

FCC SAR TEST REPORT

For

RFinder.LLC

RFinder B1

Model No.:B1

FCC ID:2AU3C-B1

Prepared For : **RFinder.LLC**Address : Room 302, Building A, Huahan Technology, No. 16 Langshan Road,
Nanshan District, Shenzhen, China

Prepared By : Shenzhen Anbotek Compliance Laboratory Limited

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Date of Test : Dec.1, 2019 ~ Dec.06,2019

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TEST REPORT

Applicant : RFinder.LLC
Manufacturer : Shenzhen Tinfull Technology Co.,Ltd.
Product Name : RFinder B1
Model No. : B1
Trade Mark : /
Rating(s) : DC 7.6V from battery

Test Standard(s) : IEEE 1528-2013; IEC 62209-2:2010; ANSI/IEEE C95.1:2005; FCC 47 CFR Part 2 (2.1093:2013);

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the IEEE 1528-2013, IEC 62209-2:2010, FCC 47 CFR Part 2 (2.1093:2013), ANSI/IEEE C95.1:2005 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Test

Dec.1, 2019 ~ Dec.06, 2019

Prepared By



Bobby Wang

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Version

Version No.	Date	Description
01	Dec.10, 2019	Original

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1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing areas follows.

<Highest SAR Summary>

Frequency Band	Highest Reported 1g-SAR(W/Kg)			SAR Test Limit (W/Kg)
	Head	Body	Hotspot	
GSM850	0.389	0.205	0.205	1.6
PCS1900	0.368	0.107	0.107	1.6
WCDMA II	0.354	0.211	0.211	1.6
WCDMA V	0.302	0.203	0.203	1.6
LTE Band 2	0.233	0.203	0.203	1.6
LTE Band 4	0.269	0.327	0.327	1.6
LTE Band 5	0.528	0.436	0.436	1.6
LTE Band 7	0.184	0.277	0.277	1.6
LTE Band 12	0.353	0.172	0.172	1.6
LTE Band 17	0.252	0.194	0.194	1.6
LTE Band 26	0.213	0.204	0.204	1.6
LTE Band 38	0.090	0.124	0.124	1.6
LTE Band 41	0.073	0.419	0.419	1.6
WIFI 2.4G	0.321	0.158	0.158	1.6
WIFI 5G	0.265	0.201	0.201	1.6
PTT	0.778	1.672	N/A	8.0
Simultaneous SAR	Head		0.849	1.6
	Body & Hotspot		0.637	1.6
	Head (CMRS/PLMRS)		0.963	8.0
	Body (CMRS/PLMRS)		2.214	8.0
Test Result	Pass			

Note:

1. This device supports both LTE Band 12 and LTE Band 17. Since the supported frequency span for LTE Band 17 falls completely within the supported frequency span for LTE Band 12, LTE Band 17 target power is less than or equal to LTE Band 12 target power, and both LTE bands share the same transmission path, SAR was only assessed for LTE Band 12.

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-2005, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013.

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2. General Information

2.1 Client Information

Applicant:	RFinder.LLC
Address of Applicant:	455 sunrise highway West Islip New York 11795 USA.
Manufacture:	Shenzhen Tinfull Technology Co.,Ltd.
Address of Manufacture:	Floor 6&8,C1 Plant, changfang Intustrial Park ,julong mountain No.3 road ,dagongyeyuan ,longtian street ,Pingshan Distict,Shenzhen,China

2.2 Testing Laboratory Information

Test Site:	Shenzhen Anbotek Compliance Laboratory Limited
Address:	1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China

2.3 Description of Equipment Under Test(EUT)

Product Name:	RFinder B1
Model/Type reference:	B1
Power supply:	DC 7.6V from battery
Hardware version:	DT863-MB-V0.4
Software version:	/
GSM	
Operation Band:	GSM850, PCS1900
Supported Type:	GSM/GPRS/EGPRS
Power Class:	GSM850:Power Class 4 PCS1900:Power Class 1
Modulation Type:	GMSK for GPRS, 8-PSK for EGPRS
GSM Release Version	R99
GPRS Multislot Class	12
Antenna type:	FPC antenna
WCDMA	

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Operation Band:	FDD Band II, FDD Band V			
Power Class:	Power Class 3			
Modulation Type:	QPSK for HSUPA/HSDPA			
WCDMA Release Version:	Rel-5			
HSDPA Category:	Category 14			
HSUPA Category:	Category 6			
Antenna type:	FPC antenna			
LTE				
Operation Band:	E-UTRA Band 2, Band 4, band5, band7, band12, band13, band17, band26			
Support Bandwidth:	Band 2: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz, ☒ 15MHz, ☒ 20MHz Band 4: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz, ☒ 15MHz, ☒ 20MHz Band 5: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz, Band 7: ☒ 5MHz, ☒ 10MHz, ☒ 15MHz, ☒ 20MHz Band 12: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz, Band 17: ☒ 5MHz, ☒ 10MHz Band 26: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz, ☒ 15MHz Band 38: ☒ 5MHz, ☒ 10MHz, ☒ 15MHz, ☒ 20MHz Band 41: ☒ 5MHz, ☒ 10MHz, ☒ 15MHz, ☒ 20MHz			
Modulation Type:	QPSK, 16QAM			
Release Version:	Release 9			
Category:	Cat 4			
Antenna Type:	FPC antenna			
WIFI 2.4G				
Supported type:	802.11b/802.11g/802.11n(H20)/802.11n(H40)			
Modulation:	802.11b: DSSS 802.11g/802.11n(H20)/ 802.11n(H40):OFDM			
Operation frequency:	802.11b/802.11g/802.11n(H20): 2412MHz~2462MHz 802.11n(H40): 2422MHz~2452MHz			
Channel number:	802.11b/802.11g/802.11n(H20): 11 802.11n(H40): 7			
Channel separation:	5MHz			
Antenna type:	FPC antenna			
WIFI 5G				
Supported type:	20MHz system	40MHz system	80MHz system	160MHz system

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	802.11a 802.11n	802.11n	N/A	N/A
Operation frequency:	5180 - 5240MHz 5745 - 5825MHz	5190 - 5230MHz 5755MHz-5795MHz	N/A	N/A
Modulation:	OFDM	OFDM	N/A	N/A
Channel number:	9	4	N/A	N/A
Channel separation:	20MHz	40MHz	N/A	N/A
Antenna type:	FPC antenna			
Antenna gain:	1.0dBi			
Bluetooth				
Supported Type:	Bluetooth BR/EDR			
Modulation:	GFSK, $\pi/4$ DQPSK, 8DPSK			
Operation frequency:	2402MHz~2480MHz			
Channel number:	79			
Channel separation:	1MHz			
Antenna type:	FPC antenna			
Antenna gain:	0.5dBi			
Bluetooth LE				
Supported type:	Bluetooth low Energy			
Modulation:	GFSK			
Operation frequency:	2402MHz to 2480MHz			
Channel number:	40			
Channel separation:	2 MHz			
Antenna type:	FPC antenna			
Antenna gain:	0.5dBi			
NFC				
Operation frequency:	13.56MHz			
Modulation :	ASK			
No. ofChannel :	1			
Antenna type:	Loop Antenna			

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PMR	
Frequency Range	VHF:136MHz to 174 MHz;UHF:400MHz to 470MHz
Rate Power	High power 4W and Low power 2W
Modulation Type	FM/4FSK
Channel Separation	Analog Voice 12.5KHz Digital Voice 12.5KHz
Antenna Type	External antenna

2.4 Device Category and SAR Limits

This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user. according to IEEE Std C95.1, 1999:((IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 KHz to 300 GHz).

It specifies the maximum exposure limit of 1.6 W/kg as averaged over any 1 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.

2.5 Applied Standard

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

- IEEE 1528-2013
- FCC 47 CFR Part 2 (2.1093:2013)
- ANSI/IEEE C95.1:2005
- IEC 62209-2:2010
- IEC 62209-2:2010
- KDB 248227 D01
- KDB 447498 D01
- KDB 616217 D04
- KDB 648474 D04
- KDB 865664 D01
- KDB 941225 D01
- KDB 941225 D06
- KDB 941225 D07

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2.6 Environment of Test Site

Items	Required	Actual
Temperature (°C)	18-25	22~23
Humidity (%RH)	30-70	55~65

2.7 Test Configuration

The device was controlled by using a base station emulator. Communication between the device and the emulator was established by air link. The distance between the EUT and the antenna of the emulator is larger than 50 cm and the output power radiated from the emulator antenna is at least 30 dB smaller than the output power of EUT. The EUT was set from the emulator to radiate maximum output power during all tests. For WLAN SAR testing, WLAN engineering testing software installed on the EUT can provide continuous transmitting RF signal.

3. Specific Absorption Rate (SAR)

3.1 Introduction

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

3.2 SAR Definition

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

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

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

SAR measurement can be either related to the temperature elevation in tissue by

$$\text{SAR} = C \left(\frac{\delta T}{\delta t} \right)$$

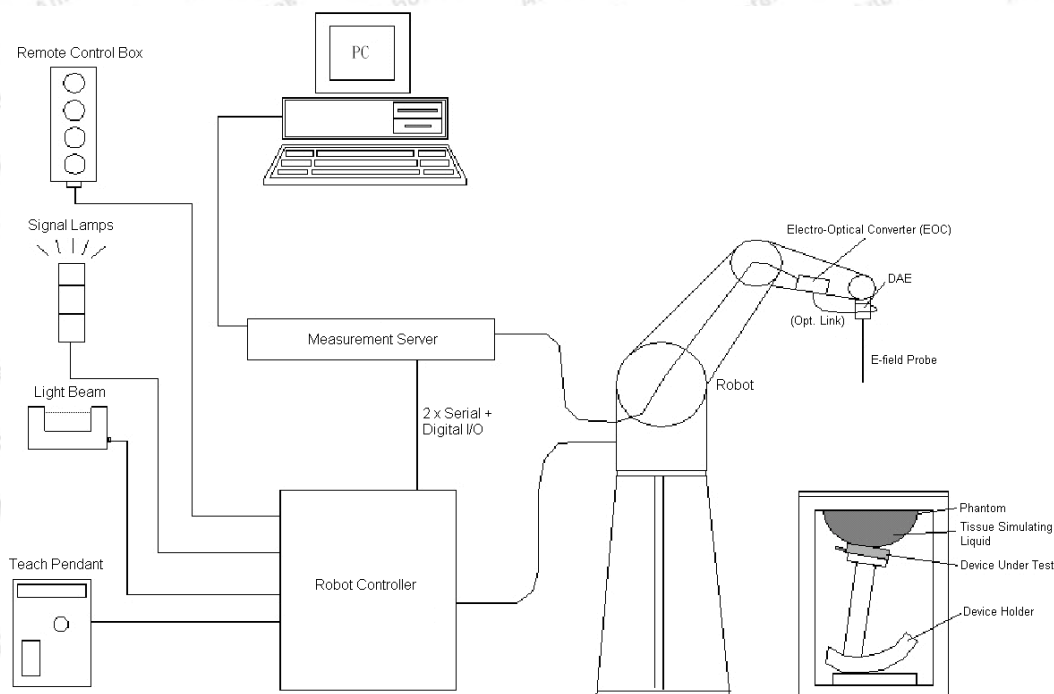
Where: C is the specific heat capacity, δT is the temperature rise and δt is the exposure duration, or related to the electrical field in the tissue by

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

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

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

4. SAR Measurement System



DASy System Configurations

The DASy system for performance compliance tests is illustrated above graphically. This system consists of the following items:

- A standard high precision 6-axis robot with controller, a teach pendant and software
- A data acquisition electronic (DAE) attached to the robot arm extension
- A dosimetric probe equipped with an optical surface detector system
- The electro-optical converter (EOC) performs the conversion between optical and electrical signals
- A measurement server performs the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the accuracy of the probe positioning
- A computer operating Windows XP
- DASy software
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom
- A device holder
- Tissue simulating liquid
- Dipole for evaluating the proper functioning of the system

components are described in details in the following sub-sections.

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4.1 E-Field Probe

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

➤ E-Field Probe Specification

<EX3DV4 Probe>

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	 Photo of EX3DV4
Frequency	10 MHz to 6 GHz; Linearity: ± 0.2 dB	
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	

➤ E-Field Probe Calibration

Each probe needs to be calibrated according to a dosimetric assessment procedure with accuracy better than $\pm 10\%$. The spherical isotropy shall be evaluated and within ± 0.25 dB. The sensitivity parameters (NormX, NormY, and NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested. The calibration data can be referred to appendix C of this report.

4.2 Data Acquisition Electronics (DAE)

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

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

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**Photo of DAE**

4.3 Robot

The SPEAG DASY system uses the high precision robots (DASY5: TX60XL) type from Stäubli SA (France). For the 6-axis controller system, the robot controller version (DASY5: CS8c) from Stäubli is used. The Stäubli robot series have many features that are important for our application:

- High precision (repeatability ± 0.035 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)

**Photo of DASY5**

4.4 Measurement Server

The measurement server is based on a PC/104 CPU board with CPU (DASY5: 400 MHz, Intel Celeron), chipdisk (DASY5: 128 MB), RAM (DASY5: 128 MB). The necessary circuits for communication with the DAE electronic box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DASY I/O board, which is directly connected to the PC/104 bus of the CPU board.

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The measurement server performs all the real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operations.



Photo of Server for DASY5

4.5 Phantom

<SAM Twin Phantom>

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



Photo of SAM Phantom

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

<ELI4 Phantom>

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

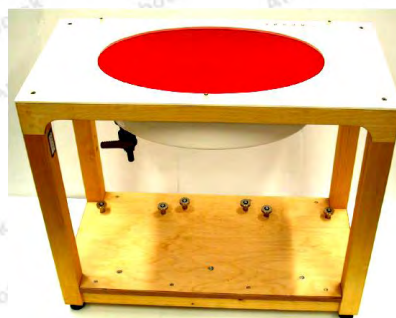


Photo of ELI4 Phantom

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

liquids.

4.6 Device Holder

The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5 mm distance, a positioning uncertainty of $\pm 0.5\text{mm}$ would produce a SAR uncertainty of $\pm 20\%$. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.

The DASY device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation center for both scales is the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.

The DASY device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity $\epsilon = 3$ and loss tangent $\delta = 0.02$. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.



Device Holder

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4.7 Data Storage and Evaluation

➤ Data Storage

The DASY software stores the assessed data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all the necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files. The post-processing software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of erroneous parameter settings. For example, if a measurement has been performed with an incorrect crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be reevaluated.

The measured data can be visualized or exported in different units or formats, depending on the selected probe type (e.g., [V/m], [A/m], [mW/g]). Some of these units are not available in certain situations or give meaningless results, e.g., a SAR-output in a non-lose media, will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

➤ Data Evaluation

The DASY post-processing software (SEMCAD) automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

Probe parameters:	- Sensitivity	$\text{Norm}_i, a_{i0}, a_{i1}, a_{i2}$
	- Conversion factor	ConvF_i
	- Diode compression point	dcp_i
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	σ
	- Density	ρ

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY components. In the direct measuring mode of the multi-meter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics. If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power.

The formula for each channel can be given as:

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$$V_i = U_i + U_i^2 \cdot \frac{cf}{dcp_i}$$

with V_i = compensated signal of channel i, (i = x, y, z)

U_i = input signal of channel i, (i = x, y, z)

cf = crest factor of exciting field (DASY parameter)

dcp_i = diode compression point (DASY parameter)

From the compensated input signals, the primary field data for each channel can be evaluated:

$$\text{E-field Probes: } E_i = \sqrt{\frac{V_i}{\text{Norm}_i \cdot \text{ConvF}}}$$

$$\text{H-field Probes: } H_i = \sqrt{V_i} \cdot \frac{a_{i0} + a_{i1}f + a_{i2}f^2}{f}$$

with V_i = compensated signal of channel i, (i = x, y, z)

Norm_i = sensor sensitivity of channel i, (i = x, y, z), $\mu\text{V}/(\text{V/m})^2$ for E-field Probes

ConvF = sensitivity enhancement in solution

a_{ij} = sensor sensitivity factors for H-field probes

f = carrier frequency [GHz]

E_i = electric field strength of channel i in V/m

H_i = magnetic field strength of channel i in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{\text{tot}} = \sqrt{E_x^2 + E_y^2 + E_z^2}$$

The primary field data are used to calculate the derived field units.

$$\text{SAR} = E_{\text{tot}}^2 \cdot \frac{\sigma}{\rho \cdot 1000}$$

with SAR = local specific absorption rate in mW/g

E_{tot} = total field strength in V/m

σ = conductivity in [mho/m] or [Siemens/m]

ρ = equivalent tissue density in g/cm³

Note that the density is set to 1, to account for actual head tissue density rather than the density of the tissue simulating liquid.

5. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	150MHz System Validation Kit	CLA150	4024	Feb. 21, 2018	Feb. 20, 2021
SPEAG	450MHz System Validation Kit	D450V3	1102	Feb. 23, 2018	Feb. 22, 2021
SPEAG	835MHz System Validation Kit	D835V2	4d154	Jun. 16, 2018	Jun. 15, 2021
SPEAG	1750MHz System Validation Kit	D1750V2	1021	Jul. 03, 2019	Jul. 02, 2022
SPEAG	1900MHz System Validation Kit	D1900V2	5d175	Jun. 15, 2019	Jun. 14, 2022
SPEAG	2450MHz System Validation Kit	D2450V2	910	Jun. 15, 2018	Jun. 14, 2021
SPEAG	2600MHz System Validation Kit	D2600V2	1058	Jun. 19, 2018	Jun. 18, 2021
SPEAG	750MHz System Validation Kit	D750V3	1163	Sep. 03, 2019	Sep. 02, 2022
SPEAG	5000MHz System Validation Kit	D5GHzV2	1003	Mar. 13, 2018	Mar. 12, 2021
SPEAG	Data Acquisition Electronics	DAE4	1549	Mar. 19, 2019	Mar. 18, 2020
SPEAG	Dosimetric E-Field Probe	EX3DV4	7396	May. 06, 2019	May. 05, 2020
SPEAG	Dosimetric E-Field Probe	ES3DV3	3337	Jul. 23, 2019	Jul. 22, 2020
Agilent	ENA Series Network Analyzer	E5071C	MY46317418	Jun. 11, 2019	Jun. 10, 2020
SPEAG	DAK	DAK-3.5	1226	NCR	NCR
SPEAG	ELI Phantom	QDOVA004AA	2058	NCR	NCR
AR	Amplifier	ZHL-42W	QA1118004	NCR	NCR
Agilent	Power Meter	N1914A	MY50001102	Nov. 06, 2019	Nov. 05, 2020
Agilent	Power Sensor	N8481H	MY51240001	Nov. 06, 2019	Nov. 05, 2020
R&S	Spectrum Analyzer	N9020A	MY51170037	Nov. 06, 2019	Nov. 05, 2020
Agilent	Signal Generation	N5182A	MY48180656	Nov. 06, 2019	Nov. 05, 2020
Worken	Directional Coupler	0110A05601O-10	COM5BNW1A2	Nov. 06, 2019	Nov. 05, 2020

Note:

1. The calibration certificate of DASY can be referred to appendix C of this report.
2. The dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
3. The Insertion Loss calibration of Dual Directional Coupler and Attenuator were characterized via the network analyzer and compensated during system check.
4. The dielectric probe kit was calibrated via the network analyzer, with the specified procedure (calibrated in pure water) and calibration kit (standard) short circuit, before the dielectric measurement. The specific procedure and calibration kit are provided by Agilent.
5. In system check we need to monitor the level on the power meter, and adjust the power amplifier level to have precise power level to the dipole; the measured SAR will be normalized to 1W input power according to the ratio of 1W to the input power to the dipole. For system check, the calibration of the power amplifier is deemed not critically required for correct measurement; the power meter is critical and we do have calibration for it

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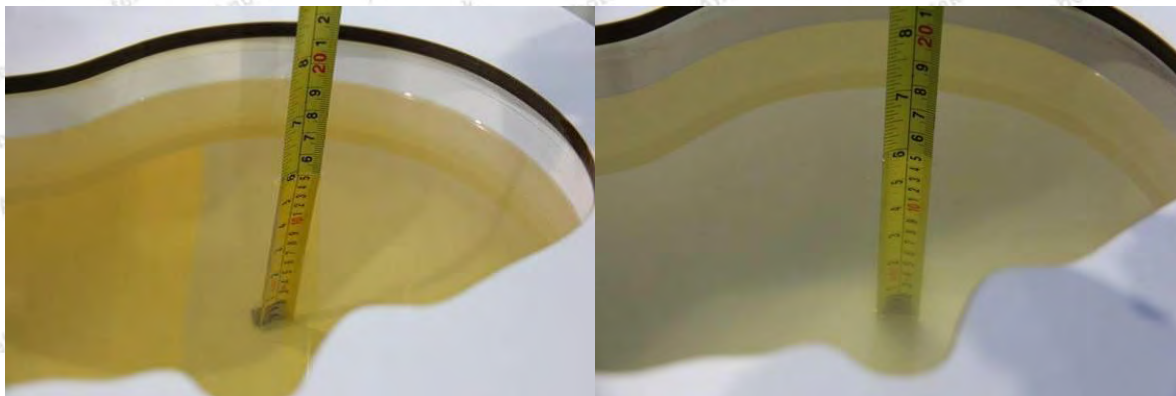
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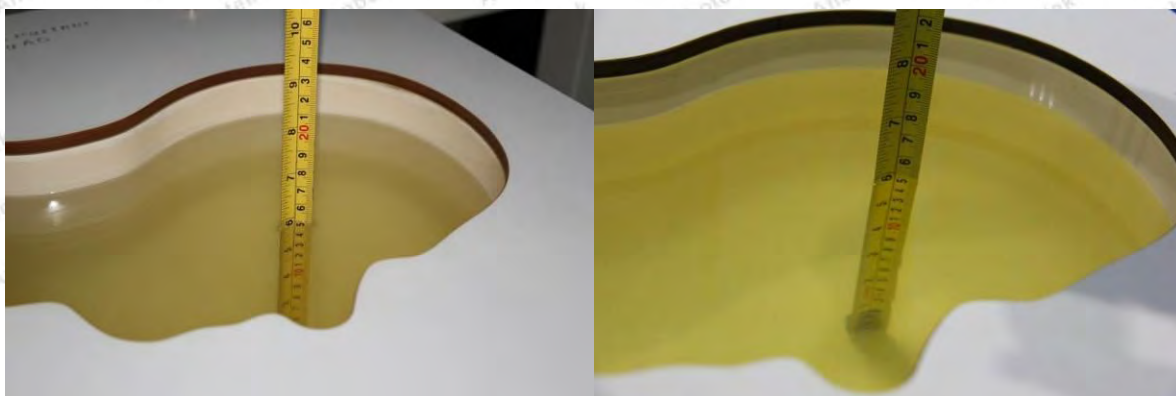
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6. Tissue Simulating Liquids

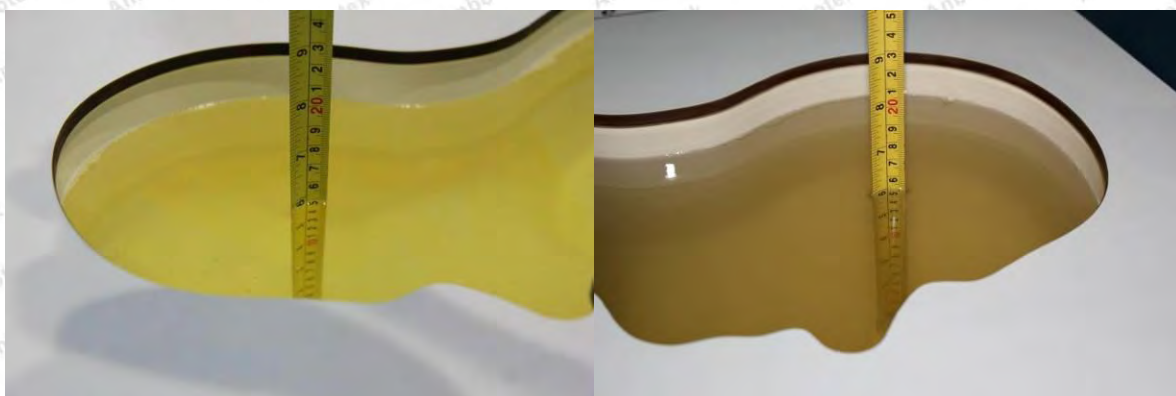
For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 6.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown as followed:



Liquid depth in the Head Phantom (750MHz) Liquid depth in the Head Phantom (835MHz)



Liquid depth in the Head Phantom (1750MHz) Liquid depth in the Head Phantom (1900MHz)



Liquid depth in the Head Phantom (2450MHz) Liquid depth in the Head Phantom (2600MHz)

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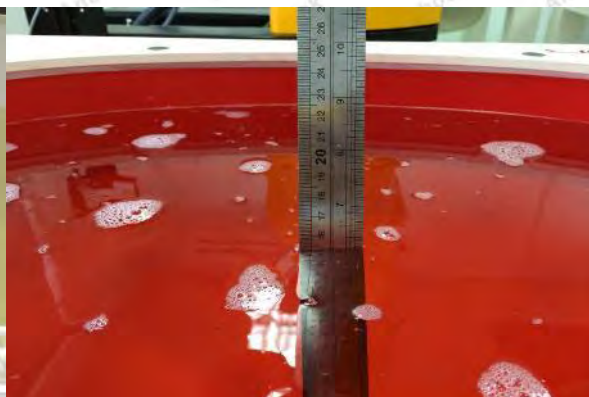
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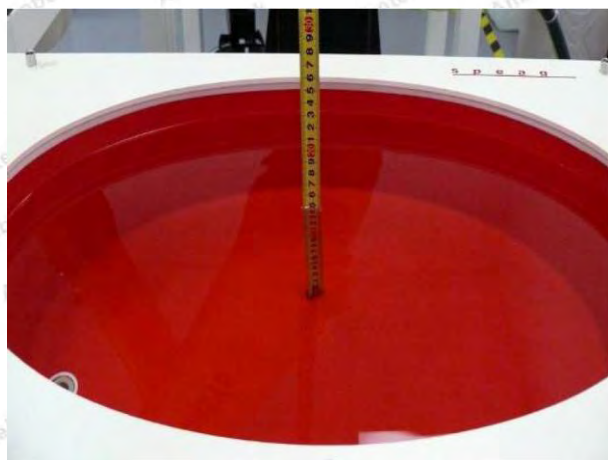
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Liquid depth in Body Phantom (5000MHz)



Liquid depth in Body Phantom (150MHz)



Liquid depth in Body Phantom (450MHz)

The following table gives the recipes for tissue simulating liquid.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (ϵ_r)
For Head								
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1750	55.2	0	0	0.3	0	44.5	1.37	40.1
1800,1900,2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
For Body								
900	50.8	48.2	0	0.9	0.1	0	0.97	55.2
1750	70.2	0	0	0.4	0	29.4	1.49	53.4
1800,1900,2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0	0	31.4	1.95	52.7

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INGREDIENT (% Weight)	2450MHz Body	5250MHz Body	5600MHz Body	5750MHz Body
Water	73.2	75.68	75.68	75.68
Salt	0.04	0.43	0.43	0.43
Sugar	0.00	0.00	0.00	0.00
HEC	0.00	0.00	0.00	0.00
Preventol	0.00	0.00	0.00	0.00
DGBE	26.7	4.42	4.42	4.42
Triton X-100	0.00	19.47	19.47	19.47

Composition of the Head Tissue Equivalent Matter

Mixture %	Frequency 150MHz
Water	38.36
Sugar	55.42
Salt	5.11
Preventol	0.10
Cellulose	1.07
Dielectric Parameters Target Value	f=150MHz $\epsilon_r=52.3$ $\sigma=0.76$

Composition of the Head Tissue Equivalent Matter

Mixture %	Frequency (Brain) 450MHz
Water	38.56
Sugar	56.32
Salt	3.95
Preventol	0.10
Cellulose	1.07
Dielectric Parameters Target Value	f=450MHz $\epsilon_r=43.5$ $\sigma=0.87$

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The following table shows the measuring results for simulating liquid.

Dielectric Performance of Tissue Simulating Liquid

Tissue Type	Measured Frequency (MHz)	Target Tissue		Measured Tissue				Liquid Temp.	Test Data
		σ	ϵ_r	σ	Dev. ($\pm 5\%$)	ϵ_r	Dev. ($\pm 5\%$)		
150H	150	0.76	52.3	0.74	-2.63%	51.22	-2.07%	22.2	12/6/2019
450H	450	0.87	43.5	0.88	1.15%	44.38	2.02%	22.2	12/6/2019
750H	750	0.89	41.9	0.87	-2.25%	41.87	-0.07%	22.2	12/1/2019
835H	900	0.90	41.5	0.95	5.56%	42.32	1.98%	22.3	12/2/2019
1750H	1750	1.37	40.1	1.39	1.46%	39.84	-0.65%	22.8	12/3/2019
1900H	1900	1.40	40.0	1.35	-3.57%	40.15	0.37%	22.6	12/3/2019
2450H	2450	1.80	39.2	1.76	-2.22%	38.93	-0.69%	22.4	12/4/2019
2600H	2600	1.96	39.0	1.89	-3.57%	38.55	-1.15%	22.3	12/4/2019
5200H	5200	4.66	36.0	4.52	-3.00%	35.89	-0.31%	22.2	12/5/2019
5800H	5750	5.27	35.3	5.24	-0.57%	35.21	-0.25%	22.2	12/5/2019
150B	150	0.80	61.9	0.76	-5.00%	61.79	-0.18%	22.2	12/6/2019
450B	450	0.94	56.7	0.96	2.13%	57.2	0.88%	22.2	12/6/2019
750B	750	0.96	55.5	0.94	-2.08%	55.18	-0.58%	22.4	12/1/2019
835B	900	0.97	55.2	0.95	-2.06%	54.78	-0.76%	22.6	12/2/2019
1750B	1750	1.49	53.4	1.46	-2.01%	54.19	1.48%	22.4	12/3/2019
1900B	1900	1.52	53.3	1.55	1.97%	53.32	0.04%	22.6	12/3/2019
2450B	2450	1.95	52.7	1.95	0.00%	50.69	-3.81%	22.7	12/4/2019
2600B	2600	2.16	52.5	2.20	1.85%	51.41	-2.08%	22.5	12/4/2019
5200B	5200	5.30	49.0	5.38	1.51%	47.90	-2.24%	22.2	12/5/2019
5800B	57500	6.00	48.2	5.82	-3.00%	49.04	1.74%	22.2	12/5/2019

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7. System Verification Procedures

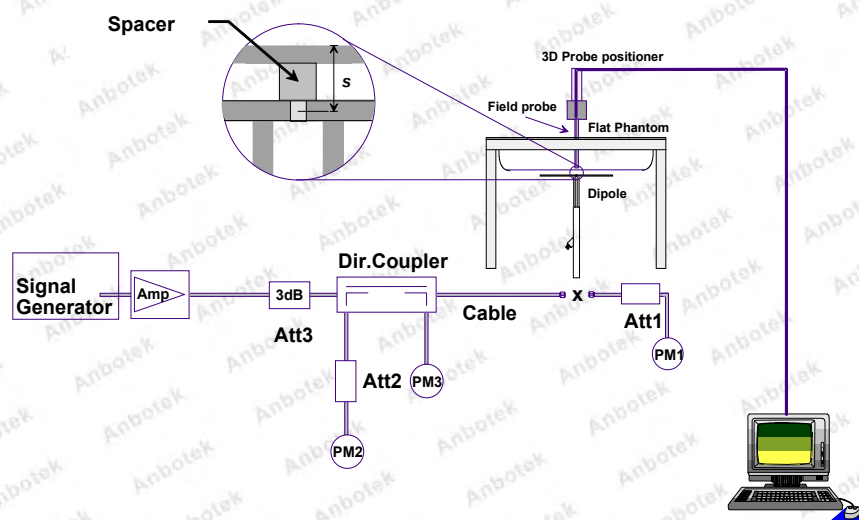
Each DASY system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the DASY software, enable the user to conduct the system performance check and system validation. System validation kit includes a dipole, tripod holder to fix it underneath the flat phantom and a corresponding distance holder.

➤ Purpose of System Performance check

The system performance check verifies that the system operates within its specifications. System and operator errors can be detected and corrected. It is recommended that the system performance check be performed prior to any usage of the system in order to guarantee reproducible results. The system performance check uses normal SAR measurements in a simplified setup with a well characterized source. This setup was selected to give a high sensitivity to all parameters that might fail or vary over time. The system check does not intend to replace the calibration of the components, but indicates situations where the system uncertainty is exceeded due to drift or failure.

➤ System Setup

In the simplified setup for system evaluation, the EUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave that comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The equipment setup is shown below:



System Setup for System Evaluation



Photo of Dipole Setup

➤ Validation Results

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

Frequency (MHz)	Liquid Type	Power fed onto reference dipole (mW)	Targeted SAR (W/kg)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Deviation (%)	Date
150H	Head	1000	3.71	3.79	3.79	-0.12%	12/6/2019
450H	Head	1000	4.48	1.16	4.64	-0.16%	12/6/2019
750H	Head	250	8.53	2.15	8.60	0.82%	12/1/2019
835H	Head	250	9.24	2.32	9.28	0.43%	12/2/2019
1750H	Head	250	36.9	9.24	36.96	0.16%	12/3/2019
1900H	Head	250	40.4	10.12	40.48	0.20%	12/3/2019
2450H	Head	250	52.4	13.08	52.32	-0.15%	12/4/2019
2600H	Head	250	57.2	14.27	57.08	-0.21%	12/4/2019
5200H	Head	100	80.6	8.04	80.40	-0.25%	12/5/2019
5800H	Head	100	78.4	7.86	78.60	0.26%	12/5/2019
150B	Body	1000	3.75	0.377	3.77	-1.05%	12/6/2019
450B	Body	250	4.47	1.13	4.52	0.13%	12/6/2019
750B	Body	250	8.78	2.22	8.88	1.14%	12/1/2019
835B	Body	250	9.57	2.41	9.64	0.73%	12/2/2019
1750B	Body	250	36.7	9.16	36.64	-0.16%	12/3/2019
1900B	Body	250	40.1	10.04	40.16	0.15%	12/3/2019

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2450B	Body	250	51.8	12.93	51.72	-0.15%	12/4/2019
2600B	Body	250	56.8	14.22	56.88	0.14%	12/4/2019
5200B	Body	100	73.6	7.37	73.70	0.14%	12/5/2019
5800B	Body	100	73.9	7.41	74.10	0.27%	12/5/2019

Note:

1. The graph results see system check.
2. Target Values used derive from the calibration certificate.

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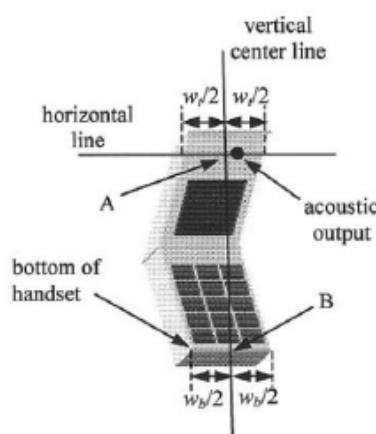
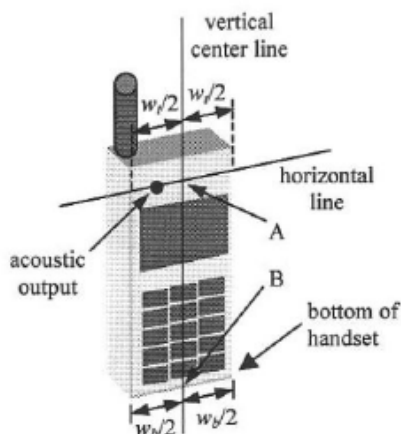
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8. EUT Testing Position

8.1. Define two imaginary lines on the handset

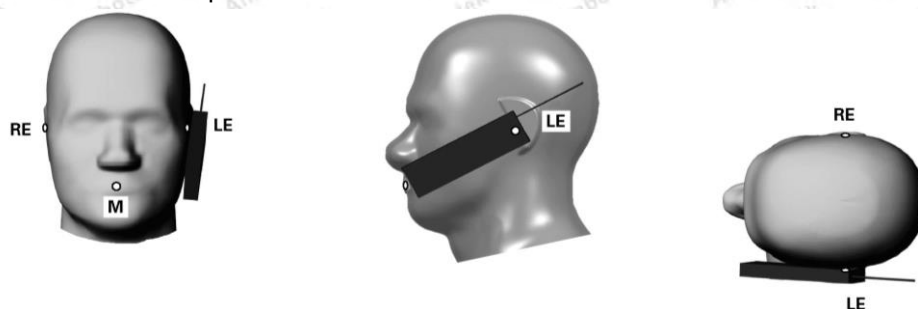
- The vertical centerline passes through two points on the front side of the handset - the midpoint of the width w_t of the handset at the level of the acoustic output, and the midpoint of the width w_b of the bottom of the handset.
- The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.
- The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.



Handset Vertical and Horizontal Reference Lines

8.2. Position for Cheek/Touch

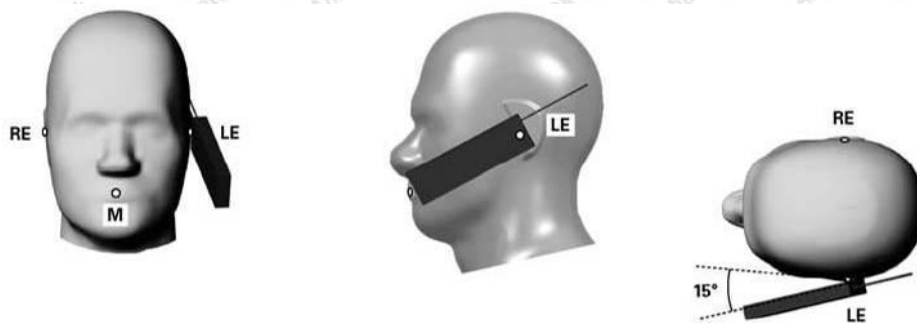
- To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the three ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.
- To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost.



Cheek Position

8.3. Position for Ear / 15° Tilt

- To position the device in the “cheek” position described above.
- While maintaining the device the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost (see Fig. 8.3).

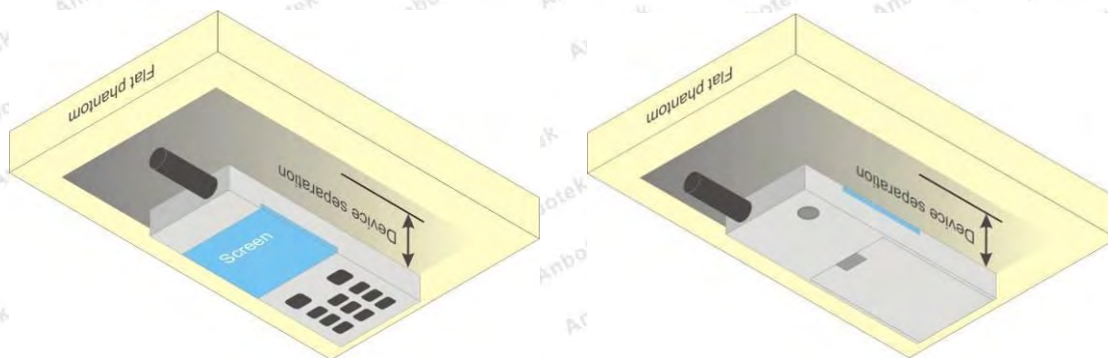


Tilt Position

8.4. Body Worn Position

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration. Per KDB 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 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 body-worn accessory, measured without a headset connected to the handset is $< 1.2 \text{ W/kg}$, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a handset attached to the handset.

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



Body Worn Position

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9. Measurement Procedures

The measurement procedures are as follows:

- (a) Use base station simulator (if applicable) or engineering software to transmit RF power continuously (continuous Tx) in the middle channel.
- (b) Keep EUT to radiate maximum output power or 100% duty factor (if applicable)
- (c) Measure output power through RF cable and power meter.
- (d) Place the EUT in the positions as setup photos demonstrates.
- (e) Set scan area, grid size and other setting on the DASY software.
- (f) Measure SAR transmitting at the middle channel for all applicable exposure positions.
- (g) Identify the exposure position and device configuration resulting the highest SAR
- (h) Measure SAR at the lowest and highest channels at the worst exposure position and device configuration if applicable.

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

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

9.1 Spatial Peak SAR Evaluation

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

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

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

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

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- (f) Calculation of the averaged SAR within masses of 1g and 10g

9.2 Power Reference Measurement

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

9.3 Area & Zoom Scan Procedures

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	$5 \pm 1 \text{ mm}$	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5 \text{ mm}$
Maximum probe angle from probe axis to phantom surface normal at the measurement location	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: $\Delta x_{\text{Area}}, \Delta y_{\text{Area}}$	$\leq 2 \text{ GHz: } \leq 15 \text{ mm}$ $2 - 3 \text{ GHz: } \leq 12 \text{ mm}$	$3 - 4 \text{ GHz: } \leq 12 \text{ mm}$ $4 - 6 \text{ GHz: } \leq 10 \text{ mm}$
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

9.4 Zoom Scan Procedures

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.

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

9.5 Volume Scan Procedures

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

9.6 Power Drift Monitoring

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the same settings. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

10. Conducted Power

<GSM Conducted power>

Conducted power measurement results (GSM850/1900)

Band GSM850	Burst Average Power (dBm)			Frame-Average Power (dBm)		
TX Channel	CH128	CH190	CH251	CH128	CH190	CH251
Frequency (MHz)	824.2	836.6	848.8	824.2	836.6	848.8
GSM (GMSK, 1 Tx slot)	31.84	31.75	31.63	22.84	22.75	22.63
GPRS (GMSK, 1 Tx slot) – CS1	31.56	31.54	31.63	22.56	22.54	22.63
GPRS (GMSK, 2 Tx slots) – CS1	29.75	29.95	29.87	23.75	23.95	23.87
GPRS (GMSK, 3 Tx slots) – CS1	28.32	28.44	28.45	24.06	24.18	24.19
GPRS (GMSK, 4 Tx slots) – CS1	26.61	26.75	26.94	23.61	23.75	23.94
EDGE (8PSK, 1 Tx slot) – MCS1	25.19	25.06	24.95	16.19	16.06	15.95
EDGE (8PSK, 2 Tx slots) – MCS1	25.11	24.94	24.85	19.11	18.94	18.85
EDGE (8PSK, 3 Tx slots) – MCS1	24.32	24.15	24.29	20.06	19.89	20.03
EDGE (8PSK, 4 Tx slots) – MCS1	23.69	23.46	23.57	20.69	20.46	20.57
Band GSM1900	Burst Average Power (dBm)			Frame-Average Power (dBm)		
TX Channel	CH512	CH661	CH810	CH512	CH661	CH810
Frequency (MHz)	1850.2	1880.0	1909.8	1850.2	1880.0	1909.8
GSM (GMSK, 1 Tx slot)	29.69	29.88	29.74	20.69	20.88	20.74
GPRS (GMSK, 1 Tx slot) – CS1	29.77	29.75	29.65	20.77	20.75	20.65
GPRS (GMSK, 2 Tx slots) – CS1	28.02	28.05	28.03	22.02	22.05	22.03
GPRS (GMSK, 3 Tx slots) – CS1	26.54	26.74	26.69	22.28	22.48	22.43
GPRS (GMSK, 4 Tx slots) – CS1	24.57	24.61	24.79	21.57	21.61	21.79
EDGE (8PSK, 1 Tx slot) – MCS1	24.29	24.35	24.12	15.29	15.35	15.12
EDGE (8PSK, 2 Tx slots) – MCS1	24.03	24.19	23.97	18.03	18.19	17.97
EDGE (8PSK, 3 Tx slots) – MCS1	23.91	24.04	23.85	19.65	19.78	19.59
EDGE (8PSK, 4 Tx slots) – MCS1	23.14	23.11	22.97	20.14	20.11	19.97

NOTES:

1) Division Factors

To average the power, the division factor is as follows:

1TX-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

2) According to the conducted power as above, the GPRS/EGPRS measurements are performed with 3Txslots for GPRS/EGPRS 850 and GPRS/EGPRS 1900.

