FCC SAR Test Report

APPLICANT	:	**Sony Mobile Communications AB**
EQUIPMENT	:	**Smart phone**
MODEL NAME	:	**PM-0510-BV**
FCC ID	:	**PY7PM-0510**
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 Dec. 24, 2012. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown the compliance with the applicable technical standards.

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

Reviewed by:

Jones Tsai

Jones Tsai / Manager

Testing Laboratory
1190

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA292718-04	Rev. 01	Initial issue of report	Jan. 02, 2013
FA292718-04	Rev. 02	1. Added serial number of the EUT in section 3.1. 2. Revised SAR plot number duplication in appendix B. 3. Added liquid and ambient temperatures in section12.	Jan. 22, 2013

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Sony Mobile Communications AB Smart phone, PM-0510-BV** are as follows.

<Highest Reported SAR>

Exposure Position	Frequency Band	Highest Reported 1g-SAR (W/kg)	Equipment Class	Highest Reported 1g-SAR (W/kg)
Head	GPRS850	**0.74**	PCE	**0.89**
	GPRS1900	**0.89**		
	WLAN, 2412 - 2462 MHz	**0.21**	DTS	**0.21**
Hotspot (1cm Gap)	GPRS850	**1.42**	PCE	**1.42**
	GPRS1900	**1.00**		
	WLAN, 2412 - 2462 MHz	**0.06**	DTS	**0.06**
Body-worn (1.5cm Gap)	GPRS850	**0.59**	PCE	**0.59**
	GPRS1900	**0.51**		
	WLAN, 2412 - 2462 MHz	**0.03**	DTS	**0.03**

<Simultaneous SAR>

Frequency Band	Equipment Class	Exposure Position	Highest Reported Simultaneous Transmission 1g-SAR (W/kg)
GSM 850	PCE	Hotspot (1cm Gap)	1.48
WLAN 2.4GHz	DTS		
Frequency Band	**Equipment Class**	**Exposure Position**	**Highest Reported Simultaneous Transmission 1g-SAR (W/kg)**
GSM 850	PCE	Hotspot (1cm Gap)	1.46
Bluetooth2.4GHz	DSS		

Remark:

"Simultaneous transmission was not evaluated as the sum of the reported SAR for WWAN including DTM mode and WLAN was < 1.6 W/kg. This meets the requirements and simultaneous transmission exclusion specified in FCC KDB publication "447498 D01 General RF Exposure Guidance v05"

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	Sony Mobile COMMUNICATIONS AB
Address	Nya Vattentornet, 22188 Lund, Sweden

2.3 Manufacturer

Company Name	Arima Communications Corp.
Address	6F, No, 866, Jhongjheng Rd., Jhonghe City, Taipei County 23586, Taiwan

2.4 Application Details

Date of Start during the Test	Nov. 27, 2012
Date of End during the Test	Dec. 24, 2012

3. General Information

3.1 Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT	Smart phone
Model Name	PM-0510-BV
FCC ID	PY7PM-0510
Serial No	WUJ012DJ7B
Tx Frequency	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WLAN2.4GHz: 2412 MHz ~ 2462 MHz Bluetooth : 2402 MHz ~ 2480 MHz
Antenna Type	WWAN: PIFA Antenna WLAN: PIFA Antenna Bluetooth: PIFA Antenna
HW Version	AP
SW Version	11.3.A.0.8
Uplink Modulations	GSM: GMSK GPRS: GMSK EDGE: 8PSK 802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth : GFSK Bluetooth EDR : π/4-DQPSK,8-DPSK
EUT Stage	Production Unit

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. This device supports WLAN 2.4GHz hotspot operation
3. This device supports DTM mode, and supports up to class 11.

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3.2 Maximum RF output power among production units

Mode		GSM 850	GSM 1900
		Burst average power(dBm)	
GSM (GMSK, 1 Tx slot)		34.0	31
GPRS/EDGE (GMSK, 1 Tx slot)		34.0	31
GPRS/EDGE (GMSK, 2 Tx slots)		31.0	29
GPRS/EDGE (GMSK, 3 Tx slots)		29.0	27
GPRS/EDGE (GMSK, 4 Tx slots)		28.0	26
EDGE (8PSK, 1 Tx slot)		29.5	28.5
EDGE (8PSK, 2 Tx slots)		26.5	26
EDGE (8PSK, 3 Tx slots)		24.5	24
EDGE (8PSK, 4 Tx slots)		23.5	23
DTM5(2Txslots)	GSM (GMSK, 1 Tx slot)	31.0	29
	GPRS (GMSK, 1 Tx slot)	31.0	29
DTM9(2Txslots)	GSM (GMSK, 1 Tx slot)	31.0	29
	GPRS (GMSK, 1 Tx slot)	31.0	29
DTM11(3Txslots)	GSM (GMSK, 1 Tx slot)	29.0	27
	GPRS (GMSK, 2 Txslots)	29.0	27
DTM 5(2Tx slots)	GSM (GMSK, 1 Tx slot)	31.0	29
	EDGE (8PSK, 1 Tx slot)	26.5	26
DTM 9(2Tx slots)	GSM (GMSK, 1 Tx slot)	31.0	29
	EDGE (8PSK, 1 Tx slot)	26.5	26
DTM11(3Txslots)	GSM (GMSK, 1 Tx slot)	29.0	27
	EDGE (8PSK, 2 Tx slots)	24.5	24

Mode / Band	IEEE 802.11 Average power(dBm)			
	a	b	g	n
2.4 GHz WLAN		15.0	15.0	13.0

Power unit: dBm

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Mode / Band	Bluetooth Average power(dBm)		
	1Mbps (GFSK)	2Mbps (π/4-DQPSK)	3Mbps (8-DPSK)
2.4 GHz Bluetooth	3	1	1

Power unit: dBm

3.3 Product Photos

Please refer to Appendix D.

3.4 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 v05
- FCC KDB 941225 D01 v02
- FCC KDB 941225 D03 v01
- FCC KDB 941225 D04 v01
- FCC KDB 941225 D06 v01
- FCC KDB 865664 D01v01
- FCC KDB 648474 D04v01
- FCC KDB 248227 D01 v01r02

3.5 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.

3.6 Test Conditions

3.5.1 Ambient Condition

Ambient Temperature	20 to 24 ℃
Humidity	< 60 %

3.5.2 Test Configuration

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

During WLAN SAR testing EUT is configured with the WLAN continuous TX tool, and the transmission duty factor was monitored on the spectrum analyzer with zero-span setting
Duty factor observed as below:
802.11b, 1Mbps: 100%

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

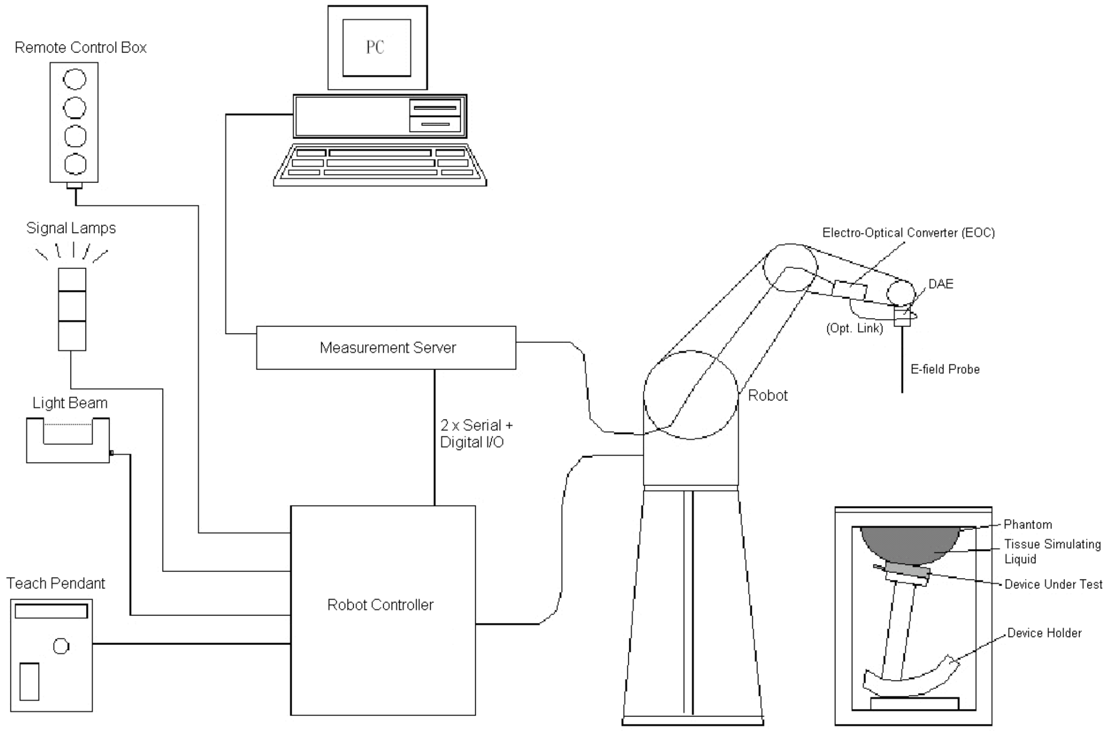


Fig 5.1 SPEAG DASY System Configurations

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

<EX3DV6 / ET3DV6 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

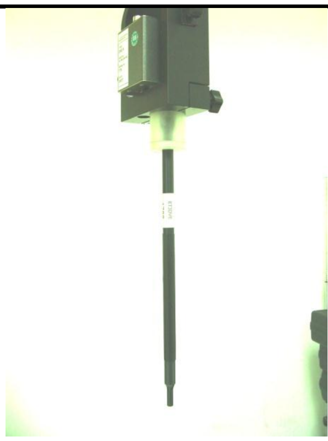


Fig 5.2 Photo of EX3DV6/ET3DV6

<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 ± 0.25 dB. The sensitivity parameters (NormX, NormY, and NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested. The calibration data can be referred to appendix C of this report.

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)

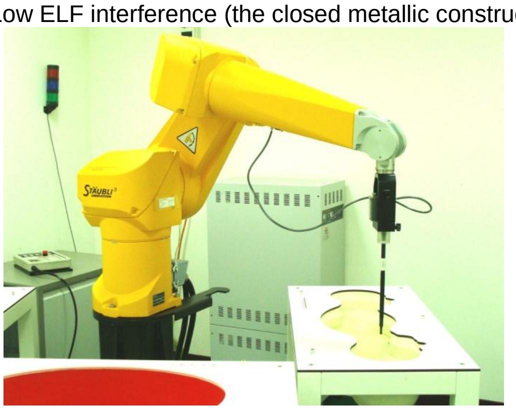


Fig 5.5 Photo of DASY4

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.

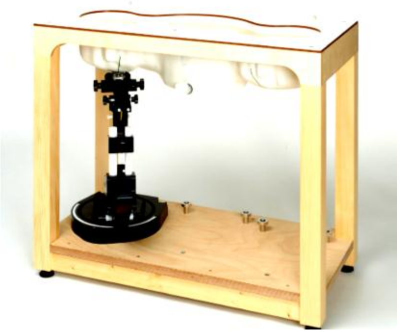
The measurement server performs all the real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operations.

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 $\varepsilon = 3$ and loss tangent $\delta = 0.02$. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

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.

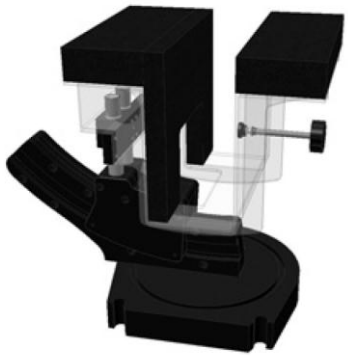


Fig 5.12 Laptop Extension Kit

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	Data Acquisition Electronics	DAE3	495	Apr. 23, 2012	Apr. 22, 2013
SPEAG	Data Acquisition Electronics	DAE4	1338	Jun. 12, 2012	Jun. 11, 2013
SPEAG	Dosimetric E-Field Probe	ET3DV6	1787	May. 29, 2012	May. 28, 2013
SPEAG	Dosimetric E-Field Probe	EX3DV4	3792	Jun. 21, 2012	Jun. 20, 2013
Wisewind	Thermometer	ETP-101	TM560	Nov. 13, 2012	Nov. 12, 2013
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-1383	NCR	NCR
SPEAG	SAM Phantom	QD 000 P40 CD	TP-1644	NCR	NCR
SPEAG	SAM Phantom	SM 000 T01 DA	TP-1542	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
Agilent	Dual Directional Coupler	778D	50422	Note 4	
Woken	Attenuator 1	WK0602-XX	N/A	Note 4	
PE	Attenuator 2	PE7005-10	N/A	Note 4	
PE	Attenuator 3	PE7005- 3	N/A	Note 4	
Agilent	Dielectric Probe Kit	85070D	US01440205	Note 5	
AR	Power Amplifier	5S1G4M2	0328767	Note 6	
R&S	Spectrum Analyzer	FSP	101131	Jul. 23, 2012	Jul. 22, 2013

Table 5.1 Test Equipment List

Note:

1. The calibration certificate of SAR measurement equipment can be referred to appendix C of this report.
2. Referring to KDB 865664 D01v01, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
3. The justification data of dipole D835V2, SN: 499, D1900V2, SN: 5d041, D2450V2, SN: 736, can be found in appendix C. The return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration.
4. The Insertion Loss calibration of Dual Directional Coupler and Attenuator were characterized via the network analyzer and compensated during system check.
5. The dielectric probe kit was calibrated via the network analyzer, with the specified procedure (calibrated in pure water) and calibration kit (standard) short circuit, before the dielectric measurement. The specific procedure and calibration kit are provided by Agilent.
6. In system check we need to monitor the level on the power meter, and adjust the power amplifier level to have precise power level to the dipole; the measured SAR will be normalized to 1W input power according to the ratio of 1W to the input power to the dipole. For system check, the calibration of the power amplifier is deemed not critically required for correct measurement; the power meter is critical and we do have calibration for it
7. Attenuator 1 insertion loss is calibrated by the network Analyzer, which the calibration is valid, before system check.

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.

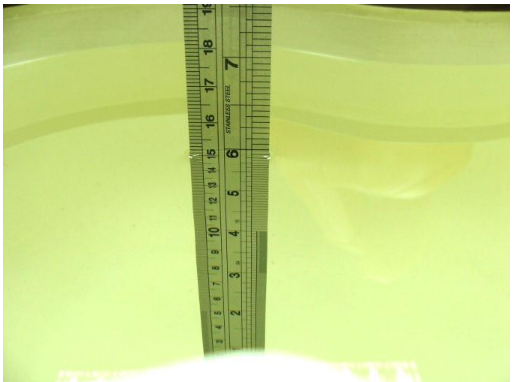


Fig 6.1 Photo of Liquid Height for Head SAR

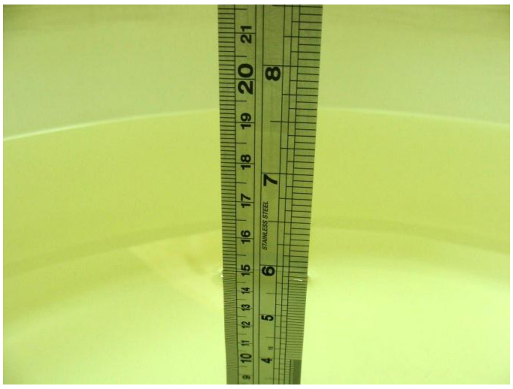


Fig 6.2 Photo of Liquid Height for Body SAR

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

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	21.5	0.898	41.248	0.9	41.5	-0.22	-0.61	±5	Nov. 28, 2012
835	Body	21.6	0.963	53.612	0.97	55.2	-0.72	-2.88	±5	Nov. 27, 2012
1900	Head	21.2	1.427	39.815	1.4	40	1.93	-0.46	±5	Nov. 28, 2012
1900	Body	21.4	1.523	54.798	1.52	53.3	0.20	2.81	±5	Nov. 27, 2012
2450	Head	21.5	1.839	39.306	1.8	39.2	2.17	0.27	±5	Dec. 24, 2012
2450	Body	21.5	1.964	51.596	1.95	52.7	0.72	-2.09	±5	Dec. 24, 2012

Table 6.2 Measuring Results for Simulating Liquid

7. SAR Measurement Evaluation

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

7.1 Purpose of System Performance check

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

7.2 System Setup

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

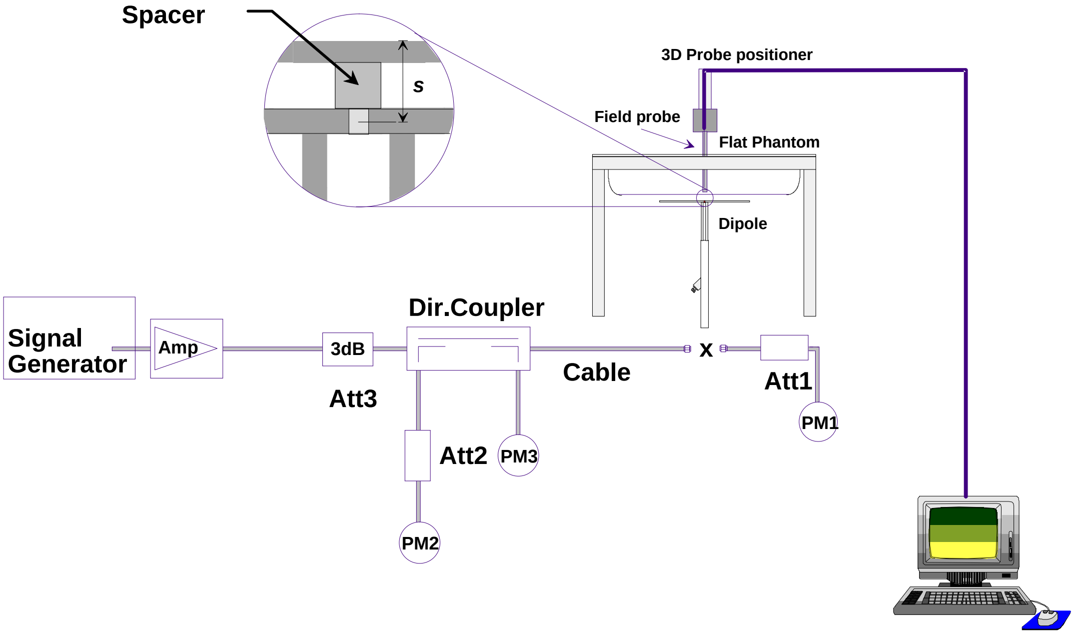


Fig 7.1 System Setup for System Evaluation

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

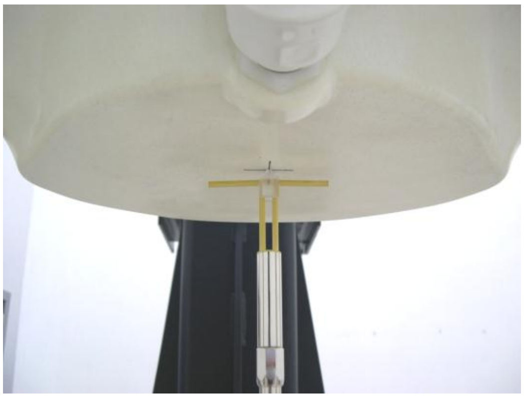


Fig 7.2 Photo of Dipole Setup

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	Power fed onto reference dipole (mW)	Targeted SAR_{1g} (W/kg)	Measured SAR_{1g} (W/kg)	Normalized SAR_{1g} (W/kg)	Deviation (%)
Nov. 28, 2012	835	Head	250	9.71	2.4	9.60	-1.13
Nov. 27, 2012	835	Body	250	9.82	2.58	10.32	5.09
Nov. 28, 2012	1900	Head	250	39.8	9.58	38.32	-3.72
Nov. 27, 2012	1900	Body	250	40	10.1	40.40	1.00
Dec. 24, 2012	2450	Head	250	54.8	13.9	55.60	1.46
Dec. 24, 2012	2450	Body	250	52.3	12.1	48.40	-7.46

Table 7.1 Target and Measurement SAR after Normalized

8. EUT Testing Position

This EUT was tested in ten different positions. They are right cheek, right tilted, left cheek, left tilted, Front of the EUT with phantom 1 cm gap, Back of the EUT with phantom 1 cm gap, Top Side of the EUT with phantom 1 cm gap, Bottom Side of the EUT with phantom 1 cm gap, Right Side of the EUT with phantom 1 cm gap, and Left Side of the EUT with phantom 1 cm gap, as illustrated below:

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.

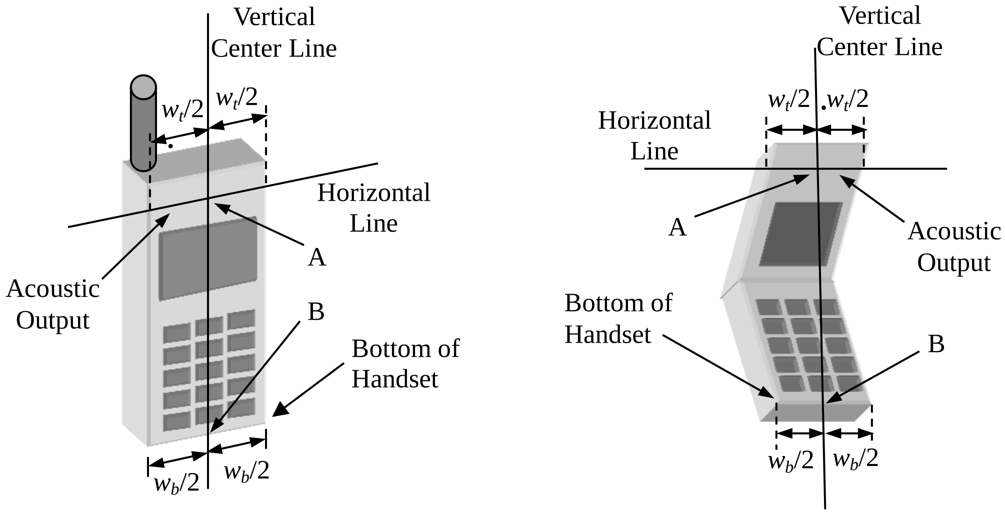


Fig 8.1 Illustration for Handset Vertical and Horizontal Reference Lines

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).

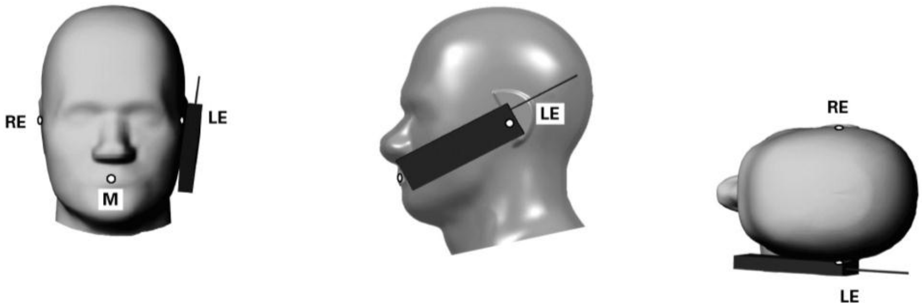


Fig 8.2 Illustration for Cheek Position

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).

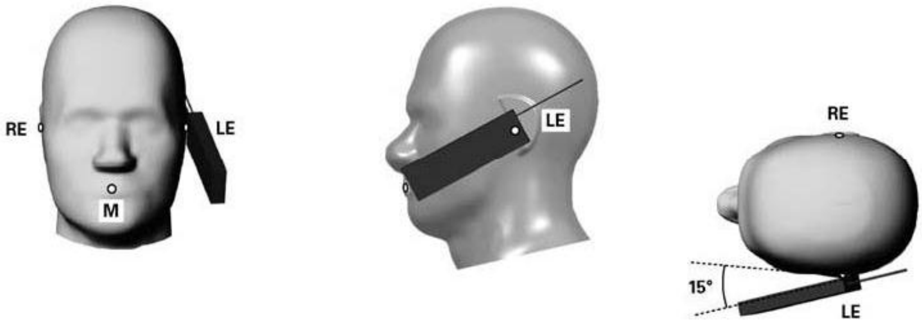


Fig 8.3 Illustration for Tilted Position

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 1.5 cm.

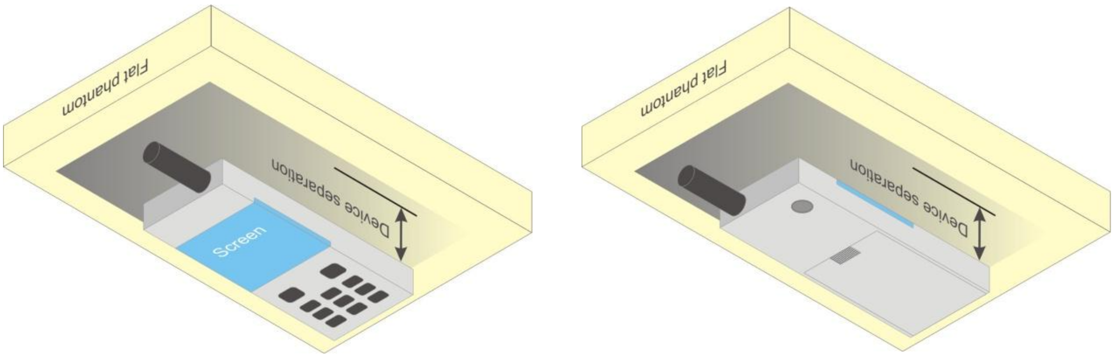


Fig 8.4 Illustration for Body Worn Position

8.5 Hotspot Position

(a) To position the device parallel to the phantom surface with all sides.
(b) To adjust the device parallel to the flat phantom.
(c) To adjust the distance between the device and the flat phantom to 1.0cm.

<EUT Setup Photos>

Please refer to Appendix E for the test setup photos.

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) Place the EUT in the positions as Appendix E demonstrates.
(c) Set scan area, grid size and other setting on the DASY software.
(d) Measure SAR results for the highest power channel on each testing position.
(e) Find out the largest SAR result on these testing positions of each band
(f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

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

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

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 Power Reference Measurement

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

9.3 Area & Zoom Scan Procedures

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 is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g.
Area scan and zoom scan resolution setting follows KDB 865664 D01v01 quoted below.

For any secondary peaks found in the area scan which are within 2 dB of the maximum peak and are not within this zoom scan, the zoom scan should be repeated.

			$\leq$ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}			$\leq$ 2 GHz: $\leq$ 15 mm 2 – 3 GHz: $\leq$ 12 mm	3 – 4 GHz: $\leq$ 12 mm 4 – 6 GHz: $\leq$ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			$\leq$ 2 GHz: $\leq$ 8 mm 2 – 3 GHz: $\leq$ 5 mm*	3 – 4 GHz: $\leq$ 5 mm* 4 – 6 GHz: $\leq$ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		$\leq$ 5 mm	3 – 4 GHz: $\leq$ 4 mm 4 – 5 GHz: $\leq$ 3 mm 5 – 6 GHz: $\leq$ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	$\leq$ 4 mm	3 – 4 GHz: $\leq$ 3 mm 4 – 5 GHz: $\leq$ 2.5 mm 5 – 6 GHz: $\leq$ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		$\geq$ 30 mm	3 – 4 GHz: $\geq$ 28 mm 4 – 5 GHz: $\geq$ 25 mm 5 – 6 GHz: $\geq$ 22 mm
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details. * When zoom scan is required and the *reported* SAR from the area scan based *1-g SAR estimation* procedures of KDB 447498 is $\leq$ 1.4 W/kg, $\leq$ 8 mm, $\leq$ 7 mm and $\leq$ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

9.4 Volume Scan Procedures

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

9.5 SAR Averaged Methods

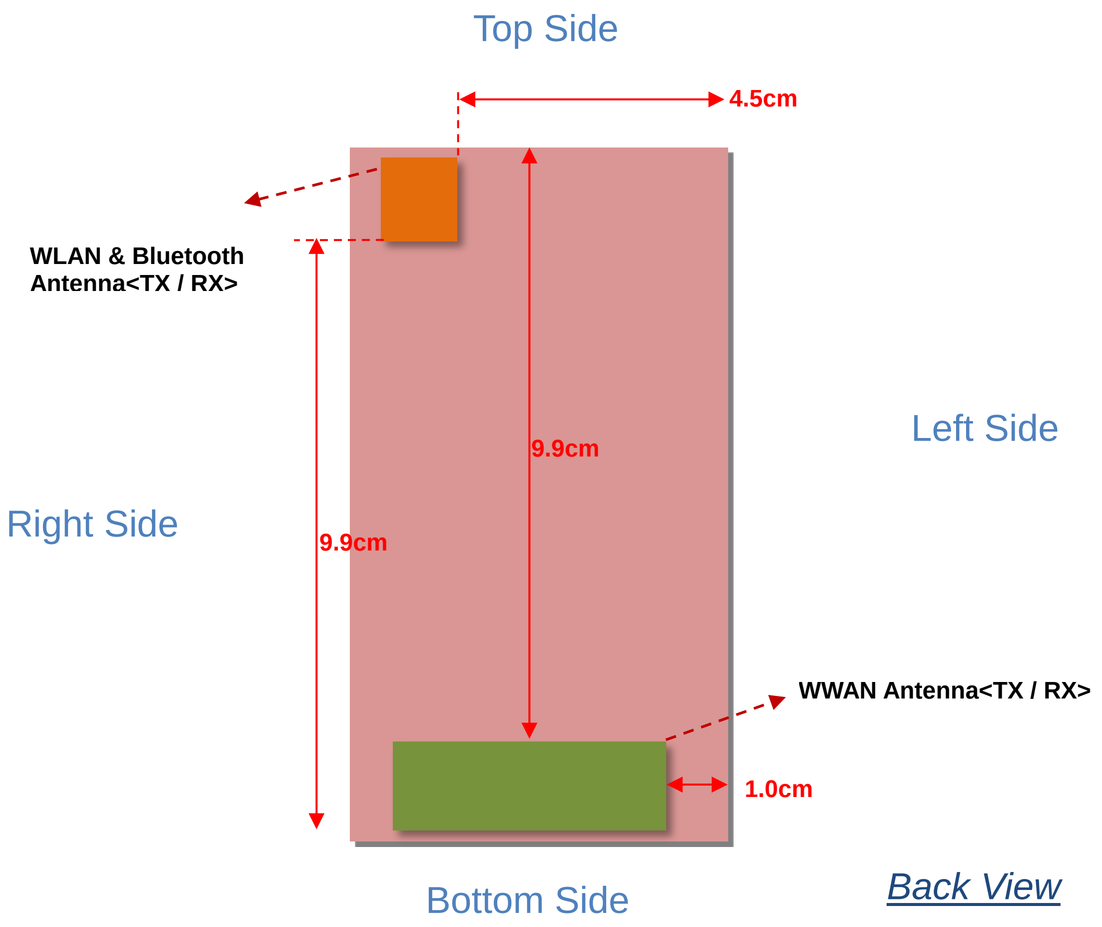
In DASY, the interpolation and extrapolation are both based on the modified Quadratic Shepard's method. The interpolation scheme combines a least-square fitted function method and a weighted average method which are the two basic types of computational interpolation and approximation.

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.

9.6 Power Drift Monitoring

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

10. Exposure Positions Consideration



Antennas	Wireless Interface
WWAN Antenna (Tx / Rx)	GSM 850 GSM 1900
BT&WLAN Antenna (Tx / Rx)	WLAN 2.4GHz Bluetooth

Sides for Head SAR tests				
Antennas	**Right Cheek**	**Left Cheek**	**Right Tilt**	**Left Tilt**
WWAN	YES	YES	YES	YES
WLAN	YES	YES	YES	YES

Sides for SAR tests; Body-worn mode Test distance: 15 mm		
Antennas	**Back w/ headset**	**Front w/ headset**
WWAN	YES	YES
WLAN	YES	YES

Distance between the antenna to the exposure position						
Antennas	**Back**	**Front**	**Top Side**	**Bottom Side**	**Right Side**	**Left Side**
WWAN	≤ 25mm	≤ 25mm	99mm	≤ 25mm	≤ 25mm	≤ 25mm
WLAN	≤ 25mm	≤ 25mm	≤ 25mm	99mm	≤ 25mm	NO

Positions for SAR tests; Hotspot mode Test distance: 10 mm						
Antennas	**Back**	**Front**	**Top Side**	**Bottom Side**	**Right Side**	**Left Side**
WWAN	YES	YES	NO	YES	YES	YES
WLAN	YES	YES	YES	NO	YES	NO

Note:

1. Per KDB 447498 D01v05, for handsets the *test separation distance* is determined by the smallest distance between the outer surface of the device and the user; which is 0mm for head SAR, 10mm for hotspot SAR, 15mm for body-worn SAR.
2. For minimum test separation distance ≤50mm, Bluetooth standalone SAR test exclusion power threshold is determined by:[(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] · [√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR. The formula sets the maximum RF power threshold, and the transmitter with RF power equal or less than the power threshold, SAR testing is not required

.

3. If the test separation distance is < 5mm, 5mm is used for excluded SAR calculation.

	Wireless Interface	Bluetooth
Tune-up Maximum power (dBm)		3
Tune-up Maximum rated power (mW)		2.00
Head	Test Separation Distance (mm)	0
	SAR exclusion threshold (mW)	10
	SAR testing required?	**NO**
Body 1 cm(Hotspot)	Test Separation Distance (mm)	10
	SAR exclusion threshold (mW)	19
	SAR testing required?	**NO**
Body 1.5cm(Body Worn)	Test Separation Distance (mm)	15
	SAR exclusion threshold (mW)	29
	SAR testing required?	**NO**

11. Conducted RF Output Power (Unit: dBm)

<GSM Conducted Power>

Note:

1. Per KDB 447498 D01v05, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. For DTM multi-slot class mode, the device was linked with base station simulator (Agilent E5515C) and transmit maximum power on maximum number of TX slots, i.e. one CS timeslot, and additional PS timeslots (1 for DTM class 5 and 9, 2 for DTM class 11) in one TDMA frame.
3. Agilent E5515C was used to setup the device operated under DTM mode for power measurement and SAR testing. For conducted power, the power of the burst for voice and the power of the bursts for data was reported separately in the table above, and the frame-average power is derived below to determine SAR testing.

