FCC SAR Test Report

APPLICANT	:	SAMSUNG Electronics Co., LTD.
EQUIPMENT	:	Mobile Phone
BRAND NAME	:	Samsung
MODEL NAME	:	SCH-W2013
MARKETING NAME	:	Grande
FCC ID	:	A3LSCHW2013
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 completely tested on Nov. 23, 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

Table of Contents

1. Statement of Compliance 4
2. Administration Data 5
2.1 Testing Laboratory 5
2.2 Applicant 5
2.3 Manufacturer 5
2.4 Application Details 5
3. General Information 6
3.1 Description of Equipment Under Test (EUT) 6
3.2 Applied Standard 7
3.3 Device Category and SAR Limits 7
3.4 Test Conditions 7
4. Specific Absorption Rate (SAR) 8
4.1 Introduction 8
4.2 SAR Definition 8
5. SAR Measurement System 9
5.1 E-Field Probe 10
5.2 Data Acquisition Electronics (DAE) 11
5.3 Robot 11
5.4 Measurement Server 11
5.5 Phantom 12
5.6 Device Holder 13
5.7 Data Storage and Evaluation 14
5.8 Test Equipment List 16
6. Tissue Simulating Liquids 17
7. SAR Measurement Evaluation 19
7.1 Purpose of System Performance check 19
7.2 System Setup 19
7.3 SAR System Verification Results 20
8. EUT Testing Position 21
8.1 Define two imaginary lines on the handset 21
8.2 Cheek Position 22
8.3 Tilted Position 22
8.4 Body Worn Position 23
9. Measurement Procedures 24
9.1 Spatial Peak SAR Evaluation 24
9.2 Area & Zoom Scan Procedures 25
9.3 Volume Scan Procedures 25
9.4 SAR Averaged Methods 25
9.5 Power Drift Monitoring 25
10. SAR Test Configurations 26
10.1 Exposure Positions Consideration 26
10.2 Conducted RF Output Power (Unit: dBm) 29
11. SAR Test Results 32
11.1 Test Records for Head SAR Test 32
11.2 Test Records for Body-worn SAR Test 34
11.3 Simultaneous Multi-band Transmission Analysis 35
12. Uncertainty Assessment 37
13. References 40

Appendix A. Plots of System Performance Check
Appendix B. Plots of SAR Measurement
Appendix C. DASY Calibration Certificate

Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA2O0932	Rev. 01	Initial issue of report	Oct. 30, 2012
FA2O0932	Rev. 02	1. Remove hotspot SAR and scaled SAR. 2. Due to hotspot SAR removal, body worn without headset SAR data was added. 3. Add antenna location in Flip-Open mode in section 10.1, page 26. 4. Add WWAN body SAR for cheek position head SAR near the jaw region	Nov. 23, 2012

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **SAMSUNG Electronics Co., LTD. Mobile Phone, Samsung, SCH-W2013, Grande** are as follows.

<Standalone SAR>

Band	Position	SAR_{1g} (W/kg)
GSM1900	Head	0.166
CDMA2000 BC0	Head	0.231
CDMA2000 BC1	Head	0.048
WLAN 2.4G	Head	0.019
WLAN 5G	Head	0.152
GSM1900	Body-worn (1 cm Gap)	0.501
CDMA2000 BC0	Body-worn (1 cm Gap)	0.787
CDMA2000 BC1	Body-worn (1 cm Gap)	0.54
WLAN 2.4G	Body-worn (1 cm Gap)	0.222
WLAN 5G	Body-worn (1 cm Gap)	0.489

<Highest Simultaneous transmission SAR>

Band	Position	Multi-Band SAR_{1g} (W/kg)
GSM 1900	Right Tilted	0.32
WLAN 5G		
Band	**Position**	**Multi-Band SAR_{1g} (W/kg)**
CDMA BC0	Body-worn (1 cm Gap)	1.28
WLAN 5G		

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	SAMSUNG Electronics Co., LTD.
Address	IT center, 416, Maetan-3dong, Yeongtong-gu, Suwon-city, Gyeonggi-do, Korea

2.3 Manufacturer

Company Name	SAMSUNG Electronics Co., LTD.
Address	IT center, 416, Maetan-3dong, Yeongtong-gu, Suwon-city, Gyeonggi-do, Korea

2.4 Application Details

Date of Start during the Test	Oct. 15, 2012
Date of End during the Test	Nov. 23, 2012

3. General Information

3.1 Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT	Mobile Phone
Brand Name	Samsung
Model Name	SCH-W2013
Marketing Name	Grande
FCC ID	A3LSCHW2013
Tx Frequency	GSM1900: 1850.2 MHz ~ 1909.8 MHz CDMA2000 BC0 : 824.70 MHz ~ 848.31 MHz CDMA2000 BC1 : 1851.25 MHz ~ 1908.75 MHz WLAN2.4G: 2412 MHz ~ 2462 MHz WLAN5G: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz; 5500 MHz ~ 5700 MHz; 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Maximum Average Output Power to Antenna	GSM1900: 30.74 dBm CDMA2000 BC0 : 25.82 dBm CDMA2000 BC1 : 25.77 dBm 802.11b: 17.37 dBm 802.11g: 14.20 dBm 802.11n-HT20 (2.4GHz) : 12.13 dBm 802.11a : 14.42 dBm 802.11n-HT20 (5GHz) : 12.47 dBm Bluetooth: 10.76 dBm
Antenna Type	WWAN: IMA Antenna WLAN: FPCB Antenna Bluetooth: FPCB Antenna
HW Version	W2013.05
SW Version	W2013KELG4
Uplink Modulations	GSM: GMSK GPRS: GMSK EDGE: GMSK / 8PSK CDMA2000 : QPSK 802.11b: DSSS (BPSK / QPSK / CCK) 802.11a/g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth : GFSK Bluetooth EDR : π/4-DQPSK, 8-DPSK Bluetooth 4.0 LE: GFSK
Dual Transfer Mode (DTM) Category	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype
Remark: 1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description. 2. 5600 MHz ~ 5650 MHz is notched. 3. Mobile hotspot is not supported for US bands.	

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 648474 D01 v01r05
- 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

The device was controlled by using a base station emulator. Communication between the device and the emulator was established by air link. The distance between the EUT and the antenna of the emulator is larger than 50 cm and the output power radiated from the emulator antenna is at least 30 dB smaller than the output power of EUT. The EUT was set from the emulator to radiate maximum output power during all tests.

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

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

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

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

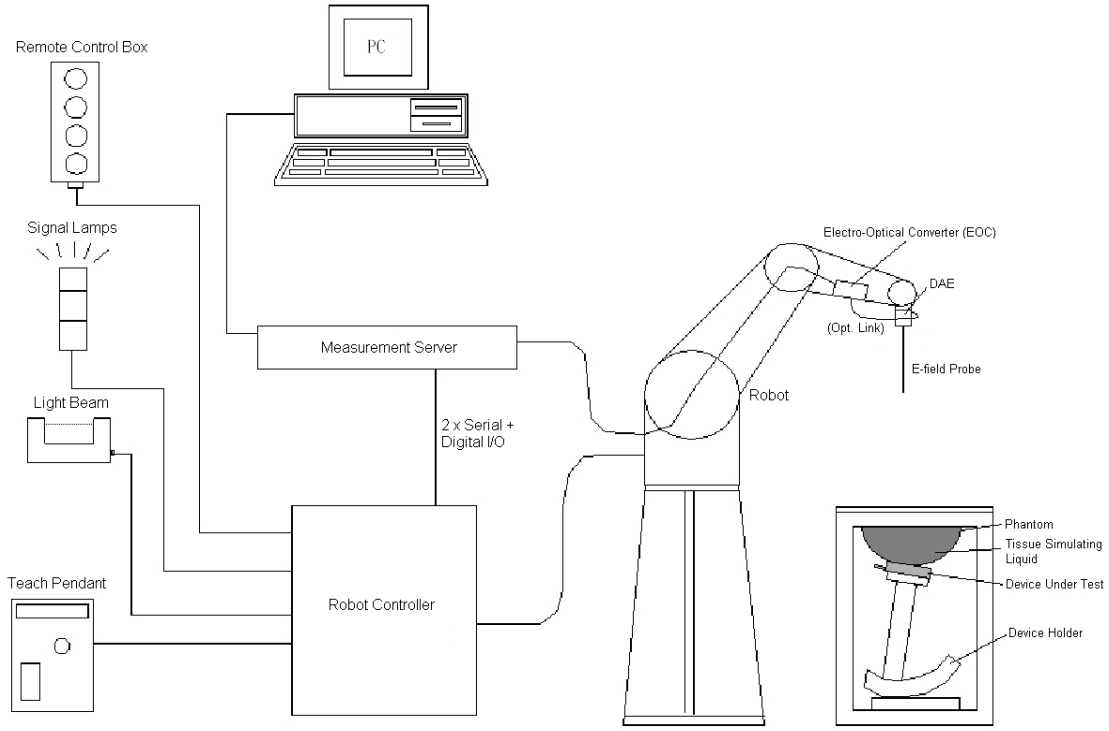


Fig 5.1 SPEAG DASY System Configurations

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

Component details are described in 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/EX3DV3 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

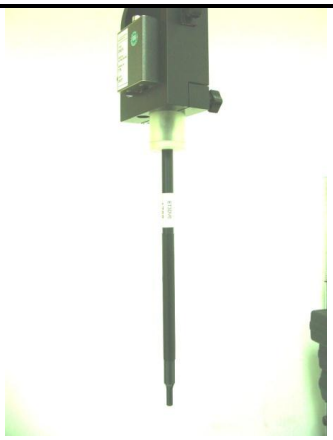


Fig 5.2 Photo of ET3DV6/ET3DV6/EX3DV3

<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 with accuracy better than ± 10%. The spherical isotropy shall be evaluated and within ± 0.25dB. The sensitivity parameters (NormX, NormY, and NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested. The calibration data can be referred to appendix C of this report.

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)

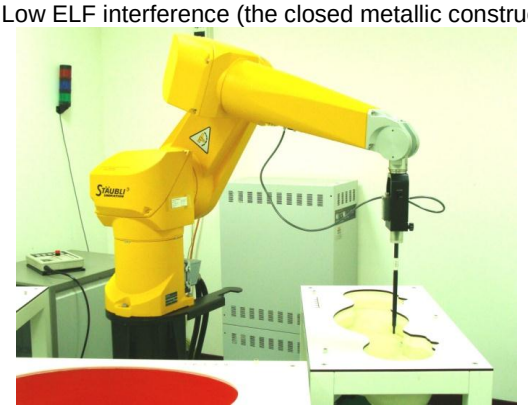


Fig 5.5 Photo of DASY4

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.

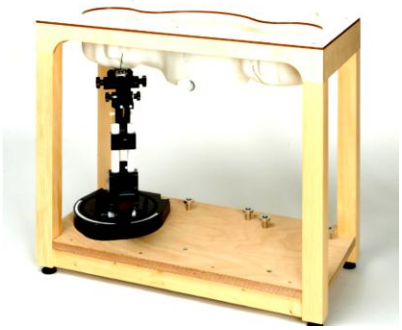
The measurement server performs all the real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operations.

Fig 5.7 Photo of Server for DASY4

Fig 5.8 Photo of Server for DASY5

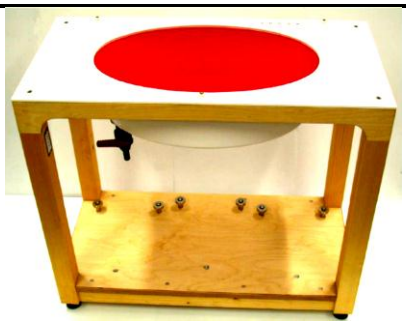
5.5 Phantom

<SAM Twin Phantom>

Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm	 **Fig 5.9 Photo of SAM Phantom**
Filling Volume	Approx. 25 liters	
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet	
Measurement Areas	Left Hand, Right Hand, Flat 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%)	 **Fig 5.10 Photo of ELI4 Phantom**
Filling Volume	Approx. 30 liters	
Dimensions	Major ellipse axis: 600 mm Minor axis: 400 mm	

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.

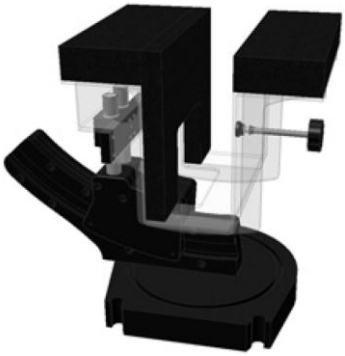


Fig 5.12 Laptop Extension Kit

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	915	Jun. 21, 2012	Jun. 20, 2013
SPEAG	Data Acquisition Electronics	DAE3	577	Jun. 06, 2012	Jun. 05, 2013
SPEAG	Data Acquisition Electronics	DAE4	1338	Jun. 12, 2012	Jun. 11, 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	Data Acquisition Electronics	DAE4	495	Apr. 23, 2012	Apr. 22, 2013
SPEAG	Dosimetric E-Field Probe	ES3DV3	3270	Sep. 28, 2012	Sep. 27, 2013
SPEAG	Dosimetric E-Field Probe	ET3DV6	1787	May 29, 2012	May 28, 2013
SPEAG	Dosimetric E-Field Probe	EX3DV4	3697	Sep. 28, 2012	Sep. 27, 2013
SPEAG	Dosimetric E-Field Probe	ET3DV6R	1788	Oct. 23, 2012	Oct. 22, 2013
SPEAG	Dosimetric E-Field Probe	EX3DV4	3792	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. 13, 2012	Nov. 12, 2013
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 P41 C	TP-1150	NCR	NCR
SPEAG	SAM Phantom	QD 000 P40 CD	TP-1644	NCR	NCR
SPEAG	SAM Phantom	QD 000 P40 CD	TP-1718	NCR	NCR
SPEAG	SAM Phantom	QD 000 P40 CD	TP-1719	NCR	NCR
SPEAG	SAM Phantom	SM 000 T01 DA	TP-1542	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. 02, 2012	Oct. 01, 2013
Anritsu	Power Meter	ML2495A	1132003	Aug. 14, 2012	Aug. 13, 2013
Agilent	Wireless Communication Test Set	E5515C	MY48360820	Jan. 05, 2012	Jan. 04, 2014
R&S	Universal Digital Radiocommunication Tester	CMU200	114256	Jun. 29, 2012	Jun. 28, 2013
Agilent	Dual Directional Coupler	778D	50422	NCR	NCR
Woken	Attenuator	WK0602-XX	N/A	NCR	NCR
AR	Power Amplifier	5S1G4M2	0328767	NCR	NCR
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, and 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.

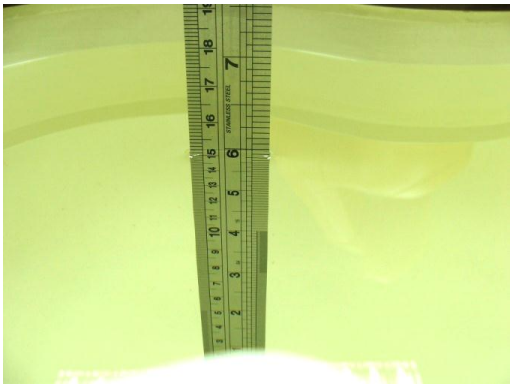


Fig 6.1 Photo of Liquid Height for Head SAR

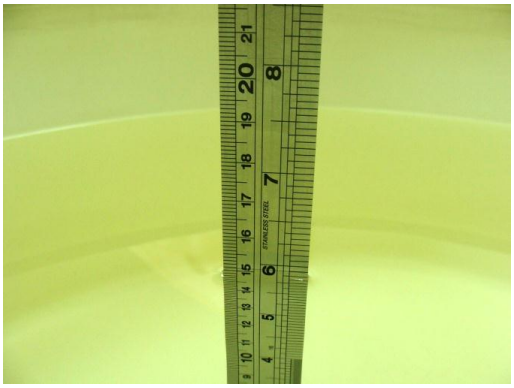


Fig 6.2 Photo of Liquid Height for Body SAR

The following table gives the recipes for tissue simulating liquid.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (ε_r)
For Head								
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
For Body								
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	Head	21.4	0.906	43	0.9	41.5	0.67	3.61	±5	2012/10/26
835	Head	21.6	0.918	41.074	0.9	41.5	2.00	-1.03	±5	2012/11/12
835	Body	21.4	0.977	53.183	0.97	55.2	0.72	-3.65	±5	2012/10/26
835	Body	21.6	0.963	53.6	0.97	55..2	-0.72	-2.90	±5	2012/11/23
1900	Head	21.3	1.43	39	1.4	40	2.14	-2.50	±5	2012/10/26
1900	Head	21.5	1.448	38.176	1.4	40	3.43	-4.56	±5	2012/11/12
1900	Body	21.4	1.544	51.591	1.52	53.3	1.58	-3.21	±5	2012/10/25
1900	Body	21.2	1.53	52.9	1.52	53.3	0.66	-0.75	±5	2012/11/23
2450	Head	21.6	1.841	38.166	1.8	39.2	2.28	-2.64	±5	2012/10/16
2450	Body	21.4	1.965	52.764	1.95	52.7	0.77	0.12	±5	2012/10/15
5200	Head	21.9	4.786	35.413	4.66	36.0	2.70	-1.63	±5	2012/10/19
5200	Head	21.4	4.795	35.457	4.66	36	2.90	-1.51	±5	2012/10/20
5200	Body	21.3	5.279	48.534	5.3	49	-0.40	-0.95	±5	2012/10/18
5200	Body	21.4	5.257	47.536	5.3	49	-0.81	-2.99	±5	2012/10/20
5500	Head	21.5	5.098	34.942	4.96	35.6	2.78	-1.85	±5	2012/10/19
5500	Body	21.3	5.717	47.955	5.65	48.6	1.19	-1.33	±5	2012/10/18
5800	Head	21.7	5.381	34.353	5.27	35.3	2.11	-2.68	±5	2012/10/19
5800	Body	21.5	5.939	46.527	6	48.2	-1.02	-3.47	±5	2012/10/18

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:

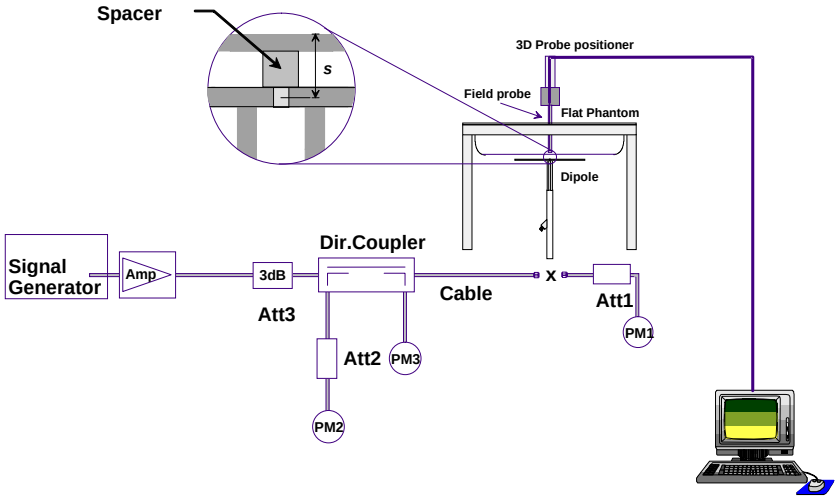


Fig 7.1 System Setup for System Evaluation **Fig 7.2 Photo of Dipole Setup**

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 SAR System Verification Results

Comparing to the original SAR value provided by SPEAG, the verification 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 (%)
2012/10/26	835	Head	9.71	2.33	9.32	-4.02
2012/11/12	835	Head	9.71	2.37	9.48	-2.37
2012/10/26	835	Body	9.82	2.45	9.80	-0.20
2012/11/23	835	Body	9.82	2.36	9.44	-3.87
2012/10/26	1900	Head	39.8	9.79	39.16	-1.61
2012/11/12	1900	Head	39.8	10.3	41.20	3.52
2012/10/25	1900	Body	40	10.4	41.60	4.00
2012/11/23	1900	Body	40	9.97	39.88	-0.30
2012/10/16	2450	Head	54.8	14.4	57.60	5.11
2012/10/15	2450	Body	52.3	13.8	55.20	5.54
2012/10/19	5200	Head	79.2	20.7	82.80	4.55
2012/10/20	5200	Head	79.2	20.9	83.60	5.56
2012/10/18	5200	Body	72.6	16.8	67.20	-7.44
2012/10/20	5200	Body	72.6	16.7	66.80	-7.99
2012/10/19	5500	Head	85.2	21.2	84.80	-0.47
2012/10/18	5500	Body	78.8	19	76.00	-3.55
2012/10/19	5800	Head	79	20.4	81.60	3.29
2012/10/18	5800	Body	73.1	17.7	70.80	-3.15

Table 7.1 Target and Measurement SAR after Normalized

8. EUT Testing Position

8.1 Define two imaginary lines on the handset

(a) The vertical centerline passes through two points on the front side of the handset - the midpoint of the width w_t of the handset at the level of the acoustic output, and the midpoint of the width w_b of the bottom of the handset.

(b) The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.

(c) The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.

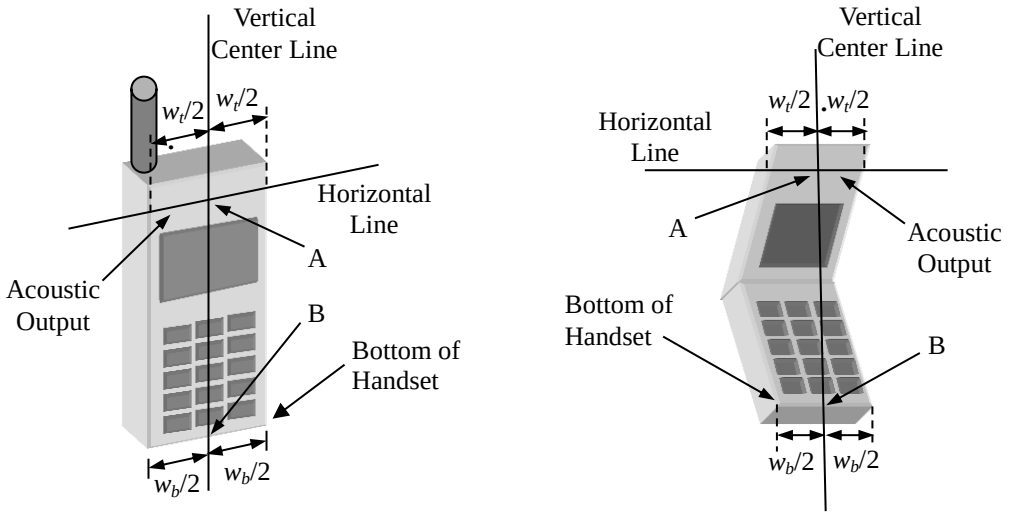


Fig 8.1 Illustration for Handset Vertical and Horizontal Reference Lines

8.2 Cheek Position

(a) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the three ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.

(b) To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost (see Fig. 8.2).

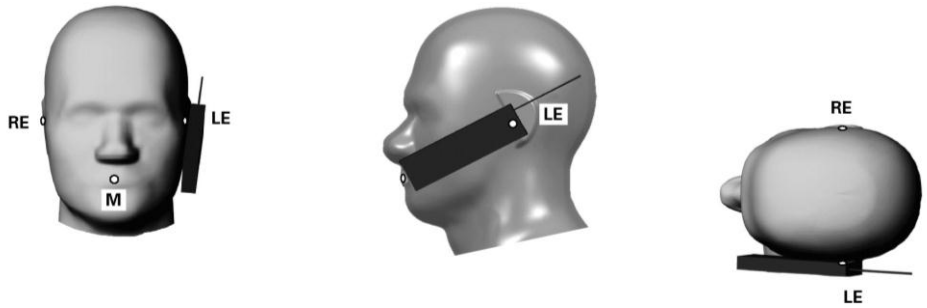


Fig 8.2 Illustration for Cheek Position

8.3 Tilted Position

(a) To position the device in the “cheek” position described above.

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

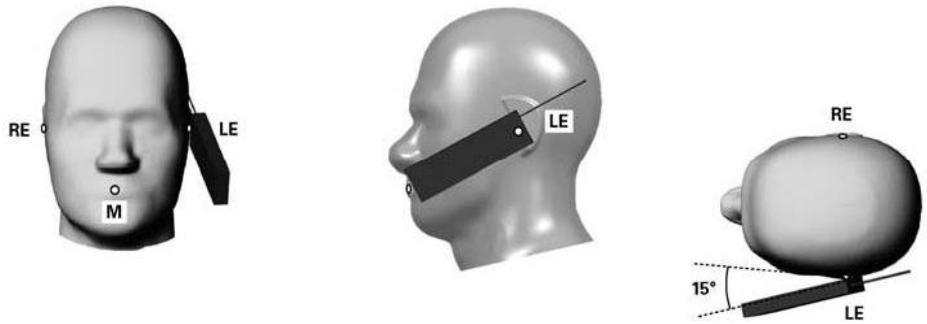


Fig 8.3 Illustration for Tilted Position

8.4 Body Worn Position

(a) To position the device parallel to the phantom surface with either keypad up or down.
(b) To adjust the device parallel to the flat phantom.
(c) To adjust the distance between the device surface and the flat phantom to 1 cm.

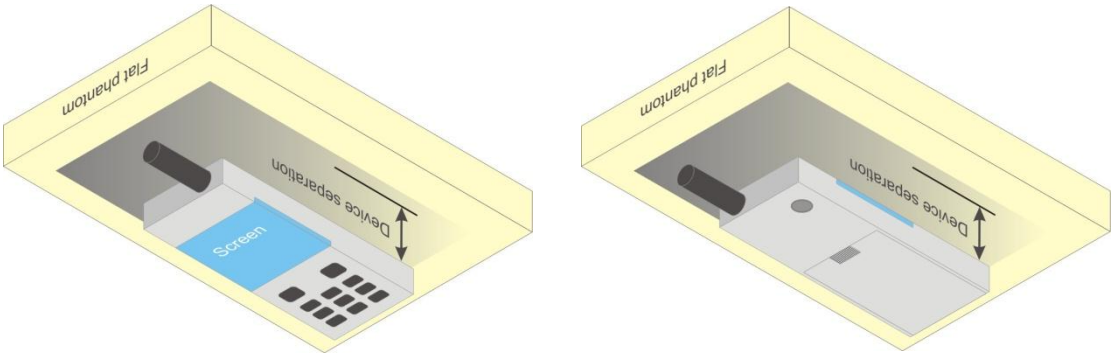


Fig 8.4 Illustration for Body Worn Position

9. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

(a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
(b) Set scan area, grid size and other setting on the DASY software.
(c) Measure SAR results for the highest power channel on each testing position.
(d) Find out the largest SAR result on these testing positions of each band
(e) 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.

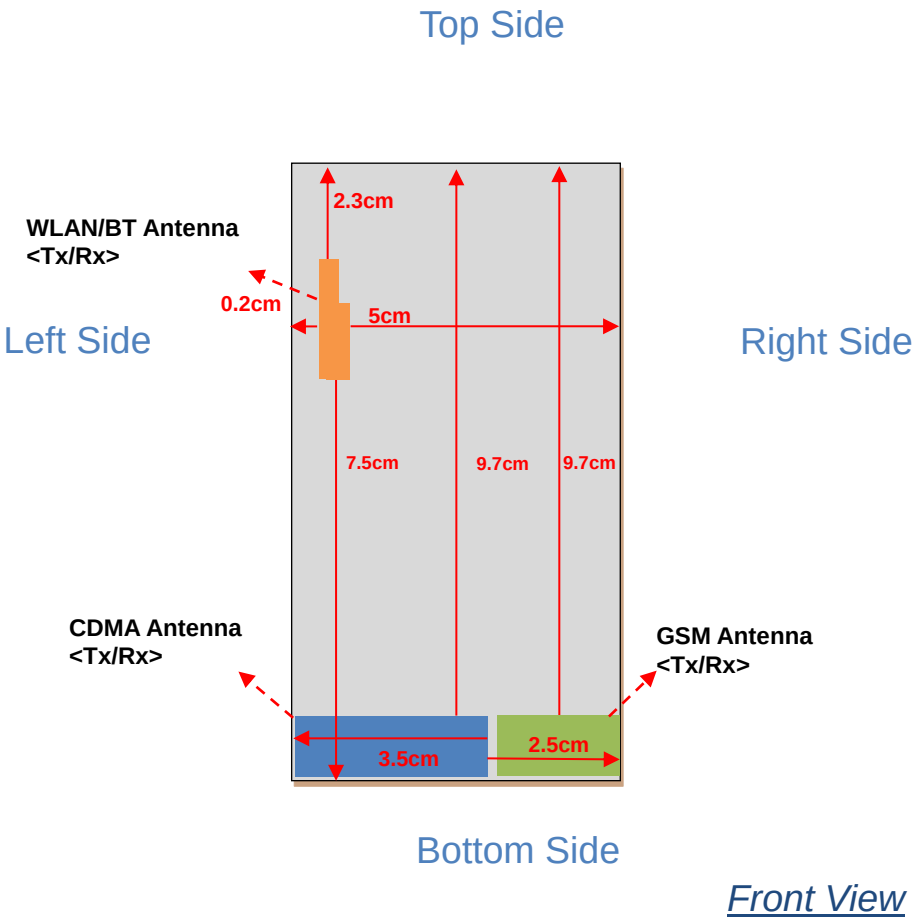
9.5 Power Drift Monitoring

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

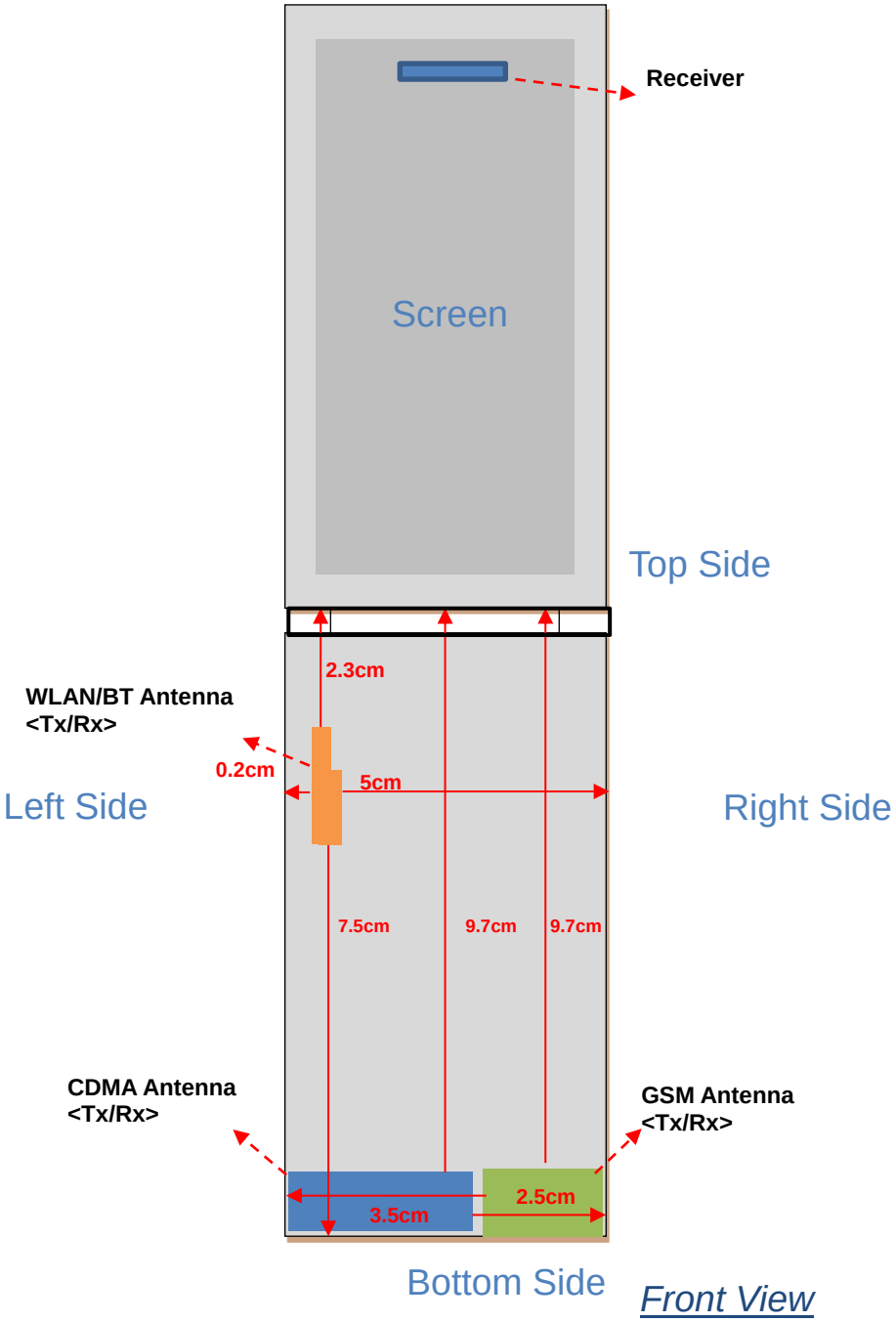
10.1 Exposure Positions Consideration

<Flip-Close Mode>



Front View

<Flip-Open Mode>



Antennas	Wireless Interface
GSM Antenna (Tx / Rx)	GSM1900
CDMA Antenna (Tx / Rx)	CDMA2000 BC0 CDMA2000 BC1
BT&WLAN Antenna (Tx / Rx)	WLAN 2.4GHz WLAN 5GHz Bluetooth

Note:

1. Head SAR was tested in flip-open mode , since the receiver is located on the top of the screen and only accessible in flip-open mode,
2. Body-worn SAR was tested in flip-close mode for normal usage scenario.
3. WLAN and BT shares the same antenna and cannot transmit simultaneously by design
4. Per KDB 648474 D01, Bluetooth maximum average output power 10.76 dBm ≤ $2*P_{Ref}$, while $2*P_{Ref}$ = 13.8dBm, and the distance to other antennas ≥ 5cm, therefore stand-alone SAR and simultaneous transmission consideration is not required.

10.2 Conducted RF Output Power (Unit: dBm)

<GSM Conducted Power>

Band: GSM1900	Burst Average Power (dBm)			Frame-Average Power (dBm)		
Channel	512	661	810	512	661	810
Frequency (MHz)	1850.2	1880.0	1909.8	1850.2	1880.0	1909.8
GSM (GMSK, 1 Tx slot)	30.43	30.62	30.74	21.43	21.62	21.74
GPRS (GMSK, 1 Tx slot) – CS1	30.42	30.61	30.73	21.42	21.61	21.73
GPRS (GMSK, 2 Tx slots) – CS1	27.62	27.84	27.99	21.62	21.84	21.99
EDGE (GMSK, 1 Tx slot) – MCS1	30.41	30.60	30.68	21.41	21.60	21.68
EDGE (GMSK, 2 Tx slots) – MCS1	27.65	27.84	27.95	21.65	21.84	21.95
EDGE (8PSK, 1 Tx slot) – MCS5	27.01	27.18	27.27	18.01	18.18	18.27
EDGE (8PSK, 2 Tx slots) – MCS5	26.96	27.14	27.24	20.96	21.14	21.24

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

Note:

1. For Head SAR testing, Chosen GSM due to its voice mode.
2. For Body-worn SAR testing, Chosen GPRS 2TX slots due to its highest frame-average power
3. Per KDB 648474, the maximum output power channel is used for SAR testing and for further SAR test reduction.
4. The EUT do not support DTM function.

<CDMA2000 Conducted Power>

Band	CDMA2000 BC0			CDMA2000 BC1		
Channel	1013	384	777	25	600	1175
Frequency (MHz)	824.70	836.52	848.31	1851.25	1880.00	1908.75
1xRTT RC1+SO55	25.75	25.82	25.80	25.18	25.03	24.28
1xRTT RC3+SO55	25.71	25.77	25.58	25.15	24.86	24.22
1xRTT RC3+SO32 (FCH)	25.71	25.77	25.55	25.12	24.87	24.27
1xRTT RC3+SO32 (FCH+SCH)	25.69	25.72	25.41	25.06	24.81	24.26
1xEVDO RTAP 153.6	24.93	25.23	24.95	25.62	24.98	24.07
1xEVDO RETAP 4096	25.00	25.08	25.04	25.77	25.15	24.54

Note:

1. According to KDB 941225 D01, Head SAR for RC1+SO55 is not required because the maximum average output power of RC1 is less than 1/4 dB higher than RC3+SO55.
2. Referring to KDB 941225 D01, the CDMA Handset Body-worn SAR tests based on RC3+SO32. RC1, RTAP (REV 0), and RETAP (Rev A) power are all less than 1/4 dB higher than RC3, thus SAR tests in these mode are not necessary.
3. CDMA Rev.A SAR was additionally tested at the worst position of 1xRTT SAR, to address compliance of VOIP application.

<WLAN 2.4GHz Conducted Power>

WLAN 2.4G 802.11b Average Power (dBm)						
Power vs. Channel			Power vs. Data Rate			
Channel	Frequency (MHz)	Data Rate (bps)	Channel	Data Rate (bps)		
		1M		2M	5.5M	11M
CH 01	2412	17.22	CH 6	17.14	17.36	17.33
CH 06	2437	**17.37**				
CH 11	2462	17.03				

WLAN 2.4G 802.11g Average Power (dBm)										
Power vs. Channel			Power vs. Data Rate							
Channel	Frequency (MHz)	Data Rate (bps)	Channel	Data Rate (bps)						
		6M		9M	12M	18M	24M	36M	48M	54M
CH 01	2412	14.16	CH 6	14.19	14.18	14.18	14.18	14.19	14.17	14.17
CH 06	2437	**14.20**								
CH 11	2462	13.92								

WLAN 2.4G 802.11n (BW 20MHz) Average Power (dBm)										
Power vs. Channel			Power vs. Data Rate							
Channel	Frequency (MHz)	MCS Index	Channel	MCS Index						
		MCS0		MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 01	2412	**12.13**	CH 1	12.02	12.09	12.12	12.12	12.10	12.12	12.11
CH 06	2437	12.05								
CH 11	2462	11.70								

Note:

1. Per KDB 248227, choose the highest output power channel to test SAR and determine further SAR exclusion
2. Per KDB 248227, 11g and 11n-HT20 output power is less than 0.25dB higher than 11b mode, thus the SAR can be excluded.
3. For each frequency band, testing at higher data rates and higher order modulations is not required when the maximum average output power for each of these configurations is less than 0.25dB higher than those measured at the lowest data rate.

<Bluetooth Conducted Power>

Channel	Frequency (MHz)	Average power (dBm)		
		Mode		
		GFSK	π/4-DQPSK	8-DPSK
CH 0	2402	10.08	8.66	8.84
CH 39	2441	10.64	8.69	8.68
CH 78	2480	**10.76**	8.33	8.34

Channel	Frequency (MHz)	Average power (dBm)
		Mode
		BT v4.0 LE, GFSK
CH 0	2402	5.92
CH 19	2440	6.20
CH 39	2480	6.32

Note: Per KDB 648474 D01, Bluetooth maximum average output power 10.76 dBm ≤ $2*P_{Ref}$, while $2*P_{Ref}$ = 13.8dBm, and the distance to other antennas ≥ 5cm, therefore stand-alone SAR and simultaneous transmission consideration is not required.

<WLAN 5GHz Conducted Power>

WLAN 5G 802.11a Average Power (dBm)										
Power vs. Channel			Power vs. Data Rate							
Channel	Frequency (MHz)	Data Rate (bps)	Channel	Data Rate (bps)						
		6M		9M	12M	18M	24M	36M	48M	54M
CH 36	5180	14.13	CH 44	14.36	14.36	14.36	14.36	14.35	14.36	14.36
CH 40	5200	14.32								
CH 44	5220	**14.37**								
CH 48	5240	14.03								
CH 52	5260	14.14	CH 60	14.41	14.40	14.40	14.41	14.41	14.40	14.40
CH 56	5280	14.39								
CH 60	5300	**14.42**								
CH 64	5320	14.39								
CH 100	5500	**14.14**	CH 100	14.02	14.12	14.12	14.11	14.11	14.12	14.13
CH 104	5520	13.91								
CH 108	5540	13.85								
CH 112	5560	13.84								
CH 116	5580	13.86								
CH 132	5660	13.54								
CH 136	5680	13.65								
CH 140	5700	13.63								
CH 149	5745	14.10	CH 165	14.12	14.13	14.10	14.12	14.11	14.12	14.11
CH 153	5765	13.81								
CH 157	5785	14.03								
CH 161	5805	14.11								
CH 165	5825	**14.14**								

WLAN 5G 802.11n (BW 20M) Average Power (dBm)										
Power vs. Channel			Power vs. Data Rate							
Channel	Frequency (MHz)	MCS Index	Channel	MCS Index						
		MCS0		MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 36	5180	**12.23**	CH 36	12.21	12.21	12.20	12.20	12.19	12.22	12.22
CH 40	5200	12.22								
CH 44	5220	12.18								
CH 48	5240	12.09								
CH 52	5260	12.24	CH 60	12.46	12.45	12.45	12.43	12.44	12.45	12.46
CH 56	5280	12.40								
CH 60	5300	**12.47**								
CH 64	5320	12.45								
CH 100	5500	**12.19**	CH 100	12.18	12.17	12.16	12.17	12.18	12.18	12.18
CH 104	5520	12.11								
CH 108	5540	12.14								
CH 112	5560	12.06								
CH 116	5580	12.04								
CH 132	5660	11.59								
CH 136	5680	11.64								
CH 140	5700	11.95								
CH 149	5745	**12.17**	CH 149	12.16	12.15	12.15	12.16	12.14	12.14	12.15
CH 153	5765	11.77								
CH 157	5785	11.91								
CH 161	5805	12.10								
CH 165	5825	12.07								

Note:

1. Per KDB 248227, choose the highest output power channel to test SAR and determine further SAR exclusion
2. Per KDB 248227, 11n-HT20 output power is less than 0.25dB higher than 11a mode, thus the SAR can be excluded.
3. For each frequency band, testing at higher data rates and higher order modulations is not required when the maximum average output power for each of these configurations is less than 0.25dB higher than those measured at the lowest data rate.