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<WCDMA Conducted power>

Conducted power measurement results (WCDMA Band II/IV)

Band	WCDMA II		
TX Channel	CH9262	CH9400	CH9538
Frequency (MHz)	1852.4	1880	1907.6
RMC 12.2Kbps	22.03	21.35	21.79
HSDPA Subtest-1	20.85	20.15	20.36
HSDPA Subtest-2	20.72	20.54	20.46
HSDPA Subtest-3	20.81	20.86	20.60
HSDPA Subtest-4	20.40	20.57	20.77
HSUPA Subtest-1	20.70	20.55	20.26
HSUPA Subtest-2	20.48	20.67	20.57
HSUPA Subtest-3	20.70	20.36	20.60
HSUPA Subtest-4	20.87	20.42	20.89
HSUPA Subtest-5	20.75	20.81	20.70
HSPA+	20.72	20.68	20.82

Band	WCDMA V		
TX Channel	CH4132	CH4183	CH4233
Frequency (MHz)	826.4	836.6	846.6
RMC 12.2Kbps	22.89	22.91	22.96
HSDPA Subtest-1	21.74	21.81	21.88
HSDPA Subtest-2	20.68	20.42	20.70
HSDPA Subtest-3	20.76	20.59	20.65
HSDPA Subtest-4	20.79	20.44	20.59
HSUPA Subtest-1	21.58	21.88	21.95
HSUPA Subtest-2	20.59	20.68	20.48
HSUPA Subtest-3	20.36	20.47	20.74
HSUPA Subtest-4	20.55	20.39	20.46
HSUPA Subtest-5	20.61	20.72	20.39
HSPA+	20.64	20.76	20.76

Per KDB 941225 D01 v02, RMC 12.2kbps setting is used to evaluate SAR. If AMR 12.2kbps power is < 0.25dB higher than RMC 12.2kbps, SAR tests with AMR 12.2kbps can be excluded.

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<LTE Conducted Power>

Conducted Power Measurement Results (LTE FDD Band 2)

LTE-FDD Band 2				Actual output Power (dBm)		
Band-width	RBallocation	RBoffset	Modulation	Low	Middle	High
1.4 MHz				1850.7MHz	1880MHz	1909.3MHz
	1RB	High	QPSK	22.73	22.77	22.74
			16QAM	21.76	21.79	21.77
		Middle	QPSK	22.72	22.76	22.71
			16QAM	21.77	21.81	21.78
		Low	QPSK	22.74	22.73	22.71
			16QAM	21.79	21.81	21.79
	3RB	High	QPSK	22.61	22.66	22.61
			16QAM	21.53	21.55	21.52
		Middle	QPSK	22.62	22.64	22.62
			16QAM	21.55	21.58	21.53
		Low	QPSK	22.61	22.67	22.64
16QAM			21.53	21.57	21.54	
6RB	/	QPSK	21.78	21.83	21.77	
		16QAM	20.62	20.66	20.63	
3 MHz				1851.5MHz	1880MHz	1908.5MHz
	1RB	High	QPSK	22.71	22.74	22.72
			16QAM	21.80	21.82	21.80
		Middle	QPSK	22.69	22.74	22.70
			16QAM	21.81	21.85	21.81
		Low	QPSK	22.71	22.75	22.72
			16QAM	21.79	21.82	21.79
	8RB	High	QPSK	22.06	22.09	22.05
			16QAM	20.91	20.94	20.92
		Middle	QPSK	22.01	22.02	22.02
			16QAM	20.90	20.94	20.90
		Low	QPSK	22.02	22.05	22.03
			16QAM	20.92	20.94	20.94
	15RB	/	QPSK	21.98	22.03	22.00
16QAM			20.89	20.95	20.88	
5 MHz				1852.5MHz	1880MHz	1907.5MHz
	1RB	High	QPSK	22.69	22.72	22.70
			16QAM	21.79	21.82	21.80
		Middle	QPSK	22.71	22.75	22.72
			16QAM	21.81	21.85	21.80
		Low	QPSK	22.70	22.72	22.69

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			16QAM	21.79	21.82	21.80
	12RB	High	QPSK	22.07	22.12	22.05
			16QAM	20.96	21.03	20.97
		Middle	QPSK	22.07	22.11	22.08
			16QAM	20.97	21.01	20.96
		Low	QPSK	22.06	22.09	22.07
			16QAM	20.99	21.02	21.00
	25RB		QPSK	22.04	22.08	22.05
16QAM			20.93	20.96	20.93	
10 MHz				1855MHz	1880MHz	1905MHz
	1RB	High	QPSK	22.70	22.73	22.70
			16QAM	21.78	21.81	21.79
		Middle	QPSK	22.71	22.75	22.71
			16QAM	21.80	21.84	21.79
		Low	QPSK	22.71	22.75	22.71
			16QAM	21.80	21.82	21.80
	25RB	High	QPSK	22.03	22.08	22.05
			16QAM	20.96	21.00	20.97
		Middle	QPSK	22.03	22.08	22.05
			16QAM	21.00	21.02	20.99
		Low	QPSK	22.02	22.06	22.03
			16QAM	20.98	21.01	20.99
	50RB	/	QPSK	22.05	22.08	22.04
			16QAM	20.94	20.97	20.93
	15 MHz				1857.5MHz	1880MHz
1RB		High	QPSK	22.73	22.76	22.74
			16QAM	21.79	21.82	21.80
		Middle	QPSK	22.70	22.76	22.70
			16QAM	21.80	21.85	21.80
		Low	QPSK	22.72	22.75	22.73
			16QAM	21.81	21.84	21.82
36RB		High	QPSK	22.05	22.09	22.06
			16QAM	20.96	20.98	20.96
		Middle	QPSK	22.03	22.08	22.02
			16QAM	20.98	21.01	20.97
		Low	QPSK	22.06	22.11	22.08
			16QAM	20.94	20.98	20.95
75RB		/	QPSK	21.96	22.00	21.97
	16QAM		20.89	20.94	20.90	
20 MHz				1860MHz	1880MHz	1900MHz
	1RB	High	QPSK	22.69	22.75	22.70

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		Middle	16QAM	21.79	21.84	21.81
			QPSK	22.72	22.76	22.73
		Low	16QAM	21.82	21.84	21.80
			QPSK	22.74	22.77	22.75
	50RB	High	16QAM	21.82	21.85	21.83
			QPSK	22.06	22.12	21.98
		Middle	16QAM	20.94	21.00	20.95
			QPSK	22.05	22.09	22.06
		Low	16QAM	21.00	21.04	21.01
			QPSK	22.06	22.09	22.07
	100RB	/	QPSK	21.99	22.05	21.98
			16QAM	20.88	20.94	20.87

Conducted Power Measurement Results (LTE FDD Band 4)

LTE-FDD Band 4				Actual output Power (dBm)		
Band-width	RBallocation	RBoffset	Modulation	Low	Middle	High
1.4 MHz				1710.7MHz	1732.5MHz	1754.3MHz
	1RB	High	QPSK	22.59	22.65	22.57
			16QAM	21.02	21.07	21.00
		Middle	QPSK	22.58	22.64	22.54
			16QAM	21.03	21.09	21.01
		Low	QPSK	22.60	22.61	22.54
			16QAM	21.05	21.09	21.02
	3RB	High	QPSK	22.47	22.54	22.44
			16QAM	20.79	20.83	20.75
		Middle	QPSK	22.48	22.52	22.45
			16QAM	20.81	20.86	20.76
		Low	QPSK	22.47	22.55	22.47
			16QAM	20.79	20.85	20.77
	6RB	/	QPSK	21.64	21.71	21.60
			16QAM	19.88	19.94	19.86
3 MHz				1711.5MHz	1732.5MHz	1753.5MHz
	1RB	High	QPSK	22.57	22.62	22.55
			16QAM	21.06	21.10	21.03
		Middle	QPSK	22.55	22.62	22.53
			16QAM	21.07	21.13	21.04
		Low	QPSK	22.57	22.63	22.55
			16QAM	21.05	21.10	21.02
	8RB	High	QPSK	21.92	21.97	21.88
			16QAM	20.17	20.22	20.15

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		Middle	QPSK	21.87	21.90	21.85
			16QAM	20.16	20.22	20.13
		Low	QPSK	21.88	21.93	21.86
			16QAM	20.18	20.22	20.17
	15RB	/	QPSK	21.84	21.91	21.83
16QAM			20.15	20.23	20.11	
5 MHz				1712.5MHz	1732.5MHz	1752.5MHz
	1RB	High	QPSK	22.55	22.60	22.53
			16QAM	21.05	21.10	21.03
		Middle	QPSK	22.57	22.63	22.55
			16QAM	21.07	21.13	21.03
		Low	QPSK	22.56	22.60	22.52
			16QAM	21.05	21.10	21.03
	12RB	High	QPSK	21.93	22.00	21.88
			16QAM	20.22	20.31	20.20
		Middle	QPSK	21.93	21.99	21.91
			16QAM	20.23	20.29	20.19
		Low	QPSK	21.92	21.97	21.90
			16QAM	20.25	20.30	20.23
	25RB	/	QPSK	21.90	21.96	21.88
			16QAM	20.19	20.24	20.16
10 MHz				1715MHz	1732.5MHz	1750MHz
	1RB	High	QPSK	22.56	22.61	22.53
			16QAM	21.04	21.09	21.02
		Middle	QPSK	22.57	22.63	22.54
			16QAM	21.06	21.12	21.02
		Low	QPSK	22.57	22.63	22.54
			16QAM	21.06	21.10	21.03
	25RB	High	QPSK	21.89	21.96	21.88
			16QAM	20.22	20.28	20.20
		Middle	QPSK	21.89	21.96	21.88
			16QAM	20.26	20.30	20.22
		Low	QPSK	21.88	21.94	21.86
			16QAM	20.24	20.29	20.22
	50RB	/	QPSK	21.91	21.96	21.87
			16QAM	20.20	20.25	20.16
15 MHz				1717.5MHz	1732.5MHz	1747.5MHz
	1RB	High	QPSK	22.59	22.64	22.57
			16QAM	21.05	21.10	21.03
		Middle	QPSK	22.56	22.64	22.53
			16QAM	21.06	21.13	21.03

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		Low	QPSK	22.58	22.63	22.56
			16QAM	21.07	21.12	21.05
	36RB	High	QPSK	21.91	21.97	21.89
			16QAM	20.22	20.26	20.19
		Middle	QPSK	21.89	21.96	21.85
			16QAM	20.24	20.29	20.20
		Low	QPSK	21.92	21.99	21.91
			16QAM	20.20	20.26	20.18
	75RB	/	QPSK	21.82	21.88	21.80
			16QAM	20.15	20.22	20.13
20 MHz				1720MHz	1732.5MHz	1745MHz
	1RB	High	QPSK	22.55	22.63	22.53
			16QAM	21.05	21.12	21.04
		Middle	QPSK	22.58	22.64	22.56
			16QAM	21.08	21.12	21.03
		Low	QPSK	22.60	22.65	22.58
			16QAM	21.08	21.13	21.06
	50RB	High	QPSK	21.92	22.00	21.81
			16QAM	20.20	20.28	20.18
		Middle	QPSK	21.91	21.97	21.89
			16QAM	20.26	20.32	20.24
		Low	QPSK	21.92	21.97	21.90
			16QAM	20.27	20.32	20.25
	100RB	/	QPSK	21.85	21.93	21.81
			16QAM	20.14	20.22	20.10

Conducted Power Measurement Results (LTE FDD Band 5)

LTE-FDD Band 5				Actual output Power (dBm)		
Band-width	RB allocation	RB offset	Modulation	Low	Middle	High
1.4 MHz	1RB	High	QPSK	824.7MHz	836.5MHz	848.3MHz
			16QAM	22.69	22.72	22.67
		Middle	QPSK	21.9	21.92	21.85
			16QAM	22.71	22.73	22.7
		Low	QPSK	21.9	21.94	21.89
			16QAM	22.68	22.73	22.71
	3RB	High	QPSK	21.89	21.9	21.88
			16QAM	22.52	22.51	22.49
		Middle	QPSK	21.59	21.61	21.62
			16QAM	22.52	22.51	22.49
		Low	QPSK	21.59	21.61	21.62
			16QAM	22.49	22.51	22.5

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			16QAM	21.65	21.66	21.61
	6RB	/	QPSK	21.51	21.55	21.51
			16QAM	20.64	20.69	20.62
3 MHz				825.5MHz	836.5MHz	847.5MHz
	1RB	High	QPSK	22.68	22.72	22.67
			16QAM	21.9	21.9	21.89
		Middle	QPSK	22.71	22.75	22.7
			16QAM	21.89	21.91	21.9
		Low	QPSK	22.67	22.74	22.7
			16QAM	21.89	21.93	21.87
	8RB	High	QPSK	21.54	21.53	21.52
			16QAM	20.62	20.63	20.66
		Middle	QPSK	21.52	21.54	21.52
			16QAM	20.66	20.65	20.65
		Low	QPSK	21.51	21.56	21.5
			16QAM	20.6	20.67	20.59
	15RB	/	QPSK	21.53	21.52	21.5
			16QAM	20.62	20.64	20.6
5 MHz				826.5MHz	836.5MHz	846.5MHz
	1RB	High	QPSK	22.64	22.66	22.66
			16QAM	21.88	21.88	21.87
		Middle	QPSK	22.7	22.72	22.67
			16QAM	21.88	21.9	21.91
		Low	QPSK	22.7	22.73	22.71
			16QAM	21.91	21.9	21.91
	12RB	High	QPSK	21.58	21.56	21.57
			16QAM	20.68	20.65	20.69
		Middle	QPSK	21.59	21.61	21.56
			16QAM	20.63	20.67	20.68
		Low	QPSK	21.62	21.64	21.59
			16QAM	20.67	20.68	20.62
	25RB	/	QPSK	21.58	21.57	21.52
			16QAM	20.68	20.69	20.65
10 MHz				829MHz	836.5MHz	844MHz
	1RB	High	QPSK	22.72	22.75	22.68
			16QAM	21.93	21.94	21.91
		Middle	QPSK	22.72	22.76	22.72
			16QAM	21.9	21.93	21.88
		Low	QPSK	22.71	22.73	22.7
			16QAM	21.9	21.94	21.89
	25RB	High	QPSK	21.61	21.62	21.57

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		Middle	16QAM	20.62	20.64	20.6
			QPSK	21.59	21.61	21.57
			16QAM	20.66	20.71	20.66
		Low	QPSK	21.58	21.62	21.58
			16QAM	20.69	20.66	20.64
	50RB	/	QPSK	21.63	21.59	21.52
			16QAM	20.69	20.71	20.66

Conducted Power Measurement Results (LTE FDD Band 7)

LTE-FDD Band 7				Actual output Power (dBm)		
Band-width	RB allocation	RB offset	Modulation	Low	Middle	High
5 MHz	1RB	High	QPSK	22.49	22.56	22.51
			16QAM	21.48	21.52	21.47
		Middle	QPSK	22.51	22.56	22.50
			16QAM	21.53	21.58	21.54
		Low	QPSK	22.51	22.51	22.52
			16QAM	21.52	21.54	21.54
	12RB	High	QPSK	21.37	21.39	21.33
			16QAM	20.18	20.23	20.17
		Middle	QPSK	21.40	21.44	21.40
			16QAM	20.19	20.25	20.17
		Low	QPSK	21.40	21.41	21.33
			16QAM	20.27	20.28	20.15
	25RB		QPSK	21.39	21.47	21.35
			16QAM	20.24	20.28	20.20
10 MHz	1RB	High	QPSK	22.55	22.57	22.49
			16QAM	21.52	21.56	21.51
		Middle	QPSK	22.55	22.53	22.46
			16QAM	21.56	21.57	21.51
		Low	QPSK	22.50	22.50	22.47
			16QAM	21.53	21.55	21.52
	25RB	High	QPSK	21.35	21.39	21.36
			16QAM	20.37	20.38	20.34
		Middle	QPSK	21.42	21.42	21.36
			16QAM	20.43	20.44	20.41
		Low	QPSK	21.41	21.45	21.32
			16QAM	20.37	20.40	20.38
	50RB		QPSK	21.41	21.41	21.35
			16QAM	20.39	20.42	20.37

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15 MHz	1RB	High	QPSK	2507.5MHz	2535MHz	2562.5MHz
			16QAM	22.50	22.55	22.49
		Middle	QPSK	22.48	22.58	22.51
			16QAM	21.54	21.58	21.54
		Low	QPSK	22.53	22.55	22.49
			16QAM	21.51	21.55	21.54
	36RB	High	QPSK	21.33	21.42	21.35
			16QAM	20.38	20.42	20.35
		Middle	QPSK	21.37	21.43	21.37
			16QAM	20.39	20.44	20.36
		Low	QPSK	21.38	21.38	21.35
			16QAM	20.45	20.47	20.34
	75RB		QPSK	21.39	21.45	21.39
			16QAM	20.42	20.44	20.36
				2510MHz	2535MHz	2560MHz
			QPSK	22.51	22.59	22.52
	1RB	High	16QAM	21.55	21.57	21.52
			QPSK	22.53	22.61	22.57
		Middle	16QAM	21.54	21.60	21.55
			QPSK	22.54	22.59	22.54
		Low	16QAM	21.52	21.55	21.51
			QPSK	21.57	21.60	21.55
		High	16QAM	20.39	20.45	20.36
			QPSK	21.39	21.44	21.39
	50RB	Middle	16QAM	20.41	20.45	20.38
			QPSK	21.37	21.40	21.41
		Low	16QAM	20.38	20.45	20.38
			QPSK	21.42	21.48	21.41
	100RB		16QAM	20.41	20.47	20.50

Conducted Power Measurement Results (LTE FDD Band 12)

LTE-FDD Band 12				Actual output Power (dBm)		
Band-width	RB allocation	RB offset	Modulation	Low	Middle	High
1.4 MHz				699.7MHz	707.5MHz	715.3MHz
			QPSK	22.77	22.65	22.78
	1RB	High	16QAM	21.93	21.67	21.73
			QPSK	22.9	22.61	22.95
		Middle	16QAM	21.99	21.66	21.86
			QPSK	22.84	22.59	22.82
		Low	16QAM	21.95	21.57	21.72

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3 MHz	3RB	High	QPSK	22.73	22.69	22.8	
			16QAM	21.58	21.79	21.56	
		Middle	QPSK	22.89	22.73	22.93	
			16QAM	21.67	21.8	21.68	
		Low	QPSK	22.88	22.74	22.79	
			16QAM	21.6	21.81	21.65	
	6RB	/	QPSK	21.69	21.77	21.76	
			16QAM	20.81	20.93	20.83	
5 MHz				700.5MHz	707.5MHz	714.5MHz	
	1RB	High	QPSK	22.67	22.49	22.73	
			16QAM	21.62	21.74	21.64	
		Middle	QPSK	22.71	22.62	22.75	
			16QAM	21.56	21.65	21.72	
		Low	QPSK	22.74	22.67	22.82	
			16QAM	21.76	21.72	21.83	
	8RB	High	QPSK	21.74	21.81	21.68	
			16QAM	20.65	20.76	20.92	
		Middle	QPSK	21.63	21.68	21.72	
			16QAM	20.64	20.69	20.96	
		Low	QPSK	21.56	21.67	21.74	
			16QAM	20.6	20.79	20.97	
	15RB	/	QPSK	21.64	21.68	21.74	
			16QAM	20.63	20.66	20.83	
	10 MHz				701.5MHz	707.5MHz	713.5MHz
		1RB	High	QPSK	22.79	22.75	22.7
				16QAM	21.65	21.78	21.72
Middle			QPSK	22.68	22.67	22.72	
			16QAM	21.44	21.75	21.85	
Low			QPSK	22.55	22.83	22.75	
			16QAM	21.49	21.97	21.87	
12RB		High	QPSK	21.75	21.63	21.68	
			16QAM	20.74	20.59	20.76	
		Middle	QPSK	21.67	21.82	21.65	
			16QAM	20.76	20.7	20.95	
		Low	QPSK	21.64	21.68	21.68	
			16QAM	20.82	20.75	20.91	
25RB		/	QPSK	21.61	21.72	21.69	
			16QAM	20.6	20.77	20.81	
3 MHz					704MHz	707.5MHz	711MHz
		1RB	High	QPSK	22.79	22.76	22.72
				16QAM	21.61	21.78	21.72

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		Middle	QPSK	22.87	22.70	22.51
			16QAM	21.81	21.94	21.67
		Low	QPSK	22.81	22.61	22.71
			16QAM	21.75	21.77	21.78
	25RB	High	QPSK	21.63	21.68	21.72
			16QAM	20.69	20.78	20.85
		Middle	QPSK	21.78	21.68	21.59
			16QAM	20.76	20.67	20.77
		Low	QPSK	21.71	21.70	21.67
			16QAM	20.68	20.76	20.82
	50RB	/	QPSK	21.64	21.49	21.71
			16QAM	20.82	20.56	20.77

Conducted Power Measurement Results (LTE FDD Band 17)

LTE-FDD Band 17				Actual output Power (dBm)		
Band-width	RBallocation	RBoffset	Modulation	High	Middle	Low
5 MHz				706.5MHz	710MHz	713.5MHz
	1RB	High	QPSK	22.55	22.55	22.53
			16QAM	21.61	21.64	21.6
		Middle	QPSK	22.51	22.53	22.54
			16QAM	21.58	21.62	21.6
		Low	QPSK	22.51	22.54	22.54
			16QAM	21.59	21.62	21.58
	12RB	High	QPSK	21.55	21.53	21.54
			16QAM	20.76	20.77	20.76
		Middle	QPSK	21.53	21.55	21.53
			16QAM	20.74	20.75	20.73
		Low	QPSK	21.53	21.56	21.53
			16QAM	20.72	20.76	20.75
	25RB	/	QPSK	21.5	21.51	21.5
			16QAM	20.71	20.72	20.71
10 MHz				709MHz	710MHz	711MHz
	1RB	High	QPSK	22.56	22.6	22.53
			16QAM	21.64	21.66	21.63
		Middle	QPSK	22.52	22.54	22.53
			16QAM	21.62	21.64	21.61
		Low	QPSK	22.54	22.56	22.55
			16QAM	21.61	21.64	21.6
	25RB	High	QPSK	21.59	21.65	21.6
			16QAM	20.77	20.78	20.77
		Middle	QPSK	21.54	21.56	21.55
16QAM			20.73	20.77	20.78	

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		Low	QPSK	21.54	21.55	21.55
			16QAM	20.73	20.72	20.76
	50RB	/	QPSK	21.51	21.54	21.54
			16QAM	20.71	20.75	20.76

Conducted Power Measurement Results (LTE FDD Band 26)

LTE-FDD Band 26				Actual output Power (dBm)		
Band-width	RBallocation	RBoffset	Modulation	Low	Middle	High
1.4 MHz				814.7MHz	831.5MHz	848.3MHz
	1RB	High	QPSK	22.67	22.77	22.65
			16QAM	21.70	21.79	21.68
		Middle	QPSK	22.66	22.76	22.62
			16QAM	21.71	21.81	21.69
		Low	QPSK	22.68	22.73	22.62
			16QAM	21.73	21.81	21.70
	3RB	High	QPSK	22.55	22.66	22.52
			16QAM	21.47	21.55	21.43
		Middle	QPSK	22.56	22.64	22.53
			16QAM	21.49	21.58	21.44
		Low	QPSK	22.55	22.67	22.55
			16QAM	21.47	21.57	21.45
	6RB	/	QPSK	21.72	21.83	21.68
			16QAM	20.56	20.66	20.54
3 MHz				815.5MHz	831.5MHz	847.5MHz
	1RB	High	QPSK	22.65	22.74	22.63
			16QAM	21.74	21.82	21.71
		Middle	QPSK	22.63	22.74	22.61
			16QAM	21.75	21.85	21.72
		Low	QPSK	22.65	22.75	22.63
			16QAM	21.73	21.82	21.70
	8RB	High	QPSK	21.72	21.81	21.67
			16QAM	20.57	20.66	20.54
		Middle	QPSK	21.67	21.74	21.64
			16QAM	20.56	20.66	20.52
		Low	QPSK	21.68	21.77	21.65
			16QAM	20.58	20.66	20.56
	15RB	/	QPSK	21.64	21.75	21.62
			16QAM	20.55	20.67	20.50
5 MHz				816.5MHz	831.5MHz	846.5MHz
	1RB	High	QPSK	22.63	22.72	22.61
			16QAM	21.73	21.82	21.71
		Middle	QPSK	22.65	22.75	22.63

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		Low	16QAM	21.75	21.85	21.71
			QPSK	22.64	22.72	22.60
	12RB	High	16QAM	21.73	21.82	21.71
			QPSK	21.73	21.84	21.67
		Middle	16QAM	20.62	20.75	20.59
			QPSK	21.73	21.83	21.70
		Low	16QAM	20.63	20.73	20.58
			QPSK	21.72	21.81	21.69
	25RB		16QAM	20.65	20.74	20.62
			QPSK	21.70	21.80	21.67

10 MHz	1RB	High	QPSK	22.64	22.73	22.61
			16QAM	21.72	21.81	21.70
		Middle	QPSK	22.65	22.75	22.62
			16QAM	21.74	21.84	21.70
		Low	QPSK	22.65	22.75	22.62
			16QAM	21.74	21.82	21.71
	25RB	High	QPSK	21.69	21.80	21.67
			16QAM	20.62	20.72	20.59
		Middle	QPSK	21.69	21.80	21.67
			16QAM	20.66	20.74	20.61
		Low	QPSK	21.68	21.78	21.65
			16QAM	20.64	20.73	20.61
	50RB	/	QPSK	21.71	21.80	21.66
			16QAM	20.60	20.69	20.55

15 MHz				822.5MHz _Z	831.5MHz	841.5MHz
	1RB	High	QPSK	22.67	22.76	22.65
			16QAM	21.73	21.82	21.71
		Middle	QPSK	22.64	22.76	22.61
			16QAM	21.74	21.85	21.71
		Low	QPSK	22.66	22.75	22.64
			16QAM	21.75	21.84	21.73
	36RB	High	QPSK	21.71	21.81	21.68
			16QAM	20.62	20.70	20.58
		Middle	QPSK	21.69	21.80	21.64
			16QAM	20.64	20.73	20.59
		Low	QPSK	21.72	21.83	21.70
			16QAM	20.60	20.70	20.57

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	75RB	/	QPSK	21.62	21.72	21.59
			16QAM	20.55	20.66	20.52

Conducted Power Measurement Results (LTE TDD Band 38)

LTE-TDD Band 38				Actual output Power (dBm)		
Band-width	RB allocation	RB offset	Modulation	Low	Middle	High
5 MHz	1RB	High	QPSK	2572.5	2595	2617.5
			16QAM	22.62	22.69	22.59
		Middle	QPSK	21.57	21.64	21.54
			16QAM	22.64	22.72	22.61
		Low	QPSK	21.59	21.67	21.54
			16QAM	22.63	22.69	22.58
	12RB	High	QPSK	21.57	21.64	21.54
			16QAM	21.72	21.81	21.65
		Middle	QPSK	20.46	20.57	20.42
			16QAM	21.72	21.8	21.68
		Low	QPSK	20.47	20.55	20.41
			16QAM	21.71	21.78	21.67
	25RB		QPSK	20.49	20.56	20.45
			16QAM	21.69	21.77	21.65
10 MHz	1RB	High	QPSK	2575	2595	2615
			16QAM	22.62	22.69	22.59
		Middle	QPSK	21.57	21.64	21.54
			16QAM	22.64	22.72	22.61
		Low	QPSK	21.59	21.67	21.54
			16QAM	22.63	22.69	22.58
	25RB	High	QPSK	21.57	21.64	21.54
			16QAM	21.72	21.81	21.65
		Middle	QPSK	20.46	20.57	20.42
			16QAM	21.72	21.8	21.68
		Low	QPSK	20.47	20.55	20.41
			16QAM	21.71	21.78	21.67
	50RB		QPSK	20.49	20.56	20.45
			16QAM	21.69	21.77	21.65
15 MHz	1RB	High	QPSK	2577.5	2595	2612.5
			16QAM	22.66	22.73	22.63
		Middle	QPSK	21.57	21.64	21.54
			16QAM	22.63	22.73	22.59
		Low	QPSK	21.58	21.67	21.54
			16QAM			

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20 MHz	36RB	Low	QPSK	22.65	22.72	22.62
			16QAM	21.59	21.66	21.56
		High	QPSK	21.7	21.78	21.66
			16QAM	20.46	20.52	20.41
		Middle	QPSK	21.68	21.77	21.62
			16QAM	20.48	20.55	20.42
	75RB	Low	QPSK	21.71	21.8	21.68
			16QAM	20.44	20.52	20.4
		High	QPSK	21.61	21.69	21.57
			16QAM	20.39	20.48	20.35
		Middle	QPSK	21.68	21.77	21.62
			16QAM	20.48	20.55	20.42
	1RB	High	QPSK	22.62	22.72	22.69
			16QAM	21.57	21.66	21.65
		Middle	QPSK	22.65	22.73	22.72
			16QAM	21.6	21.66	21.64
		Low	QPSK	22.67	22.74	22.74
			16QAM	21.6	21.67	21.67
		High	QPSK	21.71	21.81	21.68
			16QAM	20.44	20.54	20.5
		Middle	QPSK	21.7	21.78	21.76
			16QAM	20.5	20.58	20.56
		Low	QPSK	21.71	21.78	21.77
			16QAM	20.51	20.58	20.57
	100RB	High	QPSK	21.64	21.74	21.68
			16QAM	20.38	20.48	20.42

Conducted Power Measurement Results (LTE TDD Band 41)

LTE-TDD Band 41				Actual output Power (dBm)				
BW	RB allocation	RB offset	Modulation	Low	Middle1	Middle2	Middle3	High
5 MHz	1RB		QPSK	2498.5 MHz	2545.8 MHz	2593 MHz	2640.3 MHz	2687.5 MHz
				22.51	22.45	22.54	22.52	22.54
			16QAM	21.5	21.39	21.45	21.43	21.45
				22.53	22.47	22.54	22.51	22.53
			16QAM	21.49	21.44	21.51	21.5	21.52
				22.54	22.47	22.49	22.53	22.55
			16QAM	21.47	21.43	21.47	21.5	21.52
				21.63	21.61	21.65	21.63	21.36
			16QAM	20.37	20.37	20.44	20.42	20.35
				21.62	21.64	21.7	21.7	21.63
			16QAM	20.39	20.38	20.46	20.42	20.35
				20.39	20.38	20.46	20.42	20.35

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		Low	QPSK	21.6	21.64	21.67	21.63	21.56
			16QAM	20.36	20.46	20.49	20.4	20.33
	25RB		QPSK	21.65	21.63	21.73	21.65	21.58
			16QAM	20.39	20.43	20.49	20.45	20.38
10 MHz				2501 MHz	2547 MHz	2593 MHz	2639 MHz	2685 MHz
	1RB	High	QPSK	22.58	22.53	22.55	22.5	22.52
			16QAM	21.5	21.45	21.49	21.47	21.49
		Middle	QPSK	22.58	22.53	22.51	22.47	22.49
			16QAM	21.54	21.49	21.5	21.47	21.49
		Low	QPSK	22.53	22.48	22.48	22.48	22.5
			16QAM	21.51	21.46	21.48	21.48	21.5
	25RB	High	QPSK	21.58	21.61	21.65	21.66	21.59
			16QAM	20.35	20.38	20.39	20.39	20.32
		Middle	QPSK	21.65	21.68	21.68	21.66	21.59
			16QAM	20.41	20.44	20.45	20.46	20.39
		Low	QPSK	21.64	21.67	21.71	21.62	21.55
			16QAM	20.35	20.38	20.41	20.43	20.36
	50RB		QPSK	21.64	21.67	21.67	21.65	21.58
			16QAM	20.37	20.4	20.43	20.42	20.35
	15 MHz				2503.5 MHz	2548.3 MHz	2593 MHz	2637.8 MHz
1RB		High	QPSK	22.53	22.48	22.53	22.5	22.52
			16QAM	21.5	21.45	21.48	21.48	21.5
		Middle	QPSK	22.51	22.46	22.56	22.52	22.54
			16QAM	21.52	21.47	21.51	21.5	21.52
		Low	QPSK	22.56	22.51	22.53	22.5	22.52
			16QAM	21.49	21.44	21.48	21.5	21.52
36RB		High	QPSK	21.56	21.59	21.68	21.65	21.58
			16QAM	20.36	20.39	20.43	20.4	20.33
		Middle	QPSK	21.6	21.63	21.69	21.67	21.6
			16QAM	20.37	20.4	20.45	20.41	20.34
		Low	QPSK	21.61	21.64	21.64	21.65	21.58
			16QAM	20.43	20.46	20.48	20.39	20.32
75RB			QPSK	21.62	21.65	21.71	21.69	21.62
			16QAM	20.4	20.43	20.45	20.41	20.34
20 MHz					2506 MHz	2549.5 MHz	2593 MHz	2636.5 MHz
	1RB	High	QPSK	22.53	22.49	22.57	22.53	22.52
			16QAM	21.5	21.48	21.5	21.48	21.5

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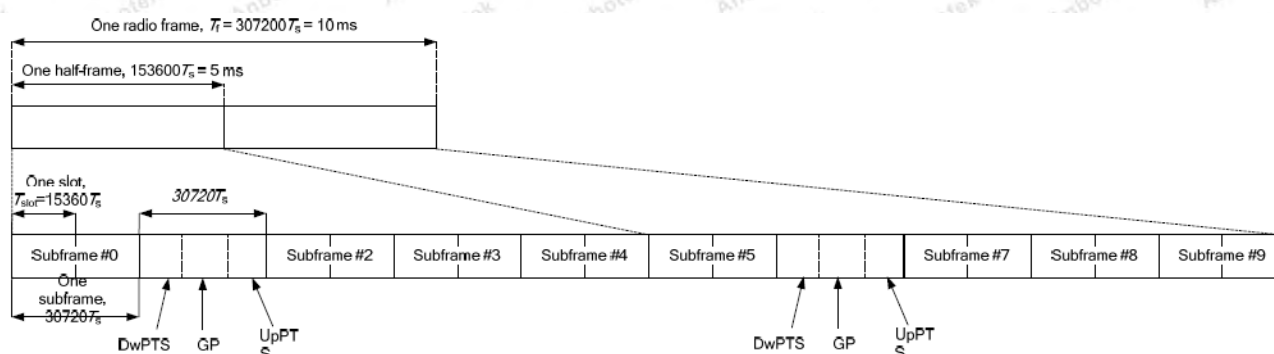
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		Middle	QPSK	22.51	22.51	22.59	22.58	22.54
			16QAM	21.52	21.47	21.53	21.51	21.52
		Low	QPSK	22.56	22.52	22.57	22.55	22.52
			16QAM	21.49	21.45	21.48	21.47	21.52
	50RB	High	QPSK	21.56	21.72	21.74	21.7	21.58
			16QAM	20.36	20.4	20.46	20.41	20.33
		Middle	QPSK	21.6	21.65	21.7	21.69	21.6
			16QAM	20.37	20.42	20.46	20.43	20.34
		Low	QPSK	21.61	21.63	21.66	21.71	21.58
			16QAM	20.43	20.39	20.46	20.43	20.32
	100RB		QPSK	21.62	21.68	21.74	21.71	21.62
			16QAM	20.4	20.42	20.48	20.55	20.34

TDD test:

TDD testing is performed using guidance from FCC KDB 941225 D05v02r03 and the SAR test guidance provided in April 2013 TCB works hop notes. TDD is tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225 D05v02r03. SAR testing is performed using the extended cyclic prefix listed in 3GPP TS 36.211.

Frame structure type 2 (for 5 ms switch-point periodicity)



Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

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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	$13168 \cdot T_s$			-	-	-

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

Duty factor is calculated by:

Duty factor = uplink frame*6+UpPTS*2/one frame length

= $(30720 \cdot T_s \cdot 6 + 5120 \cdot T_s \cdot 2) / 307200 \cdot T_s$

= 0.633

According to the KDB 447498 D01, SAR should be evaluated at more than 3 frequencies for devices supporting transmit bands wider than 100MHz. Oct.2014 FCC-TCB conference notes

(Dec. 2014 rev.) specifies the 5 test channels to use for 3GPP band 41 SAR evaluation.

<WIFI 2.4GHz Conducted Power>

Mode	Channel	Frequency (MHz)	Conducted Peak Power (dBm)	Conducted Average Power (dBm)	Data rate
802.11b	01	2412	11.55	9.20	1 Mbps

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	06	2437	11.51	9.17	1 Mbps
	11	2462	11.74	9.29	1 Mbps
	01	2412	12.07	9.25	6 Mbps
802.11g	06	2437	12.26	9.21	6 Mbps
	11	2462	12.19	9.28	6 Mbps
	01	2412	12.30	9.51	6.5 Mbps
802.11n(20M Hz)	06	2437	12.33	9.55	6.5 Mbps
	11	2462	12.17	9.35	6.5 Mbps
	3	2422	12.19	9.32	13.5 Mbps
802.11n(40M Hz)	7	2442	12.26	9.36	13.5 Mbps
	11	2462	12.23	9.31	13.5 Mbps

<WIFI 5GHz Conducted Power>

Mode	Frequency range (MHz)	Channel	Frequency (MHz)	Conducted power (dBm)	Data rate
802.11a	5150~ 5250	36	5180	12.07	6Mbps
		40	5200	12.54	6Mbps
		48	5240	12.77	6Mbps
	5725~5850	149	5745	11.07	6Mbps
		157	5785	11.54	6Mbps
		165	5825	11.77	6Mbps
802.11n(H20)	5150~ 5250	36	5180	12.73	MSC0
		40	5200	12.19	MSC0
		48	5240	12.90	MSC0
	5725~5850	149	5745	11.73	MSC0
		157	5785	11.19	MSC0
		165	5825	11.90	MSC0
802.11n(H40)	5150~ 5250	38	5190	12.31	MSC0
		46	5230	12.81	MSC0
	5725~5850	151	5755	11.31	MSC0
		159	5795	11.81	MSC0
802.11ac(H20)	5150~ 5250	36	5180	12.08	6Mbps
		40	5200	12.32	6Mbps
		48	5240	12.83	6Mbps

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	5725~5850	149	5745	11.08	6Mbps
		157	5785	11.32	6Mbps
		165	5825	11.83	6Mbps
802.11ac(H40)	5150~ 5250	38	5190	12.29	MSC0
		46	5230	12.80	MSC0
	5725~5850	151	5755	11.29	MSC0
		159	5795	11.80	MSC0

<Bluetooth Conducted Power>

Conducted Power Measurement Results (Bluetooth)

Mode	Channel	Frequency (MHz)	Conducted power (dBm)
GFSK	0	2402	2.54
	39	2441	3.53
	78	2480	2.73
π/4QPSK	0	2402	1.72
	39	2441	2.59
	78	2480	1.83
8DPSK	0	2402	2.01
	39	2441	2.88
	78	2480	2.14
BLE(GFSK)	0	2402	2.38
	19	2440	2.48
	39	2480	2.46

<PMR Conducted Power>

Modulation Type	Channel Separation	Test Channel	Test Frequency (MHz)	Average Transmitter Power	
				Rated High power level	
				(dBm)	(Watts)
Analog/FM	12.5KHz	Ch1	136.05	35.83	3.83
		Ch2	150.825	35.97	3.95
		Ch3	155.00	36.31	4.28
		Ch4	164.50	36.20	4.17
		Ch5	173.375	36.11	4.08
		Ch6	173.95	36.07	4.05

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Digital/FSK	12.5KHz	Ch1	136.05	36.14	4.11
		Ch2	150.825	36.07	4.05
		Ch3	155.00	36.15	4.12
		Ch4	164.50	36.06	4.04
		Ch5	173.375	36.09	4.06
		Ch6	173.95	36.12	4.09
Analog/FM	12.5KHz	Ch7	400.05	36.39	4.36
		Ch8	406.15	36.51	4.48
		Ch9	417.00	36.56	4.53
		Ch10	435.05	36.70	4.68
		Ch11	452.00	36.81	4.80
		Ch12	469.95	36.61	4.58
Digital/FSK	12.5KHz	Ch7	400.05	36.70	4.68
		Ch8	406.15	36.70	4.68
		Ch9	417.00	36.73	4.71
		Ch10	435.05	36.73	4.71
		Ch11	452.00	36.77	4.75
		Ch12	469.95	36.60	4.57

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11. Maximum Tune-up Limit

Mode	Burst Average Power (dBm)	
	GSM850	PCS1900
GSM (GMSK, 1Tx Slot)	32.00	31.00
GPRS (GMSK, 1Tx Slot)	32.00	31.00
GPRS (GMSK, 2Tx Slot)	30.00	29.00
GPRS (GMSK, 3Tx Slot)	29.00	27.00
GPRS (GMSK, 4Tx Slot)	28.00	26.00
EGPRS (8PSK, 1Tx Slot)	28.00	25.00
EGPRS (8PSK, 2Tx Slot)	26.00	25.00
EGPRS (8PSK, 3Tx Slot)	26.00	25.00
EGPRS (8PSK, 4Tx Slot)	25.00	24.00

Mode	Burst Average Power (dBm)	
	WCDMA Band II	WCDMA Band V
RMC 12.2Kbps	22.50	23.50
HSDPA Subtest-1	21.00	22.00
HSDPA Subtest-2	21.00	22.00
HSDPA Subtest-3	21.00	22.00
HSDPA Subtest-4	21.00	22.00
HSUPA Subtest-1	21.00	22.00
HSUPA Subtest-2	21.00	21.50
HSUPA Subtest-3	21.00	21.50
HSUPA Subtest-4	21.00	21.50
HSUPA Subtest-5	21.00	21.50
HSPA+	21.00	21.50

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LTE

Mode	Target Power		
	1RB	50%RB	100%RB
QPSK			
LTE BAND 2	22±1.5 dBm	21±1.5 dBm	21±1.5 dBm
LTE BAND 4	22±1.5 dBm	21±1.5 dBm	21±1.5 dBm
LTE BAND 5	22±1.5 dBm	21±1.5 dBm	21±1.5 dBm
LTE BAND 7	21.5±1.5 dBm	20.5±1.5 dBm	20.5±1.5 dBm
LTE BAND 12	21.5±1.5 dBm	21±1.5 dBm	21±1.5 dBm
LTE BAND 17	21.5±1.5 dBm	21±1.5 dBm	21±1.5 dBm
LTE BAND 26	21.5±1.5 dBm	21±1.5 dBm	21±1.5 dBm
LTE BAND 38	21.5±1.5 dBm	20.5±1.5 dBm	20.5±1.5 dBm
LTE BAND 41	21.5±1.5 dBm	20.5±1.5 dBm	20.5±1.5 dBm

Mode	Target Power		
	1RB	50%RB	100%RB
16QAM			
LTE BAND 2	22±1.5 dBm	21±1.5 dBm	21±1.5 dBm
LTE BAND 4	22±1.5 dBm	21±1.5 dBm	21±1.5 dBm
LTE BAND 5	22±1.5 dBm	21±1.5 dBm	21±1.5 dBm
LTE BAND 7	21.5±1.5 dBm	20.5±1.5 dBm	20.5±1.5 dBm
LTE BAND 12	22±1.5 dBm	21±1.5 dBm	21±1.5 dBm
LTE BAND 17	21.5±1.5 dBm	21±1.5 dBm	21±1.5 dBm
LTE BAND 26	21±1.5 dBm	20±1.5 dBm	20±1.5 dBm
LTE BAND 38	21±2 dBm	20.5±1.5 dBm	20.5±1.5 dBm
LTE BAND 41	21.5±1.5 dBm	20.5±1.5 dBm	20.5±1.5 dBm

LTE MPR will follow up 3GPP setting as below:

Modulation	Channel bandwidth / Transmission bandwidth (NRB)						MPR (dB)
	1.4MHz	3.0MHz	5MHz	10MHz	15MHz	20MHz	
QPSK	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	0
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

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WLAN 2.4G

Mode	Peak Power (dBm)	Burst Average Power (dBm)
802.11b	12.50	10.00
802.11g	12.50	10.00
802.11n(HT20)	12.50	10.00
802.11n(HT40)	12.50	10.00

WLAN 5G

Mode	Frequency range (MHz)	Channel	Frequency (MHz)	Tune up power (dBm)	Data rate
802.11a	5150~ 5250	36	5180	13.00	6Mbps
		40	5200	13.00	6Mbps
		48	5240	13.00	6Mbps
	5725~5850	149	5745	12.00	6Mbps
		157	5785	12.00	6Mbps
		165	5825	12.00	6Mbps
802.11n(H20)	5150~ 5250	36	5180	13.00	MSC0
		40	5200	13.00	MSC0
		48	5240	13.00	MSC0
	5725~5850	149	5745	12.00	MSC0
		157	5785	12.00	MSC0
		165	5825	12.00	MSC0
802.11n(H40)	5150~ 5250	38	5190	13.00	MSC0
		46	5230	13.00	MSC0
	5725~5850	151	5755	12.00	MSC0
		159	5795	12.00	MSC0
802.11ac(H20)	5150~ 5250	36	5180	13.00	6Mbps
		40	5200	13.00	6Mbps
		48	5240	13.00	6Mbps
	5725~5850	149	5745	12.00	6Mbps
		157	5785	12.00	6Mbps
		165	5825	12.00	6Mbps
802.11ac(H40)	5150~ 5250	38	5190	13.00	MSC0

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		46	5230	13.00	MSC0
	5725~5850	151	5755	12.00	MSC0
		159	5795	12.00	MSC0

BT

Mode	Conducted Peak Power (dBm)
GFSK	4.00
π /4QPSK	3.00
8DPSK	3.00
BLE	3.00

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

$[(\text{max. Power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}] \leq 3.0$ for 1-g SAR

Band/Mode	F(GHz)	Position	SAR test exclusion threshold (mW)	RF output power		SAR test exclusion
				dBm	mW	
Bluetooth	2.45	Head	9.6	4	2.51	Yes
		Body	19.2	4	2.51	Yes

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

The test exclusion threshold is ≤ 3 , SAR testing is not required.

