FCC SAR Test Report

APPLICANT	: TCL Communication Ltd
EQUIPMENT	: GSM Quad-band / UMTS Quad-band / LTE 4 band mobile phone
BRAND NAME	: ALCATEL ONETOUCH
MODEL NAME	: 6045O
MARKETING NAME	: ALCATEL ONETOUCH IDOL 3 (5.5)
FCC ID	: 2ACCJN005
STANDARD	: FCC 47 CFR Part 2 (2.1093) ANSI/IEEE C95.1-1992 IEEE 1528-2013

We, SPORTON INTERNATIONAL (KUNSHAN) 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.

Reviewed by: Eric Huang / Deputy Manager

Approved by: Jones Tsai / Manager

Testing Laboratory 2627

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA511301-21	Rev. 01	Initial issue of report	Aug. 28, 2015

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **TCL Communication Ltd, GSM Quad-band / UMTS Quad-band / LTE 4 band mobile phone, 6045O** are as follows.

Equipment Class	Frequency Band	Highest SAR Summary			
		Head 1g SAR (W/kg)	Wireless Router (Separation 1cm) 1g SAR (W/kg)	Body-worn (Separation 1cm) 1g SAR (W/kg)	Highest Simultaneous Transmission 1g SAR (W/kg)
PCE	GSM850	0.45	0.49	0.49	1.58
	GSM1900	0.21	0.75	0.75	
	WCDMA Band V	0.24	0.32	0.29	
	WCDMA Band IV	0.25	0.63	0.63	
	WCDMA Band II	0.24	1.03	1.03	
	LTE Band 12	0.18	0.32	0.32	
	LTE Band 5	0.28	0.40	0.38	
	LTE Band 4	0.32	1.07	1.07	
	LTE Band 2	0.25	**1.18**	**1.18**	
DTS	2.4GHz WLAN	**1.39**	0.51	0.51	1.57
NII	5.2GHz WLAN	0.66	0.12	< 0.10	1.58
	5.8GHz WLAN	1.26	0.28	0.16	
Date of Testing:		Aug. 19, 2015 ~ Aug. 24, 2015			

Note:

1. The SAR value list above are all rounded to two decimal digits.
2. a. According to section 16.1, the maximum simultaneous SAR for WWAN+DTS is 1.82W/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, and 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.
3. According to Appendix E, SAR values for the WLAN operations are leveraged from test report FA511301-03 with model name 6045I and FCC ID: 2ACCJN002. We did perform verification testing on FCC ID: 2ACCJN005 at the worst cases found from 6045I test results. Initial 6045I WLAN SAR and present verification WLAN SAR are all representative for 6045O

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

2. Administration Data

Testing Laboratory	
Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958

Applicant	
Company Name	TCL Communication Ltd
Address	FLAT/RM 1910-12A BLOCK 3 19/F CHINA HONG KONG CITY 33 CANTON ROAD TSIMSHATSUI KL

Manufacturer	
Company Name	TCL Communication Ltd
Address	FLAT/RM 1910-12A BLOCK 3 19/F CHINA HONG KONG CITY 33 CANTON ROAD TSIMSHATSUI KL

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 v01r01
- FCC KDB 447498 D01 General RF Exposure Guidance v05r02
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r02
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r01
- FCC KDB 941225 D01 3G SAR Procedures v03
- FCC KDB 941225 D05 SAR for LTE Devices v02r03
- FCC KDB 941225 D06 Hotspot Mode SAR v02

4. Equipment Under Test (EUT)

4.1 General Information

Product Feature & Specification	
Equipment Name	GSM Quad-band / UMTS Quad-band / LTE 4 band mobile phone
Brand Name	ALCATEL ONETOUCH
Model Name	6045O
Marketing Name	ALCATEL ONETOUCH IDOL 3 (5.5)
FCC ID	2ACCJN005
IMEI Code	014497000004319
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Mode	· GSM/GPRS/EGPRS · RMC/AMR 12.2Kbps · HSDPA · HSUPA · HSPA+ (Downlink Only) · LTE: QPSK, 16QAM · 802.11b/g/n HT20 · 802.11a/n HT20/HT40 · Bluetooth v3.0+EDR, Bluetooth v4.1 LE · NFC:ASK
HW Version	03
SW Version	5A18
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype

Remark:

1. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. 3rd party VoIP), LTE supports VoLTE operation and 802.11n-HT40 is not supported in 2.4GHz WLAN.
2. This device 2.4 GHz /5.2GHz/ 5.8GHz WLAN supports hotspot and WiFi Direct (GC / GO) operation.
3. This device supports GRPS/EGPRS mode up to multi-slot class10.
4. This device has two sets of receivers and microphone, one receiver is located at the top and another one is located at the bottom of the phone. However the receiver 2 disabled via software. Normally use only receiver 1 worked, so receiver 1 is chosen for SAR testing.

4.2 Specification of Accessory

Specification of Accessory				
AC Adapter	Brand Name	ALCATEL ONETOUCH	Model Name	UC13US
	Power Rating	I/P: 100-240Vac, 500mA, O/P: 5Vdc, 2000mA		
	P/N	CBA0059AG1C1		
Battery	Brand Name	ALCATEL ONETOUCH	Model Name	TLp029A2-S
	Power Rating	3.8Vdc, 2910mAh		
	P/N	C2910002C2YHVOJE		
USB Cable	Brand Name	ALCATEL ONETOUCH	Model Name	CDA0000043C2
	Signal Line Type	1.10m shielded without core		

4.3 Maximum Tune-up Limit

Mode	Burst average power(dBm)	
	GSM 850	GSM 1900
GSM (GMSK, 1 Tx slot)	32.80	30.00
GPRS (GMSK, 1 Tx slot)	32.80	30.00
GPRS (GMSK, 2 Tx slots)	31.00	28.30
EDGE (8PSK, 1 Tx slot)	26.00	26.00
EDGE (8PSK, 2 Tx slots)	25.00	24.50

Band / Mode			Average Power (dBm)
WCDMA	Band V	RMC / AMR12.2Kbps	23.40
		HSDPA	22.00
		HSUPA	22.50
	Band IV	RMC / AMR12.2Kbps	22.50
		HSDPA	21.00
		HSUPA	22.00
	Band II	RMC / AMR12.2Kbps	22.80
		HSDPA	21.00
		HSUPA	22.00

Band / Mode		Average Power (dBm)
LTE	Band 12	24.30
	Band 5	24.20
	Band 4	24.30
	Band 2	23.40
2.4GHz WLAN	802.11b	18.50
	802.11g	14.00
	802.11n HT20	12.50
5.2GHz WLAN	802.11a	15.00
	802.11n HT20	12.00
	802.11n HT40	12.00
5.8GHz WLAN	802.11a	14.30
	802.11n HT20	12.00
	802.11n HT40	12.00
Bluetooth v3.0 + EDR		6.00
Bluetooth v4.1 LE		1.00

4.4 General LTE SAR Test and Reporting Considerations

<table>
<tr><th colspan="2">Summarized necessary items addressed in KDB 941225 D05 v02r03</th></tr>
<tr><td>FCC ID</td><td>2ACCJN005</td></tr>
<tr><td>Equipment Name</td><td>GSM Quad-band / UMTS Quad-band / LTE 4 band mobile phone</td></tr>
<tr><td>Operating Frequency Range of each LTE transmission band</td><td>LTE Band 12: 699.7 MHz ~ 715.3 MHz
LTE Band 5: 824.7 MHz ~ 848.3 MHz
LTE Band 4: 1710.7 MHz ~ 1754.3 MHz
LTE Band 2: 1850.7 MHz ~ 1909.3 MHz</td></tr>
<tr><td>Channel Bandwidth</td><td>LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz
LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz
LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz</td></tr>
<tr><td>uplink modulations used</td><td>QPSK, and 16QAM</td></tr>
<tr><td>LTE Voice / Data requirements</td><td>VoLTE is supported</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 Release Version</td><td>R9</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>
</table>

Transmission (H, M, L) channel numbers and frequencies in each LTE band								
LTE Band 12								
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711
LTE Band 5								
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20600	844

LTE Band 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 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900

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:

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

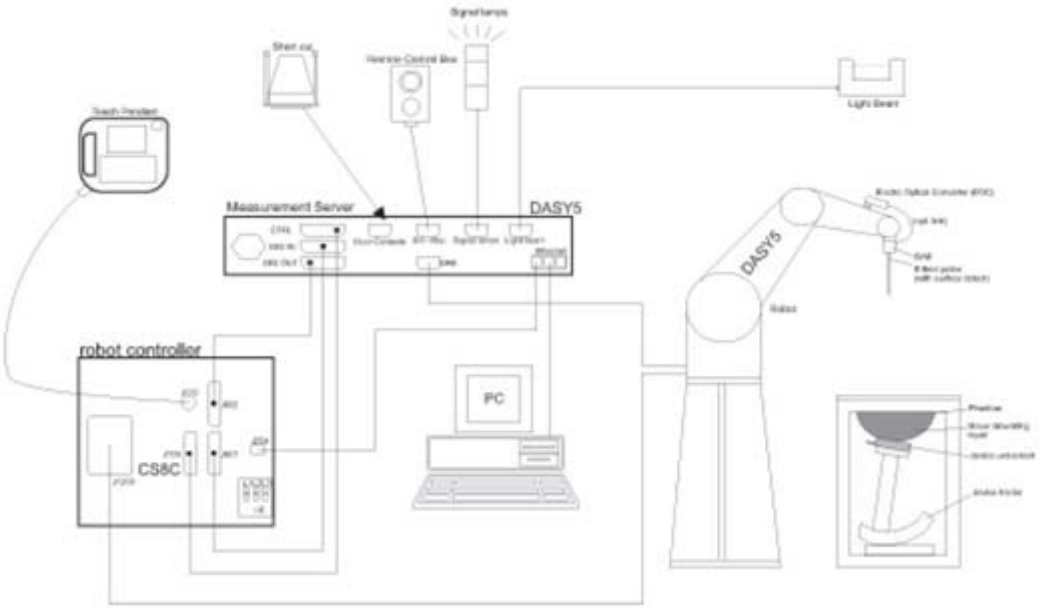
SAR is expressed in units of Watts per kilogram (W/kg)

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

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.

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* 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.

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	1065	Nov. 19, 2014	Nov. 18, 2015
SPEAG	835MHz System Validation Kit	D835V2	4d091	Nov. 21, 2014	Nov. 20, 2015
SPEAG	1750MHz System Validation Kit	D1750V2	1069	Nov. 21, 2014	Nov. 20, 2015
SPEAG	1900MHz System Validation Kit	D1900V2	5d118	Nov. 21, 2014	Nov. 20, 2015
SPEAG	2450MHz System Validation Kit	D2450V2	840	Nov. 19, 2014	Nov. 18, 2015
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	Nov. 24, 2014	Nov. 23, 2015
SPEAG	Data Acquisition Electronics	DAE4	1210	May 21, 2015	May 20, 2016
SPEAG	Dosimetric E-Field Probe	EX3DV4	3857	May 28, 2015	May 27, 2016
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1477	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1479	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio communication analyzer	MT8820C	6201432831	Jan. 21, 2015	Jan. 20, 2016
Agilent	Wireless Communication Test Set	E5515C	MY52102706	May 04, 2015	May 03, 2016
Agilent	ENA Series Network Analyzer	E5071C	MY46111157	May 04, 2015	May 03, 2016
Agilent	Dielectric Probe Kit	85070E	MY44300475	NCR	NCR
R&S	Signal Generator	SMBV100A	258305	Jan. 23, 2015	Jan. 22, 2016
Anritsu	Power Senor	MA2411B	0917070	Jan. 23, 2015	Jan. 22, 2016
Anritsu	Power Meter	ML2495A	1005002	Jan. 23, 2015	Jan. 22, 2016
Anritsu	Power Senor	MA2411B	1339163	Jan. 23, 2015	Jan. 22, 2016
Anritsu	Power Meter	ML2495A	1435004	Jan. 23, 2015	Jan. 22, 2016
ARRA	Power Divider	A3200-2	N/A	NA	NA
R&S	Spectrum Analyzer	FSP40	100319	Oct. 28, 2014	Oct. 27, 2015
Agilent	Dual Directional Coupler	778D	50422	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005- 3	N/A	Note 1	
AR	Power Amplifier	5S1G4M2	0328767	Note 1	
Mini-Circuits	Power Amplifier	ZVE-3W	162601250	Note 1	

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

Simulating Liquid for 5GHz, Manufactured by SPEAG

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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	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	22.6	0.881	40.783	0.89	41.9	-1.01	-2.67	±5	Aug. 21, 2015
835	Head	22.6	0.893	41.38	0.9	41.5	-0.78	-0.29	±5	Aug. 21, 2015
1750	Head	22.9	1.381	40.83	1.37	40.1	0.80	1.82	±5	Aug. 22, 2015
1900	Head	22.9	1.424	39.075	1.4	40	1.71	-2.31	±5	Aug. 22, 2015
2450	Head	22.7	1.818	39.219	1.80	39.20	1.00	0.05	±5	Aug. 24, 2015
5200	Head	22.8	4.811	35.433	4.66	36.00	3.24	-1.58	±5	Aug. 24, 2015
5800	Head	22.8	5.420	34.323	5.27	35.30	2.85	-2.77	±5	Aug. 24, 2015
750	Body	22.8	0.963	54.245	0.96	55.5	0.31	-2.26	±5	Aug. 20, 2015
835	Body	22.8	0.98	54.464	0.97	55.2	1.03	-1.33	±5	Aug. 20, 2015
1750	Body	22.5	1.515	55.246	1.49	53.4	1.68	3.46	±5	Aug. 19, 2015
1900	Body	22.5	1.552	53.419	1.52	53.3	2.11	0.22	±5	Aug. 19, 2015
2450	Body	22.7	1.940	51.413	1.95	52.70	-0.51	-2.44	±5	Aug. 21, 2015
5200	Body	22.6	5.297	49.185	5.30	49.00	-0.06	0.38	±5	Aug. 24, 2015
5800	Body	22.6	6.127	47.784	6.00	48.20	2.12	-0.86	±5	Aug. 24, 2015

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 SAR (W/kg)	Targeted SAR (W/kg)	Normalized SAR (W/kg)	Deviation (%)
Aug. 21, 2015	750	Head	250	1065	3857	1210	2.05	8.14	8.2	0.74
Aug. 21, 2015	835	Head	250	4d091	3857	1210	2.39	9.11	9.56	4.94
Aug. 22, 2015	1750	Head	250	1069	3857	1210	9.69	37.1	38.76	4.47
Aug. 22, 2015	1900	Head	250	5d118	3857	1210	10.6	40.1	42.4	5.74
Aug. 24, 2015	2450	Head	250	840	3857	1210	13.40	52.30	53.6	2.49
Aug. 24, 2015	5200	Head	100	1113	3857	1210	7.96	80.00	79.6	-0.50
Aug. 24, 2015	5800	Head	100	1113	3857	1210	7.82	78.50	78.2	-0.38
Aug. 20, 2015	750	Body	250	1065	3857	1210	2.06	8.64	8.24	-4.63
Aug. 20, 2015	835	Body	250	4d091	3857	1210	2.26	9.6	9.04	-5.83
Aug. 19, 2015	1750	Body	250	1069	3857	1210	9.01	38.1	36.04	-5.41
Aug. 19, 2015	1900	Body	250	5d118	3857	1210	10.5	40	42	5.00
Aug. 21, 2015	2450	Body	250	840	3857	1210	12.20	51.00	48.8	-4.31
Aug. 24, 2015	5200	Body	100	1113	3857	1210	7.19	74.90	71.9	-4.01
Aug. 24, 2015	5800	Body	100	1113	3857	1210	7.39	75.40	73.9	-1.99

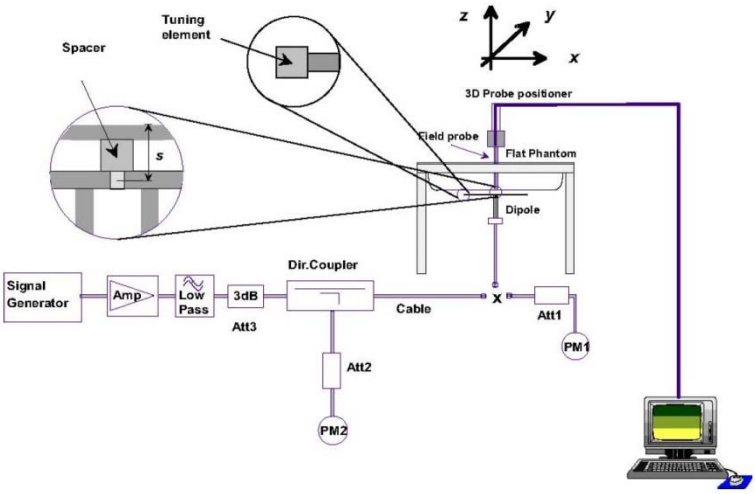


Fig 8.3.1 System Performance Check Setup

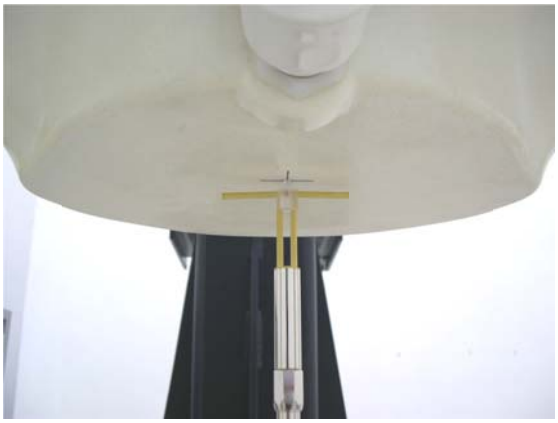


Fig 8.3.2 Setup Photo

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.

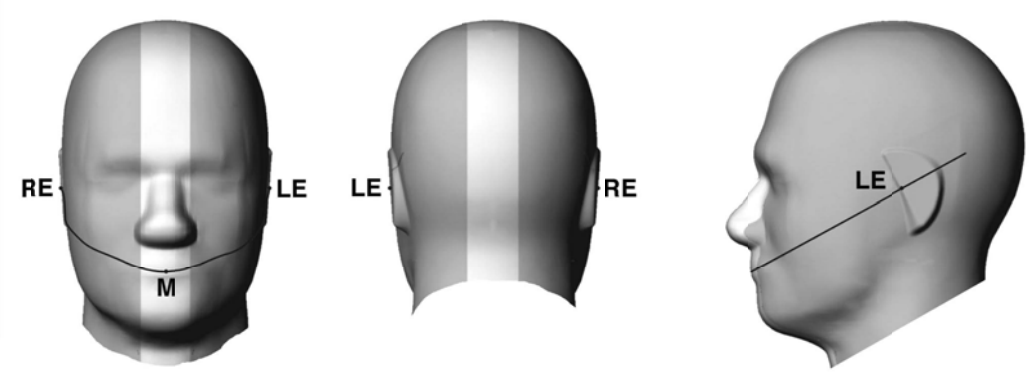


Fig 9.1.1 Front, back, and side views of SAM twin phantom

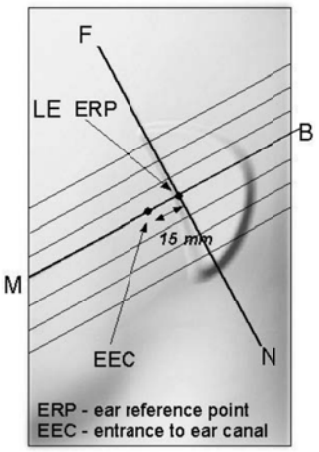


Fig 9.1.2 Close-up side view of phantom showing the ear region.

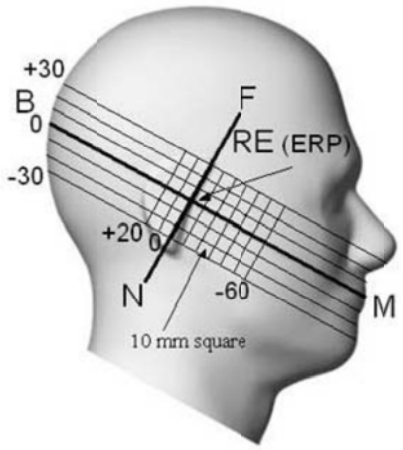


Fig 9.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

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.

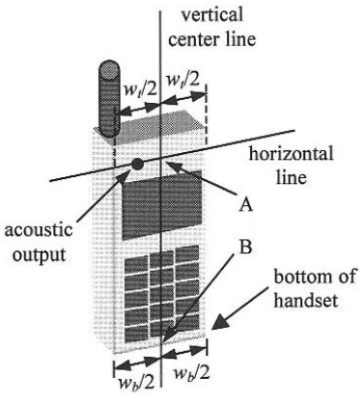


Fig 9.2.1 Handset vertical and horizontal reference lines—"fixed case

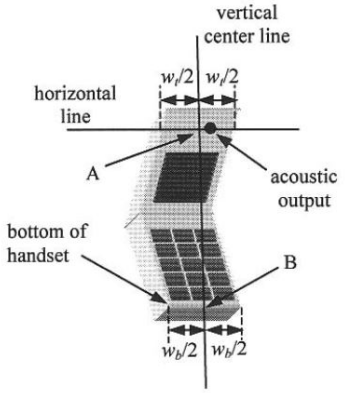


Fig 9.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

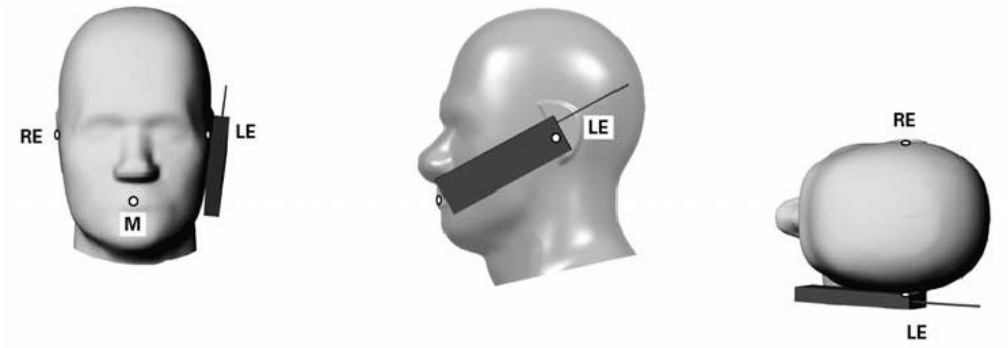


Fig 9.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

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

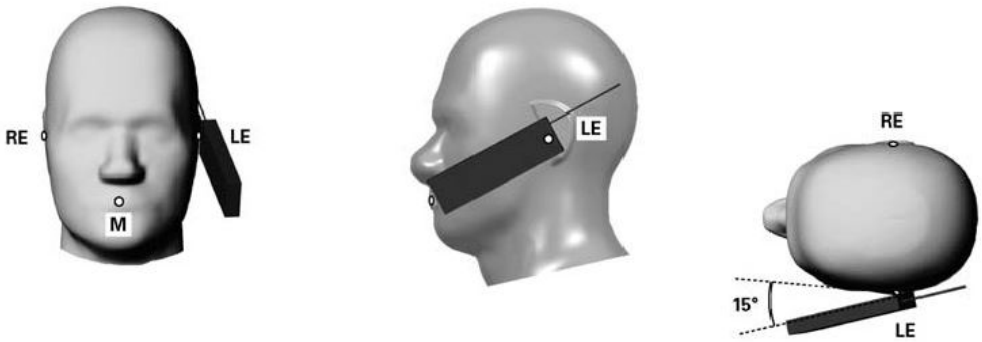


Fig 9.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

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 KDB 648474 D04v01r02, 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 D01v05r02 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.

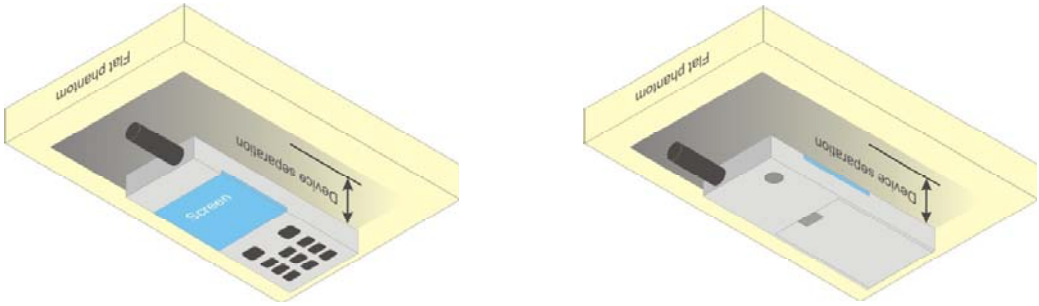


Fig 9.4 Body Worn Position

11.5 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 HDB Publication 941225 D06 v02 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 D01v05r02 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)

<GSM Conducted Power>

1. Per KDB 447498 D01v05r02, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03, considering the possibility of e.g. 3rd party VoIP operation for Head and body-worn SAR test reduction for GSM and GPRS and EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the EUT was set in GPRS (2Tx slots) for GSM850/GSM1900.
3. Per KDB 941225 D01v03, for Hotspot SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance, for modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested, therefore, the EUT was set in GPRS (2Tx slots) for GSM850/GSM1900.

Band GSM850	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	128	189	251		128	189	251	
Frequency (MHz)	824.2	836.4	848.8		824.2	836.4	848.8	
GSM (GMSK, 1 Tx slot)	31.92	32.07	**32.14**	32.80	22.92	23.07	23.14	23.80
GPRS (GMSK, 1 Tx slot) – CS1	31.85	32.02	32.10	32.80	22.85	23.02	23.10	23.80
GPRS (GMSK, 2 Tx slots) – CS1	29.97	30.04	30.25	31.00	23.97	24.04	**24.25**	25.00
EDGE (8PSK, 1 Tx slot) – MCS5	25.75	25.76	25.80	26.00	16.75	16.76	16.80	17.00
EDGE (8PSK, 2 Tx slots) – MCS5	24.65	24.67	24.73	25.00	18.65	18.67	18.73	19.00
Band GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM (GMSK, 1 Tx slot)	28.86	29.30	**29.31**	30.00	19.86	20.30	20.31	21.00
GPRS (GMSK, 1 Tx slot) – CS1	29.17	29.26	29.28	30.00	20.17	20.26	20.28	21.00
GPRS (GMSK, 2 Tx slots) – CS1	27.33	27.50	27.55	28.30	21.33	21.50	**21.55**	22.30
EDGE (8PSK, 1 Tx slot) – MCS5	25.37	25.54	25.58	26.00	16.37	16.54	16.58	17.00
EDGE (8PSK, 2 Tx slots) – MCS5	23.90	23.96	24.01	24.50	17.90	17.96	18.01	18.50

Remark: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.
The calculated method are shown as below:
Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB
Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB

<WCDMA Conducted Power>

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and Δ_{NACK} = 30/15 with β_{hs} = 30/15 * β_c, and Δ_{CQI} = 24/15 with β_{hs} = 24/15 * β_c.

Note 3: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

Setup Configuration

HSUPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 5) (Note 6)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 6)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed}1: 47/15 β_{ed}2: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.
Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.
Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 14/15 and β_d = 15/15.
Note 5: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.
Note 6: β_{ed} can not be set directly, it is set by Absolute Grant Value.

Setup Configuration

<WCDMA Conducted Power>

General Note:

1. Per KDB 941225 D01v03, SAR for Head / Hotspot / Body-worn exposure is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03, RMC 12.2kbps setting is used to evaluate SAR. If the maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA.

Band			WCDMA Band V			WCDMA Band II			WCDMA Band IV		
TX Channel			4132	4182	4233	9262	9400	9538	1312	1413	1513
Rx Channel			4357	4407	4458	9662	9800	9938	1537	1638	1738
Frequency (MHz)			826.4	836.4	846.6	1852.4	1880	1907.6	1712.4	1732.6	1752.6
MPR (dB)	3GPP Rel 99	AMR 12.2Kbps	22.48	22.38	22.65	21.72	21.83	22.05	21.78	21.72	21.76
	3GPP Rel 99	RMC 12.2Kbps	22.53	22.42	**22.66**	21.74	21.84	**22.06**	**21.80**	21.74	21.74
0	3GPP Rel 6	HSDPA Subtest-1	21.57	21.50	21.68	20.76	20.85	20.88	20.81	20.77	20.75
0	3GPP Rel 6	HSDPA Subtest-2	21.57	21.49	21.68	20.72	20.78	20.86	20.81	20.75	20.73
0.5	3GPP Rel 6	HSDPA Subtest-3	20.96	20.90	21.09	20.24	20.30	20.40	20.25	20.26	20.27
0.5	3GPP Rel 6	HSDPA Subtest-4	21.01	20.93	21.12	20.26	20.33	20.61	20.29	20.28	20.27
0	3GPP Rel 6	HSUPA Subtest-1	22.27	22.15	21.79	21.70	21.71	21.42	21.28	21.10	21.11
2	3GPP Rel 6	HSUPA Subtest-2	21.23	20.92	21.37	20.38	20.44	20.85	20.70	20.72	20.63
1	3GPP Rel 6	HSUPA Subtest-3	21.09	21.20	21.12	20.61	20.23	20.72	20.52	20.40	20.55
2	3GPP Rel 6	HSUPA Subtest-4	21.28	21.57	21.38	20.73	20.77	21.17	21.10	20.88	21.13
0	3GPP Rel 6	HSUPA Subtest-5	22.35	22.23	22.43	21.72	21.73	21.90	21.76	21.69	21.74

<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 D05v02r03, 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 D05v02r03, 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 D05v02r03, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r03, 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 D05v02r03, 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 D05v02r03, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r03, 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 D05v02r03, smaller bandwidth SAR testing is not required.

<LTE Band 12>

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				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	23.42	23.38	**23.55**	24.30	0
10	QPSK	1	24	23.24	23.19	23.34		
10	QPSK	1	49	23.18	23.17	23.33		
10	QPSK	25	0	22.26	22.29	22.39	23.30	1
10	QPSK	25	12	22.32	22.34	22.38		
10	QPSK	25	24	22.30	22.26	22.37		
10	QPSK	50	0	22.32	22.35	22.37		
10	16QAM	1	0	22.54	22.56	22.92	23.30	1
10	16QAM	1	24	22.46	22.48	22.58		
10	16QAM	1	49	22.65	22.42	22.83		
10	16QAM	25	0	21.28	21.35	21.43	22.30	2
10	16QAM	25	12	21.34	21.50	21.52		
10	16QAM	25	24	21.35	21.48	21.63		
10	16QAM	50	0	21.21	21.16	21.21		
Channel				23035	23095	23155	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	23.15	23.20	23.16	24.30	0
5	QPSK	1	12	23.32	23.40	23.28		
5	QPSK	1	24	23.19	23.01	23.30		
5	QPSK	12	0	22.28	22.30	22.42	23.30	1
5	QPSK	12	6	22.40	22.33	22.45		
5	QPSK	12	11	22.38	22.36	22.46		
5	QPSK	25	0	22.33	22.31	22.38		
5	16QAM	1	0	22.12	22.28	22.12	23.30	1
5	16QAM	1	12	22.22	22.35	22.13		
5	16QAM	1	24	22.15	22.36	22.34		
5	16QAM	12	0	21.06	21.32	21.40	22.30	2
5	16QAM	12	6	21.08	21.28	21.32		
5	16QAM	12	11	21.05	21.27	21.38		
5	16QAM	25	0	21.17	21.22	21.25		
Channel				23025	23095	23165	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	23.16	23.15	23.09	24.30	0
3	QPSK	1	7	23.26	23.37	23.42		
3	QPSK	1	14	23.22	23.15	23.17		
3	QPSK	8	0	22.39	22.27	22.42	23.30	1
3	QPSK	8	4	22.28	22.24	22.31		
3	QPSK	8	7	22.35	22.31	22.42		
3	QPSK	15	0	22.31	22.34	22.37		
3	16QAM	1	0	22.69	22.90	22.39	23.30	1
3	16QAM	1	7	22.58	22.23	22.60		
3	16QAM	1	14	22.59	22.22	22.42		
3	16QAM	8	0	21.51	21.51	21.53	22.30	2
3	16QAM	8	4	21.49	21.33	21.56		
3	16QAM	8	7	21.48	21.31	21.66		
3	16QAM	15	0	21.41	21.10	21.44		

Channel				23017	23095	23173	Tune up Limit (dBm)	Target MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	23.29	23.05	23.26	24.30	0
1.4	QPSK	1	2	23.30	23.11	23.37		
1.4	QPSK	1	5	23.12	23.21	23.27		
1.4	QPSK	3	0	23.28	23.41	23.40		
1.4	QPSK	3	1	23.26	23.47	23.51		
1.4	QPSK	3	2	23.24	23.39	23.31		
1.4	QPSK	6	0	22.20	22.31	22.25	23.30	1
1.4	16QAM	1	0	22.93	22.92	22.60	23.30	1
1.4	16QAM	1	2	22.25	22.93	22.68		
1.4	16QAM	1	5	22.26	22.84	22.61		
1.4	16QAM	3	0	22.57	22.34	22.35		
1.4	16QAM	3	1	22.74	22.40	22.34		
1.4	16QAM	3	2	22.74	22.34	22.34		
1.4	16QAM	6	0	21.02	20.86	20.90	22.30	2

<LTE Band 5>

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				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	23.16	23.23	23.30	24.20	0
10	QPSK	1	24	23.35	**23.45**	23.32		
10	QPSK	1	49	23.19	23.14	23.30		
10	QPSK	25	0	22.33	22.37	22.30	23.20	1
10	QPSK	25	12	22.17	22.29	22.19		
10	QPSK	25	24	22.24	22.28	22.20		
10	QPSK	50	0	22.22	22.30	22.21		
10	16QAM	1	0	22.38	22.94	22.39	23.20	1
10	16QAM	1	24	21.94	21.93	22.35		
10	16QAM	1	49	22.31	22.47	22.36		
10	16QAM	25	0	21.01	21.13	21.19	22.20	2
10	16QAM	25	12	21.28	21.06	21.05		
10	16QAM	25	24	21.32	20.96	21.06		
10	16QAM	50	0	21.10	21.13	21.08		
Channel				20425	20525	20625	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	22.92	23.22	23.14	24.20	0
5	QPSK	1	12	23.15	23.36	23.22		
5	QPSK	1	24	22.73	22.82	22.84		
5	QPSK	12	0	22.11	22.15	22.18	23.20	1
5	QPSK	12	6	22.17	22.14	22.27		
5	QPSK	12	11	22.20	22.15	22.19		
5	QPSK	25	0	22.15	22.24	22.18		
5	16QAM	1	0	22.01	22.11	22.33	23.20	1
5	16QAM	1	12	22.17	22.56	22.42		
5	16QAM	1	24	22.12	22.40	22.27		
5	16QAM	12	0	20.97	21.12	21.13	22.20	2
5	16QAM	12	6	20.84	21.12	20.96		
5	16QAM	12	11	20.87	21.46	20.97		
5	16QAM	25	0	21.04	21.03	21.22		
Channel				20415	20525	20635	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	22.94	23.05	23.06	24.20	0
3	QPSK	1	7	23.34	23.12	23.33		
3	QPSK	1	14	23.33	23.03	23.30		
3	QPSK	8	0	22.23	22.23	22.25	23.20	1
3	QPSK	8	4	22.19	22.39	22.40		
3	QPSK	8	7	22.27	22.30	22.24		
3	QPSK	15	0	22.19	22.21	22.21		
3	16QAM	1	0	21.82	22.59	21.91	23.20	1
3	16QAM	1	7	21.90	22.54	22.09		
3	16QAM	1	14	21.78	22.23	22.58		
3	16QAM	8	0	21.22	21.36	21.08	22.20	2
3	16QAM	8	4	21.16	21.41	21.29		
3	16QAM	8	7	21.27	21.24	21.50		
3	16QAM	15	0	21.23	21.01	21.14		