11. SAR Test Results

11.1 Test Records for Head SAR Test

<GSM SAR>

Plot No.	Band	Mode	Test Position	Ch.	Freq. (MHz)	Burst Average Power (dBm)	Power Drift (dB)	SAR_{1g} (W/kg)
83	GSM1900	GSM Voice	Right Cheek	810	1909.8	30.74	0.129	0.119
84	**GSM1900**	**GSM Voice**	**Right Tilted**	**810**	**1909.8**	**30.74**	**-0.016**	**0.166**
85	GSM1900	GSM Voice	Left Cheek	810	1909.8	30.74	-0.082	0.094
86	GSM1900	GSM Voice	Left Tilted	810	1909.8	30.74	0.106	0.134
89	GSM1900	GSM Voice	Body SAR, 6.5cm separation for Jaw Region Head SAR	810	1909.8	30.74	-0.185	6.1e-006

Note:
1. For cheek position WWAN SAR testing, additional body SAR testing for jaw region per KDB 648474 D01v01r05 procedure was tested under the flat phantom filled with head tissue-simulating liquid. The test setup is detailed in test setup photo exhibit
2. Body SAR for head jaw region SAR is quite smaller than normal head SAR
3. Per KDB 648474 and KDB 447498, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.

<CDMA SAR>

Plot No.	Band	Mode	Test Position	Ch.	Freq. (MHz)	Burst Average Power (dBm)	Power Drift (dB)	SAR_{1g} (W/kg)
75	CDMA BC0	RC3 SO55	Right Cheek	384	836.52	25.77	-0.082	0.105
76	CDMA BC0	RC3 SO55	Right Tilted	384	836.52	25.77	0.081	0.025
77	**CDMA BC0**	**RC3 SO55**	**Left Cheek**	**384**	**836.52**	**25.77**	**-0.165**	**0.231**
78	CDMA BC0	RC3 SO55	Left Tilted	384	836.52	25.77	0.051	0.032
87	CDMA BC0	RETAP 4096	Left Cheek	384	836.52	25.08	0.197	0.204
90	**CDMA BC0**	**RC3 SO55**	Body SAR, 6.5cm separation for Jaw Region Head SAR	384	836.52	25.77	0.134	9.19e-005
79	CDMA BC1	RC3 SO55	Right Cheek	25	1851.25	25.15	0.093	0.047
80	**CDMA BC1**	**RC3 SO55**	**Right Tilted**	**25**	**1851.25**	**25.15**	**0.057**	**0.048**
81	CDMA BC1	RC3 SO55	Left Cheek	25	1851.25	25.15	0.182	0.032
82	CDMA BC1	RC3 SO55	Left Tilted	25	1851.25	25.15	0.078	0.043
88	CDMA BC1	RETAP 4096	Right Tilted	25	1851.25	25.77	-0.196	0.043
91	CDMA BC1	RC3 SO55	Body SAR, 6.5cm separation for Jaw Region Head SAR	25	1851.25	25.15	0.165	4.73e-005

Note:
1. For cheek position WWAN SAR testing, additional body SAR testing for jaw region per KDB 648474 D01v01r05 procedure was tested under the flat phantom filled with head tissue-simulating liquid. The test setup is detailed in test setup photo exhibit
2. Body SAR for head jaw region SAR is quite smaller than normal head SAR
3. 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	Ch.	Freq. (MHz)	Average Power (dBm)	Duty Cycle %	Duty Cycle Compensate Factor	Power Drift (dB)	SAR_{1g} (W/kg)	Duty Cycle Compensated 1g SAR
8	**WLAN2.4G**	**802.11b**	**Right Cheek**	**6**	**2437**	**17.37**	**98.76**	**1.013**	**-0.18**	**0.019**	**0.019**
9	WLAN2.4G	802.11b	Right Tilted	6	2437	17.37	98.76	1.013	0.11	0.015	0.015
10	WLAN2.4G	802.11b	Left Cheek	6	2437	17.37	98.76	1.013	-0.14	0.013	0.013
11	WLAN2.4G	802.11b	Left Tilted	6	2437	17.37	98.76	1.013	-0.16	0.00581	0.006
28	WLAN5G	802.11a	Right Cheek	44	5220	14.37	93.46	1.070	0.117	0.00158	0.002
29	WLAN5G	802.11a	Right Tilted	44	5220	14.37	93.46	1.070	0.097	0.062	0.066
30	WLAN5G	802.11a	Left Cheek	44	5220	14.37	93.46	1.070	0.072	0.06	0.064
31	WLAN5G	802.11a	Left Tilted	44	5220	14.37	93.46	1.070	0.018	n.a.	n.a
36	WLAN5G	802.11a	Right Cheek	60	5300	14.42	93.46	1.070	0.159	0.123	0.132
37	**WLAN5G**	**802.11a**	**Right Tilted**	**60**	**5300**	**14.42**	**93.46**	**1.070**	**0.148**	**0.142**	**0.152**
38	WLAN5G	802.11a	Left Cheek	60	5300	14.42	93.46	1.070	-0.036	0.00965	0.010
39	WLAN5G	802.11a	Left Tilted	60	5300	14.42	93.46	1.070	-0.012	0.011	0.012
32	WLAN5G	802.11a	Right Cheek	100	5500	14.14	93.46	1.070	0.111	0.031	0.033
33	WLAN5G	802.11a	Right Tilted	100	5500	14.14	93.46	1.070	0.012	0.021	0.022
34	WLAN5G	802.11a	Left Cheek	100	5500	14.14	93.46	1.070	0.049	0.00882	0.009
35	WLAN5G	802.11a	Left Tilted	100	5500	14.14	93.46	1.070	0.04	n.a.	n.a
40	WLAN5G	802.11a	Right Cheek	165	5825	14.14	93.46	1.070	0.112	0.016	0.017
41	WLAN5G	802.11a	Right Tilted	165	5825	14.14	93.46	1.070	0.136	0.029	0.031
42	WLAN5G	802.11a	Left Cheek	165	5825	14.14	93.46	1.070	0.191	0.00513	0.005
43	WLAN5G	802.11a	Left Tilted	165	5825	14.14	93.46	1.070	-0.188	0.031	0.033

Note: Per KDB 648474 and KDB 248227, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.

11.2 Test Records for Body-worn SAR Test

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Headset	Ch.	Freq. (MHz)	Burst Average Power (dBm)	Power Drift (dB)	SAR_{1g} (W/kg)
50	GSM1900	GPRS (2 Tx slots)	Front	1	-	810	1909.8	27.99	0.16	0.139
51	**GSM1900**	**GPRS (2 Tx slots)**	**Back**	**1**	**-**	**810**	**1909.8**	**27.99**	**0.13**	**0.501**
56	GSM1900	GPRS (2 Tx slots)	Back	1	v	810	1909.8	27.99	0.14	0.484

Note:
1. Per KDB 648474 and KDB 447498, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.
2. "V" in the Headset column means the Headset is plugged during SAR testing.

<CDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Headset	Ch.	Freq. (MHz)	Burst Average Power (dBm)	Power Drift (dB)	SAR_{1g} (W/kg)
72	CDMA BC0	RC3 SO32	Front	1	v	384	836.52	25.77	0.06	0.173
73	CDMA BC0	RC3 SO32	Back	1	v	384	836.52	25.77	-0.06	0.702
74	CDMA BC0	RETAP 4096	Back	1	v	384	836.52	25.08	-0.04	0.701
101	**CDMA BC0**	**RC3 SO32**	**Back**	**1**		**384**	**836.52**	25.77	**0.15**	**0.787**
63	CDMA BC1	RC3 SO32	Front	1	v	25	1851.25	25.12	0.03	0.046
64	CDMA BC1	RC3 SO32	Back	1	v	25	1851.25	25.12	0.08	0.528
65	**CDMA BC1**	**RETAP 4096**	**Back**	**1**	**v**	**25**	**1851.25**	**25.77**	**0.05**	**0.54**
100	CDMA BC1	RC3 SO32	Back	1		25	1851.25	25.12	0.107	0.517

Note:
1. Per KDB 447498, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.
2. "V" in the Headset column means the Headset is plugged during SAR testing.

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Headset	Ch.	Freq. (MHz)	Average Power (dBm)	Duty Cycle %	Duty Cycle Compensate Factor	Power Drift (dB)	SAR_{1g} (W/kg)	Duty Cycle Compensated 1g SAR
1	WLAN2.4G	802.11b	Front	1	-	6	2437	17.37	98.76	1.013	-0.13	0.016	0.016
2	**WLAN2.4G**	**802.11b**	**Back**	**1**	**-**	**6**	**2437**	**17.37**	**98.76**	**1.013**	**-0.12**	**0.219**	**0.222**
7	WLAN2.4G	802.11b	Back	1	v	6	2437	17.37	98.76	1.013	-0.06	0.142	0.144
12	WLAN5G	802.11a	Front	1	-	44	5220	14.37	93.46	1.070	0.001	0.000814	0.001
13	**WLAN5G**	**802.11a**	**Back**	**1**	**-**	**44**	**5220**	**14.37**	**93.46**	**1.070**	**0.001**	**0.077**	**0.082**
14	WLAN5G	802.11a	Back	1	v	44	5220	14.37	93.46	1.070	-0.001	0.015	0.016
15	WLAN5G	802.11a	Front	1	-	60	5300	14.42	93.46	1.070	-0.172	0.012	0.013
16	**WLAN5G**	**802.11a**	**Back**	**1**	**-**	**60**	**5300**	**14.42**	**93.46**	**1.070**	**-0.184**	**0.137**	**0.147**
17	WLAN5G	802.11a	Back	1	v	60	5300	14.42	93.46	1.070	0.122	0.131	0.140
18	WLAN5G	802.11a	Front	1	-	100	5500	14.14	93.46	1.070	0.002	0.000571	0.001
19	**WLAN5G**	**802.11a**	**Back**	**1**	**-**	**100**	**5500**	**14.14**	**93.46**	**1.070**	**-0.027**	**0.172**	**0.184**
20	WLAN5G	802.11a	Back	1	v	100	5500	14.14	93.46	1.070	0.01	0.152	0.163
21	WLAN5G	802.11a	Front	1	-	165	5825	14.14	93.46	1.070	-0.12	0.033	0.035
22	**WLAN5G**	**802.11a**	**Back**	**1**	**-**	**165**	**5825**	**14.14**	**93.46**	**1.070**	**0.125**	**0.457**	**0.489**
27	WLAN5G	802.11a	Back	1	v	165	5825	14.14	93.46	1.070	0.12	0.404	0.432

Note:
1. Per KDB 648474 and KDB 248227, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.
2. "V" in the Headset column means the Headset is plugged during SAR testing.

11.3 Simultaneous Multi-band Transmission Analysis

No.	Applicable Simultaneous Transmission Combination
1.	GSM/CDMA + BT
2.	GSM/CDMA + WLAN

Note:

1. WLAN and BT share the same antenna, and cannot transmit simultaneously.
2. EUT will choose either WLAN2.4G or WLAN5G according to the network signal condition; therefore, they will not transmit simultaneously.
3. EUT will choose either GSM or CDMA according to the network signal condition; therefore, they will not transmit simultaneously.
4. Mobile hotspot mode is not supported for US bands
5. The maximum SAR summation is calculated based on the same configuration and test position.
6. If 1g-SAR scalar summation < 1.6W/kg, simultaneous SAR measurement is not necessary.

<Head SAR>

Position	WWAN			WLAN2.4G		WWAN + WLAN
	WWAN Band	Plot No	Max. WWAN SAR (W/kg)	Plot No	Max. WLAN SAR (W/kg)	
Right Cheek	GSM1900	83	0.119	8	0.019	0.14
	CDMA BC0	75	0.105	8	0.019	0.12
	CDMA BC1	79	0.047	8	0.019	0.07
Right Tilted	GSM1900	84	0.166	9	0.015	0.18
	CDMA BC0	76	0.025	9	0.015	0.04
	CDMA BC1	80	0.048	9	0.015	0.06
Left Cheek	GSM1900	85	0.094	10	0.013	0.11
	CDMA BC0	77	0.231	10	0.013	0.24
	CDMA BC1	81	0.032	10	0.013	0.05
Left Tilted	GSM1900	86	0.134	11	0.006	0.14
	CDMA BC0	78	0.032	11	0.006	0.04
	CDMA BC1	82	0.043	11	0.006	0.05

Position	WWAN			WLAN5G		WWAN + WLAN
	WWAN Band	Plot No	Max. WWAN SAR (W/kg)	Plot No	Max. WLAN SAR (W/kg)	
Right Cheek	GSM1900	83	0.119	36	0.132	0.25
	CDMA BC0	75	0.105	36	0.132	0.24
	CDMA BC1	79	0.047	36	0.132	0.18
Right Tilted	GSM1900	84	0.166	37	0.152	**0.32**
	CDMA BC0	76	0.025	37	0.152	0.18
	CDMA BC1	80	0.048	37	0.152	0.20
Left Cheek	GSM1900	85	0.094	30	0.064	0.16
	CDMA BC0	77	0.231	30	0.064	0.30
	CDMA BC1	81	0.032	30	0.064	0.10
Left Tilted	GSM1900	86	0.134	43	0.033	0.17
	CDMA BC0	78	0.032	43	0.033	0.07
	CDMA BC1	82	0.043	43	0.033	0.08

<Body-worn SAR>

Position	WWAN			WLAN2.4G		WWAN + WLAN
	WWAN Band	Plot No	Max. WWAN SAR (W/kg)	Plot No	Max. WLAN SAR (W/kg)	
Front	GSM1900	50	0.139	1	0.016	0.16
Front (w/ Headset)	CDMA BC0	72	0.173	-	-	0.17
	CDMA BC1	63	0.046	-	-	0.05
Back	GSM1900	51	0.501	2	0.222	0.72
	CDMA BC0	101	0.787	2	0.222	1.01
	CDMA BC1	100	0.517	2	0.222	0.74
Back (w/ Headset)	GSM1900	56	0.484	7	0.144	0.63
	CDMA BC0	73	0.702	7	0.144	0.85
	CDMA BC1	64	0.528	7	0.144	0.67

Position	WWAN			WLAN5G		WWAN + WLAN
	WWAN Band	Plot No	Max. WWAN SAR (W/kg)	Plot No	Max. WLAN SAR (W/kg)	
Front	GSM1900	50	0.139	21	0.035	0.17
Front (w/ Headset)	CDMA BC0	72	0.173	-	-	0.17
	CDMA BC1	63	0.046	-	-	0.05
Back	GSM1900	51	0.501	22	0.489	0.99
	CDMA BC0	101	0.787	22	0.489	**1.28**
	CDMA BC1	100	0.517	22	0.489	1.01
Back (w/ Headset)	GSM1900	56	0.484	27	0.432	0.92
	CDMA BC0	73	0.702	27	0.432	1.13
	CDMA BC1	64	0.528	27	0.432	0.96

Test Engineer : San Lin, Jack Wu, Cona Huang, Nick Yu, Ken Li, and Angelo Chang

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 648474 D01 v01r05, “SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas”, September 2008

[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

Appendix A. Plots of System Performance Check

The plots are shown as follows.

System Check_Head_835MHz_121026

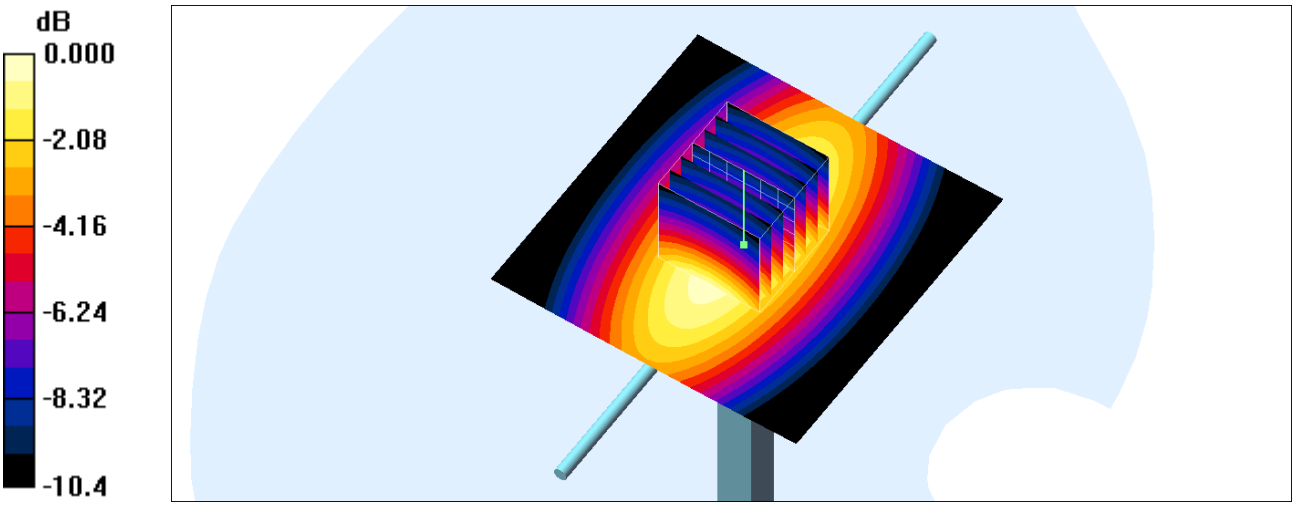
DUT: D835V2-SN:499

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835_121026 Medium parameters used: f = 835 MHz; σ = 0.906 mho/m; ε_r = 43; ρ = 1000 kg/m^3
Ambient Temperature：22.4℃； Liquid Temperature：21.4 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(6.2, 6.2, 6.2); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.51 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.5 V/m; Power Drift = -0.004 dB
Peak SAR (extrapolated) = 3.43 W/kg
SAR(1 g) = 2.33 mW/g; SAR(10 g) = 1.52 mW/g
Maximum value of SAR (measured) = 2.51 mW/g



0 dB = 2.51mW/g

System Check_Head_835MHz_121112

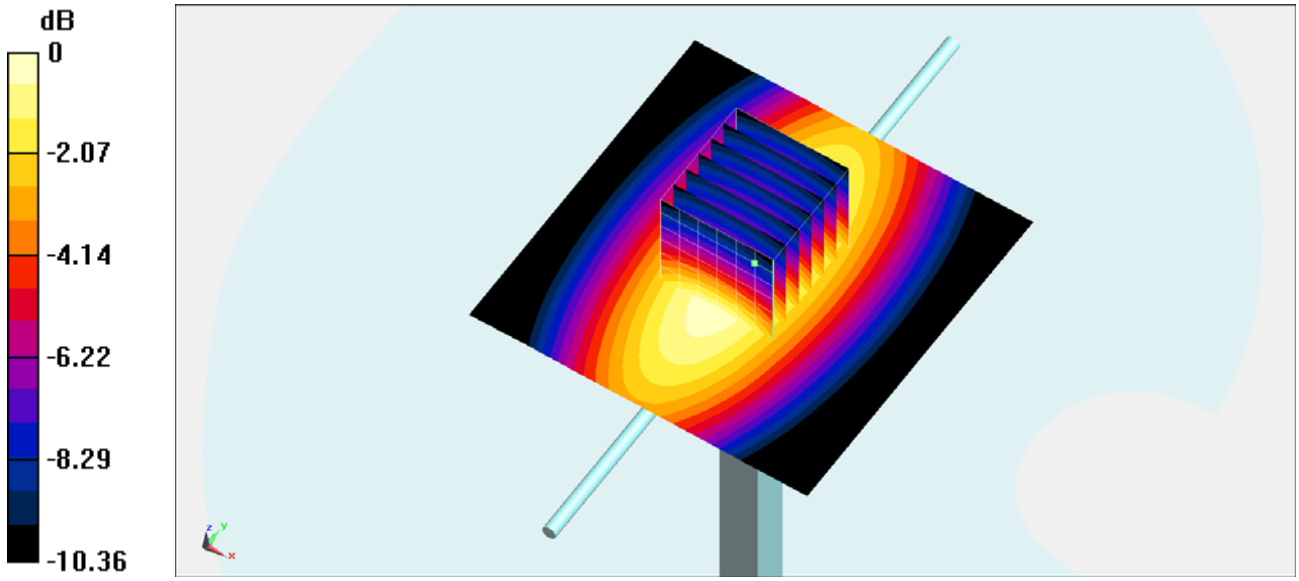
DUT: D835V2-SN:499

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_850_121112 Medium parameters used: f = 835 MHz; σ = 0.918 mho/m; ε_r = 41.074; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃； Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Configuration/Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.56 mW/g

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.239 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 3.351 mW/g
SAR(1 g) = 2.37 mW/g; SAR(10 g) = 1.56 mW/g
Maximum value of SAR (measured) = 2.57 mW/g



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

System Check_Body_835MHz_121026

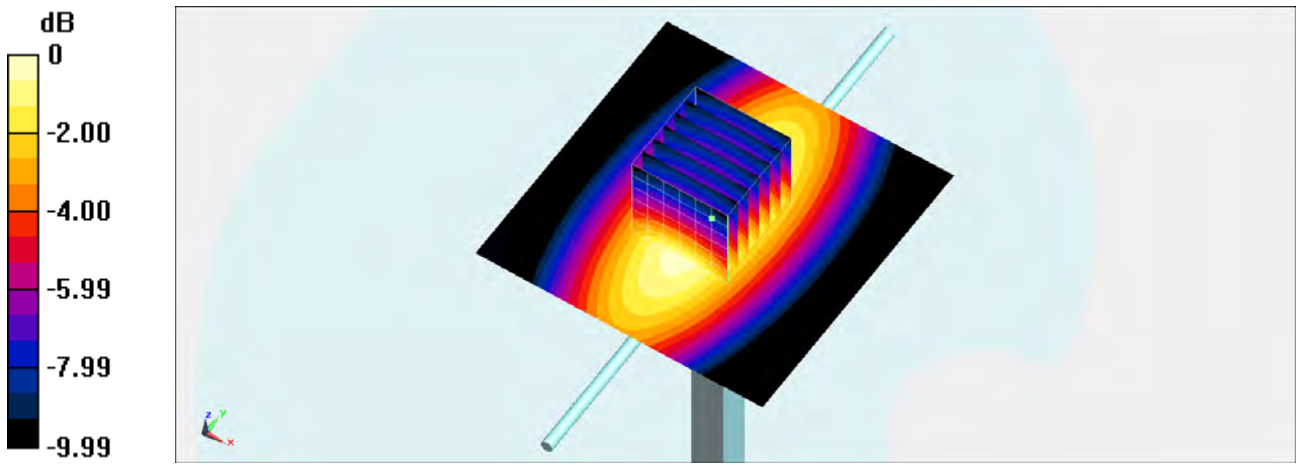
DUT: D835V2-SN:499

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: MSL_835_121026 Medium parameters used: f = 835 MHz; σ = 0.977 mho/m; ε_r = 53.183; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.65 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.207 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 3.453 mW/g
SAR(1 g) = 2.45 mW/g; SAR(10 g) = 1.63 mW/g
Maximum value of SAR (measured) = 2.65 mW/g



0 dB = 2.65 mW/g = 8.46 dB mW/g

System Check_Body_835MHz_121123

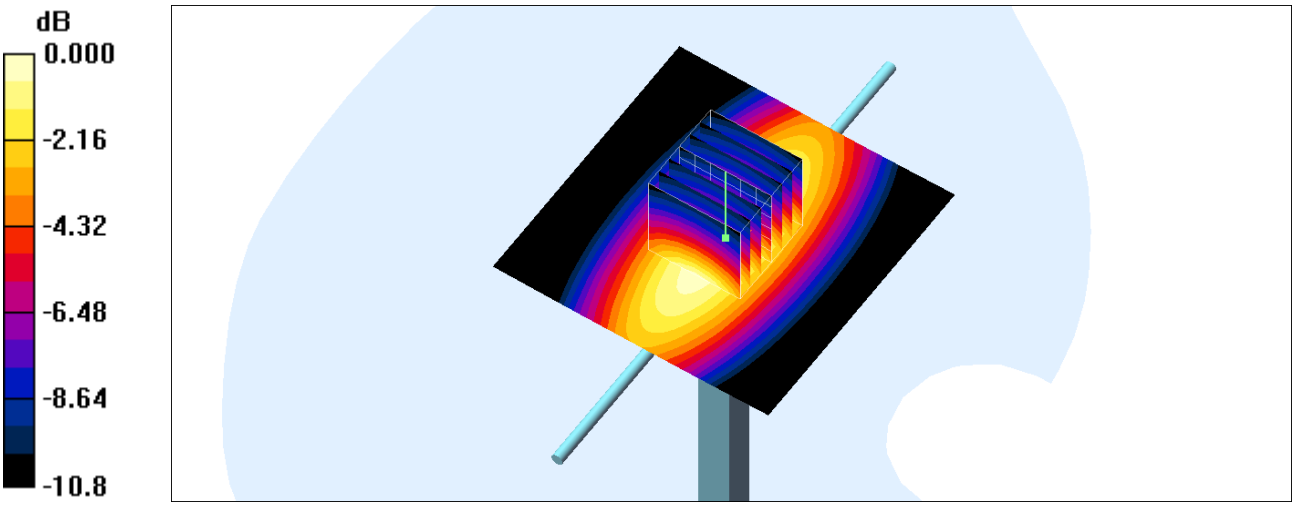
DUT: D835V2-SN:499

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: MSL_850_121123 Medium parameters used: f = 835 MHz; σ = 0.963 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃； Liquid Temperature：21.6 ℃

DASY4 Configuration:
- Probe: ET3DV6R - SN1788; ConvF(5.92, 5.92, 5.92); Calibrated: 2012/10/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.56 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.1 V/m; Power Drift = -0.116 dB
Peak SAR (extrapolated) = 3.65 W/kg
SAR(1 g) = 2.36 mW/g; SAR(10 g) = 1.48 mW/g
Maximum value of SAR (measured) = 2.57 mW/g



0 dB = 2.57mW/g

System Check_Head_1900MHz_121026

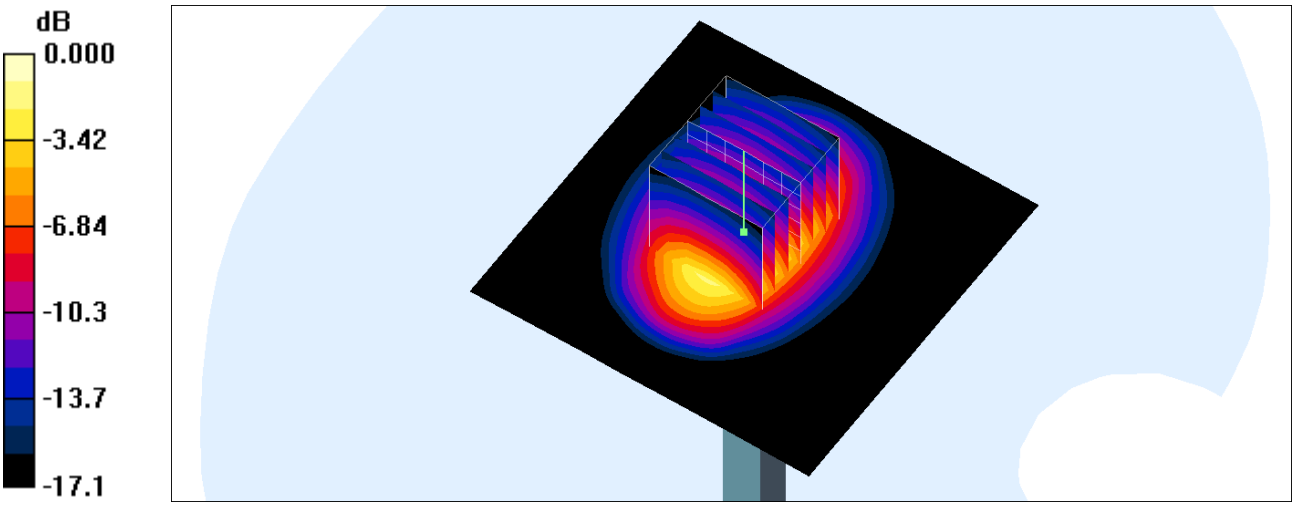
DUT: D1900V2-SN:5d041

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900_121026 Medium parameters used: f = 1900 MHz; σ = 1.43 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Ambient Temperature：22.4℃； Liquid Temperature：21.3 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(5.05, 5.05, 5.05); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.2 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 83.3 V/m; Power Drift = 0.140 dB
Peak SAR (extrapolated) = 18.1 W/kg
SAR(1 g) = 9.79 mW/g; SAR(10 g) = 5.07 mW/g
Maximum value of SAR (measured) = 11.0 mW/g



0 dB = 11.0mW/g

System Check_Head_1900MHz_121112

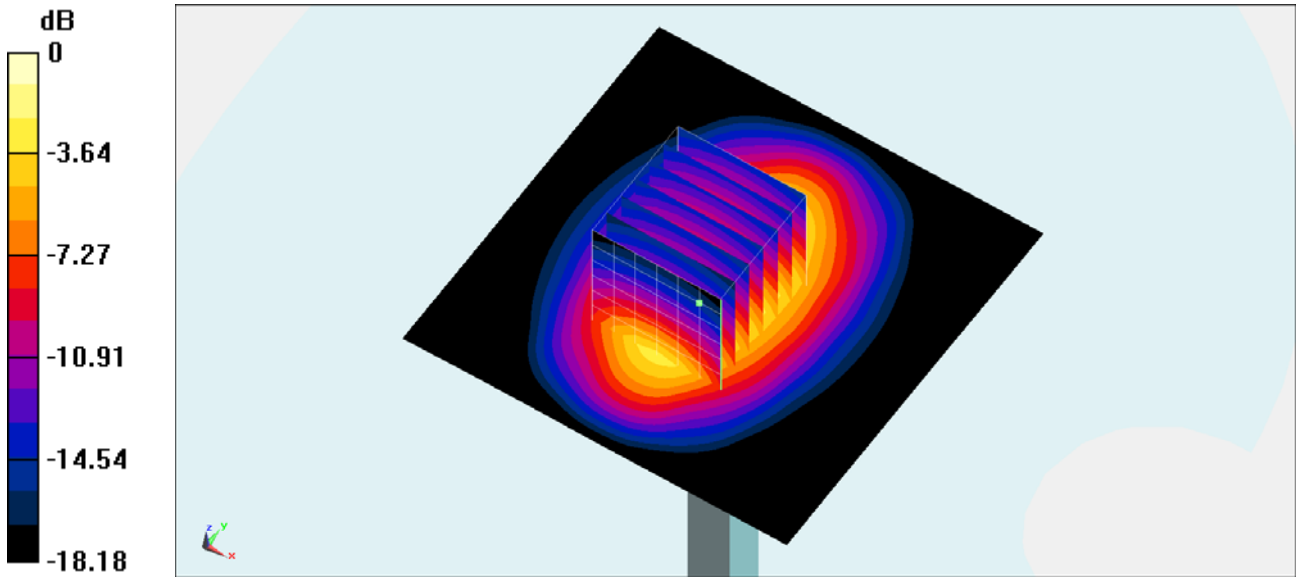
DUT: D1900V2-SN:5d041

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900_121112 Medium parameters used: f = 1900 MHz; σ = 1.448 mho/m; ε_r = 38.176; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃； Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Configuration/Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.9 mW/g

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 94.290 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 17.145 mW/g
SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.49 mW/g
Maximum value of SAR (measured) = 11.7 mW/g



0 dB = 11.7 mW/g = 21.36 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/10/25

System Check_Body_1900MHz_121025

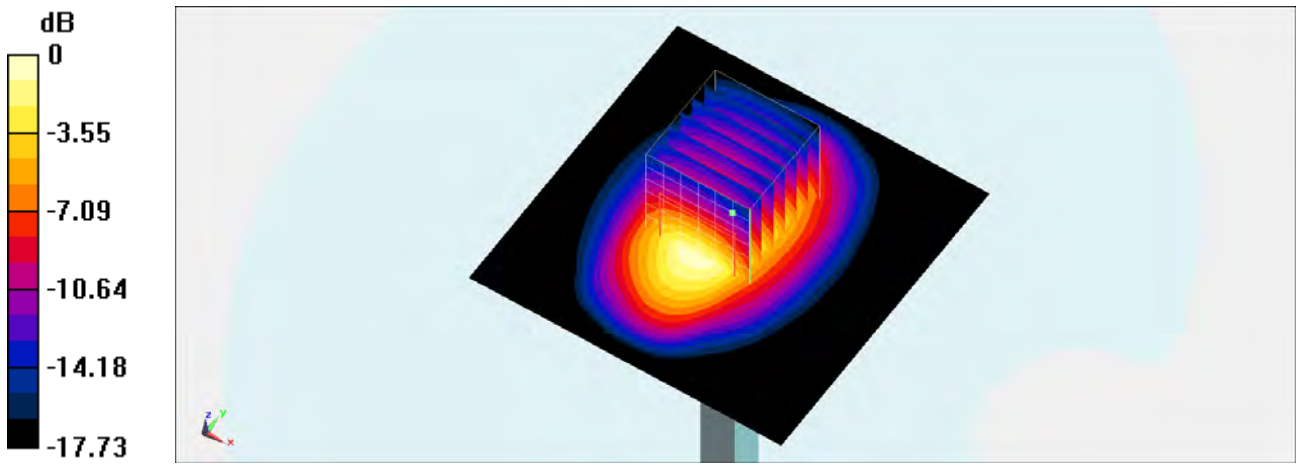
DUT: D1900V2-SN:5d041

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: MSL_1900_121025 Medium parameters used: f = 1900 MHz; σ = 1.544 mho/m; ε_r = 51.591; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 12.7 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.211 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 16.575 mW/g
SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.6 mW/g
Maximum value of SAR (measured) = 11.9 mW/g



0 dB = 11.9 mW/g = 21.51 dB mW/g

System Check_Body_1900MHz_121123

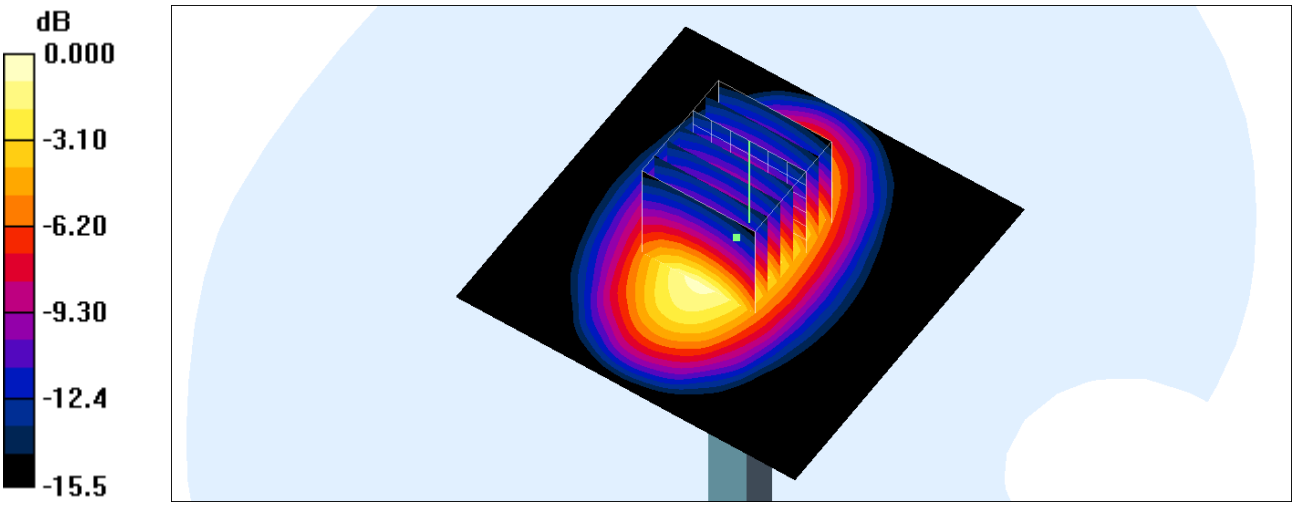
DUT: D1900V2-SN:5d041

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: MSL_1900_121123 Medium parameters used: f = 1900 MHz; σ = 1.53 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Ambient Temperature：22.2 ℃； Liquid Temperature：21.2 ℃

DASY4 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(7.29, 7.29, 7.29); Calibrated: 2012/6/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.1 mW/g

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 82.6 V/m; Power Drift = 0.076 dB
Peak SAR (extrapolated) = 18.2 W/kg
SAR(1 g) = 9.97 mW/g; SAR(10 g) = 5.53 mW/g
Maximum value of SAR (measured) = 11.0 mW/g



0 dB = 11.0mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/10/16

System Check_Head_2450MHz_121016

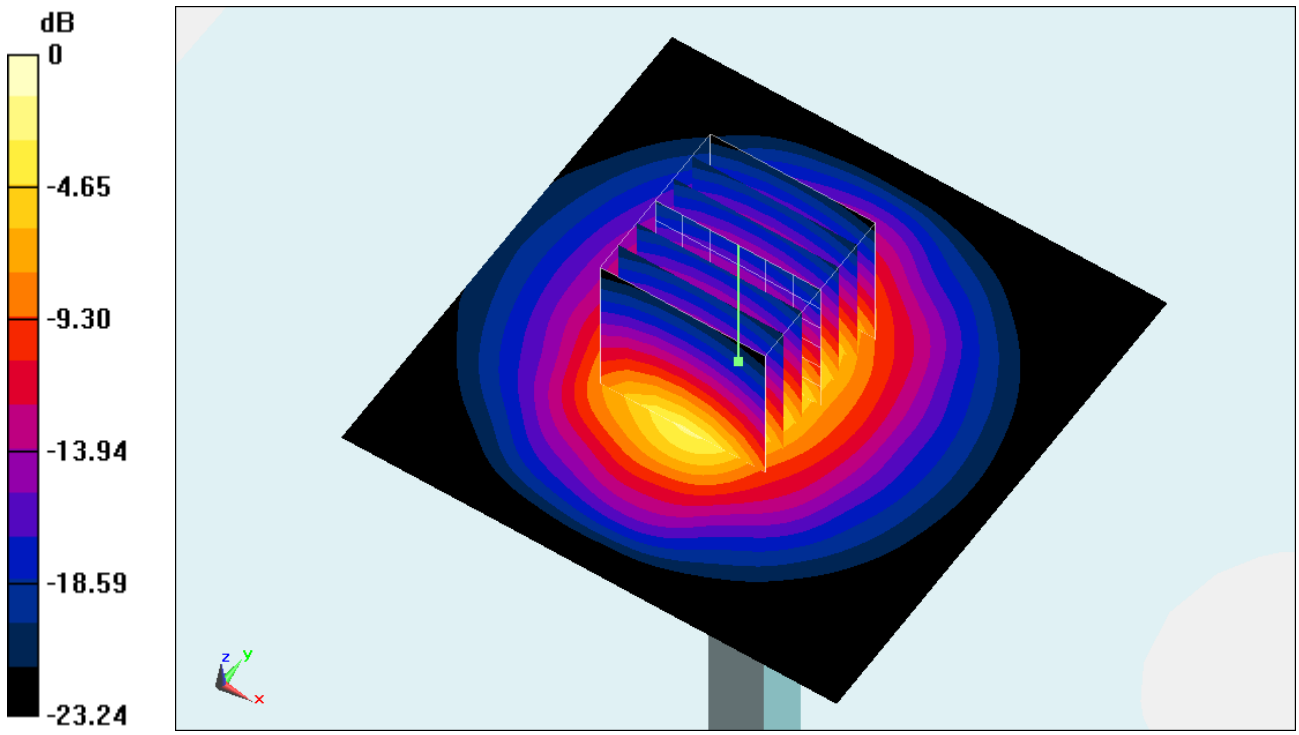
DUT: D2450V2-SN:736

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL_2450_121016 Medium parameters used: f = 2450 MHz; σ = 1.841 mho/m; ε_r = 38.166; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃； Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(4.45, 4.45, 4.45); Calibrated: 2012/9/28;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 16.5 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.889 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 31.388 mW/g
SAR(1 g) = 14.4 mW/g; SAR(10 g) = 6.49 mW/g
Maximum value of SAR (measured) = 16.5 W/kg



0 dB = 16.5 W/kg = 24.35 dB W/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/10/15

System Check_Body_2450MHz_121015

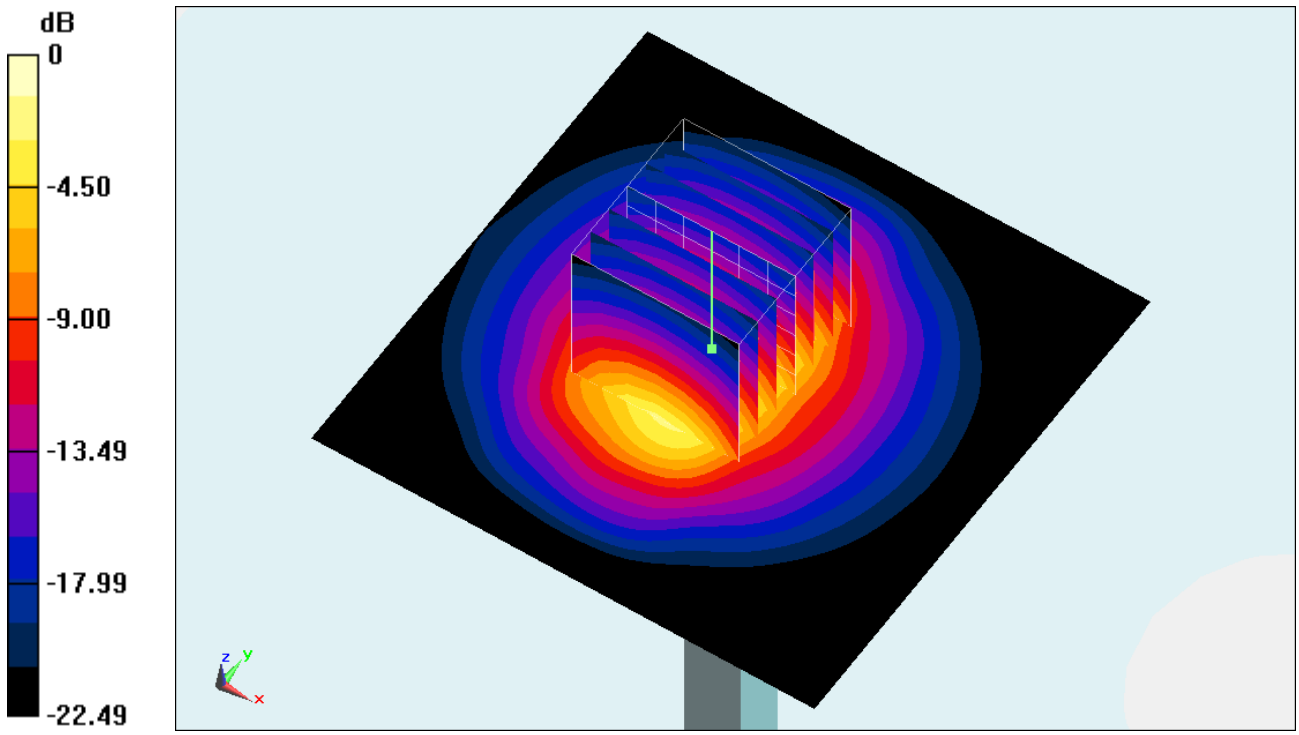
DUT: D2450V2-SN:736

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: MSL_2450_121015 Medium parameters used: f = 2450 MHz; σ = 1.965 mho/m; ε_r = 52.764; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(4.17, 4.17, 4.17); Calibrated: 2012/9/28;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Left; Type: QD000P40CD; Serial: TP:1542
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15 mm, dy=15 mm
Maximum value of SAR (interpolated) = 15.5 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 84.519 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 30.328 mW/g
SAR(1 g) = 13.8 mW/g; SAR(10 g) = 6.2 mW/g
Maximum value of SAR (measured) = 15.8 W/kg



