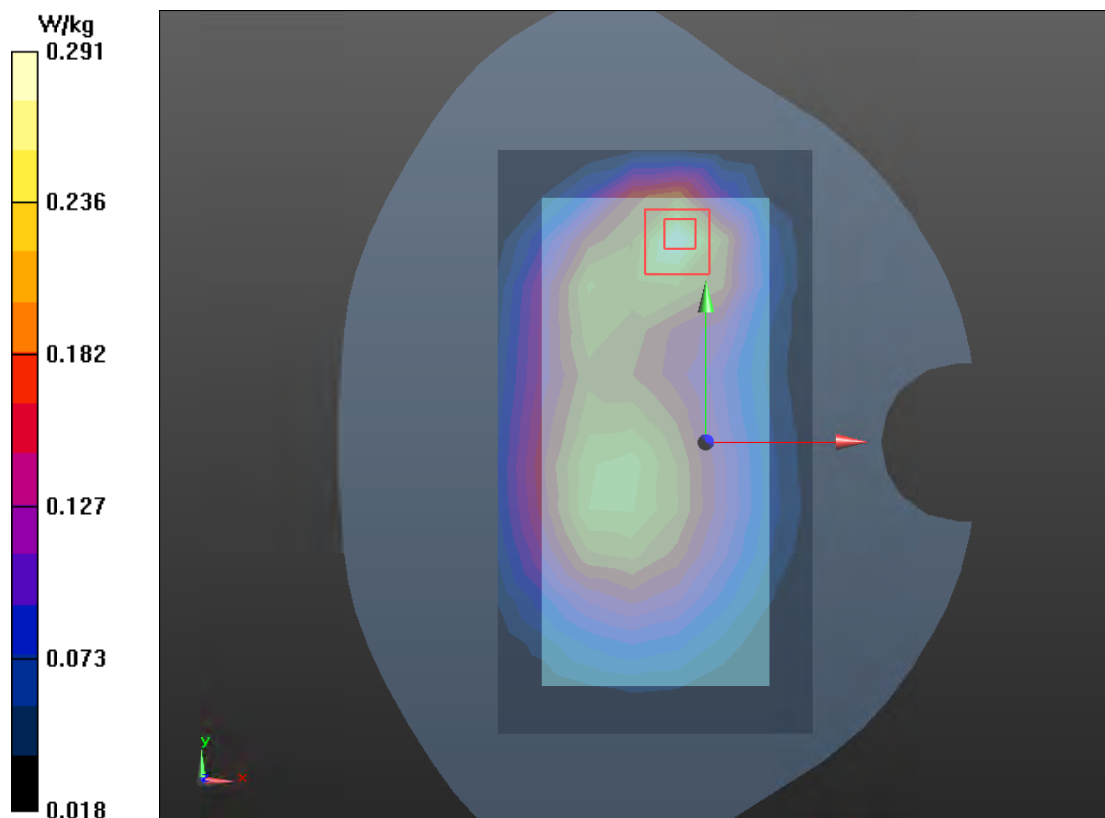
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.51 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.451 W/kg

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

Maximum value of SAR (measured) = 0.291 W/kg



Plot 74 UMTS Band II Top Edge Middle (Distance 10mm, WWAN Antenna Up)

Date: 8/24/2020

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/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Top Edge Middle/Area Scan (4x8x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.458 W/kg

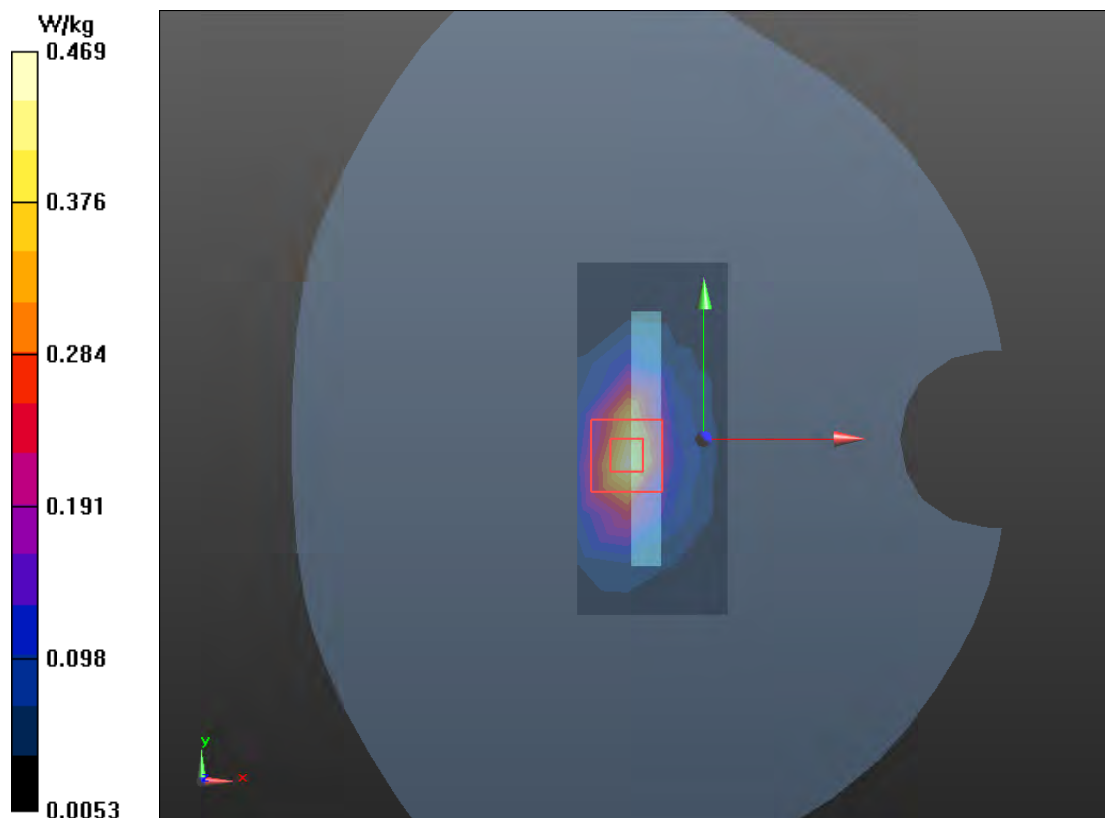
Top Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.77 V/m; Power Drift = 0.043 dB