*DTM frame average power (dBm) = 10*log [∑(power of each slot, in mW)/8]*

Band: GSM850		Burst Average Power (dBm)			Frame-Average Power (dBm)		
Channel		128	189	251	128	189	251
Frequency (MHz)		824.2	836.4	848.8	824.2	836.4	848.8
GSM (GMSK, 1 Tx slot)		33.44	33.49	33.47	24.44	24.49	24.47
GPRS (GMSK, 1 Tx slot) – CS1		33.41	33.43	33.42	24.41	24.43	24.42
GPRS (GMSK, 2 Tx slots) – CS1		30.64	30.70	30.69	24.64	24.70	24.69
GPRS (GMSK, 3 Tx slots) – CS1		28.75	28.77	28.76	24.49	24.51	24.50
GPRS (GMSK, 4 Tx slots) – CS1		27.63	27.68	27.66	24.63	24.68	24.66
EDGE (GMSK, 1 Tx slot) – MCS1		33.36	33.43	33.41	24.36	24.43	24.41
EDGE (GMSK, 2 Tx slots) – MCS1		30.62	30.67	30.65	24.62	24.67	24.65
EDGE (GMSK, 3 Tx slots) – MCS1		28.72	28.76	28.75	24.46	24.50	24.49
EDGE (GMSK, 4 Tx slots) – MCS1		27.61	27.66	27.65	24.61	24.66	24.65
EDGE (8PSK, 1 Tx slot) – MCS5		29.22	29.27	29.24	20.22	20.27	20.24
EDGE (8PSK, 2 Tx slots) – MCS5		26.19	26.24	26.23	20.19	20.24	20.23
EDGE (8PSK, 3 Tx slots) – MCS5		24.31	24.35	24.34	20.05	20.09	20.08
EDGE (8PSK, 4 Tx slots) – MCS5		23.18	23.22	23.21	20.18	20.22	20.21
DTM 5 (2Tx slots)	GSM (GMSK, 1 Tx slot)	30.57	30.65	30.59	24.54	24.62	24.57
	GPRS (GMSK, 1 Tx slot) – CS1	30.56	30.64	30.60			
DTM 9 (2Tx slots)	GSM (GMSK, 1 Tx slot)	30.63	30.64	30.63	24.60	24.61	24.60
	GPRS (GMSK, 1 Tx slot) – CS1	30.62	30.63	30.61			
DTM 11 (3Tx slots)	GSM (GMSK, 1 Tx slot)	28.69	28.72	28.71	24.42	24.47	24.44
	GPRS (GMSK, 2 Tx slots) – CS1	28.67	28.73	28.70			
DTM 5 (2Tx slots)	GSM (GMSK, 1 Tx slot)	30.63	30.67	30.65	22.93	22.97	22.95
	EDGE (8PSK, 1 Tx slot) – MCS5	26.16	26.21	26.19			
DTM 9 (2Tx slots)	GSM (GMSK, 1 Tx slot)	30.62	30.68	30.66	22.92	22.97	22.95
	EDGE (8PSK, 1 Tx slot) – MCS5	26.15	26.20	26.18			
DTM 11 (3Tx slots)	GSM (GMSK, 1 Tx slot)	28.74	28.78	28.77	22.05	22.09	22.08
	EDGE (8PSK, 2 Tx slots) – MCS5	24.26	24.31	24.30			

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
Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB
Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

Note:

1. For Head SAR testing, GSM and DTM should be evaluated, therefore the EUT was set in DTM Multi-slot class 5 for GSM850 due to its highest frame-average power.
2. For Body worn SAR testing, GSM and DTM should be evaluated, therefore the EUT was set in DTM Multi-slot class 5 for GSM850 due to its highest frame-average power.
3. For hotspot mode SAR testing, GPRS, EDGE and DTM should be evaluated, therefore the EUT was set in GPRS 2 Tx slots for GSM850 due to its highest frame-average 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)		30.77	30.96	30.98	21.77	21.96	21.98
GPRS (GMSK, 1 Tx slot) – CS1		30.76	30.95	30.97	21.76	21.95	21.97
GPRS (GMSK, 2 Tx slots) – CS1		28.02	28.23	28.55	22.02	22.23	22.55
GPRS (GMSK, 3 Tx slots) – CS1		26.30	26.50	26.70	22.04	22.24	22.44
GPRS (GMSK, 4 Tx slots) – CS1		25.02	25.24	25.42	22.02	22.24	22.42
EDGE (GMSK, 1 Tx slot) – MCS1		30.74	30.93	30.97	21.74	21.93	21.97
EDGE (GMSK, 2 Tx slots) – MCS1		28.01	28.21	28.52	22.01	22.21	22.52
EDGE (GMSK, 3 Tx slots) – MCS1		26.27	26.45	26.67	22.01	22.19	22.41
EDGE (GMSK, 4 Tx slots) – MCS1		25.00	25.23	25.40	22.00	22.23	22.40
EDGE (8PSK, 1 Tx slot) – MCS5		28.26	28.41	28.43	19.26	19.41	19.43
EDGE (8PSK, 2 Tx slots) – MCS5		25.30	25.52	25.67	19.30	19.52	19.67
EDGE (8PSK, 3 Tx slots) – MCS5		23.41	23.63	23.78	19.15	19.37	19.52
EDGE (8PSK, 4 Tx slots) – MCS5		22.26	22.48	22.64	19.26	19.48	19.64
DTM 5 (2Tx slots)	GSM (GMSK, 1 Tx slot)	28.16	28.38	28.52	22.13	22.35	22.49
	GPRS (GMSK, 1 Tx slot) – CS1	28.15	28.37	28.50			
DTM 9 (2Tx slots)	GSM (GMSK, 1 Tx slot)	28.15	28.37	28.51	22.12	22.34	22.48
	GPRS (GMSK, 1 Tx slot) – CS1	28.13	28.36	28.50			
DTM 11 (3Tx slots)	GSM (GMSK, 1 Tx slot)	26.29	26.51	26.66	22.02	22.24	22.39
	GPRS (GMSK, 2 Tx slots) – CS1	26.28	26.50	26.65			
DTM 5 (2Tx slots)	GSM (GMSK, 1 Tx slot)	28.26	28.47	28.60	21.00	21.21	21.35
	EDGE (8PSK, 1 Tx slot) – MCS5	25.29	25.50	25.64			
DTM 9 (2Tx slots)	GSM (GMSK, 1 Tx slot)	28.22	28.45	28.59	20.96	21.19	21.33
	EDGE (8PSK, 1 Tx slot) – MCS5	25.24	25.47	25.62			
DTM 11 (3Tx slots)	GSM (GMSK, 1 Tx slot)	26.36	26.58	26.73	20.33	20.55	20.70
	EDGE (8PSK, 2 Tx slots) – MCS5	23.34	23.56	23.71			

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
Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB
Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

Note:

1. For Head SAR testing, GSM and DTM should be evaluated, therefore the EUT was set in DTM Multi-slot class 5 for GSM1900 due to its highest frame-average power.
2. For Body worn SAR testing, GSM and DTM should be evaluated, therefore the EUT was set in DTM Multi-slot class 5 for GSM850 due to its highest frame-average power.
3. For hotspot mode SAR testing, GPRS, EDGE and DTM should be evaluated, therefore the EUT was set in GPRS 2 Tx slots for GSM850 due to its highest frame-average power.

<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	14.67	11	14.86	14.60	14.49
CH 06	2437	14.85				
CH 11	2462	**14.92**				

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	13.54	11	13.83	13.77	13.79	13.70	13.69	13.60	13.69
CH 06	2437	13.70								
CH 11	2462	**13.83**								

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	11.19	06	11.35	11.17	11.13	11.09	11.07	11.05	11.01
CH 06	2437	**11.39**								
CH 11	2462	11.09								

Note:

1. Per KDB 248227 D01 v01r02, choose the highest output power channel to test SAR and determine further SAR exclusion
2. Per KDB 248227 D01 v01r02, 11g and 11n output power is less than 1/4 dB 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 1/4 dB higher than those measured at the lowest data rate. 2.4GHz WLAN SAR was tested on 802.11b 1Mbps

<Bluetooth Conducted Power >

Channel	Frequency (MHz)	Average power (dBm)		
		Mode		
		GFSK	π/4-DQPSK	8-DPSK
CH 0	2402	1.13	-0.44	-0.44
CH 39	2441	1.78	0.21	0.23
CH 78	2480	**2.48**	0.92	0.93

12. SAR Test Results

<Note>

1. Per KDB 447498 D01v05, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   Scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   Reported SAR(W/kg)= Measured SAR(W/kg) Scaling Factor*
2. Per KDB 447498 D01v05, for each exposure position, if the highest output channel reported SAR <0.8W/kg, other channels SAR testing are not necessary
3. For Hotspot SAR testing, per KDB 941225 D06, for EUT dimension ≥ 9cm*5cm, the test distance is 1cm. SAR must be measured for all surfaces and sides with a transmitting antenna located within 2.5cm from that surface or edge

12.1 Test Records for Head SAR Test

<GSM SAR>

Plot No.	Band	Mode	Modulation Type	Test Position	Ambient Temperature ℃	Liquid Temperature ℃	Ch.	Freq. (MHz)	Burst Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measure SAR_{1g} (W/kg)	Reported SAR_{1g} (W/kg)
25	**GSM850**	**DTM Multi-slot class 5**	**GMSK**	**Right Cheek**	**22.6**	**21.5**	**189**	**836.4**	**30.65**	**31.00**	**1.090**	**0.02**	**0.678**	**0.735**
26	GSM850	DTM Multi-slot class 5	GMSK	Right Tilted	22.4	21.5	189	836.4	30.65	31.00	1.090	0.05	0.405	0.439
27	GSM850	DTM Multi-slot class 5	GMSK	Left Cheek	22.5	21.5	189	836.4	30.65	31.00	1.090	-0.08	0.596	0.646
28	GSM850	DTM Multi-slot class 5	GMSK	Left Tilted	22.6	21.5	189	836.4	30.65	31.00	1.090	-0.121	0.367	0.398
19	GSM1900	DTM Multi-slot class 5	GMSK	Right Cheek	22.4	21.2	810	1909.8	28.52	29.00	1.125	0	0.691	0.772
20	GSM1900	DTM Multi-slot class 5	GMSK	Right Tilted	22.3	21.2	810	1909.8	28.52	29.00	1.125	0.127	0.309	0.345
21	**GSM1900**	**DTM Multi-slot class 5**	**GMSK**	**Left Cheek**	**22.1**	**21.2**	**810**	**1909.8**	**28.52**	**29.00**	**1.125**	**-0.16**	**0.793**	**0.886**
22	GSM1900	DTM Multi-slot class 5	GMSK	Left Cheek	22.4	21.2	512	1850.2	28.16	29.00	1.221	0.04	0.718	0.871
23	GSM1900	DTM Multi-slot class 5	GMSK	Left Cheek	22.3	21.2	661	1880	28.38	29.00	1.160	-0.08	0.746	0.860
24	GSM1900	DTM Multi-slot class 5	GMSK	Left Tilted	22.2	21.2	810	1909.8	28.52	29.00	1.125	-0.118	0.298	0.333

Note:

1. Considering GSM voice call and DTM mode RF exposure at the head exposure positions, per KDB 941225 D03 for TDMA application, the mode of the highest source-based time-averaged power was selected for SAR testing to show RF exposure compliance and cover the mode with lower source-based time-average power. DTM5 (1CS, 1PS) was chosen for cellular band, and DTM5 (1CS, 1PS) was chosen for PCS band.

<WLAN SAR DTS>

Plot No.	Band	Mode	Modulation Type	Data Rate	Test Position	Ambient Temperature ℃	Liquid Temperature ℃	Ch.	Freq. (MHz)	Burst Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measure SAR_{1g} (W/kg)	Reported SAR_{1g} (W/kg)
39	WLAN2.4GHz	802.11b	DBPSK	1Mbps	Right Cheek	22.6	21.5	11	2462	14.92	15	1.019	0.1	0.113	0.115
29	WLAN2.4GHz	802.11b	DBPSK	1Mbps	Right Tilted	22.4	21.5	11	2462	14.92	15	1.019	0.02	0.123	0.125
30	**WLAN2.4GHz**	**802.11b**	**DBPSK**	**1Mbps**	**Left Cheek**	**22.5**	**21.5**	**11**	**2462**	**14.92**	**15**	**1.019**	**-0.05**	**0.206**	**0.210**
31	WLAN2.4GHz	802.11b	DBPSK	1Mbps	Left Tilted	22.4	21.5	11	2462	14.92	15	1.019	0.09	0.14	0.143

12.2 Test Records for Hotspot SAR Test

Note:

1. For Hotspot SAR testing, per KDB 941225 D06, for EUT dimension ≥ 9cm*5cm, the test distance is 1cm. SAR must be measured for all surfaces and sides with a transmitting antenna located within 2.5cm from that surface or edge

<GSM SAR>

Plot No.	Band	Mode	Modulation Type	Test Position	Gap (cm)	Ambient Temperature ℃	Liquid Temperature ℃	Ch.	Freq. (MHz)	Burst Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measure SAR_{1g} (W/kg)	Reported SAR_{1g} (W/kg)
1	GSM850	GPRS (2 Tx slots)	GMSK	Front	1cm	22.7	21.6	189	836.4	30.70	31.00	1.072	0	0.726	0.778
2	GSM850	GPRS (2 Tx slots)	GMSK	Back	1cm	22.6	21.6	189	836.4	30.70	31.00	1.072	-0.01	1.24	1.329
6	GSM850	GPRS (2 Tx slots)	GMSK	Back	1cm	22.4	21.6	128	824.2	30.64	31.00	1.086	-0.15	0.99	1.076
7	**GSM850**	**GPRS (2 Tx slots)**	GMSK	**Back**	**1cm**	**22.7**	**21.6**	**251**	**848.8**	**30.69**	**31.00**	**1.074**	**-0.16**	**1.32**	**1.418**
3	GSM850	GPRS (2 Tx slots)	GMSK	Left Side	1cm	22.7	21.6	189	836.4	30.70	31.00	1.072	0.02	0.528	0.566
4	GSM850	GPRS (2 Tx slots)	GMSK	Right Side	1cm	22.5	21.6	189	836.4	30.70	31.00	1.072	-0.13	0.622	0.666
5	GSM850	GPRS (2 Tx slots)	GMSK	Bottom Side	1cm	22.6	21.6	189	836.4	30.70	31.00	1.072	-0.05	0.142	0.152
10	GSM1900	GPRS (2 Tx slots)	GMSK	Front	1cm	22.3	21.4	810	1909.8	28.55	29.00	1.109	-0.14	0.586	0.650
11	GSM1900	GPRS (2 Tx slots)	GMSK	Back	1cm	22.5	21.4	810	1909.8	28.55	29.00	1.109	0.07	0.736	0.816
12	**GSM1900**	**GPRS (2 Tx slots)**	**GMSK**	**Back**	**1cm**	**22.5**	**21.4**	**512**	**1850.2**	**28.02**	**29.00**	**1.253**	**-0.09**	**0.796**	**0.998**
13	GSM1900	GPRS (2 Tx slots)	GMSK	Back	1cm	22.5	21.4	661	1880	28.23	29.00	1.194	0.01	0.763	0.911
14	GSM1900	GPRS (2 Tx slots)	GMSK	Left Side	1cm	22.3	21.4	810	1909.8	28.55	29.00	1.109	0.03	0.206	0.228
15	GSM1900	GPRS (2 Tx slots)	GMSK	Right Side	1cm	22.5	21.4	810	1909.8	28.55	29.00	1.109	-0.09	0.166	0.184
16	GSM1900	GPRS (2 Tx slots)	GMSK	Bottom Side	1cm	22.4	21.4	810	1909.8	28.55	29.00	1.109	0.15	0.707	0.784

Note:

1. Hotspot mode, for GSM1900 band DTM mode and GSM850 band DTM mode were found to give the highest source-based time-average power, this mode addressed data allocated mode and the possible use of hotspot mode in the head configuration. The sum of SAR level for simultaneous transmission for head mode WWAN and WLAN was also < 1.6 w/kg

<WLAN SAR DTS>

Plot No.	Band	Mode	Modulation Type	Data Rate	Test Position	Gap (cm)	Ambient Temperature ℃	Liquid Temperature ℃	Ch.	Freq. (MHz)	Burst Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measure SAR_{1g} (W/kg)	Reported SAR_{1g} (W/kg)
32	WLAN2.4GHz	802.11b	DBPSK	1Mbps	Front	1cm	**22.4**	**21.5**	11	2462	14.92	15	1.019	0.05	0.037	0.038
33	**WLAN2.4GHz**	**802.11b**	**DBPSK**	**1Mbps**	**Back**	**1cm**	**22.5**	**21.5**	**11**	**2462**	**14.92**	**15**	**1.019**	**0**	**0.06**	**0.061**
34	WLAN2.4GHz	802.11b	DBPSK	1Mbps	Right Side	1cm	**22.6**	**21.5**	11	2462	14.92	15	1.019	-0.13	0.05	0.051
35	WLAN2.4GHz	802.11b	DBPSK	1Mbps	Top Side	1cm	**22.4**	**21.5**	11	2462	14.92	15	1.019	-0.06	0.044	0.045

12.3 Test Records for Body-worn SAR Test

Note:

1. Per KDB 941225 D06, when the same wireless modes and device transmission configurations are required for testing body-worn accessories and hotspot mode, it is not necessary to test body-worn accessory SAR for the same device orientation if the test separation distance for hotspot mode is more conservative than that used for body-worn accessories. In this report, the worst exposure position is the back exposure position of the device.
2. Body-worn exposure conditions are intended to voice call operations, therefore GSM voice call or DTM mode which is the highest source-based time-average power mode is selected to be tested at the back exposure position.
3. Per KDB 648474 D04v01, when the reported SAR for a body-worn accessory measured without a headset connected to the handset is ≤ 1.2 W/kg, SAR testing with a headset connected to the handset is not required.

<GSM SAR>

Plot No.	Band	Mode	Modulation Type	Test Position	Gap (cm)	Ambient Temperature ℃	Liquid Temperature ℃	Ch.	Freq. (MHz)	Burst Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measure SAR_{1g} (W/kg)	Reported SAR_{1g} (W/kg)
8	GSM850	DTM Multi-slot class 5	GMSK	Front	1.5cm	22.7	21.6	189	836.4	30.65	31.00	1.093	-0.12	0.335	0.363
9	**GSM850**	**DTM Multi-slot class 5**	**GMSK**	**Back**	**1.5cm**	**22.6**	**21.6**	**189**	**836.4**	**30.65**	**31.00**	**1.093**	**0.17**	**0.541**	**0.586**
17	GSM1900	DTM Multi-slot class 5	GMSK	Front	1.5cm	22.4	21.4	810	1909.8	28.52	29.00	1.126	0.03	0.393	0.439
18	**GSM1900**	**DTM Multi-slot class 5**	**GMSK**	**Back**	**1.5cm**	**22.6**	**21.4**	**810**	**1909.8**	**28.52**	**29.00**	**1.126**	**-0.12**	**0.452**	**0.505**

<WLAN SAR DTS>

Plot No.	Band	Mode	Modulation Type	Data Rate	Test Position	Gap (cm)	Ambient Temperature ℃	Liquid Temperature ℃	Ch.	Freq. (MHz)	Burst Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measure SAR_{1g} (W/kg)	Reported SAR_{1g} (W/kg)
36	WLAN2.4GHz	802.11b	DBPSK	1Mbps	Front	1.5cm	22.5	21.5	11	2462	14.92	15	1.019	0.12	0.017	0.017
37	**WLAN2.4GHz**	**802.11b**	**DBPSK**	**1Mbps**	**Back**	**1.5cm**	**22.6**	**21.5**	**11**	**2462**	**14.92**	**15**	**1.019**	**-0.12**	**0.032**	**0.033**

12.4 Repeated SAR Measurement

Plot No.	Band	Mode	Test Position	Gap (cm)	Ambient Temperature ℃	Liquid Temperature ℃	Ch.	Freq. (MHz)	Burst Average Power (dBm)	Tune-up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measure SAR_{1g} (W/kg)	Reported SAR_{1g} (W/kg)
7	GSM850	GPRS (2 Tx slots)	Back	1cm	22.7	21.6	251	848.8	30.69	31.00	1.074	-0.16	1.32	1.418
38	GSM850	GPRS (2 Tx slots)	Back	1cm	22.5	21.6	251	848.8	30.69	31.00	1.074	0.13	1.31	1.407

Note:

1. Per KDB 865664 D01v01, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg
2. Per KDB 865664 D01v01, if the deviation among the repeated measurement is ≤20% and the measured SAR <1.45W/kg, only one repeated measurement is required.
3. The deviation is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

12.5 Highest SAR Plot

Plot No.	Band	Mode	Test Position	Gap (cm)	Ambient Temperature ℃	Liquid Temperature ℃	Ch.	Freq. (MHz)	Burst Average Power (dBm)	Tune-up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measure SAR_{1g} (W/kg)	Reported SAR_{1g} (W/kg)
25	GSM850	DTM Multi-slot class 5	Right Cheek		22.6	21.5	189	836.4	30.65	31.00	1.084	0.02	0.678	0.735
7	GSM850	GPRS (2 Tx slots)	Back	1cm	22.5	21.6	251	848.8	30.69	31.00	1.074	-0.16	1.32	1.418
21	GSM1900	DTM Multi-slot class 5	Left Cheek		22.1	21.2	810	1909.8	28.52	29.00	1.117	-0.16	0.793	0.886
12	GSM1900	GPRS (2 Tx slots)	Back	1cm	22.5	21.4	512	1850.2	28.02	29.00	1.253	-0.09	0.796	0.998
30	WLAN2.4GHz	802.11b	Left Cheek		22.5	21.5	11	2462	14.92	15	1.019	-0.05	0.206	0.210
33	WLAN2.4GHz	802.11b	Back	1cm	22.5	21.5	11	2462	14.92	15	1.019	0	0.06	0.061

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/11/28

#25_GSM850_DTM Multi-slot class 5_Right Cheek_Ch189

DUT: 292718-04

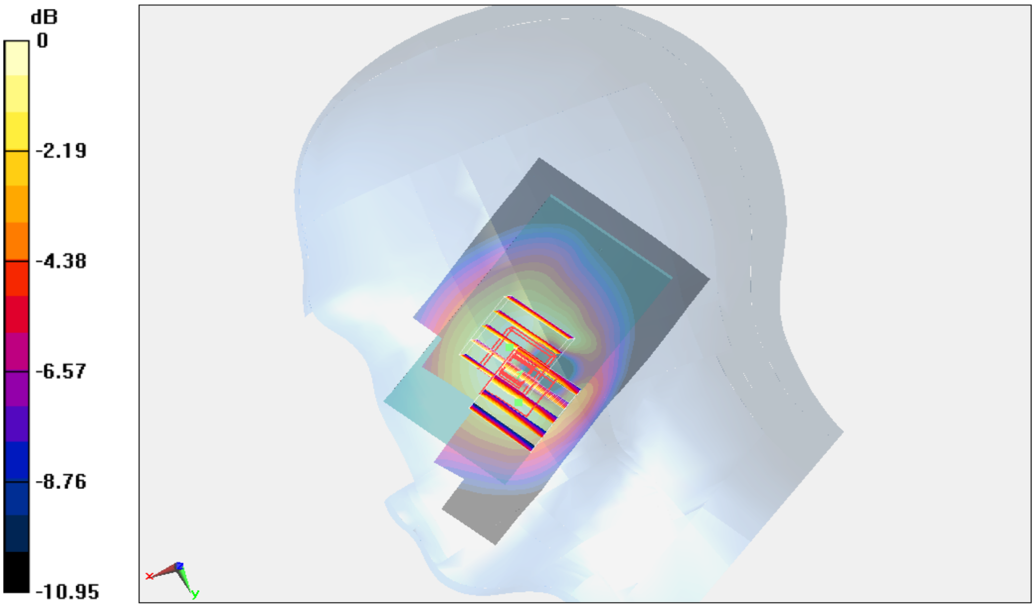
Communication System: GSM850; Frequency: 836.4 MHz;Duty Cycle: 1:4
Medium: HSL_850_121128 Medium parameters used : f = 836.4 MHz; σ = 0.9 mho/m; ε_r = 41.23; ρ = 1000 kg/m^3
Ambient Temperature : 22.5 ℃; Liquid Temperature : 21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch189/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.986 W/kg

Configuration/Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.870 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.757 W/kg
SAR(1 g) = 0.678 W/kg; SAR(10 g) = 0.532 W/kg
Maximum value of SAR (measured) = 0.707 W/kg

Configuration/Ch189/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.870 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.735 W/kg
SAR(1 g) = 0.675 W/kg; SAR(10 g) = 0.489 W/kg
Maximum value of SAR (measured) = 0.721 W/kg



0 dB = 0.721 W/kg = -1.42 dBW/kg

For any secondary peaks found in the area scan which are within 2 dB of the maximum peak and are not within this zoom scan, the zoom scan should be repeated.

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/11/27

#07_GSM850_GPRS (2 Tx slots)_Back_1cm_Ch251

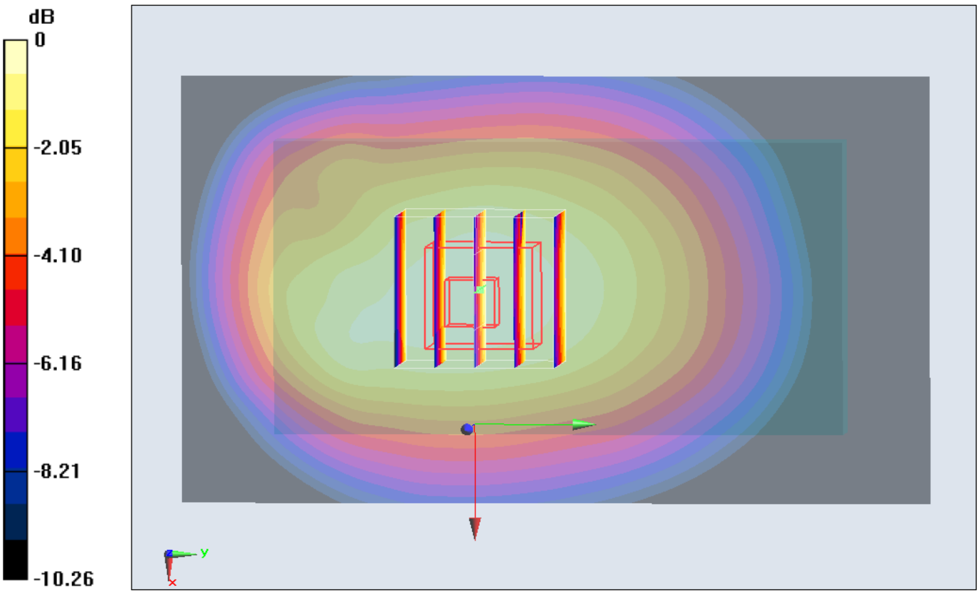
DUT: 292718-04

Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:4
Medium: MSL_850_121127 Medium parameters used: f = 849 MHz; σ = 0.978 mho/m; ε_r = 53.487; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch251/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.42 W/kg

Configuration/Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.685 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 1.72 W/kg
SAR(1 g) = 1.32 W/kg; SAR(10 g) = 0.958 W/kg
Maximum value of SAR (measured) = 1.40 W/kg



0 dB = 1.40 W/kg = 1.46 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/11/28

#21_GSM1900_DTM Multi-slot class 5_Left Cheek_Ch810

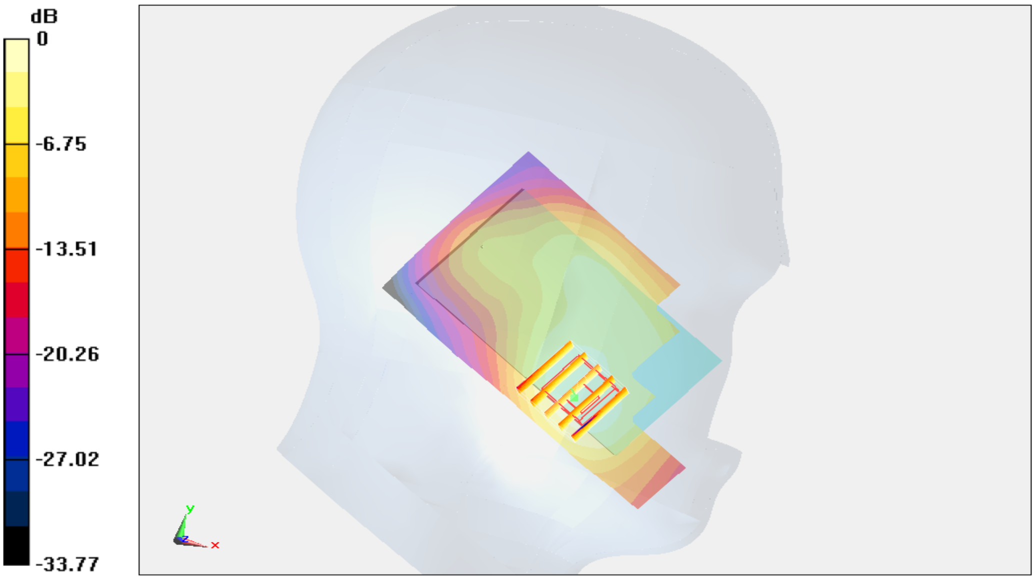
DUT: 292718-04

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: HSL_1900_121128 Medium parameters used: f = 1910 MHz; σ = 1.436 mho/m; ε_r = 39.792; ρ = 1000 kg/m^3
Ambient Temperature：22.2 ℃; Liquid Temperature：21.2 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch810/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.850 W/kg

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.821 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 1.28 W/kg
SAR(1 g) = 0.793 W/kg; SAR(10 g) = 0.465 W/kg
Maximum value of SAR (measured) = 0.869 W/kg



0 dB = 0.869 W/kg = -0.61 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/11/27

#12_GSM1900_GPRS (2 Tx slots)_Back_1cm_Ch512

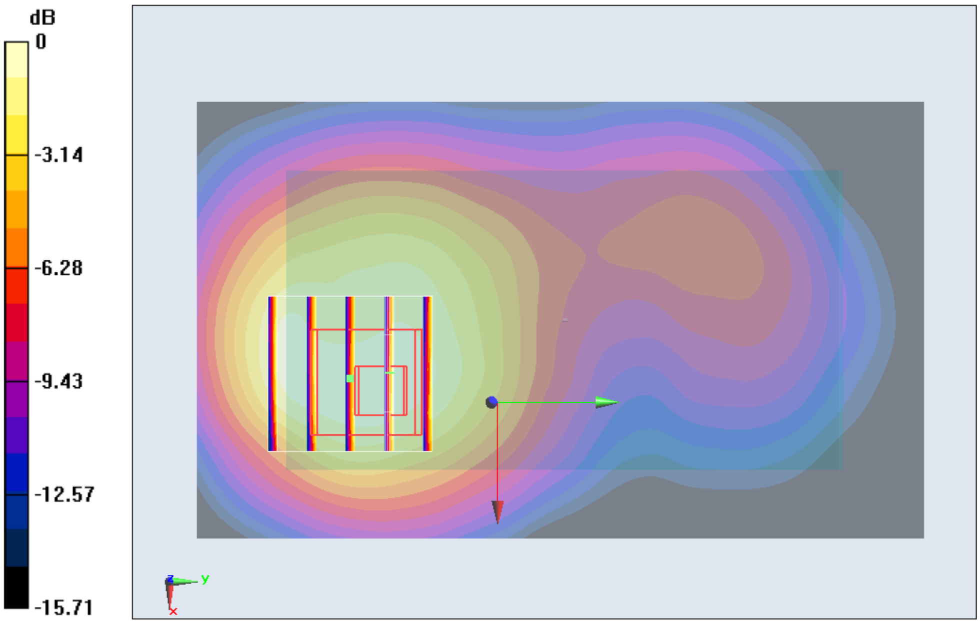
DUT: 292718-04

Communication System: PCS; Frequency: 1850.2 MHz;Duty Cycle: 1:4
Medium: MSL_1900_121127 Medium parameters used : f = 1850.2 MHz; σ = 1.464 mho/m; ε_r = 54.933; 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 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch512/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.890 W/kg

Configuration/Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.732 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.796 W/kg; SAR(10 g) = 0.474 W/kg
Maximum value of SAR (measured) = 0.859 W/kg



0 dB = 0.859 W/kg = -0.66 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/12/24

#30_WLAN2.4G_802.11b_Left Cheek_Ch11

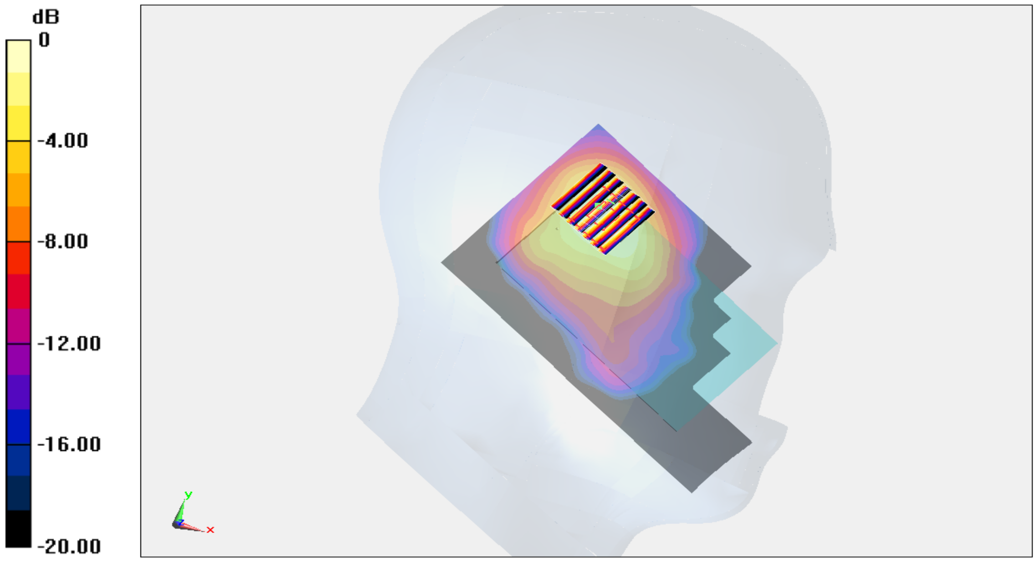
DUT: 292718-04

Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: HSL_2450_121224 Medium parameters used: f = 2462 MHz; σ = 1.853 mho/m; ε_r = 39.242; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(6.82, 6.82, 6.82); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Right; Type: QD000P40CC; Serial: TP:1383
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch11/Area Scan (81x131x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.333 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.715 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.433 mW/g
SAR(1 g) = 0.206 mW/g; SAR(10 g) = 0.107 mW/g
Maximum value of SAR (measured) = 0.298 mW/g



0 dB = 0.298 mW/g = -10.52 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/12/24

#33_WLAN2.4G_802.11b_Back_1cm_Ch11

DUT: 292718-04

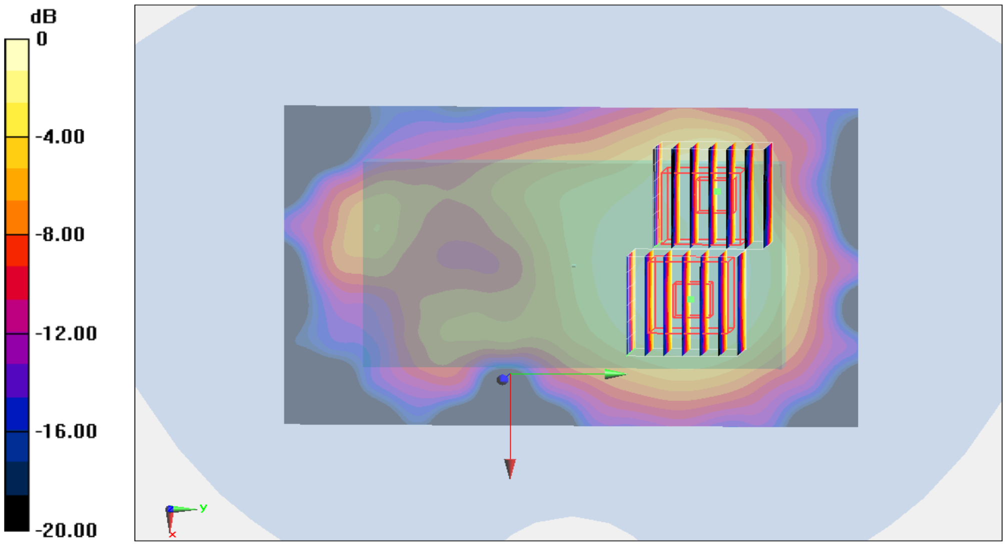
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: MSL_2450_121224 Medium parameters used: f = 2462 MHz; σ = 1.98 mho/m; ε_r = 51.553; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(7.1, 7.1, 7.1); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Left; Type: QD000P40CD; Serial: TP:1542
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch11/Area Scan (81x131x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.0978 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.828 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.125 mW/g
SAR(1 g) = 0.060 mW/g; SAR(10 g) = 0.029 mW/g
Maximum value of SAR (measured) = 0.0912 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.828 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.107 mW/g
SAR(1 g) = 0.056 mW/g; SAR(10 g) = 0.031 mW/g
Maximum value of SAR (measured) = 0.0799 mW/g



0 dB = 0.0799 mW/g = -21.95 dB mW/g
For any secondary peaks found in the area scan which are within 2 dB of the maximum peak and are not within this zoom scan, the zoom scan should be repeated.