0 dB = 15.8 W/kg = 23.97 dB W/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/10/19

System Check_Head_5200MHz_121019

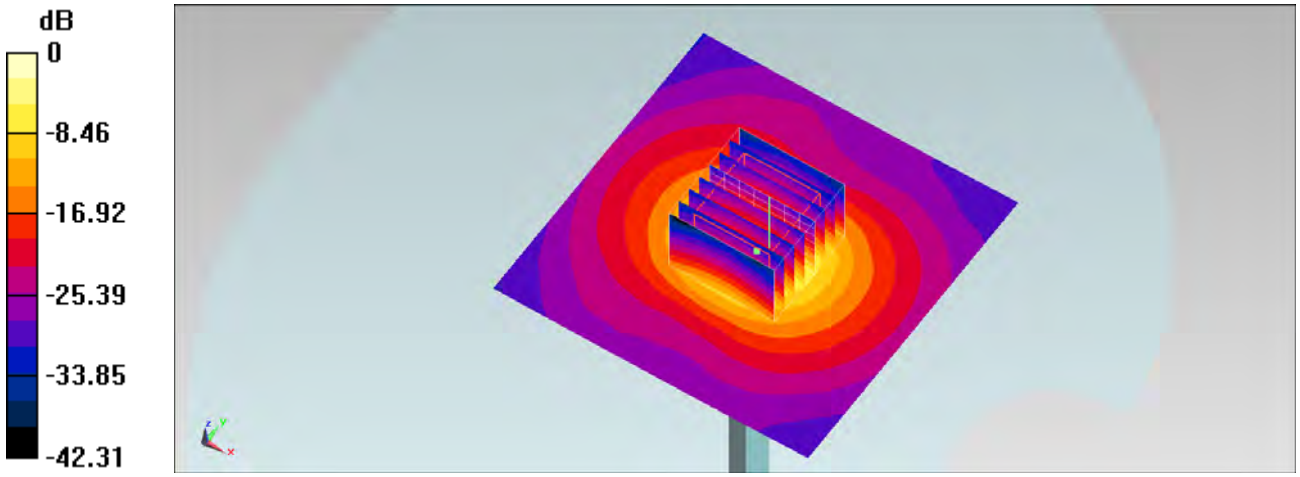
DUT: D5GHzV2-SN:1006

Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5200 MHz; σ = 4.786 mho/m; ε_r = 35.413; ρ = 1000 kg/m^3
Ambient Temperature：22.9 ℃; Liquid Temperature：21.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.86, 4.86, 4.86); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 35.0 mW/g

Pin=250mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 91.141 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 82.348 mW/g
SAR(1 g) = 20.7 mW/g; SAR(10 g) = 5.85 mW/g
Maximum value of SAR (measured) = 34.0 mW/g



0 dB = 34.0 mW/g = 30.63 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/10/20

System Check_Head_5200MHz_121020

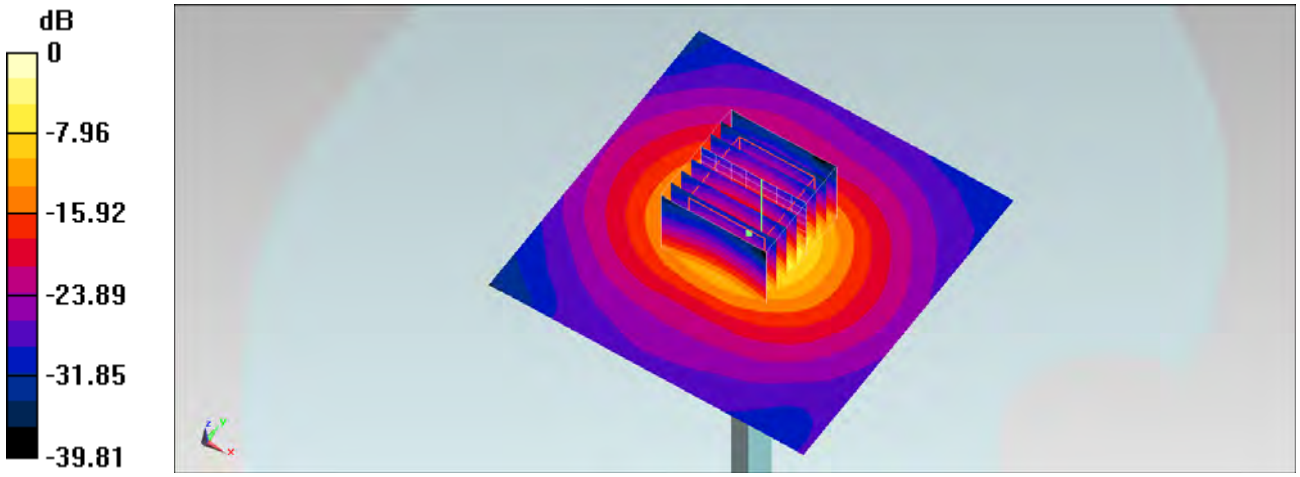
DUT: D5GHzV2-SN:1006

Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121020 Medium parameters used: f = 5200 MHz; σ = 4.795 mho/m; ε_r = 35.457; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.86, 4.86, 4.86); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 36.8 mW/g

Pin=250mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 87.898 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 85.376 mW/g
SAR(1 g) = 20.9 mW/g; SAR(10 g) = 5.8 mW/g
Maximum value of SAR (measured) = 35.5 mW/g



0 dB = 35.5 mW/g = 31.00 dB mW/g

System Check_Body_5200MHz_121018

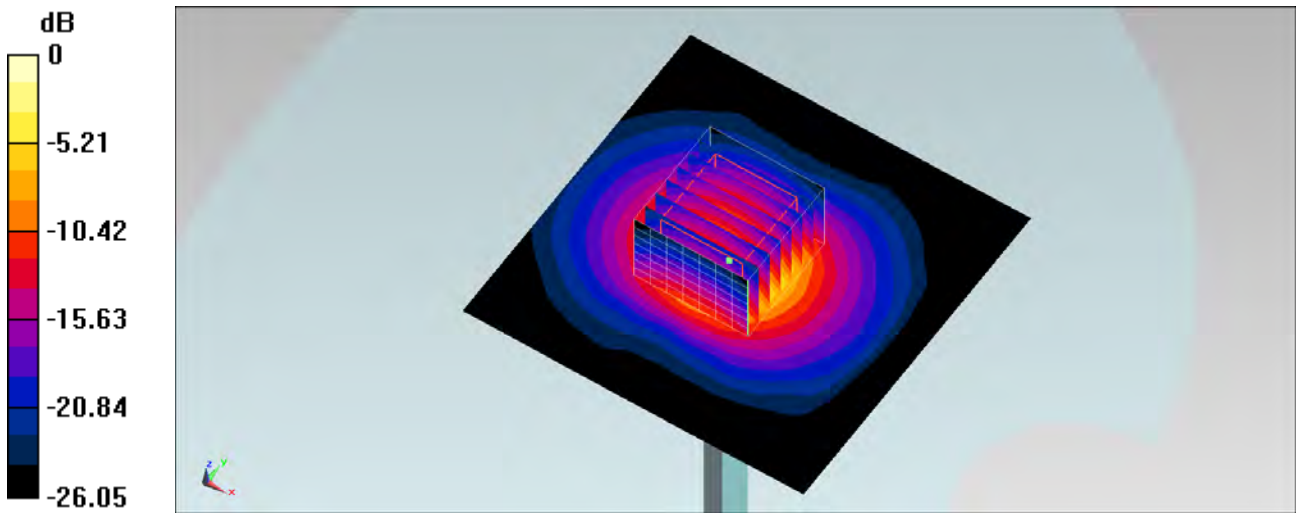
DUT:D5GHzV2-SN:1006

Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121018 Medium parameters used: f = 5200 MHz; σ = 5.279 mho/m; ε_r = 48.534; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.29, 4.29, 4.29); Calibrated: 2012/9/28;
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: SAM-Right; Type: QD 000 P40 C; Serial: TP-1383
- 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) = 28.5 mW/g

Pin=250mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 0.601 V/m; Power Drift = 0.032 dB
Peak SAR (extrapolated) = 43.444 mW/g
SAR(1 g) = 16.8 mW/g; SAR(10 g) = 5.6 mW/g
Maximum value of SAR (measured) = 25.1 mW/g



0 dB = 25.1 mW/g = 27.99 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/10/20

System Check_Body_5200MHz_121020

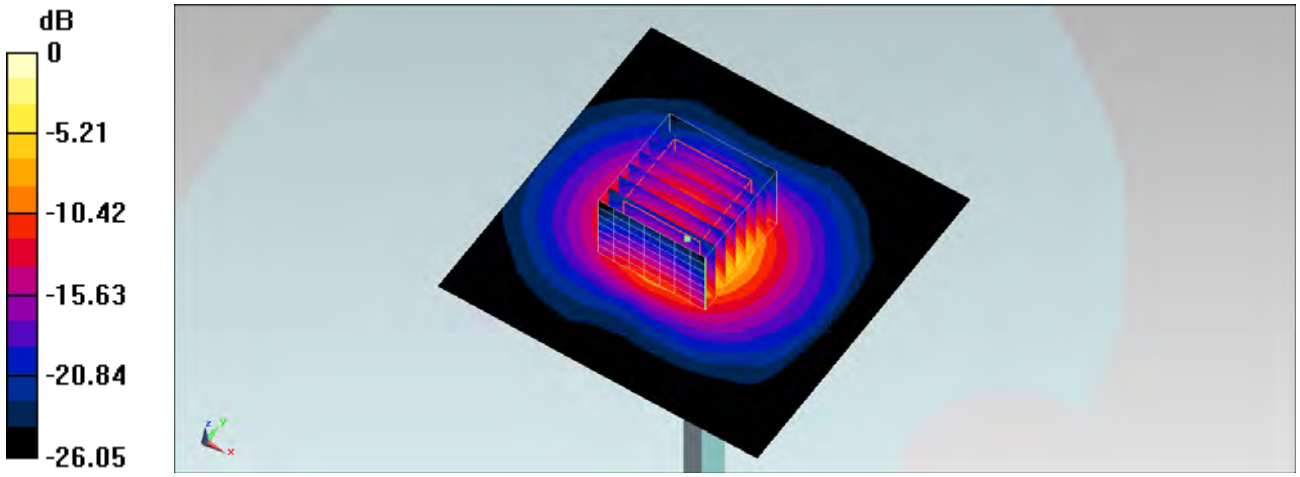
DUT: D5GHzV2-SN:1006

Communication System: CW; Frequency: 5200 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121020 Medium parameters used: f = 5200 MHz; σ = 5.257 mho/m; ε_r = 47.536; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.29, 4.29, 4.29); Calibrated: 2012/9/28;
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 28.3 mW/g

Pin=250mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 0.601 V/m; Power Drift = 0.132 dB
Peak SAR (extrapolated) = 43.235 mW/g
SAR(1 g) = 16.7 mW/g; SAR(10 g) = 5.57 mW/g
Maximum value of SAR (measured) = 25.0 mW/g



0 dB = 25.0 mW/g = 27.96 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/10/19

System Check_Head_5500MHz_121019

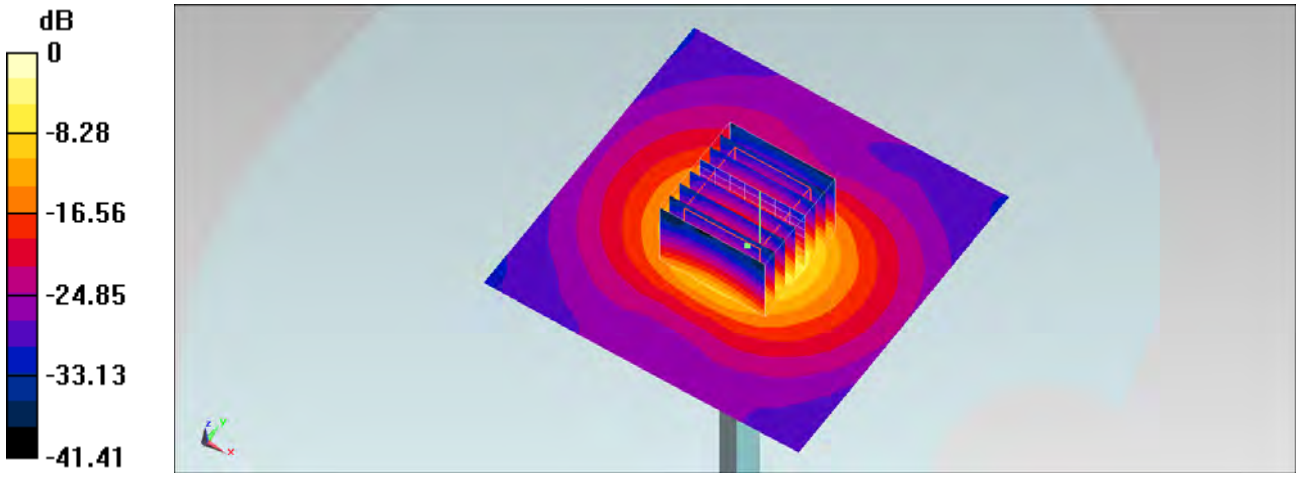
DUT: D5GHzV2-SN:1006

Communication System: CW; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5500 MHz; σ = 5.098 mho/m; ε_r = 34.942; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃； Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.6, 4.6, 4.6); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 36.4 mW/g

Pin=250mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 89.465 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 90.170 mW/g
SAR(1 g) = 21.2 mW/g; SAR(10 g) = 5.92 mW/g
Maximum value of SAR (measured) = 34.9 mW/g



0 dB = 34.9 mW/g = 30.86 dB mW/g

System Check_Body_5500MHz_121018

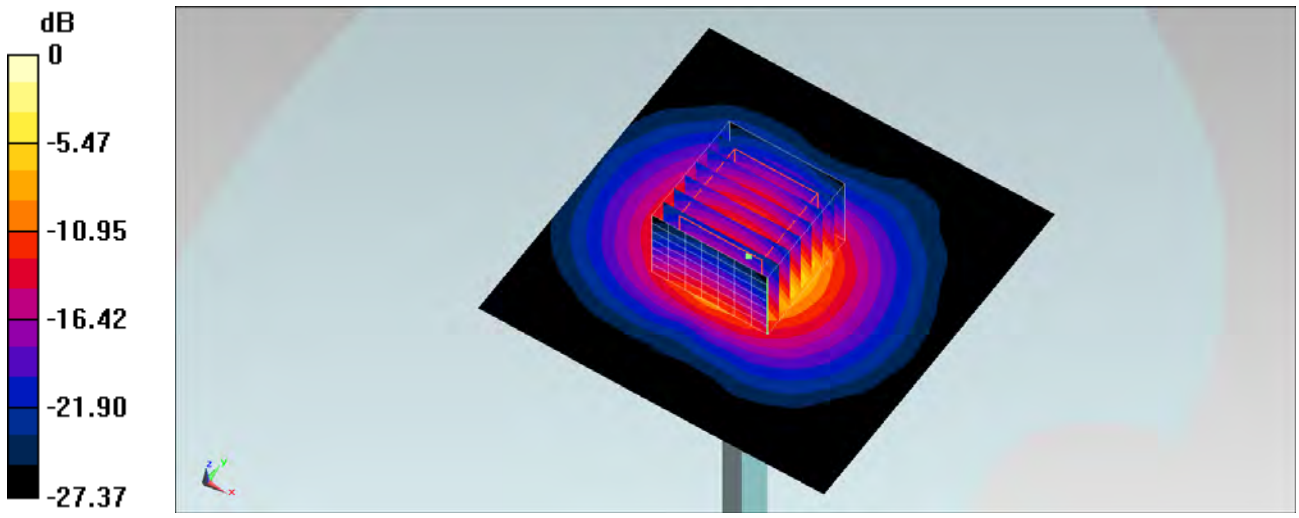
DUT: D5GHzV2-SN:1006

Communication System: CW; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121018 Medium parameters used: f = 5500 MHz; σ = 5.717 mho/m; ε_r = 47.955; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(3.91, 3.91, 3.91); Calibrated: 2012/9/28;
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: SAM-Right; Type: QD 000 P40 C; Serial: TP-1383
- 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) = 28.2 mW/g

Pin=250mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 67.501 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 44.742 mW/g
SAR(1 g) = 19 mW/g; SAR(10 g) = 7.54 mW/g
Maximum value of SAR (measured) = 25.8 mW/g



0 dB = 25.8 mW/g = 28.23 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2011/10/19

System Check_Head_5800MHz_121019

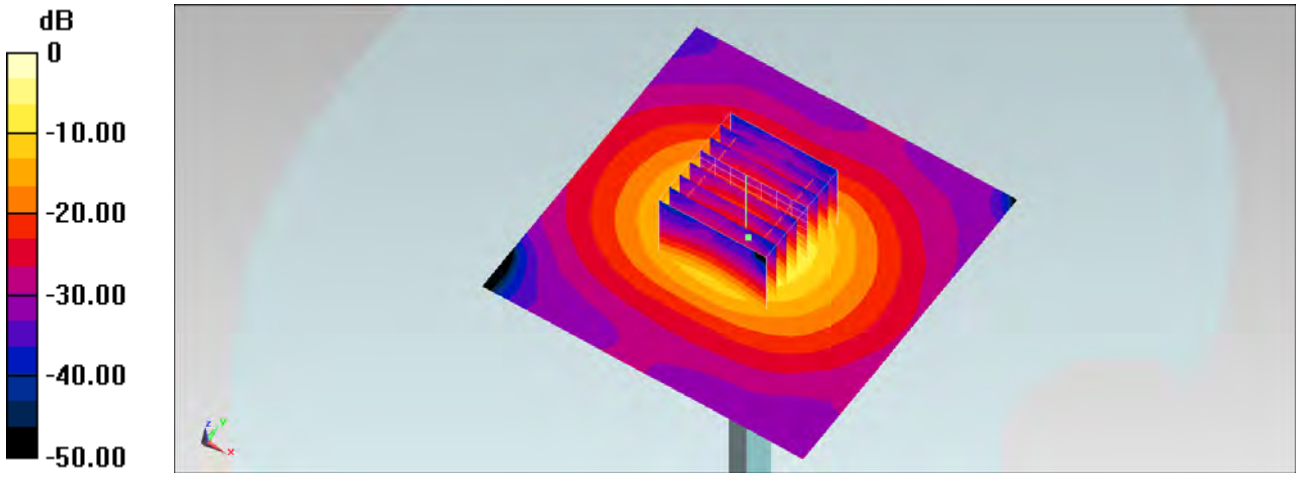
DUT: D5GHzV2-SN:1006

Communication System: CW; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5800 MHz; σ = 5.381 mho/m; ε_r = 34.353; ρ = 1000 kg/m^3
Ambient Temperature：22.7 ℃; Liquid Temperature：21.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.28, 4.28, 4.28); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 36.0 mW/g

Pin=250mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 86.622 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 87.303 mW/g
SAR(1 g) = 20.4 mW/g; SAR(10 g) = 5.65 mW/g
Maximum value of SAR (measured) = 36.1 mW/g



0 dB = 36.1 mW/g = 31.15 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/10/18

System Check_Body_5800MHz_121018

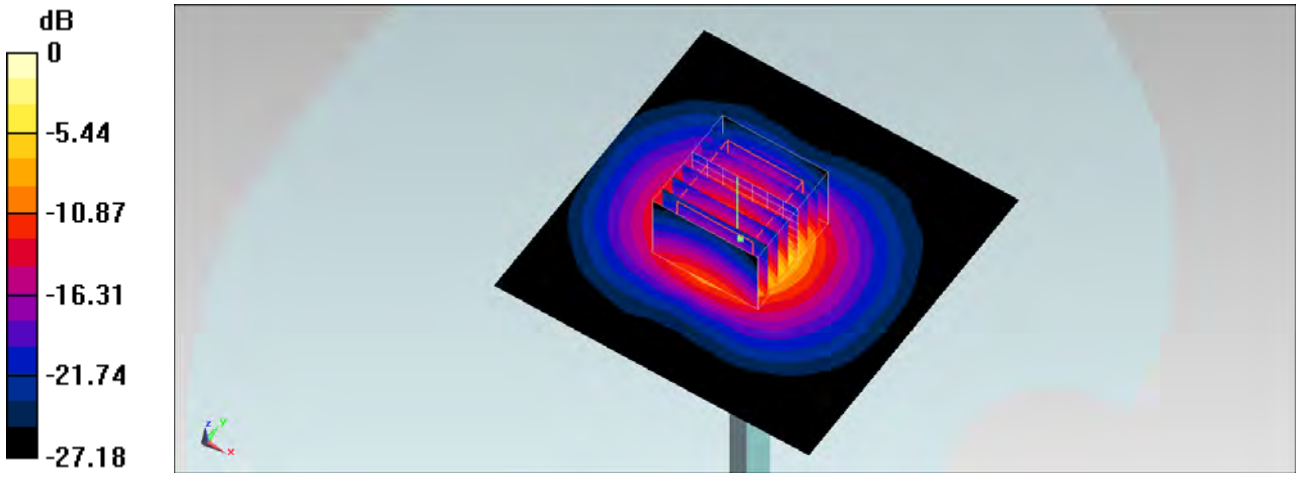
DUT: D5GHzV2-SN:1006

Communication System: CW; Frequency: 5800 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121018 Medium parameters used: f = 5800 MHz; σ = 5.939 mho/m; ε_r = 46.527; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.06, 4.06, 4.06); Calibrated: 2012/9/28;
- Sensor-Surface: 2.5mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 29.2 mW/g

Pin=250mW/Zoom Scan (8x8x8)/Cube 0: Measurement grid: dx=4.3mm, dy=4.3mm, dz=3mm
Reference Value = 68.732 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 44.273 mW/g
SAR(1 g) = 17.7 mW/g; SAR(10 g) = 5.81 mW/g
Maximum value of SAR (measured) = 27.1 mW/g



0 dB = 27.1 mW/g = 28.66 dB mW/g

Appendix B. Plots of SAR Measurement

The plots are shown as follows.

#83_GSM1900_GSM Voice_Right Cheek_Ch810

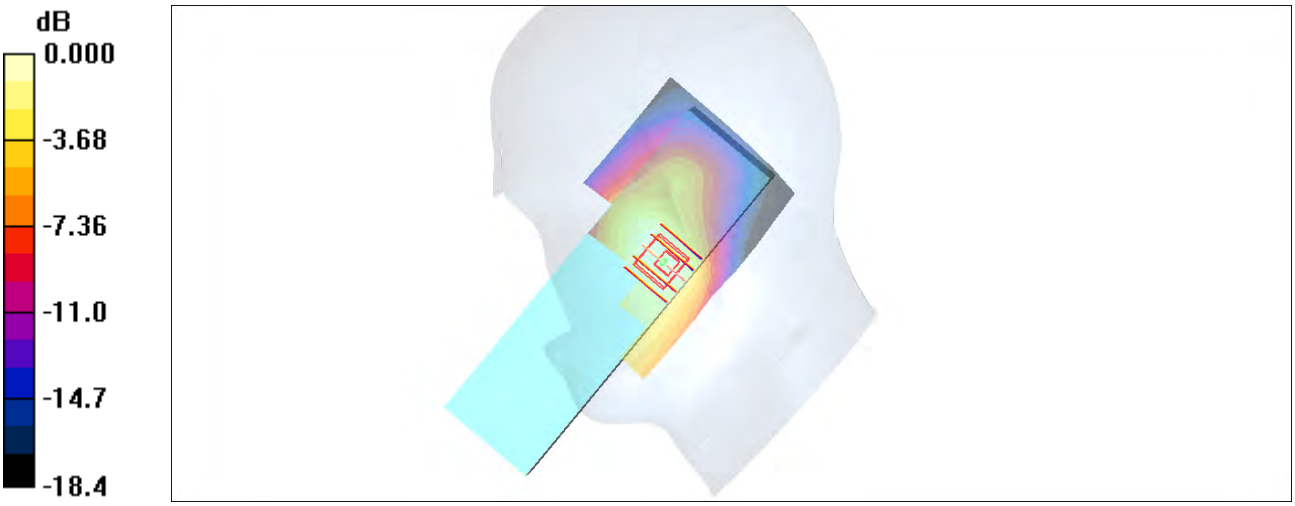
DUT: 2O0932

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium: HSL_1900_121026 Medium parameters used: f = 1910 MHz; σ = 1.44 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Ambient Temperature：22.4℃； Liquid Temperature：21.3 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(5.05, 5.05, 5.05); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (51x121x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.131 mW/g

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.73 V/m; Power Drift = 0.129 dB
Peak SAR (extrapolated) = 0.178 W/kg
SAR(1 g) = 0.119 mW/g; SAR(10 g) = 0.075 mW/g
Maximum value of SAR (measured) = 0.129 mW/g



0 dB = 0.129mW/g

#84_GSM1900_GSM Voice_Right Tilted_Ch810

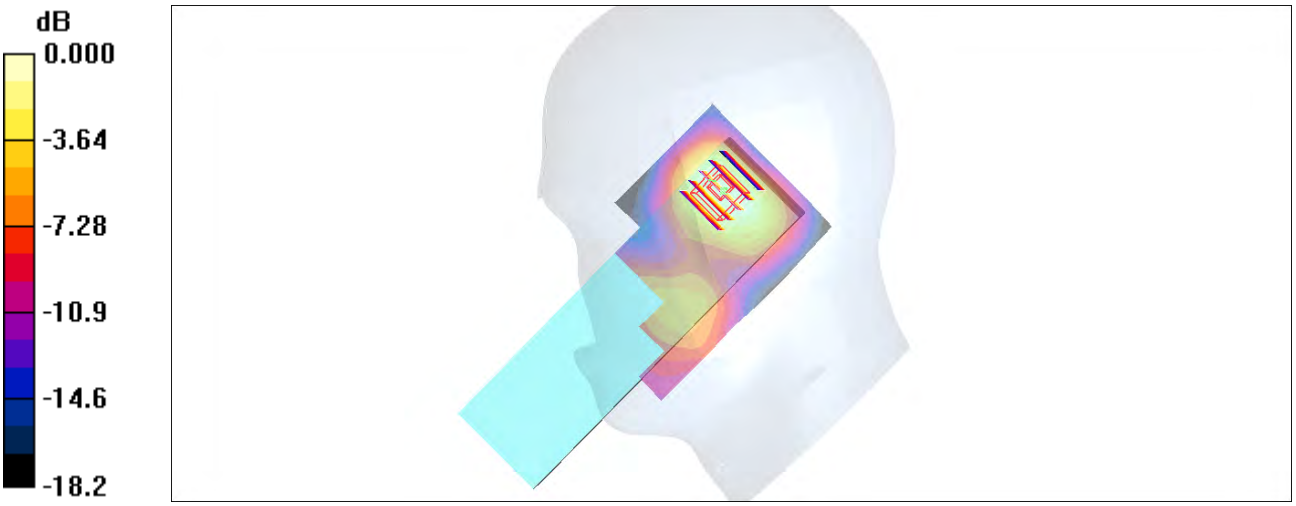
DUT: 2O0932

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium: HSL_1900_121026 Medium parameters used: f = 1910 MHz; σ = 1.44 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.3 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(5.05, 5.05, 5.05); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (51x121x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.217 mW/g

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.48 V/m; Power Drift = -0.016 dB
Peak SAR (extrapolated) = 0.253 W/kg
SAR(1 g) = 0.166 mW/g; SAR(10 g) = 0.101 mW/g
Maximum value of SAR (measured) = 0.174 mW/g



0 dB = 0.174mW/g

#84_GSM1900_GSM Voice_Right Tilted_Ch810_2D

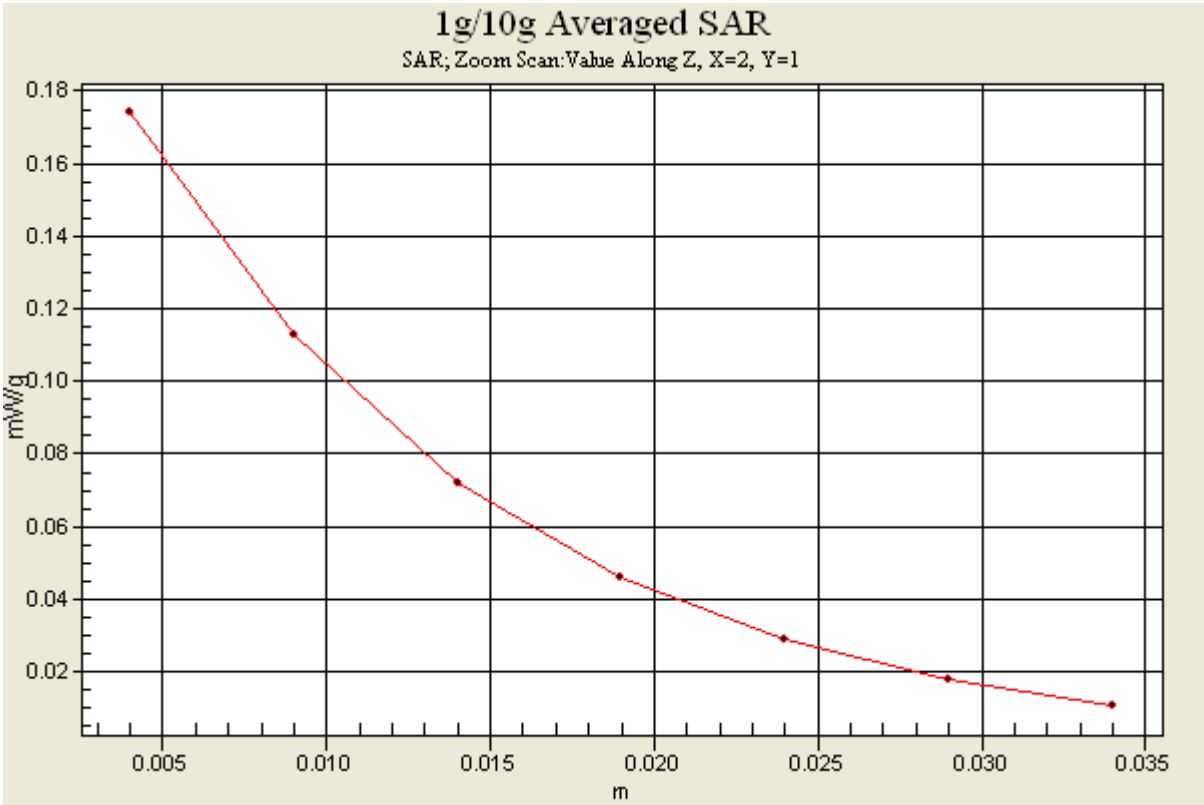
DUT: 2O0932

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium: HSL_1900_121026 Medium parameters used: f = 1910 MHz; σ = 1.44 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Ambient Temperature：22.3℃； Liquid Temperature：21.3 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(5.05, 5.05, 5.05); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (51x121x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.217 mW/g

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.48 V/m; Power Drift = -0.016 dB
Peak SAR (extrapolated) = 0.253 W/kg
SAR(1 g) = 0.166 mW/g; SAR(10 g) = 0.101 mW/g
Maximum value of SAR (measured) = 0.174 mW/g



#85_GSM1900_GSM Voice_Left Cheek_Ch810

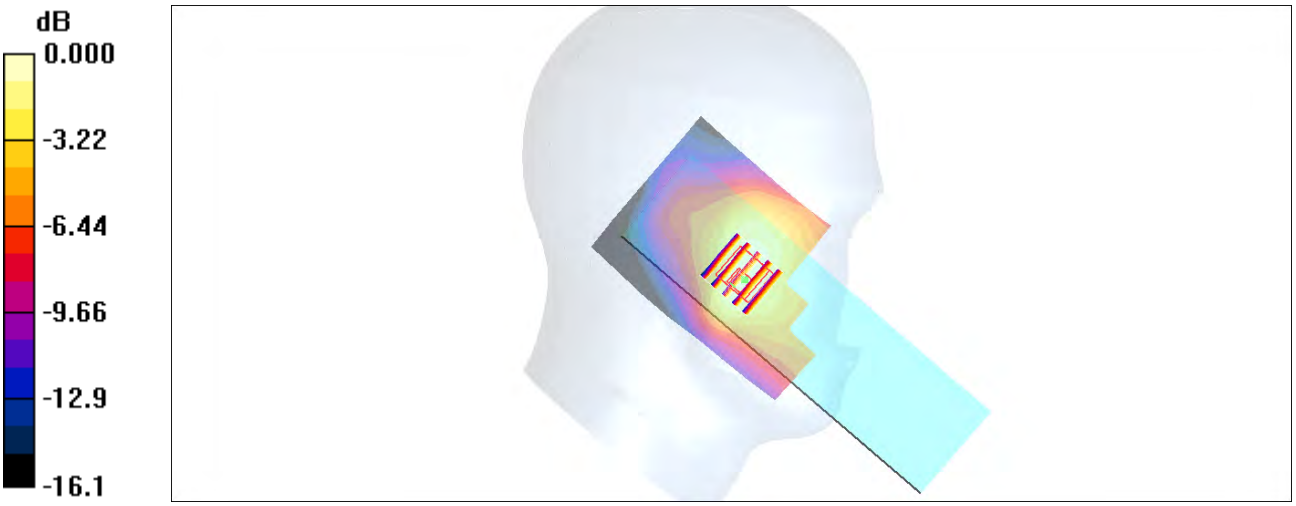
DUT: 2O0932

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium: HSL_1900_121026 Medium parameters used: f = 1910 MHz; σ = 1.44 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Ambient Temperature：22.4℃； Liquid Temperature：21.3 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(5.05, 5.05, 5.05); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (51x121x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.110 mW/g

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.21 V/m; Power Drift = -0.082 dB
Peak SAR (extrapolated) = 0.138 W/kg
SAR(1 g) = 0.094 mW/g; SAR(10 g) = 0.061 mW/g
Maximum value of SAR (measured) = 0.100 mW/g



0 dB = 0.100mW/g

#86_GSM1900_GSM Voice_Left Tilted_Ch810

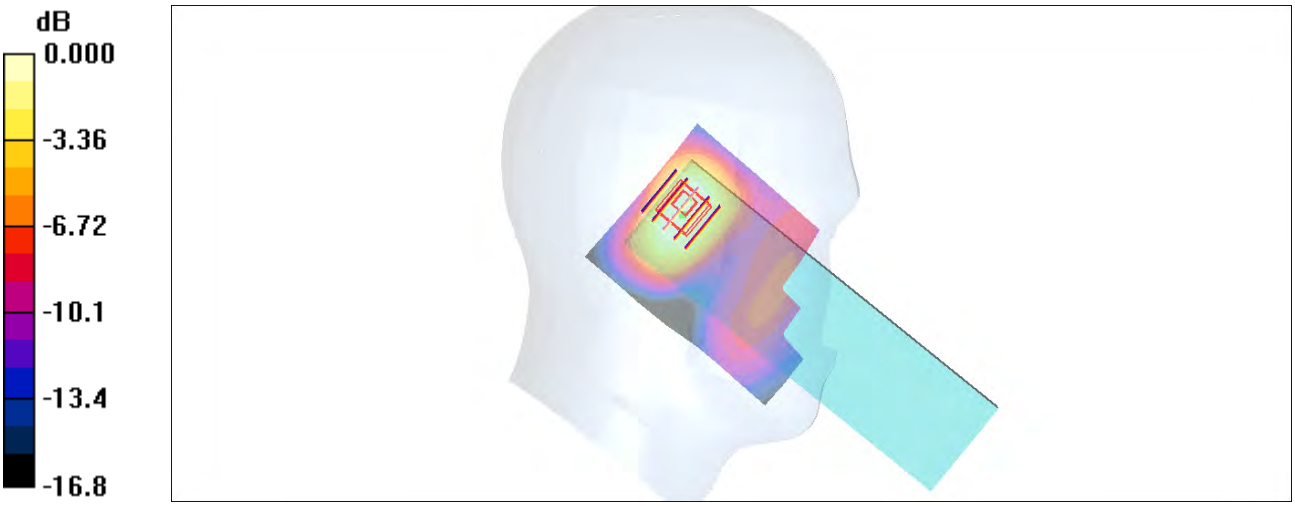
DUT: 2O0932

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium: HSL_1900_121026 Medium parameters used: f = 1910 MHz; σ = 1.44 mho/m; ε_r = 39; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.3 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(5.05, 5.05, 5.05); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (51x121x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.169 mW/g

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.20 V/m; Power Drift = 0.106 dB
Peak SAR (extrapolated) = 0.203 W/kg
SAR(1 g) = 0.134 mW/g; SAR(10 g) = 0.083 mW/g
Maximum value of SAR (measured) = 0.143 mW/g



0 dB = 0.143mW/g

#89_GSM1900_GSM Voice_Jaw Region SAR-Flat Phantom_6.5cm_Ch810

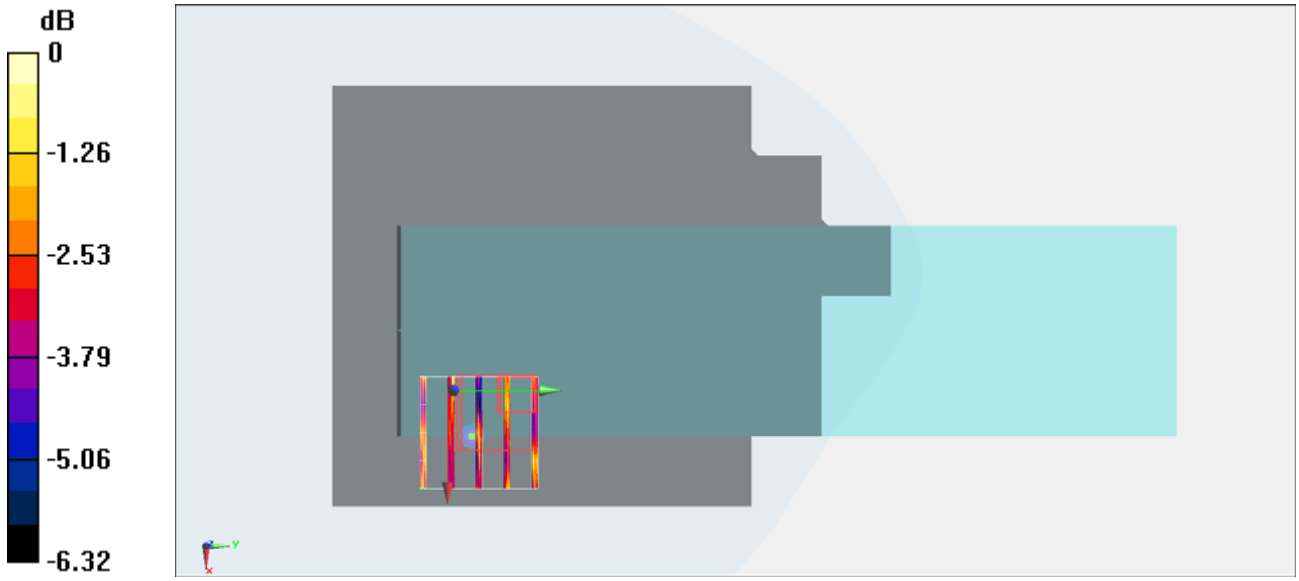
DUT: 2O0932

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium: HSL_1900_121112 Medium parameters used: f = 1910 MHz; σ = 1.459 mho/m; ε_r = 38.164; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃； Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch810/Area Scan (61x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.00101 mW/g

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.971 V/m; Power Drift = -0.185 dB
Peak SAR (extrapolated) = 0.00185 mW/g
SAR(1 g) = 6.1e-006 mW/g; SAR(10 g) = 1.28e-006 mW/g
Maximum value of SAR (measured) = 0.00235 mW/g



0 dB = 0.00235 mW/g = -52.58 dB mW/g

#75_CDMA BC0_RC3 SO55_Right Cheek_Ch384

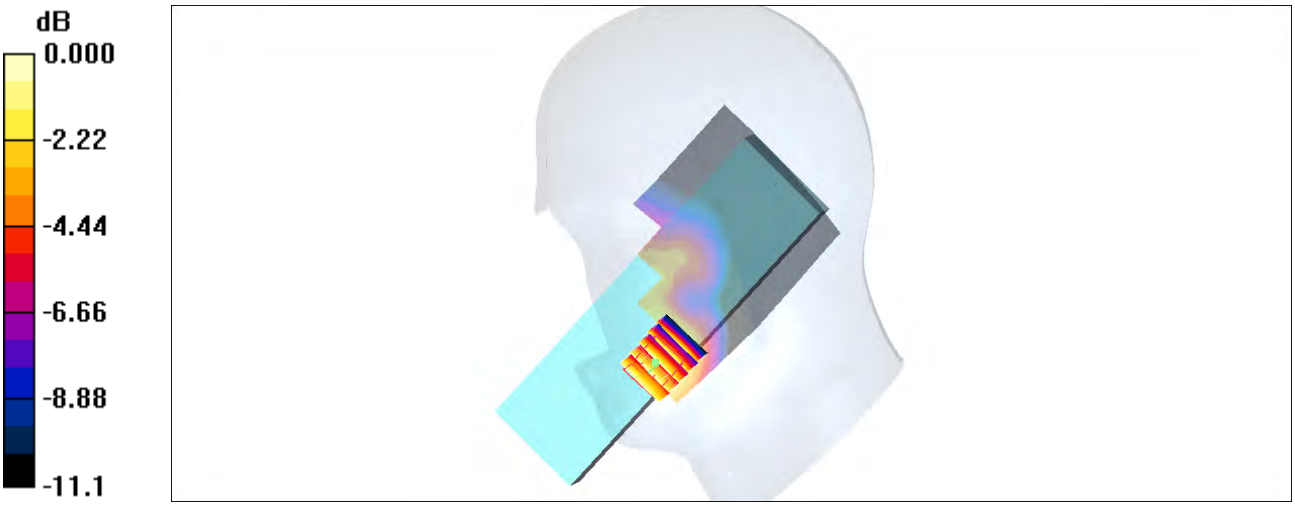
DUT: 2O0932

Communication System: CDMA ; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: HSL_850_121026 Medium parameters used: f = 837 MHz; σ = 0.908 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Ambient Temperature：22.4℃; Liquid Temperature：21.4 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(6.2, 6.2, 6.2); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch384/Area Scan (51x121x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.117 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.45 V/m; Power Drift = -0.082 dB
Peak SAR (extrapolated) = 0.134 W/kg
SAR(1 g) = 0.105 mW/g; SAR(10 g) = 0.078 mW/g
Maximum value of SAR (measured) = 0.110 mW/g