Peak SAR (extrapolated) = 0.771 W/kg

SAR(1 g) = 0.412 W/kg; SAR(10 g) = 0.207 W/kg

Maximum value of SAR (measured) = 0.469 W/kg



Plot 75 UMTS Band IV Right Tilt Low (WWAN Antenna Up)

Date: 8/30/2020

Communication System: UID 0, WCDMA (0); Frequency: 1712.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1712.4$ MHz; $\sigma = 1.298$ S/m; $\epsilon_r = 39.443$; $\rho = 1000$ kg/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

Maximum value of SAR (measured) = 0.879 W/kg

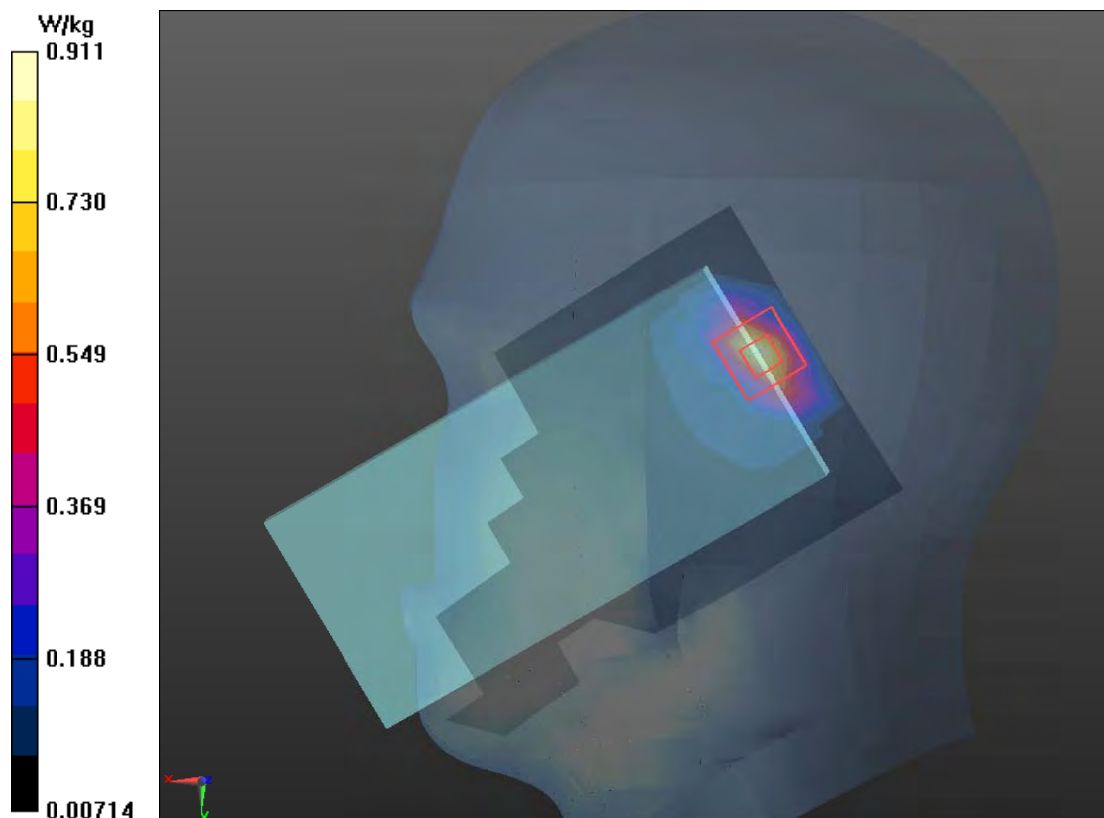
Right Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.02 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.56 W/kg

SAR(1 g) = 0.761 W/kg; SAR(10 g) = 0.346 W/kg

Maximum value of SAR (measured) = 0.911 W/kg



Plot 76 UMTS Band IV Back Side Middle (Distance 15mm, WWAN Antenna Up)

Date: 8/30/2020

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/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.442 W/kg