PMR

Modulation Type	Channel Separation	Test Channel	Test Frequency	Tune up Power High power level (dBm)
Digital/4FSK	12.5KHz	Ch1	136.05	36.50
		Ch2	145.50	36.50
		Ch3	155.00	36.50
		Ch4	164.50	36.50
		Ch5	173.95	36.50
Digital/4FSK	12.5KHz	Ch6	406.10	36.80

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		Ch7	417.00	36.80
		Ch8	435.05	36.80
		Ch9	452.00	36.80
		Ch10	469.95	36.80

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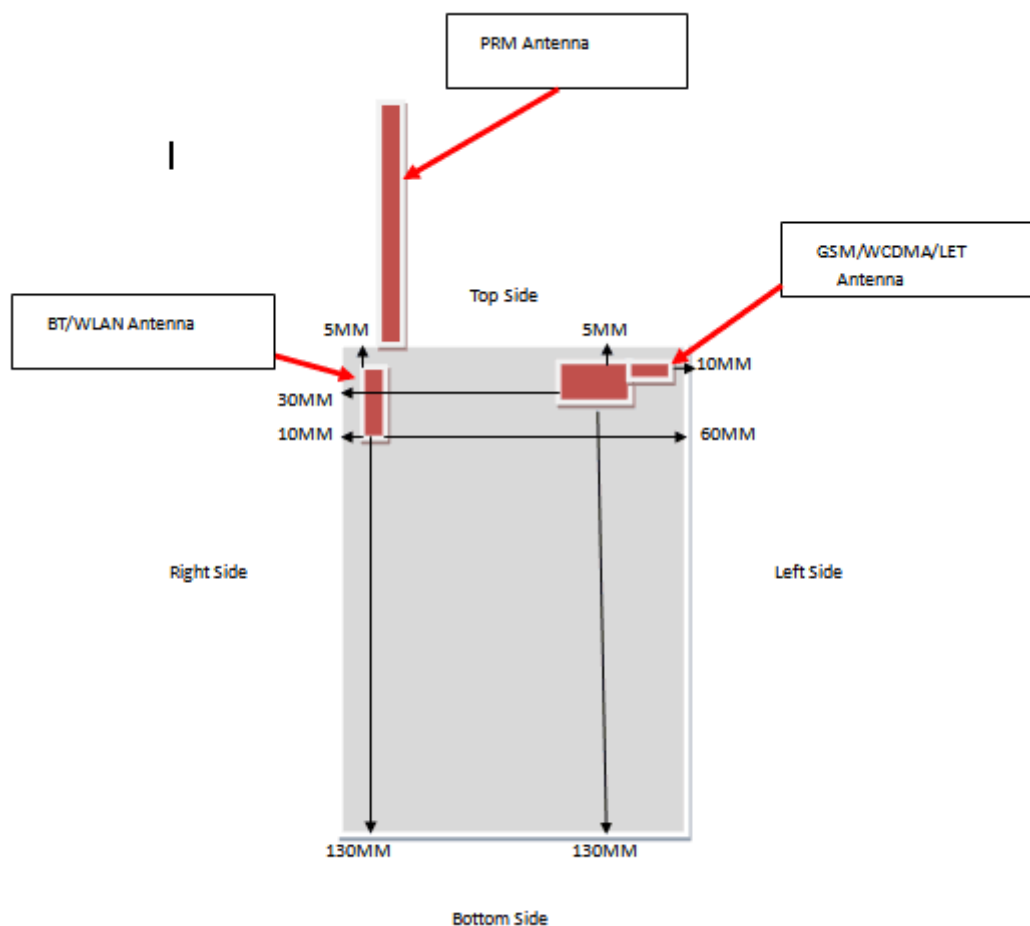


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12. Antenna Location



Distance of The Antenna to the EUT surface and edge

Antennas	Front	Back	Top Side	Bottom Side	Left Side	Right Side
WWAN	<25mm	<25mm	<25mm	>25mm	<25mm	<25mm
BT&WLAN	<25mm	<25mm	<25mm	>25mm	<25mm	<25mm

Positions for SAR tests; Hotspot mode

Antennas	Back	Front	Top side	Bottom side	Right side	Left side
WWAN	Yes	Yes	Yes	No	Yes	Yes
BT&WLAN	Yes	Yes	Yes	No	Yes	Yes

General Note: Referring to KDB 941225 D06 v02, SAR must be measured for all sides and surfaces with a transmitting antenna located with 25mm from that surface or edge.

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13. SAR Test Results Summary

General Note:

1. Per KDB 447498 D01v05r01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
$$\text{Scaling Factor} = \text{tune-up limit power (mW)} / \text{EUT RF power (mW)}, \text{ where tune-up limit is the maximum rated power among all production units.}$$
$$\text{Reported SAR(W/kg)} = \text{Measured SAR(W/kg)} * \text{Scaling Factor}$$
2. Per KDB 447498 D01v05r01, for each exposure position, if the highest output channel reported SAR ≤ 0.8 W/kg, other channels SAR testing are not necessary
3. Per KDB 941225 D05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05, 16QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05, Smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05, smaller bandwidth SAR testing is not required.
1. Per KDB 865664 D01, for each frequency band, **repeated SAR measurement is required** only when the measured SAR is ≥ 0.8 W/kg; if the deviation among the repeated measurement is $\leq 20\%$, and the measured SAR < 1.45 W/kg, only one repeated measurement is required.

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SAR Values GSM 850

Test Position	Channel/ Frequency(MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	190/836.6	Voice	1:1	32.00	31.75	-0.03	0.367	1.06	0.389	#1
Left/Tilt	190/836.6	Voice	1:1	32.00	31.75	0.03	0.281	1.06	0.297	N/A
Right/Cheek	190/836.6	Voice	1:1	32.00	31.75	0.01	0.346	1.06	0.367	N/A
Right/Tilt	190/836.6	Voice	1:1	32.00	31.75	-0.02	0.276	1.06	0.292	N/A
Test position of PPT Head Face up(Distance25mm)										
Face up	190/836.6	3Txslots	1:2.67	29.00	28.44	-0.01	0.054	1.14	0.061	N/A
Test position of PPT Body-worn with clip(Distance0mm)										
Rear Side	190/836.6	3Txslots	1:2.67	29.00	28.44	0.04	0.153	1.14	0.174	N/A
Hotspot Mode (Distance 10mm)										
Rear Side	190/836.6	3Txslots	1:2.67	29.00	28.44	0.05	0.180	1.14	0.205	#17
Front Side	190/836.6	3Txslots	1:2.67	29.00	28.44	-0.02	0.119	1.14	0.135	N/A
Left Edge	190/836.6	3Txslots	1:2.67	29.00	28.44	-0.03	0.079	1.14	0.090	N/A
Right Edge	190/836.6	3Txslots	1:2.67	29.00	28.44	0.02	0.057	1.14	0.065	N/A
Top Edge	190/836.6	3Txslots	1:2.67	29.00	28.44	0.07	0.103	1.14	0.117	N/A
Bottom Edge	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 green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

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

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

5. 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

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SAR Values GSM 1900

Test Position	Channel/ Frequency(MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	661/1880	Voice	1:1	31.00	29.88	0.18	0.284	1.29	0.368	#2
Left/Tilt	661/1880	Voice	1:1	31.00	29.88	0.13	0.211	1.29	0.273	
Right/Cheek	661/1880	Voice	1:1	31.00	29.88	-0.09	0.261	1.29	0.337	
Right/Tilt	661/1880	Voice	1:1	31.00	29.88	-0.11	0.199	1.29	0.257	
Test position of PPT Head Face up(Distance25mm)										
Face up	661/1880	3Txslots	1:2.67	27.00	26.74	0.05	0.030	1.06	0.032	N/A
Test position of PPT Body-worn with clip(Distance0mm)										
Rear Side	661/1880	3Txslots	1:2.67	27.00	26.74	-0.07	0.086	1.06	0.091	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	661/1880	3Txslots	1:2.67	27.00	26.74	-0.10	0.101	1.06	0.107	#18
Front Side	661/1880	3Txslots	1:2.67	27.00	26.74	0.07	0.066	1.06	0.070	N/A
Left Edge	661/1880	3Txslots	1:2.67	27.00	26.74	0.05	0.044	1.06	0.047	N/A
Right Edge	661/1880	3Txslots	1:2.67	27.00	26.74	0.03	0.034	1.06	0.036	N/A
Top Edge	661/1880	3Txslots	1:2.67	27.00	26.74	-0.10	0.058	1.06	0.061	N/A
Bottom Edge	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 green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

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

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

5. 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.

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SAR Values [WCDMA Band II]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	9400/1880	RMC 12.2K	1:1	22.50	21.35	-0.12	0.272	1.30	0.354	#3
Left/Tilt	9400/1880	RMC 12.2K	1:1	22.50	21.35	-0.10	0.224	1.30	0.292	N/A
Right/Cheek	9400/1880	RMC 12.2K	1:1	22.50	21.35	-0.16	0.258	1.30	0.336	N/A
Right/Tilt	9400/1880	RMC 12.2K	1:1	22.50	21.35	0.05	0.208	1.30	0.271	N/A
Test position of PPT Head Face up(Distance25mm)										
Face up	9400/1880	RMC 12.2K	1:1	22.50	21.35	0.04	0.052	1.30	0.068	N/A
Test position of PPT Body-worn with clip(Distance0mm)										
Rear Side	9400/1880	RMC 12.2K	1:1	22.50	21.35	-0.11	0.138	1.30	0.179	N/A
Test position of Body-worn accessory & Hotspot Mode (Distance 10mm)										
Rear Side	9400/1880	RMC 12.2K	1:1	22.50	21.35	-0.15	0.162	1.30	0.211	#19
Front Side	9400/1880	RMC 12.2K	1:1	22.50	21.35	0.06	0.115	1.30	0.150	N/A
Left Edge	9400/1880	RMC 12.2K	1:1	22.50	21.35	-0.26	0.077	1.30	0.100	N/A
Right Edge	9400/1880	RMC 12.2K	1:1	22.50	21.35	0.16	0.071	1.30	0.093	N/A
Top Edge	9400/1880	RMC 12.2K	1:1	22.50	21.35	0.05	0.092	1.30	0.120	N/A
Bottom Edge	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 green color is the maximum SAR Value of each test band.
2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).
3.When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.
4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.
5.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

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SAR Values [WCDMA Band V]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	4183/836.6	RMC 12.2K	1:1	23.50	22.91	0.16	0.264	1.15	0.302	#4
Left/Tilt	4183/836.6	RMC 12.2K	1:1	23.50	22.91	0.09	0.212	1.15	0.243	N/A
Right/Cheek	4183/836.6	RMC 12.2K	1:1	23.50	22.91	-0.27	0.252	1.15	0.288	N/A
Right/Tilt	4183/836.6	RMC 12.2K	1:1	23.50	22.91	-0.08	0.193	1.15	0.221	N/A
Test position of PPT Head Face up(Distance25mm)										
Face up	4183/836.6	RMC 12.2K	1:1	23.50	22.91	-0.01	0.054	1.15	0.063	N/A
Test position of PPT Body-worn with clip(Distance0mm)										
Rear Side	4183/836.6	RMC 12.2K	1:1	23.50	22.91	-0.03	0.150	1.15	0.173	N/A
Test position of Body-worn accessory &Hotspot Mode (Distance 10mm)										
Rear Side	4183/836.6	RMC 12.2K	1:1	23.50	22.91	-0.04	0.177	1.15	0.203	#20
Front Side	4183/836.6	RMC 12.2K	1:1	23.50	22.91	-0.02	0.121	1.15	0.139	N/A
Left Edge	4183/836.6	RMC 12.2K	1:1	23.50	22.91	0.03	0.084	1.15	0.096	N/A
Right Edge	4183/836.6	RMC 12.2K	1:1	23.50	22.91	-0.05	0.095	1.15	0.109	N/A
Top Edge	4183/836.6	RMC 12.2K	1:1	23.50	22.91	-0.02	0.092	1.15	0.105	N/A
Bottom Edge	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 green color is the maximum SAR Value of each test band.
2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).
3.When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.
4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.
5.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

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SAR Values [LTE Band 2]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	1880.0	1RB	1:1	23.50	22.74	-0.04	0.197	1.18	0.233	#5
Left/Tilt	1880.0	1RB	1:1	23.50	22.74	0.04	0.151	1.18	0.178	N/A
Right/Cheek	1880.0	1RB	1:1	23.50	22.74	0.02	0.186	1.18	0.220	N/A
Right/Tilt	1880.0	1RB	1:1	23.50	22.74	-0.02	0.148	1.18	0.175	N/A
Left/Cheek	1880.0	50%RB	1:1	22.50	22.09	0.17	0.126	1.10	0.138	N/A
Left/Tilt	1880.0	50%RB	1:1	22.50	22.09	-0.09	0.110	1.10	0.121	N/A
Right/Cheek	1880.0	50%RB	1:1	22.50	22.09	-0.08	0.116	1.10	0.128	N/A
Right/Tilt	1880.0	50%RB	1:1	22.50	22.09	0.06	0.068	1.10	0.074	N/A
Test position of PPT Head Face up(Distance25mm)										
Face up	1880.0	1RB	1:1	23.50	22.74	-0.04	0.051	1.18	0.060	N/A
Face up	1880.0	50%RB	1:1	22.50	22.09	-0.01	0.032	1.10	0.034	N/A
Test position of PPT Body-worn with clip(Distance0mm)										
Rear Side	1880.0	1RB	1:1	23.50	22.74	0.08	0.146	1.18	0.173	N/A
Rear Side	1880.0	50%RB	1:1	22.50	22.09	0.06	0.105	1.10	0.115	N/A
Test position of Body-worn accessory& Hotspot Mode (Distance 10mm)										
Rear Side	1880.0	1RB	1:1	23.50	22.74	0.11	0.172	1.18	0.203	#21
Front Side	1880.0	1RB	1:1	23.50	22.74	-0.05	0.114	1.18	0.134	N/A
Left Edge	1880.0	1RB	1:1	23.50	22.74	-0.06	0.076	1.18	0.090	N/A
Right Edge	1880.0	1RB	1:1	23.50	22.74	0.04	0.055	1.18	0.065	N/A
Top Edge	1880.0	1RB	1:1	23.50	22.74	0.15	0.098	1.18	0.116	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rear Side	1880.0	50%RB	1:1	22.50	22.09	0.08	0.123	1.10	0.135	N/A
Front Side	1880.0	50%RB	1:1	22.50	22.09	-0.01	0.070	1.10	0.076	N/A
Left Edge	1880.0	50%RB	1:1	22.50	22.09	-0.02	0.067	1.10	0.074	N/A
Right Edge	1880.0	50%RB	1:1	22.50	22.09	-0.02	0.041	1.10	0.045	N/A
Top Edge	1880.0	50%RB	1:1	22.50	22.09	0.09	0.056	1.10	0.062	N/A
Bottom Edge	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 green color is the maximum SAR Value of each test band.

- Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).
- When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.
- Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.
- When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

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SAR Values [LTE Band 4]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21 dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	1732.5	1RB	1:1	23.50	22.65	0.10	0.221	1.22	0.269	#6
Left/Tilt	1732.5	1RB	1:1	23.50	22.65	0.00	0.165	1.22	0.201	N/A
Right/Cheek	1732.5	1RB	1:1	23.50	22.65	-0.05	0.194	1.22	0.236	N/A
Right/Tilt	1732.5	1RB	1:1	23.50	22.65	0.03	0.112	1.22	0.137	N/A
Left/Cheek	1732.5	50%RB	1:1	22.50	21.97	0.17	0.126	1.13	0.142	N/A
Left/Tilt	1732.5	50%RB	1:1	22.50	21.97	-0.19	0.096	1.13	0.109	N/A
Right/Cheek	1732.5	50%RB	1:1	22.50	21.97	-0.08	0.119	1.13	0.134	N/A
Right/Tilt	1732.5	50%RB	1:1	22.50	21.97	0.10	0.095	1.13	0.107	N/A
Test position of PPT Head Face up(Distance25mm)										
Face up	1732.5	1RB	1:1	23.50	22.65	0.03	0.056	1.22	0.068	N/A
Face up	1732.5	50%RB	1:1	22.50	21.97	-0.01	0.032	1.13	0.036	N/A
Test position of PPT Body-worn with clip(Distance0mm)										
Rear Side	1732.5	1RB	1:1	23.50	22.65	0.12	0.229	1.22	0.278	N/A
Rear Side	1732.5	50%RB	1:1	22.50	21.97	0.09	0.163	1.13	0.184	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	1732.5	1RB	1:1	23.50	22.65	0.17	0.269	1.22	0.327	#22
Front Side	1732.5	1RB	1:1	23.50	22.65	0.04	0.125	1.22	0.152	N/A
Left Edge	1732.5	1RB	1:1	23.50	22.65	-0.13	0.093	1.22	0.113	N/A
Right Edge	1732.5	1RB	1:1	23.50	22.65	0.02	0.062	1.22	0.076	N/A
Top Edge	1732.5	1RB	1:1	23.50	22.65	0.06	0.096	1.22	0.117	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rear Side	1732.5	50%RB	1:1	22.50	21.97	0.13	0.192	1.13	0.217	N/A
Front Side	1732.5	50%RB	1:1	22.50	21.97	-0.02	0.070	1.13	0.080	N/A
Left Edge	1732.5	50%RB	1:1	22.50	21.97	-0.09	0.105	1.13	0.118	N/A
Right Edge	1732.5	50%RB	1:1	22.50	21.97	0.02	0.083	1.13	0.094	N/A
Top Edge	1732.5	50%RB	1:1	22.50	21.97	0.03	0.069	1.13	0.078	N/A
Bottom Edge	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 green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

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

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

5. 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.

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SAR Values [LTE Band 5]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21 dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	836.5	1RB	1:1	23.50	22.76	0.07	0.445	1.19	0.528	#7
Left/Tilt	836.5	1RB	1:1	23.50	22.76	-0.08	0.340	1.19	0.404	N/A
Right/Cheek	836.5	1RB	1:1	23.50	22.76	-0.03	0.420	1.19	0.497	N/A
Right/Tilt	836.5	1RB	1:1	23.50	22.76	0.04	0.334	1.19	0.397	N/A
Left/Cheek	836.5	50%RB	1:1	22.50	21.61	0.06	0.370	1.23	0.454	N/A
Left/Tilt	836.5	50%RB	1:1	22.50	21.61	-0.03	0.324	1.23	0.398	N/A
Right/Cheek	836.5	50%RB	1:1	22.50	21.61	-0.03	0.342	1.23	0.420	N/A
Right/Tilt	836.5	50%RB	1:1	22.50	21.61	0.02	0.198	1.23	0.243	N/A
Test position of PPT Head Face up(Distance25mm)										
Face up	836.5	1RB	1:1	23.50	22.76	-0.01	0.109	1.19	0.130	N/A
Face up	836.5	50%RB	1:1	22.50	21.61	0.00	0.067	1.23	0.082	N/A
Test position of PPT Body-worn with clip(Distance0mm)										
Rear Side	836.5	1RB	1:1	23.50	22.76	0.02	0.313	1.19	0.371	N/A
Rear Side	836.5	50%RB	1:1	22.50	21.61	0.01	0.224	1.23	0.275	N/A
Test position of Body-worn accessory& Hotspot Mode (Distance 10mm)										
Rear Side	836.5	1RB	1:1	23.50	22.76	0.03	0.368	1.19	0.436	#23
Front Side	836.5	1RB	1:1	23.50	22.76	-0.01	0.243	1.19	0.288	N/A
Left Edge	836.5	1RB	1:1	23.50	22.76	-0.02	0.162	1.19	0.192	N/A
Right Edge	836.5	1RB	1:1	23.50	22.76	0.01	0.117	1.19	0.139	N/A
Top Edge	836.5	1RB	1:1	23.50	22.76	0.04	0.210	1.19	0.249	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rear Side	836.5	50%RB	1:1	22.50	21.61	0.02	0.263	1.23	0.323	N/A
Front Side	836.5	50%RB	1:1	22.50	21.61	0.00	0.149	1.23	0.183	N/A
Left Edge	836.5	50%RB	1:1	22.50	21.61	-0.01	0.143	1.23	0.176	N/A
Right Edge	836.5	50%RB	1:1	22.50	21.61	-0.01	0.087	1.23	0.107	N/A
Top Edge	836.5	50%RB	1:1	22.50	21.61	0.02	0.120	1.23	0.148	N/A
Bottom Edge	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 green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

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

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

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

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SAR Values [LTE Band 7]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21 dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	2535	1RB	1:1	23.00	22.61	0.12	0.168	1.09	0.184	#8
Left/Tilt	2535	1RB	1:1	23.00	22.61	0.01	0.130	1.09	0.143	N/A
Right/Cheek	2535	1RB	1:1	23.00	22.61	-0.05	0.152	1.09	0.166	N/A
Right/Tilt	2535	1RB	1:1	23.00	22.61	0.04	0.114	1.09	0.125	N/A
Left/Cheek	2535	50%RB	1:1	22.00	21.44	0.17	0.126	1.14	0.143	N/A
Left/Tilt	2535	50%RB	1:1	22.00	21.44	-0.05	0.110	1.14	0.126	N/A
Right/Cheek	2535	50%RB	1:1	22.00	21.44	0.04	0.116	1.14	0.132	N/A
Right/Tilt	2535	50%RB	1:1	22.00	21.44	-0.08	0.093	1.14	0.106	N/A
Test position of PPT Head Face up(Distance25mm)										
Face up	2535	1RB	1:1	23.00	22.61	0.02	0.070	1.09	0.077	N/A
Face up	2535	50%RB	1:1	22.00	21.44	0.01	0.050	1.14	0.056	N/A
Test position of PPT Body-worn with clip(Distance0mm)										
Rear Side	2535	1RB	1:1	23.00	22.61	-0.08	0.215	1.09	0.235	N/A
Rear Side	2535	50%RB	1:1	22.00	21.44	-0.06	0.154	1.14	0.175	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	2535	1RB	1:1	23.00	22.61	-0.12	0.253	1.09	0.277	#24
Front Side	2535	1RB	1:1	23.00	22.61	0.03	0.156	1.09	0.170	N/A
Left Edge	2535	1RB	1:1	23.00	22.61	0.04	0.120	1.09	0.131	N/A
Right Edge	2535	1RB	1:1	23.00	22.61	-0.03	0.106	1.09	0.116	N/A
Top Edge	2535	1RB	1:1	23.00	22.61	-0.03	0.131	1.09	0.143	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rear Side	2535	50%RB	1:1	22.00	21.44	-0.09	0.181	1.14	0.206	N/A
Front Side	2535	50%RB	1:1	22.00	21.44	0.02	0.110	1.14	0.125	N/A
Left Edge	2535	50%RB	1:1	22.00	21.44	0.02	0.098	1.14	0.112	N/A
Right Edge	2535	50%RB	1:1	22.00	21.44	-0.03	0.042	1.14	0.048	N/A
Top Edge	2535	50%RB	1:1	22.00	21.44	-0.13	0.103	1.14	0.117	N/A
Bottom Edge	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 green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

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

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

5. 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.

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SAR Values [LTE Band 12]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	707.5	1RB	1:1	23.50	22.76	0.16	0.298	1.19	0.353	#9
Left/Tilt	707.5	1RB	1:1	23.50	22.76	0.00	0.261	1.19	0.310	N/A
Right/Cheek	707.5	1RB	1:1	23.50	22.76	-0.06	0.275	1.19	0.327	N/A
Right/Tilt	707.5	1RB	1:1	23.50	22.76	0.04	0.187	1.19	0.222	N/A
Left/Cheek	707.5	50%RB	1:1	22.50	21.81	0.17	0.126	1.17	0.148	N/A
Left/Tilt	707.5	50%RB	1:1	22.50	21.81	-0.02	0.093	1.17	0.109	N/A
Right/Cheek	707.5	50%RB	1:1	22.50	21.81	0.07	0.106	1.17	0.124	N/A
Right/Tilt	707.5	50%RB	1:1	22.50	21.81	0.13	0.093	1.17	0.110	N/A
Test position of PPT Head Face up(Distance25mm)										
Face up	707.5	1RB	1:1	23.50	22.76	-0.01	0.031	1.19	0.036	N/A
Face up	707.5	50%RB	1:1	22.50	21.81	0.01	0.017	1.17	0.020	N/A
Test position of PPT Body-worn with clip(Distance0mm)										
Rear Side	707.5	1RB	1:1	23.50	22.76	-0.07	0.128	1.19	0.146	N/A
Rear Side	707.5	50%RB	1:1	22.50	21.81	-0.06	0.088	1.17	0.104	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	707.5	1RB	1:1	23.50	22.76	-0.10	0.151	1.19	0.172	#25
Front Side	707.5	1RB	1:1	23.50	22.76	-0.02	0.068	1.19	0.080	N/A
Left Edge	707.5	N/A	N/A	23.50	22.76	0.08	0.050	1.19	0.059	N/A
Right Edge	707.5	1RB	1:1	23.50	22.76	-0.01	0.034	1.19	0.040	N/A
Top Edge	707.5	N/A	N/A	23.50	22.76	-0.04	0.052	1.19	0.061	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rear Side	707.5	50%RB	1:1	22.50	21.81	-0.08	0.104	1.17	0.122	N/A
Front Side	707.5	50%RB	1:1	22.50	21.81	0.01	0.038	1.17	0.044	N/A
Left Edge	707.5	N/A	N/A	22.50	21.81	0.05	0.056	1.17	0.066	N/A
Right Edge	707.5	50%RB	1:1	22.50	21.81	-0.01	0.045	1.17	0.052	N/A
Top Edge	707.5	N/A	N/A	22.50	21.81	-0.02	0.037	1.17	0.043	N/A
Bottom Edge	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 green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

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

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

5. 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.

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SAR Values [LTE Band 17]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	710	1RB	1:1	23.00	22.60	-0.10	0.242	1.04	0.252	#10
Left/Tilt	710	1RB	1:1	23.00	22.60	-0.03	0.225	1.04	0.234	N/A
Right/Cheek	710	1RB	1:1	23.00	22.60	0.05	0.206	1.04	0.214	N/A
Right/Tilt	710	1RB	1:1	23.00	22.60	0.04	0.200	1.04	0.208	N/A
Left/Cheek	710	50%RB	1:1	22.50	21.65	-0.03	0.107	1.07	0.115	N/A
Left/Tilt	710	50%RB	1:1	22.50	21.65	0.05	0.101	1.07	0.108	N/A
Right/Cheek	710	50%RB	1:1	22.50	21.65	0.02	0.106	1.07	0.113	N/A
Right/Tilt	710	50%RB	1:1	22.50	21.65	-0.10	0.097	1.07	0.104	N/A
Test position of PPT Head Face up(Distance25mm)										
Face up	710	1RB	1:1	23.00	22.60	0.02	0.039	1.04	0.041	N/A
Face up	710	50%RB	1:1	22.50	21.65	-0.01	0.034	1.07	0.036	N/A
Test position of PPT Body-worn with clip(Distance0mm)										
Rear Side	710	1RB	1:1	23.00	22.60	0.01	0.123	1.04	0.128	N/A
Rear Side	710	50%RB	1:1	22.50	21.65	-0.04	0.067	1.07	0.072	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	710	1RB	1:1	23.00	22.60	0.01	0.187	1.04	0.194	#26
Front Side	710	1RB	1:1	23.00	22.60	0.03	0.175	1.04	0.182	N/A
Left Edge	710	1RB	1:1	23.00	22.60	-0.04	0.169	1.04	0.176	N/A
Right Edge	710	1RB	1:1	23.00	22.60	0.05	0.172	1.04	0.179	N/A
Top Edge	710	1RB	1:1	23.00	22.60	-0.02	0.169	1.04	0.176	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rear Side	710	50%RB	1:1	22.50	21.65	-0.04	0.098	1.07	0.105	N/A
Front Side	710	50%RB	1:1	22.50	21.65	0.02	0.095	1.07	0.102	N/A
Left Edge	710	50%RB	1:1	22.50	21.65	-0.03	0.920	1.07	0.984	N/A
Right Edge	710	50%RB	1:1	22.50	21.65	0.05	0.918	1.07	0.982	N/A
Top Edge	710	50%RB	1:1	22.50	21.65	0.04	0.097	1.07	0.104	N/A
Bottom Edge	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 green color is the maximum SAR Value of each test band.

- Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).
- When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.
- Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.
- When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

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SAR Values [LTE Band 26]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	831.5	1RB	1:1	23.00	21.82	0.14	0.180	1.19	0.213	#11
Left/Tilt	831.5	1RB	1:1	23.00	21.82	0.00	0.134	1.19	0.159	N/A
Right/Cheek	831.5	1RB	1:1	23.00	21.82	-0.07	0.158	1.19	0.187	N/A
Right/Tilt	831.5	1RB	1:1	23.00	21.82	0.04	0.092	1.19	0.109	N/A
Left/Cheek	831.5	50%RB	1:1	22.50	20.91	0.12	0.150	1.17	0.175	N/A
Left/Tilt	831.5	50%RB	1:1	22.50	20.91	-0.13	0.114	1.17	0.134	N/A
Right/Cheek	831.5	50%RB	1:1	22.50	20.91	-0.05	0.141	1.17	0.165	N/A
Right/Tilt	831.5	50%RB	1:1	22.50	20.91	0.07	0.112	1.17	0.132	N/A
Test position of PPT Head Face up(Distance25mm)										
Face up	831.5	1RB	1:1	23.00	21.82	-0.04	0.036	1.19	0.043	N/A
Face up	831.5	50%RB	1:1	22.50	20.91	0.02	0.020	1.17	0.024	N/A
Test position of PPT Body-worn with clip(Distance0mm)										
Rear Side	831.5	1RB	1:1	23.00	21.82	0.08	0.146	1.19	0.173	N/A
Rear Side	831.5	50%RB	1:1	22.50	20.91	-0.04	0.105	1.17	0.122	N/A
Test position of Body-worn accessory& Hotspot Mode (Distance 10mm)										
Rear Side	831.5	1RB	1:1	23.00	21.82	0.11	0.172	1.19	0.204	#27
Front Side	831.5	1RB	1:1	23.00	21.82	-0.05	0.080	1.19	0.095	N/A
Left Edge	831.5	1RB	1:1	23.00	21.82	-0.06	0.059	1.19	0.070	N/A
Right Edge	831.5	1RB	1:1	23.00	21.82	0.04	0.040	1.19	0.047	N/A
Top Edge	831.5	1RB	1:1	23.00	21.82	0.15	0.061	1.19	0.073	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rear Side	831.5	50%RB	1:1	22.50	20.91	-0.06	0.123	1.17	0.144	N/A
Front Side	831.5	50%RB	1:1	22.50	20.91	0.03	0.045	1.17	0.053	N/A
Left Edge	831.5	50%RB	1:1	22.50	20.91	0.04	0.067	1.17	0.078	N/A
Right Edge	831.5	50%RB	1:1	22.50	20.91	-0.02	0.053	1.17	0.062	N/A
Top Edge	831.5	50%RB	1:1	22.50	20.91	-0.09	0.044	1.17	0.051	N/A
Bottom Edge	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 green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

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

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

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

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SAR Values [LTE Band 38]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	2595	1RB	1:1	23.00	22.74	0.17	0.085	1.06	0.090	#12
Left/Tilt	2595	1RB	1:1	23.00	22.74	0.02	0.066	1.06	0.070	N/A
Right/Cheek	2595	1RB	1:1	23.00	22.74	-0.08	0.077	1.06	0.082	N/A
Right/Tilt	2595	1RB	1:1	23.00	22.74	0.06	0.058	1.06	0.061	N/A
Left/Cheek	2595	50%RB	1:1	22.00	21.78	0.14	0.071	1.05	0.074	N/A
Left/Tilt	2595	50%RB	1:1	22.00	21.78	-0.04	0.062	1.05	0.065	N/A
Right/Cheek	2595	50%RB	1:1	22.00	21.78	0.03	0.065	1.05	0.069	N/A
Right/Tilt	2595	50%RB	1:1	22.00	21.78	-0.06	0.052	1.05	0.055	N/A
Test position of PPT Head Face up(Distance25mm)										
Face up	2595	1RB	1:1	23.00	22.74	-0.02	0.032	1.06	0.035	N/A
Face up	2595	50%RB	1:1	22.00	21.78	-0.01	0.023	1.05	0.024	N/A
Test position of PPT Body-worn with clip(Distance0mm)										
Rear Side	2595	1RB	1:1	23.00	22.74	0.09	0.099	1.06	0.105	N/A
Rear Side	2595	50%RB	1:1	22.00	21.78	0.07	0.071	1.05	0.075	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	2595	1RB	1:1	23.00	22.74	0.13	0.117	1.06	0.124	#28
Front Side	2595	1RB	1:1	23.00	22.74	-0.03	0.072	1.06	0.077	N/A
Left Edge	2595	1RB	1:1	23.00	22.74	-0.05	0.055	1.06	0.059	N/A
Right Edge	2595	1RB	1:1	23.00	22.74	0.03	0.049	1.06	0.052	N/A
Top Edge	2595	1RB	1:1	23.00	22.74	0.03	0.060	1.06	0.064	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rear Side	2595	50%RB	1:1	22.00	21.78	0.10	0.084	1.05	0.088	N/A
Front Side	2595	50%RB	1:1	22.00	21.78	-0.02	0.051	1.05	0.053	N/A
Left Edge	2595	50%RB	1:1	22.00	21.78	-0.03	0.046	1.05	0.048	N/A
Right Edge	2595	50%RB	1:1	22.00	21.78	0.03	0.019	1.05	0.020	N/A
Top Edge	2595	50%RB	N/A	22.00	21.78	0.14	0.048	1.05	0.050	N/A
Bottom Edge	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 green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

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

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

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

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SAR Values [LTE Band 41]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	2593	1RB	1:1	23.00	22.59	0.13	0.066	1.10	0.073	#13
Left/Tilt	2593	1RB	1:1	23.00	22.59	0.00	0.058	1.10	0.064	N/A
Right/Cheek	2593	1RB	1:1	23.00	22.59	-0.04	0.061	1.10	0.067	N/A
Right/Tilt	2593	1RB	1:1	23.00	22.59	0.03	0.041	1.10	0.046	N/A
Left/Cheek	2593	50%RB	1:1	22.00	21.70	0.11	0.055	1.07	0.059	N/A
Left/Tilt	2593	50%RB	1:1	22.00	21.70	-0.01	0.040	1.07	0.043	N/A
Right/Cheek	2593	50%RB	1:1	22.00	21.70	0.04	0.046	1.07	0.050	N/A
Right/Tilt	2593	50%RB	1:1	22.00	21.70	0.08	0.041	1.07	0.044	N/A
Test position of PPT Head Face up(Distance25mm)										
Face up	2593	1RB	1:1	23.00	22.59	0.04	0.111	1.10	0.122	N/A
Face up	2593	50%RB	1:1	22.00	21.70	0.04	0.057	1.07	0.061	N/A
Test position of PPT Body-worn with clip(Distance0mm)										
Rear Side	2593	1RB	1:1	23.00	22.59	-0.09	0.324	1.10	0.356	N/A
Rear Side	2593	50%RB	1:1	22.00	21.70	-0.07	0.231	1.07	0.248	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	2593	1RB	1:1	23.00	22.59	-0.13	0.381	1.10	0.419	#29
Front Side	2593	1RB	1:1	23.00	22.59	0.05	0.246	1.10	0.270	N/A
Left Edge	2593	1RB	1:1	23.00	22.59	0.07	0.162	1.10	0.178	N/A
Right Edge	2593	1RB	1:1	23.00	22.59	-0.05	0.121	1.10	0.133	N/A
Top Edge	2593	1RB	1:1	23.00	22.59	-0.08	0.174	1.10	0.191	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rear Side	2593	50%RB	1:1	22.00	21.70	-0.10	0.272	1.07	0.292	N/A
Front Side	2593	50%RB	1:1	22.00	21.70	0.06	0.127	1.07	0.136	N/A
Left Edge	2593	50%RB	1:1	22.00	21.70	0.08	0.175	1.07	0.188	N/A
Right Edge	2593	50%RB	1:1	22.00	21.70	-0.04	0.145	1.07	0.155	N/A
Top Edge	2593	50%RB	1:1	22.00	21.70	-0.01	0.124	1.07	0.133	N/A
Bottom Edge	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 green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

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

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

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

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SAR Values [WIFI2.4G]

Test Position	Channel/ Frequency (MHz)	Service	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	11/2462	DSSS	1:1.01	10.00	9.29	-0.10	0.270	1.18	0.321	#14
Left/Tilt	11/2462	DSSS	1:1.01	10.00	9.29	0.14	0.229	1.18	0.272	N/A
Right/Cheek	11/2462	DSSS	1:1.01	10.00	9.29	0.05	0.246	1.18	0.292	N/A
Right/Tilt	11/2462	DSSS	1:1.01	10.00	9.29	-0.07	0.214	1.18	0.255	N/A
Test position of PPT Head Face up(Distance25mm)										
Face up	11/2462	DSSS	1:1.01	10.00	9.29	0.13	0.037	1.18	0.044	N/A
Test position of PPT Body-worn with clip(Distance0mm)										
Rear Side	11/2462	DSSS	1:1.01	10.00	9.29	-0.13	0.114	1.18	0.135	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	11/2462	DSSS	1:1.01	10.00	9.29	-0.19	0.134	1.18	0.158	#30
Front Side	11/2462	DSSS	1:1.01	10.00	9.29	0.18	0.082	1.18	0.097	N/A
Left Edge	11/2462	DSSS	1:1.01	10.00	9.29	-0.14	0.046	1.18	0.054	N/A
Right Edge	11/2462	DSSS	1:1.01	10.00	9.29	0.16	0.010	1.18	0.012	N/A
Top Edge	11/2462	DSSS	1:1.01	10.00	9.29	-0.15	0.069	1.18	0.082	N/A
Bottom Edge	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 green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

3. Per KDB 248227-SAR is measured using the highest measured maximum output power channel for the initial test configuration.

4. Per KDB 248227- Channels with measured maximum output power within $\frac{1}{4}$ dB of each other are considered to have the same maximum output. When there are multiple test channels with the same measured maximum output power, the channel closest to mid-band frequency is selected for SAR measurement. And when there are multiple test channels with the same measured maximum output power and equal separation from mid-band frequency; for example, high and low channels or two mid-band channels, the higher frequency (number) channel is selected for SAR measurement.

5. Per KDB 248227- 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 the OFDM SAR test is not required.

Remark: The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power was

$0.479 \text{ W/Kg} (0.479 \times (18/18) = 0.479)$ So OFDM SAR test is not required.

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SAR Values [WIFI U-NII 1]

Test Position	Channel/ Frequency (MHz)	Service	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift $\pm 0.21\text{dB}$	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	5240	OFDM	1:1.03	13.00	12.77	-0.11	0.246	1.05	0.265	#15
Left/Tilt	5240	OFDM	1:1.03	13.00	12.77	0.15	0.208	1.05	0.225	N/A
Right/Cheek	5240	OFDM	1:1.03	13.00	12.77	0.06	0.224	1.05	0.242	N/A
Right/Tilt	5240	OFDM	1:1.03	13.00	12.77	-0.08	0.195	1.05	0.210	N/A
Test position of PPT Head Face up(Distance25mm)										
Face up	5240	OFDM	1:1.03	13.00	12.77	0.11	0.051	1.05	0.055	N/A
Test position of PPT Body-worn with clip(Distance0mm)										
Rear Side	5240	OFDM	1:1.03	13.00	12.77	-0.07	0.158	1.05	0.171	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	5240	OFDM	1:1.03	13.00	12.77	-0.1	0.186	1.05	0.201	#31
Front Side	5240	OFDM	1:1.03	13.00	12.77	0.15	0.114	1.05	0.124	N/A
Left Edge	5240	OFDM	1:1.03	13.00	12.77	-0.07	0.046	1.05	0.050	N/A
Right Edge	5240	OFDM	1:1.03	13.00	12.77	0.08	0.010	1.05	0.011	N/A
Top Edge	5240	OFDM	1:1.03	13.00	12.77	-0.13	0.096	1.05	0.103	N/A
Bottom Edge	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 green color is the maximum SAR Value of each test band. 2.Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s). 3.Per KDB 248227-SAR is measured using the highest measured maximum output power channel for the initial test configuration										

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SAR Values [WIFI U-NII 3]

Test Position	Channel/ Frequency (MHz)	Service	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	5825	OFDM	1:1.03	12.00	11.77	0.12	0.196	1.05	0.212	#16
Left/Tilt	5825	OFDM	1:1.03	12.00	11.77	-0.16	0.166	1.05	0.179	N/A
Right/Cheek	5825	OFDM	1:1.03	12.00	11.77	-0.07	0.178	1.05	0.193	N/A
Right/Tilt	5825	OFDM	1:1.03	12.00	11.77	0.09	0.155	1.05	0.168	N/A
Test position of PPT Head Face up(Distance25mm)										
Face up	5825	OFDM	1:1.03	12.00	11.77	-0.04	0.047	1.05	0.050	N/A
Test position of PPT Body-worn with clip(Distance0mm)										
Rear Side	5825	OFDM	1:1.03	12.00	11.77	-0.10	0.147	1.05	0.159	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	5825	OFDM	1:1.03	12.00	11.77	-0.14	0.173	1.05	0.186	#32
Front Side	5825	OFDM	1:1.03	12.00	11.77	-0.06	0.119	1.05	0.128	N/A
Left Edge	5825	OFDM	1:1.03	12.00	11.77	0.10	0.082	1.05	0.088	N/A
Right Edge	5825	OFDM	1:1.03	12.00	11.77	-0.18	0.023	1.05	0.029	N/A
Top Edge	5825	OFDM	1:1.03	12.00	11.77	-0.07	0.089	1.05	0.096	N/A
Bottom Edge	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 green color is the maximum SAR Value of each test band. 2.Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s). 3.Per KDB 248227-SAR is measured using the highest measured maximum output power channel for the initial test configuration										

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SAR Values [PPT136-174MHz]

Test Frequency MHz	Maximum Allowed Power (dBm)	Measured ERP (dBm)	Measurement SAR _{1-g} (W/Kg)		Power drift	Scaling Factor	Reported SAR _{1-g} (W/kg)		SAR limit 1g (W/kg)	Ref. Plot
			100%	50%			100%	50%		
			Duty Cycle	Duty Cycle			Duty Cycle	Duty Cycle		
Analog/FM12.5KHz Face Held (Test distance 25mm)										
136.05	36.50	35.83	1.17	0.585	0.11	1.17	1.37	0.683	8	
150.825	36.50	35.97	1.19	0.595	0.03	1.13	1.34	0.672	8	
155.00	36.50	36.31	1.22	0.610	0.08	1.04	1.27	0.637	8	
164.5	36.50	36.20	1.23	0.615	0.18	1.07	1.32	0.659	8	
173.375	36.50	36.11	1.26	0.630	0.11	1.09	1.38	0.689	8	#33
173.95	36.50	36.07	1.13	0.565	0.11	1.10	1.25	0.624	8	
Digital/4FSK 12.5KHz Face Held (Test distance 25mm)										
173.375	36.50	36.09	0.466	0.233	0.08	1.10	0.51	0.256	8.0	
Analog/FM12.5KHzBody Worn with clip(Test distance 0mm)										
136.05	36.50	35.83	2.36	1.180	0.02	1.17	2.75	1.377	8	
150.825	36.50	35.97	2.41	1.205	-0.1	1.13	2.72	1.361	8	
155.00	36.50	36.31	2.47	1.235	0.13	1.04	2.58	1.290	8	
164.5	36.50	36.20	2.63	1.315	0.19	1.07	2.82	1.409	8	#34
173.375	36.50	36.11	2.54	1.270	0.12	1.09	2.78	1.389	8	
173.95	36.50	36.07	2.43	1.215	0.12	1.10	2.68	1.34	8	
Digital/4FSK 12.5KHzBody Worn with clip(Test distance 0mm)										
164.5	36.50	36.06	1.52	0.760	0.1	1.11	1.68	1.28	8.0	
Note:1.The value with green color is the maximum SAR Value of each test band. 2.Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).										