12.6 Simultaneous Multi-band Transmission Analysis

No.	Applicable Simultaneous Transmission Combination
1.	WWAN(voice)+WLAN(data),
2.	WWAN(data)+WLAN(router)
3.	WWAN(voice) + BT
4.	WWAN(data) + BT

Note:

1. 2.4GHz WLAN and BT share the same antenna, and cannot transmit simultaneously.
2. The Scaled SAR summation is calculated based on the same configuration and test position.
3. No power reduction is implemented for SAR compliance, SAR was tested at maximum RF power.
4. Simultaneous transmission analysis for hotspot mode 1cm separation to the body represents the compliance for hand-held and near-body use conditions. Simultaneous transmission of Hotspot mode for head and body-worn conditions was covered under simultaneous transmission analysis of head and body-worn positions, due to the possible WWAN voice call and data transmission SAR was considered in standalone SAR measurement for those exposure positions.

For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01v05 based on the formula below.

- (*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)]·[$\sqrt{f(GHz)}/x$] W/kg for *test separation distances* ≤ 50 mm; where *x* = 7.5 for 1-g SAR, and *x* = 18.75 for 10-g SAR.
- 0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the *test separation distances* is > 50 mm.

Bluetooth	Max Power	Head	Hotspot 1 cm gap	Body-worn 1.5 cm gap
Estimated SAR (W/kg)	3 dBm	0.084	0.042	0.028

5. Per KDB 447498 D01v05, simultaneous transmission SAR is compliant if,
   1. Scalar SAR summation < 1.6W/kg.
   2. SPLSR = $(SAR_1 + SAR_2)^{1.5}$ / (*min. separation distance, mm*), and the peak separation distance is determined from the square root of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$, where ($x_1$, y_1, z_1) and (x_2, y_2, z_2) are the coordinates of the extrapolated peak SAR locations in the zoom scan
      If SPLSR ≤ 0.04, simultaneously transmission SAR is compliant
   3. Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg

<Head SAR>

Position	WWAN Band	Plot No	Max. Reported SAR (W/kg)	Plot No	Max. Reported SAR (W/kg)	WWAN+WLAN (W/kg)	SPLSR	Case No.
	WWAN			WLAN2.4GHz-DTS				
Right Cheek	GSM850	25	0.735	28	0.115	**0.85**		
	GSM1900	19	0.772	28	0.115	**0.89**		
Right Tilted	GSM850	26	0.439	29	0.125	**0.56**		
	GSM1900	20	0.345	29	0.125	**0.47**		
Left Cheek	GSM850	27	0.646	30	0.21	**0.86**		
	GSM1900	21	0.886	30	0.21	**1.10**		
Left Tilted	GSM850	28	0.398	31	0.143	**0.54**		
	GSM1900	24	0.333	31	0.143	**0.48**		

Hotspot SAR

Position	WWAN Band	Plot No	Max. Reported SAR (W/kg)	Plot No	Max. Reported SAR (W/kg)	WWAN+WLAN (W/kg)	SPLSR	Case No.
	WWAN			WLAN2.4GHz-DTS				
Front	GSM850	1	0.778	32	0.038	**0.82**		
	GSM1900	10	0.65	32	0.038	**0.69**		
Back	GSM850	7	**1.418**	33	**0.061**	**1.48**		
	GSM1900	12	0.998	33	0.061	**1.06**		
Left Side	GSM850	3	0.566	-	-	**0.57**		
	GSM1900	14	0.228	-	-	**0.23**		
Right Side	GSM850	4	0.666	34	0.051	**0.72**		
	GSM1900	15	0.184	34	0.051	**0.24**		
Top Side	-	-	-	35	0.045	**0.05**		
	-	-	-	35	0.045	**0.05**		
Bottom Side	GSM850	5	0.152	-	-	**0.15**		
	GSM1900	16	0.784	-	-	**0.78**		

Remark:
Per KDB 447498 D01v05 4.3.2)1), the different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1-g or 10-g SAR. The highest SAR of each transmitter in the required exposure positions in KDB 941225 D06 was summed, 1.418+0.061 = 1.479W/kg and it's smaller than 1.6W/kg; therefore simultaneous transmission of WWAN and WLAN 2.4GHz in hotspot mode exposure positions is compliant.

Body-worn SAR

Position	WWAN Band	Plot No	Max. Reported SAR (W/kg)	Plot No	Max. Reported SAR (W/kg)	WWAN+WLAN (W/kg)	SPLSR	Case No.
	WWAN			WLAN2.4GHz-DTS				
Front	GSM850	8	0.363	36	0.017	**0.38**		
	GSM1900	17	0.439	36	0.017	**0.46**		
Back	GSM850	9	0.586	37	0.033	**0.62**		
	GSM1900	18	0.505	37	0.033	**0.54**		

<Head SAR>

Position	WWAN			Bluetooth	WWAN+BT (W/kg)	SPLSR	Case No.
	WWAN Band	Plot No	Max. Reported SAR (W/kg)	Max. Estimated SAR (W/kg)			
Right Cheek	GSM850	25	0.735	0.084	**0.82**		
	GSM1900	19	0.772	0.084	**0.86**		
Right Tilted	GSM850	26	0.439	0.084	**0.52**		
	GSM1900	20	0.345	0.084	**0.43**		
Left Cheek	GSM850	27	0.646	0.084	**0.73**		
	GSM1900	21	0.886	0.084	**0.97**		
Left Tilted	GSM850	28	0.398	0.084	**0.48**		
	GSM1900	24	0.333	0.084	**0.42**		

Hotspot SAR

Position	WWAN			Bluetooth	WWAN+BT (W/kg)	SPLSR	Case No.
	WWAN Band	Plot No	Max. Reported SAR (W/kg)	Max. Estimated SAR (W/kg)			
Front	GSM850	1	0.778	0.042	**0.82**		
	GSM1900	10	0.65	0.042	**0.69**		
Back	GSM850	7	1.418	0.042	**1.46**		
	GSM1900	12	0.998	0.042	**1.04**		
Left Side	GSM850	3	0.566	0.042	**0.61**		
	GSM1900	14	0.228	0.042	**0.27**		
Right Side	GSM850	4	0.666	0.042	**0.71**		
	GSM1900	15	0.184	0.042	**0.23**		
Top Side	-	-	-	0.042	**0.04**		
	-	-	-	0.042	**0.04**		
Bottom Side	GSM850	5	0.152	0.042	**0.19**		
	GSM1900	16	0.784	0.042	**0.83**		

Remark:

Per KDB 447498 D01v05 4.3.2)1), the different test positions in an exposure condition may be considered collectively to determine SAR test exclusion according to the sum of 1-g or 10-g SAR. The highest SAR of each transmitter in the required exposure positions in KDB 941225 D06 was summed, 1.418+0.042 = 1.46W/kg and it's smaller than 1.6W/kg; therefore simultaneous transmission of WWAN and WLAN 2.4GHz in hotspot mode exposure positions is compliant.

<Body-worn SAR>

Position	WWAN			Bluetooth	WWAN+BT (W/kg)	SPLSR	Case No.
	WWAN Band	Plot No	Max. Reported SAR (W/kg)	Max. Estimated SAR (W/kg)			
Front	GSM850	8	0.363	0.028	**0.39**		
	GSM1900	17	0.439	0.028	**0.47**		
Back	GSM850	9	0.586	0.028	**0.61**		
	GSM1900	18	0.505	0.028	**0.53**		

Test Engineer： Angelo Chang, Bevis Chang, Vic Yang, Ted Sun, and Jack Wu

13. 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

14. 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 v05, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, October 2012

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

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

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

[11] FCC KDB 941225 D06 v01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", April 2011

[12] FCC KDB 648474 D04 v01, “SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas”, October 2012

Appendix A. Plots of System Performance Check

The plots are shown as follows.

System Check_Head_835MHz_121128

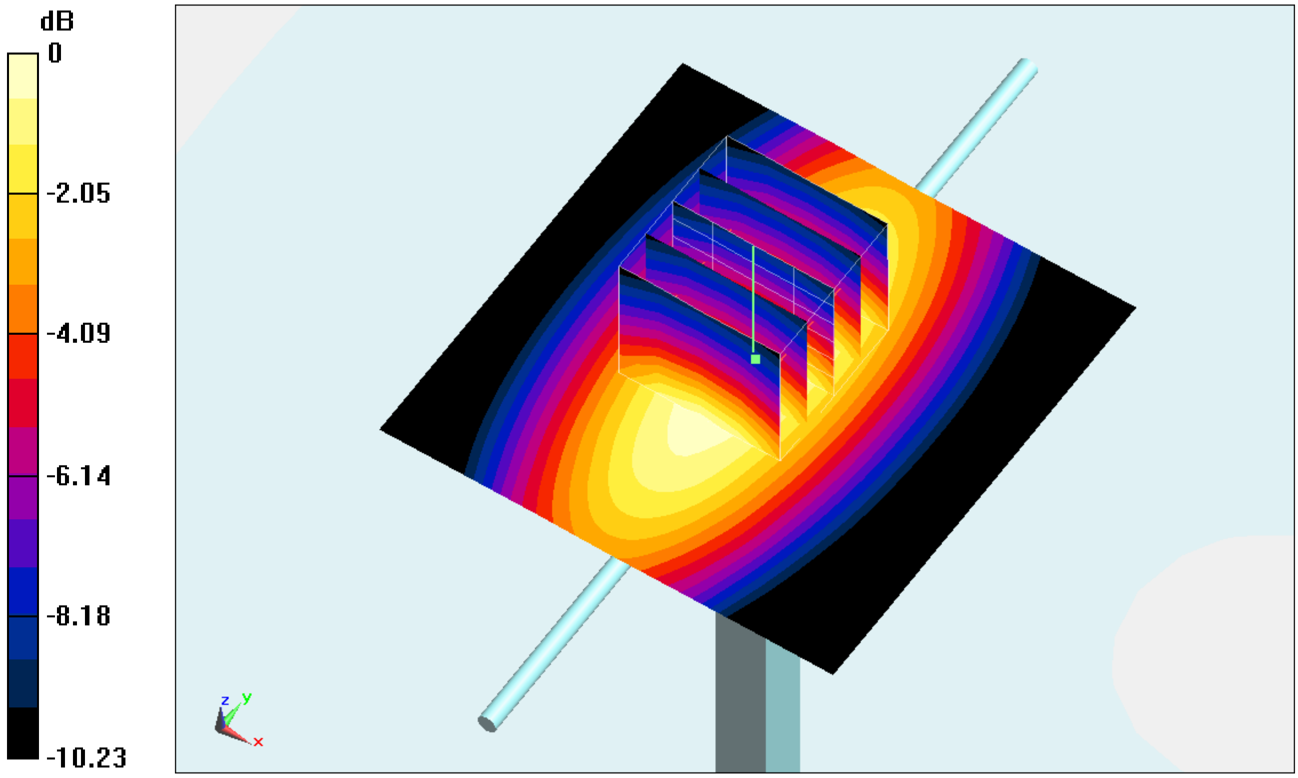
DUT: D835V2-SN:499

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_850_121128 Medium parameters used: f = 835 MHz; σ = 0.898 mho/m; ε_r = 41.248; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.62 mW/g

Configuration/Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 56.437 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 3.314 mW/g
SAR(1 g) = 2.4 mW/g; SAR(10 g) = 1.6 mW/g
Maximum value of SAR (measured) = 2.59 mW/g



0 dB = 2.59 mW/g = 8.27 dB mW/g

System Check_Body_835MHz_121127

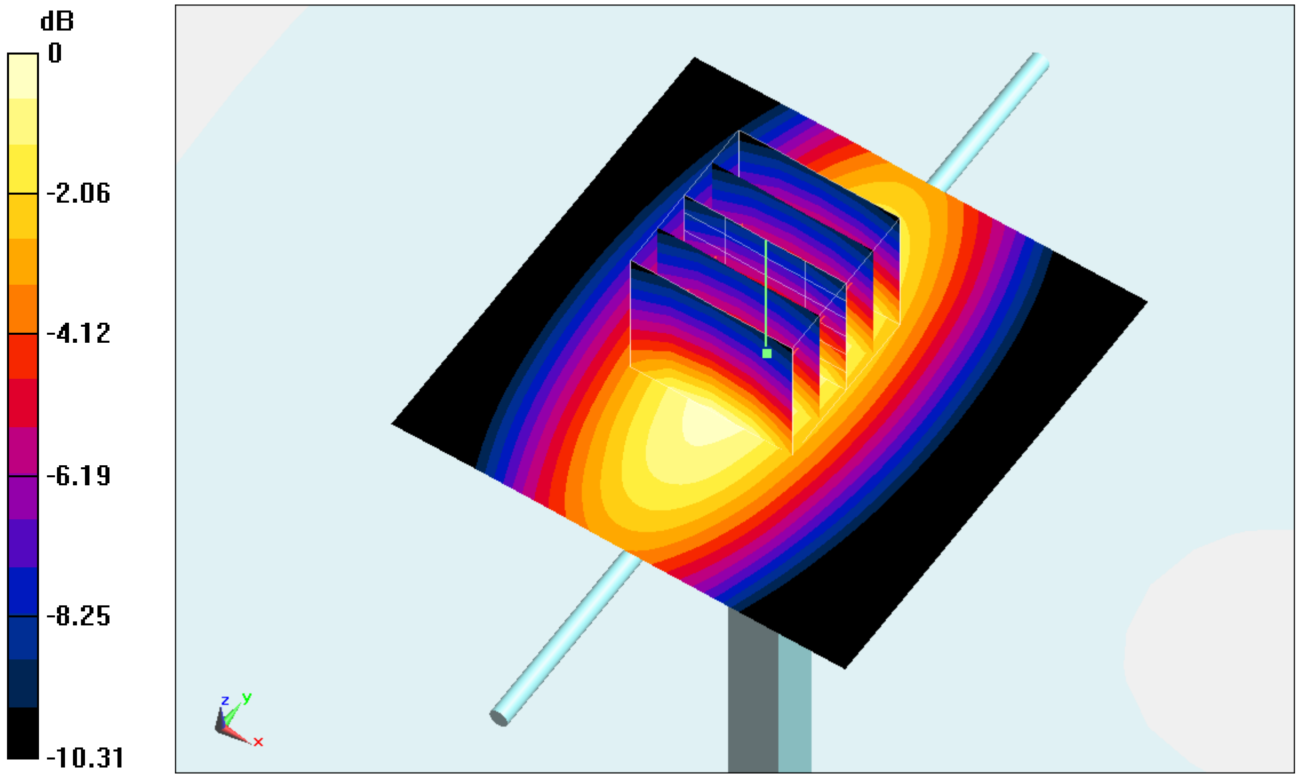
DUT: D835V2-SN:499

Communication System: CW; Frequency: 835 MHz;Duty Cycle: 1:1
Medium: MSL_850_121127 Medium parameters used: f = 835 MHz; σ = 0.963 mho/m; ε_r = 53.612; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.79 mW/g

Configuration/Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 55.460 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 3.671 mW/g
SAR(1 g) = 2.58 mW/g; SAR(10 g) = 1.71 mW/g
Maximum value of SAR (measured) = 2.78 mW/g



0 dB = 2.78 mW/g = 8.88 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab   Date: 2012/11/28

System Check_Head_1900MHz_121128

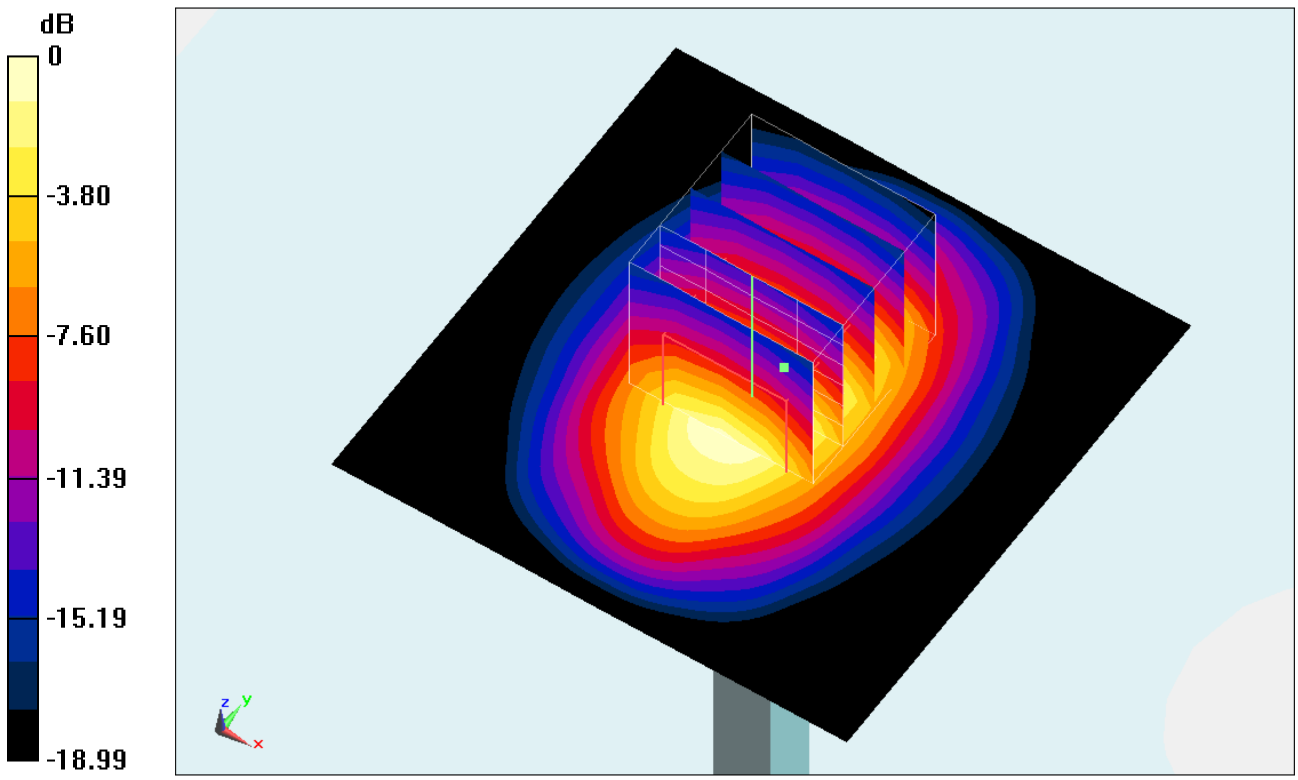
DUT: D1900V2-SN:5d041

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900_121128 Medium parameters used: f = 1900 MHz; σ = 1.427 mho/m; ε_r = 39.815; ρ = 1000 kg/m^3
Ambient Temperature：22.2 ℃; Liquid Temperature：21.2 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.6 mW/g

Configuration/Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 93.055 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 16.118 mW/g
SAR(1 g) = 9.58 mW/g; SAR(10 g) = 5.09 mW/g
Maximum value of SAR (measured) = 10.7 mW/g



0 dB = 10.7 mW/g = 20.59 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/11/27

System Check_Body_1900MHz_121127

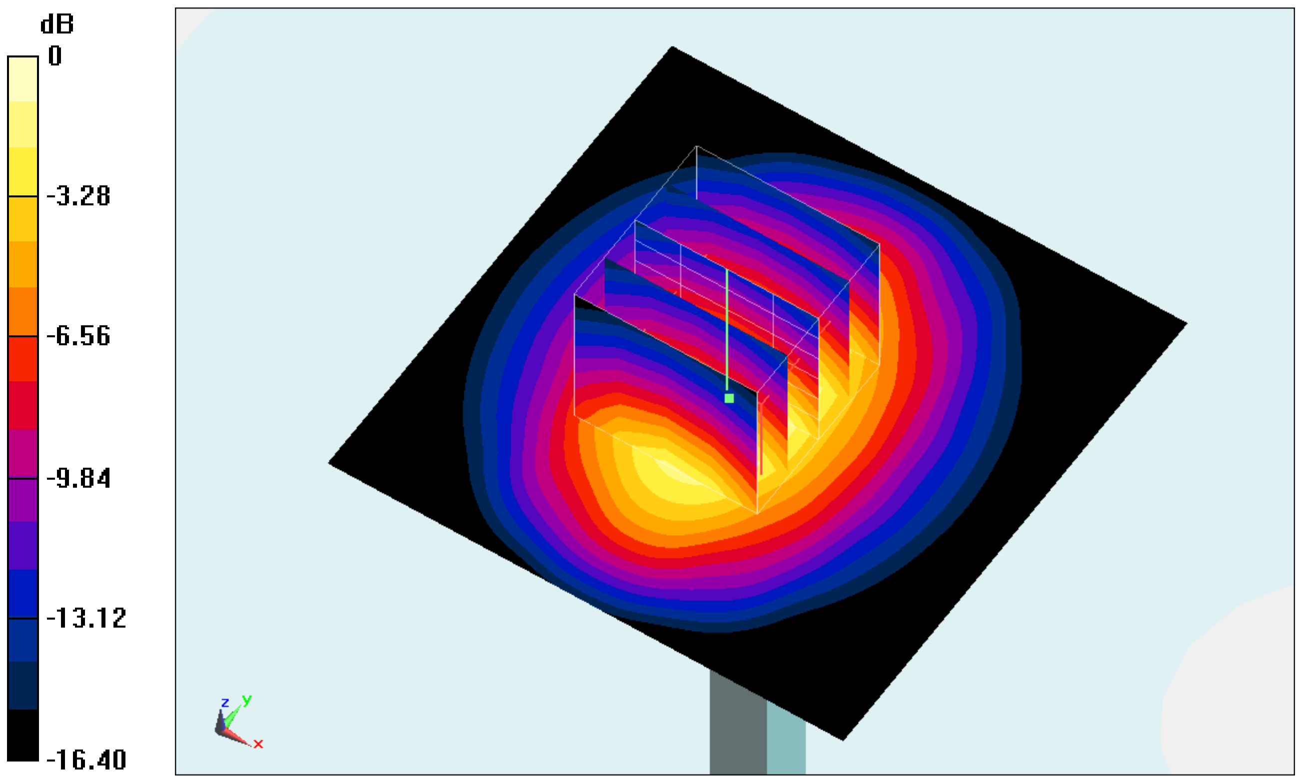
DUT: D1900V2-SN:5d041

Communication System: CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: MSL_1900_121127 Medium parameters used: f = 1900 MHz; σ = 1.523 mho/m; ε_r = 54.798; 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 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 11.4 mW/g

Configuration/Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 92.560 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 15.240 mW/g
SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.81 mW/g
Maximum value of SAR (measured) = 11.2 mW/g



0 dB = 11.2 mW/g = 20.98 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/12/24

System Check_Head_2450MHz_121224

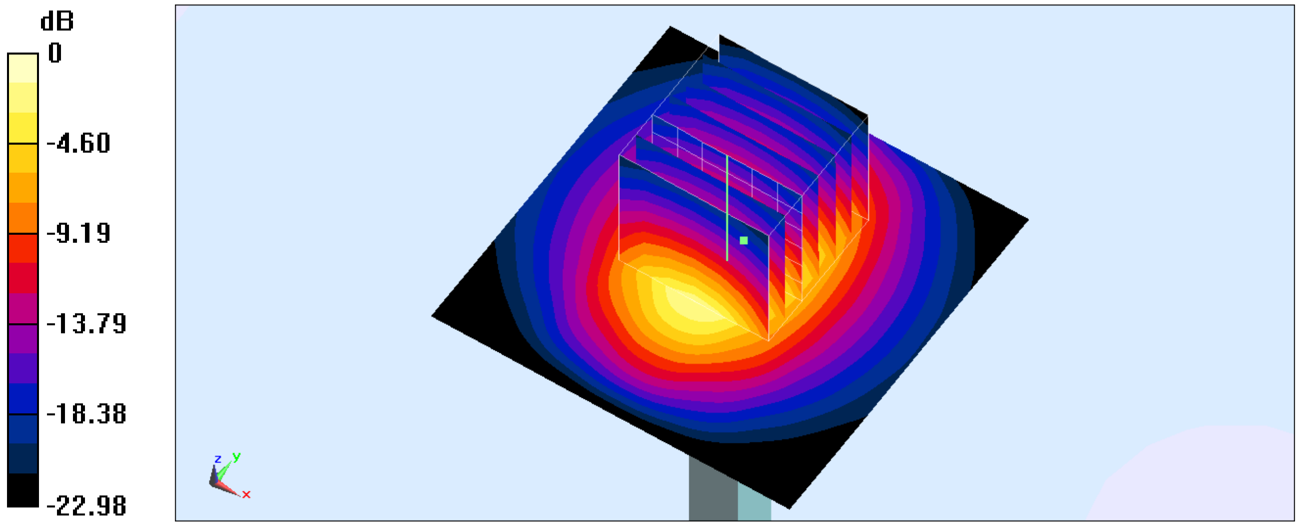
DUT: D2450V2-SN:736

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL_2450_121224 Medium parameters used: f = 2450 MHz; σ = 1.839 mho/m; ε_r = 39.306; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(6.82, 6.82, 6.82); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Right; Type: QD000P40CC; Serial: TP:1383
- Measurement SW: DASY52, Version 52.8 (3);SEMCAD X Version 14.6.5 (6469)

Configuration/Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 23.7 mW/g

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 108.0 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 29.938 mW/g
SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.45 mW/g
Maximum value of SAR (measured) = 21.3 mW/g



0 dB = 21.3 mW/g = 26.57 dB mW/g

System Check_Body_2450MHz_121224

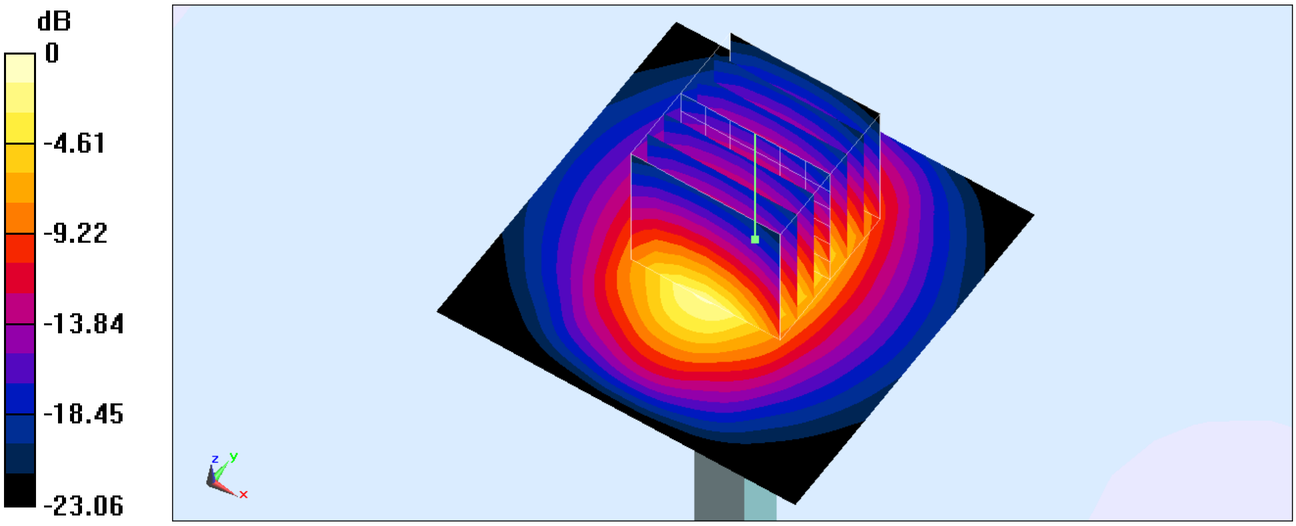
DUT: D2450V2-SN:736

Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: MSL_2450_121224 Medium parameters used: f = 2450 MHz; σ = 1.964 mho/m; ε_r = 51.596; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(7.1, 7.1, 7.1); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Left; Type: QD000P40CD; Serial: TP:1542
- Measurement SW: DASY52, Version 52.8 (3);SEMCAD X Version 14.6.5 (6469)

Configuration/Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 20.8 mW/g

Configuration/Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 98.368 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 26.369 mW/g
SAR(1 g) = 12.1 mW/g; SAR(10 g) = 5.61 mW/g
Maximum value of SAR (measured) = 18.6 mW/g



0 dB = 18.6 mW/g = 25.39 dB mW/g

Appendix B. Plots of SAR Measurement

The plots are shown as follows.

#25_GSM850_DTM Multi-slot class 5_Right Cheek_Ch189

DUT: 292718-04

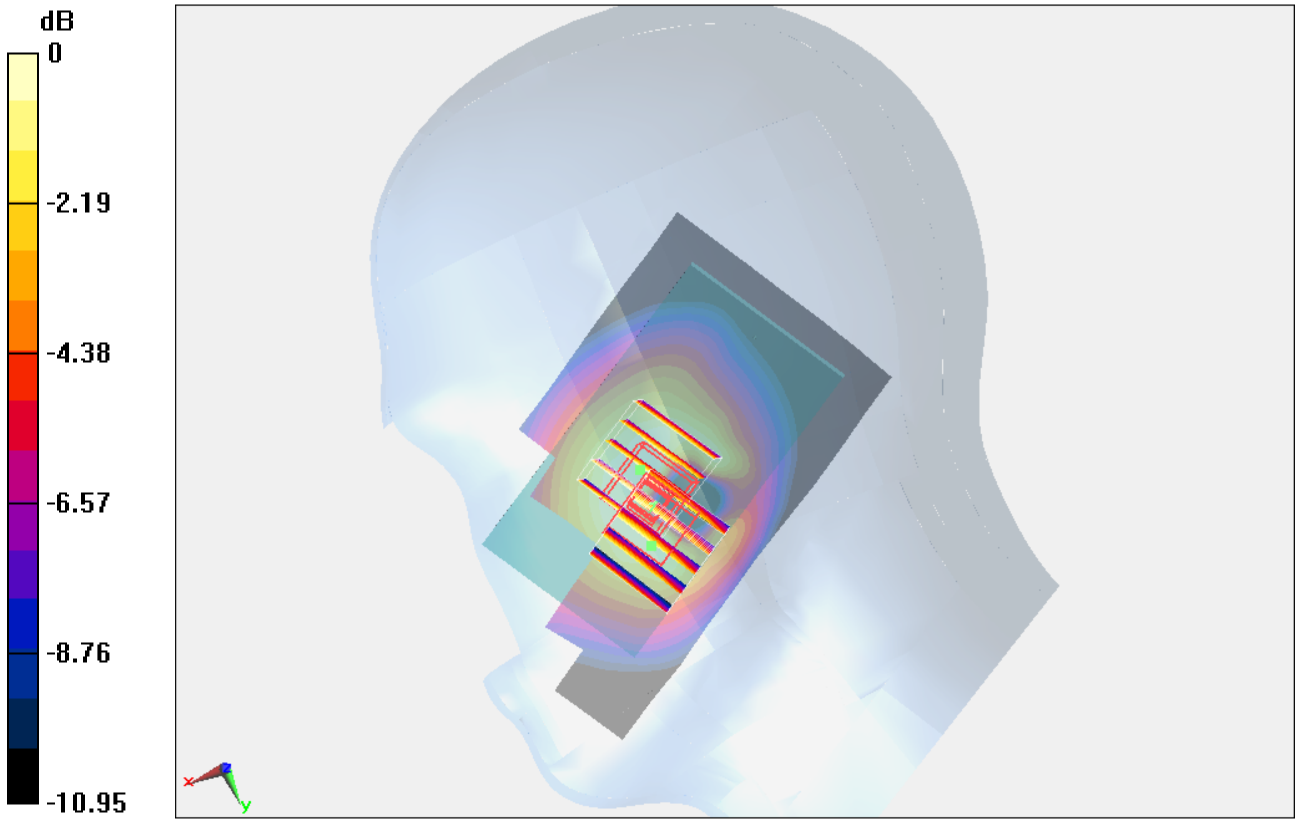
Communication System: GSM850; Frequency: 836.4 MHz;Duty Cycle: 1:4
Medium: HSL_850_121128 Medium parameters used : f = 836.4 MHz; σ = 0.9 mho/m; ε_r = 41.23; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch189/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.986 W/kg

Configuration/Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.870 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.757 W/kg
SAR(1 g) = 0.678 W/kg; SAR(10 g) = 0.532 W/kg
Maximum value of SAR (measured) = 0.707 W/kg

Configuration/Ch189/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.870 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.735 W/kg
SAR(1 g) = 0.675 W/kg; SAR(10 g) = 0.489 W/kg
Maximum value of SAR (measured) = 0.721 W/kg



0 dB = 0.721 W/kg = -1.42 dBW/kg

For any secondary peaks found in the area scan which are within 2 dB of the maximum peak and are not within this zoom scan, the zoom scan should be repeated.