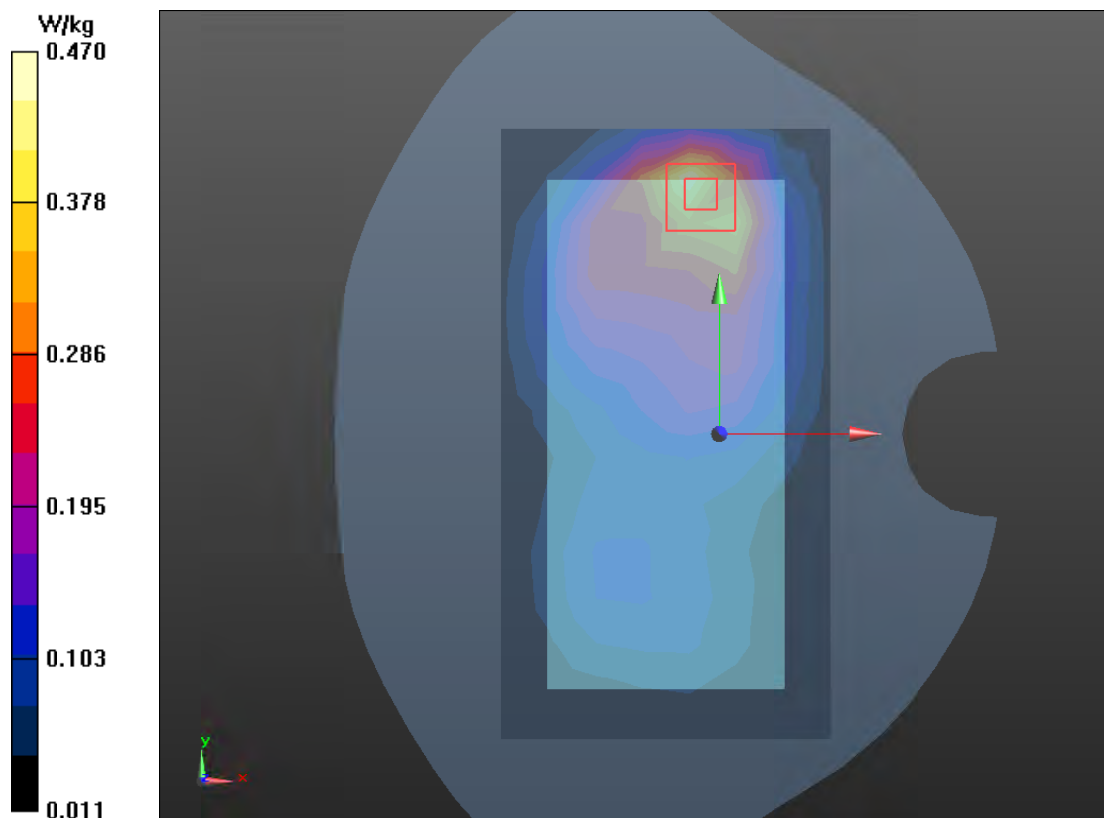
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.934 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.707 W/kg

SAR(1 g) = 0.430 W/kg; SAR(10 g) = 0.250 W/kg

Maximum value of SAR (measured) = 0.470 W/kg



Plot 77 UMTS Band IV Top Edge Middle (Distance 10mm, WWAN Antenna Up)

Date: 8/30/2020

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/m³

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: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Top Edge Middle/Area Scan (4x9x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.560 W/kg

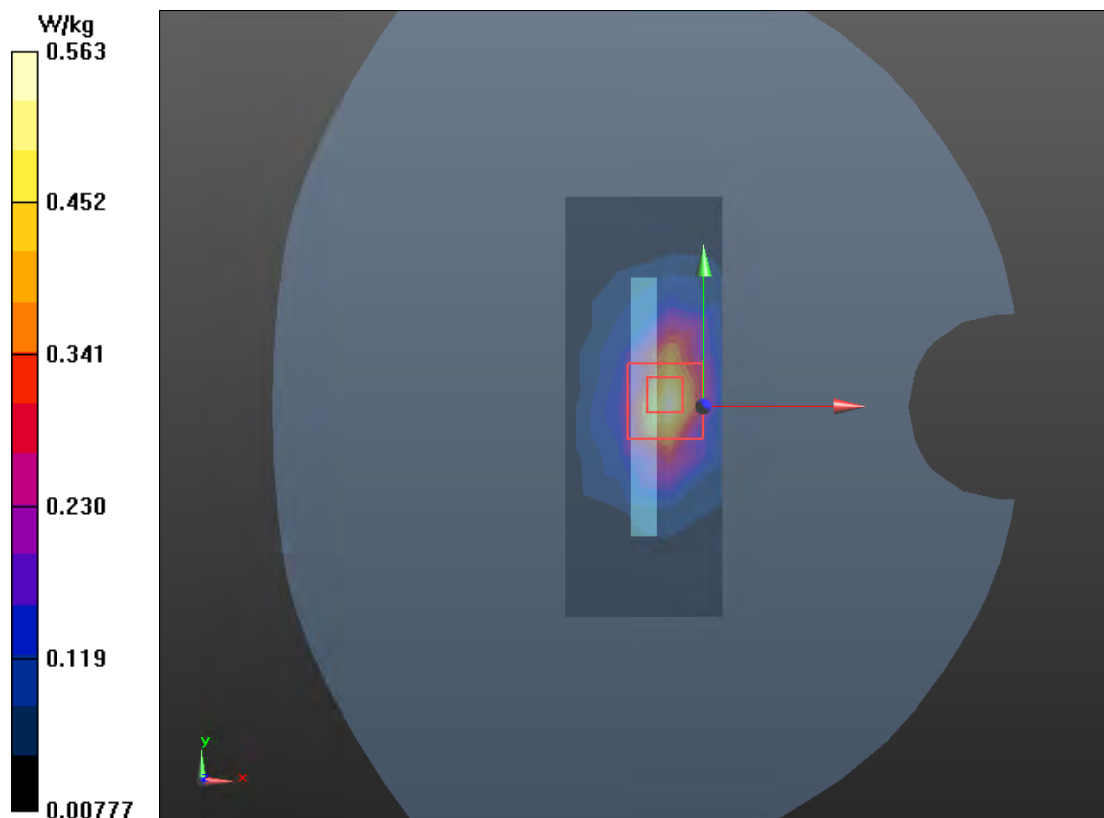
Top Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.89 V/m; Power Drift = -0.043 dB

Peak SAR (extrapolated) = 0.859 W/kg

SAR(1 g) = 0.495 W/kg; SAR(10 g) = 0.254 W/kg

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



Plot 78 UMTS Band V Right Cheek Middle (WWAN Antenna Up)

Date: 8/17/2020

Communication System: UID 0, WCDMA 850 (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 42.201$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Right Cheek Middle/Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.470 W/kg