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SAR Values [PPT400-470MHz]

Test Frequency MHz	Maximum Allowed Power (dBm)	Measured ERP (dBm)	Measurement SAR _{1-g} (W/Kg)		Power drift	Scaling Factor	Reported SAR _{1-g} (W/kg)		SAR limit 1g (W/kg)	Ref. Plot
			100%	50%			100%	50%		
			Duty Cycle	Duty Cycle			Duty Cycle	Duty Cycle		
Analog/FM12.5KHz Face Held (Test distance 25mm)										
400.05	36.80	36.39	1.33	0.665	0.07	1.10	1.462	0.731	8	
406.15	36.80	36.51	1.36	0.68	-0.11	1.07	1.454	0.727	8	
417.00	36.80	36.56	1.43	0.715	-0.03	1.06	1.511	0.756	8	
435.05	36.80	36.70	1.49	0.745	-0.08	1.02	1.525	0.762	8	
452.00	36.80	36.81	1.56	0.78	-0.02	1.00	1.556	0.778	8	#35
469.95	36.80	36.61	1.45	0.725	-0.11	1.04	1.515	0.757	8	
Digital/4FSK 12.5KHz Face Held (Test distance 25mm)										
452.00	36.80	36.77	0.855	0.4275	-0.08	1.01	0.861	0.430	8.0	
Analog/FM12.5KHzBody Worn(Test distance 0mm)										
400.05	36.80	36.39	3.01	1.505	-0.15	1.10	3.308	1.654	8	
406.15	36.80	36.51	3.07	1.535	-0.02	1.07	3.282	1.641	8	
417.00	36.80	36.56	3.12	1.56	-0.1	1.06	3.297	1.649	8	
435.05	36.80	36.70	3.22	1.61	-0.13	1.02	3.295	1.648	8	
452.00	36.80	36.81	3.26	1.64	-0.16	1.00	3.272	1.636	8	
469.95	36.80	36.61	3.28	1.6	-0.12	1.04	3.343	1.672	8	#36
Digital/4FSK 12.5KHzBody Worn(Test distance 0mm)										
469.95	36.8	36.6	1.73	0.865	0.1	1.05	1.812	0.906	8.0	
Note:1.The value with green color is the maximum SAR Value of each test band. 2.Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).										

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14. SAR Measurement Variability

SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. The following procedures are applied to determine if repeated measurements are required.

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
- 3) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

15. Simultaneous Transmission Analysis

Mode	Air-Interface	Simultaneous?	Hotspot?
1	WWAN+BT2.4G+PPT	YES	No
2	WWAN+WLAN2.4G+PPT	YES	No
3	WWAN+WLAN5.2G+PPT	YES	No
4	WWAN+WLAN5.8G+PPT	YES	No
5	WWAN+WLAN	YES	YES

General note:

1. The EUT support WWAN(GSM/WCDMA/LTE), WLAN(WIFI 2.4GHz/5GHz), Bluetooth and PPT technology.
2. The PTT mode can't work in Earphone Speaking mode.
3. The PPT mode can't transmit Simultaneously with WWAN Voice mode.
4. The PPT mode can transmit Simultaneously with WWAN data mode or WLAN/Bluetooth, the data communication keep linked when PTT mode works.
5. WLAN and Bluetooth share the same antenna, and cannot transmit simultaneously.
6. EUT will choose either GSM or WCDMA LTE according to the network signal condition; therefore, they will not operate simultaneously at any moment.
7. The reported SAR summation is calculated based on the same configuration and test position
8. For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01 based on the formula below
 - a) $[(\text{max. Power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] * [\sqrt{f(\text{GHz})}]/x \text{ W/kg}$ for test separation distances $\leq 50\text{mm}$; when $x=7.5$ for 1-g SAR, and $x=18.75$ for 10-g SAR.
 - b) When the minimum separation distance is $<5\text{mm}$, the distance is used 5mm to determine SAR test exclusion
 - c) 0.4 W/kg for 1-g SAR and 1.0W/kg for 10-g SAR, when the test separation distances is $>50\text{mm}$.

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Estimated stand alone SAR					
Communication system	Frequency (MHz)	Configuration	Maximum Power (including tune-up tolerance) (dBm)	Separation Distance (mm)	Estimated SAR _{1-g} (W/kg)
Bluetooth*	2402	Head	4	5	0.106
Bluetooth*	2402	Body Worn/Hotspot	4	10	0.053
Bluetooth*	2402	Face Up	4	25	0.021
Bluetooth*	2402	Body Worn with clip	4	13	0.041

Simultaneous and Hotspot SAR test exclusion considerations:

WWAN+BT2.4G+PPT Simultaneous mode:

Mode (WWAN+ BT2.4G +PPT)	Position	Reported SAR(W/Kg)				Σ Mix SAR(SAR-to limit)<1	Σ SAR<8.0W/kg
		WWAN	BT2.4G	PPT VHF	PPT UFH		
GSM850+ BT2.4G +PTT	Head Left Check	0.389	0.106	N/A	N/A	0.309	0.495
	Head Left Tilt	0.297	0.106	N/A	N/A	0.252	0.403
	Head Right Check	0.367	0.106	N/A	N/A	0.296	0.473
	Head Right Tilt	0.292	0.106	N/A	N/A	0.249	0.398
	Face Up(25mm)	0.061	0.021	0.689	0.778	0.149	0.86
	Body Back with clip(0mm)	0.174	0.041	1.409	1.672	0.343	1.887
PCS1900+ BT2.4G +PTT	Head Left Check	0.368	0.106	N/A	N/A	0.296	0.474
	Head Left Tilt	0.273	0.106	N/A	N/A	0.237	0.379
	Head Right Check	0.337	0.106	N/A	N/A	0.277	0.443
	Head Right Tilt	0.257	0.106	N/A	N/A	0.227	0.363
	Face Up(25mm)	0.032	0.021	0.689	0.778	0.130	0.831
	Body Back with clip(0mm)	0.091	0.041	1.409	1.672	0.292	1.804
WCDMA Band 2+ BT2.4G +PTT	Head Left Check	0.354	0.106	N/A	N/A	0.288	0.46

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	Head Left Tilt	0.292	0.106	N/A	N/A	0.249	0.398
	Head Right Check	0.336	0.106	N/A	N/A	0.276	0.442
	Head Right Tilt	0.271	0.106	N/A	N/A	0.236	0.377
	Face Up(25mm)	0.068	0.021	0.689	0.778	0.153	0.867
	Body Back with clip(0mm)	0.179	0.041	1.409	1.672	0.347	1.892
WCDMA Band 5+ BT2.4G +PTT	Head Left Check	0.302	0.106	N/A	N/A	0.255	0.408
	Head Left Tilt	0.243	0.106	N/A	N/A	0.218	0.349
	Head Right Check	0.288	0.106	N/A	N/A	0.246	0.394
	Head Right Tilt	0.221	0.106	N/A	N/A	0.204	0.327
	Face Up(25mm)	0.063	0.021	0.689	0.778	0.150	0.862
	Body Back with clip(0mm)	0.173	0.041	1.409	1.672	0.343	1.886
LTE band 2+ BT2.4G +PTT	Head Left Check	0.233	0.106	N/A	N/A	0.212	0.339
	Head Left Tilt	0.178	0.106	N/A	N/A	0.178	0.284
	Head Right Check	0.220	0.106	N/A	N/A	0.204	0.326
	Head Right Tilt	0.175	0.106	N/A	N/A	0.176	0.281
	Face Up(25mm)	0.060	0.021	0.689	0.778	0.148	0.859
	Body Back with clip(0mm)	0.173	0.041	1.409	1.672	0.343	1.886
LTE band 4+ BT2.4G +PTT	Head Left Check	0.269	0.106	N/A	N/A	0.234	0.375
	Head Left Tilt	0.201	0.106	N/A	N/A	0.192	0.307
	Head Right Check	0.236	0.106	N/A	N/A	0.214	0.342
	Head Right Tilt	0.137	0.106	N/A	N/A	0.152	0.243
	Face Up(25mm)	0.068	0.021	0.689	0.778	0.153	0.867
	Body Back with clip(0mm)	0.278	0.041	1.409	1.672	0.408	1.991

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	clip(0mm)						
LTE band 5+ BT2.4G +PTT	Head Left Check	0.528	0.106	N/A	N/A	0.396	0.634
	Head Left Tilt	0.404	0.106	N/A	N/A	0.319	0.51
	Head Right Check	0.497	0.106	N/A	N/A	0.377	0.603
	Head Right Tilt	0.397	0.106	N/A	N/A	0.314	0.503
	Face Up(25mm)	0.130	0.021	0.689	0.778	0.192	0.929
	Body Back with clip(0mm)	0.371	0.041	1.409	1.672	0.467	2.084
LTE band 7+ BT2.4G +PTT	Head Left Check	0.184	0.106	N/A	N/A	0.181	0.29
	Head Left Tilt	0.143	0.106	N/A	N/A	0.156	0.249
	Head Right Check	0.166	0.106	N/A	N/A	0.170	0.272
	Head Right Tilt	0.125	0.106	N/A	N/A	0.144	0.231
	Face Up(25mm)	0.077	0.021	0.689	0.778	0.159	0.876
	Body Back with clip(0mm)	0.235	0.041	1.409	1.672	0.382	1.948
LTE band 12+ BT2.4G +PTT	Head Left Check	0.353	0.106	N/A	N/A	0.287	0.459
	Head Left Tilt	0.310	0.106	N/A	N/A	0.260	0.416
	Head Right Check	0.327	0.106	N/A	N/A	0.271	0.433
	Head Right Tilt	0.222	0.106	N/A	N/A	0.205	0.328
	Face Up(25mm)	0.036	0.021	0.689	0.778	0.133	0.835
	Body Back with clip(0mm)	0.146	0.041	1.409	1.672	0.326	1.859
LTE band 17+ BT2.4G +PTT	Head Left Check	0.252	0.106	N/A	N/A	0.224	0.358
	Head Left Tilt	0.234	0.106	N/A	N/A	0.213	0.34
	Head Right Check	0.214	0.106	N/A	N/A	0.200	0.32
	Head Right Tilt	0.208	0.106	N/A	N/A	0.196	0.314
	Face Up(25mm)	0.041	0.021	0.689	0.778	0.136	0.84

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	Up(25mm)						
	Body Back with clip(0mm)	0.128	0.041	1.409	1.672	0.315	1.841
LTE band 26+ BT2.4G +PTT	Head Left Check	0.213	0.106	N/A	N/A	0.199	0.319
	Head Left Tilt	0.159	0.106	N/A	N/A	0.166	0.265
	Head Right Check	0.187	0.106	N/A	N/A	0.183	0.293
	Head Right Tilt	0.109	0.106	N/A	N/A	0.134	0.215
	Face Up(25mm)	0.043	0.021	0.689	0.778	0.137	0.842
	Body Back with clip(0mm)	0.173	0.041	1.409	1.672	0.343	1.886
LTE band 38+ BT2.4G +PTT	Head Left Check	0.090	0.106	N/A	N/A	0.123	0.196
	Head Left Tilt	0.070	0.106	N/A	N/A	0.110	0.176
	Head Right Check	0.082	0.106	N/A	N/A	0.118	0.188
	Head Right Tilt	0.061	0.106	N/A	N/A	0.104	0.167
	Face Up(25mm)	0.035	0.021	0.689	0.778	0.132	0.834
	Body Back with clip(0mm)	0.105	0.041	1.409	1.672	0.300	1.818
LTE band 41+ BT2.4G +PTT	Head Left Check	0.073	0.106	N/A	N/A	0.112	0.179
	Head Left Tilt	0.064	0.106	N/A	N/A	0.106	0.17
	Head Right Check	0.067	0.106	N/A	N/A	0.108	0.173
	Head Right Tilt	0.046	0.106	N/A	N/A	0.095	0.152
	Face Up(25mm)	0.122	0.021	0.689	0.778	0.187	0.921
	Body Back with clip(0mm)	0.356	0.041	1.409	1.672	0.457	2.069

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WWAN+WLAN2.4G+PPT Simultaneous mode:

Mode (WWAN+ WLAN2.4G +PPT)	Position	Reported SAR(W/Kg)				Σ Mix SAR(SAR-to limit)<1	Σ SAR<8.0W/kg
		WWAN	WLAN2.4G	PPT VHF	PPT UHF		
GSM850+ WLAN2.4G +PTT	Head Left Check	0.389	0.321	N/A	N/A	0.444	0.71
	Head Left Tilt	0.297	0.272	N/A	N/A	0.356	0.569
	Head Right Check	0.367	0.292	N/A	N/A	0.412	0.659
	Head Right Tilt	0.292	0.255	N/A	N/A	0.342	0.547
	Face Up(25mm)	0.061	0.044	0.689	0.778	0.163	0.883
	Body Back with clip(0mm)	0.174	0.135	1.409	1.672	0.402	1.981
PCS1900+ WLAN2.4G +PTT	Head Left Check	0.368	0.321	N/A	N/A	0.431	0.689
	Head Left Tilt	0.273	0.272	N/A	N/A	0.341	0.545
	Head Right Check	0.337	0.292	N/A	N/A	0.393	0.629
	Head Right Tilt	0.257	0.255	N/A	N/A	0.320	0.512
	Face Up(25mm)	0.032	0.044	0.689	0.778	0.145	0.854
	Body Back with clip(0mm)	0.091	0.135	1.409	1.672	0.350	1.898
WCDMA Band 2+ WLAN2.4G +PTT	Head Left Check	0.354	0.321	N/A	N/A	0.422	0.675
	Head Left Tilt	0.292	0.272	N/A	N/A	0.353	0.564
	Head Right Check	0.336	0.292	N/A	N/A	0.393	0.628
	Head Right Tilt	0.271	0.255	N/A	N/A	0.329	0.526
	Face Up(25mm)	0.068	0.044	0.689	0.778	0.167	0.89
	Body Back with clip(0mm)	0.179	0.135	1.409	1.672	0.405	1.986

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WCDMA Band 5+ WLAN2.4G +PTT	Head Left Check	0.302	0.321	N/A	N/A	0.389	0.623
	Head Left Tilt	0.243	0.272	N/A	N/A	0.322	0.515
	Head Right Check	0.288	0.292	N/A	N/A	0.363	0.58
	Head Right Tilt	0.221	0.255	N/A	N/A	0.298	0.476
	Face Up(25mm)	0.063	0.044	0.689	0.778	0.164	0.885
	Body Back with clip(0mm)	0.173	0.135	1.409	1.672	0.402	1.98
LTE band 2+ WLAN2.4G +PTT	Head Left Check	0.233	0.321	N/A	N/A	0.346	0.554
	Head Left Tilt	0.178	0.272	N/A	N/A	0.281	0.45
	Head Right Check	0.220	0.292	N/A	N/A	0.320	0.512
	Head Right Tilt	0.175	0.255	N/A	N/A	0.269	0.43
	Face Up(25mm)	0.060	0.044	0.689	0.778	0.162	0.882
	Body Back with clip(0mm)	0.173	0.135	1.409	1.672	0.402	1.98
LTE band 4+ WLAN2.4G +PTT	Head Left Check	0.269	0.321	N/A	N/A	0.369	0.59
	Head Left Tilt	0.201	0.272	N/A	N/A	0.296	0.473
	Head Right Check	0.236	0.292	N/A	N/A	0.330	0.528
	Head Right Tilt	0.137	0.255	N/A	N/A	0.245	0.392
	Face Up(25mm)	0.068	0.044	0.689	0.778	0.167	0.89
	Body Back with clip(0mm)	0.278	0.135	1.409	1.672	0.467	2.085
LTE band 5+ WLAN2.4G +PTT	Head Left Check	0.528	0.321	N/A	N/A	0.531	0.849
	Head Left Tilt	0.404	0.272	N/A	N/A	0.423	0.676
	Head Right Check	0.497	0.292	N/A	N/A	0.493	0.789

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	Head Right Tilt	0.397	0.255	N/A	N/A	0.408	0.652
	Face Up(25mm)	0.130	0.044	0.689	0.778	0.206	0.952
	Body Back with clip(0mm)	0.371	0.135	1.409	1.672	0.525	2.178
LTE band 7+ WLAN2.4G +PTT	Head Left Check	0.184	0.321	N/A	N/A	0.316	0.505
	Head Left Tilt	0.143	0.272	N/A	N/A	0.259	0.415
	Head Right Check	0.166	0.292	N/A	N/A	0.286	0.458
	Head Right Tilt	0.125	0.255	N/A	N/A	0.238	0.38
	Face Up(25mm)	0.077	0.044	0.689	0.778	0.173	0.899
	Body Back with clip(0mm)	0.235	0.135	1.409	1.672	0.440	2.042
LTE band 12+ WLAN2.4G +PTT	Head Left Check	0.353	0.321	N/A	N/A	0.421	0.674
	Head Left Tilt	0.310	0.272	N/A	N/A	0.364	0.582
	Head Right Check	0.327	0.292	N/A	N/A	0.387	0.619
	Head Right Tilt	0.222	0.255	N/A	N/A	0.298	0.477
	Face Up(25mm)	0.036	0.044	0.689	0.778	0.147	0.858
	Body Back with clip(0mm)	0.146	0.135	1.409	1.672	0.385	1.953
LTE band 17+ WLAN2.4G +PTT	Head Left Check	0.252	0.321	N/A	N/A	0.358	0.573
	Head Left Tilt	0.234	0.272	N/A	N/A	0.316	0.506
	Head Right Check	0.214	0.292	N/A	N/A	0.316	0.506
	Head Right Tilt	0.208	0.255	N/A	N/A	0.289	0.463
	Face Up(25mm)	0.041	0.044	0.689	0.778	0.150	0.863
	Body Back with clip(0mm)	0.128	0.135	1.409	1.672	0.373	1.935

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	with clip(0mm)						
LTE band 26+ WLAN2.4G +PTT	Head Left Check	0.213	0.321	N/A	N/A	0.334	0.534
	Head Left Tilt	0.159	0.272	N/A	N/A	0.269	0.431
	Head Right Check	0.187	0.292	N/A	N/A	0.299	0.479
	Head Right Tilt	0.109	0.255	N/A	N/A	0.228	0.364
	Face Up(25mm)	0.043	0.044	0.689	0.778	0.152	0.865
	Body Back with clip(0mm)	0.173	0.135	1.409	1.672	0.402	1.98
LTE band 38+ WLAN2.4G +PTT	Head Left Check	0.090	0.321	N/A	N/A	0.257	0.411
	Head Left Tilt	0.070	0.272	N/A	N/A	0.214	0.342
	Head Right Check	0.082	0.292	N/A	N/A	0.234	0.374
	Head Right Tilt	0.061	0.255	N/A	N/A	0.198	0.316
	Face Up(25mm)	0.035	0.044	0.689	0.778	0.147	0.857
	Body Back with clip(0mm)	0.105	0.135	1.409	1.672	0.359	1.912
LTE band 41+ WLAN2.4G +PTT	Head Left Check	0.073	0.321	N/A	N/A	0.246	0.394
	Head Left Tilt	0.064	0.272	N/A	N/A	0.210	0.336
	Head Right Check	0.067	0.292	N/A	N/A	0.224	0.359
	Head Right Tilt	0.046	0.255	N/A	N/A	0.188	0.301
	Face Up(25mm)	0.122	0.044	0.689	0.778	0.201	0.944
	Body Back with clip(0mm)	0.356	0.135	1.409	1.672	0.516	2.163

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WWAN+WLAN5G+PPT Simultaneous mode:

Mode (WWAN+ WLAN5G +PPT)	Position	Reported SAR(W/Kg)					Σ Mix SAR(SAR-to limit)<1	Σ SAR<8.0W/kg
		WWAN	WLAN 5.2G	WLAN 5.8G	PPT VHF	PPT UHF		
GSM850+ WLAN5G +PTT	Head Left Check	0.389	0.265	0.212	N/A	N/A	0.409	0.654
	Head Left Tilt	0.297	0.225	0.179	N/A	N/A	0.326	0.522
	Head Right Check	0.367	0.242	0.193	N/A	N/A	0.381	0.609
	Head Right Tilt	0.292	0.210	0.168	N/A	N/A	0.314	0.502
	Face Up(25mm)	0.061	0.055	0.050	0.689	0.778	0.170	0.894
	Body Back with clip(0mm)	0.174	0.171	0.159	1.409	1.672	0.425	2.017
PCS1900+ WLAN5G +PTT	Head Left Check	0.368	0.265	0.212	N/A	N/A	0.396	0.633
	Head Left Tilt	0.273	0.225	0.179	N/A	N/A	0.311	0.498
	Head Right Check	0.337	0.242	0.193	N/A	N/A	0.362	0.579
	Head Right Tilt	0.257	0.210	0.168	N/A	N/A	0.292	0.467
	Face Up(25mm)	0.032	0.055	0.050	0.689	0.778	0.152	0.865
	Body Back with clip(0mm)	0.091	0.171	0.159	1.409	1.672	0.373	1.934
WCDMA Band 2+ WLAN5G +PTT	Head Left Check	0.354	0.265	0.212	N/A	N/A	0.387	0.619
	Head Left Tilt	0.292	0.225	0.179	N/A	N/A	0.323	0.517
	Head Right Check	0.336	0.242	0.193	N/A	N/A	0.361	0.578
	Head Right Tilt	0.271	0.210	0.168	N/A	N/A	0.301	0.481
	Face Up(25mm)	0.068	0.055	0.050	0.689	0.778	0.174	0.901
	Body Back with clip(0mm)	0.179	0.171	0.159	1.409	1.672	0.428	2.022
WCDMA Band 5+ WLAN5G +PTT	Head Left Check	0.302	0.265	0.212	N/A	N/A	0.354	0.567
	Head Left Tilt	0.243	0.225	0.179	N/A	N/A	0.293	0.468
	Head Right Check	0.288	0.242	0.193	N/A	N/A	0.331	0.53

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	Head Right Tilt	0.221	0.210	0.168	N/A	N/A	0.269	0.431
	Face Up(25mm)	0.063	0.055	0.050	0.689	0.778	0.171	0.896
	Body Back with clip(0mm)	0.173	0.171	0.159	1.409	1.672	0.424	2.016
LTE band 2+ WLAN5G +PTT	Head Left Check	0.233	0.265	0.212	N/A	N/A	0.311	0.498
	Head Left Tilt	0.178	0.225	0.179	N/A	N/A	0.252	0.403
	Head Right Check	0.220	0.242	0.193	N/A	N/A	0.289	0.462
	Head Right Tilt	0.175	0.210	0.168	N/A	N/A	0.241	0.385
	Face Up(25mm)	0.060	0.055	0.050	0.689	0.778	0.169	0.893
	Body Back with clip(0mm)	0.173	0.171	0.159	1.409	1.672	0.424	2.016
LTE band 4+ WLAN5G +PTT	Head Left Check	0.269	0.265	0.212	N/A	N/A	0.334	0.534
	Head Left Tilt	0.201	0.225	0.179	N/A	N/A	0.266	0.426
	Head Right Check	0.236	0.242	0.193	N/A	N/A	0.299	0.478
	Head Right Tilt	0.137	0.210	0.168	N/A	N/A	0.217	0.347
	Face Up(25mm)	0.068	0.055	0.050	0.689	0.778	0.174	0.901
	Body Back with clip(0mm)	0.278	0.171	0.159	1.409	1.672	0.490	2.121
LTE band 5+ WLAN5G +PTT	Head Left Check	0.528	0.265	0.212	N/A	N/A	0.496	0.793
	Head Left Tilt	0.404	0.225	0.179	N/A	N/A	0.393	0.629
	Head Right Check	0.497	0.242	0.193	N/A	N/A	0.462	0.739
	Head Right Tilt	0.397	0.210	0.168	N/A	N/A	0.379	0.607
	Face Up(25mm)	0.130	0.055	0.050	0.689	0.778	0.213	0.963
	Body Back with clip(0mm)	0.371	0.171	0.159	1.409	1.672	0.548	2.214
LTE band 7+ WLAN5G +PTT	Head Left Check	0.184	0.265	0.212	N/A	N/A	0.281	0.449
	Head Left Tilt	0.143	0.225	0.179	N/A	N/A	0.230	0.368
	Head Right Check	0.166	0.242	0.193	N/A	N/A	0.255	0.408
	Head Right Tilt	0.125	0.210	0.168	N/A	N/A	0.209	0.335

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	Face Up(25mm)	0.077	0.055	0.050	0.689	0.778	0.180	0.91
	Body Back with clip(0mm)	0.235	0.171	0.159	1.409	1.672	0.463	2.078
LTE band 12+ WLAN5G +PTT	Head Left Check	0.353	0.265	0.212	N/A	N/A	0.386	0.618
	Head Left Tilt	0.310	0.225	0.179	N/A	N/A	0.334	0.535
	Head Right Check	0.327	0.242	0.193	N/A	N/A	0.356	0.569
	Head Right Tilt	0.222	0.210	0.168	N/A	N/A	0.270	0.432
	Face Up(25mm)	0.036	0.055	0.050	0.689	0.778	0.154	0.869
	Body Back with clip(0mm)	0.146	0.171	0.159	1.409	1.672	0.407	1.989
LTE band 17+ WLAN5G +PTT	Head Left Check	0.252	0.265	0.212	N/A	N/A	0.323	0.517
	Head Left Tilt	0.234	0.225	0.179	N/A	N/A	0.287	0.459
	Head Right Check	0.214	0.242	0.193	N/A	N/A	0.285	0.456
	Head Right Tilt	0.208	0.210	0.168	N/A	N/A	0.261	0.418
	Face Up(25mm)	0.041	0.055	0.050	0.689	0.778	0.157	0.874
	Body Back with clip(0mm)	0.128	0.171	0.159	1.409	1.672	0.396	1.971
LTE band 26+ WLAN5G +PTT	Head Left Check	0.213	0.265	0.212	N/A	N/A	0.299	0.478
	Head Left Tilt	0.159	0.225	0.179	N/A	N/A	0.240	0.384
	Head Right Check	0.187	0.242	0.193	N/A	N/A	0.268	0.429
	Head Right Tilt	0.109	0.210	0.168	N/A	N/A	0.199	0.319
	Face Up(25mm)	0.043	0.055	0.050	0.689	0.778	0.159	0.876
	Body Back with clip(0mm)	0.173	0.171	0.159	1.409	1.672	0.424	2.016
LTE band 38+ WLAN5G +PTT	Head Left Check	0.090	0.265	0.212	N/A	N/A	0.222	0.355
	Head Left Tilt	0.070	0.225	0.179	N/A	N/A	0.184	0.295
	Head Right Check	0.082	0.242	0.193	N/A	N/A	0.203	0.324
	Head Right Tilt	0.061	0.210	0.168	N/A	N/A	0.169	0.271
	Face Up(25mm)	0.035	0.055	0.050	0.689	0.778	0.154	0.868

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	Up(25mm)							
	Body Back with clip(0mm)	0.105	0.171	0.159	1.409	1.672	0.382	1.948
LTE band 41+ WLAN5G +PTT	Head Left Check	0.073	0.265	0.212	N/A	N/A	0.211	0.338
	Head Left Tilt	0.064	0.225	0.179	N/A	N/A	0.181	0.289
	Head Right Check	0.067	0.242	0.193	N/A	N/A	0.193	0.309
	Head Right Tilt	0.046	0.210	0.168	N/A	N/A	0.160	0.256
	Face Up(25mm)	0.122	0.055	0.050	0.689	0.778	0.208	0.955
	Body Back with clip(0mm)	0.356	0.171	0.159	1.409	1.672	0.538	2.199

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WWAN+WLAN Hotspot mode:

Hotspot SAR for WIFI 2.4G and GSM/WCDMA/ LTE

	GSM 850	GSM 1900	WCDMA Band II	WCDMA Band V	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 7	LTE Band 12	LTE Band 17	LTE Band 26	LTE Band 38	LTE Band 41	WIFI 2.4G	MAX. ΣSAR _{1g}	Peak location separation ratio
Rear Side	0.205	0.107	0.211	0.203	0.203	0.327	0.436	0.277	0.172	0.194	0.204	0.124	0.419	0.158	0.594	N/A
Front Side	0.135	0.070	0.150	0.139	0.134	0.152	0.288	0.170	0.080	0.182	0.095	0.077	0.270	0.097	0.385	N/A
Left Edge	0.090	0.047	0.100	0.096	0.090	0.113	0.192	0.131	0.059	0.176	0.070	0.059	0.178	0.054	0.246	N/A
Right Edge	0.065	0.036	0.093	0.109	0.065	0.076	0.139	0.116	0.040	0.179	0.047	0.052	0.133	0.012	0.151	N/A
Top Edge	0.117	0.061	0.120	0.105	0.116	0.117	0.249	0.143	0.061	0.176	0.073	0.064	0.191	0.082	0.331	N/A
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	N/A

MAX. ΣSAR_{1g} = **0.594** W/kg < 1.6 W/kg, so the Simultaneous transmission SAR with volume scan are not required for WIFI 2.4G and GSM/WCDMA/LTE

Hotspot SAR for WIFI 5G and GSM/WCDMA/ LTE

	GSM 850	GSM 1900	WCDMA Band V	WCDMA Band II	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 7	LTE Band 12	LTE Band 17	LTE Band 26	LTE Band 38	LTE Band 41	WIFI 5.2G	WIFI 5.8G	MAX. ΣSAR _{1g}	Peak location separation ratio
Rear Side	0.205	0.107	0.211	0.203	0.203	0.327	0.436	0.277	0.172	0.194	0.204	0.124	0.419	0.201	0.186	0.637	N/A
Front Side	0.135	0.070	0.150	0.139	0.134	0.152	0.288	0.170	0.080	0.182	0.095	0.077	0.270	0.124	0.128	0.416	N/A
Left Edge	0.090	0.047	0.100	0.096	0.090	0.113	0.192	0.131	0.059	0.176	0.070	0.059	0.178	0.050	0.088	0.28	N/A
Right Edge	0.065	0.036	0.093	0.109	0.065	0.076	0.139	0.116	0.040	0.179	0.047	0.052	0.133	0.011	0.029	0.168	N/A
Top Edge	0.117	0.061	0.120	0.105	0.116	0.117	0.249	0.143	0.061	0.176	0.073	0.064	0.191	0.103	0.096	0.352	N/A
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	N/A	N/A

MAX. ΣSAR_{1g} = **0.637** W/kg < 1.6 W/kg, so the Simultaneous transmission SAR with volume scan are not required for WIFI 5G and GSM/WCDMA/LTE

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16. Measurement Uncertainty

NO	Source	Uncert. ai (%)	Prob. Dist.	Div. k	ci (1g)	ci (10g)	Stand.Un cert. ui (1g)	Stand.Un cert. ui (10g)	Veff
1	Repeat	0.4	N	1	1	1	0.4	0.4	9
Instrument									
2	Probe calibration	7	N	2	1	1	3.5	3.5	∞
3	Axial isotropy	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
4	Hemispherical isotropy	9.4	R	$\sqrt{3}$	0.7	0.7	3.9	3.9	∞
5	Boundary effect	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Linearity	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
7	Detection limits	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
8	Readout electronics	0.3	N	1	1	1	0.3	0.3	∞
9	Response time	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
10	Integration time	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
11	Ambient noise	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
12	Ambient reflections	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Probe positioner mech. restrictions	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
14	Probe positioning with respect to phantom shell	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
15	Max.SAR evaluation	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞

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Test sample related									
16	Device positioning	3.8	N	1	1	1	3.8	3.8	99
17	Device holder	5.1	N	1	1	1	5.1	5.1	5
18	Drift of output power	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up									
19	Phantom uncertainty	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
20	Liquid conductivity (target)	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
21	Liquid conductivity (meas)	2.5	N	1	0.64	0.43	1.6	1.2	∞
22	Liquid Permittivity (target)	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.5	∞
23	Liquid Permittivity (meas)	2.5	N	1	0.6	0.49	1.5	1.2	∞
Combined standard			RSS	$U_c = \sqrt{\sum_{i=1}^n C_i^2 U_i^2}$			11.4%	11.3%	236
Expanded uncertainty(P=95%)		$U = k U_c$,k=2					22.8%	22.6%	

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Appendix A. EUT Photos and Test Setup Photos

Handset mode



Left Head Touch



Right Head Touch



Left Head Tilt (15°)



Right Head Tilt (15°)

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Body-worn Front Side (10mm)



Body-worn Rear Side (10mm)



Body-worn Left Side (10mm)



Body-worn Right Side (10mm)



Body-worn Top Side (10mm)

Front of face, the front of the EUT towards phantom (The distance was 25mm)

**Body-worn, the front of the EUT towards ground
(The distance was 0mm)**



Face up (The distance was 25mm)



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Appendix B. Plots of SAR System Check

System Performance Check at 150 MHz Head TSL

Date: 12/6/2019

DUT: Dipole 150 MHz; Type: D150V2; Serial: 4020

Communication System: VHF; Frequency: 150 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 150$ MHz; $\sigma = 0.74$ S/m; $\epsilon_r = 51.22$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 -3337; ConvF(7.96, 7.96, 7.96); Calibrated: 7/23/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (101x161x1): Interpolated grid: $dx=1.500$ mm, $dy=1.50$ mm

Maximum value of SAR (interpolated) = 0.521 mW/g

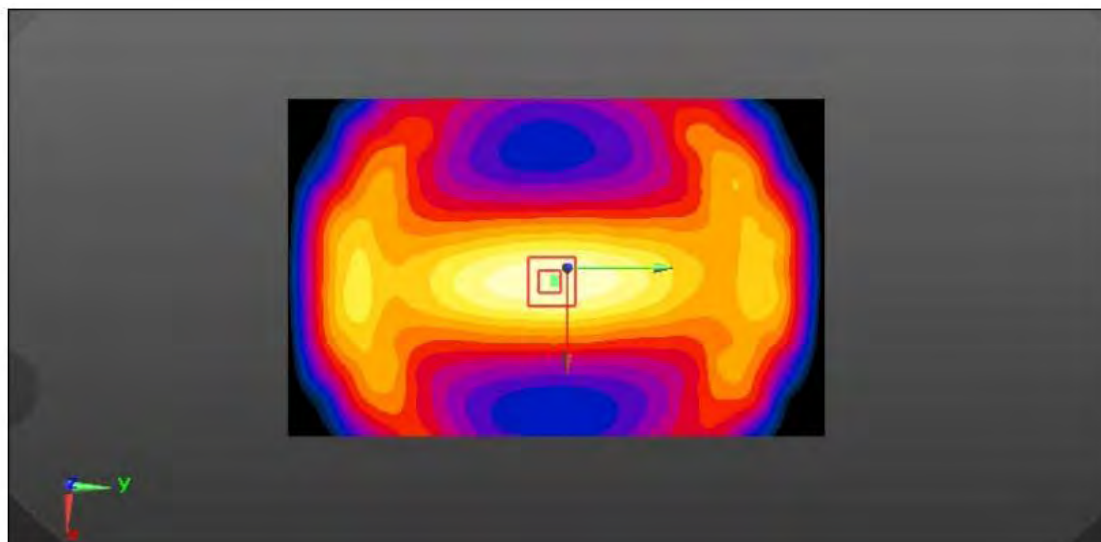
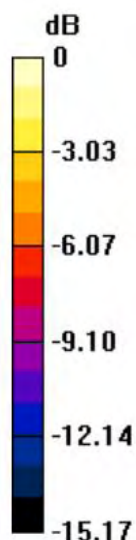
Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 24.45 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.635 mW/g

SAR(1 g) = 0.361 mW/g; SAR(10 g) = 0.248 mW/g

Maximum value of SAR (measured) = 0.514 mW/g



System Performance Check 150MHz Body 1W

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System Performance Check at 150 MHz Body TSL

Date: 12/6/2019

DUT: Dipole 150 MHz; Type: D150V2; Serial: 4020

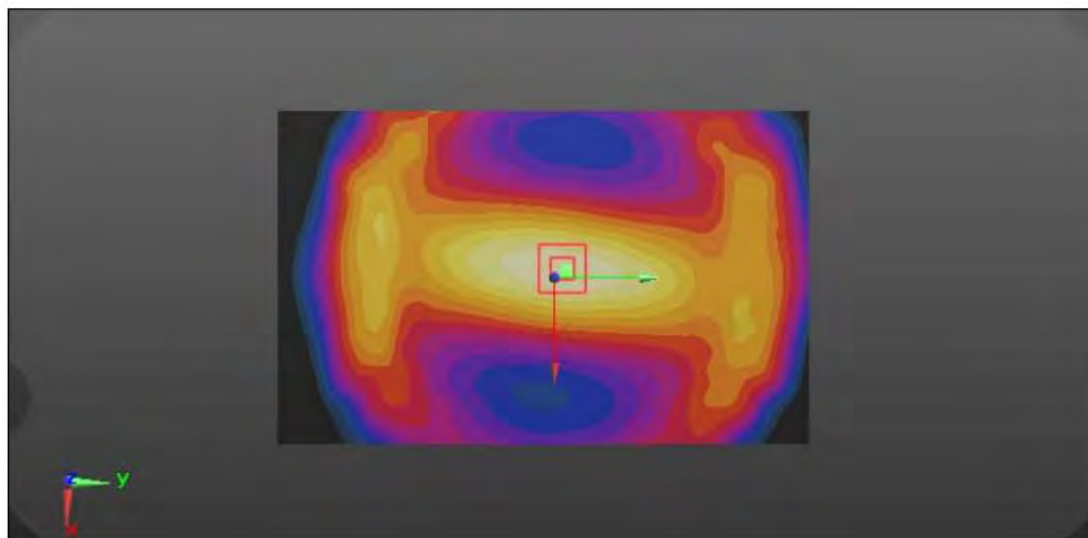
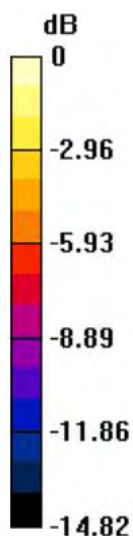
Communication System: VHF; Frequency: 150 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 150 \text{ MHz}$; $\sigma = 0.76 \text{ S/m}$; $\epsilon_r = 61.79$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 -3337; ConvF(7.42, 7.42, 7.42); Calibrated: 7/23/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (101x161x1): Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.50 \text{ mm}$ Maximum value of SAR (interpolated) = 0.569 mW/g **Zoom Scan (7x7x7)/Cube 0:** Measurement grid: $dx=5 \text{ mm}$, $dy=5 \text{ mm}$, $dz=5 \text{ mm}$ Reference Value = 21.74 V/m ; Power Drift = 0.03 dB Peak SAR (extrapolated) = 0.675 mW/g **SAR(1 g) = 0.377 mW/g ; SAR(10 g) = 0.265 mW/g** Maximum value of SAR (measured) = 0.547 mW/g 

System Performance Check 150MHz Body 1W

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System Performance Check at 450 MHz Head TSL

Date: 12/6/2019

DUT: Dipole 450 MHz; Type: D450V2;

Communication System: DuiJiangJi; Frequency: 450 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 450$ MHz; $\sigma = 0.88$ S/m; $\epsilon_r = 44.38$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 -3337; ConvF(6.99, 6.99, 6.99); Calibrated: 7/23/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

System Performance Check at 450MHz/Area Scan (61x201x1): Interpolated grid: $dx=1.500$ mm, $dy=1.50$ mm

Maximum value of SAR (interpolated) = 1.49 W/Kg

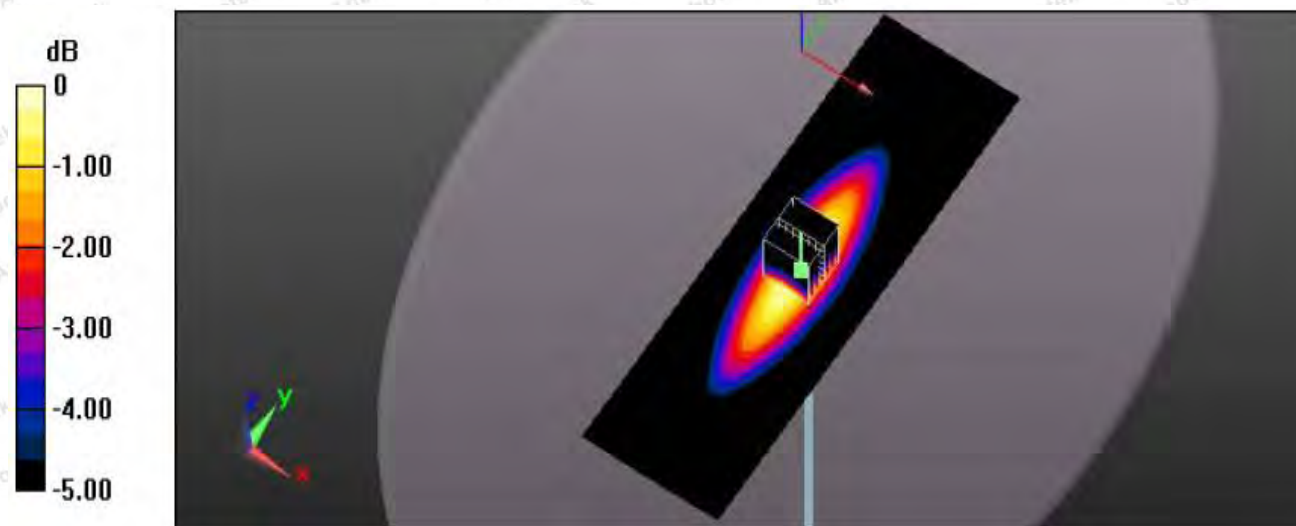
System Performance Check at 450MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 42.76 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.75 W/Kg

SAR(1 g) = 1.16 W/Kg; SAR(10 g) = 0.790 W/Kg

Maximum value of SAR (measured) = 1.47 W/Kg



System Performance Check 450MHz Head 250mW

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System Performance Check at 450 MHz Body TSL

Date: 12/6/2019

DUT: Dipole 450 MHz; Type: D450V2;

Communication System: DuiJiangJi; Frequency: 450 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 450$ MHz; $\sigma = 0.96$ S/m; $\epsilon_r = 57.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 -3337; ConvF(7.09, 7.09, 7.09); Calibrated: 7/23/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

System Performance Check at 450MHz/Area Scan (61x201x1): Interpolated grid: $dx=1.500$ mm, $dy=1.50$ mm

Maximum value of SAR (interpolated) = 1.44 W/Kg

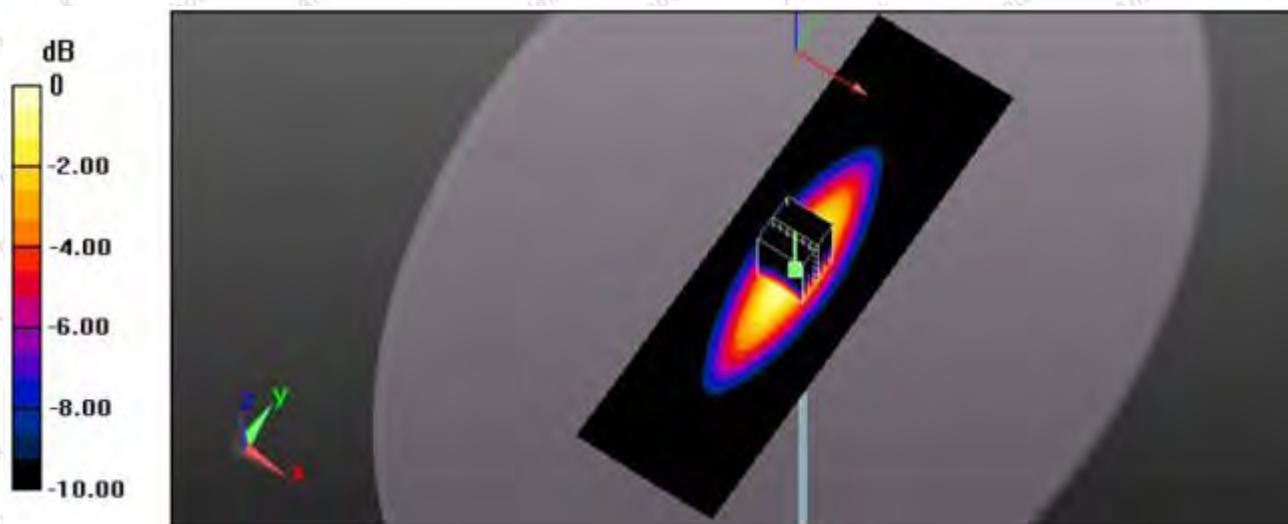
System Performance Check at 450MHz/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5$ mm, $dy=5$ mm, $dz=5$ mm

