FCC SAR Test Report

APPLICANT	:	Ericsson AB
EQUIPMENT	:	PCIe wireless WAN card
BRAND NAME	:	Ericsson AB
MODEL NAME	:	C5621
FCC ID	:	VV7-MBMC5621-D1
STANDARD	:	FCC 47 CFR Part 2 (2.1093) ANSI/IEEE C95.1-1992 IEEE 1528-2003 FCC OET Bulletin 65 Supplement C (Edition 01-01)

The product was installed into Tablet PC (Brand Name: Dell, Model Name: Latitude 10 - ST2) during test.

The product was completely tested on Sep. 26, 2012. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown the 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 INC., the test report shall not be reproduced except in full.

Reviewed by:

Jones Tsai

Jones Tsai / Manager

Testing Laboratory
1190

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA291115	Rev. 01	Initial issue of report	Oct. 05, 2012

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Ericsson AB, PCIe wireless WAN card, C5621**, are as follows.

<Highest standalone SAR Summary>

Band	Position	SAR_{1g} (W/kg)	Scaled SAR_{1g} (W/kg)
GSM850	Body (0 cm Gap)	1.03	1.089
GSM1900	Body (0 cm Gap)	1.11	1.359
WCDMA Band V	Body (0 cm Gap)	0.841	1.180
WCDMA Band II	Body (0 cm Gap)	0.904	1.413

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2003 and FCC OET Bulletin 65 Supplement C (Edition 01-01).

2. Administration Data

2.1 Testing Laboratory

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978

2.2 Applicant

Company Name	Ericsson AB
Address	Lindholmspiren 11 SE-417 56 Gothenburg Sweden

2.3 Manufacturer

Company Name	Dell Inc.
Address	One Dell Way, Round Rock, TX 78682 U.S.A.

2.4 Application Details

Date of Start during the Test	Sep. 10, 2012
Date of End during the Test	Sep. 26, 2012

3. General Information

3.1 Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT	PCIe wireless WAN card
Brand Name	Ericsson AB
Model Name	C5621
FCC ID	VV7-MBMC5621-D1
Host Tablet PC	Brand Name: Dell Model Name: Latitude 10 - ST2
Tx Frequency	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 II: 1852.4 MHz ~ 1907.6 MHz
Maximum Average Output Power to Antenna	GSM850: 32.66 dBm GSM1900: 29.98 dBm WCDMA Band V: 22.66 dBm WCDMA Band II: 22.14 dBm
Antenna Type	Fixed Internal Antenna
HW Version (Module)	R1
SW Version (Module)	R3C11
HW Version (Host)	11308-SC
SW Version (Host)	X13
Uplink Modulations	GPRS: GMSK EDGE: GMSK / 8PSK WCDMA (Rel 99): QPSK HSDPA (Rel 6): QPSK HSUPA (Rel 6): QPSK
EUT Stage	Production Unit
Remark: 1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description. 2. Voice call is not supported. 3. WLAN module, FCC ID: EW4DWMW091, is also going to be integrated into this Tablet via WLAN module C2PC filing. To address simultaneous transmission SAR compliance, WLAN SAR test data in CCS RF FCC Test Report T120702I01-SF rev.00, was used for the purpose of analysis.	

3.2 Applied 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 1528-2003
- FCC OET Bulletin 65 Supplement C (Edition 01-01)
- FCC KDB 447498 D01 v04
- FCC KDB 616217 D03 v01
- FCC KDB 941225 D01 v02
- FCC KDB 941225 D03 v01
- FCC KDB 248227 D01 v01r02

3.3 Device Category and SAR Limits

This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user. Limit for General Population/Uncontrolled exposure should be applied for this device, it is 1.6 W/kg as averaged over any 1 gram of tissue.

3.4 Test Conditions

3.4.1 Ambient Condition

Ambient Temperature	20 to 24 ℃
Humidity	< 60 %

3.4.2 Test Configuration

For WWAN SAR testing, the device was controlled by using a base station emulator. Communication between the device and the emulator was established by air link. The distance between the EUT and the antenna of the emulator is larger than 50 cm and the output power radiated from the emulator antenna is at least 30 dB smaller than the output power of EUT.

The EUT was set from the emulator to radiate maximum WWAN output power during all tests. For Bottom-Face and Edge3 testing at 0cm separation, the proximity sensor will activate the power reduction and the maximum power is limited at the pre-defined level implemented in this device. The power reduction values are same for Bottom-Face and Edge3.

The power reduction scheme compliance is also verified at the proximity sensor trigger distance. During this testing the proximity sensor was disabling and EUT will transmit at the maximum power requested by the base station simulator.

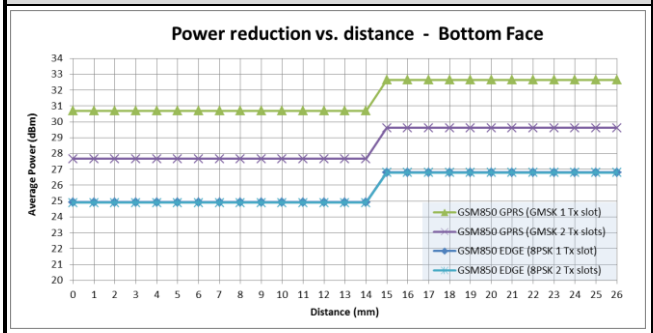
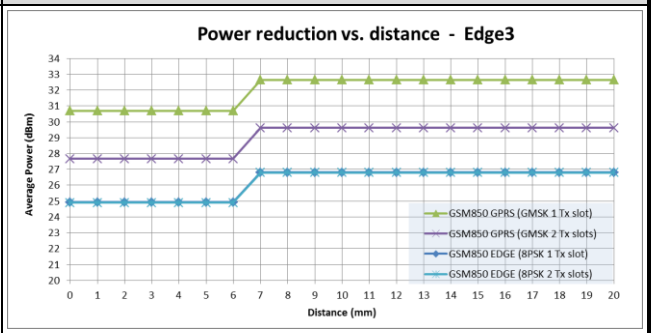
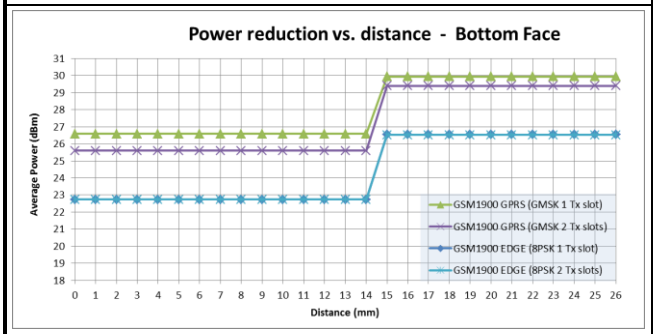
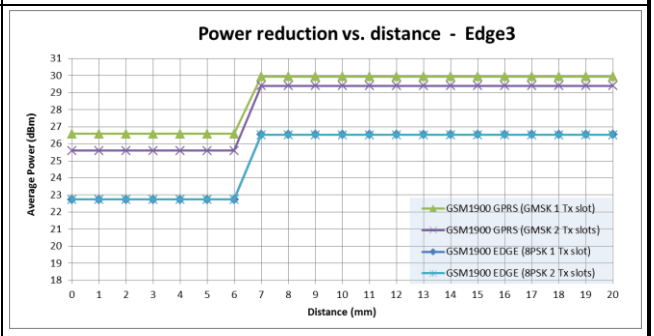
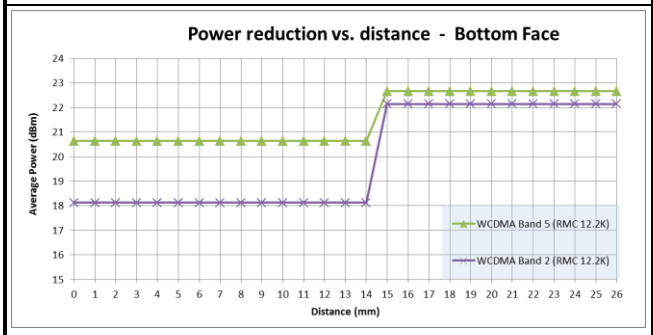
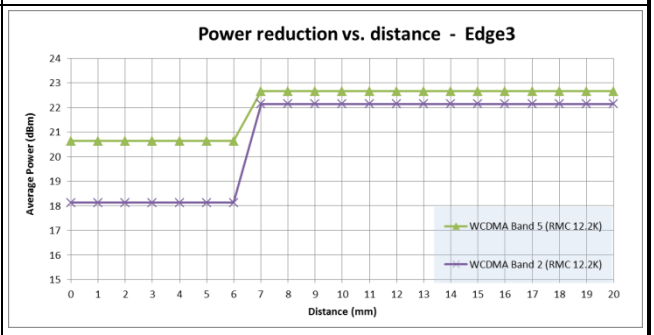
For WLAN SAR testing, WLAN engineering testing software installed on the EUT can provide continuous transmitting RF signal.

The EUT implements power reduction scheme for SAR compliance, for specific device configuration and orientations, as described below. The complete description of the implementation and functionality is provided in the "Operational Description" exhibit.

Exposure Position / wireless mode	GPRS/EDGE 850	GPRS/EDGE 1900	WCDMA Band 5	WCDMA Band 2
Bottom Face	Yes	Yes	Yes	Yes
Edge1	N/A	N/A	N/A	N/A
Edge2	N/A	N/A	N/A	N/A
Edge3	Yes	Yes	Yes	Yes
Edge4	N/A	N/A	N/A	N/A

Remark:
1. Yes: Reduced maximum limit applied by activation of proximity sensor.
2. N/A: Normal output power without reduction
3. Power reduction is not applicable for WiFi and Bluetooth.

Band/Mode	Ch #	Measured power reduction (dBm)		Reduction Levels
		w/o power back-off	w/ power back-off	(dB)
GSM850 GPRS 8 (1 Uplink) – CS1	189	32.64	30.70	1.94
GSM850 GPRS 10 (2 Uplink) – CS1	189	29.61	27.67	1.94
GSM850 EDGE 8 (8PSK, 1 Uplink) – MCS9	189	26.82	24.93	1.89
GSM850 EDGE 10 (8PSK, 2 Uplink) – MCS9	189	26.79	24.89	1.90
GSM1900 GPRS 8 (1 Uplink) – CS1	661	29.94	26.58	3.36
GSM1900 GPRS 10 (2 Uplink) – CS1	661	29.40	25.60	3.80
GSM1900 EDGE 8 (8PSK, 1 Uplink) – MCS9	661	26.53	22.74	3.79
GSM1900 EDGE 10 (8PSK, 2 Uplink) – MCS9	661	26.51	22.73	3.78
WCDMA Band 5 (RMC 12.2K)	4182	22.66	20.63	2.03
WCDMA Band 2 (RMC 12.2K)	9400	22.12	18.12	4.00

Proximity Sensor for Bottom Face detection	Proximity Sensor for Edge3 detection
	
	
	

4. Specific Absorption Rate (SAR)

4.1 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.

4.2 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)

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

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

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

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

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

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

5. SAR Measurement System

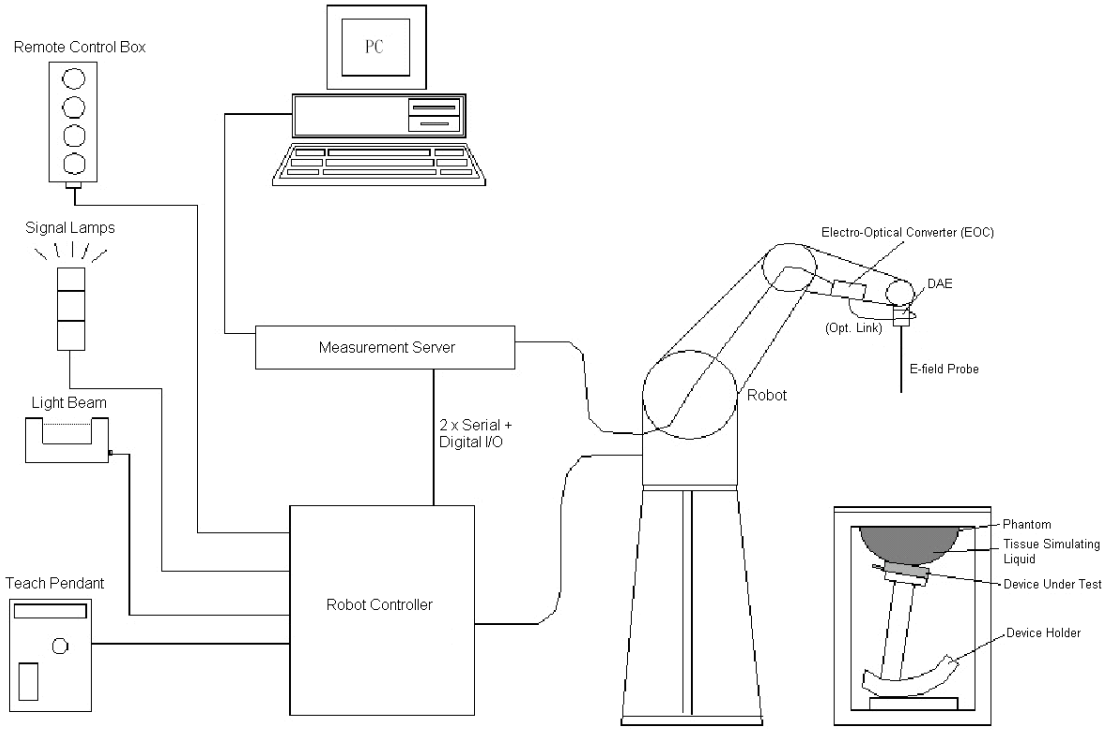


Fig 5.1 SPEAG DASY System Configurations

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

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

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

5.1 E-Field Probe

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

5.1.1 E-Field Probe Specification

<ET3DV6 / ET3DV6R Probe >

Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection system. Built-in shielding against static charges. PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Frequency	10 MHz to 3 GHz; Linearity: ± 0.2 dB
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.4 dB in HSL (rotation normal to probe axis)
Dynamic Range	5 µW/g to 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm (Tip: 16 mm) Tip diameter: 6.8 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.7 mm

Fig 5.2 Photo of ET3DV6/ET3DV6R

<EX3DV4 / ES3DV4 Probe>

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Frequency	10 MHz to 6 GHz; Linearity: ± 0.2 dB
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 µW/g to 100 mW/g; Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm

Fig 5.3 Photo of EX3DV4/ES3DV4

5.1.2 E-Field Probe Calibration

Each probe needs to be calibrated according to a dosimetric assessment procedure. The calibration data can be referred to appendix C of this report.

5.2 Data Acquisition Electronics (DAE)

The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Fig 5.4 Photo of DAE

5.3 Robot

The SPEAG DASY system uses the high precision robots (DASY4: RX90BL; DASY5: TX90XL) type from Stäubli SA (France). For the 6-axis controller system, the robot controller version (DASY4: CS7MB; DASY5: CS8c) from Stäubli is used. The Stäubli robot series have many features that are important for our application:

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

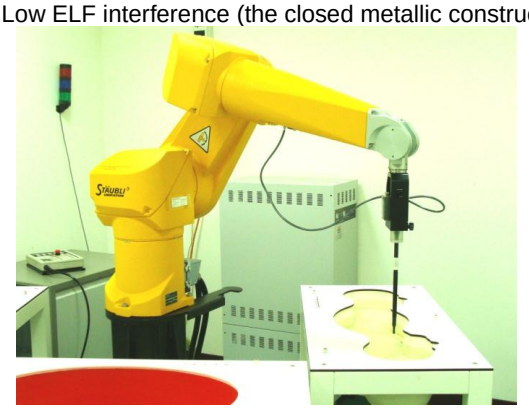


Fig 5.5 Photo of DASY4

Fig 5.6 Photo of DASY5

5.4 Measurement Server

The measurement server is based on a PC/104 CPU board with CPU (DASY4: 166 MHz, Intel Pentium; DASY5: 400 MHz, Intel Celeron), chipdisk (DASY4: 32 MB; DASY5: 128 MB), RAM (DASY4: 64 MB, DASY5: 128 MB). The necessary circuits for communication with the DAE electronic box, as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DASY I/O board, which is directly connected to the PC/104 bus of the CPU board.

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

Fig 5.7 Photo of Server for DASY4

Fig 5.8 Photo of Server for DASY5

5.5 Phantom

<SAM Twin Phantom>

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

Fig 5.9 Photo of SAM Phantom

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

<ELI4 Phantom>

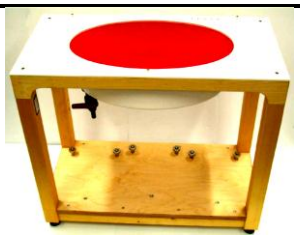
Shell Thickness	2 ± 0.2 mm (sagging: <1%)	
Filling Volume	Approx. 30 liters	
Dimensions	Major ellipse axis: 600 mm Minor axis: 400 mm	

Fig 5.10 Photo of ELI4 Phantom

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

5.6 Device Holder

<Device Holder for SAM Twin Phantom>

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

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

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

Fig 5.11 Device Holder

<Laptop Extension Kit>

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.

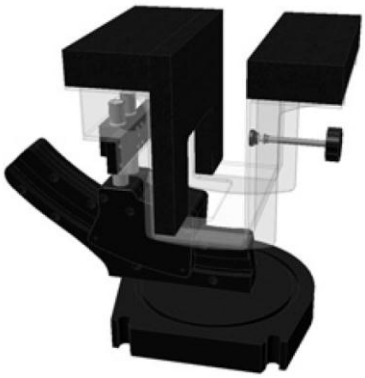


Fig 5.12 Laptop Extension Kit

5.7 Data Storage and Evaluation

5.7.1 Data Storage

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

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

5.7.2 Data Evaluation

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

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

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

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

The formula for each channel can be given as：

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

with V_i = compensated signal of channel i, (i = x, y, z)
U_i = input signal of channel i, (i = x, y, z)
cf = crest factor of exciting field (DASY parameter)
dcp_i = diode compression point (DASY parameter)

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

E-field Probes：$$\mathbf{E_i = \sqrt{\frac{V_i}{Norm_i \cdot ConvF}}}$$

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

with V_i = compensated signal of channel i, (i = x, y, z)
$Norm_i$ = sensor sensitivity of channel i, (i = x, y, z), μV/(V/m)^2 for E-field Probes
ConvF = sensitivity enhancement in solution
a_{ij} = sensor sensitivity factors for H-field probes
f = carrier frequency [GHz]
E_i = electric field strength of channel i in V/m
H_i = magnetic field strength of channel i in A/m

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

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

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

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

with SAR = local specific absorption rate in mW/g
E_{tot} = total field strength in V/m
σ = conductivity in [mho/m] or [Siemens/m]
ρ = equivalent tissue density in g/cm^3

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

5.8 Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	835MHz System Validation Kit	D835V2	499	Mar. 22, 2010	Mar. 21, 2013
SPEAG	1900MHz System Validation Kit	D1900V2	5d041	Mar. 23, 2010	Mar. 22, 2013
SPEAG	2450MHz System Validation Kit	D2450V2	736	Jul. 25, 2011	Jul. 24, 2013
SPEAG	5GHz System Validation Kit	D5GHzV2	1006	Jan. 18, 2012	Jan. 17, 2013
SPEAG	Data Acquisition Electronics	DAE4	778	Aug. 27, 2012	Aug. 26, 2013
SPEAG	Data Acquisition Electronics	DAE4	1279	May 03, 2012	May 02, 2013
SPEAG	Dosimetric E-Field Probe	ET3DV6	1787	May 29, 2012	May 28, 2013
SPEAG	Dosimetric E-Field Probe	ET3DV6R	1788	Jan. 26, 2012	Jan. 25, 2013
SPEAG	Dosimetric E-Field Probe	EX3DV4	3819	Nov. 16, 2011	Nov. 15, 2012
SPEAG	Dosimetric E-Field Probe	EX3DV4	3578	Jun. 21, 2012	Jun. 20, 2013
Wisewind	Thermometer	ETP-101	TM560	Nov. 16, 2011	Nov. 15, 2012
Wisewind	Thermometer	HTC-1	TM685	Nov. 16, 2011	Nov. 15, 2012
Wisewind	Thermometer	HTC-1	TM659	Nov. 16, 2011	Nov. 15, 2012
H.M.IRIS	Thermometer	TH-08	TM658	Nov. 16, 2011	Nov. 15, 2012
SPEAG	Device Holder	N/A	N/A	NCR	NCR
SPEAG	SAM Phantom	QD 000 P40 C	TP-1303	NCR	NCR
SPEAG	SAM Phantom	QD 000 P40 C	TP-1383	NCR	NCR
SPEAG	SAM Phantom	QD 000 P40 C	TP-1446	NCR	NCR
SPEAG	SAM Phantom	QD 000 P40 C	TP-1478	NCR	NCR
SPEAG	SAM Phantom	QD 000 P41 C	TP-1150	NCR	NCR
SPEAG	SAM Phantom	QD 000 P40 CD	TP-1644	NCR	NCR
SPEAG	SAM Phantom	SM 000 T01 DA	TP-1542	NCR	NCR
SPEAG	ELI4 Phantom	QD 0VA 001 BB	1026	NCR	NCR
SPEAG	ELI4 Phantom	QD 0VA 001 BA	1029	NCR	NCR
SPEAG	ELI4 Phantom	QD 0VA 002 AA	TP-1127	NCR	NCR
SPEAG	ELI4 Phantom	QD 0VA 002 AA	TP-1131	NCR	NCR
Agilent	Network Analyzer	E5071C	MY46101588	May 11, 2012	May 10, 2013
Agilent	ESG Vector Series Signal Generator	E4438C	MY49070755	Oct. 17, 2011	Oct. 16, 2012
Anritsu	Power Meter	ML2495A	1132003	Aug. 14, 2012	Aug. 13, 2013
Anritsu	Radio Communication Analyzer	MT8820C	6201074414	Dec. 21, 2011	Dec. 20, 2012
Agilent	Wireless Communication Test Set	E5515C	MY48360820	Jan. 05, 2012	Jan. 04, 2014
Agilent	Wireless Communication Test Set	E5515C	GB46311322	Mar. 23, 2011	Mar. 22, 2013
Agilent	Wireless Communication Test Set	E5515C	MY50264370	Apr. 19, 2011	Apr. 18, 2013
Agilent	Wireless Communication Test Set	E5515C	MY50266977	Nov. 13, 2011	Nov. 12, 2013
R&S	Universal Digital Radiocommunication Tester	CMU200	114256	Jun. 29, 2012	Jun. 28, 2013
R&S	Spectrum Analyzer	FSP	101131	Jul. 23, 2012	Jul. 22, 2013

Table 5.1 Test Equipment List

Note:
1. The calibration certificate of DASY can be referred to appendix C of this report.
2. Referring to KDB 450824 D02, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
3. The justification data of dipole D835V2, SN: 499, D1900V2, SN: 5d041, D2450V2, SN: 736 can be found in appendix C. The return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration.

6. Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 6.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 6.2.

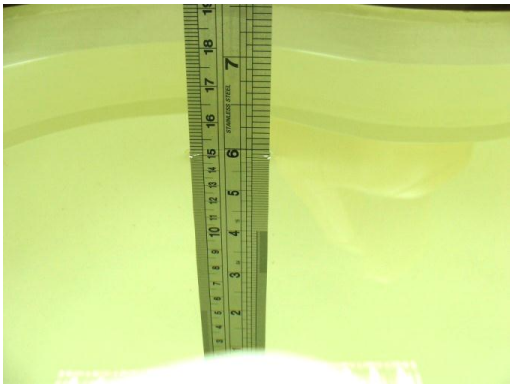


Fig 6.1 Photo of Liquid Height for Head SAR

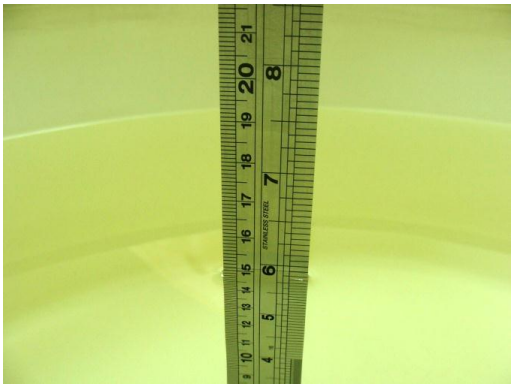


Fig 6.2 Photo of Liquid Height for Body SAR

The following table gives the recipes for tissue simulating liquid.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (ε_r)
For Body								
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

Table 6.1 Recipes of Tissue Simulating Liquid

Simulating Liquid for 5G, Manufactured by SPEAG

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

The dielectric parameters of the liquids were verified prior to the SAR evaluation using an Agilent 85070D Dielectric Probe Kit and an Agilent Network Analyzer.

The following table shows the measuring results for simulating liquid.

Freq. (MHz)	Liquid Type	Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
835	Body	21.5	0.994	54.715	0.97	55.2	2.47	-0.88	±5	Sep. 10, 2012
835	Body	21.5	0.962	54.6	0.97	55.2	-0.82	-1.09	±5	Sep. 15, 2012
1900	Body	21.4	1.523	52.215	1.52	53.3	0.20	-2.04	±5	Sep. 10, 2012
1900	Body	21.3	1.54	52.5	1.52	53.3	1.32	-1.50	±5	Sep. 15, 2012
1900	Body	21.6	1.499	53.26	1.52	53.3	-1.38	-0.08	±5	Sep. 20, 2012
2450	Body	21.5	1.969	52.278	1.95	52.7	0.97	-0.80	±5	Sep. 25, 2012
5800	Body	21.5	6.113	47.156	6	48.2	1.88	-2.17	±5	Sep. 26, 2012

Table 6.2 Measuring Results for Simulating Liquid

7. SAR Measurement Evaluation

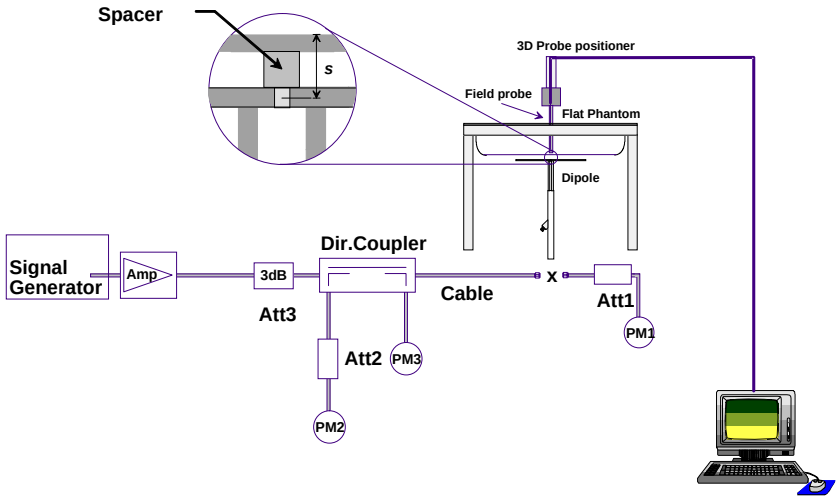
Each DASY system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the DASY software, enable the user to conduct the system performance check and system validation. System validation kit includes a dipole, tripod holder to fix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

7.1 Purpose of System Performance check

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

7.2 System Setup

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



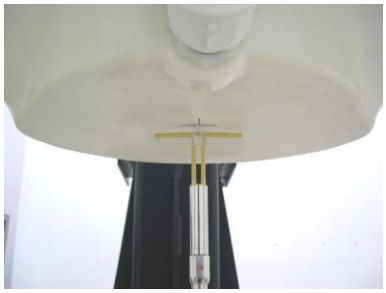


Fig 7.1 System Setup for System Evaluation

Fig 7.2 Photo of Dipole Setup

1. Signal Generator
2. Amplifier
3. Directional Coupler
4. Power Meter
5. Calibrated Dipole

The output power on dipole port must be calibrated to 24 dBm (250 mW) before dipole is connected.

7.3 Validation Results

Comparing to the original SAR value provided by SPEAG, the validation data should be within its specification of 10 %. Table 7.1 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.

Measurement Date	Frequency (MHz)	Liquid Type	Targeted SAR_{1g} (W/kg)	Measured SAR_{1g} (W/kg)	Normalized SAR_{1g} (W/kg)	Deviation (%)
Sep. 10, 2012	835	Body	9.82	2.63	10.52	7.13
Sep. 15, 2012	835	Body	9.82	2.48	9.92	1.02
Sep. 10, 2012	1900	Body	40	9.84	39.36	-1.60
Sep. 15, 2012	1900	Body	40	10.1	40.40	1.00
Sep. 20, 2012	1900	Body	40	9.4	37.60	-6.00
Sep. 25, 2012	2450	Body	52.30	14	56.00	7.07
Sep. 26, 2012	5800	Body	73.1	19.7	78.80	7.80

Table 7.1 Target and Measurement SAR after Normalized

8. EUT Testing Position

This EUT was tested in five different positions. They are bottom face of tablet PC, Edge3, and Edge4. In these positions, the surface of EUT is touching with phantom 0 cm gap. Please refer to Appendix D for the test setup photos.

9. Measurement Procedures

The measurement procedures are as follows:

(a) Use base station simulator (if applicable) or engineering software to transmit RF power continuously (continuous Tx) in the highest power channel.
(b) Keep EUT to radiate maximum output power or 100% duty factor (if applicable)
(c) Measure output power through RF cable and power meter.
(d) Place the EUT in the positions as Appendix D demonstrates.
(e) Set scan area, grid size and other setting on the DASY software.
(f) Measure SAR results for the highest power channel on each testing position.
(g) Find out the largest SAR result on these testing positions of each band
(h) Measure SAR results for other channels in worst SAR testing position if the 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

9.1 Spatial Peak SAR Evaluation

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

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

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

(a) Extraction of the measured data (grid and values) from the Zoom Scan
(b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
(c) Generation of a high-resolution mesh within the measured volume
(d) Interpolation of all measured values 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

9.2 Area & Zoom Scan Procedures

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan measures 5x5x7 points with step size 8, 8 and 5 mm for 300 MHz to 3 GHz, and 8x8x8 points with step size 4, 4 and 2.5 mm for 3 GHz to 6 GHz. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g.

9.3 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 (step-size is 4, 4 and 2.5 mm). When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

9.4 SAR Averaged Methods

In DASY, the interpolation and extrapolation are both based on the modified Quadratic Shepard's method. The interpolation scheme combines a least-square fitted function method and a weighted average method which are the two basic types of computational interpolation and approximation.

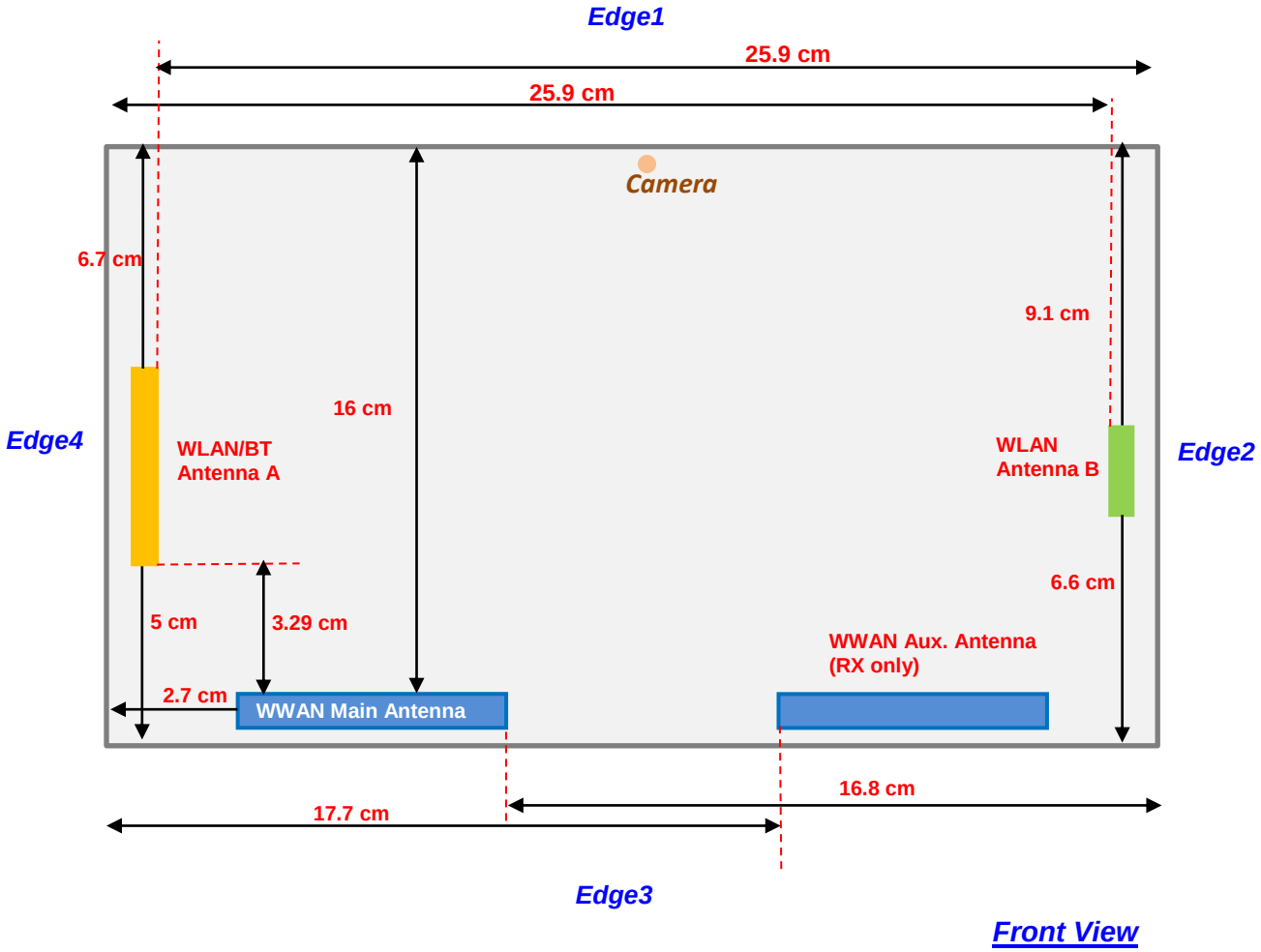
Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g and 10 g cubes, the extrapolation distance should not be larger than 5 mm.

9.5 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.

10. SAR Test Configurations

10.1 Exposure Positions Consideration



Front View

Antennas	Wireless Interface
WWAN Main (Tx/Rx)	GSM850 GSM1900 WCDMA Band II WCDMA Band V
WLAN/BT Antenna A (Tx/Rx)	WiFi 802.11 a/b/g/n Bluetooth
WLAN Antenna B (Tx/Rx)	WiFi 802.11 a/b/g/n

The distance from antenna to edge cover				
Antennas	**Edge1**	**Edge2**	**Edge3**	**Edge4**
WWAN	160 mm	168 mm		27 mm
WLAN/BT Main	67 mm	91 mm	50 mm	
WLAN Aux	91 mm		66 mm	259 mm
Remark: The numbers above justify the SAR exclusion per KDB 447498.				

Sides for SAR tests; Tablet mode						
Antennas	**Front Face**	**Bottom Face**	**Edge1**	**Edge2**	**Edge3**	**Edge4**
WWAN	No	Yes (0, 10 mm)	No	No	Yes (0, 5 mm)	Yes (0 mm)
WLAN/BT Main	No	Yes (0 mm)	No	No	Yes (0 mm)	Yes (0 mm)
WLAN Aux	No	Yes (0 mm)	No	Yes (0 mm)	No	No

Note:

1. Per KDB 941225 D07, the EUT diagonal > 20 cm and Mini-Tablet procedure is not applied. Therefore, SAR tests follow the Tablet Mode in KDB 447498.
2. As in (1), the test distance is 0 mm to the flat phantom; SAR evaluation is required for Bottom Face and each applicable Edge with the antenna within 5 cm to the user.
3. For WWAN SAR compliance, the proximity sensor is designed to be triggered for Bottom Face and Edge3 exposure positions. During SAR tests for EUT other edges, the sensor is disabled via software setting.
   The test distance 10 mm at Bottom Face and 5 mm at Edge3 are for verifying the conservative condition, whichever EUT proximity sensor maximum activated distance are 11 mm and 6 mm respectively. The EUT is set in full-power mode at 10 mm test distance to the phantom for Bottom Face, and 5 mm test distance to the phantom for Edge3.
4. Per KDB 447498 D01, the distance from WWAN Main antenna to the Edge1 / Edge2 > 5 cm, therefore the stand-alone in these configurations SAR are not required.

10.2 Conducted RF Output Power (Unit: dBm)

<GSM Conducted Power>

GSM850 Burst Average Power (dBm)									
Channel	128	189	251	128	189	251	128	189	251
Frequency (MHz)	824.2	836.4	848.8	824.2	836.4	848.8	824.2	836.4	848.8
Mode	Without Power Back-off			With Power Back-off			Pwr. Reduction (dB)		
GPRS 8 (1 Uplink) CS1	32.66	32.64	32.38	30.76	30.70	30.42	1.90	1.94	1.96
GPRS 10 (2 Uplink) CS1	29.63	29.61	29.39	27.72	27.67	27.41	1.91	1.94	1.98
EDGE 8 (GMSK, 1 Uplink) MCS1	32.56	32.54	32.29	30.75	30.69	30.41	1.81	1.85	1.88
EDGE 10 (GMSK, 2 Uplink) MCS1	29.55	29.53	29.32	27.75	27.70	27.44	1.80	1.83	1.88
EDGE 8 (8PSK, 1 Uplink) MCS9	26.83	26.82	26.58	24.96	24.93	24.69	1.87	1.89	1.89
EDGE 10 (8PSK, 2 Uplink) MCS9	26.79	26.79	26.56	24.94	24.89	24.66	1.85	1.90	1.90
GSM850 Frame-Average Power (dBm)									
Channel	128	189	251	128	189	251	128	189	251
Frequency (MHz)	824.2	836.4	848.8	824.2	836.4	848.8	824.2	836.4	848.8
Mode	Without Power Back-off			With Power Back-off			Pwr. Reduction (dB)		
GPRS 8 (1 Uplink) CS1	23.66	23.64	23.38	21.76	21.70	21.42	1.90	1.94	1.96
GPRS 10 (2 Uplink) CS1	23.63	23.61	23.39	21.72	21.67	21.41	1.91	1.94	1.98
EDGE 8 (GMSK, 1 Uplink) MCS1	23.56	23.54	23.29	21.75	21.69	21.41	1.81	1.85	1.88
EDGE 10 (GMSK, 2 Uplink) MCS1	23.55	23.53	23.32	21.75	21.70	21.44	1.80	1.83	1.88
EDGE 8 (8PSK, 1 Uplink) MCS9	17.83	17.82	17.58	15.96	15.93	15.69	1.87	1.89	1.89
EDGE 10 (8PSK, 2 Uplink) MCS9	20.79	20.79	20.56	18.94	18.89	18.66	1.85	1.90	1.90

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

Note:

1. Following KDB 941225 D03, for Body SAR testing, the EUT operating without power back-off was set in GPRS class8 and, the EUT operating with power back-off was set in GPRS class8 due to its highest frame-average power.
2. Per KDB 447498, the maximum output power channel is used for SAR testing and for further SAR test reduction.

