FCC SAR Test Report

APPLICANT	: TCL Communication Ltd
EQUIPMENT	: CDMA EVDO BC0/BC1/LTE 2-band Mobile phone
BRAND NAME	: ALCATEL ONETOUCH
MODEL NAME	: A622GL
FCC ID	: 2ACCJB026
STANDARD	: FCC 47 CFR Part 2 (2.1093) ANSI/IEEE C95.1-1992 IEEE 1528-2013

We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and had been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (SHENZHEN) INC., the test report shall not be reproduced except in full.

Mark Qu

Prepared by: Mark Qu / Manager

Jones Tsai

Approved by: Jones Tsai / Manager

Testing Laboratory
2353

SPORTON INTERNATIONAL (SHENZHEN) INC.
1F & 2F, Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA5O1507	Rev. 01	Initial issue of report	Dec. 03, 2015
FA5O1507	Rev. 02	Update report for removing mode name “A622VL" which is not supported hotspot mode.	Dec. 08, 2015

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **TCL Communication Ltd, CDMA EVDO BC0/BC1/LTE 2-band Mobile phone, A622GL** are as follows.

Equipment Class	Frequency Band	Highest SAR Summary			
		Head 1g SAR (W/kg)	Wireless Router (Separation 10mm) 1g SAR (W/kg)	Body-worn (Separation 15mm) 1g SAR (W/kg)	Highest Simultaneous Transmission 1g SAR (W/kg)
PCE	CDMA 2000 BC0	0.35	0.44	0.44	1.40
	CDMA 2000 BC1	0.11	1.37	0.77	
	LTE Band 13	0.35	0.46	0.46	
	LTE Band 4	0.17	**1.40**	**0.84**	
DTS	2.4GHz WLAN	**0.53**	0.43	0.13	1.40
DSS	Bluetooth	<0.10			1.12
Date of Testing:		2015/11/05 ~ 2015/11/19			

Frequency Band	Highest SAR Summary
	Extremity 10g SAR (W/kg) (Gap 0mm)
CDMA 2000 BC1	**3.82**
LTE Band 4	3.54

Note:

1. The SAR value list above are all rounded to two decimal digits.
2. a. According to section 15.2, the maximum simultaneous SAR for WWAN+DTS is 1.83W/kg

   b.Per KDB 447498 D01, when the sum of SAR is larger than the limit, SAR test exclusion is determined by the SAR to peak location separation ratio. The ratio is determined by $(SAR1 + SAR2)^{1.5}/Ri$, rounded to two decimal digits, must be ≤ 0.04 for all antenna pairs in the configuration to qualify for 1-g SAR test exclusion. For all configurations SPLSR is ≤ 0.04 and qualify for 1-g SAR test exclusion.

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

2. Administration Data

Testing Laboratory	
Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.
Test Site Location	1F & 2F,Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595

Applicant	
Company Name	TCL Communication Ltd
Address	5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203

Manufacturer	
Company Name	TCL Communication Ltd
Address	5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203

3. Guidance Standard

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

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r04
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	CDMA EVDO BC0/BC1/LTE 2-band Mobile phone
Brand Name	ALCATEL ONETOUCH
Model Name	A622GL
FCC ID	2ACCJB026
IMEI Code	354160070026319
MEID Code	35416007002631
Wireless Technology and Frequency Range	CDMA2000 BC0: 824.7 MHz ~ 848.31 MHz CDMA 2000 BC1: 1851.25 MHz ~ 1908.75 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Mode	· CDMA2000 : 1xEv-Do(Rev.0)/1xEv-Do(Rev.A) · LTE: QPSK, 16QAM · 802.11b/g/n HT20 · Bluetooth v3.0+EDR, Bluetooth v4.1 LE
HW Version	PIO
SW Version	vBAV4
EUT Stage	Production Unit

Remark:
1. This device 2.4GHz supports hotspot operation and 802.11n-HT40 is not supported in 2.4GHz WLAN.
2. When hotspot mode is enabled, power reduction will be activated at CDMA BC0/BC1 and LTE Band 4/13.

4.2 Specification of Accessory

Specification of Accessory				
AC Adapter	Brand Name	ALCATEL ONETOUCH	Model Name	UC11US
	Power Rating	I/P: 100-240Vac, 200mA, O/P: 5Vdc, 1000mA		
	P/N	CBA0057AG0C2		
Battery	Brand Name	ALCATEL ONETOUCH	Model Name	TLp025A2
	Power Rating	3.8Vdc, 2500mAh		
USB Cable 1	Brand Name	ALCATEL ONETOUCH	Model Name	CDA3122005C1
	Signal Line Type	1.0meter,shielded cable, without ferrite core		
USB Cable 2	Brand Name	ALCATEL ONETOUCH	Model Name	CDA3122001C2
	Signal Line Type	1.5meter,shielded cable, without ferrite core		

4.3 General LTE SAR Test and Reporting Considerations

<table>
<tr><th colspan="2">Summarized necessary items addressed in KDB 941225 D05 v02r04</th></tr>
<tr><td>FCC ID</td><td>2ACCJB026</td></tr>
<tr><td>Equipment Name</td><td>CDMA EVDO BC0/BC1/LTE 2-band Mobile phone</td></tr>
<tr><td>Operating Frequency Range of each LTE transmission band</td><td>LTE Band 4: 1710.7 MHz ~ 1754.3 MHz
LTE Band 13: 779.5 MHz ~ 784.5 MHz</td></tr>
<tr><td>Channel Bandwidth</td><td>LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 13: 5MHz, 10MHz</td></tr>
<tr><td>uplink modulations used</td><td>QPSK, and 16QAM</td></tr>
<tr><td>LTE Voice / Data requirements</td><td>Data only</td></tr>
<tr><td>LTE Release</td><td>R10 ,Cat 4</td></tr>
<tr><td>CA Support</td><td>NO</td></tr>
<tr><td>LTE MPR permanently built-in by design</td><td>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3
<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (RB)</th><th rowspan="2">MPR (dB)</th></tr>
<tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr>
<tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr>
</table></td></tr>
<tr><td>LTE A-MPR</td><td>In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)</td></tr>
<tr><td>Spectrum plots for RB configuration</td><td>A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.</td></tr>
<tr><td>Power reduction applied to satisfy SAR compliance</td><td>Yes, when operating in hotspot mode that CDMA BC0/BC1 and LTE Band 4/13 power reduction applied to satisfy SAR compliance.</td></tr>
</table>

Transmission (H, M, L) channel numbers and frequencies in each LTE band

LTE Band 4

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745

LTE Band 13

	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	23205	779.5		
M	23230	782	23230	782
H	23255	784.5		

5. RF Exposure Limits

5.1 Uncontrolled Environment

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

5.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

6. Specific Absorption Rate (SAR)

6.1 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.

6.2 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:

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

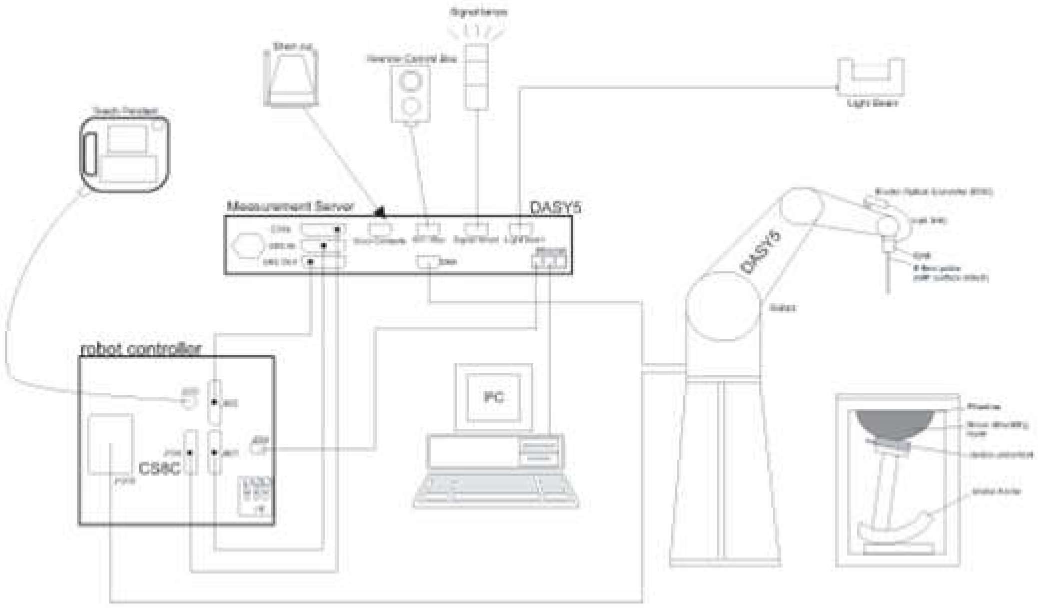
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

7. System Description and Setup

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



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

8. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

8.1 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 form the measurement grid to the high-resolution grid
(e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
(f) Calculation of the averaged SAR within masses of 1g and 10g

8.2 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.

8.3 Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB0 is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

8.4 Zoom Scan

Zoom scans are used 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 shoes base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

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

8.5 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.

8.6 Power Drift Monitoring

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

9. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	Mar. 20, 2015	Mar. 19, 2016
SPEAG	835MHz System Validation Kit	D835V2	4d200	Aug. 20, 2015	Aug. 19, 2016
SPEAG	1750MHz System Validation Kit	D1750V2	1137	Apr. 28, 2015	Apr. 27, 2016
SPEAG	1900MHz System Validation Kit	D1900V2	5d210	Aug. 19, 2015	Aug. 18, 2016
SPEAG	2450MHz System Validation Kit	D2450V2	926	Jul. 24, 2015	Jul. 23, 2016
SPEAG	Data Acquisition Electronics	DAE4	1303	Dec. 11, 2014	Dec. 10, 2015
SPEAG	Data Acquisition Electronics	DAE4	1386	Feb. 19, 2015	Feb. 18, 2016
SPEAG	Dosimetric E-Field Probe	EX3DV4	3819	Nov. 13, 2014	Nov. 12, 2015
SPEAG	Dosimetric E-Field Probe	EX3DV4	3958	Jul. 23, 2015	Jul. 22, 2016
SPEAG	SAM Twin Phantom	QD 000 P40 CD	TP-1670	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CD	TP-1671	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio communication analyzer	MT8820C	6201300653	Aug. 25, 2015	Aug. 24, 2016
Agilent	Wireless Communication Test Set	E5515C	MY50267224	Aug. 07, 2015	Aug. 06, 2016
R&S	Network Analyzer	ZVB8	100106	Oct. 20, 2015	Oct. 19, 2016
Speag	Dielectric Assessment KIT	DAK-3.5	1032	NCR	NCR
R&S	Signal Generator	SMBV100A	258305	Jan. 23, 2015	Jan. 22, 2016
Anritsu	Power Sensor	MA2411B	1207253	Jan. 28, 2015	Jan. 27, 2016
Anritsu	Power Meter	ML2495A	1218010	Jan. 28, 2015	Jan. 27, 2016
Anritsu	Power Senor	MA2411B	917070	Jan. 23, 2015	Jan. 22, 2016
Anritsu	Power Meter	ML2495A	1005002	Jan. 23, 2015	Jan. 22, 2016
R&S	CBT BLUETOOTH TESTER	CBT	100963	Jan. 28, 2015	Jan. 27, 2016
R&S	Spectrum Analyzer	FSP7	101634	Aug. 07, 2015	Aug. 06, 2016
AR	Amplifier	5S1G4	333096	NCR	NCR
mini-circuits	Amplifier	ZVE-3W-83+	162601250	NCR	NCR
ARRA	Power Divider	A3200-2	N/A	Note1	
Agilent	Dual Directional Coupler	778D	50422	Note1	
MCL	Attenuation1	BW-S10W5	N/A	Note1	
Weinschel	Attenuation2	3M-20	N/A	Note1	
Zhongjilianhe	Attenuation3	MVE2214-03	N/A	Note1	

General Note:

1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.

10. System Verification

10.1 Tissue Verification

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

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (εr)
For Head								
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
For Body								
750	51.7	47.2	0	0.9	0.1	0	0.96	55.5
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	Head	22.8	0.880	40.797	0.89	41.90	-1.12	-2.63	±5	2015/11/19
835	Head	22.6	0.887	41.987	0.90	41.50	-1.44	1.17	±5	2015/11/19
1750	Head	22.7	1.392	40.573	1.37	40.10	1.61	1.18	±5	2015/11/19
1900	Head	22.6	1.460	40.899	1.40	40.00	4.29	2.25	±5	2015/11/19
2450	Head	22.7	1.856	37.685	1.80	39.20	3.11	-3.86	±5	2015/11/5
750	Body	22.6	0.961	53.917	0.96	55.50	0.10	-2.85	±5	2015/11/17
835	Body	22.7	1.011	56.243	0.97	55.20	4.23	1.89	±5	2015/11/17
1750	Body	22.9	1.528	52.031	1.49	53.40	2.55	-2.56	±5	2015/11/18
1900	Body	22.7	1.580	54.631	1.52	53.30	3.95	2.50	±5	2015/11/18
2450	Body	22.7	1.977	51.617	1.95	52.70	1.38	-2.06	±5	2015/11/5

10.2 System Performance Check Results

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

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2015/11/19	750	Head	250	D750V3-1087	EX3DV4 - SN3958	DAE4 Sn1386	2.08	8.12	8.32	2.46
2015/11/19	835	Head	250	D835V2-4d200	EX3DV4 - SN3958	DAE4 Sn1386	2.28	9.15	9.12	-0.33
2015/11/19	1750	Head	250	D1750V2-1137	EX3DV4 - SN3958	DAE4 Sn1386	9.42	36.20	37.68	4.09
2015/11/19	1900	Head	250	D1900V2_5d210	EX3DV4 - SN3958	DAE4 Sn1386	10.20	41.10	40.8	-0.73
2015/11/5	2450	Head	250	D2450V2-926	EX3DV4 - SN3819	DAE4 Sn1303	12.80	52.10	51.2	-1.73
2015/11/17	750	Body	250	D750V3-1087	EX3DV4 - SN3958	DAE4 Sn1386	2.27	8.57	9.08	5.95
2015/11/17	835	Body	250	D835V2-4d200	EX3DV4 - SN3958	DAE4 Sn1386	2.25	9.55	9.00	-5.76
2015/11/18	1750	Body	250	D1750V2-1137	EX3DV4 - SN3958	DAE4 Sn1386	9.43	36.90	37.72	2.22
2015/11/18	1900	Body	250	D1900V2_5d210	EX3DV4 - SN3958	DAE4 Sn1386	10.60	40.00	42.4	6.00
2015/11/5	2450	Body	250	D2450V2-926	EX3DV4 - SN3819	DAE4 Sn1303	13.20	51.70	52.8	2.13

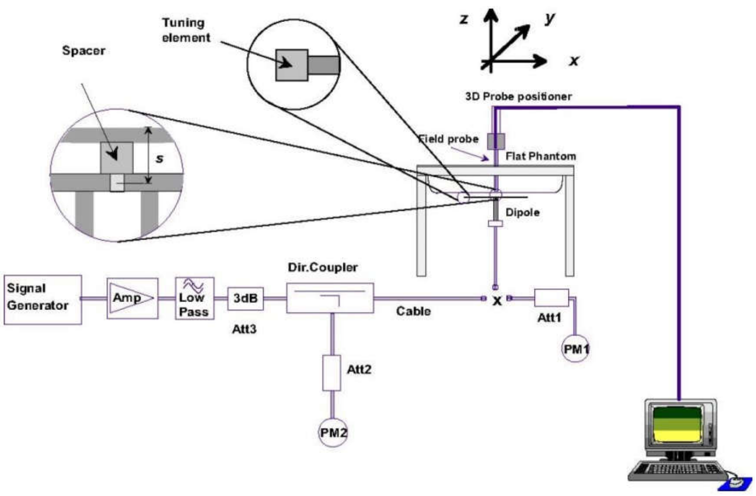


Fig 8.3.1 System Performance Check Setup

Fig 8.3.2 Setup Photo

11. RF Exposure Positions

11.1 Ear and handset reference point

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

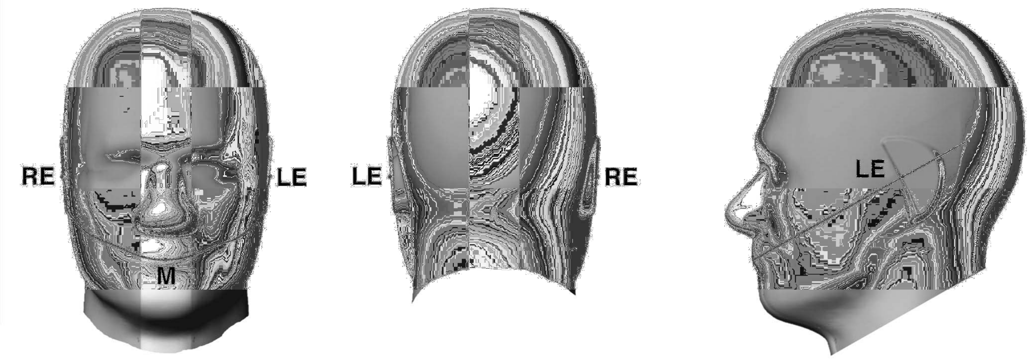


Fig 9.1.1 Front, back, and side views of SAM twin phantom

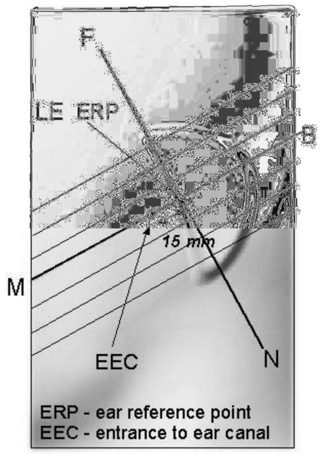


Fig 9.1.2 Close-up side view of phantom showing the ear region.

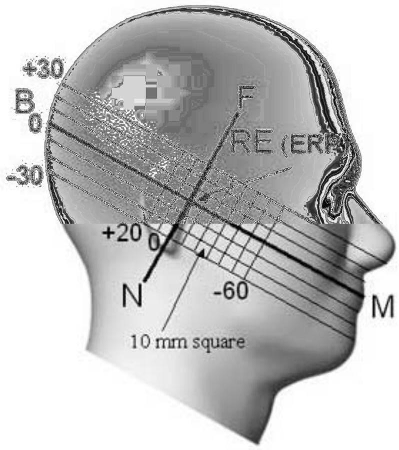


Fig 9.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

11.2 Definition of the cheek position

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

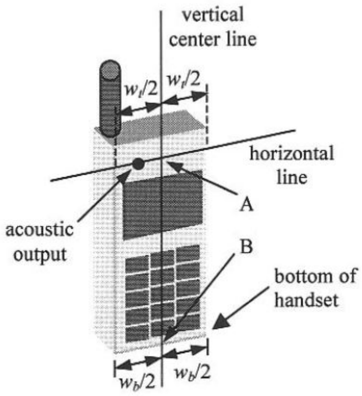


Fig 9.2.1 Handset vertical and horizontal reference lines—"fixed case

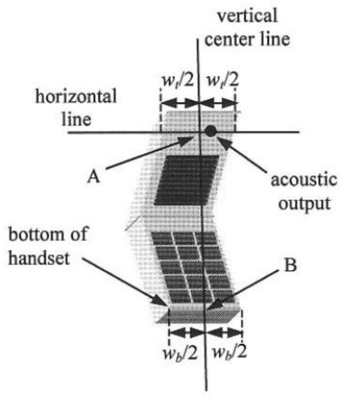


Fig 9.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

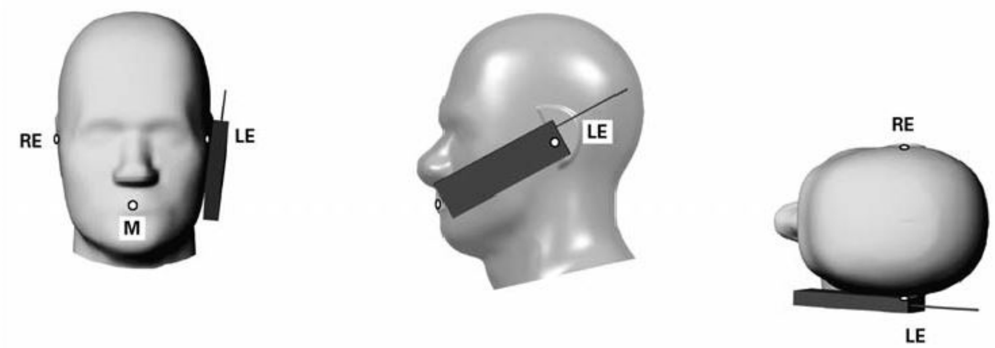


Fig 9.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

11.3 Definition of the tilt position

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

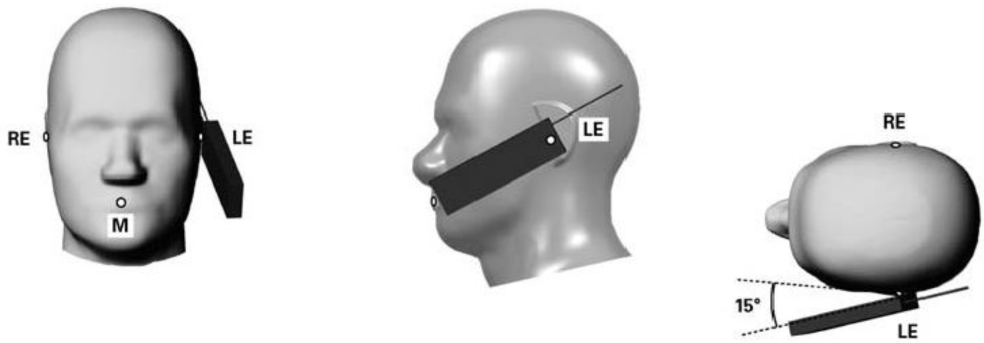


Fig 9.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

11.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 9.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is < 1.2 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-chip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

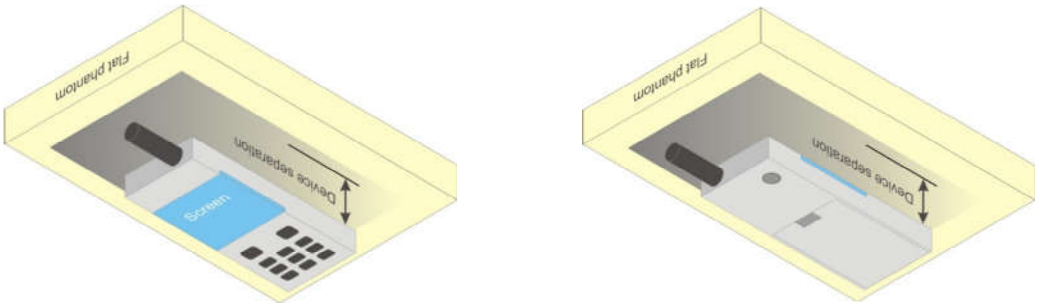


Fig 9.4 Body Worn Position

11.5 Extremity Exposure

For smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, According to KDB648474 D04v01r03, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.