0 dB = 0.110mW/g

#76_CDMA BC0_RC3 SO55_Right Tilted_Ch384

DUT: 2O0932

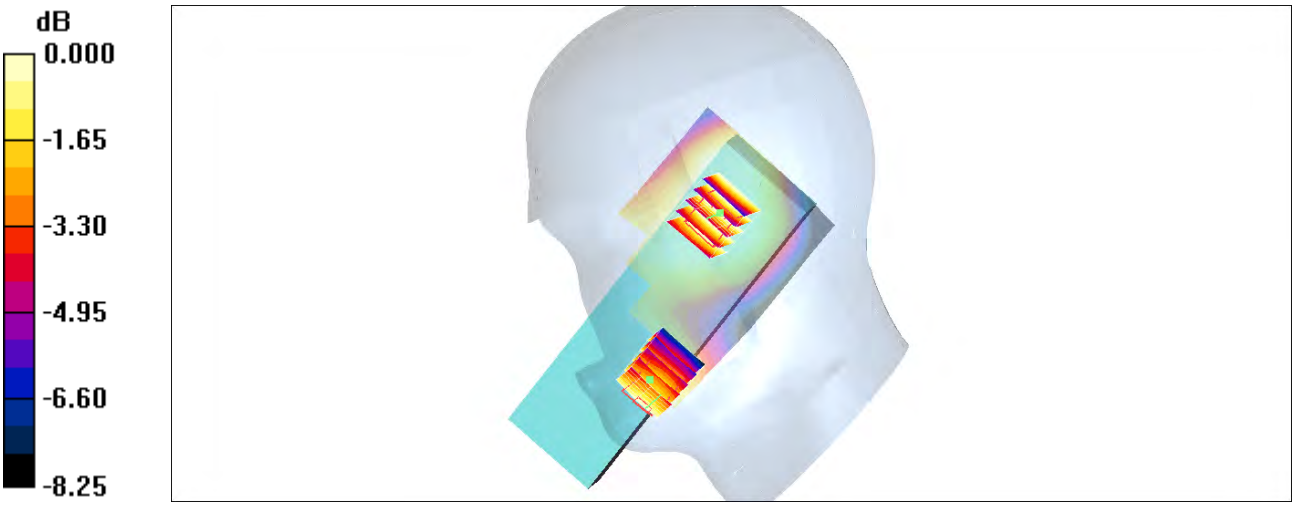
Communication System: CDMA ; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: HSL_850_121026 Medium parameters used: f = 837 MHz; σ = 0.908 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Ambient Temperature：22.4℃; Liquid Temperature：21.4 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(6.2, 6.2, 6.2); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch384/Area Scan (51x121x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.026 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.39 V/m; Power Drift = 0.081 dB
Peak SAR (extrapolated) = 0.031 W/kg
SAR(1 g) = 0.025 mW/g; SAR(10 g) = 0.019 mW/g
Maximum value of SAR (measured) = 0.026 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.39 V/m; Power Drift = 0.081 dB
Peak SAR (extrapolated) = 0.024 W/kg
SAR(1 g) = 0.020 mW/g; SAR(10 g) = 0.016 mW/g
Maximum value of SAR (measured) = 0.020 mW/g



0 dB = 0.020mW/g

#77_CDMA BC0_RC3 SO55_Left Cheek_Ch384

DUT: 2O0932

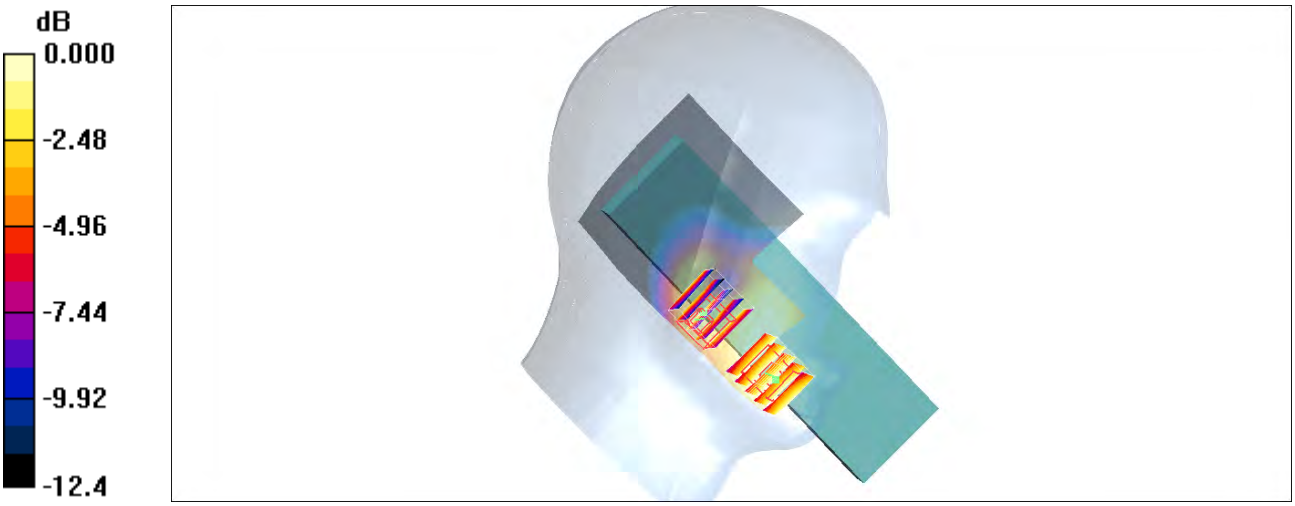
Communication System: CDMA ; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: HSL_850_121026 Medium parameters used: f = 837 MHz; σ = 0.908 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Ambient Temperature：22.4℃; Liquid Temperature：21.4 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(6.2, 6.2, 6.2); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch384/Area Scan (51x131x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.243 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.09 V/m; Power Drift = -0.165 dB
Peak SAR (extrapolated) = 0.276 W/kg
SAR(1 g) = 0.231 mW/g; SAR(10 g) = 0.176 mW/g
Maximum value of SAR (measured) = 0.242 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.09 V/m; Power Drift = -0.165 dB
Peak SAR (extrapolated) = 0.350 W/kg
SAR(1 g) = 0.173 mW/g; SAR(10 g) = 0.098 mW/g
Maximum value of SAR (measured) = 0.214 mW/g



0 dB = 0.214mW/g

#77_CDMA BC0_RC3 SO55_Left Cheek_Ch384_2D

DUT: 2O0932

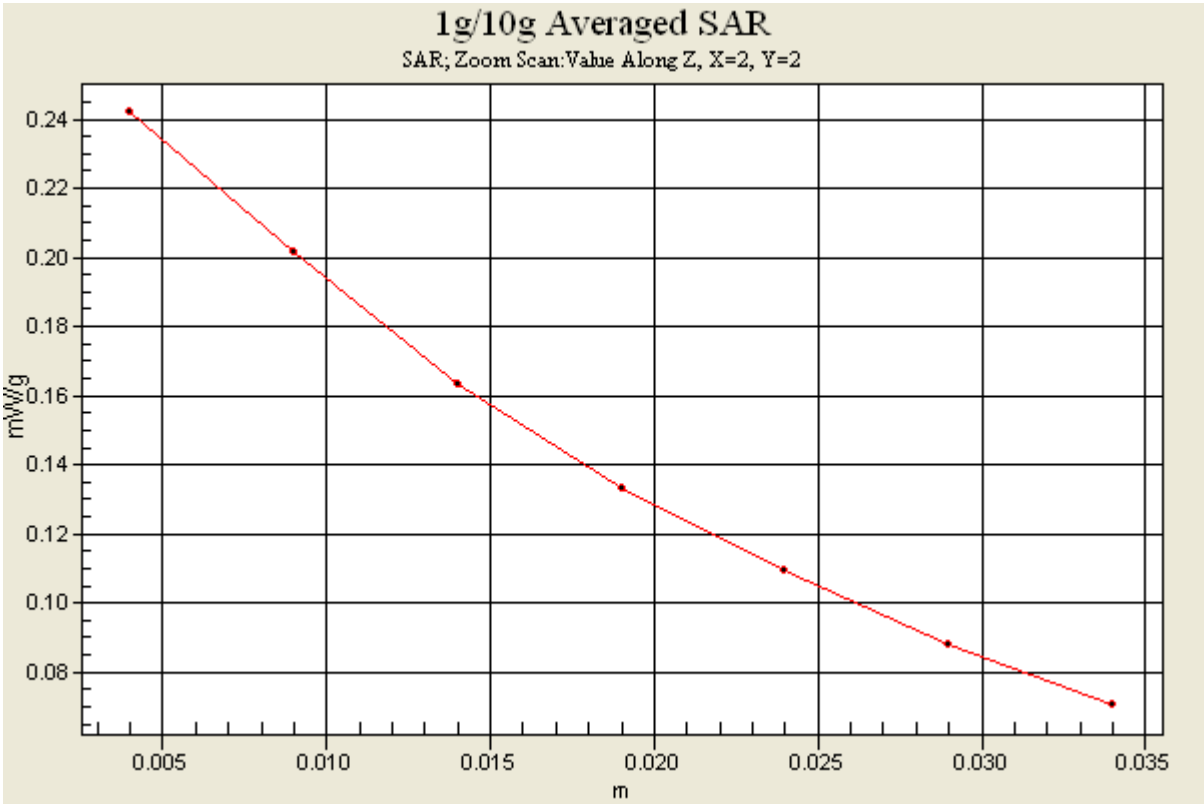
Communication System: CDMA ; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: HSL_850_121026 Medium parameters used: f = 837 MHz; σ = 0.908 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Ambient Temperature：22.4℃； Liquid Temperature：21.4 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(6.2, 6.2, 6.2); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch384/Area Scan (51x131x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.243 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.09 V/m; Power Drift = -0.165 dB
Peak SAR (extrapolated) = 0.276 W/kg
SAR(1 g) = 0.231 mW/g; SAR(10 g) = 0.176 mW/g
Maximum value of SAR (measured) = 0.242 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.09 V/m; Power Drift = -0.215 dB
Peak SAR (extrapolated) = 0.350 W/kg
SAR(1 g) = 0.173 mW/g; SAR(10 g) = 0.098 mW/g
Maximum value of SAR (measured) = 0.214 mW/g



#78_CDMA BC0_RC3 SO55_Left Tilted_Ch384

DUT: 2O0932

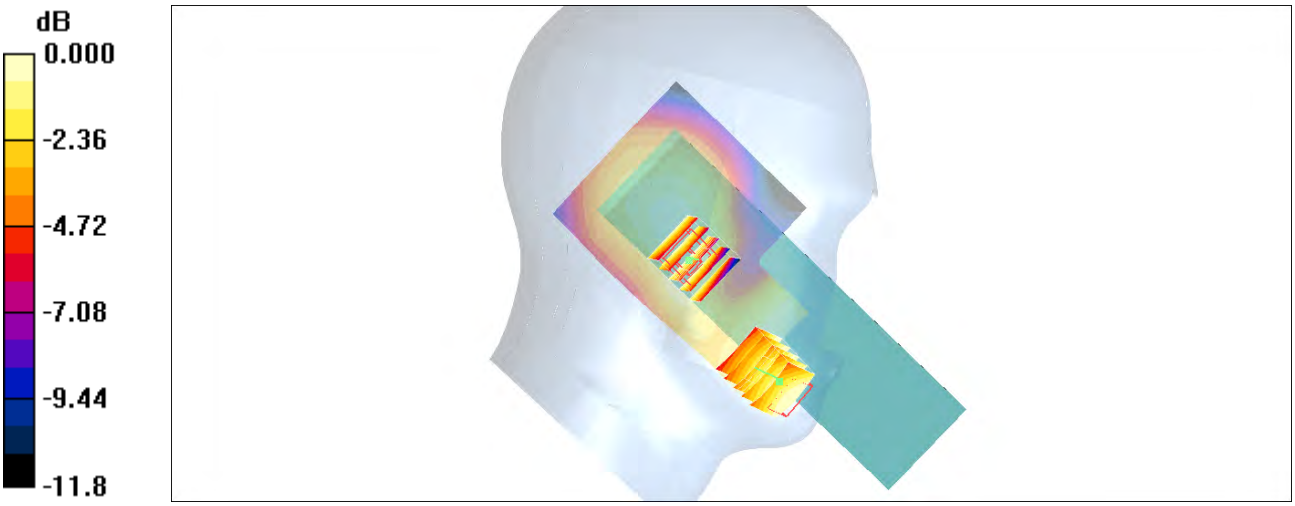
Communication System: CDMA ; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: HSL_850_121026 Medium parameters used: f = 837 MHz; σ = 0.908 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Ambient Temperature：22.4℃; Liquid Temperature：21.4 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(6.2, 6.2, 6.2); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch384/Area Scan (51x131x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.035 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.69 V/m; Power Drift = 0.051 dB
Peak SAR (extrapolated) = 0.038 W/kg
SAR(1 g) = 0.032 mW/g; SAR(10 g) = 0.026 mW/g
Maximum value of SAR (measured) = 0.034 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.69 V/m; Power Drift = 0.051 dB
Peak SAR (extrapolated) = 0.029 W/kg
SAR(1 g) = 0.024 mW/g; SAR(10 g) = 0.018 mW/g
Maximum value of SAR (measured) = 0.025 mW/g



0 dB = 0.025mW/g

#87_CDMA BC0_RETAP 4096_Left Cheek_Ch384

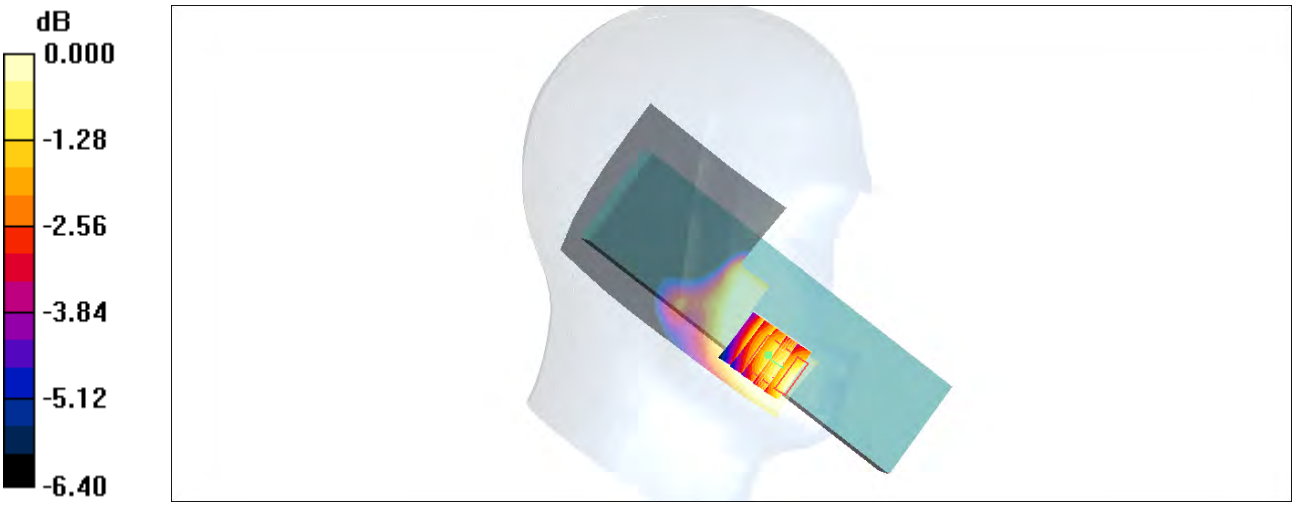
DUT: 2O0932

Communication System: CDMA ; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: HSL_850_121026 Medium parameters used: f = 837 MHz; σ = 0.908 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Ambient Temperature：22.4℃; Liquid Temperature：21.4 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(6.2, 6.2, 6.2); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch384/Area Scan (51x131x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.332 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.40 V/m; Power Drift = 0.197 dB
Peak SAR (extrapolated) = 0.212 W/kg
SAR(1 g) = 0.204 mW/g; SAR(10 g) = 0.179 mW/g
Maximum value of SAR (measured) = 0.209 mW/g



0 dB = 0.209mW/g

#90_CDMA BC0_RC3 SO55_Jaw Region SAR-Flat Phantom_6.5cm_Ch384

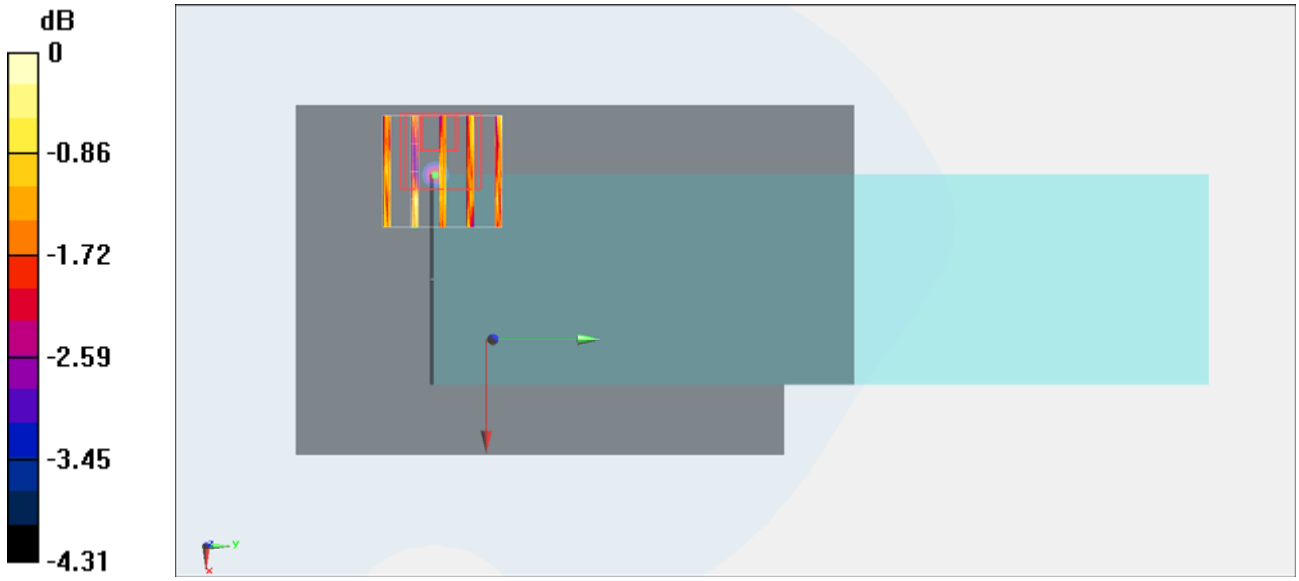
DUT: 2O0932

Communication System: CDMA ; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: HSL_850_121112 Medium parameters used: f = 837 MHz; σ = 0.92 mho/m; ε_r = 41.052; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch384/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.000872 mW/g

Configuration/Ch384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.957 V/m; Power Drift = 0.134 dB
Peak SAR (extrapolated) = 0.00152 mW/g
SAR(1 g) = 9.19e-005 mW/g; SAR(10 g) = 1.21e-005 mW/g
Maximum value of SAR (measured) = 0.00125 mW/g



0 dB = 0.00125 mW/g = -58.06 dB mW/g

#79_CDMA BC1_RC3 SO55_Right Cheek_Ch25

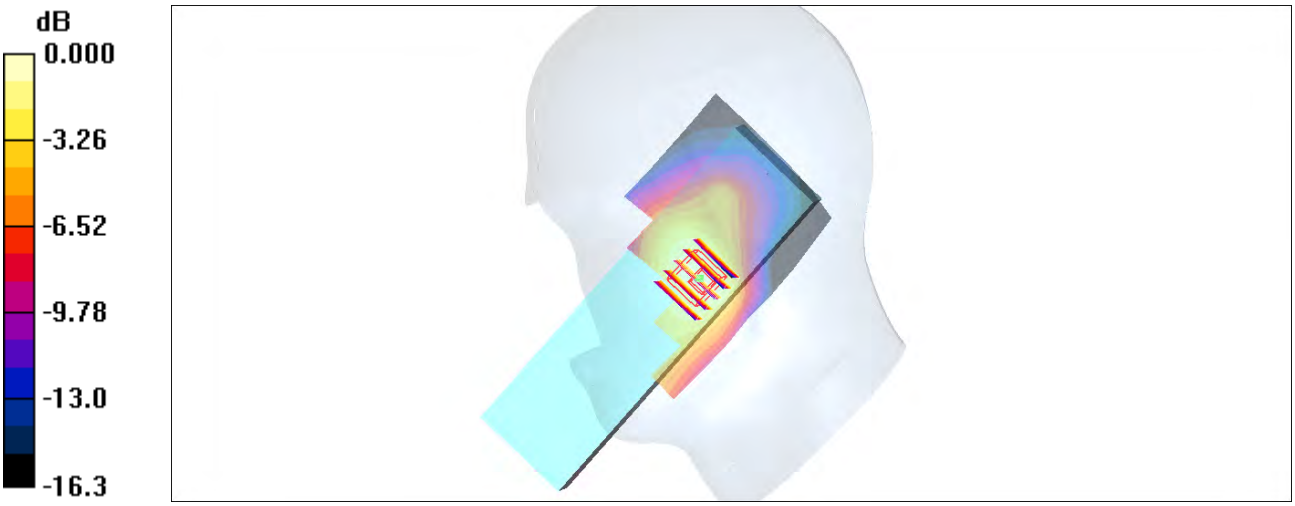
DUT: 2O0932

Communication System: CDMA ; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: HSL_1900_121026 Medium parameters used: f = 1851.25 MHz; σ = 1.39 mho/m; ε_r = 39.3; ρ = 1000 kg/m^3
Ambient Temperature：22.4℃; Liquid Temperature：21.3 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(5.05, 5.05, 5.05); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch25/Area Scan (51x121x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.051 mW/g

Ch25/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.81 V/m; Power Drift = 0.093 dB
Peak SAR (extrapolated) = 0.068 W/kg
SAR(1 g) = 0.047 mW/g; SAR(10 g) = 0.030 mW/g
Maximum value of SAR (measured) = 0.051 mW/g



0 dB = 0.051mW/g

#80_CDMA BC1_RC3 SO55_Right Tilted_Ch25

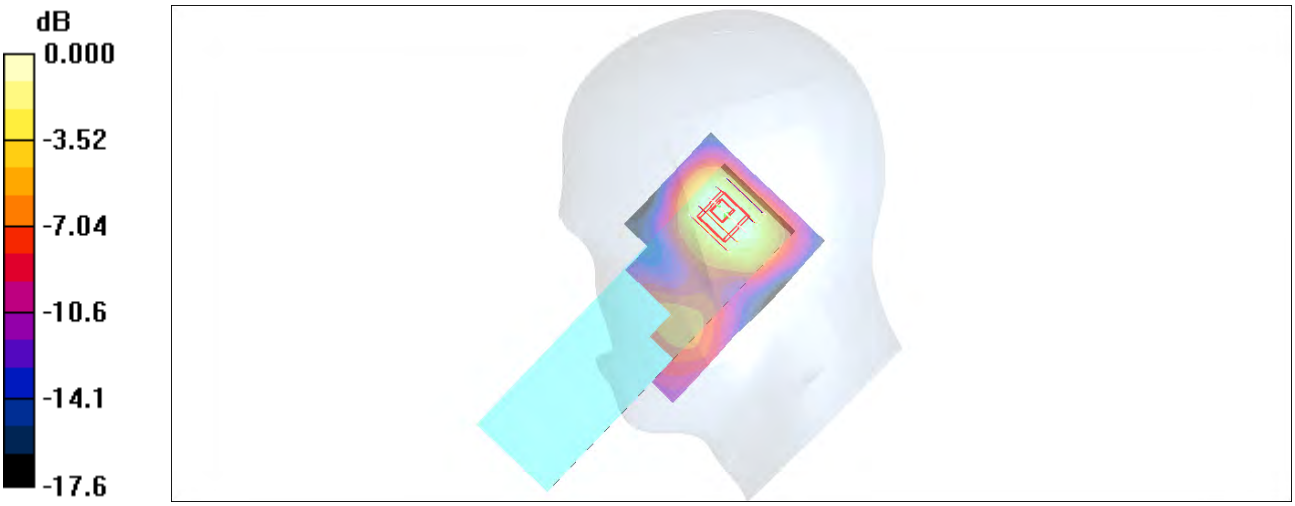
DUT: 2O0932

Communication System: CDMA ; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: HSL_1900_121026 Medium parameters used: f = 1851.25 MHz; σ = 1.39 mho/m; ε_r = 39.3; ρ = 1000 kg/m^3
Ambient Temperature：22.4℃; Liquid Temperature：21.3 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(5.05, 5.05, 5.05); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch25/Area Scan (51x121x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.064 mW/g

Ch25/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.85 V/m; Power Drift = 0.057 dB
Peak SAR (extrapolated) = 0.070 W/kg
SAR(1 g) = 0.048 mW/g; SAR(10 g) = 0.031 mW/g
Maximum value of SAR (measured) = 0.052 mW/g



0 dB = 0.052mW/g

#80_CDMA BC1_RC3 SO55_Right Tilted_Ch25_2D

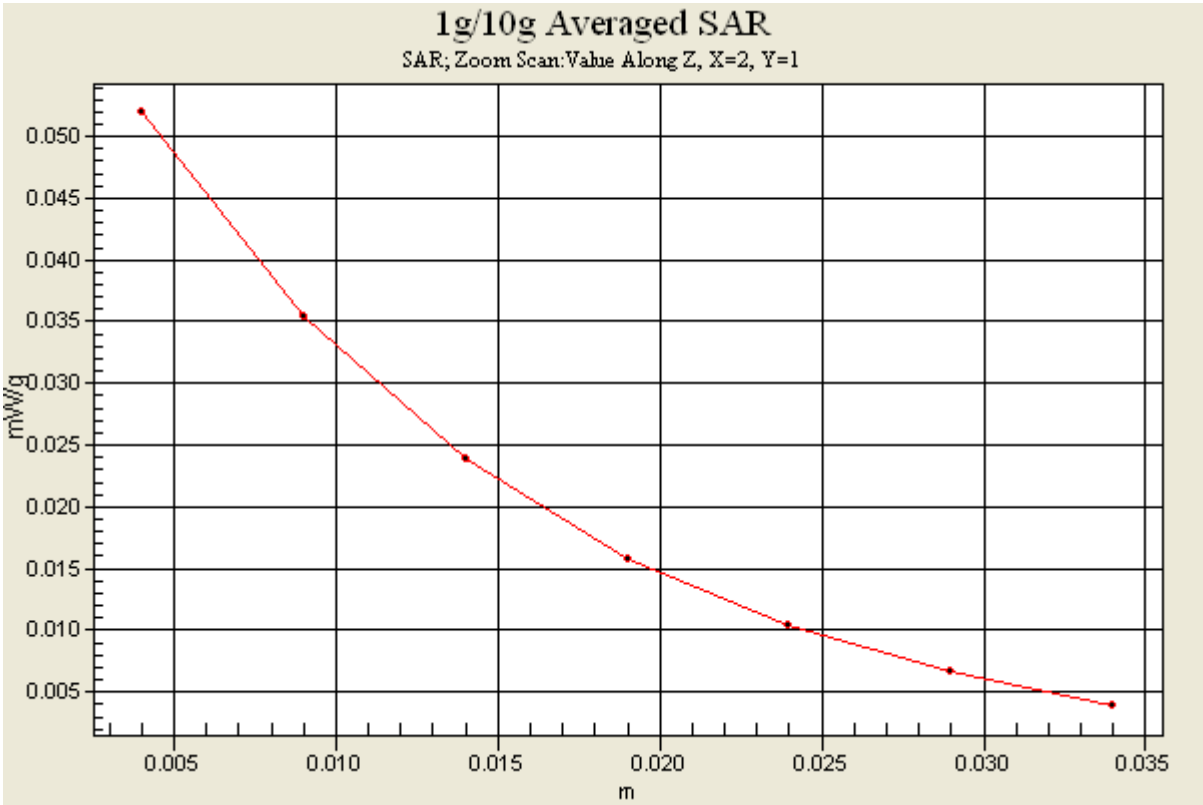
DUT: 2O0932

Communication System: CDMA ; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: HSL_1900_121026 Medium parameters used : f = 1851.25 MHz; σ = 1.39 mho/m; ε_r = 39.3; ρ = 1000 kg/m^3
Ambient Temperature：22.4℃; Liquid Temperature：21.3 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(5.05, 5.05, 5.05); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch25/Area Scan (51x121x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.064 mW/g

Ch25/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.85 V/m; Power Drift = 0.057 dB
Peak SAR (extrapolated) = 0.070 W/kg
SAR(1 g) = 0.048 mW/g; SAR(10 g) = 0.031 mW/g
Maximum value of SAR (measured) = 0.052 mW/g



#81_CDMA BC1_RC3 SO55_Left Cheek_Ch25

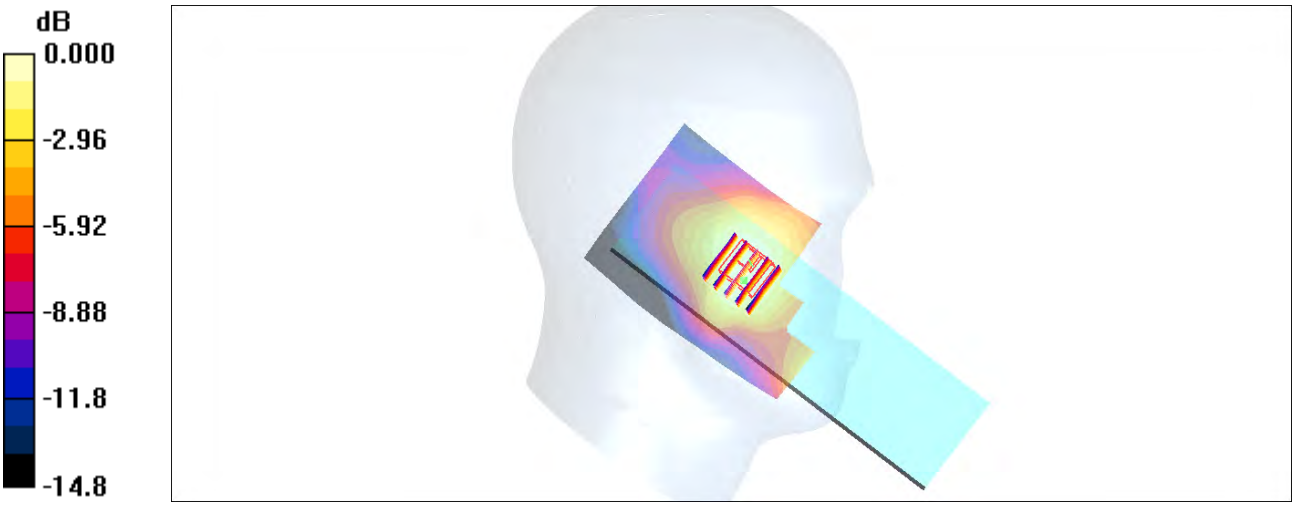
DUT: 2O0932

Communication System: CDMA ; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: HSL_1900_121026 Medium parameters used: f = 1851.25 MHz; σ = 1.39 mho/m; ε_r = 39.3; ρ = 1000 kg/m^3
Ambient Temperature：22.4℃; Liquid Temperature：21.3 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(5.05, 5.05, 5.05); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch25/Area Scan (51x121x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.036 mW/g

Ch25/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.779 V/m; Power Drift = 0.182 dB
Peak SAR (extrapolated) = 0.047 W/kg
SAR(1 g) = 0.032 mW/g; SAR(10 g) = 0.021 mW/g
Maximum value of SAR (measured) = 0.034 mW/g



0 dB = 0.034mW/g

#82_CDMA BC1_RC3 SO55_Left Tilted_Ch25

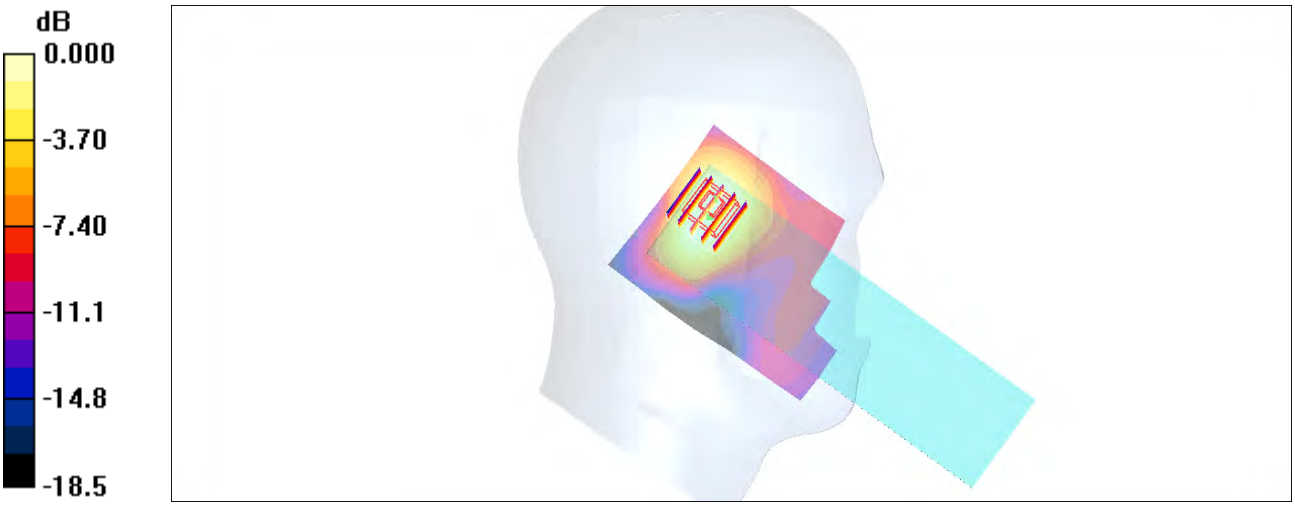
DUT: 2O0932

Communication System: CDMA ; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: HSL_1900_121026 Medium parameters used: f = 1851.25 MHz; σ = 1.39 mho/m; ε_r = 39.3; ρ = 1000 kg/m^3
Ambient Temperature：22.4℃; Liquid Temperature：21.3 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(5.05, 5.05, 5.05); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch25/Area Scan (51x121x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.054 mW/g

Ch25/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.03 V/m; Power Drift = 0.078 dB
Peak SAR (extrapolated) = 0.064 W/kg
SAR(1 g) = 0.043 mW/g; SAR(10 g) = 0.027 mW/g
Maximum value of SAR (measured) = 0.045 mW/g



0 dB = 0.045mW/g

#88_CDMA BC1_RETAP 4096_Right Tilted_Ch25

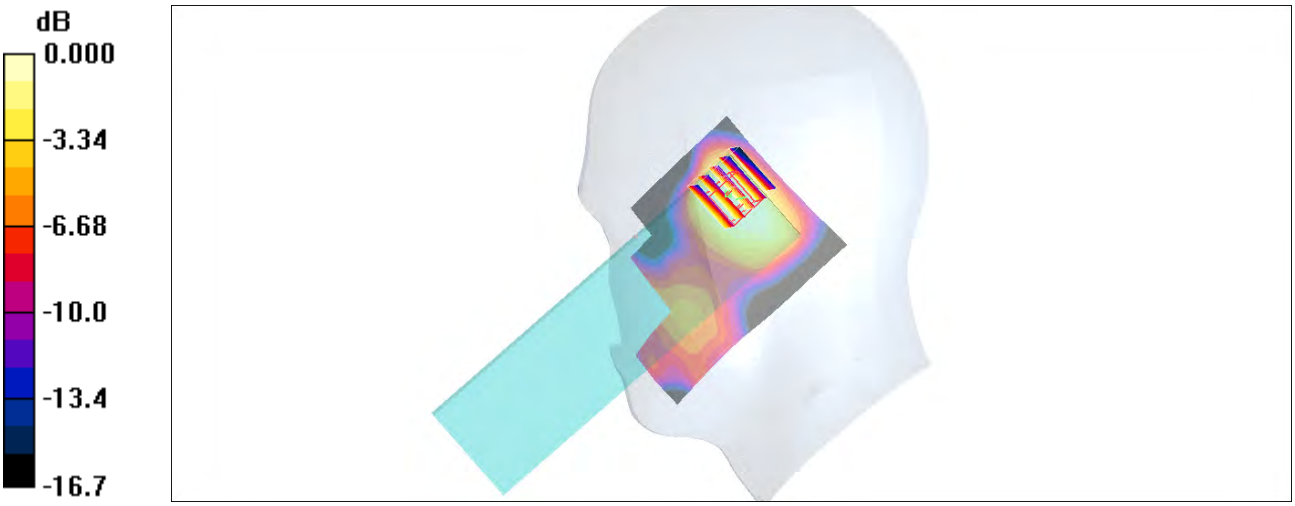
DUT: 2O0932

Communication System: CDMA ; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: HSL_1900_121026 Medium parameters used: f = 1851.25 MHz; σ = 1.39 mho/m; ε_r = 39.3; ρ = 1000 kg/m^3
Ambient Temperature：22.4℃; Liquid Temperature：21.3 ℃

DASY4 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(5.05, 5.05, 5.05); Calibrated: 2012/9/28
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn915; Calibrated: 2012/6/21
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch25/Area Scan (51x121x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.063 mW/g

Ch25/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.56 V/m; Power Drift = -0.196 dB
Peak SAR (extrapolated) = 0.059 W/kg
SAR(1 g) = 0.043 mW/g; SAR(10 g) = 0.028 mW/g
Maximum value of SAR (measured) = 0.046 mW/g



0 dB = 0.046mW/g

#91_CDMA BC1_RC3 SO55_Jaw Region SAR-Flat Phantom_6.5cm_Ch25

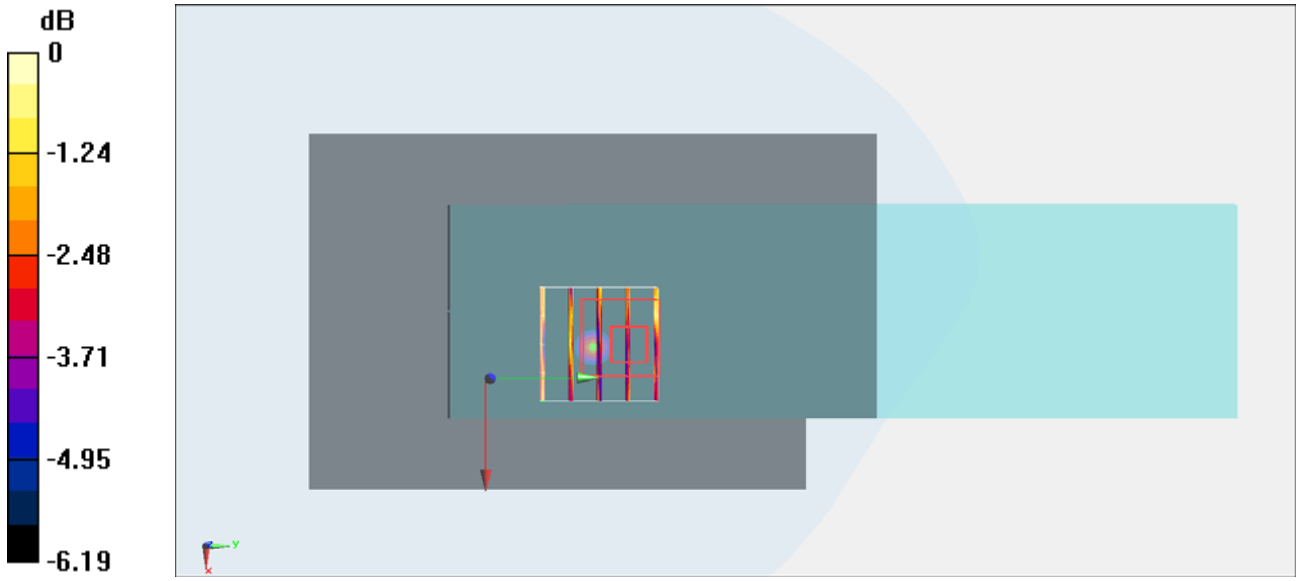
DUT: 2O0932

Communication System: CDMA ; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: HSL_1900_121112 Medium parameters used: f = 1851.25 MHz; σ = 1.394 mho/m; ε_r = 38.342; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch25/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.00144 mW/g

Configuration/Ch25/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 0.988 V/m; Power Drift = 0.165 dB
Peak SAR (extrapolated) = 0.00138 mW/g
SAR(1 g) = 4.73e-005 mW/g; SAR(10 g) = 4.92e-006 mW/g
Maximum value of SAR (measured) = 0.00224 mW/g