GSM1900 Burst Average Power (dBm)									
Channel	512	661	810	512	661	810	512	661	810
Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8	1850.2	1880	1909.8
Mode	Without Power Back-off			With Power Back-off			Pwr. Reduction (dB)		
GPRS 8 (1 Uplink) CS1	29.98	29.94	29.36	26.70	26.58	26.16	3.28	3.36	3.20
GPRS 10 (2 Uplink) CS1	29.50	29.40	28.91	25.61	25.60	25.12	3.89	3.80	3.79
EDGE 8 (GMSK, 1 Uplink) MCS1	29.97	29.93	29.35	26.30	26.61	26.15	3.67	3.32	3.20
EDGE 10 (GMSK, 2 Uplink) MCS1	29.48	29.39	28.90	25.58	25.15	25.13	3.90	4.24	3.77
EDGE 8 (8PSK, 1 Uplink) MCS9	26.64	26.53	26.04	22.79	22.74	22.30	3.85	3.79	3.74
EDGE 10 (8PSK, 2 Uplink) MCS9	26.61	26.51	26.03	22.78	22.73	22.27	3.83	3.78	3.76
GSM1900 Frame-Averaged Power (dBm)									
Channel	512	661	810	512	661	810	512	661	810
Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8	1850.2	1880	1909.8
Mode	Without Power Back-off			With Power Back-off			Pwr. Reduction (dB)		
GPRS 8 (1 Uplink) CS1	20.98	20.94	20.36	17.70	17.58	17.16	3.28	3.36	3.20
GPRS 10 (2 Uplink) CS1	23.50	23.40	22.91	19.61	19.60	19.12	3.89	3.80	3.79
EDGE 8 (GMSK, 1 Uplink) MCS1	20.97	20.93	20.35	17.30	17.61	17.15	3.67	3.32	3.20
EDGE 10 (GMSK, 2 Uplink) MCS1	23.48	23.39	22.90	19.58	19.15	19.13	3.90	4.24	3.77
EDGE 8 (8PSK, 1 Uplink) MCS9	17.64	17.53	17.04	13.79	13.74	13.30	3.85	3.79	3.74
EDGE 10 (8PSK, 2 Uplink) MCS9	20.61	20.51	20.03	16.78	16.73	16.27	3.83	3.78	3.76

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

Note:

1. Following KDB 941225 D03, for Body SAR testing, the EUT operating without power back-off was set in GPRS class8, and the EUT operating with power back-off was set in GPRS class10 due to its highest frame-average power.
2. Per KDB 447498, the maximum output power channel is used for SAR testing and for further SAR test reduction.

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<WCDMA Conducted Power>

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification. A summary of these settings are illustrated below:

HSDPA Setup Configuration:

a. The EUT was connected to Base Station referred to the drawing of 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 referred to the drawing of 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>

WCDMA Band V Average power (dBm)										
Channel		4132	4182	4233	4132	4182	4233	4132	4182	4233
Frequency (MHz)		826.4	836.4	846.6	826.4	836.4	846.6	826.4	836.4	846.6
Mode		Without Power Back-off			With Power Back-off			Pwr. Reduction (dB)		
3GPP Rel 99	RMC 12.2K	22.56	22.66	22.46	20.54	20.63	20.52	2.02	2.03	1.94
3GPP Rel 6	HSDPA Subtest-1	22.39	22.53	22.36	20.54	20.62	20.50	1.85	1.91	1.86
3GPP Rel 6	HSDPA Subtest-2	22.35	22.50	22.35	20.52	20.61	20.49	1.83	1.89	1.86
3GPP Rel 6	HSDPA Subtest-3	21.89	22.03	21.84	20.41	20.52	20.39	1.48	1.51	1.45
3GPP Rel 6	HSDPA Subtest-4	21.88	22.02	21.83	20.45	20.50	20.45	1.43	1.52	1.38
3GPP Rel 6	HSUPA Subtest-1	22.37	22.46	22.35	20.44	20.52	20.47	1.93	1.94	1.88
3GPP Rel 6	HSUPA Subtest-2	20.39	20.50	20.38	19.74	19.80	19.75	0.65	0.70	0.63
3GPP Rel 6	HSUPA Subtest-3	21.35	21.45	21.33	18.94	18.95	18.83	2.41	2.50	2.50
3GPP Rel 6	HSUPA Subtest-4	20.34	20.45	20.32	19.82	19.94	19.83	0.52	0.51	0.49
3GPP Rel 6	HSUPA Subtest-5	22.30	22.40	22.29	20.32	20.40	20.39	1.98	2.00	1.90

WCDMA Band V MPR Results (dB)								
Channel		4132	4182	4233	4132	4182	4233	3GPP MPR
Subtests		Without Power Back-off			With Power Back-off			(dB)
3GPP Rel 6	HSDPA Subtest-1	0.00	0.00	0.00	0.00	0.00	0.00	**0**
3GPP Rel 6	HSDPA Subtest-2	0.04	0.03	0.01	0.02	0.01	0.01	**0**
3GPP Rel 6	HSDPA Subtest-3	0.50	0.50	0.52	0.13	0.10	0.11	**≤ 0.5**
3GPP Rel 6	HSDPA Subtest-4	0.51	0.51	0.53	0.09	0.12	0.05	**≤ 0.5**
3GPP Rel 6	HSUPA Subtest-1	-0.07	-0.06	-0.06	-0.12	-0.12	-0.08	**0**
3GPP Rel 6	HSUPA Subtest-2	1.91	1.90	1.91	0.58	0.60	0.64	**≤ 2**
3GPP Rel 6	HSUPA Subtest-3	0.95	0.95	0.96	1.38	1.45	1.56	**≤ 1**
3GPP Rel 6	HSUPA Subtest-4	1.96	1.95	1.97	0.50	0.46	0.56	**≤ 2**
3GPP Rel 6	HSUPA Subtest-5	0.00	0.00	0.00	0.00	0.00	0.00	**0**

Note:

1. Applying the subtest setup in Table C.11.1.3 of 3GPP TS 34.121-1 V9.1.0 to Rel. 6 HSPA.
2. Per KDB 941225 D01, RMC 12.2kbps setting is used to evaluate SAR. If HSDPA/HSUPA output power is < 0.25 dB higher than RMC, or SAR with RMC 12.2kbps setting is ≤ 1.2W/kg, HSDPA/HSUPA SAR evaluation can be excluded.
3. By design, HSDPA/HSUPA RF power will not be larger than RMC 12.2kbps, detailed information is included in Tune-up Procure exhibit.
4. When power back-off is activated, it's expected that HSDPA/HSUPA MPR is slightly deviated from 3GPP specification; HSDPA/HSUPA RF power will not be larger than RMC 12.2kbps and detailed information is included in Tune-up Procure exhibit.

.

WCDMA Band II Average power (dBm)										
Channel		9262	9400	9538	9262	9400	9538	9262	9400	9538
Frequency (MHz)		1852.4	1880.0	1907.6	1852.4	1880.0	1907.6	1852.4	1880.0	1907.6
Mode		Without Power Back-off			With Power Back-off			Pwr. Reduction (dB)		
3GPP Rel 99	RMC 12.2K	22.14	22.12	22.08	18.30	18.12	18.03	3.84	4.00	4.05
3GPP Rel 6	HSDPA Subtest-1	21.15	21.13	21.08	18.13	18.10	18.18	3.02	3.03	2.90
3GPP Rel 6	HSDPA Subtest-2	21.13	21.09	21.05	18.14	18.13	18.02	2.99	2.96	3.03
3GPP Rel 6	HSDPA Subtest-3	20.68	20.64	20.59	18.21	18.16	18.05	2.47	2.48	2.54
3GPP Rel 6	HSDPA Subtest-4	20.67	20.65	20.60	18.19	18.19	18.18	2.48	2.46	2.42
3GPP Rel 6	HSUPA Subtest-1	21.18	21.16	21.12	18.00	18.22	18.18	3.18	2.94	2.94
3GPP Rel 6	HSUPA Subtest-2	19.26	19.23	19.21	17.28	17.24	17.22	1.98	1.99	1.99
3GPP Rel 6	HSUPA Subtest-3	20.22	20.19	20.17	16.75	16.70	16.72	3.47	3.49	3.45
3GPP Rel 6	HSUPA Subtest-4	19.29	19.22	19.18	17.79	17.74	17.76	1.50	1.48	1.42
3GPP Rel 6	HSUPA Subtest-5	21.17	21.15	21.11	18.25	18.26	18.21	2.92	2.89	2.90

WCDMA Band II MPR Results (dB)								
Channel		9262	9400	9538	9262	9400	9538	3GPP MPR
Subtests		Without Power Back-off			With Power Back-off			(dB)
3GPP Rel 6	HSDPA Subtest-1	0.00	0.00	0.00	0.00	0.00	0.00	**0**
3GPP Rel 6	HSDPA Subtest-2	0.02	0.04	0.03	-0.01	-0.03	0.16	**0**
3GPP Rel 6	HSDPA Subtest-3	0.47	0.49	0.49	-0.08	-0.06	0.13	**≤ 0.5**
3GPP Rel 6	HSDPA Subtest-4	0.48	0.48	0.48	-0.06	-0.09	0.00	**≤ 0.5**
3GPP Rel 6	HSUPA Subtest-1	-0.01	-0.01	-0.01	0.25	0.04	0.03	**0**
3GPP Rel 6	HSUPA Subtest-2	1.91	1.92	1.90	0.97	1.02	0.99	**≤ 2**
3GPP Rel 6	HSUPA Subtest-3	0.95	0.96	0.94	1.50	1.56	1.49	**≤ 1**
3GPP Rel 6	HSUPA Subtest-4	1.88	1.93	1.93	0.46	0.52	0.45	**≤ 2**
3GPP Rel 6	HSUPA Subtest-5	0.00	0.00	0.00	0.00	0.00	0.00	**0**

Note:

1. Applying the subtest setup in Table C.11.1.3 of 3GPP TS 34.121-1 V9.1.0 to Rel. 6 HSPA.
2. Per KDB 941225 D01, RMC 12.2kbps setting is used to evaluate SAR. If HSDPA/HSUPA output power is < 0.25 dB higher than RMC, or SAR with RMC 12.2kbps setting is ≤ 1.2W/kg, HSDPA/HSUPA SAR evaluation can be excluded.
3. By design, HSDPA/HSUPA RF power will not be larger than RMC 12.2kbps, detailed information is included in Tune-up Procure exhibit.
4. When power back-off is activated, HSDPA/HSUPA MPR is slightly deviated from 3GPP specification; HSDPA/HSUPA RF power will not be larger than RMC 12.2kbps and detailed information is included in Tune-up Procure exhibit..

11. SAR Test Results

11.1 Test Records for Body SAR Test

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	Burst Average Power (dBm)	Tune-Up Limit (dBm)	Power Back-off	Power Drift (dB)	SAR_{1g} (W/kg)	Tune-up Scaling Factor	Tune-up Scaled SAR_{1g}
1	GSM850	GPRS8	Bottom Face	1	128	824.2	32.66	33	OFF	0.142	0.297	1.081	0.321
2	GSM850	GPRS8	Edge 3	0.5	128	824.2	32.66	33	OFF	0.02	0.276	1.081	0.298
3	GSM850	GPRS8	Edge 4	0	128	824.2	32.66	33	OFF	-0.1	0.331	1.081	0.358
21	GSM850	GPRS8	Bottom Face	0	128	824.2	30.76	31	ON	0.116	**1.03**	1.057	**1.089**
22	GSM850	GPRS8	Bottom Face	0	189	836.4	30.7	31	ON	0.06	0.914	1.072	0.979
23	GSM850	GPRS8	Bottom Face	0	251	848.8	30.42	31	ON	0.144	0.76	1.143	0.869
24	GSM850	GPRS8	Edge 3	0	128	824.2	30.76	31	ON	0.151	0.363	1.057	0.384
10	GSM1900	GPRS10	Bottom Face	1	512	1850.2	29.5	30	OFF	0.148	0.401	1.122	0.450
11	GSM1900	GPRS10	Edge 3	0.5	512	1850.2	29.5	30	OFF	-0.151	0.79	1.122	0.886
12	GSM1900	GPRS10	Edge 4	0	512	1850.2	29.5	30	OFF	-0.07	0.611	1.122	0.686
13	GSM1900	GPRS10	Bottom Face	0	512	1850.2	25.61	26	ON	-0.123	0.902	1.094	0.987
14	GSM1900	GPRS10	Bottom Face	0	661	1880	25.60	26	ON	0.174	1.09	1.096	1.195
15	GSM1900	GPRS10	Bottom Face	0	810	1909.8	25.12	26	ON	-0.188	**1.11**	1.225	**1.359**
16	GSM1900	GPRS10	Edge 3	0	512	1850.2	25.61	26	ON	0.12	0.38	1.094	0.416

Note: Per KDB 447498, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Power Back-off	Power Drift (dB)	SAR_{1g} (W/kg)	Tune-up Scaling Factor	Tune-up Scaled SAR_{1g}
4	WCDMA V	RMC12.2K	Bottom Face	1	4182	836.4	22.66	24	OFF	-0.06	0.244	1.361	0.332
5	WCDMA V	RMC12.2K	Edge 3	0.5	4182	836.4	22.66	24	OFF	-0.07	0.35	1.361	0.477
6	WCDMA V	RMC12.2K	Edge 4	0	4182	836.4	22.66	24	OFF	-0.12	0.253	1.361	0.344
25	WCDMA V	RMC12.2K	Bottom Face	0	4132	826.4	20.54	22	ON	0.126	0.803	1.400	1.124
26	WCDMA V	RMC12.2K	Bottom Face	0	4182	836.4	20.63	22	ON	-0.096	**0.841**	1.371	1.153
27	WCDMA V	RMC12.2K	Bottom Face	0	4233	846.6	20.52	22	ON	0.05	0.839	1.406	**1.180**
28	WCDMA V	RMC12.2K	Edge 3	0	4182	836.4	20.63	22	ON	0.185	0.503	1.371	0.690
7	WCDMA II	RMC12.2K	Bottom Face	1	9262	1852.4	22.14	24	OFF	0.156	0.455	1.535	0.698
8	WCDMA II	RMC12.2K	Edge 3	0.5	9262	1852.4	22.14	24	OFF	-0.143	0.678	1.535	1.040
9	WCDMA II	RMC12.2K	Edge 4	0	9262	1852.4	22.14	24	OFF	0.15	0.542	1.535	0.832
18	WCDMA II	RMC12.2K	Bottom Face	0	9262	1852.4	18.3	20	ON	0.18	0.839	1.479	1.241
19	WCDMA II	RMC12.2K	Bottom Face	0	9400	1880.0	18.12	20	ON	-0.19	**0.904**	1.542	1.394
20	WCDMA II	RMC12.2K	Bottom Face	0	9538	1907.6	18.03	20	ON	0.08	0.898	1.574	**1.413**
17	WCDMA II	RMC12.2K	Edge 3	0	9262	1852.4	18.3	20	ON	-0.07	0.368	1.479	0.544

Note: Per KDB 447498, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	WLAN Antenna	Power Drift (dB)	SAR_{1g} (W/kg)	Tune-up Scaling Factor	Tune-up Scaled SAR_{1g}
40	WLAN5G	802.11a	Bottom Face	0	165	5825.0	11.44	11.5	A	0.003	**0.26**	1.014	**0.264**
43	WLAN5G	802.11a	Bottom Face	0	165	5825.0	11.55	11.6	B	0.11	**0.226**	1.012	**0.229**

Note:
1. Additional WLAN SAR testing was performed for simultaneous transmission analysis.
2. Per KDB 447498, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.

11.2 Simultaneous Transmission SAR Analysis and Measurements

No.	Applicable Simultaneous Transmission Combination
1.	WWAN + BT
2.	WWAN+ WLAN 2.4G
3.	WWAN+ WLAN 5G band 4

Note:

1. WLAN and BT share the same antenna (WLAN/BT antenna A), and cannot transmit simultaneously.
2. According to WLAN module C2PC filing, Bluetooth power is <60/f; per KDB 447498, standalone SAR is not required.
3. Simultaneous transmission of this antenna in 2.4GHz operation was performed on 802.11b SAR test data.
4. EUT will choose either WLAN2.4G or WLAN5G according to the network signal condition; therefore, they will not transmit simultaneously.
5. WLAN 5GHz band 1/2/3 operation does not supports ad-hoc or hotspot, and will not transmit with WWAN simultaneously.

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	WWAN			Scaled WWAN				WLAN2.4G		Scaled WLAN2.4G				WWAN + WLAN	Scaled WWAN + Scaled WLAN	Case No	Volume Scan
Position	WWAN Band	Plot No	Max. WWAN SAR (W/kg)	Average Power (dBm)	Tune-up Limit (dBm)	Scaling Factor	Scaled WWAN (W/kg)	Plot No	Max. WLAN SAR (W/kg)	Average Power (dBm)	Tune-up Limit (dBm)	Scaling Factor	Scaled WLAN (W/kg)				
Bottom Face At 1cm	GSM850	1	0.297	32.66	33	1.081	0.321	-	0.656	16.28	16.3	1.005	0.659	0.95	0.98	-	
	GSM1900	10	0.401	29.50	30	1.122	0.450	-	0.656	16.28	16.3	1.005	0.659	1.06	1.11	-	
	WCDMA V	4	0.244	22.66	24	1.361	0.332	-	0.656	16.28	16.3	1.005	0.659	0.90	0.99	-	
	WCDMA II	7	0.455	22.14	24	1.535	0.698	-	0.656	16.28	16.3	1.005	0.659	1.11	1.36	-	
Edge3 At 0.5cm	GSM850	2	0.276	32.66	33	1.081	0.298	-	-	-	-	1.000	0.000	0.28	0.30	-	
	GSM1900	11	0.79	29.50	30	1.122	0.886	-	-	-	-	1.000	0.000	0.79	0.89	-	
	WCDMA V	5	0.35	22.66	24	1.361	0.477	-	-	-	-	1.000	0.000	0.35	0.48	-	
	WCDMA II	8	0.678	22.14	24	1.535	1.040	-	-	-	-	1.000	0.000	0.68	1.04	-	
Edge4 At 0cm	GSM850	3	0.331	32.66	33	1.081	0.358	-	0.669	16.28	16.3	1.005	0.672	1.00	1.03	-	
	GSM1900	12	0.611	29.50	30	1.122	0.686	-	0.669	16.28	16.3	1.005	0.672	1.28	1.36	-	
	WCDMA V	6	0.253	22.66	24	1.361	0.344	-	0.669	16.28	16.3	1.005	0.672	0.92	1.02	-	
	WCDMA II	9	0.542	22.14	24	1.535	0.832	-	0.669	16.28	16.3	1.005	0.672	1.21	1.50	-	

	WWAN			Scaled WWAN				WLAN5G		Scaled WLAN5G				WWAN + WLAN	Scaled WWAN + Scaled WLAN	Case No	Volume Scan
Position	WWAN Band	Plot No	Max. WWAN SAR (W/kg)	Average Power (dBm)	Tune-up Limit (dBm)	Scaling Factor	Scaled WWAN (W/kg)	Plot No	Max. WLAN SAR (W/kg)	Average Power (dBm)	Tune-up Limit (dBm)	Scaling Factor	Scaled WLAN (W/kg)				
Bottom Face At 1cm	GSM850	1	0.297	32.66	33	1.081	0.321	40	0.26	11.44	11.5	1.014	0.264	0.56	0.59	-	
	GSM1900	10	0.401	29.5	30	1.122	0.450	40	0.26	11.44	11.5	1.014	0.264	0.66	0.71	-	
	WCDMA V	4	0.244	22.66	24	1.361	0.332	40	0.26	11.44	11.5	1.014	0.264	0.50	0.60	-	
	WCDMA II	7	0.455	22.14	24	1.535	0.698	40	0.26	11.44	11.5	1.014	0.264	0.72	0.96	-	
Edge3 At 0.5cm	GSM850	2	0.276	32.66	33	1.081	0.298	-	-	-	-	1.000	0.000	0.28	0.30	-	
	GSM1900	11	0.79	29.5	30	1.122	0.886	-	-	-	-	1.000	0.000	0.79	0.89	-	
	WCDMA V	5	0.35	22.66	24	1.361	0.477	-	-	-	-	1.000	0.000	0.35	0.48	-	
	WCDMA II	8	0.678	22.14	24	1.535	1.040	-	-	-	-	1.000	0.000	0.68	1.04	-	
Edge4 At 0cm	GSM850	3	0.331	32.66	33	1.081	0.358	-	0.734	11.24	11.3	1.014	0.744	1.07	1.10	-	
	GSM1900	12	0.611	29.5	30	1.122	0.686	-	0.734	11.24	11.3	1.014	0.744	1.35	1.43	-	
	WCDMA V	6	0.253	22.66	24	1.361	0.344	-	0.734	11.24	11.3	1.014	0.744	0.99	1.09	-	
	WCDMA II	9	0.542	22.14	24	1.535	0.832	-	0.734	11.24	11.3	1.014	0.744	1.28	1.58	-	

Note:

1. The maximum SAR summation is calculated based on the same configuration and test position.
2. When stand-alone 1-g SAR is not required for a transmitter or antenna, its SAR is considered zero in the 1-g SAR summing process to determine simultaneous transmission SAR evaluation requirements
3. If 1g-SAR scalar summation < 1.6W/kg, simultaneous SAR measurement is not necessary.
4. If 1g-SAR summation > 1.6W/kg, SPLSR calculation is necessary.
5. The WWAN scaling factor is calculated according to the difference between measured output power and maximum tolerance power on this device.
6. WLAN SAR data at 0mm is applied here, and it will represent more conservative situation than WLAN SAR data at 10mm at Bottom Face, and 5mm at Edge3.

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	WWAN			Scaled WWAN				WLAN2.4G		Scaled WLAN2.4G				WWAN + WLAN	Scaled WWAN + Scaled WLAN	Case No	Volume Scan
Position	WWAN Band	Plot No	Max. WWAN SAR (W/kg)	Average Power (dBm)	Tune-up Limit (dBm)	Scaling Factor	Scaled WWAN (W/kg)	Plot No	Max. WLAN SAR (W/kg)	Average Power (dBm)	Tune-up Limit (dBm)	Scaling Factor	Scaled WLAN (W/kg)				
Bottom Face At 1cm	GSM850	1	0.297	32.66	33	1.081	0.321	-	0.797	16.28	16.3	1.005	0.801	1.09	1.12	-	-
	GSM1900	10	0.401	29.50	30	1.122	0.450	-	0.797	16.28	16.3	1.005	0.801	1.20	1.25	-	-
	WCDMA V	4	0.244	22.66	24	1.361	0.332	-	0.797	16.28	16.3	1.005	0.801	1.04	1.13	-	-
	WCDMA II	7	0.455	22.14	24	1.535	0.698	-	0.797	16.28	16.3	1.005	0.801	1.25	1.50	-	-
Edge2 At 0.5cm	GSM850	-	-	-	-	-	-	-	0.549	16.19	16.2	1.002	0.550	0.55	0.55	-	-
	GSM1900	-	-	-	-	-	-	-	0.549	16.19	16.2	1.002	0.550	0.55	0.55	-	-
	WCDMA V	-	-	-	-	-	-	-	0.549	16.19	16.2	1.002	0.550	0.55	0.55	-	-
	WCDMA II	-	-	-	-	-	-	-	0.549	16.19	16.2	1.002	0.550	0.55	0.55	-	-

	WWAN			Scaled WWAN				WLAN5G		Scaled WLAN5G				WWAN + WLAN	Scaled WWAN + Scaled WLAN	Case No	Volume Scan
Position	WWAN Band	Plot No	Max. WWAN SAR (W/kg)	Average Power (dBm)	Tune-up Limit (dBm)	Scaling Factor	Scaled WWAN (W/kg)	Plot No	Max. WLAN SAR (W/kg)	Average Power (dBm)	Tune-up Limit (dBm)	Scaling Factor	Scaled WLAN (W/kg)				
Bottom Face At 1cm	GSM850	1	0.297	32.66	33	1.081	0.321	43	0.226	11.55	11.6	1.012	0.229	0.52	0.55	-	-
	GSM1900	10	0.401	29.5	30	1.122	0.450	43	0.226	11.55	11.6	1.012	0.229	0.63	0.68	-	-
	WCDMA V	4	0.244	22.66	24	1.361	0.332	43	0.226	11.55	11.6	1.012	0.229	0.47	0.56	-	-
	WCDMA II	7	0.455	22.14	24	1.535	0.698	43	0.226	11.55	11.6	1.012	0.229	0.68	0.93	-	-
Edge2 At 0.5cm	GSM850	-	-	-	-	-	-	-	0.687	11.47	11.5	1.007	0.692	0.69	0.69	-	-
	GSM1900	-	-	-	-	-	-	-	0.687	11.47	11.5	1.007	0.692	0.69	0.69	-	-
	WCDMA V	-	-	-	-	-	-	-	0.687	11.47	11.5	1.007	0.692	0.69	0.69	-	-
	WCDMA II	-	-	-	-	-	-	-	0.687	11.47	11.5	1.007	0.692	0.69	0.69	-	-

Note:

1. The maximum SAR summation is calculated based on the same configuration and test position.
2. When stand-alone 1-g SAR is not required for a transmitter or antenna, its SAR is considered zero in the 1-g SAR summing process to determine simultaneous transmission SAR evaluation requirements
3. If 1g-SAR scalar summation < 1.6W/kg, simultaneous SAR measurement is not necessary.
4. If 1g-SAR summation > 1.6W/kg, SPLSR calculation is necessary.
5. The WWAN scaling factor is calculated according to the difference between measured output power and maximum tolerance power on this device.
6. WLAN SAR data at 0mm is applied here, and it will represent more conservative situation than WLAN SAR data at 10mm at Bottom Face, and 5mm at Edge3.

<WWAN With Power Back-off, WLAN Ant. A>

	WWAN			Scaled WWAN				WLAN2.4G		Scaled WLAN2.4G				WWAN + WLAN	Scaled WWAN + Scaled WLAN	Case No	Volume Scan
Position	WWAN Band	Plot No	Max. WWAN SAR (W/kg)	Average Power (dBm)	Tune-up Limit (dBm)	Scaling Factor	Scaled WWAN (W/kg)	Plot No	Max. WLAN SAR (W/kg)	Average Power (dBm)	Tune-up Limit (dBm)	Scaling Factor	Scaled WLAN (W/kg)				
Bottom Face At 0cm	GSM850	21	1.03	30.76	31	1.057	1.089	-	0.656	16.28	16.3	1.005	0.659	1.69	1.75	S01	-
	GSM1900	13	0.902	25.61	26	1.094	0.987	-	0.656	16.28	16.3	1.005	0.659	1.56	1.65	S02	-
	GSM1900	14	1.09	25.60	26	1.096	1.195	-	0.656	16.28	16.3	1.005	0.659	1.75	1.85	S03	Yes
	GSM1900	15	1.11	25.12	26	1.225	1.359	-	0.656	16.28	16.3	1.005	0.659	1.77	2.02	S04	Yes
	WCDMA V	26	0.841	20.63	22	1.371	1.153	-	0.656	16.28	16.3	1.005	0.659	1.50	1.81	S05	-
	WCDMA II	18	0.839	18.30	20	1.479	1.241	-	0.656	16.28	16.3	1.005	0.659	1.50	1.90	S06	Yes
	WCDMA II	19	0.904	18.12	20	1.542	1.394	-	0.656	16.28	16.3	1.005	0.659	1.56	2.05	S07	Yes
	WCDMA II	20	0.898	18.03	20	1.574	1.413	-	0.656	16.28	16.3	1.005	0.659	1.55	2.07	S08	Yes
Edge3 At 0cm	GSM850	24	0.363	30.76	31	1.057	0.384	-	-	-	-	1.000	0.000	0.36	0.38	-	-
	GSM1900	16	0.38	25.61	26	1.094	0.416	-	-	-	-	1.000	0.000	0.38	0.42	-	-
	WCDMA V	28	0.503	20.63	22	1.371	0.690	-	-	-	-	1.000	0.000	0.50	0.69	-	-
	WCDMA II	17	0.368	18.30	20	1.479	0.544	-	-	-	-	1.000	0.000	0.37	0.54	-	-

	WWAN			Scaled WWAN				WLAN5G		Scaled WLAN5G				WWAN + WLAN	Scaled WWAN + Scaled WLAN	Case No	Volume Scan
Position	WWAN Band	Plot No	Max. WWAN SAR (W/kg)	Average Power (dBm)	Tune-up Limit (dBm)	Scaling Factor	Scaled WWAN (W/kg)	Plot No	Max. WLAN SAR (W/kg)	Average Power (dBm)	Tune-up Limit (dBm)	Scaling Factor	Scaled WLAN (W/kg)				
Bottom Face At 0cm	GSM850	21	1.03	30.76	31	1.057	1.089	40	0.26	11.44	11.5	1.014	0.264	1.29	1.35	-	-
	GSM1900	13	0.902	25.61	26	1.094	0.987	40	0.26	11.44	11.5	1.014	0.264	1.16	1.25	-	-
	GSM1900	14	1.09	25.6	26	1.096	1.195	40	0.26	11.44	11.5	1.014	0.264	1.35	1.46	-	-
	GSM1900	15	1.11	25.12	26	1.225	1.359	40	0.26	11.44	11.5	1.014	0.264	1.37	1.62	S09	Yes
	WCDMA V	26	0.841	20.63	22	1.371	1.153	40	0.26	11.44	11.5	1.014	0.264	1.10	1.42	-	-
	WCDMA II	18	0.839	18.3	20	1.479	1.241	40	0.26	11.44	11.5	1.014	0.264	1.10	1.51	-	-
	WCDMA II	19	0.904	18.12	20	1.542	1.394	40	0.26	11.44	11.5	1.014	0.264	1.16	1.66	S10	Yes
	WCDMA II	20	0.898	18.03	20	1.574	1.413	40	0.26	11.44	11.5	1.014	0.264	1.16	1.68	S11	Yes
Edge3 At 0cm	GSM850	24	0.363	30.76	31	1.057	0.384	-	-	-	-	1.000	0.000	0.36	0.38	-	-
	GSM1900	16	0.38	25.61	26	1.094	0.416	-	-	-	-	1.000	0.000	0.38	0.42	-	-
	WCDMA V	28	0.503	20.63	22	1.371	0.690	-	-	-	-	1.000	0.000	0.50	0.69	-	-
	WCDMA II	17	0.368	18.3	20	1.479	0.544	-	-	-	-	1.000	0.000	0.37	0.54	-	-

Note:

1. The maximum SAR summation is calculated based on the same configuration and test position.
2. When stand-alone 1-g SAR is not required for a transmitter or antenna, its SAR is considered zero in the 1-g SAR summing process to determine simultaneous transmission SAR evaluation requirements
3. If 1g-SAR scalar summation < 1.6W/kg, simultaneous SAR measurement is not necessary.
4. If 1g-SAR summation > 1.6W/kg, SPLSR calculation is necessary.
5. The WWAN scaling factor is calculated according to the difference between measured output power and maximum tolerance power on this device.
6. WLAN SAR data at 0mm is applied here, and it will represent more conservative situation than WLAN SAR data at 10mm at Bottom Face, and 5mm at Edge3..

<WWAN With Power Back-off, WLAN Ant. B>

	WWAN			Scaled WWAN				WLAN2.4G		Scaled WLAN2.4G				WWAN + WLAN	Scaled WWAN + Scaled WLAN	Case No	Volume Scan
Position	WWAN Band	Plot No	Max. WWAN SAR (W/kg)	Average Power (dBm)	Tune-up Limit (dBm)	Scaling Factor	Scaled WWAN (W/kg)	Plot No	Max. WLAN SAR (W/kg)	Average Power (dBm)	Tune-up Limit (dBm)	Scaling Factor	Scaled WLAN (W/kg)				
Bottom Face At 0cm	GSM850	21	1.03	30.76	31	1.057	1.089	42	0.797	16.19	16.2	1.002	0.799	1.83	1.89	S12	-
	GSM1900	13	0.902	25.61	26	1.094	0.987	42	0.797	16.19	16.2	1.002	0.799	1.70	1.79	S13	-
	GSM1900	14	1.09	25.60	26	1.096	1.195	42	0.797	16.19	16.2	1.002	0.799	1.89	1.99	S14	-
	GSM1900	15	1.11	25.12	26	1.225	1.359	42	0.797	16.19	16.2	1.002	0.799	1.91	2.16	S15	-
	WCDMA V	26	0.841	20.63	22	1.371	1.153	42	0.797	16.19	16.2	1.002	0.799	1.64	1.95	S16	-
	WCDMA II	18	0.839	18.30	20	1.479	1.241	42	0.797	16.19	16.2	1.002	0.799	1.64	2.04	S17	-
	WCDMA II	19	0.904	18.12	20	1.542	1.394	42	0.797	16.19	16.2	1.002	0.799	1.70	2.19	S18	-
	WCDMA II	20	0.898	18.03	20	1.574	1.413	42	0.797	16.19	16.2	1.002	0.799	1.70	2.21	S19	-
Edge2 At 0cm	GSM850	-	-	-	-	-	-	-	0.549	16.19	16.2	1.002	0.550	0.55	0.55	-	-
	GSM1900	-	-	-	-	-	-	-	0.549	16.19	16.2	1.002	0.550	0.55	0.55	-	-
	WCDMA V	-	-	-	-	-	-	-	0.549	16.19	16.2	1.002	0.550	0.55	0.55	-	-
	WCDMA II	-	-	-	-	-	-	-	0.549	16.19	16.2	1.002	0.550	0.55	0.55	-	-

	WWAN			Scaled WWAN				WLAN5G		Scaled WLAN5G				WWAN + WLAN	Scaled WWAN + Scaled WLAN	Case No	Volume Scan
Position	WWAN Band	Plot No	Max. WWAN SAR (W/kg)	Average Power (dBm)	Tune-up Limit (dBm)	Scaling Factor	Scaled WWAN (W/kg)	Plot No	Max. WLAN SAR (W/kg)	Average Power (dBm)	Tune-up Limit (dBm)	Scaling Factor	Scaled WLAN (W/kg)				
Bottom Face At 0cm	GSM850	21	1.03	30.76	31	1.057	1.089	43	0.226	11.55	11.6	1.012	0.229	1.26	1.32	-	-
	GSM1900	13	0.902	25.61	26	1.094	0.987	43	0.226	11.55	11.6	1.012	0.229	1.13	1.22	-	-
	GSM1900	14	1.09	25.6	26	1.096	1.195	43	0.226	11.55	11.6	1.012	0.229	1.32	1.42	-	-
	GSM1900	15	1.11	25.12	26	1.225	1.359	43	0.226	11.55	11.6	1.012	0.229	1.34	1.59	-	-
	WCDMA V	26	0.841	20.63	22	1.371	1.153	43	0.226	11.55	11.6	1.012	0.229	1.07	1.38	-	-
	WCDMA II	18	0.839	18.3	20	1.479	1.241	43	0.226	11.55	11.6	1.012	0.229	1.07	1.47	-	-
	WCDMA II	19	0.904	18.12	20	1.542	1.394	43	0.226	11.55	11.6	1.012	0.229	1.13	1.62	S20	-
	WCDMA II	20	0.898	18.03	20	1.574	1.413	43	0.226	11.55	11.6	1.012	0.229	1.12	1.64	S21	-
Edge2 At 0cm	GSM850	-	-	-	-	-	-	-	0.687	11.55	11.6	1.012	0.695	0.69	0.70	-	-
	GSM1900	-	-	-	-	-	-	-	0.687	11.55	11.6	1.012	0.695	0.69	0.70	-	-
	WCDMA V	-	-	-	-	-	-	-	0.687	11.55	11.6	1.012	0.695	0.69	0.70	-	-
	WCDMA II	-	-	-	-	-	-	-	0.687	11.55	11.6	1.012	0.695	0.69	0.70	-	-

Note:

1. The maximum SAR summation is calculated based on the same configuration and test position.
2. When stand-alone 1-g SAR is not required for a transmitter or antenna, its SAR is considered zero in the 1-g SAR summing process to determine simultaneous transmission SAR evaluation requirements
3. If 1g-SAR scalar summation < 1.6W/kg, simultaneous SAR measurement is not necessary.
4. If 1g-SAR summation > 1.6W/kg, SPLSR calculation is necessary.
5. The WWAN scaling factor is calculated according to the difference between measured output power and maximum tolerance power on this device.
6. WLAN SAR data at 0mm is applied here, and it will represent more conservative situation than WLAN SAR data at 10mm at Bottom Face, and 5mm at Edge3

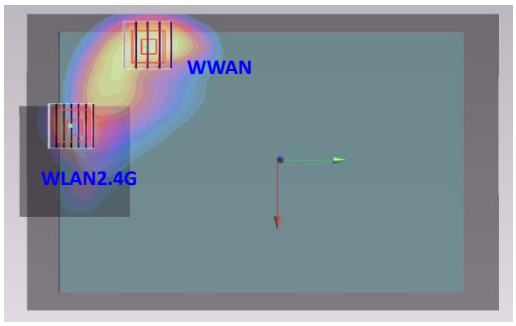
11.3 Simultaneous analysis - SPLSR calculation

<WWAN With Power Back-off, WLAN Ant. A>

Case No	Plot No	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m)			3D distance (cm)	Pair SAR sum (W/kg)	SPLSR	Simultaneous SAR
						X	Y	Z				
S01	21	GSM850	Bottom Face At 0cm	1.089	0	-0.079	-0.079	-0.178	7.5	1.75	0.23	Not required
	52	WLAN2.4G		0.659	0	-0.0245	-0.13	-0.179				

Case No	Plot No	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m)			3D distance (cm)	Pair SAR sum (W/kg)	SPLSR	Simultaneous SAR
						X	Y	Z				
S02	13	GSM1900	Bottom Face At 0cm	0.987	0	-0.071	-0.093	-0.174	6.0	1.65	0.28	Not required
	52	WLAN2.4G		0.659	0	-0.0245	-0.13	-0.179				

Case No	Plot No	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m)			3D distance (cm)	Pair SAR sum (W/kg)	SPLSR	Simultaneous SAR
						X	Y	Z				
S05	26	WCDMA V	Bottom Face At 0cm	1.153	0	-0.079	-0.079	-0.178	7.5	1.81	0.24	Not required
	52	WLAN2.4G		0.659	0	-0.0245	-0.13	-0.179				

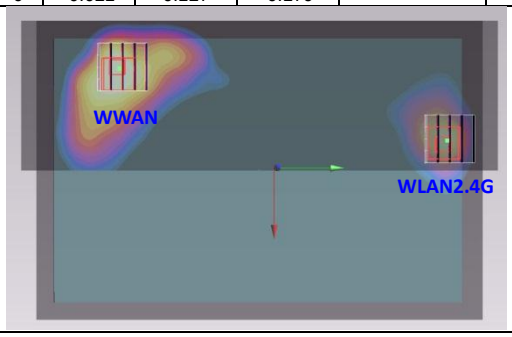


<WWAN With Power Back-off, WLAN Ant. B>

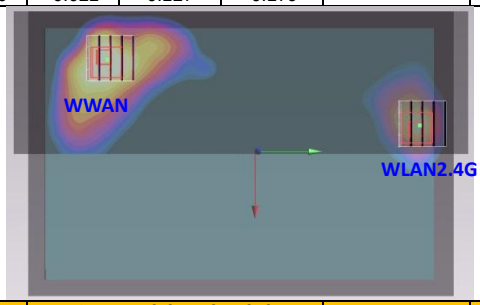
Case No	Plot No	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m)			3D distance (cm)	Pair SAR sum (W/kg)	SPLSR	Simultaneous SAR
						X	Y	Z				
S12	21	GSM850	Bottom Face At 0cm	1.089	0	-0.079	-0.079	-0.178	21.4	1.89	0.09	Not required
	42	WLAN2.4G		0.799	0	-0.021	0.127	-0.179				