2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions.6 The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

11.6 Wireless Router

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

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

12. Conducted RF Output Power (Unit: dBm)

<CDMA2000 Conducted Power>

General Note:

1. Per KDB 941225 D01v03r01, SAR for next to the ear head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55.
2. Per KDB 941225 D01v03r01, in Hotspot mode EUT is treated as data device and SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps) as the primary mode.
3. Per KDB 941225 D01v03r01, for Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The body-worn accessory procedures in KDB Publication 447498 are applied. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH), with FCH only as the primary mode.

Maximum Average RF Power (Full Power)

Band	CDMA2000 BC0			Tune-up Limit (dBm)	CDMA2000 BC1			Tune-up Limit (dBm)
TX Channel	1013	384	777		25	600	1175	
Frequency (MHz)	824.7	836.52	848.31		1851.25	1880	1908.75	
1xRTT RC1 SO55	23.70	23.57	23.58	24.50	23.27	23.01	23.11	23.60
1xRTT RC3 SO55	23.78	23.69	23.65	24.50	23.29	23.03	23.08	23.60
1xRTT RC3 SO32(+ F-SCH)	23.67	23.62	23.64	24.50	23.24	23.02	22.89	23.60
1xRTT RC3 SO32(+SCH)	23.65	23.60	23.62	24.50	23.19	23.00	22.87	23.60
1xEVDO RTAP 153.6Kbps	23.76	23.68	23.63	24.50	23.20	23.02	23.01	23.60
1xEVDO RETAP 4096Bits	23.75	23.66	23.61	24.50	23.17	22.98	22.97	23.60

Reduced Average RF Power (Hotspot Reduced Power)

Band	CDMA2000 BC0			Tune-up Limit (dBm)	CDMA2000 BC1			Tune-up Limit (dBm)
TX Channel	1013	384	777		25	600	1175	
Frequency (MHz)	824.7	836.52	848.31		1851.25	1880	1908.75	
1xRTT RC1 SO55	23.11	22.97	22.86	24.00	21.96	21.64	21.69	22.10
1xRTT RC3 SO55	23.24	23.10	22.93	24.00	22.00	21.68	21.77	22.10
1xRTT RC3 SO32(+ F-SCH)	23.18	23.06	22.83	24.00	21.98	21.61	21.69	22.10
1xRTT RC3 SO32(+SCH)	23.09	23.01	22.82	24.00	21.94	21.60	21.67	22.10
1xEVDO RTAP 153.6Kbps	23.23	23.07	22.91	24.00	21.94	21.67	21.75	22.10
1xEVDO RETAP 4096Bits	23.15	23.05	22.90	24.00	21.93	21.65	21.74	22.10

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r04, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r04, 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 D05v02r04, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r04, 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 D05v02r04, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r04, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r04, Smaller bandwidth output power for each RB allocation configuration is > not ½ 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 D05v02r04, smaller bandwidth SAR testing is not required.
8. For LTE B4 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r04, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

Maximum Average RF Power (Full Power)

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	23.11	23.27	23.34	23.80	0
20	QPSK	1	49	23.12	23.66	23.39		
20	QPSK	1	99	22.74	22.80	22.87		
20	QPSK	50	0	22.02	22.16	22.19	22.80	0-1
20	QPSK	50	24	22.08	22.38	22.21		
20	QPSK	50	50	22.05	22.06	22.10		
20	QPSK	100	0	21.97	22.31	22.19		
20	16QAM	1	0	22.13	22.41	22.28	22.80	0-1
20	16QAM	1	49	21.82	22.34	22.18		
20	16QAM	1	99	21.68	21.58	21.98		
20	16QAM	50	0	20.99	21.23	21.18	21.80	0-2
20	16QAM	50	24	20.85	21.11	21.13		
20	16QAM	50	50	20.95	20.82	21.02		
20	16QAM	100	0	20.90	21.02	21.01		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	22.85	23.03	23.11	23.80	0
15	QPSK	1	37	22.88	22.80	22.94		
15	QPSK	1	74	22.77	22.80	22.96		
15	QPSK	36	0	21.94	22.07	22.15	22.80	0-1
15	QPSK	36	20	21.92	21.86	22.11		
15	QPSK	36	39	21.98	22.02	21.97		
15	QPSK	75	0	21.80	21.93	22.11		
15	16QAM	1	0	22.39	22.37	22.47	22.80	0-1
15	16QAM	1	37	22.24	22.03	22.48		
15	16QAM	1	74	21.70	21.62	22.47		
15	16QAM	36	0	20.79	20.96	21.03	21.80	0-2
15	16QAM	36	20	20.82	20.87	20.99		
15	16QAM	36	39	20.79	20.93	20.78		
15	16QAM	75	0	20.71	20.95	21.01		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	23.08	22.95	23.27	23.80	0
10	QPSK	1	25	23.16	23.10	23.28		
10	QPSK	1	49	22.90	23.03	22.84		
10	QPSK	25	0	21.85	22.11	22.20	22.80	0-1
10	QPSK	25	12	21.96	22.03	22.10		
10	QPSK	25	25	21.80	22.02	22.06		
10	QPSK	50	0	21.93	22.02	22.09		
10	16QAM	1	0	22.33	22.43	22.48	22.80	0-1
10	16QAM	1	25	22.43	22.41	22.42		
10	16QAM	1	49	22.02	22.29	22.14		
10	16QAM	25	0	20.81	21.20	21.12	21.80	0-2
10	16QAM	25	12	20.83	20.94	21.02		
10	16QAM	25	25	20.78	20.92	20.87		
10	16QAM	50	0	20.75	20.93	21.04		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	22.81	22.94	22.98	23.80	0
5	QPSK	1	12	22.96	23.09	23.31		
5	QPSK	1	24	22.86	22.95	22.92		
5	QPSK	12	0	21.78	21.99	21.94	22.80	0-1
5	QPSK	12	7	21.74	21.91	21.97		
5	QPSK	12	13	21.75	21.90	21.89		
5	QPSK	25	0	21.76	21.96	22.02		
5	16QAM	1	0	22.13	22.44	22.47	22.80	0-1
5	16QAM	1	12	22.34	22.40	22.46		
5	16QAM	1	24	22.27	22.42	22.35		
5	16QAM	12	0	20.77	20.97	20.95	21.80	0-2
5	16QAM	12	7	20.61	20.80	20.88		
5	16QAM	12	13	20.59	20.90	20.80		
5	16QAM	25	0	20.81	20.90	20.98		

Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	22.81	23.04	23.33	23.80	0
3	QPSK	1	8	22.76	23.00	23.20		
3	QPSK	1	14	22.69	22.98	22.87		
3	QPSK	8	0	21.79	22.02	22.07	22.80	0-1
3	QPSK	8	4	21.71	22.00	22.04		
3	QPSK	8	7	21.75	21.97	22.02		
3	QPSK	15	0	21.68	22.00	21.96		
3	16QAM	1	0	22.45	22.46	22.11	22.80	0-1
3	16QAM	1	8	21.63	22.47	22.35		
3	16QAM	1	14	22.48	22.45	22.45		
3	16QAM	8	0	20.42	20.86	21.08	21.80	0-2
3	16QAM	8	4	20.66	21.05	20.99		
3	16QAM	8	7	20.61	21.06	21.01		
3	16QAM	15	0	20.45	20.88	21.17		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	22.67	22.96	22.73	23.80	0
1.4	QPSK	1	3	22.58	22.96	22.66		
1.4	QPSK	1	5	22.60	22.89	22.75		
1.4	QPSK	3	0	22.59	23.03	23.03		
1.4	QPSK	3	1	22.73	23.13	23.05		
1.4	QPSK	3	3	22.73	23.00	22.97		
1.4	QPSK	6	0	21.67	21.98	21.99	22.80	0-1
1.4	16QAM	1	0	21.68	22.14	22.31	22.80	0-1
1.4	16QAM	1	3	21.61	22.20	22.17		
1.4	16QAM	1	5	21.44	22.12	22.10		
1.4	16QAM	3	0	21.82	22.23	22.31		
1.4	16QAM	3	1	21.89	22.25	22.33		
1.4	16QAM	3	3	21.83	22.18	22.29		
1.4	16QAM	6	0	20.62	20.82	20.56	21.80	0-2

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel					23230			
Frequency (MHz)					782			
10	QPSK	1	0		22.60		24.30	0
10	QPSK	1	25		22.97			
10	QPSK	1	49		22.74			
10	QPSK	25	0		21.90		23.30	0-1
10	QPSK	25	12		21.46			
10	QPSK	25	25		21.78			
10	QPSK	50	0		21.76			
10	16QAM	1	0		21.95		23.30	0-1
10	16QAM	1	25		22.22			
10	16QAM	1	49		21.98			
10	16QAM	25	0		20.94		22.30	0-2
10	16QAM	25	12		20.42			
10	16QAM	25	25		20.80			
10	16QAM	50	0		20.64			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	22.48	22.82	22.83	24.30	0
5	QPSK	1	12	22.89	22.56	22.96		
5	QPSK	1	24	22.65	22.98	22.71		
5	QPSK	12	0	21.83	21.65	21.71	23.30	0-1
5	QPSK	12	7	21.96	21.50	21.87		
5	QPSK	12	13	21.73	21.66	21.83		
5	QPSK	25	0	21.93	21.51	21.69		
5	16QAM	1	0	21.82	21.99	21.74	23.30	0-1
5	16QAM	1	12	21.88	21.67	22.05		
5	16QAM	1	24	21.99	22.03	21.64		
5	16QAM	12	0	20.78	20.96	20.70	22.30	0-2
5	16QAM	12	7	21.10	20.50	20.84		
5	16QAM	12	13	21.04	20.65	20.80		
5	16QAM	25	0	21.03	20.43	20.79		

Reduced Average RF Power (Hotspot Reduced Power)

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	22.21	22.31	22.34	22.80	0
20	QPSK	1	49	22.22	22.45	22.48		
20	QPSK	1	99	22.08	22.18	22.16		
20	QPSK	50	0	22.24	22.23	22.40	22.80	0-1
20	QPSK	50	24	22.27	22.24	22.45		
20	QPSK	50	50	22.21	22.21	22.27		
20	QPSK	100	0	22.21	22.21	22.37		
20	16QAM	1	0	22.20	22.41	22.41	22.80	0-1
20	16QAM	1	49	22.36	22.42	22.40		
20	16QAM	1	99	21.87	22.32	22.31		
20	16QAM	50	0	21.14	21.14	21.32	21.80	0-2
20	16QAM	50	24	21.22	21.21	21.37		
20	16QAM	50	50	21.23	21.23	21.11		
20	16QAM	100	0	21.22	21.21	21.21		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	22.20	22.27	22.35	22.80	0
15	QPSK	1	37	22.11	22.12	22.30		
15	QPSK	1	74	22.13	22.15	21.98		
15	QPSK	36	0	22.27	22.24	22.28	22.80	0-1
15	QPSK	36	20	22.17	22.17	22.39		
15	QPSK	36	39	22.24	22.27	22.26		
15	QPSK	75	0	22.10	22.24	22.27		
15	16QAM	1	0	22.15	22.49	22.47	22.80	0-1
15	16QAM	1	37	21.82	22.33	22.44		
15	16QAM	1	74	21.86	22.44	22.32		
15	16QAM	36	0	21.14	21.18	21.32	21.80	0-2
15	16QAM	36	20	21.10	21.11	21.33		
15	16QAM	36	39	21.19	21.22	21.21		
15	16QAM	75	0	21.06	21.10	21.20		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	22.22	22.09	22.51	22.80	0
10	QPSK	1	25	22.42	22.45	22.50		
10	QPSK	1	49	22.14	22.31	22.08		
10	QPSK	25	0	22.17	22.25	22.38	22.80	0-1
10	QPSK	25	12	22.31	22.31	22.36		
10	QPSK	25	25	22.14	22.24	22.31		
10	QPSK	50	0	22.24	22.27	22.32		
10	16QAM	1	0	22.18	22.47	22.42	22.80	0-1
10	16QAM	1	25	22.15	22.50	22.45		
10	16QAM	1	49	22.30	22.07	22.36		
10	16QAM	25	0	21.12	21.31	21.41	21.80	0-2
10	16QAM	25	12	21.25	21.16	21.32		
10	16QAM	25	25	21.18	21.20	21.28		
10	16QAM	50	0	21.10	21.24	21.29		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	22.18	22.29	22.37	22.80	0
5	QPSK	1	12	22.37	22.38	22.41		
5	QPSK	1	24	22.12	22.26	22.04		
5	QPSK	12	0	22.16	22.18	22.22	22.80	0-1
5	QPSK	12	7	22.10	22.12	22.23		
5	QPSK	12	13	22.15	22.18	22.19		
5	QPSK	25	0	22.12	22.12	22.25		
5	16QAM	1	0	22.17	22.44	22.48	22.80	0-1
5	16QAM	1	12	22.45	22.33	22.52		
5	16QAM	1	24	22.45	22.39	22.14		
5	16QAM	12	0	21.10	21.05	21.13	21.80	0-2
5	16QAM	12	7	20.93	21.13	21.14		
5	16QAM	12	13	20.90	21.09	21.12		
5	16QAM	25	0	21.06	21.22	21.07		

Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	22.18	22.27	22.31	22.80	0
3	QPSK	1	8	22.29	22.23	22.32		
3	QPSK	1	14	22.25	22.14	22.16		
3	QPSK	8	0	22.21	22.19	22.36	22.80	0-1
3	QPSK	8	4	22.08	22.16	22.21		
3	QPSK	8	7	22.15	22.15	22.17		
3	QPSK	15	0	22.06	22.25	22.21		
3	16QAM	1	0	22.37	22.48	22.45	22.80	0-1
3	16QAM	1	8	22.32	22.40	22.37		
3	16QAM	1	14	22.37	22.49	22.36		
3	16QAM	8	0	20.98	21.32	21.29	21.80	0-2
3	16QAM	8	4	21.09	21.31	21.26		
3	16QAM	8	7	21.05	21.30	21.21		
3	16QAM	15	0	21.02	21.07	21.30		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	21.93	22.21	22.15	22.80	0
1.4	QPSK	1	3	22.16	22.36	22.20		
1.4	QPSK	1	5	21.96	22.18	22.08		
1.4	QPSK	3	0	22.12	22.21	22.24		
1.4	QPSK	3	1	22.34	22.34	22.28		
1.4	QPSK	3	3	22.16	22.24	22.16		
1.4	QPSK	6	0	22.12	22.22	22.13	22.80	0-1
1.4	16QAM	1	0	22.14	22.42	22.45	22.80	0-1
1.4	16QAM	1	3	22.37	22.48	22.40		
1.4	16QAM	1	5	22.27	22.48	22.37		
1.4	16QAM	3	0	22.31	22.43	22.39		
1.4	16QAM	3	1	22.37	22.37	22.41		
1.4	16QAM	3	3	22.31	22.34	22.38		
1.4	16QAM	6	0	21.09	20.98	20.97	21.80	0-2

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel					23230			
Frequency (MHz)					782			
10	QPSK	1	0		22.16		23.80	0
10	QPSK	1	25		22.38			
10	QPSK	1	49		22.19			
10	QPSK	25	0		21.99		22.80	0-1
10	QPSK	25	12		21.52			
10	QPSK	25	25		21.89			
10	QPSK	50	0		21.82			
10	16QAM	1	0		21.91		22.80	0-1
10	16QAM	1	25		21.86			
10	16QAM	1	49		21.86			
10	16QAM	25	0		21.09		21.80	0-2
10	16QAM	25	12		20.39			
10	16QAM	25	25		20.88			
10	16QAM	50	0		20.62			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	22.07	22.46	22.19	23.80	0
5	QPSK	1	12	22.94	22.36	22.70		
5	QPSK	1	24	22.24	22.53	22.16		
5	QPSK	12	0	21.92	21.83	21.81	22.80	0-1
5	QPSK	12	7	22.07	21.65	21.95		
5	QPSK	12	13	21.95	21.78	21.76		
5	QPSK	25	0	21.99	21.53	21.81		
5	16QAM	1	0	21.87	22.28	22.05	22.80	0-1
5	16QAM	1	12	21.95	21.83	22.12		
5	16QAM	1	24	22.01	22.19	21.44		
5	16QAM	12	0	20.96	20.91	20.62	21.80	0-2
5	16QAM	12	7	21.11	20.59	20.84		
5	16QAM	12	13	21.08	20.56	20.79		
5	16QAM	25	0	21.12	20.55	20.83		

<WLAN Conducted Power>

General Note:

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

<2.4GHz WLAN>

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b	CH 1	2412	1Mbps	17.41	19.00	97.19
		CH 6	2437		18.05	19.00	
		CH 11	2462		17.43	19.00	
	802.11g	CH 1	2412	6Mbps	13.94	15.50	87.44
		CH 6	2437		14.55	15.50	
		CH 11	2462		14.14	15.50	
	802.11n-HT20	CH 1	2412	MCS0	11.86	13.50	86.59
		CH 6	2437		12.48	13.50	
		CH 11	2462		12.39	13.50	

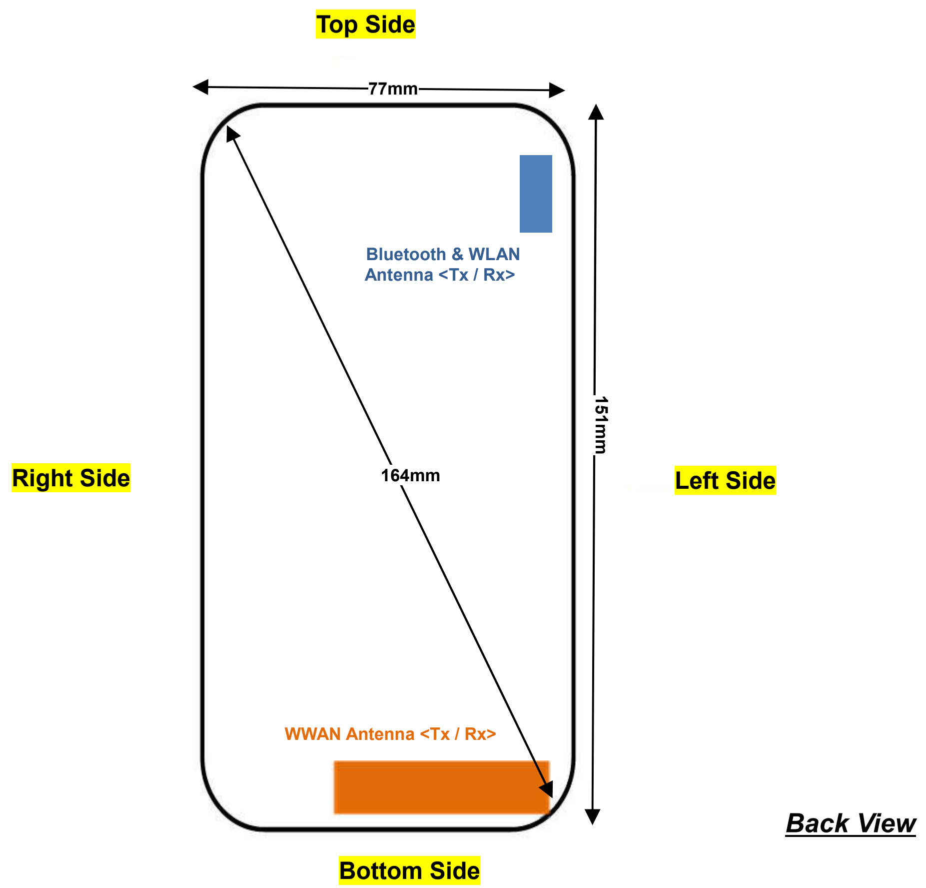
<2.4GHz Bluetooth>

General Note:
For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.