#25_GSM850_DTM Multi-slot class 5_Right Cheek_Ch189_2D

DUT: 292718-04

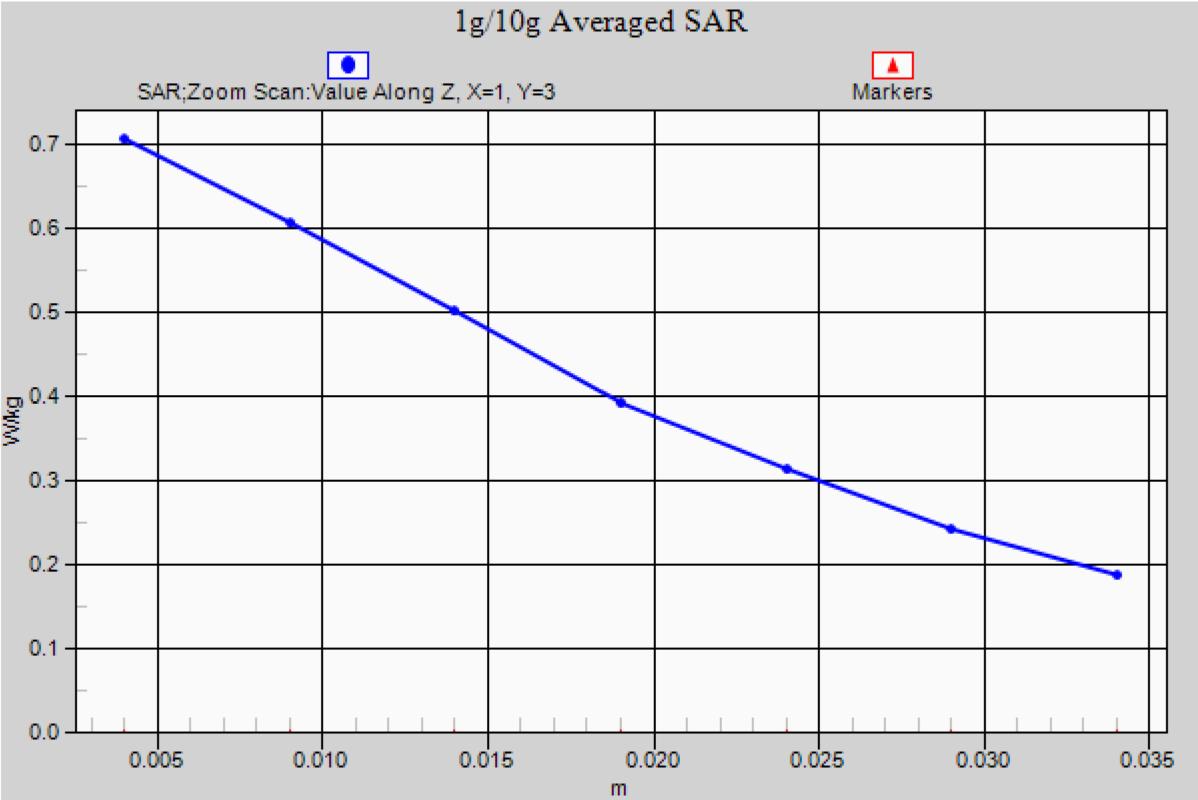
Communication System: GSM850; Frequency: 836.4 MHz;Duty Cycle: 1:4
Medium: HSL_850_121128 Medium parameters used : f = 836.4 MHz; σ = 0.9 mho/m; ε_r = 41.23; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch189/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.986 W/kg

Configuration/Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.870 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.757 W/kg
SAR(1 g) = 0.678 W/kg; SAR(10 g) = 0.532 W/kg
Maximum value of SAR (measured) = 0.707 W/kg

Configuration/Ch189/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.870 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.735 W/kg
SAR(1 g) = 0.675 W/kg; SAR(10 g) = 0.489 W/kg
Maximum value of SAR (measured) = 0.721 W/kg


1g/10g Averaged SAR
SAR;Zoom Scan:Value Along Z, X=1, Y=3
Markers
W/kg
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.005
0.010
0.015
0.020
0.025
0.030
0.035
m

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/11/28

#26_GSM850_DTM Multi-slot class 5_Right Tilted_Ch189

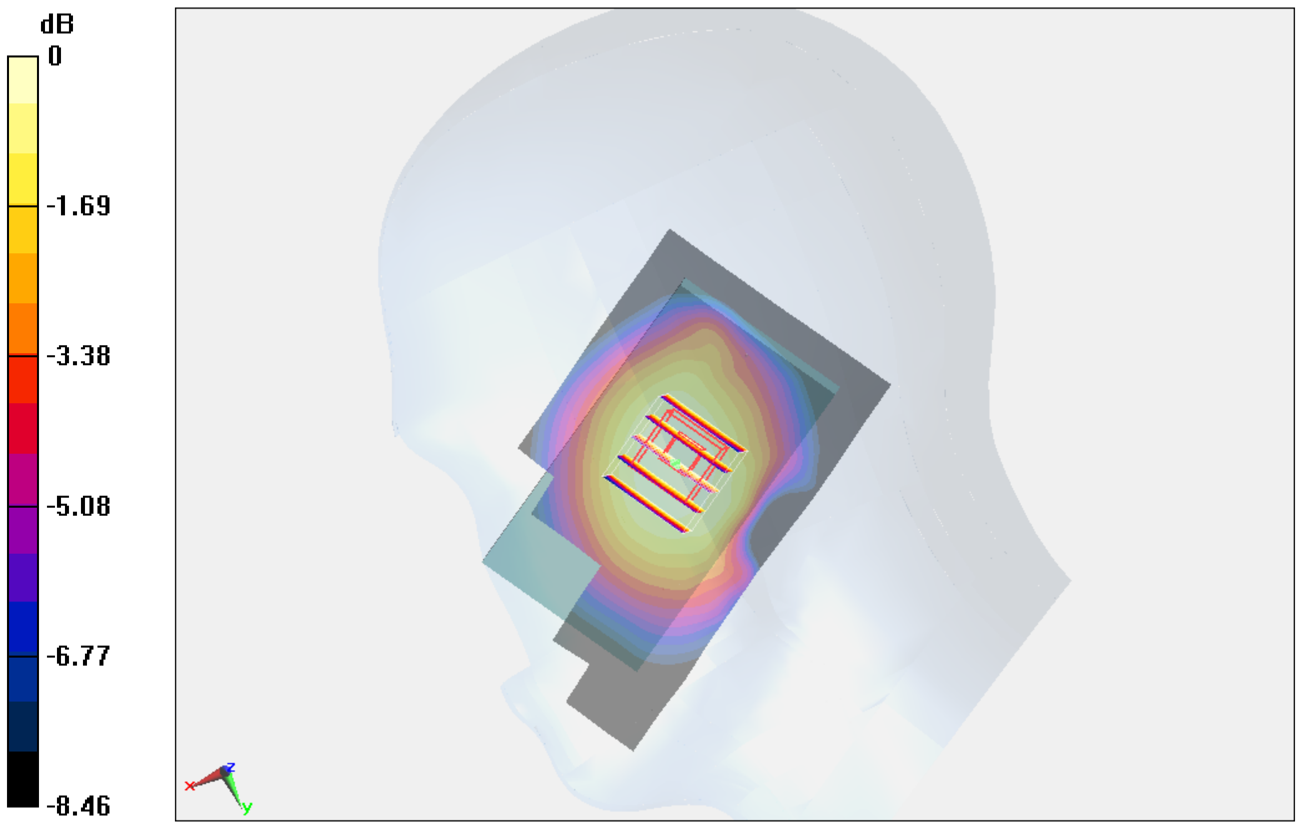
DUT: 292718-04

Communication System: GSM850; Frequency: 836.4 MHz;Duty Cycle: 1:4
Medium: HSL_850_121128 Medium parameters used : f = 836.4 MHz; σ = 0.9 mho/m; ε_r = 41.23; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch189/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.432 W/kg

Configuration/Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.384 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.461 W/kg
SAR(1 g) = 0.405 W/kg; SAR(10 g) = 0.315 W/kg
Maximum value of SAR (measured) = 0.418 W/kg



0 dB = 0.418 W/kg = -3.79 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab   Date: 2012/11/28

#27_GSM850_DTM Multi-slot class 5_Left Cheek_Ch189

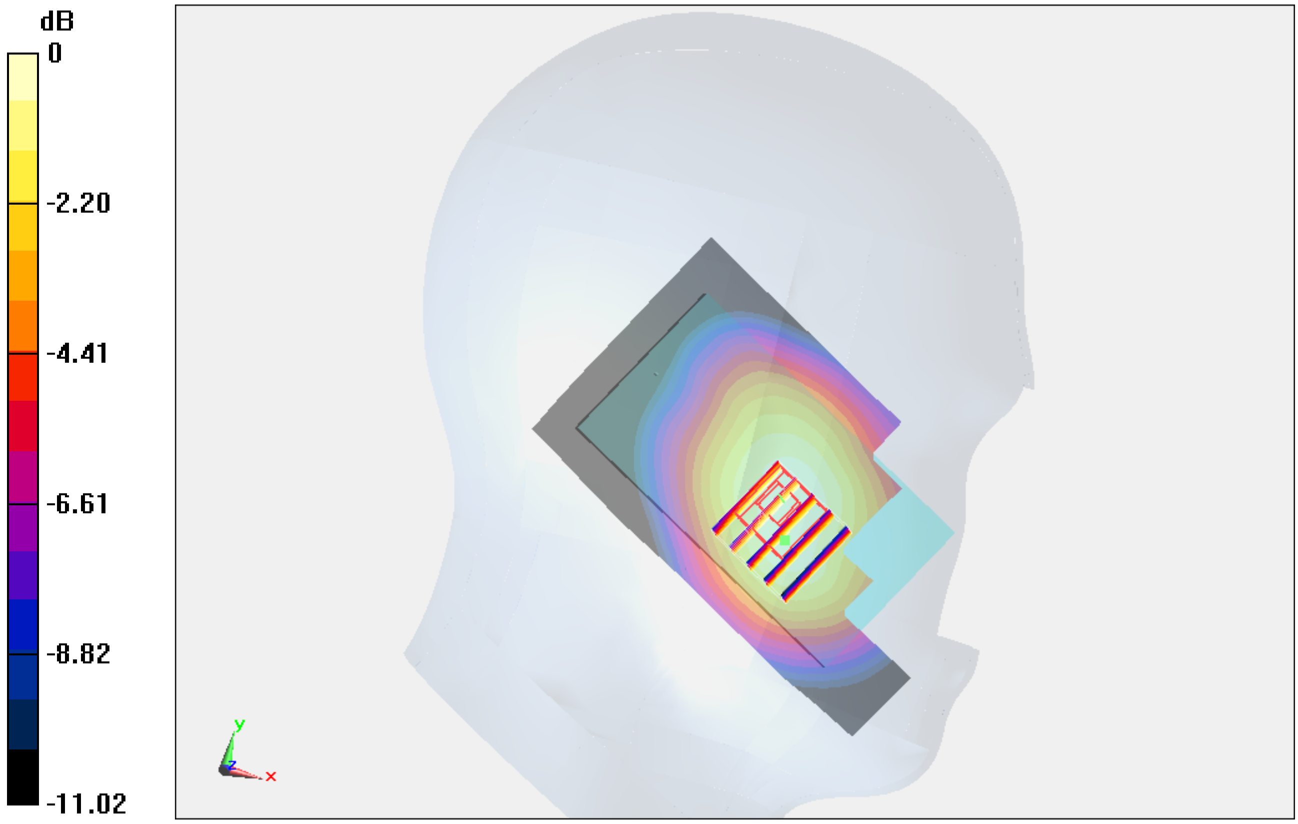
DUT: 292718-04

Communication System: GSM850; Frequency: 836.4 MHz;Duty Cycle: 1:4
Medium: HSL_850_121128 Medium parameters used : f = 836.4 MHz; σ = 0.9 mho/m; ε_r = 41.23; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch189/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.635 W/kg

Configuration/Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.190 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.723 W/kg
SAR(1 g) = 0.596 W/kg; SAR(10 g) = 0.436 W/kg
Maximum value of SAR (measured) = 0.625 W/kg



0 dB = 0.625 W/kg = -2.04 dBW/kg

#28_GSM850_DTM Multi-slot class 5_Left Tilted_Ch189

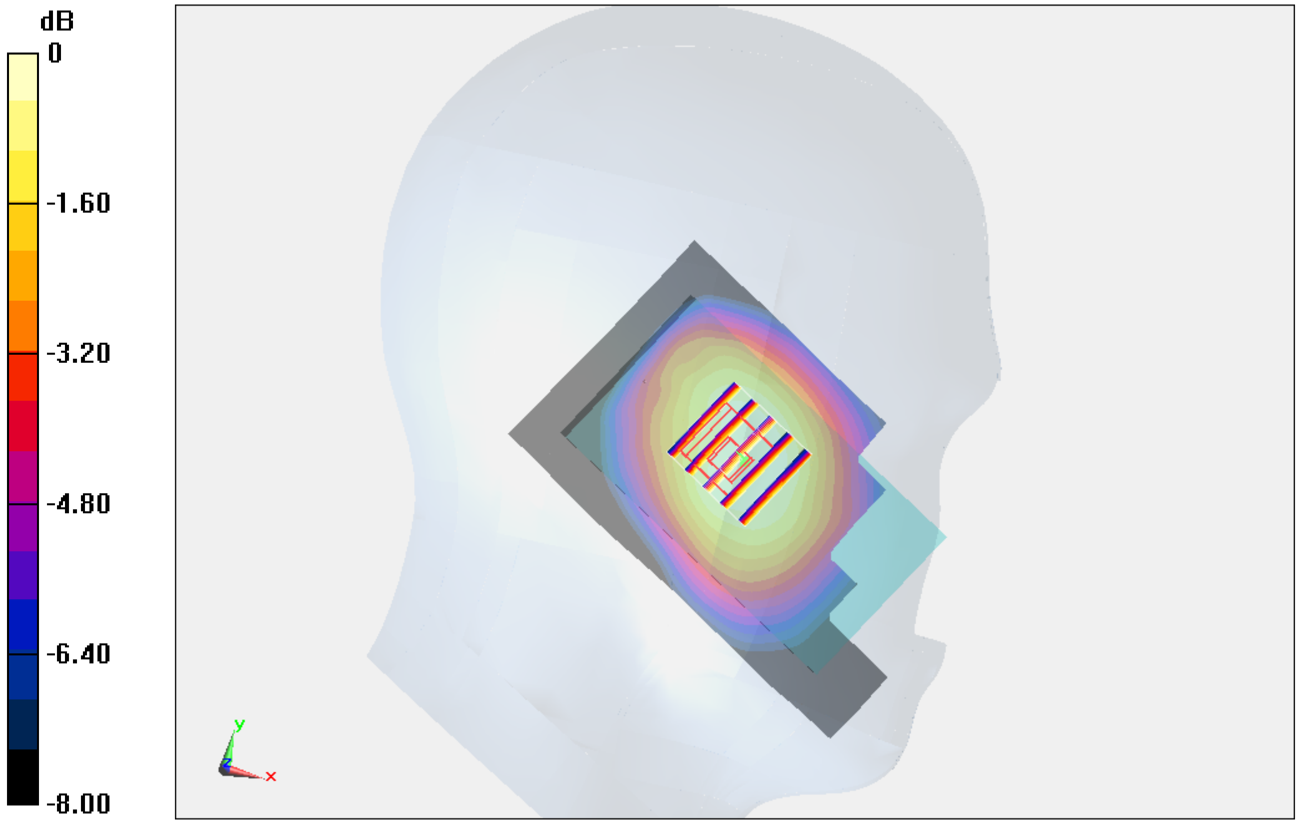
DUT: 292718-04

Communication System: GSM850; Frequency: 836.4 MHz;Duty Cycle: 1:4
Medium: HSL_850_121128 Medium parameters used : f = 836.4 MHz; σ = 0.9 mho/m; ε_r = 41.23; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch189/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.406 W/kg

Configuration/Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.373 V/m; Power Drift = -0.121 dB
Peak SAR (extrapolated) = 0.436 W/kg
SAR(1 g) = 0.367 W/kg; SAR(10 g) = 0.285 W/kg
Maximum value of SAR (measured) = 0.385 W/kg



0 dB = 0.385 W/kg = -4.15 dBW/kg

#19_GSM1900_DTM Multi-slot class 5_Right Cheek_Ch810

DUT: 292718-04

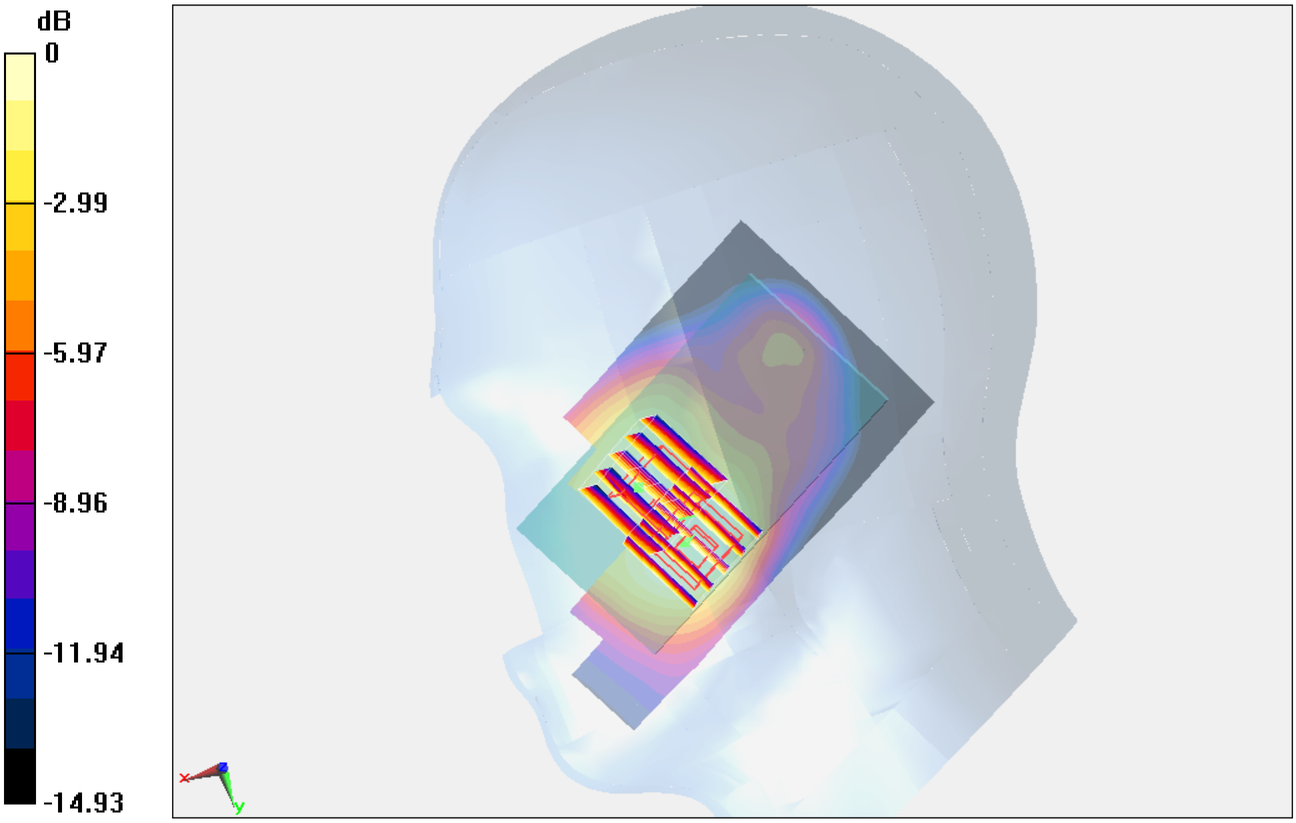
Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: HSL_1900_121128 Medium parameters used: f = 1910 MHz; σ = 1.436 mho/m; ε_r = 39.792; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.2 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch810/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.754 W/kg

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.554 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.923 W/kg
SAR(1 g) = 0.691 W/kg; SAR(10 g) = 0.434 W/kg
Maximum value of SAR (measured) = 0.740 W/kg

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.554 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.742 W/kg
SAR(1 g) = 0.493 W/kg; SAR(10 g) = 0.315 W/kg
Maximum value of SAR (measured) = 0.601 W/kg



0 dB = 0.601 W/kg = -2.21 dBW/kg

For any secondary peaks found in the area scan which are within 2 dB of the maximum peak and are not within this zoom scan, the zoom scan should be repeated.

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/11/28

#20_GSM1900_DTM Multi-slot class 5_Right Tilted_Ch810

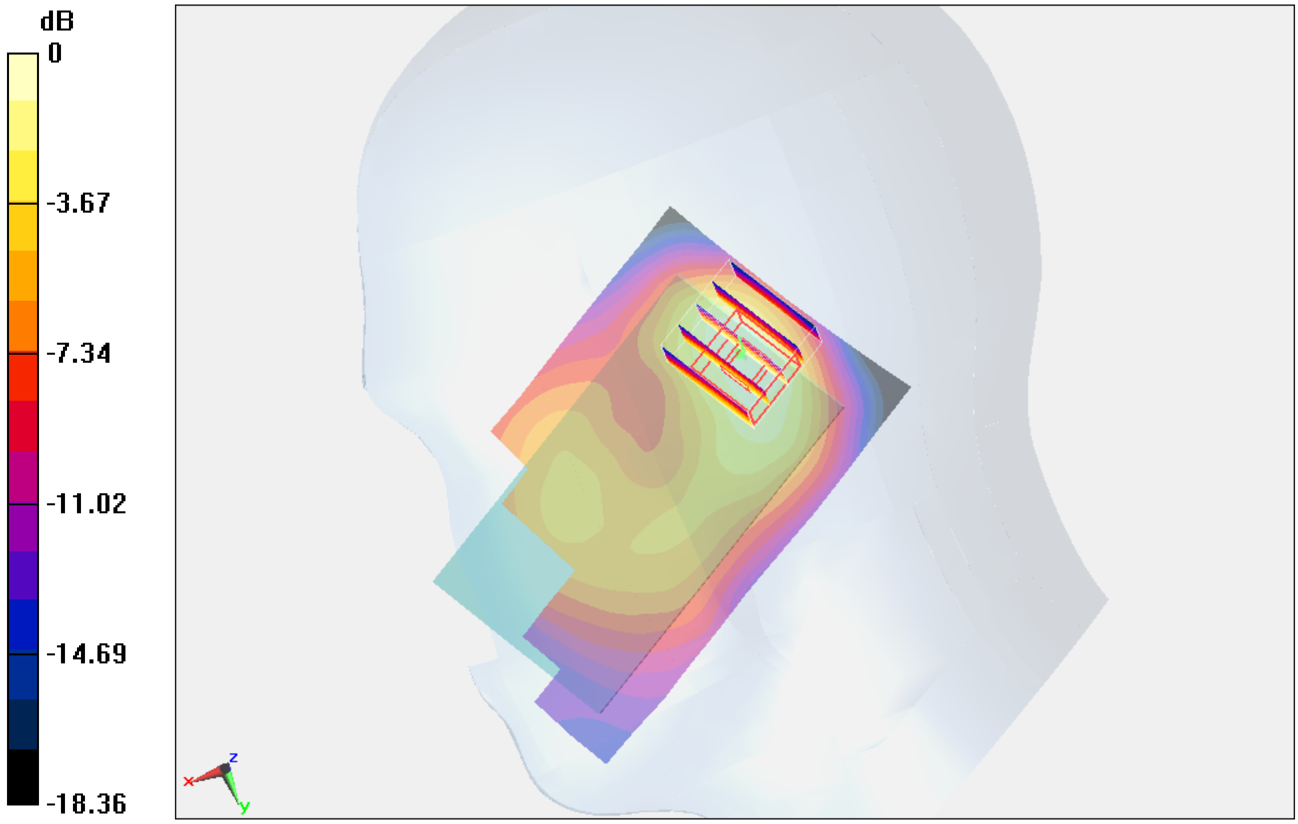
DUT: 292718-04

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: HSL_1900_121128 Medium parameters used: f = 1910 MHz; σ = 1.436 mho/m; ε_r = 39.792; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.2 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch810/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.356 W/kg

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.100 V/m; Power Drift = 0.127 dB
Peak SAR (extrapolated) = 0.476 W/kg
SAR(1 g) = 0.309 W/kg; SAR(10 g) = 0.182 W/kg
Maximum value of SAR (measured) = 0.338 W/kg



0 dB = 0.338 W/kg = -4.71 dBW/kg

#21_GSM1900_DTM Multi-slot class 5_Left Cheek_Ch810

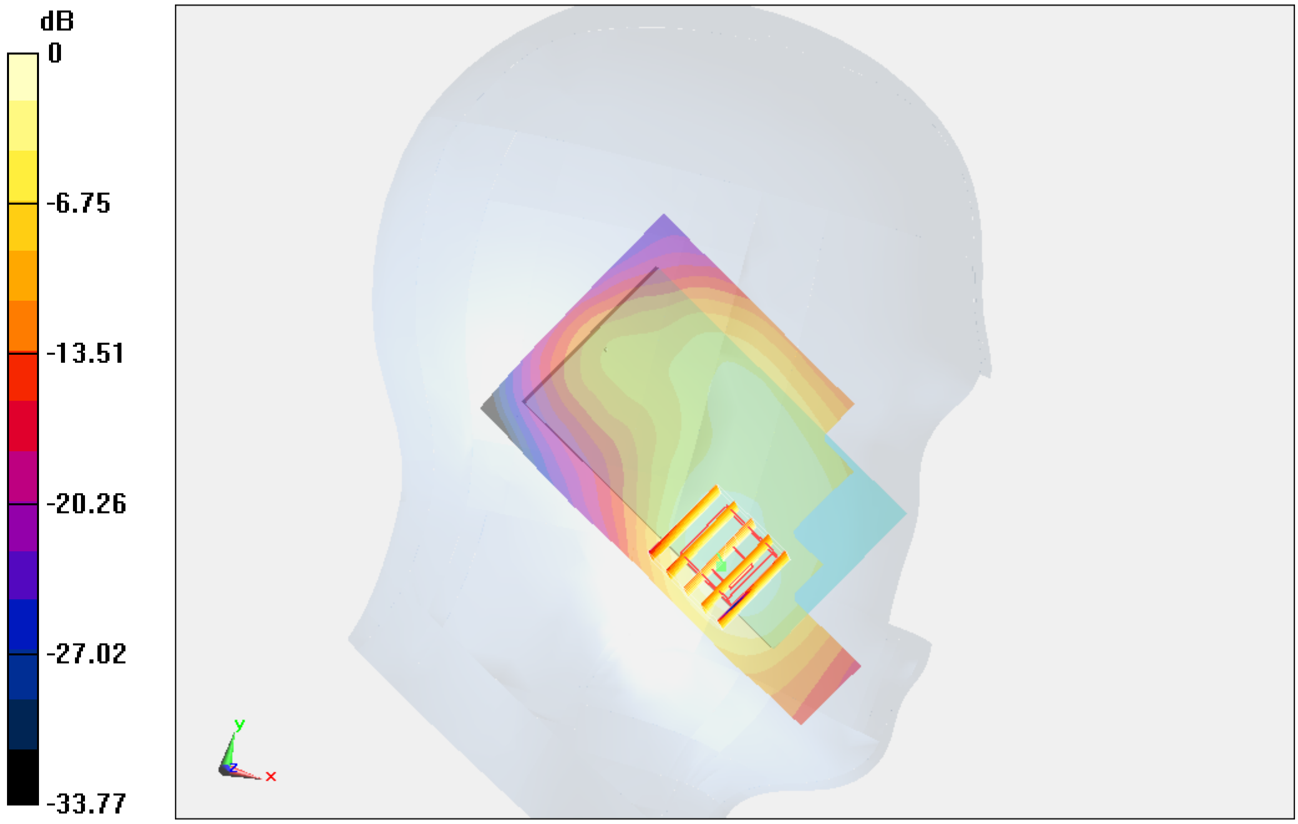
DUT: 292718-04

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: HSL_1900_121128 Medium parameters used: f = 1910 MHz; σ = 1.436 mho/m; ε_r = 39.792; ρ = 1000 kg/m^3
Ambient Temperature：22.1 ℃; Liquid Temperature：21.2 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch810/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.850 W/kg

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.821 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 1.28 W/kg
SAR(1 g) = 0.793 W/kg; SAR(10 g) = 0.465 W/kg
Maximum value of SAR (measured) = 0.869 W/kg



0 dB = 0.869 W/kg = -0.61 dBW/kg

#21_GSM1900_DTM Multi-slot class 5_Left Cheek_Ch810_2D

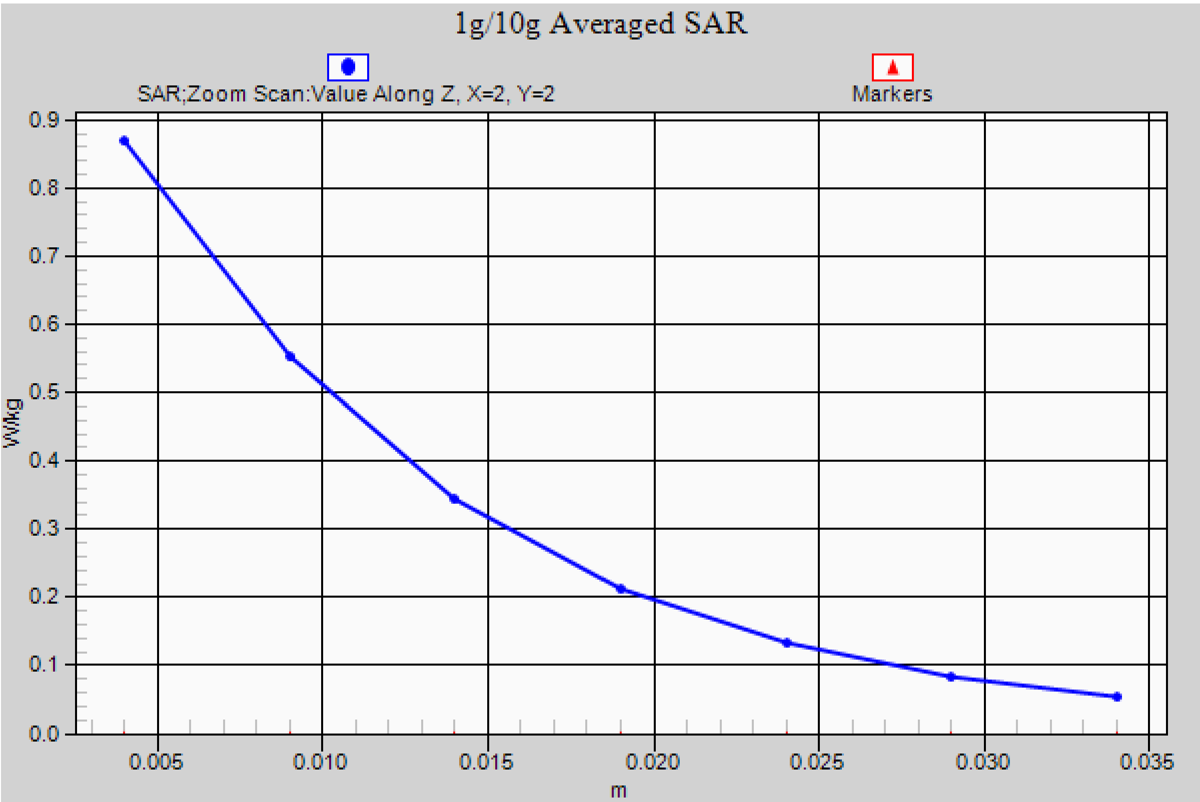
DUT: 292718-04

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: HSL_1900_121128 Medium parameters used: f = 1910 MHz; σ = 1.436 mho/m; ε_r = 39.792; ρ = 1000 kg/m^3
Ambient Temperature：22.1 ℃; Liquid Temperature：21.2 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch810/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.850 W/kg

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.821 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 1.28 W/kg
SAR(1 g) = 0.793 W/kg; SAR(10 g) = 0.465 W/kg
Maximum value of SAR (measured) = 0.869 W/kg



#22_GSM1900_DTM Multi-slot class 5_Left Cheek_Ch512

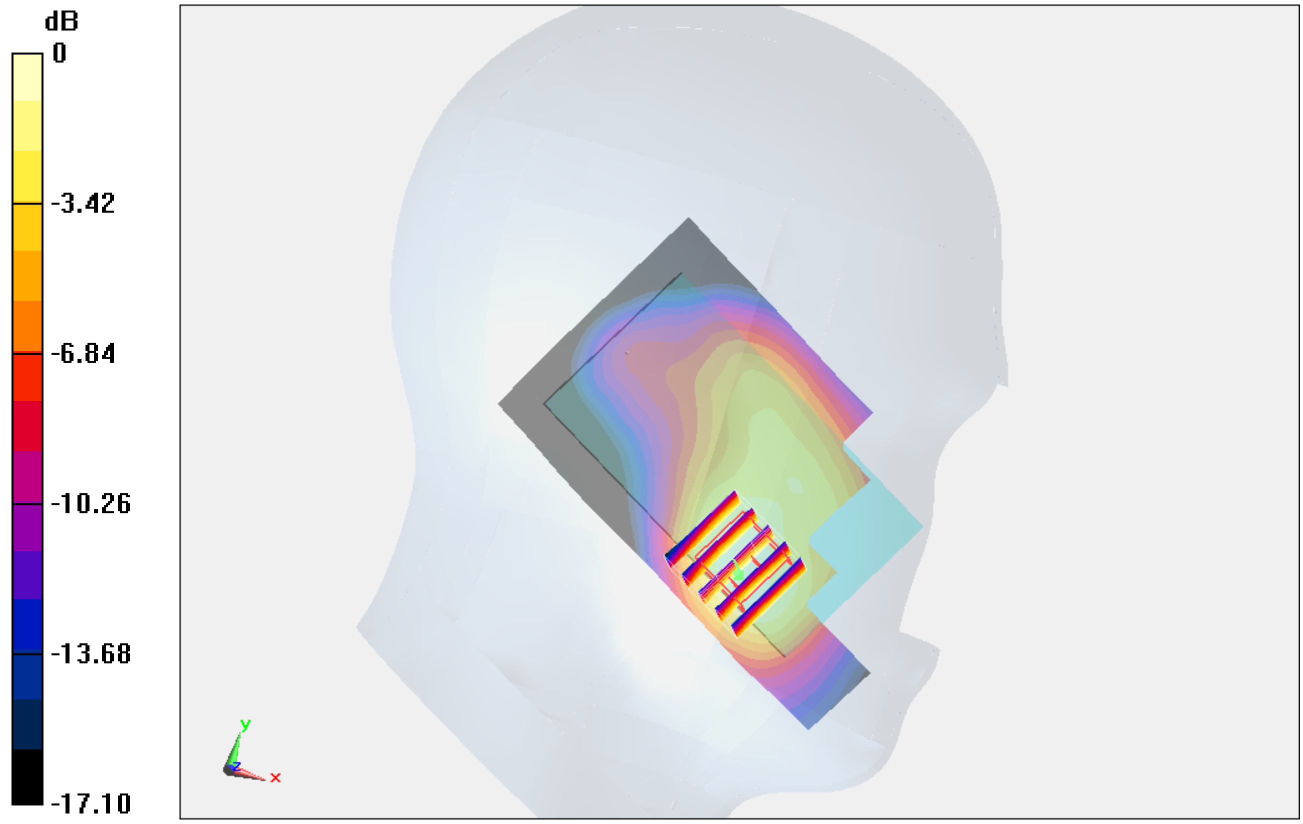
DUT: 292718-04

Communication System: PCS; Frequency: 1850.2 MHz;Duty Cycle: 1:4
Medium: HSL_1900_121128 Medium parameters used : f = 1850.2 MHz; σ = 1.387 mho/m; ε_r = 40.027; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.2 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch512/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.781 W/kg

Configuration/Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.213 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.718 W/kg; SAR(10 g) = 0.424 W/kg
Maximum value of SAR (measured) = 0.793 W/kg



0 dB = 0.793 W/kg = -1.01 dBW/kg

#23_GSM1900_DTM Multi-slot class 5_Left Cheek_Ch661

DUT: 292718-04

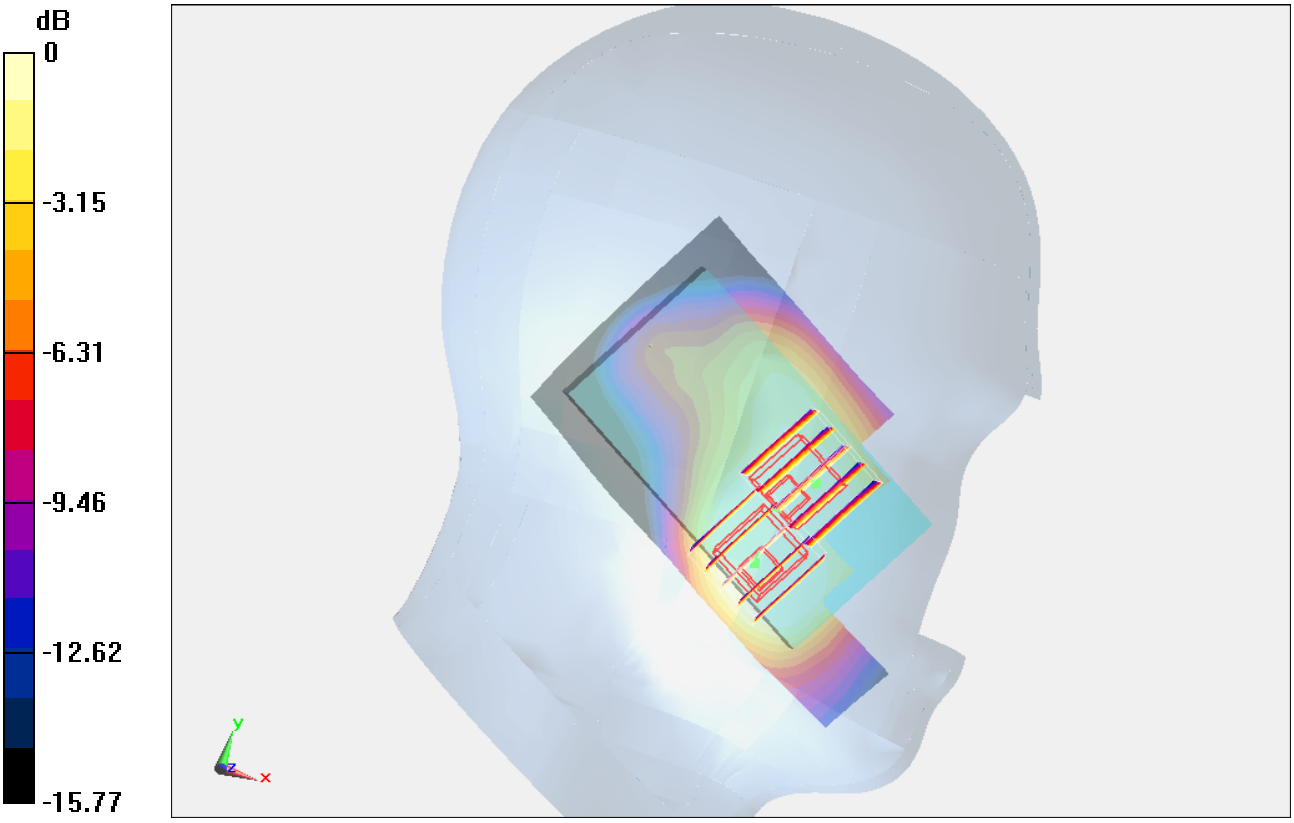
Communication System: PCS; Frequency: 1880 MHz;Duty Cycle: 1:4
Medium: HSL_1900_121128 Medium parameters used: f = 1880 MHz; σ = 1.412 mho/m; ε_r = 39.875; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.2 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch661/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.795 W/kg

Configuration/Ch661/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.991 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 1.14 W/kg
SAR(1 g) = 0.746 W/kg; SAR(10 g) = 0.446 W/kg
Maximum value of SAR (measured) = 0.813 W/kg

Configuration/Ch661/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.991 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.594 W/kg
SAR(1 g) = 0.462 W/kg; SAR(10 g) = 0.324 W/kg
Maximum value of SAR (measured) = 0.509 W/kg



0 dB = 0.509 W/kg = -2.93 dBW/kg

For any secondary peaks found in the area scan which are within 2 dB of the maximum peak and are not within this zoom scan, the zoom scan should be repeated.