Case No	Plot No	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m)			3D distance (cm)	Pair SAR sum (W/kg)	SPLSR	Simultaneous SAR
						X	Y	Z				
S13	13	GSM1900	Bottom Face At 0cm	0.987	0	-0.071	-0.093	-0.174	22.6	1.79	0.08	Not required
	42	WLAN2.4G		0.799	0	-0.021	0.127	-0.179				

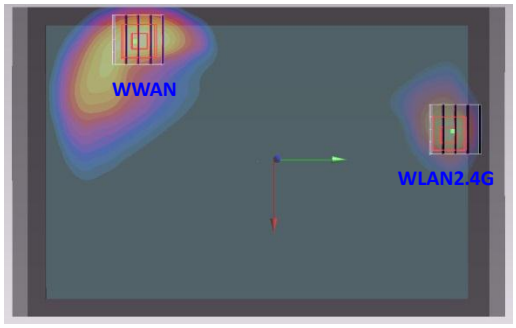
Case No	Plot No	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m)			3D distance (cm)	Pair SAR sum (W/kg)	SPLSR	Simultaneous SAR
						X	Y	Z				
S14	14	GSM1900	Bottom Face At 0cm	1.195	0	-0.069	-0.093	-0.174	22.5	1.99	0.09	Not required
	42	WLAN2.4G		0.799	0	-0.021	0.127	-0.179				



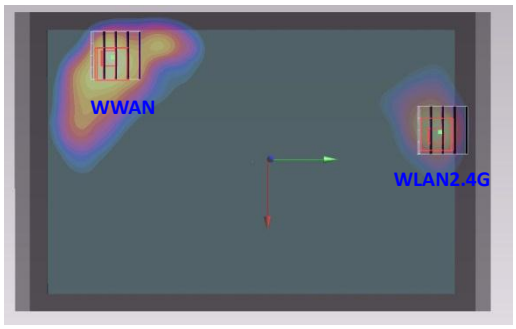
Case No	Plot No	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m)			3D distance (cm)	Pair SAR sum (W/kg)	SPLSR	Simultaneous SAR
						X	Y	Z				
S15	15	GSM1900	Bottom Face	1.359	0	-0.067	-0.093	-0.174	22.5	2.16	0.10	Not required
	42	WLAN2.4G	At 0cm	0.799	0	-0.021	0.127	-0.179				



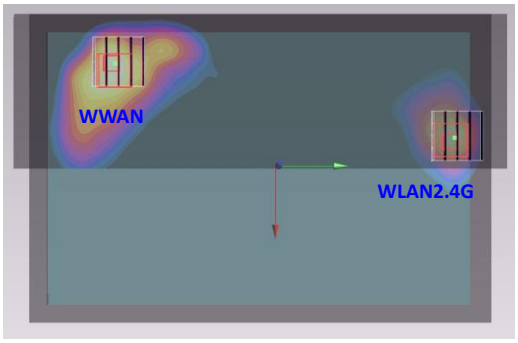
Case No	Plot No	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m)			3D distance (cm)	Pair SAR sum (W/kg)	SPLSR	Simultaneous SAR
						X	Y	Z				
S16	26	WCDMA V	Bottom Face	1.153	0	-0.079	-0.079	-0.178	21.4	1.95	0.09	Not required
	42	WLAN2.4G	At 0cm	0.799	0	-0.021	0.127	-0.179				



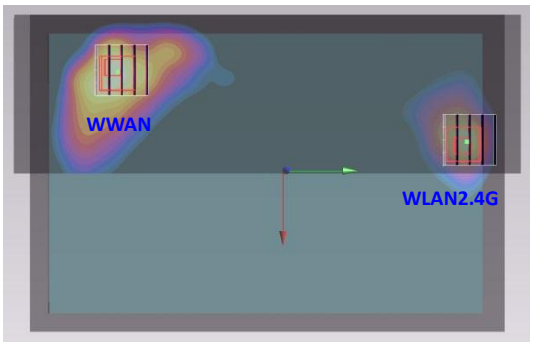
Case No	Plot No	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m)			3D distance (cm)	Pair SAR sum (W/kg)	SPLSR	Simultaneous SAR
						X	Y	Z				
S17	18	WCDMA II	Bottom Face	1.241	0	-0.071	-0.101	-0.174	23.3	2.04	0.09	Not required
	42	WLAN2.4G	At 0cm	0.799	0	-0.021	0.127	-0.179				



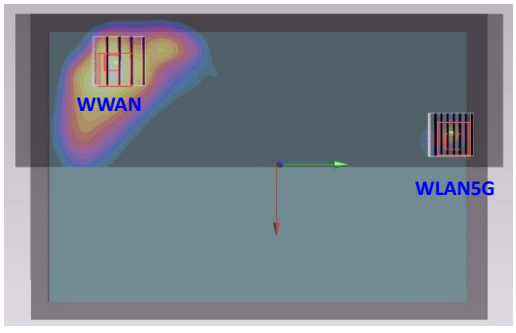
Case No	Plot No	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m)			3D distance (cm)	Pair SAR sum (W/kg)	SPLSR	Simultaneous SAR
						X	Y	Z				
S18	19	WCDMA II	Bottom Face	1.394	0	-0.069	-0.101	-0.174	23.3	2.19	0.09	Not required
	42	WLAN2.4G	At 0cm	0.799	0	-0.021	0.127	-0.179				



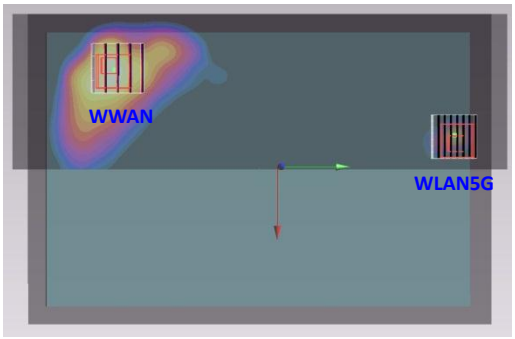
Case No	Plot No	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m)			3D distance (cm)	Pair SAR sum (W/kg)	SPLSR	Simultaneous SAR
						X	Y	Z				
S19	20	WCDMA II	Bottom Face	1.413	0	-0.065	-0.101	-0.174	23.2	2.21	0.10	Not required
	42	WLAN2.4G	At 0cm	0.799	0	-0.021	0.127	-0.179				



Case No	Plot No	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m)			3D distance (cm)	Pair SAR sum (W/kg)	SPLSR	Simultaneous SAR
						X	Y	Z				
S20	19	WCDMA II	Bottom Face	1.394	0	-0.069	-0.101	-0.174	23.4	1.62	0.07	Not required
	43	WLAN5G	At 0cm	0.229	0	-0.015	0.127	-0.18				



Case No	Plot No	Band	Position	SAR (W/kg)	Gap (cm)	SAR peak location (m)			3D distance (cm)	Pair SAR sum (W/kg)	SPLSR	Simultaneous SAR
						X	Y	Z				
S21	20	WCDMA II	Bottom Face	1.413	0	-0.065	-0.101	-0.174	23.3	1.64	0.07	Not required
	43	WLAN5G	At 0cm	0.229	0	-0.015	0.127	-0.18				



11.4 Volume Scan

Case No.	Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Power Back-off	Ant Status	Power Drift (dB)	SAR_{1g} (W/kg)	Tune-up Scaling Factor	Tune-up Scaled SAR_{1g}	Multi Band SAR_{1g} (W/kg)
S03	34	GSM1900	GPRS10	Bottom Face	0	661	1880	25.60	26	ON	-	0.13	1.08	1.096	1.184	1.210
	39	WLAN2.4G	802.11b	Bottom Face	0	6	2437.0	16.28	16.3	-	-	0.198	0.643	1.005	0.646	
S04	35	GSM1900	GPRS10	Bottom Face	0	810	1909.8	25.12	26	ON	-	0.16	1.1	1.225	1.347	1.380
	39	WLAN2.4G	802.11b	Bottom Face	0	6	2437.0	16.28	16.3	-	-	0.198	0.643	1.005	0.646	
S06	36	WCDMA II	RMC12.2K	Bottom Face	0	9262	1852.4	18.3	20	ON	-	0.1	0.834	1.479	1.234	1.260
	39	WLAN2.4G	802.11b	Bottom Face	0	6	2437.0	16.28	16.3	-	-	0.198	0.643	1.005	0.646	
S07	37	WCDMA II	RMC12.2K	Bottom Face	0	9400	1880.0	18.12	20	ON	-	0.11	0.887	1.542	1.367	1.410
	39	WLAN2.4G	802.11b	Bottom Face	0	6	2437.0	16.28	16.3	-	-	0.198	0.643	1.005	0.646	
S08	38	WCDMA II	RMC12.2K	Bottom Face	0	9538	1907.6	18.03	20	ON	-	0.17	0.848	1.574	1.335	1.380
	39	WLAN2.4G	802.11b	Bottom Face	0	6	2437.0	16.28	16.3	-	-	0.198	0.643	1.005	0.646	
S09	35	GSM1900	GPRS10	Bottom Face	0	810	1909.8	25.12	26	ON	-	0.16	1.1	1.225	1.347	1.390
	41	WLAN5G	802.11a	Bottom Face	0	165	5825.0	11.44	11.5	-	A	0.003	0.26	1.014	0.264	
S10	37	WCDMA II	RMC12.2K	Bottom Face	0	9400	1880.0	18.12	20	ON	-	0.11	0.887	1.542	1.367	1.420
	41	WLAN5G	802.11a	Bottom Face	0	165	5825.0	11.44	11.5	-	A	0.003	0.26	1.014	0.264	
S11	38	WCDMA II	RMC12.2K	Bottom Face	0	9538	1907.6	18.03	20	ON	-	0.17	0.848	1.574	1.335	1.390
	41	WLAN5G	802.11a	Bottom Face	0	165	5825.0	11.44	11.5	-	A	0.003	0.26	1.014	0.264	

Note:

Scaling factor was input into SEMCAD software multiband combination procedure to account for tune-up limit tolerance.

Test Engineer： Aaron Chen

12. 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 12.1

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 12.1 Standard Uncertainty for Assumed Distribution

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

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

Error Description	Uncertainty Value (±%)	Probability Distribution	Divisor	Ci (1g)	Ci (10g)	Standard Uncertainty (1g)	Standard Uncertainty (10g)
Measurement System							
Probe Calibration	6.0	Normal	1	1	1	± 6.0 %	± 6.0 %
Axial Isotropy	4.7	Rectangular	√3	0.7	0.7	± 1.9 %	± 1.9 %
Hemispherical Isotropy	9.6	Rectangular	√3	0.7	0.7	± 3.9 %	± 3.9 %
Boundary Effects	1.0	Rectangular	√3	1	1	± 0.6 %	± 0.6 %
Linearity	4.7	Rectangular	√3	1	1	± 2.7 %	± 2.7 %
System Detection Limits	1.0	Rectangular	√3	1	1	± 0.6 %	± 0.6 %
Readout Electronics	0.3	Normal	1	1	1	± 0.3 %	± 0.3 %
Response Time	0.8	Rectangular	√3	1	1	± 0.5 %	± 0.5 %
Integration Time	2.6	Rectangular	√3	1	1	± 1.5 %	± 1.5 %
RF Ambient Noise	3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %
RF Ambient Reflections	3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %
Probe Positioner	0.4	Rectangular	√3	1	1	± 0.2 %	± 0.2 %
Probe Positioning	2.9	Rectangular	√3	1	1	± 1.7 %	± 1.7 %
Max. SAR Eval.	1.0	Rectangular	√3	1	1	± 0.6 %	± 0.6 %
Test Sample Related							
Device Positioning	2.9	Normal	1	1	1	± 2.9 %	± 2.9 %
Device Holder	3.6	Normal	1	1	1	± 3.6 %	± 3.6 %
Power Drift	5.0	Rectangular	√3	1	1	± 2.9 %	± 2.9 %
Phantom and Setup							
Phantom Uncertainty	4.0	Rectangular	√3	1	1	± 2.3 %	± 2.3 %
Liquid Conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	± 1.8 %	± 1.2 %
Liquid Conductivity (Meas.)	2.5	Normal	1	0.64	0.43	± 1.6 %	± 1.1 %
Liquid Permittivity (Target)	5.0	Rectangular	√3	0.6	0.49	± 1.7 %	± 1.4 %
Liquid Permittivity (Meas.)	2.5	Normal	1	0.6	0.49	± 1.5 %	± 1.2 %
Combined Standard Uncertainty						± 11.0 %	± 10.8 %
Coverage Factor for 95 %						K=2	
Expanded Uncertainty						**± 22.0 %**	**± 21.5 %**

Table 12.2 Uncertainty Budget of DASY for frequency range 300 MHz to 3 GHz

Error Description	Uncertainty Value (±%)	Probability Distribution	Divisor	Ci (1g)	Ci (10g)	Standard Uncertainty (1g)	Standard Uncertainty (10g)
Measurement System							
Probe Calibration	6.55	Normal	1	1	1	± 6.55 %	± 6.55 %
Axial Isotropy	4.7	Rectangular	√3	0.7	0.7	± 1.9 %	± 1.9 %
Hemispherical Isotropy	9.6	Rectangular	√3	0.7	0.7	± 3.9 %	± 3.9 %
Boundary Effects	2.0	Rectangular	√3	1	1	± 1.2 %	± 1.2 %
Linearity	4.7	Rectangular	√3	1	1	± 2.7 %	± 2.7 %
System Detection Limits	1.0	Rectangular	√3	1	1	± 0.6 %	± 0.6 %
Readout Electronics	0.3	Normal	1	1	1	± 0.3 %	± 0.3 %
Response Time	0.8	Rectangular	√3	1	1	± 0.5 %	± 0.5 %
Integration Time	2.6	Rectangular	√3	1	1	± 1.5 %	± 1.5 %
RF Ambient Noise	3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %
RF Ambient Reflections	3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %
Probe Positioner	0.8	Rectangular	√3	1	1	± 0.5 %	± 0.5 %
Probe Positioning	9.9	Rectangular	√3	1	1	± 5.7 %	± 5.7 %
Max. SAR Eval.	4.0	Rectangular	√3	1	1	± 2.3 %	± 2.3 %
Test Sample Related							
Device Positioning	2.9	Normal	1	1	1	± 2.9 %	± 2.9 %
Device Holder	3.6	Normal	1	1	1	± 3.6 %	± 3.6 %
Power Drift	5.0	Rectangular	√3	1	1	± 2.9 %	± 2.9 %
Phantom and Setup							
Phantom Uncertainty	4.0	Rectangular	√3	1	1	± 2.3 %	± 2.3 %
Liquid Conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	± 1.8 %	± 1.2 %
Liquid Conductivity (Meas.)	2.5	Normal	1	0.64	0.43	± 1.6 %	± 1.1 %
Liquid Permittivity (Target)	5.0	Rectangular	√3	0.6	0.49	± 1.7 %	± 1.4 %
Liquid Permittivity (Meas.)	2.5	Normal	1	0.6	0.49	± 1.5 %	± 1.2 %
Combined Standard Uncertainty						± 12.8 %	± 12.6 %
Coverage Factor for 95 %						K=2	
Expanded Uncertainty						**± 25.6 %**	**± 25.2 %**

Table 12.3 Uncertainty Budget of DASY for frequency range 3 GHz to 6 GHz

13. 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. 1528-2003, “Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, December 2003

[4] FCC OET Bulletin 65 (Edition 97-01) Supplement C (Edition 01-01), “Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields”, June 2001

[5] SPEAG DASY System Handbook

[6] FCC KDB 248227 D01 v01r02, “SAR Measurement Procedures for 802.11 a/b/g Transmitters”, May 2007

[7] FCC KDB 447498 D01 v04, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, November 2009

[8] FCC KDB 616217 D03 v01, “SAR Evaluation Considerations for Laptop/Notebook/Netbook and Tablet Computers”, November 2009

[9] FCC KDB 941225 D01 v02, “SAR Measurement Procedures for 3G Devices – CDMA 2000 / Ev-Do / WCDMA / HSDPA / HSPA”, October 2007

[10] FCC KDB 941225 D03 v01, “Recommended SAR Test Reduction Procedures for GSM / GPRS / EDGE”, December 2008

[11] FCC KDB 941225 D04 v01, “Evaluating SAR for GSM/(E)GPRS Dual Transfer Mode”, January 27 2010

[12] FCC KDB 941225 D05 v01, “SAR Test Considerations for LTE Handsets and Data Modems”, December 2010

[13] FCC KDB 941225 D07 01, "SAR Evaluation Procedure for UMPC Mini-Tablet Devices", April 2011

[14] FCC KDB 388624 D02, "Permit But Ask List", December 2011.

Appendix A. Plots of System Performance Check

The plots are shown as follows.

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/10

System Check_Body_835MHz_120910

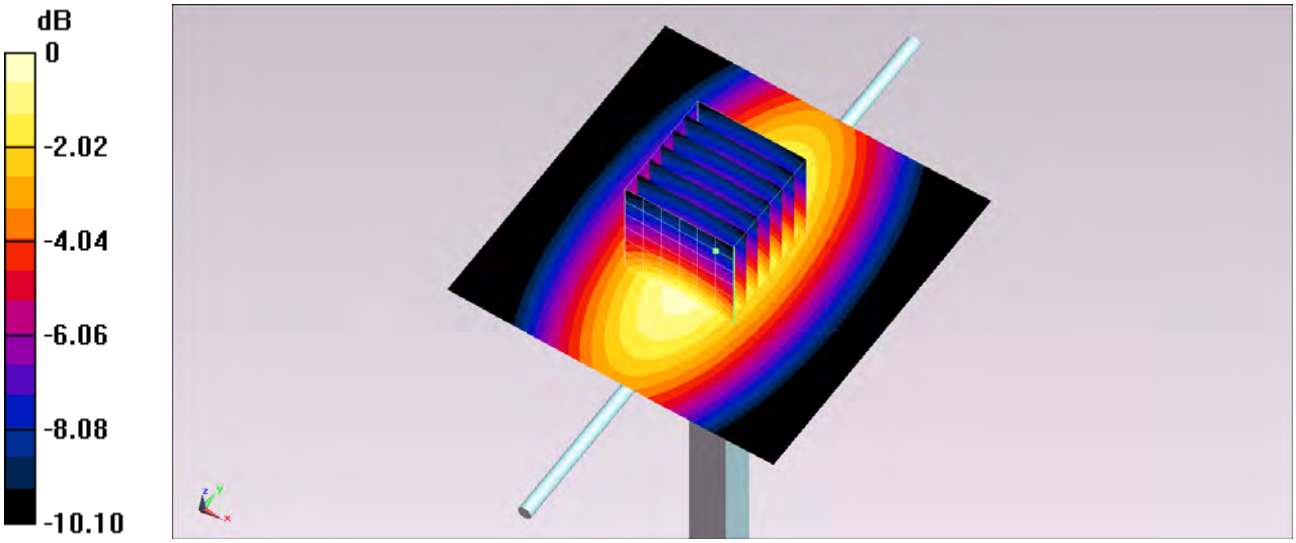
DUT: D835V2-SN:499

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: MSL_850_120910 Medium parameters used: f = 835 MHz; σ = 0.994 mho/m; ε_r = 54.715; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(9.72, 9.72, 9.72); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.83 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.392 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 3.922 mW/g
SAR(1 g) = 2.63 mW/g; SAR(10 g) = 1.73 mW/g
Maximum value of SAR (measured) = 2.83 mW/g



0 dB = 2.83 mW/g = 9.04 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/15

System Check_Body_835MHz_120915

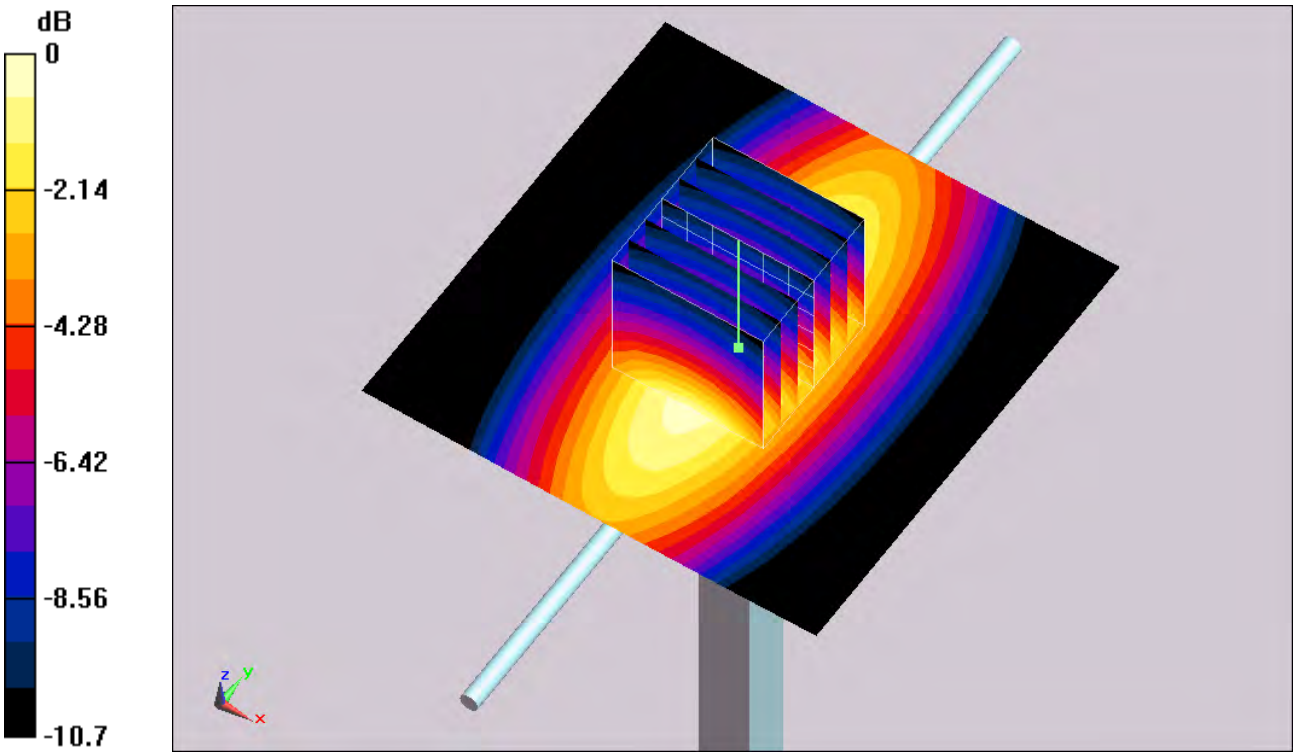
DUT: D835V2-SN:499

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: MSL_850_120915 Medium parameters used: f = 835 MHz; σ = 0.962 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QD 0VA 002 AA; Serial: TP-1131
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.68 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.4 V/m; Power Drift = -0.099 dB
Peak SAR (extrapolated) = 3.85 W/kg
SAR(1 g) = 2.48 mW/g; SAR(10 g) = 1.56 mW/g
Maximum value of SAR (measured) = 2.71 mW/g



0 dB = 2.71mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/10

System Check_Body_1900MHz_120910

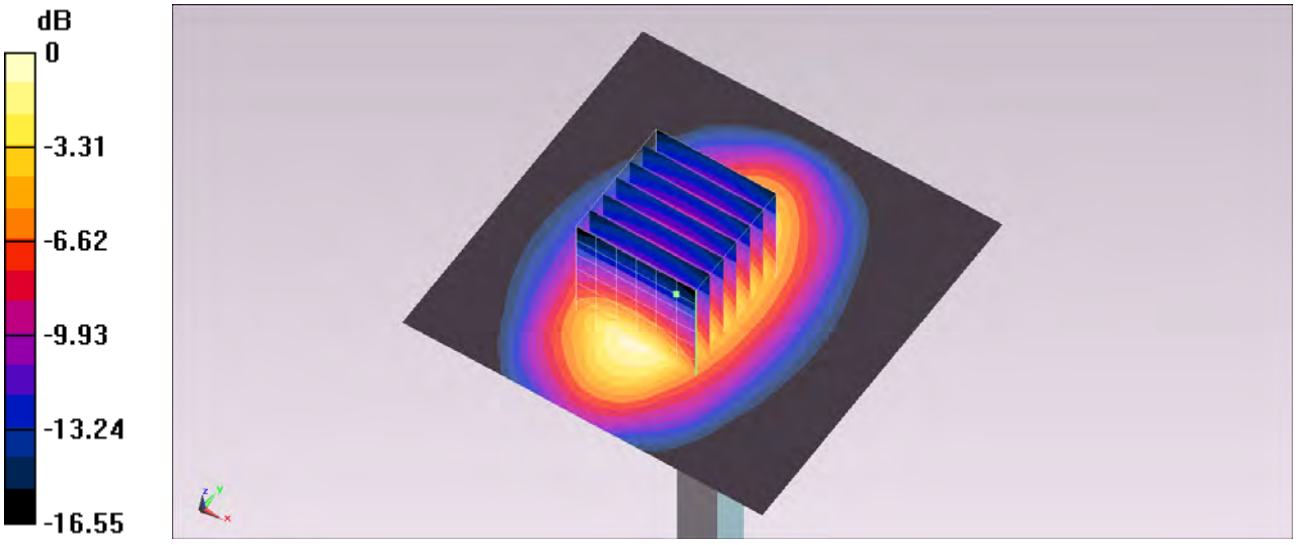
DUT: D1900V2-SN:5d041

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: MSL_1900_120910 Medium parameters used: f = 1900 MHz; σ = 1.523 mho/m; ε_r = 52.215; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(7.71, 7.71, 7.71); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 12.0 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 83.941 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 17.935 mW/g
SAR(1 g) = 9.84 mW/g; SAR(10 g) = 5.34 mW/g
Maximum value of SAR (measured) = 10.9 mW/g



0 dB = 10.9 mW/g = 20.75 dB mW/g

System Check_Body_1900MHz_120915

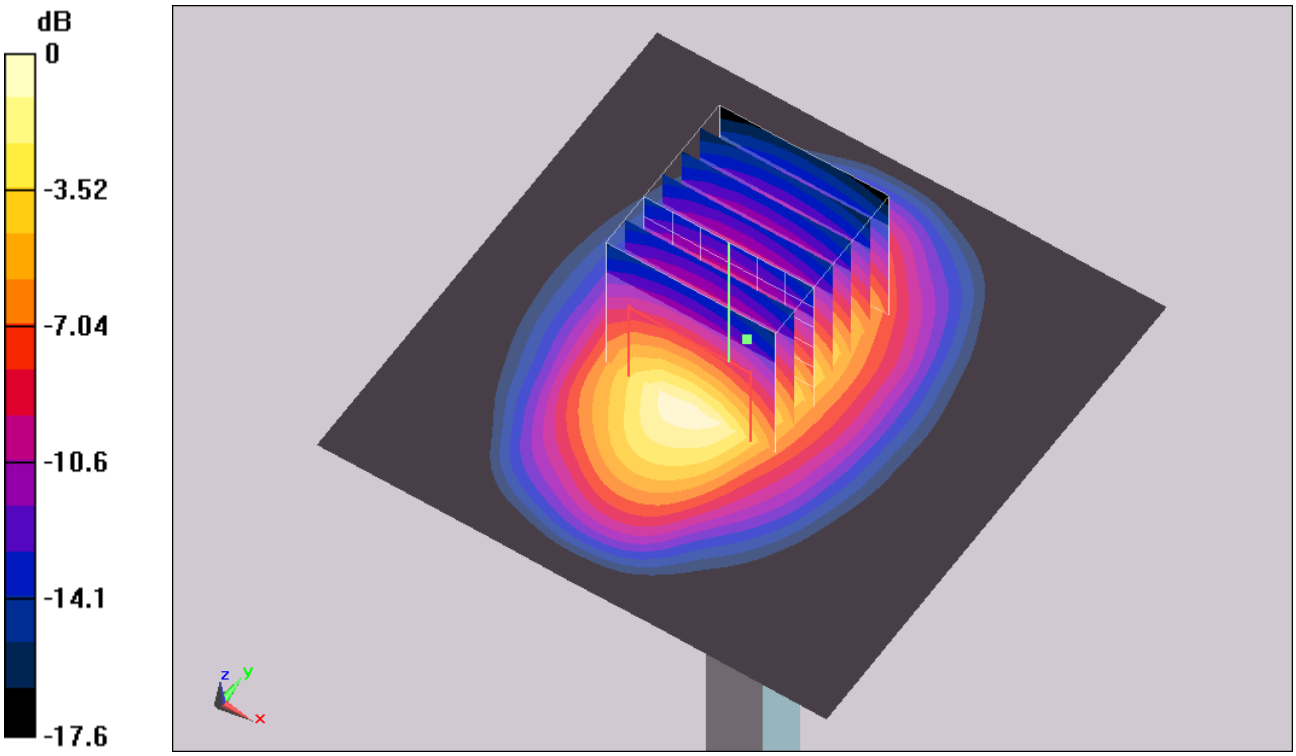
DUT: D1900V2-SN:5d041

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: MSL_1900_120915 Medium parameters used: f = 1900 MHz; σ = 1.54 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1029
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 12.3 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 91.6 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 16 W/kg
SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.44 mW/g
Maximum value of SAR (measured) = 11.5 mW/g



0 dB = 11.5mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/20

System Check_Body_1900MHz_120920

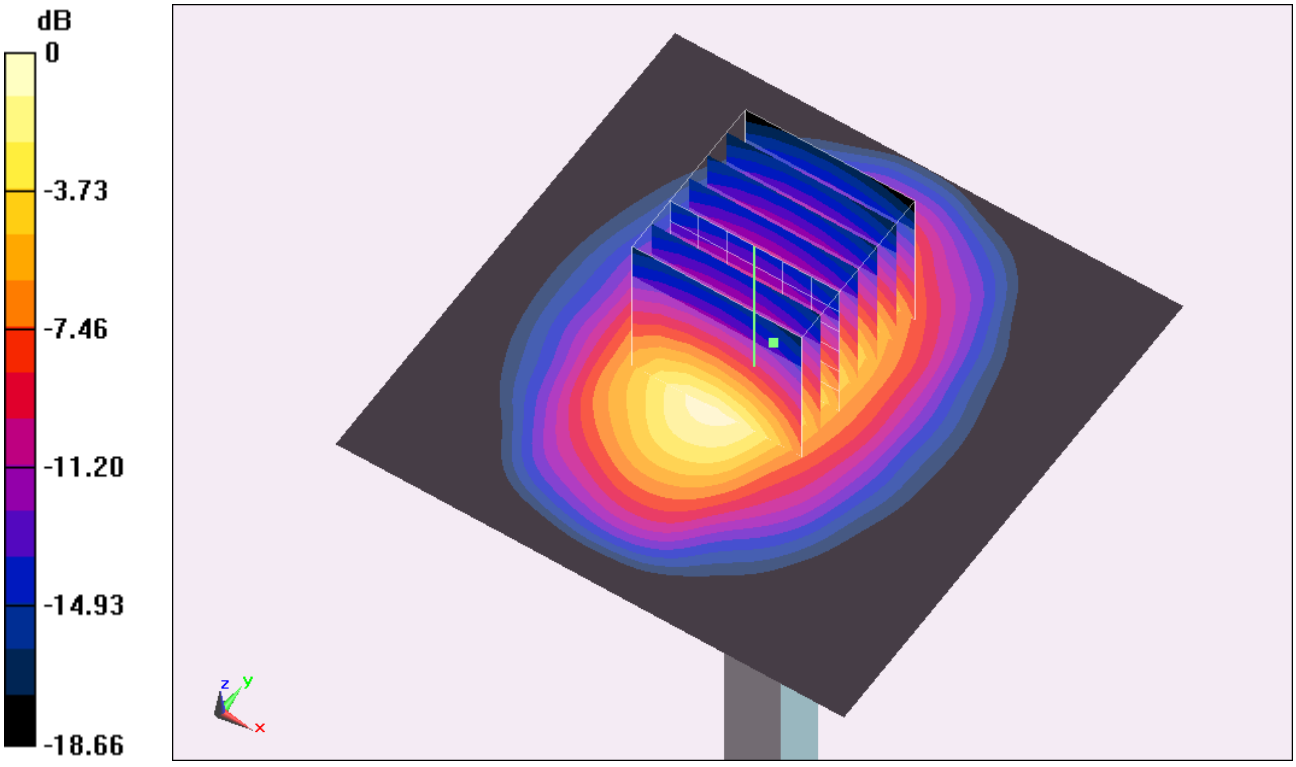
DUT: D1900V2-SN:5d041

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: MSL_1900_110920 Medium parameters used: f = 1900 MHz; σ = 1.499 mho/m; ε_r = 53.26; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6R - SN1788; ConvF(4.06, 4.06, 4.06); Calibrated: 2012/1/26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 10.9 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 89.500 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 15.200 mW/g
SAR(1 g) = 9.4 mW/g; SAR(10 g) = 4.92 mW/g
Maximum value of SAR (measured) = 10.5 W/kg



0 dB = 10.5 W/kg = 20.42 dB W/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/25

System Check_Body_2450MHz_120925

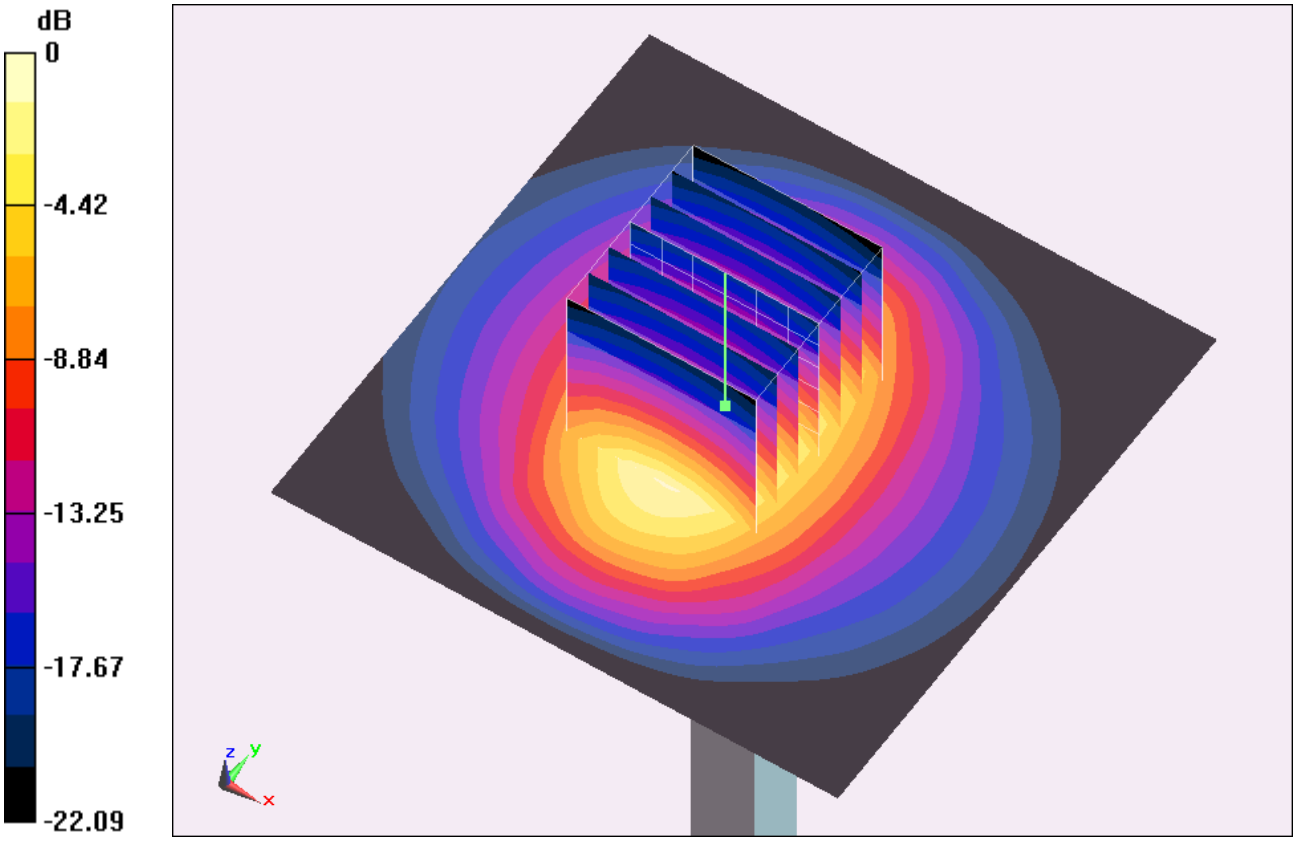
DUT: D2450V2-SN:736

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: MSL_2450_120925 Medium parameters used: f = 2450 MHz; σ = 1.969 mho/m; ε_r = 52.278; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3578; ConvF(6.43, 6.43, 6.43); Calibrated: 2012/6/21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 15.9 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 87.107 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 30.834 mW/g
SAR(1 g) = 14 mW/g; SAR(10 g) = 6.67 mW/g
Maximum value of SAR (measured) = 15.5 W/kg



0 dB = 15.5 W/kg = 23.81 dB W/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/26

System Check_Body_5800MHz_120926

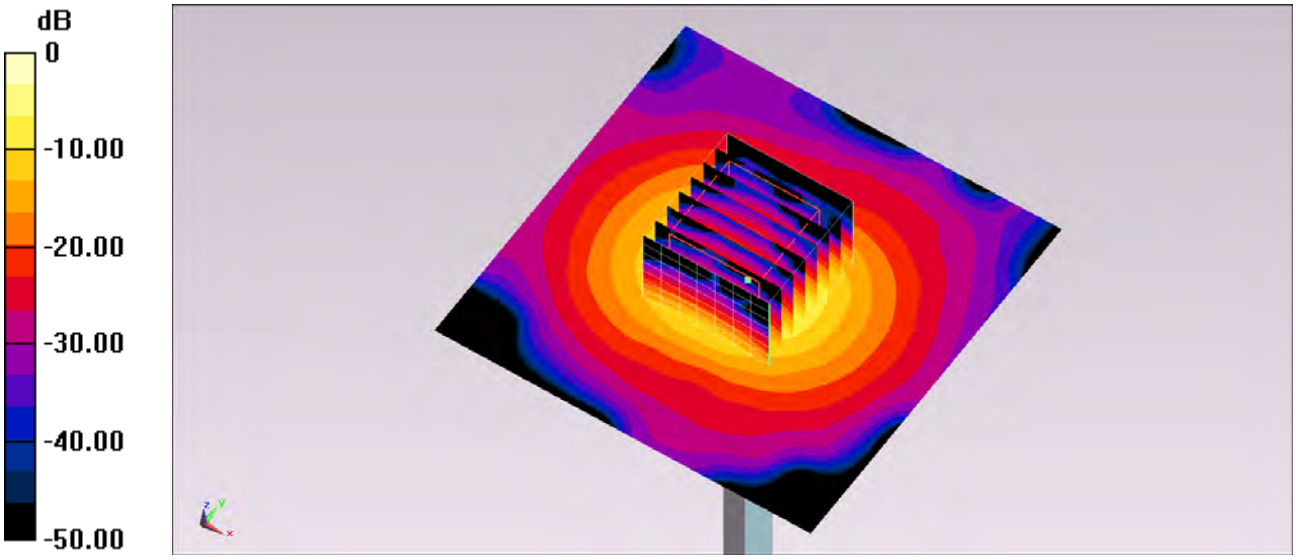
DUT: D5GHzV2-SN:1006

Communication System: CW; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium: MSL_5G_120926 Medium parameters used: f = 5800 MHz; σ = 6.113 mho/m; ε_r = 47.156; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/6/21;
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 34.4 mW/g

Pin=250mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 84.359 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 77.650 mW/g
SAR(1 g) = 19.7 mW/g; SAR(10 g) = 5.49 mW/g
Maximum value of SAR (measured) = 34.2 mW/g



0 dB = 34.2 mW/g = 30.68 dB mW/g

Appendix B. Plots of SAR Measurement

The plots are shown as follows.