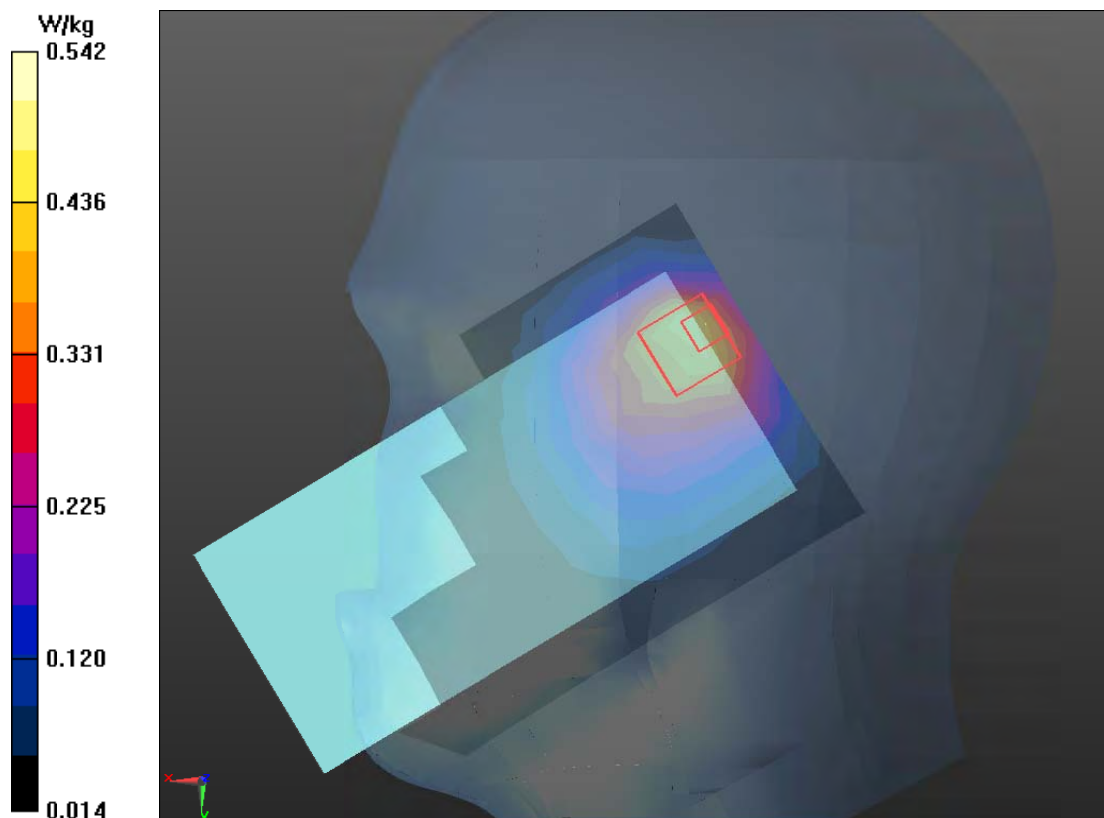
Right Cheek Middle /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 20.43 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.02 W/kg

SAR(1 g) = 0.499 W/kg; SAR(10 g) = 0.290 W/kg

Maximum value of SAR (measured) = 0.542 W/kg



Plot 79 UMTS Band V Back Side Middle (Distance 15mm, WWAN Antenna Up)

Date: 8/17/2020

Communication System: UID 0, WCDMA 850 (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 42.201$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side Middle/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.0732 W/kg

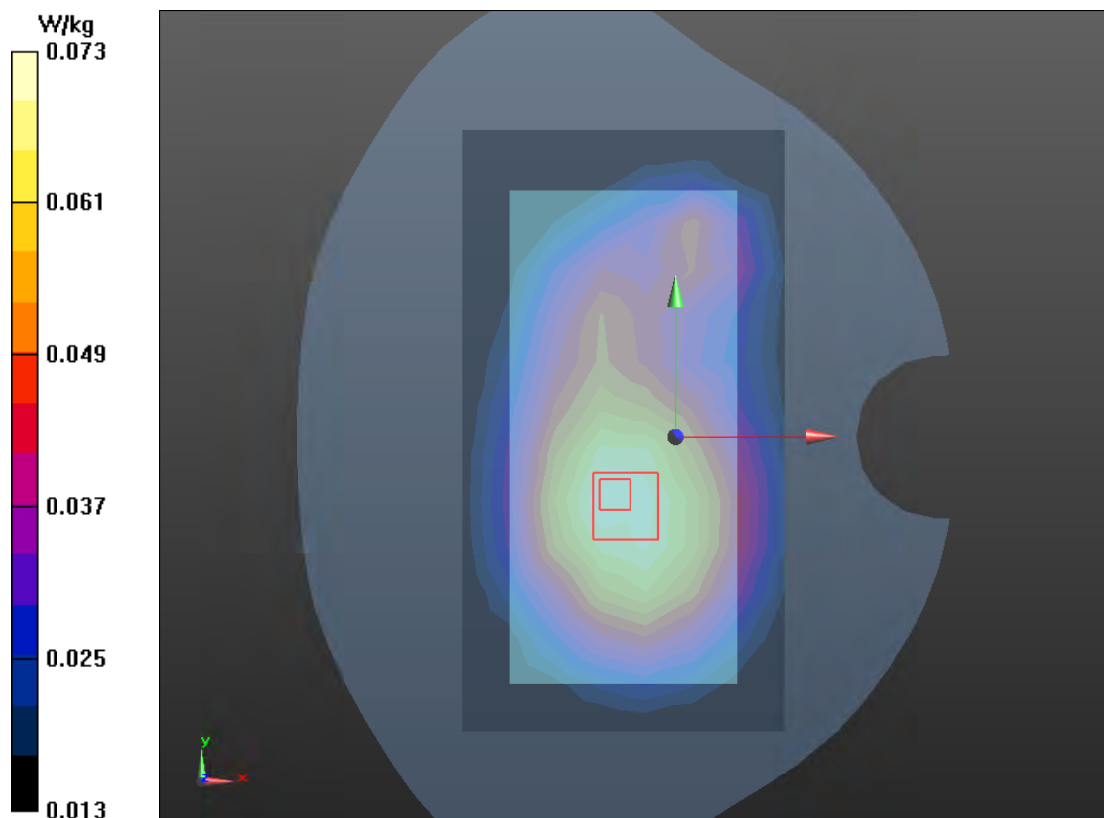
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.452 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.0870 W/kg