Mode	Channel	Frequency (MHz)	Average power (dBm)			Tune-Up Limit
			1Mbps	2Mbps	3Mbps	
v3.0 with EDR	CH 00	2402	11.45	10.16	10.17	13.0
	CH 39	2441	12.33	10.99	10.98	13.0
	CH 78	2480	10.44	9.04	9.04	13.0

Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit
			GFSK	
v4.1 with LE	CH 00	2402	1.22	2.5
	CH 19	2440	2.04	
	CH 39	2480	0.43	

13. Antenna Location



Distance of the Antenna to the EUT surface/edge						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
WWAN Main	≤ 25mm	≤ 25mm	136mm	≤ 25mm	31mm	≤ 25mm
BT&WLAN	≤ 25mm	≤ 25mm	≤ 25mm	127mm	68mm	≤ 25mm

Positions for SAR tests; Hotspot mode						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
WWAN Main	Yes	Yes	No	Yes	No	Yes
BT&WLAN	Yes	Yes	Yes	No	No	Yes

General Note:
Referring to KDB 941225 D06 v02r01, when the overall device length and width are ≥ 9cm*5cm, the test distance is 10 mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge

14. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For WWAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   d. For WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 648474 D04v01r03, when the reported SAR for a body-worn accessory measured without a headset connected to the handset is ≤ 1.2 W/kg, SAR testing with a headset connected to the handset is not required.
4. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.

CMDA Note:

1. Per KDB 941225 D01v03r01, SAR for next to the ear head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55.
2. Per KDB 941225 D01v03r01, in Hotspot mode EUT is treated as data device and SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps) as the primary mode.
3. Per KDB 941225 D01v03r01, for Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The body-worn accessory procedures in KDB Publication 447498 are applied. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH), with FCH only as the primary mode.

LTE Note:

1. Per KDB 941225 D05v02r04, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r04, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r04, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r04, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r04, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r04, Smaller bandwidth output power for each RB allocation configuration is > not ½ 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 D05v02r04, smaller bandwidth SAR testing is not required.
6. For LTE B4 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r04, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

WLAN Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
3. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
4. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

14.1 Head SAR

<CDMA SAR>

Plot No.	Band	Mode	Test Position	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA2000 BC0	RC3+SO55	Right Cheek	Off	1013	824.7	23.78	24.50	1.180	-0.02	0.285	0.336
	CDMA2000 BC0	RC3+SO55	Right Tilted	Off	1013	824.7	23.78	24.50	1.180	-0.01	0.169	0.199
01	CDMA2000 BC0	RC3+SO55	Left Cheek	Off	1013	824.7	23.78	24.50	1.180	0.01	0.299	0.353
	CDMA2000 BC0	RC3+SO55	Left Tilted	Off	1013	824.7	23.78	24.50	1.180	-0.09	0.200	0.236
	CDMA2000 BC1	RC3+SO55	Right Cheek	Off	25	1851.25	23.29	23.60	1.074	-0.01	0.075	0.081
	CDMA2000 BC1	RC3+SO55	Right Tilted	Off	25	1851.25	23.29	23.60	1.074	-0.01	0.028	0.030
02	CDMA2000 BC1	RC3+SO55	Left Cheek	Off	25	1851.25	23.29	23.60	1.074	-0.01	0.102	0.110
	CDMA2000 BC1	RC3+SO55	Left Tilted	Off	25	1851.25	23.29	23.60	1.074	-0.01	0.043	0.046

<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 13	10M	QPSK	1RB	25Offset	Right Cheek	Off	23230	782	22.97	24.30	1.358	-0.09	0.246	0.334
	LTE Band 13	10M	QPSK	1RB	25Offset	Right Tilted	Off	23230	782	22.97	24.30	1.358	-0.17	0.155	0.211
03	LTE Band 13	10M	QPSK	1RB	25Offset	Left Cheek	Off	23230	782	22.97	24.30	1.358	0.08	0.256	0.348
	LTE Band 13	10M	QPSK	1RB	25Offset	Left Tilted	Off	23230	782	22.97	24.30	1.358	0.04	0.193	0.262
	LTE Band 13	10M	QPSK	25RB	0Offset	Right Cheek	Off	23230	782	21.90	23.30	1.380	0.06	0.206	0.284
	LTE Band 13	10M	QPSK	25RB	0Offset	Right Tilted	Off	23230	782	21.90	23.30	1.380	-0.15	0.126	0.174
	LTE Band 13	10M	QPSK	25RB	0Offset	Left Cheek	Off	23230	782	21.90	23.30	1.380	0.05	0.218	0.301
	LTE Band 13	10M	QPSK	25RB	0Offset	Left Tilted	Off	23230	782	21.90	23.30	1.380	0.02	0.150	0.207
	LTE Band 4	20M	QPSK	1RB	49Offset	Right Cheek	Off	20175	1732.5	23.66	23.80	1.033	-0.01	0.107	0.111
	LTE Band 4	20M	QPSK	1RB	49Offset	Right Tilted	Off	20175	1732.5	23.66	23.80	1.033	-0.01	0.069	0.071
04	LTE Band 4	20M	QPSK	1RB	49Offset	Left Cheek	Off	20175	1732.5	23.66	23.80	1.033	-0.01	0.165	0.170
	LTE Band 4	20M	QPSK	1RB	49Offset	Left Tilted	Off	20175	1732.5	23.66	23.80	1.033	-0.02	0.037	0.038
	LTE Band 4	20M	QPSK	50RB	24Offset	Right Cheek	Off	20175	1732.5	22.38	22.80	1.102	-0.01	0.083	0.091
	LTE Band 4	20M	QPSK	50RB	24Offset	Right Tilted	Off	20175	1732.5	22.38	22.80	1.102	0.01	0.052	0.057
	LTE Band 4	20M	QPSK	50RB	24Offset	Left Cheek	Off	20175	1732.5	22.38	22.80	1.102	-0.01	0.129	0.142
	LTE Band 4	20M	QPSK	50RB	24Offset	Left Tilted	Off	20175	1732.5	22.38	22.80	1.102	-0.04	0.039	0.043

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
05	WLAN 2.4GHz	802.11b 1Mbps	Right Cheek	6	2437	18.05	19.00	1.243	97.19	1.029	-0.06	0.417	**0.534**
	WLAN 2.4GHz	802.11b 1Mbps	Right Tilted	6	2437	18.05	19.00	1.243	97.19	1.029	-0.13	0.344	0.440
	WLAN 2.4GHz	802.11b 1Mbps	Left Cheek	6	2437	18.05	19.00	1.243	97.19	1.029	0.16	0.221	0.283
	WLAN 2.4GHz	802.11b 1Mbps	Left Tilted	6	2437	18.05	19.00	1.243	97.19	1.029	-0.14	0.142	0.182

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
06	Bluetooth	1Mbps	Right Cheek	39	2441	12.33	13.00	1.166	-0.07	0.021	**0.024**
	Bluetooth	1Mbps	Right Tilted	39	2441	12.33	13.00	1.166	0.08	0.017	0.020
	Bluetooth	1Mbps	Left Cheek	39	2441	12.33	13.00	1.166	-0.12	0.012	0.014
	Bluetooth	1Mbps	Left Tilted	39	2441	12.33	13.00	1.166	0.05	0.002	0.002

14.2 Hotspot SAR

<CDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA2000 BC0	RTAP 153.6Kbps	Front	10	On	1013	824.7	23.23	24.00	1.194	-0.08	0.277	0.331
	CDMA2000 BC0	RTAP 153.6Kbps	Back	10	On	1013	824.7	23.23	24.00	1.194	0.06	0.324	0.387
07	CDMA2000 BC0	RTAP 153.6Kbps	Left Side	10	On	1013	824.7	23.23	24.00	1.194	0.07	0.371	0.443
	CDMA2000 BC0	RTAP 153.6Kbps	Bottom Side	10	On	1013	824.7	23.23	24.00	1.194	-0.06	0.240	0.287
	CDMA2000 BC1	RTAP 153.6Kbps	Front	10	On	25	1851.25	21.94	22.10	1.038	0.02	0.652	0.676
	CDMA2000 BC1	RTAP 153.6Kbps	Back	10	On	25	1851.25	21.94	22.10	1.038	0.08	1.270	1.318
	CDMA2000 BC1	RTAP 153.6Kbps	Left Side	10	On	25	1851.25	21.94	22.10	1.038	0.06	0.152	0.158
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	10	On	25	1851.25	21.94	22.10	1.038	0.05	1.290	1.338
	CDMA2000 BC1	RTAP 153.6Kbps	Back	10	On	600	1880	21.67	22.10	1.104	0.07	1.180	1.303
	CDMA2000 BC1	RTAP 153.6Kbps	Back	10	On	1175	1908.75	21.75	22.10	1.084	0.02	1.160	1.257
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	10	On	600	1880	21.67	22.10	1.104	0.12	1.200	1.325
08	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	10	On	1175	1908.75	21.75	22.10	1.084	-0.09	1.260	1.366

<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 13	10M	QPSK	1RB	25Offset	Front	10	On	23230	782	22.38	23.80	1.387	0.12	0.260	0.361
	LTE Band 13	10M	QPSK	1RB	25Offset	Back	10	On	23230	782	22.38	23.80	1.387	0.01	0.276	0.383
09	LTE Band 13	10M	QPSK	1RB	25Offset	Left Side	10	On	23230	782	22.38	23.80	1.387	0.08	0.328	0.455
	LTE Band 13	10M	QPSK	1RB	25Offset	Bottom Side	10	On	23230	782	22.38	23.80	1.387	-0.05	0.152	0.211
	LTE Band 13	10M	QPSK	25RB	0Offset	Front	10	On	23230	782	21.99	22.80	1.205	-0.01	0.244	0.294
	LTE Band 13	10M	QPSK	25RB	0Offset	Back	10	On	23230	782	21.99	22.80	1.205	0.05	0.274	0.330
	LTE Band 13	10M	QPSK	25RB	0Offset	Left Side	10	On	23230	782	21.99	22.80	1.205	0.02	0.313	0.377
	LTE Band 13	10M	QPSK	25RB	0Offset	Bottom Side	10	On	23230	782	21.99	22.80	1.205	0.09	0.129	0.155
	LTE Band 4	20M	QPSK	1RB	49Offset	Front	10	On	20175	1732.5	22.45	22.80	1.084	-0.12	0.783	0.849
	LTE Band 4	20M	QPSK	1RB	49Offset	Back	10	On	20175	1732.5	22.45	22.80	1.084	0.07	1.240	1.344
	LTE Band 4	20M	QPSK	1RB	49Offset	Left Side	10	On	20175	1732.5	22.45	22.80	1.084	-0.09	0.203	0.220
	LTE Band 4	20M	QPSK	1RB	49Offset	Bottom Side	10	On	20175	1732.5	22.45	22.80	1.084	-0.03	1.130	1.225
	LTE Band 4	20M	QPSK	50RB	24Offset	Front	10	On	20175	1732.5	22.24	22.80	1.138	-0.02	0.769	0.875
10	LTE Band 4	20M	QPSK	50RB	24Offset	Back	10	On	20175	1732.5	22.24	22.80	1.138	0.07	1.230	1.399
	LTE Band 4	20M	QPSK	50RB	24Offset	Left Side	10	On	20175	1732.5	22.24	22.80	1.138	-0.08	0.197	0.224
	LTE Band 4	20M	QPSK	50RB	24Offset	Bottom Side	10	On	20175	1732.5	22.24	22.80	1.138	-0.11	1.140	1.297
	LTE Band 4	20M	QPSK	100RB	0Offset	Front	10	On	20175	1732.5	22.21	22.80	1.146	-0.06	0.755	0.865
	LTE Band 4	20M	QPSK	100RB	0Offset	Back	10	On	20175	1732.5	22.21	22.80	1.146	0.01	1.220	1.398
	LTE Band 4	20M	QPSK	100RB	0Offset	Bottom Side	10	On	20175	1732.5	22.21	22.80	1.146	-0.1	1.140	1.306

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN 2.4GHz	802.11b 1Mbps	Front	10	6	2437	18.05	19.00	1.243	97.19	1.029	-0.09	0.063	0.081
11	WLAN 2.4GHz	802.11b 1Mbps	Back	10	6	2437	18.05	19.00	1.243	97.19	1.029	-0.09	0.339	0.434
	WLAN 2.4GHz	802.11b 1Mbps	Left Side	10	6	2437	18.05	19.00	1.243	97.19	1.029	0.01	0.022	0.028
	WLAN 2.4GHz	802.11b 1Mbps	Top Side	10	6	2437	18.05	19.00	1.243	97.19	1.029	0.04	0.038	0.049

14.3 Body Worn Accessory SAR

<CDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA2000 BC0	RC3+SO32	Front	15	Off	1013	824.7	23.67	24.50	1.211	0.07	0.319	0.386
12	CDMA2000 BC0	RC3+SO32	Back	15	Off	1013	824.7	23.67	24.50	1.211	0.02	0.363	0.439
	CDMA2000 BC1	RC3+SO32	Front	15	Off	25	1851.25	23.24	23.60	1.086	-0.17	0.381	0.414
13	CDMA2000 BC1	RC3+SO32	Back	15	Off	25	1851.25	23.24	23.60	1.086	0.07	0.704	0.765

<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 13	10M	QPSK	1RB	25Offset	Front	15	Off	23230	782	22.97	24.30	1.358	0.04	0.284	0.386
14	LTE Band 13	10M	QPSK	1RB	25Offset	Back	15	Off	23230	782	22.97	24.30	1.358	0.06	0.338	0.459
	LTE Band 13	10M	QPSK	25RB	0Offset	Front	15	Off	23230	782	21.90	23.30	1.380	0.06	0.250	0.345
	LTE Band 13	10M	QPSK	25RB	0Offset	Back	15	Off	23230	782	21.90	23.30	1.380	0.01	0.297	0.410
	LTE Band 4	20M	QPSK	1RB	49Offset	Front	15	Off	20175	1732.5	23.66	23.80	1.033	-0.07	0.509	0.526
15	LTE Band 4	20M	QPSK	1RB	49Offset	Back	15	Off	20175	1732.5	23.66	23.80	1.033	-0.13	0.810	0.837
	LTE Band 4	20M	QPSK	50RB	24Offset	Front	15	Off	20175	1732.5	22.38	22.80	1.102	-0.01	0.412	0.454
	LTE Band 4	20M	QPSK	50RB	24Offset	Back	15	Off	20175	1732.5	22.38	22.80	1.102	0.04	0.629	0.693
	LTE Band 4	20M	QPSK	100RB	0Offset	Back	15	Off	20175	1732.5	22.31	22.80	1.119	0.17	0.616	0.690

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	configure	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN 2.4GHz	802.11b 1Mbps	Front	15	6	2437	1Mbps	18.05	19.00	1.243	97.19	1.029	-0.07	0.028	0.036
16	WLAN 2.4GHz	802.11b 1Mbps	Back	15	6	2437	1Mbps	18.05	19.00	1.243	97.19	1.029	-0.11	0.105	0.134

14.4 Extremity SAR

<CDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	CDMA2000 BC1	RTAP 153.6Kbps	Back	0	Off	25	1851.25	23.20	23.60	1.096	0.04	3.150	3.454
	CDMA2000 BC1	RTAP 153.6Kbps	Back	0	Off	600	1880	23.02	23.60	1.143	0.19	3.210	3.669
	CDMA2000 BC1	RTAP 153.6Kbps	Back	0	Off	1175	1908.75	23.01	23.60	1.146	0.03	3.160	3.620
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	Off	25	1851.25	23.20	23.60	1.096	0.01	3.280	3.596
17	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	Off	600	1880	23.02	23.60	1.143	0.02	3.340	3.817
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	Off	1175	1908.75	23.01	23.60	1.146	0.07	3.310	3.792

<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	LTE Band 4	20M	QPSK	1RB	49Offset	Back	0	Off	20175	1732.5	23.66	23.80	1.033	0.09	3.290	3.398
18	LTE Band 4	20M	QPSK	1RB	49Offset	Bottom Side	0	Off	20175	1732.5	23.66	23.80	1.033	0.09	3.430	3.542
	LTE Band 4	20M	QPSK	50RB	24Offset	Back	0	Off	20175	1732.5	22.38	22.80	1.102	0.06	3.010	3.316
	LTE Band 4	20M	QPSK	50RB	24Offset	Bottom Side	0	Off	20175	1732.5	22.38	22.80	1.102	0.06	3.110	3.426
	LTE Band 4	20M	QPSK	100RB	0Offset	Back	0	Off	20175	1732.5	22.31	22.80	1.119	0.06	3.040	3.403
	LTE Band 4	20M	QPSK	100RB	0Offset	Bottom Side	0	Off	20175	1732.5	22.31	22.80	1.119	0.07	3.150	3.526

14.5 Repeated SAR Measurement

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	CDMA2000 BC1	-	-	-	-	RTAP 153.6Kbps	Bottom Side	10	On	25	1851.25	21.94	22.10	1.038	0.05	1.290	1	1.338
2nd	CDMA2000 BC1	-	-	-	-	RTAP 153.6Kbps	Bottom Side	10	On	25	1851.25	21.94	22.10	1.038	0.03	1.270	1.015	1.318
1st	LTE Band 4	20M	QPSK	1RB	49Offset	-	Back	10	On	20175	1732.5	22.45	22.80	1.084	0.07	1.240	1	1.344
2nd	LTE Band 4	20M	QPSK	1RB	49Offset	-	Back	10	On	20175	1732.5	22.45	22.80	1.084	0.02	1.220	1.017	1.322

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Ratio	Reported 10g SAR (W/kg)
1st	CDMA2000 BC1	-	-	-	-	RTAP 153.6Kbps	Bottom Side	0	Off	600	1880	23.02	23.60	1.143	0.02	3.340	1	3.817
2nd	CDMA2000 BC1	-	-	-	-	RTAP 153.6Kbps	Bottom Side	0	Off	600	1880	23.02	23.60	1.143	0.12	3.290	1.015	3.760
1st	LTE Band 4	20M	QPSK	1RB	49Offset	-	Bottom Side	0	Off	20175	1732.5	23.66	23.80	1.033	0.09	3.430	1	3.542
2nd	LTE Band 4	20M	QPSK	1RB	49Offset	-	Bottom Side	0	Off	20175	1732.5	23.66	23.80	1.033	0.04	3.370	1.018	3.480

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR <1.45W/kg, only one repeated measurement is required.
3. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. The ratio is the difference in percentage between original and repeated *measured SAR*.
5. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

15. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Portable Handset			Note
		Head	Body-worn	Hotspot	
1.	CDMA(Voice) + WLAN2.4GHz(data)	Yes	Yes		
2.	CDMA((Voice) + Bluetooth(data)	Yes	Yes		
3.	CDMA(Data) + WLAN2.4GHz(data)	Yes	Yes	Yes	2.4GHz Hotspot
4.	LTE(Data) + WLAN2.4GHz(data)	Yes	Yes	Yes	2.4GHz Hotspot
5.	CDMA(Data) + Bluetooth(data)	Yes	Yes		WWAN VoIP
6.	LTE(Data) + Bluetooth(data)	Yes	Yes		WWAN VoIP

General Note:

1. This device supported VoIP in CDMA, LTE (e.g. 3rd party VoIP).
2. This device 2.4GHz WLAN supports Hotspot operation.
3. WLAN 2.4GHz and Bluetooth share the same antenna, and cannot transmit simultaneously.
4. The Scaled SAR summation is calculated based on the same configuration and test position.
5. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
   i) Scalar SAR summation < 1.6W/kg.
   ii) SPLSR = $(SAR_1 + SAR_2)^{1.5}$ / (*min. separation distance, mm*), and the peak separation distance is determined from the square root of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$, where (x_1, y_1, z_1) and (x_2, y_2, z_2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
   iii) If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary.
   iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
6. For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01v06 based on the formula below.
   i) (*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)]·[√f(GHz)/*x*] W/kg for *test separation distances* ≤ 50 mm; where *x* = 7.5 for 1-g SAR, and *x* = 18.75 for 10-g SAR.
   ii) When the minimum separation distance is < 5mm, the distance is used 5mm to determine SAR test exclusion.
   iii) 0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the *test separation distances* is > 50 mm.