#01 GSM850_GPRS8_Bottom Face_1cm_Ch128

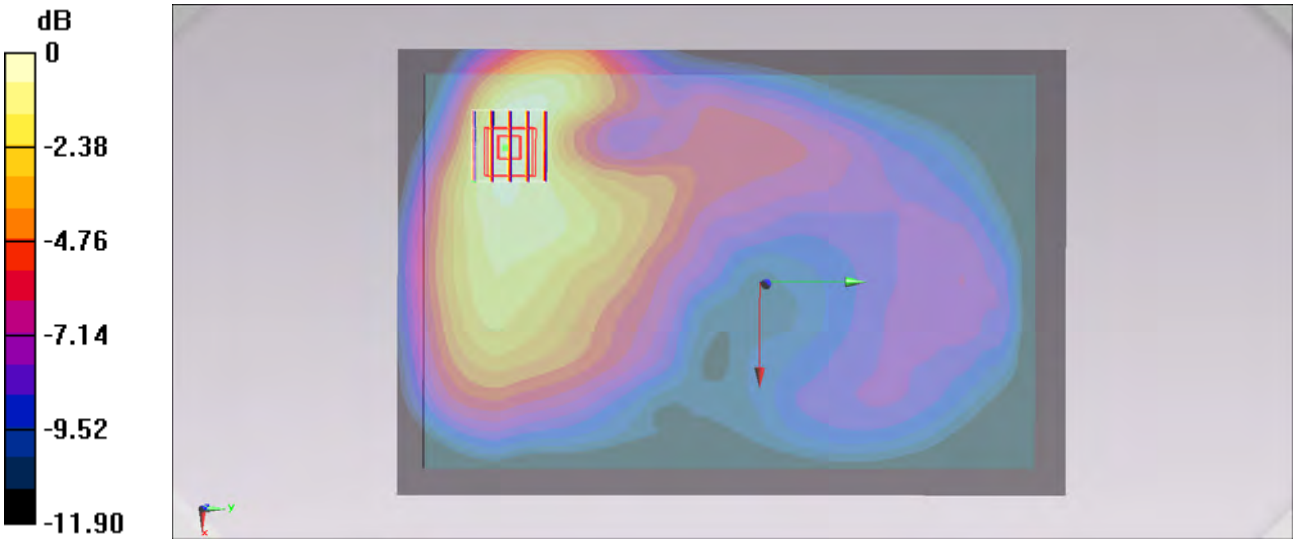
DUT: 291115

Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium: MSL_850_120910 Medium parameters used: f = 824.2 MHz; σ = 0.984 mho/m; ε_r = 54.798; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(9.72, 9.72, 9.72); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch128/Area Scan (101x151x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.319 mW/g

Ch128/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.956 V/m; Power Drift = 0.142 dB
Peak SAR (extrapolated) = 0.433 mW/g
SAR(1 g) = 0.297 mW/g; SAR(10 g) = 0.197 mW/g
Maximum value of SAR (measured) = 0.321 mW/g



0 dB = 0.321 mW/g = -9.87 dB mW/g

#02 GSM850_GPRS8_Edge 3_0.5cm_Ch128

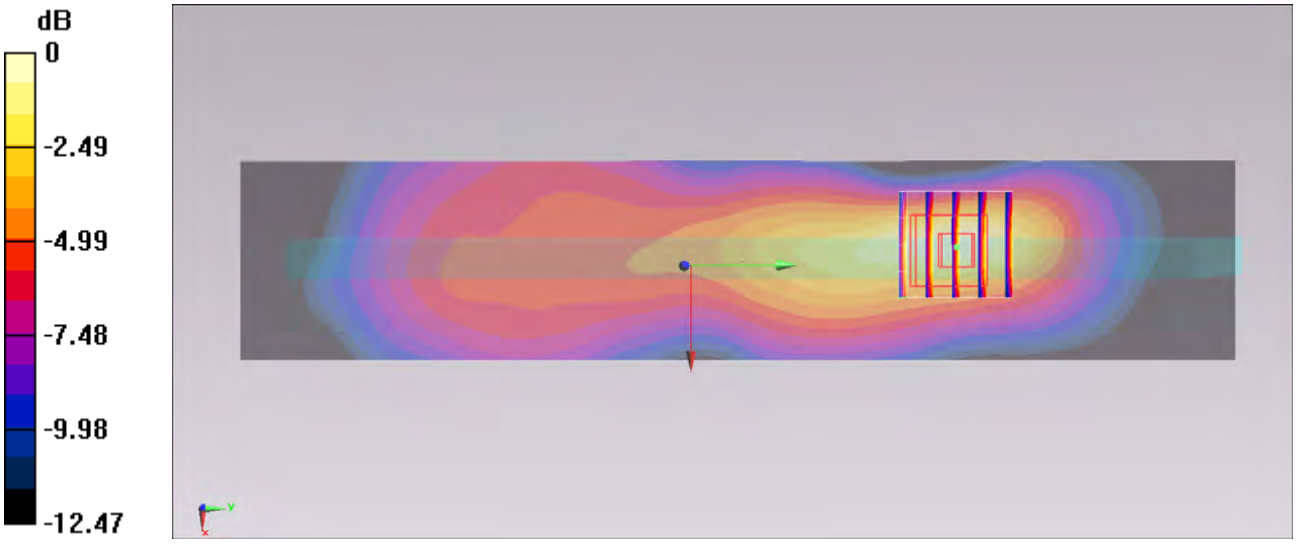
DUT: 291115

Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium: MSL_850_120910 Medium parameters used: f = 824.2 MHz; σ = 0.984 mho/m; ε_r = 54.798; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(9.72, 9.72, 9.72); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch128/Area Scan (31x151x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.292 mW/g

Ch128/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.664 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.437 mW/g
SAR(1 g) = 0.276 mW/g; SAR(10 g) = 0.167 mW/g
Maximum value of SAR (measured) = 0.299 mW/g



0 dB = 0.299 mW/g = -10.49 dB mW/g

#03 GSM850_GPRS8_Edge 4_0cm_Ch128

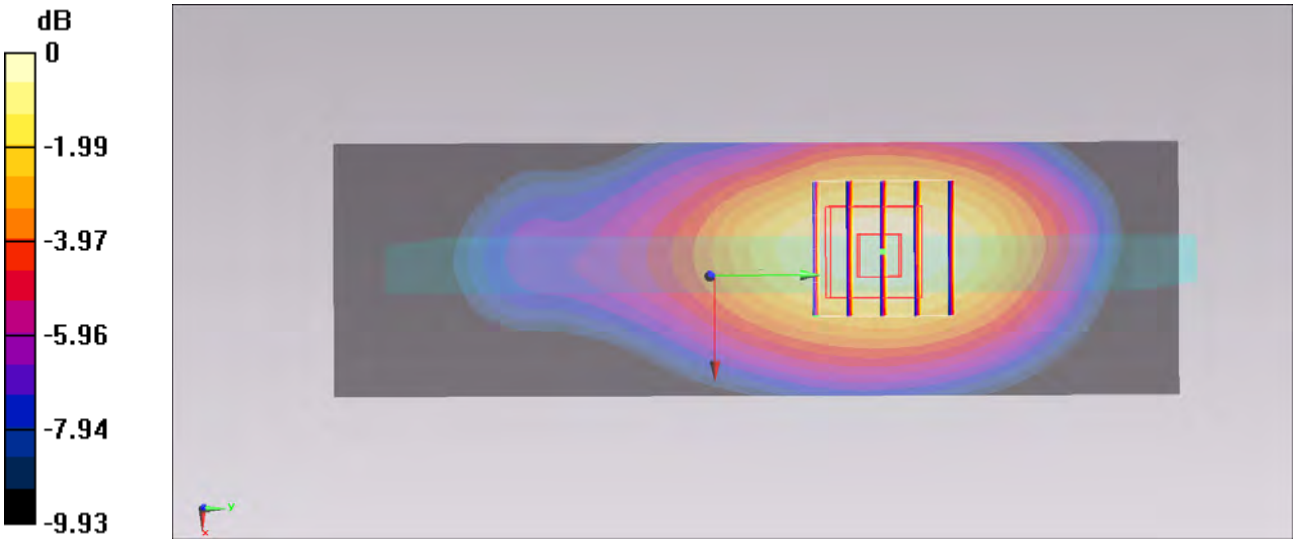
DUT: 291115

Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium: MSL_850_120910 Medium parameters used: f = 824.2 MHz; σ = 0.984 mho/m; ε_r = 54.798; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(9.72, 9.72, 9.72); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch128/Area Scan (31x101x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.356 mW/g

Ch128/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.588 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 0.484 mW/g
SAR(1 g) = 0.331 mW/g; SAR(10 g) = 0.223 mW/g
Maximum value of SAR (measured) = 0.356 mW/g



0 dB = 0.356 mW/g = -8.97 dB mW/g

#03 GSM850_GPRS8_Edge 4_0cm_Ch128_2D

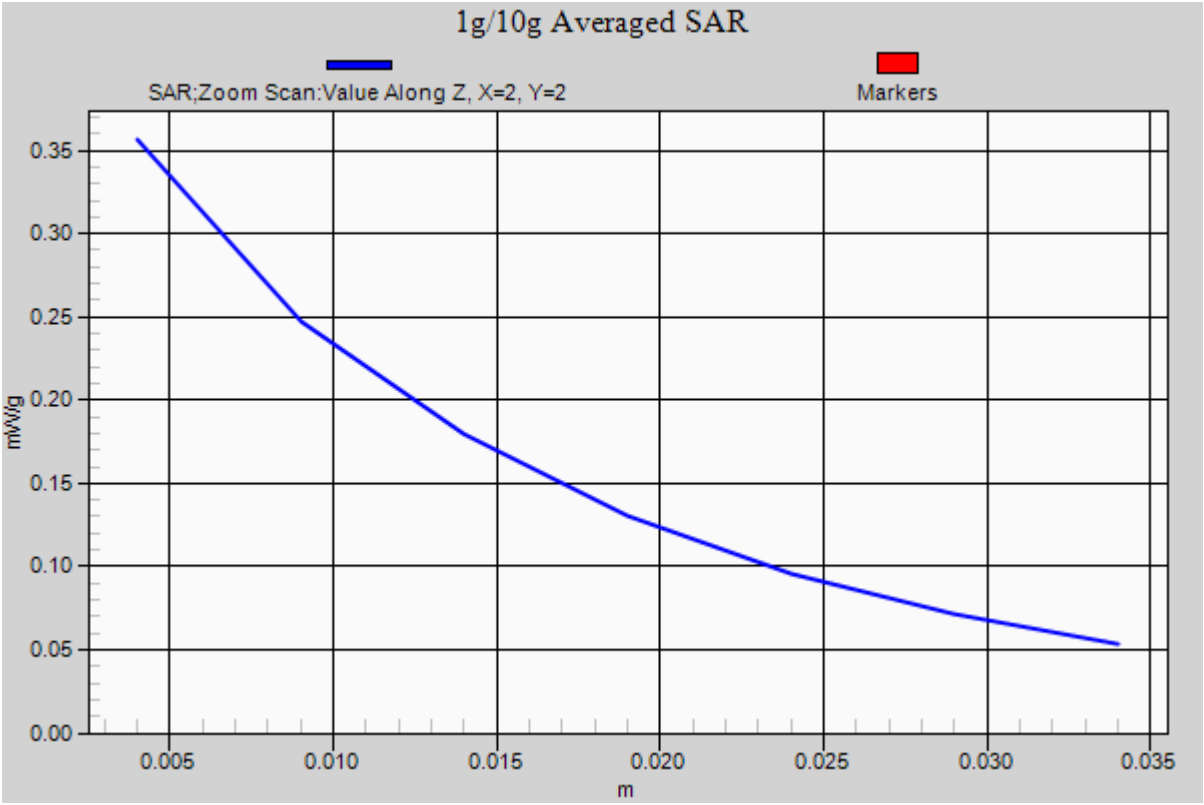
DUT: 291115

Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium: MSL_850_120910 Medium parameters used: f = 824.2 MHz; σ = 0.984 mho/m; ε_r = 54.798; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(9.72, 9.72, 9.72); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch128/Area Scan (31x101x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.356 mW/g

Ch128/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.588 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 0.484 mW/g
SAR(1 g) = 0.331 mW/g; SAR(10 g) = 0.223 mW/g
Maximum value of SAR (measured) = 0.356 mW/g



#21 GSM850_GPRS8_Bottom Face_0cm_Ch128

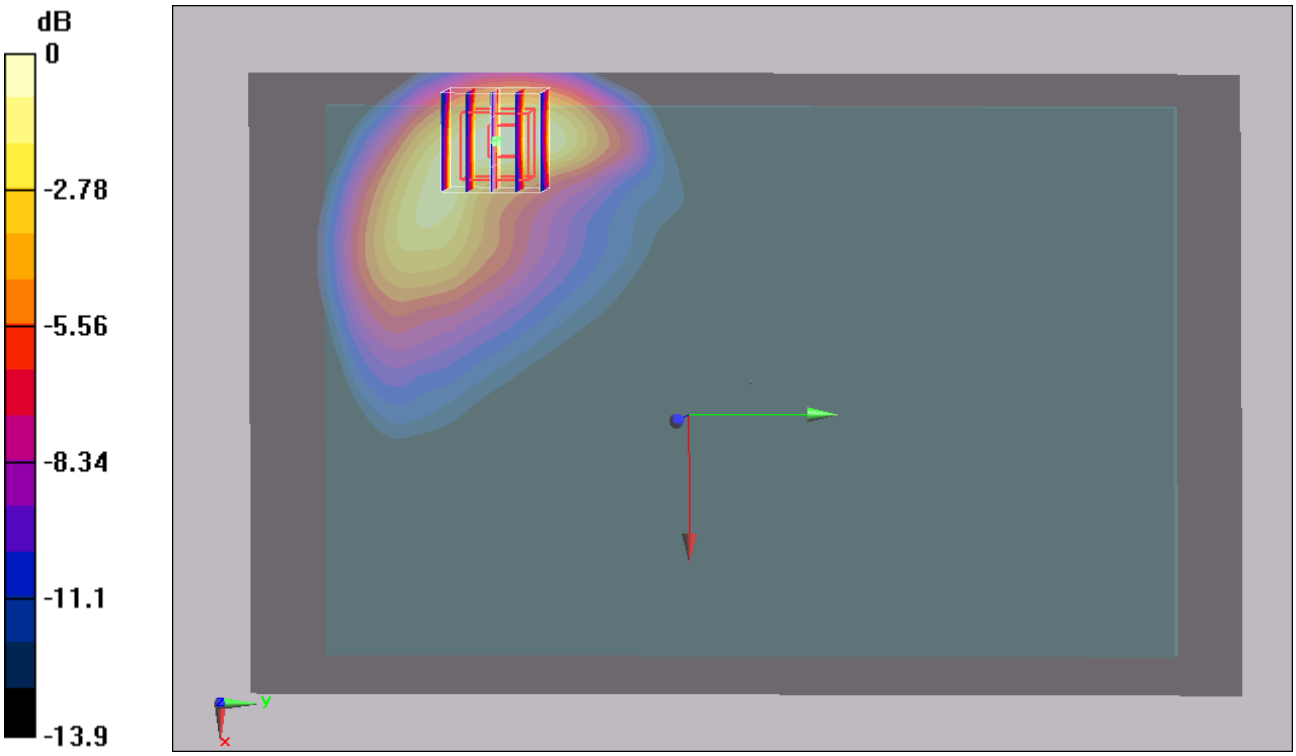
DUT: 291115

Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium: MSL_850_120915 Medium parameters used: f = 824.2 MHz; σ = 0.952 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QD 0VA 002 AA; Serial: TP-1131
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch128/Area Scan (101x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 1.11 mW/g

Ch128/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.83 V/m; Power Drift = 0.116 dB
Peak SAR (extrapolated) = 1.85 W/kg
SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.569 mW/g
Maximum value of SAR (measured) = 1.14 mW/g



0 dB = 1.14mW/g

#21 GSM850_GPRS8_Bottom Face_0cm_Ch128_2D

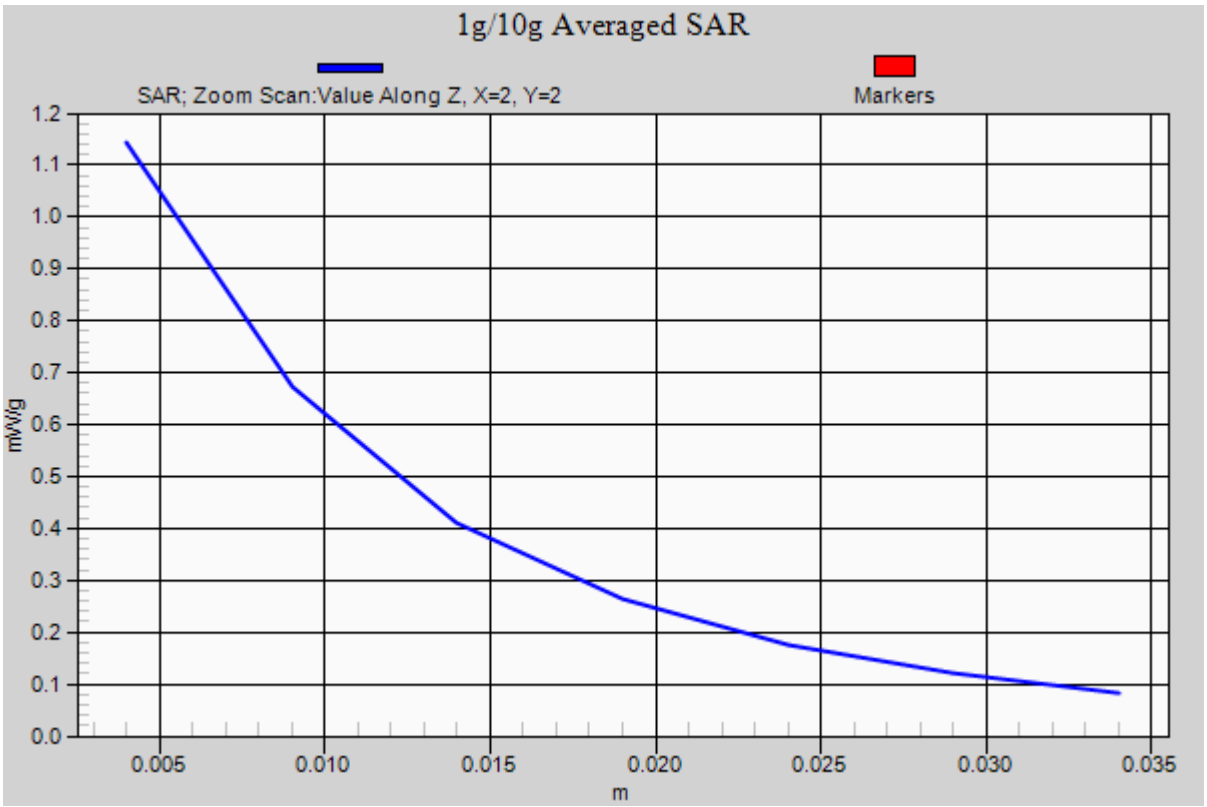
DUT: 291115

Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium: MSL_850_120915 Medium parameters used: f = 824.2 MHz; σ = 0.952 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QD 0VA 002 AA; Serial: TP-1131
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch128/Area Scan (101x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 1.11 mW/g

Ch128/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.83 V/m; Power Drift = 0.116 dB
Peak SAR (extrapolated) = 1.85 W/kg
SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.569 mW/g
Maximum value of SAR (measured) = 1.14 mW/g



#22 GSM850_GPRS8_Bottom Face_0cm_Ch189

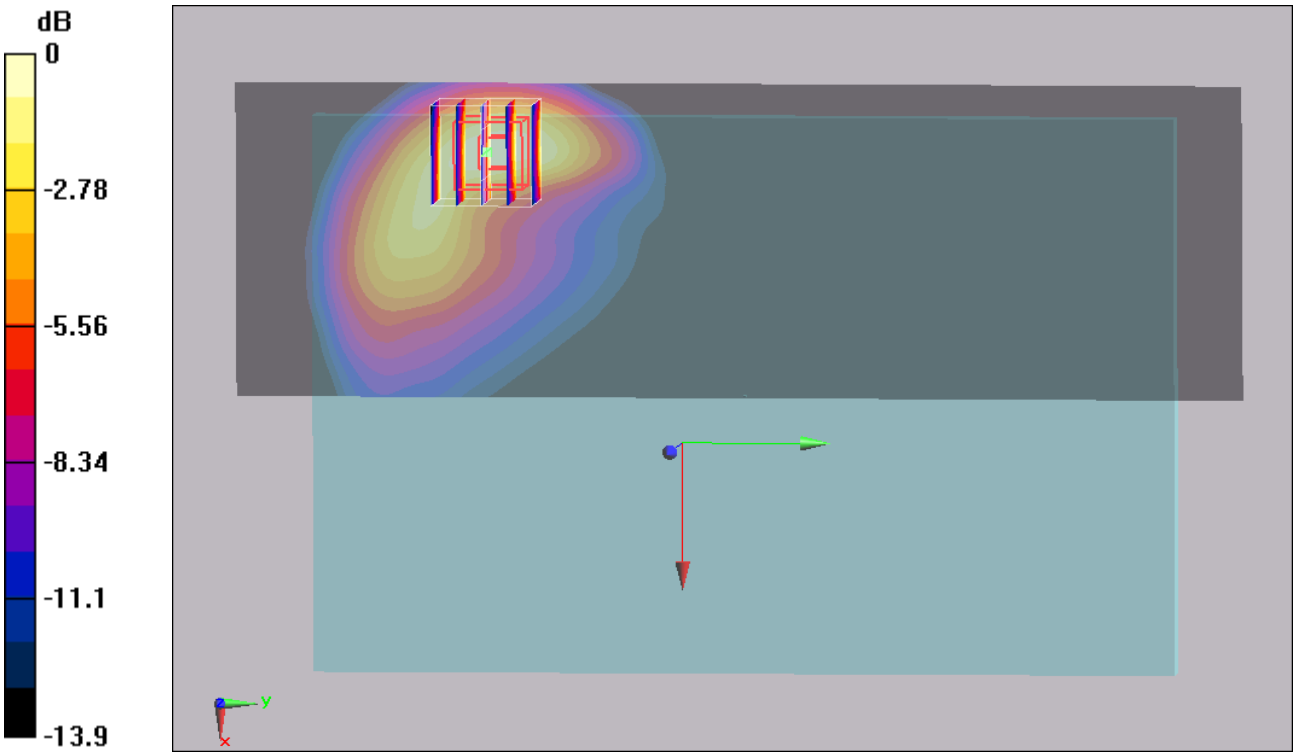
DUT: 291115

Communication System: GSM850; Frequency: 836.4 MHz;Duty Cycle: 1:8.3
Medium: MSL_850_120915 Medium parameters used: f = 836.4 MHz; σ = 0.964 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QD 0VA 002 AA; Serial: TP-1131
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch189/Area Scan (51x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 1.03 mW/g

Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.48 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 1.63 W/kg
SAR(1 g) = 0.914 mW/g; SAR(10 g) = 0.504 mW/g
Maximum value of SAR (measured) = 1.03 mW/g



0 dB = 1.03mW/g

#23 GSM850_GPRS8_Bottom Face_0cm_Ch251

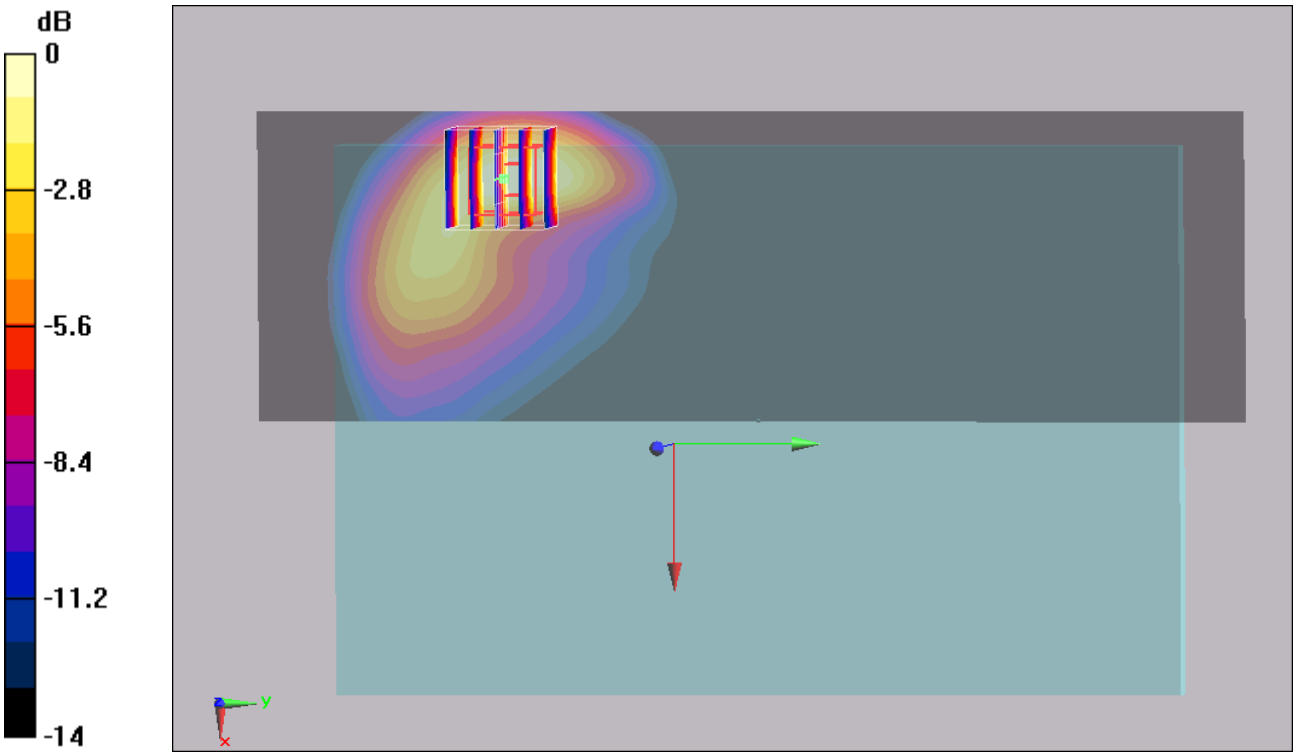
DUT: 291115

Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium: MSL_850_120915 Medium parameters used: f = 849 MHz; σ = 0.976 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QD 0VA 002 AA; Serial: TP-1131
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch251/Area Scan (51x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.852 mW/g

Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.07 V/m; Power Drift = 0.144 dB
Peak SAR (extrapolated) = 1.34 W/kg
SAR(1 g) = 0.760 mW/g; SAR(10 g) = 0.418 mW/g
Maximum value of SAR (measured) = 0.848 mW/g



0 dB = 0.848mW/g

#24 GSM850_GPRS8_Edge 3_0cm_Ch128

DUT: 291115

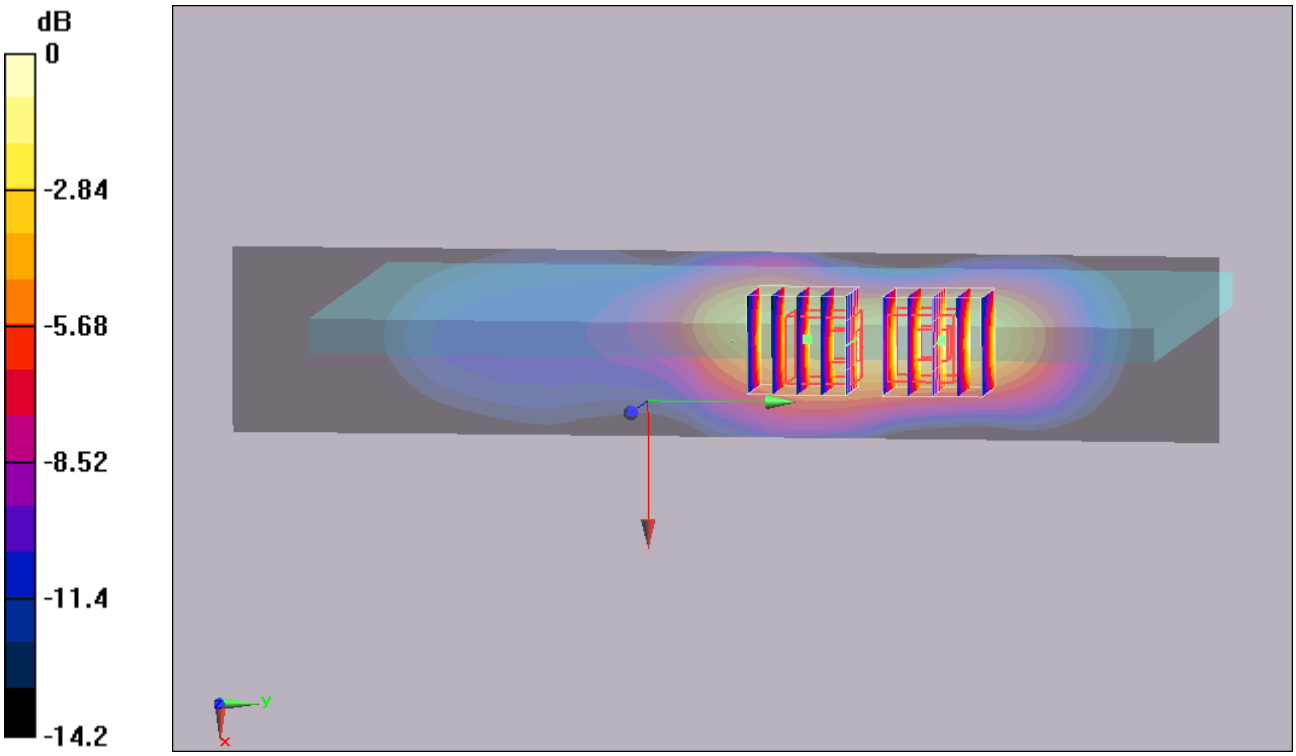
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium: MSL_850_120915 Medium parameters used: f = 824.2 MHz; σ = 0.952 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QD 0VA 002 AA; Serial: TP-1131
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch128/Area Scan (31x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.354 mW/g

Ch128/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.5 V/m; Power Drift = 0.151 dB
Peak SAR (extrapolated) = 0.617 W/kg
SAR(1 g) = 0.363 mW/g; SAR(10 g) = 0.206 mW/g
Maximum value of SAR (measured) = 0.395 mW/g

Ch128/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.5 V/m; Power Drift = 0.151 dB
Peak SAR (extrapolated) = 0.746 W/kg
SAR(1 g) = 0.312 mW/g; SAR(10 g) = 0.158 mW/g
Maximum value of SAR (measured) = 0.360 mW/g



0 dB = 0.360mW/g

#10 GSM1900_GPRS10_Bottom Face_1cm_Ch512

DUT: 291115

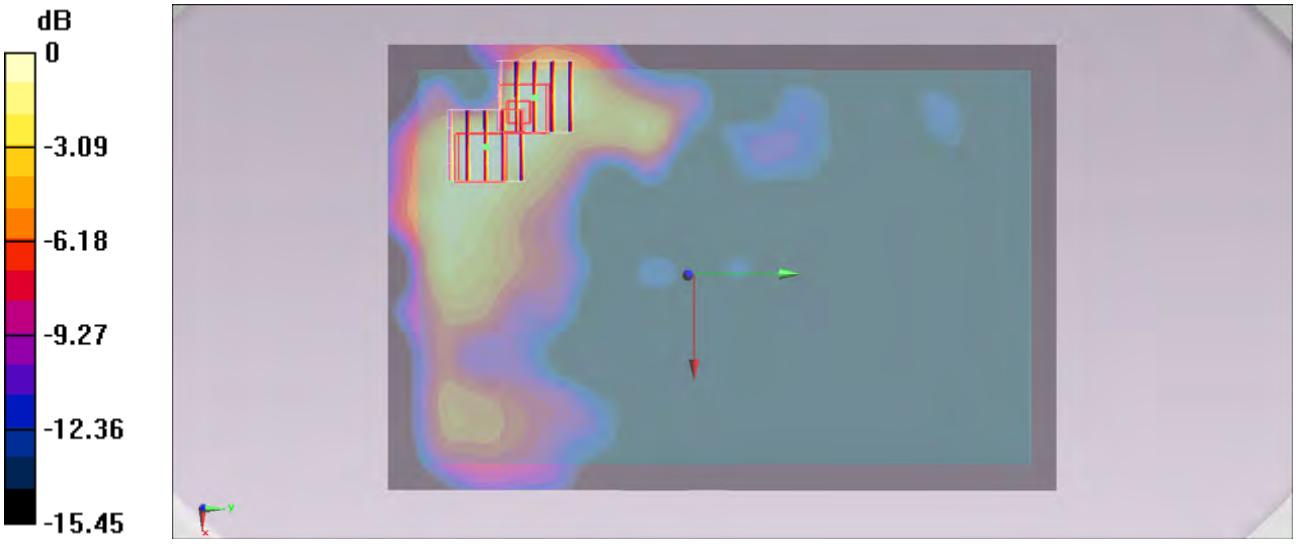
Communication System: PCS; Frequency: 1850.2 MHz;Duty Cycle: 1:4
Medium: MSL_1900_120910 Medium parameters used: f = 1850.2 MHz; σ = 1.465 mho/m; ε_r = 52.363; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(7.71, 7.71, 7.71); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch512/Area Scan (101x151x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.481 mW/g

Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.578 V/m; Power Drift = 0.148 dB
Peak SAR (extrapolated) = 0.634 mW/g
SAR(1 g) = 0.401 mW/g; SAR(10 g) = 0.249 mW/g
Maximum value of SAR (measured) = 0.434 mW/g

Ch512/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.578 V/m; Power Drift = 0.148 dB
Peak SAR (extrapolated) = 0.624 mW/g
SAR(1 g) = 0.377 mW/g; SAR(10 g) = 0.231 mW/g
Maximum value of SAR (measured) = 0.428 mW/g



0 dB = 0.428 mW/g = -7.37 dB mW/g

#11 GSM1900_GPRS10_Edge 3_0.5cm_Ch512

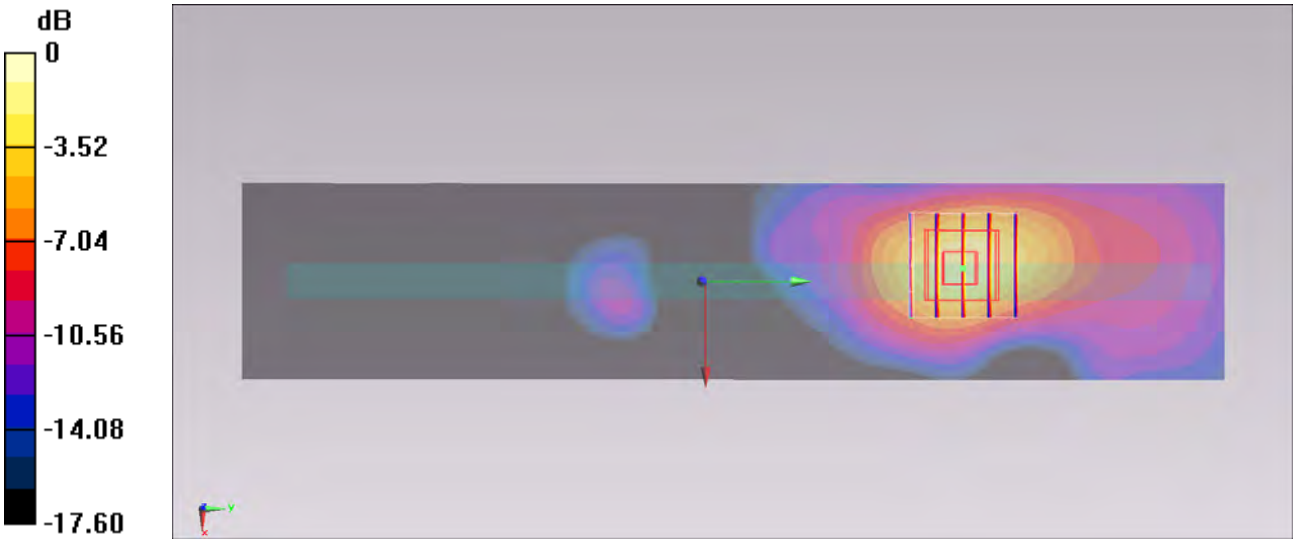
DUT: 291115

Communication System: PCS; Frequency: 1850.2 MHz;Duty Cycle: 1:4
Medium: MSL_1900_120910 Medium parameters used: f = 1850.2 MHz; σ = 1.465 mho/m; ε_r = 52.363; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(7.71, 7.71, 7.71); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch512/Area Scan (31x151x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.649 mW/g

Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.549 V/m; Power Drift = -0.151 dB
Peak SAR (extrapolated) = 1.307 mW/g
SAR(1 g) = 0.790 mW/g; SAR(10 g) = 0.443 mW/g
Maximum value of SAR (measured) = 0.858 mW/g