SAR(1 g) = 0.069 W/kg; SAR(10 g) = 0.053 W/kg

Maximum value of SAR (measured) = 0.073 W/kg



Plot 80 UMTS Band V Front Side Middle (Distance 10mm, WWAN Antenna Up)

Date: 8/17/2020

Communication System: UID 0, WCDMA 850 (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.923$ S/m; $\epsilon_r = 42.201$; $\rho = 1000$ kg/m³

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(9.38, 9.38, 9.38); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Front Side Middle/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.126 W/kg

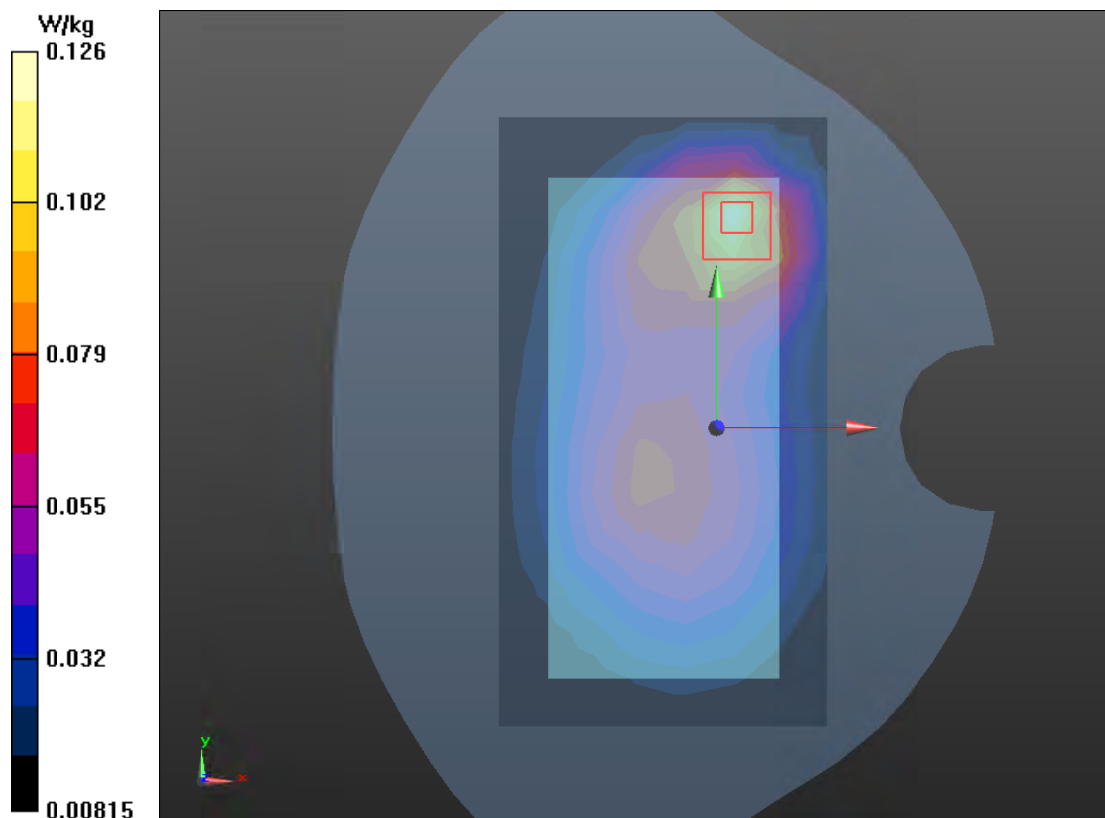
Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.973 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.204 W/kg

SAR(1 g) = 0.115 W/kg; SAR(10 g) = 0.069 W/kg

Maximum value of SAR (measured) = 0.126 W/kg



Plot 81 LTE Band 2 100%RB Right Tilt High (WWAN Antenna Up)

Date: 8/24/2020

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.408$ S/m; $\epsilon_r = 38.294$; $\rho = 1000$ kg/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