Channel				20407	20525	20643	Tune up Limit (dBm)	Target MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	23.02	23.13	23.07	24.20	0
1.4	QPSK	1	2	23.16	23.38	23.05		
1.4	QPSK	1	5	22.95	23.15	23.10		
1.4	QPSK	3	0	23.07	23.43	23.34		
1.4	QPSK	3	1	23.20	23.41	23.31		
1.4	QPSK	3	2	23.16	23.36	23.25		
1.4	QPSK	6	0	22.21	22.37	22.28	23.20	1
1.4	16QAM	1	0	22.07	22.74	22.40	23.20	1
1.4	16QAM	1	2	21.89	22.50	22.45		
1.4	16QAM	1	5	21.89	22.46	21.90		
1.4	16QAM	3	0	22.54	22.66	22.66		
1.4	16QAM	3	1	22.70	22.83	22.78		
1.4	16QAM	3	2	22.67	22.87	22.81		
1.4	16QAM	6	0	21.04	20.98	21.26	22.20	2

<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	23.34	**23.61**	23.26	24.30	0
20	QPSK	1	49	23.23	23.60	23.18		
20	QPSK	1	99	23.01	23.34	23.20		
20	QPSK	50	0	22.29	22.38	22.35	23.30	1
20	QPSK	50	24	22.25	22.26	22.32		
20	QPSK	50	49	22.25	22.30	22.25		
20	QPSK	100	0	22.27	22.35	22.32		
20	16QAM	1	0	22.82	22.40	22.12	23.30	1
20	16QAM	1	49	22.80	22.38	22.07		
20	16QAM	1	99	22.77	22.34	22.11		
20	16QAM	50	0	21.60	21.35	21.33	22.30	2
20	16QAM	50	24	21.39	21.34	21.27		
20	16QAM	50	49	21.23	21.24	21.25		
20	16QAM	100	0	21.58	21.41	21.31		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	23.42	23.16	23.38	24.30	0
15	QPSK	1	37	23.30	23.13	23.19		
15	QPSK	1	74	23.21	23.09	23.16		
15	QPSK	36	0	22.46	22.38	22.37	23.30	1
15	QPSK	36	18	22.37	22.28	22.31		
15	QPSK	36	37	22.23	22.23	22.23		
15	QPSK	75	0	22.38	22.31	22.29		
15	16QAM	1	0	22.90	22.62	22.63	23.30	1
15	16QAM	1	37	22.94	22.57	22.55		
15	16QAM	1	74	22.92	22.48	22.26		
15	16QAM	36	0	21.56	21.44	21.42	22.30	2
15	16QAM	36	18	21.46	21.42	21.39		
15	16QAM	36	37	21.33	21.45	21.18		
15	16QAM	75	0	21.39	21.45	21.26		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	23.16	23.30	23.29	24.30	0
10	QPSK	1	24	22.90	23.32	22.98		
10	QPSK	1	49	22.56	23.29	22.92		
10	QPSK	25	0	22.47	22.35	22.42	23.30	1
10	QPSK	25	12	22.41	22.36	22.24		
10	QPSK	25	24	22.39	22.34	22.17		
10	QPSK	50	0	22.43	22.35	22.34		
10	16QAM	1	0	22.54	22.55	22.70	23.30	1
10	16QAM	1	24	22.45	22.47	22.37		
10	16QAM	1	49	22.06	22.48	22.37		
10	16QAM	25	0	21.44	21.46	21.52	22.30	2
10	16QAM	25	12	21.53	21.51	21.35		
10	16QAM	25	24	21.65	21.47	21.46		
10	16QAM	50	0	21.46	21.43	21.38		

Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	23.22	23.17	23.15	24.30	0
5	QPSK	1	12	23.24	23.07	23.26		
5	QPSK	1	24	23.17	23.06	22.88		
5	QPSK	12	0	22.33	22.24	22.27	23.30	1
5	QPSK	12	6	22.46	22.36	22.25		
5	QPSK	12	11	22.37	22.24	22.15		
5	QPSK	25	0	22.36	22.36	22.30		
5	16QAM	1	0	22.29	22.46	22.36	23.30	1
5	16QAM	1	12	22.17	22.40	22.53		
5	16QAM	1	24	22.20	22.35	21.73		
5	16QAM	12	0	21.38	21.31	21.34	22.30	2
5	16QAM	12	6	21.41	21.31	21.25		
5	16QAM	12	11	21.48	21.40	21.15		
5	16QAM	25	0	21.35	21.42	21.42		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	23.24	22.99	22.94	24.30	0
3	QPSK	1	7	23.36	23.30	23.09		
3	QPSK	1	14	23.32	23.28	23.04		
3	QPSK	8	0	22.34	22.37	22.31	23.30	1
3	QPSK	8	4	22.43	22.34	22.20		
3	QPSK	8	7	22.47	22.37	22.23		
3	QPSK	15	0	22.30	22.34	22.22		
3	16QAM	1	0	21.97	22.57	22.28	23.30	1
3	16QAM	1	7	22.04	22.54	22.38		
3	16QAM	1	14	22.90	22.55	22.28		
3	16QAM	8	0	21.55	21.44	21.24	22.30	2
3	16QAM	8	4	21.49	21.38	21.11		
3	16QAM	8	7	21.64	21.50	21.15		
3	16QAM	15	0	21.23	21.53	20.85		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	23.28	23.26	23.08	24.30	0
1.4	QPSK	1	2	23.32	23.46	23.05		
1.4	QPSK	1	5	23.31	23.23	22.95		
1.4	QPSK	3	0	23.30	23.31	23.17		
1.4	QPSK	3	1	23.28	23.36	23.24		
1.4	QPSK	3	2	23.29	23.39	23.19		
1.4	QPSK	6	0	22.32	22.26	22.21	23.30	1
1.4	16QAM	1	0	22.20	22.90	22.41	23.30	1
1.4	16QAM	1	2	22.17	22.00	22.26		
1.4	16QAM	1	5	22.08	21.93	22.40		
1.4	16QAM	3	0	22.08	21.96	22.17		
1.4	16QAM	3	1	22.29	21.81	22.24		
1.4	16QAM	3	2	22.12	22.04	22.38		
1.4	16QAM	6	0	21.04	21.08	21.28	22.30	2

<LTE Band 2>

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				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	22.44	**22.67**	22.03	23.40	0
20	QPSK	1	49	21.98	22.39	21.78		
20	QPSK	1	99	22.04	22.26	21.76		
20	QPSK	50	0	20.48	20.59	20.52	22.40	1
20	QPSK	50	24	20.45	20.45	20.48		
20	QPSK	50	49	20.46	20.42	20.44		
20	QPSK	100	0	20.42	20.66	20.42		
20	16QAM	1	0	21.40	20.98	21.85	22.40	1
20	16QAM	1	49	21.14	20.67	21.29		
20	16QAM	1	99	21.15	20.85	21.29		
20	16QAM	50	0	19.54	19.52	19.64	21.40	2
20	16QAM	50	24	19.51	19.59	19.62		
20	16QAM	50	49	19.48	19.43	19.57		
20	16QAM	100	0	19.43	19.44	19.48		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	22.36	22.16	22.07	23.40	0
15	QPSK	1	37	22.50	21.95	21.91		
15	QPSK	1	74	21.90	21.97	21.83		
15	QPSK	36	0	20.46	20.45	20.45	22.40	1
15	QPSK	36	18	20.43	20.42	20.42		
15	QPSK	36	37	20.41	20.42	20.43		
15	QPSK	75	0	20.43	20.43	20.42		
15	16QAM	1	0	21.93	21.14	21.66	22.40	1
15	16QAM	1	37	21.83	21.07	21.20		
15	16QAM	1	74	21.39	21.28	21.48		
15	16QAM	36	0	19.57	19.58	19.58	21.40	2
15	16QAM	36	18	19.59	19.50	19.49		
15	16QAM	36	37	19.55	19.46	19.45		
15	16QAM	75	0	19.42	19.46	19.62		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	22.50	22.24	22.27	23.40	0
10	QPSK	1	24	22.39	22.37	22.21		
10	QPSK	1	49	22.19	22.05	21.91		
10	QPSK	25	0	20.45	20.45	20.47	22.40	1
10	QPSK	25	12	20.44	20.44	20.44		
10	QPSK	25	24	20.42	20.41	20.42		
10	QPSK	50	0	20.41	20.42	20.41		
10	16QAM	1	0	20.81	21.42	21.60	22.40	1
10	16QAM	1	24	21.22	21.14	21.30		
10	16QAM	1	49	20.60	21.62	21.13		
10	16QAM	25	0	19.44	19.51	19.56	21.40	2
10	16QAM	25	12	19.42	19.49	19.52		
10	16QAM	25	24	19.46	19.44	19.50		
10	16QAM	50	0	19.52	19.42	19.46		

Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	21.85	22.12	21.82	23.40	0
5	QPSK	1	12	22.08	21.83	21.87		
5	QPSK	1	24	21.89	22.13	21.77		
5	QPSK	12	0	20.48	20.48	20.48	22.40	1
5	QPSK	12	6	20.45	20.46	20.44		
5	QPSK	12	11	20.41	20.42	20.45		
5	QPSK	25	0	20.43	20.41	20.43		
5	16QAM	1	0	21.59	21.32	20.84	22.40	1
5	16QAM	1	12	21.31	21.77	21.08		
5	16QAM	1	24	21.12	21.39	21.26		
5	16QAM	12	0	19.62	19.62	19.57	21.40	2
5	16QAM	12	6	19.57	19.56	19.55		
5	16QAM	12	11	19.45	19.57	19.53		
5	16QAM	25	0	19.42	19.46	19.49		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	22.13	22.09	21.87	23.40	0
3	QPSK	1	7	22.57	22.66	21.83		
3	QPSK	1	14	22.17	22.14	22.15		
3	QPSK	8	0	20.47	20.44	20.46	22.40	1
3	QPSK	8	4	20.45	20.49	20.41		
3	QPSK	8	7	20.44	20.43	20.43		
3	QPSK	15	0	20.40	20.41	20.41		
3	16QAM	1	0	21.10	20.95	21.01	22.40	1
3	16QAM	1	7	21.83	21.21	21.00		
3	16QAM	1	14	21.63	21.16	20.92		
3	16QAM	8	0	19.55	19.52	19.64	21.40	2
3	16QAM	8	4	19.47	19.46	19.60		
3	16QAM	8	7	19.42	19.43	19.56		
3	16QAM	15	0	19.45	19.46	19.45		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	22.10	21.78	21.68	23.40	0
1.4	QPSK	1	2	22.31	21.93	21.78		
1.4	QPSK	1	5	22.20	22.08	21.78		
1.4	QPSK	3	0	22.16	22.17	22.07		
1.4	QPSK	3	1	22.46	22.28	22.08		
1.4	QPSK	3	2	22.29	22.16	22.02		
1.4	QPSK	6	0	20.41	20.43	20.42	22.40	1
1.4	16QAM	1	0	21.18	21.20	21.80	22.40	1
1.4	16QAM	1	2	20.98	21.51	21.75		
1.4	16QAM	1	5	20.95	21.29	21.59		
1.4	16QAM	3	0	21.06	21.09	20.95		
1.4	16QAM	3	1	21.17	21.19	21.11		
1.4	16QAM	3	2	21.10	21.25	21.06		
1.4	16QAM	6	0	19.45	19.53	19.75	21.40	2

<WLAN Conducted Power>

General Note:

1. Per KDB 248227 D01v02r01, 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	17.30	18.50	97.64
		CH 6	2437		17.44	18.50	
		CH 11	2462		18.14	18.50	
	802.11g	CH 1	2412	6Mbps	13.16	14.00	87.26
		CH 6	2437		13.47	14.00	
		CH 11	2462		13.96	14.00	
	802.11n-HT20	CH 1	2412	MCS0	11.42	12.50	86.49
		CH 6	2437		11.75	12.50	
		CH 11	2462		12.20	12.50	

<5GHz WLAN>

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a	CH 36	5180	6Mbps	13.15	15.00	87.26
		CH 40	5200		12.48	15.00	
		CH 44	5220		12.73	15.00	
		CH 48	5240		13.52	15.00	
	802.11n-HT20	CH 36	5180	MCS0	11.59	12.00	86.62
		CH 40	5200		10.97	12.00	
		CH 44	5220		11.26	12.00	
		CH 48	5240		11.86	12.00	
	802.11n-HT40	CH 38	5190	MCS0	11.45	12.00	76.30
		CH 46	5230		11.63	12.00	

	Mode	Channel	Frequency (MHz)	Data Rate	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a	CH 149	5745	MCS0	13.05	14.30	87.26
		CH 157	5785		13.35	14.30	
		CH 165	5825		12.80	14.30	
	802.11n-HT20	CH 149	5745	MCS0	11.41	12.00	86.62
		CH 157	5785		11.80	12.00	
		CH 165	5825		11.30	12.00	
	802.11n-HT40	CH 151	5755	MCS0	11.51	12.00	76.30
		CH 159	5795		11.79	12.00	

13. Bluetooth Exclusions Applied

Mode Band	Average power(dBm)	
	Bluetooth v3.0+EDR	Bluetooth v4.1 LE
2.4GHz Bluetooth	6.0	1.0

Note:

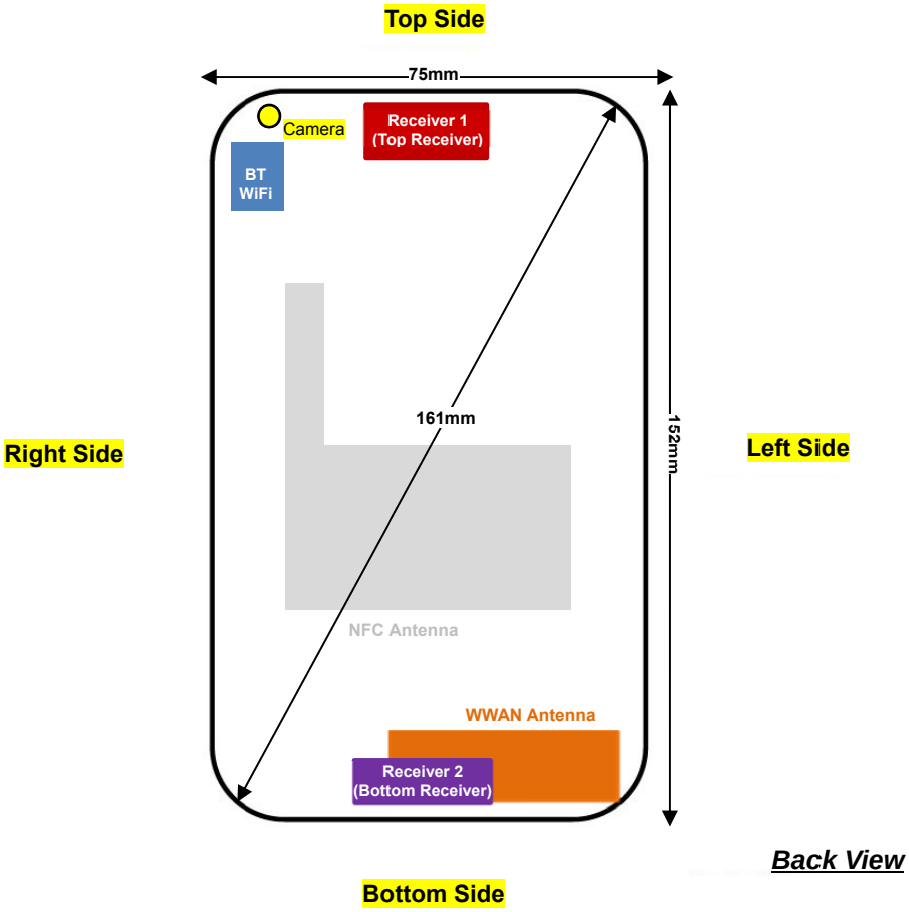
1. Per KDB 447498 D01v05r02, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:
   [(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] ·[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR
   - f(GHz) is the RF channel transmit frequency in GHz
   - Power and distance are rounded to the nearest mW and mm before calculation
   - The result is rounded to one decimal place for comparison

Bluetooth Max Power (dBm)	Separation Distance (mm)	Frequency (GHz)	exclusion thresholds
6.0	10	2.48	0.6

Note:

Per KDB 447498 D01v05r02, the test exclusion threshold is 0.6 which is <= 3, SAR testing is not required.

14. Antenna Location



Distance of the Antenna to the EUT surface/edge						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
WWAN	≤ 25mm	≤ 25mm	135mm	≤ 25mm	31mm	≤ 25mm
WLAN	≤ 25mm	≤ 25mm	≤ 25mm	125mm	≤ 25mm	65mm

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

General Note:
Referring to KDB 941225 D06 v02, 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

15. SAR Test Results

General Note:

1. Per KDB 447498 D01v05r02, 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: 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 D01v05r02, 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 D04v01r02, 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.

GSM Note:

1. Per KDB 941225 D01v03, considering the possibility of e.g. 3rd party VoIP operation for Head and body-worn SAR test reduction for GSM and GPRS and EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the EUT was set in GPRS (2Tx slots) for GSM850/GSM1900.
2. Per KDB 941225 D01v03, for Hotspot SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance, for modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested, therefore, the EUT was set in GPRS (2Tx slots) for GSM850/GSM1900.

UMTS Note:

1. Per KDB 941225 D01v03, SAR for Head / Hotspot / Body-worn exposure is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”.
2. Per KDB 941225 D01v03, RMC 12.2kbps setting is used to evaluate SAR. If the maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA.

LTE Note:

1. Per KDB 941225 D05v02r03, 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 D05v02r03, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r03, 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 D05v02r03, 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 D05v02r03, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r03, 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 D05v02r03, smaller bandwidth SAR testing is not required.

WLAN Note:

1. Per KDB 248227 D01v02r01, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r01, for U-NII-1 Head and Body-worn SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

15.1 Head SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Receiver Enabled	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)
#01	GSM850	GPRS (2 Tx slots)	Right Cheek	Receiver 1	251	848.8	30.25	31.00	1.189	-0.12	0.378	**0.449**
	GSM850	GPRS (2 Tx slots)	Right Tilted	Receiver 1	251	848.8	30.25	31.00	1.189	-0.033	0.192	0.228
	GSM850	GPRS (2 Tx slots)	Left Cheek	Receiver 1	251	848.8	30.25	31.00	1.189	0.098	0.366	0.435
	GSM850	GPRS (2 Tx slots)	Left Tilted	Receiver 1	251	848.8	30.25	31.00	1.189	-0.07	0.183	0.217
	GSM1900	GPRS (2 Tx slots)	Right Cheek	Receiver 1	810	1909.8	27.55	28.30	1.189	-0.04	0.160	0.190
	GSM1900	GPRS (2 Tx slots)	Right Tilted	Receiver 1	810	1909.8	27.55	28.30	1.189	0.03	0.060	0.071
#02	GSM1900	GPRS (2 Tx slots)	Left Cheek	Receiver 1	810	1909.8	27.55	28.30	1.189	-0.16	0.180	**0.214**
	GSM1900	GPRS (2 Tx slots)	Left Tilted	Receiver 1	810	1909.8	27.55	28.30	1.189	-0.17	0.114	0.135

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Receiver Enabled	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band V	RMC12.2Kbps	Right Cheek	Receiver 1	4233	846.6	22.66	23.40	1.186	-0.11	0.197	0.234
	WCDMA Band V	RMC12.2Kbps	Right Tilted	Receiver 1	4233	846.6	22.66	23.40	1.186	-0.021	0.106	0.126
#03	WCDMA Band V	RMC12.2Kbps	Left Cheek	Receiver 1	4233	846.6	22.66	23.40	1.186	0.08	0.205	**0.243**
	WCDMA Band V	RMC12.2Kbps	Left Tilted	Receiver 1	4233	846.6	22.66	23.40	1.186	-0.04	0.116	0.138
	WCDMA Band IV	RMC12.2Kbps	Right Cheek	Receiver 1	1312	1712.4	21.80	22.50	1.175	-0.18	0.207	0.243
	WCDMA Band IV	RMC12.2Kbps	Right Tilted	Receiver 1	1312	1712.4	21.80	22.50	1.175	0.04	0.096	0.113
#04	WCDMA Band IV	RMC12.2Kbps	Left Cheek	Receiver 1	1312	1712.4	21.80	22.50	1.175	0.11	0.215	**0.253**
	WCDMA Band IV	RMC12.2Kbps	Left Tilted	Receiver 1	1312	1712.4	21.80	22.50	1.175	-0.14	0.142	0.167
	WCDMA Band II	RMC12.2Kbps	Right Cheek	Receiver 1	9538	1907.6	22.06	22.80	1.186	-0.01	0.193	0.229
	WCDMA Band II	RMC12.2Kbps	Right Tilted	Receiver 1	9538	1907.6	22.06	22.80	1.186	-0.14	0.076	0.090
#05	WCDMA Band II	RMC12.2Kbps	Left Cheek	Receiver 1	9538	1907.6	22.06	22.80	1.186	-0.05	0.198	**0.235**
	WCDMA Band II	RMC12.2Kbps	Left Tilted	Receiver 1	9538	1907.6	22.06	22.80	1.186	0.05	0.121	0.143

<LTE SAR>

Plot No.	Band	BW (MHz)	Mode	RB Size	RB offset	Test Position	Receiver Enabled	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 Band12	10M	QPSK	1	0	Right Cheek	Receiver 1	23130	711	23.55	24.30	1.189	-0.022	0.146	0.174
	LTE Band12	10M	QPSK	25	0	Right Cheek	Receiver 1	23130	711	22.39	23.30	1.233	0.07	0.113	0.139
	LTE Band12	10M	QPSK	1	0	Right Tilted	Receiver 1	23130	711	23.55	24.30	1.189	-0.08	0.084	0.100
	LTE Band12	10M	QPSK	25	0	Right Tilted	Receiver 1	23130	711	22.39	23.30	1.233	0.051	0.068	0.084
#06	LTE Band12	10M	QPSK	1	0	Left Cheek	Receiver 1	23130	711	23.55	24.30	1.189	0.1	0.147	**0.175**
	LTE Band12	10M	QPSK	25	0	Left Cheek	Receiver 1	23130	711	22.39	23.30	1.233	0.1	0.120	0.148
	LTE Band12	10M	QPSK	1	0	Left Tilted	Receiver 1	23130	711	23.55	24.30	1.189	0.14	0.090	0.107
	LTE Band12	10M	QPSK	25	0	Left Tilted	Receiver 1	23130	711	22.39	23.30	1.233	0.04	0.071	0.088
#07	LTE Band5	10M	QPSK	1	24	Right Cheek	Receiver 1	20525	836.5	23.45	24.20	1.189	0.022	0.237	**0.282**
	LTE Band5	10M	QPSK	25	0	Right Cheek	Receiver 1	20525	836.5	22.37	23.20	1.211	0.1	0.187	0.226
	LTE Band5	10M	QPSK	1	24	Right Tilted	Receiver 1	20525	836.5	23.45	24.20	1.189	-0.01	0.136	0.162
	LTE Band5	10M	QPSK	25	0	Right Tilted	Receiver 1	20525	836.5	22.37	23.20	1.211	0.02	0.106	0.128
	LTE Band5	10M	QPSK	1	24	Left Cheek	Receiver 1	20525	836.5	23.45	24.20	1.189	0.04	0.234	0.278
	LTE Band5	10M	QPSK	25	0	Left Cheek	Receiver 1	20525	836.5	22.37	23.20	1.211	0.06	0.194	0.235
	LTE Band5	10M	QPSK	1	24	Left Tilted	Receiver 1	20525	836.5	23.45	24.20	1.189	0.01	0.142	0.169
	LTE Band5	10M	QPSK	25	0	Left Tilted	Receiver 1	20525	836.5	22.37	23.20	1.211	0.11	0.118	0.143
	LTE Band4	20M	QPSK	1	0	Right Cheek	Receiver 1	20175	1732.5	23.61	24.30	1.172	-0.03	0.244	0.286
	LTE Band4	20M	QPSK	50	0	Right Cheek	Receiver 1	20175	1732.5	22.38	23.30	1.236	-0.14	0.191	0.236
	LTE Band4	20M	QPSK	1	0	Right Tilted	Receiver 1	20175	1732.5	23.61	24.30	1.172	0.05	0.124	0.145
	LTE Band4	20M	QPSK	50	0	Right Tilted	Receiver 1	20175	1732.5	22.38	23.30	1.236	-0.12	0.098	0.121
#08	LTE Band4	20M	QPSK	1	0	Left Cheek	Receiver 1	20175	1732.5	23.61	24.30	1.172	0.06	0.274	**0.321**
	LTE Band4	20M	QPSK	50	0	Left Cheek	Receiver 1	20175	1732.5	22.38	23.30	1.236	0.07	0.219	0.271
	LTE Band4	20M	QPSK	1	0	Left Tilted	Receiver 1	20175	1732.5	23.61	24.30	1.172	-0.14	0.171	0.200
	LTE Band4	20M	QPSK	50	0	Left Tilted	Receiver 1	20175	1732.5	22.38	23.30	1.236	-0.04	0.134	0.166
	LTE Band2	20M	QPSK	1	0	Right Cheek	Receiver 1	18900	1880	22.67	23.40	1.183	-0.02	0.172	0.203
	LTE Band2	20M	QPSK	50	0	Right Cheek	Receiver 1	18900	1880	20.59	22.40	1.517	-0.06	0.105	0.159
	LTE Band2	20M	QPSK	1	0	Right Tilted	Receiver 1	18900	1880	22.67	23.40	1.183	-0.06	0.076	0.090
	LTE Band2	20M	QPSK	50	0	Right Tilted	Receiver 1	18900	1880	20.59	22.40	1.517	-0.03	0.046	0.070
#09	LTE Band2	20M	QPSK	1	0	Left Cheek	Receiver 1	18900	1880	22.67	23.40	1.183	0.07	0.211	**0.250**
	LTE Band2	20M	QPSK	50	0	Left Cheek	Receiver 1	18900	1880	20.59	22.40	1.517	-0.07	0.132	0.200
	LTE Band2	20M	QPSK	1	0	Left Tilted	Receiver 1	18900	1880	22.67	23.40	1.183	-0.06	0.131	0.155
	LTE Band2	20M	QPSK	50	0	Left Tilted	Receiver 1	18900	1880	20.59	22.40	1.517	-0.05	0.078	0.118

<WLAN SAR> test result leverage from 6045I

Plot No.	Band	Mode	Test Position	Receiver Enabled	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	Right Cheek	Receiver 1	11	2462	18.14	18.5	1.086	97.64	1.024	0.02	0.292	0.325
	WLAN 2.4GHz	802.11b_1Mbps	Right Tilted	Receiver 1	11	2462	18.14	18.5	1.086	97.64	1.024	-0.07	0.211	0.235
	WLAN 2.4GHz	802.11b_1Mbps	Left Cheek	Receiver 1	11	2462	18.14	18.5	1.086	97.64	1.024	-0.09	0.602	0.670
	WLAN 2.4GHz	802.11b_1Mbps	Left Cheek	Receiver 1	1	2412	17.3	18.5	1.318	97.64	1.024	-0.04	0.879	1.187
	WLAN 2.4GHz	802.11b_1Mbps	Left Cheek	Receiver 1	6	2437	17.44	18.5	1.276	97.64	1.024	0.10	1.060	**1.385**
	WLAN 2.4GHz	802.11b_1Mbps	Left Tilted	Receiver 1	11	2462	18.14	18.5	1.086	97.64	1.024	0.05	0.490	0.545
	WLAN 5.2GHz	802.11a_6Mbps	Right Cheek	Receiver 1	48	5240	13.52	15	1.406	87.26	1.146	0.06	0.014	0.023
	WLAN 5.2GHz	802.11a_6Mbps	Right Tilted	Receiver 1	48	5240	13.52	15	1.406	87.26	1.146	0.01	0.021	0.034
	WLAN 5.2GHz	802.11a_6Mbps	Left Cheek	Receiver 1	48	5240	13.52	15	1.406	87.26	1.146	-0.08	0.21	0.338
	WLAN 5.2GHz	802.11a_6Mbps	Left Cheek	Receiver 1	36	5180	13.15	15	1.531	87.26	1.146	0.09	0.378	**0.663**
	WLAN 5.2GHz	802.11a_6Mbps	Left Tilted	Receiver 1	48	5240	13.52	15	1.406	87.26	1.146	0.06	0.085	0.137
	WLAN 5.8GHz	802.11a_6Mbps	Right Cheek	Receiver 1	157	5785	13.35	14.3	1.245	87.26	1.146	0.032	0.060	0.086
	WLAN 5.8GHz	802.11a_6Mbps	Right Tilted	Receiver 1	157	5785	13.35	14.3	1.245	87.26	1.146	0.044	0.088	0.126
	WLAN 5.8GHz	802.11a_6Mbps	Left Cheek	Receiver 1	157	5785	13.35	14.3	1.245	87.26	1.146	0.024	0.880	**1.255**
	WLAN 5.8GHz	802.11a_6Mbps	Left Cheek	Receiver 1	149	5745	13.05	14.3	1.334	87.26	1.146	-0.1	0.664	1.015
	WLAN 5.8GHz	802.11a_6Mbps	Left Cheek	Receiver 1	165	5825	12.8	14.3	1.413	87.26	1.146	0.05	0.624	1.010
	WLAN 5.8GHz	802.11a_6Mbps	Left Tilted	Receiver 1	157	5785	13.35	14.3	1.245	87.26	1.146	0.1	0.337	0.481

<WLAN SAR> Spot check test result for 6045O

Plot No.	Band	Mode	Test Position	Receiver Enabled	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	Left Cheek	Receiver 1	11	2462	18.14	18.5	1.086	97.64	1.024	0.1	0.824	0.917
	WLAN 2.4GHz	802.11b_1Mbps	Left Cheek	Receiver 1	1	2412	17.3	18.5	1.318	97.64	1.024	0.08	0.808	1.091
#10	WLAN 2.4GHz	802.11b_1Mbps	Left Cheek	Receiver 1	6	2437	17.44	18.5	1.276	97.64	1.024	0.12	1.020	**1.333**
#11	WLAN 5.2GHz	802.11a_6Mbps	Left Cheek	Receiver 1	36	5180	13.15	15	1.531	87.26	1.146	0.05	0.341	**0.598**
#12	WLAN 5.8GHz	802.11a_6Mbps	Left Cheek	Receiver 1	157	5785	13.35	14.3	1.245	87.26	1.146	0.05	0.624	**0.890**

15.2 Hotspot SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	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)
#13	GSM850	GPRS (2 Tx slots)	Front	1	251	848.8	30.25	31.00	1.189	-0.03	0.410	**0.487**
	GSM850	GPRS (2 Tx slots)	Back	1	251	848.8	30.25	31.00	1.189	-0.02	0.381	0.453
	GSM850	GPRS (2 Tx slots)	Left Side	1	251	848.8	30.25	31.00	1.189	0.0061	0.400	0.475
	GSM850	GPRS (2 Tx slots)	Bottom Side	1	251	848.8	30.25	31.00	1.189	-0.16	0.209	0.248
	GSM1900	GPRS (2 Tx slots)	Front	1	810	1909.8	27.55	28.30	1.189	-0.04	0.555	0.660
#14	GSM1900	GPRS (2 Tx slots)	Back	1	810	1909.8	27.55	28.30	1.189	-0.07	0.634	**0.754**
	GSM1900	GPRS (2 Tx slots)	Left Side	1	810	1909.8	27.55	28.30	1.189	0.03	0.210	0.250
	GSM1900	GPRS (2 Tx slots)	Bottom Side	1	810	1909.8	27.55	28.30	1.189	-0.12	0.563	0.669

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band V	RMC12.2Kbps	Front	1	4233	846.6	22.66	23.40	1.186	-0.07	0.223	0.264
	WCDMA Band V	RMC12.2Kbps	Back	1	4233	846.6	22.66	23.40	1.186	0.04	0.240	0.285
#15	WCDMA Band V	RMC12.2Kbps	Left Side	1	4233	846.6	22.66	23.40	1.186	-0.03	0.267	**0.317**
	WCDMA Band V	RMC12.2Kbps	Bottom Side	1	4233	846.6	22.66	23.40	1.186	-0.03	0.126	0.149
	WCDMA Band IV	RMC12.2Kbps	Front	1	1312	1712.4	21.80	22.50	1.175	-0.05	0.514	0.604
#16	WCDMA Band IV	RMC12.2Kbps	Back	1	1312	1712.4	21.80	22.50	1.175	-0.03	0.539	**0.633**
	WCDMA Band IV	RMC12.2Kbps	Left Side	1	1312	1712.4	21.80	22.50	1.175	0.08	0.176	0.207
	WCDMA Band IV	RMC12.2Kbps	Bottom Side	1	1312	1712.4	21.80	22.50	1.175	-0.026	0.460	0.540
#17	WCDMA Band II	RMC12.2Kbps	Front	1	9538	1907.6	22.06	22.80	1.186	-0.06	0.869	**1.030**
	WCDMA Band II	RMC12.2Kbps	Front	1	9262	1852.4	21.74	22.80	1.276	-0.04	0.736	0.939
	WCDMA Band II	RMC12.2Kbps	Front	1	9400	1880	21.84	22.80	1.247	-0.02	0.826	1.030
	WCDMA Band II	RMC12.2Kbps	Back	1	9538	1907.6	22.06	22.80	1.186	-0.12	0.833	0.988
	WCDMA Band II	RMC12.2Kbps	Back	1	9262	1852.4	21.74	22.80	1.276	0.04	0.723	0.923
	WCDMA Band II	RMC12.2Kbps	Back	1	9400	1880	21.84	22.80	1.247	-0.05	0.702	0.876
	WCDMA Band II	RMC12.2Kbps	Left Side	1	9538	1907.6	22.06	22.80	1.186	0.07	0.279	0.331
	WCDMA Band II	RMC12.2Kbps	Bottom Side	1	9538	1907.6	22.06	22.80	1.186	-0.18	0.495	0.587

<LTE SAR>

Plot No.	Band	BW (MHz)	Mode	RB Size	RB offset	Test Position	Gap (cm)	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 Band12	10M	QPSK	1	0	Front	1	23130	711	23.55	24.30	1.189	0.04	0.188	0.223
	LTE Band12	10M	QPSK	25	0	Front	1	23130	711	22.39	23.30	1.233	0.06	0.154	0.190
#18	LTE Band12	10M	QPSK	1	0	Back	1	23130	711	23.55	24.30	1.189	-0.19	0.268	**0.319**
	LTE Band12	10M	QPSK	25	0	Back	1	23130	711	22.39	23.30	1.233	0.01	0.205	0.253
	LTE Band12	10M	QPSK	1	0	Left Side	1	23130	711	23.55	24.30	1.189	-0.03	0.212	0.252
	LTE Band12	10M	QPSK	25	0	Left Side	1	23130	711	22.39	23.30	1.233	-0.05	0.169	0.208
	LTE Band12	10M	QPSK	1	0	Bottom Side	1	23130	711	23.55	24.30	1.189	-0.14	0.065	0.077
	LTE Band12	10M	QPSK	25	0	Bottom Side	1	23130	711	22.39	23.30	1.233	-0.06	0.049	0.060
	LTE Band5	10M	QPSK	1	24	Front	1	20525	836.5	23.45	24.20	1.189	0.11	0.270	0.321
	LTE Band5	10M	QPSK	25	0	Front	1	20525	836.5	22.37	23.20	1.211	-0.01	0.226	0.274
	LTE Band5	10M	QPSK	1	24	Back	1	20525	836.5	23.45	24.20	1.189	0.13	0.318	0.378
	LTE Band5	10M	QPSK	25	0	Back	1	20525	836.5	22.37	23.20	1.211	0.01	0.231	0.280
#19	LTE Band5	10M	QPSK	1	24	Left Side	1	20525	836.5	23.45	24.20	1.189	-0.02	0.335	**0.398**
	LTE Band5	10M	QPSK	25	0	Left Side	1	20525	836.5	22.37	23.20	1.211	-0.05	0.274	0.332
	LTE Band5	10M	QPSK	1	24	Bottom Side	1	20525	836.5	23.45	24.20	1.189	0.09	0.152	0.181
	LTE Band5	10M	QPSK	25	0	Bottom Side	1	20525	836.5	22.37	23.20	1.211	-0.12	0.112	0.136
	LTE Band4	20M	QPSK	1	0	Front	1	20175	1732.5	23.61	24.30	1.172	-0.04	0.653	0.765
	LTE Band4	20M	QPSK	50	0	Front	1	20175	1732.5	22.38	23.30	1.236	0.03	0.637	0.787
	LTE Band4	20M	QPSK	1	0	Back	1	20175	1732.5	23.61	24.30	1.172	-0.11	0.801	0.939
	LTE Band4	20M	QPSK	1	0	Back	1	20050	1720	23.34	24.30	1.247	0.12	0.850	1.060
#20	LTE Band4	20M	QPSK	1	0	Back	1	20300	1745	23.26	24.30	1.271	-0.09	0.838	**1.065**
	LTE Band4	20M	QPSK	50	0	Back	1	20175	1732.5	22.38	23.30	1.236	-0.16	0.620	0.766
	LTE Band4	20M	QPSK	100	0	Back	1	20175	1732.5	22.35	23.30	1.245	-0.1	0.624	0.777
	LTE Band4	20M	QPSK	1	0	Left Side	1	20175	1732.5	23.61	24.30	1.172	-0.03	0.247	0.290
	LTE Band4	20M	QPSK	50	0	Left Side	1	20175	1732.5	22.38	23.30	1.236	0.08	0.232	0.287
	LTE Band4	20M	QPSK	1	0	Bottom Side	1	20175	1732.5	23.61	24.30	1.172	-0.12	0.647	0.758
	LTE Band4	20M	QPSK	50	0	Bottom Side	1	20175	1732.5	22.38	23.30	1.236	-0.14	0.519	0.641