0 dB = 0.858 mW/g = -1.33 dB mW/g

#11 GSM1900_GPRS10_Edge 3_0.5cm_Ch512_2D

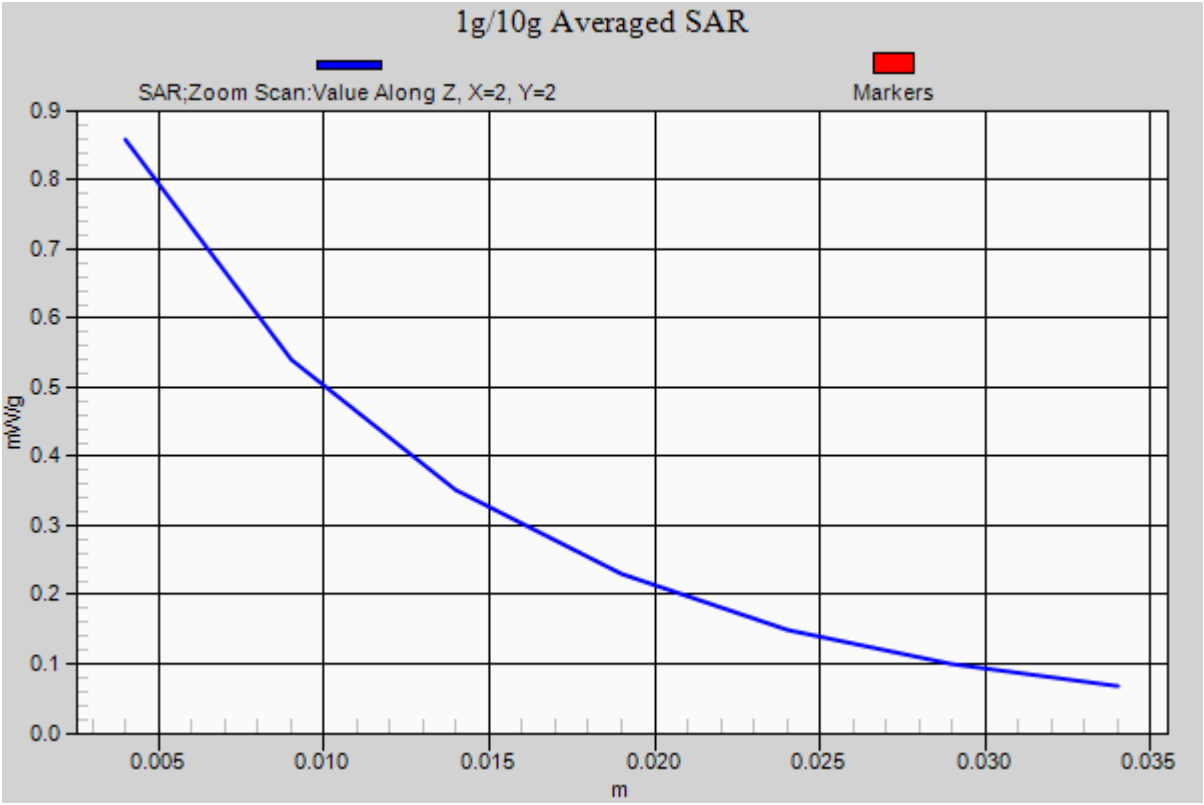
DUT: 291115

Communication System: PCS; Frequency: 1850.2 MHz;Duty Cycle: 1:4
Medium: MSL_1900_120910 Medium parameters used: f = 1850.2 MHz; σ = 1.465 mho/m; ε_r = 52.363; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(7.71, 7.71, 7.71); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch512/Area Scan (31x151x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.649 mW/g

Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.549 V/m; Power Drift = -0.151 dB
Peak SAR (extrapolated) = 1.307 mW/g
SAR(1 g) = 0.790 mW/g; SAR(10 g) = 0.443 mW/g
Maximum value of SAR (measured) = 0.858 mW/g



#12 GSM1900_GPRS10_Edge 4_0cm_Ch512

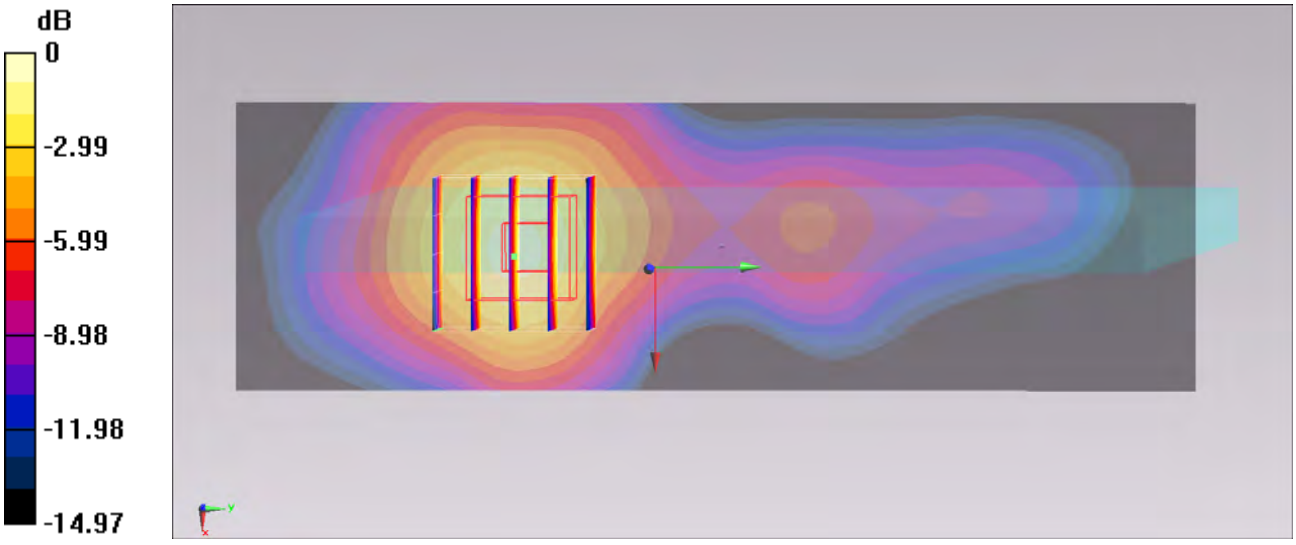
DUT: 291115

Communication System: PCS; Frequency: 1850.2 MHz;Duty Cycle: 1:4
Medium: MSL_1900_120910 Medium parameters used: f = 1850.2 MHz; σ = 1.465 mho/m; ε_r = 52.363; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(7.71, 7.71, 7.71); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch512/Area Scan (31x101x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.576 mW/g

Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.940 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.943 mW/g
SAR(1 g) = 0.611 mW/g; SAR(10 g) = 0.360 mW/g
Maximum value of SAR (measured) = 0.663 mW/g



0 dB = 0.663 mW/g = -3.57 dB mW/g

#13 GSM1900_GPRS10_Bottom Face_0cm_Ch512

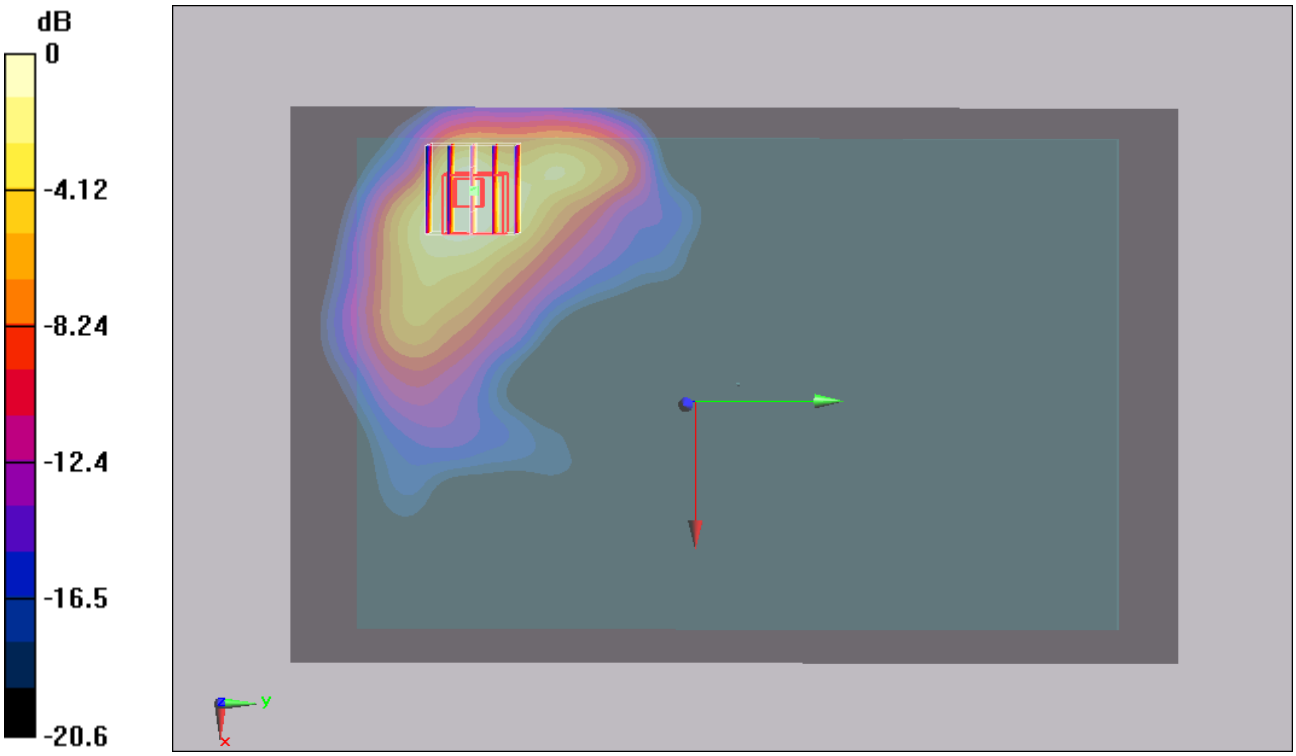
DUT: 291115

Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:4
Medium: MSL_1900_120915 Medium parameters used: f = 1850.2 MHz; σ = 1.49 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1029
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch512/Area Scan (101x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 1.01 mW/g

Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.322 V/m; Power Drift = -0.123 dB
Peak SAR (extrapolated) = 1.6 W/kg
SAR(1 g) = 0.902 mW/g; SAR(10 g) = 0.484 mW/g
Maximum value of SAR (measured) = 0.994 mW/g



0 dB = 0.994mW/g

#14 GSM1900_GPRS10_Bottom Face_0cm_Ch661

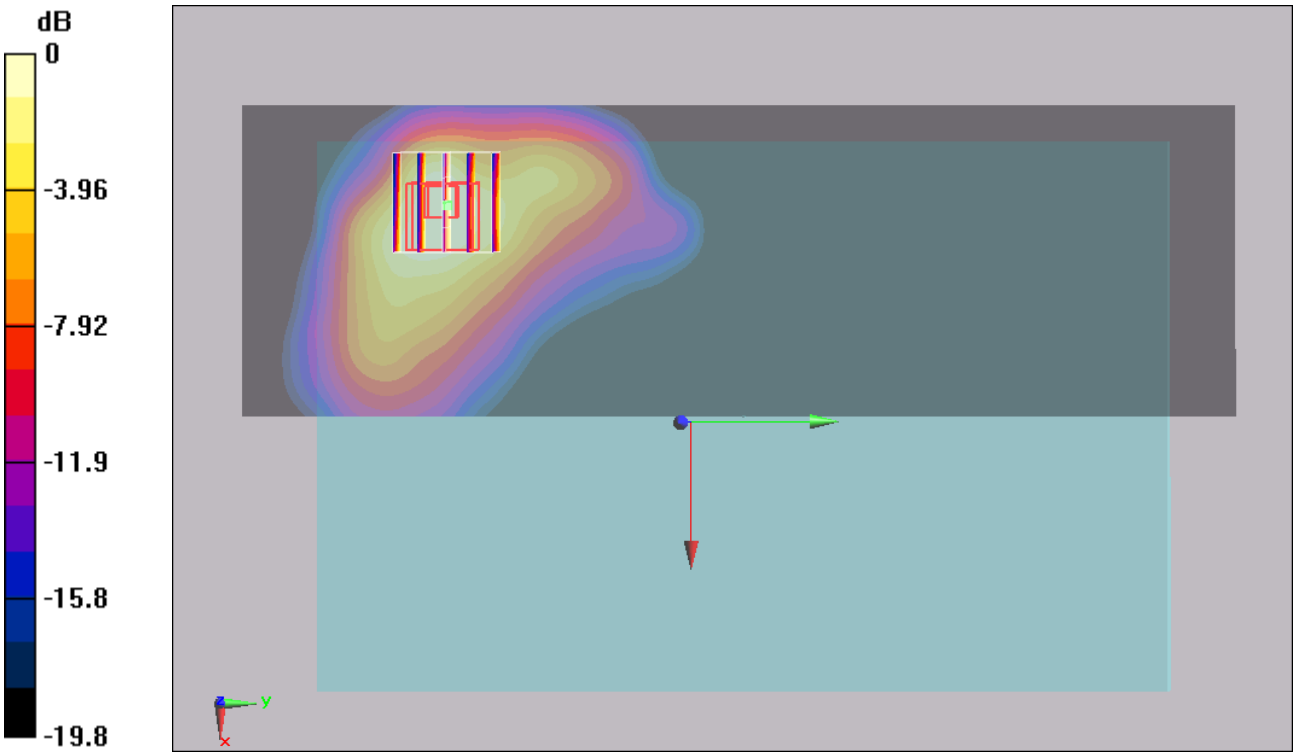
DUT: 291115

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:4
Medium: MSL_1900_120915 Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1029
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch661/Area Scan (51x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 1.24 mW/g

Ch661/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.632 V/m; Power Drift = -0.174 dB
Peak SAR (extrapolated) = 1.95 W/kg
SAR(1 g) = 1.09 mW/g; SAR(10 g) = 0.586 mW/g
Maximum value of SAR (measured) = 1.21 mW/g



0 dB = 1.21mW/g

#15 GSM1900_GPRS10_Bottom Face_0cm_Ch810

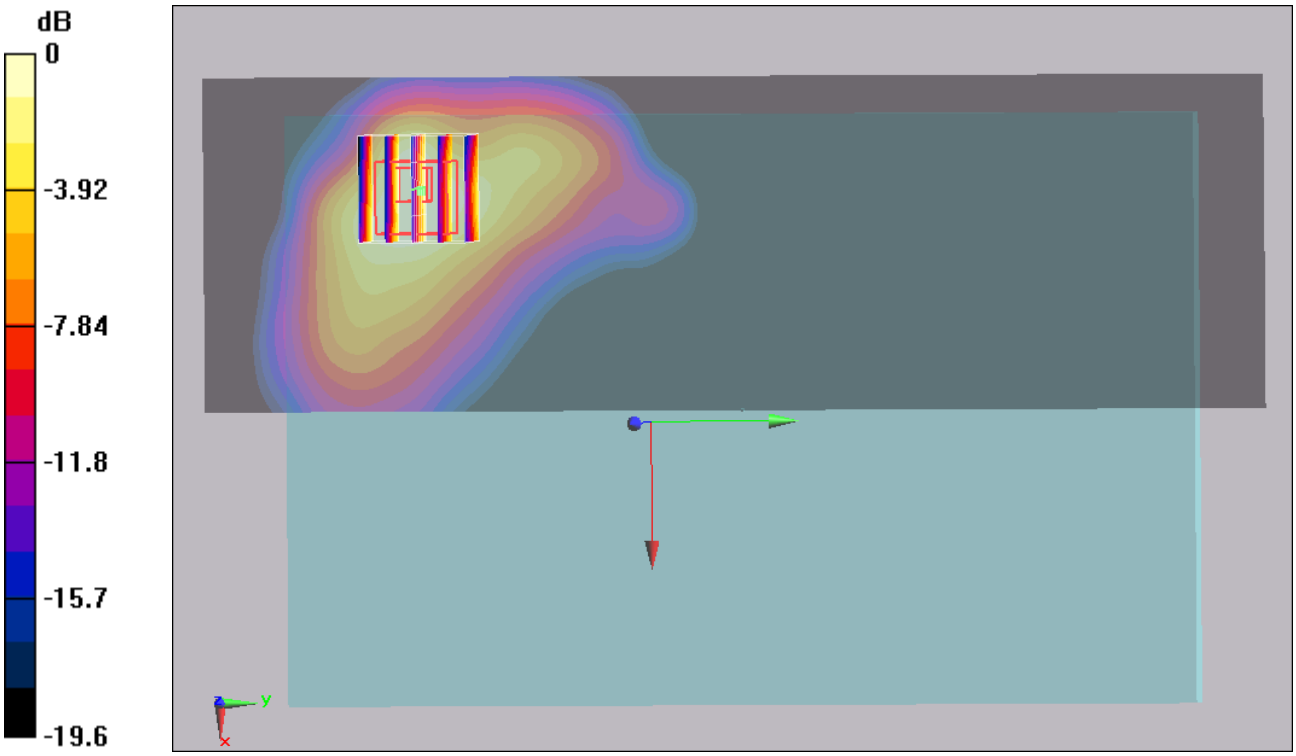
DUT: 291115

Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: MSL_1900_120915 Medium parameters used: f = 1910 MHz; σ = 1.55 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1029
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch810/Area Scan (51x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 1.25 mW/g

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.783 V/m; Power Drift = -0.188 dB
Peak SAR (extrapolated) = 1.97 W/kg
SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.589 mW/g
Maximum value of SAR (measured) = 1.18 mW/g



0 dB = 1.18mW/g

#15 GSM1900_GPRS10_Bottom Face_0cm_Ch810_2D

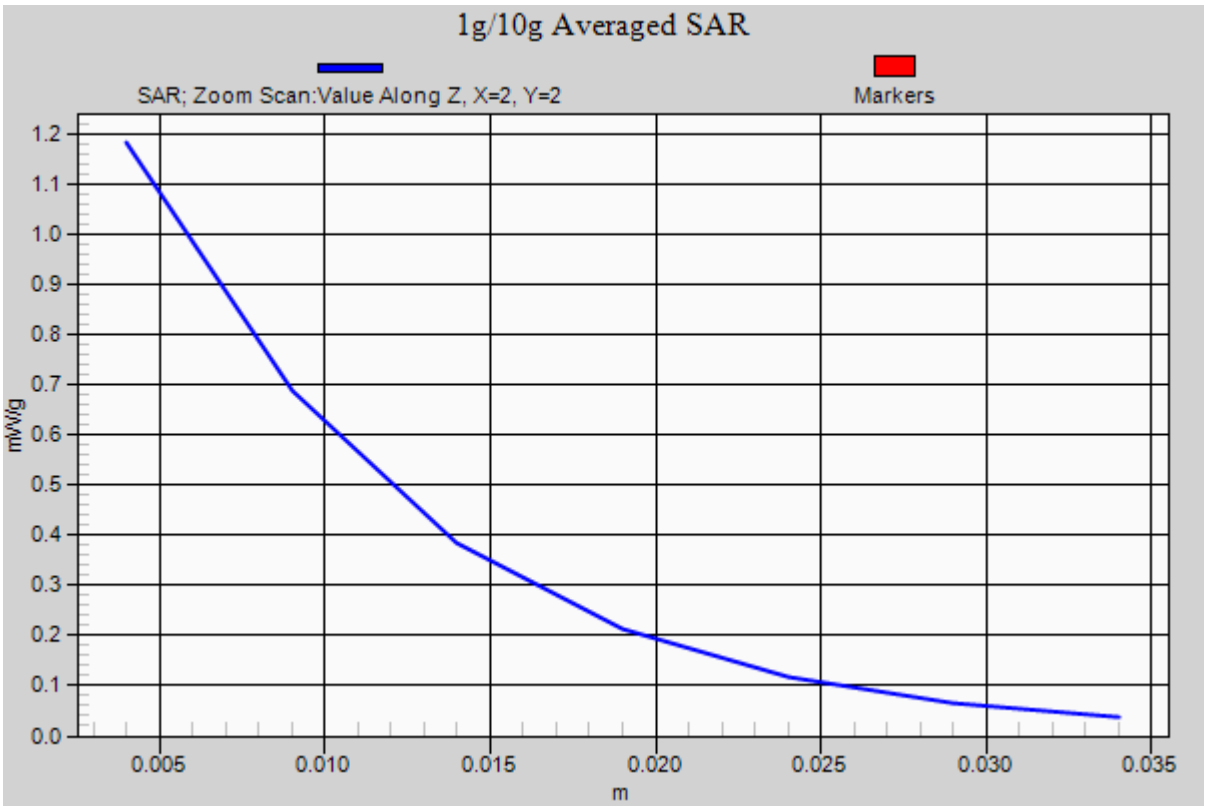
DUT: 291115

Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: MSL_1900_120915 Medium parameters used: f = 1910 MHz; σ = 1.55 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1029
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch810/Area Scan (51x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 1.25 mW/g

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.783 V/m; Power Drift = -0.188 dB
Peak SAR (extrapolated) = 1.97 W/kg
SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.589 mW/g
Maximum value of SAR (measured) = 1.18 mW/g



#16 GSM1900_GPRS10_Edge 3_0cm_Ch512

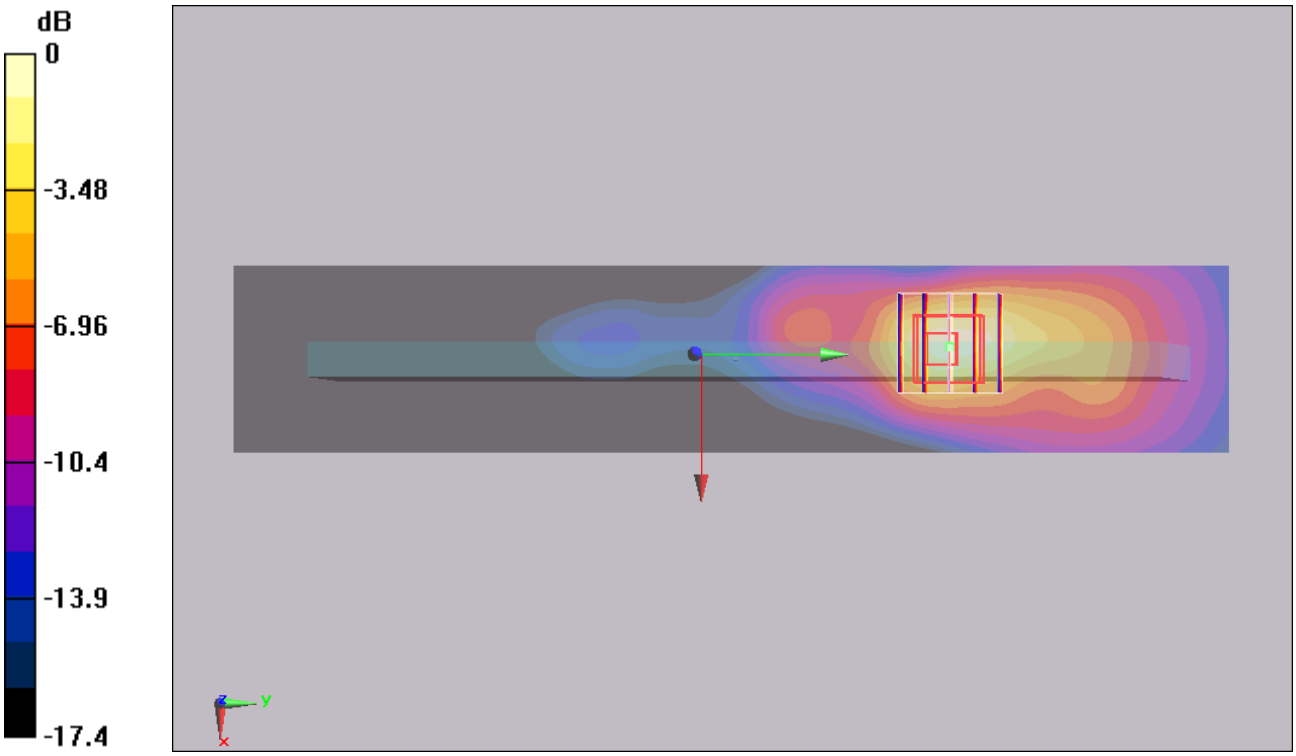
DUT: 291115

Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:4
Medium: MSL_1900_120915 Medium parameters used: f = 1850.2 MHz; σ = 1.49 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1029
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch512/Area Scan (31x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.377 mW/g

Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.04 V/m; Power Drift = 0.120 dB
Peak SAR (extrapolated) = 0.623 W/kg
SAR(1 g) = 0.380 mW/g; SAR(10 g) = 0.207 mW/g
Maximum value of SAR (measured) = 0.421 mW/g



0 dB = 0.421mW/g

#04 WCDMA V_RMC12.2K_Bottom Face_1cm_Ch4182

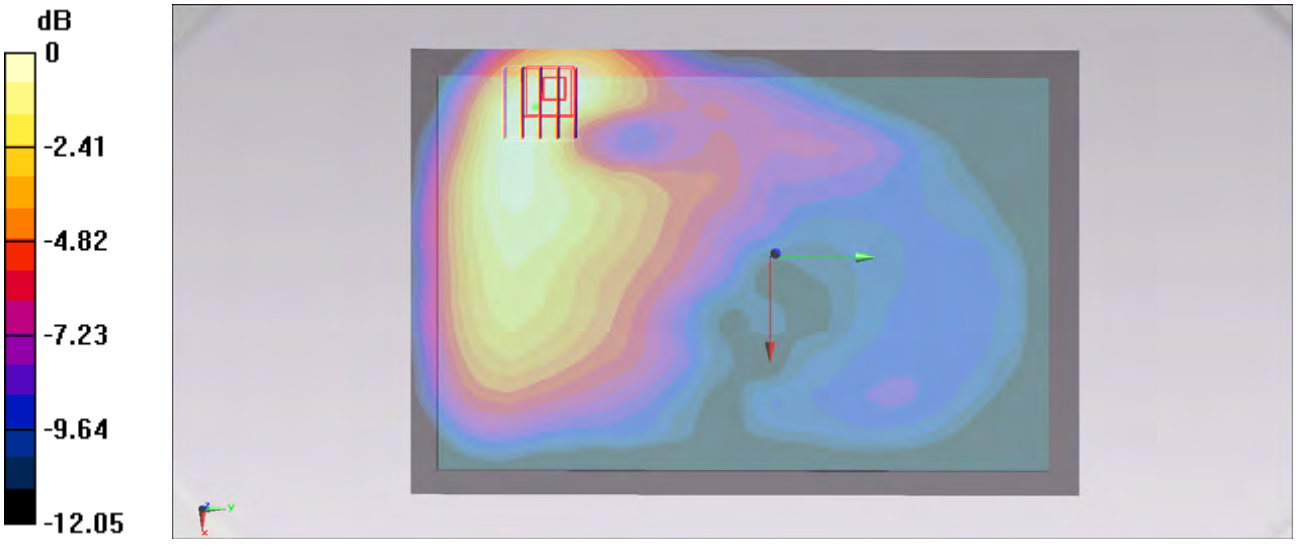
DUT: 291115

Communication System: WCDMA; Frequency: 836.4 MHz;Duty Cycle: 1:1
Medium: MSL_850_120910 Medium parameters used: f = 836.4 MHz; σ = 0.996 mho/m; ε_r = 54.716; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(9.72, 9.72, 9.72); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch4182/Area Scan (101x151x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.276 mW/g

Ch4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.203 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.380 mW/g
SAR(1 g) = 0.244 mW/g; SAR(10 g) = 0.156 mW/g
Maximum value of SAR (measured) = 0.265 mW/g



0 dB = 0.265 mW/g = -11.54 dB mW/g

#05 WCDMA V_RMC12.2K_Edge 3_0.5cm_Ch4182

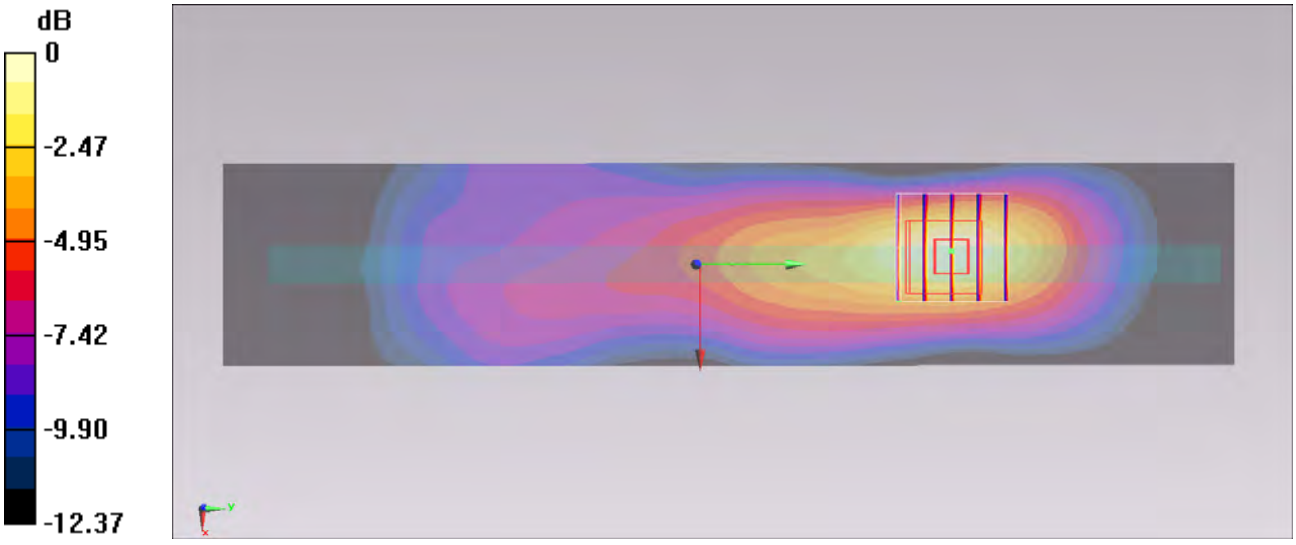
DUT: 291115

Communication System: WCDMA; Frequency: 836.4 MHz;Duty Cycle: 1:1
Medium: MSL_850_120910 Medium parameters used: f = 836.4 MHz; σ = 0.996 mho/m; ε_r = 54.716; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(9.72, 9.72, 9.72); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch4182/Area Scan (31x151x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.366 mW/g

Ch4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.745 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.542 mW/g
SAR(1 g) = 0.350 mW/g; SAR(10 g) = 0.214 mW/g
Maximum value of SAR (measured) = 0.373 mW/g



0 dB = 0.373 mW/g = -8.57 dB mW/g

#05 WCDMA V_RMC12.2K_Edge 3_0.5cm_Ch4182_2D

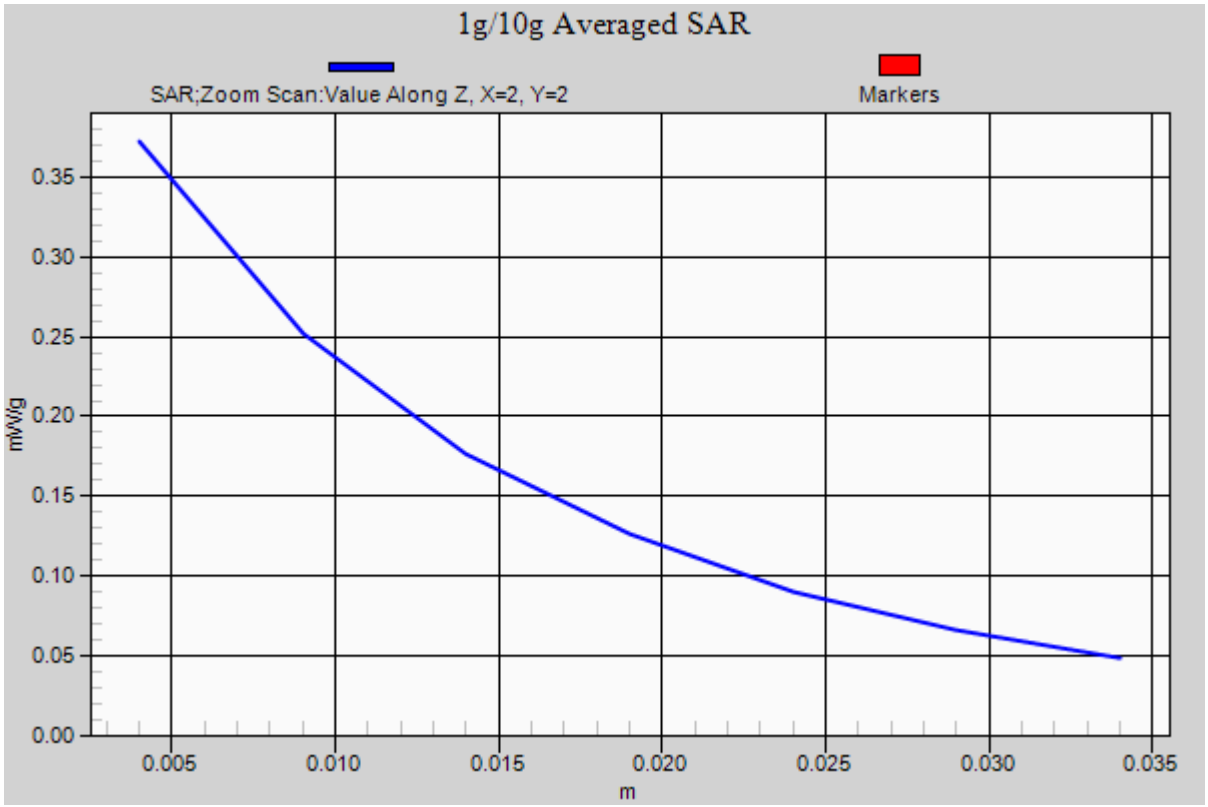
DUT: 291115

Communication System: WCDMA; Frequency: 836.4 MHz;Duty Cycle: 1:1
Medium: MSL_850_120910 Medium parameters used: f = 836.4 MHz; σ = 0.996 mho/m; ε_r = 54.716; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(9.72, 9.72, 9.72); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch4182/Area Scan (31x151x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.366 mW/g

Ch4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.745 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.542 mW/g
SAR(1 g) = 0.350 mW/g; SAR(10 g) = 0.214 mW/g
Maximum value of SAR (measured) = 0.373 mW/g



#06 WCDMA V_RMC12.2K_Edge 4_0cm_Ch4182

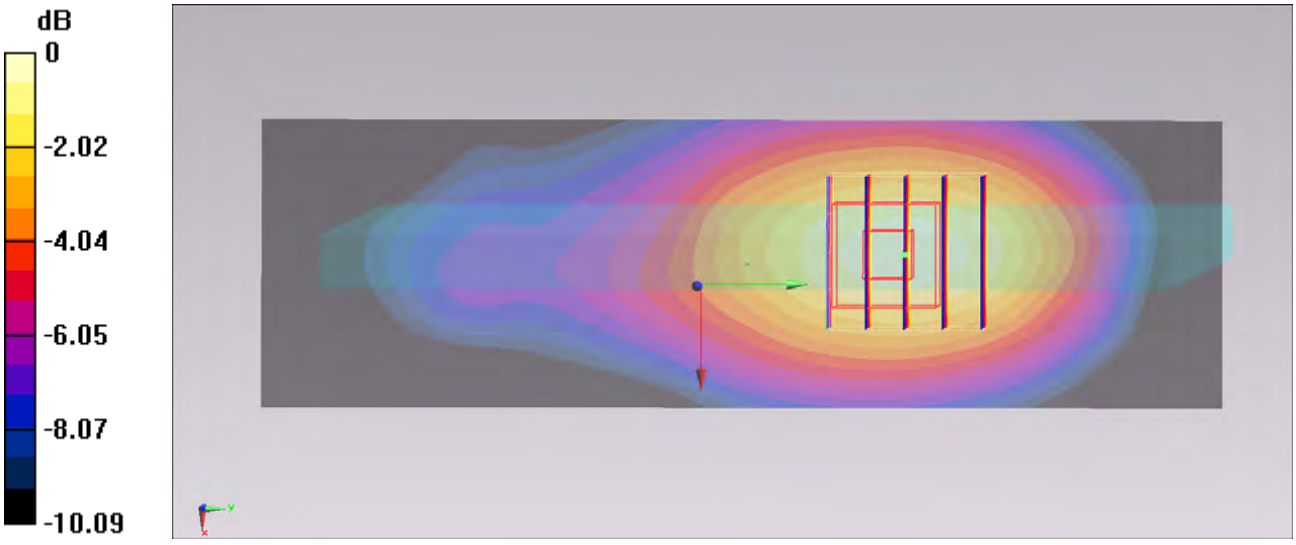
DUT: 291115

Communication System: WCDMA; Frequency: 836.4 MHz;Duty Cycle: 1:1
Medium: MSL_850_120910 Medium parameters used: f = 836.4 MHz; σ = 0.996 mho/m; ε_r = 54.716; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(9.72, 9.72, 9.72); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch4182/Area Scan (31x101x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.261 mW/g

Ch4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.061 V/m; Power Drift = -0.120 dB
Peak SAR (extrapolated) = 0.367 mW/g
SAR(1 g) = 0.253 mW/g; SAR(10 g) = 0.168 mW/g
Maximum value of SAR (measured) = 0.272 mW/g



0 dB = 0.272 mW/g = -11.31 dB mW/g

#25 WCDMA V_RMC12.2K_Bottom Face_0cm_Ch4132

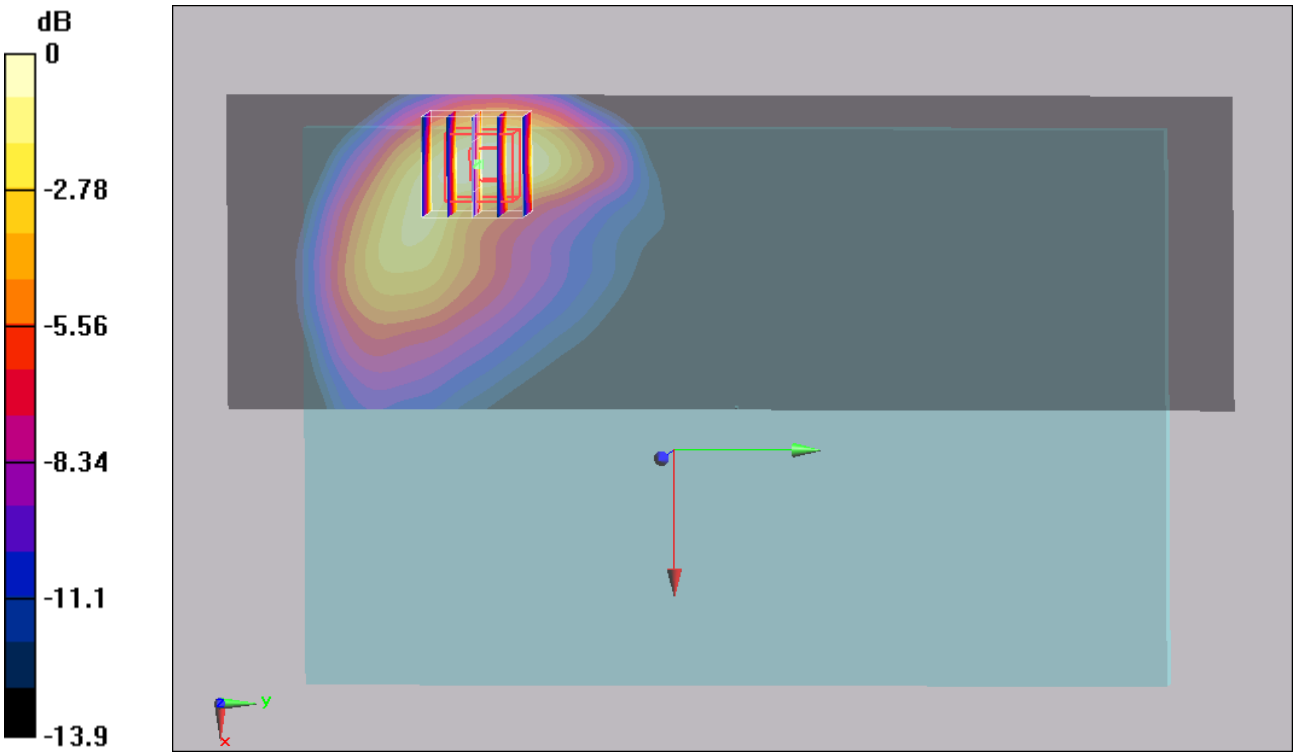
DUT: 291115

Communication System: WCDMA; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium: MSL_850_120915 Medium parameters used: f = 826.4 MHz; σ = 0.954 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QD 0VA 002 AA; Serial: TP-1131
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch4132/Area Scan (51x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.904 mW/g