Bluetooth Max Power	Exposure Position	Body worn
	Test separation	15mm
13.0 dBm	Estimated SAR (W/kg)	0.280W/kg

15.1 Head Exposure Conditions

<WWAN + WLAN 2.4GHz>

WWAN Band		Exposure Position	WWAN 1g SAR (W/kg)	2.4GHz WLAN 1g SAR (W/kg)	Summed 1g SAR (W/kg)	SPLSR	Case No
CDMA2000	BC0	Right Cheek	0.336	0.534	0.87		
		Right Tilted	0.199	0.440	0.64		
		Left Cheek	0.353	0.283	0.64		
		Left Tilted	0.236	0.182	0.42		
	BC1	Right Cheek	0.081	0.534	0.62		
		Right Tilted	0.030	0.440	0.47		
		Left Cheek	0.110	0.283	0.39		
		Left Tilted	0.046	0.182	0.23		
LTE	Band 13	Right Cheek	0.334	0.534	0.87		
		Right Tilted	0.211	0.440	0.65		
		Left Cheek	0.348	0.283	0.63		
		Left Tilted	0.262	0.182	0.44		
	Band 4	Right Cheek	0.111	0.534	0.65		
		Right Tilted	0.071	0.440	0.51		
		Left Cheek	0.170	0.283	0.45		
		Left Tilted	0.043	0.182	0.23		

<WWAN + Bluetooth>

WWAN Band		Exposure Position	WWAN 1g SAR (W/kg)	Bluetooth 1g SAR (W/kg)	Summed 1g SAR (W/kg)	SPLSR	Case No
CDMA2000	BC0	Right Cheek	0.336	0.024	0.36		
		Right Tilted	0.199	0.020	0.22		
		Left Cheek	0.353	0.014	0.37		
		Left Tilted	0.236	0.002	0.24		
	BC1	Right Cheek	0.081	0.024	0.11		
		Right Tilted	0.030	0.020	0.05		
		Left Cheek	0.110	0.014	0.12		
		Left Tilted	0.046	0.002	0.05		
LTE	Band 13	Right Cheek	0.334	0.024	0.36		
		Right Tilted	0.211	0.020	0.23		
		Left Cheek	0.348	0.014	0.36		
		Left Tilted	0.262	0.002	0.26		
	Band 4	Right Cheek	0.111	0.024	0.14		
		Right Tilted	0.071	0.020	0.09		
		Left Cheek	0.170	0.014	0.18		
		Left Tilted	0.043	0.002	0.05		

15.2 Hotspot Exposure Conditions

<WWAN + WLAN 2.4GHz>

WWAN Band		Exposure Position	WWAN 1g SAR (W/kg)	2.4GHz WLAN 1g SAR (W/kg)	Summed 1g SAR (W/kg)	SPLSR	Case No
CDMA2000	BC0	Front	0.331	0.081	0.41		
		Back	0.387	0.434	0.82		
		Left side	0.443	0.028	0.47		
		Top side		0.049	0.05		
		Bottom side	0.287		0.29		
	BC1	Front	0.676	0.081	0.76		
		Back	1.318	0.434	**1.75**	**0.02**	**#01**
		Left side	0.158	0.028	0.19		
		Top side		0.049	0.05		
		Bottom side	1.366		**1.37**		
LTE	Band 13	Front	0.361	0.081	0.44		
		Back	0.383	0.434	0.82		
		Left side	0.455	0.028	0.48		
		Top side		0.049	0.05		
		Bottom side	0.211		0.21		
	Band 4	Front	0.875	0.081	0.96		
		Back	1.399	0.434	**1.83**	**0.02**	**#02**
		Left side	0.224	0.028	0.25		
		Top side		0.049	0.05		
		Bottom side	1.306		1.31		

15.3 Body-Worn Accessory Exposure Conditions

<WWAN + WLAN 2.4GHz>

WWAN Band		Exposure Position	WWAN 1g SAR (W/kg)	2.4GHz WLAN 1g SAR (W/kg)	Summed 1g SAR (W/kg)	SPLSR	Case No
CDMA2000	BC0	Front	0.386	0.036	0.42		
		Back	0.439	0.134	0.57		
	BC1	Front	0.414	0.036	0.45		
		Back	0.765	0.134	0.90		
LTE	Band 13	Front	0.386	0.036	0.42		
		Back	0.459	0.134	0.59		
	Band 4	Front	0.526	0.036	0.56		
		Back	0.837	0.134	0.97		

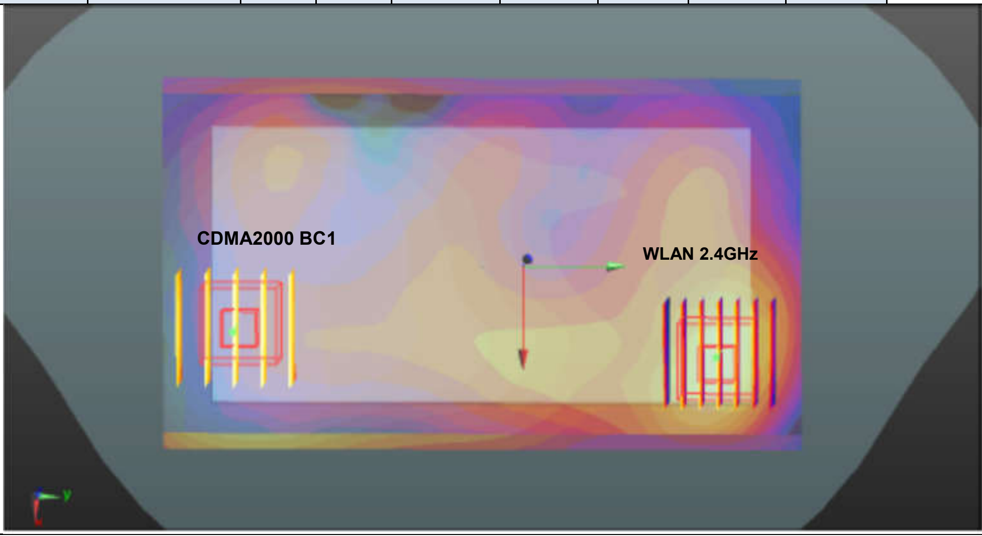
<WWAN + Bluetooth>

WWAN Band		Exposure Position	WWAN 1g SAR (W/kg)	Bluetooth Estimated 1g SAR (W/kg)	Summed 1g SAR (W/kg)	SPLSR	Case No
CDMA2000	BC0	Front	0.386	0.280	0.67		
		Back	0.439	0.280	0.72		
	BC1	Front	0.414	0.280	0.69		
		Back	0.765	0.280	1.05		
LTE	Band 13	Front	0.386	0.280	0.67		
		Back	0.459	0.280	0.74		
	Band 4	Front	0.526	0.280	0.81		
		Back	0.837	0.280	**1.12**		

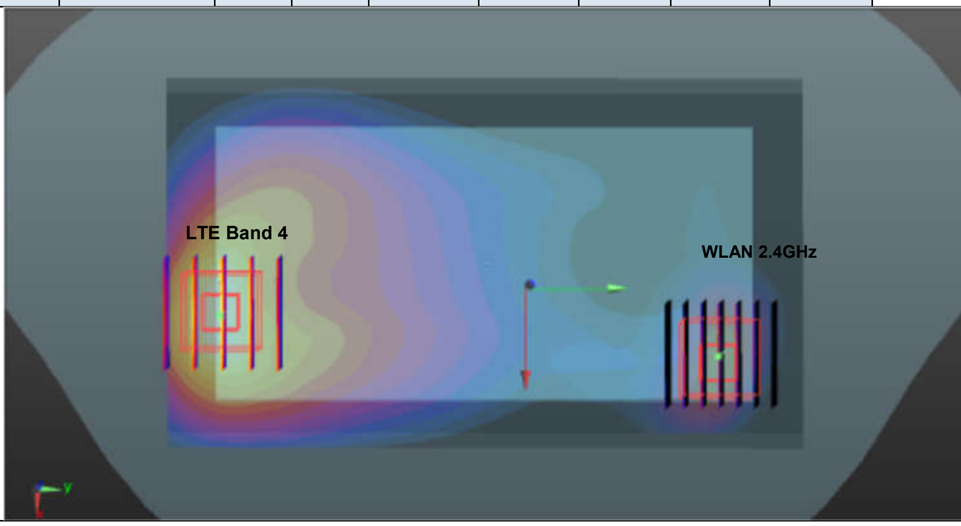
15.4 SPLSR Evaluation and Analysis

General Note:
SPLSR = $(SAR_1 + SAR_2)^{1.5}$ / (*min. separation distance, mm*). If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary

Case 1	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	CDMA2000 BC1	back	1.318	10	0.0025	-0.0705	-0.205	136.7	1.75	0.02	Not required
	WLAN 2.4GHz		0.434	10	0.0094	0.066	-0.205				



Case 2	Band	Position	SAR (W/kg)	Gap (mm)	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
					X	Y	Z				
	LTE Band 4	back	1.399	10	-0.002	-0.075	-0.205	141.5	1.83	0.02	Not required
	WLAN 2.4GHz		0.434	10	0.0094	0.066	-0.205				



Test Engineer : Luke Lu

16. Uncertainty Assessment

The component of uncertainly may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainly by the statistical analysis of a series of observations is termed a Type An evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quantify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience, and knowledge of the behavior and properties of relevant materials and instruments, manufacture's specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtained from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangular distributions indicated in table below.

Uncertainty Distributions	Normal	Rectangular	Triangular	U-Shape
Multi-plying Factor[(a)]	$1/k^{(b)}$	$1/\sqrt{3}$	$1/\sqrt{6}$	$1/\sqrt{2}$

(a) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity

(b) κ is the coverage factor

Table 16.1. Standard Uncertainty for Assumed Distribution

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual "root-sum-squares" (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %. The DASY uncertainty Budget is shown in the following tables.

Error Description	Uncertainty Value (±%)	Probability	Divisor	(Ci) 1g	(Ci) 10g	Standard Uncertainty (1g) (±%)	Standard Uncertainty (10g) (±%)
Measurement System							
Probe Calibration	6.0	N	1	1	1	6.0	6.0
Axial Isotropy	4.7	R	1.732	0.7	0.7	1.9	1.9
Hemispherical Isotropy	9.6	R	1.732	0.7	0.7	3.9	3.9
Boundary Effects	1.0	R	1.732	1	1	0.6	0.6
Linearity	4.7	R	1.732	1	1	2.7	2.7
System Detection Limits	1.0	R	1.732	1	1	0.6	0.6
Modulation Response	3.2	R	1.732	1	1	1.8	1.8
Readout Electronics	0.3	N	1	1	1	0.3	0.3
Response Time	0.0	R	1.732	1	1	0.0	0.0
Integration Time	2.6	R	1.732	1	1	1.5	1.5
RF Ambient Noise	3.0	R	1.732	1	1	1.7	1.7
RF Ambient Reflections	3.0	R	1.732	1	1	1.7	1.7
Probe Positioner	0.4	R	1.732	1	1	0.2	0.2
Probe Positioning	2.9	R	1.732	1	1	1.7	1.7
Max. SAR Eval.	2.0	R	1.732	1	1	1.2	1.2
Test Sample Related							
Device Positioning	3.0	N	1	1	1	3.0	3.0
Device Holder	3.6	N	1	1	1	3.6	3.6
Power Drift	5.0	R	1.732	1	1	2.9	2.9
Power Scaling	0.0	R	1.732	1	1	0.0	0.0
Phantom and Setup							
Phantom Uncertainty	6.1	R	1.732	1	1	3.5	3.5
SAR correction	0.0	R	1.732	1	0.84	0.0	0.0
Liquid Conductivity Repeatability	0.2	N	1	0.78	0.71	0.1	0.1
Liquid Conductivity (target)	5.0	R	1.732	0.78	0.71	2.3	2.0
Liquid Conductivity (mea.)	2.5	R	1.732	0.78	0.71	1.1	1.0
Temp. unc. - Conductivity	3.4	R	1.732	0.78	0.71	1.5	1.4
Liquid Permittivity Repeatability	0.15	N	1	0.23	0.26	0.0	0.0
Liquid Permittivity (target)	5.0	R	1.732	0.23	0.26	0.7	0.8
Liquid Permittivity (mea.)	2.5	R	1.732	0.23	0.26	0.3	0.4
Temp. unc. - Permittivity	0.83	R	1.732	0.23	0.26	0.1	0.1
Combined Std. Uncertainty						11.4%	11.4%
Coverage Factor for 95 %						K=2	K=2
Expanded STD Uncertainty						22.9%	22.7%

Table 16.2. Uncertainty Budget for frequency range 300 MHz to 3 GHz

17. References

[1] FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”

[2] ANSI/IEEE Std. C95.1-1992, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, September 1992

[3] IEEE Std. 1528-2013, “IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, Sep 2013

[4] SPEAG DASY System Handbook

[5] FCC KDB 248227 D01 v02r02, “SAR Guidance for IEEE 802.11 (WiFi) Transmitters”, Oct 2015.

[6] FCC KDB 447498 D01 v06, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Oct 2015

[7] FCC KDB 648474 D04 v01r03, “SAR Evaluation Considerations for Wireless Handsets”, Oct 2015.

[8] FCC KDB 941225 D01 v03r01, “3G SAR MEAUREMENT PROCEDURES”, Oct 2015

[9] FCC KDB 941225 D05 v02r04, “SAR Evaluation Considerations for LTE Devices”, Oct 2015

[10] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.

[11] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.

[12] FCC KDB 865664 D02 v01r02, “RF Exposure Compliance Reporting and Documentation Considerations” Oct 2015.

Appendix A. Plots of System Performance Check

The plots are shown as follows.

#System Check_Head_750MHz_151119

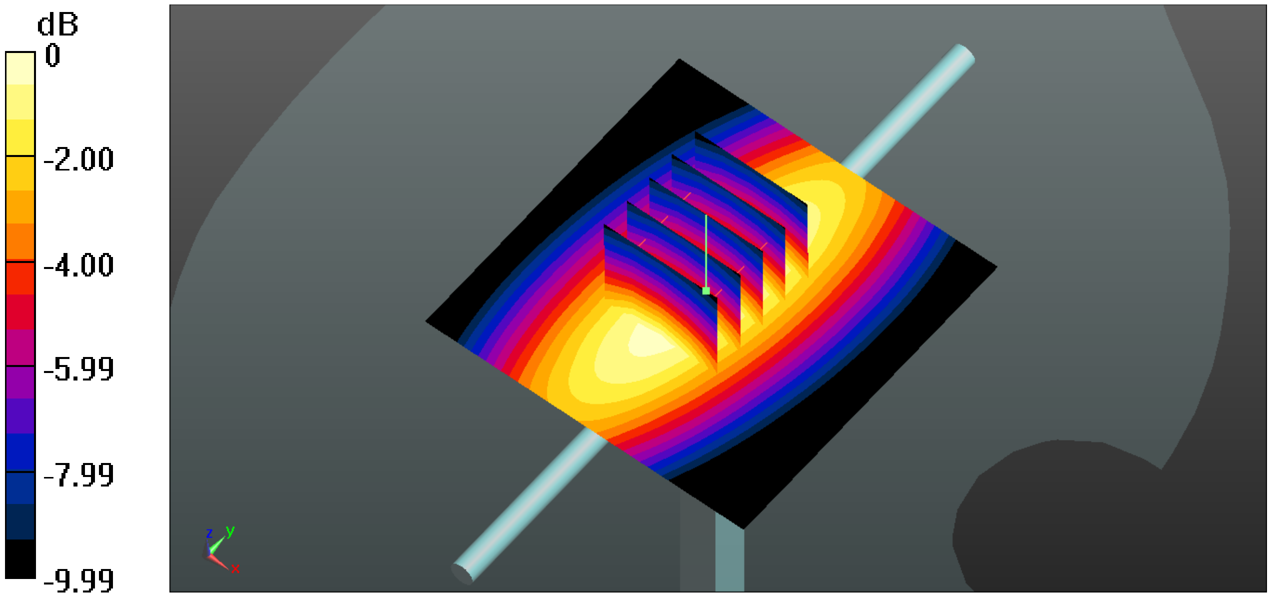
DUT: D750V3-SN:1087

Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium: HSL_750_151119 Medium parameters used: f = 750 MHz; σ = 0.88 S/m; ε_r = 40.797; ρ = 1000 kg/m^3
Ambient Temperature: 23.4 ℃ ; **Liquid Temperature**: 22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(10.33, 10.33, 10.33); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.59 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 55.48 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.02 W/kg
SAR(1 g) = 2.08 W/kg; SAR(10 g) = 1.4 W/kg
Maximum value of SAR (measured) = 2.60 W/kg



0 dB = 2.59 W/kg

#System Check_Head_835MHz_151119

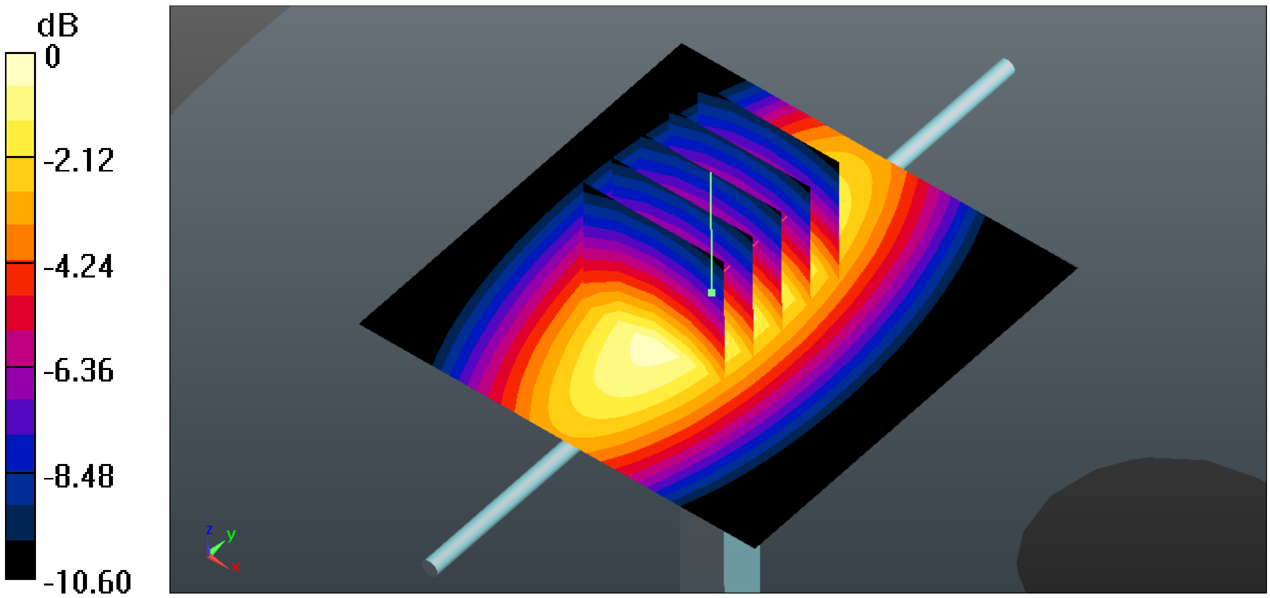
DUT: D835V2-SN:4d200

Communication System: UID 0, CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835_151119 Medium parameters used: f = 835 MHz; σ = 0.887 S/m; ε_r = 41.987; ρ = 1000 kg/m^3
Ambient Temperature: 23.2 ℃ ; **Liquid Temperature**: 22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(9.96, 9.96, 9.96); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.93 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 60.35 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 3.37 W/kg
SAR(1 g) = 2.28 W/kg; SAR(10 g) = 1.53 W/kg
Maximum value of SAR (measured) = 2.94 W/kg