Reference Value = 39.2 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 1.71 W/Kg

SAR(1 g) = 1.13 W/Kg; SAR(10 g) = 0.757 W/Kg

Maximum value of SAR (measured) = 1.41 W/Kg



System Performance Check 450MHz Body 250mW

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System Performance Check at 750 MHz Head

Date: 12/1/2019

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1163

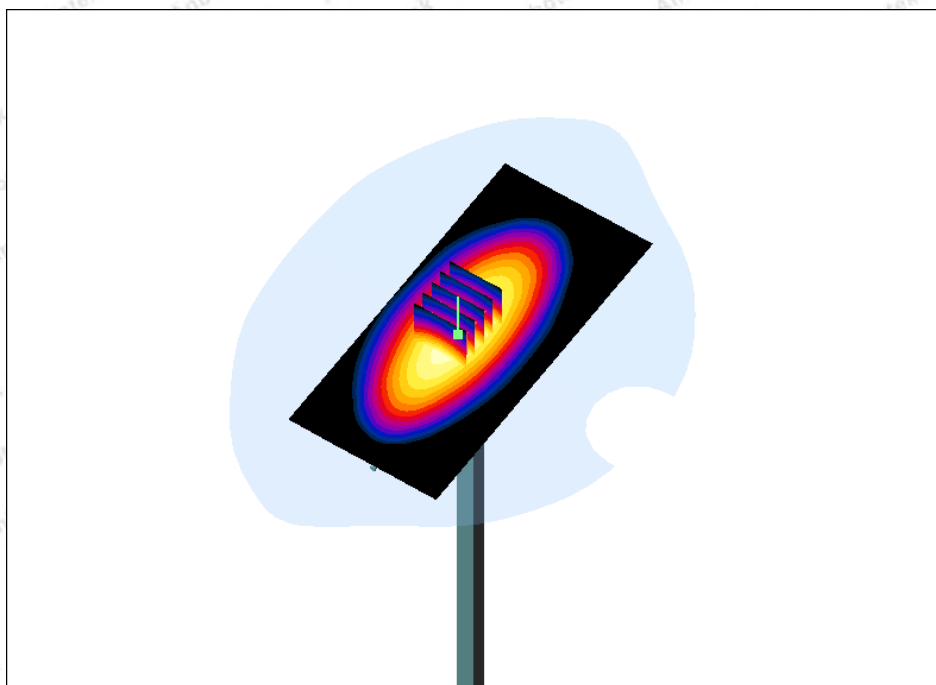
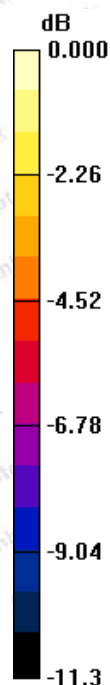
Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used: $f=750\text{MHz}$; $\sigma=0.87\text{ mho/m}$; $\epsilon_r=41.87$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.82, 9.82, 9.82); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x131x1): Measurement grid: $dx=15.00\text{ mm}$, $dy=15.00\text{ mm}$ Maximum value of SAR (interpolated) = 2.03 mW/g **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 47.4 V/m ; Power Drift = -0.091 dB Peak SAR (extrapolated) = 2.96 W/kg **SAR(1 g) = 2.15mW/g ; SAR(10 g) = 1.25 mW/g** Maximum value of SAR (measured) = 2.10 mW/g 

System Performance Check 750MHz Head 250mW

Shenzhen Anbotek Compliance Laboratory Limited

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System Performance Check at 750 MHz Body

Date: 12/1/2019

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1163

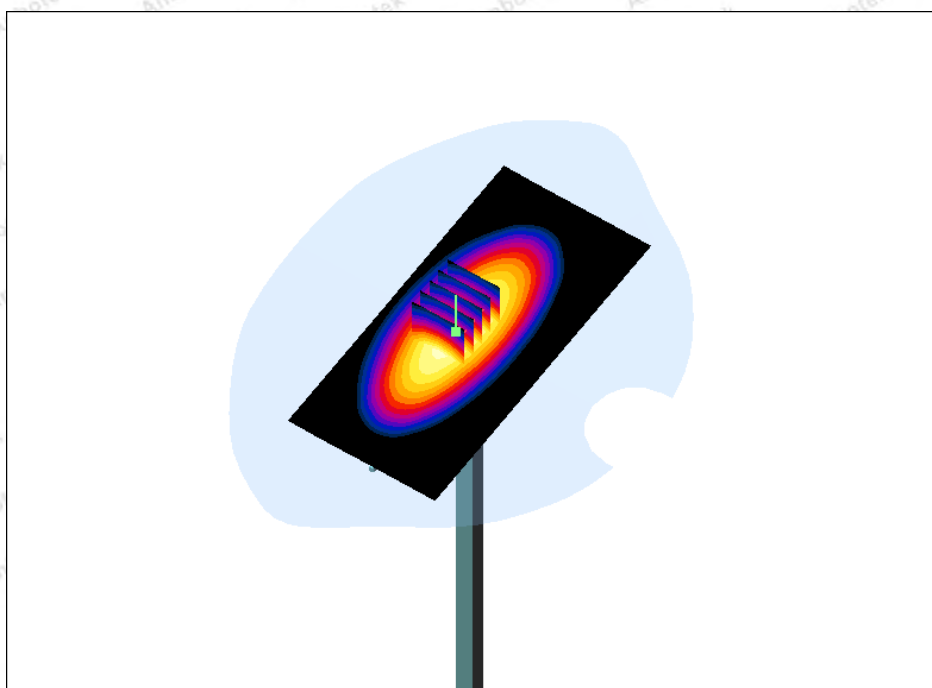
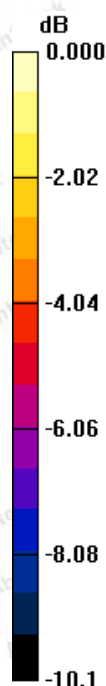
Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used: $f=750\text{MHz}$; $\sigma=0.94\text{ mho/m}$; $\epsilon_r=55.18$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(10.09, 10.09, 10.09); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x131x1): Measurement grid: $dx=15.00\text{ mm}$, $dy=15.00\text{ mm}$ Maximum value of SAR (interpolated) = 2.31 mW/g **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 49.1 V/m ; Power Drift = -0.141 dB Peak SAR (extrapolated) = 3.20 W/kg **SAR(1 g) = 2.22mW/g ; SAR(10 g) = 1.43 mW/g** Maximum value of SAR (measured) = 2.40 mW/g 

System Performance Check 750MHz Body 250mW

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System Performance Check at 835 MHz Head

Date: 12/2/2019

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d154

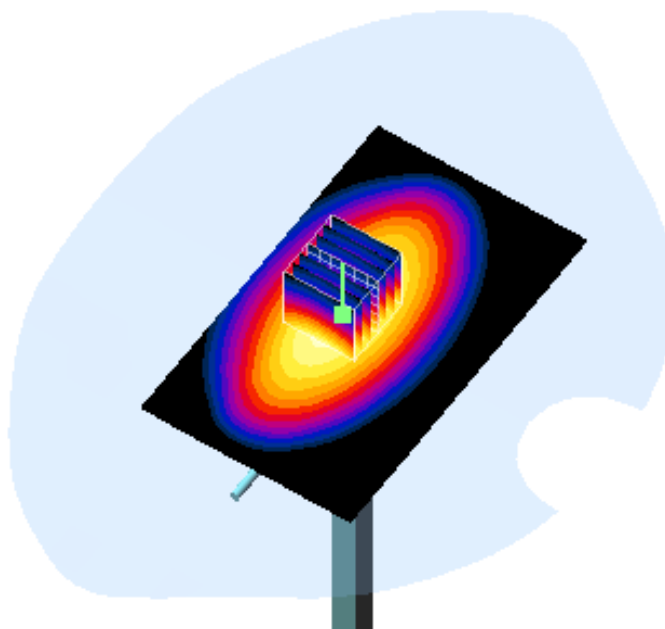
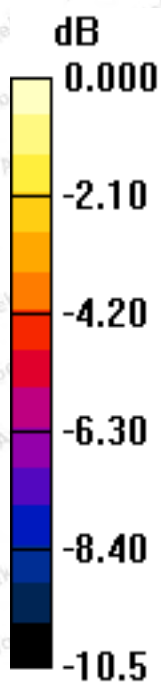
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $f=835\text{MHz}$; $\sigma=0.95\text{ mho/m}$; $\epsilon_r=42.32$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.71, 9.71, 9.71); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00\text{ mm}$, $dy=15.00\text{ mm}$ Maximum value of SAR (interpolated) = 2.82 mW/g Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 54.523 V/m ; Power Drift = -0.01 dB Peak SAR (extrapolated) = 4.068 W/kg SAR(1 g) = 2.32 mW/g ; SAR(10 g) = 1.68 mW/g Maximum value of SAR (measured) = 2.90 mW/g 

System Performance Check 835MHz Head 250mW

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System Performance Check at 835 MHz Body

Date: 12/2/2019

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d154

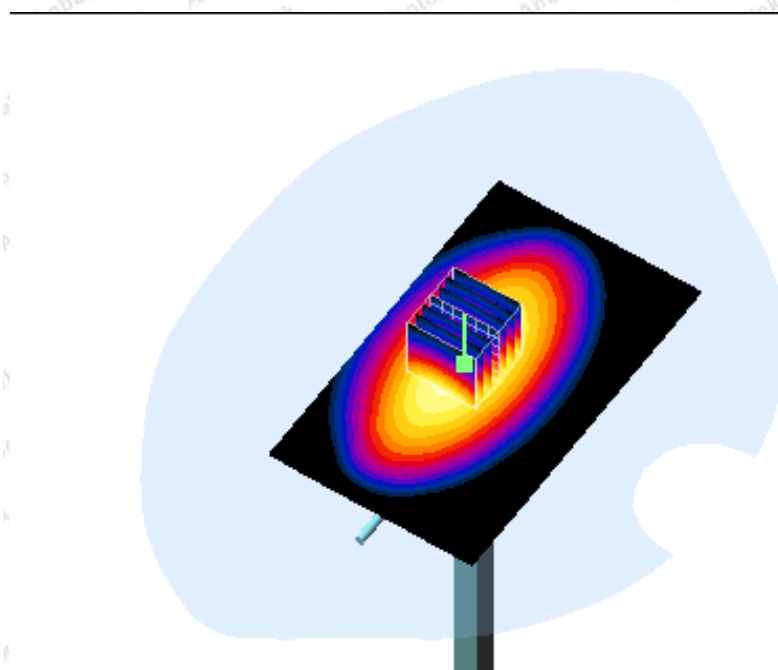
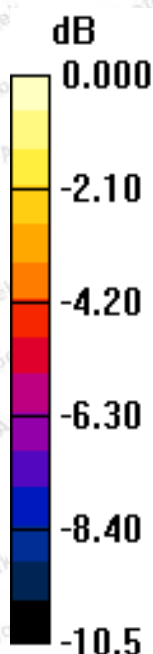
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $f=835\text{MHz}$; $\sigma=0.95\text{ mho/m}$; $\epsilon_r=54.78$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.88, 9.88, 9.88); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00\text{ mm}$, $dy=15.00\text{ mm}$ Maximum value of SAR (interpolated) = 2.72 mW/g **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 54.523 V/m ; Power Drift = -0.01 dB Peak SAR (extrapolated) = 4.068 W/kg **SAR(1 g) = 2.41 mW/g ; SAR(10 g) = 1.55 mW/g** Maximum value of SAR (measured) = 2.81 mW/g 

System Performance Check 835MHz Body 250mW

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System Performance Check at 1750 MHz Head

Date: 12/3/2019

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1021

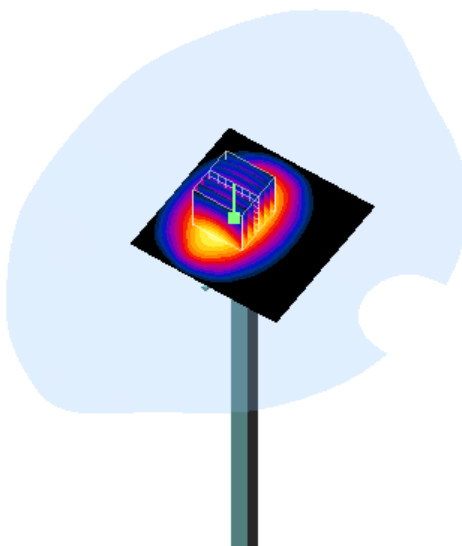
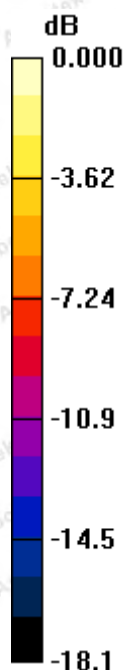
Communication System: CW; Frequency: 1750MHz; Duty Cycle: 1:1

Medium parameters used: $f=1750\text{MHz}$; $\sigma = 1.39 \text{ mho/m}$; $\epsilon_r = 39.84$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(8.61, 8.61, 8.61); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00 \text{ mm}$, $dy=15.00 \text{ mm}$ Maximum value of SAR (interpolated) = 8.60 mW/g **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 83.712 V/m ; Power Drift = 0.03dB Peak SAR (extrapolated) = 16.718 W/kg **SAR(1 g) = 9.24mW/g ; SAR(10 g) = 4.64 mW/g** Maximum value of SAR (measured) = 9.95 mW/g 

System Performance Check 1750MHz Head 250mW

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System Performance Check at 1750 MHz Body

Date: 12/3/2019

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1021

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

Medium parameters used: $f=1750\text{MHz}$; $\sigma = 1.46\text{mho/m}$; $\epsilon_r = 54.19$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(8.24, 8.24, 8.24); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00\text{ mm}$, $dy=15.00\text{ mm}$

Maximum value of SAR (interpolated) = 12.60 mW/g

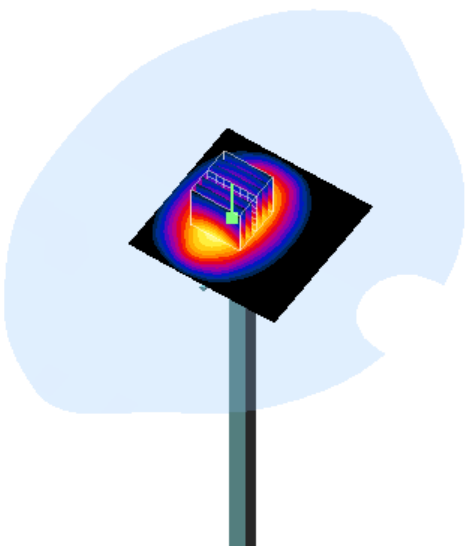
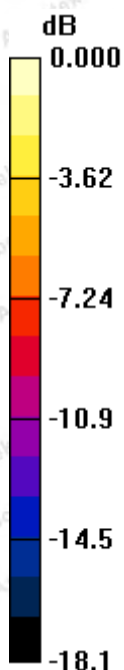
Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 81.17 V/m ; Power Drift = 0.03dB

Peak SAR (extrapolated) = 15.81 W/kg

SAR(1 g) = 9.16mW/g ; SAR(10 g) = 4.74 mW/g

Maximum value of SAR (measured) = 12.71 mW/g



0 dB = 12.71mW/g

System Performance Check 1750MHz Body 250mW

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System Performance Check at 1900 MHz Head

Date: 12/3/2019

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d175

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

Medium parameters used: $f=1900\text{MHz}$; $\sigma = 1.35 \text{ mho/m}$; $\epsilon_r = 40.15$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(8.13, 8.13, 8.13); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00 \text{ mm}$, $dy=15.00 \text{ mm}$ Maximum value of SAR (interpolated) = 11.3 mW/g **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 80.6 V/m ; Power Drift = -0.005 dB Peak SAR (extrapolated) = 17.5 W/kg **SAR(1 g) = 10.12mW/g ; SAR(10 g) = 5.28mW/g** Maximum value of SAR (measured) = 11.24 mW/g 

System Performance Check 1900MHz Head 250mW

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System Performance Check at 1900 MHz Body

Date: 12/3/2019

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d175

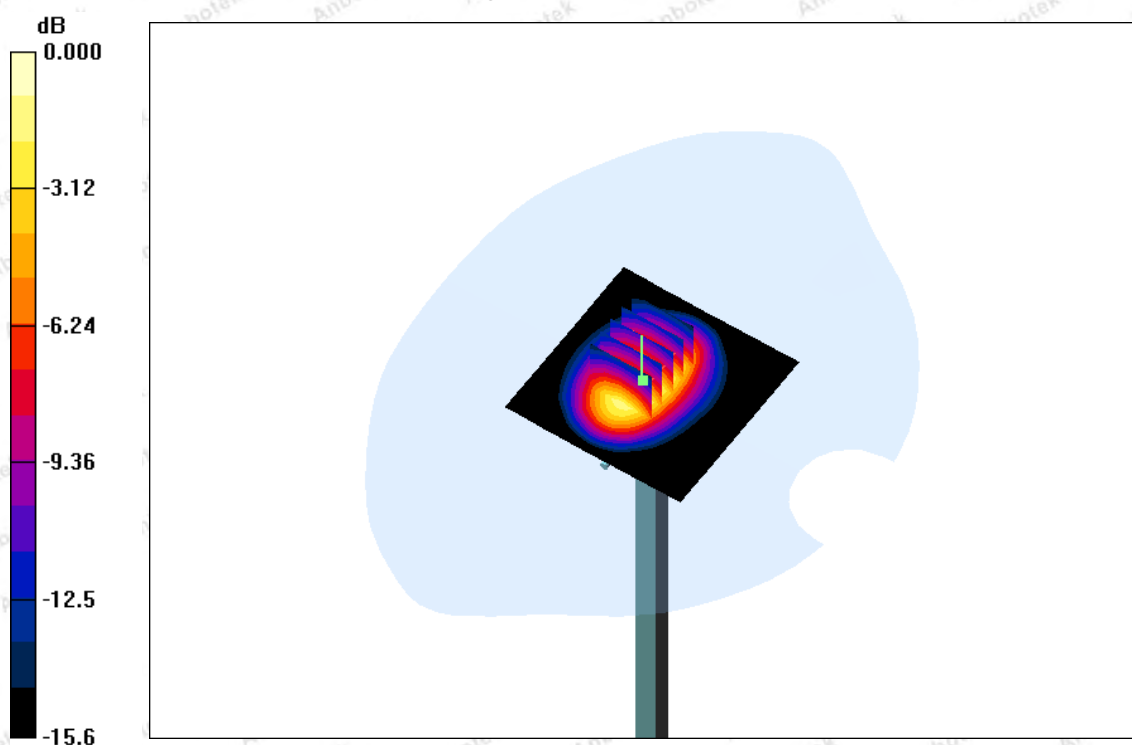
Communication System: CW; Frequency: 1900MHz; Duty Cycle: 1:1

Medium parameters used: $f=1900\text{MHz}$; $\sigma = 1.55 \text{ mho/m}$; $\epsilon_r = 53.32$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.97, 7.97, 7.97); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00 \text{ mm}$, $dy=15.00 \text{ mm}$ Maximum value of SAR (interpolated) = 12.8 mW/g **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 85.9 V/m ; Power Drift = 0.109 dB Peak SAR (extrapolated) = 19.7 W/kg **SAR(1 g) = 10.04mW/g ; SAR(10 g) = 5.39mW/g** Maximum value of SAR (measured) = 12.47mW/g 0 dB = 12.47mW/g

System Performance Check 1900MHz Body 250mW

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System Performance Check at 2450 MHz Head

Date: 12/4/2019

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 910

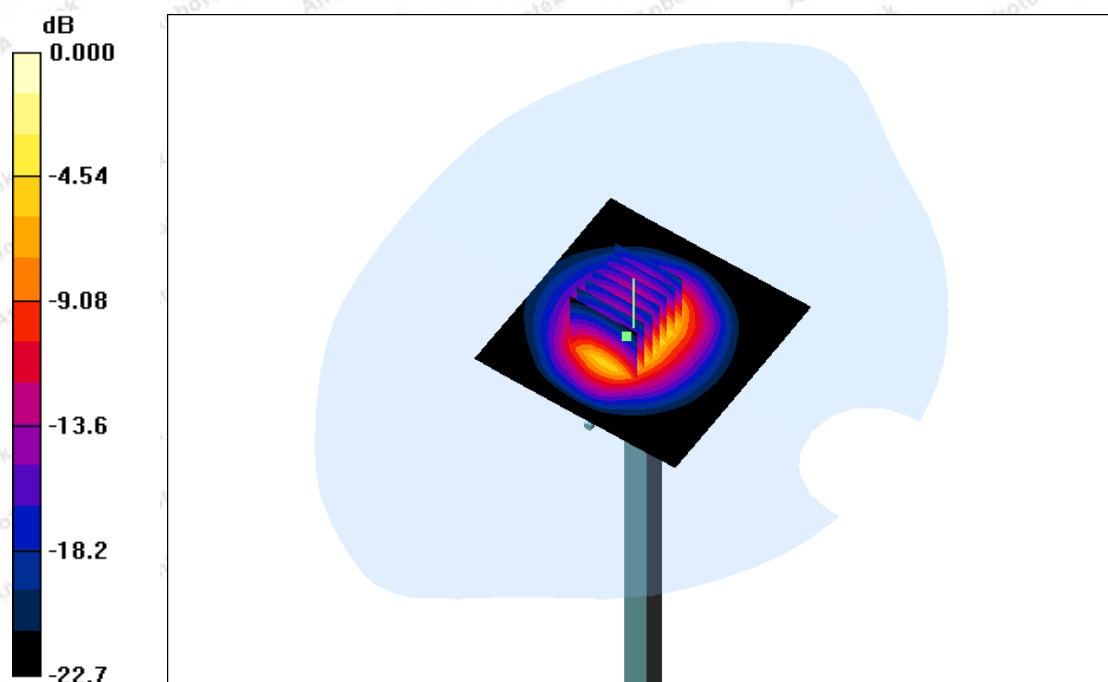
Communication System: CW; Frequency: 2450MHz; Duty Cycle: 1:1

Medium parameters used: $f=2450\text{MHz}$; $\sigma = 1.76 \text{ mho/m}$; $\epsilon_r = 38.93$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.57, 7.57, 7.57); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00 \text{ mm}$, $dy=15.00 \text{ mm}$ Maximum value of SAR (interpolated) = 16.7 mW/g **Zoom Scan (7x7x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 87.0 V/m ; Power Drift = 0.019 dB Peak SAR (extrapolated) = 30.7 W/kg **SAR(1 g) = 13.08mW/g ; SAR(10 g) = 6.24mW/g** Maximum value of SAR (measured) = 16.07mW/g 

System Performance Check 2450MHz Head 250mW

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System Performance Check at 2450MHz Body

Date: 12/4/2019

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 910

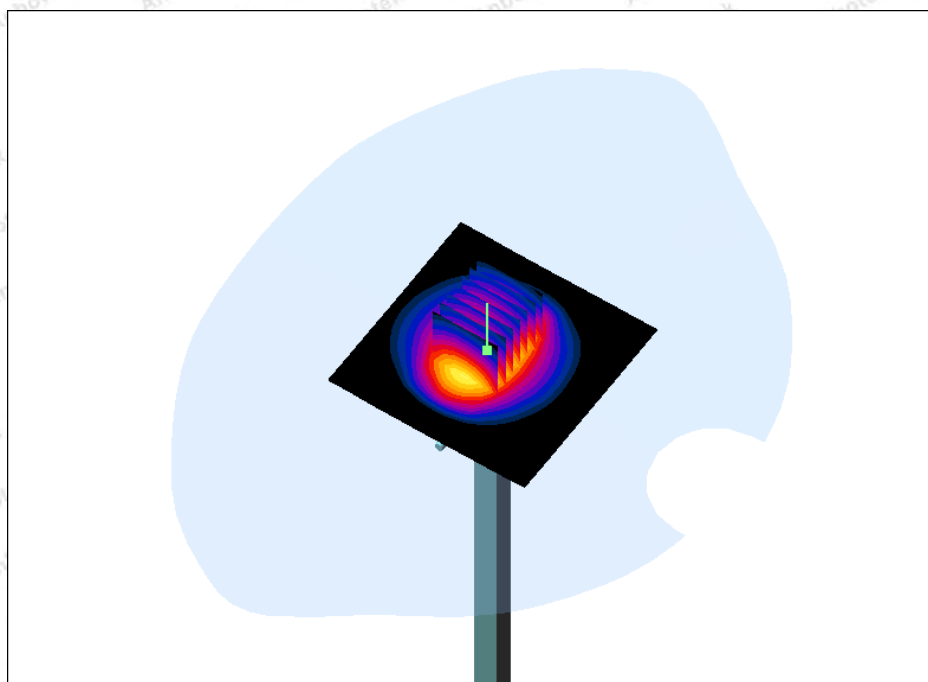
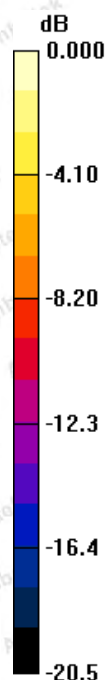
Communication System: CW; Frequency: 2450MHz; Duty Cycle: 1:1

Medium parameters used: $f=2450\text{MHz}$; $\sigma = 1.95 \text{ mho/m}$; $\epsilon_r = 50.69$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.53, 7.53, 7.53); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00 \text{ mm}$, $dy=15.00 \text{ mm}$ Maximum value of SAR (interpolated) = 16.2 mW/g **Zoom Scan (7x7x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 89.5 V/m ; Power Drift = 0.017 dB Peak SAR (extrapolated) = 27.0 W/kg **SAR(1 g) = 12.93 mW/g ; SAR(10 g) = 6.47 mW/g** Maximum value of SAR (measured) = 15.59 mW/g 0 dB = 15.59 mW/g

System Performance Check 2450MHz Body 250mW

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System Performance Check at 2600 MHz Head

Date: 12/4/2019

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1058

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

Medium parameters used: $f=2600\text{MHz}$; $\sigma=1.89\text{ mho/m}$; $\epsilon_r=38.55$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.38, 7.38, 7.38); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00\text{ mm}$, $dy=15.00\text{ mm}$ Maximum value of SAR (interpolated) = 21.1 mW/g **Zoom Scan (7x7x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 84.1 V/m ; Power Drift = 0.032 dB Peak SAR (extrapolated) = 30.2 W/kg **SAR(1 g) = 14.27mW/g ; SAR(10 g) = 6.50mW/g** Maximum value of SAR (measured) = 19.73mW/g 

System Performance Check 2600MHz Head 250mW

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System Performance Check at 2600MHz Body

Date: 12/4/2019

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1058

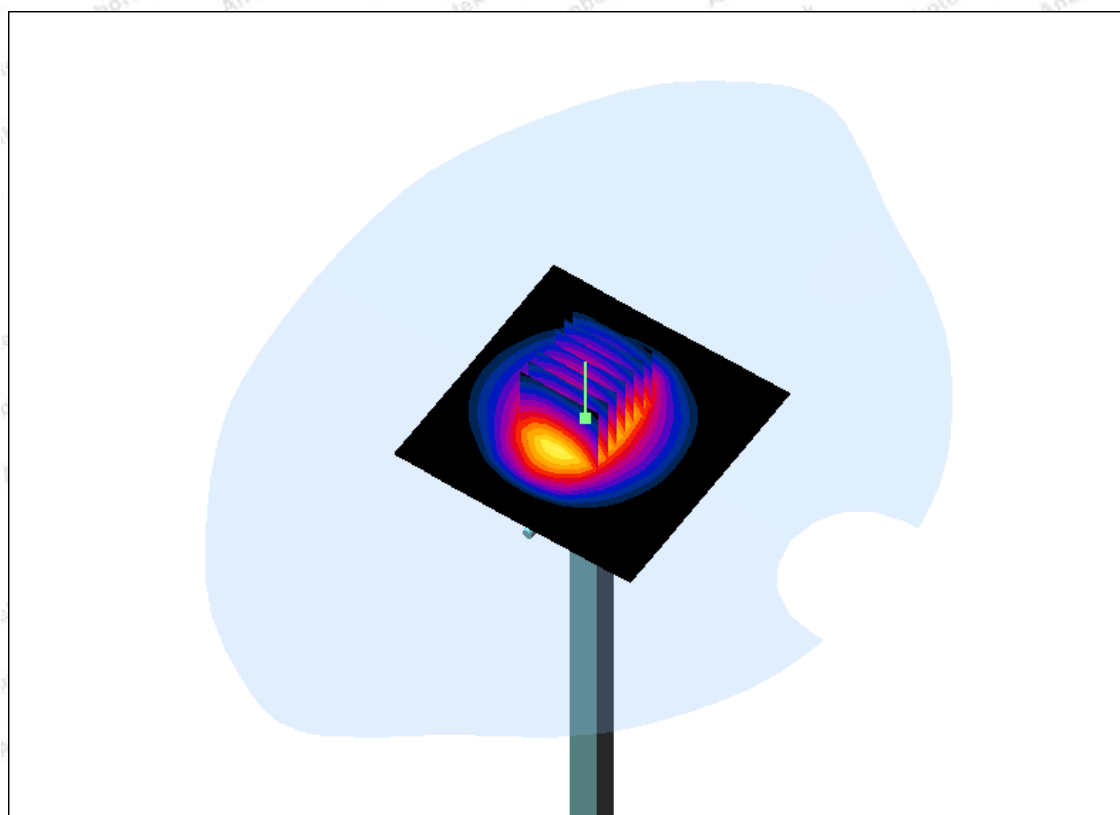
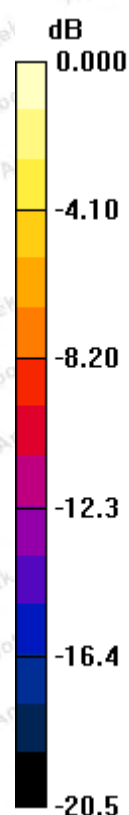
Communication System: CW; Frequency: 2600MHz; Duty Cycle: 1:1

Medium parameters used: $f=2600\text{MHz}$; $\sigma=2.20\text{ mho/m}$; $\epsilon_r=51.41$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.38, 7.38, 7.38); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00\text{ mm}$, $dy=15.00\text{ mm}$ Maximum value of SAR (interpolated) = 25.1mW/g **Zoom Scan (7x7x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 89.4 V/m ; Power Drift = 0.018 dB Peak SAR (extrapolated) = 34.1 W/kg **SAR(1 g) = 14.22mW/g ; SAR(10 g) = 6.39mW/g** Maximum value of SAR (measured) = 22.98mW/g 0 dB = 22.98mW/g

System Performance Check 2600MHz Body 250mW

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System Performance Check at 5250 MHz Head

Date: 12/5/2019

DUT: Dipole 5200 MHz; Type: D5GHzV2; Serial: 1003

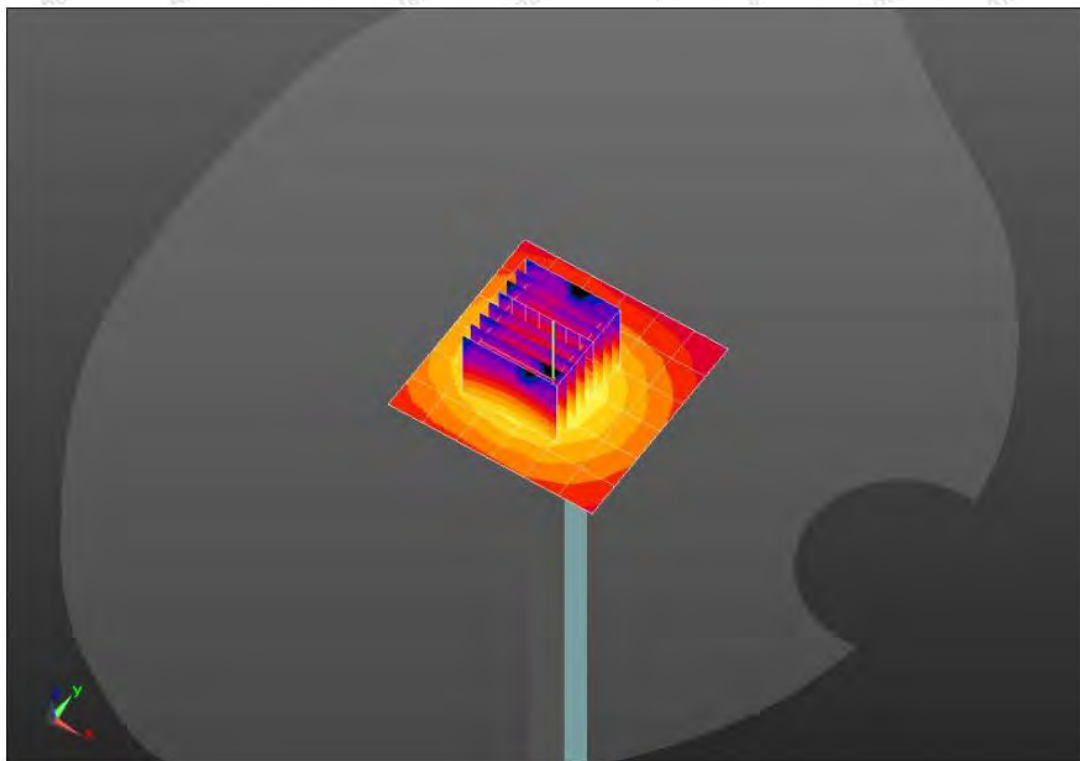
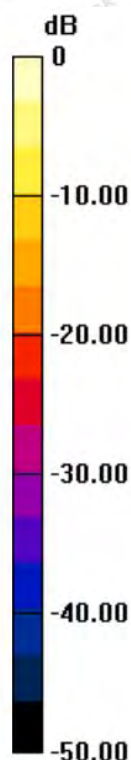
Communication System: CW; Frequency: 5250MHz; Duty Cycle: 1:1

Medium parameters used: $f=5250\text{MHz}$; $\sigma=4.52\text{ mho/m}$; $\epsilon_r=35.89$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(5.33, 5.33, 5.33); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=10.00\text{ mm}$, $dy=10.00\text{ mm}$ Maximum value of SAR (interpolated) = 16.3mW/g **Zoom Scan (8x8x7)/Cube 0:** Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$ Reference Value = 52.96 V/m ; Power Drift = 0.15 dB Peak SAR (extrapolated) = 33.9 W/kg **SAR(1 g) = 8.04mW/g ; SAR(10 g) = 2.40mW/g** Maximum value of SAR (measured) = 18.9mW/g 

System Performance Check 5250MHz Head 100mW

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System Performance Check at 5250 MHz Body

Date: 12/5/2019

DUT: Dipole 5200 MHz; Type: D5GHzV2; Serial: 1003

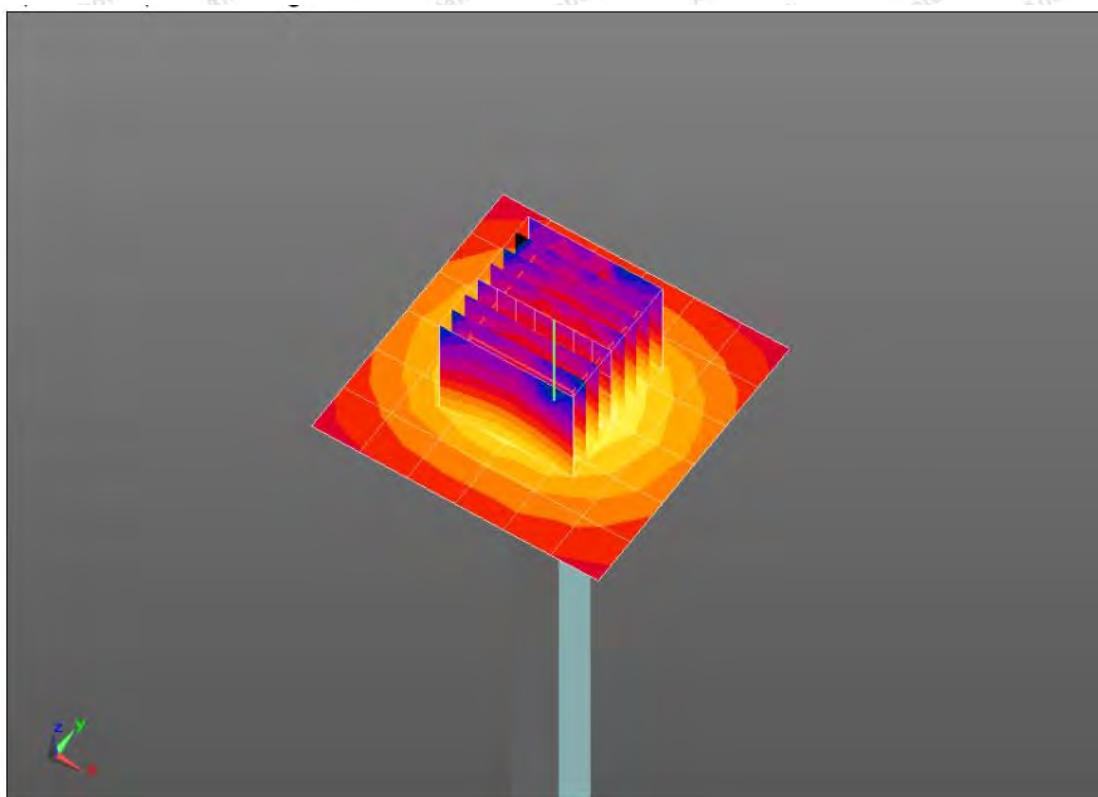
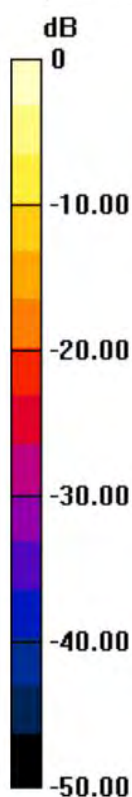
Communication System: CW; Frequency: 5250MHz; Duty Cycle: 1:1

Medium parameters used: $f=5250\text{MHz}$; $\sigma=5.38\text{ mho/m}$; $\epsilon_r=47.90$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(4.93, 4.93, 4.93); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=10.00\text{ mm}$, $dy=10.00\text{ mm}$ Maximum value of SAR (interpolated) = 18.4mW/g **Zoom Scan (8x8x7)/Cube 0:** Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$ Reference Value = 53.33 V/m ; Power Drift = 0.05 dB Peak SAR (extrapolated) = 28.30 W/kg **SAR(1 g) = 7.37mW/g ; SAR(10 g) = 2.09mW/g** Maximum value of SAR (measured) = 17.1mW/g 

System Performance Check 5250MHz Body 100mW

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System Performance Check at 5750 MHz Head

Date: 12/5/2019

DUT: Dipole 5750 MHz; Type: D5GHzV2; Serial: 1003

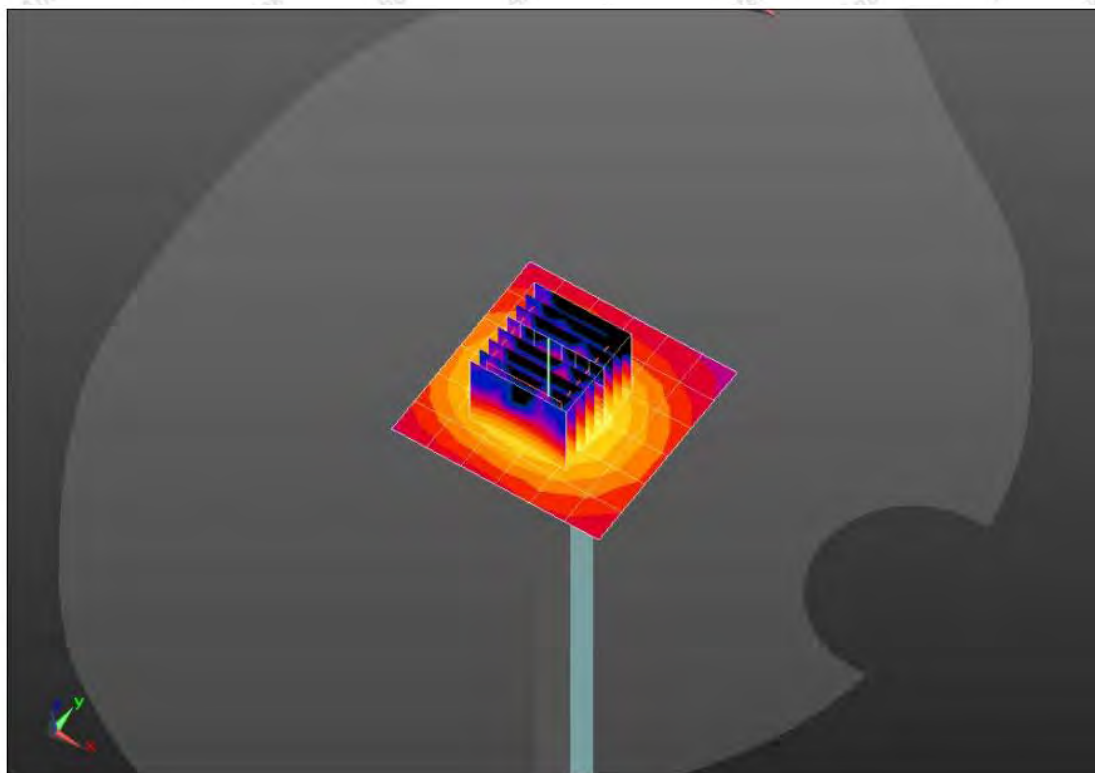
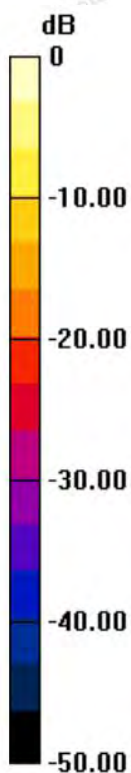
Communication System: CW; Frequency: 5750MHz; Duty Cycle: 1:1

Medium parameters used: $f=5750\text{MHz}$; $\sigma=5.24\text{ mho/m}$; $\epsilon_r=35.21$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(4.92, 4.92, 4.92); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=10.00\text{ mm}$, $dy=10.00\text{ mm}$ Maximum value of SAR (interpolated) = 18.5mW/g **Zoom Scan (8x8x7)/Cube 0:** Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$ Reference Value = 53.69 V/m ; Power Drift = 0.09dB Peak SAR (extrapolated) = 38.3W/kg **SAR(1 g) = 8.42mW/g ; SAR(10 g) = 2.48mW/g** Maximum value of SAR (measured) = 21.7mW/g 

System Performance Check 5750MHz Head 100mW

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System Performance Check at 5750 MHz Body