Maximum value of SAR (measured) = 0.872 W/kg

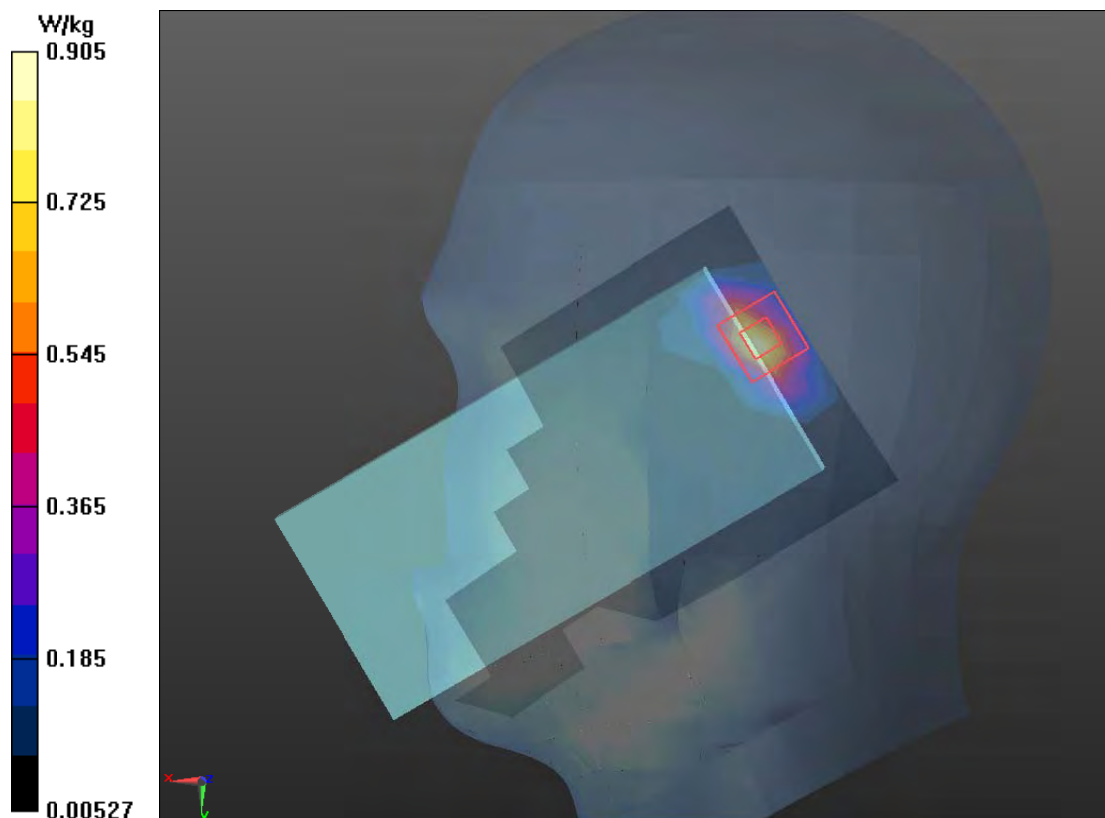
Right Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.99 V/m; Power Drift = 0.026 dB

Peak SAR (extrapolated) = 1.66 W/kg

SAR(1 g) = 0.778 W/kg; SAR(10 g) = 0.343 W/kg

Maximum value of SAR (measured) = 0.905 W/kg



Plot 82 LTE Band 2 50%RB Back Side High (Distance 15mm, WWAN Antenna Up)

Date: 8/24/2020

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/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side High/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.139 W/kg

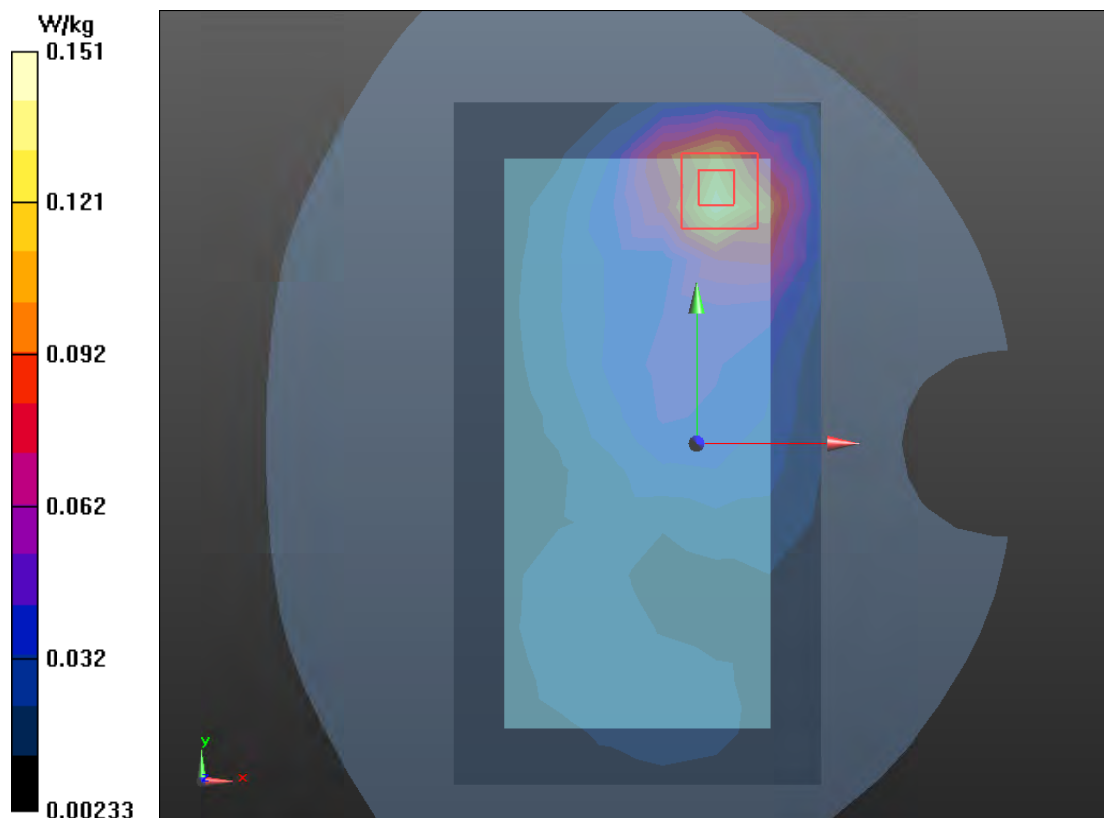
Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.801 V/m; Power Drift = -0.031 dB

Peak SAR (extrapolated) = 0.238 W/kg

SAR(1 g) = 0.138 W/kg; SAR(10 g) = 0.078 W/kg

Maximum value of SAR (measured) = 0.151 W/kg



Plot 83 LTE Band 2 1RB Top Edge High (Distance 10mm, WWAN Antenna Up)