0 dB = 2.94 W/kg

#System Check_Head_1750MHz_151119

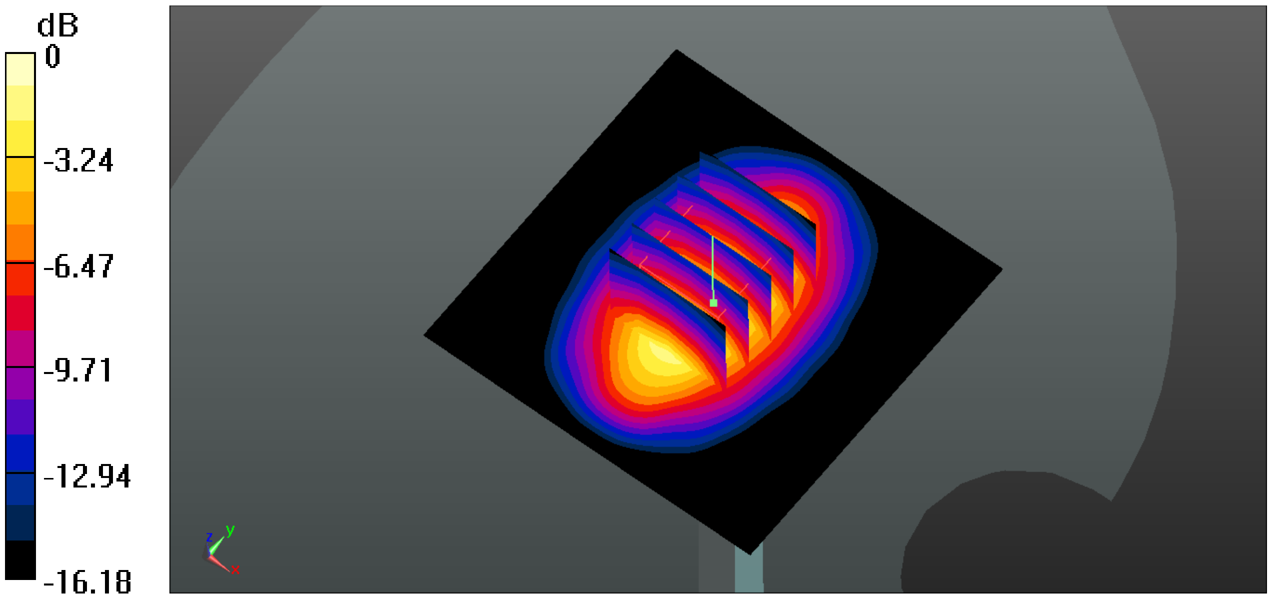
DUT: D1750V2-SN:1137

Communication System: UID 0, CW; Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1800_151119 Medium parameters used: f = 1750 MHz; σ = 1.392 S/m; ε_r = 40.573; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃ ; **Liquid Temperature**: 22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(8.52, 8.52, 8.52); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 13.1 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 98.91 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 16.4 W/kg
SAR(1 g) = 9.42 W/kg; SAR(10 g) = 5.12 W/kg
Maximum value of SAR (measured) = 13.2 W/kg



0 dB = 13.1 W/kg

#System Check_Head_1900MHz_151119

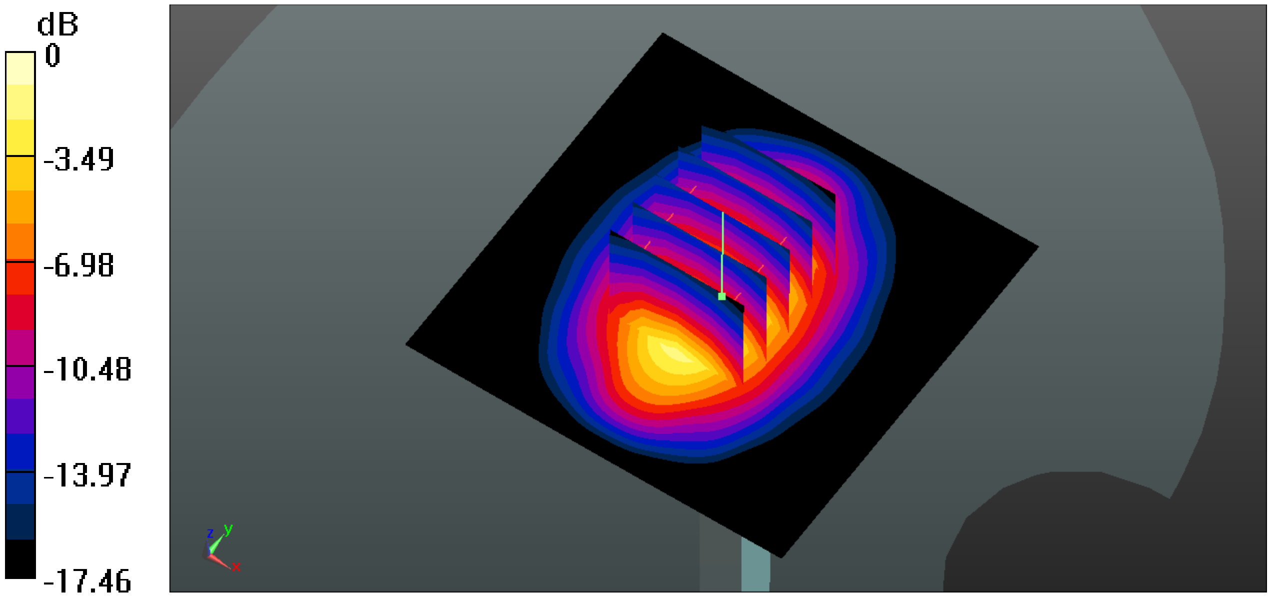
DUT: D1900V2-SN:5d210

Communication System: UID 0, CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900_151119 Medium parameters used: f = 1900 MHz; σ = 1.46 S/m; ε_r = 40.899; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃ ; **Liquid Temperature**: 22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(8.22, 8.22, 8.22); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 14.5 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 101.6 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 18.3 W/kg
SAR(1 g) = 10.2 W/kg; SAR(10 g) = 5.39 W/kg
Maximum value of SAR (measured) = 14.6 W/kg



0 dB = 14.5 W/kg

#System Check_Head_2450MHz_151105

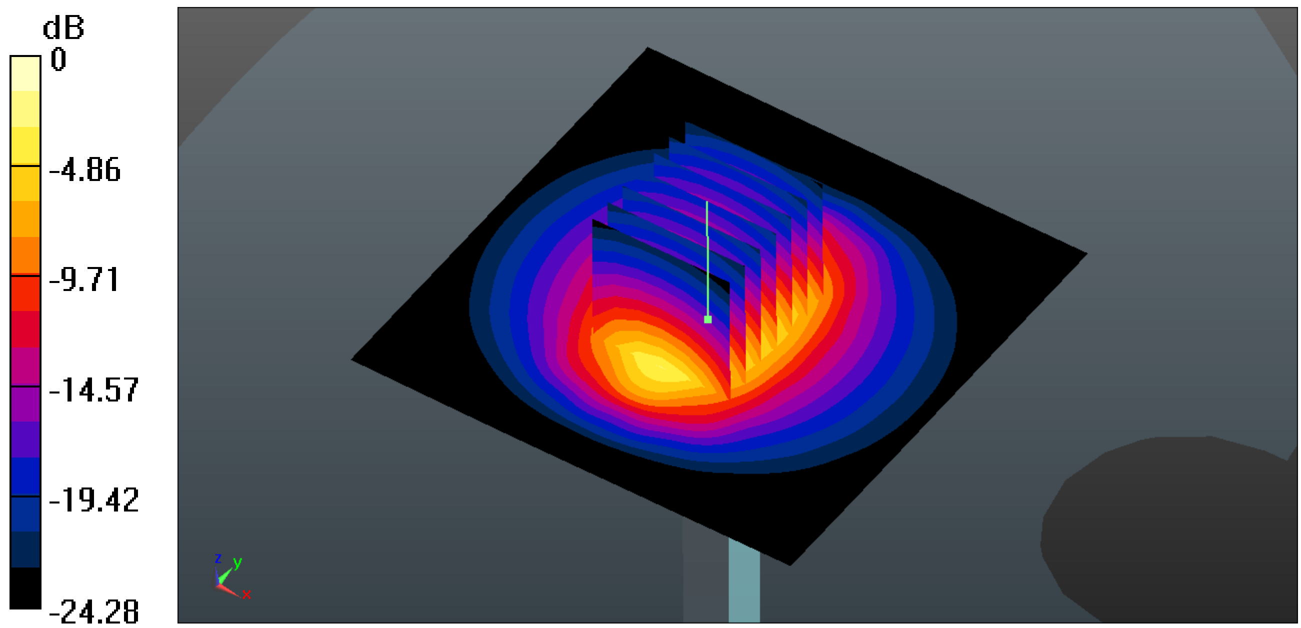
DUT: D2450V2-SN:926

Communication System: UID 0, CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL_2450_151105 Medium parameters used: f = 2450 MHz; σ = 1.856 S/m; ε_r = 37.685; ρ = 1000 kg/m^3
Ambient Temperature: 23.6 ℃ ; **Liquid Temperature**: 22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(7.01, 7.01, 7.01); Calibrated: 2014.11.13;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2014.12.11
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 19.9 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 86.18 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 27.8 W/kg
SAR(1 g) = 12.8 W/kg; SAR(10 g) = 5.78 W/kg
Maximum value of SAR (measured) = 20.0 W/kg



0 dB = 19.9 W/kg

#System Check_Body_750MHz_151117

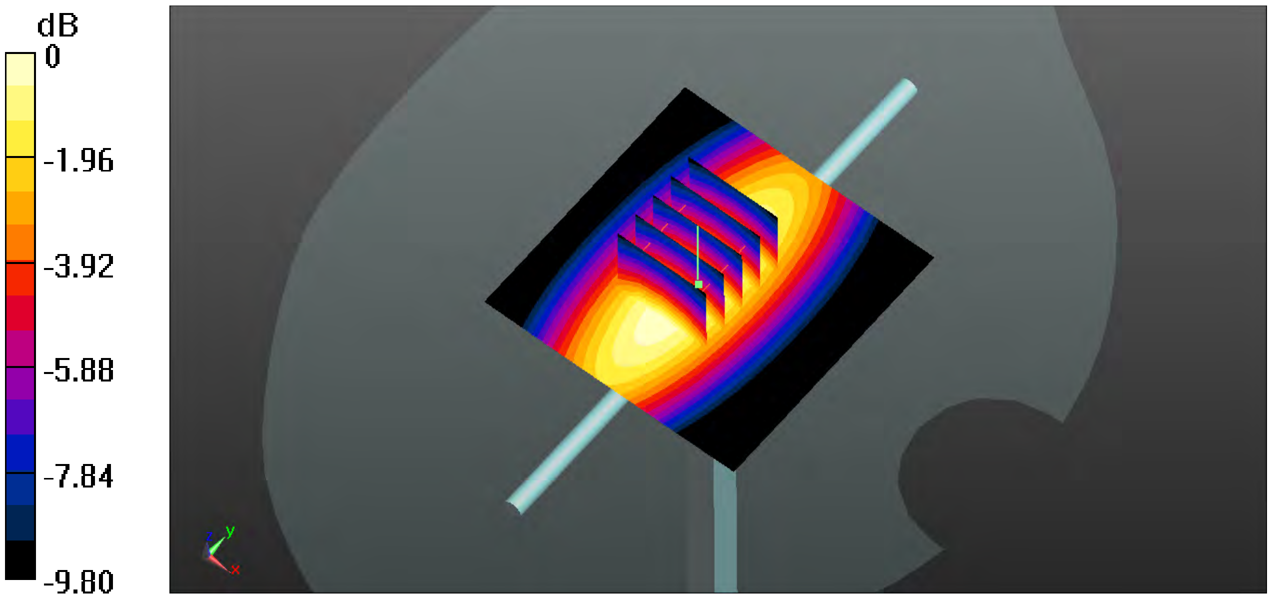
DUT: D750V3-SN:1087

Communication System: UID 0, CW; Frequency: 750 MHz;Duty Cycle: 1:1
Medium: MSL_750_151117 Medium parameters used: f = 750 MHz; σ = 0.961 S/m; ε_r = 53.917; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃ ; **Liquid Temperature**: 22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(10.05, 10.05, 10.05); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.81 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 49.84 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 3.28 W/kg
SAR(1 g) = 2.27 W/kg; SAR(10 g) = 1.52 W/kg
Maximum value of SAR (measured) = 2.83 W/kg



0 dB = 2.81 W/kg

#System Check_Body_835MHz_151117

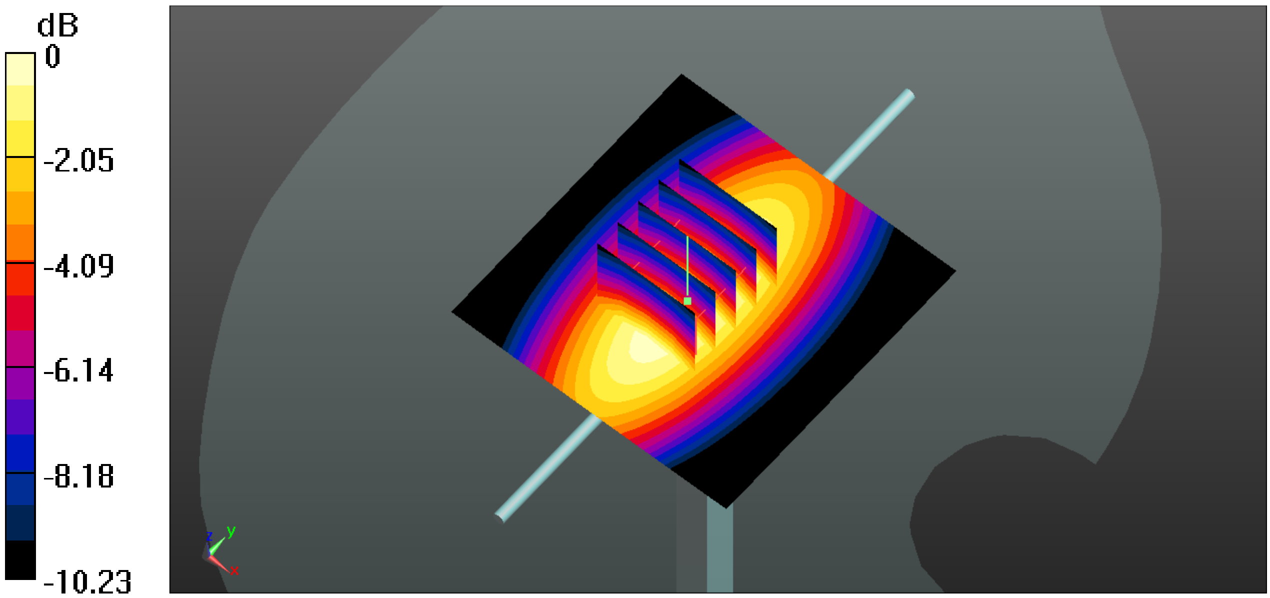
DUT: D835V2-SN:4d200

Communication System: UID 0, CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: MSL_835_151117 Medium parameters used: f = 835 MHz; σ = 1.011 S/m; ε_r = 56.243; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃ ; **Liquid Temperature**: 22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(9.99, 9.99, 9.99); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.42 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 49.85 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.31 W/kg
SAR(1 g) = 2.25 W/kg; SAR(10 g) = 1.49 W/kg
Maximum value of SAR (measured) = 2.41 W/kg



0 dB = 2.42 W/kg

#System Check_Body_1750MHz_151118

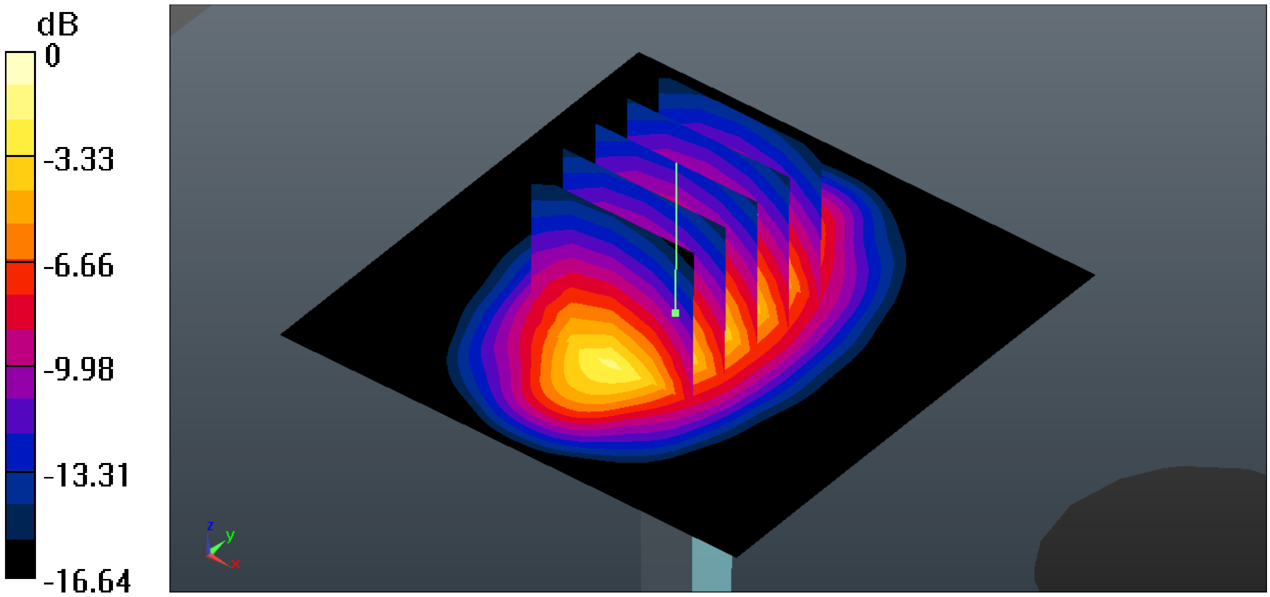
DUT: D1750V2-SN:1137

Communication System: UID 0, CW; Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: MSL_1800_151118 Medium parameters used: f = 1750 MHz; σ = 1.528 S/m; ε_r = 52.031; ρ = 1000 kg/m^3
Ambient Temperature: 23.4 ℃ ; **Liquid Temperature**: 22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(8.2, 8.2, 8.2); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 13.2 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 94.26 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 16.2 W/kg
SAR(1 g) = 9.43 W/kg; SAR(10 g) = 5.07 W/kg
Maximum value of SAR (measured) = 13.2 W/kg



0 dB = 13.2 W/kg

#System Check_Body_1900MHz_151118

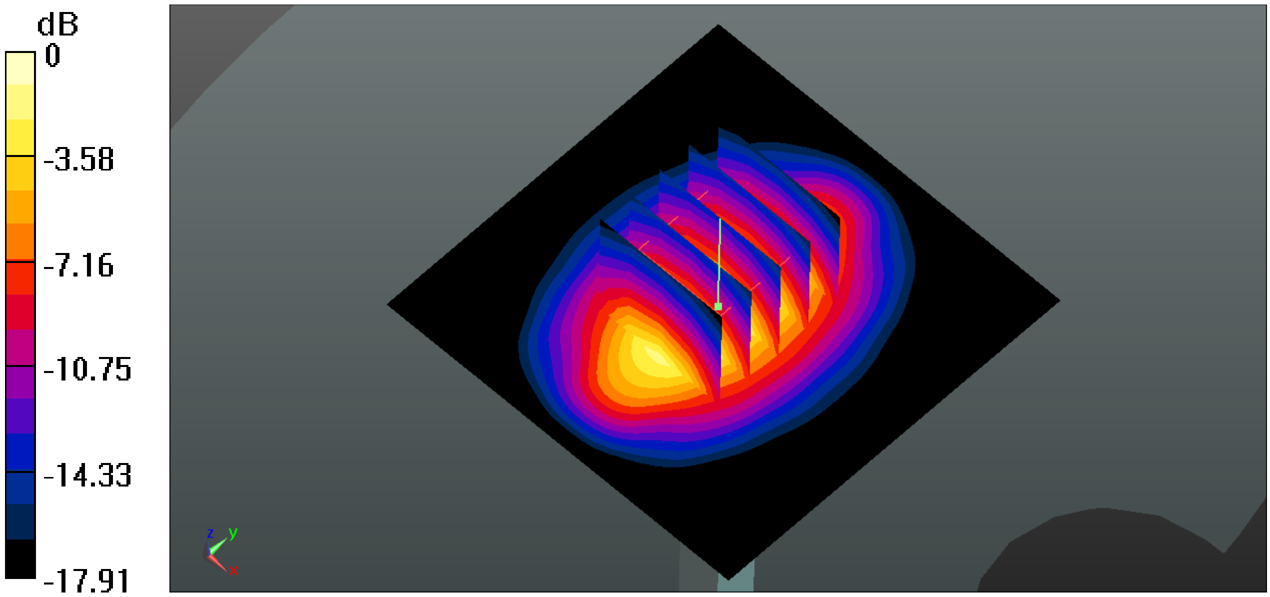
DUT: D1900V2-SN:5d210

Communication System: UID 0, CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: MSL_1900_151118 Medium parameters used: f = 1900 MHz; σ = 1.58 S/m; ε_r = 54.631; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃ ; **Liquid Temperature**: 22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(7.87, 7.87, 7.87); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 15.1 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 86.96 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 19.1 W/kg
SAR(1 g) = 10.6 W/kg; SAR(10 g) = 5.48 W/kg
Maximum value of SAR (measured) = 15.3 W/kg