Ch4132/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.4 V/m; Power Drift = 0.126 dB
Peak SAR (extrapolated) = 1.44 W/kg
SAR(1 g) = 0.803 mW/g; SAR(10 g) = 0.444 mW/g
Maximum value of SAR (measured) = 0.899 mW/g



0 dB = 0.899mW/g

#26 WCDMA V_RMC12.2K_Bottom Face_0cm_Ch4182

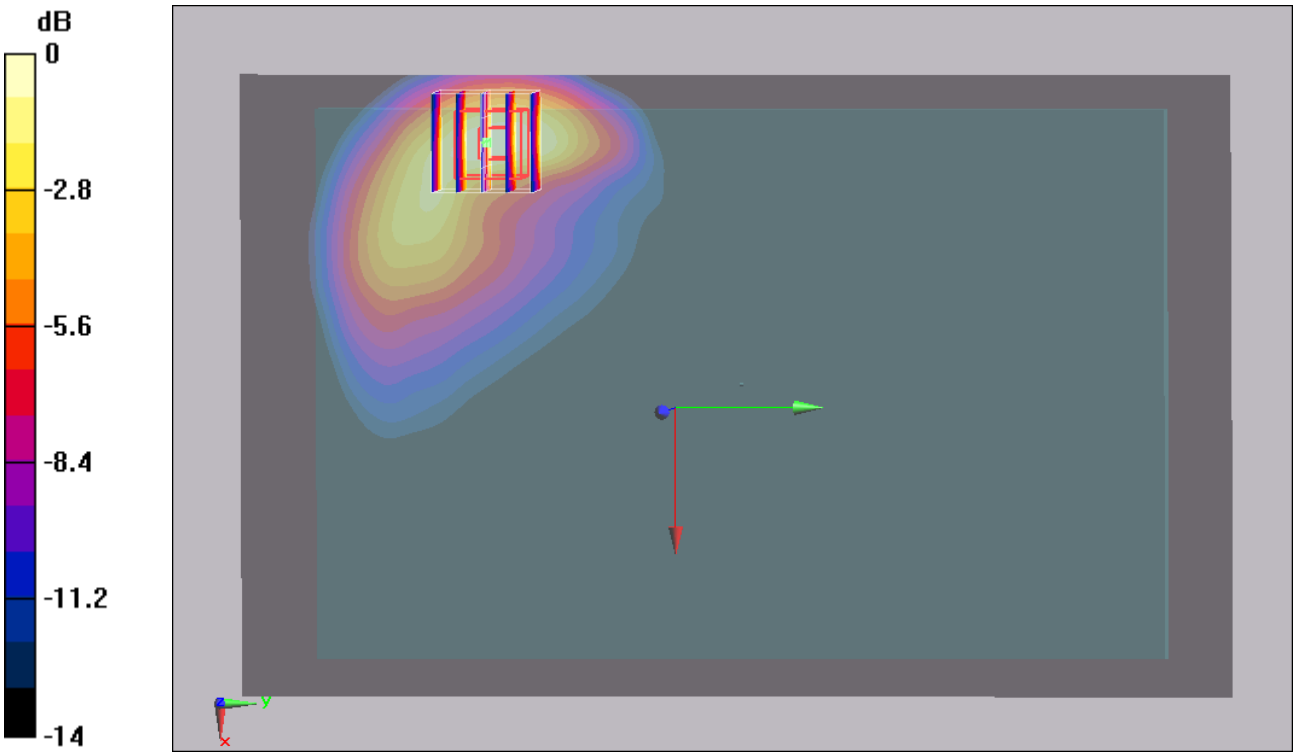
DUT: 291115

Communication System: WCDMA; Frequency: 836.4 MHz;Duty Cycle: 1:1
Medium: MSL_850_120915 Medium parameters used: f = 836.4 MHz; σ = 0.964 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QD 0VA 002 AA; Serial: TP-1131
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch4182/Area Scan (101x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.940 mW/g

Ch4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.4 V/m; Power Drift = -0.096 dB
Peak SAR (extrapolated) = 1.51 W/kg
SAR(1 g) = 0.841 mW/g; SAR(10 g) = 0.462 mW/g
Maximum value of SAR (measured) = 0.943 mW/g



0 dB = 0.943mW/g

#26 WCDMA V_RMC12.2K_Bottom Face_0cm_Ch4182_2D

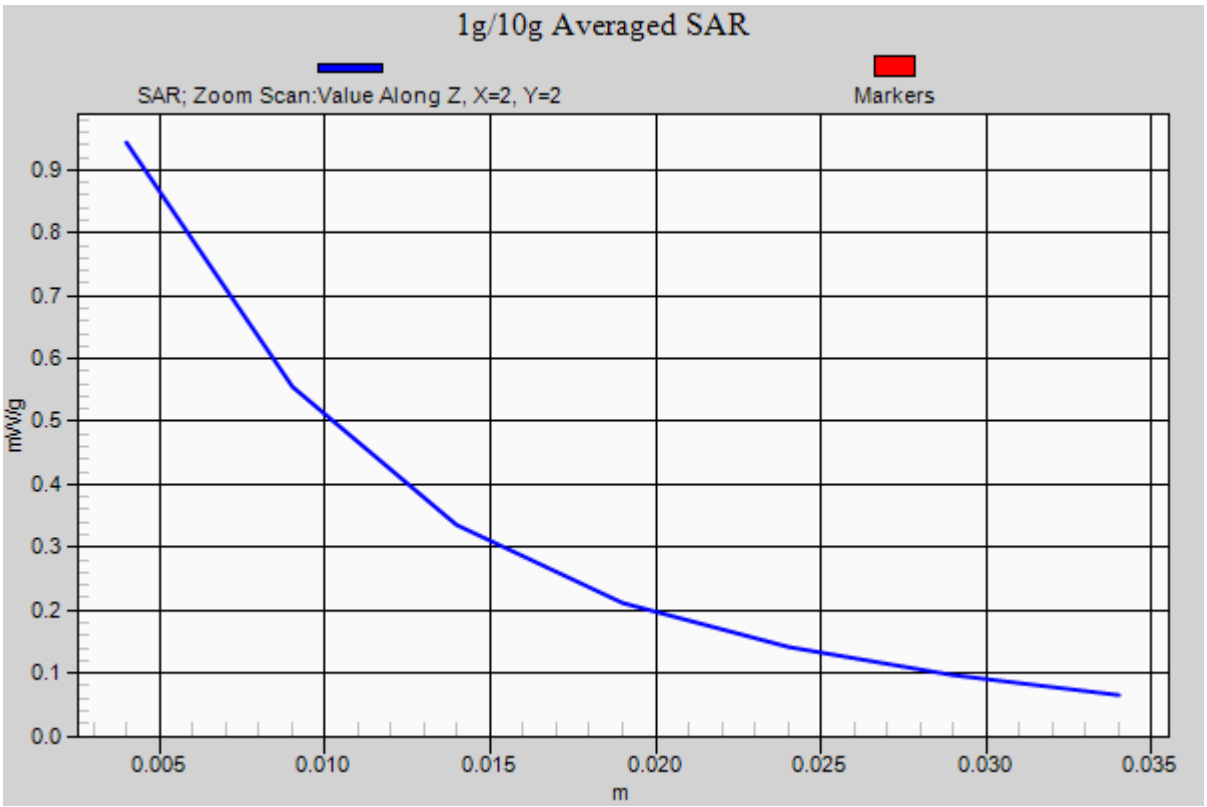
DUT: 291115

Communication System: WCDMA; Frequency: 836.4 MHz;Duty Cycle: 1:1
Medium: MSL_850_120915 Medium parameters used: f = 836.4 MHz; σ = 0.964 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QD 0VA 002 AA; Serial: TP-1131
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch4182/Area Scan (101x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.940 mW/g

Ch4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.4 V/m; Power Drift = -0.096 dB
Peak SAR (extrapolated) = 1.51 W/kg
SAR(1 g) = 0.841 mW/g; SAR(10 g) = 0.462 mW/g
Maximum value of SAR (measured) = 0.943 mW/g



#27 WCDMA V_RMC12.2K_Bottom Face_0cm_Ch4233

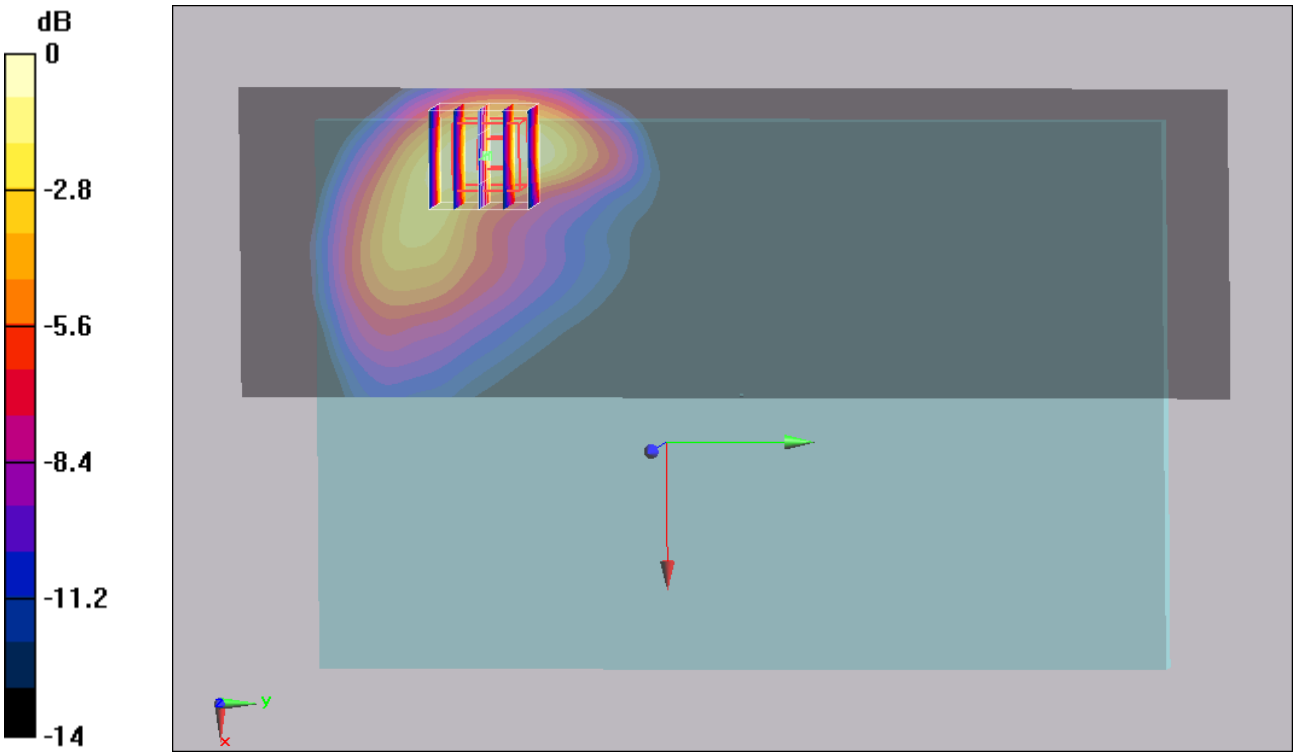
DUT: 291115

Communication System: WCDMA; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium: MSL_850_120915 Medium parameters used: f = 847 MHz; σ = 0.974 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QD 0VA 002 AA; Serial: TP-1131
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch4233/Area Scan (51x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.957 mW/g

Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.18 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 0.839 mW/g; SAR(10 g) = 0.459 mW/g
Maximum value of SAR (measured) = 0.957 mW/g



0 dB = 0.957mW/g

#28 WCDMA V_RMC12.2K_Edge 3_0cm_Ch4182

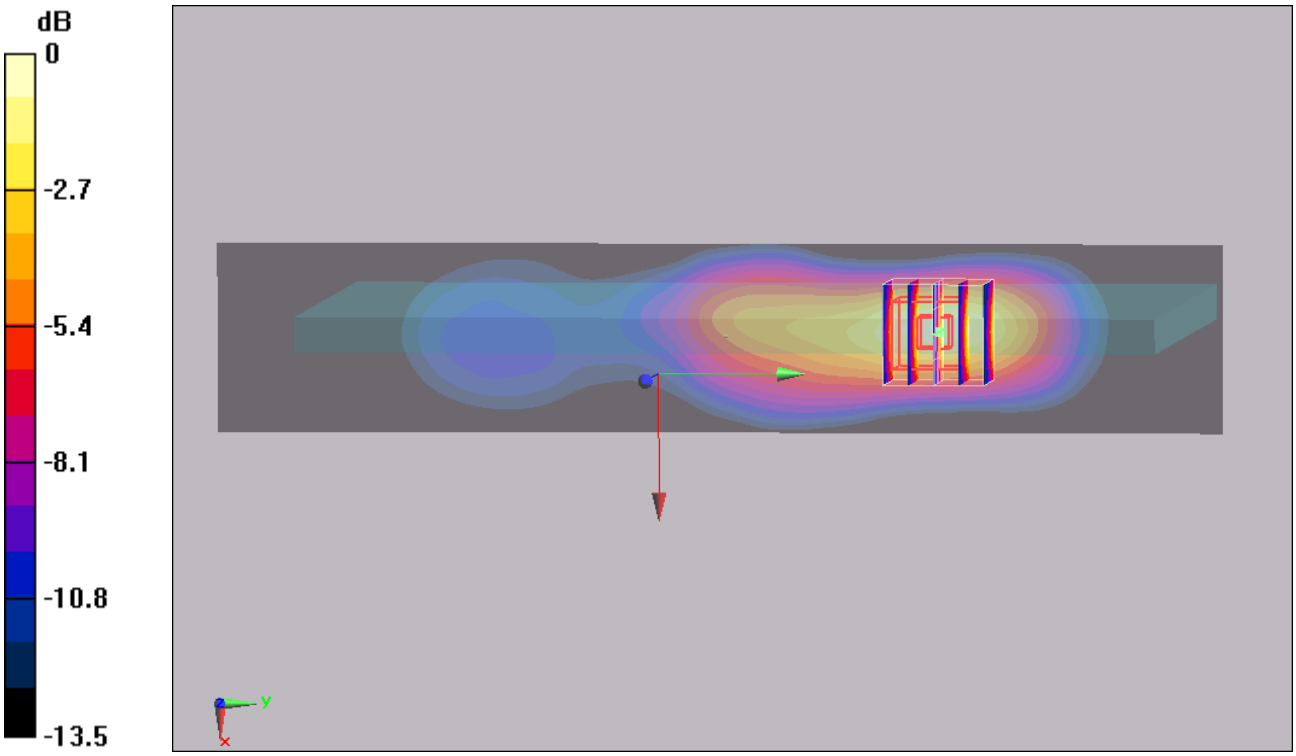
DUT: 291115

Communication System: WCDMA; Frequency: 836.4 MHz;Duty Cycle: 1:1
Medium: MSL_850_120915 Medium parameters used: f = 836.4 MHz; σ = 0.964 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QD 0VA 002 AA; Serial: TP-1131
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch4182/Area Scan (31x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.515 mW/g

Ch4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.7 V/m; Power Drift = 0.185 dB
Peak SAR (extrapolated) = 0.853 W/kg
SAR(1 g) = 0.503 mW/g; SAR(10 g) = 0.284 mW/g
Maximum value of SAR (measured) = 0.557 mW/g



0 dB = 0.557mW/g

#07 WCDMA II_RMC12.2K_Bottom Face_1cm_Ch9262

DUT: 291115

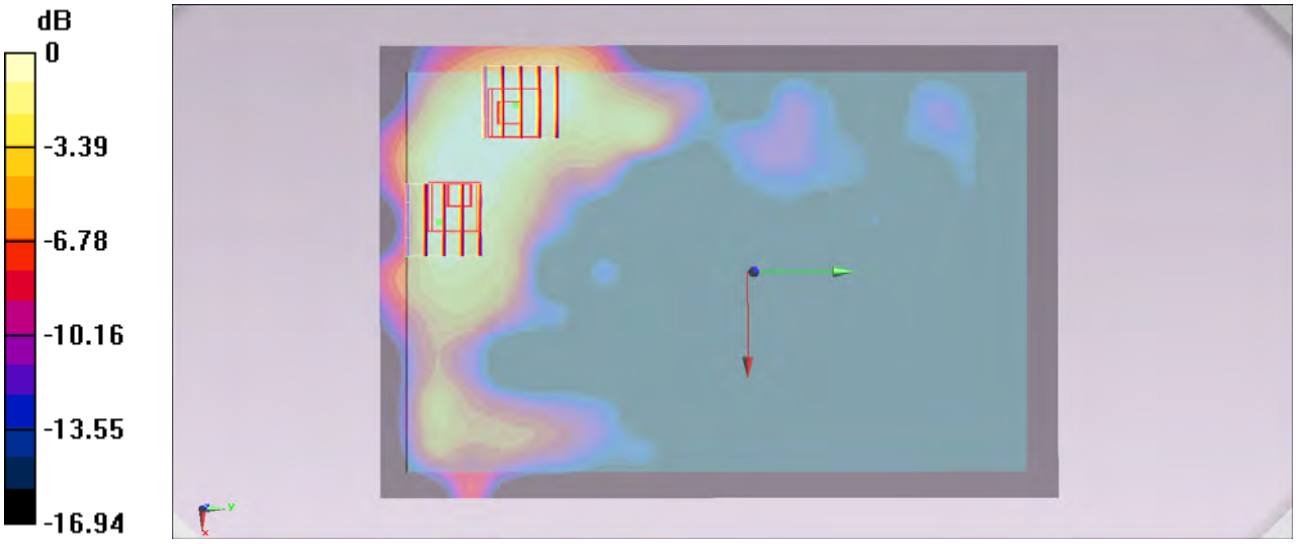
Communication System: WCDMA; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: MSL_1900_120910 Medium parameters used: f = 1852.4 MHz; σ = 1.468 mho/m; ε_r = 52.353; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(7.71, 7.71, 7.71); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch9262/Area Scan (101x151x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.495 mW/g

Ch9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.296 V/m; Power Drift = 0.156 dB
Peak SAR (extrapolated) = 0.716 mW/g
SAR(1 g) = 0.455 mW/g; SAR(10 g) = 0.285 mW/g
Maximum value of SAR (measured) = 0.475 mW/g

Ch9262/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.296 V/m; Power Drift = 0.156 dB
Peak SAR (extrapolated) = 0.559 mW/g
SAR(1 g) = 0.325 mW/g; SAR(10 g) = 0.192 mW/g
Maximum value of SAR (measured) = 0.394 mW/g



0 dB = 0.394 mW/g = -8.09 dB mW/g

#08 WCDMA II_RMC12.2K_Edge 3_0.5cm_Ch9262

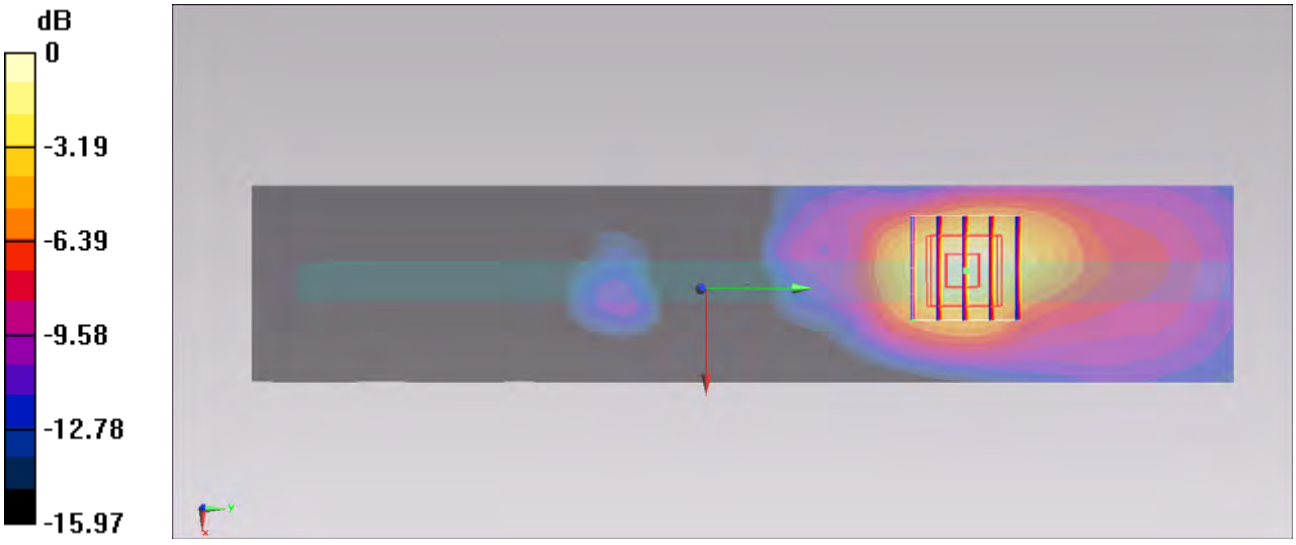
DUT: 291115

Communication System: WCDMA; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: MSL_1900_120910 Medium parameters used: f = 1852.4 MHz; σ = 1.468 mho/m; ε_r = 52.353; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(7.71, 7.71, 7.71); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch9262/Area Scan (31x151x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.669 mW/g

Ch9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.551 V/m; Power Drift = -0.143 dB
Peak SAR (extrapolated) = 1.102 mW/g
SAR(1 g) = 0.678 mW/g; SAR(10 g) = 0.395 mW/g
Maximum value of SAR (measured) = 0.727 mW/g



0 dB = 0.727 mW/g = -2.77 dB mW/g

#08 WCDMA II_RMC12.2K_Edge 3_0.5cm_Ch9262_2D

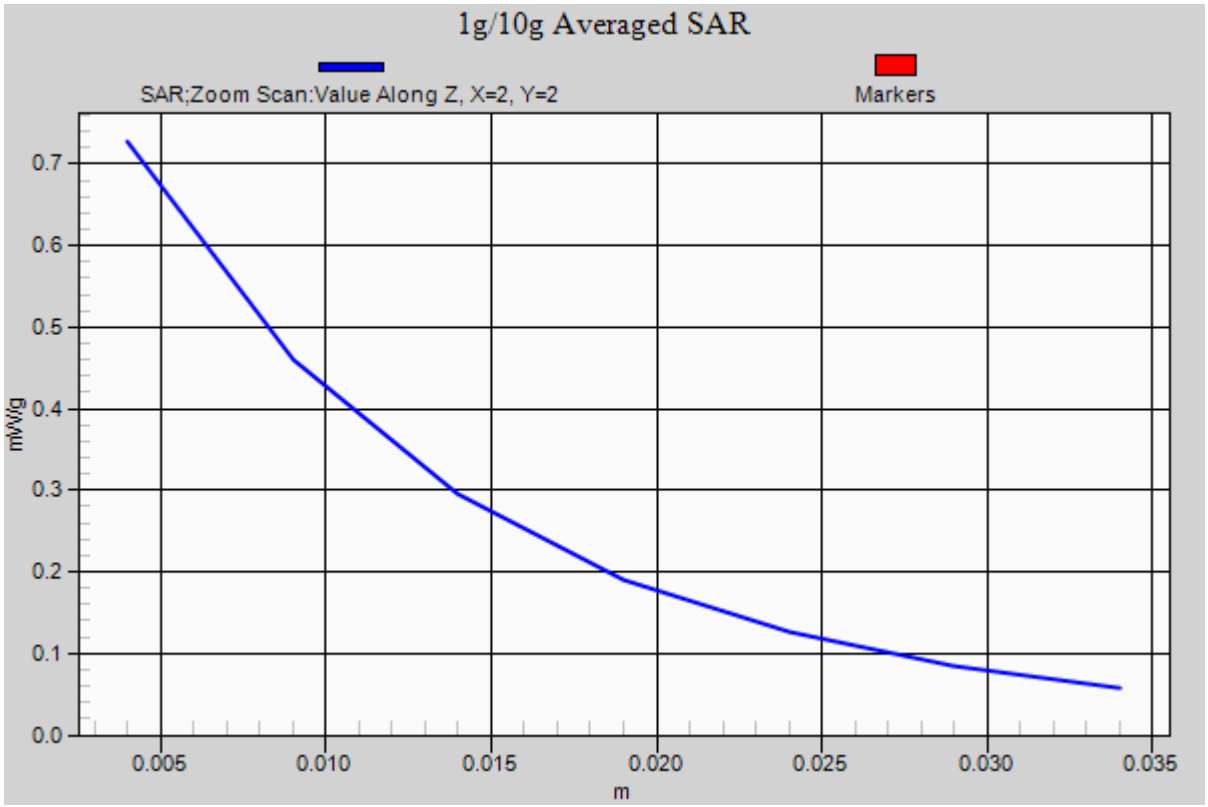
DUT: 291115

Communication System: WCDMA; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: MSL_1900_120910 Medium parameters used: f = 1852.4 MHz; σ = 1.468 mho/m; ε_r = 52.353; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(7.71, 7.71, 7.71); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch9262/Area Scan (31x151x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.669 mW/g

Ch9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.551 V/m; Power Drift = -0.143 dB
Peak SAR (extrapolated) = 1.102 mW/g
SAR(1 g) = 0.678 mW/g; SAR(10 g) = 0.395 mW/g
Maximum value of SAR (measured) = 0.727 mW/g



#09 WCDMA II_RMC12.2K_Edge 4_0cm_Ch9262

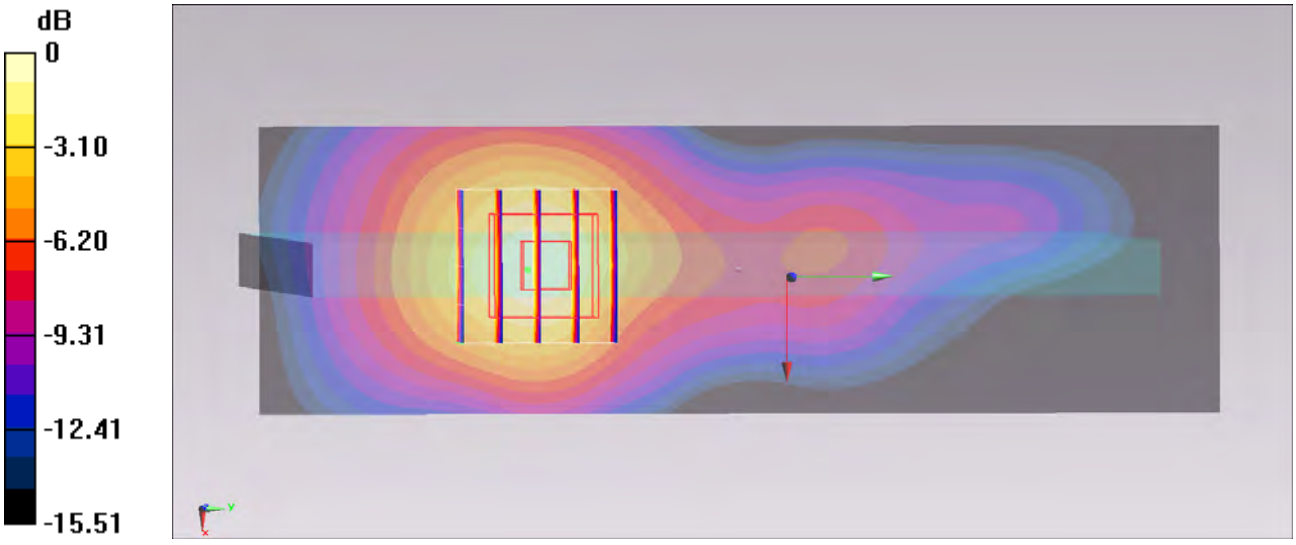
DUT: 291115

Communication System: WCDMA; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: MSL_1900_120910 Medium parameters used: f = 1852.4 MHz; σ = 1.468 mho/m; ε_r = 52.353; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3819; ConvF(7.71, 7.71, 7.71); Calibrated: 2011/11/16;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch9262/Area Scan (31x101x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.618 mW/g

Ch9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.389 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 0.994 mW/g
SAR(1 g) = 0.542 mW/g; SAR(10 g) = 0.301 mW/g
Maximum value of SAR (measured) = 0.676 mW/g



0 dB = 0.676 mW/g = -3.40 dB mW/g

#18 WCDMA II_RMC12.2K_Bottom Face_0cm_Ch9262

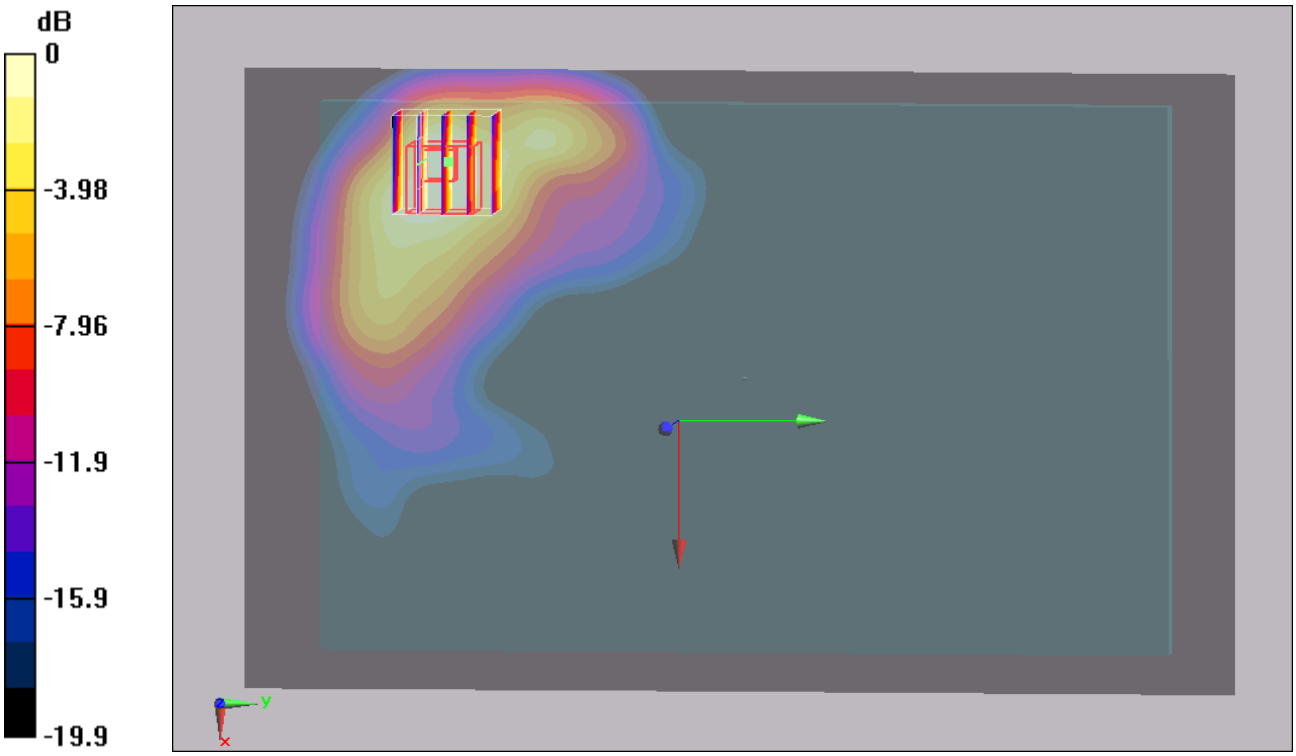
DUT: 291115

Communication System: WCDMA; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: MSL_1900_120915 Medium parameters used: f = 1852.4 MHz; σ = 1.49 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1029
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch9262/Area Scan (101x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.986 mW/g

Ch9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.443 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 1.47 W/kg
SAR(1 g) = 0.839 mW/g; SAR(10 g) = 0.456 mW/g
Maximum value of SAR (measured) = 0.890 mW/g



0 dB = 0.890mW/g

#19 WCDMA II_RMC12.2K_Bottom Face_0cm_Ch9400

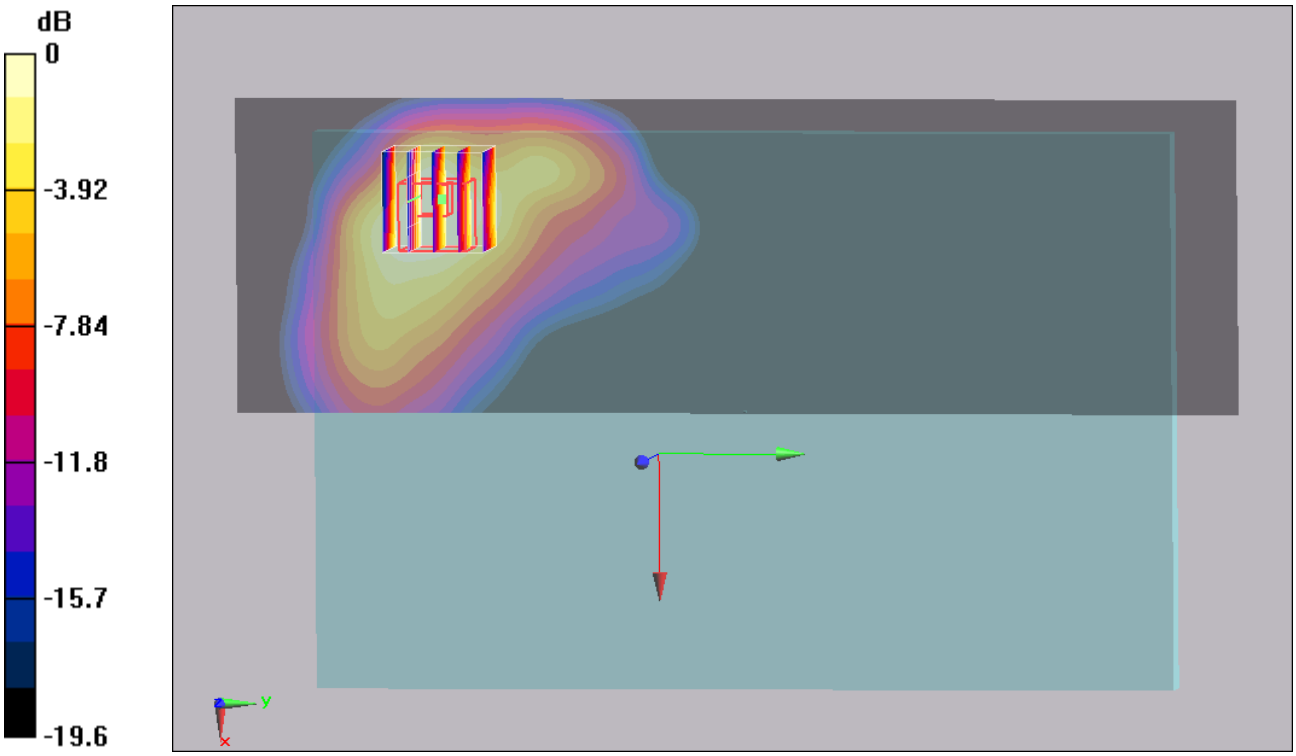
DUT: 291115

Communication System: WCDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: MSL_1900_120915 Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1029
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch9400/Area Scan (51x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 1.02 mW/g

Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.723 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 1.6 W/kg
SAR(1 g) = 0.904 mW/g; SAR(10 g) = 0.495 mW/g
Maximum value of SAR (measured) = 0.972 mW/g



0 dB = 0.972mW/g

#19 WCDMA II_RMC12.2K_Bottom Face_0cm_Ch9400_2D

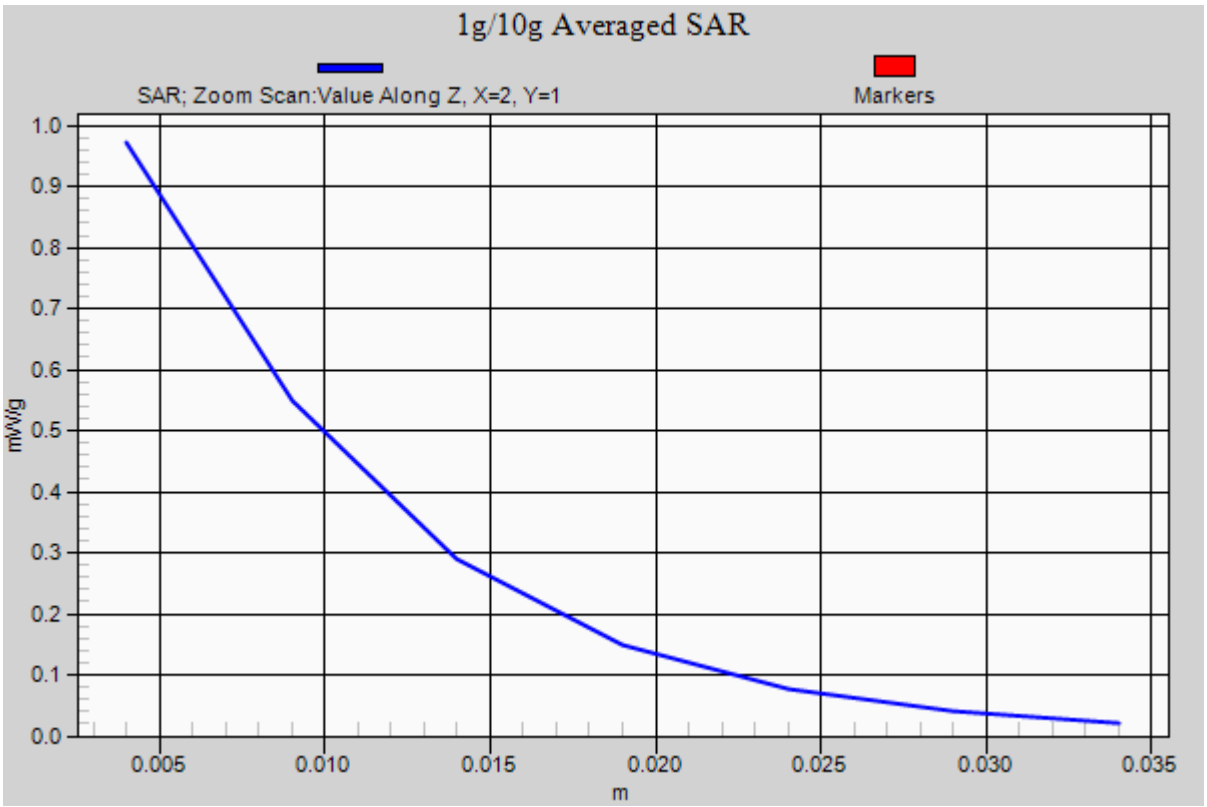
DUT: 291115

Communication System: WCDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: MSL_1900_120915 Medium parameters used: f = 1880 MHz; σ = 1.52 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1029
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch9400/Area Scan (51x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 1.02 mW/g

Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.723 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 1.6 W/kg
SAR(1 g) = 0.904 mW/g; SAR(10 g) = 0.495 mW/g
Maximum value of SAR (measured) = 0.972 mW/g