0 dB = 0.00224 mW/g = -53.00 dB mW/g

#08_WLAN2.4G_802.11b_Right Cheek_Ch6

DUT: 2O0932

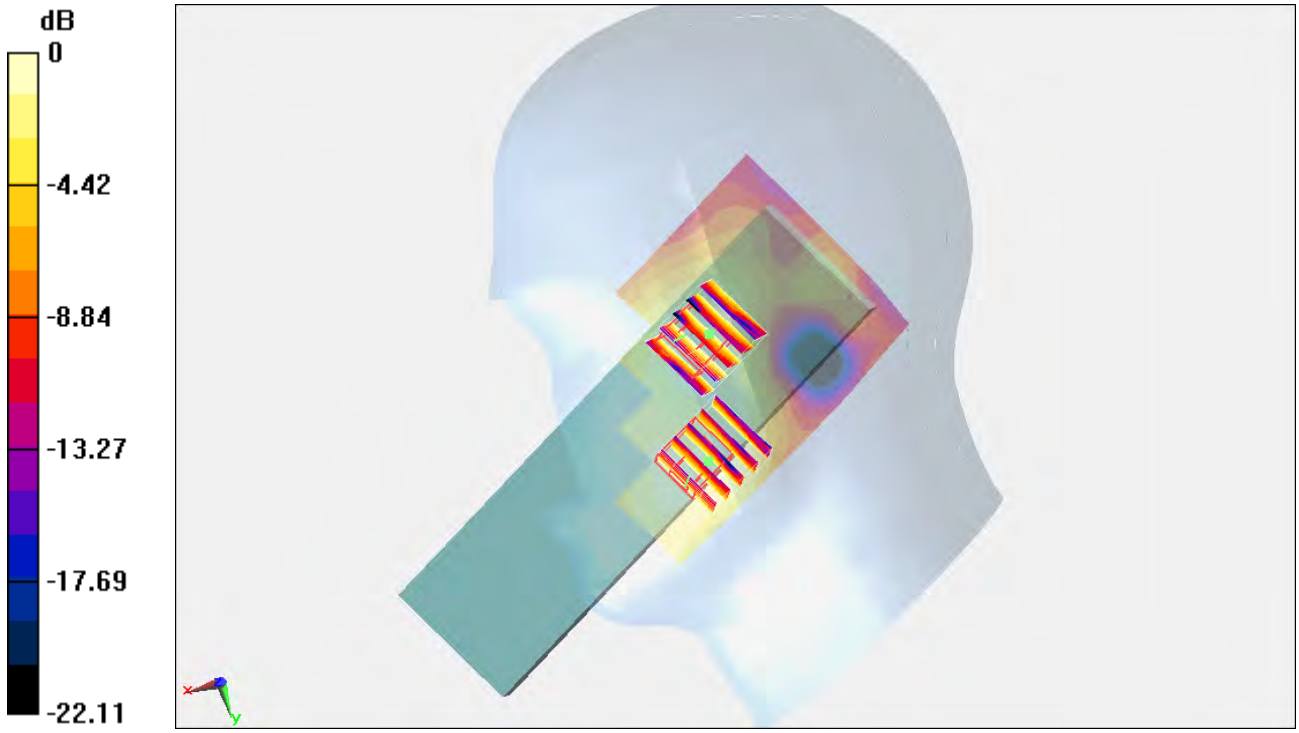
Communication System: 802.11b; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: HSL_2450_121016 Medium parameters used: f = 2437 MHz; σ = 1.828 mho/m; ε_r = 38.232; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(4.45, 4.45, 4.45); Calibrated: 2012/9/28;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch6/Area Scan (51x121x1): Measurement grid: dx=20 mm, dy=20 mm
Maximum value of SAR (interpolated) = 0.0175 W/kg

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.568 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 0.042 mW/g
SAR(1 g) = 0.019 mW/g; SAR(10 g) = 0.010 mW/g
Maximum value of SAR (measured) = 0.0196 W/kg

Ch6/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.568 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 0.033 mW/g
SAR(1 g) = 0.016 mW/g; SAR(10 g) = 0.00902 mW/g
Maximum value of SAR (measured) = 0.0181 W/kg



0 dB = 0.0181 W/kg = -34.85 dB W/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/10/16

#08_WLAN2.4G_802.11b_Right Cheek_Ch6_2D

DUT: 2O0932

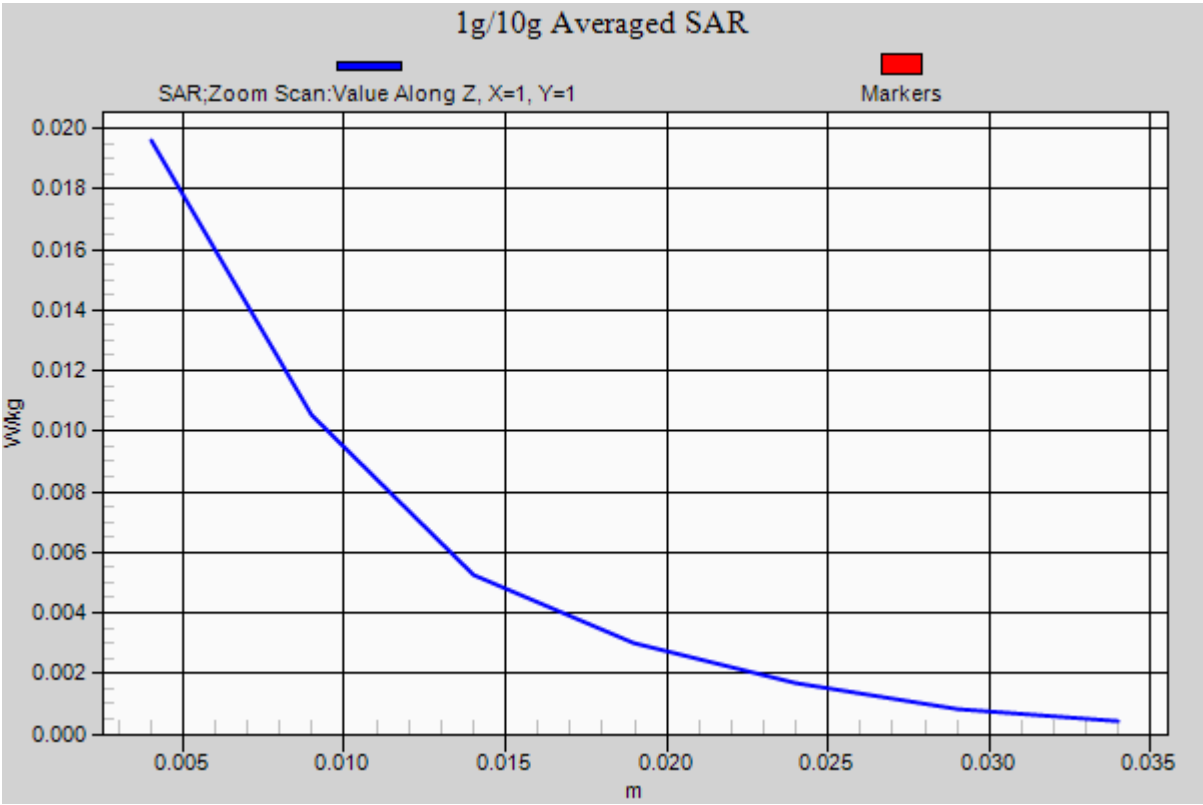
Communication System: 802.11b; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: HSL_2450_121016 Medium parameters used: f = 2437 MHz; σ = 1.828 mho/m; ε_r = 38.232; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(4.45, 4.45, 4.45); Calibrated: 2012/9/28;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch6/Area Scan (51x121x1): Measurement grid: dx=20 mm, dy=20 mm
Maximum value of SAR (interpolated) = 0.0175 W/kg

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.568 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 0.042 mW/g
SAR(1 g) = 0.019 mW/g; SAR(10 g) = 0.010 mW/g
Maximum value of SAR (measured) = 0.0196 W/kg

Ch6/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.568 V/m; Power Drift = -0.18 dB
Peak SAR (extrapolated) = 0.033 mW/g
SAR(1 g) = 0.016 mW/g; SAR(10 g) = 0.00902 mW/g
Maximum value of SAR (measured) = 0.0181 W/kg



#09_WLAN2.4G_802.11b_Right Tilted_Ch6

DUT: 2O0932

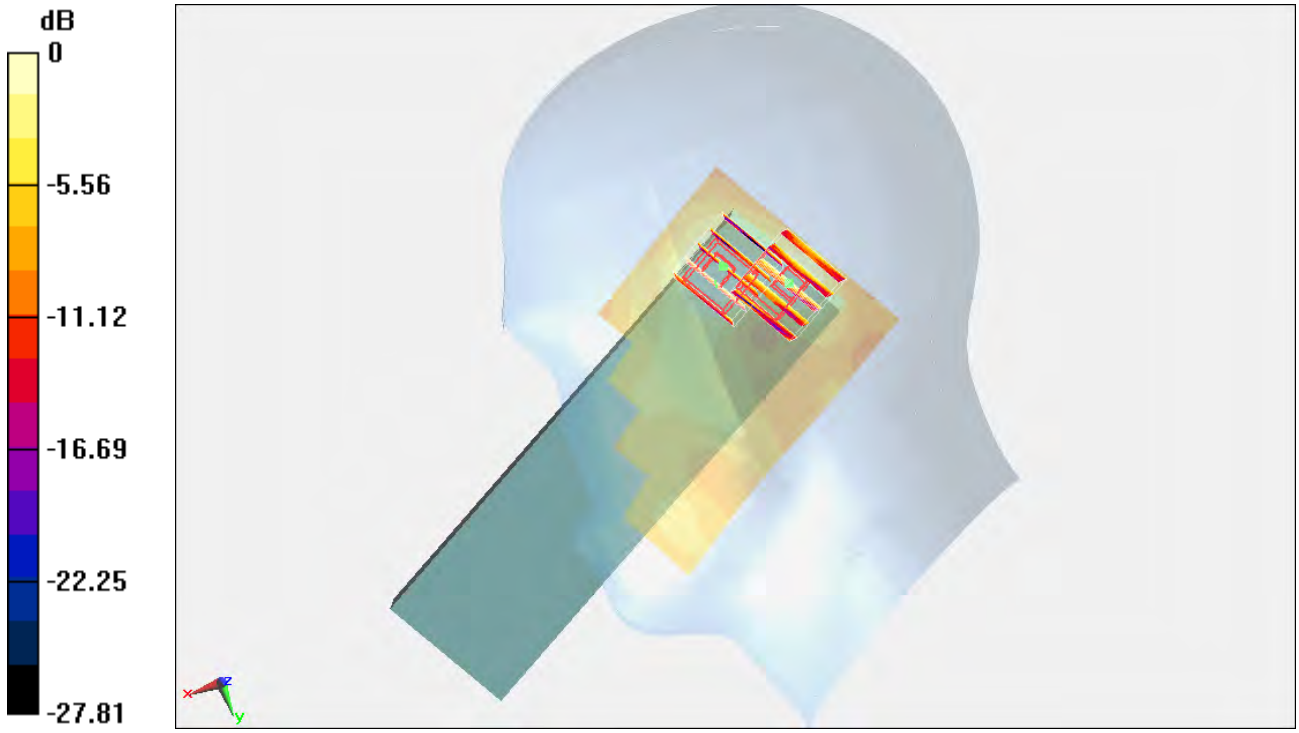
Communication System: 802.11b; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: HSL_2450_121016 Medium parameters used: f = 2437 MHz; σ = 1.828 mho/m; ε_r = 38.232; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(4.45, 4.45, 4.45); Calibrated: 2012/9/28;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch6/Area Scan (51x121x1): Measurement grid: dx=20 mm, dy=20 mm
Maximum value of SAR (interpolated) = 0.0159 W/kg

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.756 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.030 mW/g
SAR(1 g) = 0.015 mW/g; SAR(10 g) = 0.008 mW/g
Maximum value of SAR (measured) = 0.0159 W/kg

Ch6/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.756 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.029 mW/g
SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.00667 mW/g
Maximum value of SAR (measured) = 0.0157 W/kg



0 dB = 0.0157 W/kg = -36.08 dB W/kg

#10_WLAN2.4G_802.11b_Left Cheek_Ch6

DUT: 2O0932

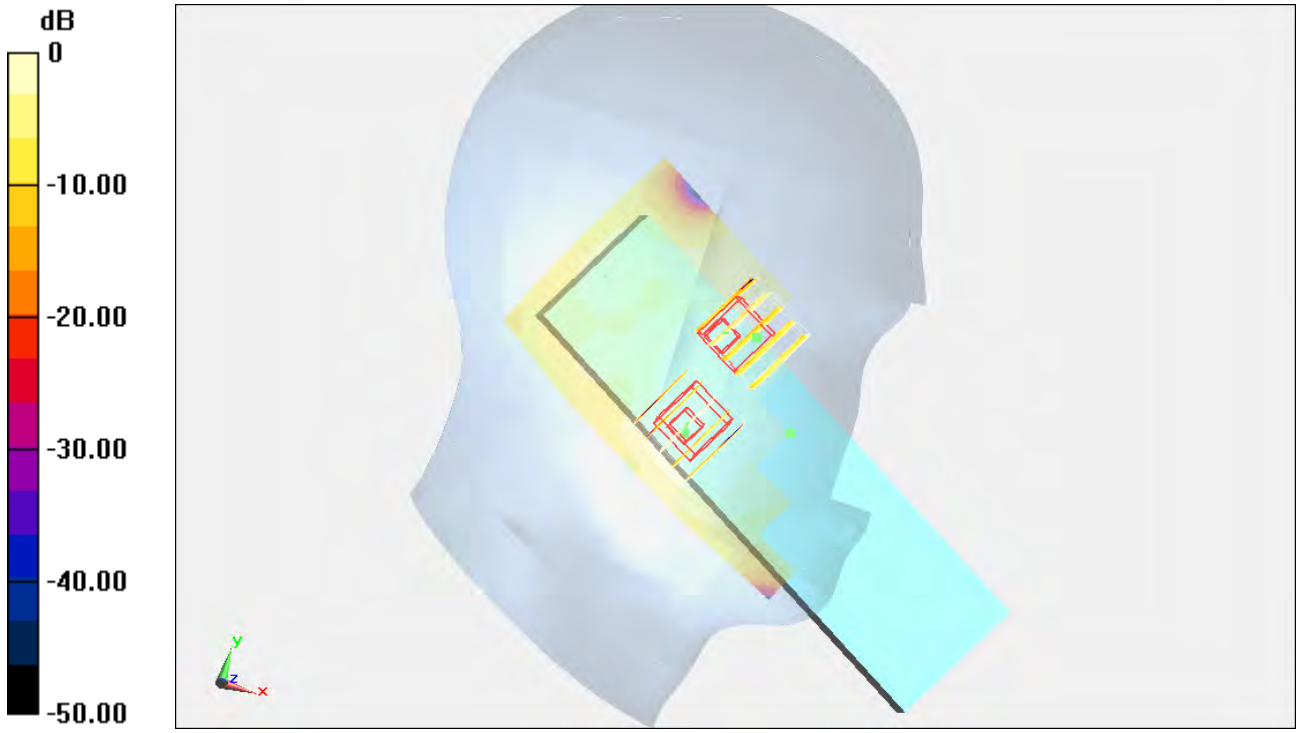
Communication System: 802.11b; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: HSL_2450_121016 Medium parameters used: f = 2437 MHz; σ = 1.828 mho/m; ε_r = 38.232; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(4.45, 4.45, 4.45); Calibrated: 2012/9/28;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch6/Area Scan (51x121x1): Measurement grid: dx=20 mm, dy=20 mm
Maximum value of SAR (interpolated) = 0.0114 W/kg

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.673 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.072 mW/g
SAR(1 g) = 0.013 mW/g; SAR(10 g) = 0.00668 mW/g
Maximum value of SAR (measured) = 0.0159 W/kg

Ch6/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.673 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.021 mW/g
SAR(1 g) = 0.011 mW/g; SAR(10 g) = 0.00585 mW/g
Maximum value of SAR (measured) = 0.0119 W/kg



0 dB = 0.0119 W/kg = -38.49 dB W/kg

#11_WLAN2.4G_802.11b_Left Tilted_Ch6

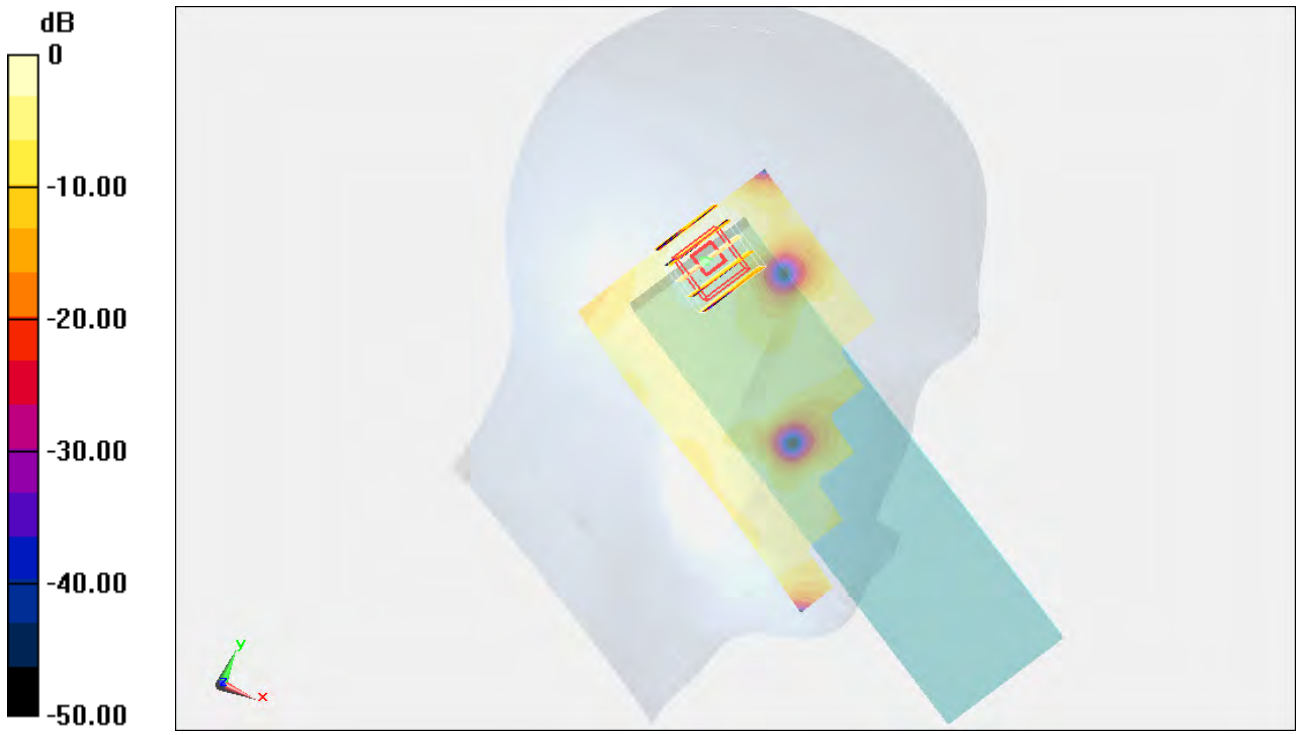
DUT: 2O0932

Communication System: 802.11b; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: HSL_2450_121016 Medium parameters used: f = 2437 MHz; σ = 1.828 mho/m; ε_r = 38.232; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(4.45, 4.45, 4.45); Calibrated: 2012/9/28;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch6/Area Scan (51x121x1): Measurement grid: dx=20 mm, dy=20 mm
Maximum value of SAR (interpolated) = 0.00657 W/kg

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.883 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 0.011 mW/g
SAR(1 g) = 0.00581 mW/g; SAR(10 g) = 0.00265 mW/g
Maximum value of SAR (measured) = 0.00656 W/kg



0 dB = 0.00656 W/kg = -43.66 dB W/kg

#28_WLAN5G_802.11a_Right Cheek_Ch44

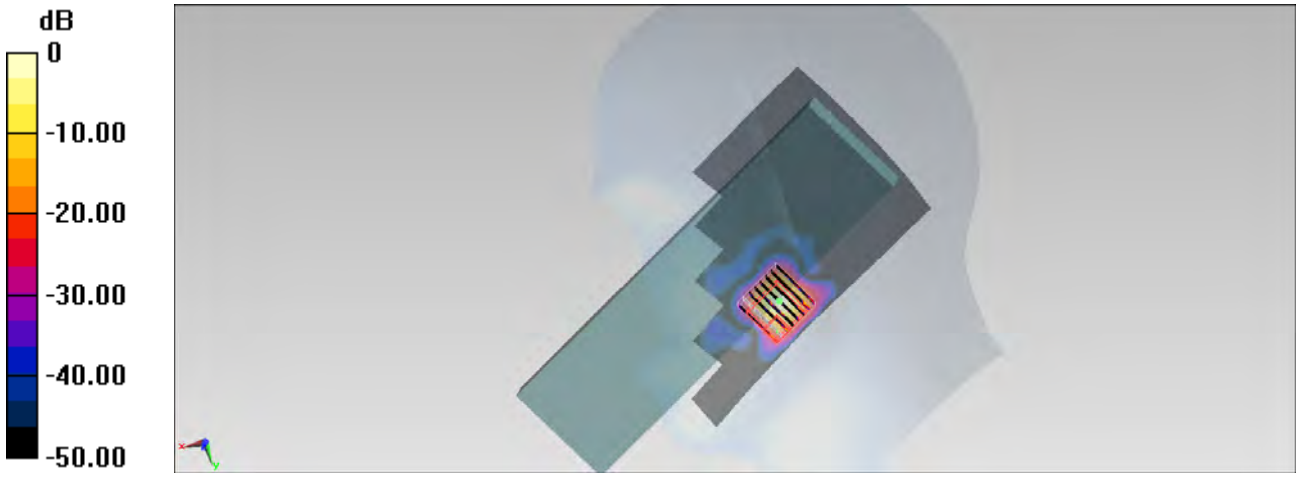
DUT: 2O0932

Communication System: 802.11a; Frequency: 5220 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5220 MHz; σ = 4.809 mho/m; ε_r = 35.388; ρ = 1000 kg/m^3
Ambient Temperature：22.9 ℃; Liquid Temperature：21.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.86, 4.86, 4.86); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch44/Area Scan (101x261x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.281 mW/g

Ch44/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 1.847 V/m; Power Drift =0.117 dB
Peak SAR (extrapolated) = 0.337 mW/g
SAR(1 g) = 0.00158 mW/g; SAR(10 g) = 0.000152 mW/g
Maximum value of SAR (measured) = 0.337 mW/g



0 dB = 0.337 mW/g = -9.45 dB mW/g

#29_WLAN5G_802.11a_Right Tilted_Ch44

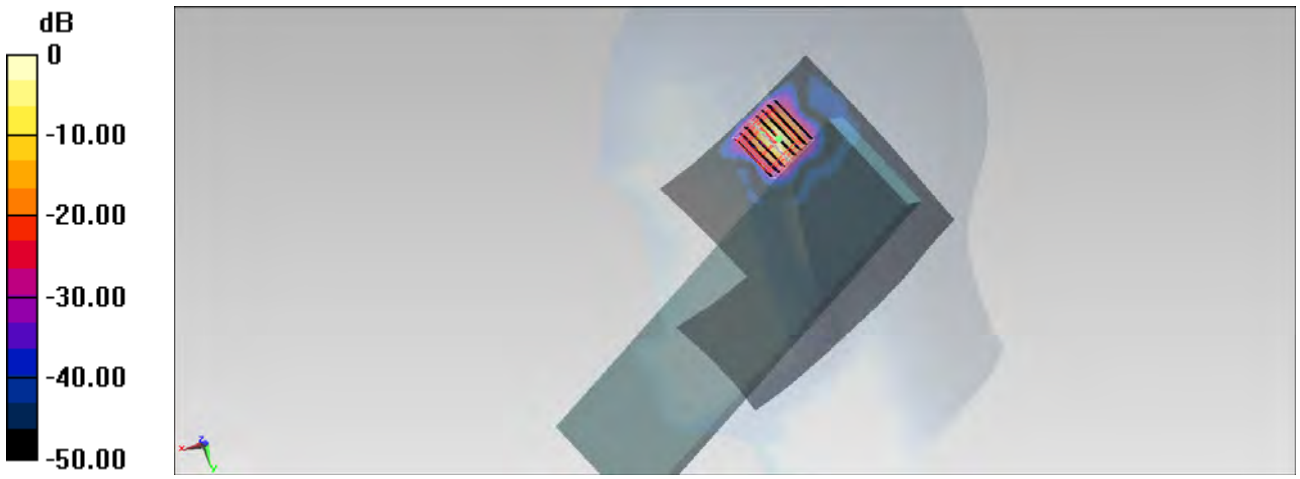
DUT: 2O0932

Communication System: 802.11a; Frequency: 5220 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5220 MHz; σ = 4.809 mho/m; ε_r = 35.388; ρ = 1000 kg/m^3
Ambient Temperature：22.9 ℃; Liquid Temperature：21.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.86, 4.86, 4.86); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch44/Area Scan (61x131x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.393 mW/g

Ch44/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 3.335 V/m; Power Drift = 0.097 dB
Peak SAR (extrapolated) = 1.496 mW/g
SAR(1 g) = 0.062 mW/g; SAR(10 g) = 0.014 mW/g
Maximum value of SAR (measured) = 1.03 mW/g



0 dB = 1.03 mW/g = 0.26 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/10/19

#29_WLAN5G_802.11a_Right Tilted_Ch44_2D

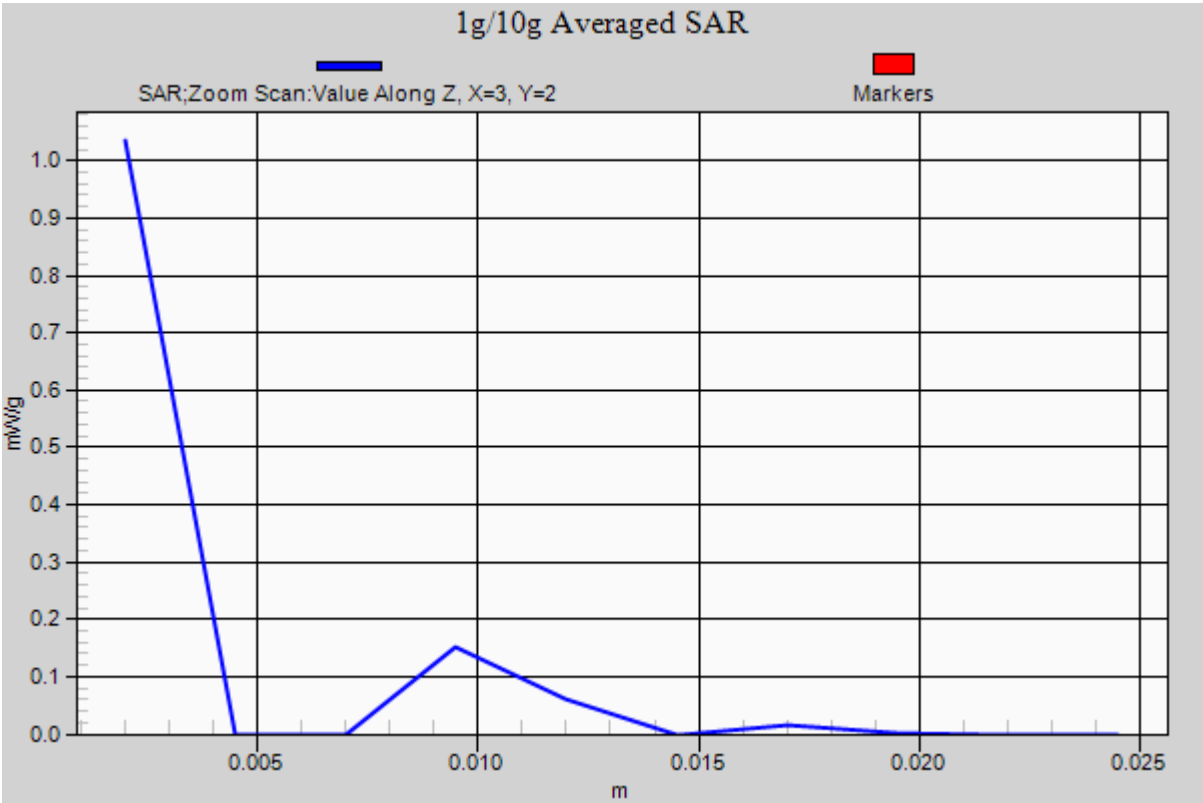
DUT: 2O0932

Communication System: 802.11a; Frequency: 5220 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5220 MHz; σ = 4.809 mho/m; ε_r = 35.388; ρ = 1000 kg/m^3
Ambient Temperature：22.9 ℃; Liquid Temperature：21.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.86, 4.86, 4.86); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch44/Area Scan (61x131x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.393 mW/g

Ch44/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 3.335 V/m; Power Drift = 0.097 dB
Peak SAR (extrapolated) = 1.496 mW/g
SAR(1 g) = 0.062 mW/g; SAR(10 g) = 0.014 mW/g
Maximum value of SAR (measured) = 1.03 mW/g



#30_WLAN5G_802.11a_Left Cheek_Ch44

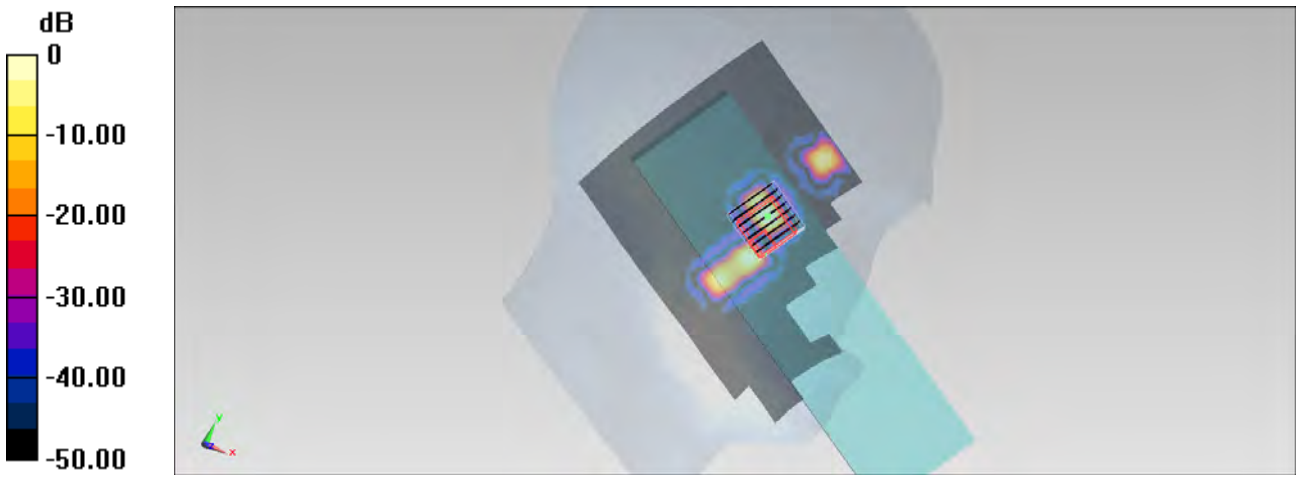
DUT: 2O0932

Communication System: 802.11a; Frequency: 5220 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5220 MHz; σ = 4.809 mho/m; ε_r = 35.388; ρ = 1000 kg/m^3
Ambient Temperature：22.9 ℃; Liquid Temperature：21.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.86, 4.86, 4.86); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch44/Area Scan (121x261x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.25 mW/g

Ch44/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 3.491 V/m; Power Drift = 0.072 dB
Peak SAR (extrapolated) = 2.340 mW/g
SAR(1 g) = 0.060 mW/g; SAR(10 g) = 0.00545 mW/g
Maximum value of SAR (measured) = 0.826 mW/g



0 dB = 0.826 mW/g = -1.66 dB mW/g

#31_WLAN5G_802.11a_Left Tilted_Ch44

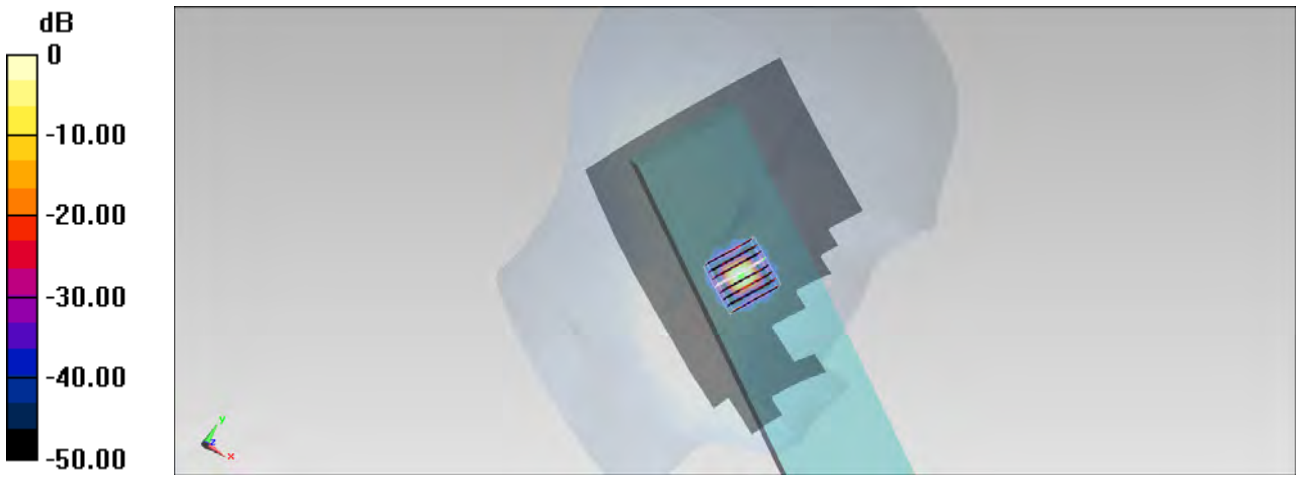
DUT: 2O0932

Communication System: 802.11a; Frequency: 5220 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5220 MHz; σ = 4.809 mho/m; ε_r = 35.388; ρ = 1000 kg/m^3
Ambient Temperature：22.9 ℃; Liquid Temperature：21.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.86, 4.86, 4.86); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch44/Area Scan (121x261x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.401 mW/g

Ch44/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 1.384 V/m; Power Drift = 0.018 dB
Peak SAR (extrapolated) = 0 mW/g
SAR(1 g) = n.a. ; SAR(10 g) = n.a.
Maximum value of SAR (measured) = 0.115 mW/g



0 dB = 0.115 mW/g = -18.79 dB mW/g

#36_WLAN5G_802.11a_Right Cheek_Ch60

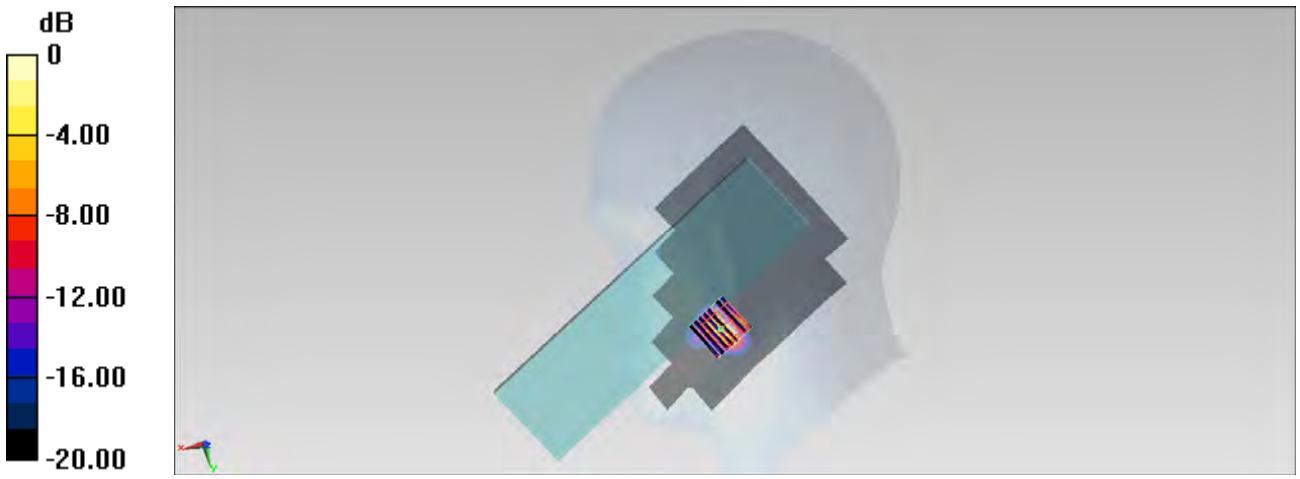
DUT: 2O0932

Communication System: 802.11a; Frequency: 5300 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121020 Medium parameters used: f = 5300 MHz; σ = 4.89 mho/m; ε_r = 35.314; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.86, 4.86, 4.86); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch60/Area Scan (121x241x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.106 mW/g

Ch60/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 1.823 V/m; Power Drift = 0.159 dB
Peak SAR (extrapolated) = 0.479 mW/g
SAR(1 g) = 0.123 mW/g; SAR(10 g) = 0.031 mW/g
Maximum value of SAR (measured) = 0.283 mW/g



0 dB = 0.283 mW/g = -10.96 dB mW/g

#37_WLAN5G_802.11a_Right Tilted_Ch60

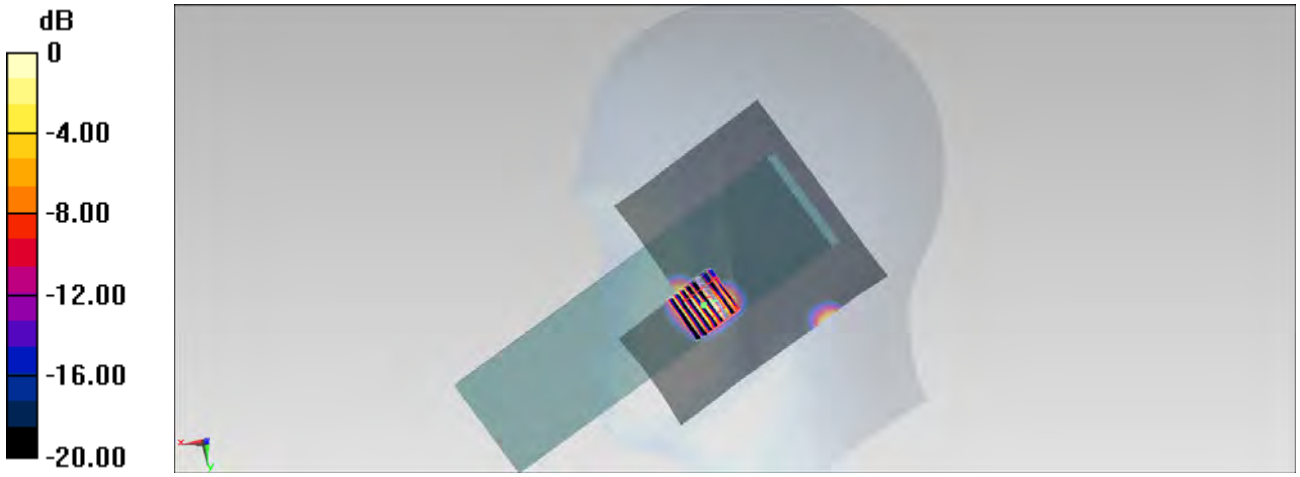
DUT: 2O0932

Communication System: 802.11a; Frequency: 5300 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121020 Medium parameters used: f = 5300 MHz; σ = 4.89 mho/m; ε_r = 35.314; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.86, 4.86, 4.86); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch60/Area Scan (121x241x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.403 mW/g

Ch60/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 1.323 V/m; Power Drift = 0.148 dB
Peak SAR (extrapolated) = 0.537 mW/g
SAR(1 g) = 0.142 mW/g; SAR(10 g) = 0.045 mW/g
Maximum value of SAR (measured) = 0.281 mW/g



0 dB = 0.281 mW/g = -11.03 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/10/20

#37_WLAN5G_802.11a_Right Tilted_Ch60_2D

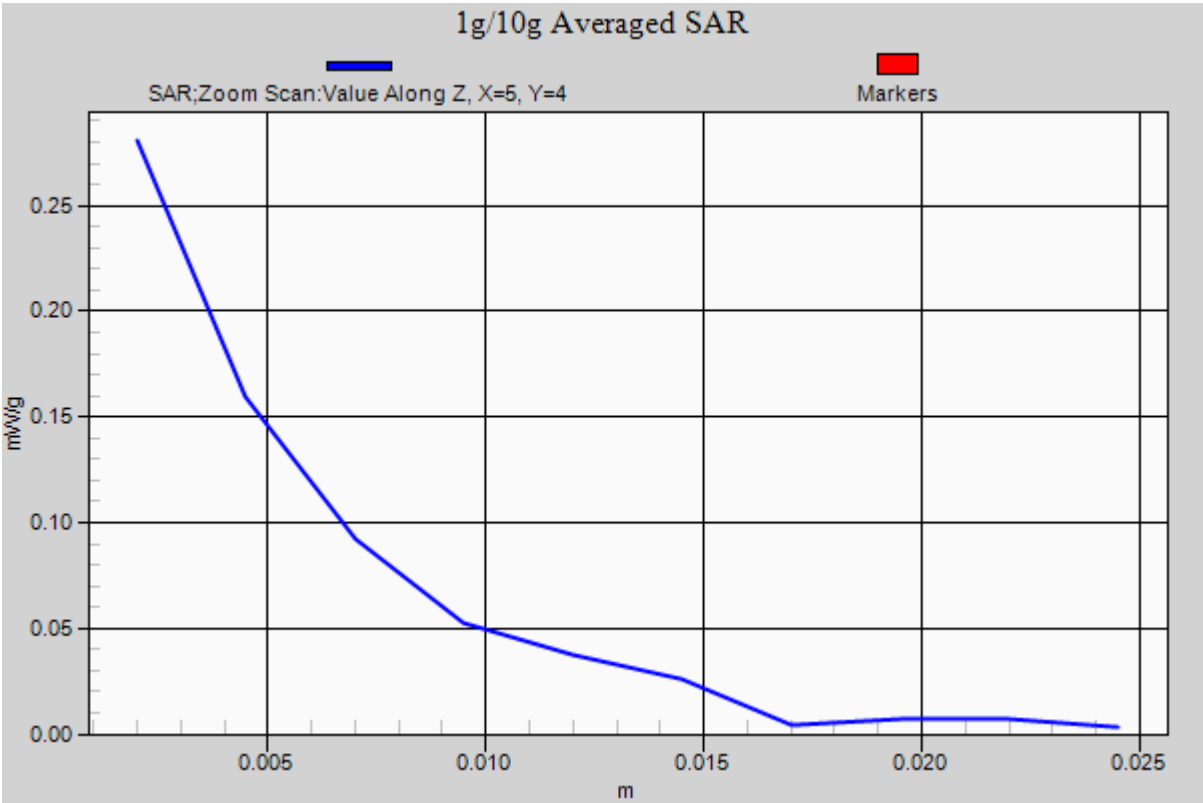
DUT: 2O0932

Communication System: 802.11a; Frequency: 5300 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121020 Medium parameters used: f = 5300 MHz; σ = 4.89 mho/m; ε_r = 35.314; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃； Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.86, 4.86, 4.86); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch60/Area Scan (121x241x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.403 mW/g

Ch60/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 1.323 V/m; Power Drift = 0.148 dB
Peak SAR (extrapolated) = 0.537 mW/g
SAR(1 g) = 0.142 mW/g; SAR(10 g) = 0.045 mW/g
Maximum value of SAR (measured) = 0.281 mW/g