0 dB = 15.1 W/kg

#System Check_Body_2450MHz_151105

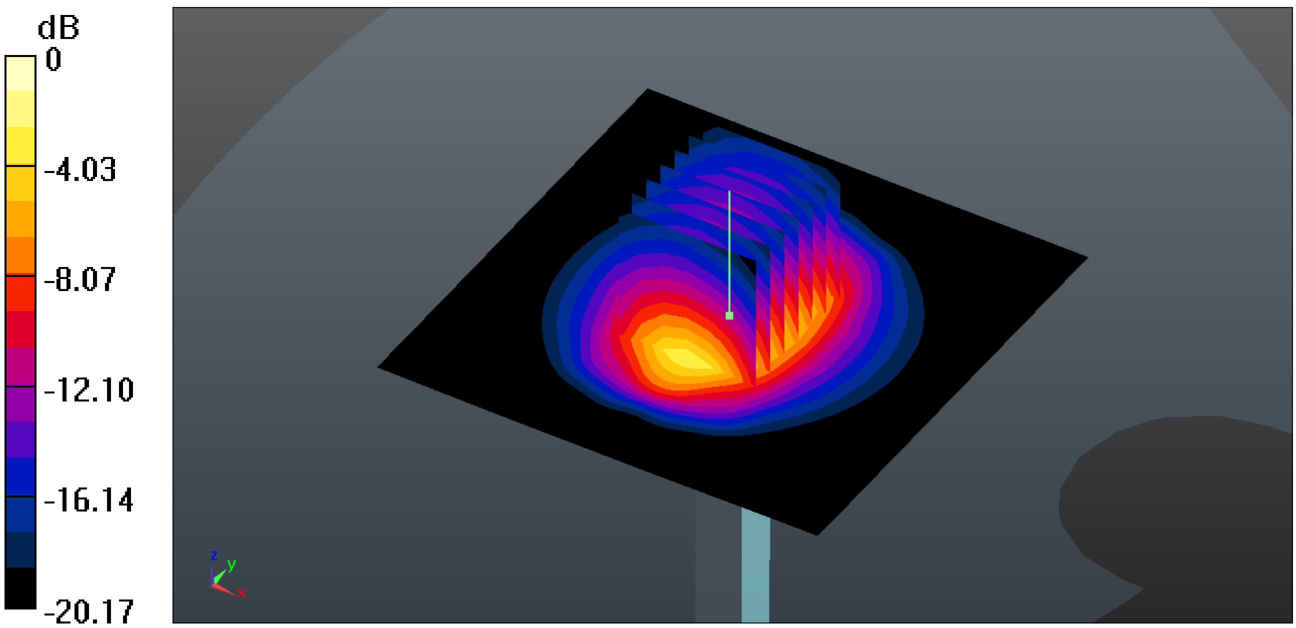
DUT: D2450V2-SN:926

Communication System: UID 0, CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: MSL_2450_151105 Medium parameters used: f = 2450 MHz; σ = 1.977 S/m; ε_r = 51.617; ρ = 1000 kg/m^3
Ambient Temperature: 23.5 ℃ ; **Liquid Temperature**: 22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(6.95, 6.95, 6.95); Calibrated: 2014.11.13;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2014.12.11
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 20.5 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.42 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 27.3 W/kg
SAR(1 g) = 13.2 W/kg; SAR(10 g) = 6.23 W/kg
Maximum value of SAR (measured) = 20.4 W/kg



0 dB = 21.4 W/kg

Appendix B. Plots of High SAR Measurement

The plots are shown as follows.

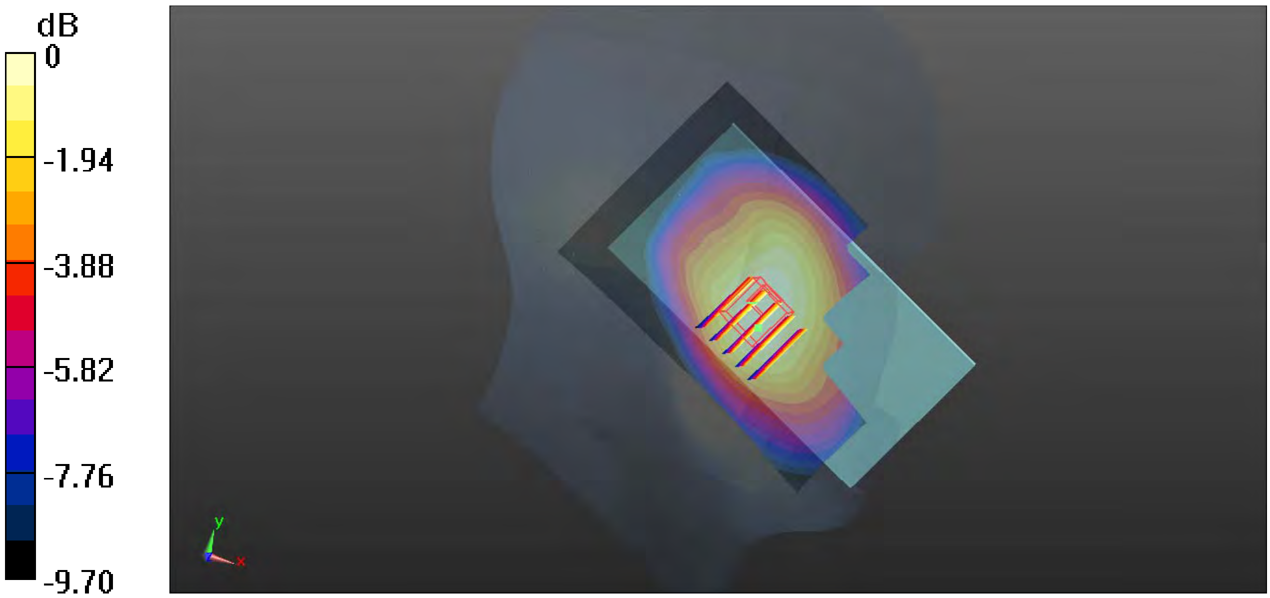
#01_CDMA2000 BC0_RC3+SO55_Left Cheek_Ch1013_Full Power

Communication System: UID 0, CDMA2000 (0); Frequency: 824.7 MHz;Duty Cycle: 1:1
Medium: HSL_835_151119 Medium parameters used: f = 824.7 MHz; σ = 0.888 S/m; ε_r = 42.124; ρ = 1000 kg/m^3
Ambient Temperature: 23.2 ℃ ; **Liquid Temperature**: 22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(9.96, 9.96, 9.96); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch1013/Area Scan (71x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.337 W/kg

Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.221 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.360 W/kg
SAR(1 g) = 0.299 W/kg; SAR(10 g) = 0.229 W/kg
Maximum value of SAR (measured) = 0.333 W/kg



0 dB = 0.337 W/kg

Test Laboratory:Sporton International Inc SAR Testing Lab　　　　　　　　　　　　　Date: 2015.11.19

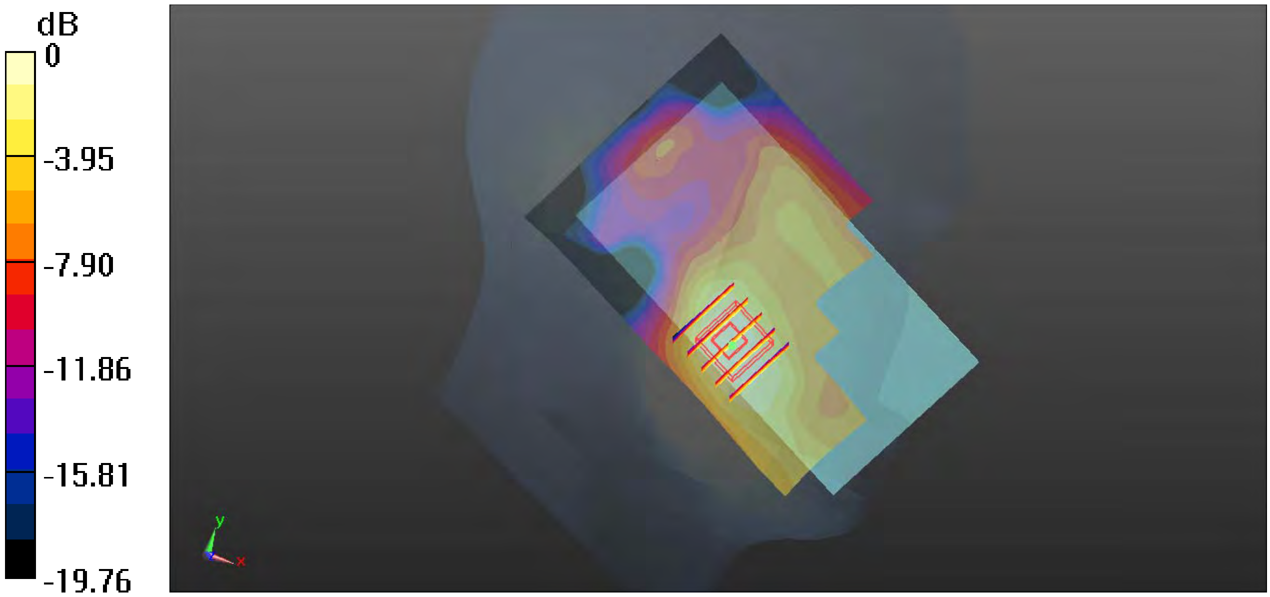
#02_CDMA2000 BC1_RC3+SO55_Left Cheek_Ch25_Full Power

Communication System: UID 0, CDMA2000 (0); Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: HSL_1900_151119 Medium parameters used: f = 1851.25 MHz; σ = 1.409 S/m; ε_r = 41.071; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃ ; **Liquid Temperature**: 22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(8.22, 8.22, 8.22); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch25/Area Scan (71x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.127 W/kg

Ch25/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.5360 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.153 W/kg
SAR(1 g) = 0.102 W/kg; SAR(10 g) = 0.062 W/kg
Maximum value of SAR (measured) = 0.130 W/kg



0 dB = 0.127 W/kg

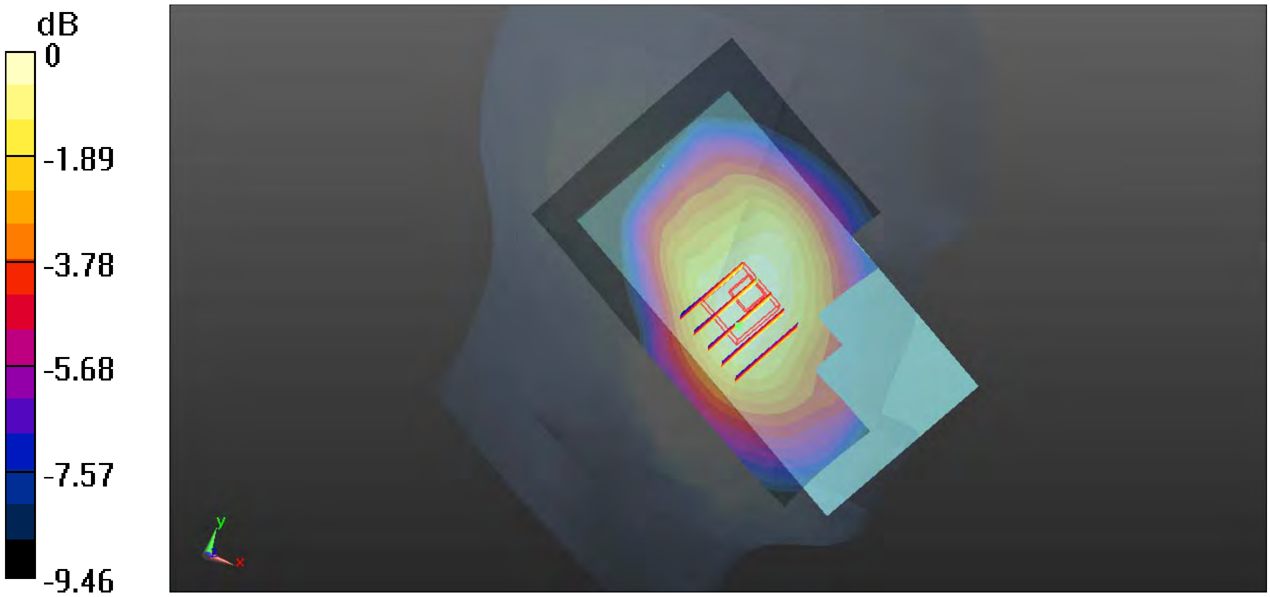
#03_LTE Band 13_10M_QPSK_1RB_25Offset_Left Cheek_Ch23230_Full Power

Communication System: UID 0, LTE (0); Frequency: 782 MHz;Duty Cycle: 1:1
Medium: HSL_750_151119 Medium parameters used: f = 782 MHz; σ = 0.899 S/m; ε_r = 40.06; ρ = 1000 kg/m^3
Ambient Temperature: 23.4 ℃ ; **Liquid Temperature**: 22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(10.33, 10.33, 10.33); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch23230/Area Scan (71x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.289 W/kg

Ch23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.017 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.313 W/kg
SAR(1 g) = 0.256 W/kg; SAR(10 g) = 0.195 W/kg
Maximum value of SAR (measured) = 0.294 W/kg



0 dB = 0.289 W/kg

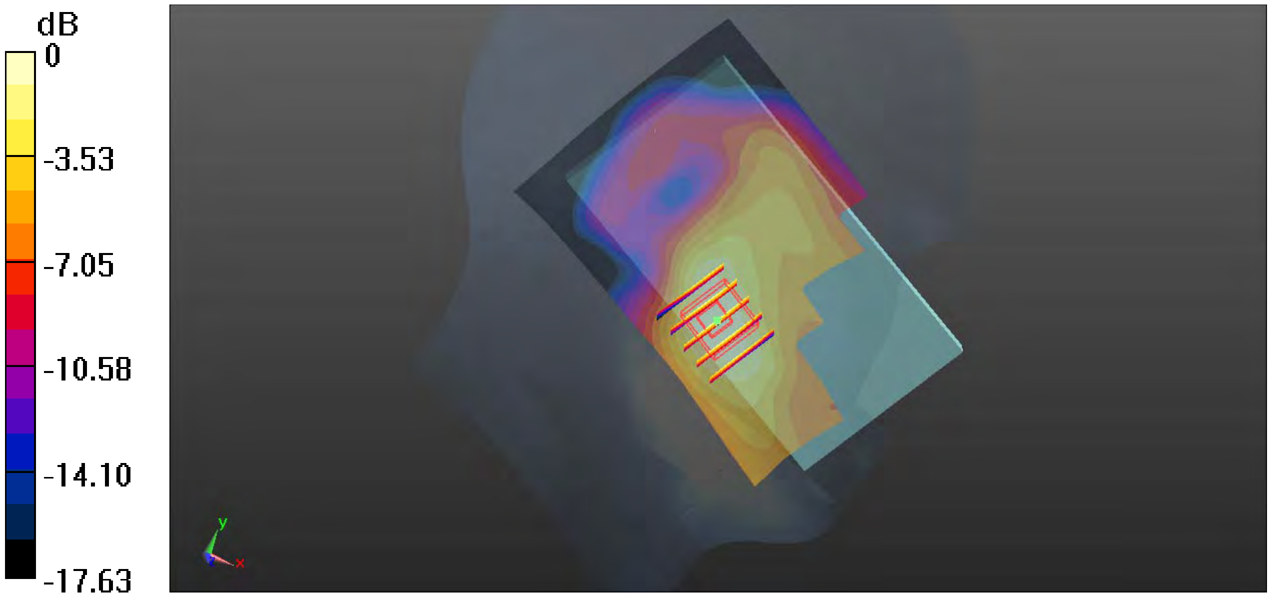
#04_LTE Band 4_20M_QPSK_1RB_49Offset_Left Cheek_Ch20175_Full Power

Communication System: UID 0, LTE (0); Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: HSL_1800_151119 Medium parameters used: f = 1732.5 MHz; σ = 1.375 S/m; ε_r = 40.663; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃ ; **Liquid Temperature**: 22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(8.52, 8.52, 8.52); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch20175/Area Scan (71x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.217 W/kg

Ch20175/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.6940 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.237 W/kg
SAR(1 g) = 0.165 W/kg; SAR(10 g) = 0.106 W/kg
Maximum value of SAR (measured) = 0.206 W/kg



0 dB = 0.217 W/kg

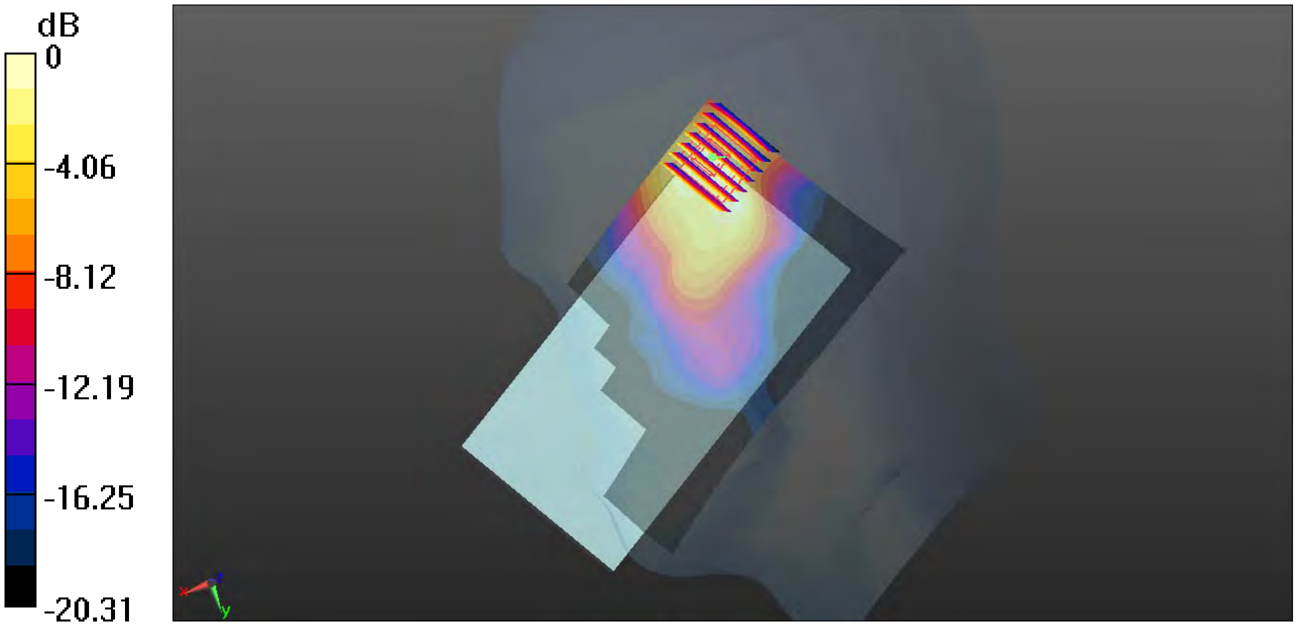
#05_WLAN2.4GHz_802.11b 1Mbps_Right Cheek_Ch6

Communication System: UID 0, WIFI (0); Frequency: 2437 MHz;Duty Cycle: 1:1.029
Medium: HSL_2450_151105 Medium parameters used: f = 2437 MHz; σ = 1.842 S/m; ε_r = 37.736; ρ = 1000 kg/m^3
Ambient Temperature: 23.6 ℃ ; **Liquid Temperature**: 22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(7.01, 7.01, 7.01); Calibrated: 2014.11.13;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2014.12.11
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch6/Area Scan (81x151x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.611 W/kg

Ch6/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.315 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.818 W/kg
SAR(1 g) = 0.417 W/kg; SAR(10 g) = 0.219 W/kg
Maximum value of SAR (measured) = 0.613 W/kg