Plot No.	Band	BW (MHz)	Mode	RB Size	RB offset	Test Position	Gap (cm)	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 Band2	20M	QPSK	1	0	Front	1	18900	1880	22.67	23.40	1.183	-0.02	0.784	0.928
	LTE Band2	20M	QPSK	1	0	Front	1	18700	1860	22.44	23.40	1.247	-0.08	0.756	0.943
	LTE Band2	20M	QPSK	1	0	Front	1	19100	1900	22.03	23.40	1.371	-0.01	0.806	1.105
	LTE Band2	20M	QPSK	50	0	Front	1	18900	1880	20.59	22.40	1.517	-0.08	0.503	0.763
	LTE Band2	20M	QPSK	100	0	Front	1	18900	1880	20.66	22.40	1.493	-0.13	0.504	0.752
	LTE Band2	20M	QPSK	1	0	Back	1	18900	1880	22.67	23.40	1.183	-0.16	0.899	1.064
	LTE Band2	20M	QPSK	1	0	Back	1	18700	1860	22.44	23.40	1.247	-0.1	0.873	1.089
#21	LTE Band2	20M	QPSK	1	0	Back	1	19100	1900	22.03	23.40	1.371	0.15	0.859	**1.178**
	LTE Band2	20M	QPSK	50	0	Back	1	18900	1880	20.59	22.40	1.517	-0.09	0.512	0.777
	LTE Band2	20M	QPSK	100	0	Back	1	18900	1880	20.66	22.40	1.493	-0.12	0.527	0.787
	LTE Band2	20M	QPSK	1	0	Left Side	1	18900	1880	22.67	23.40	1.183	0.1	0.285	0.337
	LTE Band2	20M	QPSK	50	0	Left Side	1	18900	1880	20.59	22.40	1.517	0.03	0.182	0.276
	LTE Band2	20M	QPSK	1	0	Bottom Side	1	18900	1880	22.67	23.40	1.183	0.07	0.781	0.924
	LTE Band2	20M	QPSK	1	0	Bottom Side	1	18700	1860	22.44	23.40	1.247	0.028	0.695	0.867
	LTE Band2	20M	QPSK	1	0	Bottom Side	1	19100	1900	22.03	23.40	1.371	0.021	0.820	1.124
	LTE Band2	20M	QPSK	50	0	Bottom Side	1	18900	1880	20.59	22.40	1.517	-0.18	0.461	0.699
	LTE Band2	20M	QPSK	100	0	Bottom Side	1	18900	1880	20.66	22.40	1.493	-0.14	0.469	0.700

<WLAN SAR> test result leverage from 6045I

Plot No.	Band	Mode	Test Position	Gap (cm)	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	1	11	2462	18.14	18.5	1.086	97.64	1.024	-0.027	0.214	0.238
	WLAN 2.4GHz	802.11b_1Mbps	Back	1	11	2462	18.14	18.5	1.086	97.64	1.024	0.039	0.457	**0.508**
	WLAN 2.4GHz	802.11b_1Mbps	Back	1	1	2412	17.3	18.5	1.318	97.64	1.024	0.1	0.223	0.301
	WLAN 2.4GHz	802.11b_1Mbps	Back	1	6	2437	17.44	18.5	1.276	97.64	1.024	0.18	0.370	0.484
	WLAN 2.4GHz	802.11b_1Mbps	Right Side	1	11	2462	18.14	18.5	1.086	97.64	1.024	-0.17	0.171	0.190
	WLAN 2.4GHz	802.11b_1Mbps	Top Side	1	11	2462	18.14	18.5	1.086	97.64	1.024	-0.04	0.128	0.142
	WLAN 5.8GHz	802.11a_6Mbps	Front	1	157	5785	13.35	14.3	1.245	87.26	1.146	0.1	0.089	0.127
	WLAN 5.8GHz	802.11a_6Mbps	Back	1	157	5785	13.35	14.3	1.245	87.26	1.146	-0.03	0.109	0.155
	WLAN 5.8GHz	802.11a_6Mbps	Back	1	149	5745	13.05	14.3	1.334	87.26	1.146	0.17	0.096	0.147
	WLAN 5.8GHz	802.11a_6Mbps	Back	1	165	5825	12.8	14.3	1.413	87.26	1.146	-0.16	0.081	0.131
	WLAN 5.8GHz	802.11a_6Mbps	Right Side	1	157	5785	13.35	14.3	1.245	87.26	1.146	-0.09	0.198	**0.282**
	WLAN 5.8GHz	802.11a_6Mbps	Right Side	1	149	5745	13.05	14.3	1.334	87.26	1.146	0.08	0.162	0.248
	WLAN 5.8GHz	802.11a_6Mbps	Right Side	1	165	5825	12.8	14.3	1.413	87.26	1.146	0.08	0.132	0.214
	WLAN 5.8GHz	802.11a_6Mbps	Top Side	1	157	5785	13.35	14.3	1.245	87.26	1.146	-0.09	0.066	0.094

<WLAN SAR> Spot check test result for 6045O

Plot No.	Band	Mode	Test Position	Gap (cm)	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)
#22	WLAN 2.4GHz	802.11b_1Mbps	Back	1	11	2462	18.14	18.5	1.086	97.64	1.024	0.17	0.246	**0.274**
	WLAN 5.2GHz	802.11a_6Mbps	Front	1	48	5240	13.52	15	1.406	87.26	1.146	-0.04	0.025	0.040
	WLAN 5.2GHz	802.11a_6Mbps	Back	1	48	5240	13.52	15	1.406	87.26	1.146	-0.12	0.029	0.047
#23	WLAN 5.2GHz	802.11a_6Mbps	Right Side	1	48	5240	13.52	15	1.406	87.26	1.146	-0.06	0.072	**0.116**
	WLAN 5.2GHz	802.11a_6Mbps	Top Side	1	48	5240	13.52	15	1.406	87.26	1.146	-0.08	0.023	0.037
#24	WLAN 5.8GHz	802.11a_6Mbps	Right Side	1	157	5785	13.35	14.3	1.245	87.26	1.146	-0.1	0.134	**0.191**
	WLAN 5.8GHz	802.11a_6Mbps	Back	1	157	5785	13.35	14.3	1.245	87.26	1.146	0.15	0.067	0.096

15.3 Body Worn Accessory SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	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)
#13	GSM850	GPRS (2 Tx slots)	Front	1	251	848.8	30.25	31.00	1.189	-0.03	0.410	**0.487**
	GSM850	GPRS (2 Tx slots)	Back	1	251	848.8	30.25	31.00	1.189	-0.02	0.381	0.453
	GSM1900	GPRS (2 Tx slots)	Front	1	810	1909.8	27.55	28.30	1.189	-0.04	0.555	0.660
#14	GSM1900	GPRS (2 Tx slots)	Back	1	810	1909.8	27.55	28.30	1.189	-0.07	0.634	**0.754**

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band V	RMC12.2Kbps	Front	1	4233	846.6	22.66	23.40	1.186	-0.07	0.223	0.264
#25	WCDMA Band V	RMC12.2Kbps	Back	1	4233	846.6	22.66	23.40	1.186	0.04	0.240	**0.285**
	WCDMA Band IV	RMC12.2Kbps	Front	1	1312	1712.4	21.80	22.50	1.175	-0.05	0.514	0.604
#16	WCDMA Band IV	RMC12.2Kbps	Back	1	1312	1712.4	21.80	22.50	1.175	-0.03	0.539	**0.633**
#17	WCDMA Band II	RMC12.2Kbps	Front	1	9538	1907.6	22.06	22.80	1.186	-0.06	0.869	**1.030**
	WCDMA Band II	RMC12.2Kbps	Front	1	9262	1852.4	21.74	22.80	1.276	-0.04	0.736	0.939
	WCDMA Band II	RMC12.2Kbps	Front	1	9400	1880	21.84	22.80	1.247	-0.02	0.826	1.030
	WCDMA Band II	RMC12.2Kbps	Back	1	9538	1907.6	22.06	22.80	1.186	-0.12	0.833	0.988
	WCDMA Band II	RMC12.2Kbps	Back	1	9262	1852.4	21.74	22.80	1.276	0.04	0.723	0.923
	WCDMA Band II	RMC12.2Kbps	Back	1	9400	1880	21.84	22.80	1.247	-0.05	0.702	0.876

<LTE SAR>

Plot No.	Band	BW (MHz)	Mode	RB Size	RB offset	Test Position	Gap (cm)	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 Band12	10M	QPSK	1	0	Front	1	23130	711	23.55	24.30	1.189	0.04	0.188	0.223
	LTE Band12	10M	QPSK	25	0	Front	1	23130	711	22.39	23.30	1.233	0.06	0.154	0.190
#18	LTE Band12	10M	QPSK	1	0	Back	1	23130	711	23.55	24.30	1.189	-0.19	0.268	**0.319**
	LTE Band12	10M	QPSK	25	0	Back	1	23130	711	22.39	23.30	1.233	0.01	0.205	0.253
	LTE Band5	10M	QPSK	1	24	Front	1	20525	836.5	23.45	24.20	1.189	0.11	0.270	0.321
	LTE Band5	10M	QPSK	25	0	Front	1	20525	836.5	22.37	23.20	1.211	-0.01	0.226	0.274
#26	LTE Band5	10M	QPSK	1	24	Back	1	20525	836.5	23.45	24.20	1.189	0.13	0.318	**0.378**
	LTE Band5	10M	QPSK	25	0	Back	1	20525	836.5	22.37	23.20	1.211	0.01	0.231	0.280
	LTE Band4	20M	QPSK	1	0	Front	1	20175	1732.5	23.61	24.30	1.172	-0.04	0.653	0.765
	LTE Band4	20M	QPSK	50	0	Front	1	20175	1732.5	22.38	23.30	1.236	0.03	0.637	0.787
	LTE Band4	20M	QPSK	1	0	Back	1	20175	1732.5	23.61	24.30	1.172	-0.11	0.801	0.939
	LTE Band4	20M	QPSK	1	0	Back	1	20050	1720	23.34	24.30	1.247	0.12	0.850	1.060
#20	LTE Band4	20M	QPSK	1	0	Back	1	20300	1745	23.26	24.30	1.271	-0.09	0.838	**1.065**
	LTE Band4	20M	QPSK	50	0	Back	1	20175	1732.5	22.38	23.30	1.236	-0.16	0.620	0.766
	LTE Band4	20M	QPSK	100	0	Back	1	20175	1732.5	22.35	23.30	1.245	-0.1	0.624	0.777
	LTE Band2	20M	QPSK	1	0	Front	1	18900	1880	22.67	23.40	1.183	-0.02	0.784	0.928
	LTE Band2	20M	QPSK	1	0	Front	1	18700	1860	22.44	23.40	1.247	-0.08	0.756	0.943
	LTE Band2	20M	QPSK	1	0	Front	1	19100	1900	22.03	23.40	1.371	-0.01	0.806	1.105
	LTE Band2	20M	QPSK	50	0	Front	1	18900	1880	20.59	22.40	1.517	-0.08	0.503	0.763
	LTE Band2	20M	QPSK	100	0	Front	1	18900	1880	20.66	22.40	1.493	-0.13	0.504	0.752
	LTE Band2	20M	QPSK	1	0	Back	1	18900	1880	22.67	23.40	1.183	-0.16	0.899	1.064
	LTE Band2	20M	QPSK	1	0	Back	1	18700	1860	22.44	23.40	1.247	-0.1	0.873	1.089
#21	LTE Band2	20M	QPSK	1	0	Back	1	19100	1900	22.03	23.40	1.371	0.15	0.859	**1.178**
	LTE Band2	20M	QPSK	50	0	Back	1	18900	1880	20.59	22.40	1.517	-0.09	0.512	0.777
	LTE Band2	20M	QPSK	100	0	Back	1	18900	1880	20.66	22.40	1.493	-0.12	0.527	0.787

<WLAN SAR> test result leverage from 6045I

Plot No.	Band	Mode	Test Position	Gap (cm)	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	1	11	2462	18.14	18.5	1.086	97.64	1.024	-0.027	0.214	0.238
	WLAN 2.4GHz	802.11b_1Mbps	Back	1	11	2462	18.14	18.5	1.086	97.64	1.024	0.039	0.457	**0.508**
	WLAN 2.4GHz	802.11b_1Mbps	Back	1	1	2412	17.3	18.5	1.318	97.64	1.024	0.1	0.223	0.301
	WLAN 2.4GHz	802.11b_1Mbps	Back	1	6	2437	17.44	18.5	1.276	97.64	1.024	0.18	0.370	0.484
	WLAN 5.2GHz	802.11a_6Mbps	Front	1	48	5240	13.52	15	1.406	87.26	1.146	-0.064	0.026	0.042
	WLAN 5.2GHz	802.11a_6Mbps	Back	1	48	5240	13.52	15	1.406	87.26	1.146	-0.042	0.040	**0.064**
	WLAN 5.2GHz	802.11a_6Mbps	Back	1	36	5180	13.15	15	1.531	87.26	1.146	0.08	0.035	0.061
	WLAN 5.8GHz	802.11a_6Mbps	Front	1	157	5785	13.35	14.3	1.245	87.26	1.146	0.1	0.089	0.127
	WLAN 5.8GHz	802.11a_6Mbps	Back	1	157	5785	13.35	14.3	1.245	87.26	1.146	-0.03	0.109	**0.155**
	WLAN 5.8GHz	802.11a_6Mbps	Back	1	149	5745	13.05	14.3	1.334	87.26	1.146	0.17	0.096	0.147
	WLAN 5.8GHz	802.11a_6Mbps	Back	1	165	5825	12.8	14.3	1.413	87.26	1.146	-0.16	0.081	0.131

<WLAN SAR> Spot check test result for 6045O

Plot No.	Band	Mode	Test Position	Gap (cm)	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)
#22	WLAN 2.4GHz	802.11b_1Mbps	Back	1	11	2462	18.14	18.5	1.086	97.64	1.024	0.17	0.246	**0.274**
#27	WLAN 5.2GHz	802.11a_6Mbps	Back	1	48	5240	13.52	15	1.406	87.26	1.146	-0.12	0.029	**0.047**
#28	WLAN 5.8GHz	802.11a_6Mbps	Back	1	157	5785	13.35	14.3	1.245	87.26	1.146	0.15	0.067	**0.096**

15.4 Repeated SAR Measurement

No.	Band	Mode	Test Position	Receiver Enabled	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)	Ratio	Reported 1g SAR (W/kg)
1st	WLAN 2.4GHz	802.11b 1Mbps	Left Cheek	Receiver 1	6	2437	17.44	18.5	1.276	97.64	1.024	0.12	1.020	1	1.333
2nd	WLAN 2.4GHz	802.11b 1Mbps	Left Cheek	Receiver 1	6	2437	17.44	18.5	1.276	97.64	1.024	0.02	1.010	1.010	1.320

No.	Band	BW (MHz)	Mode	RB Size	RB offset	Test Position	Receiver Enabled	Gap (cm)	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	LTE Band4	20M	QPSK	1	0	Back	Receiver 1	1	20050	1720	23.34	24.30	1.247	0.12	0.85	1	1.060
2nd	LTE Band4	20M	QPSK	1	0	Back	Receiver 1	1	20050	1720	23.34	24.30	1.247	0.02	0.843	1.008	1.052
1st	LTE Band2	20M	QPSK	1	0	Back	Receiver 1	1	18900	1880	22.67	23.40	1.183	-0.16	0.899	1	1.064
2nd	LTE Band2	20M	QPSK	1	0	Back	Receiver 1	1	18900	1880	22.67	23.40	1.183	-0.11	0.895	1.005	1.059

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. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

16. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Portable Handset			Note
		Head	Body-worn	Hotspot	
1.	GSM(Voice) + WLAN2.4GHz(data)	Yes	Yes		
2.	WCDMA(Voice) + WLAN2.4GHz(data)	Yes	Yes		
3.	GSM(Voice) + Bluetooth(data)		Yes		
4.	WCDMA((Voice) + Bluetooth(data)		Yes		
5.	GSM(Voice) + WLAN5GHz(data)	Yes	Yes		
6.	WCDMA((Voice) + WLAN5GHz(data)	Yes	Yes		
7.	GPRS/EDGE(Data) + WLAN2.4GHz(data)	Yes	Yes	Yes	2.4GHz Hotspot
8.	WCDMA(Data) + WLAN2.4GHz(data)	Yes	Yes	Yes	2.4GHz Hotspot
9.	LTE(Data) + WLAN2.4GHz(data)	Yes	Yes	Yes	2.4GHz Hotspot
10.	GPRS/EDGE(Data) + Bluetooth(data)		Yes		WWAN VOIP
11.	WCDMA(Data) + Bluetooth(data)		Yes		WWAN VOIP
12.	LTE(Data) + Bluetooth(data)		Yes		WWAN VOIP
13.	GPRS/EDGE(data) + WLAN5GHz(data)	Yes	Yes	Yes	WiFi Direct
14.	WCDMA(data) + WLAN5GHz(data)	Yes	Yes	Yes	WiFi Direct
15.	LTE(data) + WLAN5GHz(data)	Yes	Yes	Yes	WiFi Direct

General Note:

1. This device supported VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. 3rd party VoIP) and LTE Supports VoLTE operation.
2. This device 2.4 GHz / 5.2GHz/5.8GHz WLAN supports hotspot and WiFi Direct (GC / GO) operation.
3. SAR values for the WLAN operations are taken from test report FA511301-03 with model name 6045I and FCC ID: 2ACCJN002.We did perform verification testing on FCC ID: 2ACCJN005 to confirm that the SAR values reported for 6045I remain representative of FCC ID: 2ACCJN005 demonstrate compliance for stand-alone SAR values for the WLAN operations and can also be used in the evaluation for simultaneous transmission
4. WLAN and Bluetooth share the same antenna, and cannot transmit simultaneously.
5. EUT will choose each GSM, WCDMA and LTE according to the network signal condition; therefore, they will not operate simultaneously at any moment.
6. EUT will choose either WLAN 2.4GHz or WLAN 5GHz according to the network signal condition; therefore, 2.4GHz WLAN and 5GHz WLAN will not operate simultaneously at any moment.
7. The reported SAR summation is calculated based on the same configuration and test position.
8. Per KDB 447498 D01v05r02, 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.
   v) The SPLSR calculated results please refer to section 15.4.
9. For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01v05r02 based on the formula below.
   i) (*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)]·[$\sqrt{}$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	10 mm
6.0 dBm	Estimated SAR (W/kg)	0.084W/kg

16.1 Head Exposure Conditions

WWAN Band		Exposure Position	WWAN PCE	WLAN DTS	Summed SAR (W/kg)	SPLSR	Case No
			Max. WWAN SAR (W/kg)	Max. WLAN SAR (W/kg)			
GSM	GSM850	Right Cheek	0.449	0.325	0.77		
		Right Tilted	0.228	0.235	0.46		
		Left Cheek	0.435	1.385	**1.82**	**0.04**	**#01**
		Left Tilted	0.217	0.545	0.76		
	GSM1900	Right Cheek	0.190	0.325	0.52		
		Right Tilted	0.071	0.235	0.31		
		Left Cheek	0.214	1.385	**1.60**	**0.03**	**#02**
		Left Tilted	0.135	0.545	0.68		
WCDMA	Band V	Right Cheek	0.234	0.325	0.56		
		Right Tilted	0.126	0.235	0.36		
		Left Cheek	0.243	1.385	**1.63**	**0.03**	**#03**
		Left Tilted	0.138	0.545	0.68		
	Band IV	Right Cheek	0.243	0.325	0.57		
		Right Tilted	0.113	0.235	0.35		
		Left Cheek	0.253	1.385	**1.64**	**0.03**	**#04**
		Left Tilted	0.167	0.545	0.71		
	Band II	Right Cheek	0.229	0.325	0.55		
		Right Tilted	0.090	0.235	0.33		
		Left Cheek	0.235	1.385	**1.62**	**0.03**	**#05**
		Left Tilted	0.143	0.545	0.69		
LTE	Band 12	Right Cheek	0.174	0.325	0.50		
		Right Tilted	0.100	0.235	0.34		
		Left Cheek	0.175	1.385	1.56		
		Left Tilted	0.107	0.545	0.65		
	Band 5	Right Cheek	0.282	0.325	0.61		
		Right Tilted	0.162	0.235	0.40		
		Left Cheek	0.278	1.385	**1.66**	**0.03**	**#06**
		Left Tilted	0.169	0.545	0.71		
	Band 4	Right Cheek	0.286	0.325	0.61		
		Right Tilted	0.145	0.235	0.38		
		Left Cheek	0.321	1.385	**1.71**	**0.03**	**#07**
		Left Tilted	0.200	0.545	0.75		
	Band 2	Right Cheek	0.203	0.325	0.53		
		Right Tilted	0.090	0.235	0.33		
		Left Cheek	0.250	1.385	**1.64**	**0.03**	**#08**
		Left Tilted	0.155	0.545	0.70		

WWAN Band		Exposure Position	WWAN PCE	WLAN NII	Summed SAR (W/kg)	SPLSR	Case No
			Max. WWAN SAR (W/kg)	Max. WLAN SAR (W/kg)			
GSM	GSM850	Right Cheek	0.449	0.086	0.54		
		Right Tilted	0.228	0.126	0.35		
		Left Cheek	0.435	1.255	**1.69**	**0.03**	**#09**
		Left Tilted	0.217	0.481	0.70		
	GSM1900	Right Cheek	0.190	0.086	0.28		
		Right Tilted	0.071	0.126	0.20		
		Left Cheek	0.214	1.255	1.47		
		Left Tilted	0.135	0.481	0.62		
WCDMA	Band V	Right Cheek	0.234	0.086	0.32		
		Right Tilted	0.126	0.126	0.25		
		Left Cheek	0.243	1.255	1.50		
		Left Tilted	0.138	0.481	0.62		
	Band IV	Right Cheek	0.243	0.086	0.33		
		Right Tilted	0.113	0.126	0.24		
		Left Cheek	0.253	1.255	1.51		
		Left Tilted	0.167	0.481	0.65		
	Band II	Right Cheek	0.229	0.086	0.32		
		Right Tilted	0.090	0.126	0.22		
		Left Cheek	0.235	1.255	1.49		
		Left Tilted	0.143	0.481	0.62		
LTE	Band 12	Right Cheek	0.174	0.086	0.26		
		Right Tilted	0.100	0.126	0.23		
		Left Cheek	0.175	1.255	1.43		
		Left Tilted	0.107	0.481	0.59		
	Band 5	Right Cheek	0.282	0.086	0.37		
		Right Tilted	0.162	0.126	0.29		
		Left Cheek	0.278	1.255	1.53		
		Left Tilted	0.169	0.481	0.65		
	Band 4	Right Cheek	0.286	0.086	0.37		
		Right Tilted	0.145	0.126	0.27		
		Left Cheek	0.321	1.255	**1.58**		
		Left Tilted	0.200	0.481	0.68		
	Band 2	Right Cheek	0.203	0.086	0.29		
		Right Tilted	0.090	0.126	0.22		
		Left Cheek	0.250	1.255	1.51		
		Left Tilted	0.155	0.481	0.64		

16.2 Hotspot Exposure Conditions

WWAN Band		Exposure Position	WWAN PCE	WLAN DTS	Summed SAR (W/kg)	SPLSR	Case No
			Max. WWAN SAR (W/kg)	Max. WLAN SAR (W/kg)			
GSM	GSM850	Front	0.487	0.238	0.73		
		Back	0.453	0.508	0.96		
		Left Side	0.475		0.48		
		Right Side		0.190	0.19		
		Top Side		0.142	0.14		
		Bottom Side	0.248		0.25		
	GSM1900	Front	0.660	0.238	0.90		
		Back	0.754	0.508	1.26		
		Left Side	0.250		0.25		
		Right Side		0.190	0.19		
		Top Side		0.142	0.14		
		Bottom Side	0.669		0.67		
WCDMA	Band V	Front	0.264	0.238	0.50		
		Back	0.285	0.508	0.79		
		Left Side	0.317		0.32		
		Right Side		0.190	0.19		
		Top Side		0.142	0.14		
		Bottom Side	0.149		0.15		
	Band IV	Front	0.604	0.238	0.84		
		Back	0.633	0.508	1.14		
		Left Side	0.207		0.21		
		Right Side		0.190	0.19		
		Top Side		0.142	0.14		
		Bottom Side	0.540		0.54		
	Band II	Front	1.030	0.238	1.27		
		Back	0.988	0.508	1.50		
		Left Side	0.331		0.33		
		Right Side		0.190	0.19		
		Top Side		0.142	0.14		
		Bottom Side	0.587		0.59		

WWAN Band		Exposure Position	WWAN PCE	WLAN DTS	Summed SAR (W/kg)	SPLSR	Case No
			Max. WWAN SAR (W/kg)	Max. WLAN SAR (W/kg)			
LTE	Band 12	Front	0.223	0.238	0.46		
		Back	0.319	0.508	0.83		
		Left Side	0.252		0.25		
		Right Side		0.190	0.19		
		Top Side		0.142	0.14		
		Bottom Side	0.077		0.08		
	Band 5	Front	0.321	0.238	0.56		
		Back	0.378	0.508	0.89		
		Left Side	0.398		0.40		
		Right Side		0.190	0.19		
		Top Side		0.142	0.14		
		Bottom Side	0.181		0.18		
	Band 4	Front	0.787	0.238	1.03		
		Back	1.065	0.508	**1.57**		
		Left Side	0.290		0.29		
		Right Side		0.190	0.19		
		Top Side		0.142	0.14		
		Bottom Side	0.758		0.76		
	Band 2	Front	1.105	0.238	1.34		
		Back	1.178	0.508	**1.69**	**0.02**	**#10**
		Left Side	0.337		0.34		
		Right Side		0.190	0.19		
		Top Side		0.142	0.14		
		Bottom Side	1.124		1.12		

WWAN Band		Exposure Position	WWAN PCE	WLAN NII	Summed SAR (W/kg)	SPLSR	Case No
			Max. WWAN SAR (W/kg)	Max. WLAN SAR (W/kg)			
GSM	GSM850	Front	0.487	0.127	0.61		
		Back	0.453	0.155	0.61		
		Left Side	0.475		0.48		
		Right Side		0.282	0.28		
		Top Side		0.094	0.09		
		Bottom Side	0.248		0.25		
	GSM1900	Front	0.660	0.127	0.79		
		Back	0.754	0.155	0.91		
		Left Side	0.250		0.25		
		Right Side		0.282	0.28		
		Top Side		0.094	0.09		
		Bottom Side	0.669		0.67		
WCDMA	Band V	Front	0.264	0.127	0.39		
		Back	0.285	0.155	0.44		
		Left Side	0.317		0.32		
		Right Side		0.282	0.28		
		Top Side		0.094	0.09		
		Bottom Side	0.149		0.15		
	Band IV	Front	0.604	0.127	0.73		
		Back	0.633	0.155	0.79		
		Left Side	0.207		0.21		
		Right Side		0.282	0.28		
		Top Side		0.094	0.09		
		Bottom Side	0.540		0.54		
	Band II	Front	1.030	0.127	1.16		
		Back	0.988	0.155	1.14		
		Left Side	0.331		0.33		
		Right Side		0.282	0.28		
		Top Side		0.094	0.09		
		Bottom Side	0.587		0.59		

WWAN Band		Exposure Position	WWAN PCE	WLAN NII	Summed SAR (W/kg)	SPLSR	Case No
			Max. WWAN SAR (W/kg)	Max. WLAN SAR (W/kg)			
LTE	Band 12	Front	0.223	0.127	0.35		
		Back	0.319	0.155	0.47		
		Left Side	0.252		0.25		
		Right Side		0.282	0.28		
		Top Side		0.094	0.09		
		Bottom Side	0.077		0.08		
	Band 5	Front	0.321	0.127	0.45		
		Back	0.378	0.155	0.53		
		Left Side	0.398		0.40		
		Right Side		0.282	0.28		
		Top Side		0.094	0.09		
		Bottom Side	0.181		0.18		
	Band 4	Front	0.787	0.127	0.91		
		Back	1.065	0.155	1.22		
		Left Side	0.29		0.29		
		Right Side		0.282	0.28		
		Top Side		0.094	0.09		
		Bottom Side	0.758		0.76		
	Band 2	Front	1.105	0.127	1.23		
		Back	1.178	0.155	1.33		
		Left Side	0.337		0.34		
		Right Side		0.282	0.28		
		Top Side		0.094	0.09		
		Bottom Side	1.124		1.12		

16.3 Body-Worn Accessory Exposure Conditions

WWAN Band		Exposure Position	WWAN PCE	WLAN DTS	Summed SAR (W/kg)	SPLSR	Case No
			Max. WWAN SAR (W/kg)	Max. WLAN SAR (W/kg)			
GSM	GSM850	Front	0.487	0.238	0.73		
		Back	0.453	0.508	0.96		
	GSM1900	Front	0.660	0.238	0.90		
		Back	0.754	0.508	1.26		
WCDMA	Band V	Front	0.264	0.238	0.50		
		Back	0.285	0.508	0.79		
	Band IV	Front	0.604	0.238	0.84		
		Back	0.633	0.508	1.14		
	Band II	Front	1.030	0.238	1.27		
		Back	0.988	0.508	1.50		
LTE	Band 12	Front	0.223	0.238	0.46		
		Back	0.319	0.508	0.83		
	Band 5	Front	0.321	0.238	0.56		
		Back	0.378	0.508	0.89		
	Band 4	Front	0.787	0.238	1.03		
		Back	1.065	0.508	1.57		
	Band 2	Front	1.105	0.238	1.34		
		Back	1.178	0.508	**1.69**	**0.02**	**#10**

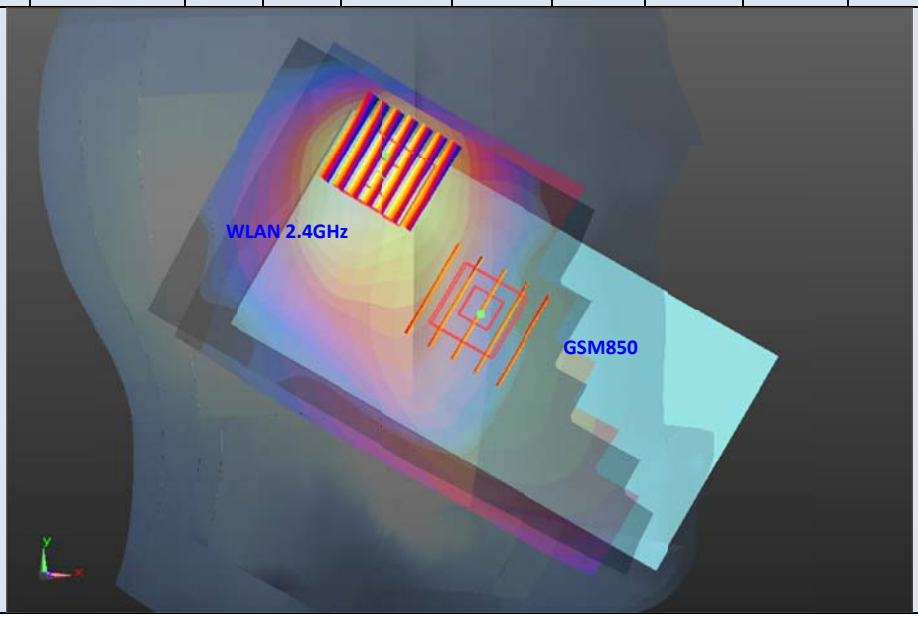
WWAN Band		Exposure Position	WWAN PCE	WLAN NII	Summed SAR (W/kg)	SPLSR	Case No
			Max. WWAN SAR (W/kg)	Max. WLAN SAR (W/kg)			
GSM	GSM850	Front	0.487	0.127	0.61		
		Back	0.453	0.155	0.61		
	GSM1900	Front	0.660	0.127	0.79		
		Back	0.754	0.155	0.91		
WCDMA	Band V	Front	0.264	0.127	0.39		
		Back	0.285	0.155	0.44		
	Band IV	Front	0.604	0.127	0.73		
		Back	0.633	0.155	0.79		
	Band II	Front	1.030	0.127	1.16		
		Back	0.988	0.155	1.14		
LTE	Band 12	Front	0.223	0.127	0.35		
		Back	0.319	0.155	0.47		
	Band 5	Front	0.321	0.127	0.45		
		Back	0.378	0.155	0.53		
	Band 4	Front	0.787	0.127	0.91		
		Back	1.065	0.155	1.22		
	Band 2	Front	1.105	0.127	1.23		
		Back	1.178	0.155	1.33		

WWAN Band		Exposure Position	WWAN PCE	Bluetooth DSS	Summed SAR (W/kg)	SPLSR	Case No
			Max. WWAN SAR (W/kg)	Estimated Bluetooth SAR (W/kg)			
GSM	GSM850	Front	0.487	0.084	0.57		
		Back	0.453	0.084	0.54		
	GSM1900	Front	0.660	0.084	0.74		
		Back	0.754	0.084	0.84		
WCDMA	Band V	Front	0.264	0.084	0.35		
		Back	0.285	0.084	0.37		
	Band IV	Front	0.604	0.084	0.69		
		Back	0.633	0.084	0.72		
	Band II	Front	1.030	0.084	1.11		
		Back	0.988	0.084	1.07		
LTE	Band 12	Front	0.223	0.084	0.31		
		Back	0.319	0.084	0.40		
	Band 5	Front	0.321	0.084	0.41		
		Back	0.378	0.084	0.46		
	Band 4	Front	0.787	0.084	0.87		
		Back	1.065	0.084	1.15		
	Band 2	Front	1.105	0.084	1.19		
		Back	1.178	0.084	1.26		