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/11/28

#24_GSM1900_DTM Multi-slot class 5_Left Tilted_Ch810

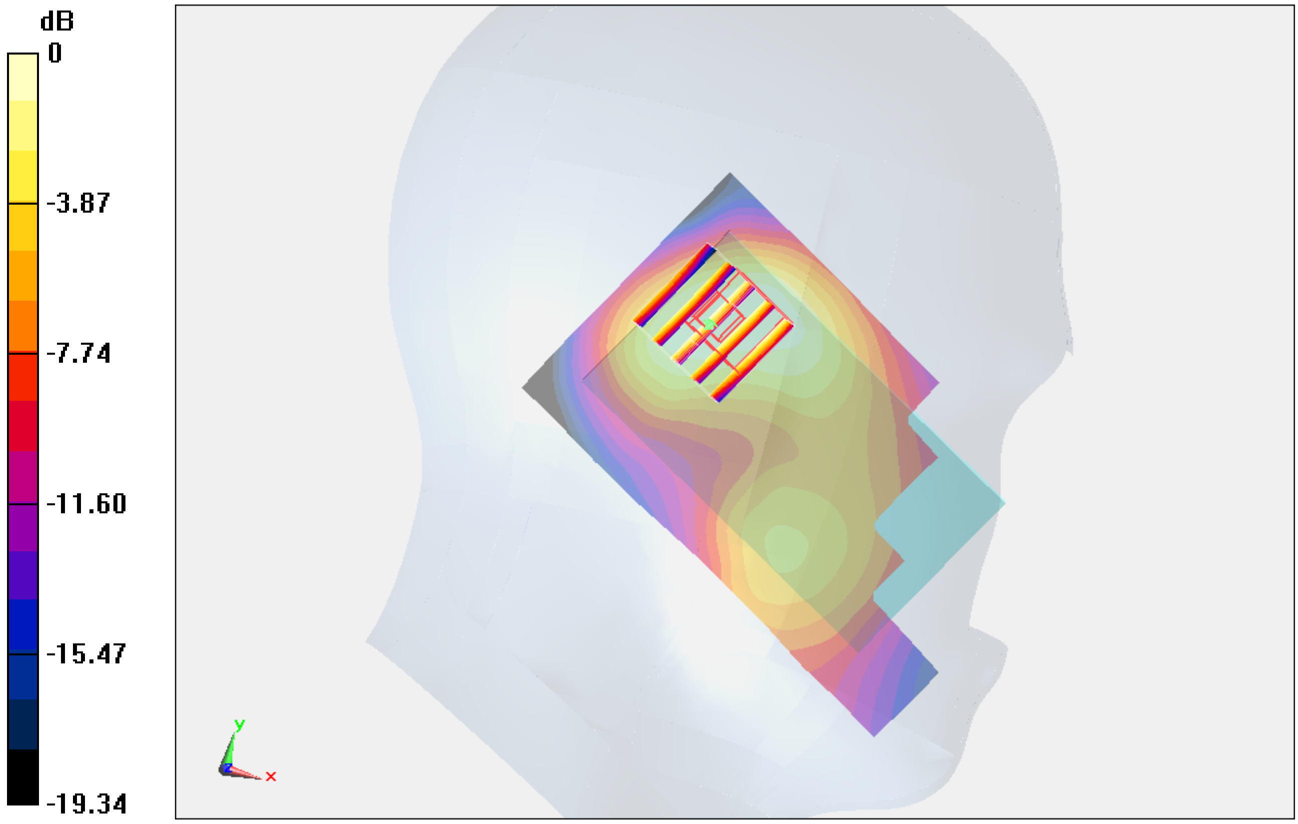
DUT: 292718-04

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: HSL_1900_121128 Medium parameters used: f = 1910 MHz; σ = 1.436 mho/m; ε_r = 39.792; ρ = 1000 kg/m^3
Ambient Temperature：22.2 ℃; Liquid Temperature：21.2 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch810/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.318 W/kg

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.564 V/m; Power Drift = -0.118 dB
Peak SAR (extrapolated) = 0.420 W/kg
SAR(1 g) = 0.298 W/kg; SAR(10 g) = 0.192 W/kg
Maximum value of SAR (measured) = 0.324 W/kg



0 dB = 0.324 W/kg = -4.89 dBW/kg

#39_WLAN2.4G_802.11b_Right Cheek_Ch11

DUT: 292718-04

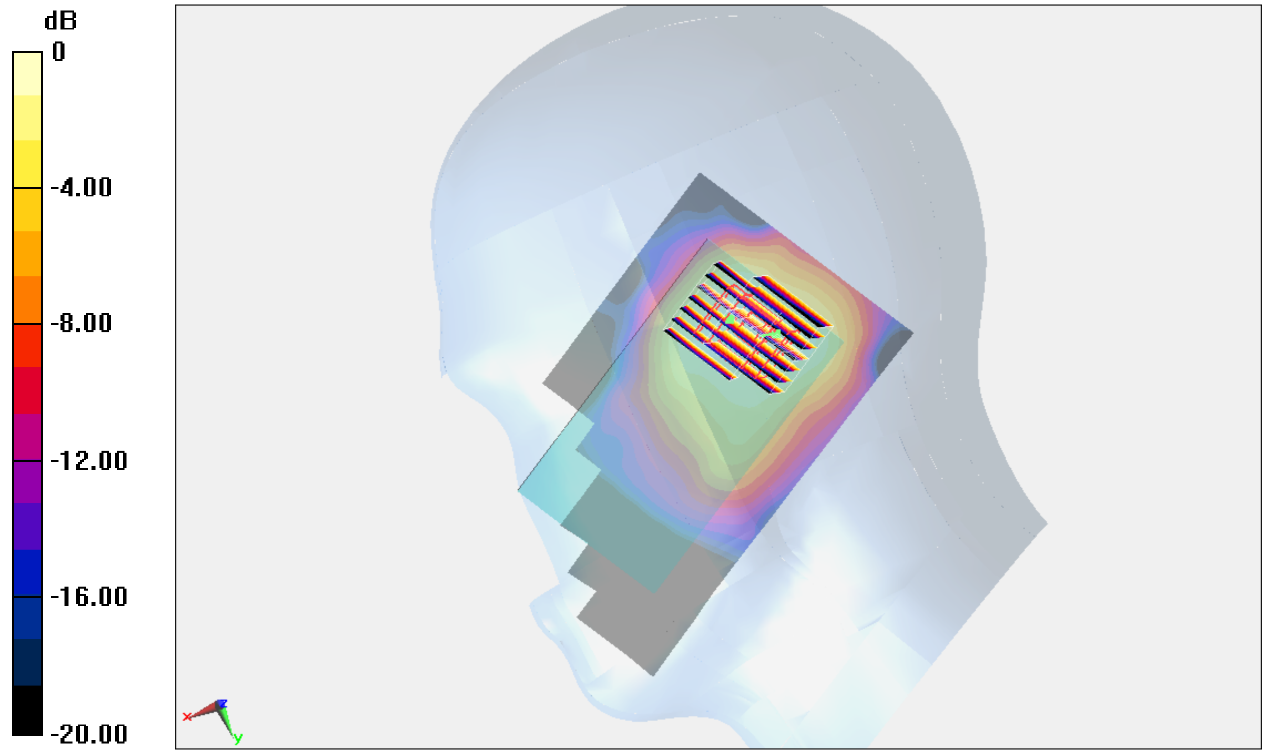
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: HSL_2450_121224 Medium parameters used: f = 2462 MHz; σ = 1.853 mho/m; ε_r = 39.242; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(6.82, 6.82, 6.82); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Right; Type: QD000P40CC; Serial: TP:1383
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch11/Area Scan (81x131x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.160 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.576 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.211 mW/g
SAR(1 g) = 0.113 mW/g; SAR(10 g) = 0.064 mW/g
Maximum value of SAR (measured) = 0.161 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.576 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.207 mW/g
SAR(1 g) = 0.112 mW/g; SAR(10 g) = 0.063 mW/g
Maximum value of SAR (measured) = 0.159 mW/g



0 dB = 0.159 mW/g = -15.97 dB mW/g

#29_WLAN2.4G_802.11b_Right Tilted_Ch11

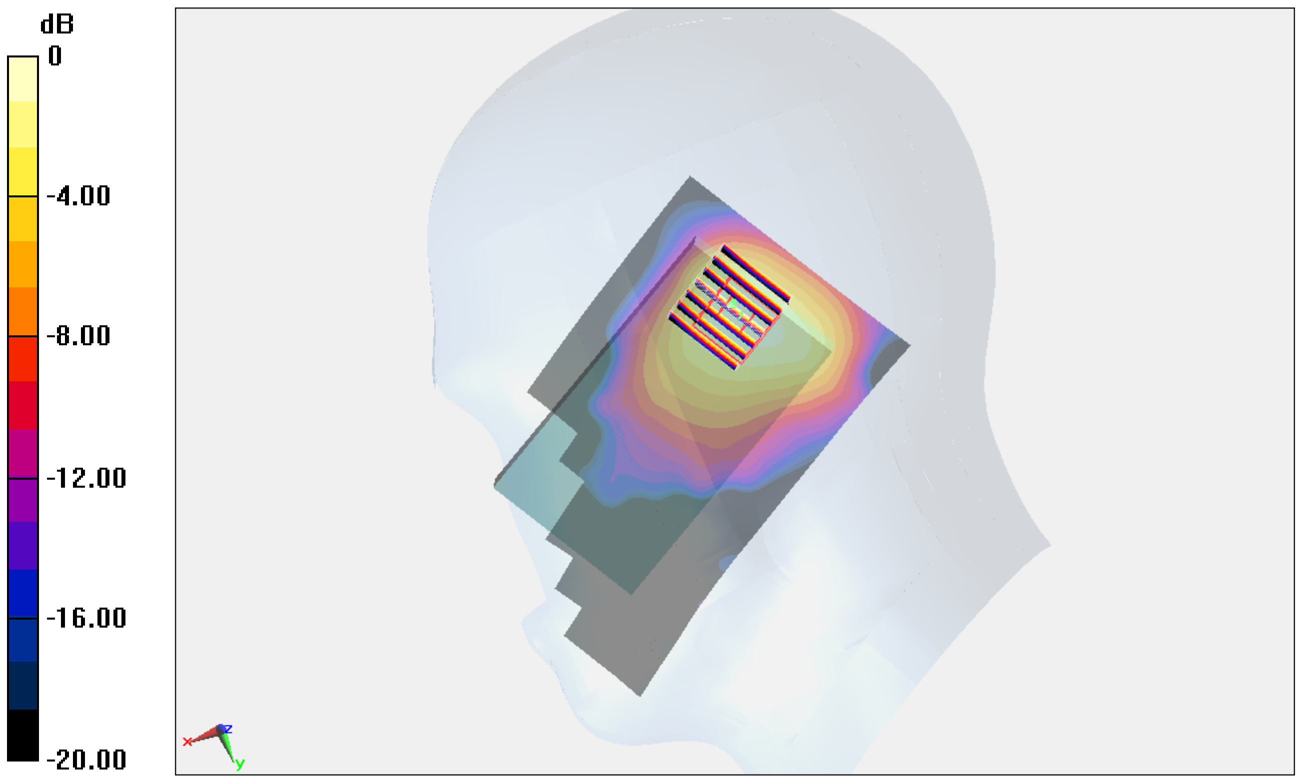
DUT: 292718-04

Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: HSL_2450_121224 Medium parameters used: f = 2462 MHz; σ = 1.853 mho/m; ε_r = 39.242; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(6.82, 6.82, 6.82); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Right; Type: QD000P40CC; Serial: TP:1383
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch11/Area Scan (81x131x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.193 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.906 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.235 mW/g
SAR(1 g) = 0.123 mW/g; SAR(10 g) = 0.064 mW/g
Maximum value of SAR (measured) = 0.174 mW/g



0 dB = 0.174 mW/g = -15.19 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab   Date: 2012/12/24

#30_WLAN2.4G_802.11b_Left Cheek_Ch11

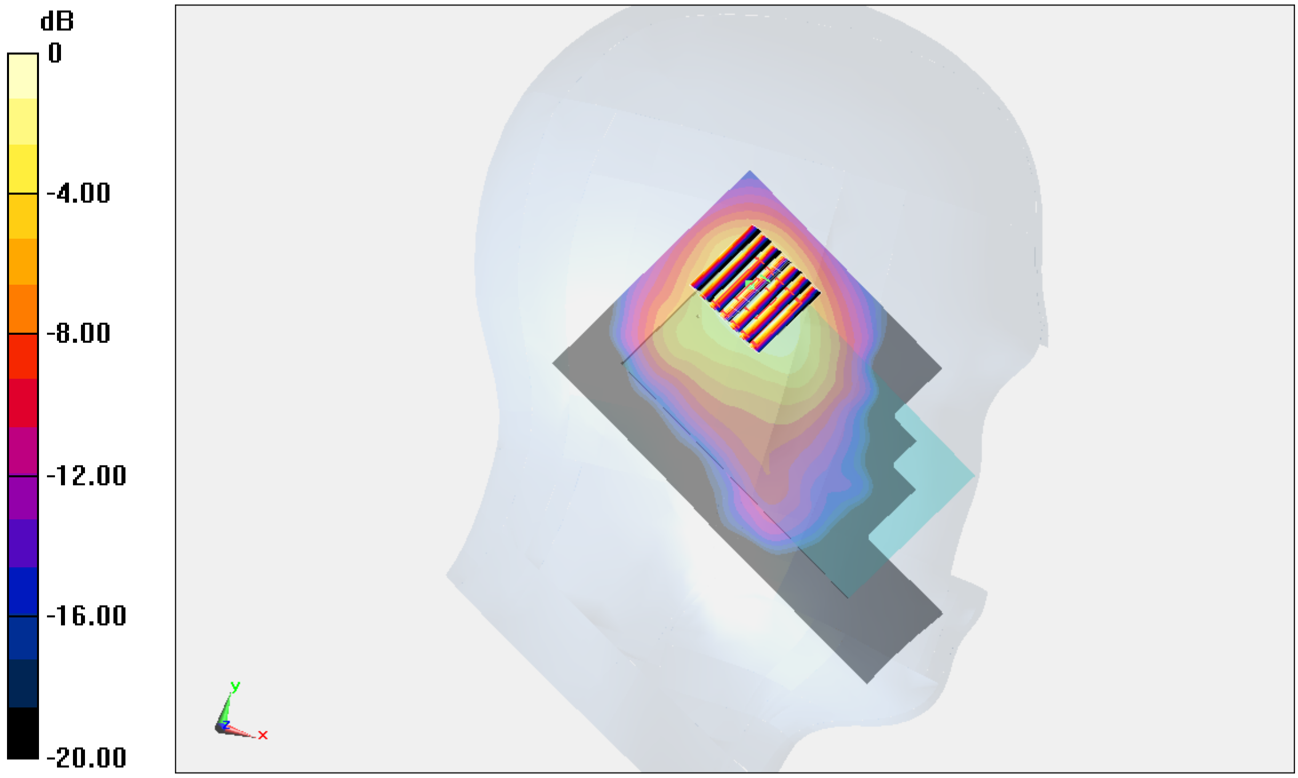
DUT: 292718-04

Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: HSL_2450_121224 Medium parameters used: f = 2462 MHz; σ = 1.853 mho/m; ε_r = 39.242; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(6.82, 6.82, 6.82); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Right; Type: QD000P40CC; Serial: TP:1383
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch11/Area Scan (81x131x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.333 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.715 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.433 mW/g
SAR(1 g) = 0.206 mW/g; SAR(10 g) = 0.107 mW/g
Maximum value of SAR (measured) = 0.298 mW/g



0 dB = 0.298 mW/g = -10.52 dB mW/g

#30_WLAN2.4G_802.11b_Left Cheek_Ch11_2D

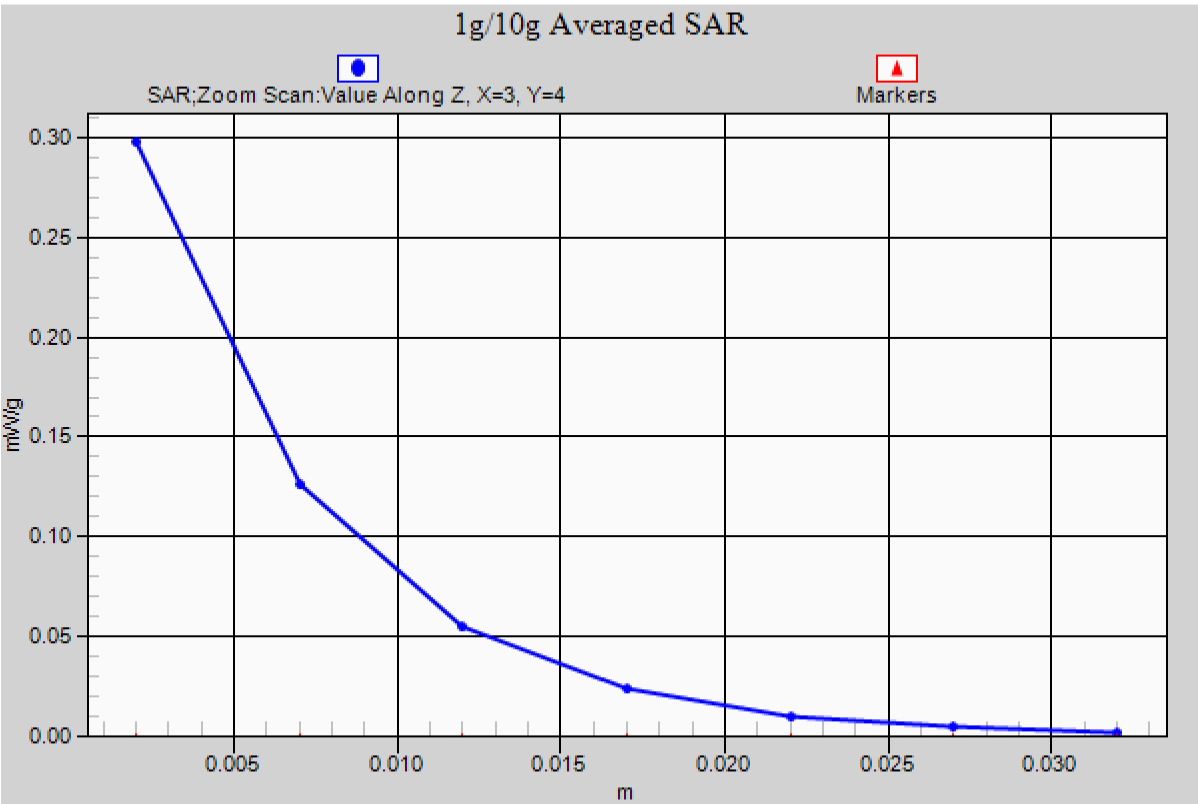
DUT: 292718-04

Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: HSL_2450_121224 Medium parameters used: f = 2462 MHz; σ = 1.853 mho/m; ε_r = 39.242; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(6.82, 6.82, 6.82); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Right; Type: QD000P40CC; Serial: TP:1383
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch11/Area Scan (81x131x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.333 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.715 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.433 mW/g
SAR(1 g) = 0.206 mW/g; SAR(10 g) = 0.107 mW/g
Maximum value of SAR (measured) = 0.298 mW/g



#31_WLAN2.4G_802.11b_Left Tilted_Ch11

DUT: 292718-04

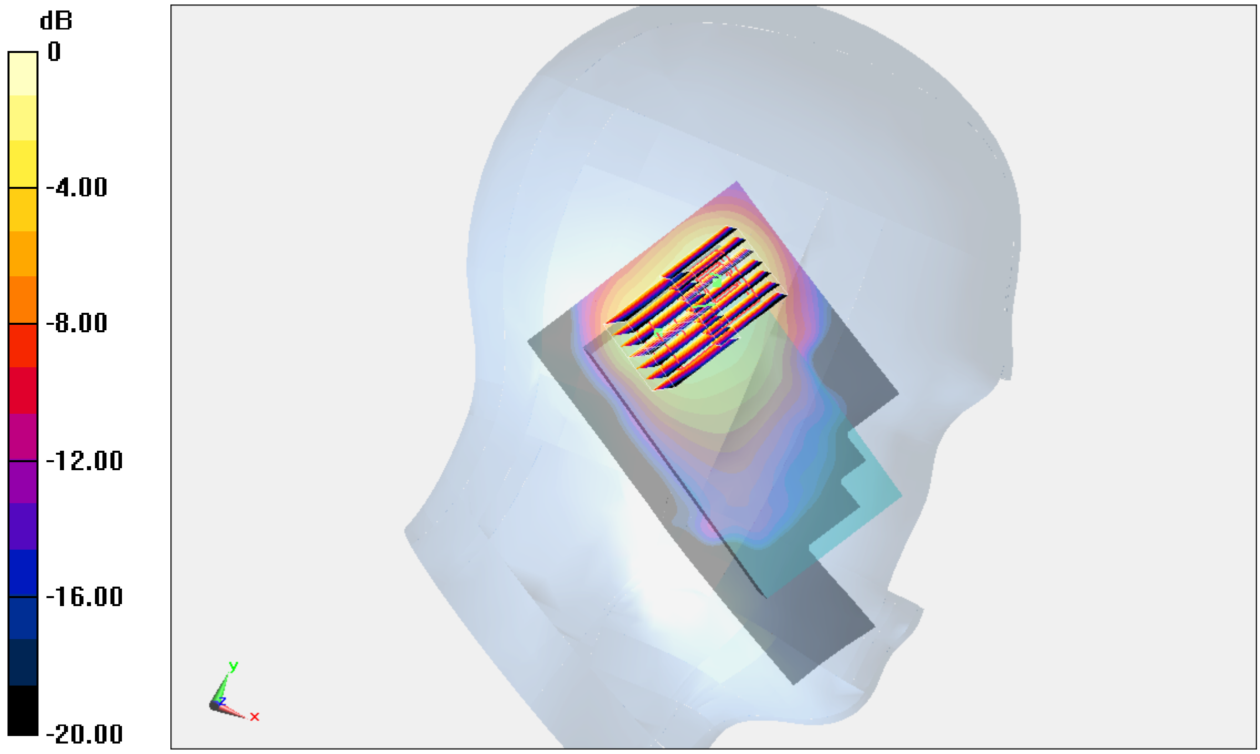
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: HSL_2450_121224 Medium parameters used: f = 2462 MHz; σ = 1.853 mho/m; ε_r = 39.242; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(6.82, 6.82, 6.82); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Right; Type: QD000P40CC; Serial: TP:1383
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch6/Area Scan (81x131x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.228 mW/g

Configuration/Ch6/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.584 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.323 mW/g
SAR(1 g) = 0.140 mW/g; SAR(10 g) = 0.069 mW/g
Maximum value of SAR (measured) = 0.210 mW/g

Configuration/Ch6/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.584 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 0.211 mW/g
SAR(1 g) = 0.109 mW/g; SAR(10 g) = 0.058 mW/g
Maximum value of SAR (measured) = 0.165 mW/g



0 dB = 0.165 mW/g = -15.65 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/11/27

#01_GSM850_GPRS (2 Tx slots)_Front_1cm_Ch189

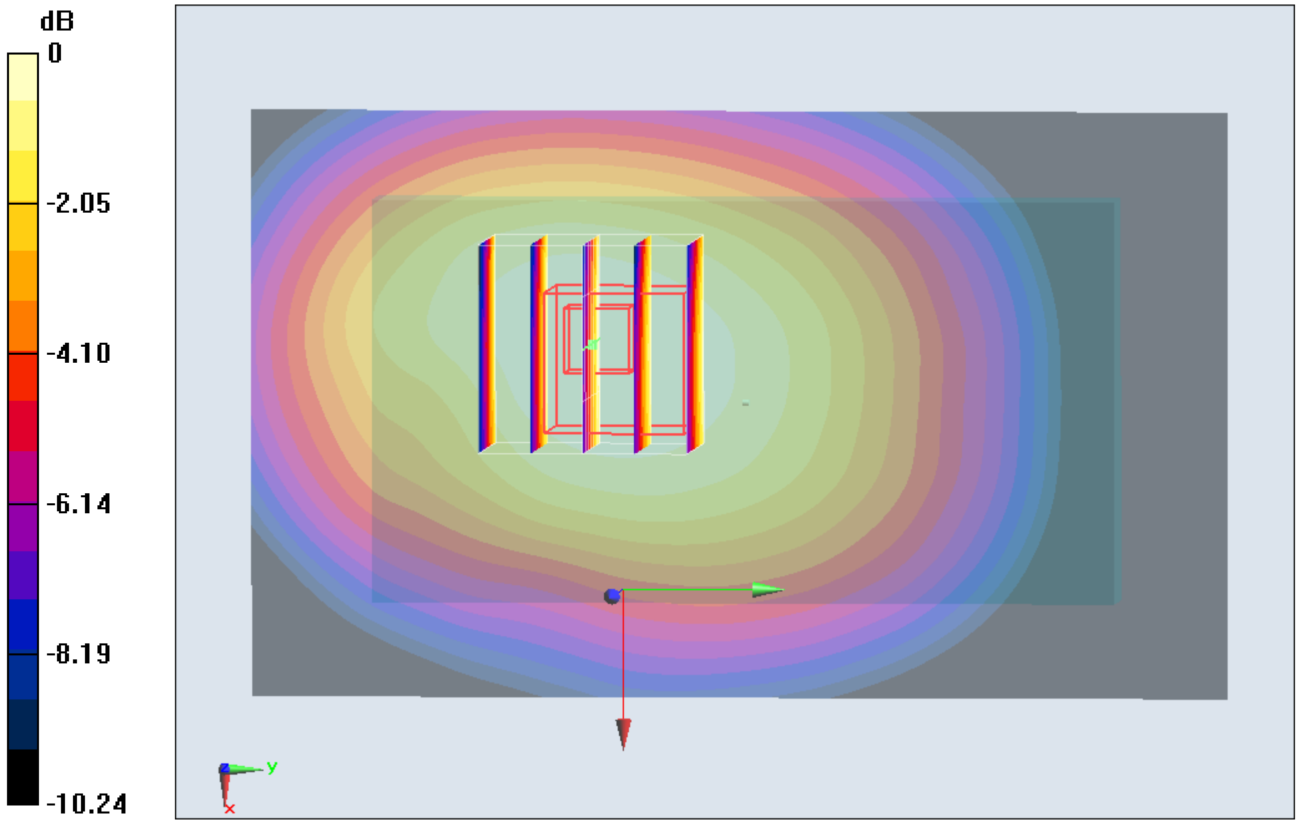
DUT: 292718-04

Communication System: GSM850; Frequency: 836.4 MHz;Duty Cycle: 1:4
Medium: MSL_850_121127 Medium parameters used: f = 836.4 MHz; σ = 0.965 mho/m; ε_r = 53.597; ρ = 1000 kg/m^3
Ambient Temperature：22.7 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch189/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.792 W/kg

Configuration/Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.423 V/m; Power Drift = -0.00 dB
Peak SAR (extrapolated) = 0.923 W/kg
SAR(1 g) = 0.726 W/kg; SAR(10 g) = 0.538 W/kg
Maximum value of SAR (measured) = 0.768 W/kg



0 dB = 0.768 W/kg = -1.15 dBW/kg

#02_GSM850_GPRS (2 Tx slots)_Back_1cm_Ch189

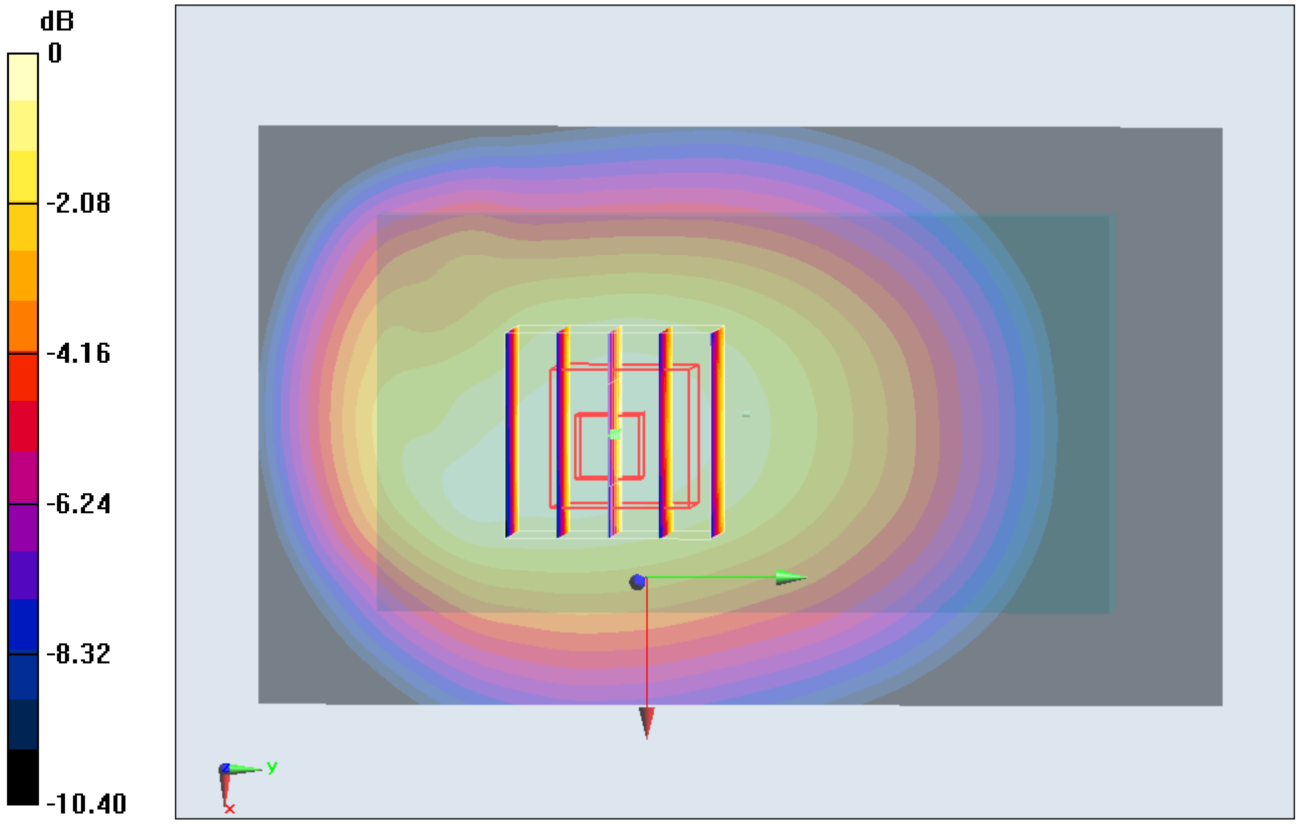
DUT: 292718-04

Communication System: GSM850; Frequency: 836.4 MHz;Duty Cycle: 1:4
Medium: MSL_850_121127 Medium parameters used: f = 836.4 MHz; σ = 0.965 mho/m; ε_r = 53.597; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch189/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.29 W/kg