#20 WCDMA II_RMC12.2K_Bottom Face_0cm_Ch9538

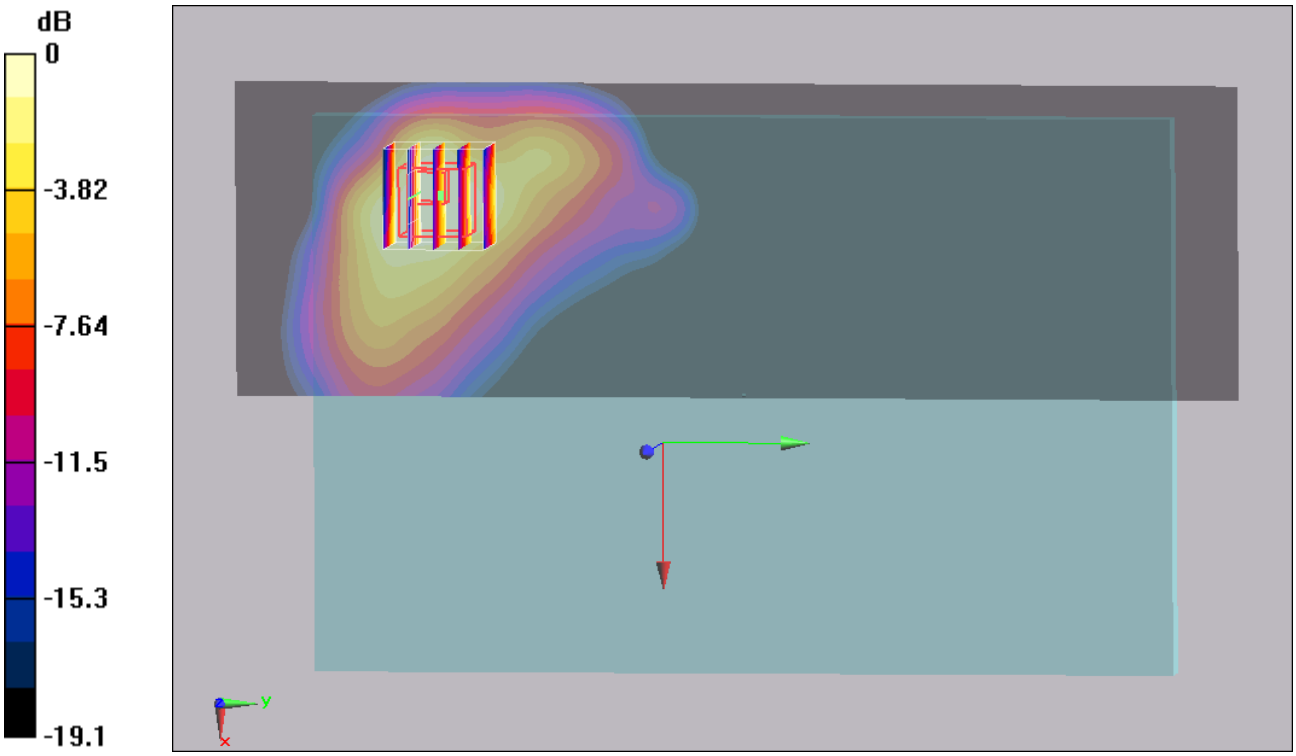
DUT: 291115

Communication System: WCDMA; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: MSL_1900_120915 Medium parameters used: f = 1908 MHz; σ = 1.55 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1029
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch9538/Area Scan (51x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 1 mW/g

Ch9538/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.468 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 1.59 W/kg
SAR(1 g) = 0.898 mW/g; SAR(10 g) = 0.486 mW/g
Maximum value of SAR (measured) = 0.971 mW/g



0 dB = 0.971mW/g

#17 WCDMA II_RMC12.2K_Edge 3_0cm_Ch9262

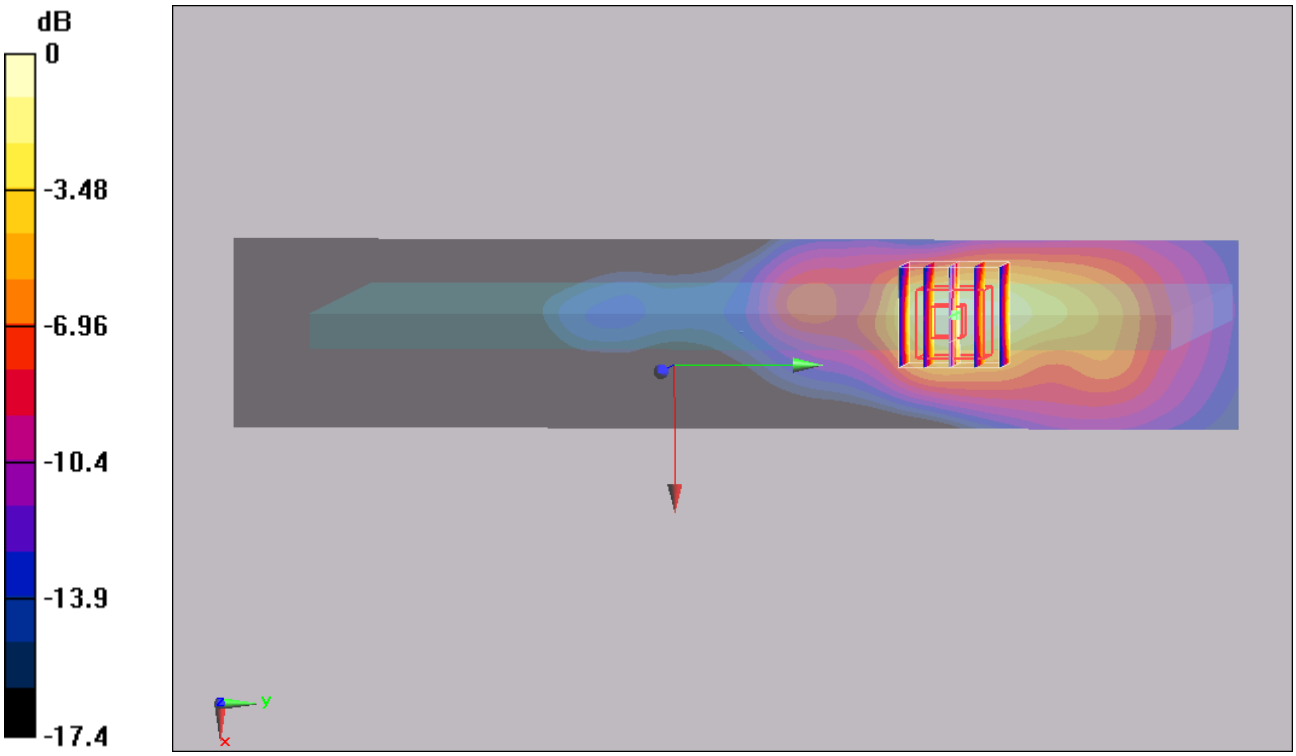
DUT: 291115

Communication System: WCDMA; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: MSL_1900_120915 Medium parameters used: f = 1852.4 MHz; σ = 1.49 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0; Type: QDOVA001BA; Serial: 1029
- Software: DASY5 Version; SEMCAD X Version 13.4 Build 45

Ch9262/Area Scan (31x161x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.379 mW/g

Ch9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.12 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.595 W/kg
SAR(1 g) = 0.368 mW/g; SAR(10 g) = 0.202 mW/g
Maximum value of SAR (measured) = 0.390 mW/g



0 dB = 0.390mW/g

#40 WLAN5G_802.11a_Bottom Face_0cm_Ch165_Ant A

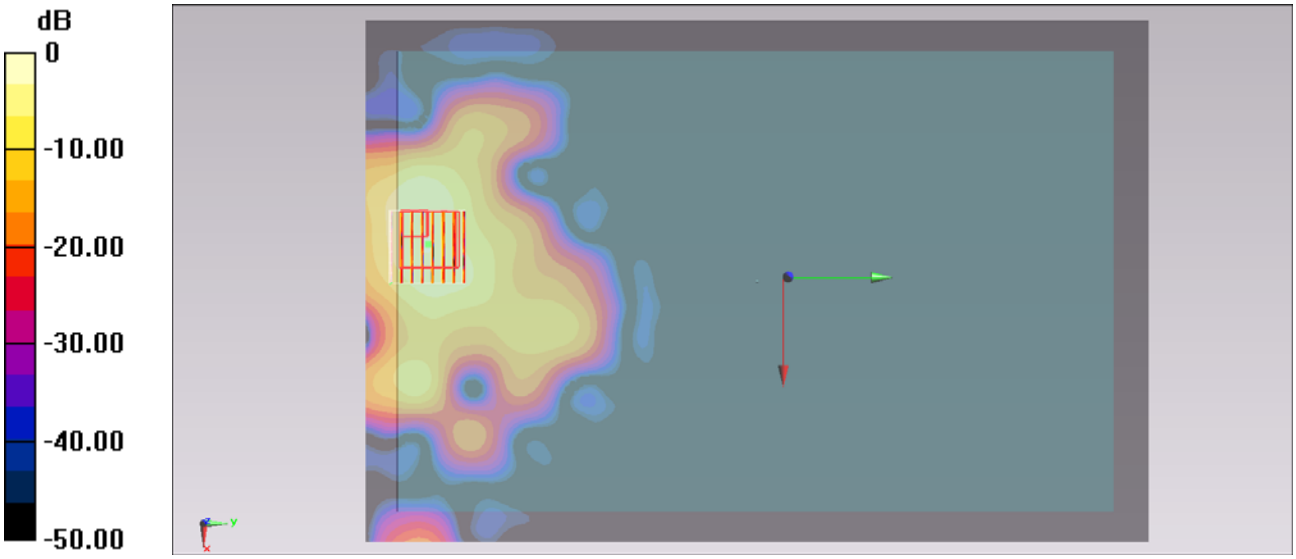
DUT: 291115

Communication System: 802.11a; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: MSL_5G_120926 Medium parameters used : f = 5825 MHz; σ = 6.153 mho/m; ε_r = 47.051; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch165/Area Scan (201x301x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.349 mW/g

Configuration/Ch165/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 1.489 mW/g
SAR(1 g) = 0.260 mW/g; SAR(10 g) = 0.090 mW/g
Maximum value of SAR (measured) = 0.733 mW/g



0 dB = 0.733 mW/g = -2.70 dB mW/g

#43 WLAN5G_802.11a_Bottom Face_0cm_Ch165_Ant B

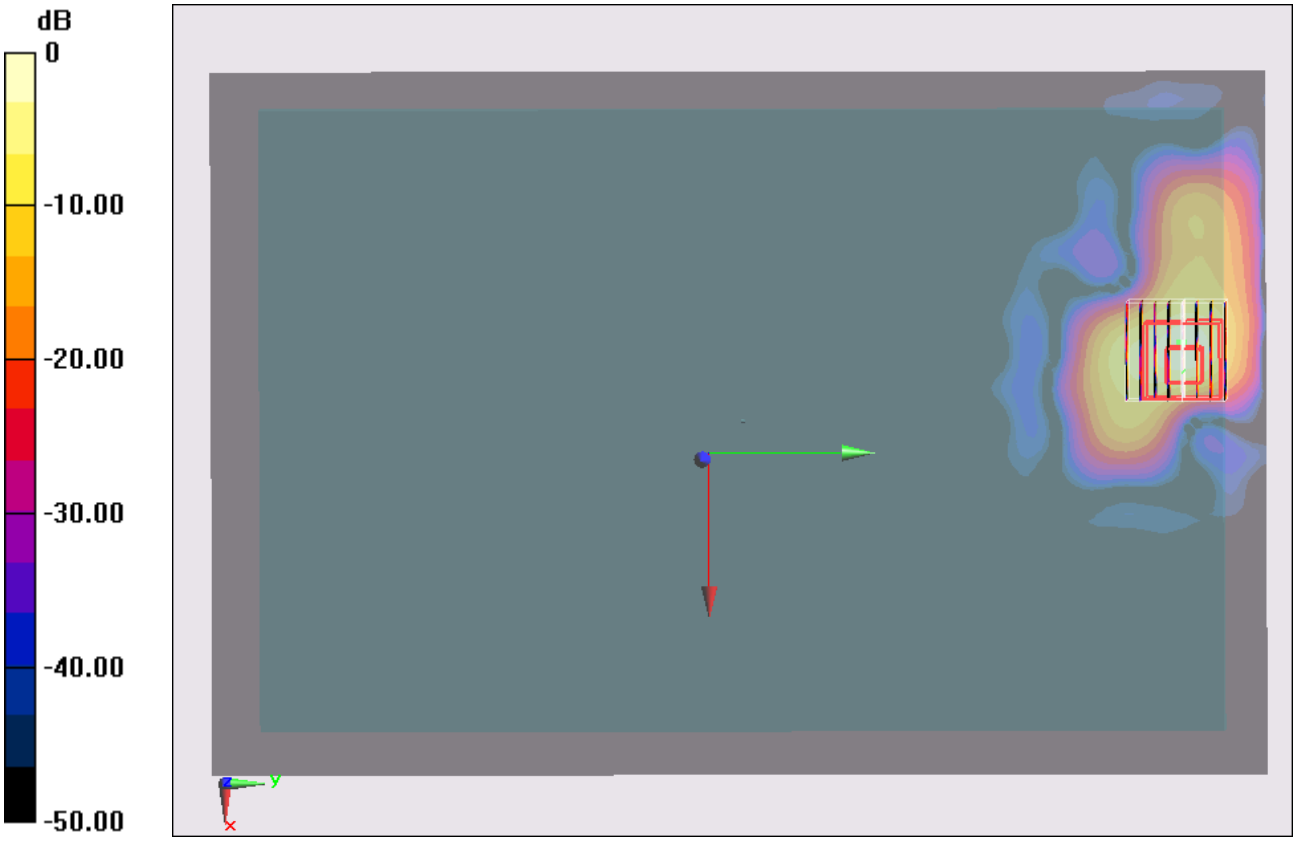
DUT: 291115

Communication System: 802.11a; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: MSL_5G_120926 Medium parameters used : f = 5825 MHz; σ = 6.153 mho/m; ε_r = 47.051; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃； Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch165/Area Scan (201x301x1): Measurement grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.572 W/kg

Ch165/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.907 mW/g
SAR(1 g) = 0.226 mW/g; SAR(10 g) = 0.061 mW/g
Maximum value of SAR (measured) = 0.566 W/kg



0 dB = 0.566 W/kg = -4.94 dB W/kg

#43 WLAN5G_802.11a_Bottom Face_0cm_Ch165_Ant B_2D

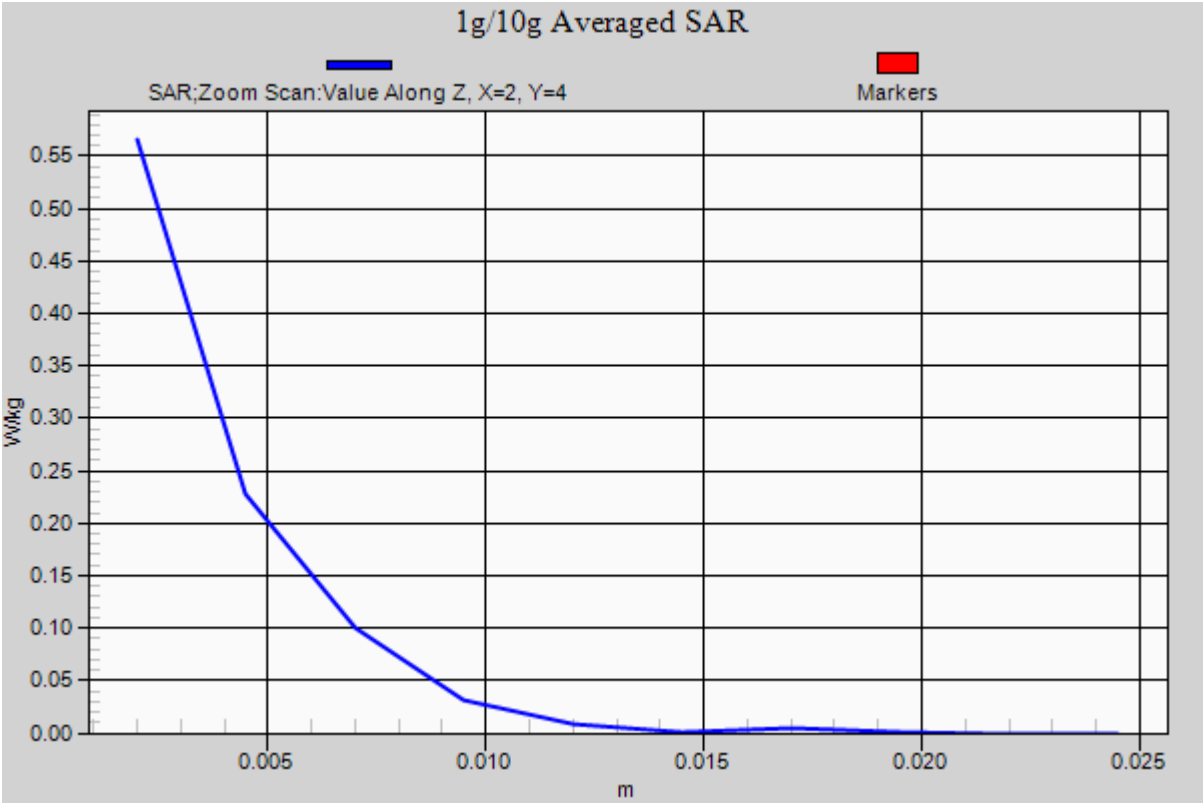
DUT: 291115

Communication System: 802.11a; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: MSL_5G_120926 Medium parameters used : f = 5825 MHz; σ = 6.153 mho/m; ε_r = 47.051; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch165/Area Scan (201x301x1): Measurement grid: dx=10 mm, dy=10 mm
Maximum value of SAR (interpolated) = 0.572 W/kg

Ch165/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.907 mW/g
SAR(1 g) = 0.226 mW/g; SAR(10 g) = 0.061 mW/g
Maximum value of SAR (measured) = 0.566 W/kg



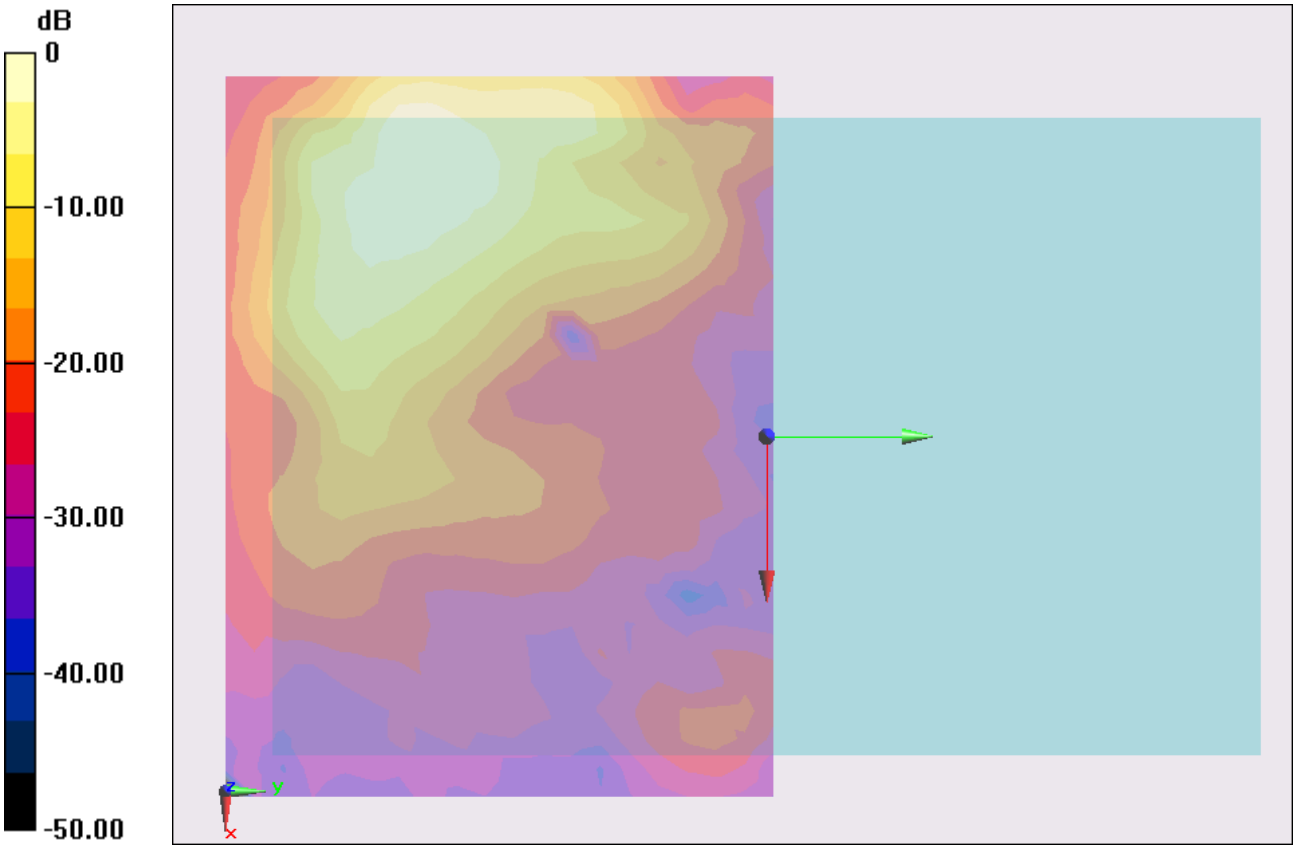
#33 GSM1900_GPRS10_Bottom Face_0cm_Ch512_Volume

DUT: 291115

Communication System: PCS; Frequency: 1850.2 MHz;Duty Cycle: 1:4
Medium: MSL_1900_110920 Medium parameters used: f = 1850.2 MHz; σ = 1.461 mho/m; ε_r = 53.486; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6R - SN1788; ConvF(4.06, 4.06, 4.06); Calibrated: 2012/1/26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch512/Volume Scan (26x20x7): Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.595 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 1.652 mW/g
SAR(1 g) = 0.913 mW/g; SAR(10 g) = 0.489 mW/g
Total Absorbed Power = 0.0341 W
Maximum value of SAR (measured) = 0.985 W/kg



0 dB = 0.985 W/kg = -0.13 dB W/kg

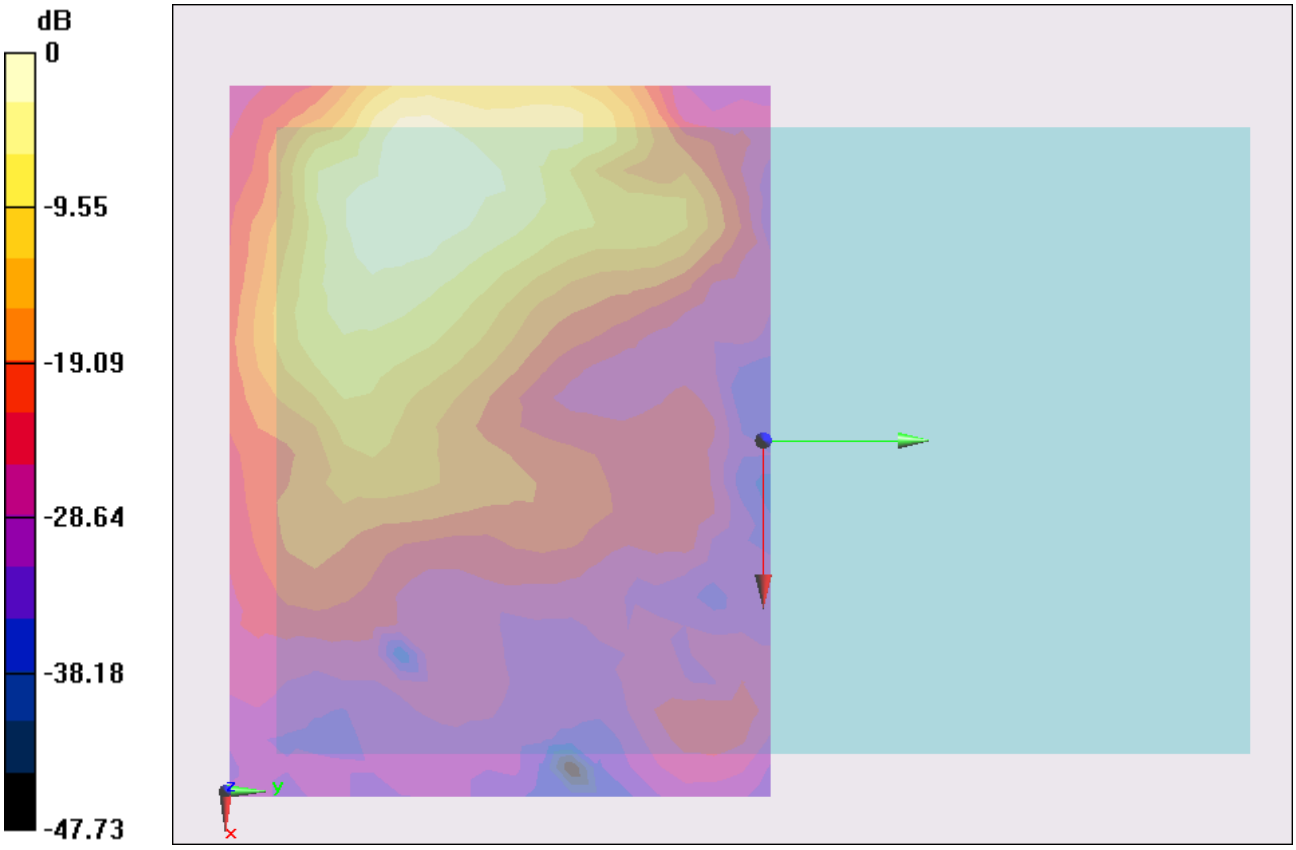
#34 GSM1900_GPRS10_Bottom Face_0cm_Ch661_Volume

DUT: 291115

Communication System: PCS; Frequency: 1880 MHz;Duty Cycle: 1:4
Medium: MSL_1900_110920 Medium parameters used: f = 1880 MHz; σ = 1.484 mho/m; ε_r = 53.379; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6R - SN1788; ConvF(4.06, 4.06, 4.06); Calibrated: 2012/1/26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch661/Volume Scan (26x20x7): Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.681 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 1.964 mW/g
SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.575 mW/g
Total Absorbed Power = 0.0402 W
Maximum value of SAR (measured) = 1.18 W/kg



0 dB = 1.18 W/kg = 1.44 dB W/kg

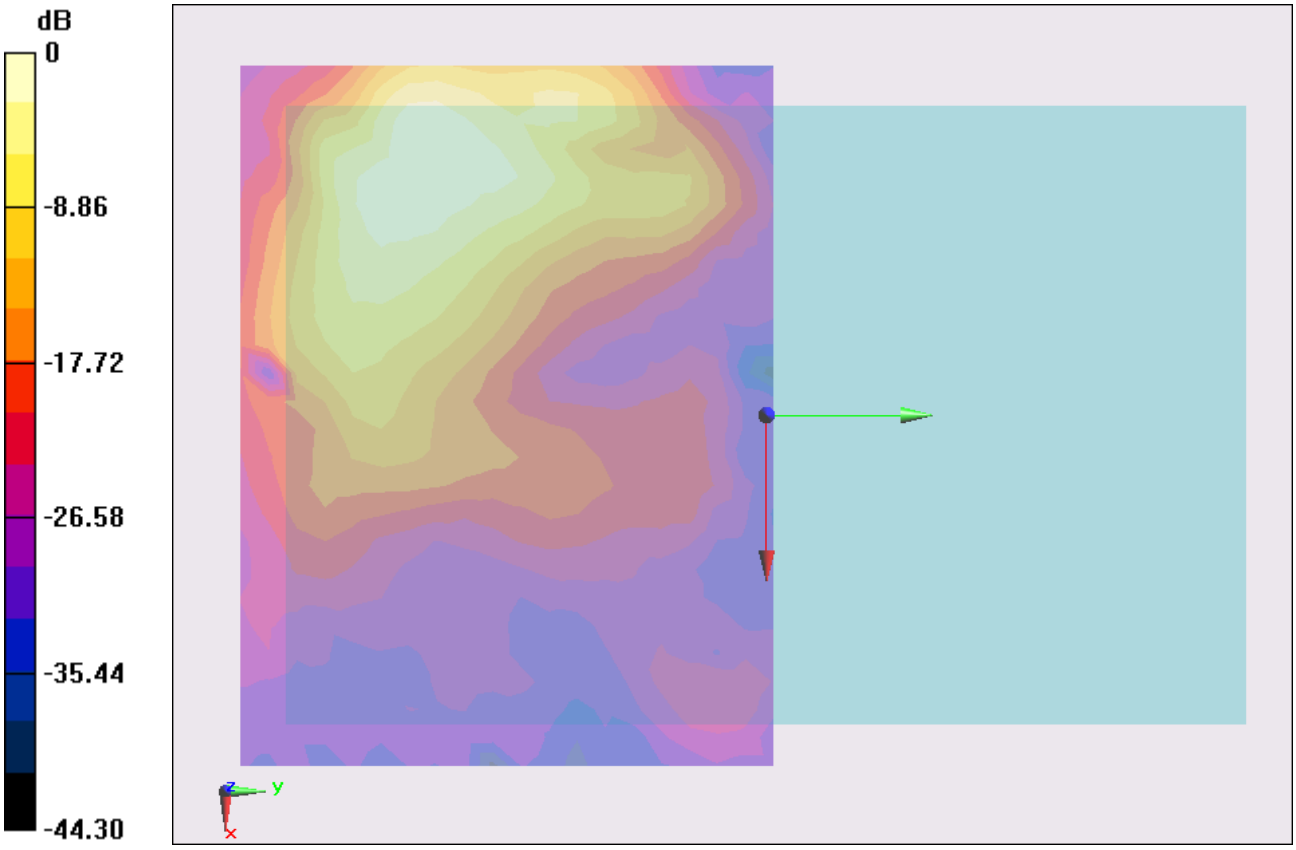
#35 GSM1900_GPRS10_Bottom Face_0cm_Ch810_Volume

DUT: 291115

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: MSL_1900_110920 Medium parameters used: f = 1910 MHz; σ = 1.509 mho/m; ε_r = 53.209; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6R - SN1788; ConvF(4.06, 4.06, 4.06); Calibrated: 2012/1/26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch810/Volume Scan (26x20x7): Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.048 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 2.032 mW/g
SAR(1 g) = 1.1 mW/g; SAR(10 g) = 0.581 mW/g
Total Absorbed Power = 0.0403 W
Maximum value of SAR (measured) = 1.20 W/kg



0 dB = 1.20 W/kg = 1.58 dB W/kg

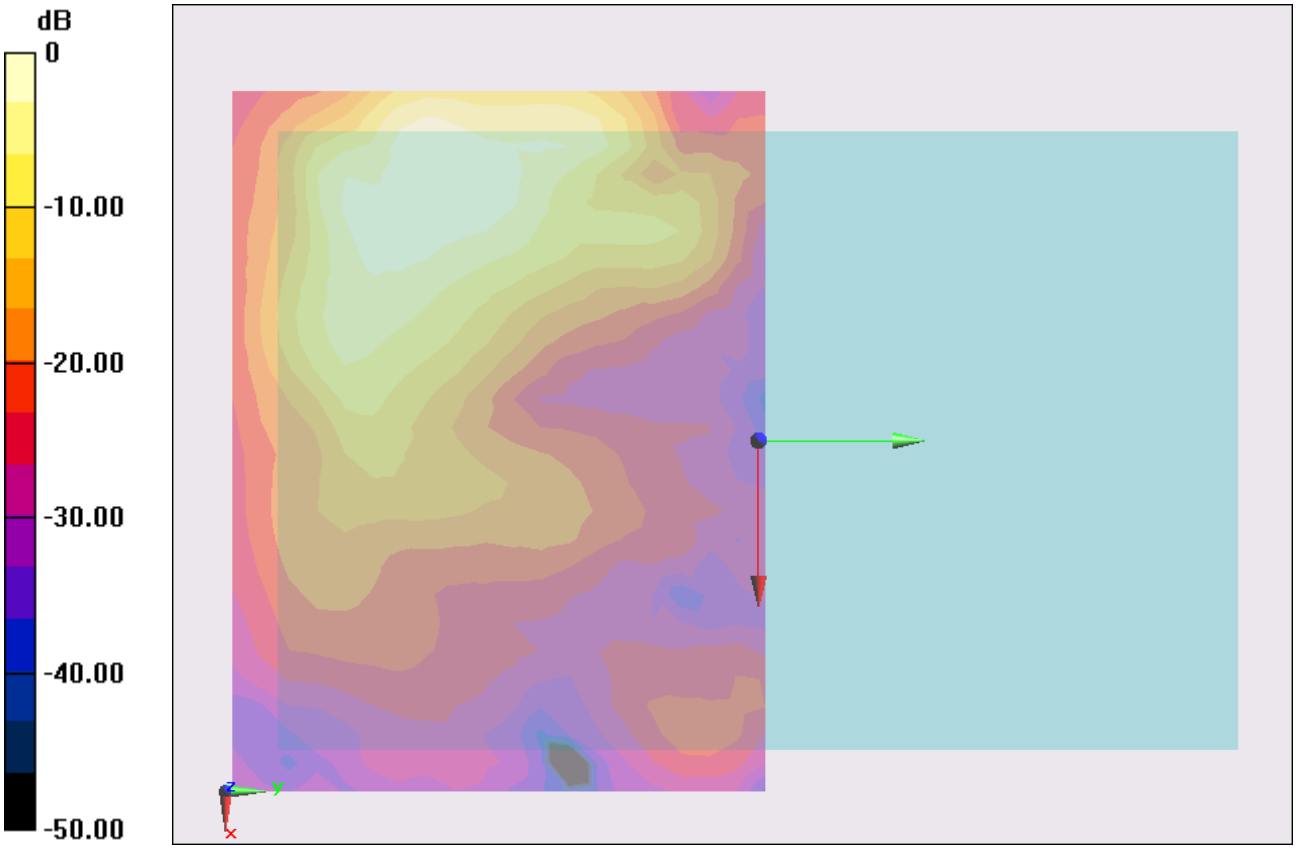
#36 WCDMA II_RMC12.2K_Bottom Face_0cm_Ch9262_Volume

DUT: 291115

Communication System: WCDMA; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium: MSL_1900_110920 Medium parameters used: f = 1852.4 MHz; σ = 1.463 mho/m; ε_r = 53.483; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6R - SN1788; ConvF(4.06, 4.06, 4.06); Calibrated: 2012/1/26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch9262/Volume Scan (26x20x7): Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.860 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 1.478 mW/g
SAR(1 g) = 0.834 mW/g; SAR(10 g) = 0.455 mW/g
Total Absorbed Power = 0.0355 W
Maximum value of SAR (measured) = 0.942 W/kg



0 dB = 0.942 W/kg = -0.52 dB W/kg

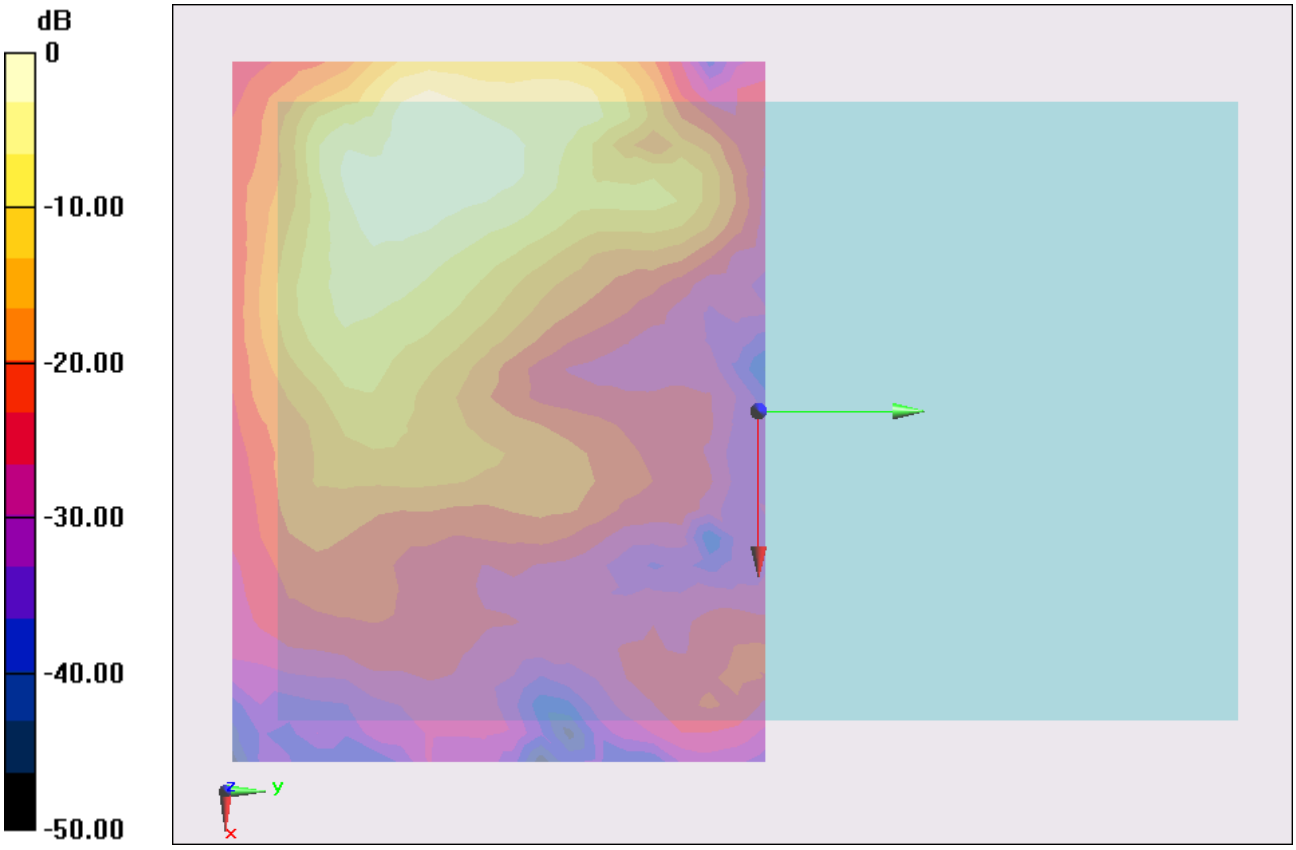
#37 WCDMA II_RMC12.2K_Bottom Face_0cm_Ch9400_Volume

DUT: 291115

Communication System: WCDMA; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium: MSL_1900_110920 Medium parameters used: f = 1880 MHz; σ = 1.484 mho/m; ε_r = 53.379; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6R - SN1788; ConvF(4.06, 4.06, 4.06); Calibrated: 2012/1/26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch9400/Volume Scan (26x20x7): Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.684 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 1.590 mW/g
SAR(1 g) = 0.887 mW/g; SAR(10 g) = 0.481 mW/g
Total Absorbed Power = 0.0371 W
Maximum value of SAR (measured) = 1.01 W/kg