Date: 8/24/2020

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/m³

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(7.90, 7.90, 7.90); Calibrated: 7/06/2020;

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Top Edge High/Area Scan (4x8x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.375 W/kg

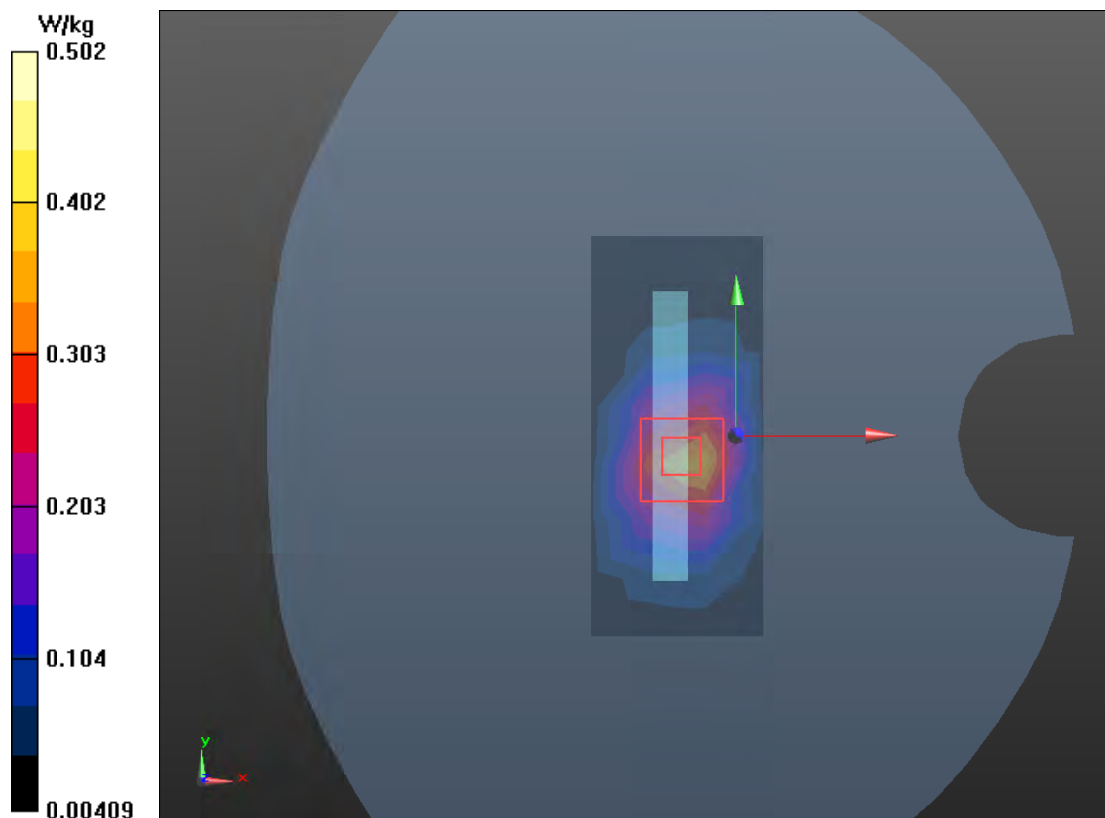
Top Edge High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.78 V/m; Power Drift = -0.045 dB

Peak SAR (extrapolated) = 0.821 W/kg

SAR(1 g) = 0.437 W/kg; SAR(10 g) = 0.216 W/kg

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



Plot 84 LTE Band 4 1RB Right Tilt Middle(WWAN Antenna Up)

Date: 8/28/2020

Communication System: UID 0, LTE (0); Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1732.5$ MHz; $\sigma = 1.313$ S/m; $\epsilon_r = 39.384$; $\rho = 1000$ kg/m³

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) @ 1732.5 MHz; Calibrated: 2020/7/6

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

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

Maximum value of SAR (measured) = 1.05 W/kg

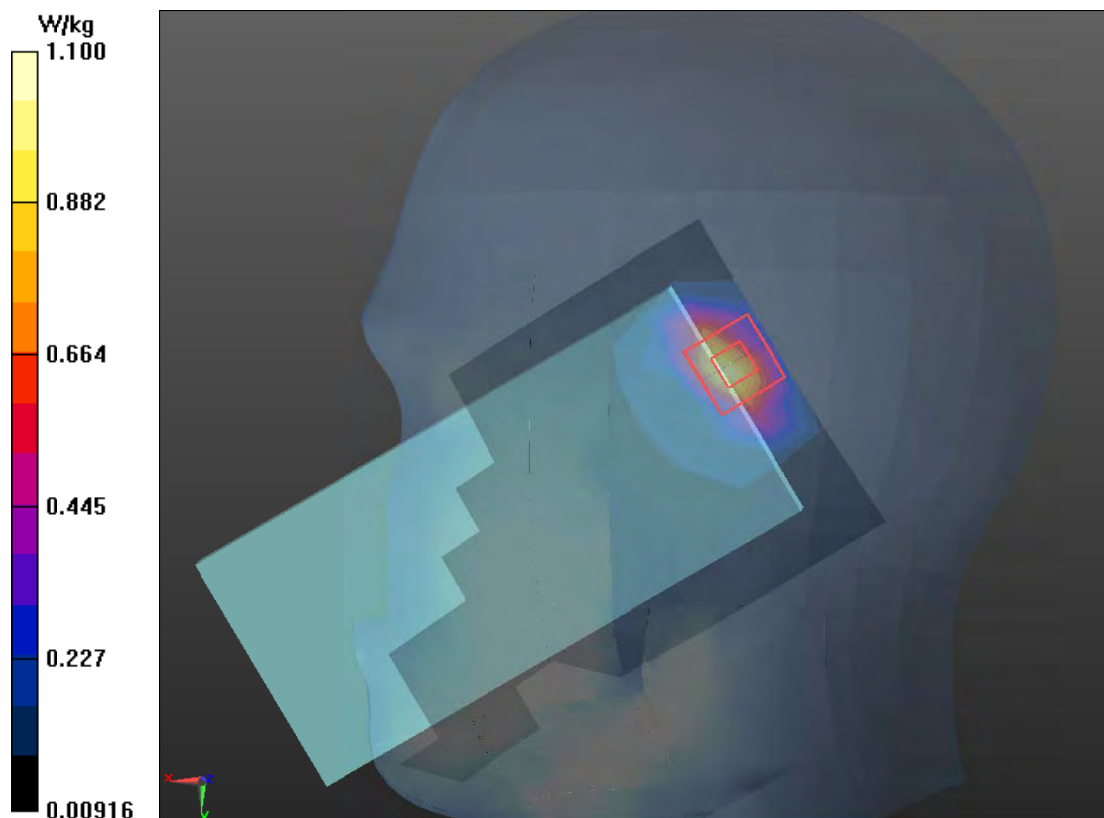
Right Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.68 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.88 W/kg