Date: 12/5/2019

DUT: Dipole 5750 MHz; Type: D5GHzV2; Serial: 1003

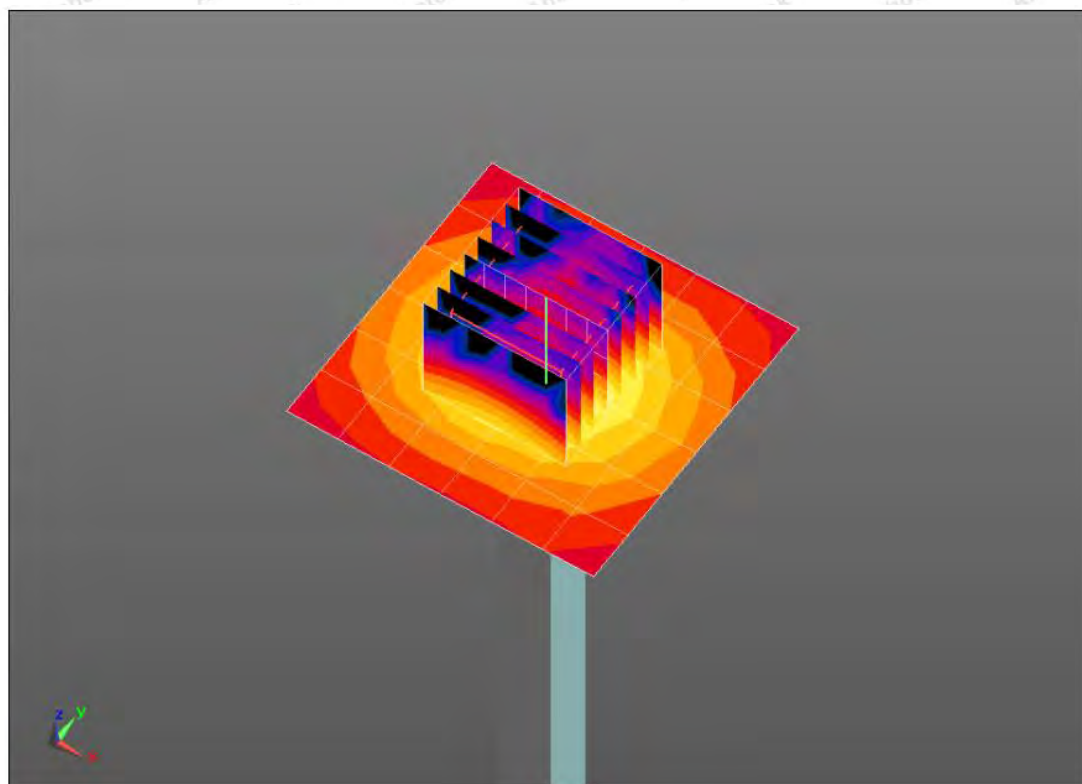
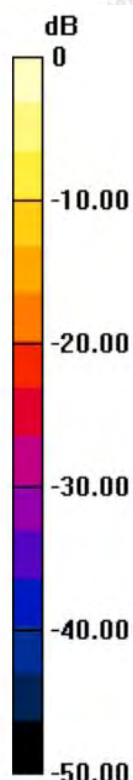
Communication System: CW; Frequency: 5750MHz; Duty Cycle: 1:1

Medium parameters used: $f=5750\text{MHz}$; $\sigma=5.82\text{ mho/m}$; $\epsilon_r=49.04$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(4.52, 4.52, 4.52); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=10.00\text{ mm}$, $dy=10.00\text{ mm}$ Maximum value of SAR (interpolated) = 20.6mW/g **Zoom Scan (8x8x7)/Cube 0:** Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$ Reference Value = 53.28 V/m ; Power Drift = 0.06dB Peak SAR (extrapolated) = 33.9W/kg **SAR(1 g) = 7.65mW/g ; SAR(10 g) = 2.25mW/g** Maximum value of SAR (measured) = 19.5mW/g 

System Performance Check 5750MHz Head 100mW

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Appendix C. Plots of SAR Test Data

SAR plots for the **highest measured SAR** in each exposure configuration, wireless mode and frequency band combination according to FCC KDB 865664 D02

GSM850_GSM Voice_Left Cheek

Communication System: Customer System; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f=836.6$ MHz; $\sigma=0.91$ S/m; $\epsilon_r=41.48$; $\rho=1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4-7396; ConvF(9.71, 9.71, 9.71); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x101x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.373 W/kg

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

Reference Value = 12.836 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.458 mW/g

SAR(1 g) = 0.367 mW/g; SAR(10 g) = 0.270 mW/g

Maximum value of SAR (measured) = 0.388 W/kg

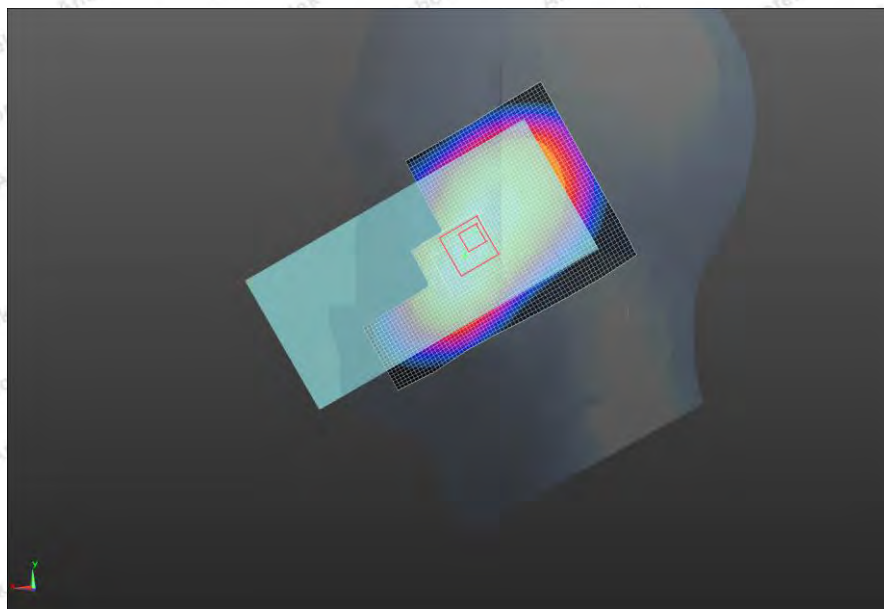
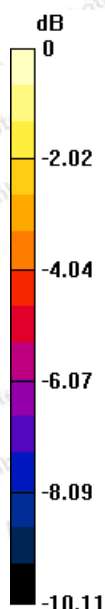


Figure 1: GSM850_GSM Voice

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GSM1900_GSM Voice_Left Cheek

Date: 12/3/2019

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.405$ mho/m; $\epsilon_r = 39.62$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(8.13, 8.13, 8.13); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x111x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.307 W/kg

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

Reference Value = 3.151 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.424 mW/g

SAR(1 g) = 0.284 mW/g; SAR(10 g) = 0.180 mW/g

Maximum value of SAR (measured) = 0.297 W/kg

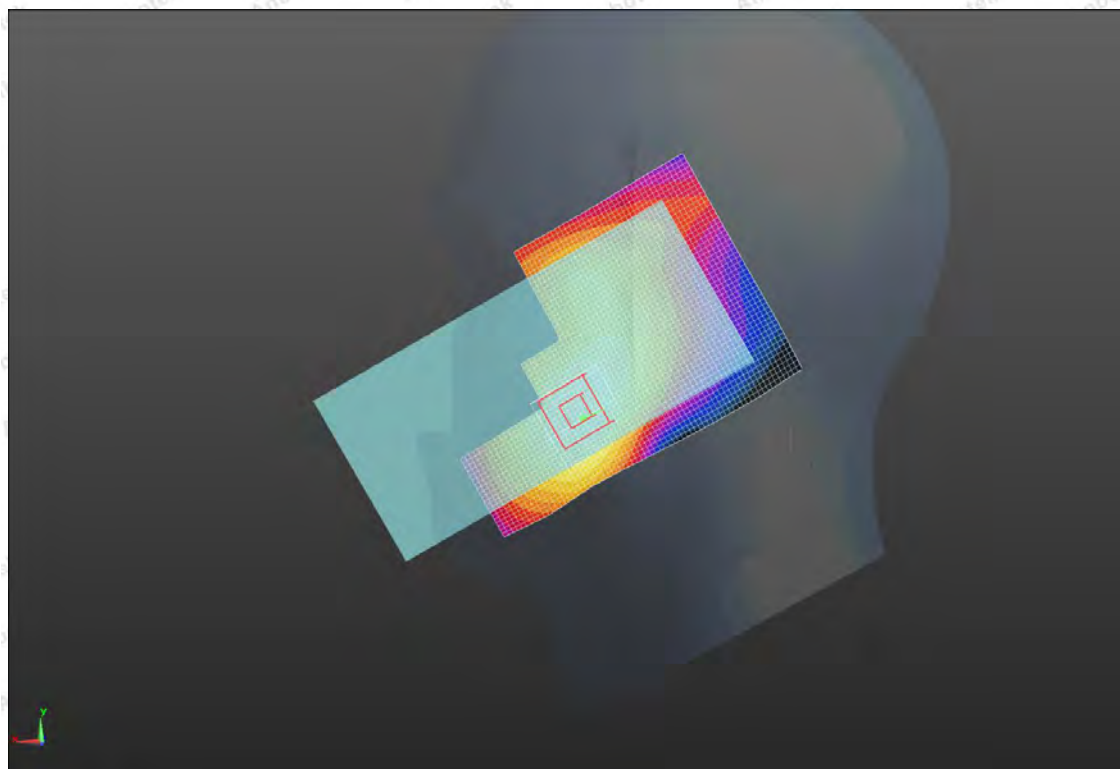
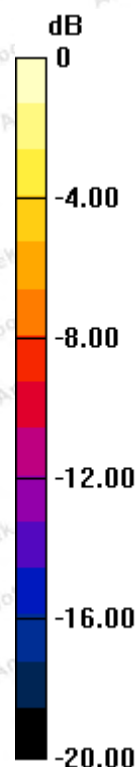


Figure 2: GSM1900_GSM Voice_Left Cheek

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WCDMA Band II_RCM_Left Check

Date: 12/3/2019

Communication System: W1900; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.8$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4-7396; ConvF(8.13, 8.13, 8.13); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.293 W/kg

Zoom Scan (5x5x6)/Cube 0: Measurement grid: dx=7mm, dy=7mm, dz=5mm

Reference Value = 11.125 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.336 mW/g

SAR(1 g) = 0.272 mW/g; SAR(10 g) = 0.186 mW/g

Maximum value of SAR (measured) = 0.286 W/kg

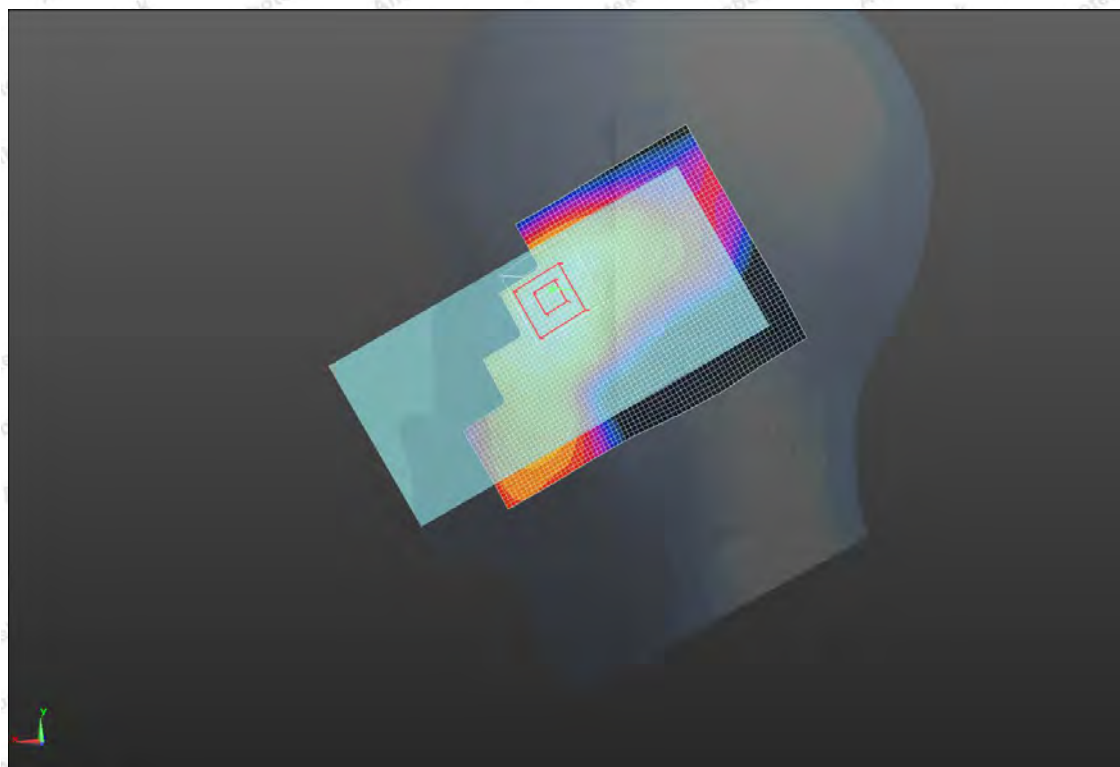
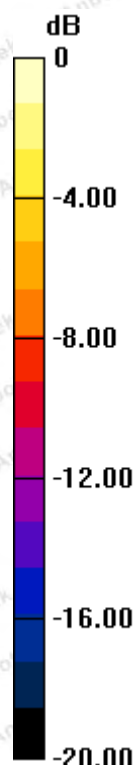


Figure 3: WCDMA Band II_RCM_Left Check

Date: 12/2/2019

Communication System: W850; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 837$ MHz; $\sigma = 0.898$ mho/m; $\epsilon_r = 41.4$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.71, 9.71, 9.71); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.288 W/kg

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

Reference Value = 6.437 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.309 mW/g

SAR(1 g) = 0.264 mW/g; SAR(10 g) = 0.205 mW/g

Maximum value of SAR (measured) = 0.273 W/kg

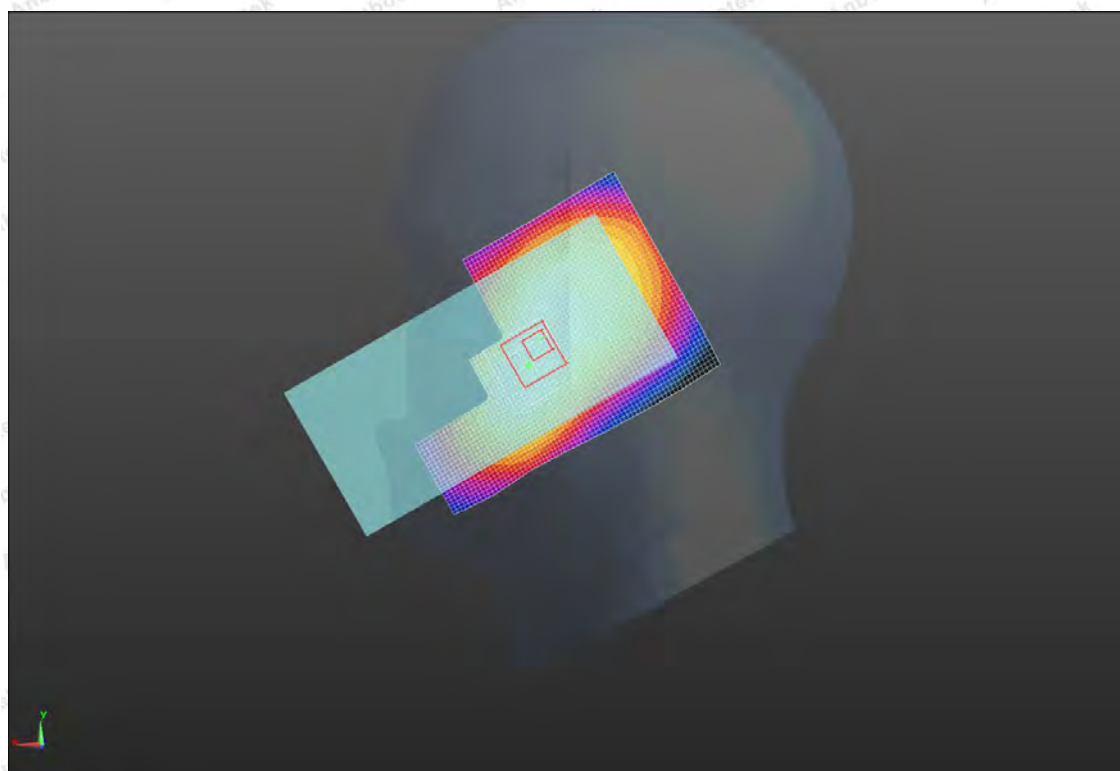
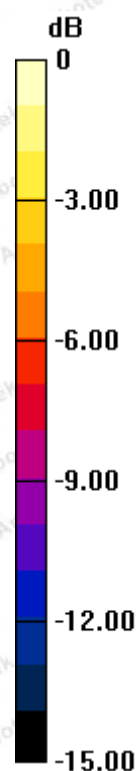


Figure 4: WCDMA Band V

LTE Band 2_QPSK_Left Check

Date: 12/3/2019

Communication System: Customer System; Frequency: 1880.0 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f=1880.0$ MHz; $\sigma=1.41$ mho/m; $\epsilon=40.01$; $\rho=1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4-7396; ConvF(8.13, 8.13, 8.13); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.217 W/kg

Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.369 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.304 mW/g

SAR(1 g) = 0.197 mW/g; SAR(10 g) = 0.123 mW/g

Maximum value of SAR (measured) = 0.214 W/kg

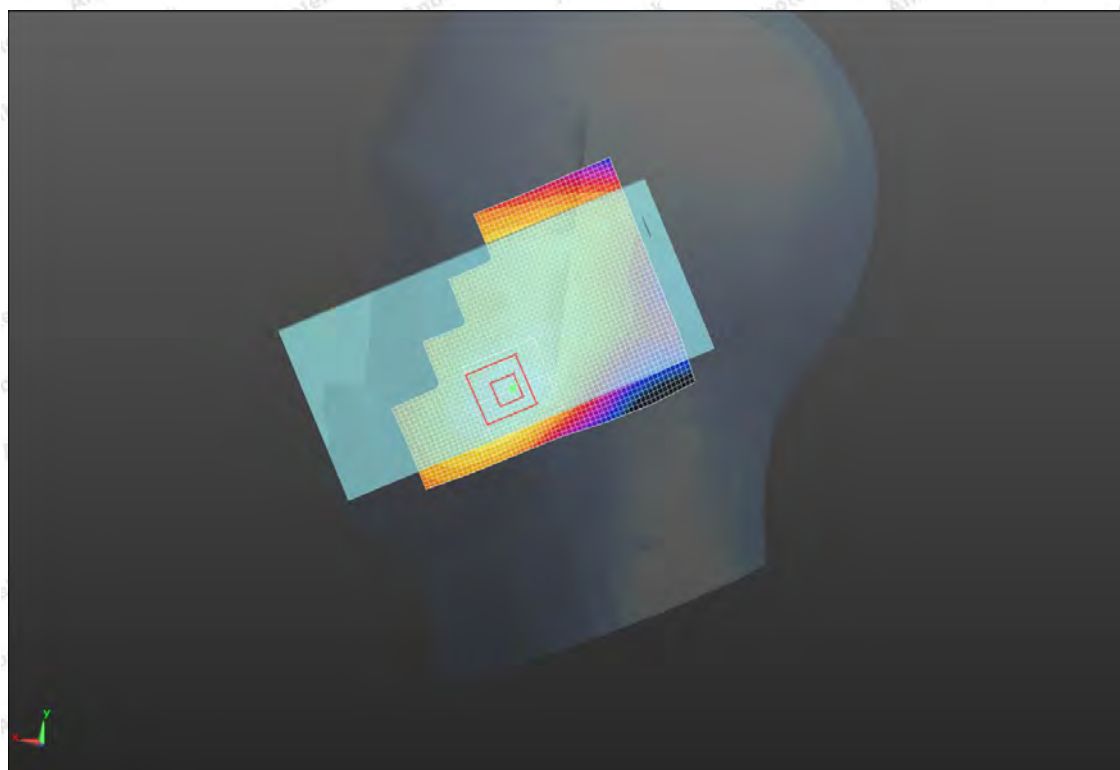
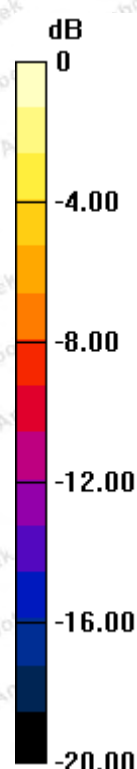


Figure 5: LTE Band 2_QPSK_Left Check

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LTE Band 4_QPSK _Left Check

Date: 12/3/2019

Communication System: LTE B4; Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1732.5$ MHz; $\sigma = 1.34$ mho/m; $\epsilon_r = 41.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(8.61, 8.61, 8.61); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.256 W/kg

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

Reference Value = 7.178 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.330 mW/g

SAR(1 g) = 0.221 mW/g; SAR(10 g) = 0.145 mW/g

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

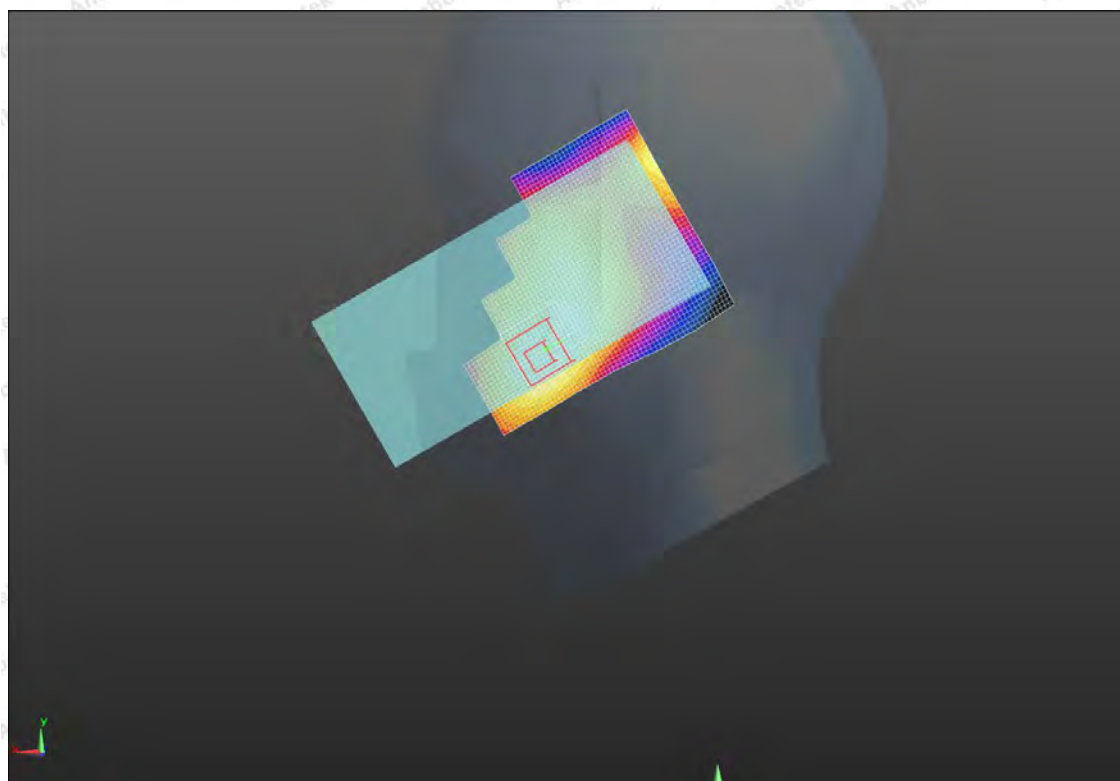
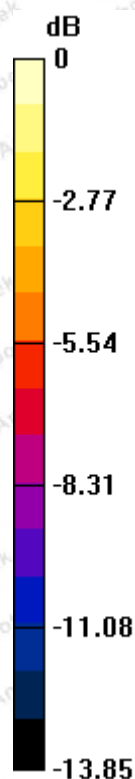


Figure 6: LTE Band 4_QPSK _Left Check

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LTE Band 5_QPSK_Left Check

Date: 12/2/2019

Communication System: Customer System; Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.5$ MHz; $\sigma = 1.91$ mho/m; $\epsilon_r = 41.48$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.71, 9.71, 9.71); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: $dx = 1.500$ mm, $dy = 1.500$ mm

Maximum value of SAR (interpolated) = 0.563 mW/g

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

Reference Value = 16.795 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.701 mW/g

SAR(1 g) = 0.445 mW/g; SAR(10 g) = 0.328 mW/g

Maximum value of SAR (measured) = 0.559 W/kg

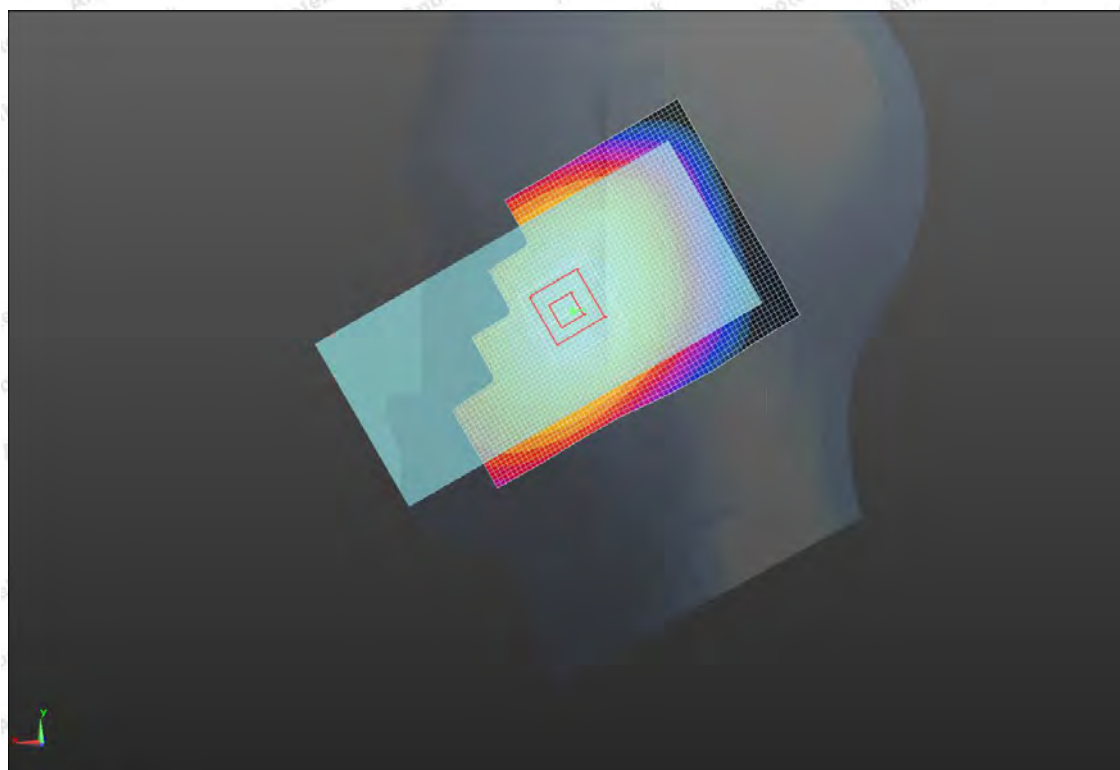
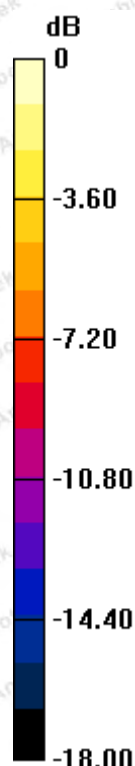


Figure 7: LTE Band 5_QPSK_Left Check

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LTE Band 7_QPSK

Date: 12/4/2019

Communication System: Customer System; Frequency: 2535 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f=2535$ MHz; $\sigma=1.77$ S/m; $\epsilon_r=39.37$; $\rho=1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.38, 7.38, 7.38); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.182 W/kg

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

Reference Value = 1.380 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.301 mW/g

SAR(1 g) = 0.168 mW/g; SAR(10 g) = 0.095 mW/g

Maximum value of SAR (measured) = 0.181 W/kg

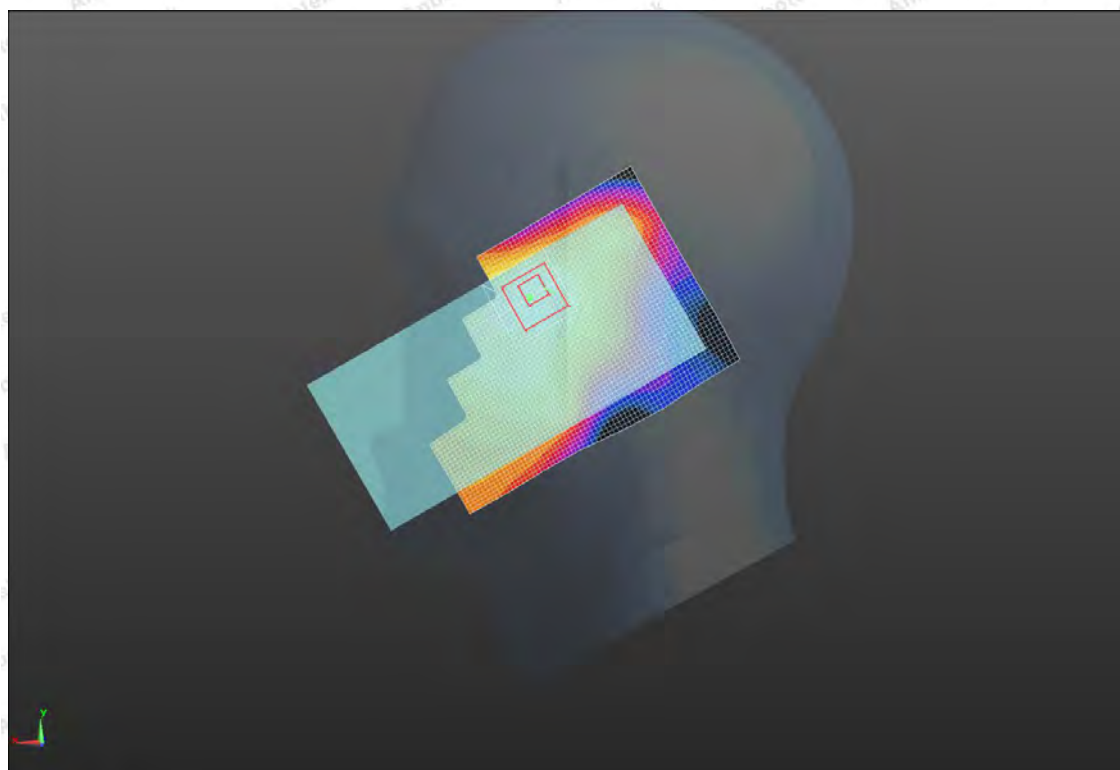
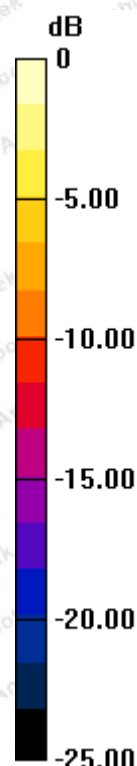


Figure 8: LTE Band 7_QPSK

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LTE Band 12_QPSK_Right Check

Date: 12/1/2019

Communication System: Generic LTE; Frequency: 707.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 707.5$ MHz; $\sigma = 0.86$ mho/m; $\epsilon_r = 42.412$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4-7396; ConvF(9.82, 9.82, 9.82); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.335 mW/g

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

Reference Value = 5.964 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.455 mW/g

SAR(1 g) = 0.298 mW/g; SAR(10 g) = 0.210 mW/g

Maximum value of SAR (measured) = 0.324 mW/g

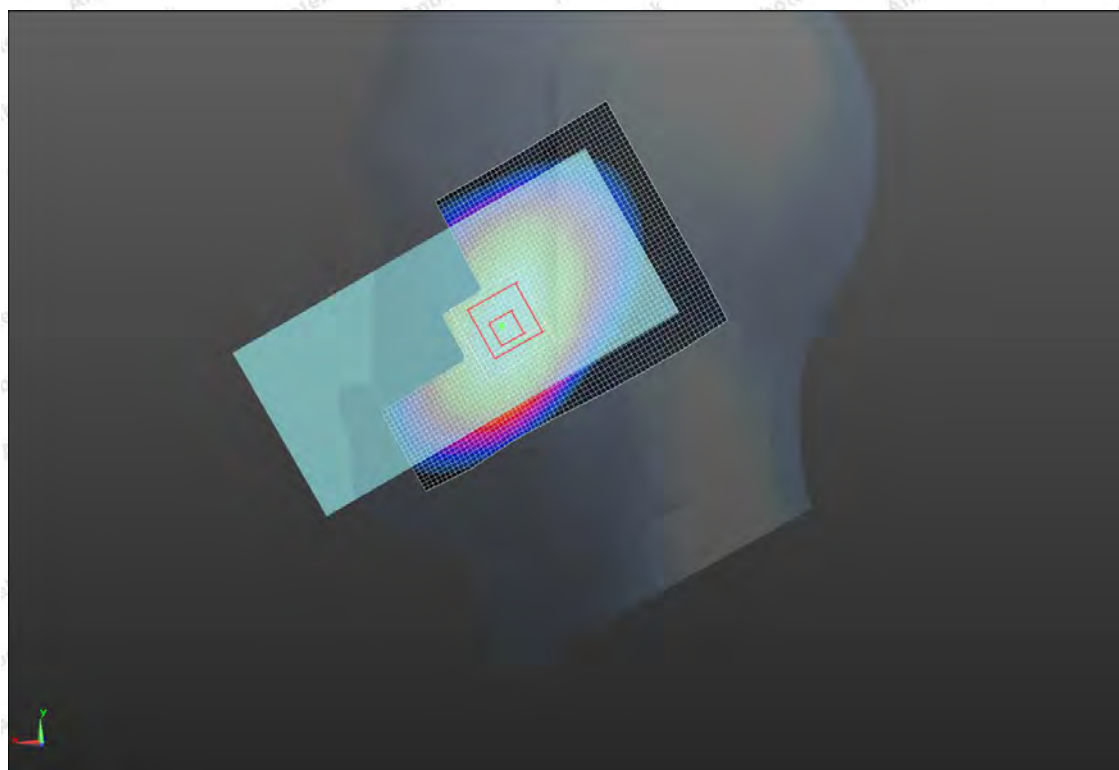
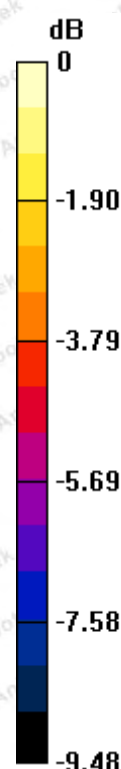


Figure 9: LTE Band 12_QPSK_Right Check

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LTE Band 17_QPSK_Right Check

Date: 12/1/2019

Communication System: Generic LTE; Frequency: 710.0 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 710.0$ MHz; $\sigma = 0.925$ S/m; $\epsilon_r = 41.534$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.82, 9.82, 9.82); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.315 mW/g

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

Reference Value = 5.844 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.425 mW/g

SAR(1 g) = 0.242 mW/g; SAR(10 g) = 0.189 mW/g

Maximum value of SAR (measured) = 0.294 mW/g

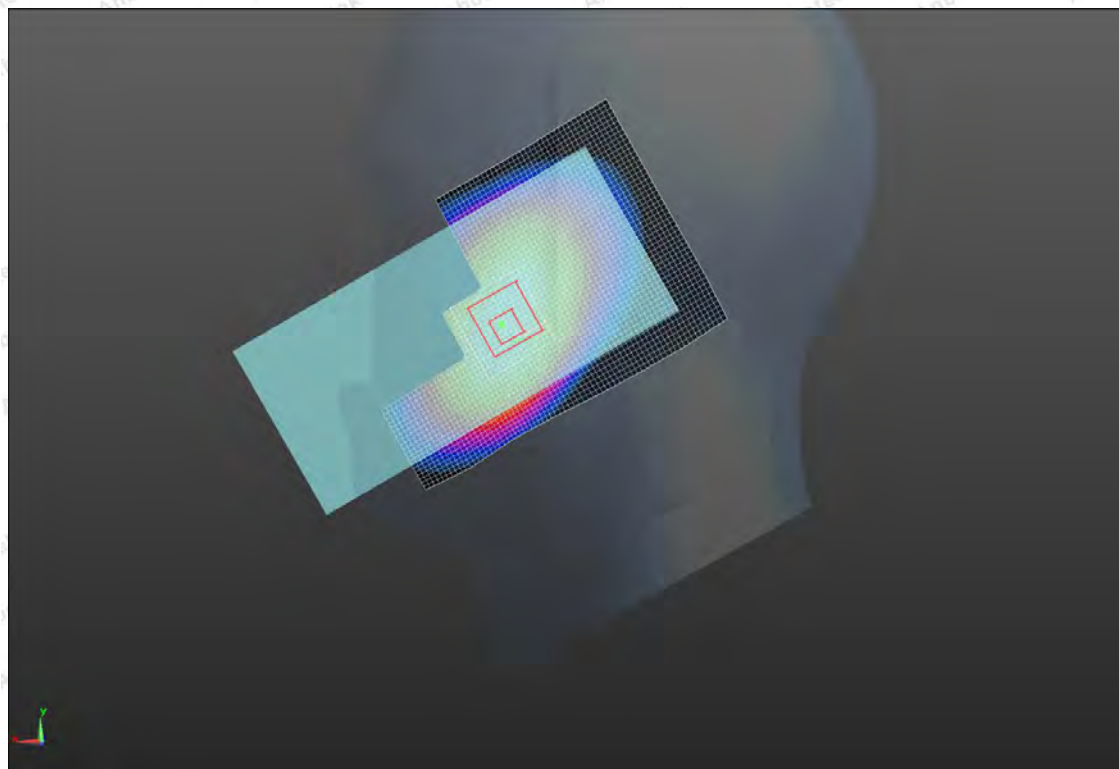
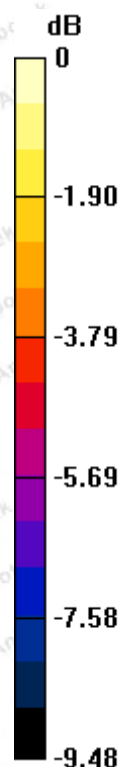


Figure 10: LTE Band 17_QPSK_Right Check

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LTE Band 26_QPSK

Date: 12/2/2019

Communication System: Customer System; Frequency: 831.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f=831.5$ MHz; $\sigma=0.91$ S/m; $\epsilon_r=41.53$; $\rho=1000$ kg/m³

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.71, 9.71, 9.71); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x121x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.202 W/kg

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

Reference Value = 3.795 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.285 mW/g

SAR(1 g) = 0.180 mW/g; SAR(10 g) = 0.111 mW/g

Maximum value of SAR (measured) = 0.196 W/kg

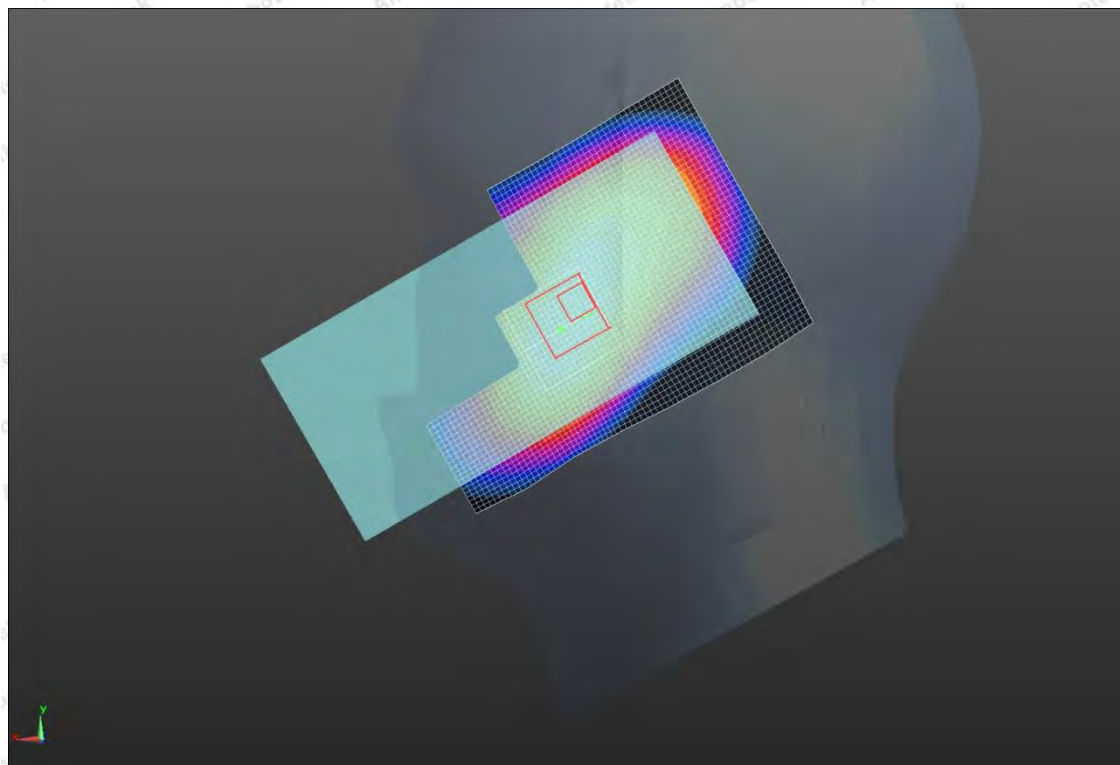
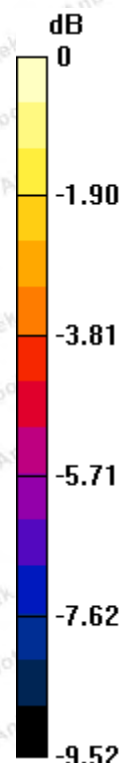


Figure 11: LTE Band 26_QPSK

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LTE Band 38_QPSK 20M_Left Cheek

Date: 12/04/2019

Communication System: Customer System; Frequency: 2595 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f=2595$ MHz; $\sigma=1.79$ S/m; $\epsilon_r=38.26$; $\rho=1000$ kg/m³

Phantom section: Left Section:

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.38,7.38,7.38); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0990 W/kg

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

Reference Value = 3.068 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.141 mW/g

SAR(1 g) = 0.085 mW/g; SAR(10 g) = 0.051 mW/g

Maximum value of SAR (measured) = 0.0889 W/kg

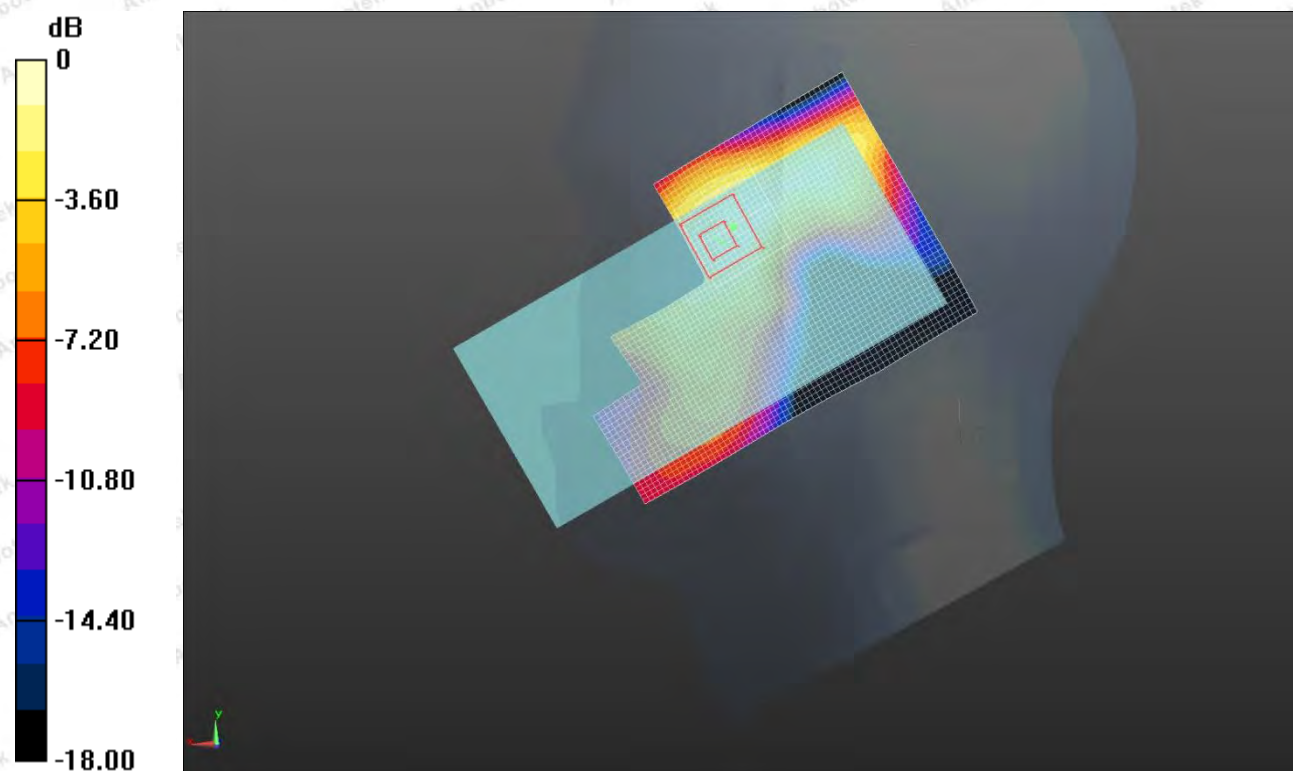


Figure 12: LTE Band 38_QPSK

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LTE Band 41_QPSK 20M_Left Cheek