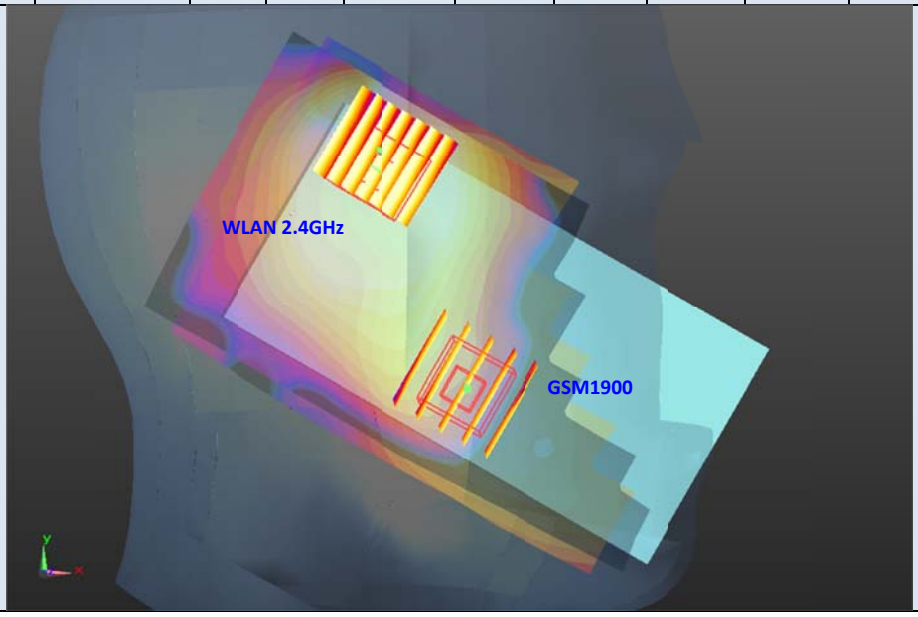
16.4 SPLSR Evaluation and Analysis

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

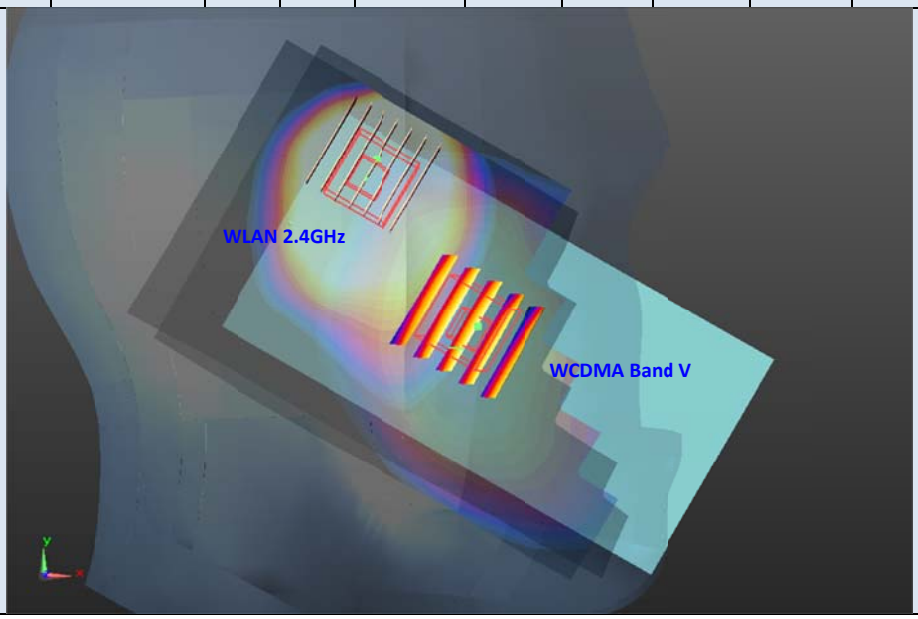
	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 1	GSM850	Left Cheek	0.435	0	0.0704	0.28	-0.173	54.9	1.82	0.04	Not required
	WLAN2.4GHz		1.385	0	0.0383	0.331	-0.174				



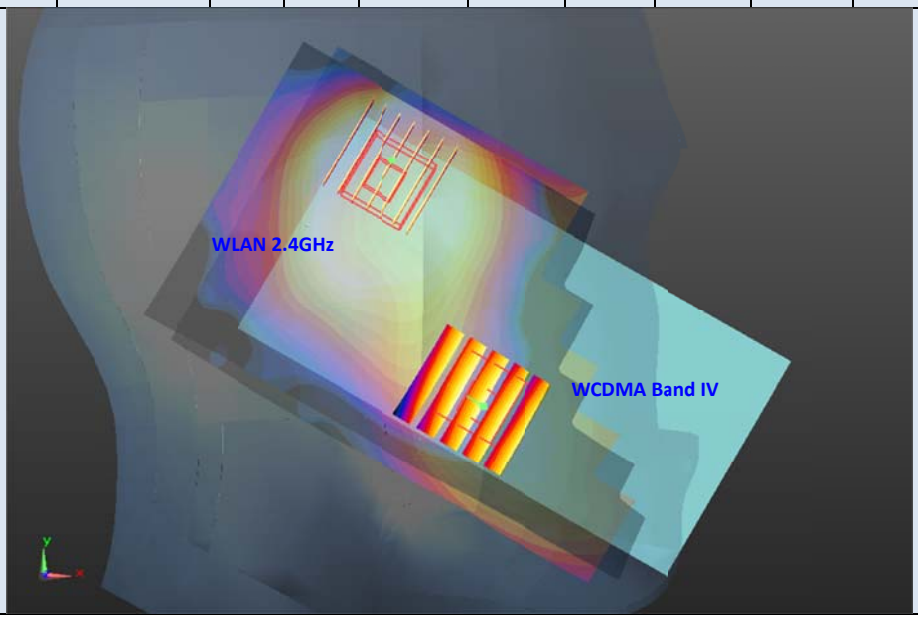
	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 2	GSM1900	Left Cheek	0.214	0	0.0682	0.256	-0.172	80.8	1.60	0.03	Not required
	WLAN 2.4GHz		1.385	0	0.0383	0.331	-0.174				



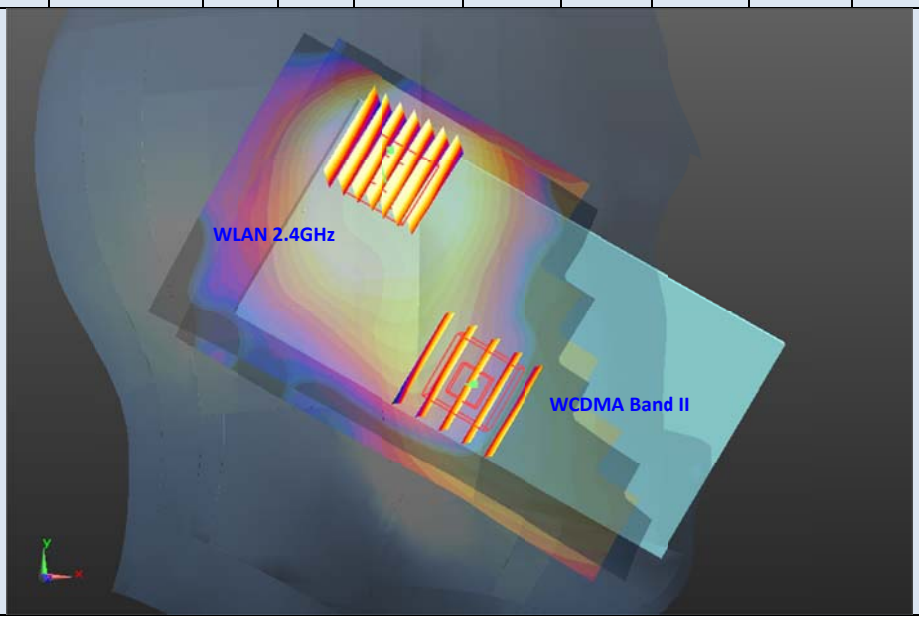
	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 3	WCDMA Band V	Left Cheek	0.243	0	0.0683	0.27	-0.173	68.0	1.63	0.03	Not required
	WLAN 2.4GHz		1.385	0	0.0383	0.331	-0.174				



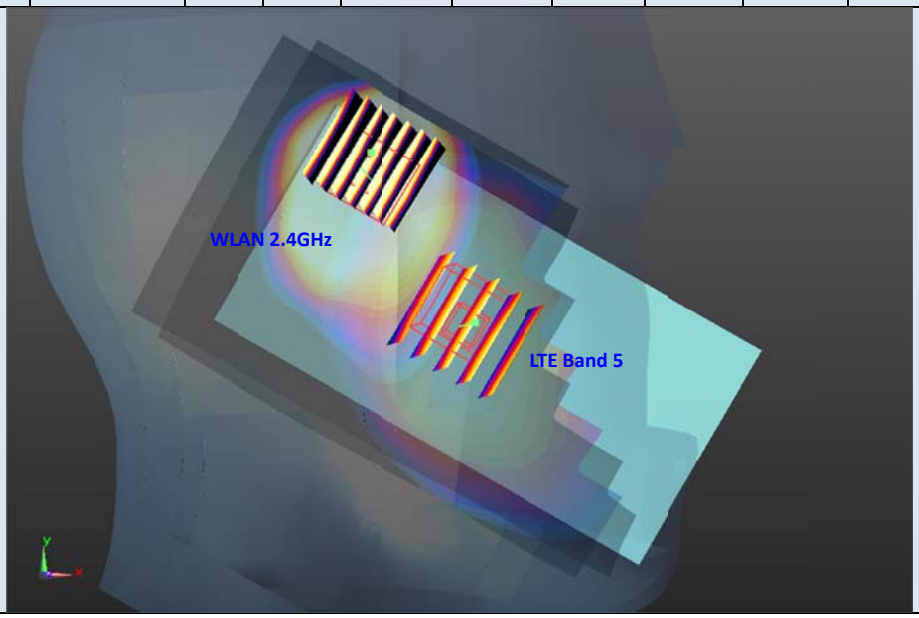
	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 4	WCDMA Band IV	Left Cheek	0.253	0	0.0688	0.254	-0.172	82.8	1.64	0.03	Not required
	WLAN 2.4GHz		1.385	0	0.0383	0.331	-0.174				



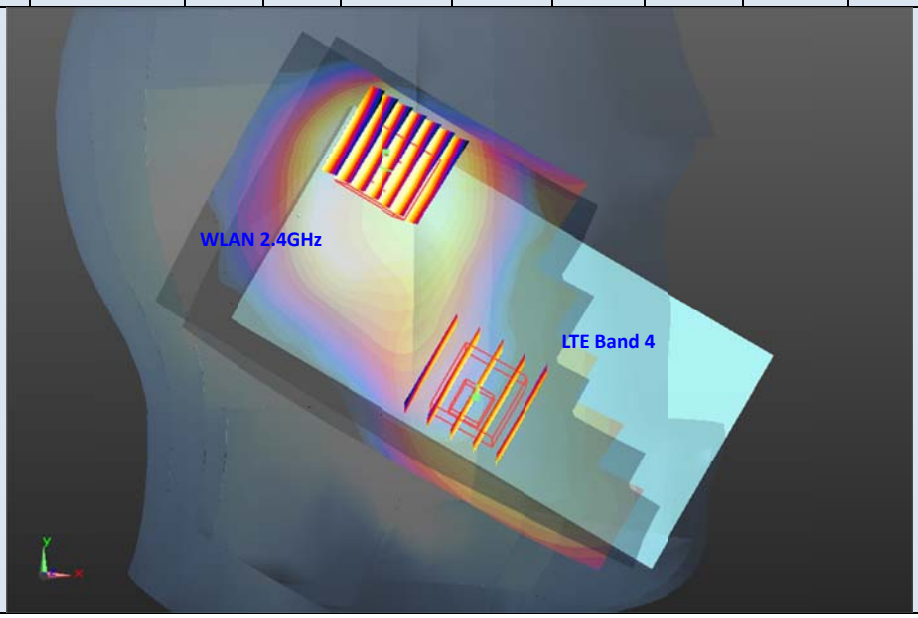
	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 5	WCDMA Band II	Left Cheek	0.235	0	0.0669	0.256	-0.173	80.3	1.62	0.03	Not required
	WLAN 2.4GHz		1.385	0	0.0383	0.331	-0.174				



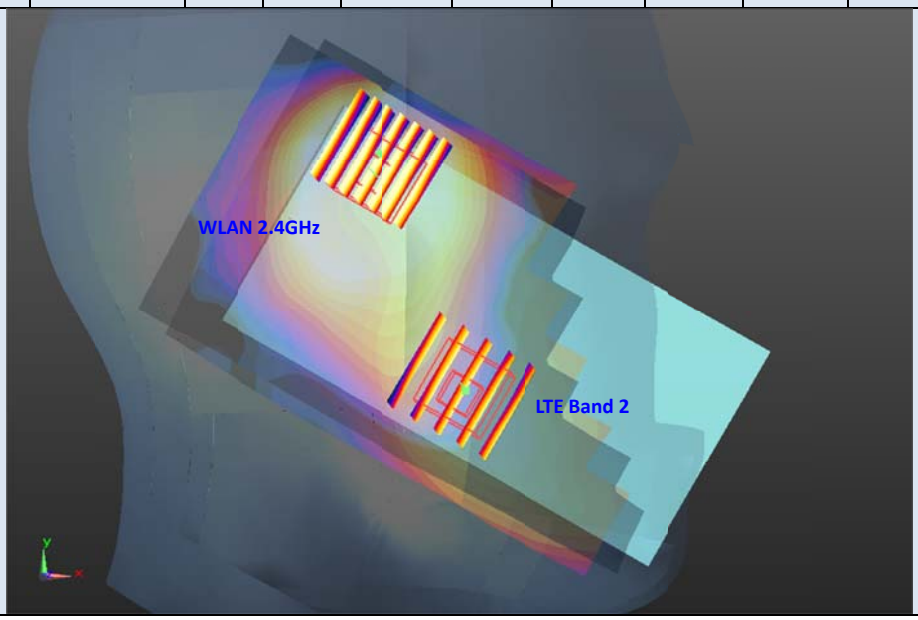
	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 6	LTE Band5	Left Cheek	0.278	0	0.0732	0.277	-0.172	64.3	1.66	0.03	Not required
	WLAN2.4GHz		1.385	0	0.0383	0.331	-0.174				



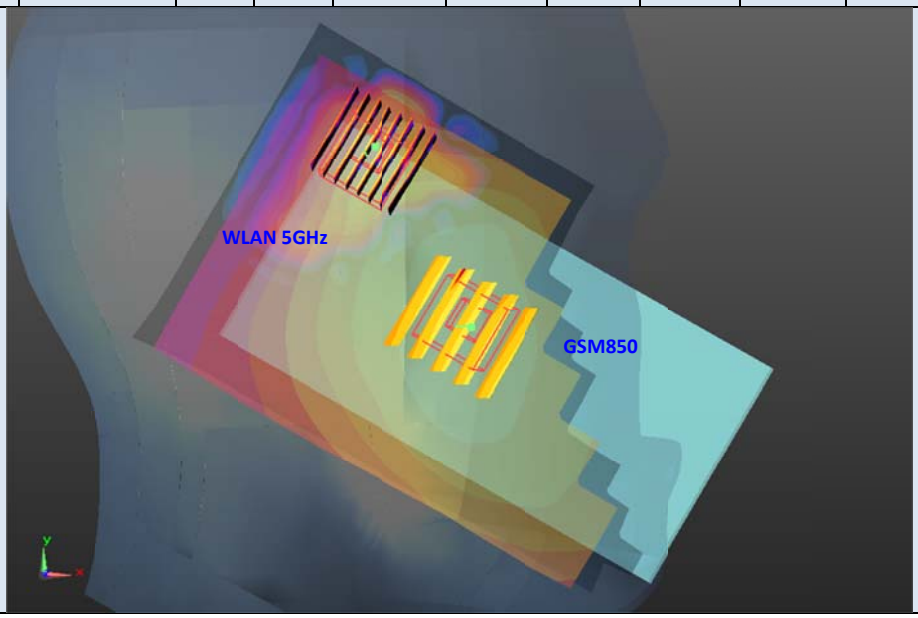
Case 7	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band4	Left Cheek	0.321	0	0.0647	0.247	-0.172	88.1	1.71	0.03	Not required
	WLAN2.4GHz		1.385	0	0.0383	0.331	-0.174				



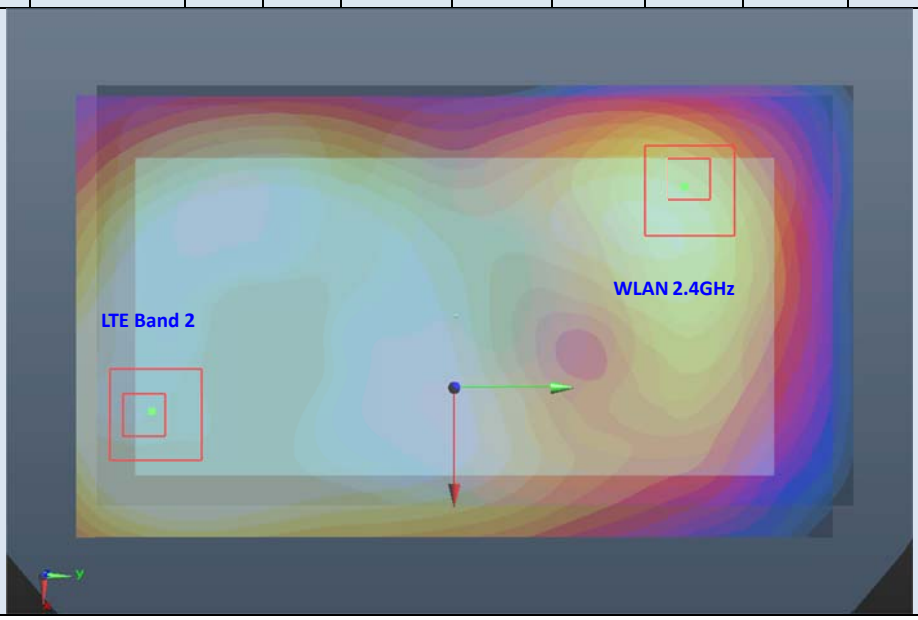
Case 8	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 2	Left Cheek	0.250	0	0.0682	0.256	-0.172	80.8	1.64	0.03	Not required
	WLAN2.4GHz		1.385	0	0.0383	0.331	-0.174				



Case 9	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	GSM850	Left Cheek	0.435	0	0.0704	0.28	-0.173	64.3	1.69	0.03	Not required
	WLAN 5GHz		1.255	0	0.0371	0.335	-0.175				



Case 10	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band2	Back	1.178	1	0.0055	-0.072	-0.205	137.8	1.69	0.02	Not required
	WLAN2.4GHz		0.508	1	-0.048	0.055	-0.206				



Test Engineer : Fulu Hu

17. 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 17.1. 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.

DASY Uncertainty Budget According to IEEE 1528-2013							
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	1.4	N	1	1	1	1.4	1.4
Device Holder	2.5	N	1	1	1	2.5	2.5
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						10.8%	10.7%
Coverage Factor for 95 %						K=2	K=2
Expanded STD Uncertainty						21.6%	21.5%

Table 17.2. Uncertainty Budget for frequency range 300 MHz to 3 GHz

DASY Uncertainty Budget According to IEEE 1528-2013							
Error Description	**Uncertainty Value (±%)**	**Probability**	**Divisor**	**(Ci) 1g**	**(Ci) 10g**	**Standard Uncertainty (1g) (±%)**	**Standard Uncertainty (10g) (±%)**
Measurement System							
Probe Calibration	6.55	N	1	1	1	6.6	6.6
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	2.0	R	1.732	1	1	1.2	1.2
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	6.7	R	1.732	1	1	3.9	3.9
Max. SAR Eval.	4.0	R	1.732	1	1	2.3	2.3
Test Sample Related							
Device Positioning	1.4	N	1	1	1	1.4	1.4
Device Holder	2.5	N	1	1	1	2.5	2.5
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	6.6	R	1.732	1	1	3.8	3.8
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						12.0%	11.9%
Coverage Factor for 95 %						K=2	K=2
Expanded STD Uncertainty						23.9%	23.8%

Table 17.3. Uncertainty Budget for frequency range 3 GHz to 6 GHz

18. 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 v02r01, “SAR Guidance for IEEE 802.11 (WiFi) Transmitters”, Jun 2015.

[6] FCC KDB 447498 D01 v05r02, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Feb 2014

[7] FCC KDB 648474 D04 v01r02, “SAR Evaluation Considerations for Wireless Handsets”, Dec 2013.

[8] FCC KDB 941225 D01 v03, “3G SAR MEAUREMENT PROCEDURES”, Oct 2014

[9] FCC KDB 941225 D05 v02r03, “SAR Evaluation Considerations for LTE Devices”, Dec 2013

[10] FCC KDB 941225 D06 v02, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2014.

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

[12] FCC KDB 865664 D02 v01r01, “RF Exposure Compliance Reporting and Documentation Considerations” May 2013.

Appendix A. Plots of System Performance Check

The plots are shown as follows.

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.21

System Check_Head_750MHz_150821

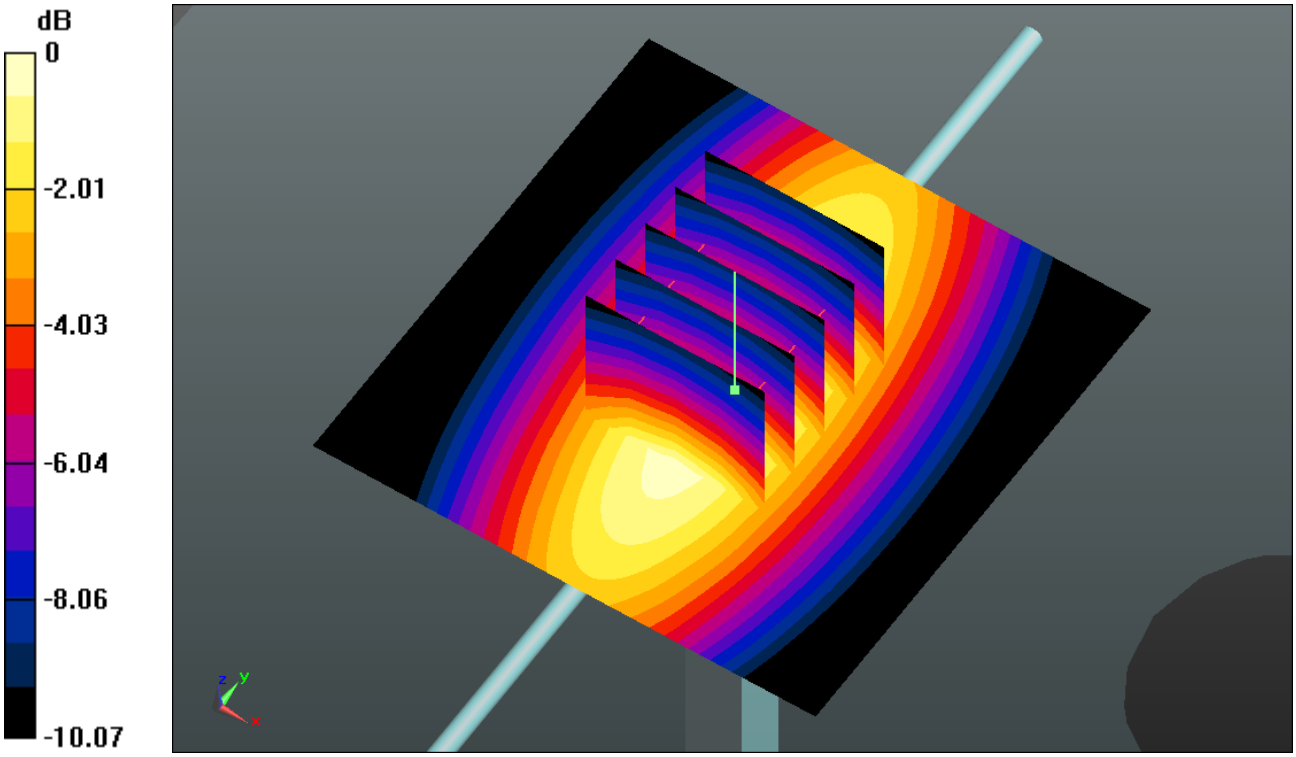
DUT: D750V3 - SN:1065

Communication System: CW; Frequency: 750 MHz;Duty Cycle: 1:1
Medium: HSL_750_150821 Medium parameters used: f = 750 MHz; σ = 0.881 mho/m; ε_r = 40.783; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃； Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.75, 9.75, 9.75); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.575 mW/g

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 49.987 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 3.019 W/kg
SAR(1 g) = 2.05 mW/g; SAR(10 g) = 1.36 mW/g
Maximum value of SAR (measured) = 2.579 mW/g



0 dB = 2.580mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.21

System Check_Head_835MHz_150821

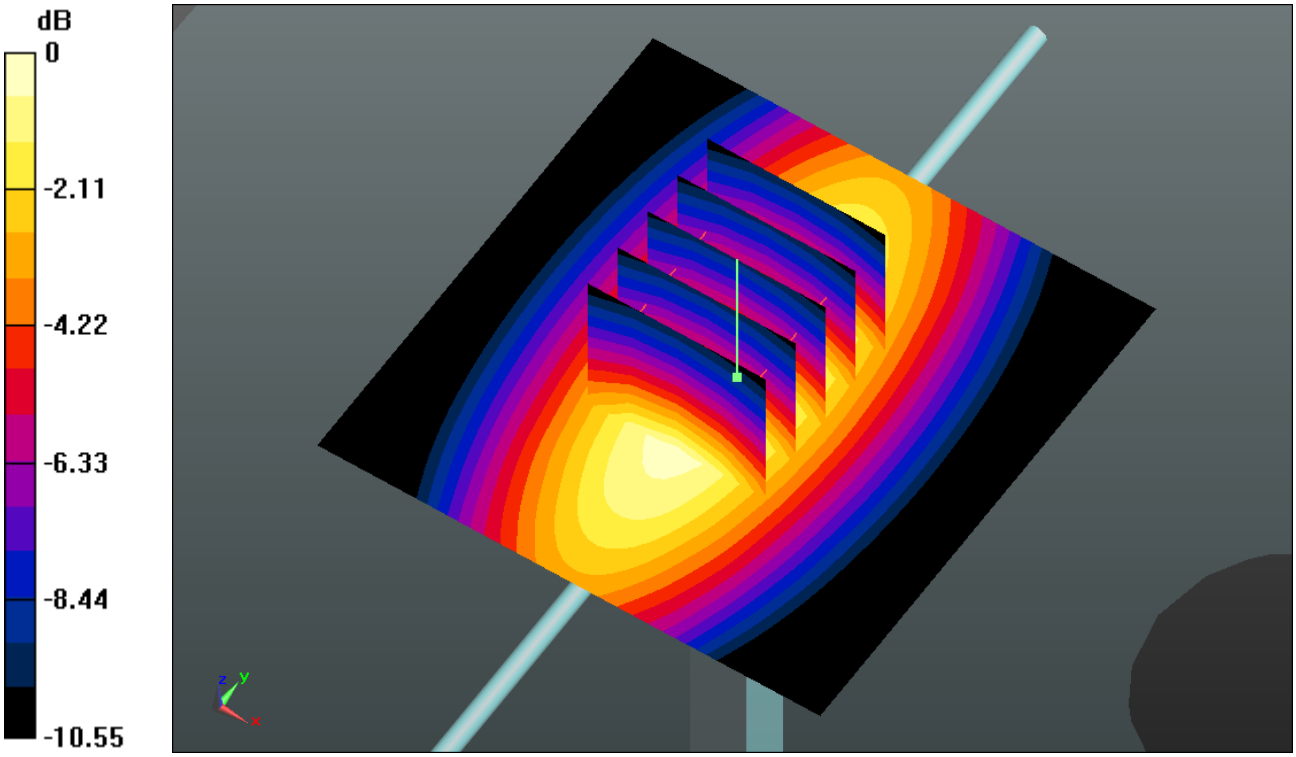
DUT: D835V2 - SN:4d091

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835_150821 Medium parameters used: f = 835 MHz; σ = 0.893 mho/m; ε_r = 41.38; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.26, 9.26, 9.26); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 3.035 mW/g

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 54.045 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 3.503 W/kg
SAR(1 g) = 2.39 mW/g; SAR(10 g) = 1.57 mW/g
Maximum value of SAR (measured) = 3.017 mW/g



0 dB = 3.020mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.22

System Check_Head_1750MHz_150822

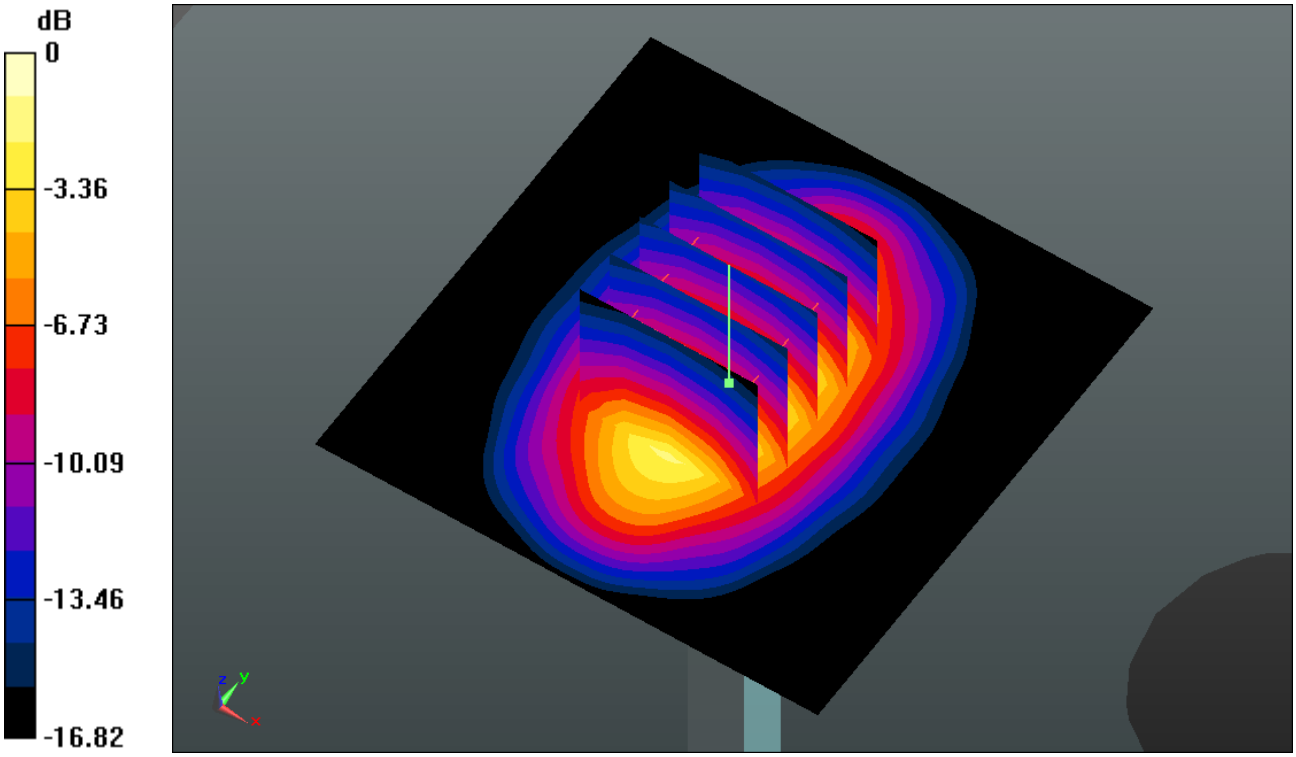
DUT: D1750V2 - SN:1069

Communication System: CW; Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1750_150822 Medium parameters used: f = 1750 MHz; σ = 1.381 mho/m; ε_r = 40.83; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(8.06, 8.06, 8.06); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 13.753 mW/g

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 88.274 V/m; Power Drift = -0.0024 dB
Peak SAR (extrapolated) = 17.582 W/kg
SAR(1 g) = 9.69 mW/g; SAR(10 g) = 5.16 mW/g
Maximum value of SAR (measured) = 13.858 mW/g



0 dB = 13.860mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.22

System Check_Head_1900MHz_150822

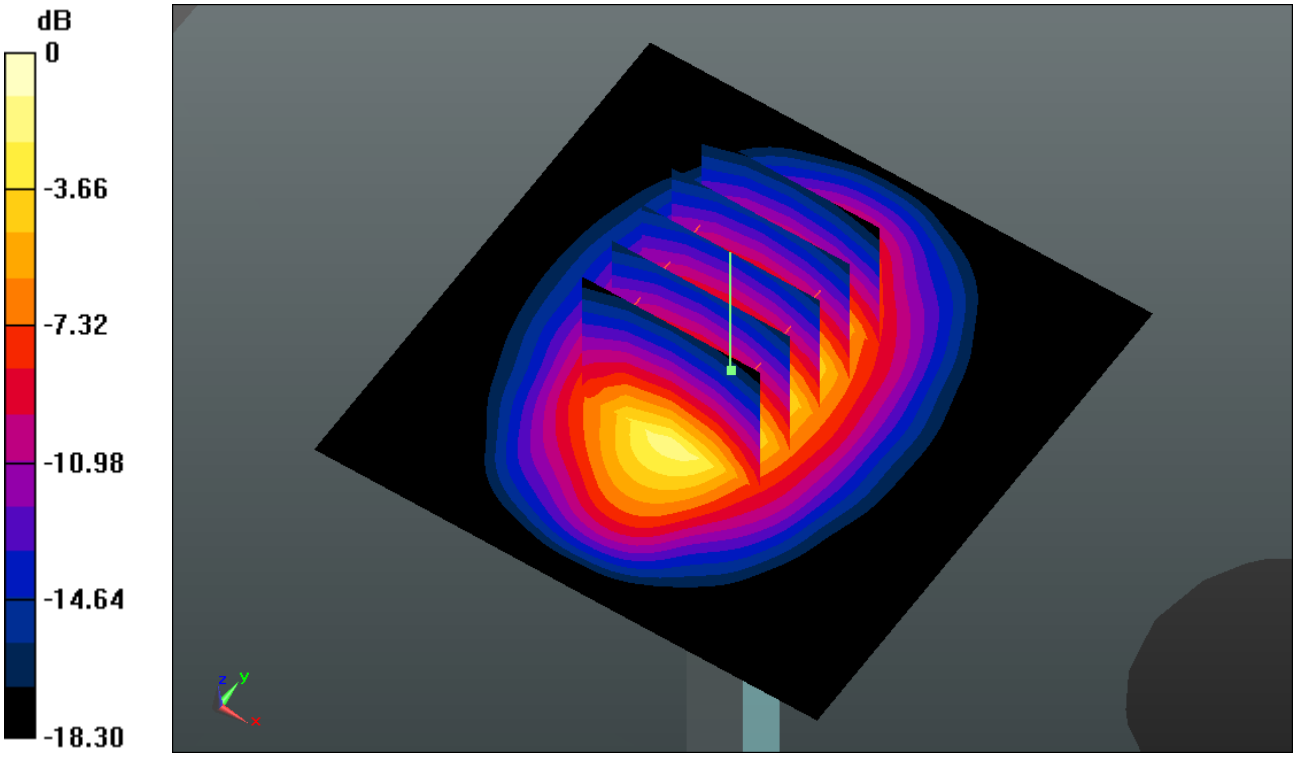
DUT: D1900V2 - SN:5d118

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900_150822 Medium parameters used: f = 1900 MHz; σ = 1.424 mho/m; ε_r = 39.075; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.81, 7.81, 7.81); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 15.476 mW/g

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 91.817 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 20.888 W/kg
SAR(1 g) = 10.6 mW/g; SAR(10 g) = 5.08 mW/g
Maximum value of SAR (measured) = 15.816 mW/g