0 dB = 0.611 W/kg

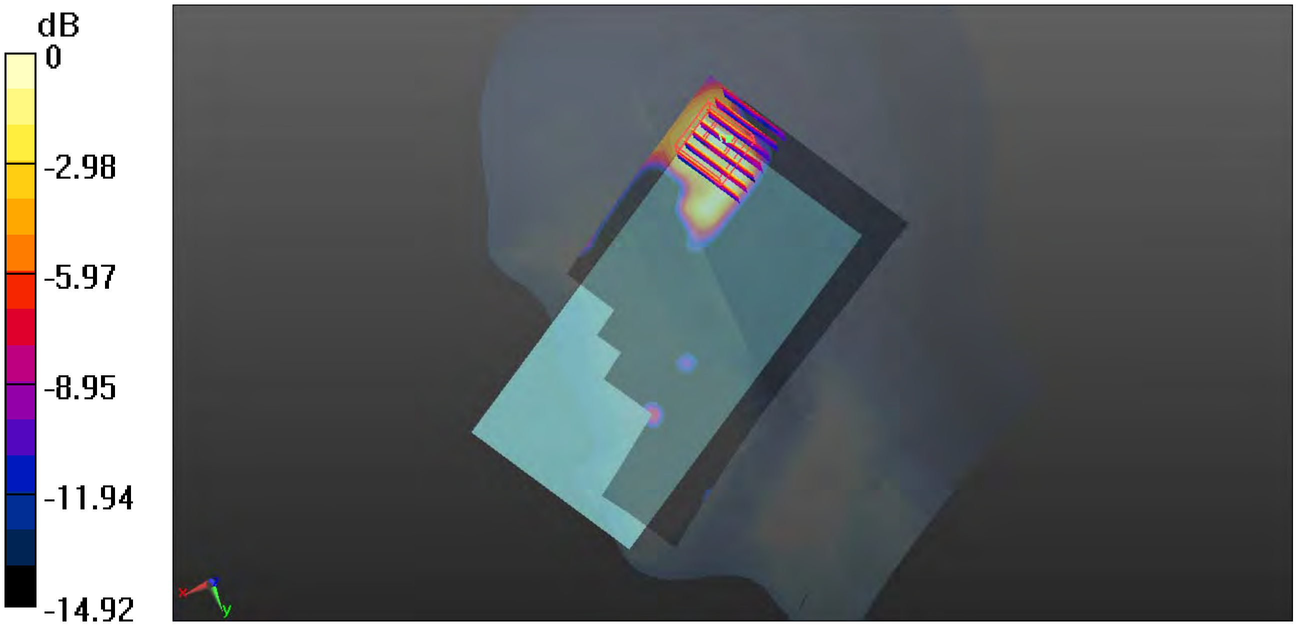
#06_Bluetooth_DH5_Right Cheek_Ch39

Communication System: UID 0, Bluetooth (0); Frequency: 2441 MHz;Duty Cycle: 1:1.2
Medium: HSL_2450_151105 Medium parameters used: f = 2441 MHz; σ = 1.846 S/m; ε_r = 37.718; ρ = 1000 kg/m^3
Ambient Temperature: 23.6 ℃ ; **Liquid Temperature**: 22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(7.01, 7.01, 7.01); Calibrated: 2014.11.13;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2014.12.11
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch39/Area Scan (81x151x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.0391 W/kg

Ch39/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.092 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.0480 W/kg
SAR(1 g) = 0.021 W/kg; SAR(10 g) = 0.011 W/kg
Maximum value of SAR (measured) = 0.0297 W/kg



0 dB = 0.0391 W/kg

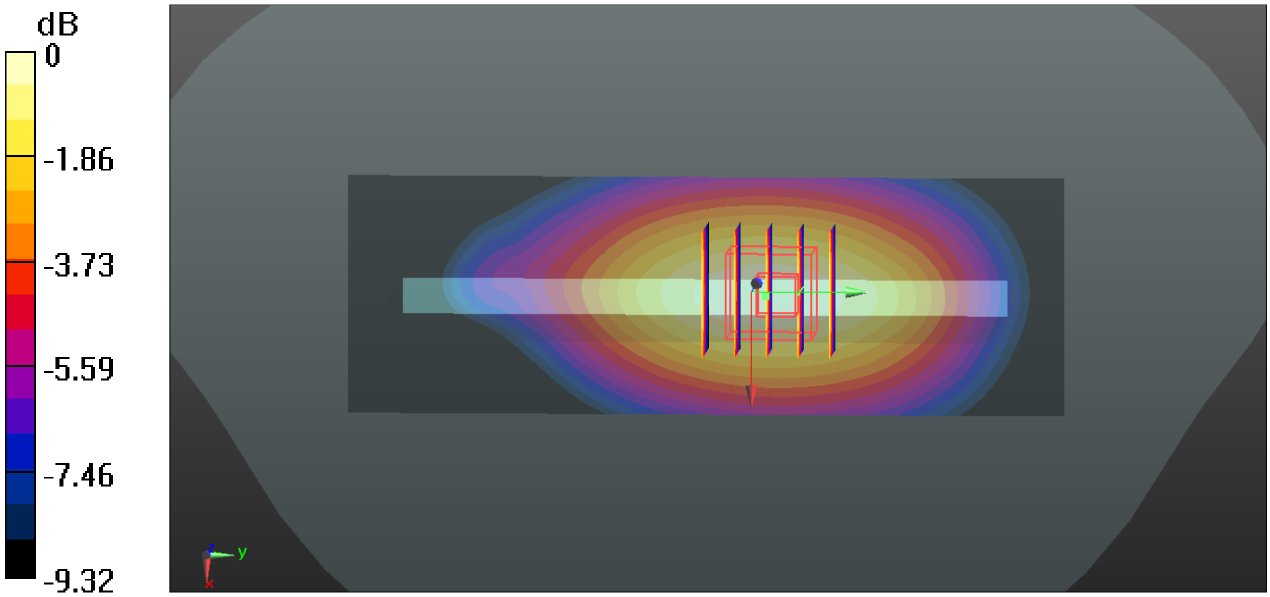
#07_CDMA2000 BC0_RTAP 153.6Kbps_Left Side_10mm_Ch1013_Hotspot On

Communication System: UID 0, CDMA2000 (0); Frequency: 824.7 MHz;Duty Cycle: 1:1
Medium: MSL_835_151117 Medium parameters used: f = 824.7 MHz; σ = 1.001 S/m; ε_r = 56.355; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃ ; **Liquid Temperature**: 22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(9.99, 9.99, 9.99); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch1013/Area Scan (41x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.458 W/kg

Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.667 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.515 W/kg
SAR(1 g) = 0.371 W/kg; SAR(10 g) = 0.259 W/kg
Maximum value of SAR (measured) = 0.450 W/kg



0 dB = 0.458 W/kg

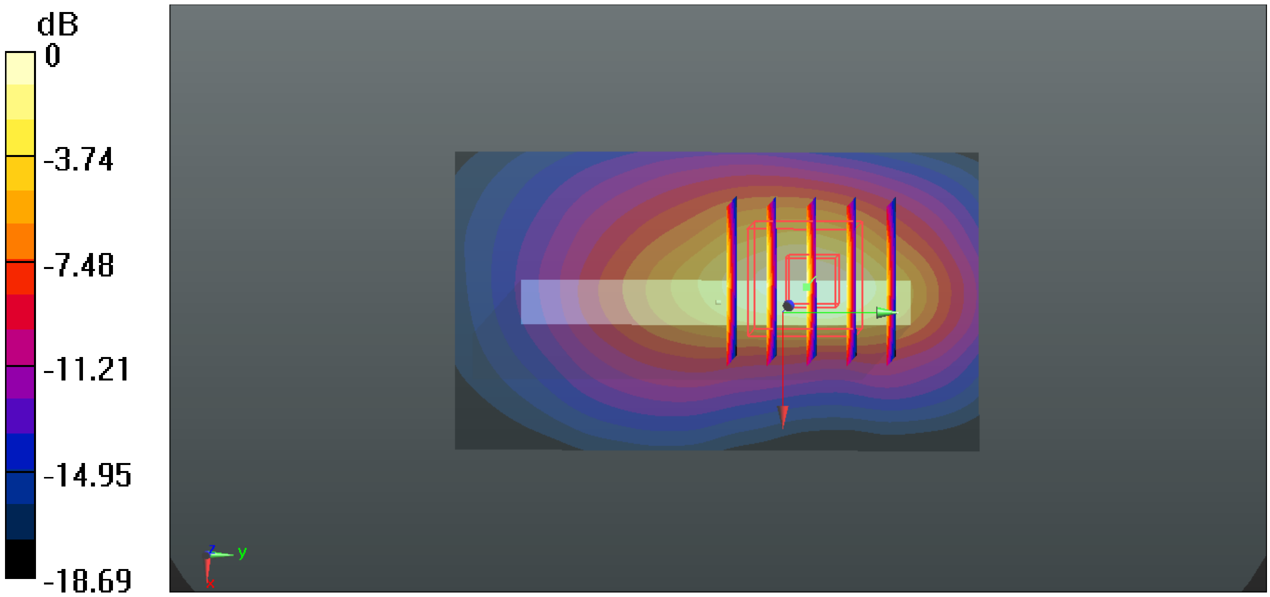
#08_CDMA2000 BC1_RTAP 153.6Kbps_Bottom Side_10mm_Ch1175_Hotspot On

Communication System: UID 0, CDMA2000 (0); Frequency: 1908.75 MHz;Duty Cycle: 1:1
Medium: MSL_1900_151118 Medium parameters used: f = 1908.75 MHz; σ = 1.588 S/m; ε_r = 54.613; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃ ; **Liquid Temperature**: 22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(7.87, 7.87, 7.87); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch1175/Area Scan (41x71x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.82 W/kg

Ch1175/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.208 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 2.18 W/kg
SAR(1 g) = 1.26 W/kg; SAR(10 g) = 0.643 W/kg
Maximum value of SAR (measured) = 1.77 W/kg



0 dB = 1.82 W/kg

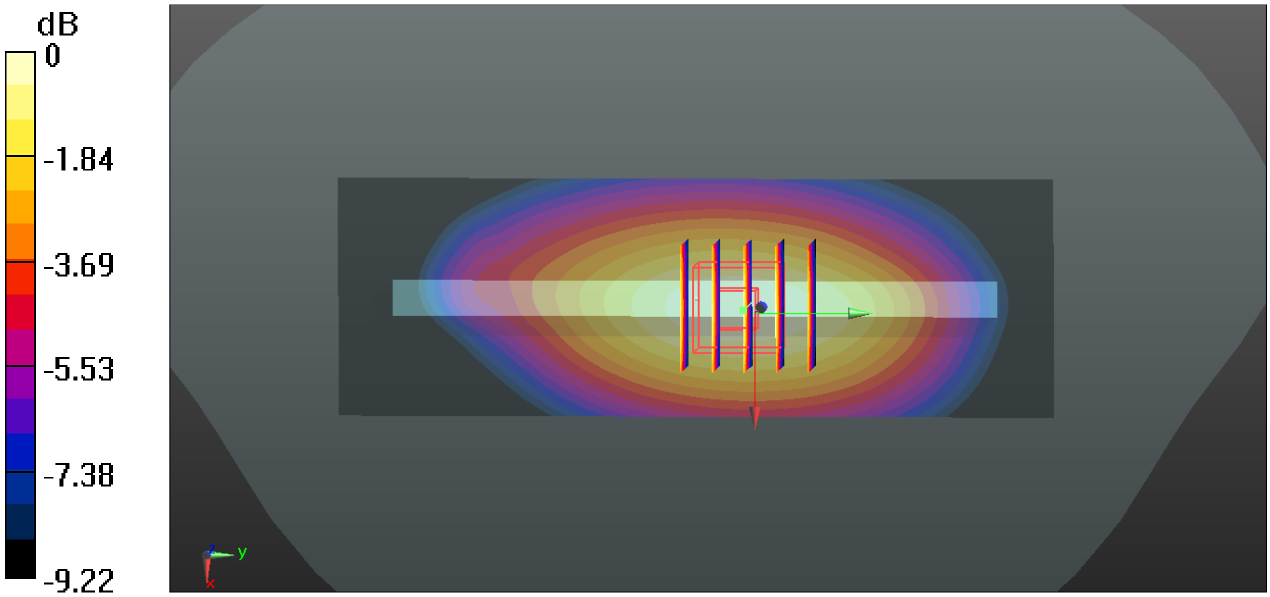
#09_LTE Band 13_10M_QPSK_1RB_25Offset_Left Side_10mm_Ch23230_Hotspot On

Communication System: UID 0, LTE (0); Frequency: 782 MHz;Duty Cycle: 1:1
Medium: MSL_750_151117 Medium parameters used: f = 782 MHz; σ = 0.987 S/m; ε_r = 53.229; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃ ; **Liquid Temperature**: 22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(10.05, 10.05, 10.05); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch23230/Area Scan (41x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.402 W/kg

Ch23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.509 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.452 W/kg
SAR(1 g) = 0.328 W/kg; SAR(10 g) = 0.229 W/kg
Maximum value of SAR (measured) = 0.399 W/kg



0 dB = 0.402 W/kg

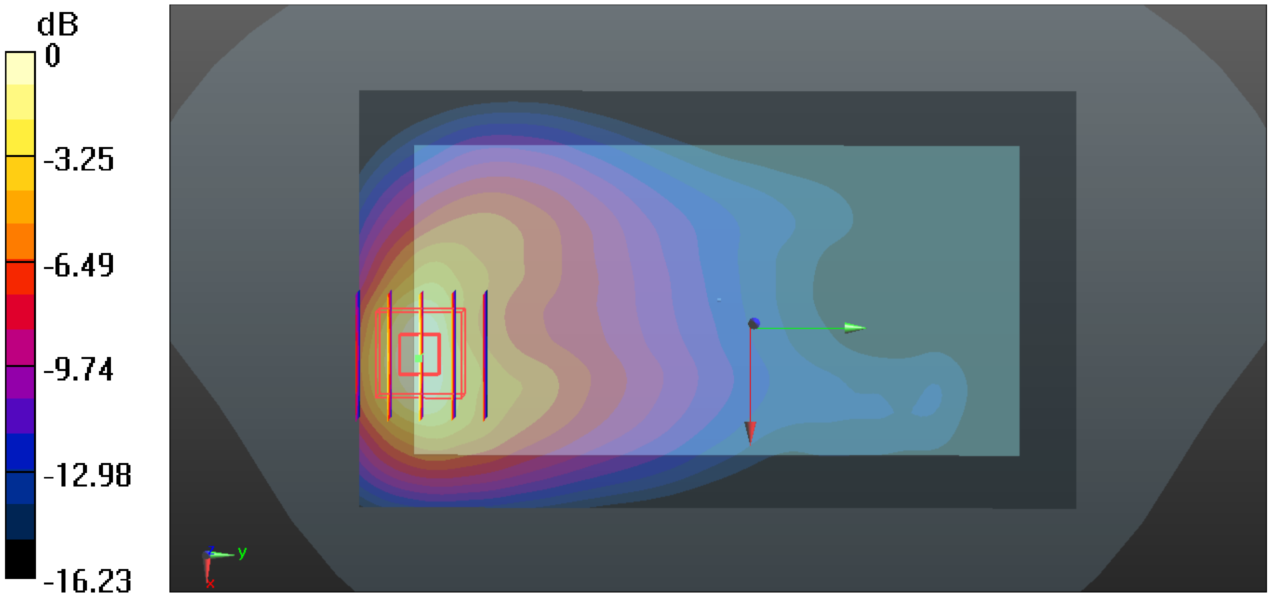
#10_LTE Band 4_20M_QPSK_50RB_24Offset_Back_10mm_Ch20175_Hotspot On

Communication System: UID 0, LTE (0); Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: MSL_1800_151118 Medium parameters used: f = 1732.5 MHz; σ = 1.508 S/m; ε_r = 52.103; ρ = 1000 kg/m^3
Ambient Temperature: 23.4 ℃ ; **Liquid Temperature**: 22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(8.2, 8.2, 8.2); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch20175/Area Scan (71x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.59 W/kg

Ch20175/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.415 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 1.99 W/kg
SAR(1 g) = 1.23 W/kg; SAR(10 g) = 0.675 W/kg
Maximum value of SAR (measured) = 1.69 W/kg



0 dB = 1.59 W/kg

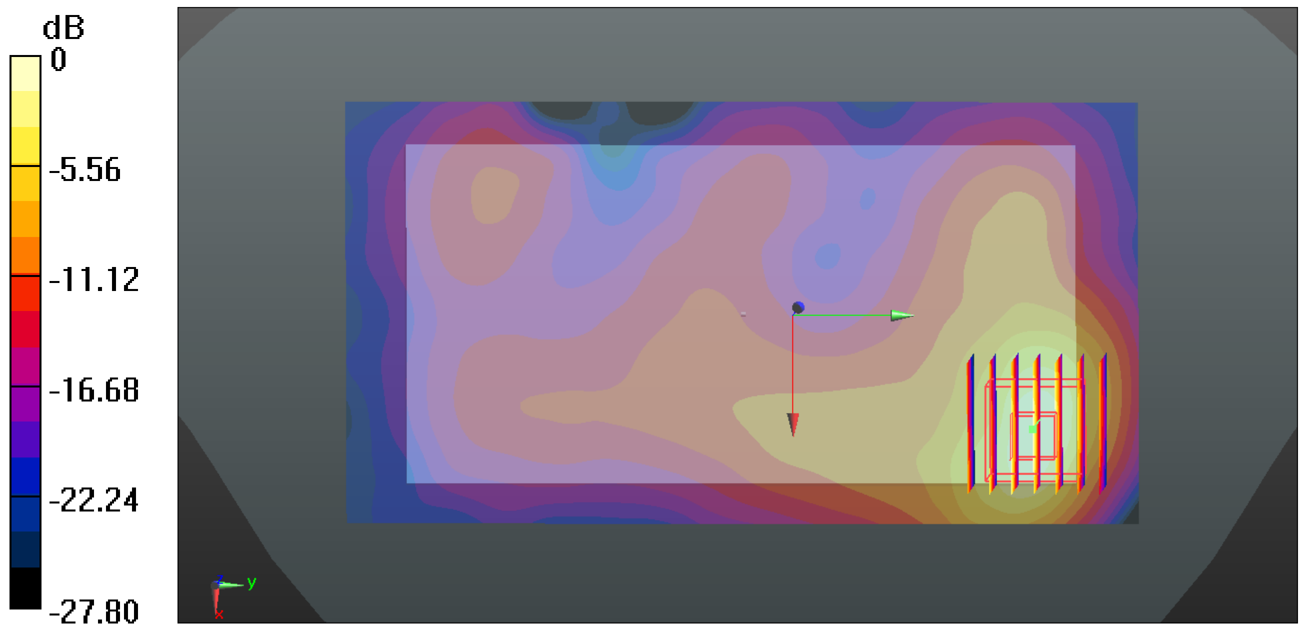
#11_WLAN2.4GHz_802.11b 1Mbps_Back_10mm_Ch6

Communication System: UID 0, WIFI (0); Frequency: 2437 MHz;Duty Cycle: 1:1.029
Medium: MSL_2450_151105 Medium parameters used: f = 2437 MHz; $\sigma = 1.961$ S/m; $\varepsilon_r = 51.645$; $\rho = 1000$ kg/m^3
Ambient Temperature: 23.5 ℃ ; **Liquid Temperature**: 22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(6.95, 6.95, 6.95); Calibrated: 2014.11.13;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2014.12.11
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch6/Area Scan (81x151x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.504 W/kg

Ch6/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.051 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 0.729 W/kg
SAR(1 g) = 0.339 W/kg; SAR(10 g) = 0.145 W/kg
Maximum value of SAR (measured) = 0.522 W/kg



0 dB = 0.504 W/kg

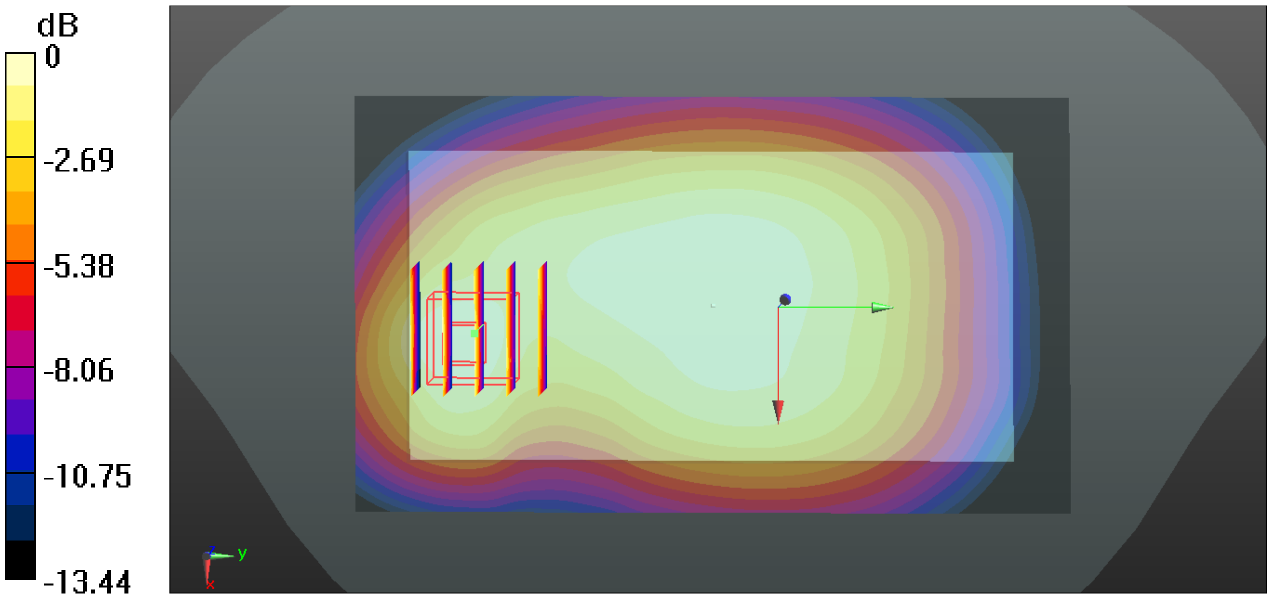
#12_CDMA2000 BC0_RC3+SO32_Back_15mm_Ch1013_Full Power