Configuration/Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 38.476 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.60 W/kg
SAR(1 g) = 1.24 W/kg; SAR(10 g) = 0.888 W/kg
Maximum value of SAR (measured) = 1.31 W/kg



0 dB = 1.31 W/kg = 1.17 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab   Date: 2012/11/27

#06_GSM850_GPRS (2 Tx slots)_Back_1cm_Ch128

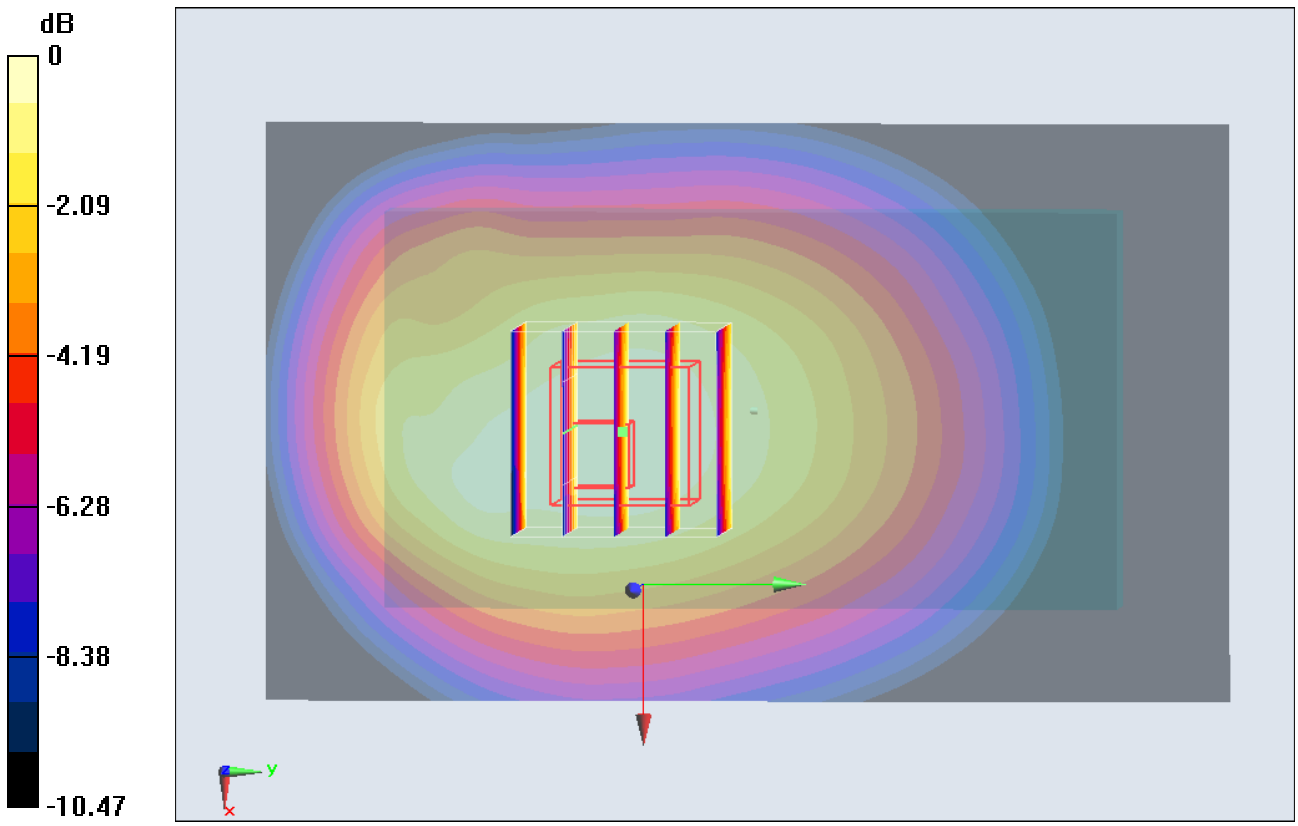
DUT: 292718-04

Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:4
Medium: MSL_850_121127 Medium parameters used: f = 824.2 MHz; σ = 0.953 mho/m; ε_r = 53.726; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch128/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.03 W/kg

Configuration/Ch128/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 34.717 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 1.38 W/kg
SAR(1 g) = 0.990 W/kg; SAR(10 g) = 0.707 W/kg
Maximum value of SAR (measured) = 1.04 W/kg



0 dB = 1.04 W/kg = 0.17 dBW/kg

#07_GSM850_GPRS (2 Tx slots)_Back_1cm_Ch251

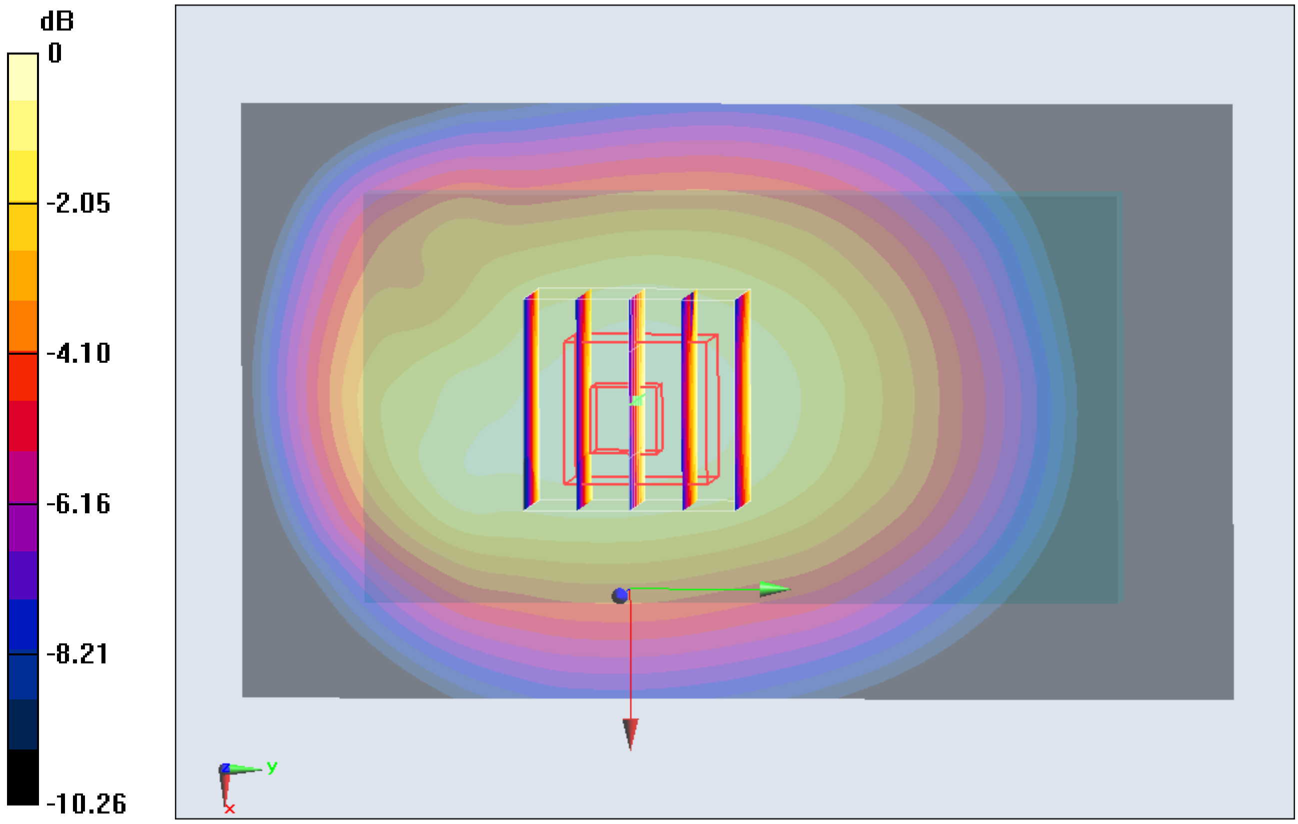
DUT: 292718-04

Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:4
Medium: MSL_850_121127 Medium parameters used: f = 849 MHz; σ = 0.978 mho/m; ε_r = 53.487; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch251/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.42 W/kg

Configuration/Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.685 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 1.72 W/kg
SAR(1 g) = 1.32 W/kg; SAR(10 g) = 0.958 W/kg
Maximum value of SAR (measured) = 1.40 W/kg



0 dB = 1.40 W/kg = 1.46 dBW/kg

#07_GSM850_GPRS (2 Tx slots)_Back_1cm_Ch251_2D

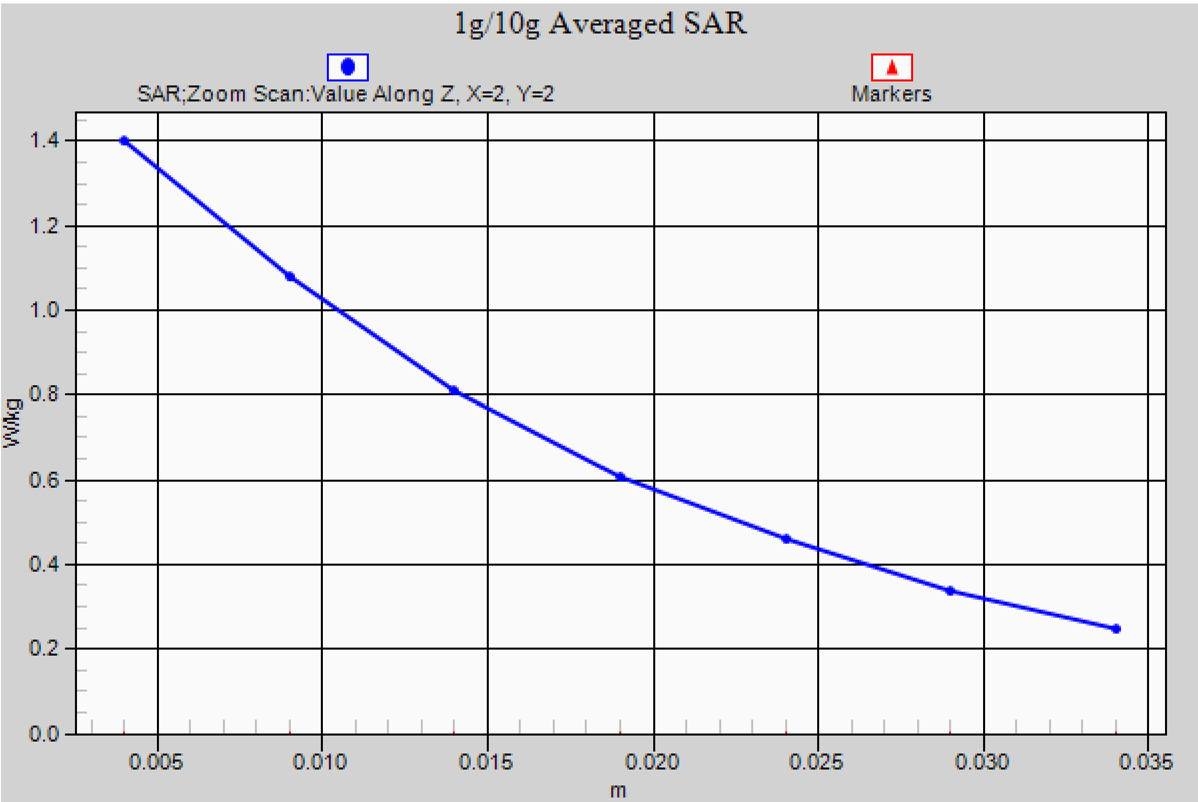
DUT: 292718-04

Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:4
Medium: MSL_850_121127 Medium parameters used: f = 849 MHz; σ = 0.978 mho/m; ε_r = 53.487; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch251/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.42 W/kg

Configuration/Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.685 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 1.72 W/kg
SAR(1 g) = 1.32 W/kg; SAR(10 g) = 0.958 W/kg
Maximum value of SAR (measured) = 1.40 W/kg



#38_GSM850_GPRS (2 Tx slots)_Back_1cm_Ch251_Repeat

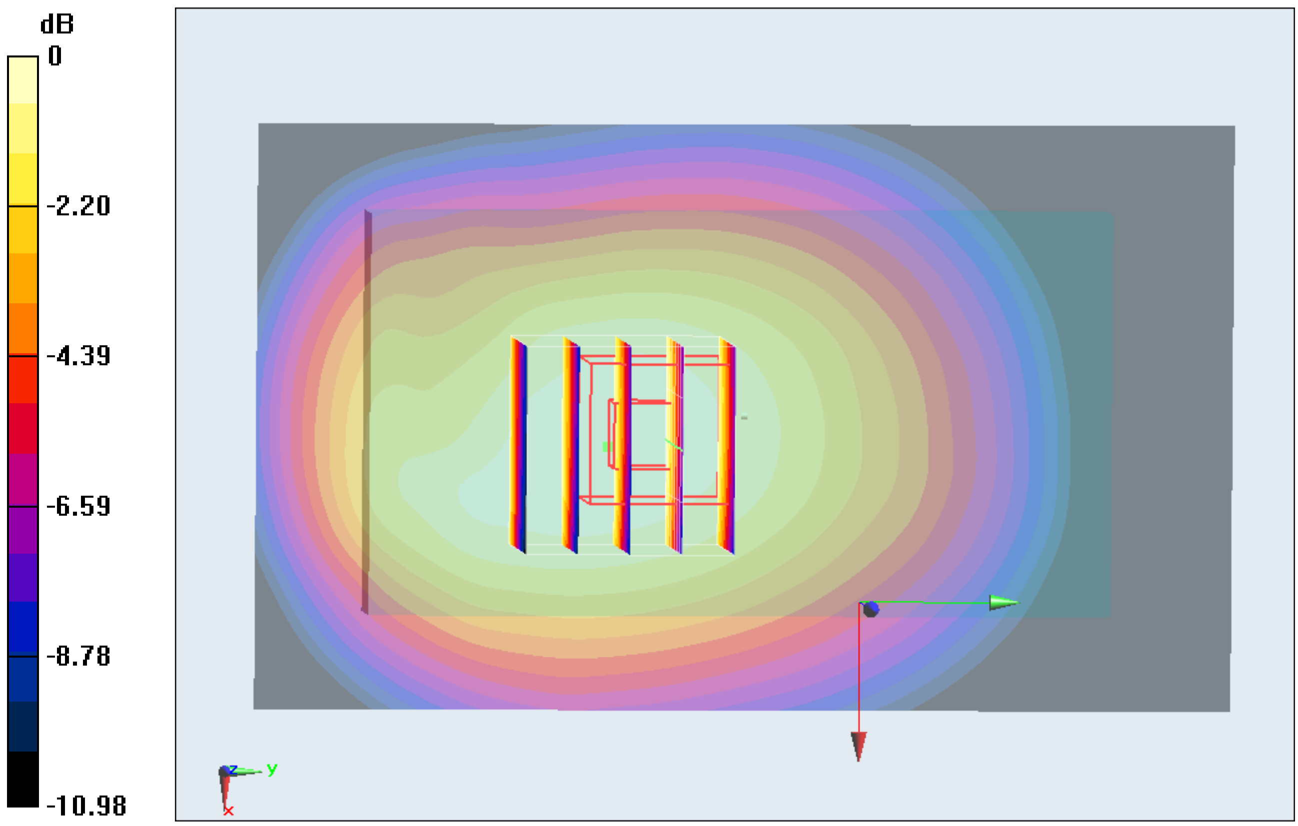
DUT: 292718-04

Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:4
Medium: MSL_850_121127 Medium parameters used: f = 849 MHz; σ = 0.978 mho/m; ε_r = 53.487; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch251/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.41 W/kg

Configuration/Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.944 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 1.69 W/kg
SAR(1 g) = 1.31 W/kg; SAR(10 g) = 0.965 W/kg
Maximum value of SAR (measured) = 1.40 W/kg



0 dB = 1.40 W/kg = 1.46 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/11/27

#03_GSM850_GPRS (2 Tx slots)_Left Side_1cm_Ch189

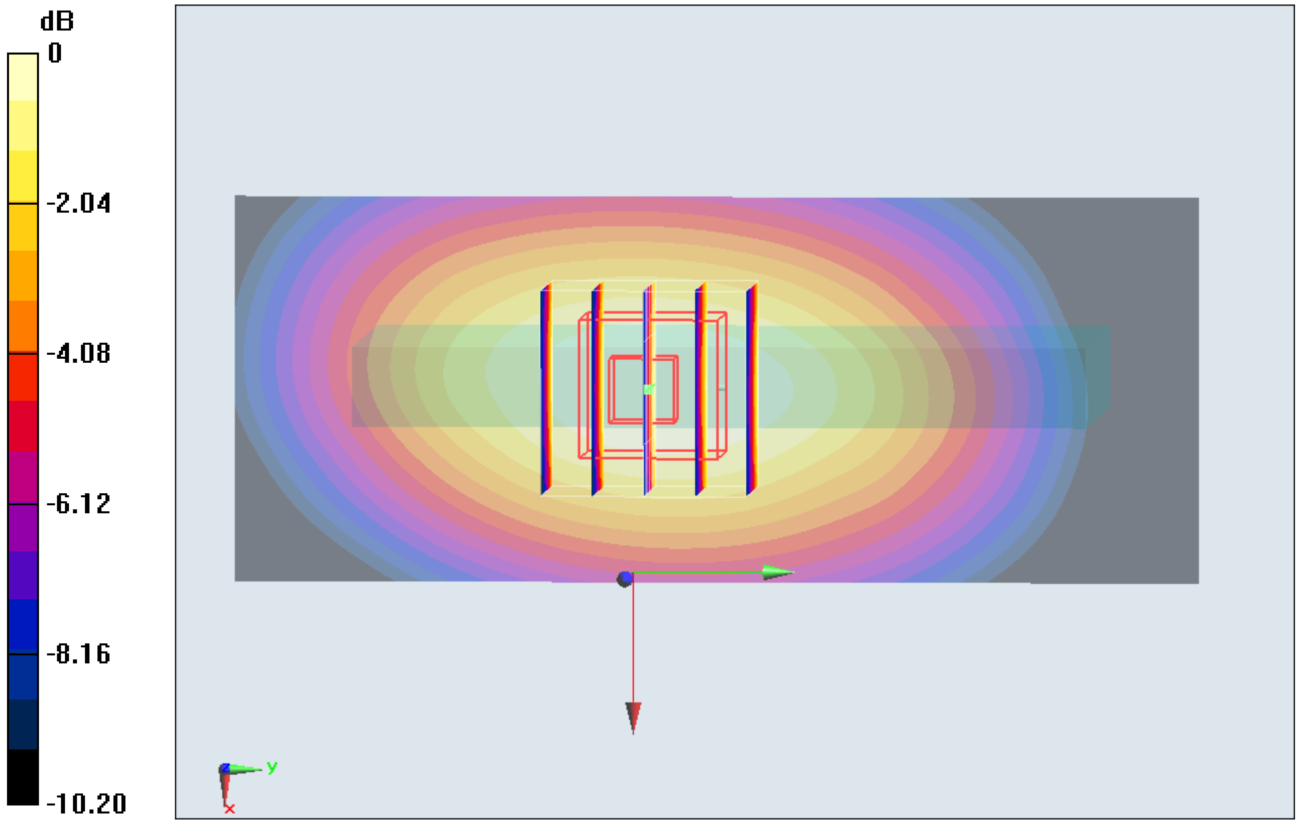
DUT: 292718-04

Communication System: GSM850; Frequency: 836.4 MHz;Duty Cycle: 1:4
Medium: MSL_850_121127 Medium parameters used: f = 836.4 MHz; σ = 0.965 mho/m; ε_r = 53.597; ρ = 1000 kg/m^3
Ambient Temperature：22.7 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch189/Area Scan (41x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.587 W/kg

Configuration/Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.340 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.718 W/kg
SAR(1 g) = 0.528 W/kg; SAR(10 g) = 0.360 W/kg
Maximum value of SAR (measured) = 0.570 W/kg



0 dB = 0.570 W/kg = -2.44 dBW/kg

#04_GSM850_GPRS (2 Tx slots)_Right Side_1cm_Ch189

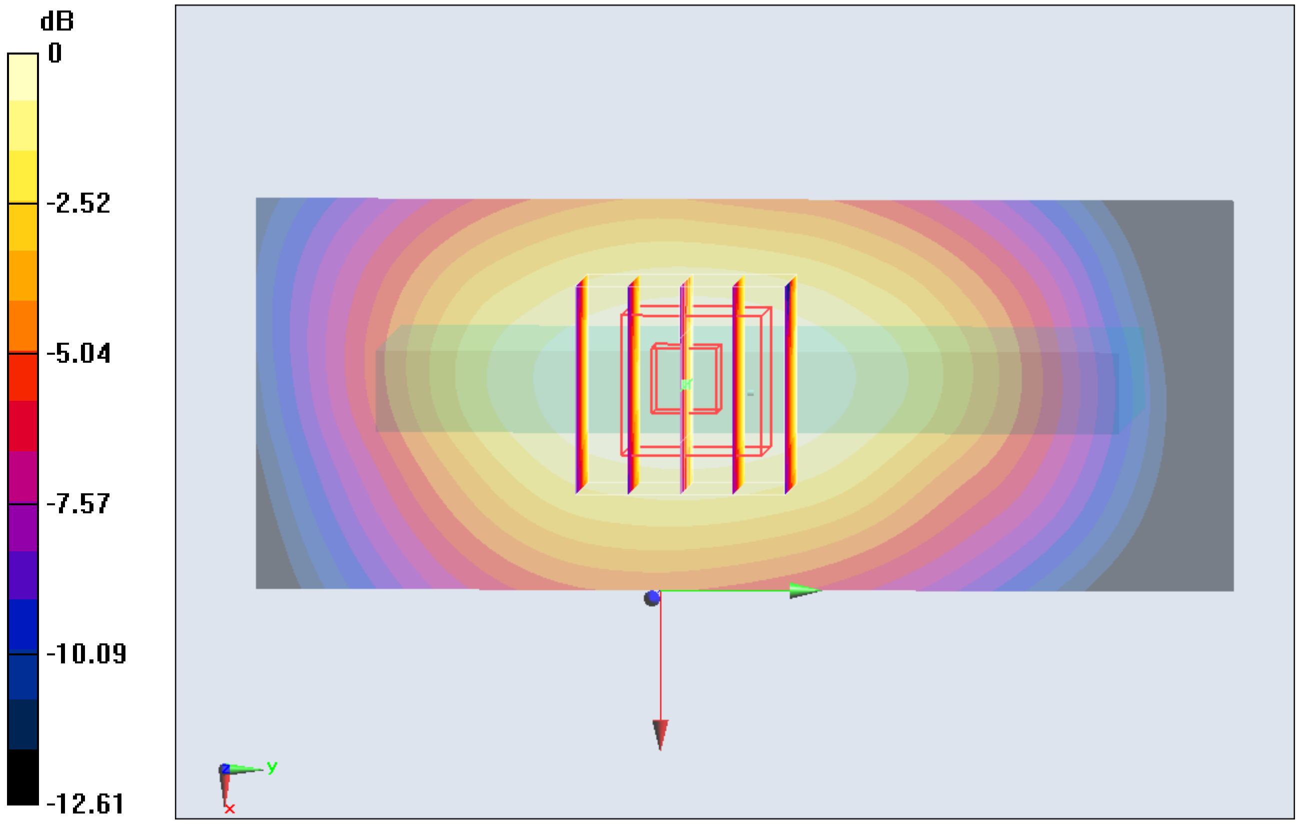
DUT: 292718-04

Communication System: GSM850; Frequency: 836.4 MHz;Duty Cycle: 1:4
Medium: MSL_850_121127 Medium parameters used: f = 836.4 MHz; σ = 0.965 mho/m; ε_r = 53.597; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch189/Area Scan (41x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.706 W/kg

Configuration/Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.377 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.823 W/kg
SAR(1 g) = 0.622 W/kg; SAR(10 g) = 0.438 W/kg
Maximum value of SAR (measured) = 0.664 W/kg



0 dB = 0.664 W/kg = -1.78 dBW/kg

#05_GSM850_GPRS (2 Tx slots)_Bottom Side_1cm_Ch189

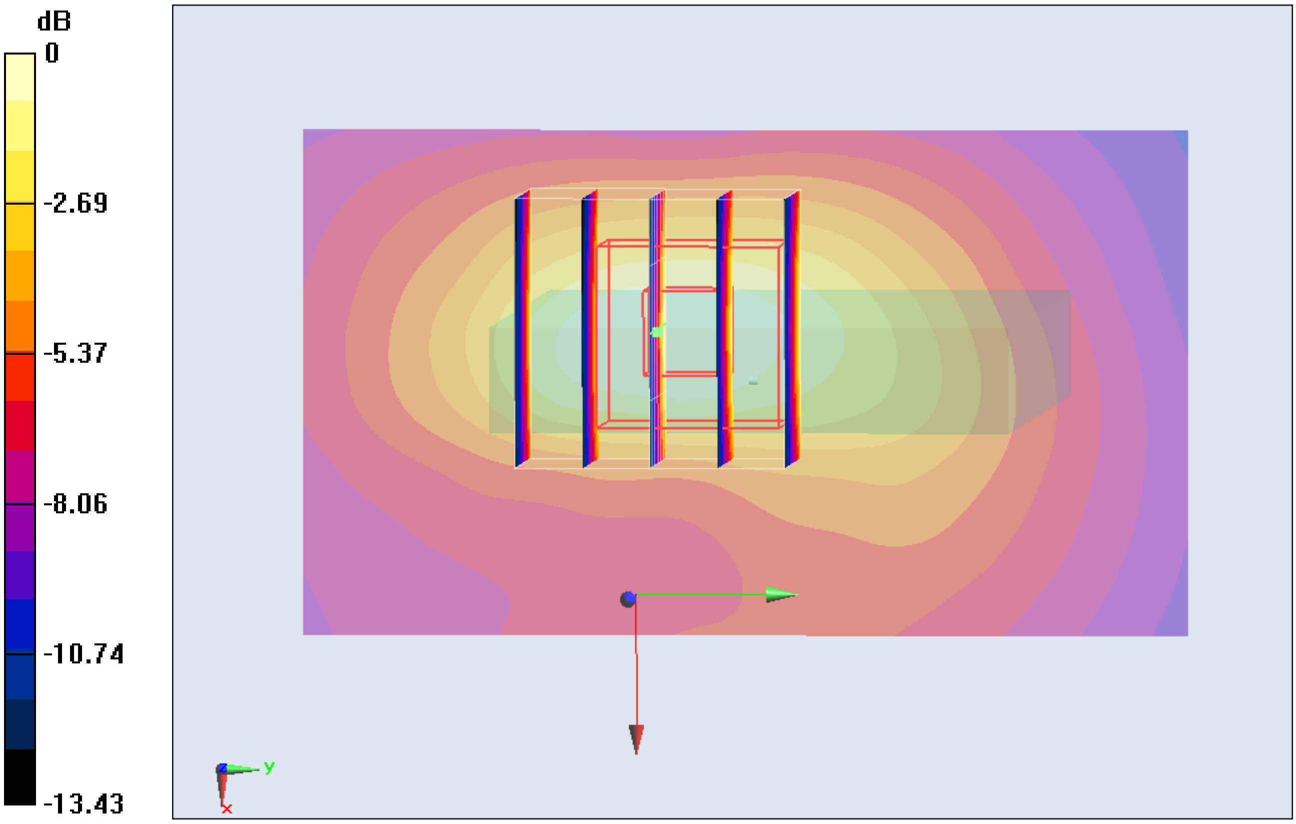
DUT: 292718-04

Communication System: GSM850; Frequency: 836.4 MHz;Duty Cycle: 1:4
Medium: MSL_850_121127 Medium parameters used: f = 836.4 MHz; σ = 0.965 mho/m; ε_r = 53.597; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch189/Area Scan (41x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.165 W/kg

Configuration/Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.261 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.270 W/kg
SAR(1 g) = 0.142 W/kg; SAR(10 g) = 0.078 W/kg
Maximum value of SAR (measured) = 0.155 W/kg



0 dB = 0.155 W/kg = -8.10 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/11/27

#08_GSM850_DTM Multi-slot class 5_Front_1.5cm_Ch189

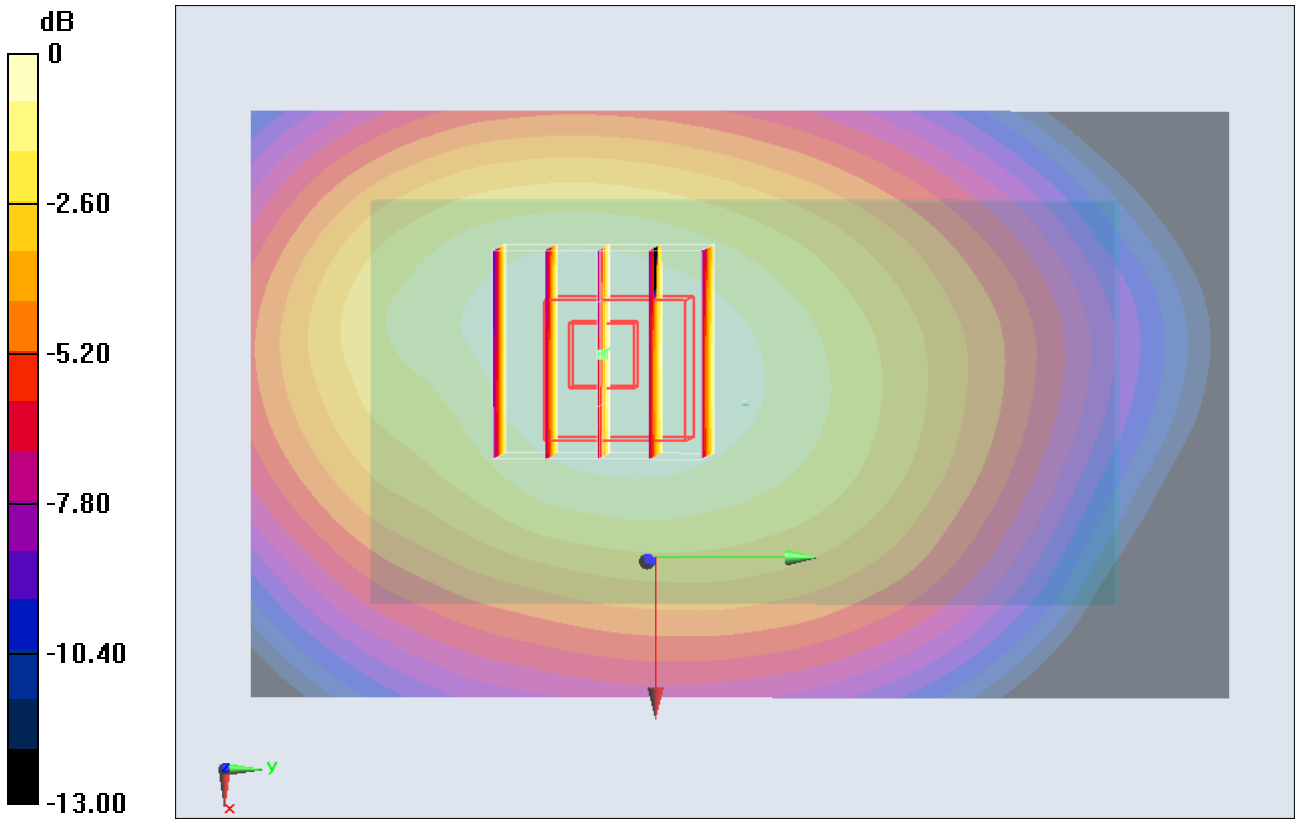
DUT: 292718-04

Communication System: GSM850; Frequency: 836.4 MHz;Duty Cycle: 1:4
Medium: MSL_850_121127 Medium parameters used: f = 836.4 MHz; σ = 0.965 mho/m; ε_r = 53.597; ρ = 1000 kg/m^3
Ambient Temperature：22.7 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch189/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.368 W/kg

Configuration/Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.932 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.450 W/kg
SAR(1 g) = 0.335 W/kg; SAR(10 g) = 0.246 W/kg
Maximum value of SAR (measured) = 0.353 W/kg