#38_WLAN5G_802.11a_Left Cheek_Ch60

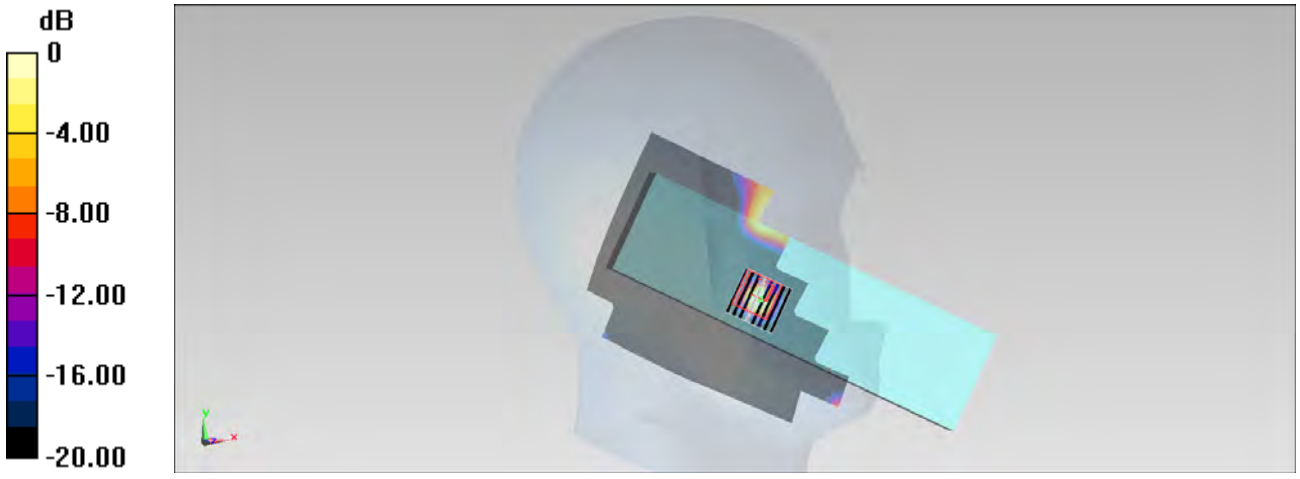
DUT: 2O0932

Communication System: 802.11a; Frequency: 5300 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121020 Medium parameters used: f = 5300 MHz; σ = 4.89 mho/m; ε_r = 35.314; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.86, 4.86, 4.86); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch60/Area Scan (121x261x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.337 mW/g

Ch60/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 1.084 V/m; Power Drift = -0.036 dB
Peak SAR (extrapolated) = 0.373 mW/g
SAR(1 g) = 0.00965 mW/g; SAR(10 g) = 0.000967 mW/g
Maximum value of SAR (measured) = 0.247 mW/g



0 dB = 0.247 mW/g = -12.15 dB mW/g

#39_WLAN5G_802.11a_Left Tilted_Ch60

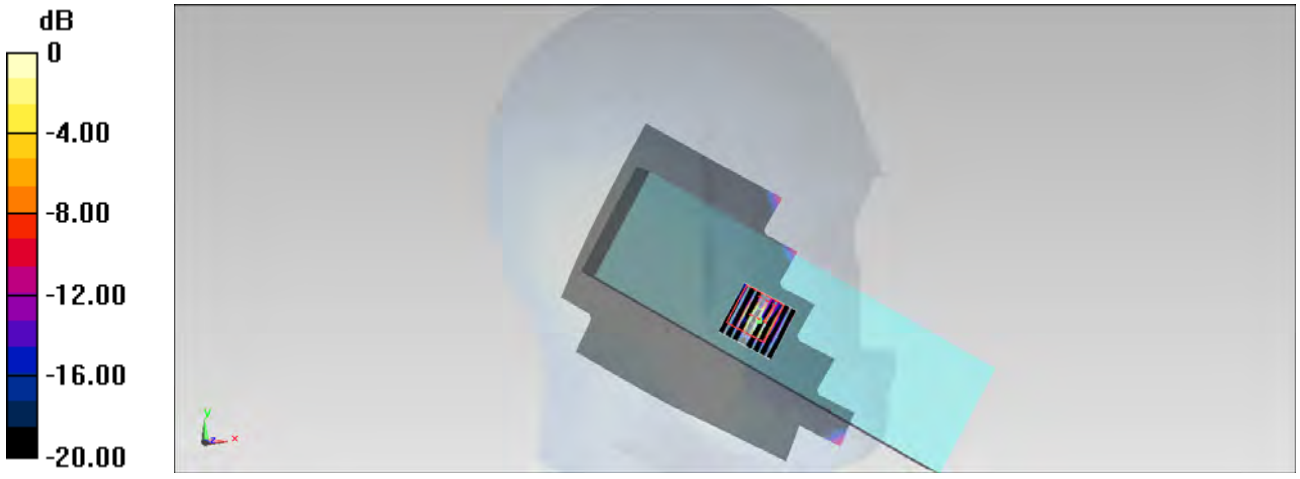
DUT: 2O0932

Communication System: 802.11a; Frequency: 5300 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121020 Medium parameters used: f = 5300 MHz; σ = 4.89 mho/m; ε_r = 35.314; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.86, 4.86, 4.86); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch60/Area Scan (121x261x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.396 mW/g

Ch60/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 3.491 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 0.415 mW/g
SAR(1 g) = 0.011 mW/g; SAR(10 g) = 0.00108 mW/g
Maximum value of SAR (measured) = 0.275 mW/g



0 dB = 0.275 mW/g = -11.21 dB mW/g

#32_WLAN5G_802.11a_Right Cheek_Ch100

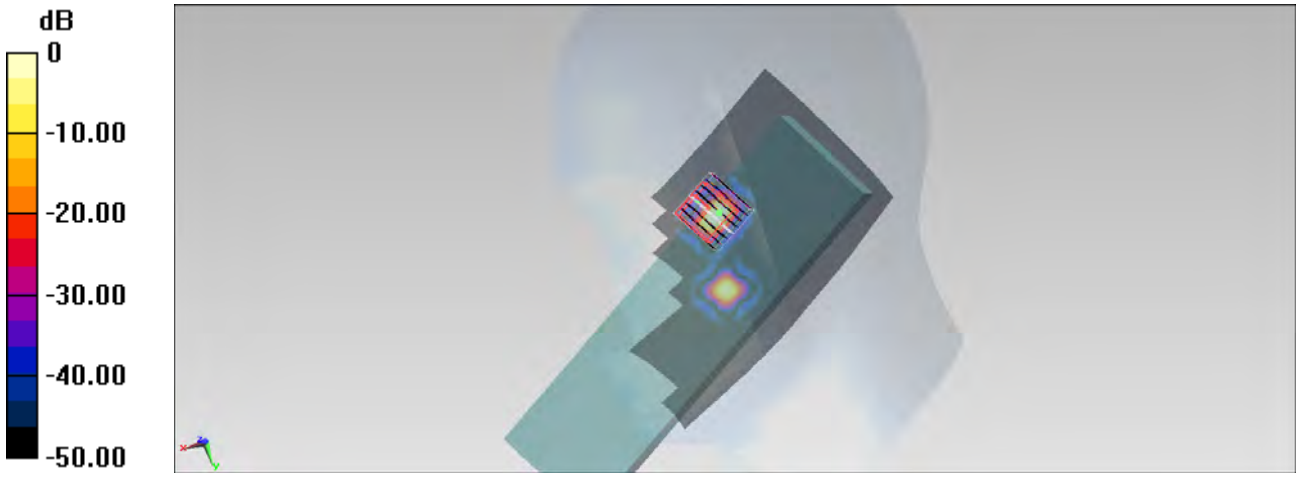
DUT: 2O0932

Communication System: 802.11a; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5500 MHz; σ = 5.098 mho/m; ε_r = 34.942; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.6, 4.6, 4.6); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch100/Area Scan (101x261x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.513 mW/g

Ch100/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.111 dB
Peak SAR (extrapolated) = 0.716 mW/g
SAR(1 g) = 0.031 mW/g; SAR(10 g) = 0.00545 mW/g
Maximum value of SAR (measured) = 0.510 mW/g



0 dB = 0.510 mW/g = -5.85 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/10/19

#32_WLAN5G_802.11a_Right Cheek_Ch100_2D

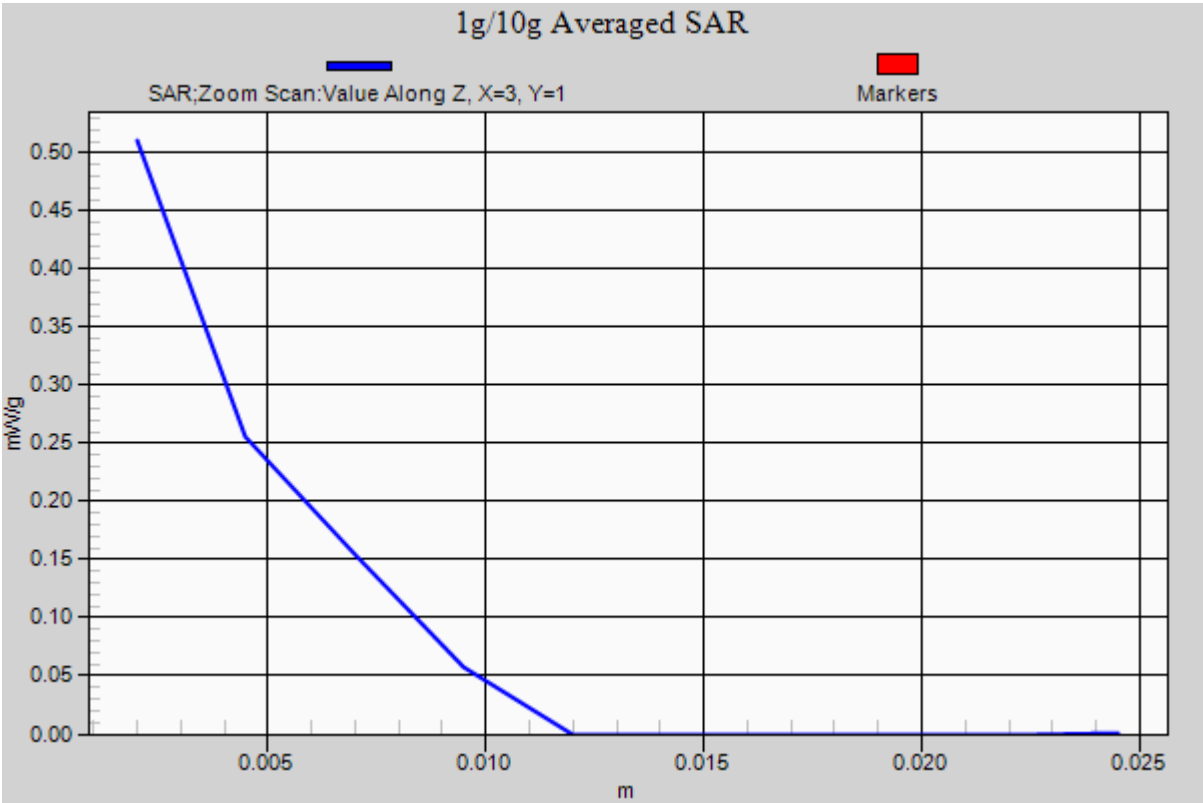
DUT: 2O0932

Communication System: 802.11a; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5500 MHz; σ = 5.098 mho/m; ε_r = 34.942; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃； Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.6, 4.6, 4.6); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch100/Area Scan (101x261x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.513 mW/g

Ch100/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.111 dB
Peak SAR (extrapolated) = 0.716 mW/g
SAR(1 g) = 0.031 mW/g; SAR(10 g) = 0.00545 mW/g
Maximum value of SAR (measured) = 0.510 mW/g



#33_WLAN5G_802.11a_Right Tilted_Ch100

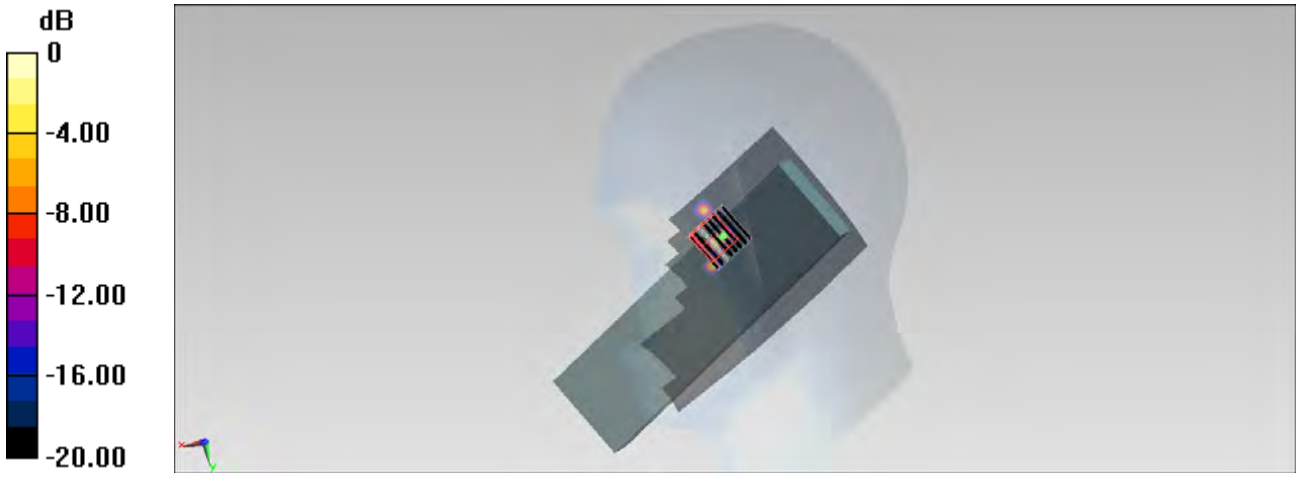
DUT: 2O0932

Communication System: 802.11a; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5500 MHz; σ = 5.098 mho/m; ε_r = 34.942; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.6, 4.6, 4.6); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch100/Area Scan (101x261x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.683 mW/g

Ch100/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 0.689 mW/g
SAR(1 g) = 0.021 mW/g; SAR(10 g) = 0.00284 mW/g
Maximum value of SAR (measured) = 0.679 mW/g



0 dB = 0.679 mW/g = -3.36 dB mW/g

#34_WLAN5G_802.11a_Left Cheek_Ch100

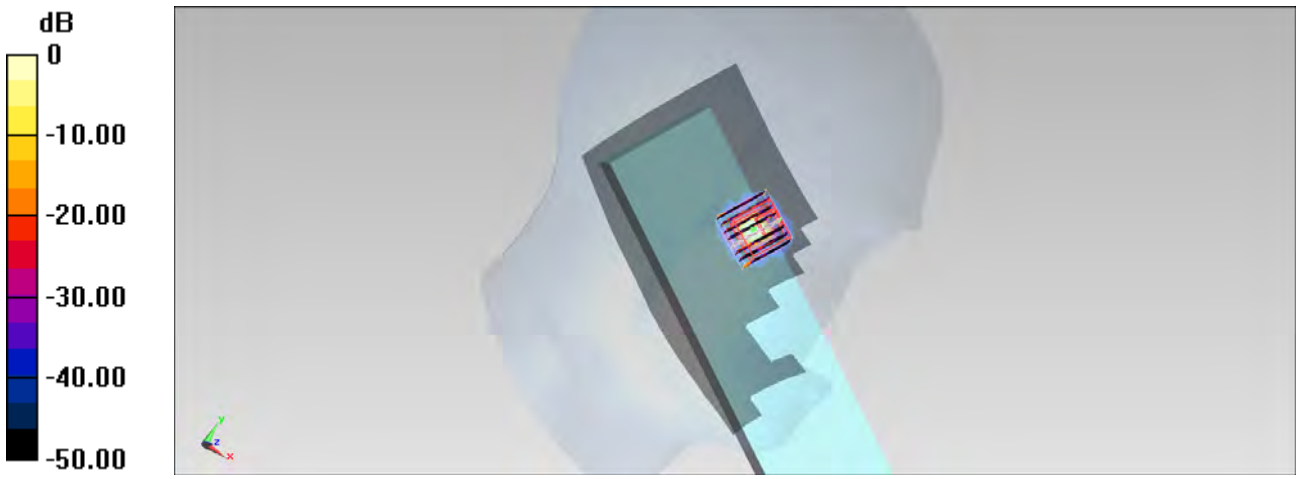
DUT: 2O0932

Communication System: 802.11a; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5500 MHz; σ = 5.098 mho/m; ε_r = 34.942; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃； Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.6, 4.6, 4.6); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch100/Area Scan (101x261x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.563 mW/g

Ch100/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0.701 V/m; Power Drift = 0.049 dB
Peak SAR (extrapolated) = 0.347 mW/g
SAR(1 g) = 0.00882 mW/g; SAR(10 g) = 0.00083 mW/g
Maximum value of SAR (measured) = 0.151 mW/g



0 dB = 0.151 mW/g = -16.42 dB mW/g

#35_WLAN5G_802.11a_Left Tilted_Ch100

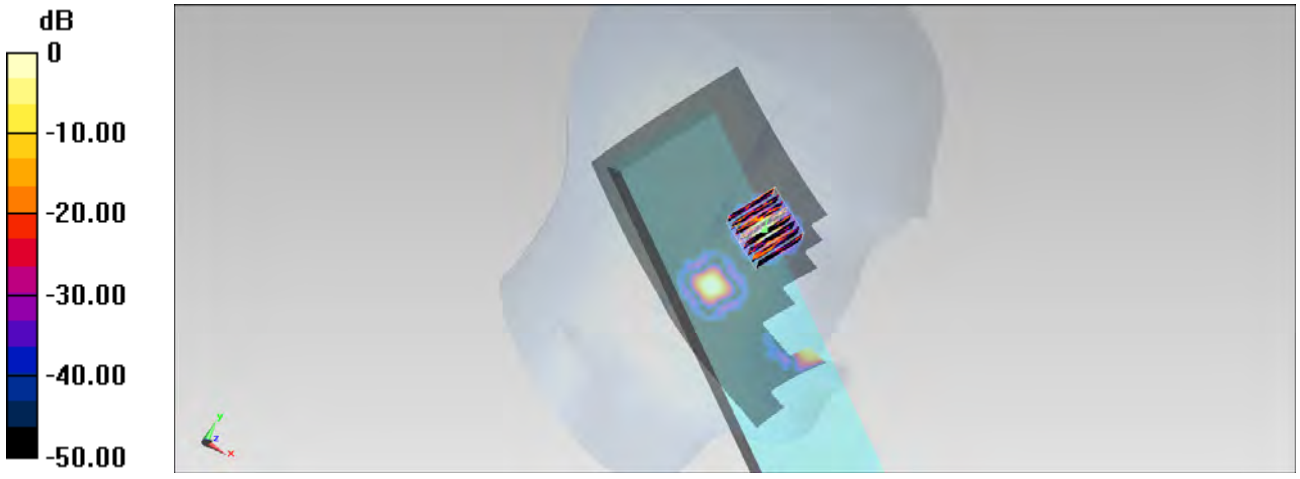
DUT: 2O0932

Communication System: 802.11a; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5500 MHz; σ = 5.098 mho/m; ε_r = 34.942; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.6, 4.6, 4.6); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch100/Area Scan (101x261x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.325 mW/g

Ch100/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 1.086 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0 mW/g
SAR(1 g) = n.a. ; SAR(10 g) = n.a.
Maximum value of SAR (measured) = 0.107 mW/g



0 dB = 0.107 mW/g = -19.41 dB mW/g

#40_WLAN5G_802.11a_Right Cheek_Ch165

DUT: 2O0932

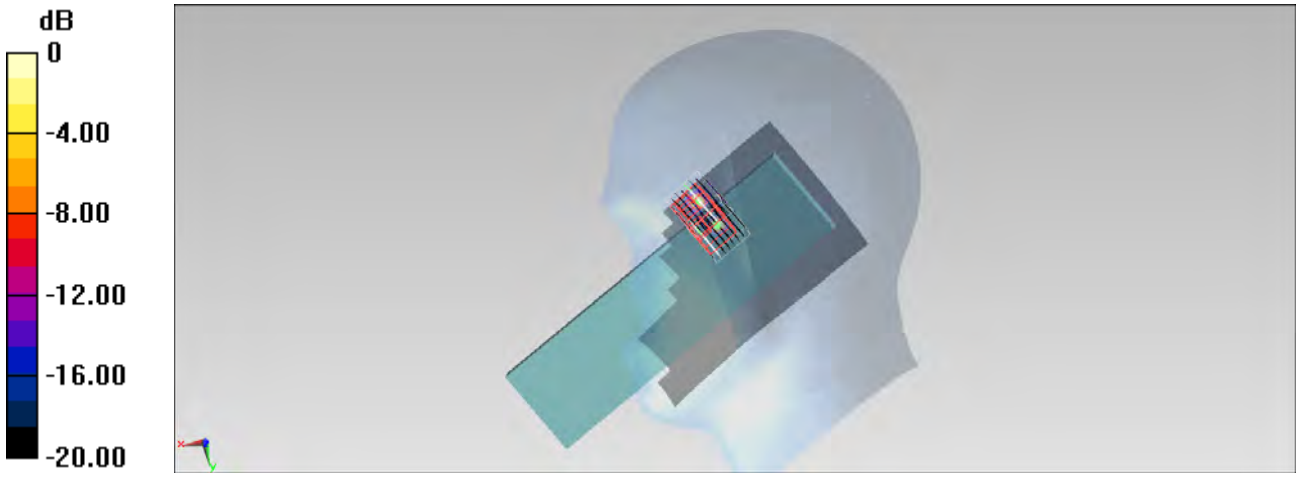
Communication System: 802.11a; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5825 MHz; σ = 5.408 mho/m; ε_r = 34.234; ρ = 1000 kg/m^3
Ambient Temperature：22.7 ℃； Liquid Temperature：21.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.28, 4.28, 4.28); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch165/Area Scan (101x261x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.800 mW/g

Ch165/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.112 dB
Peak SAR (extrapolated) = 0.977 mW/g
SAR(1 g) = 0.016 mW/g; SAR(10 g) = 0.00268 mW/g
Maximum value of SAR (measured) = 0.476 mW/g

Ch165/Zoom Scan (8x8x10)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.112 dB
Peak SAR (extrapolated) = 1.808 mW/g
SAR(1 g) = 0.011 mW/g; SAR(10 g) = 0.0011 mW/g
Maximum value of SAR (measured) = 0.523 mW/g



0 dB = 0.523 mW/g = -5.63 dB mW/g

#41_WLAN5G_802.11a_Right Tilted_Ch165

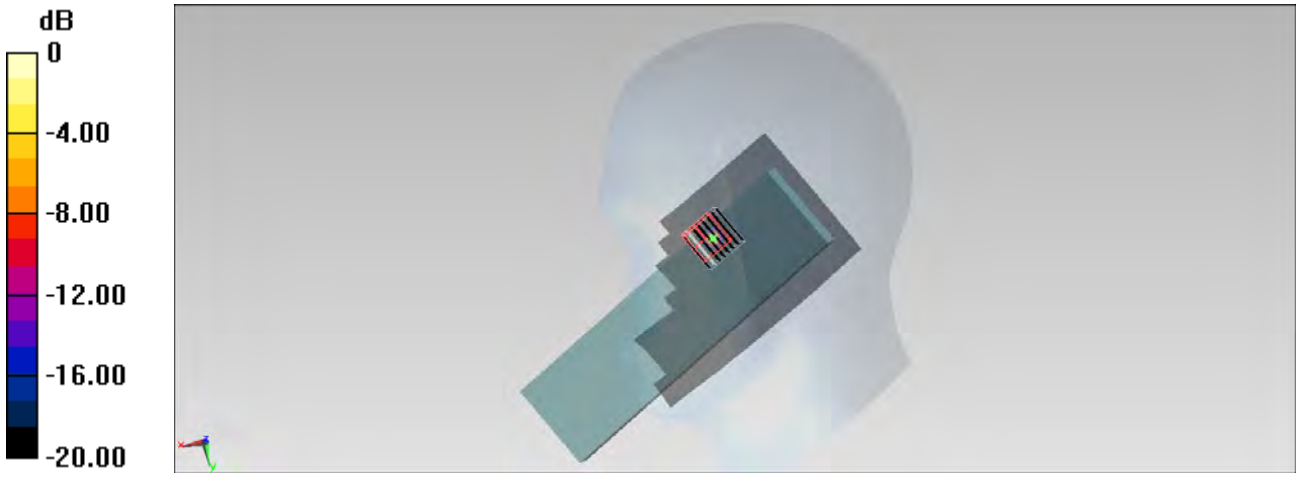
DUT: 2O0932

Communication System: 802.11a; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5825 MHz; σ = 5.408 mho/m; ε_r = 34.234; ρ = 1000 kg/m^3
Ambient Temperature：22.7 ℃; Liquid Temperature：21.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.28, 4.28, 4.28); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch165/Area Scan (101x261x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.593 mW/g

Ch165/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 4.973 V/m; Power Drift = 0.136 dB
Peak SAR (extrapolated) = 0.861 mW/g
SAR(1 g) = 0.029 mW/g; SAR(10 g) = 0.00381 mW/g
Maximum value of SAR (measured) = 0.526 mW/g



0 dB = 0.526 mW/g = -5.58 dB mW/g

#42_WLAN5G_802.11a_Left Cheek_Ch165

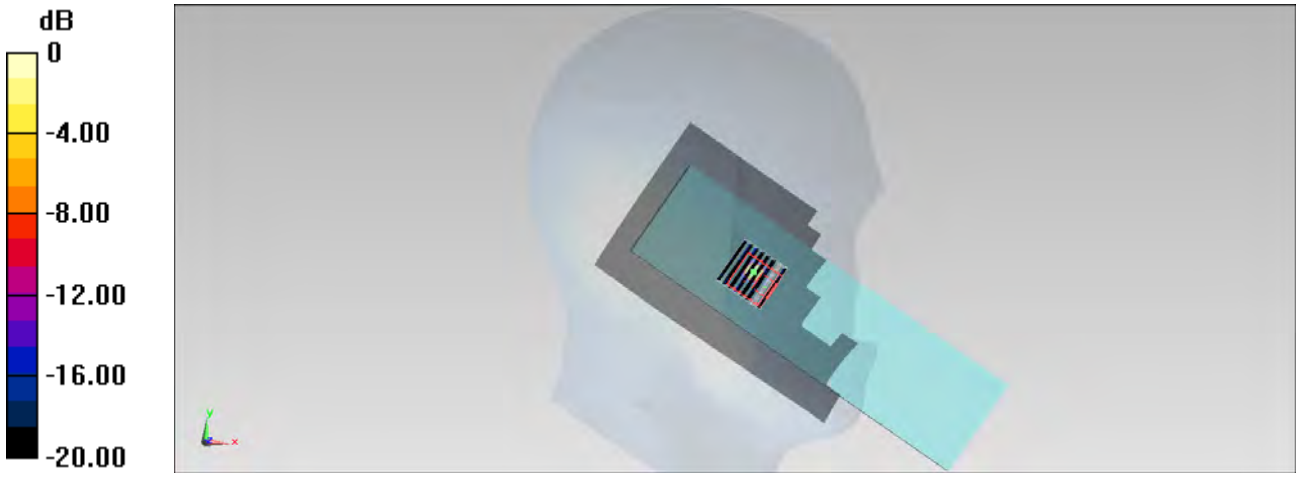
DUT: 2O0932

Communication System: 802.11a; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5825 MHz; σ = 5.408 mho/m; ε_r = 34.234; ρ = 1000 kg/m^3
Ambient Temperature：22.7 ℃; Liquid Temperature：21.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.28, 4.28, 4.28); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch165/Area Scan (101x261x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.295 mW/g

Ch165/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 1.834 V/m; Power Drift = 0.191 dB
Peak SAR (extrapolated) = 0.183 mW/g
SAR(1 g) = 0.00513 mW/g; SAR(10 g) = 0.000513 mW/g
Maximum value of SAR (measured) = 0.126 mW/g



0 dB = 0.126 mW/g = -17.99 dB mW/g

#43_WLAN5G_802.11a_Left Tilted_Ch165

DUT: 2O0932

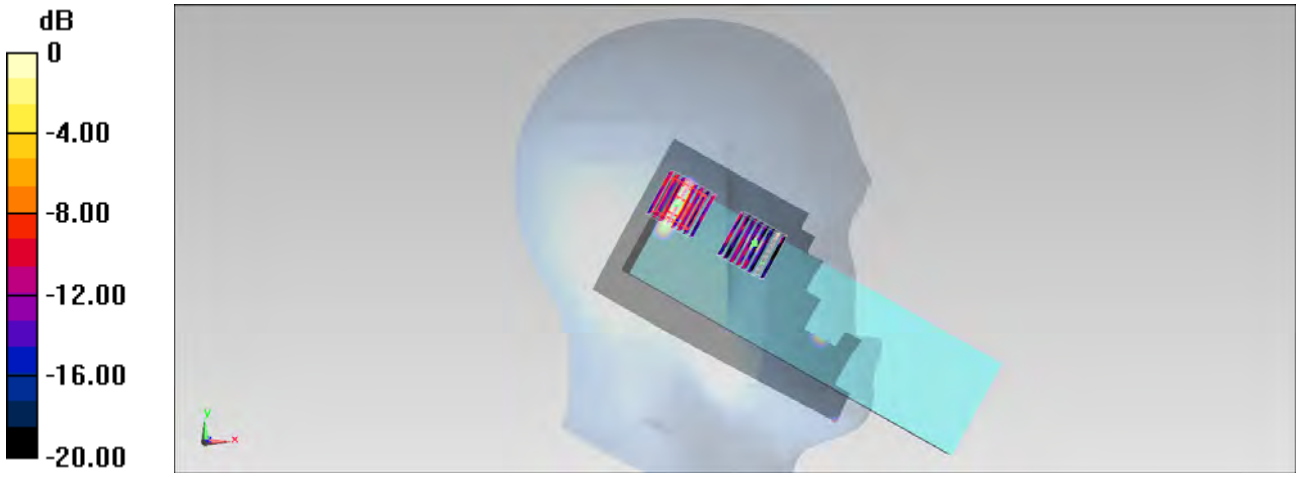
Communication System: 802.11a; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5825 MHz; σ = 5.408 mho/m; ε_r = 34.234; ρ = 1000 kg/m^3
Ambient Temperature：22.7 ℃； Liquid Temperature：21.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.28, 4.28, 4.28); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch165/Area Scan (101x261x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.0973 mW/g

Ch165/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 2.767 V/m; Power Drift = -0.188 dB
Peak SAR (extrapolated) = 0.123 mW/g
SAR(1 g) = 0.031 mW/g; SAR(10 g) = 0.010 mW/g
Maximum value of SAR (measured) = 0.0594 mW/g

Ch165/Zoom Scan (8x8x10)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 2.767 V/m; Power Drift = -0.188 dB
Peak SAR (extrapolated) = 0 mW/g
SAR(1 g) = n.a. ; SAR(10 g) = n.a.
Maximum value of SAR (measured) = 0.0727 mW/g



0 dB = 0.0727 mW/g = -22.77 dB mW/g

#43_WLAN5G_802.11a_Left Tilted_Ch165_2D

DUT: 2O0932

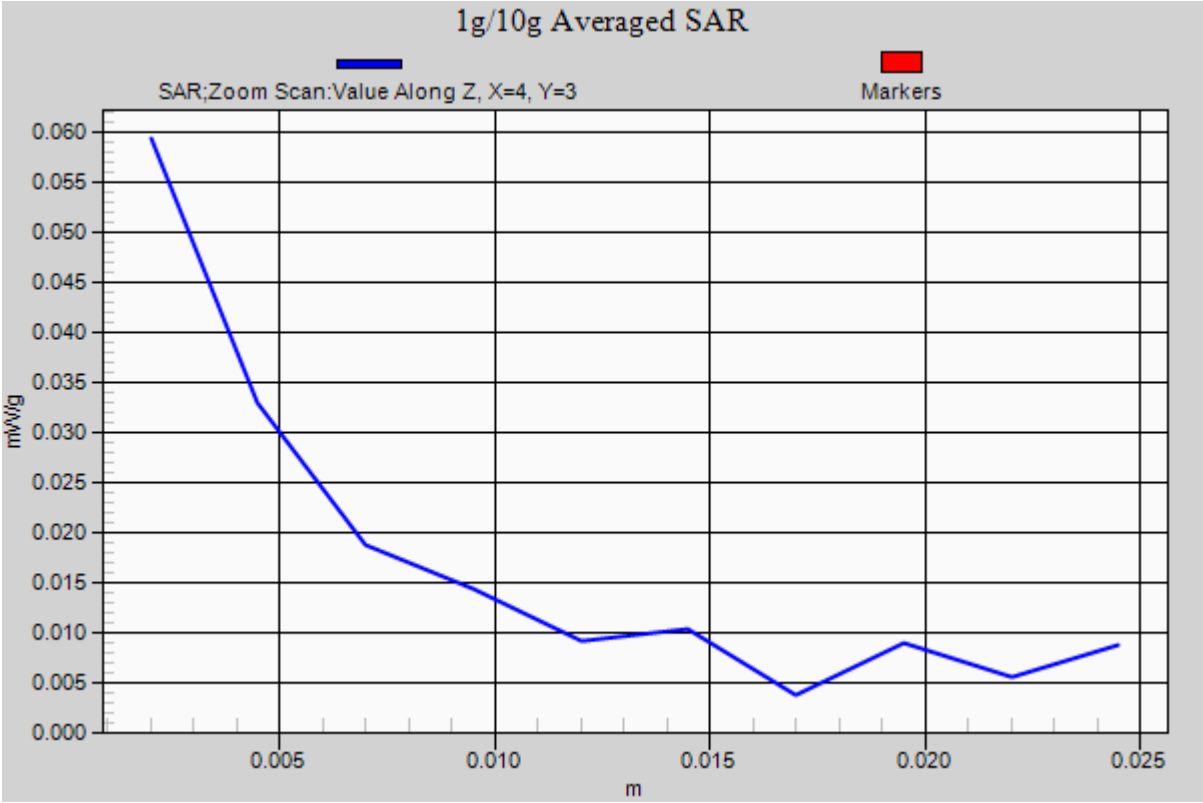
Communication System: 802.11a; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: HSL_5G_121019 Medium parameters used: f = 5825 MHz; σ = 5.408 mho/m; ε_r = 34.234; ρ = 1000 kg/m^3
Ambient Temperature：22.7 ℃; Liquid Temperature：21.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.28, 4.28, 4.28); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch165/Area Scan (101x261x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.0973 mW/g

Ch165/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 2.767 V/m; Power Drift = -0.188 dB
Peak SAR (extrapolated) = 0.123 mW/g
SAR(1 g) = 0.031 mW/g; SAR(10 g) = 0.010 mW/g
Maximum value of SAR (measured) = 0.0594 mW/g

Ch165/Zoom Scan (8x8x10)/Cube 1: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 2.767 V/m; Power Drift = -0.188 dB
Peak SAR (extrapolated) = 0 mW/g
SAR(1 g) = n.a. ; SAR(10 g) = n.a.
Maximum value of SAR (measured) = 0.0727 mW/g


1g/10g Averaged SAR
SAR;Zoom Scan:Value Along Z, X=4, Y=3
Markers
mW/g
0.060
0.055
0.050
0.045
0.040
0.035
0.030
0.025
0.020
0.015
0.010
0.005
0.000
0.005
0.010
0.015
0.020
0.025
m

#50_GSM1900_GPRS (2 Tx slots)_Front_1cm_Ch810

DUT: 2O0932

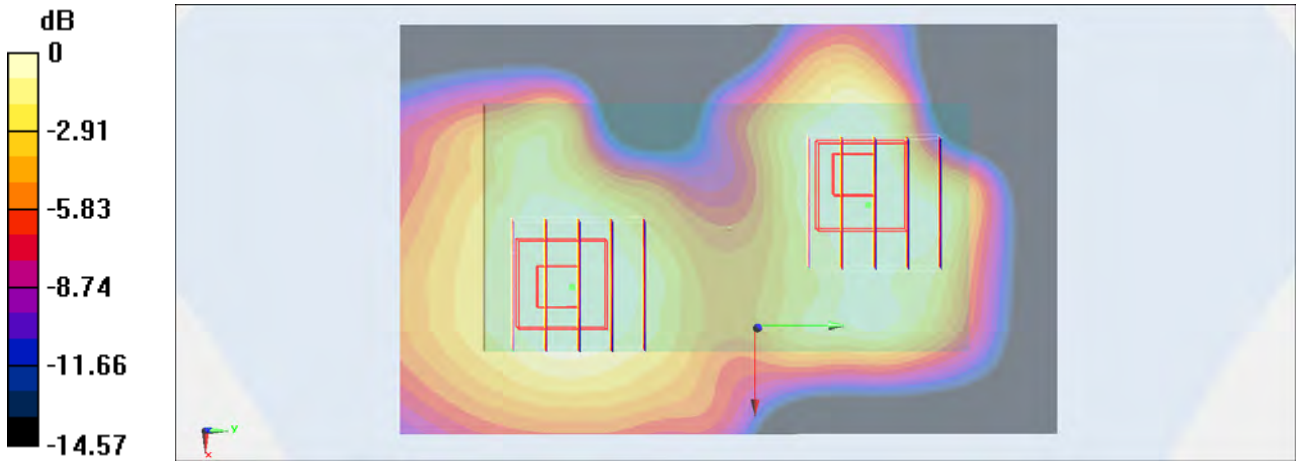
Communication System: PCS_2TX; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: MSL_1900_121025 Medium parameters used: f = 1910 MHz; σ = 1.554 mho/m; ε_r = 51.552; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch810/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.134 mW/g

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.657 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 0.199 mW/g
SAR(1 g) = 0.139 mW/g; SAR(10 g) = 0.089 mW/g
Maximum value of SAR (measured) = 0.148 mW/g

Ch810/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.657 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 0.147 mW/g
SAR(1 g) = 0.107 mW/g; SAR(10 g) = 0.071 mW/g
Maximum value of SAR (measured) = 0.113 mW/g



0 dB = 0.113 mW/g = -18.94 dB mW/g

#51_GSM1900_GPRS (2 Tx slots)_Back_1cm_Ch810

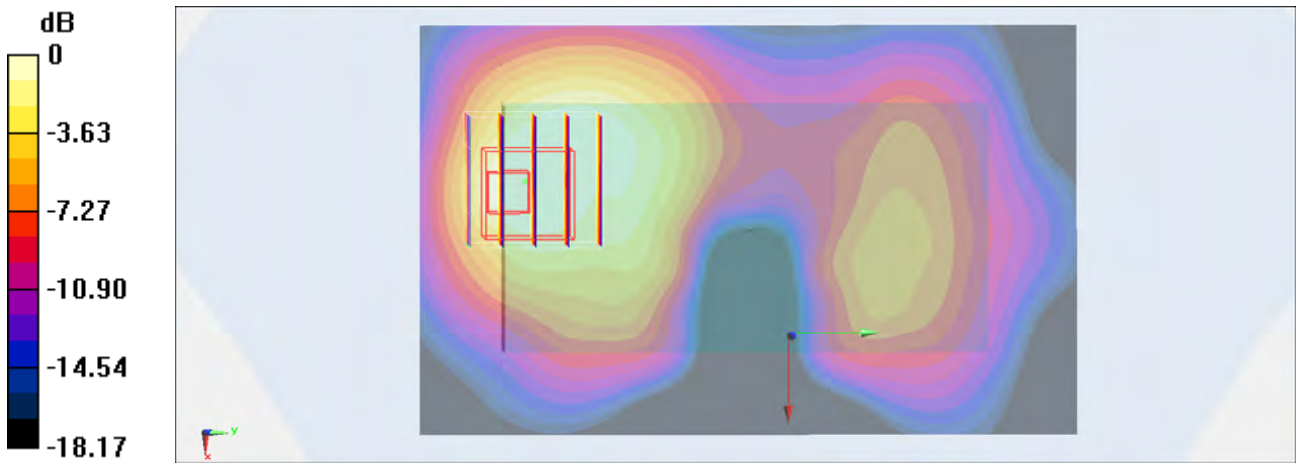
DUT: 2O0932

Communication System: PCS_2TX; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: MSL_1900_121025 Medium parameters used: f = 1910 MHz; σ = 1.554 mho/m; ε_r = 51.552; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch810/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.735 mW/g

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.148 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.897 mW/g
SAR(1 g) = 0.501 mW/g; SAR(10 g) = 0.266 mW/g
Maximum value of SAR (measured) = 0.561 mW/g



0 dB = 0.561 mW/g = -5.02 dB mW/g

#56_GSM1900_GPRS (2 Tx slots)_Back_1cm_Ch810;Headset

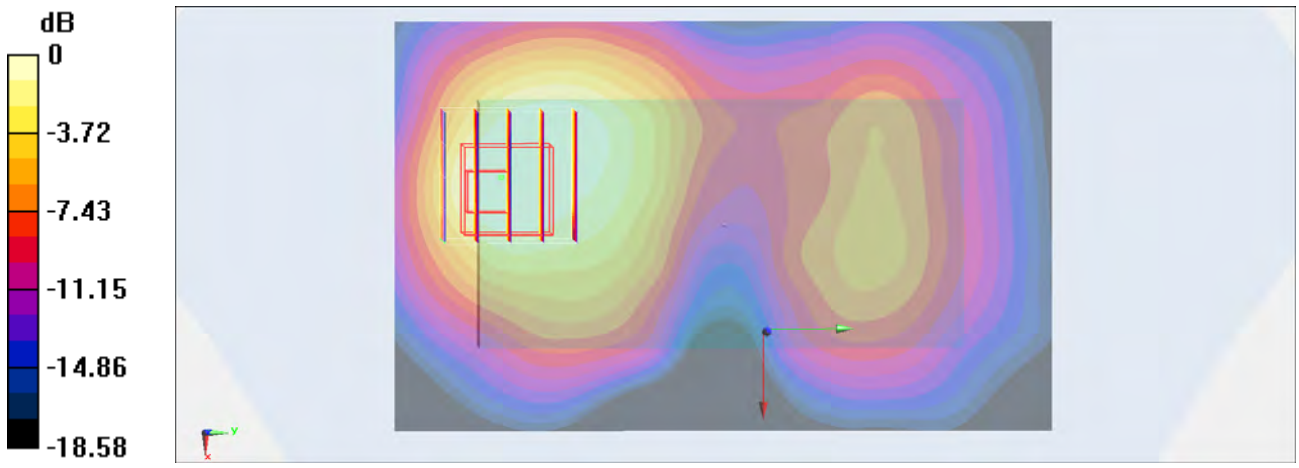
DUT: 2O0932

Communication System: PCS_2TX; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: MSL_1900_121025 Medium parameters used: f = 1910 MHz; σ = 1.554 mho/m; ε_r = 51.552; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch810/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.711 mW/g

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.183 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 0.853 mW/g
SAR(1 g) = 0.484 mW/g; SAR(10 g) = 0.261 mW/g
Maximum value of SAR (measured) = 0.531 mW/g