Communication System: UID 0, CDMA2000 (0); Frequency: 824.7 MHz;Duty Cycle: 1:1
Medium: MSL_835_151117 Medium parameters used: f = 824.7 MHz; σ = 1.001 S/m; ε_r = 56.355; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃ ; **Liquid Temperature**: 22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(9.99, 9.99, 9.99); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch1013/Area Scan (71x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.456 W/kg

Ch1013/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.050 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.586 W/kg
SAR(1 g) = 0.363 W/kg; SAR(10 g) = 0.221 W/kg
Maximum value of SAR (measured) = 0.464 W/kg



0 dB = 0.456 W/kg

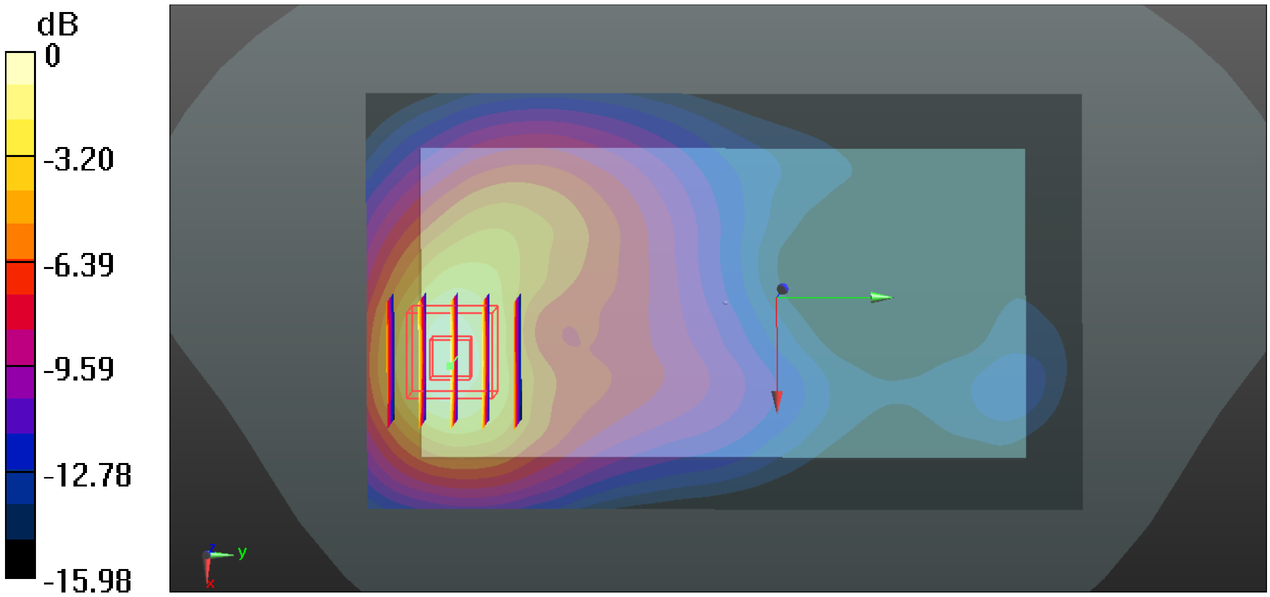
#13_CDMA2000 BC1_RC3+SO32_Back_15mm_Ch25_Full Power

Communication System: UID 0, CDMA2000 (0); Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: MSL_1900_151118 Medium parameters used: f = 1851.25 MHz; σ = 1.517 S/m; ε_r = 54.743; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃ ; **Liquid Temperature**: 22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(7.87, 7.87, 7.87); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch25/Area Scan (71x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.890 W/kg

Ch25/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.463 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.704 W/kg; SAR(10 g) = 0.401 W/kg
Maximum value of SAR (measured) = 0.940 W/kg



0 dB = 0.890 W/kg

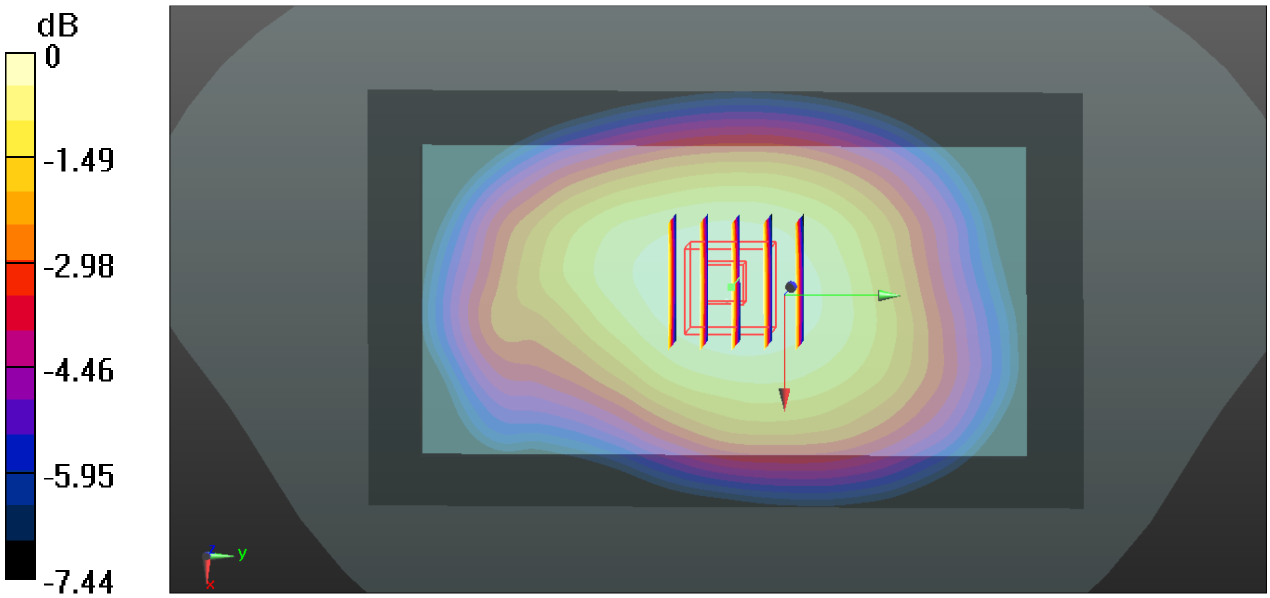
#14_LTE Band 13_10M_QPSK_1RB_25Offset_Back_15mm_Ch23230_Full Power

Communication System: UID 0, LTE (0); Frequency: 782 MHz;Duty Cycle: 1:1
Medium: MSL_750_151117 Medium parameters used: f = 782 MHz; σ = 0.987 S/m; ε_r = 53.229; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃ ; **Liquid Temperature**: 22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(10.05, 10.05, 10.05); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch23230/Area Scan (71x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.386 W/kg

Ch23230/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.869 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.416 W/kg
SAR(1 g) = 0.338 W/kg; SAR(10 g) = 0.264 W/kg
Maximum value of SAR (measured) = 0.384 W/kg



0 dB = 0.386 W/kg

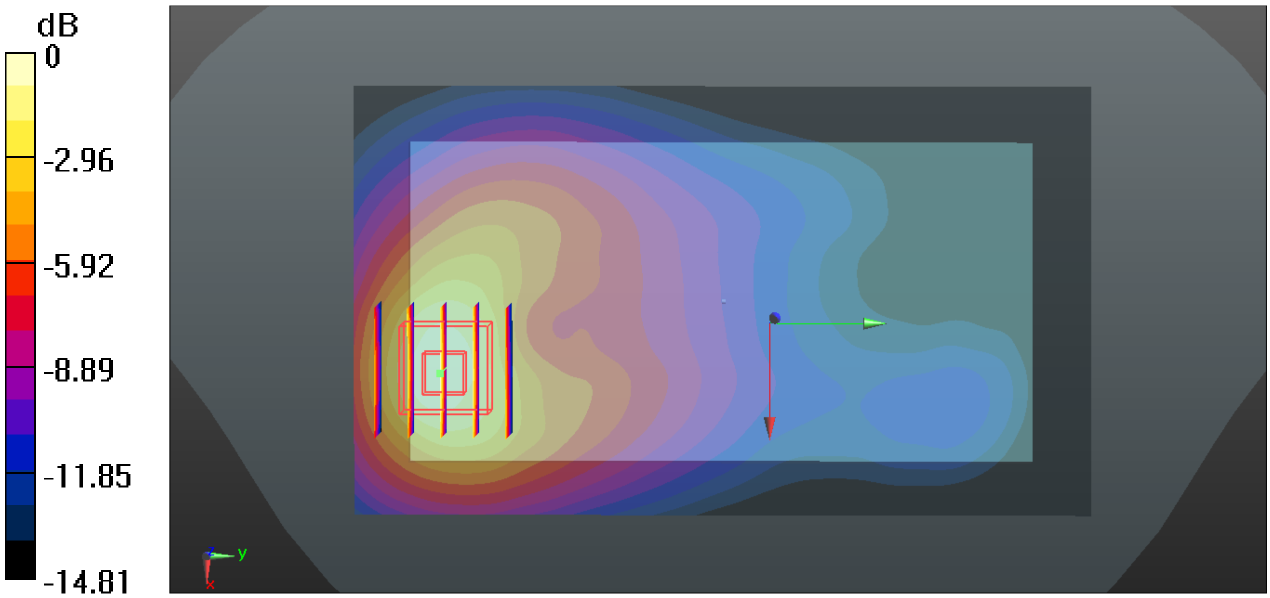
#15_LTE Band 4_20M_QPSK_1RB_49Offset_Back_15mm_Ch20175_Full Power

Communication System: UID 0, LTE (0); Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: MSL_1800_151118 Medium parameters used: f = 1732.5 MHz; σ = 1.508 S/m; ε_r = 52.103; ρ = 1000 kg/m^3
Ambient Temperature: 23.4 ℃ ; **Liquid Temperature**: 22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(8.2, 8.2, 8.2); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch20175/Area Scan (71x121x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.985 W/kg

Ch20175/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.090 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 1.22 W/kg
SAR(1 g) = 0.810 W/kg; SAR(10 g) = 0.479 W/kg
Maximum value of SAR (measured) = 1.05 W/kg



0 dB = 0.985 W/kg

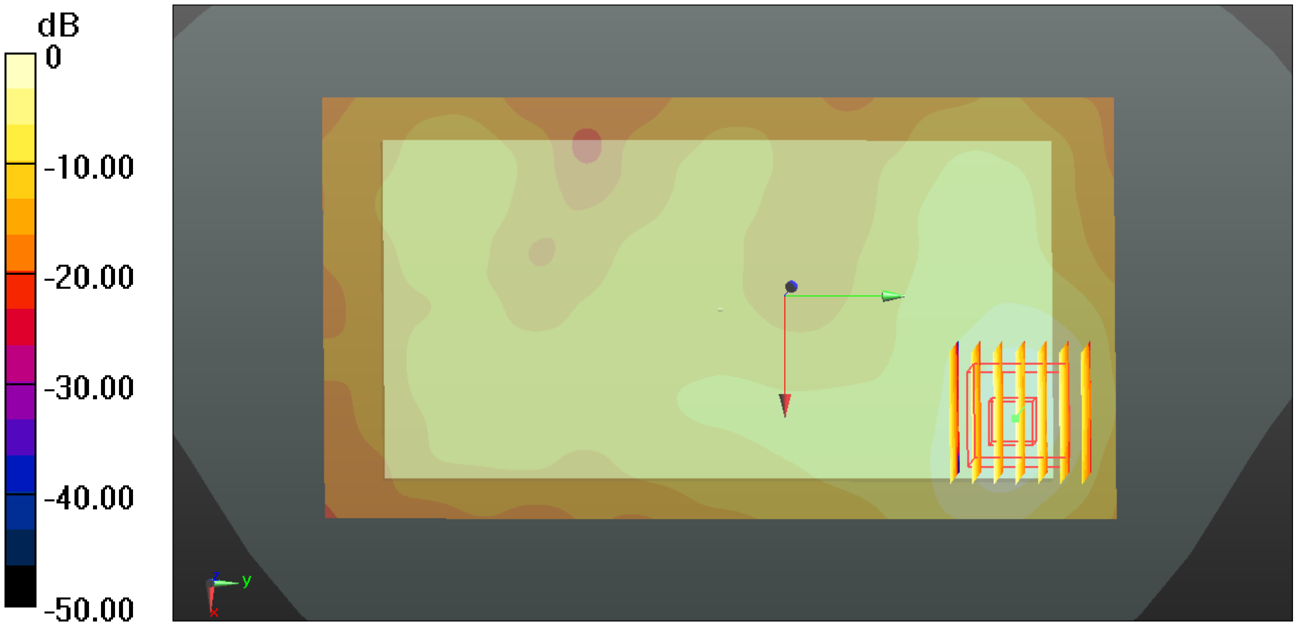
#16_WLAN2.4GHz_802.11b 1Mbps_Back_15mm_Ch6

Communication System: UID 0, WIFI (0); Frequency: 2437 MHz;Duty Cycle: 1:1.029
Medium: MSL_2450_151105 Medium parameters used: f = 2437 MHz; σ = 1.961 S/m; ε_r = 51.645; ρ = 1000 kg/m^3
Ambient Temperature: 23.5 ℃ ; **Liquid Temperature**: 22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(6.95, 6.95, 6.95); Calibrated: 2014.11.13;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 2014.12.11
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch6/Area Scan (81x151x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.158 W/kg

Ch6/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.062 V/m; Power Drift = -0.11 dB
Peak SAR (extrapolated) = 0.204 W/kg
SAR(1 g) = 0.105 W/kg; SAR(10 g) = 0.050 W/kg
Maximum value of SAR (measured) = 0.155 W/kg



0 dB = 0.158 W/kg

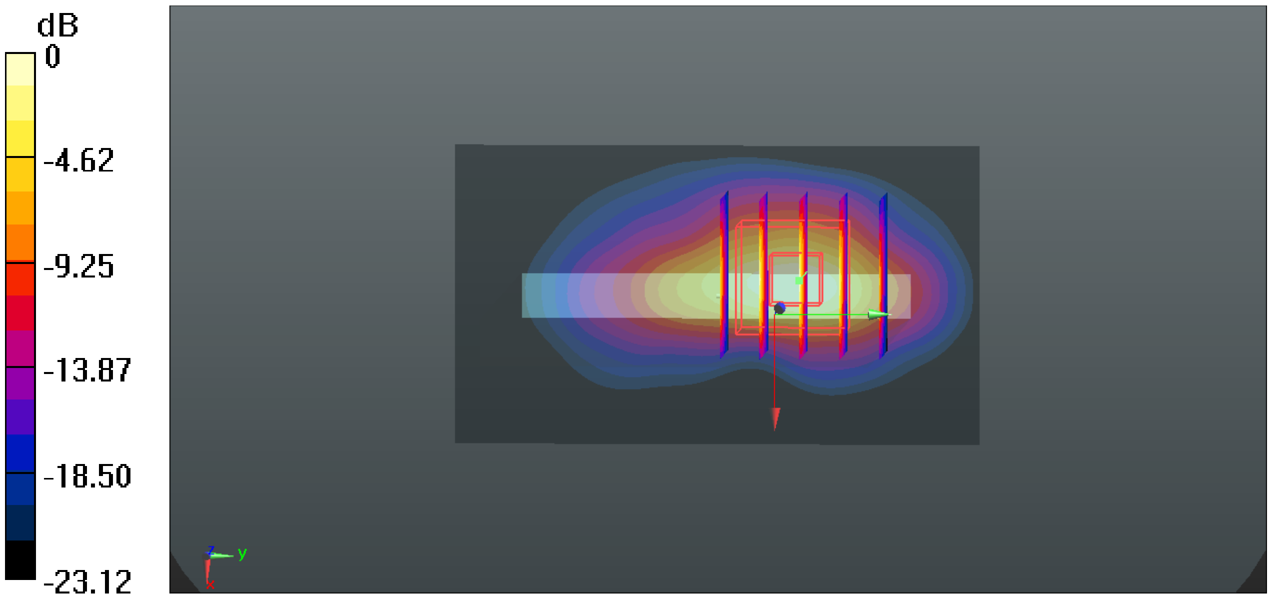
#17_CDMA2000 BC1_RTAP 153.6Kbps_Bottom Side_0mm_Ch600_Full Power_Extremity SAR

Communication System: UID 0, CDMA2000 (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: MSL_1900_151118 Medium parameters used: f = 1880 MHz; σ = 1.557 S/m; ε_r = 54.666; ρ = 1000 kg/m^3
Ambient Temperature: 23.3 ℃ ; **Liquid Temperature**: 22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(7.87, 7.87, 7.87); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch600/Area Scan (41x71x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 13.97 W/kg

Ch600/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.585 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 18.1 W/kg
SAR(1 g) = 8.07 W/kg; SAR(10 g) = 3.34 W/kg
Maximum value of SAR (measured) = 13.95 W/kg



0 dB = 13.97 W/kg

Test Laboratory:Sporton International Inc SAR Testing Lab Date: 2015.11.18

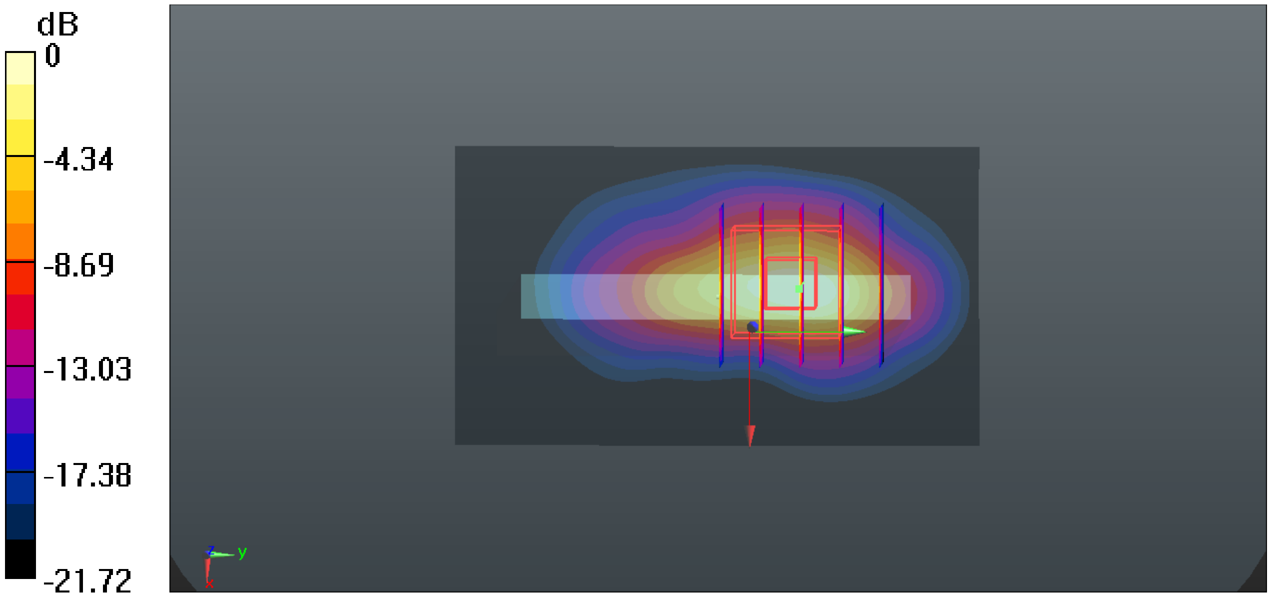
#18_LTE Band 4_20M_QPSK_1RB_49Offset_Bottom Side_0mm_Ch20175_Full Power_Extremity SAR

Communication System: UID 0, LTE (0); Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: MSL_1800_151118 Medium parameters used: f = 1732.5 MHz; σ = 1.508 S/m; ε_r = 52.103; ρ = 1000 kg/m^3
Ambient Temperature: 23.4 ℃ ; **Liquid Temperature**: 22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3958; ConvF(8.2, 8.2, 8.2); Calibrated: 2015.07.23;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2015.02.19
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (8);SEMCAD X Version 14.6.10 (7331)

Ch20175/Area Scan (41x71x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 13.0 W/kg

Ch20175/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.549 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 18.1 W/kg
SAR(1 g) = 8.16 W/kg; SAR(10 g) = 3.43 W/kg
Maximum value of SAR (measured) = 13.8 W/kg



0 dB = 13.0 W/kg