Date: 12/04/2019

Communication System: Customer System; Frequency: 2593.0 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 2593.0$ MHz; $\sigma = 1.93$ mho/m; $\epsilon = 38.85$; $\rho = 1000$ kg/m³

Phantom section: Left Section:

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.38,7.38,7.38); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x121x1): Interpolated grid: $dx = 1.500$ mm, $dy = 1.500$ mm

Maximum value of SAR (interpolated) = 0.0743 W/kg

Zoom Scan (5x5x6)/Cube 0: Measurement grid: $dx = 7$ mm, $dy = 7$ mm, $dz = 5$ mm

Reference Value = 3.978 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.110 mW/g

SAR(1 g) = 0.066 mW/g; SAR(10 g) = 0.037 mW/g

Maximum value of SAR (measured) = 0.0729 W/kg

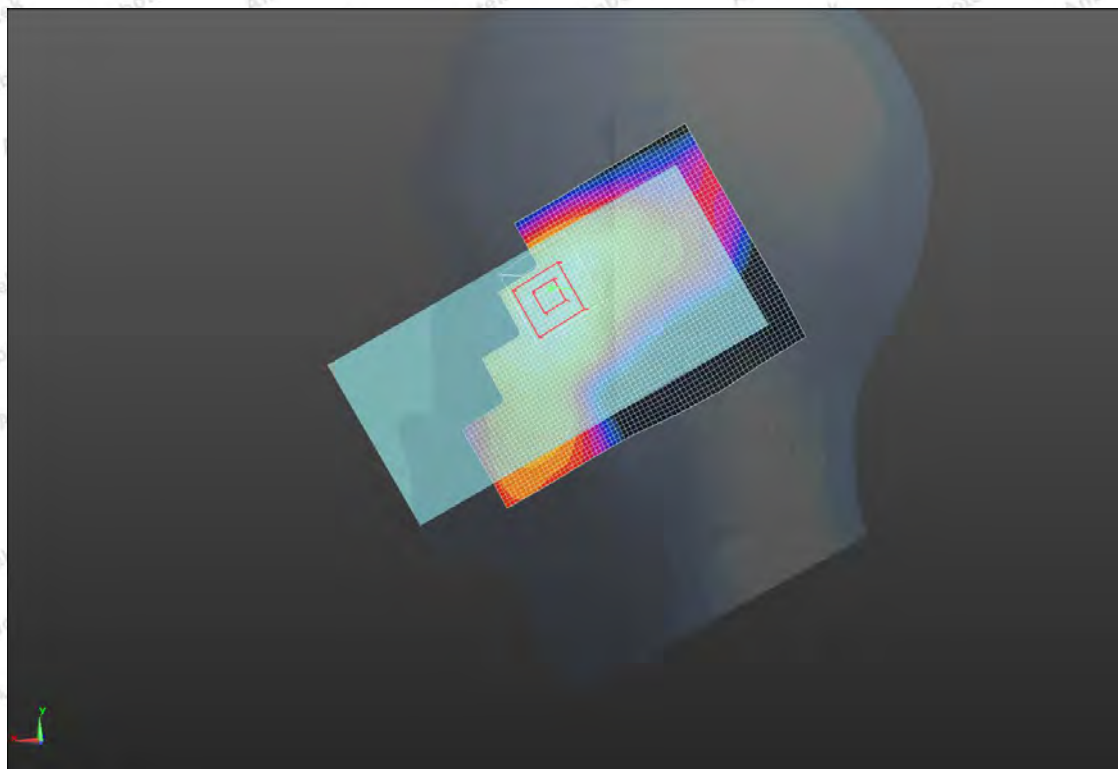
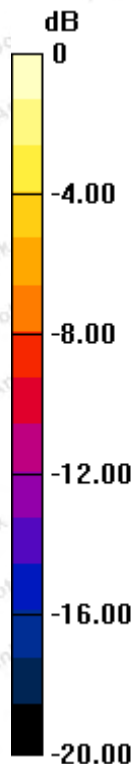


Figure 13: LTE Band 41_QPSK

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WLAN2.4G_Right Check

Date: 12/4/2019

Communication System: 802.11; Frequency: 2472 MHz;

Medium parameters used: $f = 2472$ MHz; $\sigma = 1.89$ mho/m; $\epsilon_r = 37.2$; $\rho = 1000$ kg/m³

Phantom section: Left Section:

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.57, 7.57, 7.57); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x121x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.278 W/kg

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

Reference Value = 11.889 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.508 mW/g

SAR(1 g) = 0.270 mW/g; SAR(10 g) = 0.137 mW/g

Maximum value of SAR (measured) = 0.297 W/kg

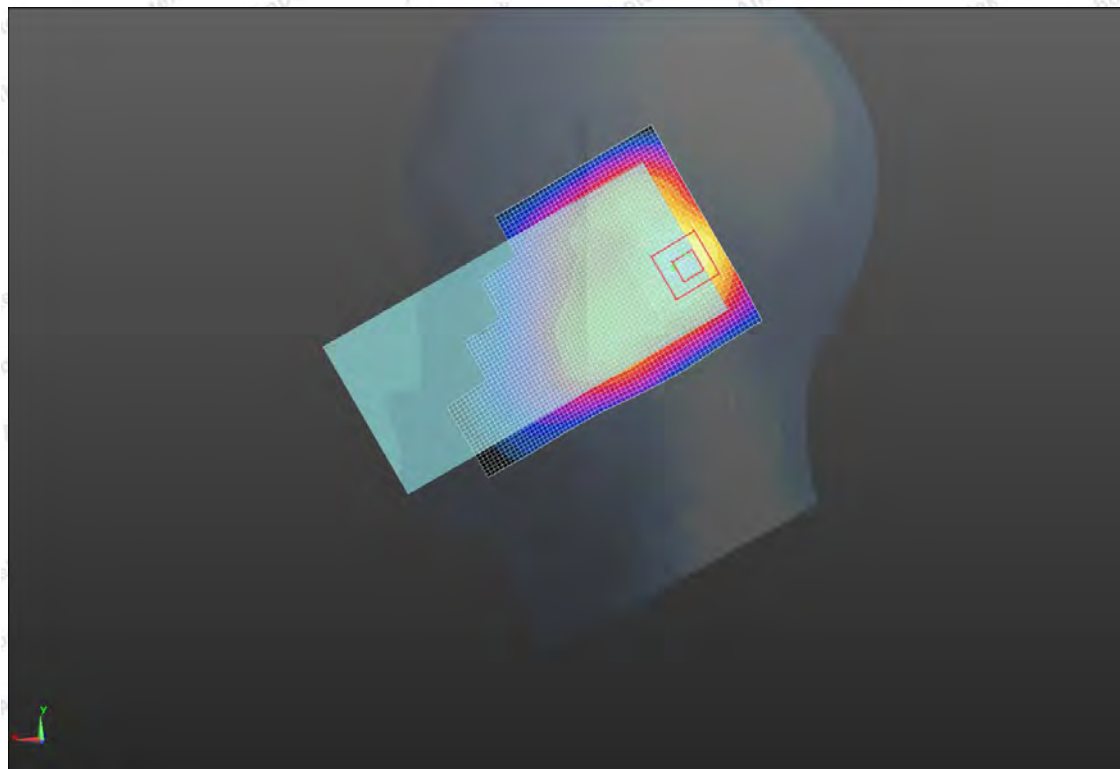
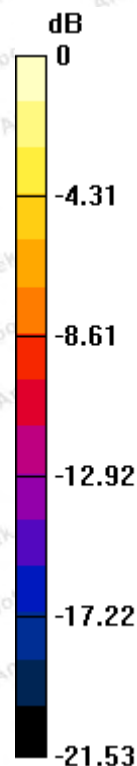


Figure 14: WLAN

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WLAN5.2G

Date: 12/5/2019

Communication System: 802.11a; Frequency: 5240 MHz;

Medium parameters used: $f = 5240$ MHz; $\sigma = 4.64$ S/m; $\epsilon_r = 36.725$; $\rho = 1000$ kg/m³

Phantom section: Left Section:

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(5.33, 5.33, 5.33); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.258 W/kg

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

Reference Value = 5.349 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.290 mW/g

SAR(1 g) = 0.246 mW/g; SAR(10 g) = 0.191 mW/g

Maximum value of SAR (measured) = 0.256 W/kg

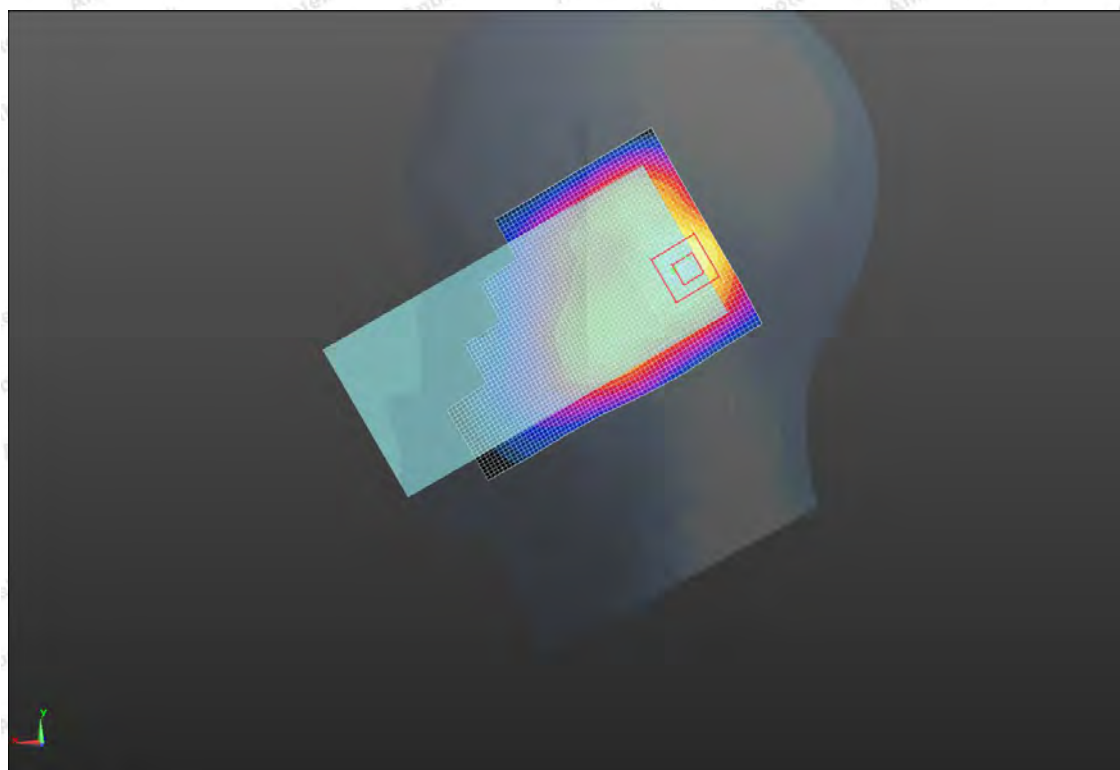
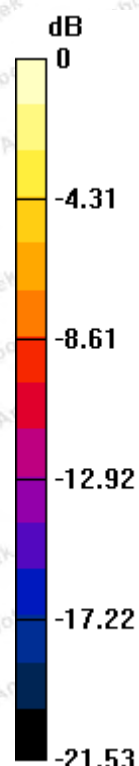


Figure 15: WLAN 5.2G _ Right Check

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WLAN5.8G

Date: 12/5/2019

Communication System: Customer System; Frequency: 5825 MHz;

Medium parameters used: $f = 5825 \text{ MHz}$; $\sigma = 5.26 \text{ mho/m}$; $\epsilon_r = 36.27$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section:

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(4.92, 4.92, 4.92); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

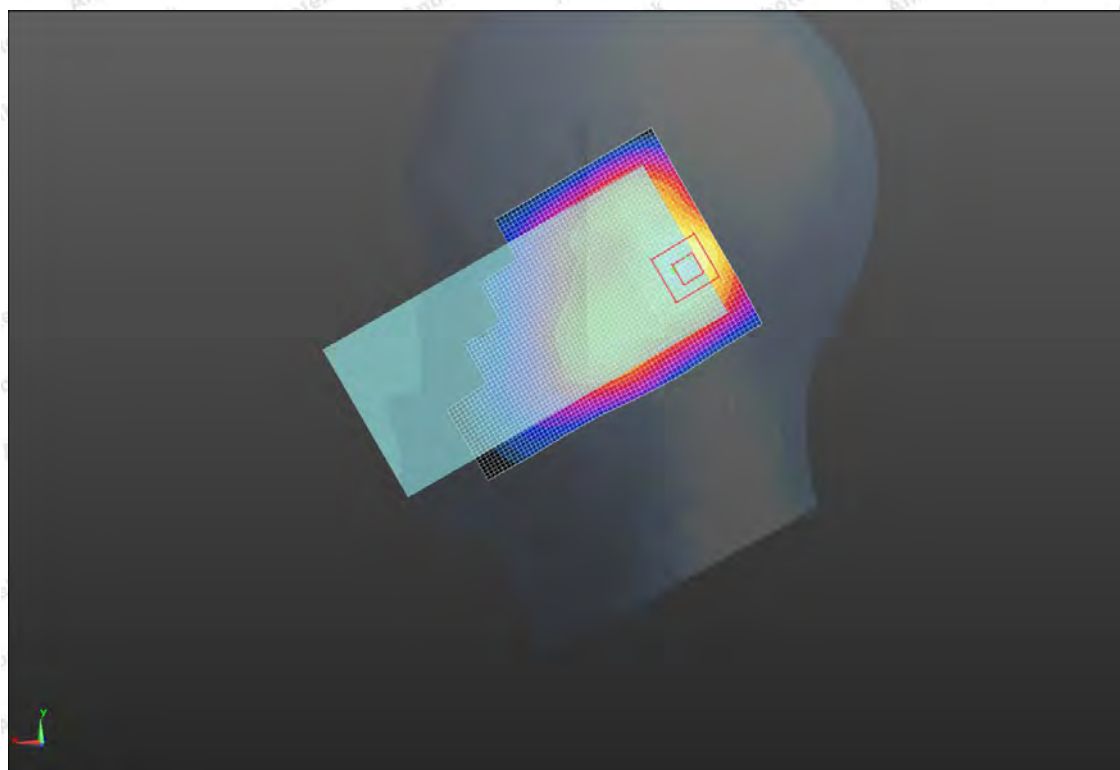
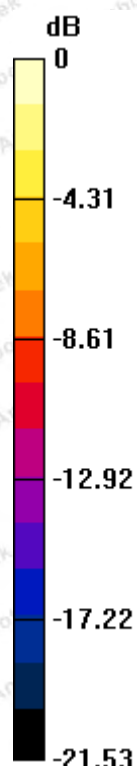
Area Scan (51x101x1): Interpolated grid: $dx=10\text{mm}$, $dy=10\text{mm}$ Maximum value of SAR (interpolated) = 0.224 mW/g **Zoom Scan (7x7x12)/Cube 0:** Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$ Reference Value = 2.856 V/m ; Power Drift = 0.12 dB Peak SAR (extrapolated) = 0.426 mW/g **SAR(1 g) = 0.196 mW/g ; SAR(10 g) = 0.102 mW/g** Maximum value of SAR (measured) = 0.212 W/kg 

Figure 16: WLAN 5.8G _ Right Check

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GSM850

Date: 12/2/2019

Communication System: GSM 850; Frequency: 836.6 MHz;

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.965$ mho/m; $\epsilon_r = 55.94$; $\rho = 1000$ kg/m³;

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.88, 9.88, 9.88); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.189 W/kg

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

Reference Value = 13.430 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.222 mW/g

SAR(1 g) = 0.180 mW/g; SAR(10 g) = 0.136 mW/g

Maximum value of SAR (measured) = 0.190 W/kg

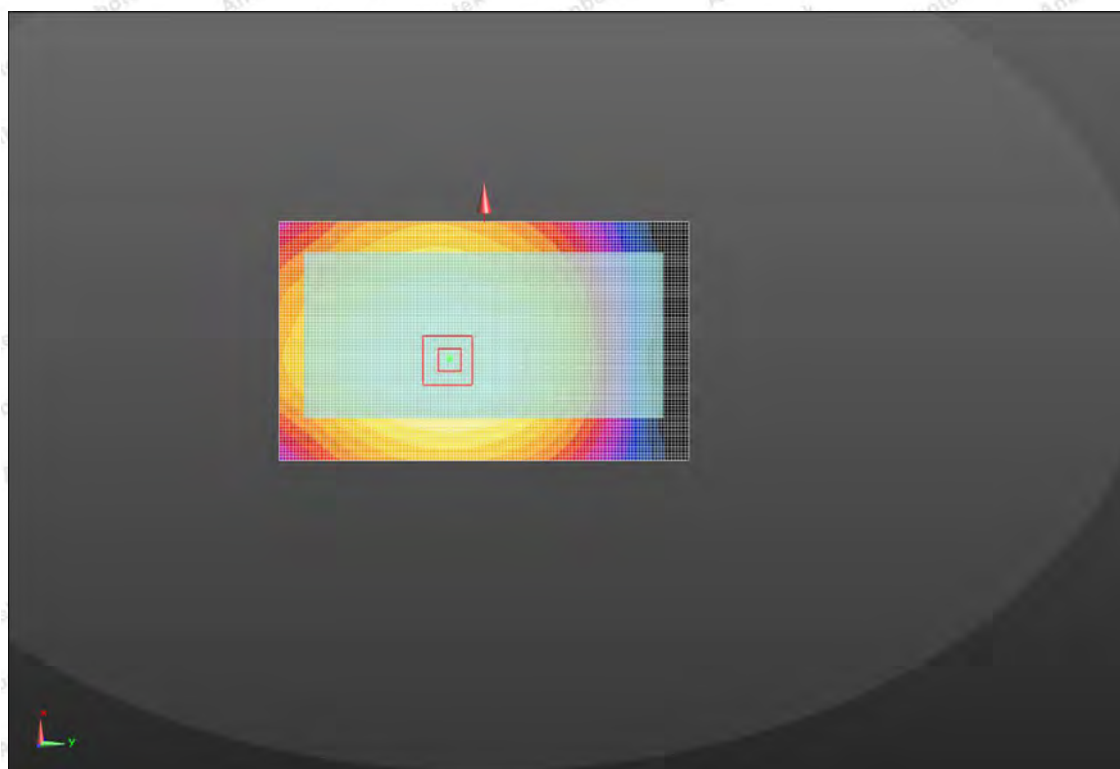
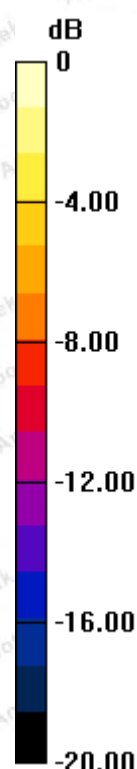


Figure 17: GSM850

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GSM1900

Date: 12/3/2019

Communication System: GSM 1900; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.558$ mho/m; $\epsilon_r = 52.99$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.97, 7.97, 7.97); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.110 W/kg

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

Reference Value = 6.346 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.153 mW/g

SAR(1 g) = 0.101 mW/g; SAR(10 g) = 0.065 mW/g

Maximum value of SAR (measured) = 0.110 W/kg

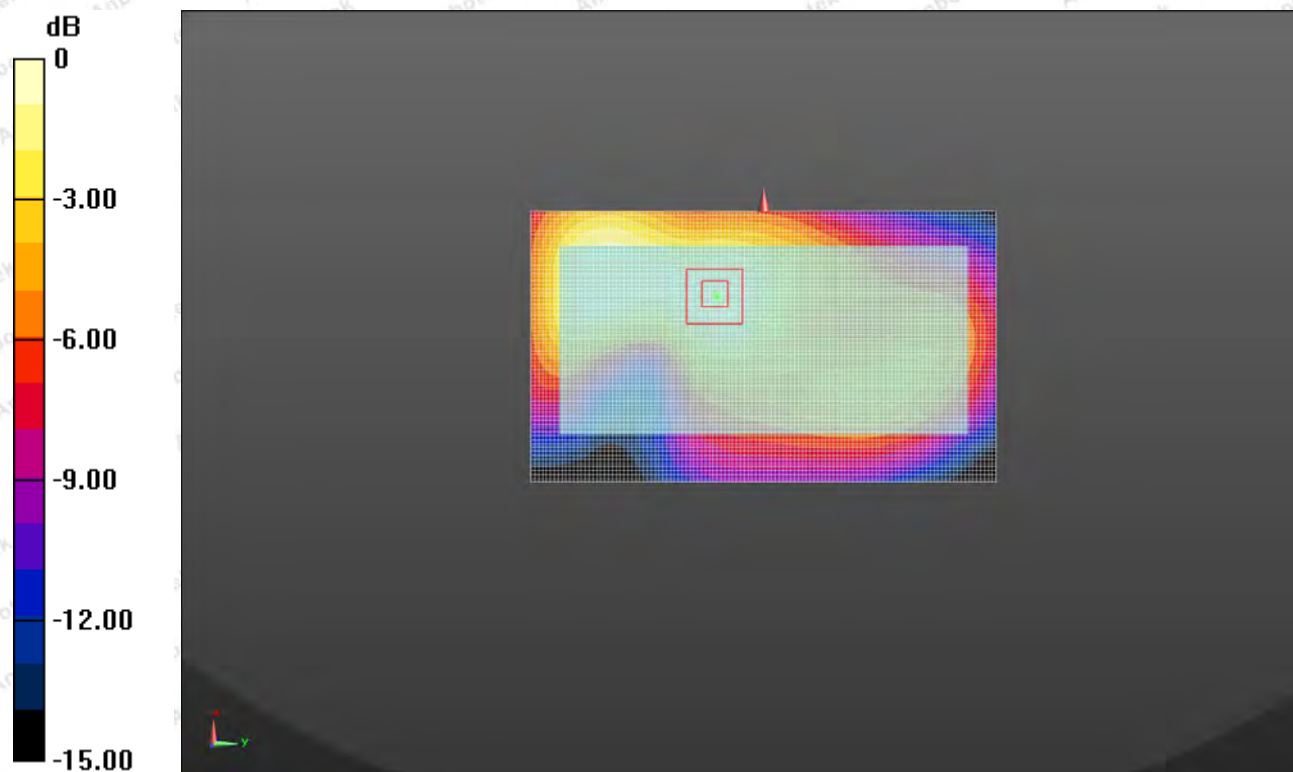


Figure 18: GSM1900

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WCDMA Band II_RCM

Date: 12/3/2019

Communication System: W1900; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.48$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4-7396; ConvF(7.97, 7.97, 7.97); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.166 W/kg

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

Reference Value = 8.670 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.220 mW/g

SAR(1 g) = 0.162 mW/g; SAR(10 g) = 0.132 mW/g

Maximum value of SAR (measured) = 0.169 W/kg

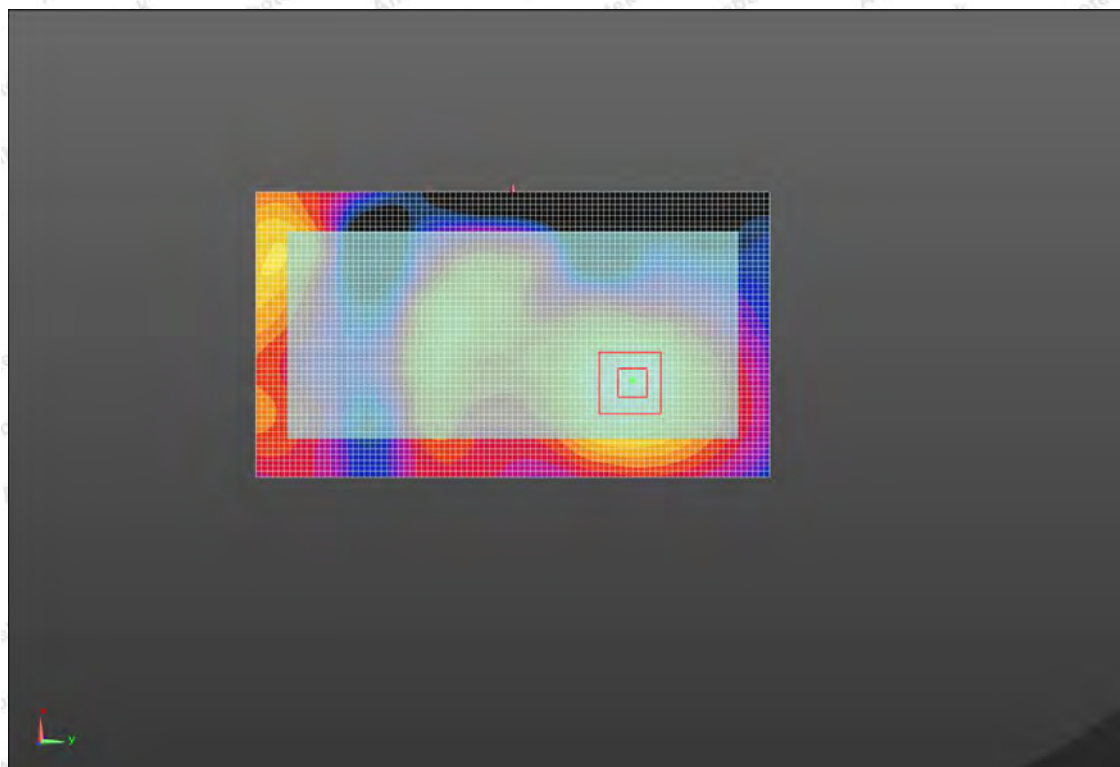
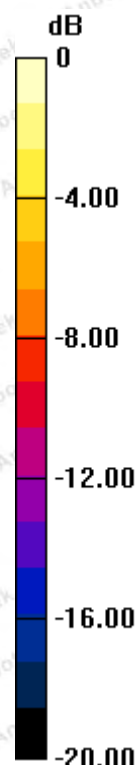


Figure 19: WCDMA Band II_RCM

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WCDMA Band V_RCM

Date: 12/2/2019

Communication System: W850; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 55.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4-7396; ConvF(9.88, 9.88, 9.88); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.181 W/kg

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

Reference Value = 9.299 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.197 mW/g

SAR(1 g) = 0.177 mW/g; SAR(10 g) = 0.158 mW/g

Maximum value of SAR (measured) = 0.181 W/kg

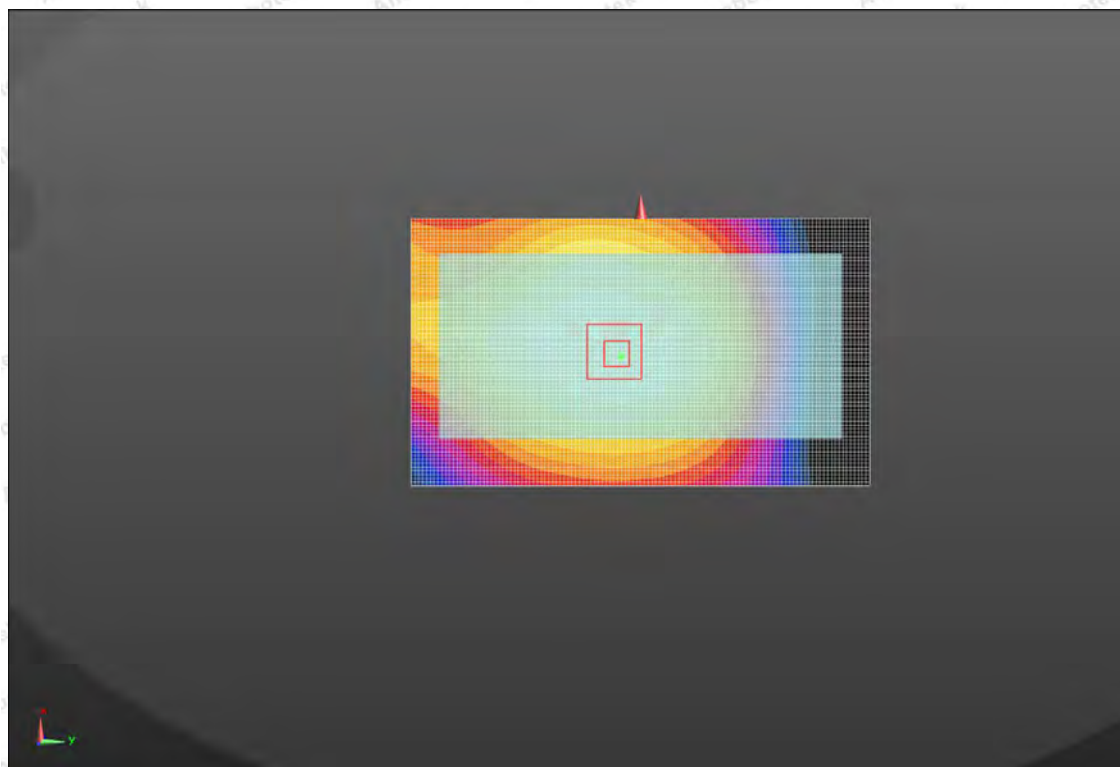
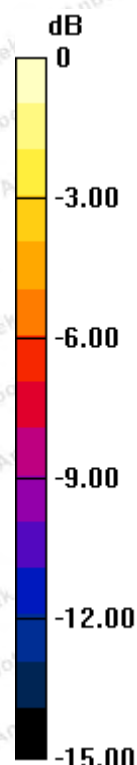


Figure 20: WCDMA Band V_RCM_Rear side_0mm

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LTE Band 2_QPSK

Date: 12/3/2019

Communication System: Customer System; Frequency: 1880.0 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f=1880.0$ MHz; $\sigma=1.41$ mho/m; $\epsilon=40.01$; $\rho=1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4-7396; ConvF(7.97, 7.97, 7.97); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.184 W/kg

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

Reference Value = 8.313 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.261 mW/g

SAR(1 g) = 0.172 mW/g; SAR(10 g) = 0.109 mW/g

Maximum value of SAR (measured) = 0.185 W/kg

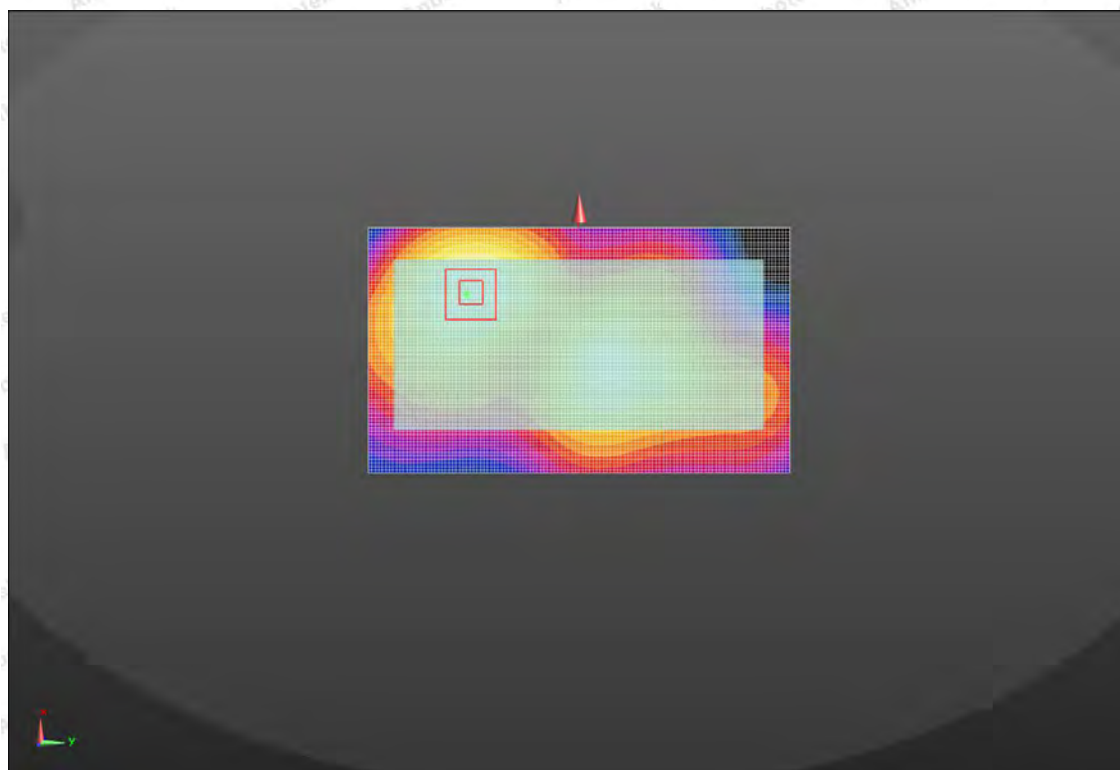
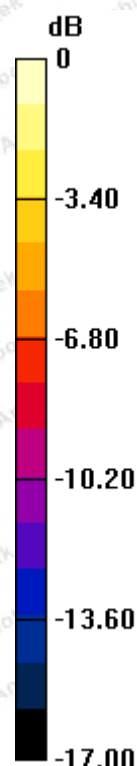


Figure 21: LTE Band 2_QPSK

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LTE Band 4_QPSK_Rear side_0mm

Date: 12/3/2019

Communication System: LTE B4; Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1732.5$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4-7396; ConvF(8.24, 8.24, 8.24); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.287 W/kg

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

Reference Value = 13.015 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.386 mW/g

SAR(1 g) = 0.269 mW/g; SAR(10 g) = 0.184 mW/g

Maximum value of SAR (measured) = 0.285 W/kg

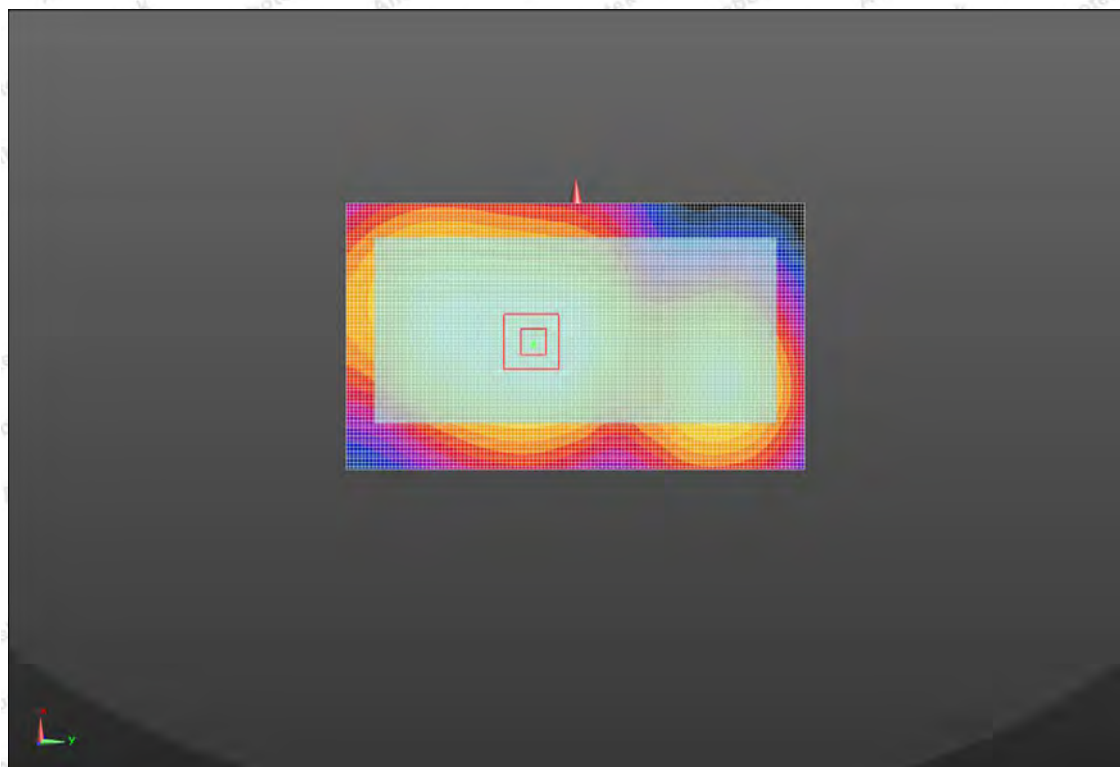
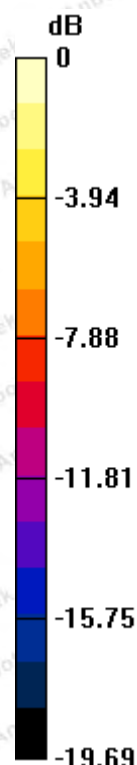


Figure 22: LTE Band 4_QPSK

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LTE Band 5_QPSK _Rear side_0mm

Date: 12/2/2019

Communication System: Customer System; Frequency: 836.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f=836.5$ MHz; $\sigma=1.91$ mho/m; $\epsilon_r=41.48$; $\rho=1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.88, 9.88, 9.88); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.425 W/kg

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

Reference Value = 5.165 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.517 mW/g

SAR(1 g) = 0.368 mW/g; SAR(10 g) = 0.259 mW/g

Maximum value of SAR (measured) = 0.419 W/kg

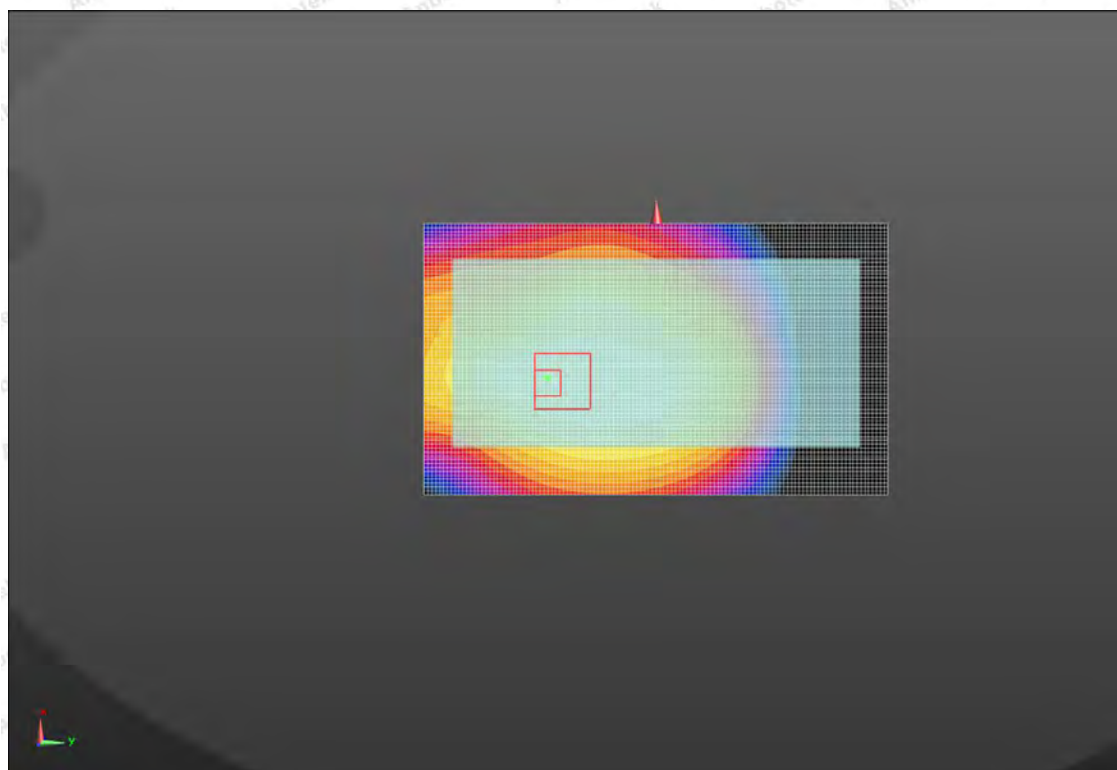
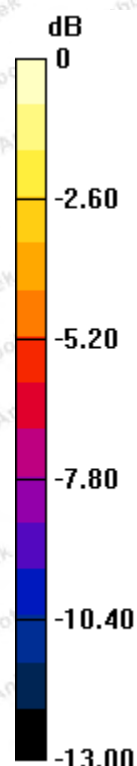


Figure 23: LTE Band 5_QPSK _Rear side

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LTE Band 7_QPSK

Date: 12/4/2019

Communication System: Customer System; Frequency: 2535 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f=2535$ MHz; $\sigma=1.77$ S/m; $\epsilon_r=39.37$; $\rho=1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4-7396; ConvF(7.38, 7.38, 7.38); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: $dx=1.500$ mm, $dy=1.500$ mm

Maximum value of SAR (interpolated) = 0.284 W/kg

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

Reference Value = 6.042 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.491 mW/g

SAR(1 g) = 0.253 mW/g; SAR(10 g) = 0.128 mW/g

Maximum value of SAR (measured) = 0.288 W/kg

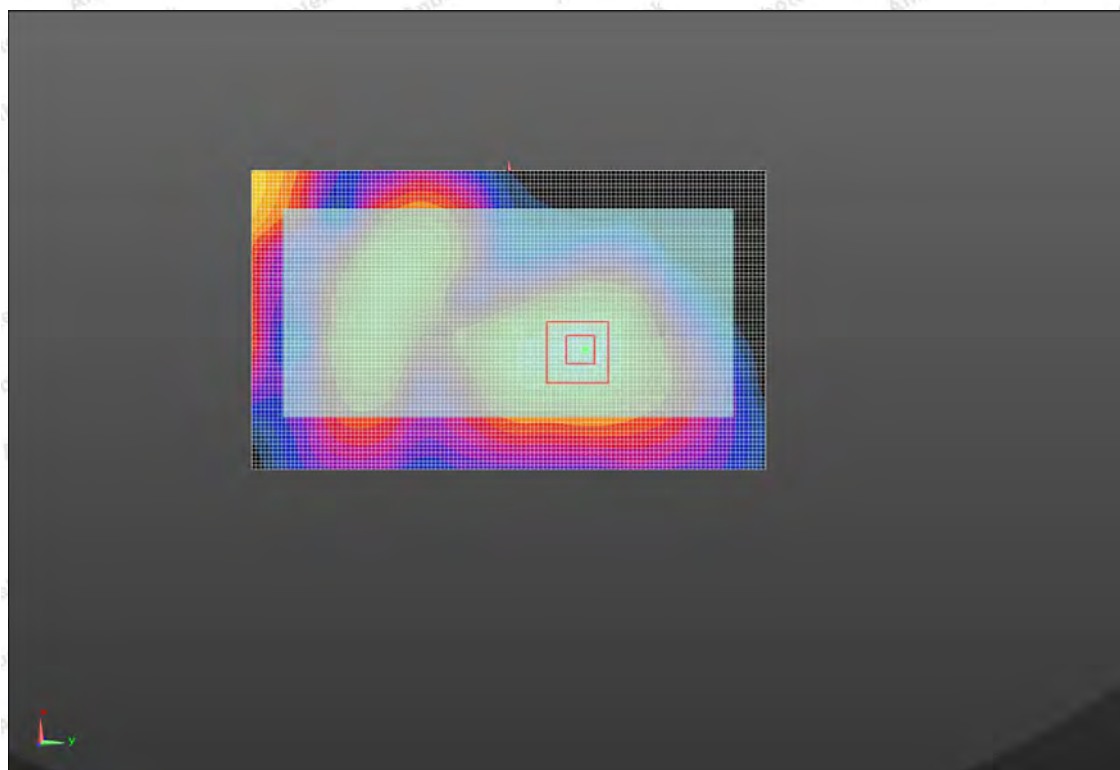
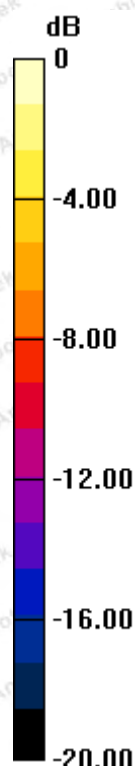