0 dB = 1.01 W/kg = 0.09 dB W/kg

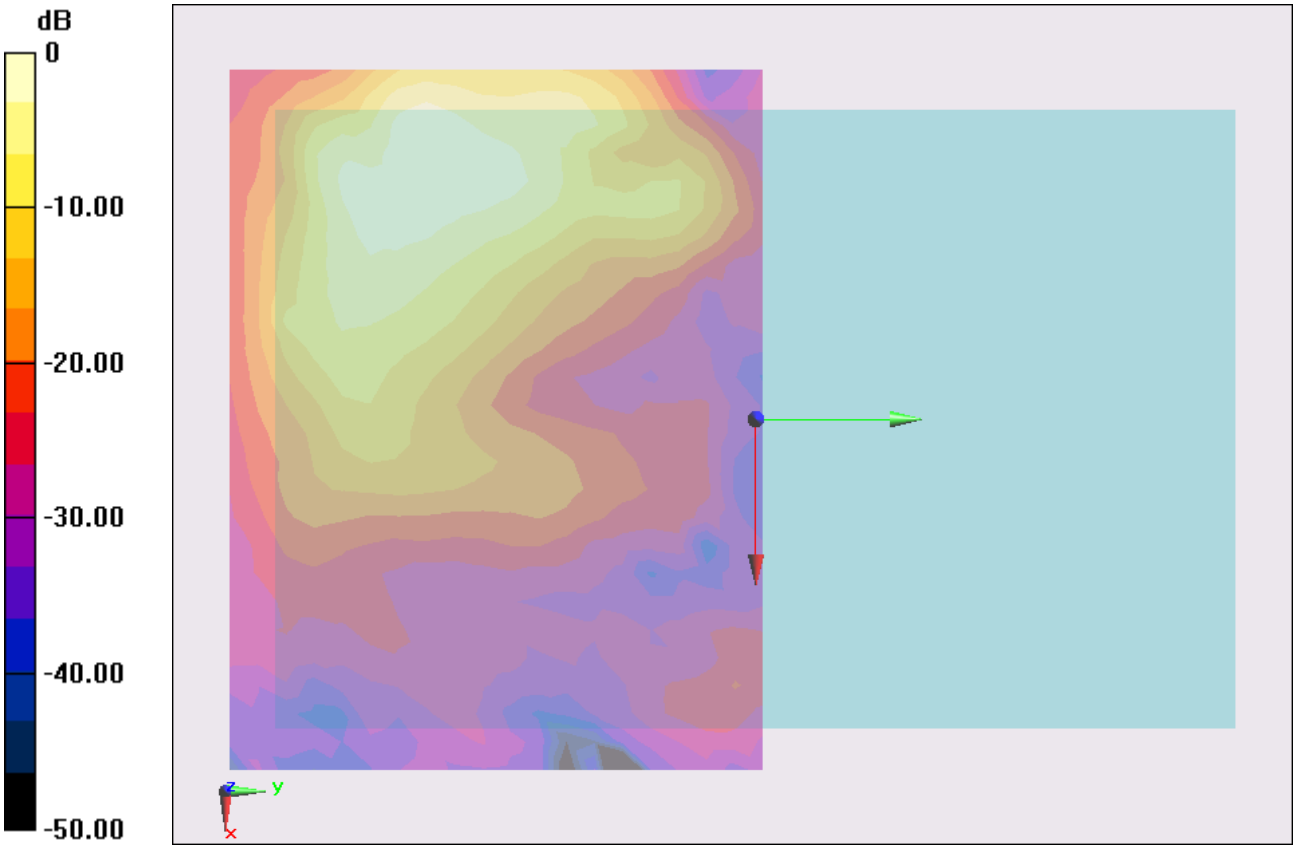
#38 WCDMA II_RMC12.2K_Bottom Face_0cm_Ch9538_Volume

DUT: 291115

Communication System: WCDMA; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium: MSL_1900_110920 Medium parameters used: f = 1908 MHz; σ = 1.507 mho/m; ε_r = 53.218; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6R - SN1788; ConvF(4.06, 4.06, 4.06); Calibrated: 2012/1/26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch9538/Volume Scan (26x20x7): Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.650 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 1.541 mW/g
SAR(1 g) = 0.848 mW/g; SAR(10 g) = 0.455 mW/g
Total Absorbed Power = 0.0349 W
Maximum value of SAR (measured) = 0.981 W/kg



0 dB = 0.981 W/kg = -0.17 dB W/kg

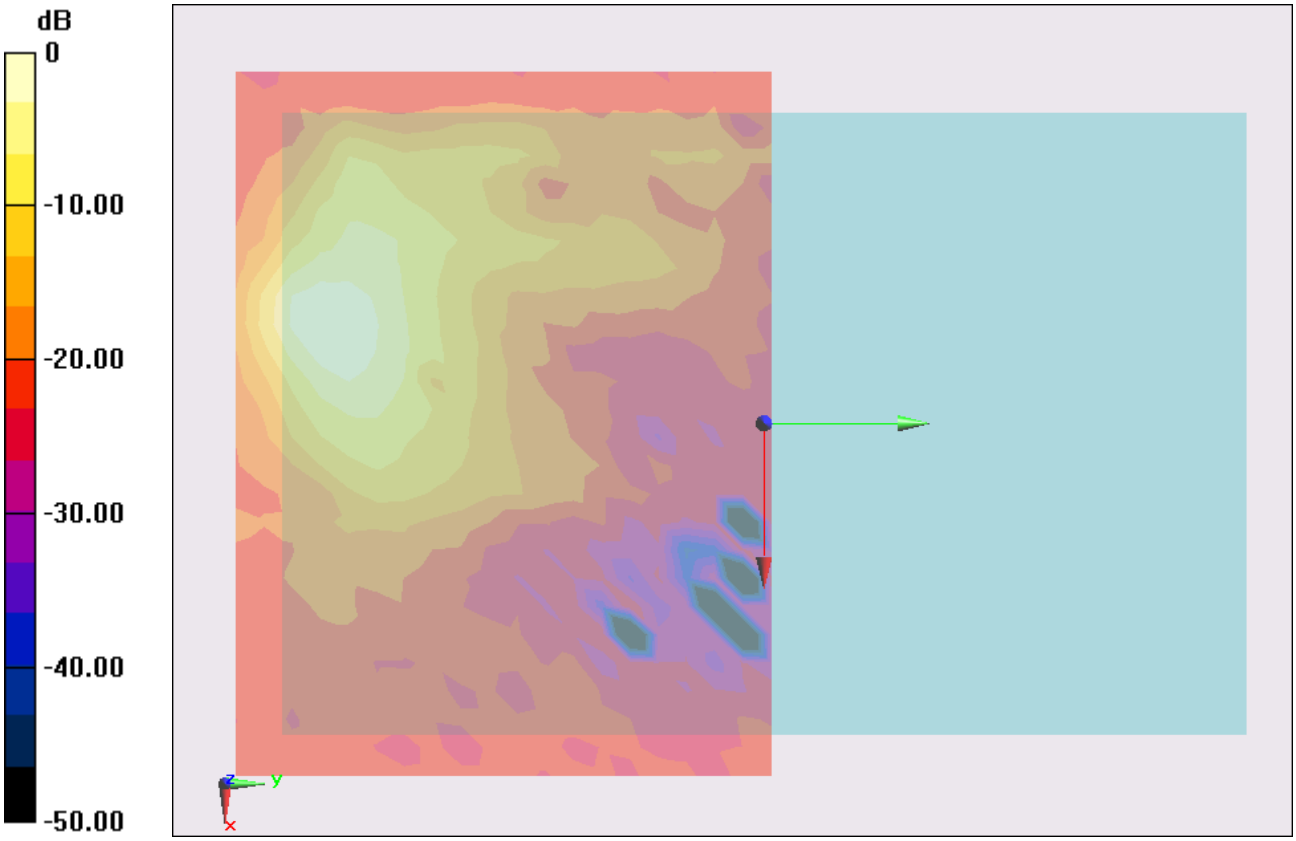
#39 WLAN2.4G_802.11b_Bottom Face_0cm_Ch6_Volume

DUT: 291115

Communication System: 802.11b; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: MSL_2450_120925 Medium parameters used: f = 2437 MHz; σ = 1.951 mho/m; ε_r = 52.324; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3578; ConvF(6.43, 6.43, 6.43); Calibrated: 2012/6/21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch6/Volume Scan (26x20x7): Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.190 V/m; Power Drift = 0.198 dB
Peak SAR (extrapolated) = 1.397 mW/g
SAR(1 g) = 0.643 mW/g; SAR(10 g) = 0.289 mW/g
Total Absorbed Power = 0.0172 W
Maximum value of SAR (measured) = 0.714 W/kg



0 dB = 0.714 W/kg = -2.93 dB W/kg

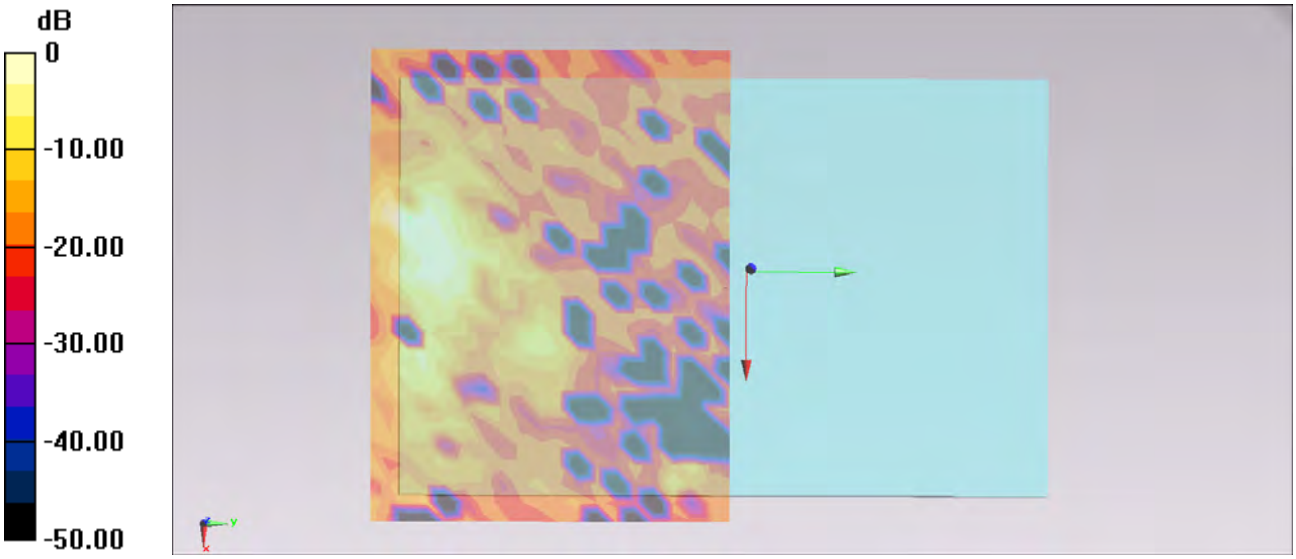
#41 WLAN5G_802.11a_Bottom Face_0cm_Ch165_Volume

DUT: 291115

Communication System: 802.11a; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: MSL_5G_120926 Medium parameters used : f = 5825 MHz; σ = 6.153 mho/m; ε_r = 47.051; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/6/21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch165/Volume Scan (26x20x7): Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0 V/m; Power Drift = 0.005 dB
Peak SAR (extrapolated) = 1.148 mW/g
SAR(1 g) = 0.242 mW/g; SAR(10 g) = 0.092 mW/g
Total Absorbed Power = 0.00303 W
Maximum value of SAR (measured) = 0.312 mW/g



0 dB = 0.312 mW/g = -10.12 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/25

#39 WLAN2.4G_802.11b_Bottom Face_0cm_Ch6_Volume

DUT: 291115; Type: GSM Mobile Phone; Serial

Communication System: 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1.12202e-005
Medium: MSL_2450_120925 Medium parameters used: f = 2437 MHz; σ = 1.951 mho/m; ε_r = 52.324; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: EX3DV4 - SN3578; ConvF(6.43, 6.43, 6.43); Calibrated: 2012/6/21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2)

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/21

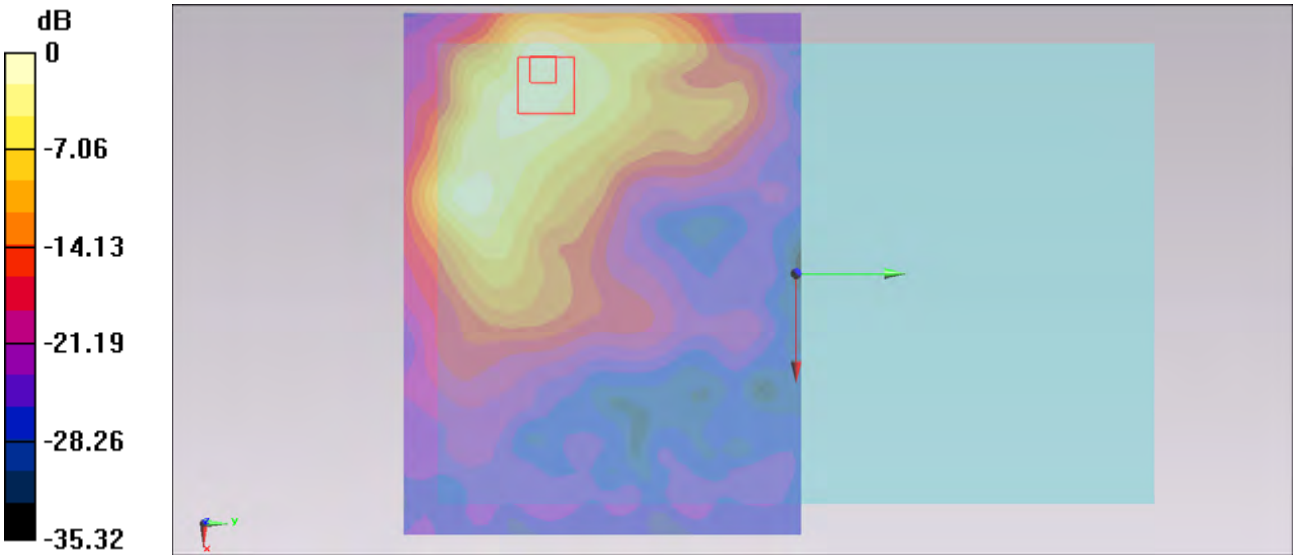
#34 GSM1900_GPRS10_Bottom Face_0cm_Ch661_Volume

DUT: 291115; Type: GSM Mobile Phone; Serial

Communication System: PCS; Frequency: 1880 MHz; Duty Cycle: 1:4.00037; PMF: 2.00009
Medium: MSL_1900_110920 Medium parameters used: f = 1880 MHz; σ = 1.484 mho/m; ε_r = 53.379; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: ET3DV6R - SN1788; ConvF(4.06, 4.06, 4.06); Calibrated: 2012/1/26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2)

Multi Band Result:
SAR(1 g) = 1.21 mW/g; SAR(10 g) = 0.655 mW/g
Maximum value of SAR (interpolated) = 2.18 mW/g



0 dB = 2.18 mW/g = 6.77 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/25

#39 WLAN2.4G_802.11b_Bottom Face_0cm_Ch6_Volume

DUT: 291115; Type: GSM Mobile Phone; Serial

Communication System: 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1.12202e-005
Medium: MSL_2450_120925 Medium parameters used: f = 2437 MHz; σ = 1.951 mho/m; ε_r = 52.324; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: EX3DV4 - SN3578; ConvF(6.43, 6.43, 6.43); Calibrated: 2012/6/21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2)

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/21

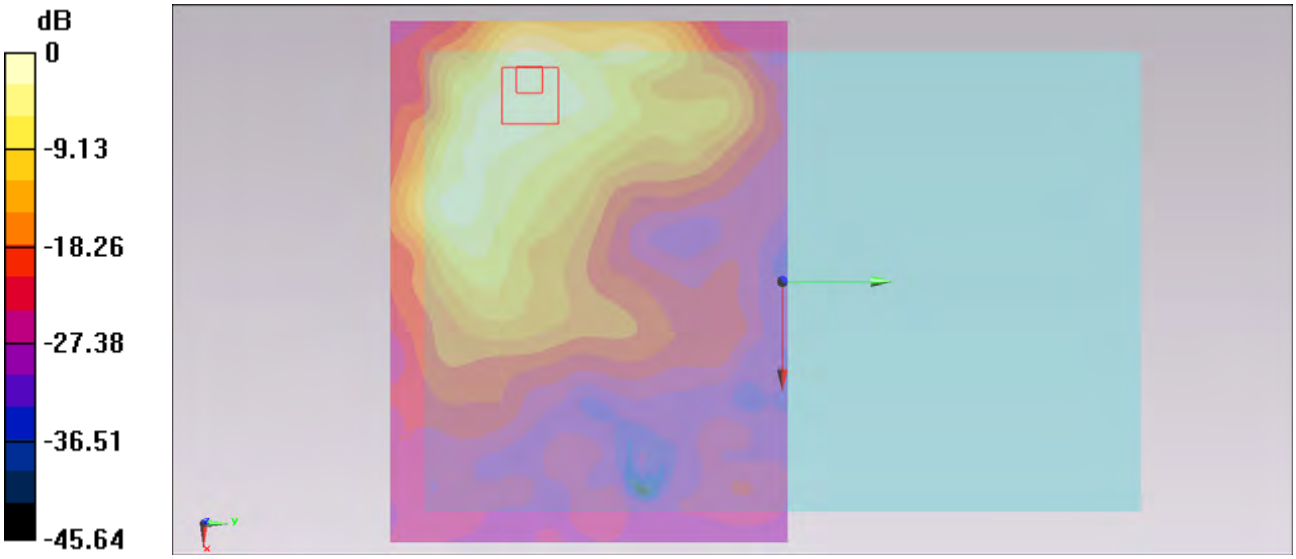
#35 GSM1900_GPRS10_Bottom Face_0cm_Ch810_Volume

DUT: 291115; Type: GSM Mobile Phone; Serial

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:4.00037; PMF: 2.00009
Medium: MSL_1900_110920 Medium parameters used: f = 1910 MHz; σ = 1.509 mho/m; ε_r = 53.209; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: ET3DV6R - SN1788; ConvF(4.06, 4.06, 4.06); Calibrated: 2012/1/26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2)

Multi Band Result:
SAR(1 g) = 1.38 mW/g; SAR(10 g) = 0.737 mW/g
Maximum value of SAR (interpolated) = 2.51 mW/g



0 dB = 2.51 mW/g = 7.99 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/25

#39 WLAN2.4G_802.11b_Bottom Face_0cm_Ch6_Volume

DUT: 291115; Type: GSM Mobile Phone; Serial

Communication System: 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1.12202e-005
Medium: MSL_2450_120925 Medium parameters used: f = 2437 MHz; σ = 1.951 mho/m; ε_r = 52.324; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: EX3DV4 - SN3578; ConvF(6.43, 6.43, 6.43); Calibrated: 2012/6/21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2)

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/20

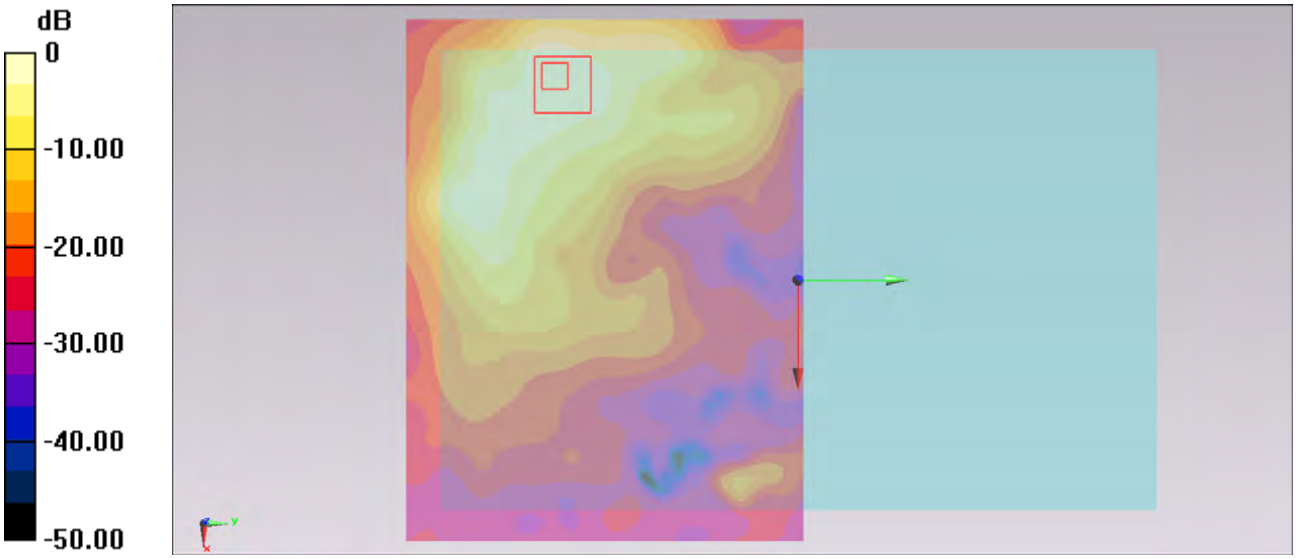
#36 WCDMA II_RMC12.2K_Bottom Face_0cm_Ch9262_Volume

DUT: 291115; Type: GSM Mobile Phone; Serial

Communication System: WCDMA; Frequency: 1852.4 MHz; Duty Cycle: 1:1; PMF: 1
Medium: MSL_1900_110920 Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.463 mho/m; ε_r = 53.483; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: ET3DV6R - SN1788; ConvF(4.06, 4.06, 4.06); Calibrated: 2012/1/26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2)

Multi Band Result:
SAR(1 g) = 1.26 mW/g; SAR(10 g) = 0.693 mW/g
Maximum value of SAR (interpolated) = 2.23 mW/g



0 dB = 2.23 mW/g = 6.97 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/25

#39 WLAN2.4G_802.11b_Bottom Face_0cm_Ch6_Volume

DUT: 291115; Type: GSM Mobile Phone; Serial

Communication System: 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1.12202e-005
Medium: MSL_2450_120925 Medium parameters used: f = 2437 MHz; σ = 1.951 mho/m; ε_r = 52.324; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: EX3DV4 - SN3578; ConvF(6.43, 6.43, 6.43); Calibrated: 2012/6/21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2)

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/20

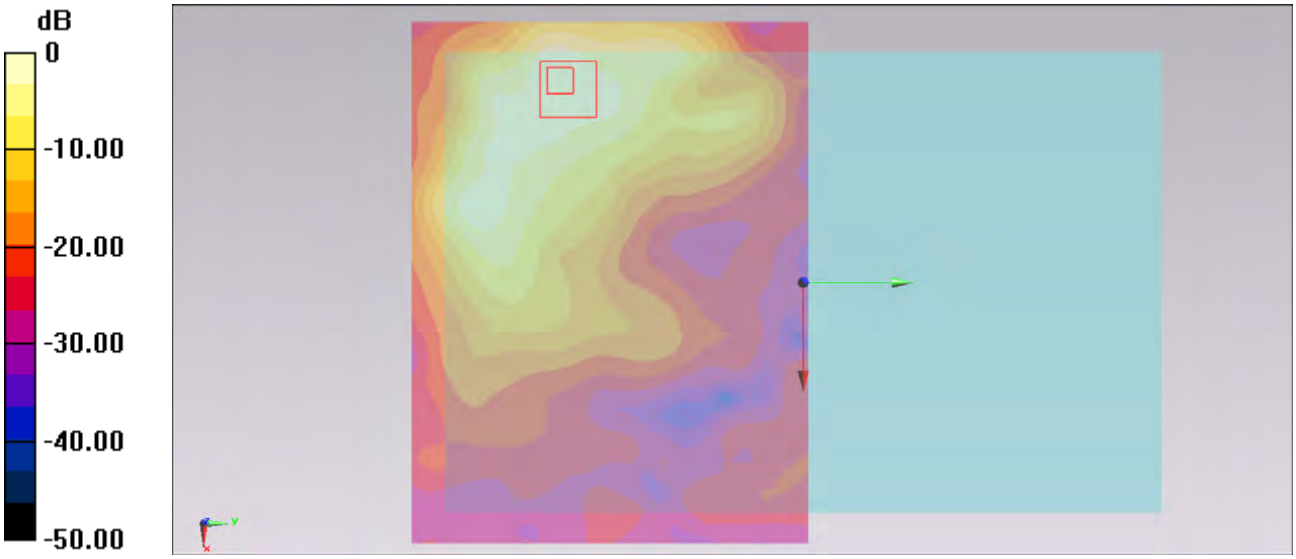
#37 WCDMA II_RMC12.2K_Bottom Face_0cm_Ch9400_Volume

DUT: 291115; Type: GSM Mobile Phone; Serial

Communication System: WCDMA; Frequency: 1880 MHz; Duty Cycle: 1:1; PMF: 1
Medium: MSL_1900_110920 Medium parameters used: f = 1880 MHz; σ = 1.484 mho/m; ε_r = 53.379; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: ET3DV6R - SN1788; ConvF(4.06, 4.06, 4.06); Calibrated: 2012/1/26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2)

Multi Band Result:
SAR(1 g) = 1.41 mW/g; SAR(10 g) = 0.770 mW/g
Maximum value of SAR (interpolated) = 2.51 mW/g



0 dB = 2.51 mW/g = 7.99 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/25

#39 WLAN2.4G_802.11b_Bottom Face_0cm_Ch6_Volume

DUT: 291115; Type: GSM Mobile Phone; Serial

Communication System: 802.11b; Frequency: 2437 MHz; Duty Cycle: 1:1; PMF: 1.12202e-005
Medium: MSL_2450_120925 Medium parameters used: f = 2437 MHz; σ = 1.951 mho/m; ε_r = 52.324; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: EX3DV4 - SN3578; ConvF(6.43, 6.43, 6.43); Calibrated: 2012/6/21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2)

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/20

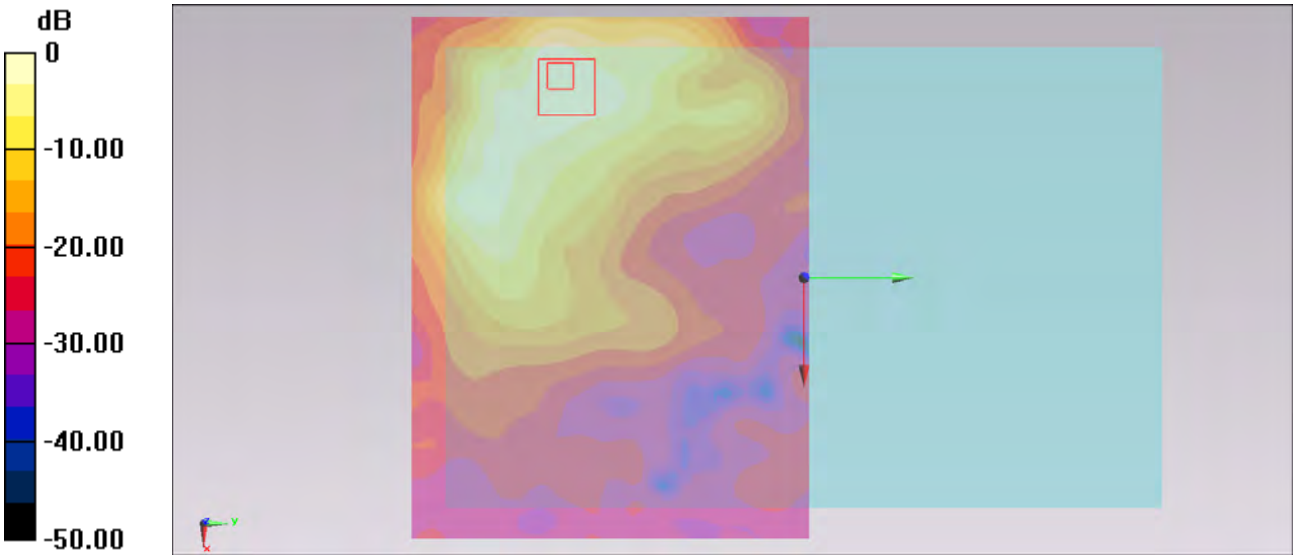
#38 WCDMA II_RMC12.2K_Bottom Face_0cm_Ch9538_Volume

DUT: 291115; Type: GSM Mobile Phone; Serial

Communication System: WCDMA; Frequency: 1907.6 MHz; Duty Cycle: 1:1; PMF: 1
Medium: MSL_1900_110920 Medium parameters used: f = 1908 MHz; σ = 1.507 mho/m; ε_r = 53.218; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: ET3DV6R - SN1788; ConvF(4.06, 4.06, 4.06); Calibrated: 2012/1/26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2)

Multi Band Result:
SAR(1 g) = 1.38 mW/g; SAR(10 g) = 0.746 mW/g
Maximum value of SAR (interpolated) = 2.48 mW/g



0 dB = 2.48 mW/g = 7.89 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/26

#41 WLAN5G_802.11a_Bottom Face_0cm_Ch165_Volume

DUT: 291115

Communication System: 802.11a; Frequency: 5825 MHz; Duty Cycle: 1:1; PMF: 1
Medium: MSL_5G_120926 Medium parameters used (interpolated): f = 5825 MHz; σ = 6.153 mho/m; ε_r = 47.051; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/6/21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2)

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/21

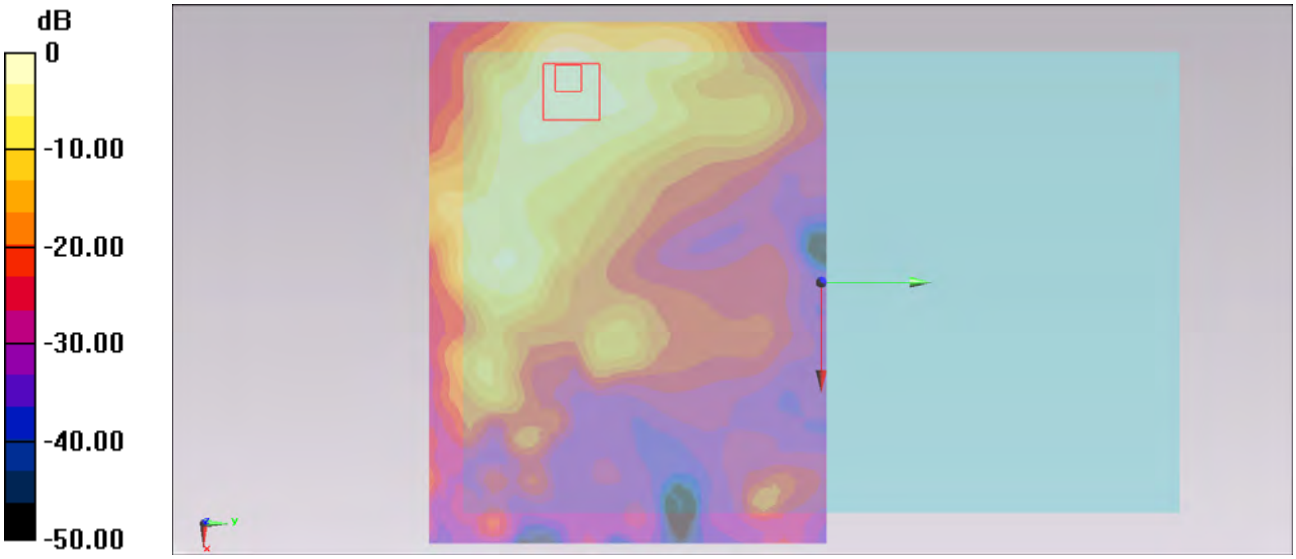
#35 GSM1900_GPRS10_Bottom Face_0cm_Ch810_Volume

DUT: 291115

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:4.00037; PMF: 2.00009
Medium: MSL_1900_110920 Medium parameters used: f = 1910 MHz; σ = 1.509 mho/m; ε_r = 53.209; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: ET3DV6R - SN1788; ConvF(4.06, 4.06, 4.06); Calibrated: 2012/1/26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2)

Multi Band Result:
SAR(1 g) = 1.39 mW/g; SAR(10 g) = 0.726 mW/g
Maximum value of SAR (interpolated) = 2.58 mW/g



0 dB = 2.58 mW/g = 8.23 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/26

#41 WLAN5G_802.11a_Bottom Face_0cm_Ch165_Volume

DUT: 291115

Communication System: 802.11a; Frequency: 5825 MHz; Duty Cycle: 1:1; PMF: 1
Medium: MSL_5G_120926 Medium parameters used (interpolated): f = 5825 MHz; σ = 6.153 mho/m; ε_r = 47.051; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/6/21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2)

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/20

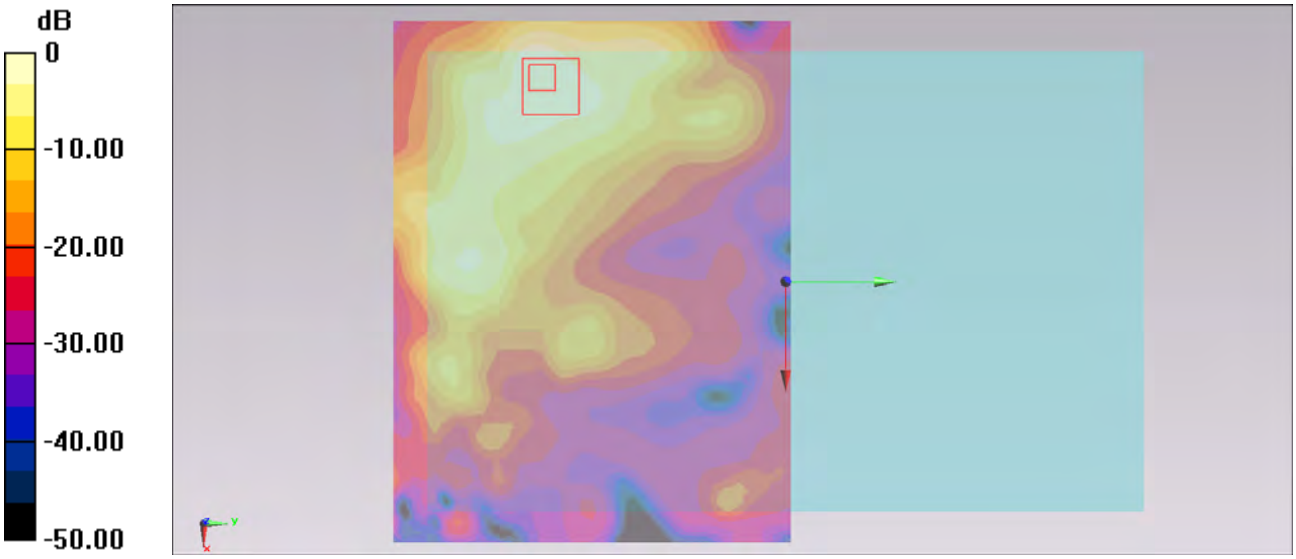
#37 WCDMA II_RMC12.2K_Bottom Face_0cm_Ch9400_Volume

DUT: 291115

Communication System: WCDMA; Frequency: 1880 MHz; Duty Cycle: 1:1; PMF: 1
Medium: MSL_1900_110920 Medium parameters used: f = 1880 MHz; σ = 1.484 mho/m; ε_r = 53.379; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: ET3DV6R - SN1788; ConvF(4.06, 4.06, 4.06); Calibrated: 2012/1/26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2)

Multi Band Result:
SAR(1 g) = 1.42 mW/g; SAR(10 g) = 0.764 mW/g
Maximum value of SAR (interpolated) = 2.57 mW/g



0 dB = 2.57 mW/g = 8.20 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/26

#41 WLAN5G_802.11a_Bottom Face_0cm_Ch165_Volume

DUT: 291115

Communication System: 802.11a; Frequency: 5825 MHz; Duty Cycle: 1:1; PMF: 1
Medium: MSL_5G_120926 Medium parameters used : f = 5825 MHz; σ = 6.153 mho/m; ε_r = 47.051; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: EX3DV4 - SN3578; ConvF(3.43, 3.43, 3.43); Calibrated: 2012/6/21;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: ELI 4.0_Front; Type: QDOVA001BB; Serial: 1026
- Measurement SW: DASY52, Version 52.8 (2)

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/9/20

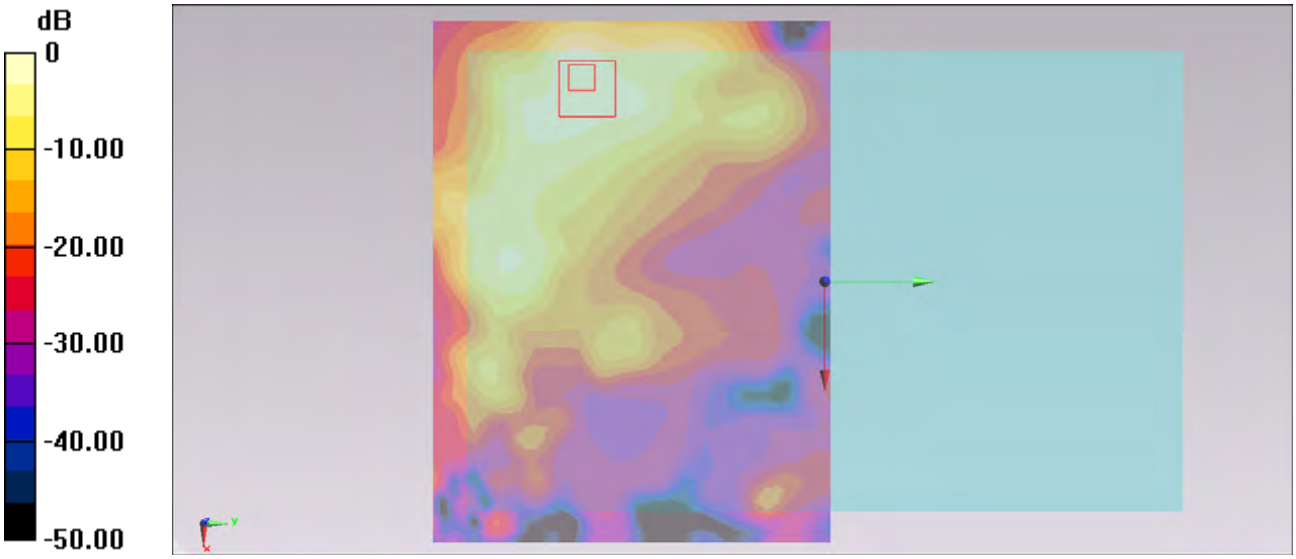
#38 WCDMA II_RMC12.2K_Bottom Face_0cm_Ch9538_Volume

DUT: 291115

Communication System: WCDMA; Frequency: 1907.6 MHz; Duty Cycle: 1:1; PMF: 1
Medium: MSL_1900_110920 Medium parameters used: f = 1908 MHz; σ = 1.507 mho/m; ε_r = 53.218; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

- Probe: ET3DV6R - SN1788; ConvF(4.06, 4.06, 4.06); Calibrated: 2012/1/26;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: ELI v5.0; Type: QDOVA002AA; Serial: TP1127
- Measurement SW: DASY52, Version 52.8 (2)

Multi Band Result:
SAR(1 g) = 1.39 mW/g; SAR(10 g) = 0.737 mW/g
Maximum value of SAR (interpolated) = 2.52 mW/g



0 dB = 2.52 mW/g = 8.03 dB mW/g

Appendix C. DASY Calibration Certificate

The DASY calibration certificates are shown as follows.