0 dB = 15.820mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.24

System Check_Head_2450MHz_150824

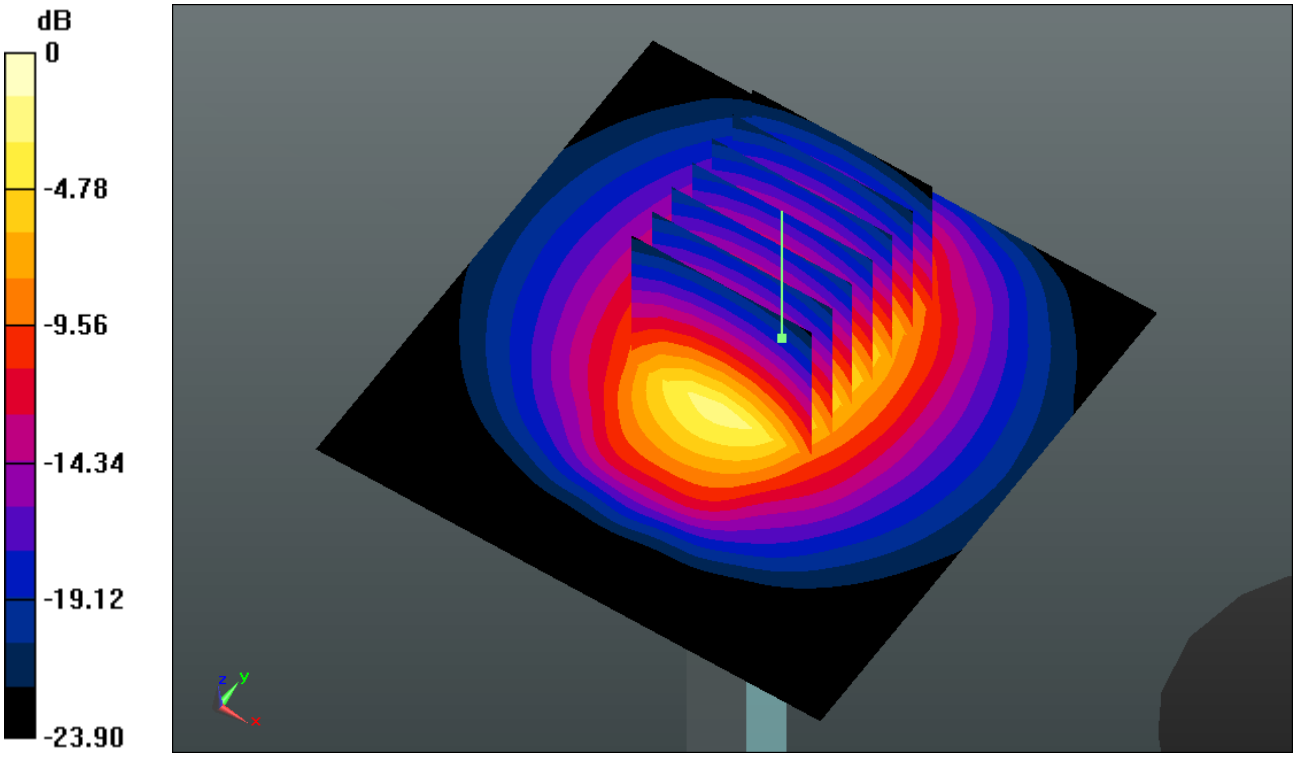
DUT: D2450V2 - SN:840

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL_2450_150824 Medium parameters used: f = 2450 MHz; σ = 1.818 mho/m; ε_r = 39.219; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃； Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.08, 7.08, 7.08); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM2; Type: SAM; Serial: TP-1477
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 20.659 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 85.640 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 28.651 W/kg
SAR(1 g) = 13.4 mW/g; SAR(10 g) = 6.01 mW/g
Maximum value of SAR (measured) = 20.786 mW/g



0 dB = 20.790mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.24

System Check_Head_5200MHz_150824

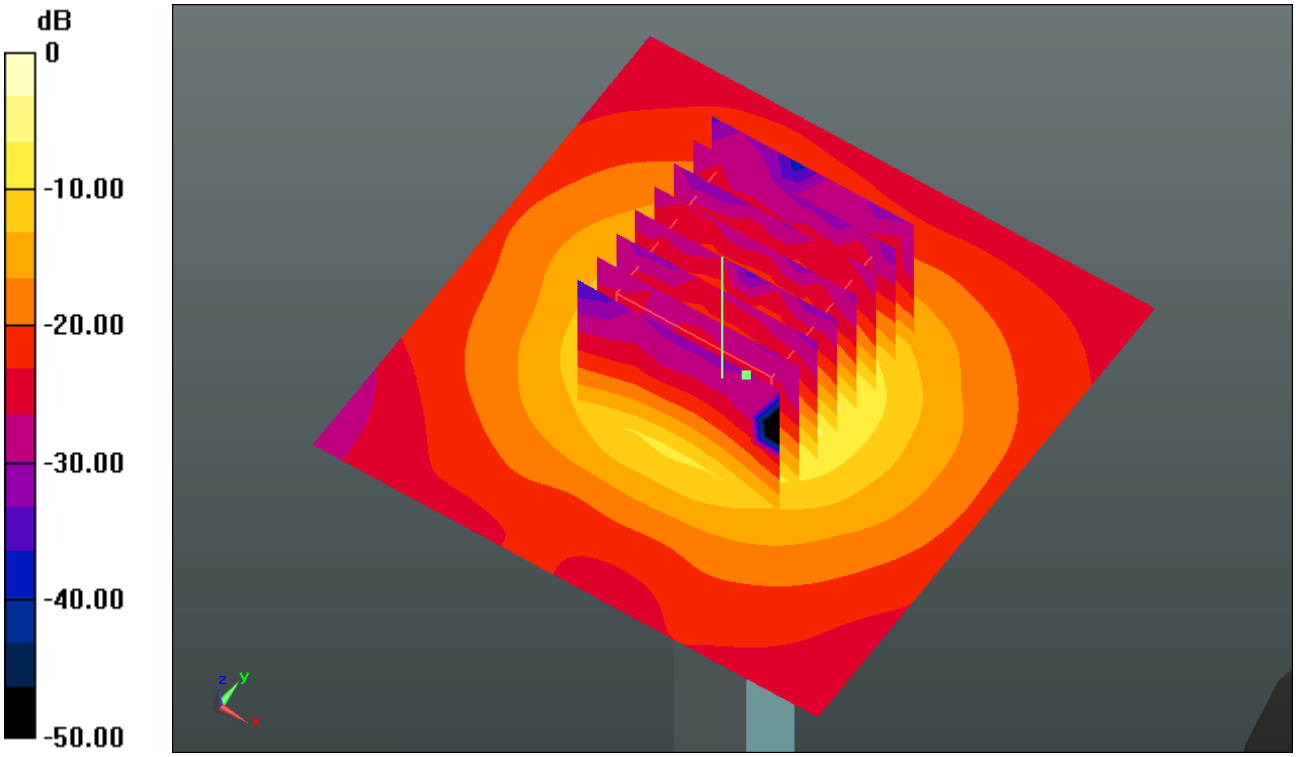
DUT: D5GHzV2-SN:1113

Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: HSL_5000_150824 Medium parameters used: f = 5200 MHz; σ = 4.811 mho/m; ε_r = 35.433; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(5.2, 5.2, 5.2); Calibrated: 2015.05.28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM2; Type: SAM; Serial: TP-1477
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Pin=100mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 18.922 mW/g

Pin=100mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 43.972 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 32.478 W/kg
SAR(1 g) = 7.96 mW/g; SAR(10 g) = 2.29 mW/g
Maximum value of SAR (measured) = 18.555 mW/g



0 dB = 18.560mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.24

System Check_Head_5800MHz_150824

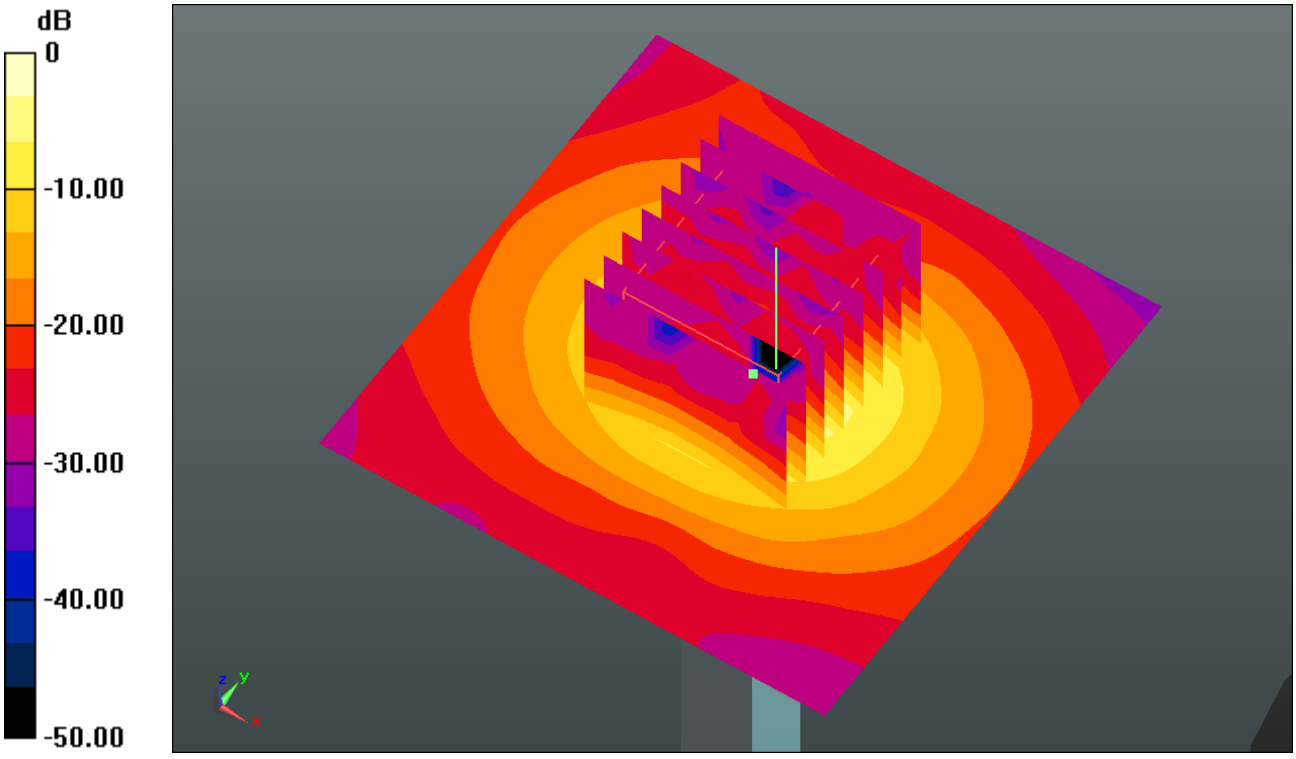
DUT: D5GHzV2-SN:1113

Communication System: CW; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium: HSL_5000_150824 Medium parameters used: f = 5800 MHz; σ = 5.42 mho/m; ε_r = 34.323; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃； Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(4.76, 4.76, 4.76); Calibrated: 2015.05.28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM2; Type: SAM; Serial: TP-1477
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Pin=100mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 19.403 mW/g

Pin=100mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 39.709 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 35.234 W/kg
SAR(1 g) = 7.82 mW/g; SAR(10 g) = 2.23 mW/g
Maximum value of SAR (measured) = 18.898 mW/g



0 dB = 18.900mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.20

System Check_Body_750MHz_150820

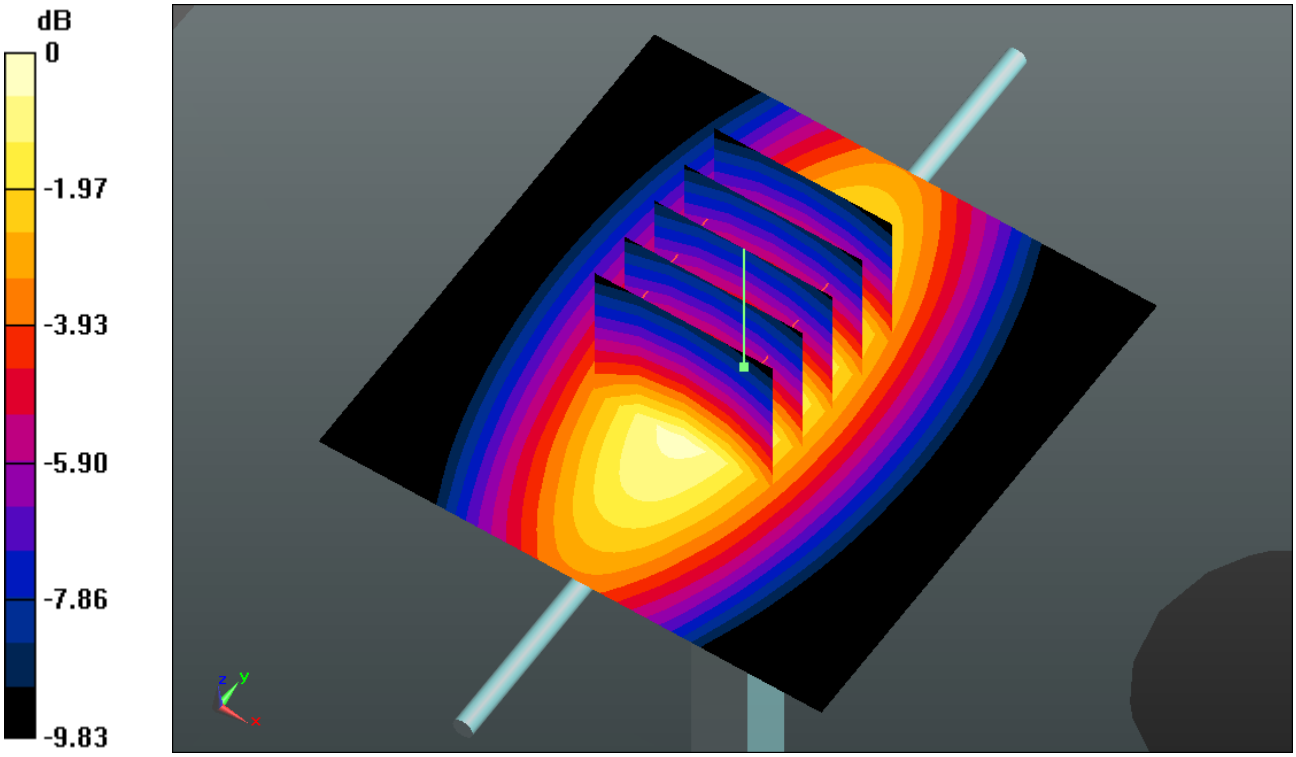
DUT: D750V2 - SN:1065

Communication System: CW; Frequency: 750 MHz;Duty Cycle: 1:1
Medium: MSL_750_150820 Medium parameters used: f = 750 MHz; σ = 0.963 mho/m; ε_r = 54.245; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃； Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.68, 9.68, 9.68); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.565 mW/g

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 48.154 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 2.948 W/kg
SAR(1 g) = 2.06 mW/g; SAR(10 g) = 1.38 mW/g
Maximum value of SAR (measured) = 2.559 mW/g



0 dB = 2.560mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.20

System Check_Body_835MHz_150820

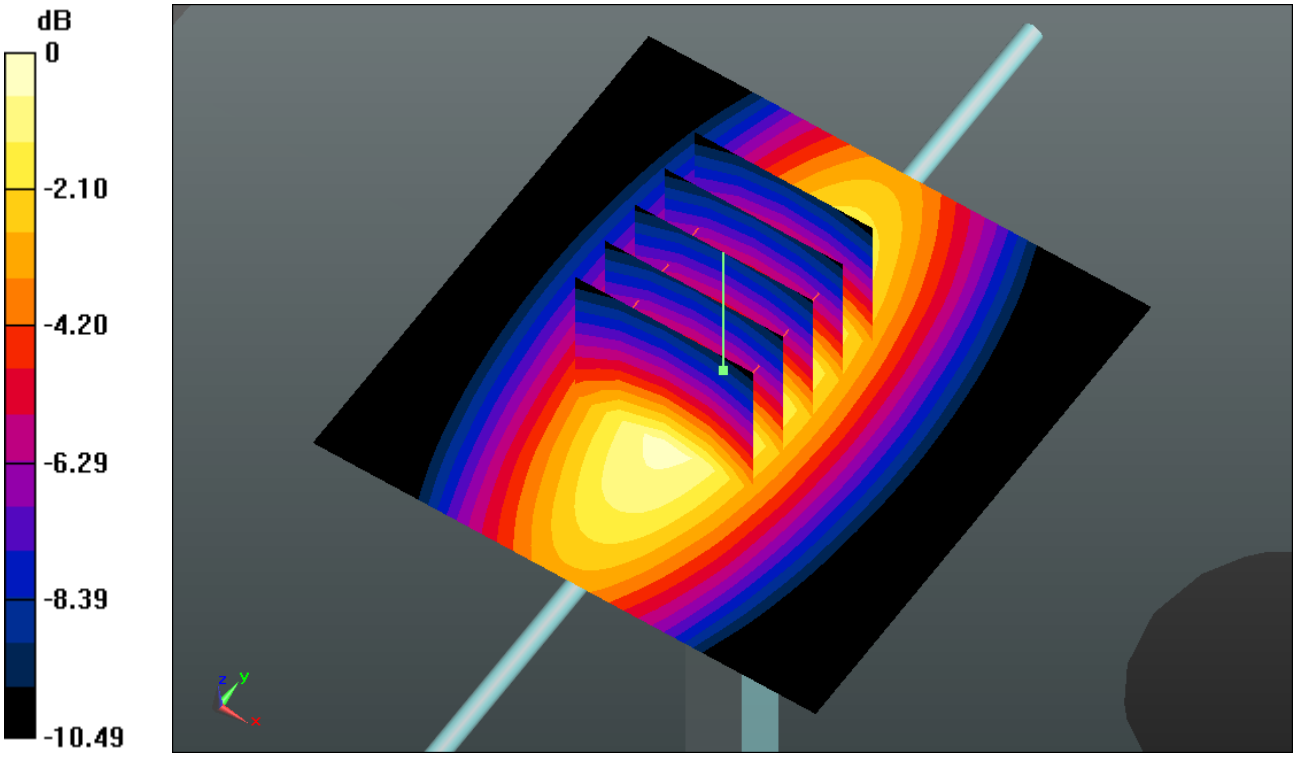
DUT: D835V2 - SN:4d091

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: MSL_835_150820 Medium parameters used: f = 835 MHz; σ = 0.98 mho/m; ε_r = 54.464; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃； Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.52, 9.52, 9.52); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.796 mW/g

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 49.643 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 3.304 W/kg
SAR(1 g) = 2.26 mW/g; SAR(10 g) = 1.48 mW/g
Maximum value of SAR (measured) = 2.846 mW/g



0 dB = 2.850mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.19

System Check_Body_1750MHz_150819

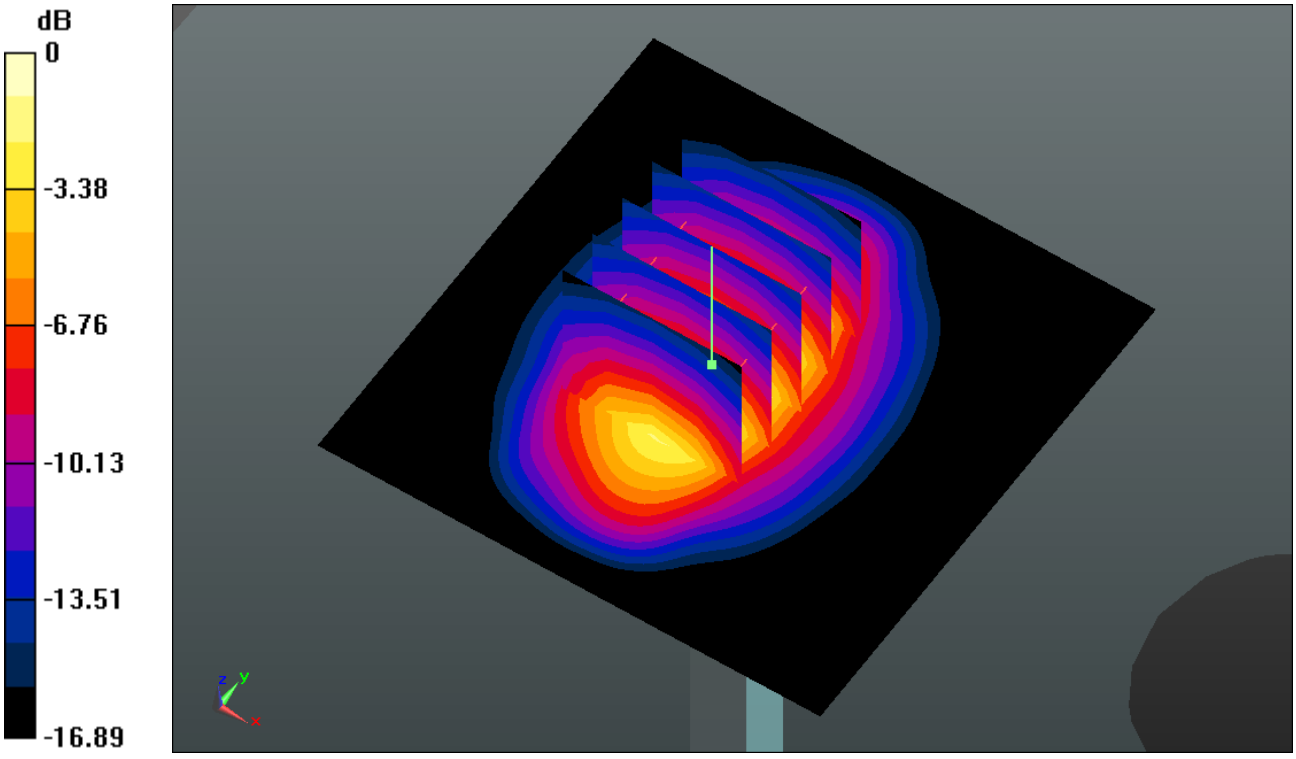
DUT: D1750V2 - SN:1069

Communication System: CW; Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: MSL_1750_150819 Medium parameters used: f = 1750 MHz; σ = 1.515 mho/m; ε_r = 55.246; ρ = 1000 kg/m^3
Ambient Temperature：23.6 ℃; Liquid Temperature：22.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.77, 7.77, 7.77); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 12.524 mW/g

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 78.490 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 15.919 W/kg
SAR(1 g) = 9.01 mW/g; SAR(10 g) = 4.77 mW/g
Maximum value of SAR (measured) = 12.757 mW/g



0 dB = 12.760mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.19

System Check_Body_1900MHz_150819

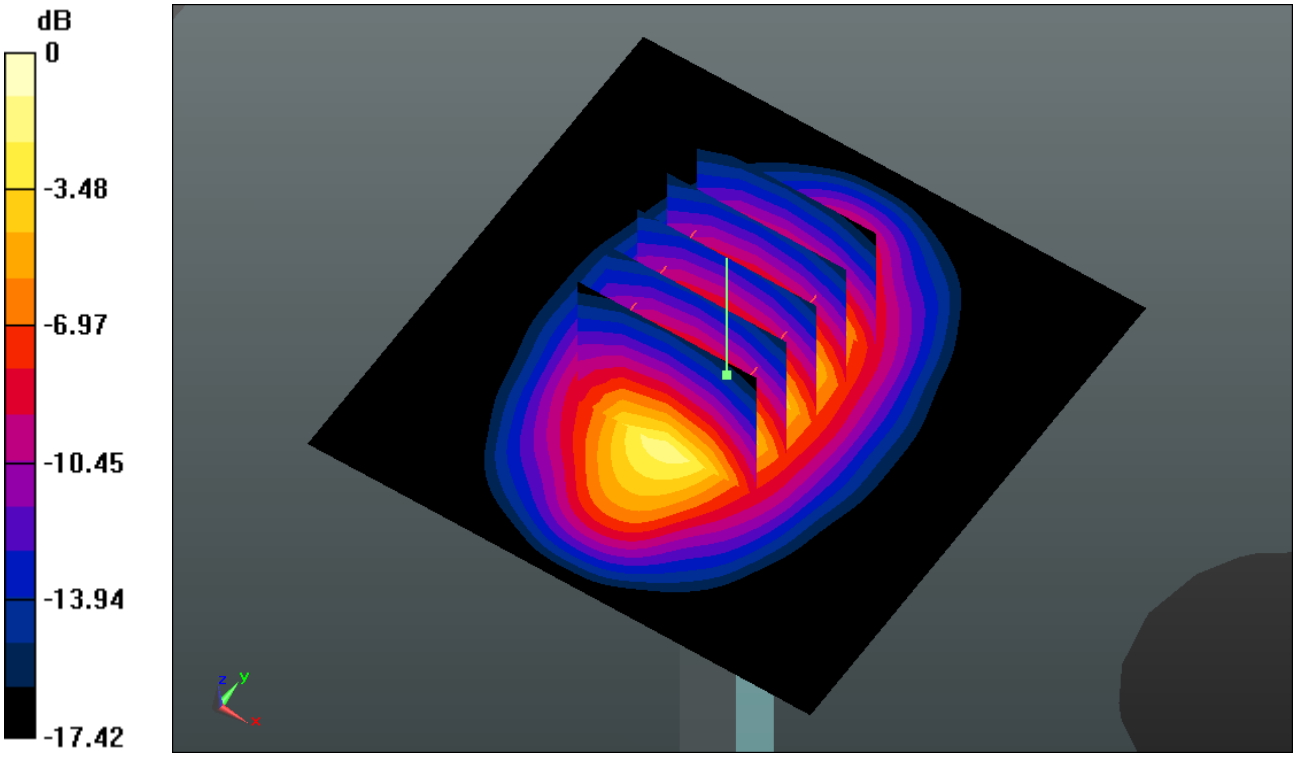
DUT: D1900V2 - SN:5d118

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: MSL_1900_150819 Medium parameters used: f = 1900 MHz; σ = 1.552 mho/m; ε_r = 53.419; ρ = 1000 kg/m^3
Ambient Temperature：23.6 ℃; Liquid Temperature：22.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.54, 7.54, 7.54); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 14.996 mW/g

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 87.500 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 18.815 W/kg
SAR(1 g) = 10.5 mW/g; SAR(10 g) = 5.47 mW/g
Maximum value of SAR (measured) = 15.015 mW/g



0 dB = 15.010mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.21

System Check_Body_2450MHz_150821

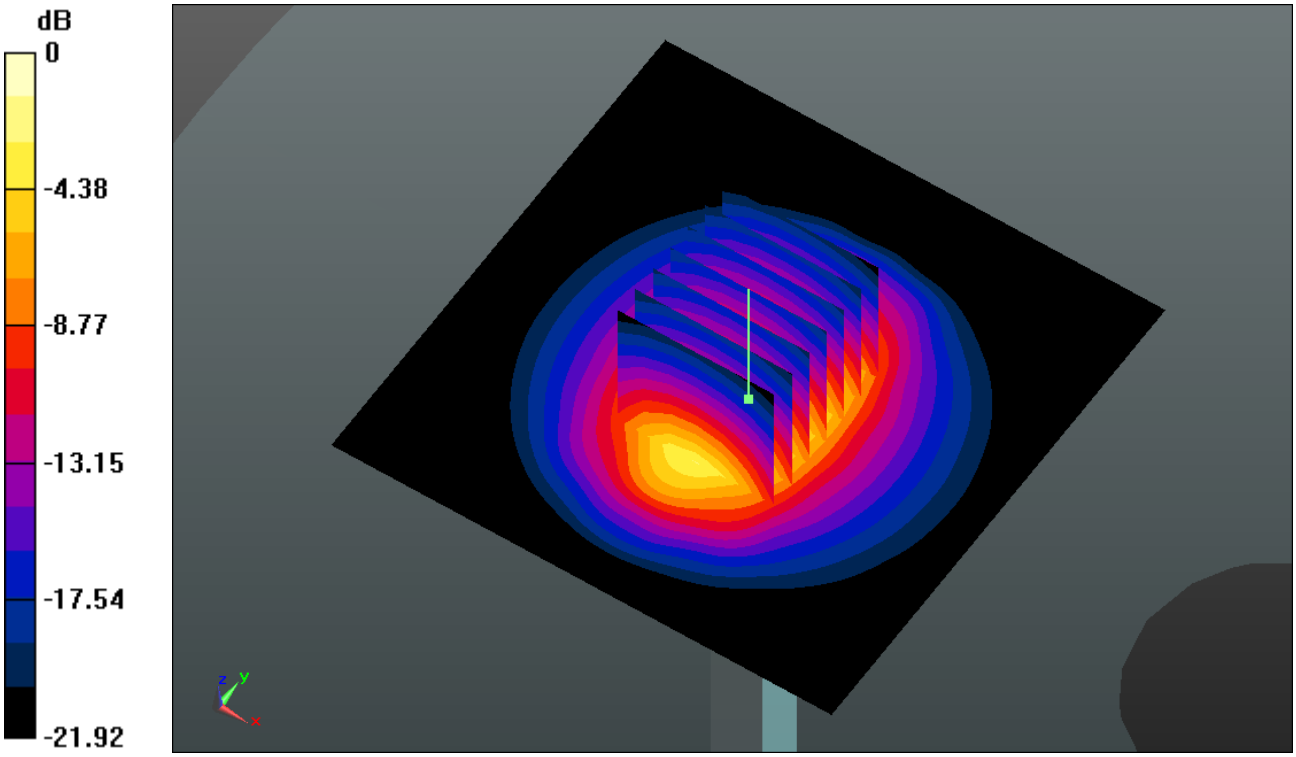
DUT: D2450V2 - SN:840

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: MSL_2450_150821 Medium parameters used: f = 2450 MHz; σ = 1.94 mho/m; ε_r = 51.413; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃； Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.29, 7.29, 7.29); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Pin=250mW/Area Scan (81x81x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 18.780 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 85.302 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 25.265 W/kg
SAR(1 g) = 12.2 mW/g; SAR(10 g) = 5.63 mW/g
Maximum value of SAR (measured) = 18.746 mW/g



0 dB = 18.750mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.24

System Check_Body_5200MHz_150824

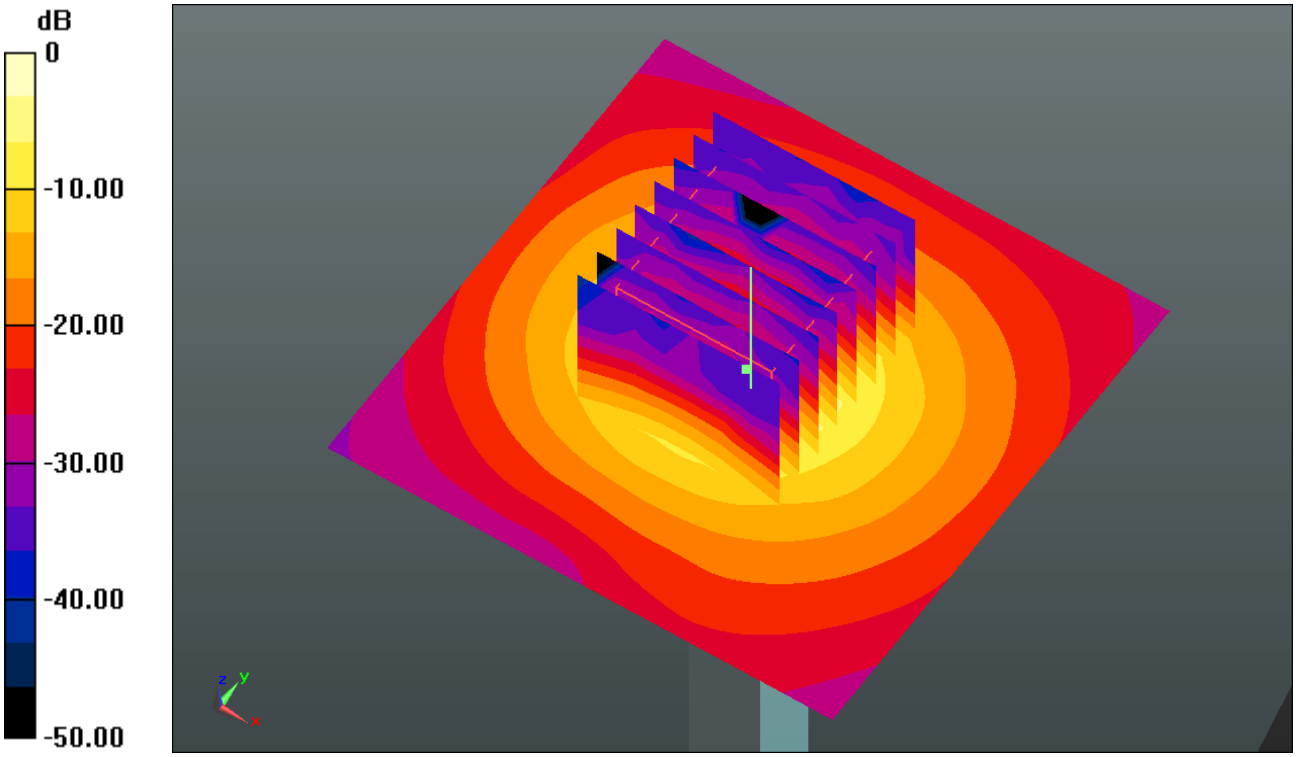
DUT: D5GHzV2-SN:1113

Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: MSL_5000_150824 Medium parameters used: f = 5200 MHz; σ = 5.297 mho/m; ε_r = 49.185; ρ = 1000 kg/m^3
Ambient Temperature：23.6 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(4.45, 4.45, 4.45); Calibrated: 2015.05.28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Pin=100mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 16.820 mW/g

Pin=100mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 40.630 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 28.783 W/kg
SAR(1 g) = 7.19 mW/g; SAR(10 g) = 2.02 mW/g
Maximum value of SAR (measured) = 16.676 mW/g



0 dB = 16.680mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.24

System Check_Body_5800MHz_150824

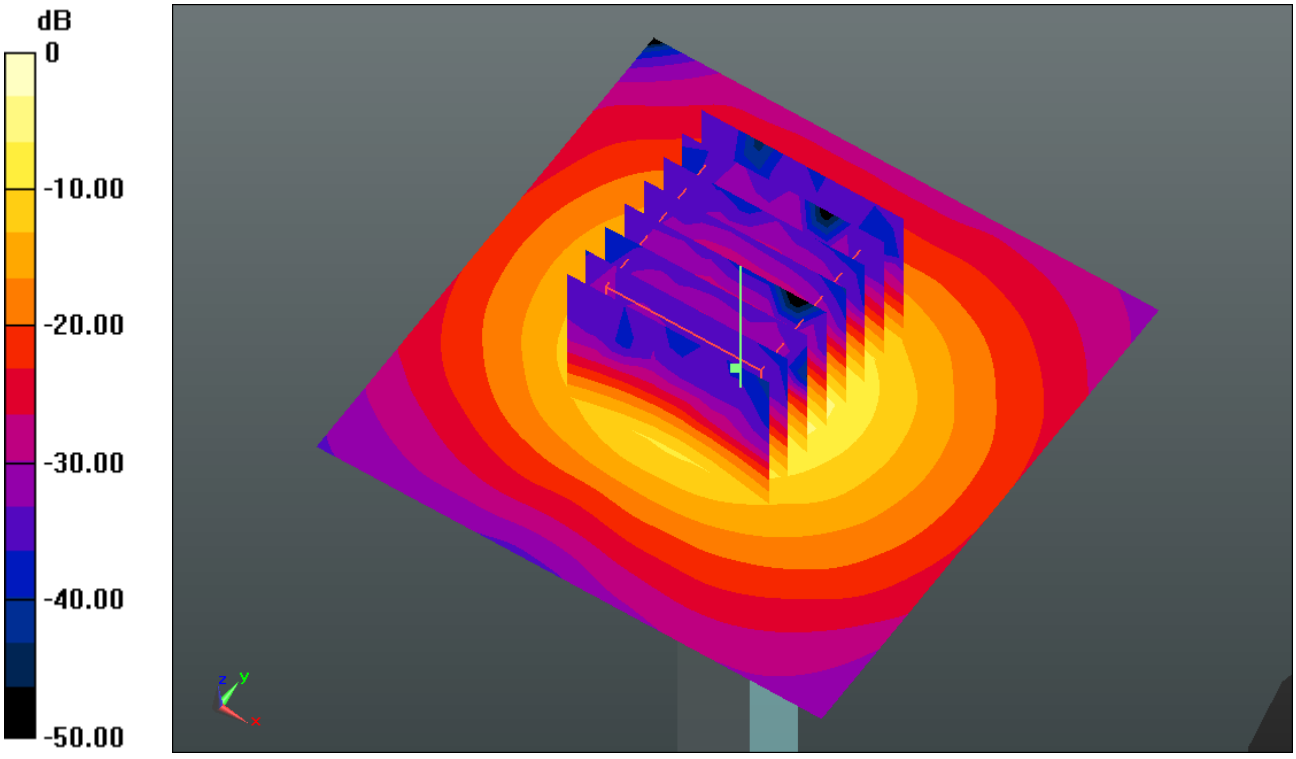
DUT: D5GHzV2-SN:1113

Communication System: CW; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium: MSL_5000_150824 Medium parameters used: f = 5800 MHz; σ = 6.127 mho/m; ε_r = 47.784; ρ = 1000 kg/m^3
Ambient Temperature：23.6 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(4.16, 4.16, 4.16); Calibrated: 2015.05.28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Pin=100mW/Area Scan (71x71x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 18.076 mW/g

Pin=100mW/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 37.500 V/m; Power Drift = 0.0097 dB
Peak SAR (extrapolated) = 33.500 W/kg
SAR(1 g) = 7.39 mW/g; SAR(10 g) = 2.05 mW/g
Maximum value of SAR (measured) = 18.075 mW/g



0 dB = 18.080mW/g

Appendix B. Plots of High SAR Measurement

The plots are shown as follows.