Figure 24: LTE Band 7_QPSK _Rear side

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LTE Band 12_QPSK_Rear side

Date: 12/1/2019

Communication System: Generic LTE; Frequency: 707.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 707.5$ MHz; $\sigma = 0.86$ mho/m; $\epsilon_r = 42.412$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4-7396; ConvF(10.09, 10.09, 10.09); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.164 W/kg

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

Reference Value = 9.624 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.240 mW/g

SAR(1 g) = 0.151 mW/g; SAR(10 g) = 0.092 mW/g

Maximum value of SAR (measured) = 0.166 W/kg

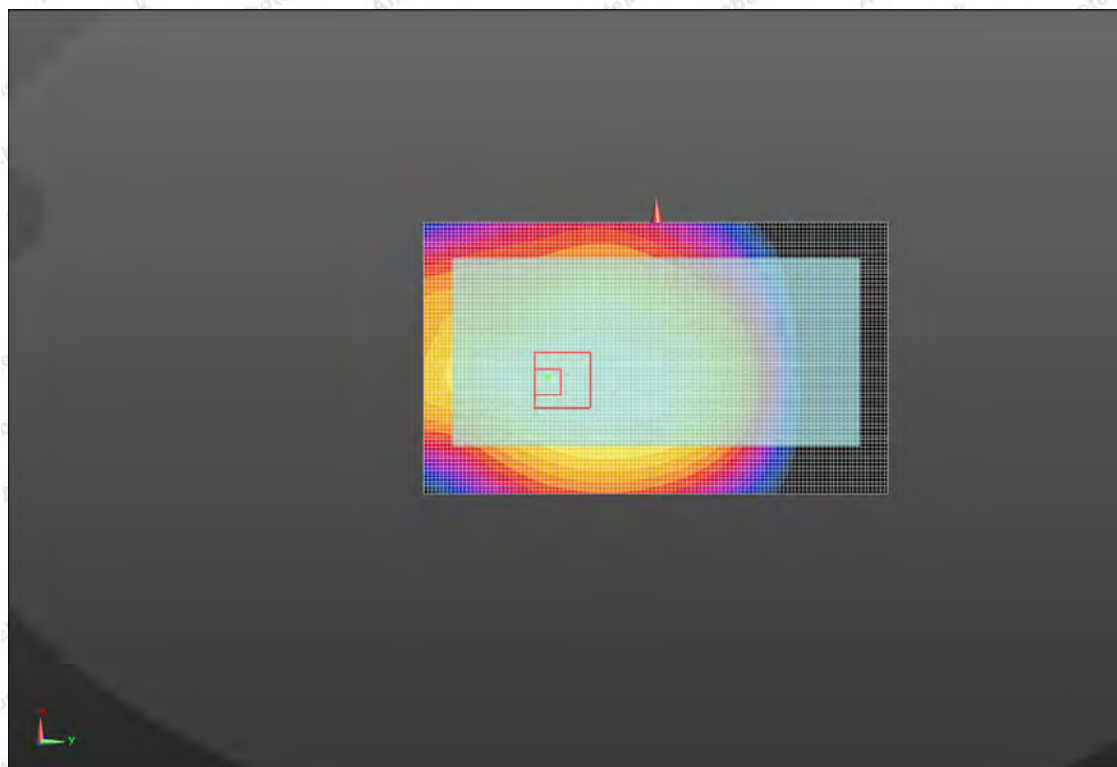
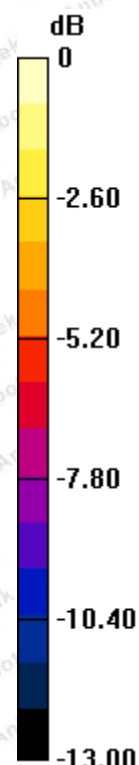


Figure 25: LTE Band 12_QPSK_Rear side

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LTE Band 17_QPSK _Rear side

Date: 12/1/2019

Communication System: Generic LTE; Frequency: 710.0 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 710.0$; MHz; $\sigma = 0.952$ mho/m; $\epsilon_r = 55.684$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(10.09, 10.09, 10.09); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

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

Reference Value = 10.35 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.249 mW/g

SAR(1 g) = 0.187 mW/g; SAR(10 g) = 0.122 mW/g

Maximum value of SAR (measured) = 0.236 W/kg

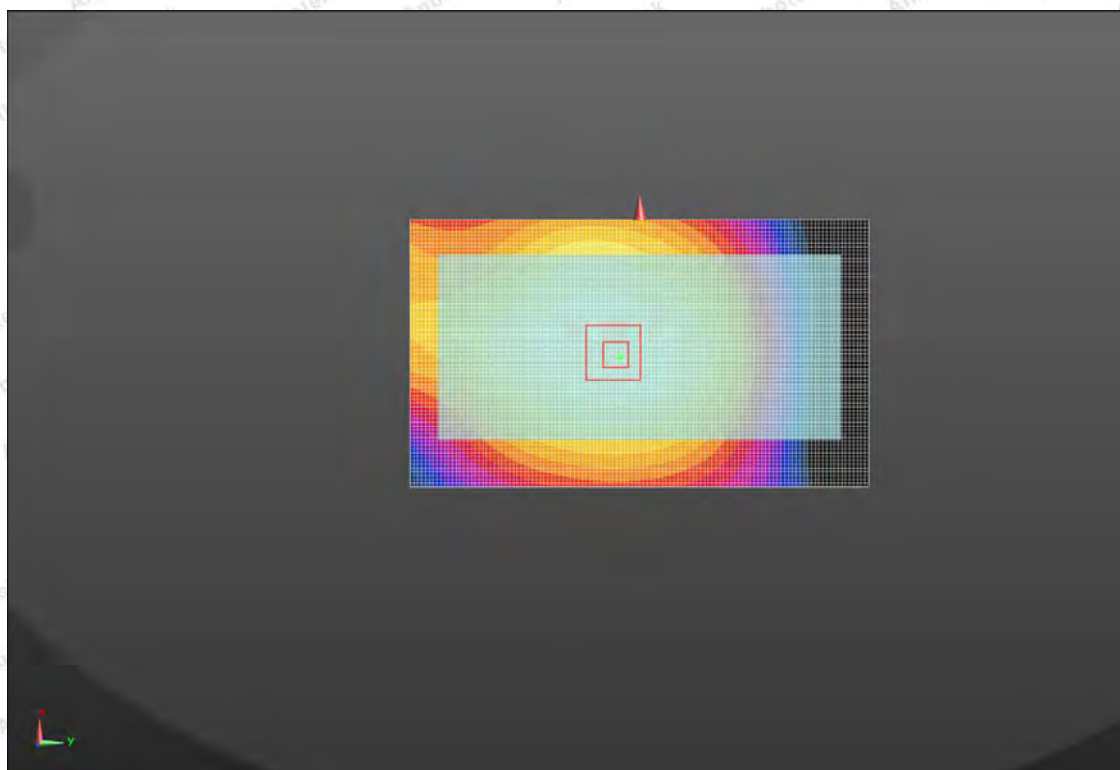
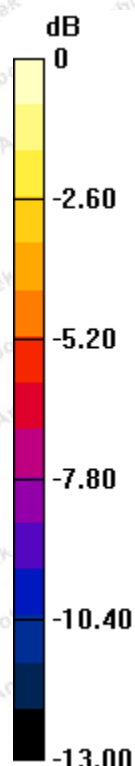


Figure 26: LTE Band 17_QPSK _Rear side

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LTE Band 26_QPSK _

Date: 12/2/2019

Communication System: Customer System; Frequency: 831.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f=831.5$ MHz; $\sigma=0.91$ S/m; $\epsilon_r=41.53$; $\rho=1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4-7396; ConvF(9.88, 9.88, 9.88); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (121x181x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

Zoom Scan (5x5x6)/Cube 0: Measurement grid: dx=7mm, dy=7mm, dz=5mm

Reference Value = 13.255 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.259 mW/g

SAR(1 g) = 0.172 mW/g; SAR(10 g) = 0.107 mW/g

Maximum value of SAR (measured) = 0.219 W/kg

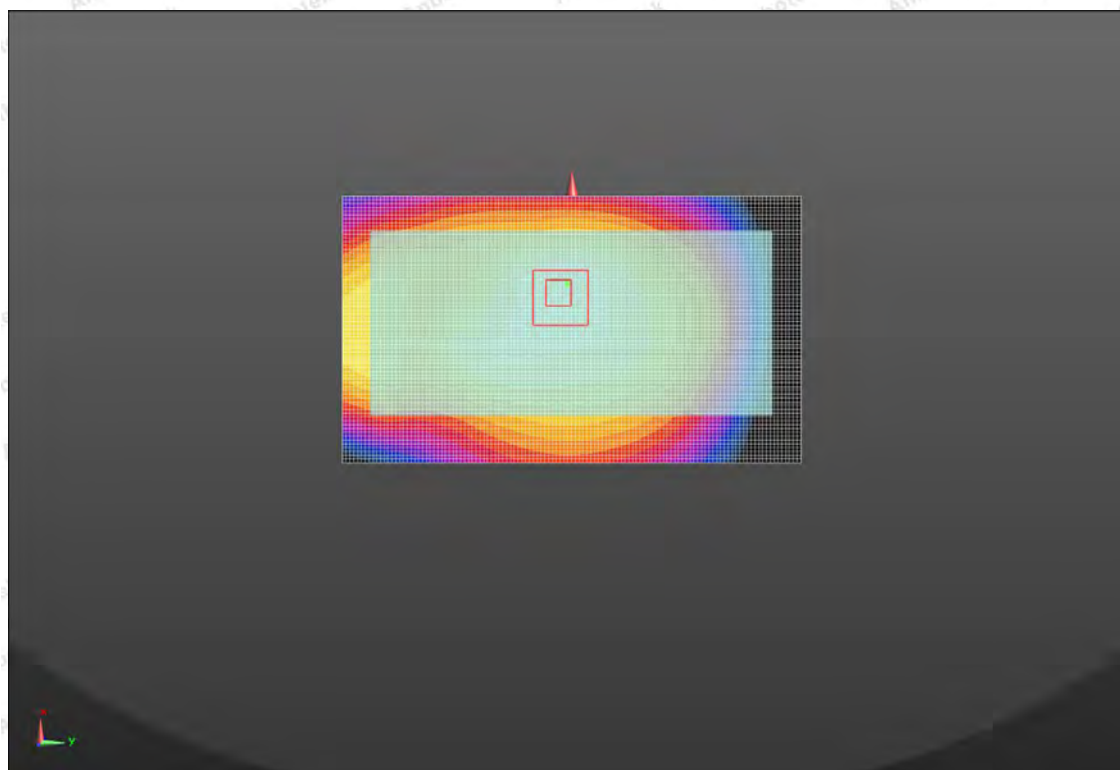
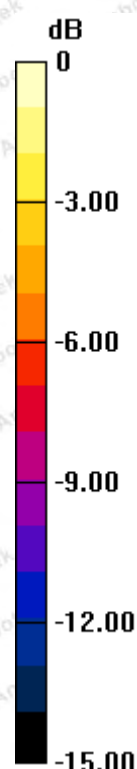


Figure 27: LTE Band 26_QPSK

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LTE Band 38_QPSK

Date: 12/4/2019

Communication System: Customer System; Frequency: 2595 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f=2595$ MHz; $\sigma=1.79$ S/m; $\epsilon_r=38.26$; $\rho=1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.38, 7.38, 7.38); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

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

Reference Value = 2.584 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.255 mW/g

SAR(1 g) = 0.117 mW/g; SAR(10 g) = 0.056 mW/g

Maximum value of SAR (measured) = 0.135 W/kg

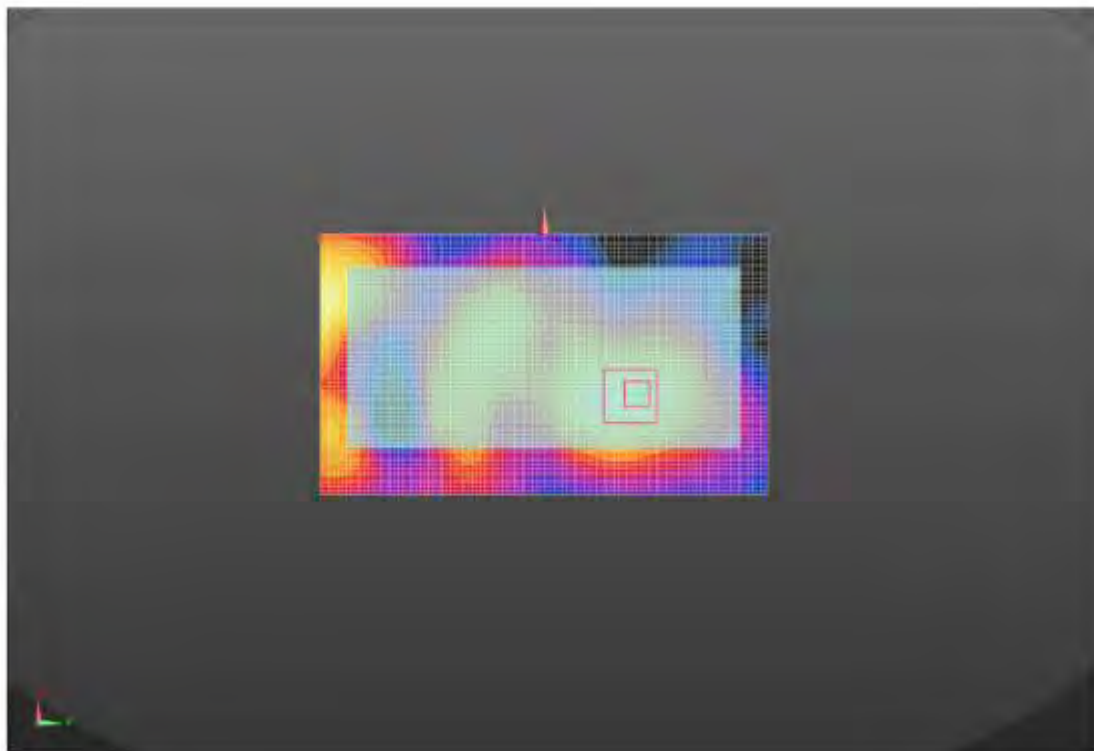
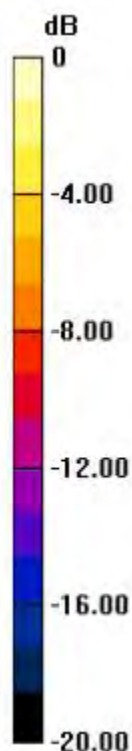


Figure 28: LTE Band 38_QPSK_Rear side

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LTE Band 41_QPSK

Date: 12/4/2019

Communication System: Customer System; Frequency: 2593.0 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f=2593.0$ MHz; $\sigma=1.93$ mho/m; $\epsilon=38.85$; $\rho=1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4-7396; ConvF(7.38, 7.38, 7.38); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.501 W/kg

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

Reference Value = 7.136 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.550 mW/g

SAR(1 g) = 0.381 mW/g; SAR(10 g) = 0.279 mW/g

Maximum value of SAR (measured) = 0.498 W/kg

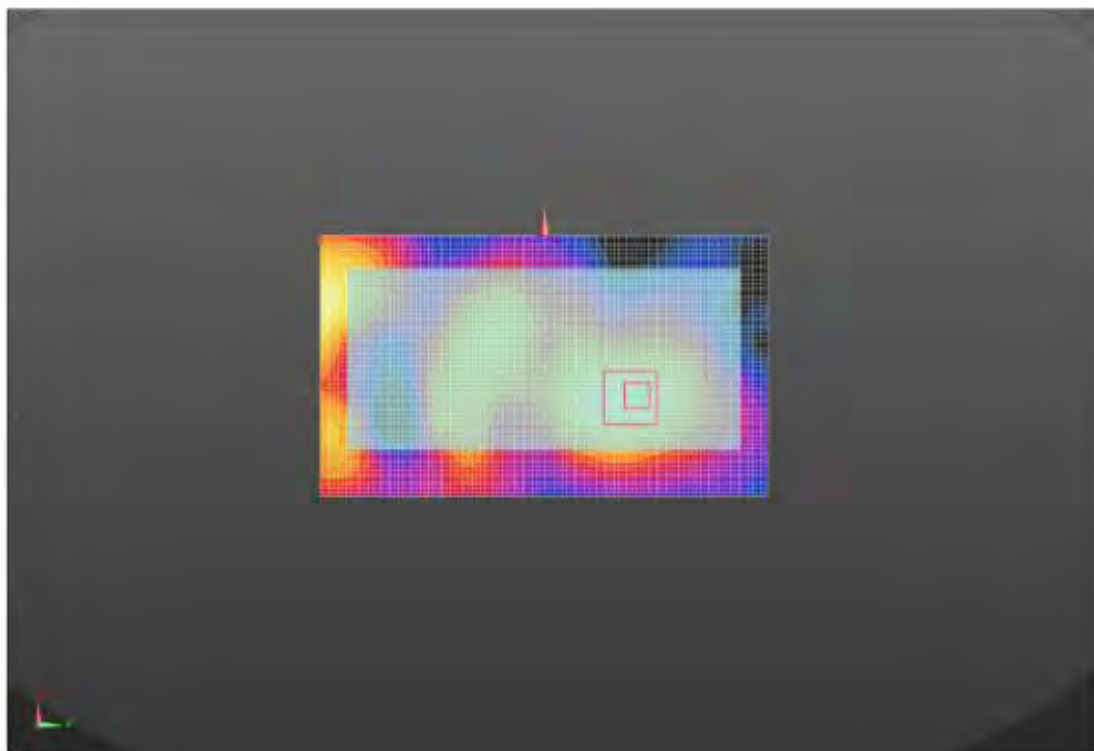
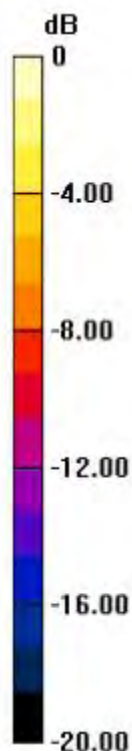


Figure 29: LTE Band 38_QPSK_Rear side

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WLAN2.4G_Rear side

Date: 12/4/2019

Communication System: 802.11; Frequency: 2472 MHz;

Medium parameters used: $f = 2472$ MHz; $\sigma = 1.89$ mho/m; $\epsilon_r = 37.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4-7396; ConvF(7.53, 7.53, 7.53); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;

Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (51x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.139 W/kg

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

Reference Value = 3.867 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 0.247 mW/g

SAR(1 g) = 0.134 mW/g; SAR(10 g) = 0.071 mW/g

Maximum value of SAR (measured) = 0.143 W/kg

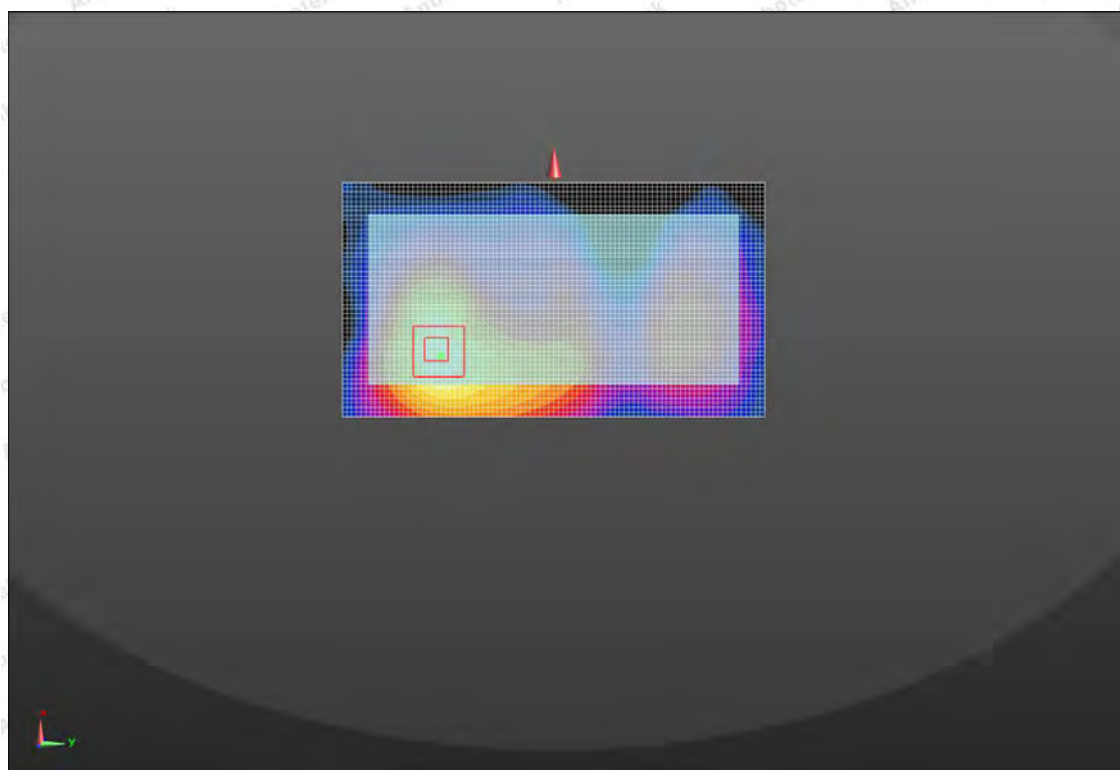
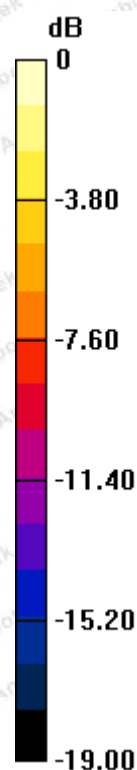


Figure 30: WLAN 2.4G_Rear side_0mm

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WLAN5.2G_Rear side

Date: 12/5/2019

Communication System: 802.11a; Frequency: 5240 MHz;

Medium parameters used: $f = 5240$ MHz; $\sigma = 4.64$ S/m; $\epsilon_r = 36.725$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(4.93, 4.93, 4.93); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (12x19x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.192 W/kg

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

Reference Value = 10.106 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.307 mW/g

SAR(1 g) = 0.186 mW/g; SAR(10 g) = 0.164 mW/g

Maximum value of SAR (measured) = 0.190 W/kg

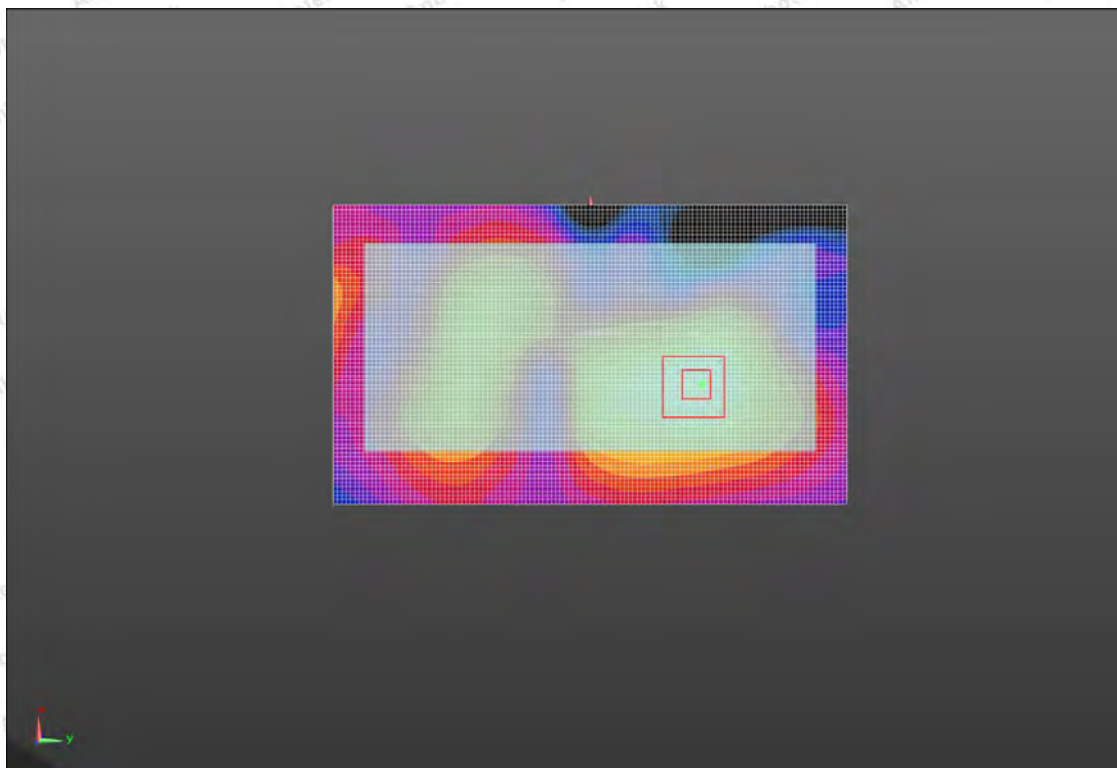
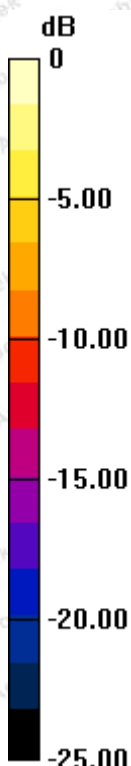


Figure 31: WLAN 5.2G_Rear side

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WLAN5.8G_Rear side

Date: 12/5/2019

Communication System: 802.11an; Frequency: 5825MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5825 \text{ MHz}$; $\sigma = 6.221 \text{ S/m}$; $\epsilon_r = 45.95$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(4.52, 4.52, 4.52); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (11x20x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 0.189 W/kg

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

Reference Value = 4.613 V/m ; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.338 mW/g

SAR(1 g) = 0.173 mW/g ; SAR(10 g) = 0.089 mW/g

Maximum value of SAR (measured) = 0.192 W/kg

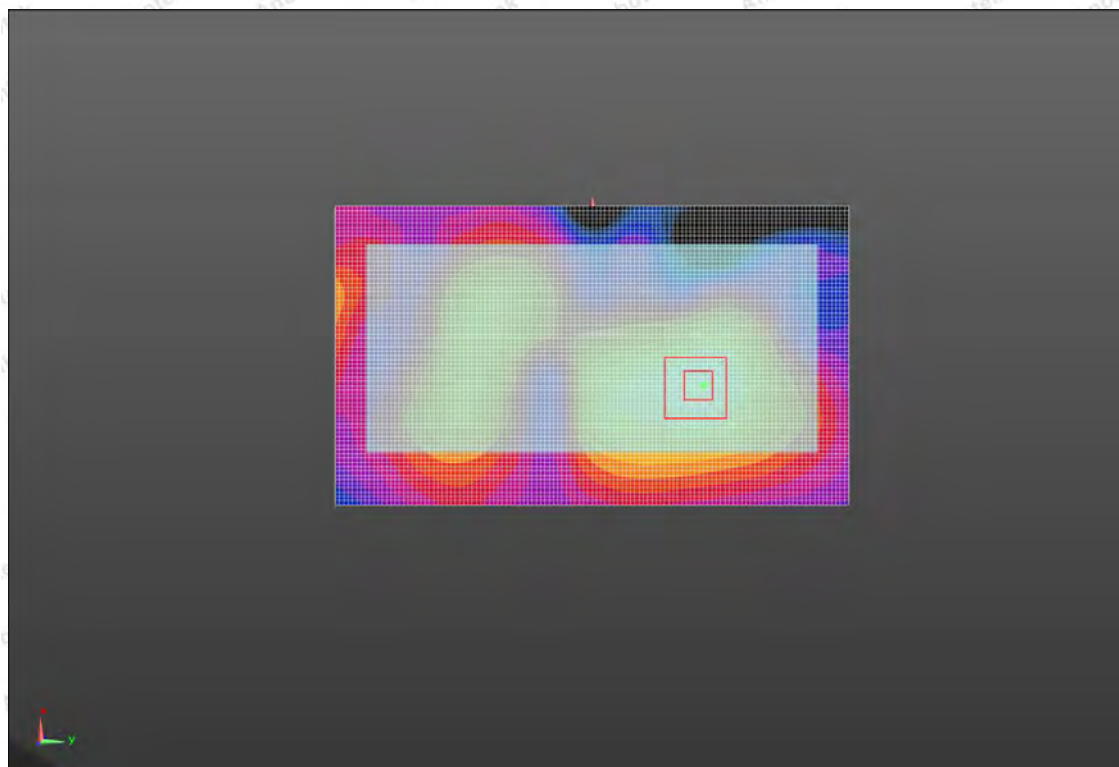
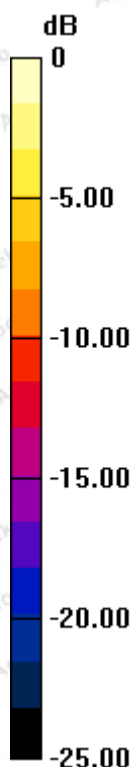


Figure 32: WLAN 5.8G_Rear side

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PMR_FM12.5KHz_Face held_25mm

Date: 12/6/2019

Communication System: FM; Frequency: 173.375 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 173.375 \text{ MHz}$; $\sigma = 0.773 \text{ S/m}$; $\epsilon_r = 51.255$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 -3337; ConvF(7.96, 7.96, 7.96); Calibrated: 7/23/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

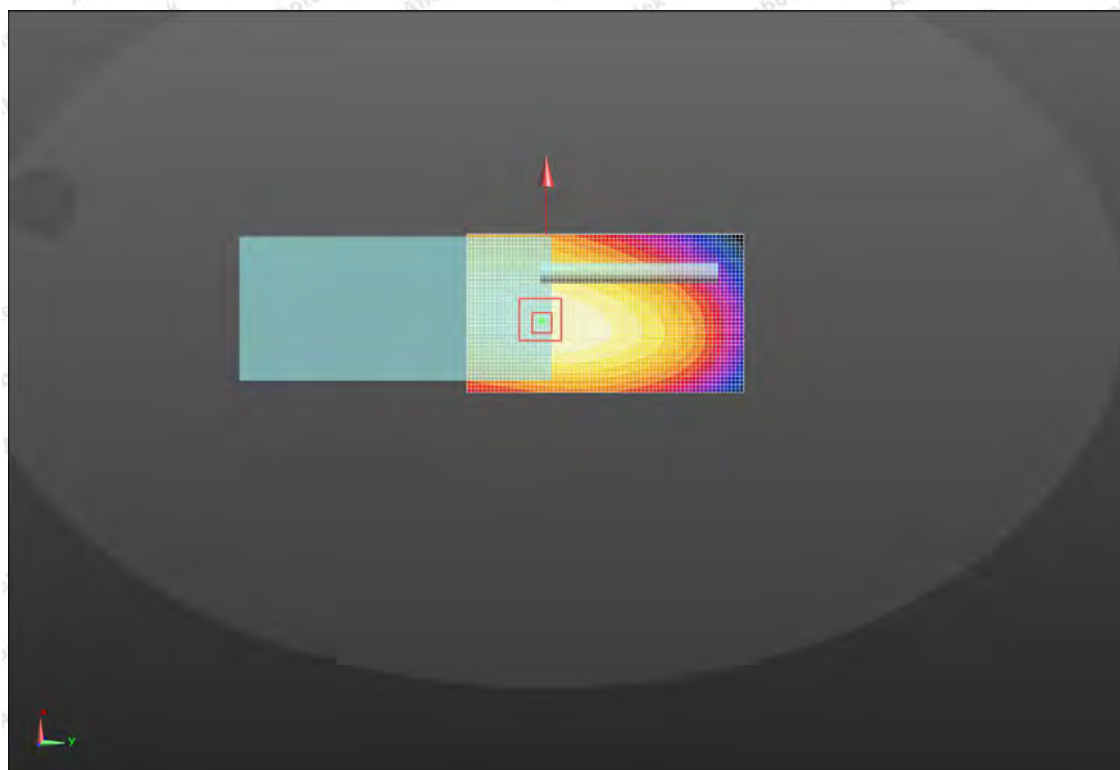
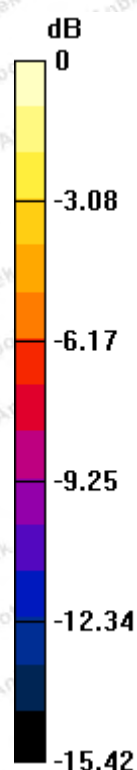
Towards Phantom /Area Scan (51x181x1): Interpolated grid: $dx=1.50 \text{ mm}$, $dy=1.50 \text{ mm}$ Maximum value of SAR (interpolated) = 1.45 W/kg **Zoom Scan (7x7x7)/Cube 0:** Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 35.224 V/m ; Power Drift = -0.11 dB Peak SAR (extrapolated) = 1.645 mW/g **SAR(1 g) = 1.26 mW/g ; SAR(10 g) = 0.889 mW/g** Maximum value of SAR (measured) = 1.48 W/kg 

Figure 33: PMR_FM12.5KHz_Face held_25mm

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PMR_FM12.5KHz_Body Worn_0mm

Date: 12/6/2019

Communication System: FM; Frequency: 164.5 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 164.5$ MHz; $\sigma = 0.75$ S/m; $\epsilon_r = 61.784$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 -3337; ConvF(7.42, 7.42, 7.42); Calibrated: 7/23/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Towards Ground /Area Scan (51x181x1): Interpolated grid: dx=1.50 mm, dy=1.50 mm

Maximum value of SAR (interpolated) = 3.65 W/kg

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

Reference Value = 50.115 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 4.109 mW/g

SAR(1 g) = 2.63 mW/g; SAR(10 g) = 2.01 mW/g

Maximum value of SAR (measured) = 3.51 W/kg

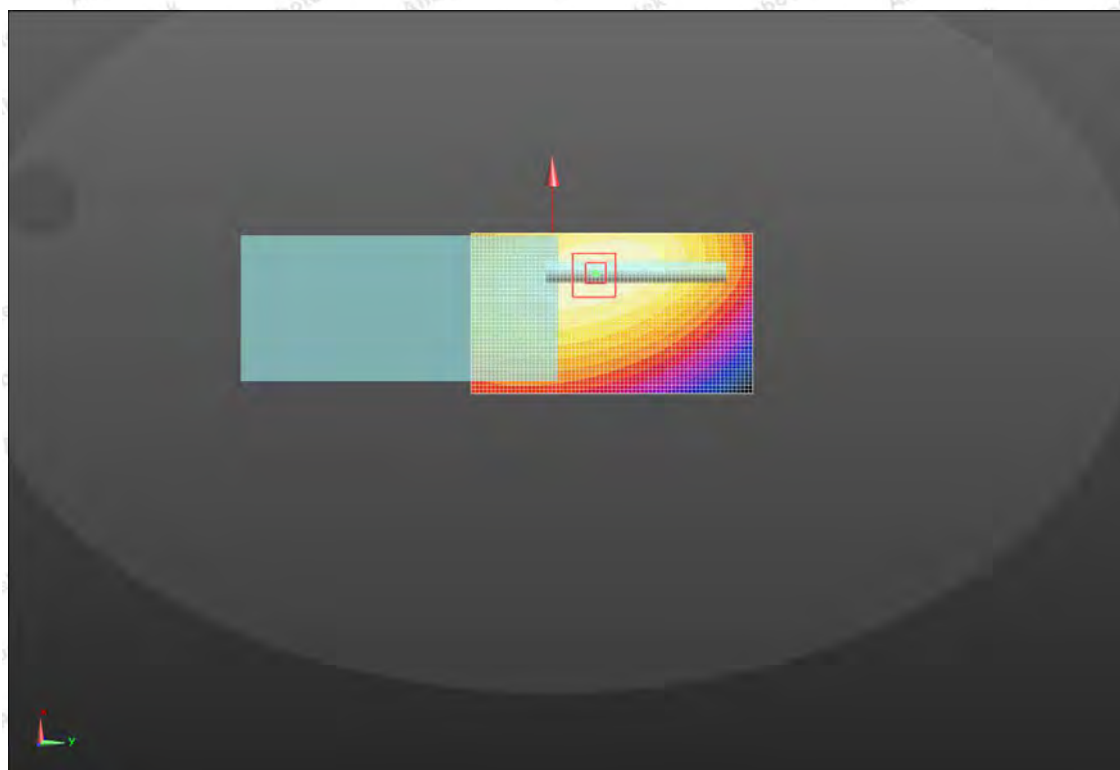
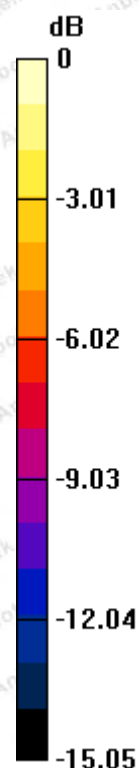


Figure 34: PMR_FM12.5KHz_Body Worn_0mm

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PMR_FM12.5KHz_Face held_25mm

Date: 12/6/2019

Communication System: FM; Frequency: 452.00 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 452.00$ MHz; $\sigma = 0.88$ S/m; $\epsilon_r = 44.31$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 -3337; ConvF(7.96, 7.96, 7.96); Calibrated: 7/23/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Towards Phantom /Area Scan (51x181x1): Interpolated grid: dx=1.50 mm, dy=1.50 mm

Maximum value of SAR (interpolated) = 1.78 W/kg

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

Reference Value = 48.762 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.979 mW/g

SAR(1 g) = 1.56 mW/g; SAR(10 g) = 1.19 mW/g

Maximum value of SAR (measured) = 1.75 W/kg

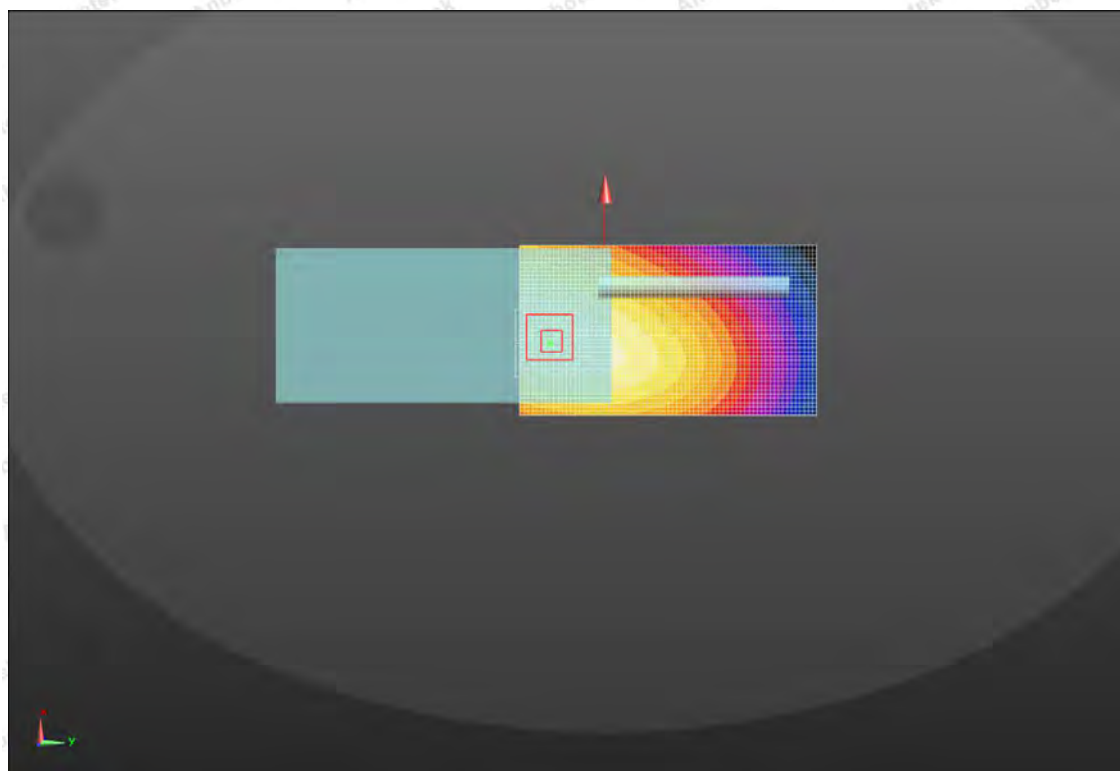
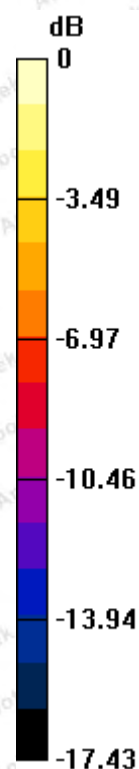


Figure 35: PMR_FM12.5KHz_Face held_25mm

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PMR_FM12.5KHz_Body Worn_0mm

Date: 12/6/2019

Communication System: FM; Frequency: 469.95 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 469.95$ MHz; $\sigma = 0.95$ S/m; $\epsilon_r = 58.7$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 -3337; ConvF(7.42, 7.42, 7.42); Calibrated: 7/23/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Towards Ground /Area Scan (51x181x1): Interpolated grid: dx=1.50 mm, dy=1.50 mm

Maximum value of SAR (interpolated) = 3.46 W/kg

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

Reference Value = 58.587 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 4.527 mW/g

SAR(1 g) = 3.28 mW/g; SAR(10 g) = 2.41 mW/g

Maximum value of SAR (measured) = 3.43 W/kg

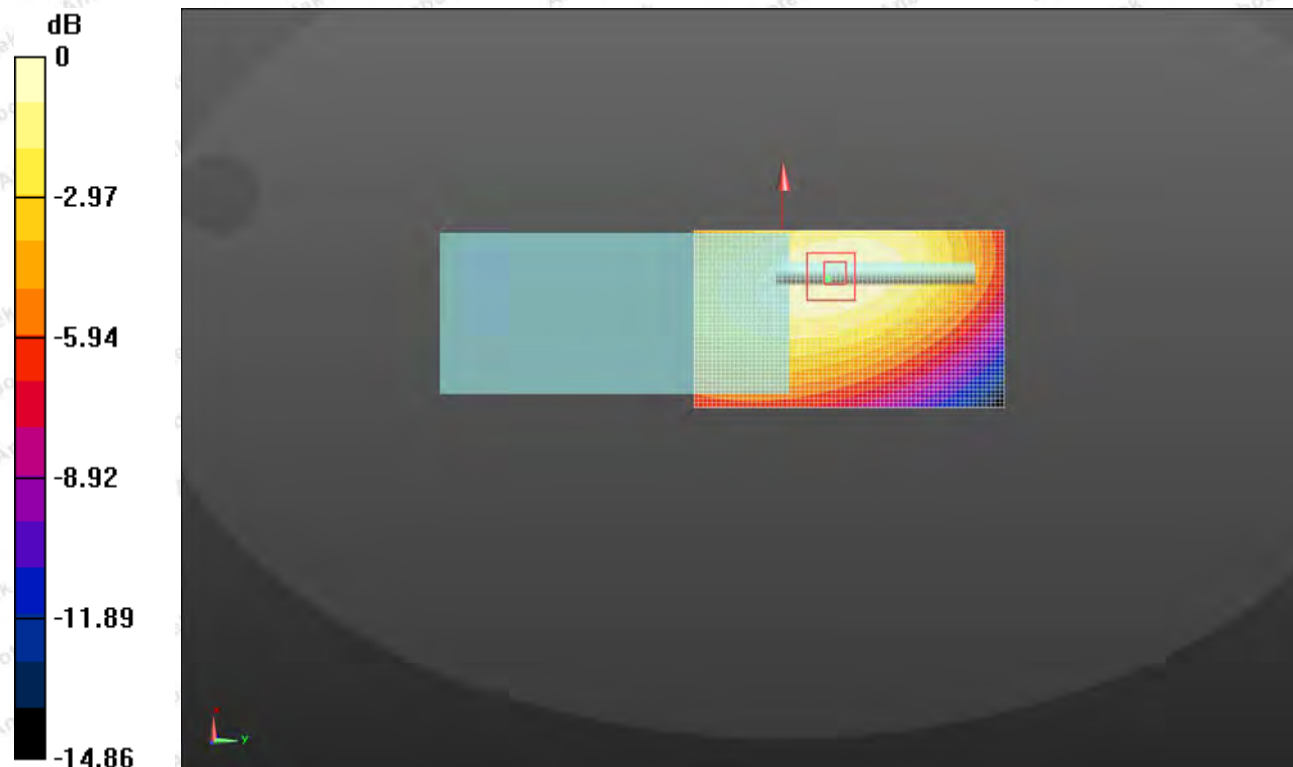


Figure 36: PMR_FM12.5KHz_Body Worn_0mm

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