SAR(1 g) = 0.943 W/kg; SAR(10 g) = 0.431 W/kg

Maximum value of SAR (measured) = 1.10 W/kg



Plot 85 LTE Band 4 1RB Back Side High (Distance 15mm, WWAN Antenna Up)

Date: 8/28/2020

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/m³

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) @ 1745 MHz; Calibrated: 2020/7/6

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Back Side High/Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.203 W/kg

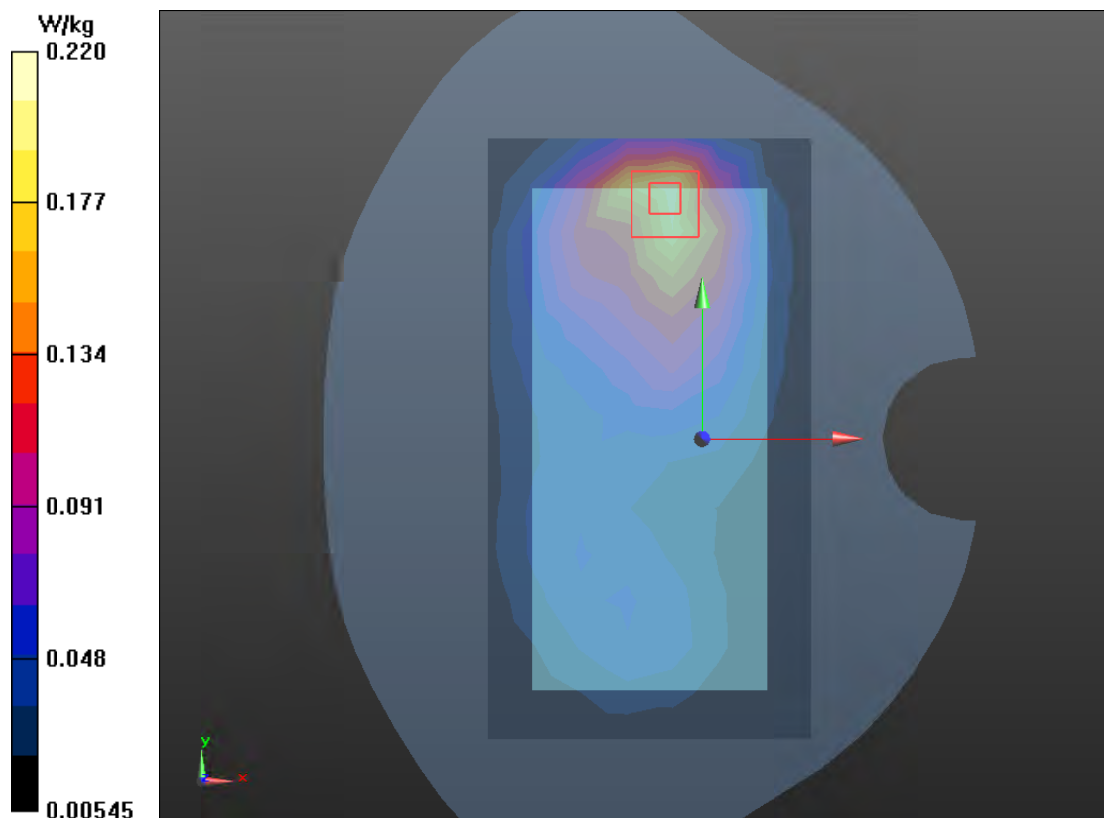
Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.811 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.325 W/kg

SAR(1 g) = 0.200 W/kg; SAR(10 g) = 0.120 W/kg

Maximum value of SAR (measured) = 0.220 W/kg



Plot 86 LTE Band 4 1RB Top Edge Low (Distance 10mm, WWAN Antenna Up)

Date: 8/28/2020

Communication System: UID 0, LTE (0); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1720$ MHz; $\sigma = 1.303$ S/m; $\epsilon_r = 39.467$; $\rho = 1000$ kg/m³

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) @ 1720 MHz; Calibrated: 2020/7/6

Electronics: DAE4 SN1317; Calibrated: 10/23/2019

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

Measurement SW: DASY52, Version 52.10 (1); SEMCAD X Version 14.6.11 (7439)

Top Edge Low/Area Scan (4x8x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 0.645 W/kg

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

Reference Value = 19.58 V/m; Power Drift = 0.030 dB

Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.576 W/kg; SAR(10 g) = 0.298 W/kg

Maximum value of SAR (measured) = 0.660 W/kg