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.21

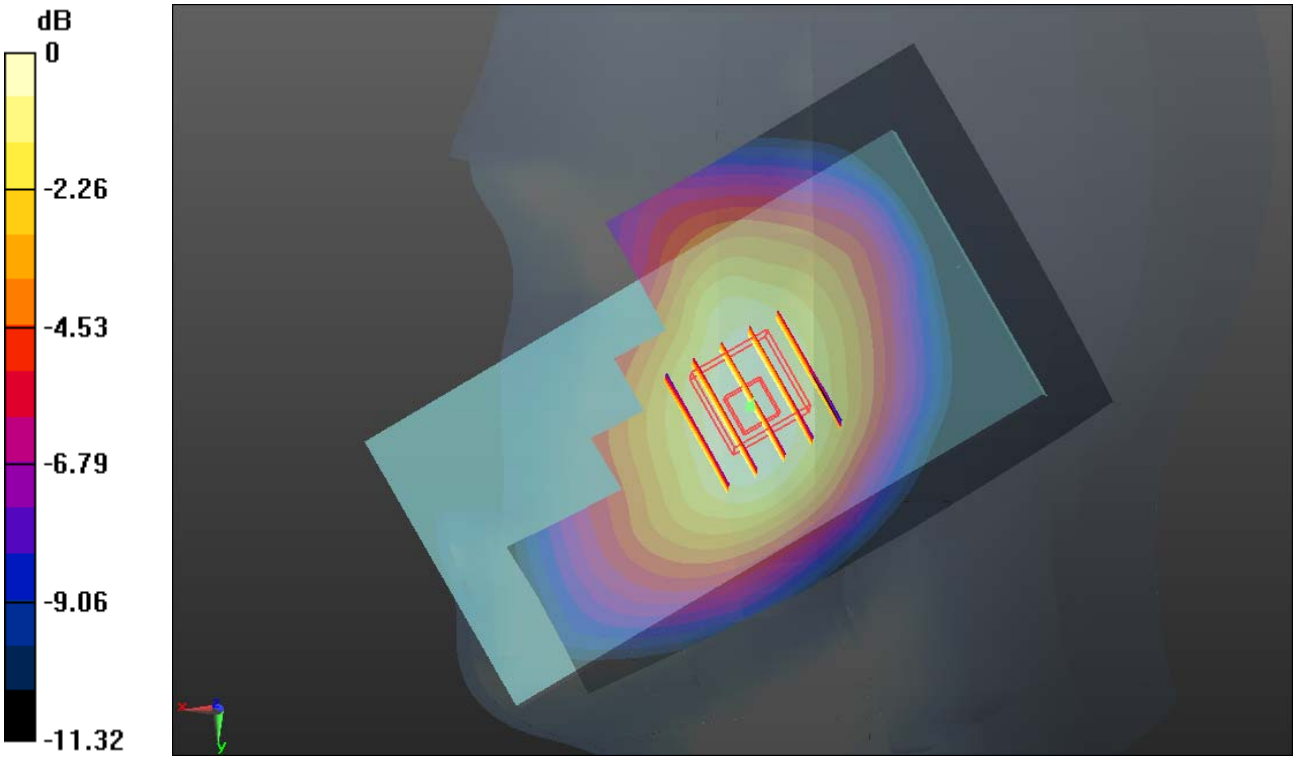
#01_GSM850_GPRS (2 Tx slots)_Right Cheek_Ch251

Communication System: GPRS/EDGE (2 Tx slots) (0); Frequency: 848.8 MHz;Duty Cycle: 1:4.15
Medium: HSL_835_150821 Medium parameters used: f = 848.8 MHz; σ = 0.905 mho/m; ε_r = 41.19; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.26, 9.26, 9.26); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch251/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.433 mW/g

Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.220 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.460 W/kg
SAR(1 g) = 0.378 mW/g; SAR(10 g) = 0.289 mW/g
Maximum value of SAR (measured) = 0.429 mW/g



0 dB = 0.430mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.22

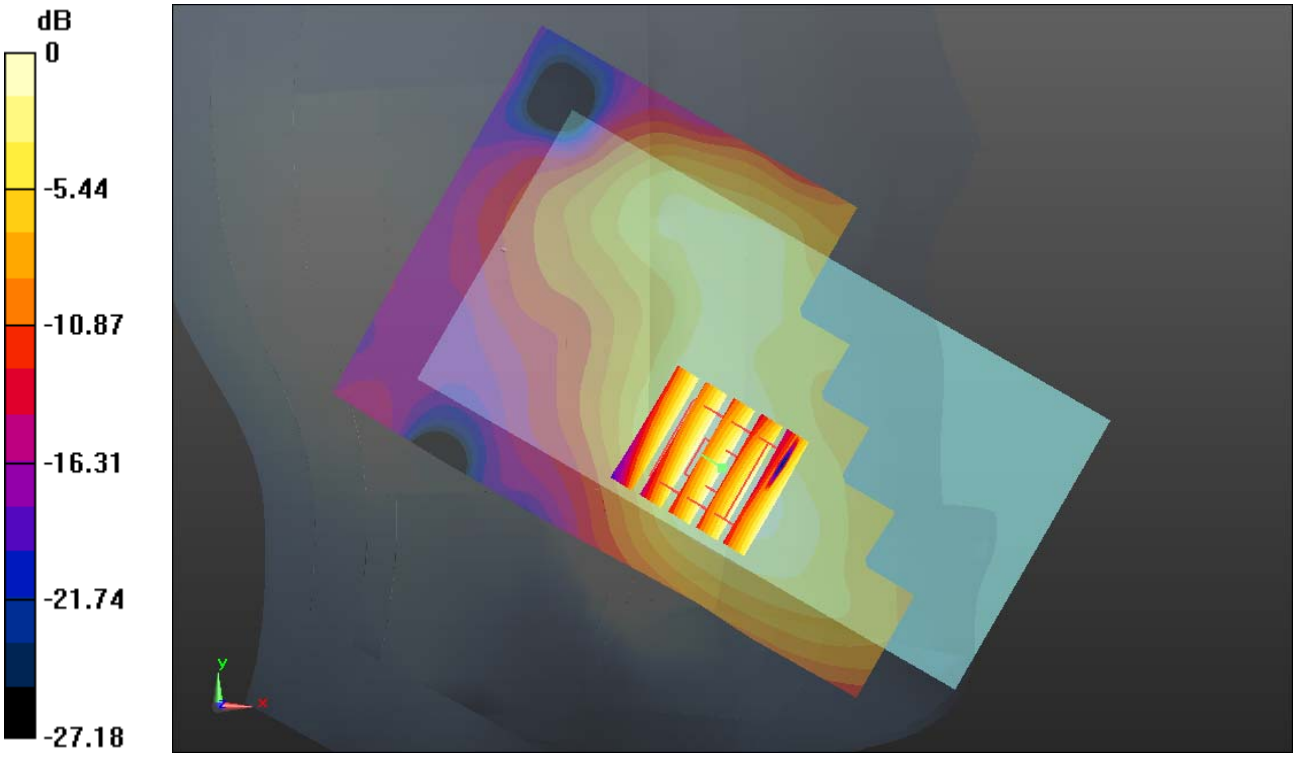
#02_GSM1900_GPRS (2 Tx slots)_Left Cheek_Ch810

Communication System: GPRS/EDGE (2 Tx slots) (0); Frequency: 1909.8 MHz;Duty Cycle: 1:4.15
Medium: HSL_1900_150822 Medium parameters used: f = 1909.8 MHz; σ = 1.435 mho/m; ε_r = 39.029; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃； Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.81, 7.81, 7.81); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch810/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.242 mW/g

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.814 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 0.286 W/kg
SAR(1 g) = 0.180 mW/g; SAR(10 g) = 0.109 mW/g
Maximum value of SAR (measured) = 0.230 mW/g



0 dB = 0.230mW/g

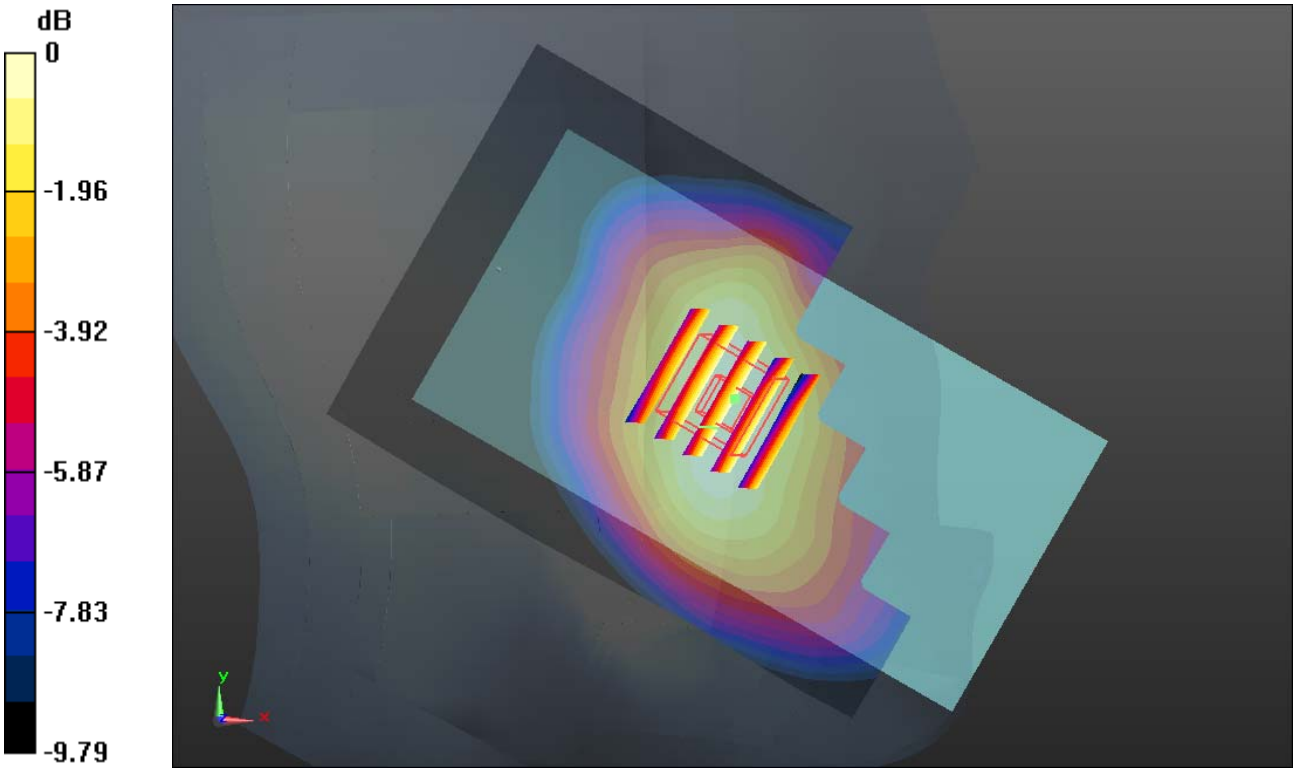
#03_WCDMA Band V_RMC 12.2Kbps_Left Cheek_Ch4233

Communication System: UMTS (0); Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: HSL_835_150821 Medium parameters used: f = 846.6 MHz; σ = 0.904 mho/m; ε_r = 41.219; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.26, 9.26, 9.26); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch4233/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.230 mW/g

Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.513 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.250 W/kg
SAR(1 g) = 0.205 mW/g; SAR(10 g) = 0.158 mW/g
Maximum value of SAR (measured) = 0.231 mW/g



0 dB = 0.230mW/g

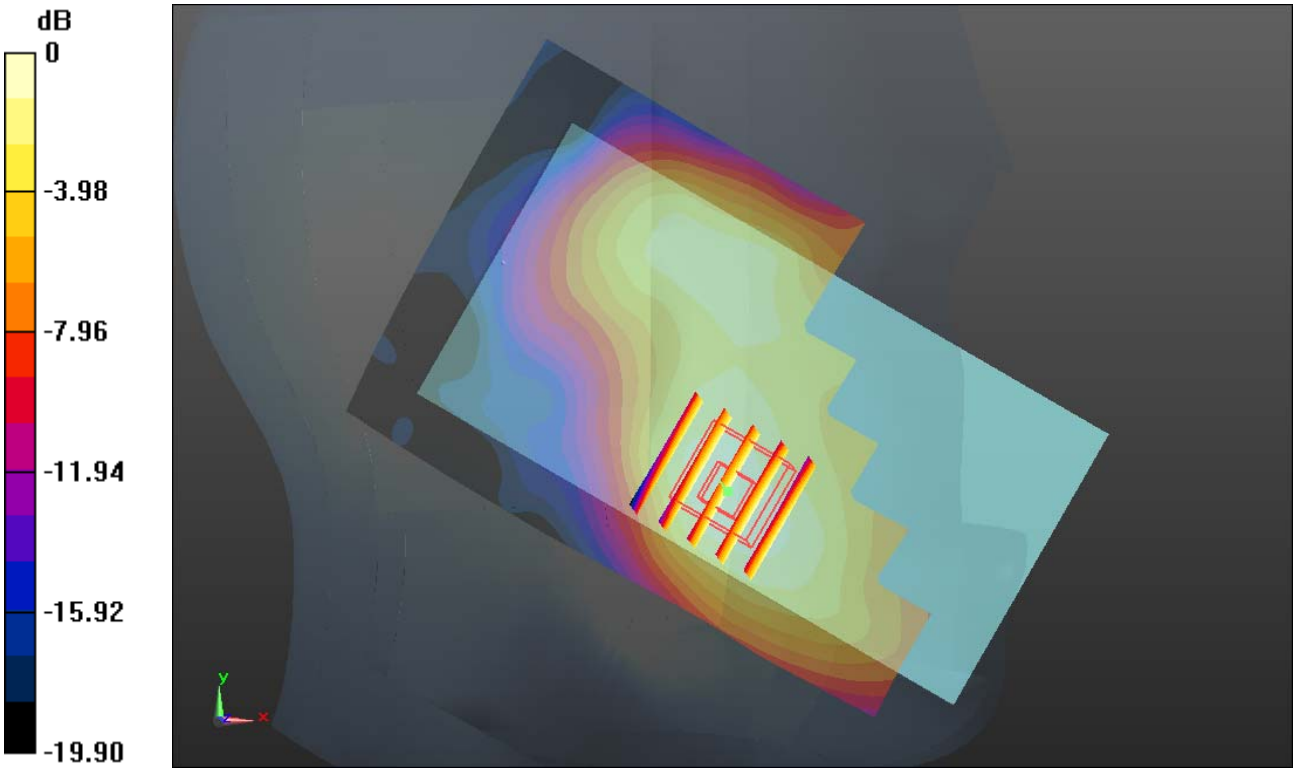
#04_WCDMA Band IV_RMC12.2Kbps_Left Cheek_Ch1312

Communication System: UMTS (0); Frequency: 1712.4 MHz;Duty Cycle: 1:1
Medium: HSL_1750_150822 Medium parameters used: f = 1712.4 MHz; σ = 1.341 mho/m; ε_r = 40.97; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃； Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(8.06, 8.06, 8.06); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch1312/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.283 mW/g

Ch1312/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.643 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.316 W/kg
SAR(1 g) = 0.215 mW/g; SAR(10 g) = 0.140 mW/g
Maximum value of SAR (measured) = 0.269 mW/g



0 dB = 0.270mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.22

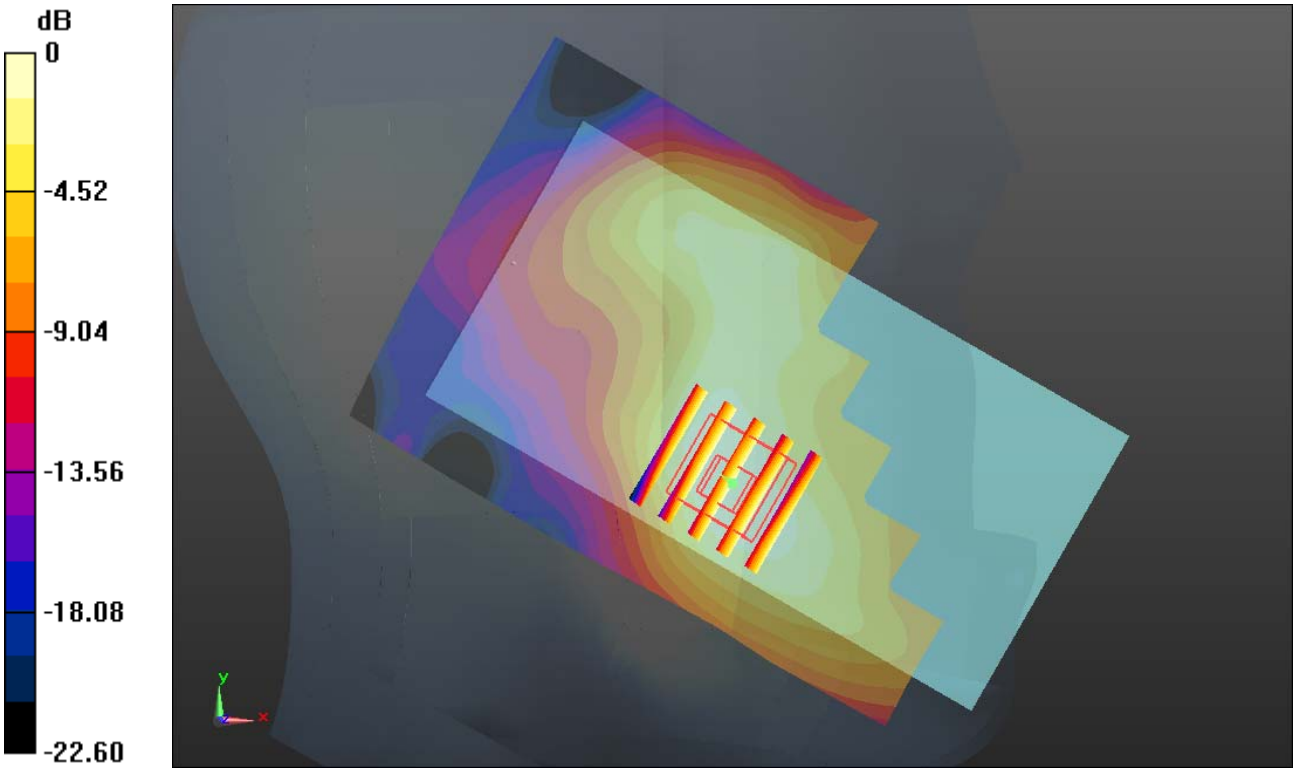
#05_WCDMA Band II_RMC12.2Kbps_Left Cheek_Ch9538

Communication System: UMTS (0); Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: HSL_1900_150822 Medium parameters used: f = 1907.6 MHz; σ = 1.433 mho/m; ε_r = 39.038; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.81, 7.81, 7.81); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch9538/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.264 mW/g

Ch9538/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.522 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.308 W/kg
SAR(1 g) = 0.198 mW/g; SAR(10 g) = 0.123 mW/g
Maximum value of SAR (measured) = 0.250 mW/g



0 dB = 0.250mW/g

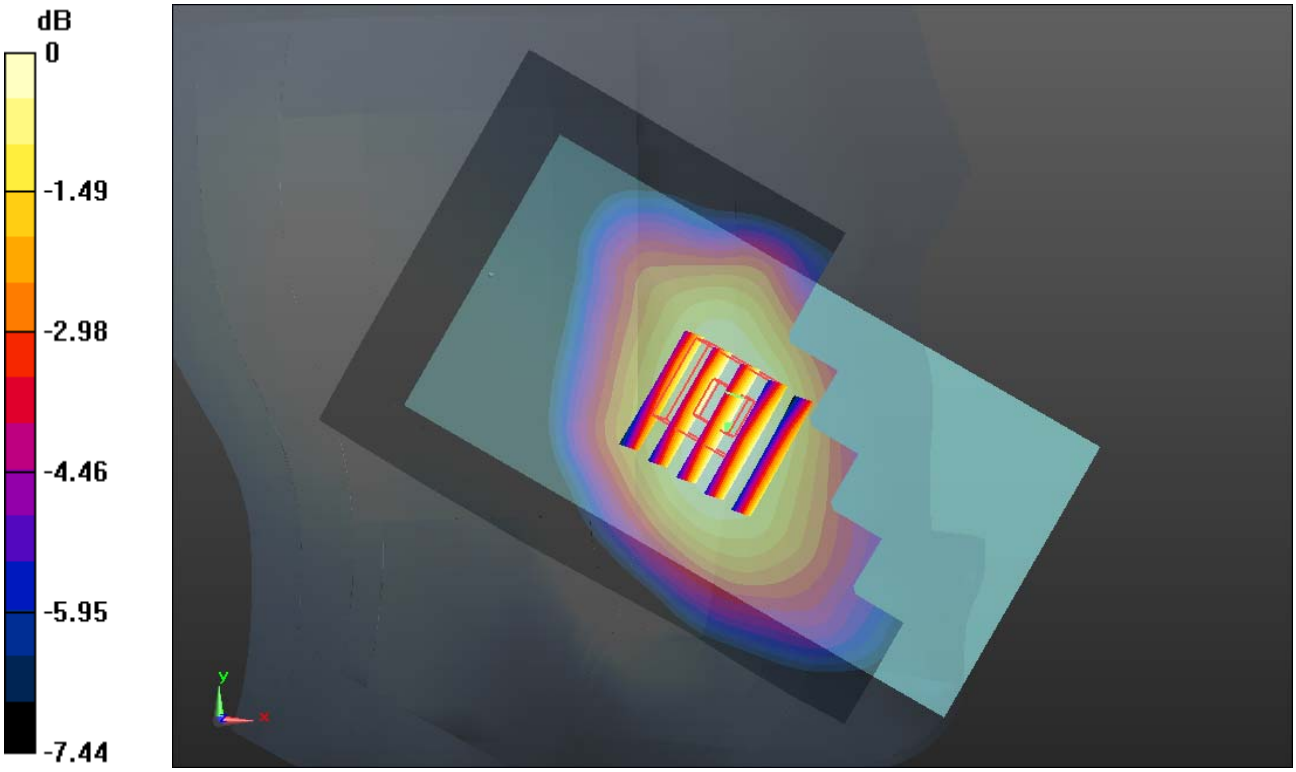
#06_LTE Band12_10M_QPSK(1,0)_Left Cheek_Ch23130

Communication System: FDD_LTE (0); Frequency: 711 MHz;Duty Cycle: 1:1
Medium: HSL_750_150821 Medium parameters used: f = 711 MHz; σ = 0.862 mho/m; ε_r = 41.688; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.75, 9.75, 9.75); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch23130/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.167 mW/g

Ch23130/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.877 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.175 W/kg
SAR(1 g) = 0.147 mW/g; SAR(10 g) = 0.119 mW/g
Maximum value of SAR (measured) = 0.160 mW/g



0 dB = 0.160mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.21

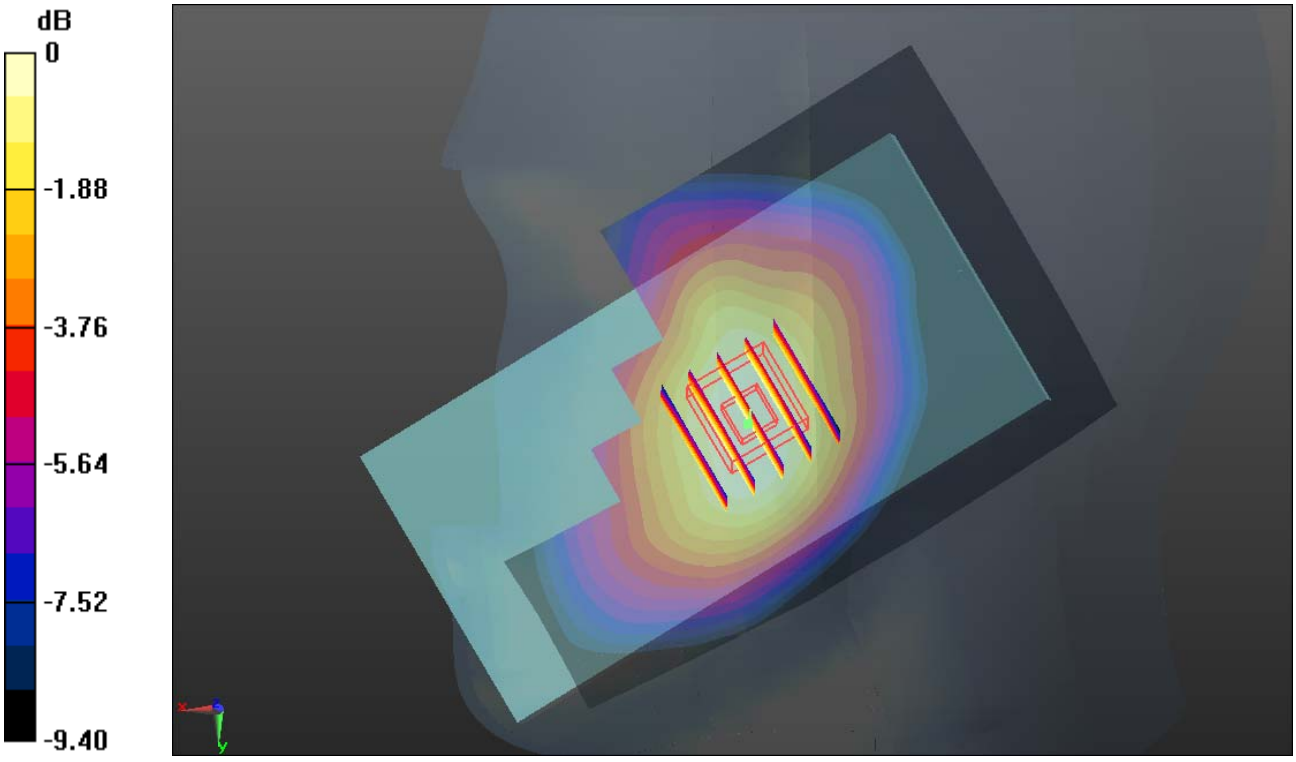
#07_LTE Band5_10M_QPSK(1,24)_Right Cheek_Ch20525

Communication System: FDD_LTE (0); Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium: HSL_835_150821 Medium parameters used: f = 836.5 MHz; σ = 0.895 mho/m; ε_r = 41.361; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.26, 9.26, 9.26); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch20525/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.266 mW/g

Ch20525/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.951 V/m; Power Drift = 0.022 dB
Peak SAR (extrapolated) = 0.289 W/kg
SAR(1 g) = 0.237 mW/g; SAR(10 g) = 0.181 mW/g
Maximum value of SAR (measured) = 0.269 mW/g



0 dB = 0.270mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.22

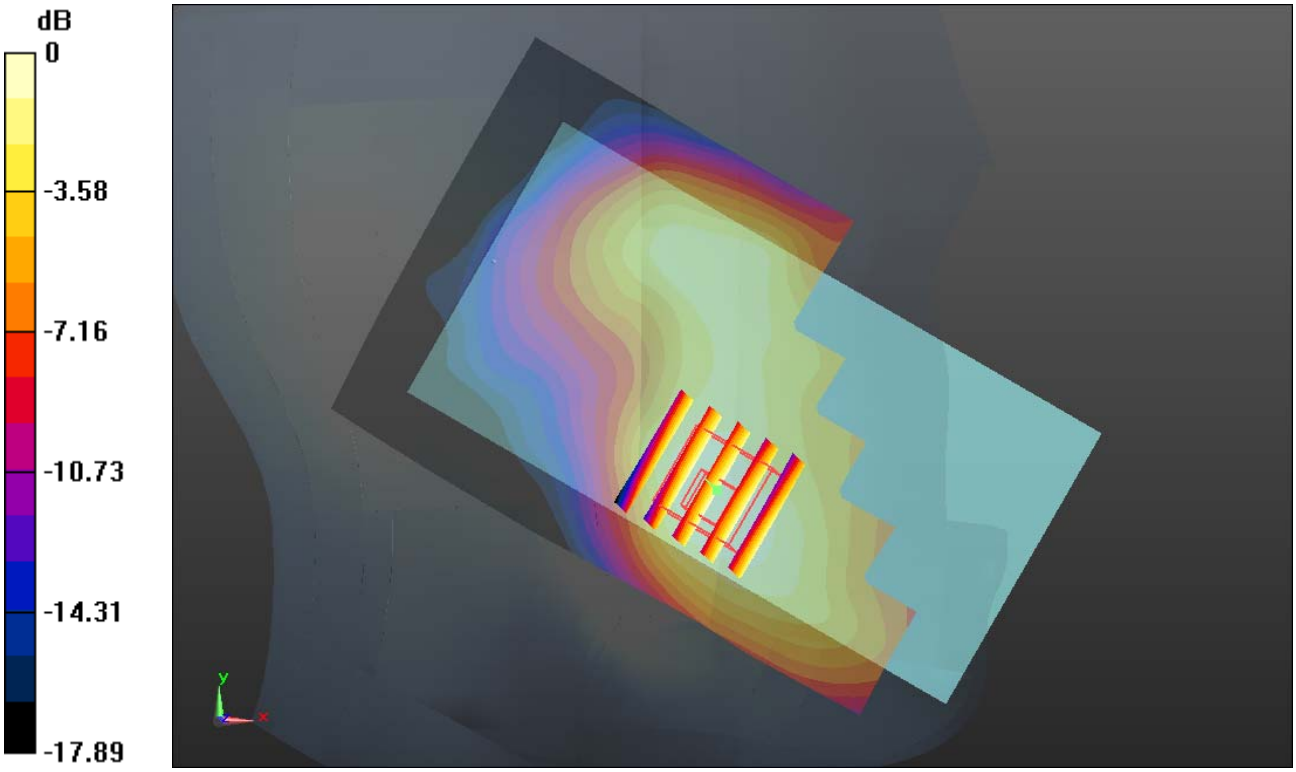
#08_LTE Band4_20M_QPSK(1,0)_Left Cheek_Ch20175

Communication System: FDD_LTE (0); Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium: HSL_1750_150822 Medium parameters used: f = 1732.5 MHz; σ = 1.364 mho/m; ε_r = 40.884; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(8.06, 8.06, 8.06); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch20175/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.360 mW/g

Ch20175/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.602 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.405 W/kg
SAR(1 g) = 0.274 mW/g; SAR(10 g) = 0.180 mW/g
Maximum value of SAR (measured) = 0.328 mW/g



0 dB = 0.330mW/g

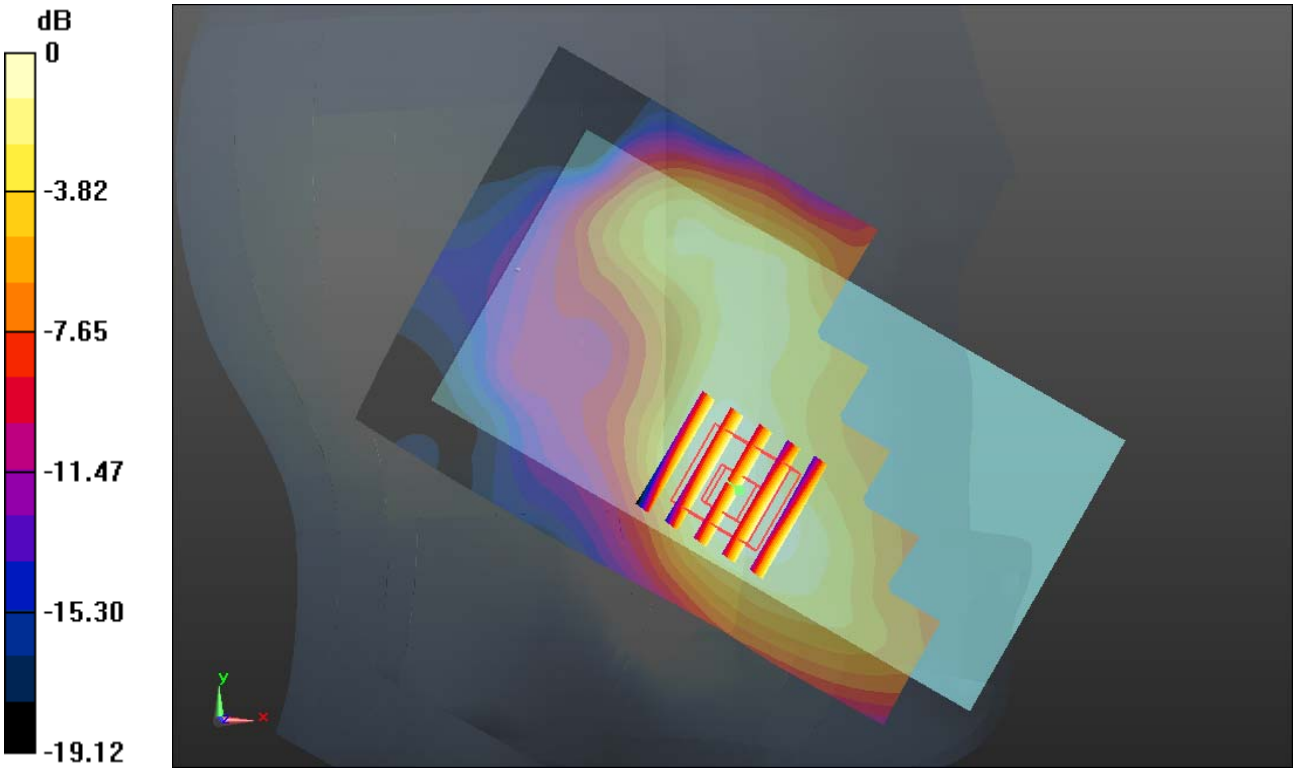
#09_LTE Band2_20M_QPSK(1,0)_Left Cheek_Ch18900

Communication System: FDD_LTE (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: HSL_1900_150822 Medium parameters used: f = 1880 MHz; σ = 1.404 mho/m; ε_r = 39.161; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.81, 7.81, 7.81); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch18900/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.287 mW/g

Ch18900/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.142 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.327 W/kg
SAR(1 g) = 0.211 mW/g; SAR(10 g) = 0.133 mW/g
Maximum value of SAR (measured) = 0.259 mW/g



0 dB = 0.260mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.24

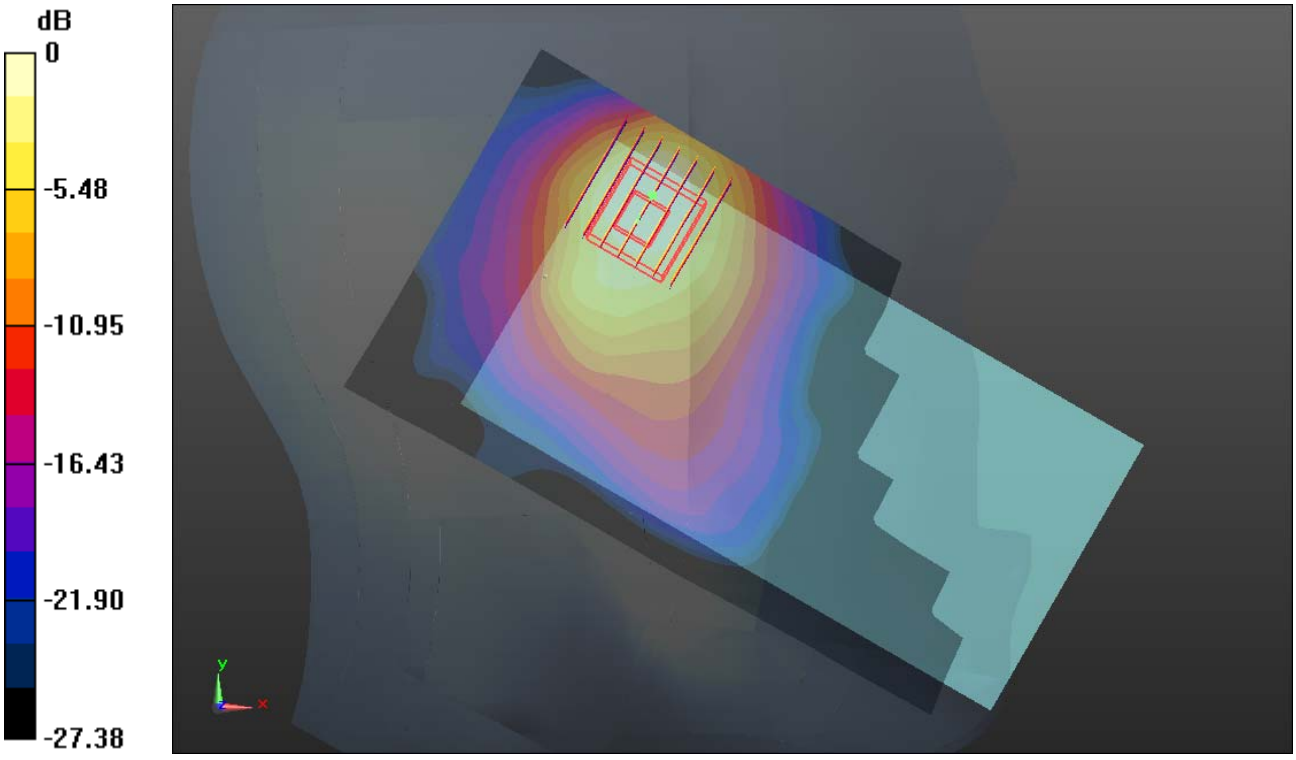
#10_WLAN 2.4GHz_802.11b_1Mbps_Left Cheek_Ch6