0 dB = 0.531 mW/g = -5.50 dB mW/g

#72_CDMA BC0_RC3 SO32_Front_1cm_Ch384;Headset

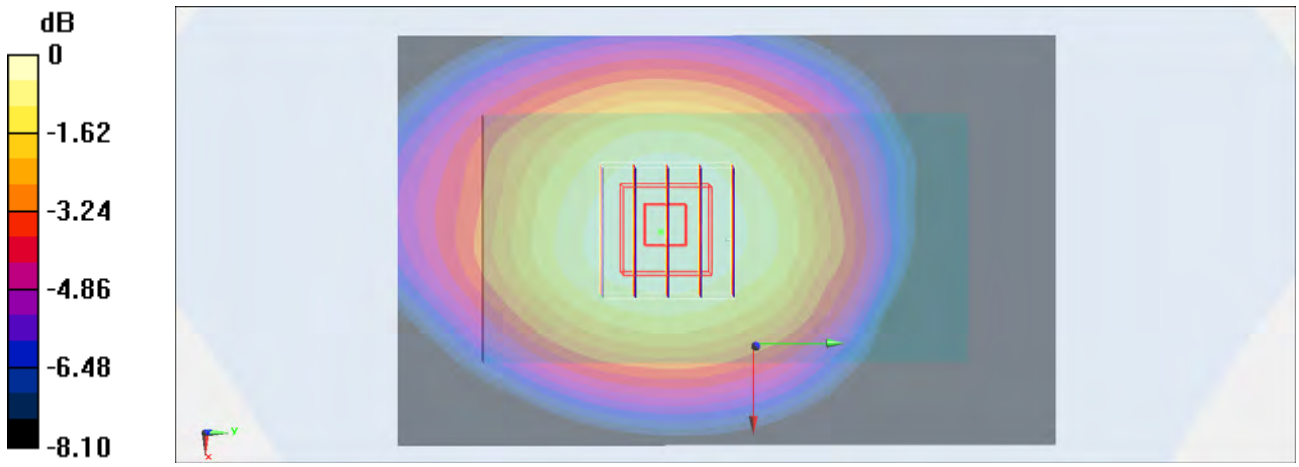
DUT: 2O0932

Communication System: CDMA ; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: MSL_850_121026 Medium parameters used: f = 837 MHz; σ = 0.979 mho/m; ε_r = 53.166; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch384/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.186 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.543 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.206 mW/g
SAR(1 g) = 0.173 mW/g; SAR(10 g) = 0.133 mW/g
Maximum value of SAR (measured) = 0.181 mW/g



0 dB = 0.181 mW/g = -14.85 dB mW/g

#73_CDMA BC0_RC3 SO32_Back_1cm_Ch384;Headset

DUT: 2O0932

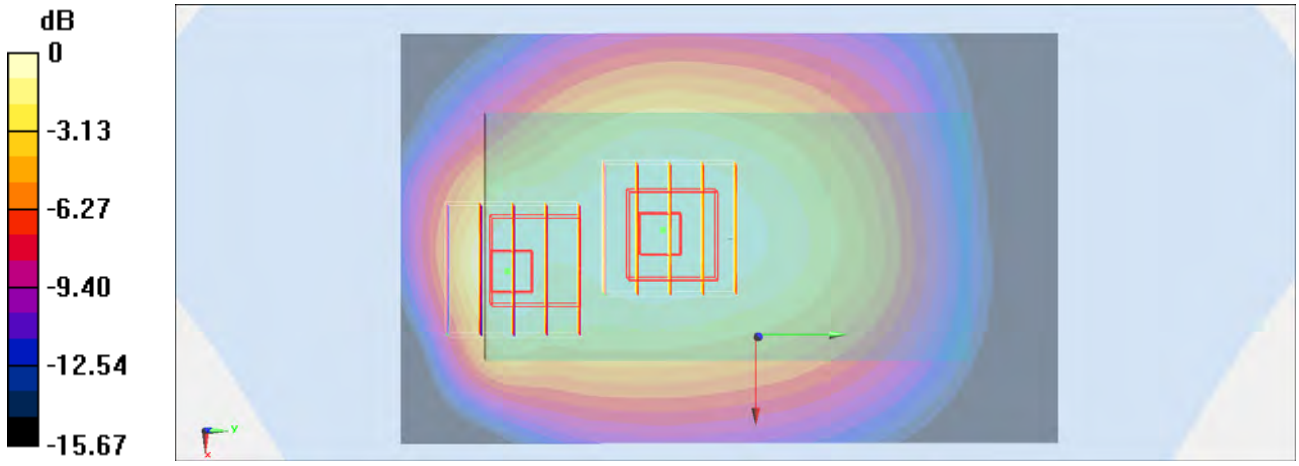
Communication System: CDMA ; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: MSL_850_121026 Medium parameters used: f = 837 MHz; σ = 0.979 mho/m; ε_r = 53.166; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch384/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.773 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.803 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.879 mW/g
SAR(1 g) = 0.702 mW/g; SAR(10 g) = 0.523 mW/g
Maximum value of SAR (measured) = 0.739 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.803 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.180 mW/g
SAR(1 g) = 0.653 mW/g; SAR(10 g) = 0.400 mW/g
Maximum value of SAR (measured) = 0.722 mW/g



0 dB = 0.722 mW/g = -2.83 dB mW/g

#74_CDMA BC0_RETAP 4096_Back_1cm_Ch384;Headset

DUT: 2O0932

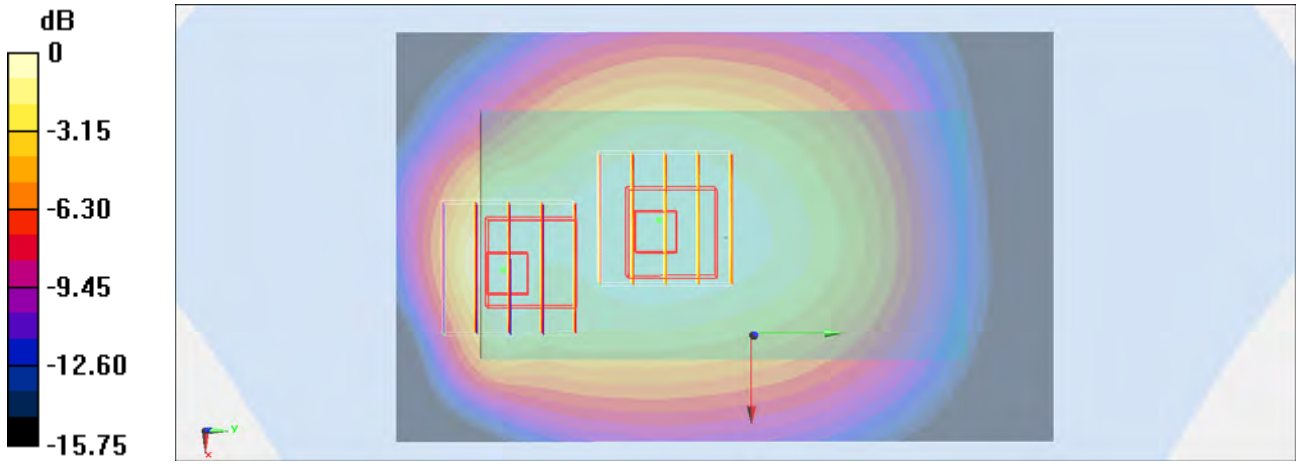
Communication System: CDMA ; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: MSL_850_121026 Medium parameters used: f = 837 MHz; σ = 0.979 mho/m; ε_r = 53.166; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch384/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.781 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.016 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 0.870 mW/g
SAR(1 g) = 0.701 mW/g; SAR(10 g) = 0.523 mW/g
Maximum value of SAR (measured) = 0.734 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.016 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.142 mW/g
SAR(1 g) = 0.642 mW/g; SAR(10 g) = 0.397 mW/g
Maximum value of SAR (measured) = 0.706 mW/g



0 dB = 0.706 mW/g = -3.02 dB mW/g

#101_CDMA BC0_RC3 SO32_Back_1cm_Ch384

DUT: 2O0932

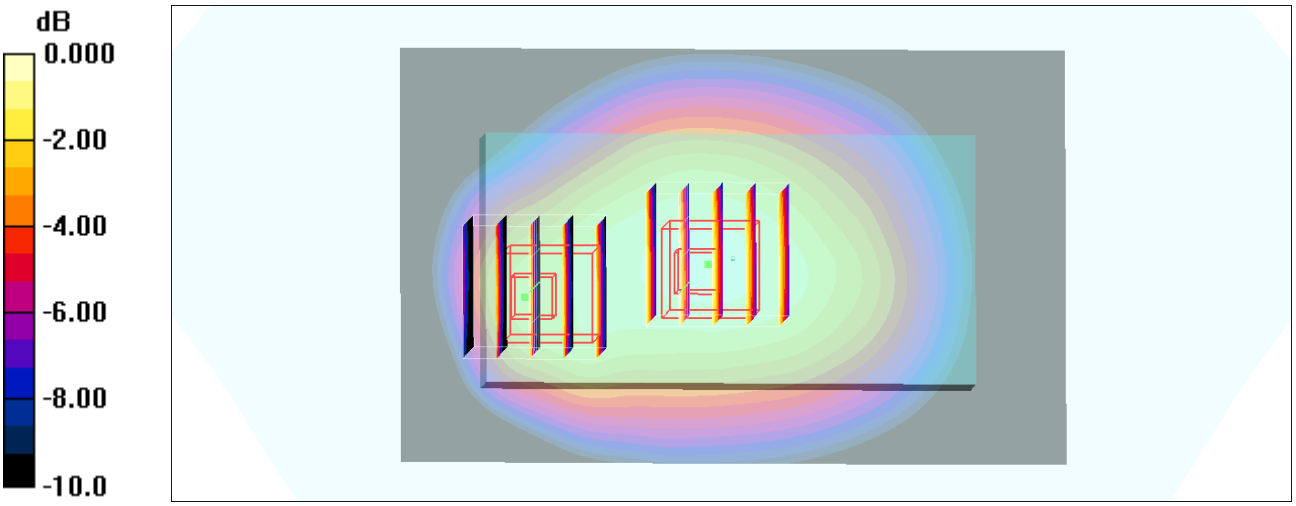
Communication System: CDMA ; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: MSL_850_121123 Medium parameters used: f = 837 MHz; σ = 0.965 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY4 Configuration:
- Probe: ET3DV6R - SN1788; ConvF(5.92, 5.92, 5.92); Calibrated: 2012/10/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch384/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.730 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.3 V/m; Power Drift = 0.150 dB
Peak SAR (extrapolated) = 1.45 W/kg
SAR(1 g) = 0.787 mW/g; SAR(10 g) = 0.458 mW/g
Maximum value of SAR (measured) = 0.890 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.3 V/m; Power Drift = 0.150 dB
Peak SAR (extrapolated) = 0.947 W/kg
SAR(1 g) = 0.763 mW/g; SAR(10 g) = 0.572 mW/g
Maximum value of SAR (measured) = 0.794 mW/g



0 dB = 0.794mW/g

#101_CDMA BC0_RC3 SO32_Back_1cm_Ch384_2D

DUT: 2O0932

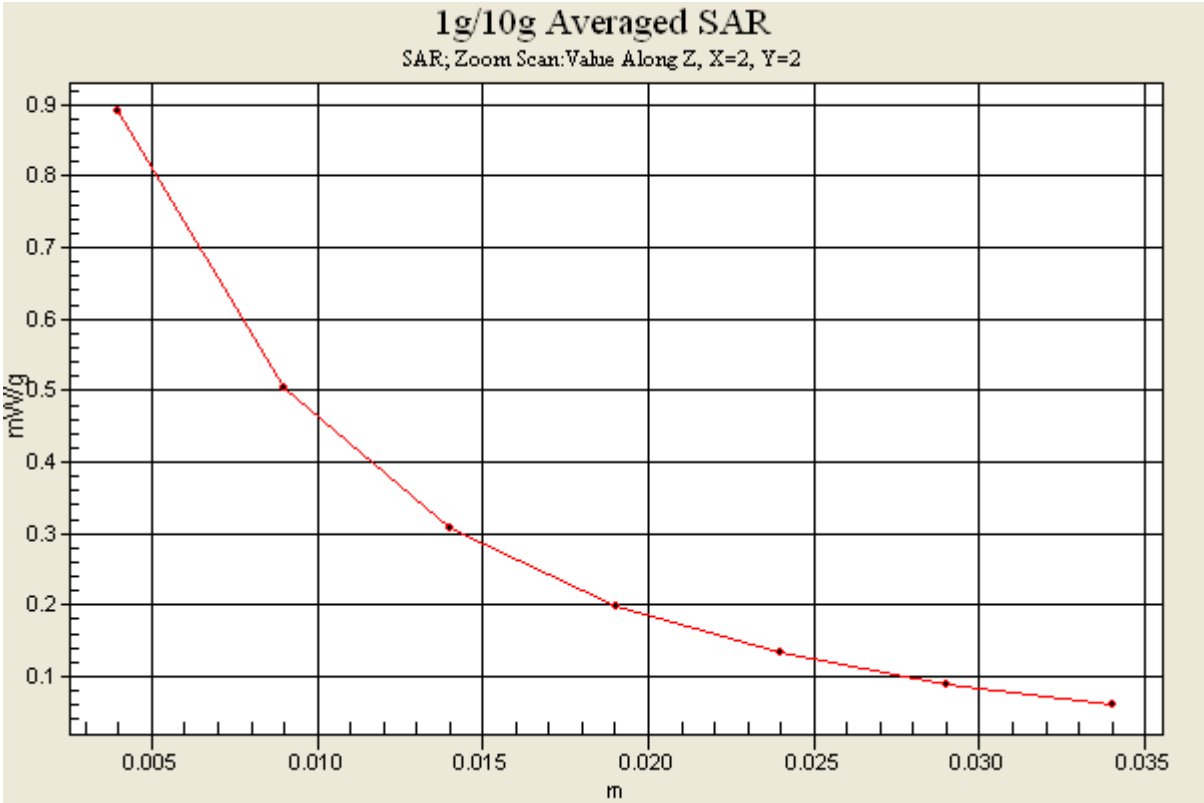
Communication System: CDMA ; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium: MSL_850_121123 Medium parameters used: f = 837 MHz; σ = 0.965 mho/m; ε_r = 53.6; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY4 Configuration:
- Probe: ET3DV6R - SN1788; ConvF(5.92, 5.92, 5.92); Calibrated: 2012/10/23
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch384/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.730 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.3 V/m; Power Drift = 0.150 dB
Peak SAR (extrapolated) = 1.45 W/kg
SAR(1 g) = 0.787 mW/g; SAR(10 g) = 0.458 mW/g
Maximum value of SAR (measured) = 0.890 mW/g

Ch384/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.3 V/m; Power Drift = 0.150 dB
Peak SAR (extrapolated) = 0.947 W/kg
SAR(1 g) = 0.763 mW/g; SAR(10 g) = 0.572 mW/g
Maximum value of SAR (measured) = 0.794 mW/g



#63_CDMA BC1_RC3 SO32_Front_1cm_Ch25;Headset

DUT: 2O0932

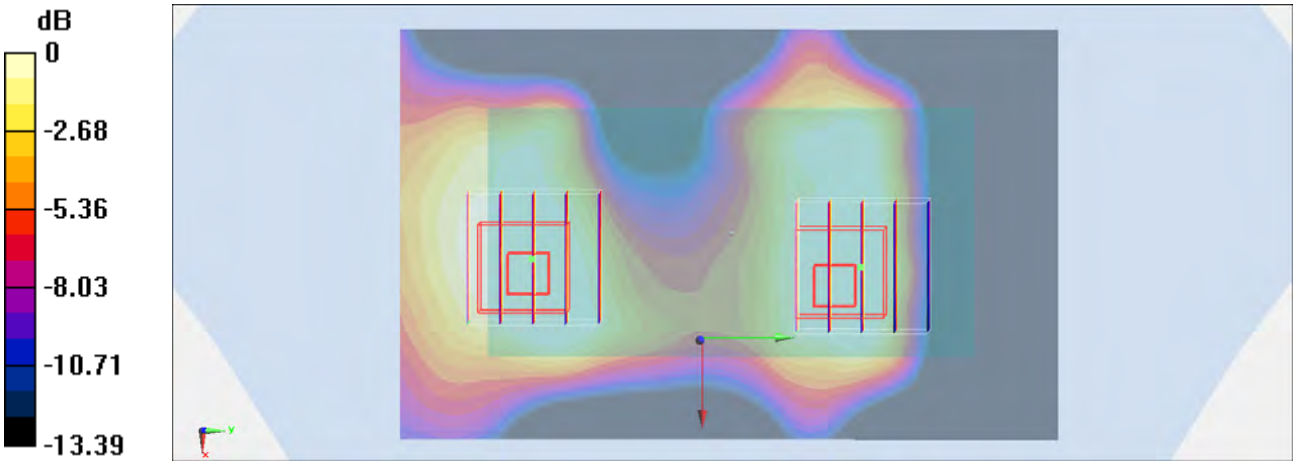
Communication System: CDMA ; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: MSL_1900_121025 Medium parameters used: f = 1851.25 MHz; σ = 1.501 mho/m; ε_r = 51.813; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch25/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.0671 mW/g

Ch25/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.004 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.065 mW/g
SAR(1 g) = 0.046 mW/g; SAR(10 g) = 0.029 mW/g
Maximum value of SAR (measured) = 0.0498 mW/g

Ch25/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.004 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.056 mW/g
SAR(1 g) = 0.039 mW/g; SAR(10 g) = 0.025 mW/g
Maximum value of SAR (measured) = 0.0430 mW/g



0 dB = 0.0430 mW/g = -27.33 dB mW/g

#64_CDMA BC1_RC3 SO32_Back_1cm_Ch25;Headset

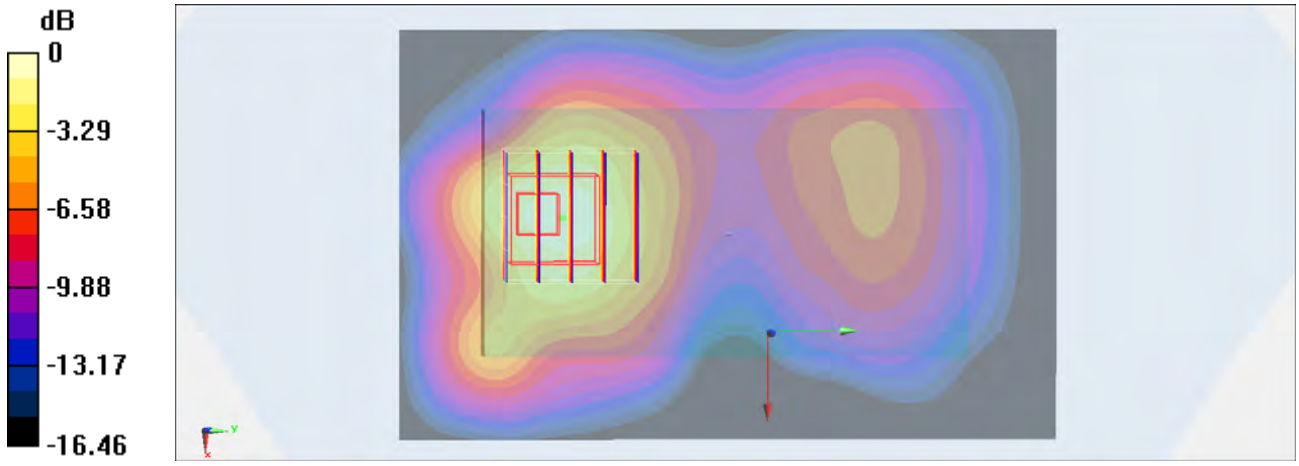
DUT: 2O0932

Communication System: CDMA ; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: MSL_1900_121025 Medium parameters used : f = 1851.25 MHz; σ = 1.501 mho/m; ε_r = 51.813; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch25/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.540 mW/g

Ch25/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.626 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 0.877 mW/g
SAR(1 g) = 0.528 mW/g; SAR(10 g) = 0.303 mW/g
Maximum value of SAR (measured) = 0.594 mW/g



0 dB = 0.594 mW/g = -4.52 dB mW/g

#65_CDMA BC1_RETAP 4096_Back_1cm_Ch25;Headset

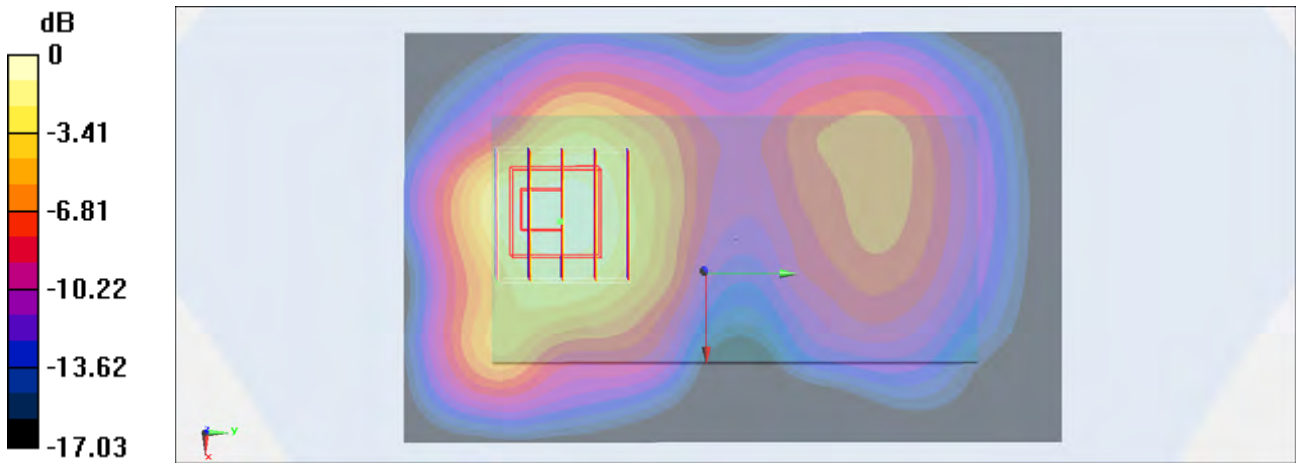
DUT: 2O0932

Communication System: CDMA ; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: MSL_1900_121025 Medium parameters used: f = 1851.25 MHz; σ = 1.501 mho/m; ε_r = 51.813; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch25/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.555 mW/g

Ch25/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.206 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.913 mW/g
SAR(1 g) = 0.540 mW/g; SAR(10 g) = 0.312 mW/g
Maximum value of SAR (measured) = 0.596 mW/g



0 dB = 0.596 mW/g = -4.50 dB mW/g

#65_CDMA BC1_RETAP 4096_Back_1cm_Ch25;Headset_2D

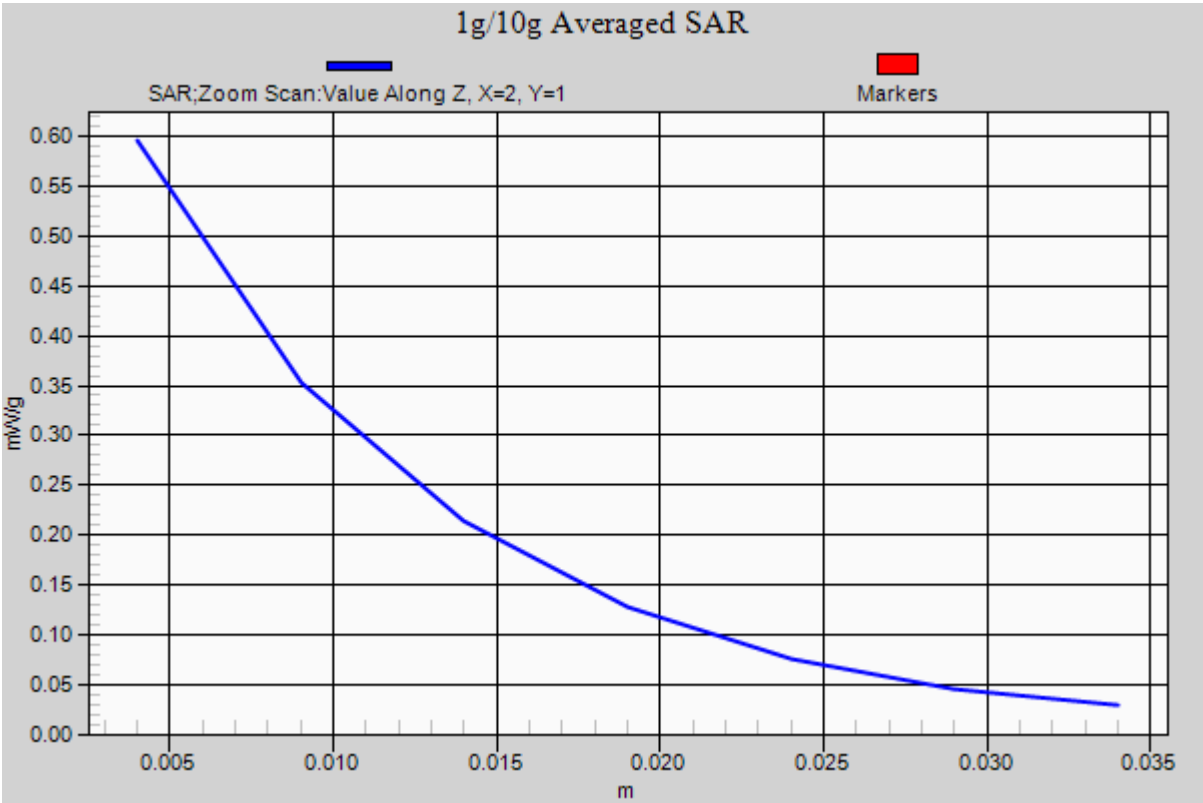
DUT: 2O0932

Communication System: CDMA ; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: MSL_1900_121025 Medium parameters used: f = 1851.25 MHz; σ = 1.501 mho/m; ε_r = 51.813; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃； Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch25/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.555 mW/g

Ch25/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.206 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.913 mW/g
SAR(1 g) = 0.540 mW/g; SAR(10 g) = 0.312 mW/g
Maximum value of SAR (measured) = 0.596 mW/g



#100_CDMA BC1_RC3 SO32_Back_1cm_Ch25

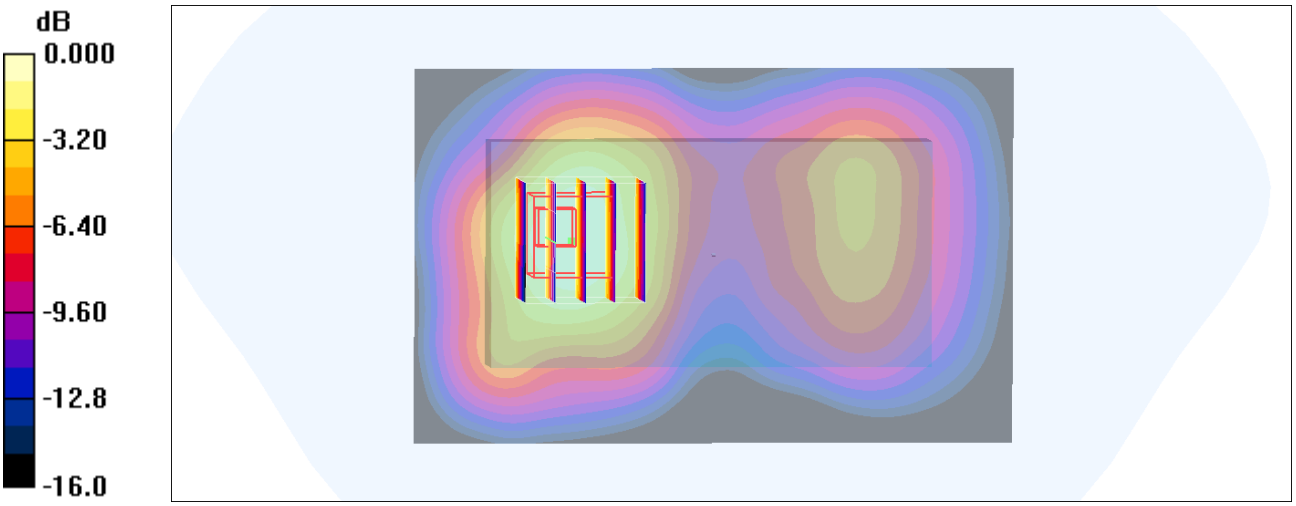
DUT: 2O0932

Communication System: CDMA ; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium: MSL_1900_121123 Medium parameters used: f = 1851.25 MHz; σ = 1.49 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Ambient Temperature：22.2 ℃; Liquid Temperature：21.2 ℃

DASY4 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(7.29, 7.29, 7.29); Calibrated: 2012/6/21
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch25/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.593 mW/g

Ch25/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.65 V/m; Power Drift = 0.107 dB
Peak SAR (extrapolated) = 0.890 W/kg
SAR(1 g) = 0.517 mW/g; SAR(10 g) = 0.305 mW/g
Maximum value of SAR (measured) = 0.550 mW/g



0 dB = 0.550mW/g

#01_WLAN2.4G_802.11b_Front_1cm_Ch6

DUT: 2O0932

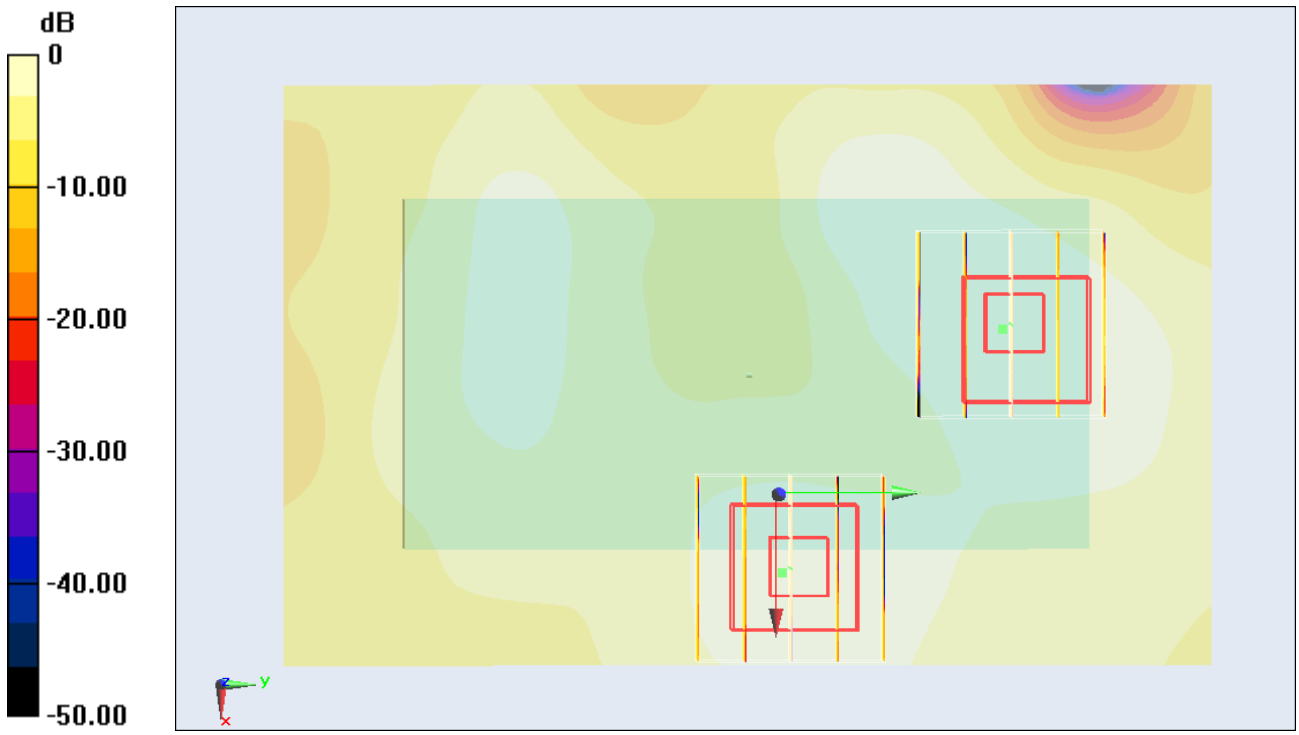
Communication System: 802.11b; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: MSL_2450_121015 Medium parameters used: f = 2437 MHz; σ = 1.947 mho/m; ε_r = 52.813; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(4.17, 4.17, 4.17); Calibrated: 2012/9/28;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Left; Type: QD000P40CD; Serial: TP:1542
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch6/Area Scan (51x81x1): Measurement grid: dx=20 mm, dy=20 mm
Maximum value of SAR (interpolated) = 0.0169 W/kg

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.283 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.032 mW/g
SAR(1 g) = 0.016 mW/g; SAR(10 g) = 0.0077 mW/g
Maximum value of SAR (measured) = 0.0179 W/kg

Ch6/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 1.283 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.027 mW/g
SAR(1 g) = 0.015 mW/g; SAR(10 g) = 0.00816 mW/g
Maximum value of SAR (measured) = 0.0162 W/kg



0 dB = 0.0162 W/kg = -35.81 dB W/kg

#02_WLAN2.4G_802.11b_Back_1cm_Ch6

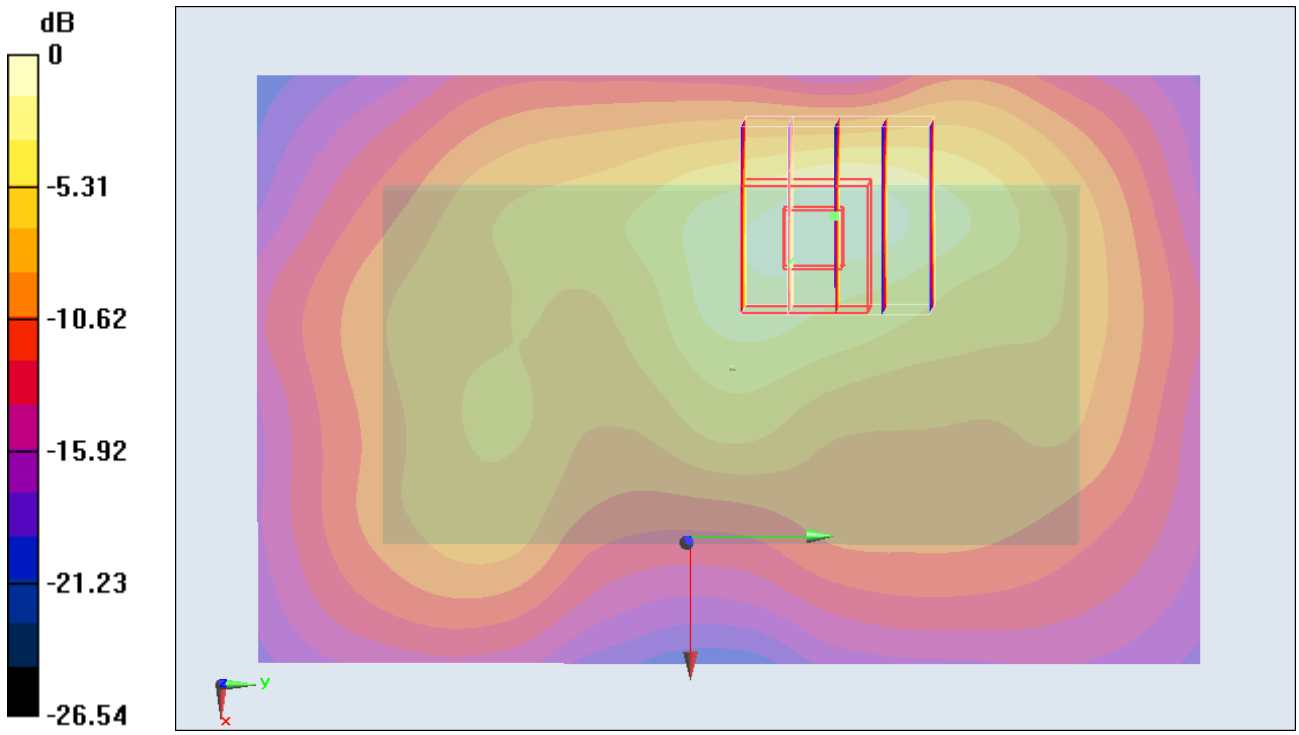
DUT: 2O0932

Communication System: 802.11b; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: MSL_2450_121015 Medium parameters used: f = 2437 MHz; σ = 1.947 mho/m; ε_r = 52.813; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(4.17, 4.17, 4.17); Calibrated: 2012/9/28;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Left; Type: QD000P40CD; Serial: TP:1542
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch6/Area Scan (51x81x1): Measurement grid: dx=20 mm, dy=20 mm
Maximum value of SAR (interpolated) = 0.226 W/kg

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.631 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.471 mW/g
SAR(1 g) = 0.219 mW/g; SAR(10 g) = 0.104 mW/g
Maximum value of SAR (measured) = 0.227 W/kg



0 dB = 0.227 W/kg = -12.88 dB W/kg

#07_WLAN2.4G_802.11b_Back_1cm_Ch6;Headset

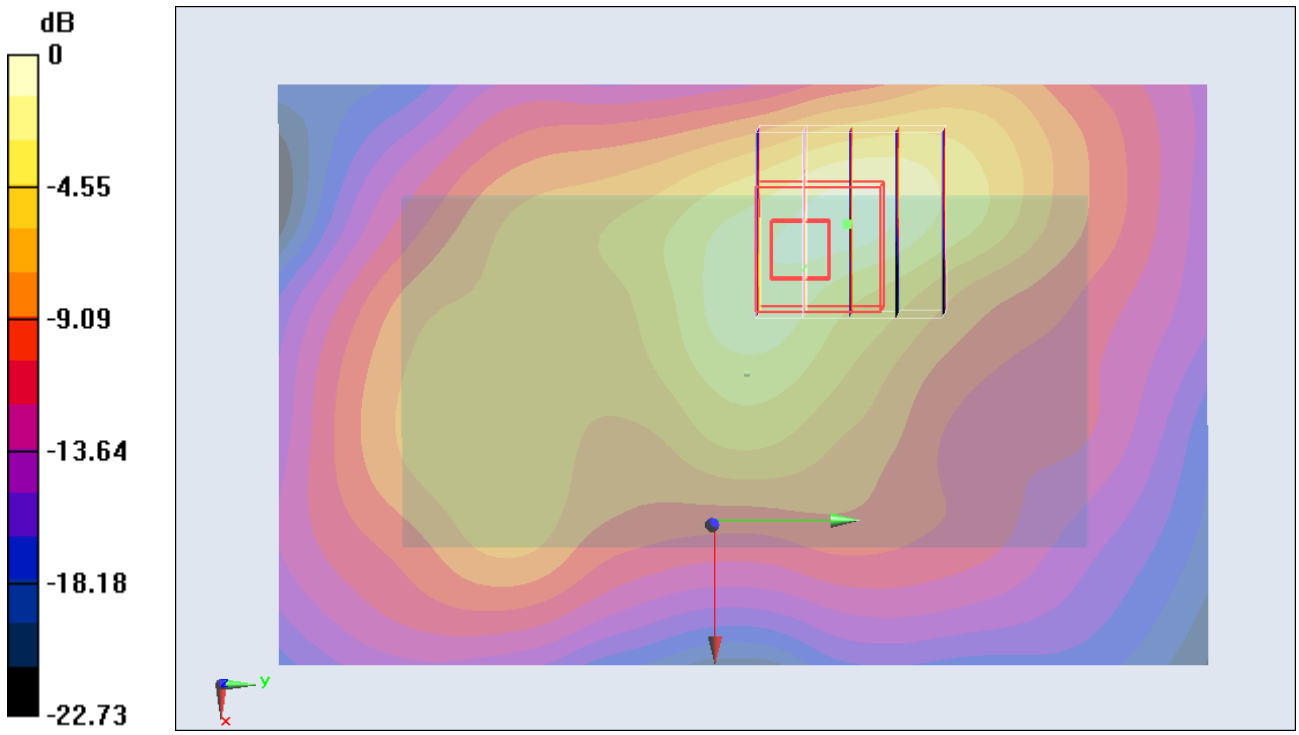
DUT: 2O0932

Communication System: 802.11b; Frequency: 2437 MHz;Duty Cycle: 1:1
Medium: MSL_2450_121015 Medium parameters used: f = 2437 MHz; σ = 1.947 mho/m; ε_r = 52.813; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ES3DV3 - SN3270; ConvF(4.17, 4.17, 4.17); Calibrated: 2012/9/28;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Left; Type: QD000P40CD; Serial: TP:1542
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Ch6/Area Scan (51x81x1): Measurement grid: dx=20 mm, dy=20 mm
Maximum value of SAR (interpolated) = 0.135 W/kg

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.975 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.301 mW/g
SAR(1 g) = 0.142 mW/g; SAR(10 g) = 0.065 mW/g
Maximum value of SAR (measured) = 0.154 W/kg



0 dB = 0.154 W/kg = -16.25 dB W/kg

#12_WLAN5G_802.11a_Front_1cm_Ch44

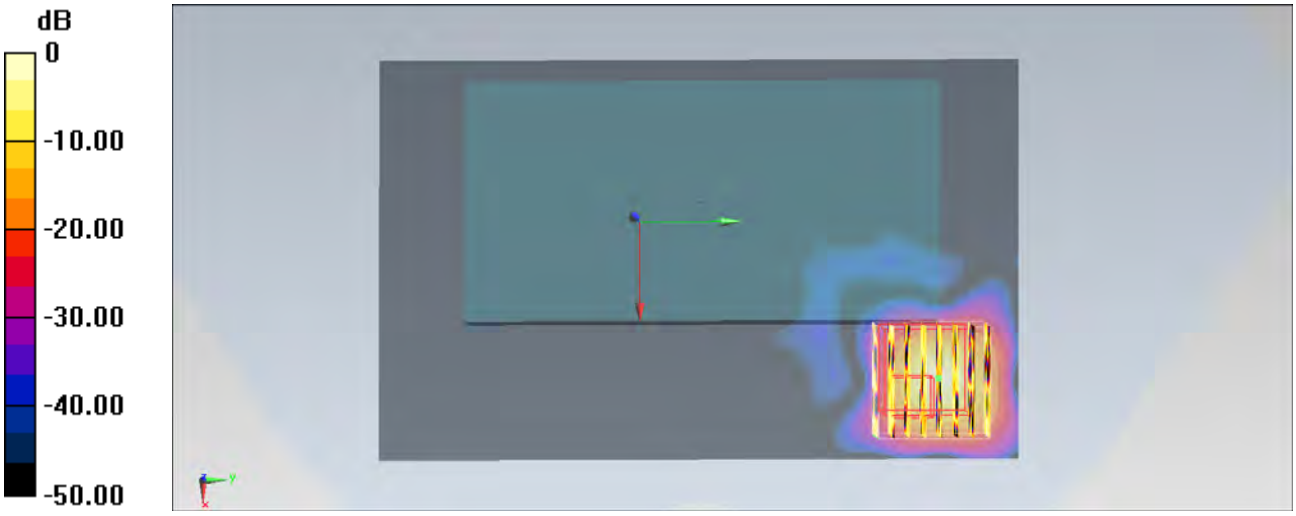
DUT: 2O0932

Communication System: 802.11a; Frequency: 5220 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121018 Medium parameters used : f = 5220 MHz; σ = 5.309 mho/m; ε_r = 48.504; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.29, 4.29, 4.29); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: SAM-Right; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch44/Area Scan (101x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.00817 mW/g