0 dB = 0.353 W/kg = -4.52 dBW/kg

#09_GSM850_DTM Multi-slot class 5_Back_1.5cm_Ch189

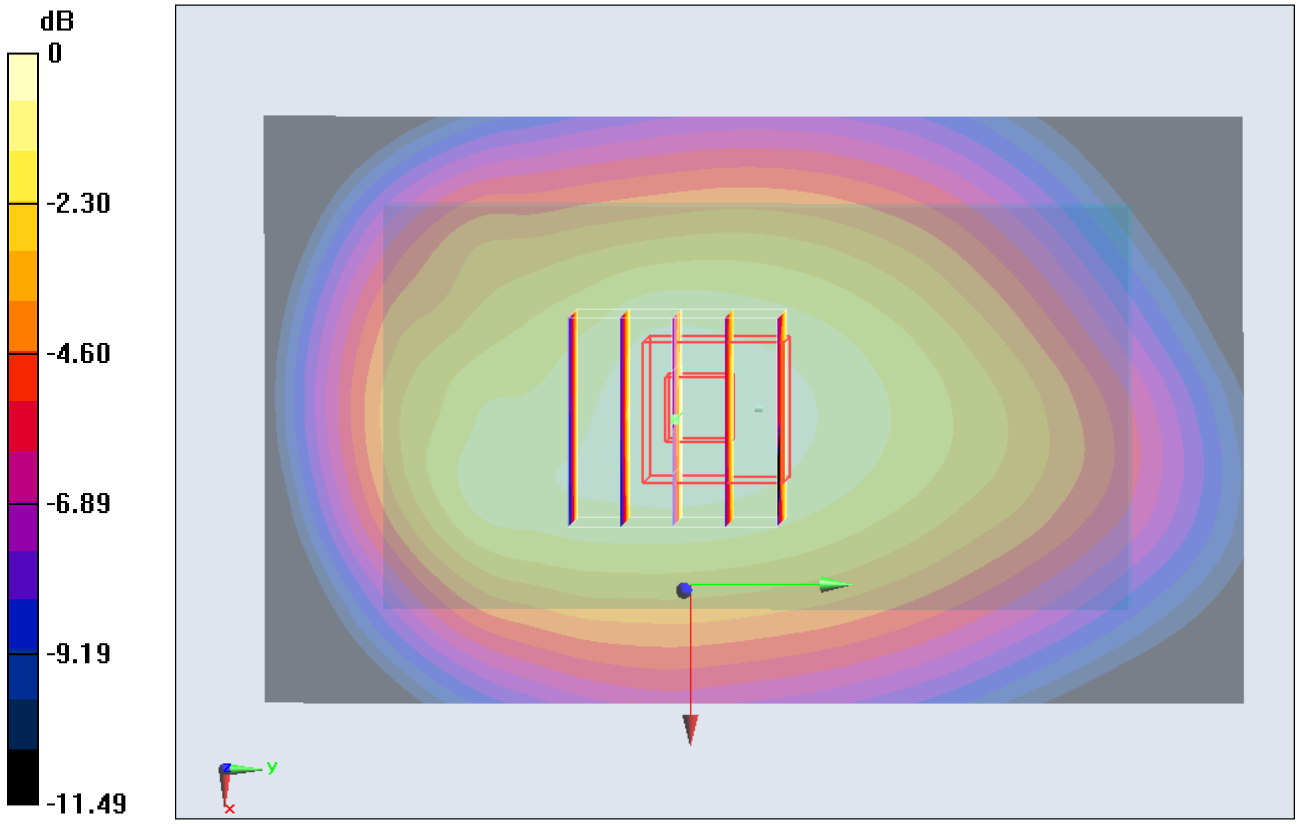
DUT: 292718-04

Communication System: GSM850; Frequency: 836.4 MHz;Duty Cycle: 1:4
Medium: MSL_850_121127 Medium parameters used: f = 836.4 MHz; σ = 0.965 mho/m; ε_r = 53.597; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.6 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch189/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.575 W/kg

Configuration/Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.503 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 0.697 W/kg
SAR(1 g) = 0.541 W/kg; SAR(10 g) = 0.391 W/kg
Maximum value of SAR (measured) = 0.574 W/kg



0 dB = 0.574 W/kg = -2.41 dBW/kg

#10_GSM1900_GPRS (2 Tx slots)_Front_1cm_Ch810

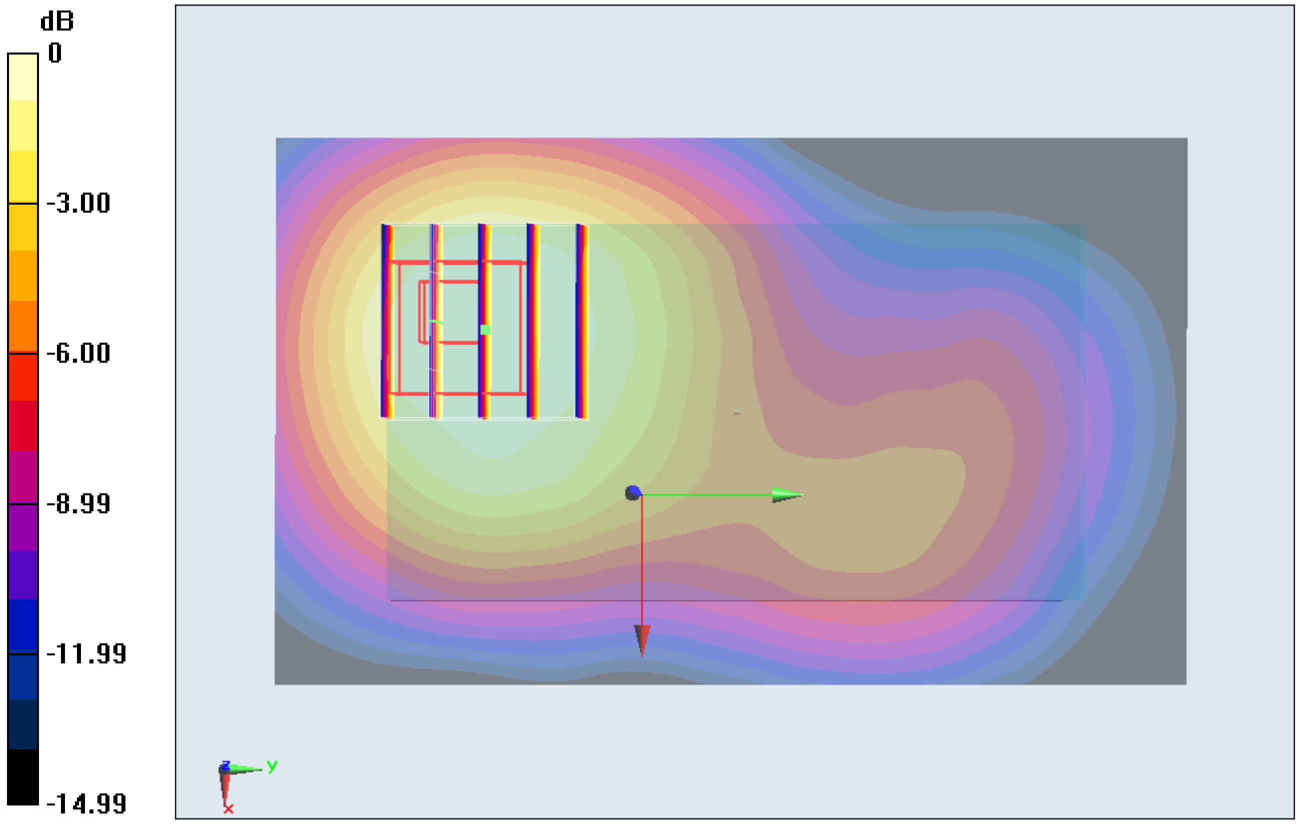
DUT: 292718-04

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: MSL_1900_121127 Medium parameters used: f = 1910 MHz; σ = 1.535 mho/m; ε_r = 54.807; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; 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 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch810/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.666 W/kg

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.026 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.927 W/kg
SAR(1 g) = 0.586 W/kg; SAR(10 g) = 0.371 W/kg
Maximum value of SAR (measured) = 0.630 W/kg



0 dB = 0.630 W/kg = -2.01 dBW/kg

#11_GSM1900_GPRS (2 Tx slots)_Back_1cm_Ch810

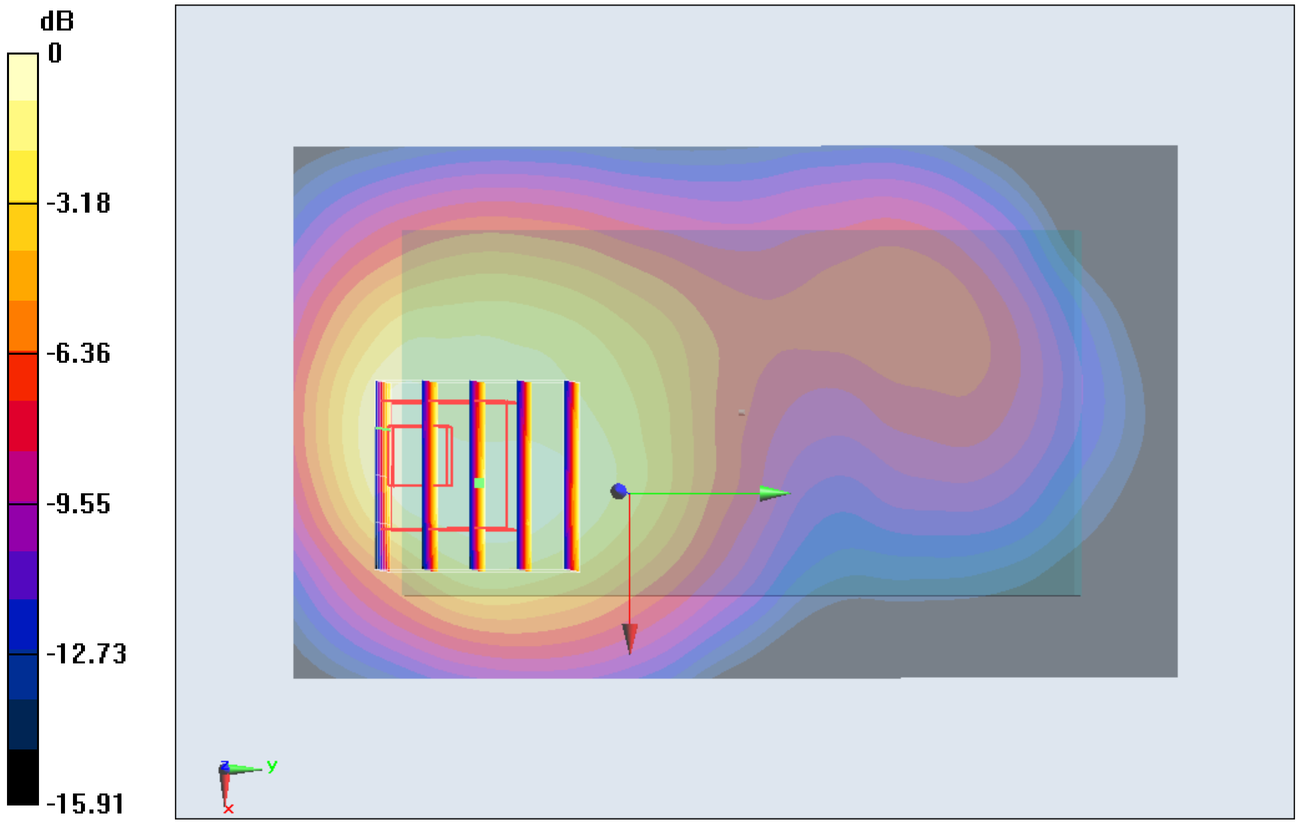
DUT: 292718-04

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: MSL_1900_121127 Medium parameters used: f = 1910 MHz; σ = 1.535 mho/m; ε_r = 54.807; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; 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 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch810/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.821 W/kg

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.940 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.736 W/kg; SAR(10 g) = 0.438 W/kg
Maximum value of SAR (measured) = 0.834 W/kg



0 dB = 0.834 W/kg = -0.79 dBW/kg

#12_GSM1900_GPRS (2 Tx slots)_Back_1cm_Ch512

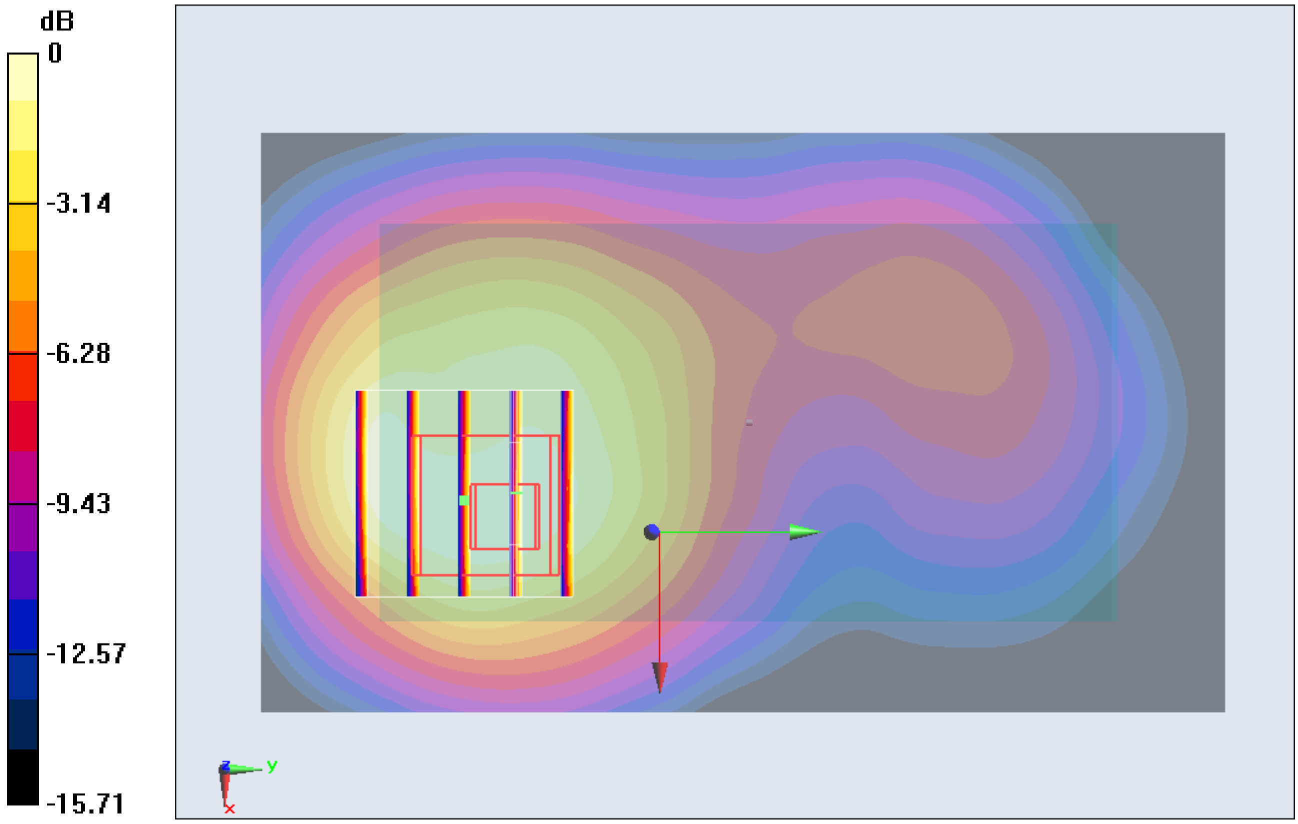
DUT: 292718-04

Communication System: PCS; Frequency: 1850.2 MHz;Duty Cycle: 1:4
Medium: MSL_1900_121127 Medium parameters used : f = 1850.2 MHz; σ = 1.464 mho/m; ε_r = 54.933; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; 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 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch512/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.890 W/kg

Configuration/Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.732 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.796 W/kg; SAR(10 g) = 0.474 W/kg
Maximum value of SAR (measured) = 0.859 W/kg



0 dB = 0.859 W/kg = -0.66 dBW/kg

#12_GSM1900_GPRS (2 Tx slots)_Back_1cm_Ch512_2D

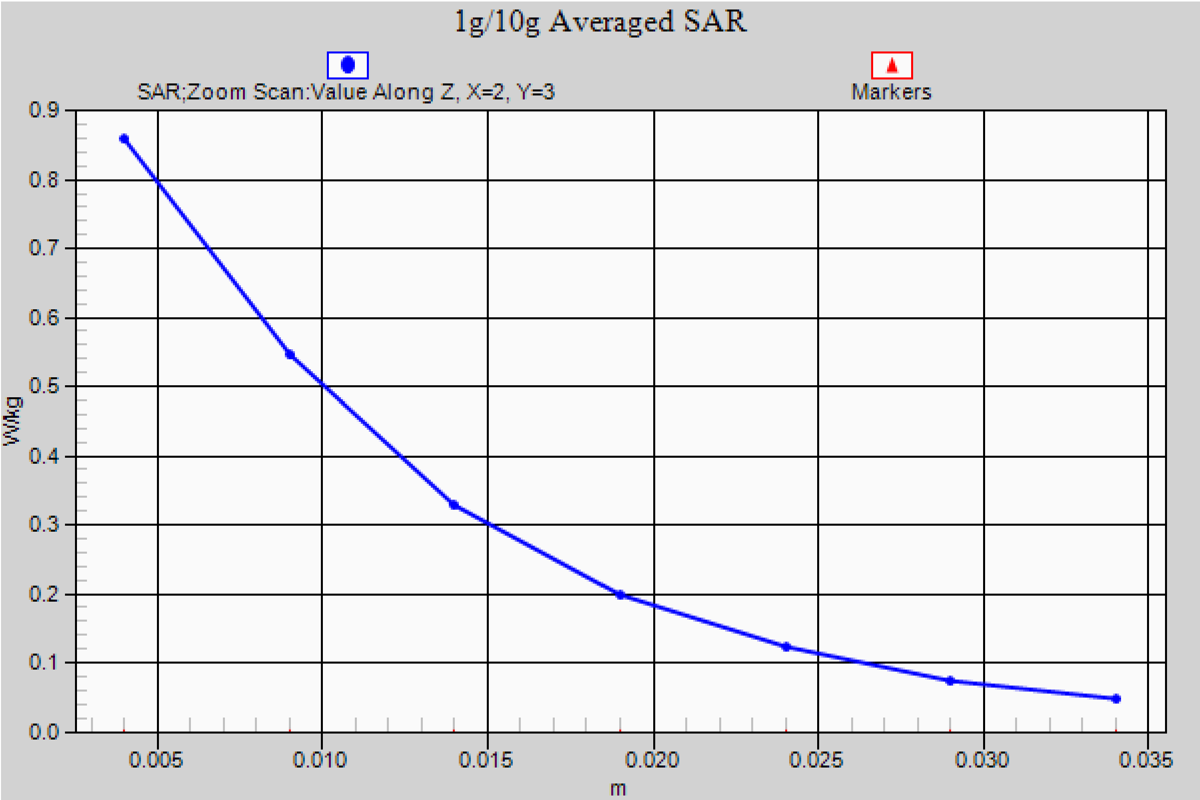
DUT: 292718-04

Communication System: PCS; Frequency: 1850.2 MHz;Duty Cycle: 1:4
Medium: MSL_1900_121127 Medium parameters used: f = 1850.2 MHz; σ = 1.464 mho/m; ε_r = 54.933; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; 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 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch512/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.890 W/kg

Configuration/Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.732 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.796 W/kg; SAR(10 g) = 0.474 W/kg
Maximum value of SAR (measured) = 0.859 W/kg



#13_GSM1900_GPRS (2 Tx slots)_Back_1cm_Ch661

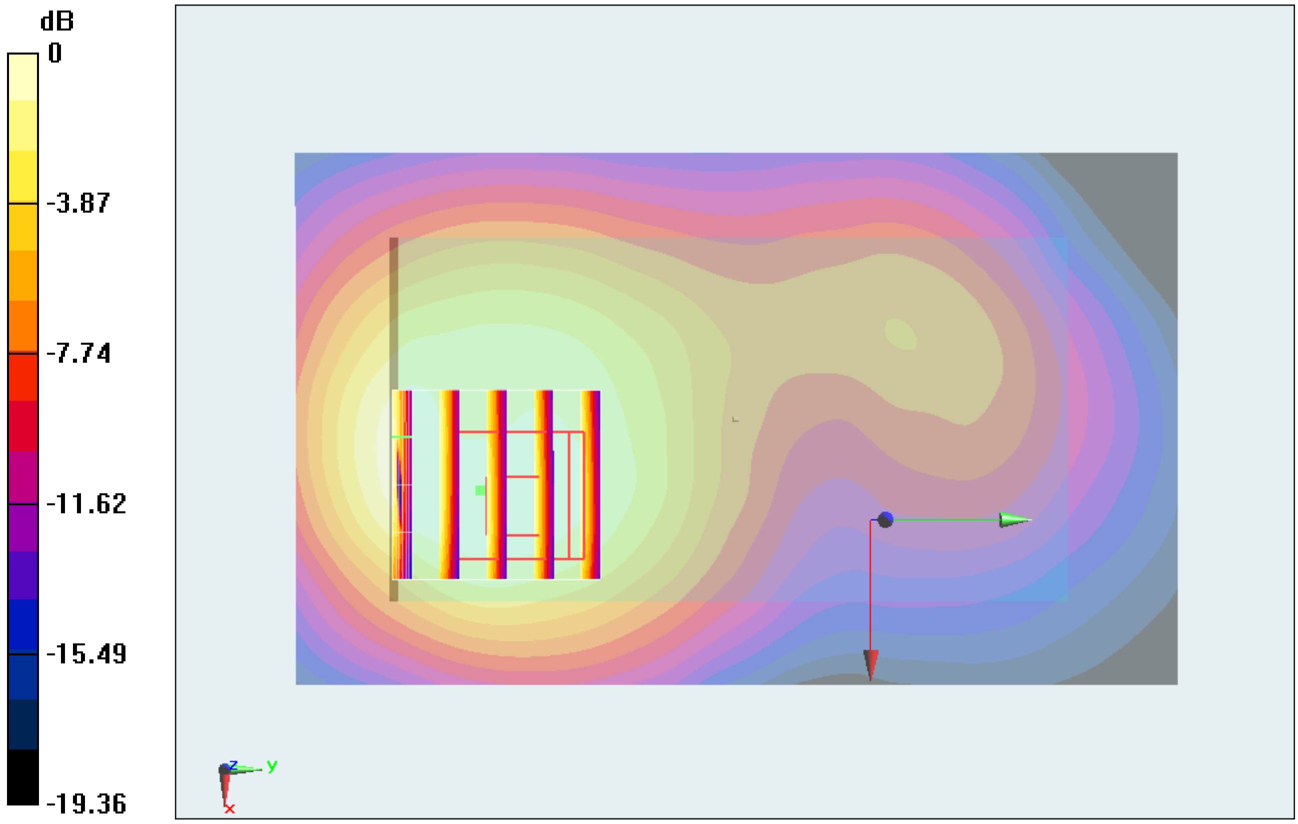
DUT: 292718-04

Communication System: PCS; Frequency: 1880 MHz;Duty Cycle: 1:4
Medium: MSL_1900_121127 Medium parameters used: f = 1880 MHz; σ = 1.499 mho/m; ε_r = 54.819; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; 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 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch661/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.891 W/kg

Configuration/Ch661/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.409 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.14 W/kg
SAR(1 g) = 0.763 W/kg; SAR(10 g) = 0.462 W/kg
Maximum value of SAR (measured) = 0.847 W/kg



0 dB = 0.847 W/kg = -0.72 dBW/kg

#14_GSM1900_GPRS (2 Tx slots)_Left Side_1cm_Ch810

DUT: 292718-04

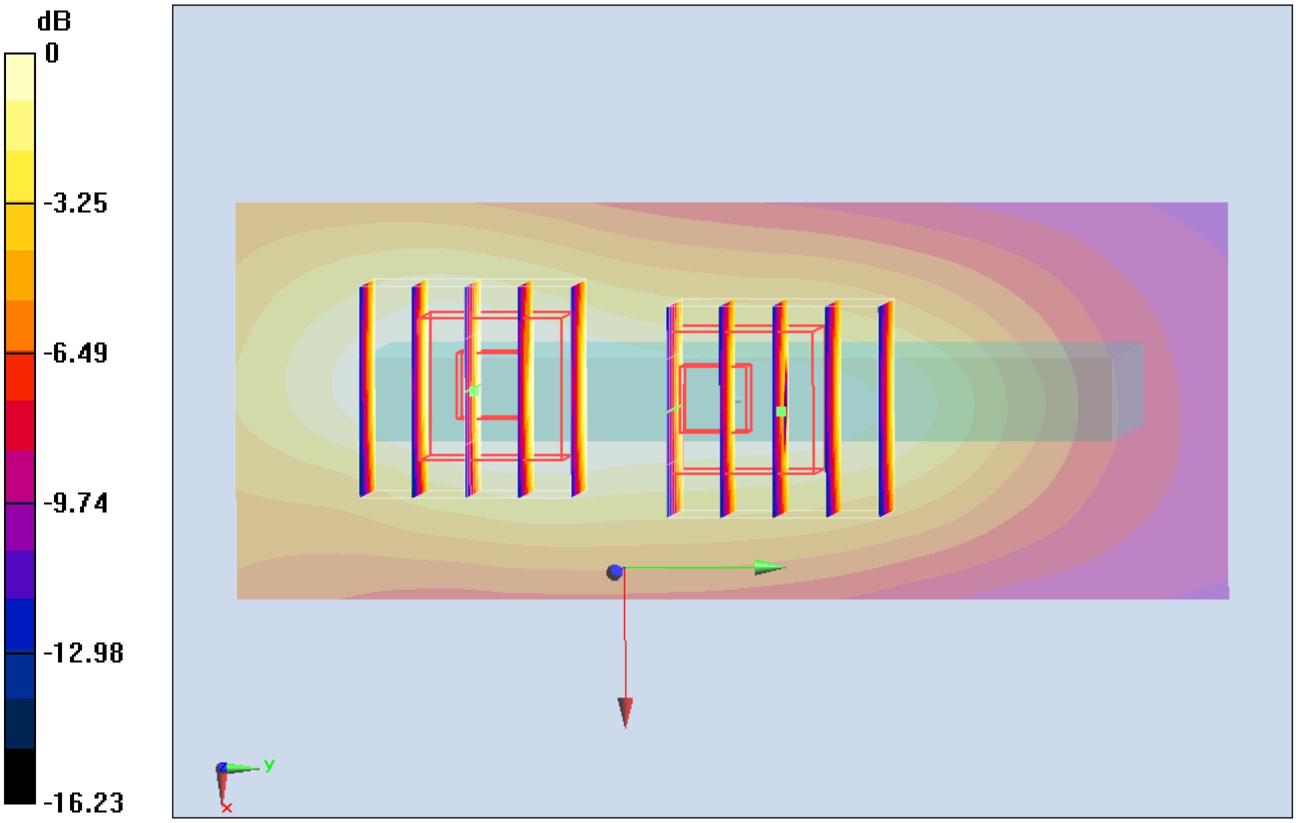
Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: MSL_1900_121127 Medium parameters used: f = 1910 MHz; σ = 1.535 mho/m; ε_r = 54.807; ρ = 1000 kg/m^3
Ambient Temperature：22.3 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch810/Area Scan (41x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.232 W/kg

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.189 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.316 W/kg
SAR(1 g) = 0.206 W/kg; SAR(10 g) = 0.119 W/kg
Maximum value of SAR (measured) = 0.230 W/kg

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.189 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.374 W/kg
SAR(1 g) = 0.155 W/kg; SAR(10 g) = 0.091 W/kg
Maximum value of SAR (measured) = 0.169 W/kg



0 dB = 0.169 W/kg = -7.72 dBW/kg

For any secondary peaks found in the area scan which are within 2 dB of the maximum peak and are not within this zoom scan, the zoom scan should be repeated.

#15_GSM1900_GPRS (2 Tx slots)_Right Side_1cm_Ch810

DUT: 292718-04

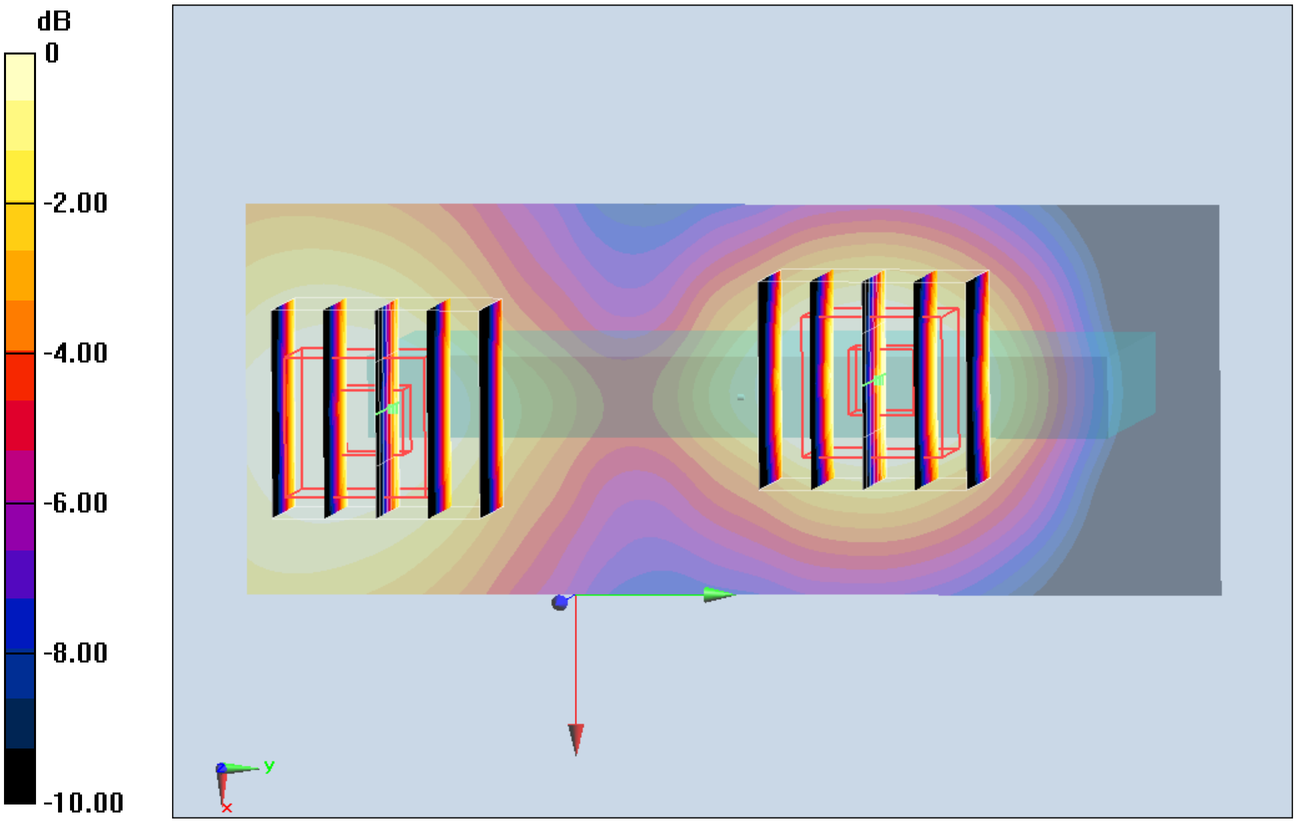
Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: MSL_1900_121127 Medium parameters used: f = 1910 MHz; σ = 1.535 mho/m; ε_r = 54.807; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.4 ℃

DASY5 Configuration:
- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch810/Area Scan (41x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.193 W/kg

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.946 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 0.246 W/kg
SAR(1 g) = 0.166 W/kg; SAR(10 g) = 0.100 W/kg
Maximum value of SAR (measured) = 0.180 W/kg

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.946 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 0.193 W/kg
SAR(1 g) = 0.130 W/kg; SAR(10 g) = 0.083 W/kg
Maximum value of SAR (measured) = 0.137 W/kg



0 dB = 0.137 W/kg = -8.63 dBW/kg

For any secondary peaks found in the area scan which are within 2 dB of the maximum peak and are not within this zoom scan, the zoom scan should be repeated.