Communication System: WIFI (0); Frequency: 2437 MHz;Duty Cycle: 1:1.024
Medium: HSL_2450_150824 Medium parameters used: f = 2437 MHz; σ = 1.803 mho/m; ε_r = 39.277; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.08, 7.08, 7.08); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM2; Type: SAM; Serial: TP-1477
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch6/Area Scan (81x151x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 1.876 mW/g

Ch6/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.097 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 2.156 W/kg
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.521 mW/g
Maximum value of SAR (measured) = 1.559 mW/g



0 dB = 1.560mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.24

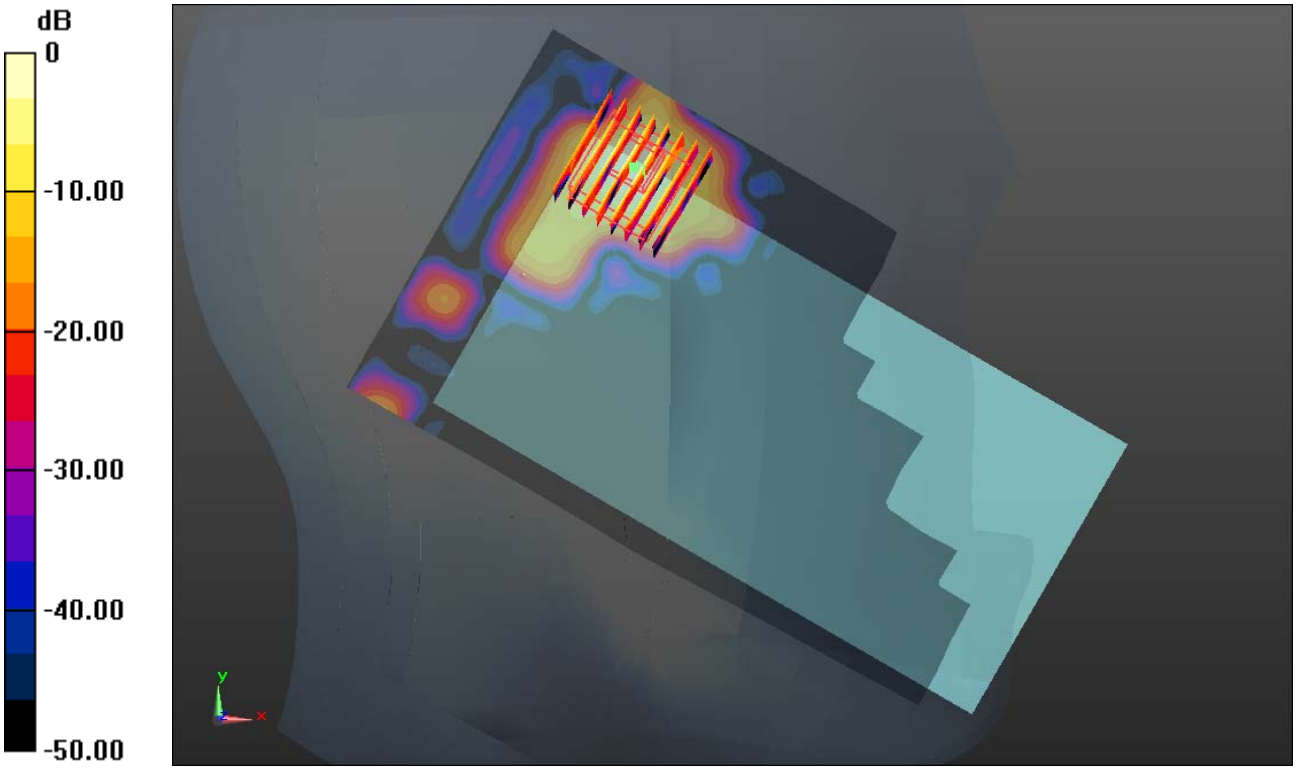
#11_WLAN 5.2GHz_802.11a_6Mbps_Left Cheek_Ch36

Communication System: WIFI (0); Frequency: 5180 MHz;Duty Cycle: 1:1.146
Medium: HSL_5000_150824 Medium parameters used: f = 5180 MHz; σ = 4.79 mho/m; ε_r = 35.48; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(5.2, 5.2, 5.2); Calibrated: 2015.05.28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM2; Type: SAM; Serial: TP-1477
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch36/Area Scan (101x191x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.987 mW/g

Ch36/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 2.209 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.788 W/kg
SAR(1 g) = 0.341 mW/g; SAR(10 g) = 0.085 mW/g
Maximum value of SAR (measured) = 1.024 mW/g



0 dB = 1.020mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.24

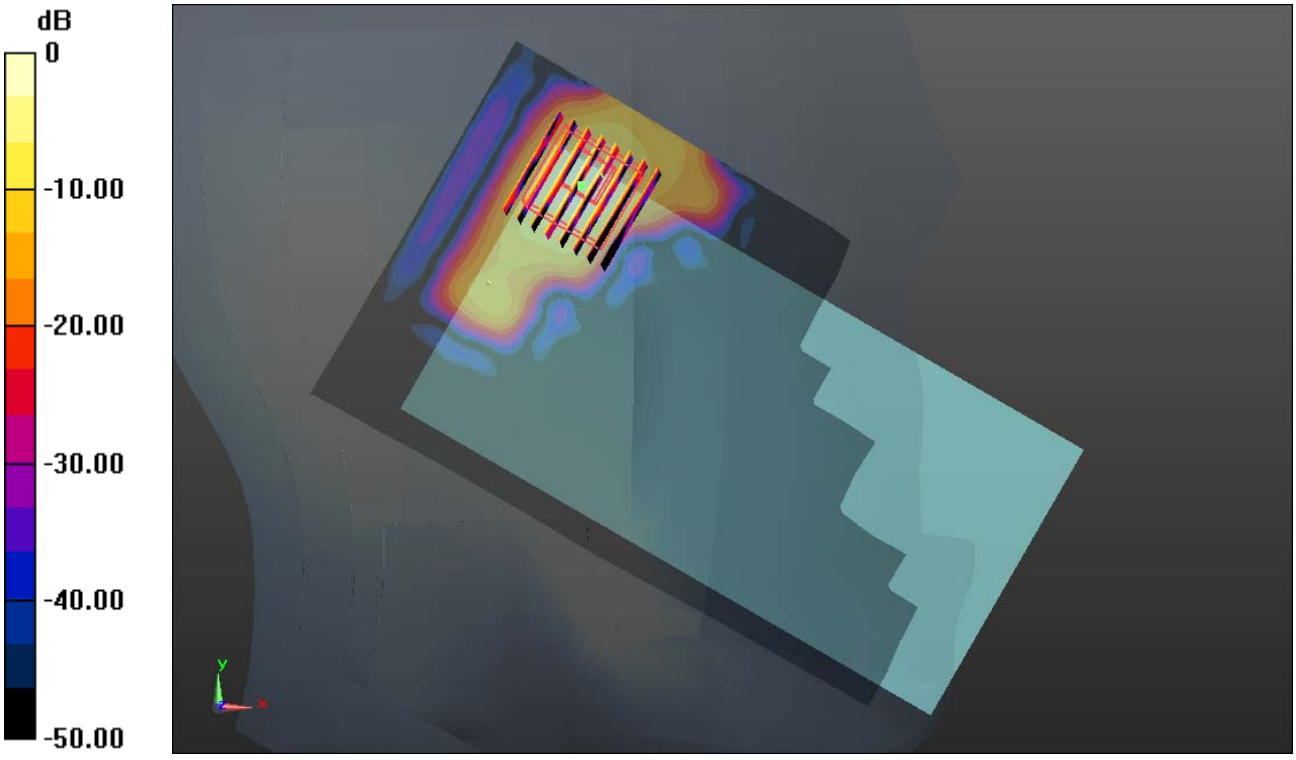
#12_WLAN 5.8GHz_802.11a_6Mbps_Left Cheek_Ch157

Communication System: WIFI (0); Frequency: 5785 MHz;Duty Cycle: 1:1.146
Medium: HSL_5000_150824 Medium parameters used: f = 5785 MHz; σ = 5.411 mho/m; ε_r = 34.365; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(4.76, 4.76, 4.76); Calibrated: 2015.05.28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM2; Type: SAM; Serial: TP-1477
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch157/Area Scan (101x191x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.965 mW/g

Ch157/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 2.997 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 3.462 W/kg
SAR(1 g) = 0.624 mW/g; SAR(10 g) = 0.171 mW/g
Maximum value of SAR (measured) = 1.846 mW/g



0 dB = 1.850mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.20

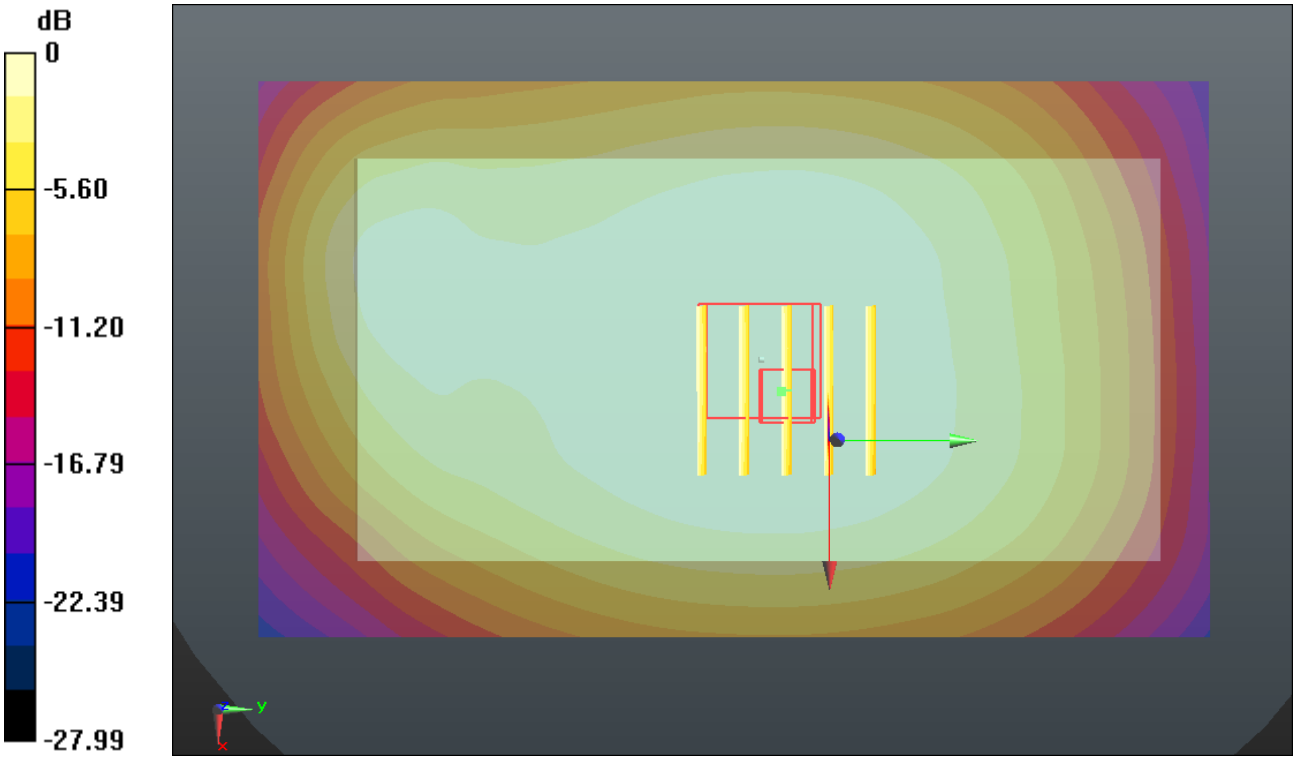
#13_GSM850_GPRS (2 Tx slots)_Front 1cm_Ch251

Communication System: GPRS/EDGE (2 Tx slots) (0); Frequency: 848.8 MHz;Duty Cycle: 1:4.15
Medium: MSL_835_150820 Medium parameters used: f = 848.8 MHz; σ = 0.994 mho/m; ε_r = 54.311; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.52, 9.52, 9.52); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch251/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.468 mW/g

Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.737 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.505 W/kg
SAR(1 g) = 0.410 mW/g; SAR(10 g) = 0.316 mW/g
Maximum value of SAR (measured) = 0.464 mW/g



0 dB = 0.460mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.19

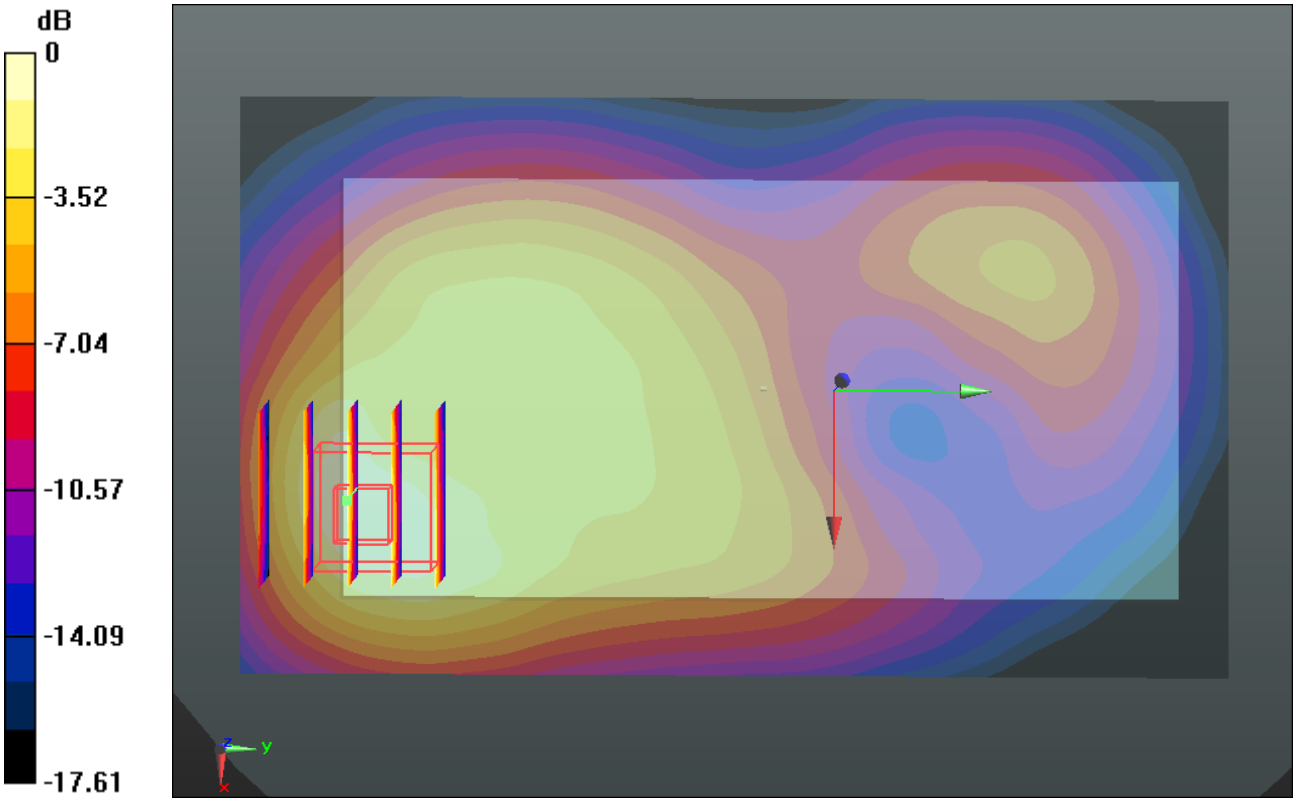
#14_GSM1900_GPRS (2 Tx slots)_Back 1cm_Ch810

Communication System: GPRS/EDGE (2 Tx slots) (0); Frequency: 1909.8 MHz;Duty Cycle: 1:4.15
Medium: MSL_1900_150819 Medium parameters used: f = 1909.8 MHz; σ = 1.563 mho/m; ε_r = 53.388; ρ = 1000 kg/m^3
Ambient Temperature：23.6 ℃; Liquid Temperature：22.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.54, 7.54, 7.54); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch810/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.869 mW/g

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.371 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.066 W/kg
SAR(1 g) = 0.634 mW/g; SAR(10 g) = 0.364 mW/g
Maximum value of SAR (measured) = 0.851 mW/g



0 dB = 0.850mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.20

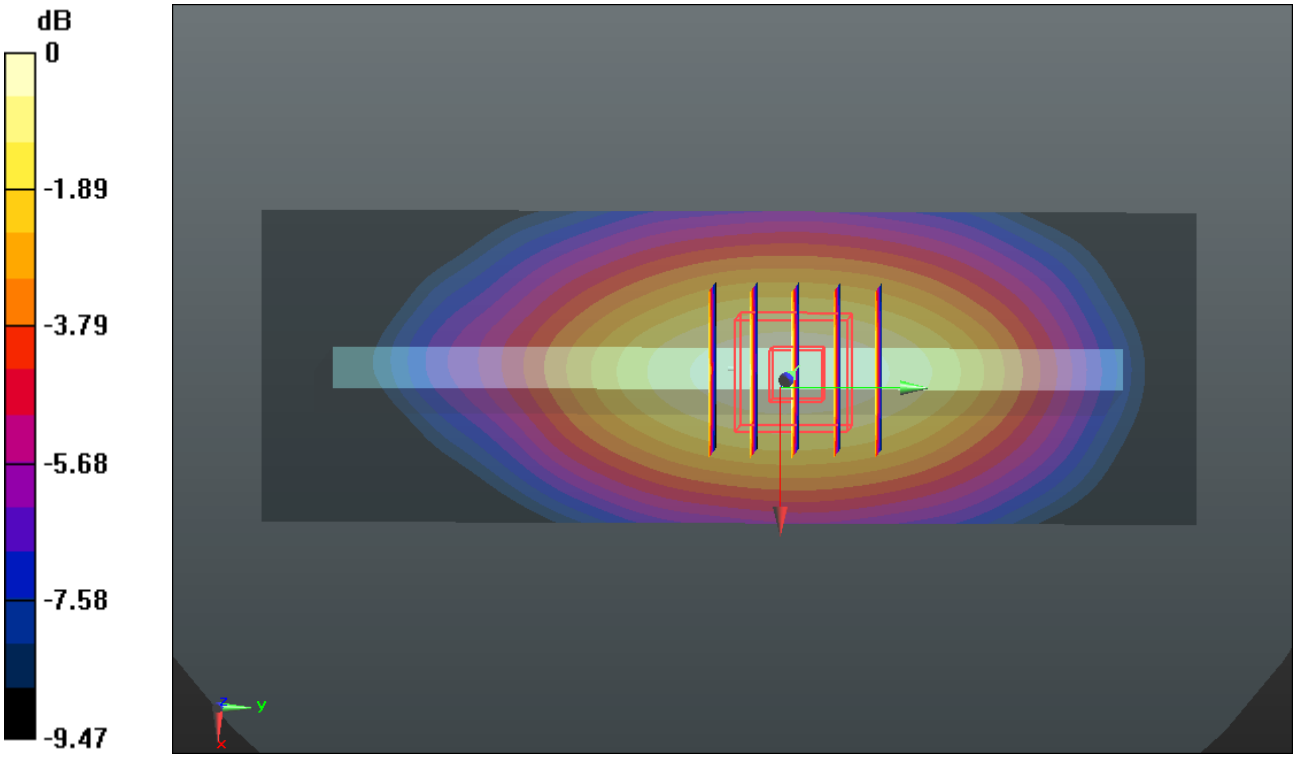
#15_WCDMA Band V_RMC12.2Kbps_Left Side 1cm_Ch4233

Communication System: UMTS (0); Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: MSL_835_150820 Medium parameters used: f = 846.6 MHz; σ = 0.992 mho/m; ε_r = 54.337; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.52, 9.52, 9.52); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch4233/Area Scan (41x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.329 mW/g

Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.592 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.373 W/kg
SAR(1 g) = 0.267 mW/g; SAR(10 g) = 0.185 mW/g
Maximum value of SAR (measured) = 0.327 mW/g



0 dB = 0.330mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.19

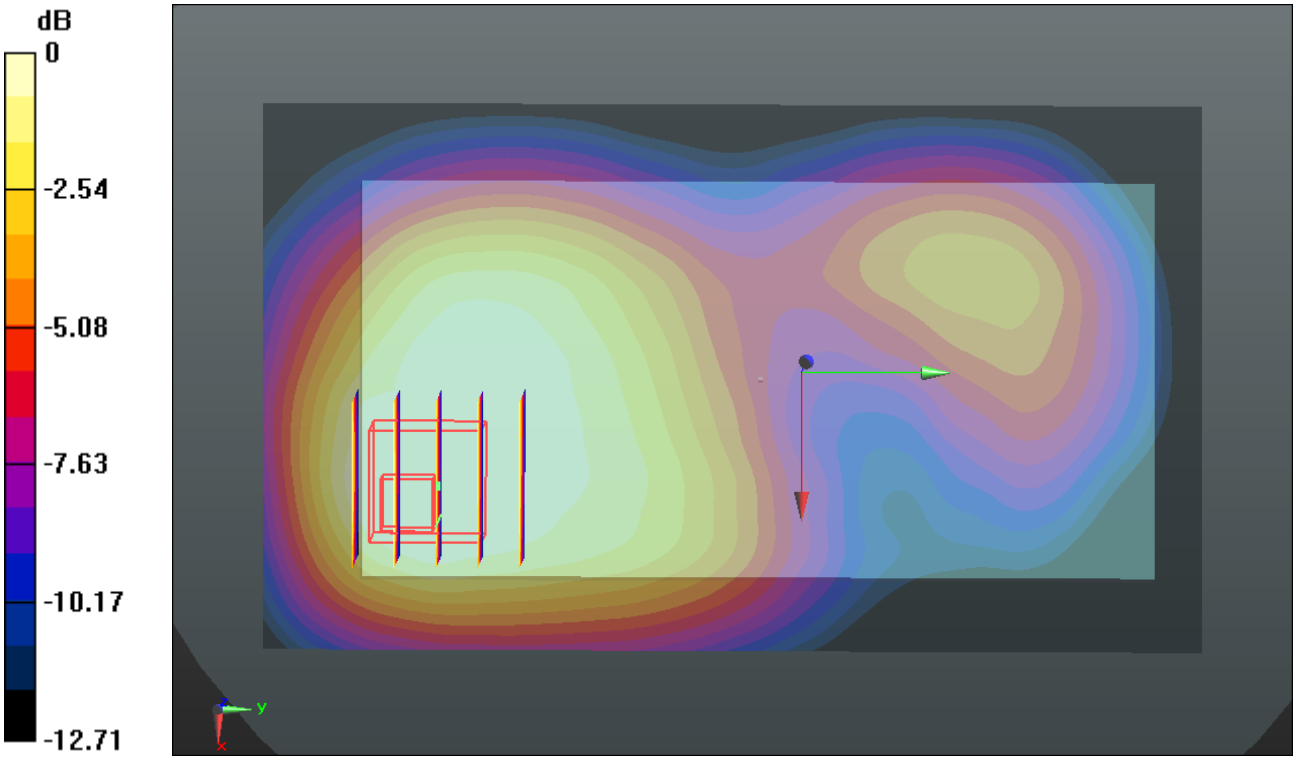
#16_WCDMA Band IV_RMC12.2Kbps_Back 1cm_Ch1312

Communication System: UMTS (0); Frequency: 1712.4 MHz;Duty Cycle: 1:1
Medium: MSL_1750_150819 Medium parameters used: f = 1712.4 MHz; σ = 1.474 mho/m; ε_r = 55.318; ρ = 1000 kg/m^3
Ambient Temperature：23.6 ℃; Liquid Temperature：22.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.77, 7.77, 7.77); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch1312/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.712 mW/g

Ch1312/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.567 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.857 W/kg
SAR(1 g) = 0.539 mW/g; SAR(10 g) = 0.345 mW/g
Maximum value of SAR (measured) = 0.686 mW/g



0 dB = 0.690mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.19

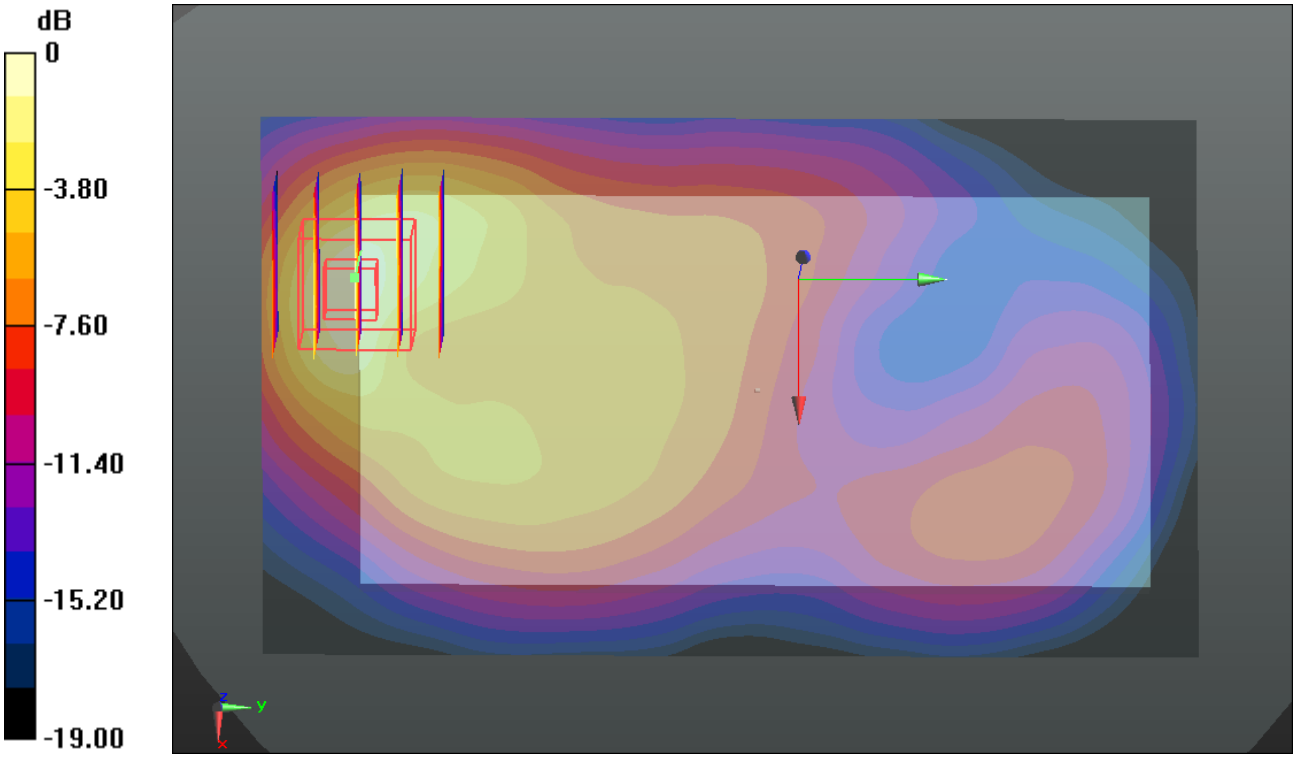
#17_WCDMA Band II_RMC12.2Kbps_Front 1cm_Ch9538

Communication System: UMTS (0); Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: MSL_1900_150819 Medium parameters used: f = 1907.6 MHz; σ = 1.561 mho/m; ε_r = 53.395; ρ = 1000 kg/m^3
Ambient Temperature：23.6 ℃; Liquid Temperature：22.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.54, 7.54, 7.54); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch9538/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.185 mW/g

Ch9538/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.288 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.523 W/kg
SAR(1 g) = 0.869 mW/g; SAR(10 g) = 0.457 mW/g
Maximum value of SAR (measured) = 1.220 mW/g



0 dB = 1.220mW/g

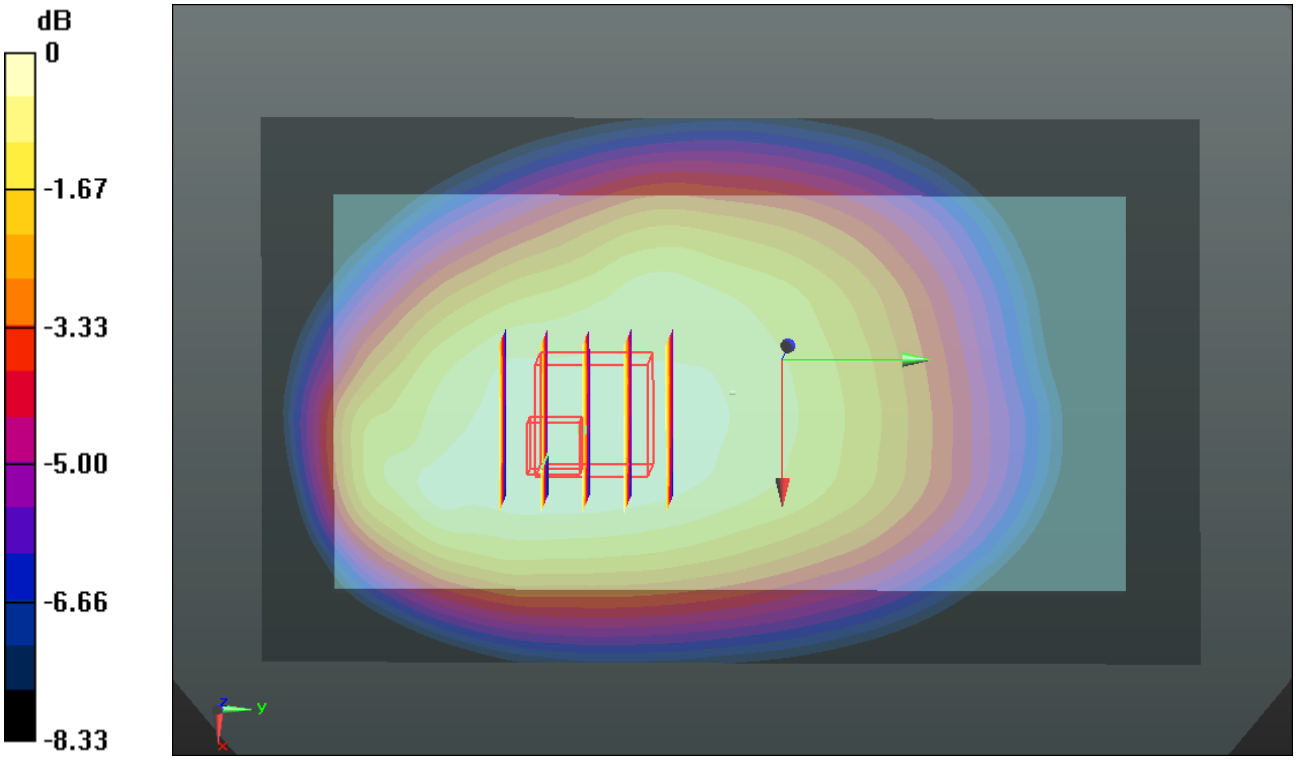
#18_LTE Band12_10M_QPSK(1,0)_Back 1cm_Ch23130

Communication System: FDD_LTE (0); Frequency: 711 MHz;Duty Cycle: 1:1
Medium: MSL_750_150820 Medium parameters used: f = 711 MHz; σ = 0.937 mho/m; ε_r = 55.167; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.68, 9.68, 9.68); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch23130/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.322 mW/g

Ch23130/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.517 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 0.348 W/kg
SAR(1 g) = 0.268 mW/g; SAR(10 g) = 0.210 mW/g
Maximum value of SAR (measured) = 0.310 mW/g



0 dB = 0.310mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.20

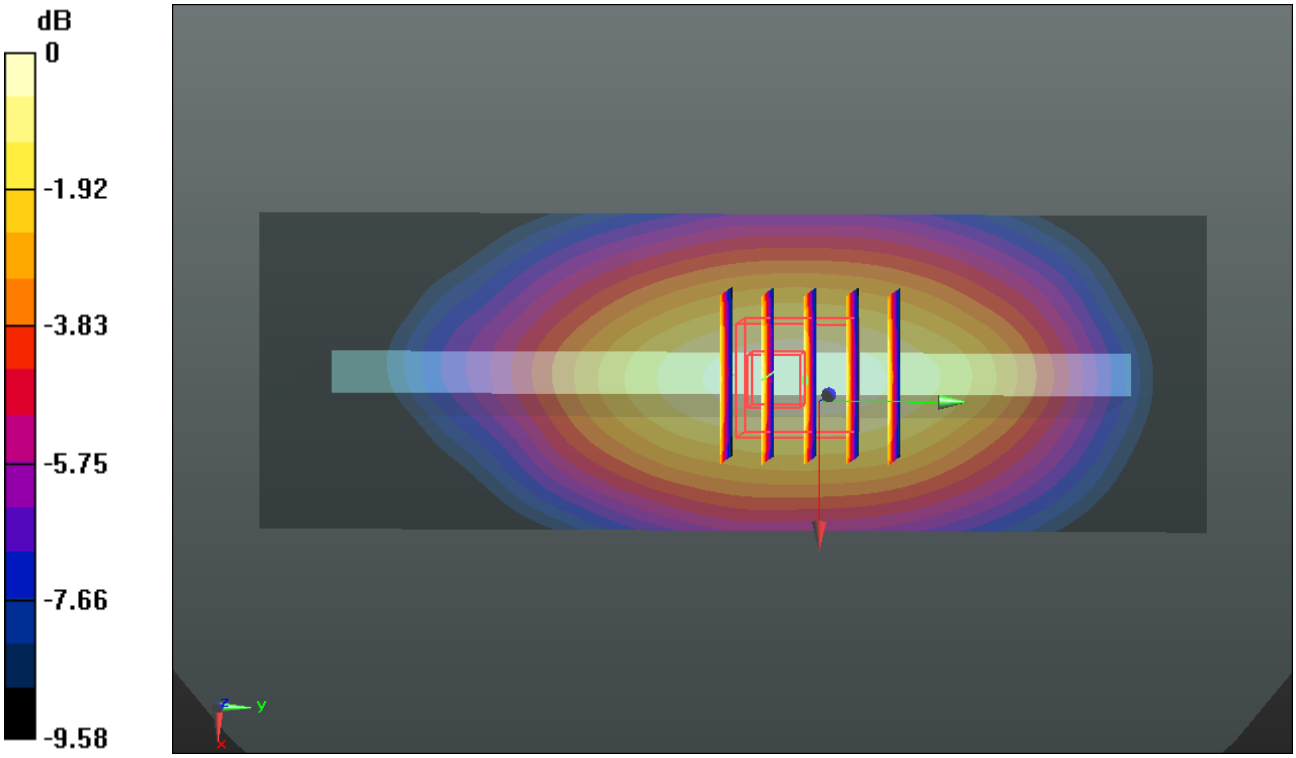
#19_LTE Band5_10M_QPSK(1,24)_Left Side 1cm_Ch20525