Ch44/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.001 dB
Peak SAR (extrapolated) = 0.017 mW/g
SAR(1 g) = 0.000814 mW/g; SAR(10 g) = 0.000167 mW/g
Maximum value of SAR (measured) = 0.0118 mW/g



0 dB = 0.0118 mW/g = -38.56 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/10/18

#13_WLAN5G_802.11a_Back_1cm_Ch44

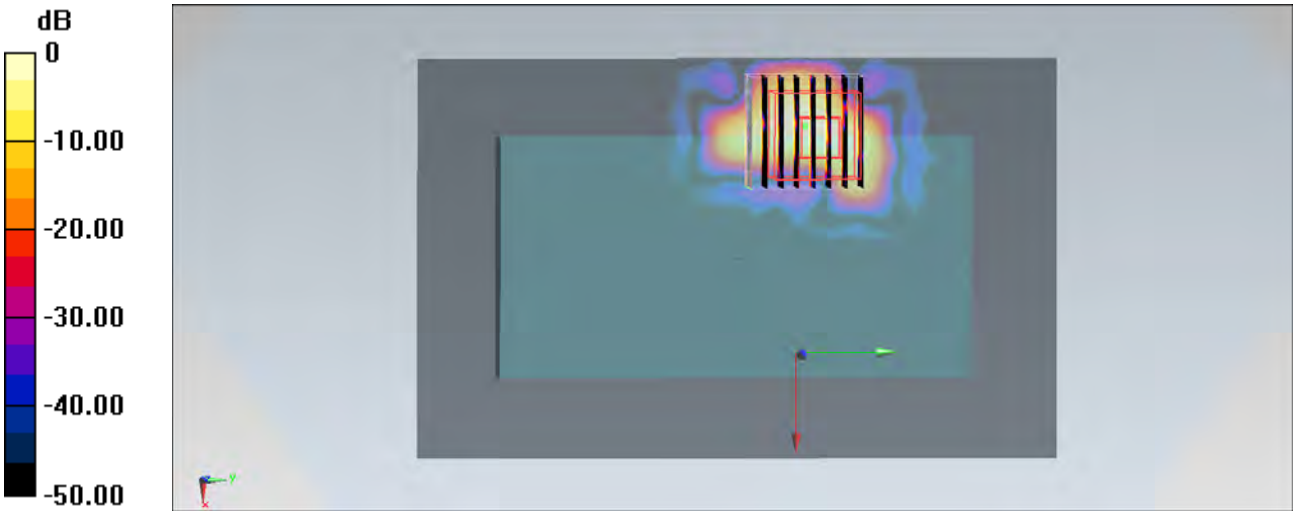
DUT: 2O0932

Communication System: 802.11a; Frequency: 5220 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121018 Medium parameters used : f = 5220 MHz; σ = 5.309 mho/m; ε_r = 48.504; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.29, 4.29, 4.29); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: SAM-Right; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch44/Area Scan (101x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.326 mW/g

Ch44/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.001 dB
Peak SAR (extrapolated) = 0.348 mW/g
SAR(1 g) = 0.077 mW/g; SAR(10 g) = 0.021 mW/g
Maximum value of SAR (measured) = 0.200 mW/g



0 dB = 0.200 mW/g = -13.98 dB mW/g

#13_WLAN5G_802.11a_Back_1cm_Ch44_2D

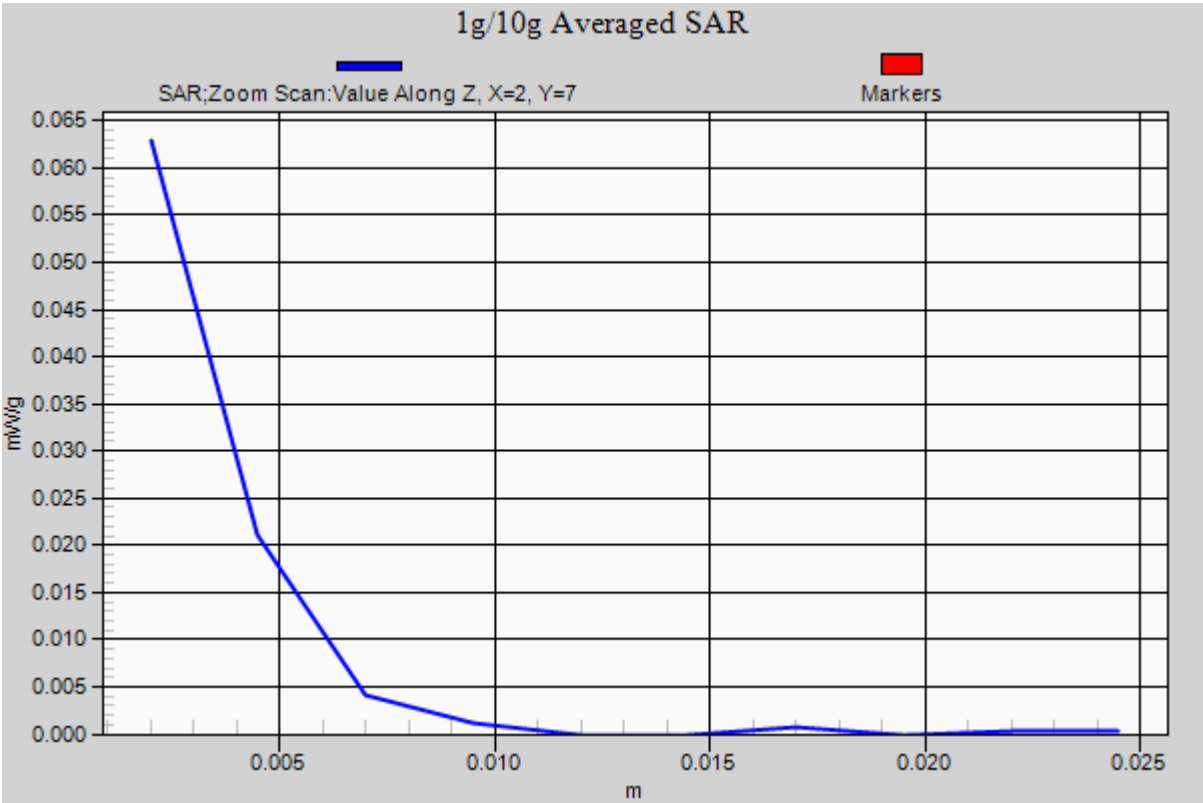
DUT: 2O0932

Communication System: 802.11a; Frequency: 5220 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121018 Medium parameters used : f = 5220 MHz; σ = 5.309 mho/m; ε_r = 48.504; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.29, 4.29, 4.29); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: SAM-Right; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch44/Area Scan (101x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.326 mW/g

Ch44/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.001 dB
Peak SAR (extrapolated) = 0.348 mW/g
SAR(1 g) = 0.077 mW/g; SAR(10 g) = 0.021 mW/g
Maximum value of SAR (measured) = 0.200 mW/g



#14_WLAN5G_802.11a_Back_1cm_Ch44;Headset

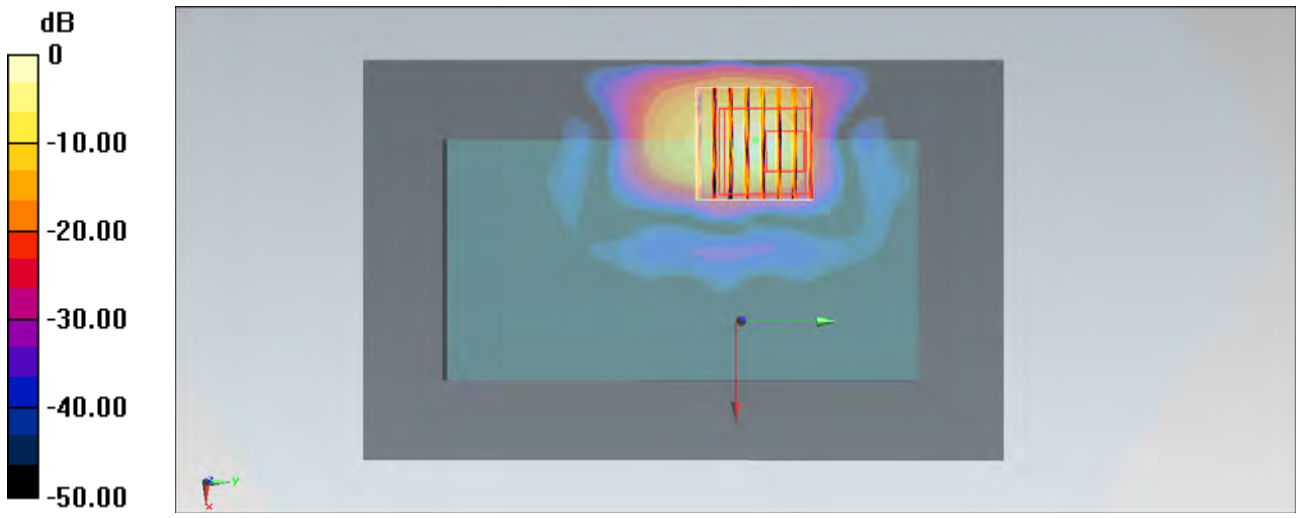
DUT: 2O0932

Communication System: 802.11a; Frequency: 5220 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121018 Medium parameters used : f = 5220 MHz; σ = 5.309 mho/m; ε_r = 48.504; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.29, 4.29, 4.29); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: SAM-Right; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch44/Area Scan (101x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.125 mW/g

Ch44/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0.287 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 0.404 mW/g
SAR(1 g) = 0.015 mW/g; SAR(10 g) = 0.00154 mW/g
Maximum value of SAR (measured) = 0.156 mW/g



0 dB = 0.156 mW/g = -16.14 dB mW/g

#15_WLAN5G_802.11a_Front_1cm_Ch60

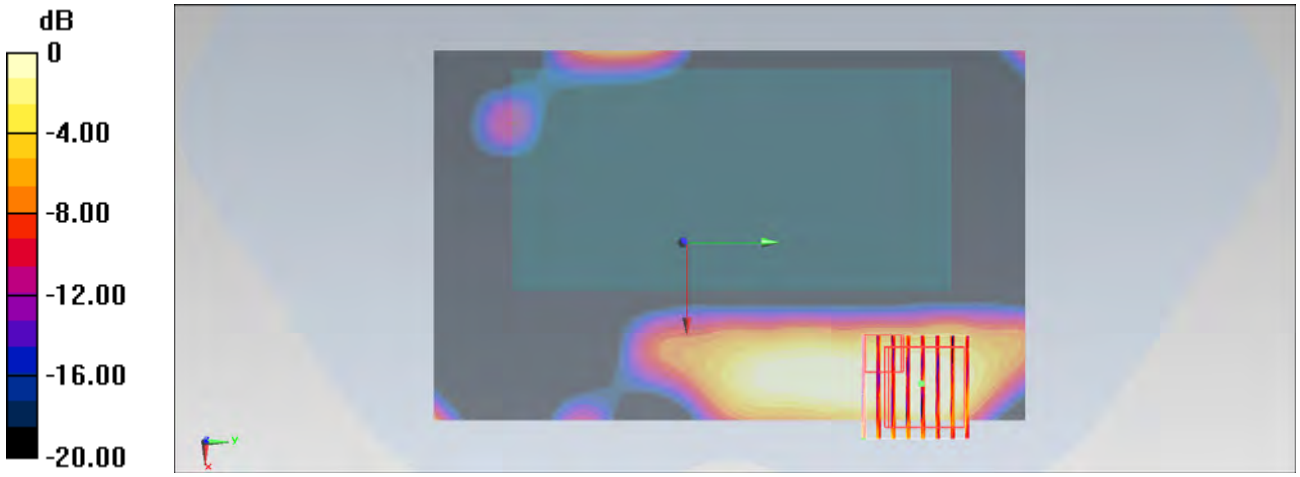
DUT: 2O0932

Communication System: 802.11a; Frequency: 5300 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121020 Medium parameters used: f = 5300 MHz; σ = 5.393 mho/m; ε_r = 47.275; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃； Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.29, 4.29, 4.29); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch60/Area Scan (101x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.135 mW/g

Ch60/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0.968 V/m; Power Drift = -0.172 dB
Peak SAR (extrapolated) = 0.092 mW/g
SAR(1 g) = 0.012 mW/g; SAR(10 g) = 0.00757 mW/g
Maximum value of SAR (measured) = 0.0755 mW/g



0 dB = 0.0755 mW/g = -22.44 dB mW/g

#16_WLAN5G_802.11a_Back_1cm_Ch60

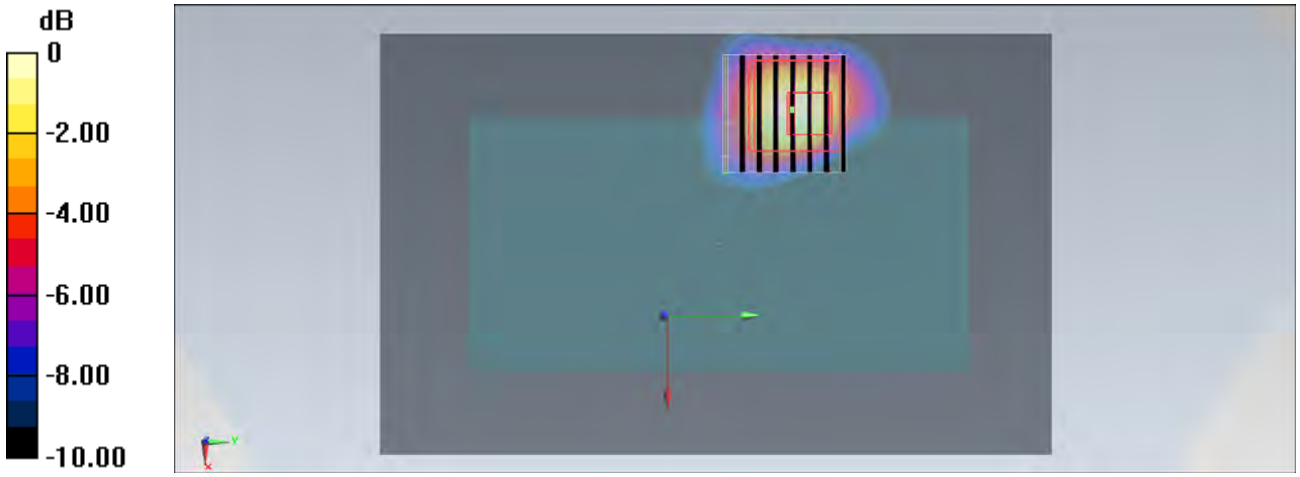
DUT: 2O0932

Communication System: 802.11a; Frequency: 5300 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121020 Medium parameters used: f = 5300 MHz; σ = 5.393 mho/m; ε_r = 47.275; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃； Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.29, 4.29, 4.29); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch60/Area Scan (101x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.254 mW/g

Ch60/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0.927 V/m; Power Drift = -0.184 dB
Peak SAR (extrapolated) = 1.269 mW/g
SAR(1 g) = 0.137 mW/g; SAR(10 g) = 0.045 mW/g
Maximum value of SAR (measured) = 0.258 mW/g



0 dB = 0.258 mW/g = -11.77 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/10/20

#16_WLAN5G_802.11a_Back_1cm_Ch60_2D

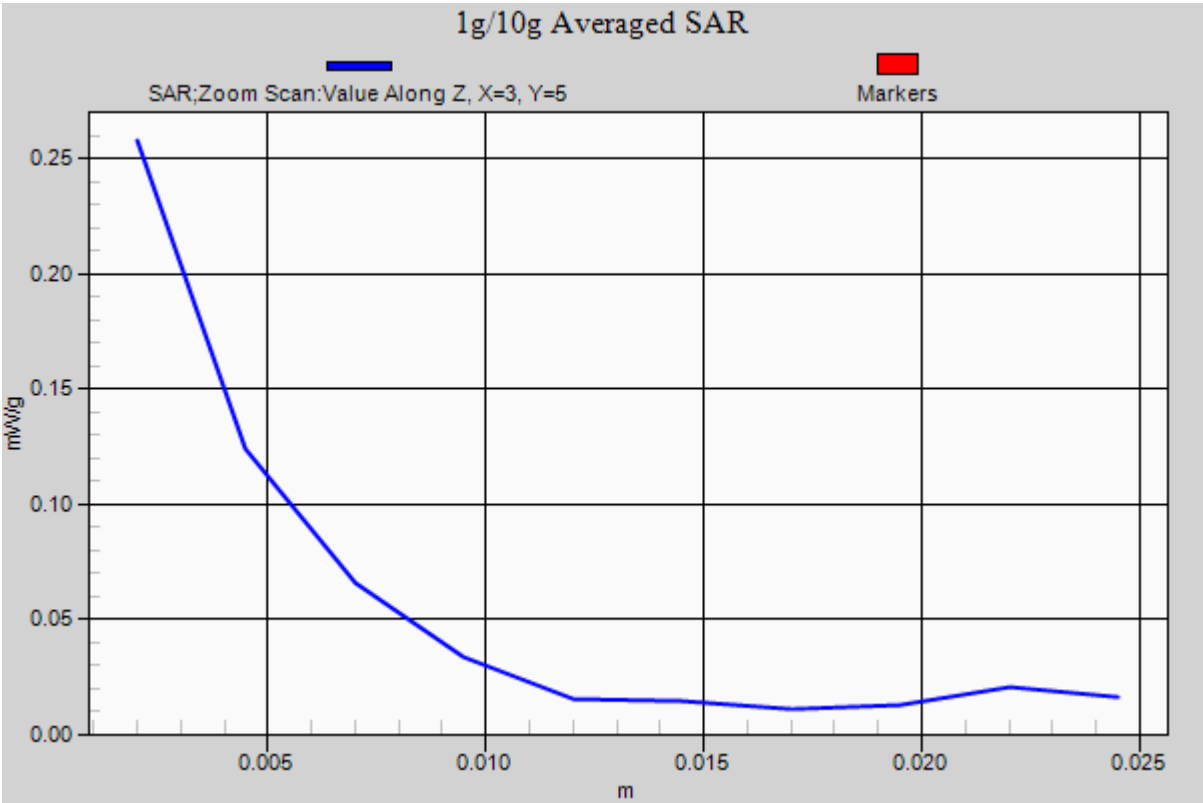
DUT: 2O0932

Communication System: 802.11a; Frequency: 5300 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121020 Medium parameters used: f = 5300 MHz; σ = 5.393 mho/m; ε_r = 47.275; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.29, 4.29, 4.29); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch60/Area Scan (101x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.254 mW/g

Ch60/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0.927 V/m; Power Drift = -0.184 dB
Peak SAR (extrapolated) = 1.269 mW/g
SAR(1 g) = 0.137 mW/g; SAR(10 g) = 0.045 mW/g
Maximum value of SAR (measured) = 0.258 mW/g



#17_WLAN5G_802.11a_Back_1cm_Ch60_Headset

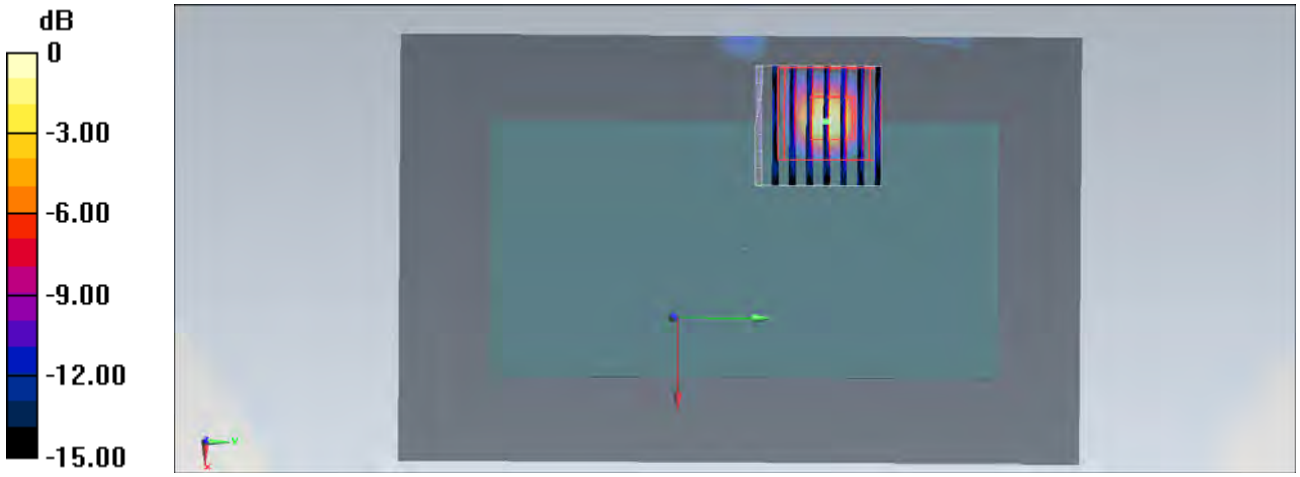
DUT: 2O0932

Communication System: 802.11a; Frequency: 5300 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121020 Medium parameters used: f = 5300 MHz; σ = 5.393 mho/m; ε_r = 47.275; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.29, 4.29, 4.29); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch60/Area Scan (101x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.234 mW/g

Ch60/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0.535 V/m; Power Drift = 0.122 dB
Peak SAR (extrapolated) = 0.538 mW/g
SAR(1 g) = 0.131 mW/g; SAR(10 g) = 0.044 mW/g
Maximum value of SAR (measured) = 0.257 mW/g



0 dB = 0.257 mW/g = -11.80 dB mW/g

#18_WLAN5G_802.11a_Front_1cm_Ch100

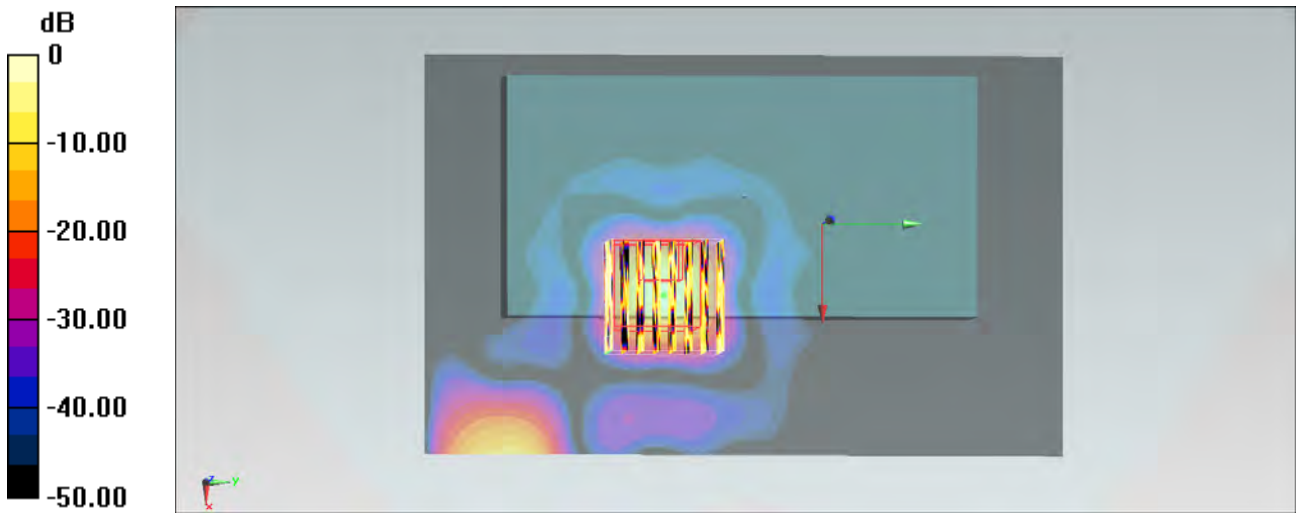
DUT: 2O0932

Communication System: 802.11a; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121018 Medium parameters used: f = 5500 MHz; σ = 5.717 mho/m; ε_r = 47.955; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(3.91, 3.91, 3.91); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: SAM-Right; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch100/Area Scan (101x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.00916 mW/g

Ch100/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.002 dB
Peak SAR (extrapolated) = 0.012 mW/g
SAR(1 g) = 0.000571 mW/g; SAR(10 g) = 8.09e-005 mW/g
Maximum value of SAR (measured) = 0.0125 mW/g



0 dB = 0.0125 mW/g = -38.06 dB mW/g

#19_WLAN5G_802.11a_Back_1cm_Ch100

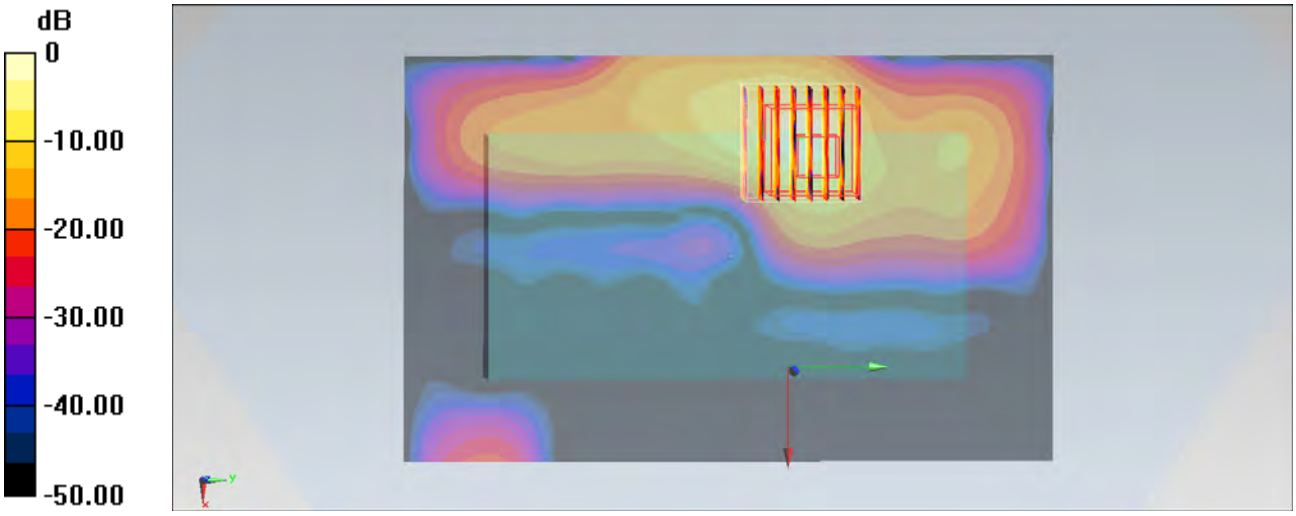
DUT: 2O0932

Communication System: 802.11a; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121018 Medium parameters used: f = 5500 MHz; σ = 5.717 mho/m; ε_r = 47.955; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(3.91, 3.91, 3.91); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: SAM-Right; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch100/Area Scan (101x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.291 mW/g

Ch100/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 1.355 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 0.658 mW/g
SAR(1 g) = 0.172 mW/g; SAR(10 g) = 0.048 mW/g
Maximum value of SAR (measured) = 0.362 mW/g



0 dB = 0.362 mW/g = -8.83 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/10/18

#19_WLAN5G_802.11a_Back_1cm_Ch100_2D

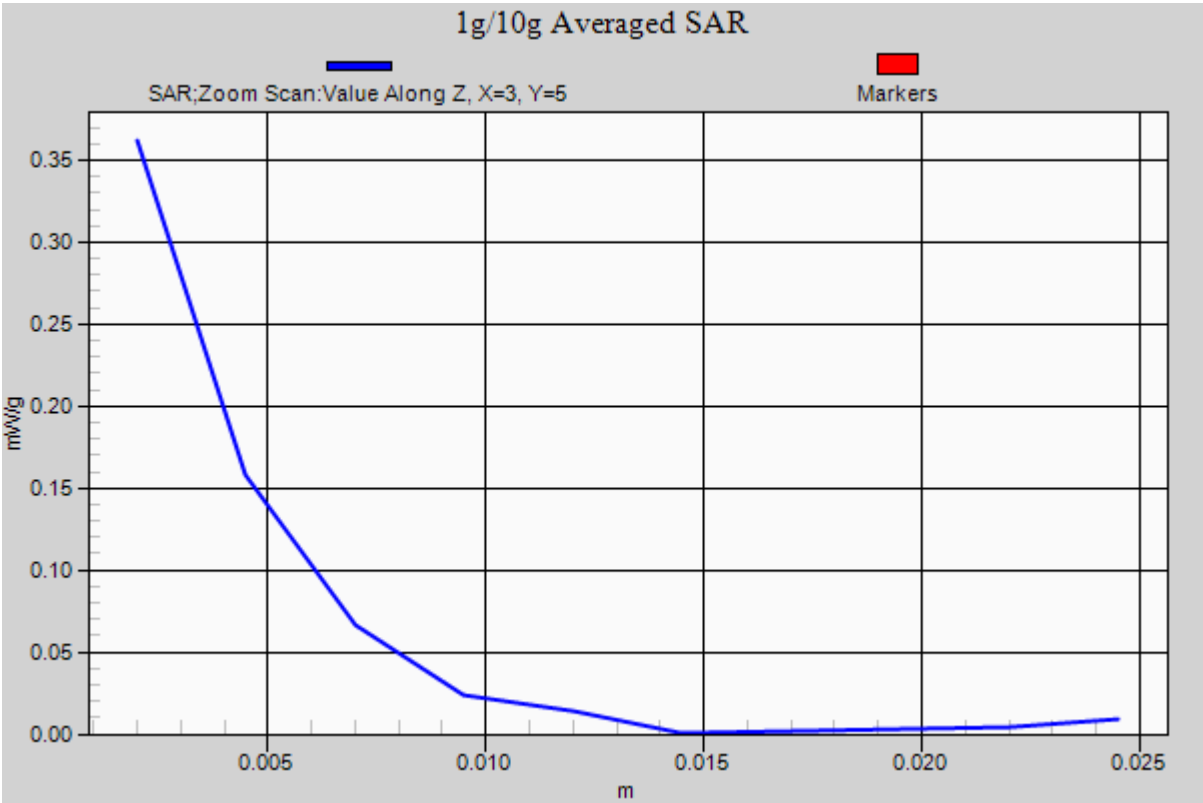
DUT: 2O0932

Communication System: 802.11a; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121018 Medium parameters used: f = 5500 MHz; σ = 5.717 mho/m; ε_r = 47.955; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(3.91, 3.91, 3.91); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: SAM-Right; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.5 (6469)

Ch100/Area Scan (51x81x1): Measurement grid: dx=20mm, dy=20mm
Maximum value of SAR (interpolated) = 0.291 mW/g

Ch100/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 1.355 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 0.658 mW/g
SAR(1 g) = 0.172 mW/g; SAR(10 g) = 0.048 mW/g
Maximum value of SAR (measured) = 0.362 mW/g



#20_WLAN5G_802.11a_Back_1cm_Ch100;Headset

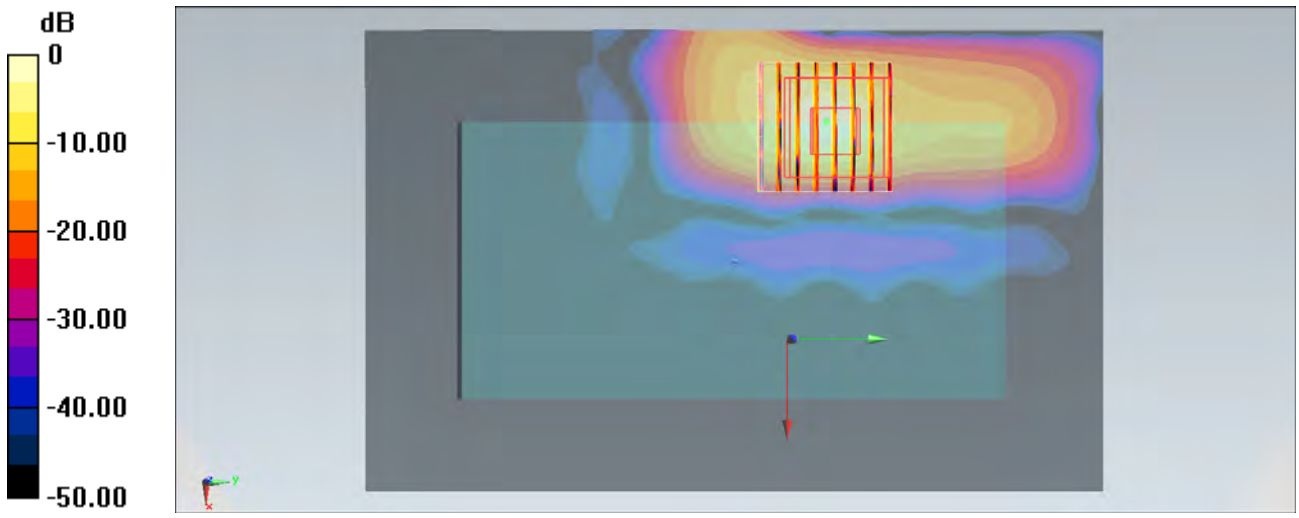
DUT: 2O0932

Communication System: 802.11a; Frequency: 5500 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121018 Medium parameters used: f = 5500 MHz; σ = 5.717 mho/m; ε_r = 47.955; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.3 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(3.91, 3.91, 3.91); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2012/5/3
- Phantom: SAM-Right; Type: QD 000 P40 C; Serial: TP-1383
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6477)

Ch100/Area Scan (101x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.276 mW/g

Ch100/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.718 mW/g
SAR(1 g) = 0.152 mW/g; SAR(10 g) = 0.042 mW/g
Maximum value of SAR (measured) = 0.325 mW/g



0 dB = 0.325 mW/g = -9.76 dB mW/g

#21_WLAN5G_802.11a_Front_1cm_Ch165

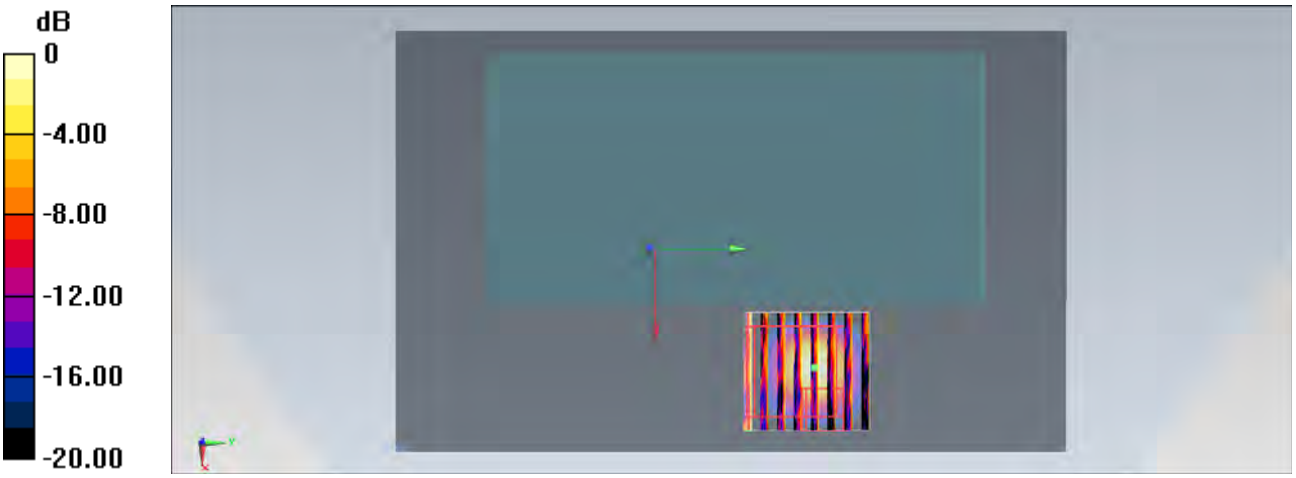
DUT: 2O0932

Communication System: 802.11a; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121018 Medium parameters used: f = 5825 MHz; σ = 6.001 mho/m; ε_r = 46.47; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.06, 4.06, 4.06); Calibrated: 2012-09-28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012-08-27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch165/Area Scan (101x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.0670 mW/g

Ch165/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 10.390 V/m; Power Drift = -0.120 dB
Peak SAR (extrapolated) = 0.336 mW/g
SAR(1 g) = 0.033 mW/g; SAR(10 g) = 0.014 mW/g
Maximum value of SAR (measured) = 0.0694 mW/g



0 dB = 0.0694 mW/g = -23.17 dB mW/g

#22_WLAN5G_802.11a_Back_1cm_Ch165

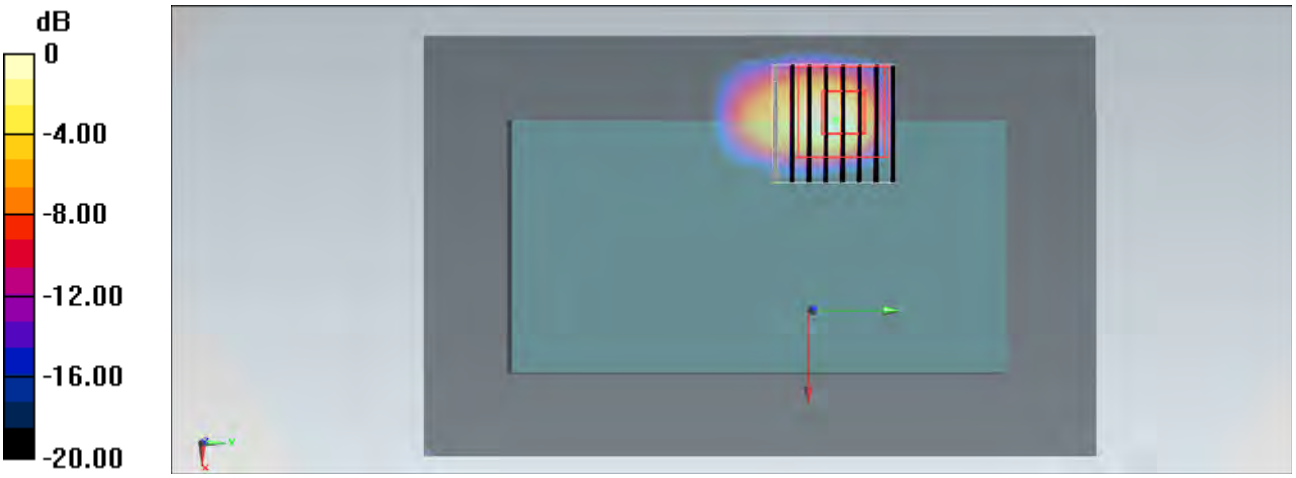
DUT: 2O0932

Communication System: 802.11a; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121018 Medium parameters used: f = 5825 MHz; σ = 6.001 mho/m; ε_r = 46.47; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.06, 4.06, 4.06); Calibrated: 2012-09-28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012-08-27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch165/Area Scan (101x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.20 mW/g

Ch165/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 0 V/m; Power Drift = 0.125 dB
Peak SAR (extrapolated) = 1.842 mW/g
SAR(1 g) = 0.457 mW/g; SAR(10 g) = 0.137 mW/g
Maximum value of SAR (measured) = 1.01 mW/g



0 dB = 1.01 mW/g = 0.09 dB mW/g

#27_WLAN5G_802.11a_Back_1cm_Ch165_Headset

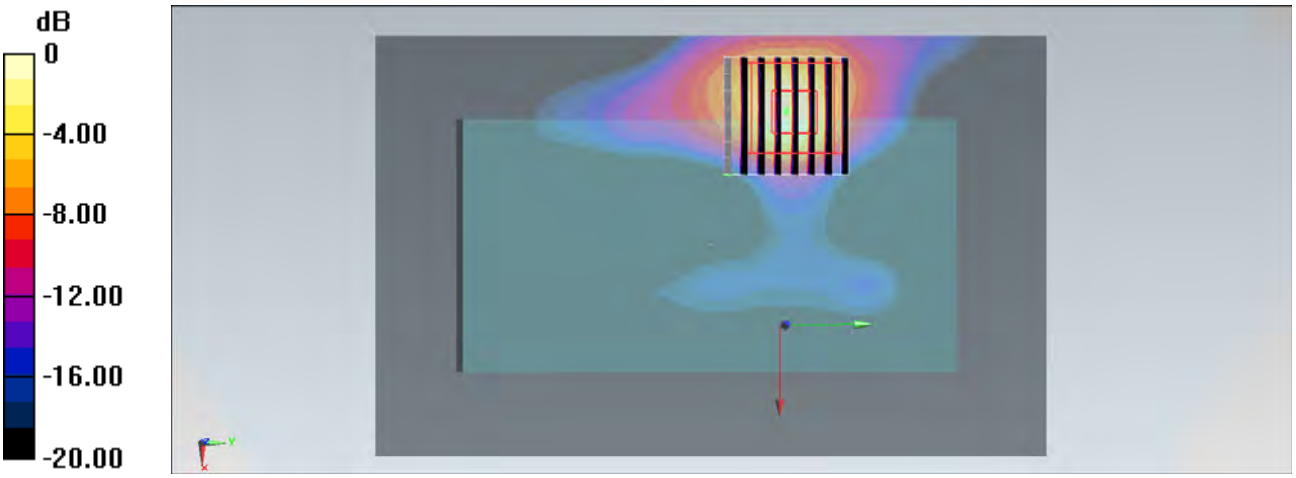
DUT: 2O0932

Communication System: 802.11a; Frequency: 5825 MHz;Duty Cycle: 1:1
Medium: MSL_5G_121018 Medium parameters used: f = 5825 MHz; σ = 6.001 mho/m; ε_r = 46.47; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3697; ConvF(4.06, 4.06, 4.06); Calibrated: 2012-09-28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012-08-27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch165/Area Scan (101x161x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.920 mW/g

Ch165/Zoom Scan (8x8x10)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2.5mm
Reference Value = 1.517 V/m; Power Drift = 0.120 dB
Peak SAR (extrapolated) = 1.744 mW/g
SAR(1 g) = 0.404 mW/g; SAR(10 g) = 0.116 mW/g
Maximum value of SAR (measured) = 0.832 mW/g



0 dB = 0.832 mW/g = -1.60 dB mW/g

Appendix C. DASY Calibration Certificate

The DASY calibration certificates are shown as follows.