Communication System: FDD_LTE (0); Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium: MSL_835_150820 Medium parameters used: f = 836.5 MHz; σ = 0.982 mho/m; ε_r = 54.447; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃； Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.52, 9.52, 9.52); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch20525/Area Scan (41x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.403 mW/g

Ch20525/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.558 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.471 W/kg
SAR(1 g) = 0.335 mW/g; SAR(10 g) = 0.230 mW/g
Maximum value of SAR (measured) = 0.414 mW/g



0 dB = 0.410mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.19

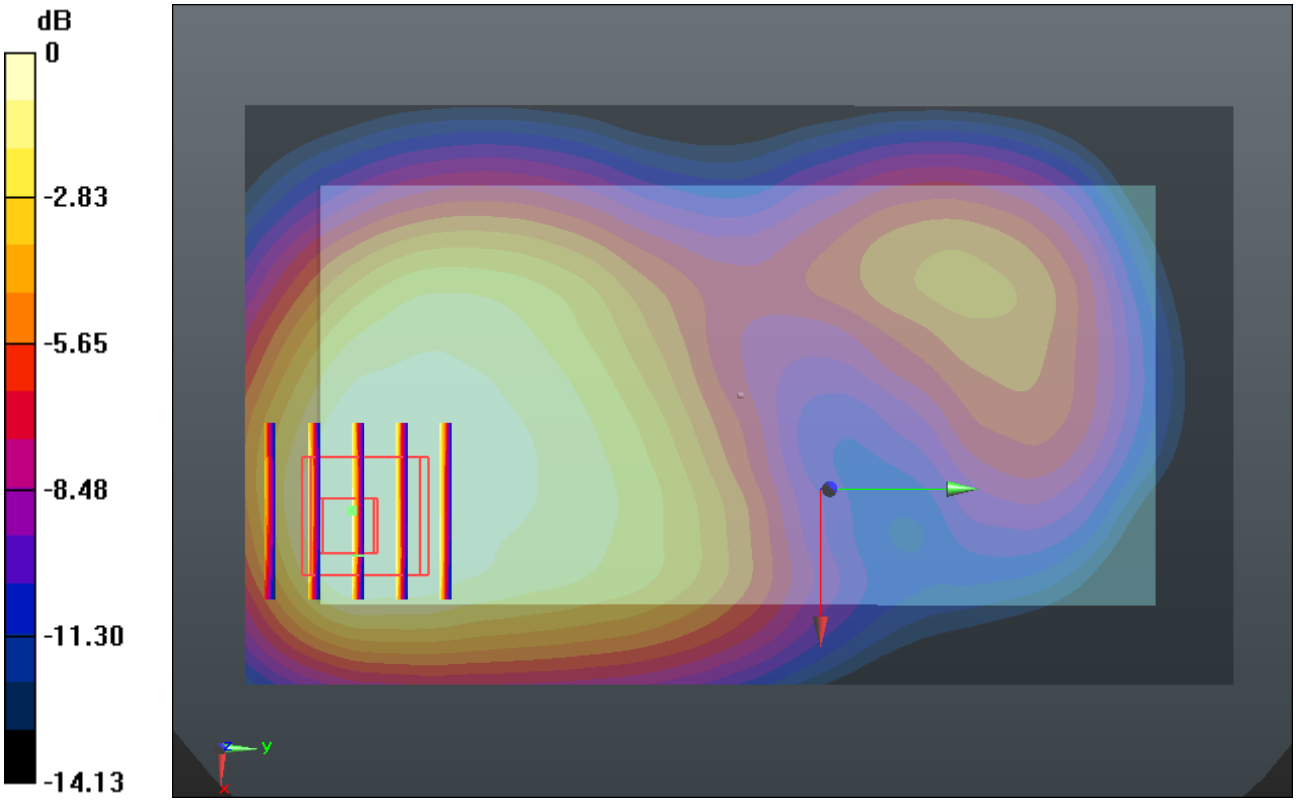
#20_LTE Band4_20M_QPSK(1,0)_Back 1cm_Ch20300

Communication System: FDD_LTE (0); Frequency: 1745 MHz;Duty Cycle: 1:1
Medium: MSL_1750_150819 Medium parameters used: f = 1745 MHz; σ = 1.51 mho/m; ε_r = 55.255; ρ = 1000 kg/m^3
Ambient Temperature：23.6 ℃; Liquid Temperature：22.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.77, 7.77, 7.77); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch20300/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.257 mW/g

Ch20300/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.979 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.321 W/kg
SAR(1 g) = 0.838 mW/g; SAR(10 g) = 0.523 mW/g
Maximum value of SAR (measured) = 1.056 mW/g



0 dB = 1.060mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.19

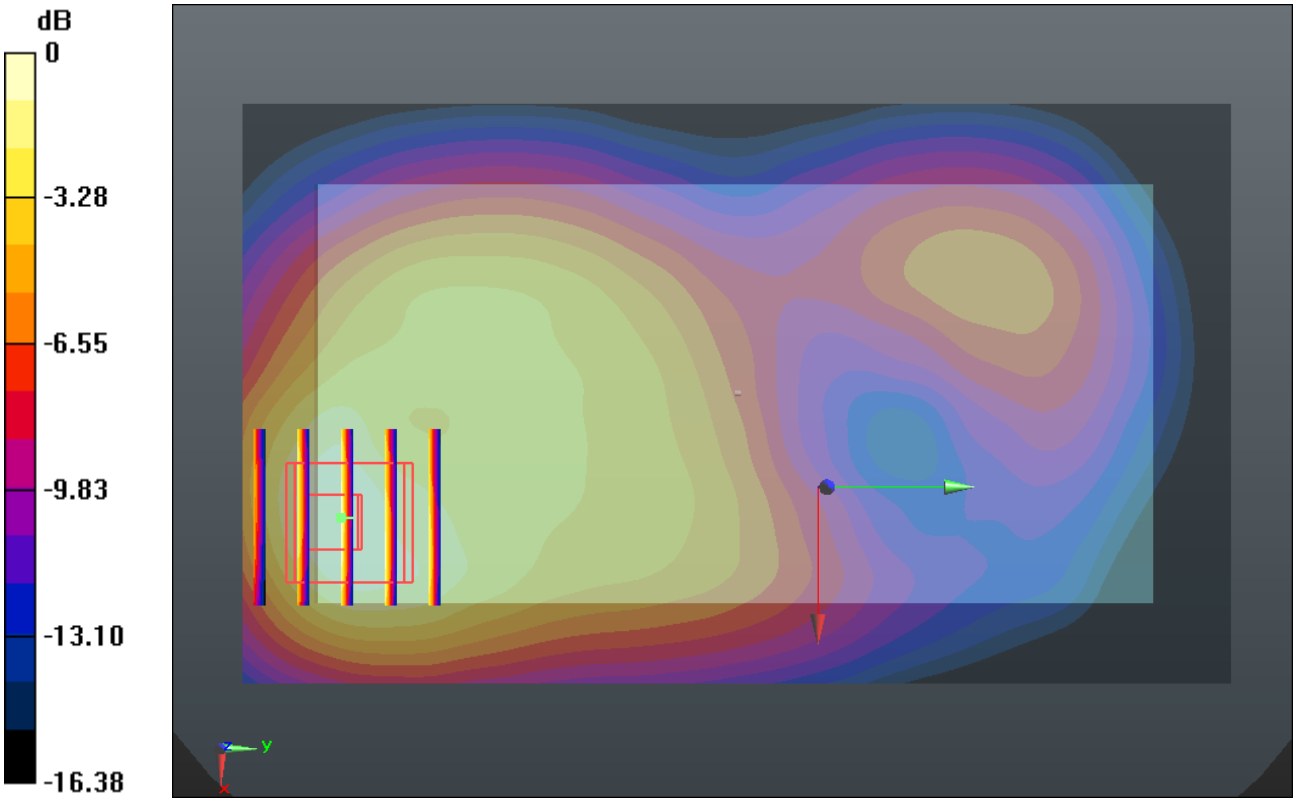
#21_LTE Band2_20M_QPSK(1,0)_Back 1cm_Ch19100

Communication System: FDD_LTE (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: MSL_1900_150819 Medium parameters used: f = 1900 MHz; σ = 1.552 mho/m; ε_r = 53.419; ρ = 1000 kg/m^3
Ambient Temperature：23.6 ℃； Liquid Temperature：22.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.54, 7.54, 7.54); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch19100/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.242 mW/g

Ch19100/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.430 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 1.392 W/kg
SAR(1 g) = 0.859 mW/g; SAR(10 g) = 0.497 mW/g
Maximum value of SAR (measured) = 1.133 mW/g



0 dB = 1.130mW/g

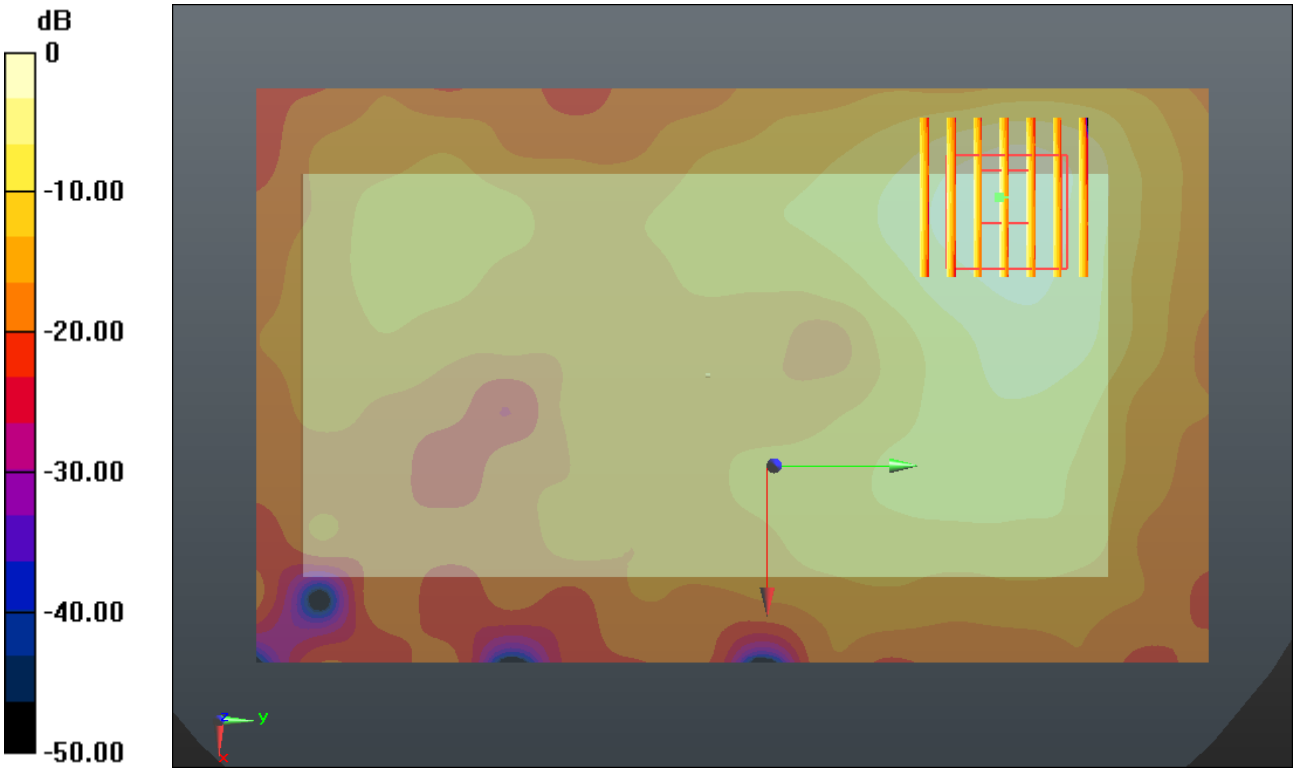
#22_WLAN 2.4GHz_802.11b_1Mbps_Back 1cm_Ch11

Communication System: WIFI (0); Frequency: 2462 MHz;Duty Cycle: 1:1.024
Medium: MSL_2450_150821 Medium parameters used: f = 2462 MHz; σ = 1.956 mho/m; ε_r = 51.361; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.29, 7.29, 7.29); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch11/Area Scan (91x151x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.344 mW/g

Ch11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.094 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.550 W/kg
SAR(1 g) = 0.246 mW/g; SAR(10 g) = 0.112 mW/g
Maximum value of SAR (measured) = 0.395 mW/g



0 dB = 0.400mW/g

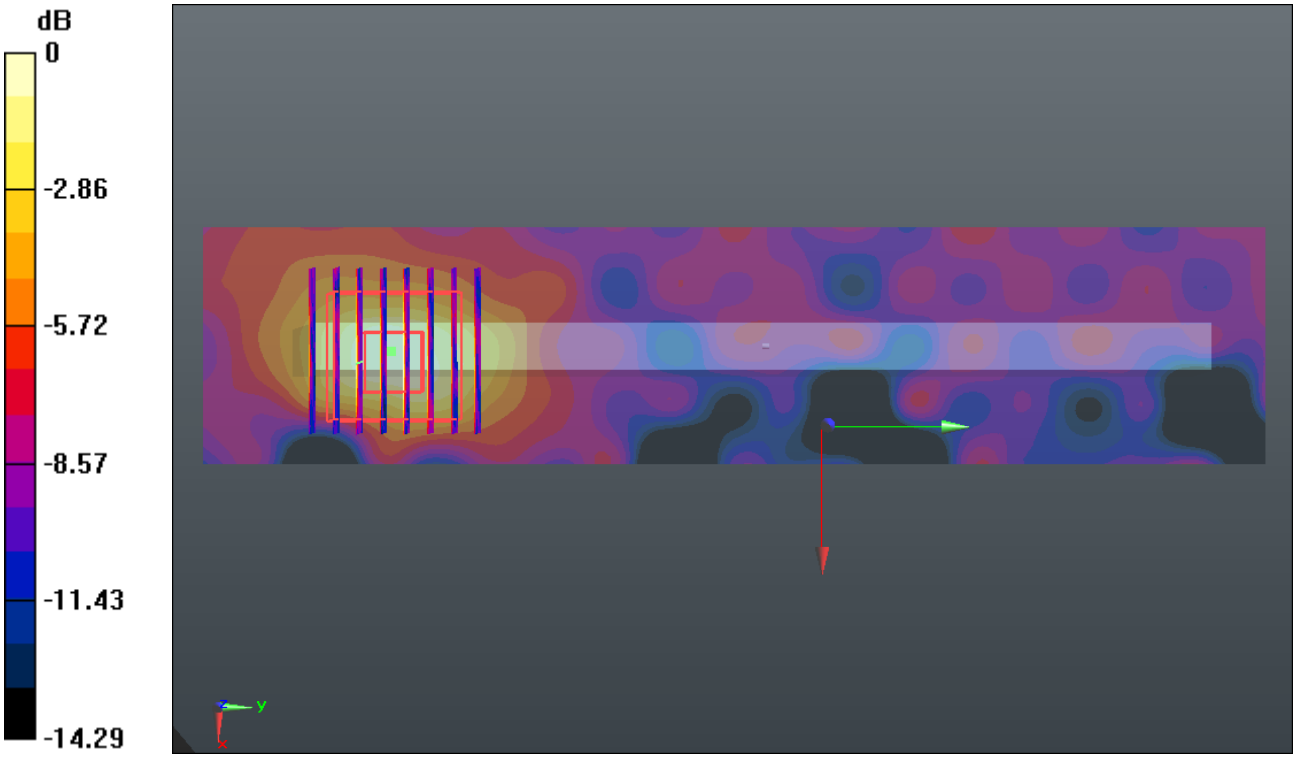
#23_WLAN 5.2GHz_802.11a_6Mbps_Right Side 1cm_Ch48

Communication System: WIFI (0); Frequency: 5240 MHz;Duty Cycle: 1:1.146
Medium: MSL_5000_150824 Medium parameters used: f = 5240 MHz; σ = 5.363 mho/m; ε_r = 49.129; ρ = 1000 kg/m^3
Ambient Temperature：23.6 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(4.45, 4.45, 4.45); Calibrated: 2015.05.28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch48/Area Scan (41x181x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.170 mW/g

Ch48/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 2.014 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.253 W/kg
SAR(1 g) = 0.072 mW/g; SAR(10 g) = 0.034 mW/g
Maximum value of SAR (measured) = 0.163 mW/g



0 dB = 0.160mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.24

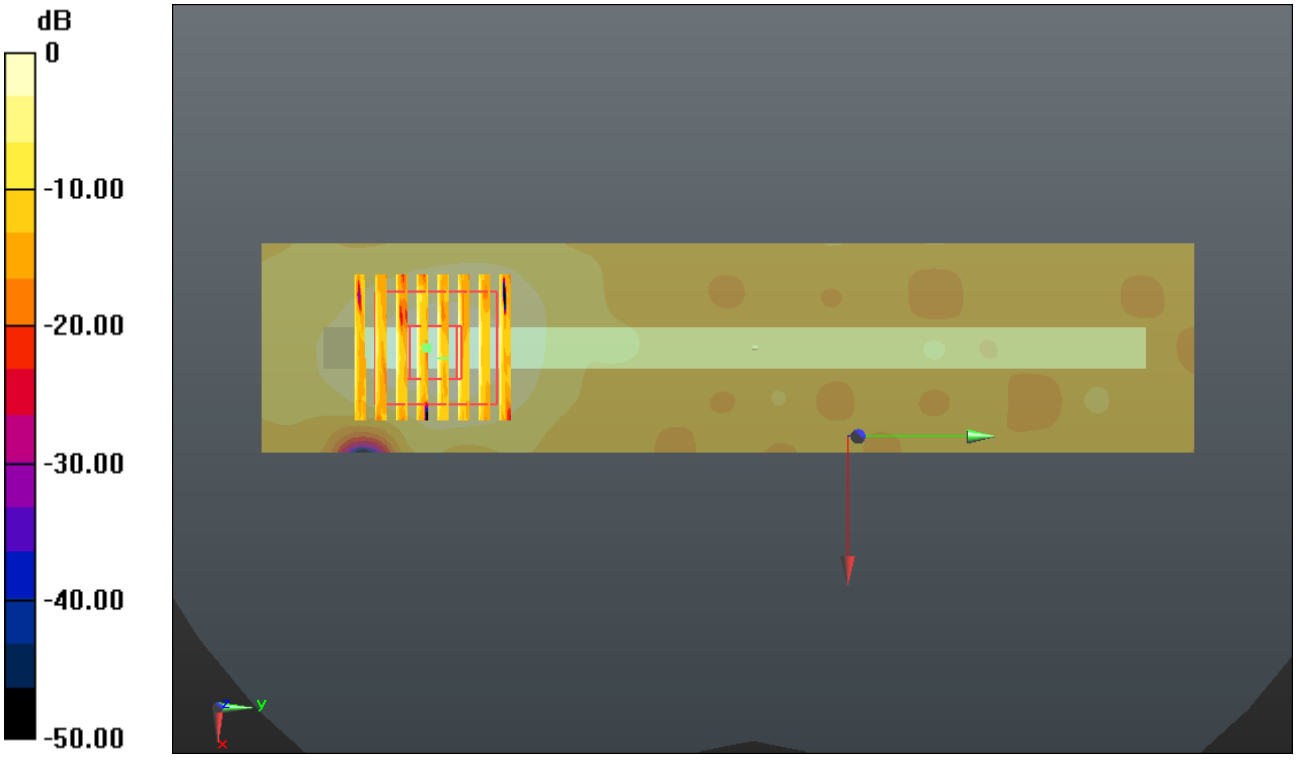
#24_WLAN5.8G_802.11a_6Mbps_Right Side 1cm_Ch157

Communication System: WIFI (0); Frequency: 5785 MHz;Duty Cycle: 1:1.146
Medium: MSL_5000_150824 Medium parameters used: f = 5785 MHz; σ = 6.11 mho/m; ε_r = 47.844; ρ = 1000 kg/m^3
Ambient Temperature：23.6 ℃； Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(4.16, 4.16, 4.16); Calibrated: 2015.05.28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch157/Area Scan (41x181x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.318 mW/g

Ch157/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 1.803 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 0.488 W/kg
SAR(1 g) = 0.134 mW/g; SAR(10 g) = 0.049 mW/g
Maximum value of SAR (measured) = 0.308 mW/g



0 dB = 0.310mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.20

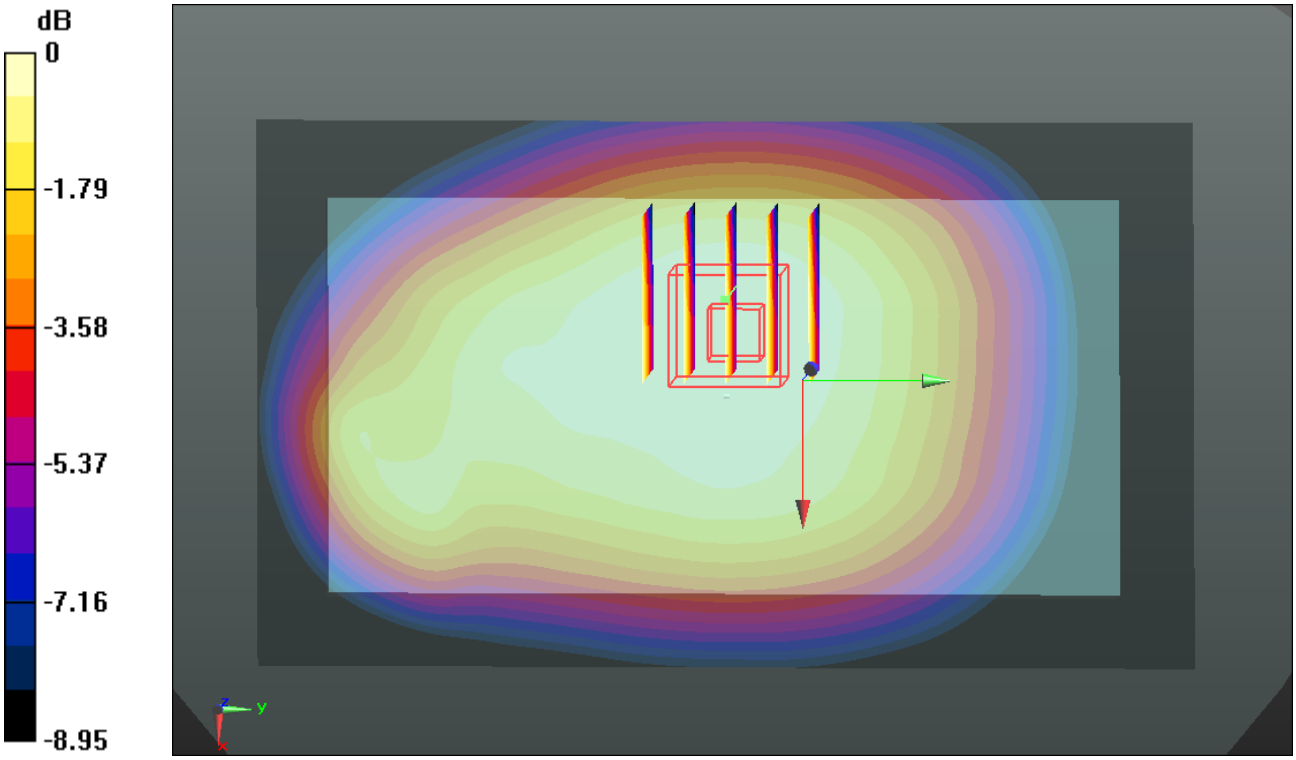
#25_WCDMA Band V_RMC12.2Kbps_Back 1cm_Ch4233

Communication System: UMTS (0); Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: MSL_835_150820 Medium parameters used: f = 846.6 MHz; σ = 0.992 mho/m; ε_r = 54.337; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.52, 9.52, 9.52); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch4233/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.279 mW/g

Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.651 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.302 W/kg
SAR(1 g) = 0.240 mW/g; SAR(10 g) = 0.184 mW/g
Maximum value of SAR (measured) = 0.274 mW/g



0 dB = 0.270mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.20

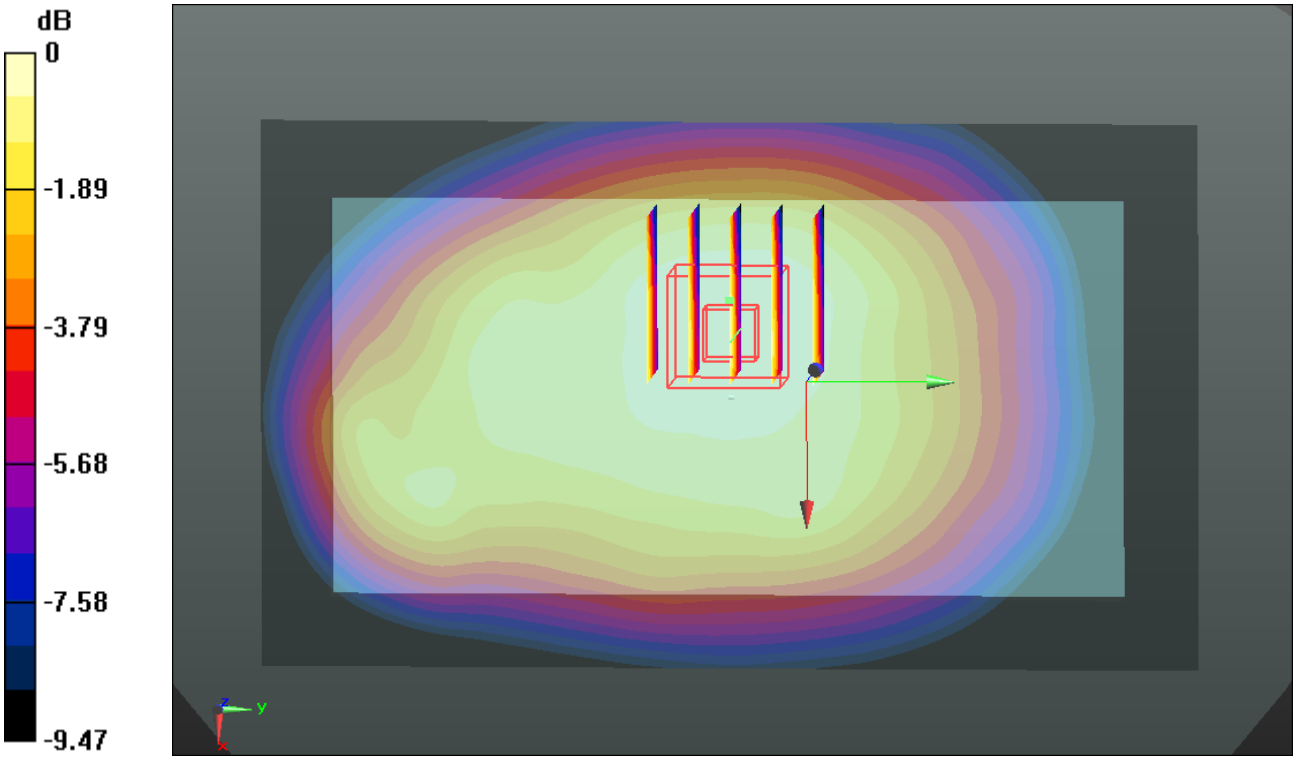
#26_LTE Band5_10M_QPSK(1,24)_Back 1cm_Ch20525

Communication System: FDD_LTE (0); Frequency: 836.5 MHz;Duty Cycle: 1:1
Medium: MSL_835_150820 Medium parameters used: f = 836.5 MHz; σ = 0.982 mho/m; ε_r = 54.447; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃； Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.52, 9.52, 9.52); Calibrated: 2015.05.28
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch20525/Area Scan (71x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.371 mW/g

Ch20525/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.199 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.404 W/kg
SAR(1 g) = 0.318 mW/g; SAR(10 g) = 0.234 mW/g
Maximum value of SAR (measured) = 0.372 mW/g



0 dB = 0.370mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.24

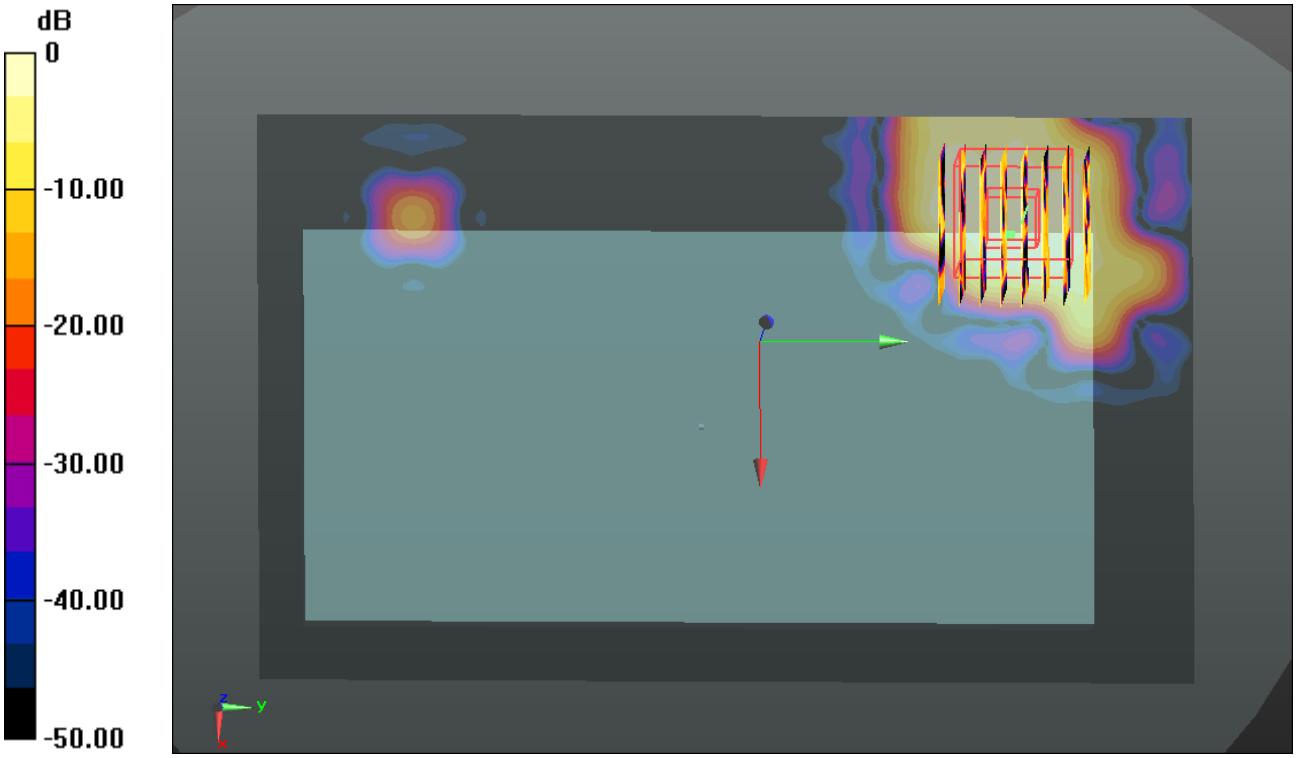
#27_WLAN 5.2GHz_802.11a_6Mbps_Back 1cm_Ch48

Communication System: WIFI (0); Frequency: 5240 MHz;Duty Cycle: 1:1.146
Medium: MSL_5000_150824 Medium parameters used: f = 5240 MHz; σ = 5.363 mho/m; ε_r = 49.129; ρ = 1000 kg/m^3
Ambient Temperature：23.6 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(4.45, 4.45, 4.45); Calibrated: 2015.05.28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch48/Area Scan (111x181x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.106 mW/g

Ch48/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 0.721 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.216 W/kg
SAR(1 g) = 0.029 mW/g; SAR(10 g) = 0.00943 mW/g
Maximum value of SAR (measured) = 0.084 mW/g



0 dB = 0.080mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2015.08.24

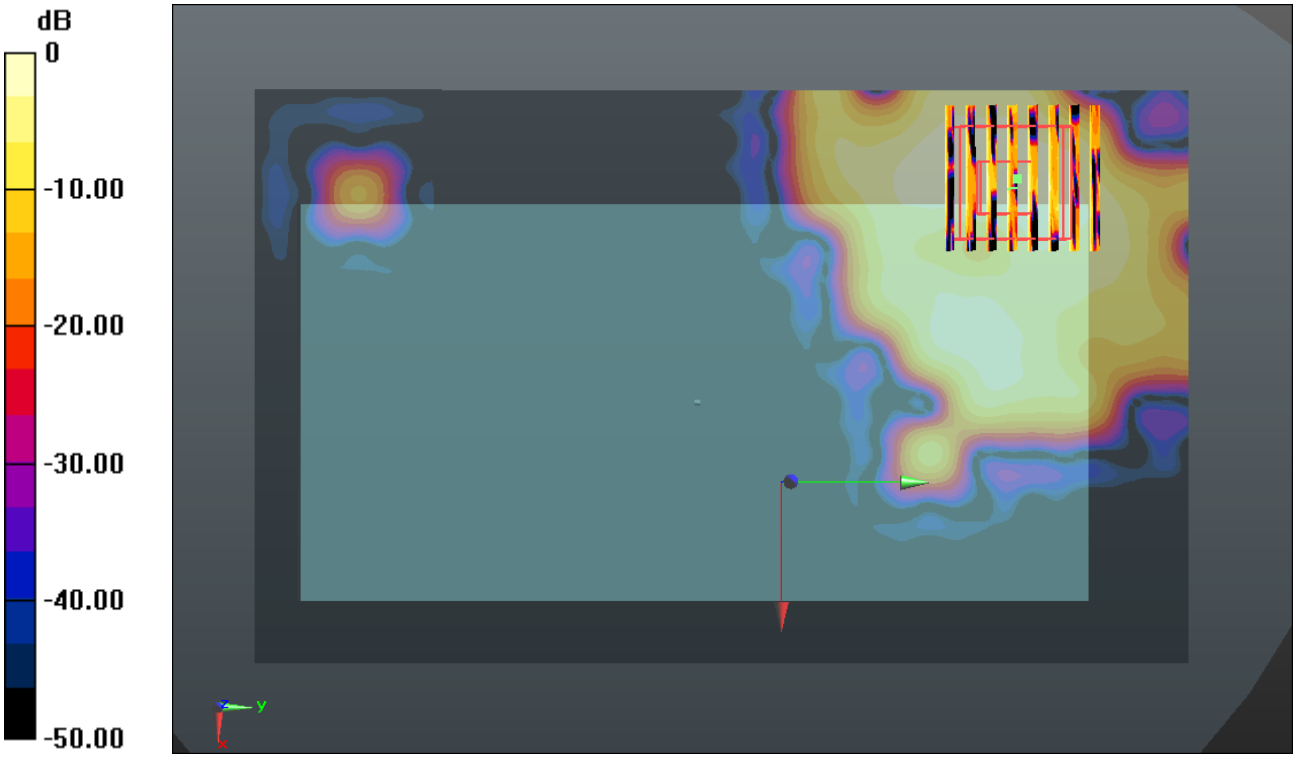
#28_WLAN 5.8GHz_802.11a_6Mbps_Back 1cm_Ch157

Communication System: WIFI (0); Frequency: 5785 MHz;Duty Cycle: 1:1.146
Medium: MSL_5000_150824 Medium parameters used: f = 5785 MHz; σ = 6.11 mho/m; ε_r = 47.844; ρ = 1000 kg/m^3
Ambient Temperature：23.6 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(4.16, 4.16, 4.16); Calibrated: 2015.05.28
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1210; Calibrated: 2015.05.21
- Phantom: SAM1; Type: SAM; Serial: TP-1479
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.4.5 (3634)

Ch157/Area Scan (111x181x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.198 mW/g

Ch157/Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 0 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.280 W/kg
SAR(1 g) = 0.067 mW/g; SAR(10 g) = 0.022 mW/g
Maximum value of SAR (measured) = 0.176 mW/g



0 dB = 0.180mW/g