#16_GSM1900_GPRS (2 Tx slots)_Bottom Side_1cm_Ch810

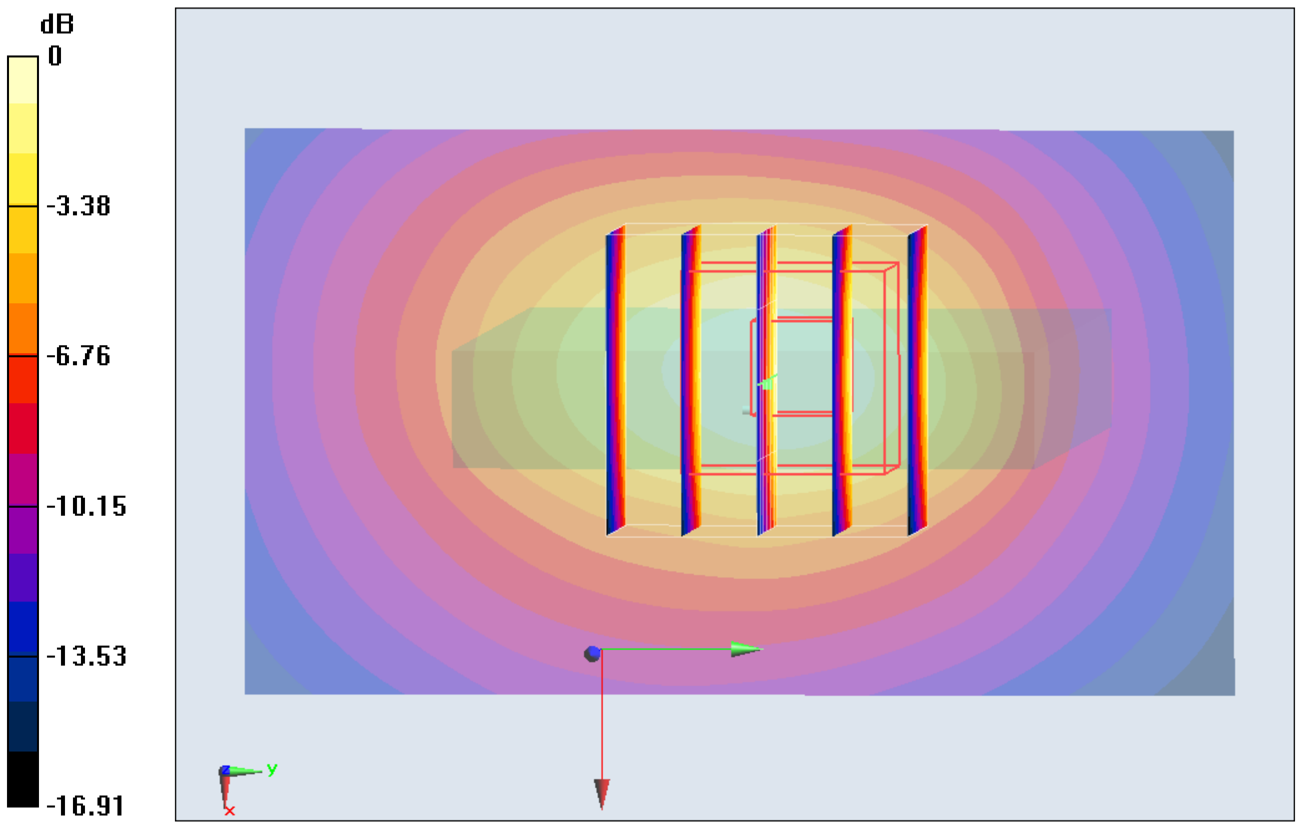
DUT: 292718-04

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: MSL_1900_121127 Medium parameters used: f = 1910 MHz; σ = 1.535 mho/m; ε_r = 54.807; 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 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch810/Area Scan (41x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.821 W/kg

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.732 V/m; Power Drift = 0.15 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.707 W/kg; SAR(10 g) = 0.383 W/kg
Maximum value of SAR (measured) = 0.780 W/kg



0 dB = 0.780 W/kg = -1.08 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab　　　　　Date: 2012/11/27

#17_GSM1900_DTM Multi-slot class 5_Front_1.5cm_Ch810

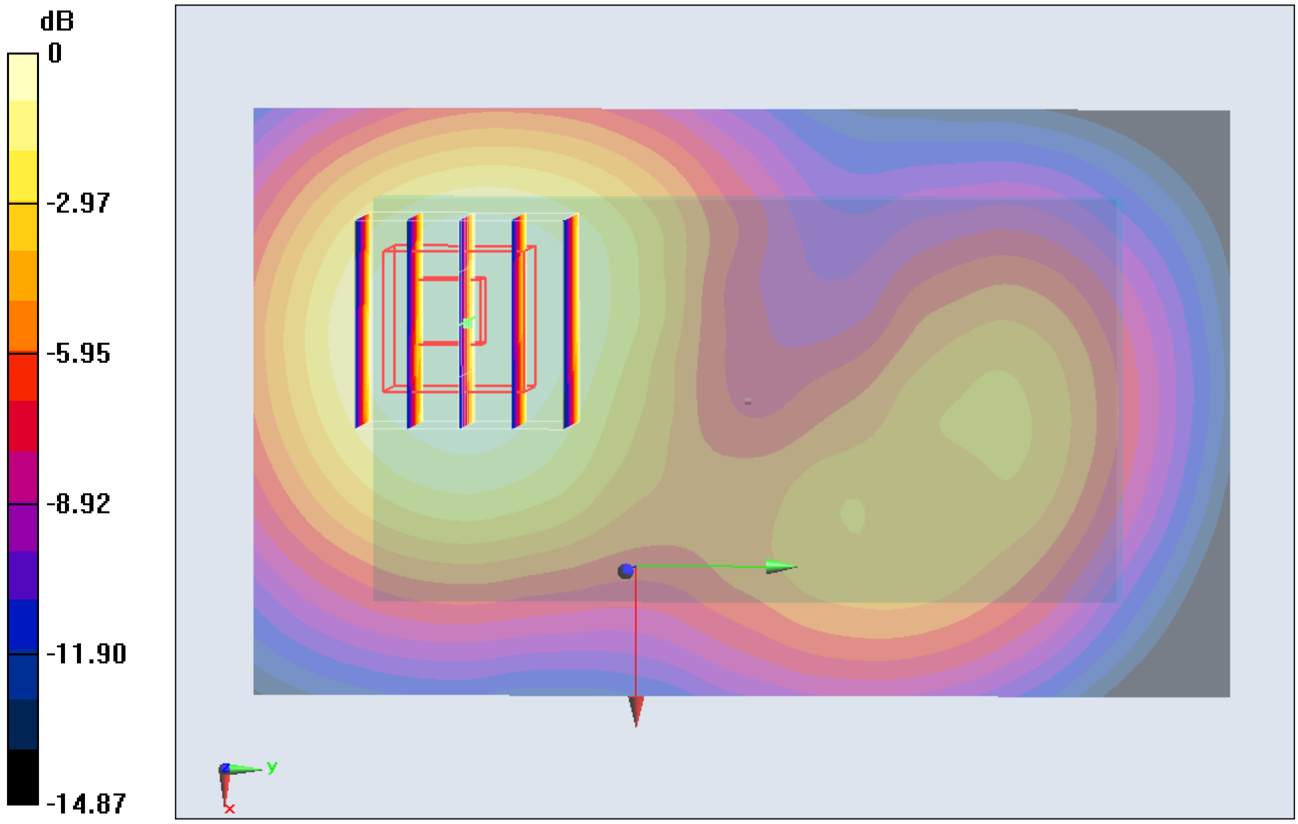
DUT: 292718-04

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: MSL_1900_121127 Medium parameters used: f = 1910 MHz; σ = 1.535 mho/m; ε_r = 54.807; 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 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch810/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.435 W/kg

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.635 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.894 W/kg
SAR(1 g) = 0.393 W/kg; SAR(10 g) = 0.245 W/kg
Maximum value of SAR (measured) = 0.405 W/kg



0 dB = 0.405 W/kg = -3.93 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/11/27

#18_GSM1900_DTM Multi-slot class 5_Back_1.5cm_Ch810

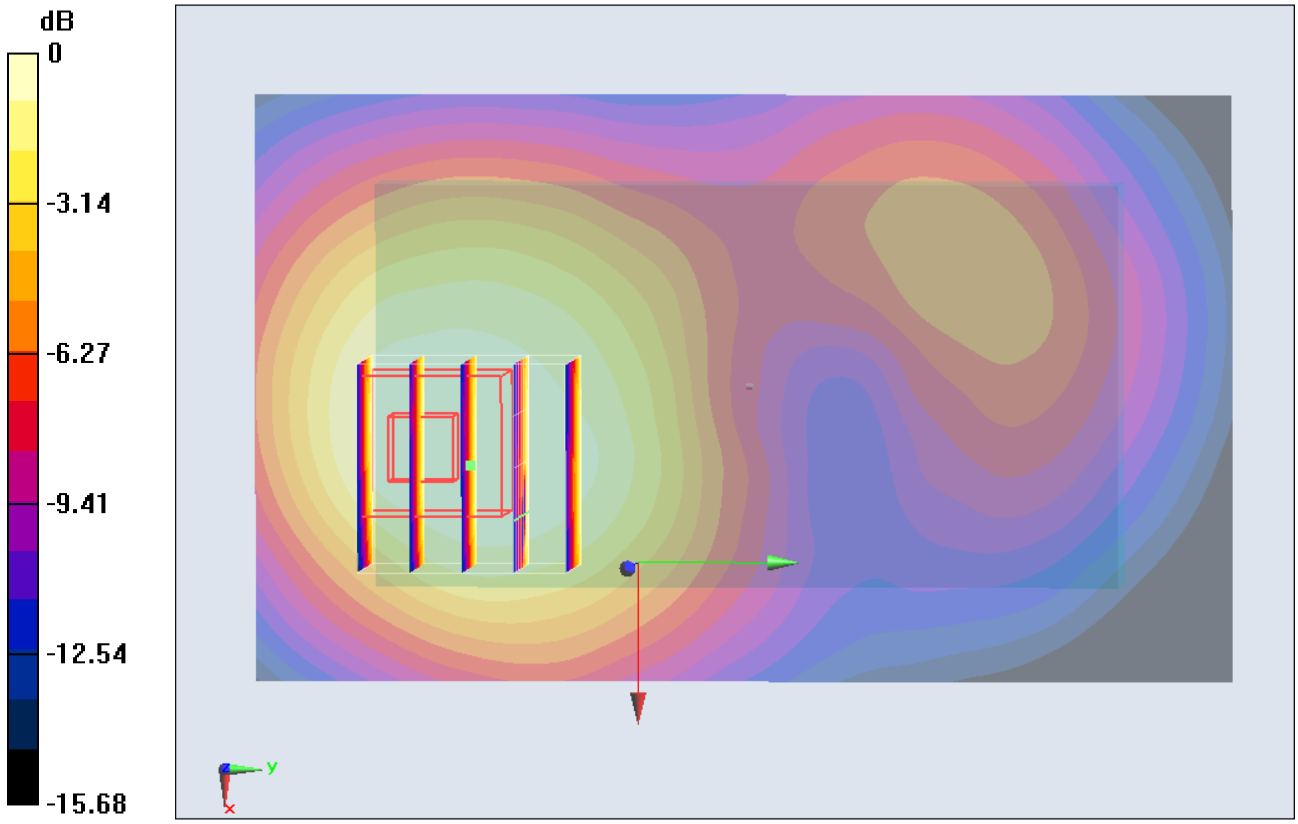
DUT: 292718-04

Communication System: PCS; Frequency: 1909.8 MHz;Duty Cycle: 1:4
Medium: MSL_1900_121127 Medium parameters used: f = 1910 MHz; $\sigma = 1.535$ mho/m; $\varepsilon_r = 54.807$; $\rho = 1000$ kg/m^3
Ambient Temperature：22.6 ℃; 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 Sn495; Calibrated: 2012/4/23
- Phantom: SAM Right; Type: QD000P40CD; Serial: TP:1644
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.7 (6848)

Configuration/Ch810/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.520 W/kg

Configuration/Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.291 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.662 W/kg
SAR(1 g) = 0.452 W/kg; SAR(10 g) = 0.285 W/kg
Maximum value of SAR (measured) = 0.494 W/kg



0 dB = 0.494 W/kg = -3.06 dBW/kg

#32_WLAN2.4G_802.11b_Front_1cm_Ch11

DUT: 292718-04

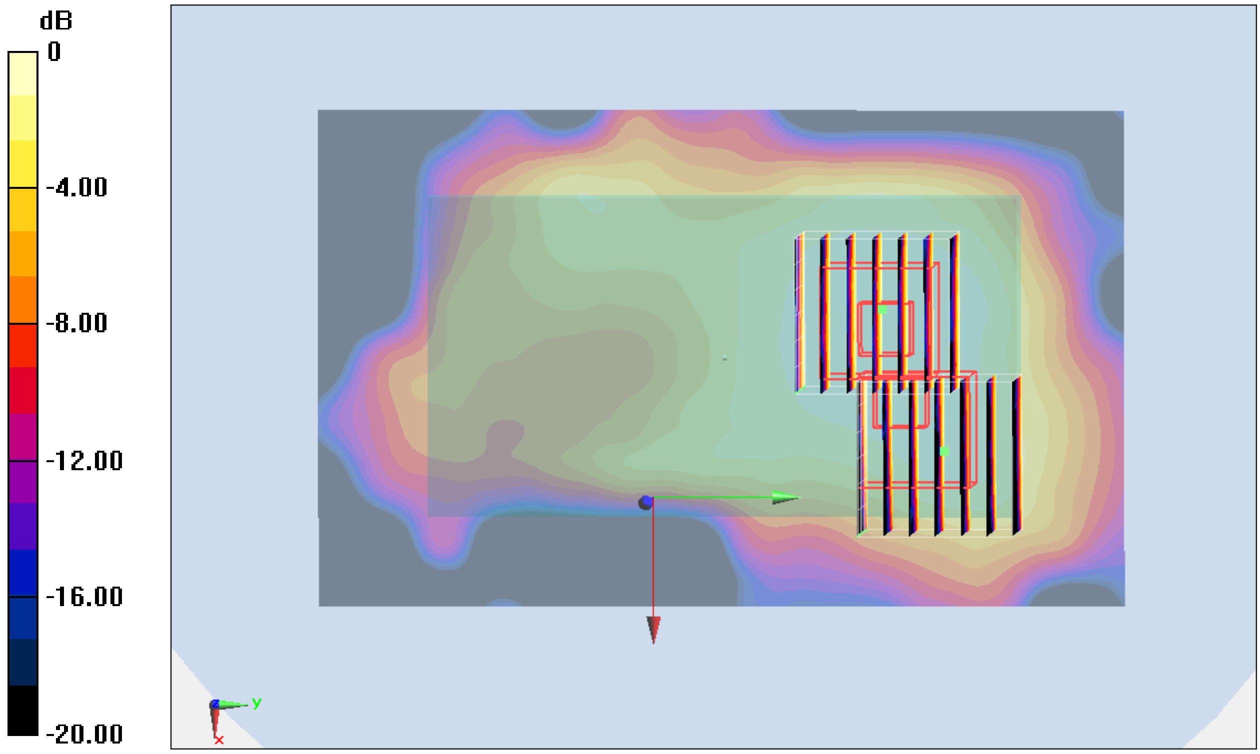
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: MSL_2450_121224 Medium parameters used: f = 2462 MHz; σ = 1.98 mho/m; ε_r = 51.553; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(7.1, 7.1, 7.1); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Left; Type: QD000P40CD; Serial: TP:1542
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch11/Area Scan (81x131x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.0528 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.134 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.069 mW/g
SAR(1 g) = 0.037 mW/g; SAR(10 g) = 0.021 mW/g
Maximum value of SAR (measured) = 0.0525 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.134 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 0.065 mW/g
SAR(1 g) = 0.033 mW/g; SAR(10 g) = 0.016 mW/g
Maximum value of SAR (measured) = 0.0496 mW/g



0 dB = 0.0496 mW/g = -26.09 dB mW/g
For any secondary peaks found in the area scan which are within 2 dB of the maximum peak and are not within this zoom scan, the zoom scan should be repeated.

#33_WLAN2.4G_802.11b_Back_1cm_Ch11

DUT: 292718-04

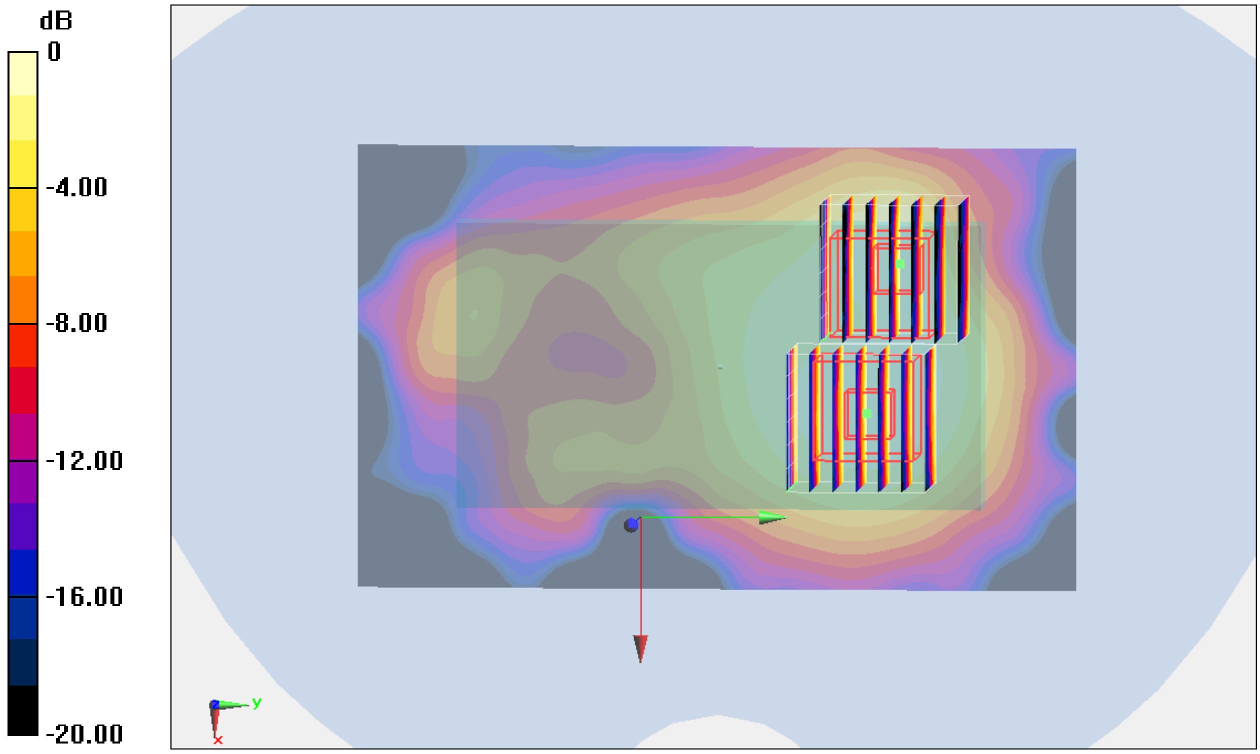
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: MSL_2450_121224 Medium parameters used: f = 2462 MHz; σ = 1.98 mho/m; ε_r = 51.553; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(7.1, 7.1, 7.1); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Left; Type: QD000P40CD; Serial: TP:1542
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch11/Area Scan (81x131x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.0978 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.828 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.125 mW/g
SAR(1 g) = 0.060 mW/g; SAR(10 g) = 0.029 mW/g
Maximum value of SAR (measured) = 0.0912 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.828 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.107 mW/g
SAR(1 g) = 0.056 mW/g; SAR(10 g) = 0.031 mW/g
Maximum value of SAR (measured) = 0.0799 mW/g



0 dB = 0.0799 mW/g = -21.95 dB mW/g
For any secondary peaks found in the area scan which are within 2 dB of the maximum peak and are not within this zoom scan, the zoom scan should be repeated.

#33_WLAN2.4G_802.11b_Back_1cm_Ch11_2D

DUT: 292718-04

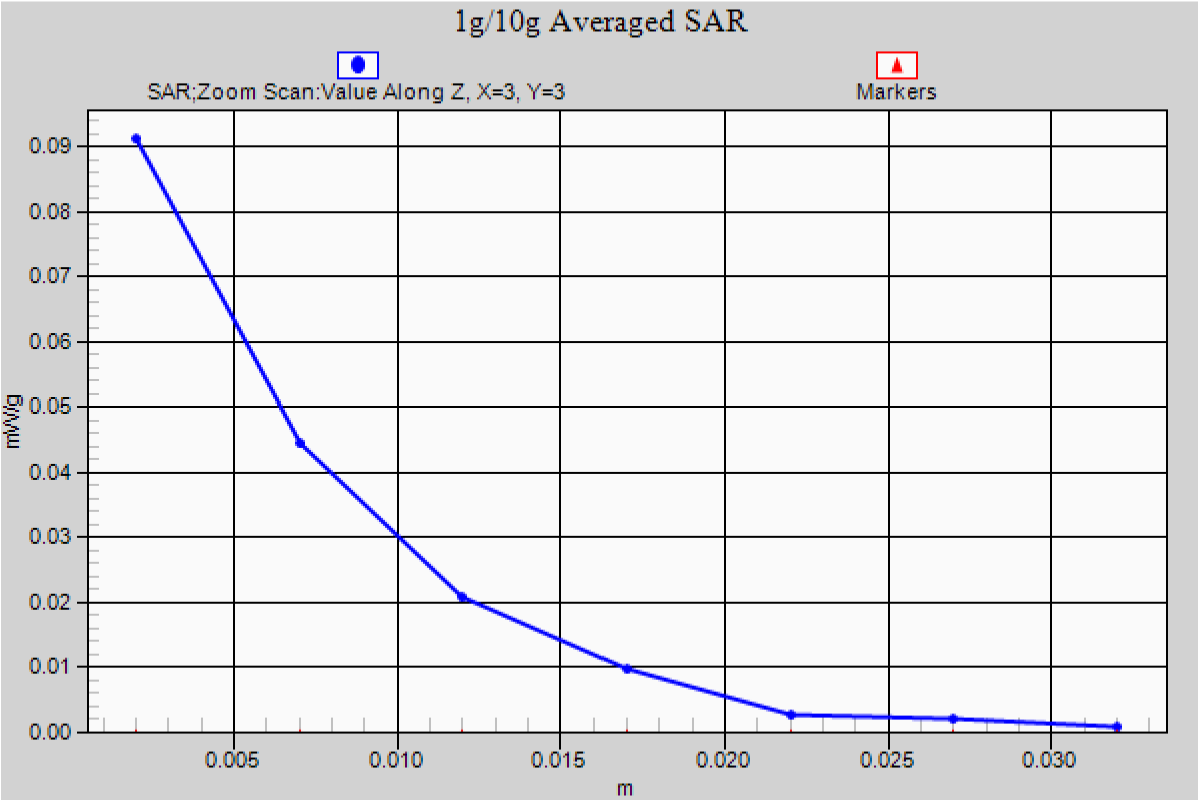
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: MSL_2450_121224 Medium parameters used: f = 2462 MHz; σ = 1.98 mho/m; ε_r = 51.553; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(7.1, 7.1, 7.1); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Left; Type: QD000P40CD; Serial: TP:1542
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch11/Area Scan (81x131x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.0978 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.828 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.125 mW/g
SAR(1 g) = 0.060 mW/g; SAR(10 g) = 0.029 mW/g
Maximum value of SAR (measured) = 0.0912 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.828 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.107 mW/g
SAR(1 g) = 0.056 mW/g; SAR(10 g) = 0.031 mW/g
Maximum value of SAR (measured) = 0.0799 mW/g



1g/10g Averaged SAR
SAR;Zoom Scan:Value Along Z, X=3, Y=3
Markers
mW/g
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0.00
0.005
0.010
0.015
0.020
0.025
0.030
m

#34_WLAN2.4G_802.11b_Right Side_1cm_Ch11

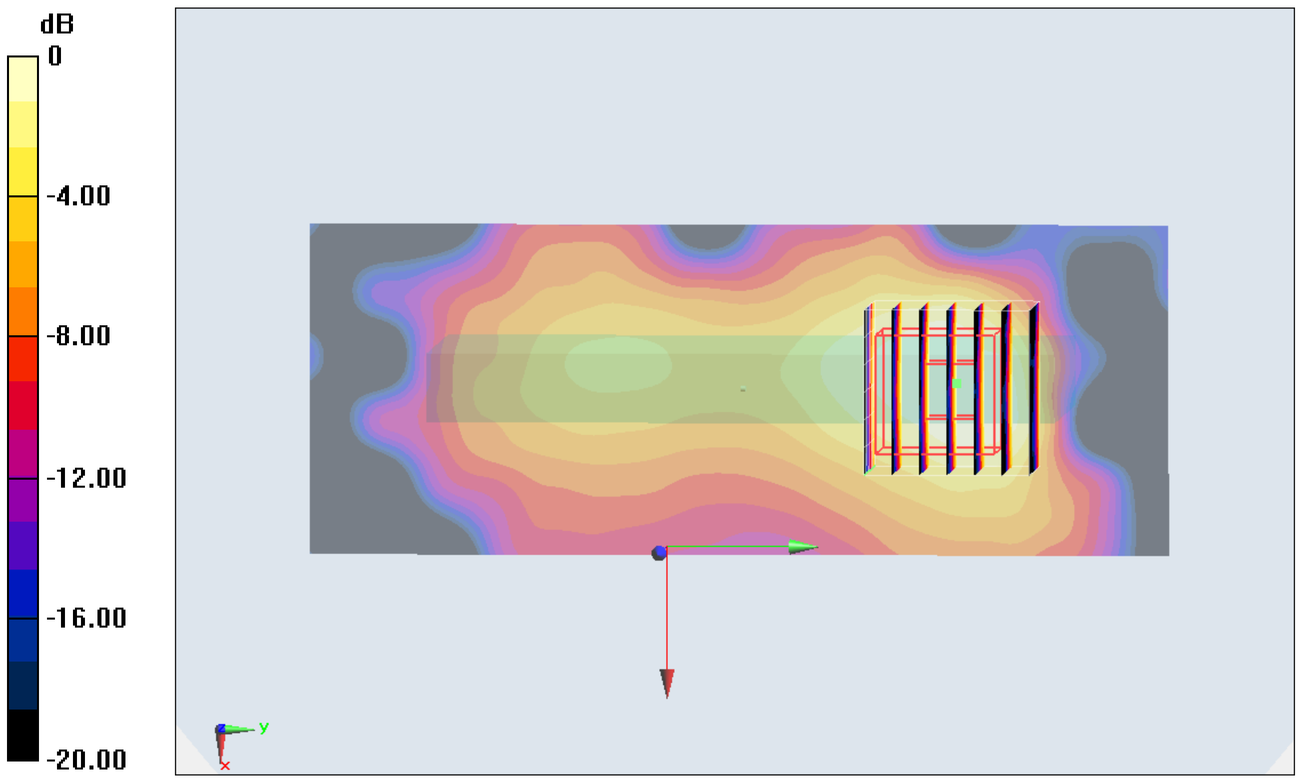
DUT: 292718-04

Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: MSL_2450_121224 Medium parameters used: f = 2462 MHz; σ = 1.98 mho/m; ε_r = 51.553; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(7.1, 7.1, 7.1); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Left; Type: QD000P40CD; Serial: TP:1542
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch11/Area Scan (51x131x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.0819 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.154 V/m; Power Drift = -0.13 dB
Peak SAR (extrapolated) = 0.096 mW/g
SAR(1 g) = 0.050 mW/g; SAR(10 g) = 0.025 mW/g
Maximum value of SAR (measured) = 0.0716 mW/g



0 dB = 0.0716 mW/g = -22.90 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/12/24

#35_WLAN2.4G_802.11b_Top Side_1cm_Ch11

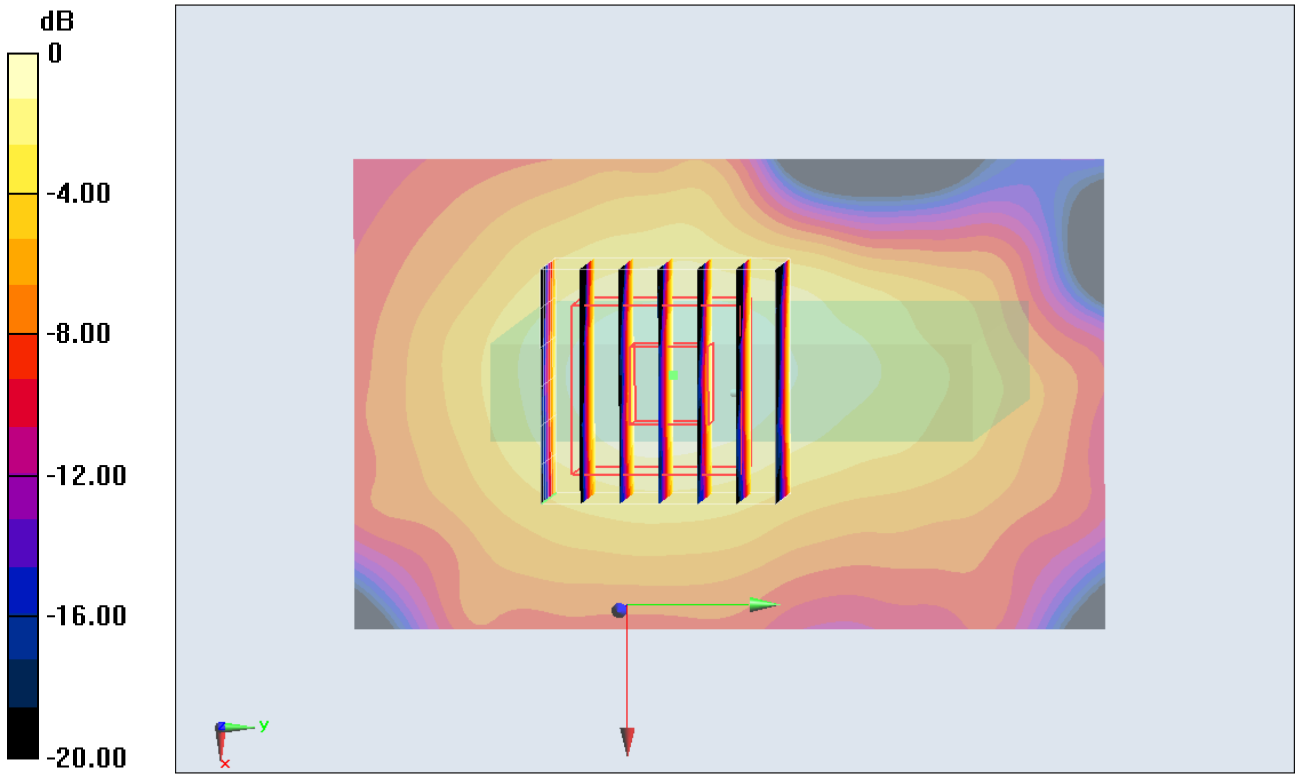
DUT: 292718-04

Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: MSL_2450_121224 Medium parameters used: f = 2462 MHz; σ = 1.98 mho/m; ε_r = 51.553; ρ = 1000 kg/m^3
Ambient Temperature：22.4 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(7.1, 7.1, 7.1); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Left; Type: QD000P40CD; Serial: TP:1542
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch11/Area Scan (51x81x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.0636 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.778 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 0.086 mW/g
SAR(1 g) = 0.044 mW/g; SAR(10 g) = 0.023 mW/g
Maximum value of SAR (measured) = 0.0630 mW/g



0 dB = 0.0630 mW/g = -24.01 dB mW/g

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2012/12/24

#36_WLAN2.4G_802.11b_Front_1.5cm_Ch11

DUT: 292718-04

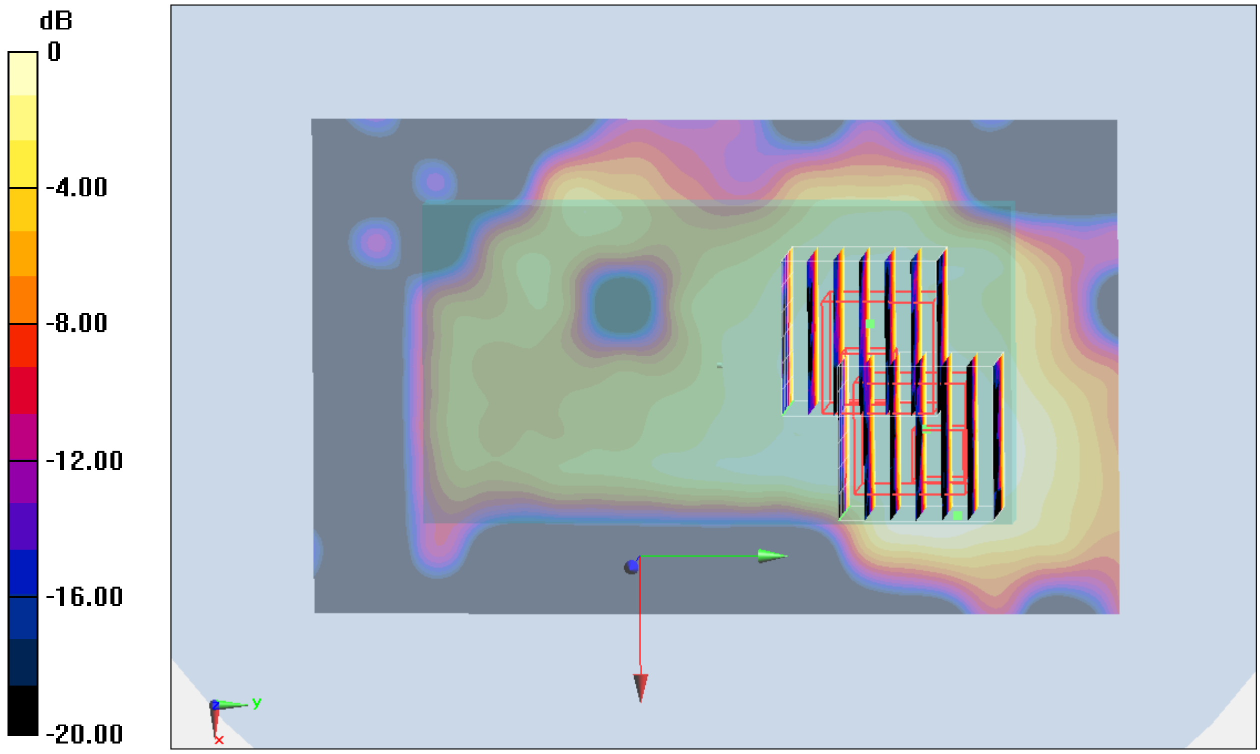
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: MSL_2450_121224 Medium parameters used: f = 2462 MHz; σ = 1.98 mho/m; ε_r = 51.553; ρ = 1000 kg/m^3
Ambient Temperature：22.5 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(7.1, 7.1, 7.1); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Left; Type: QD000P40CD; Serial: TP:1542
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch11/Area Scan (81x131x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.0252 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.475 V/m; Power Drift = 0.120 dB
Peak SAR (extrapolated) = 0.033 mW/g
SAR(1 g) = 0.017 mW/g; SAR(10 g) = 0.00813 mW/g
Maximum value of SAR (measured) = 0.0255 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.475 V/m; Power Drift = 0.120 dB
Peak SAR (extrapolated) = 0.031 mW/g
SAR(1 g) = 0.016 mW/g; SAR(10 g) = 0.00779 mW/g
Maximum value of SAR (measured) = 0.0243 mW/g



0 dB = 0.0243 mW/g = -32.29 dB mW/g
For any secondary peaks found in the area scan which are within 2 dB of the maximum peak and are not within this zoom scan, the zoom scan should be repeated.

#37_WLAN2.4G_802.11b_Back_1.5cm_Ch11

DUT: 292718-04

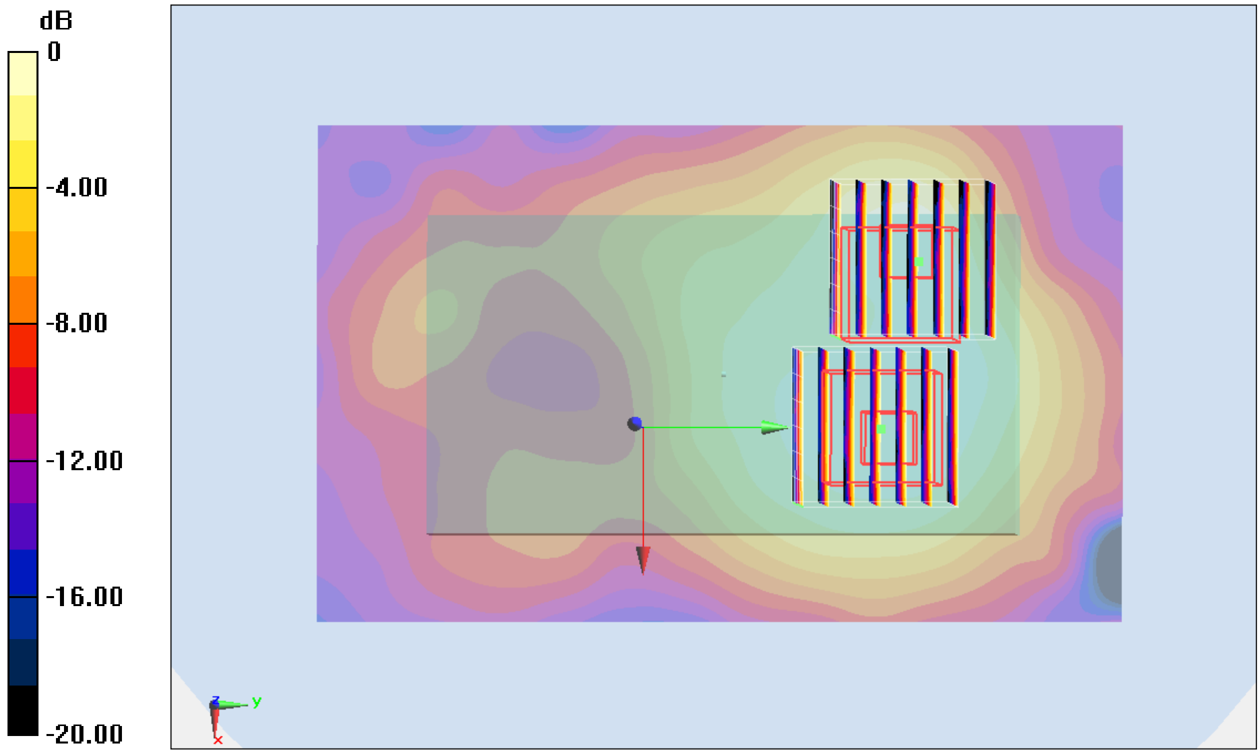
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium: MSL_2450_121224 Medium parameters used: f = 2462 MHz; σ = 1.98 mho/m; ε_r = 51.553; ρ = 1000 kg/m^3
Ambient Temperature：22.6 ℃; Liquid Temperature：21.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3792; ConvF(7.1, 7.1, 7.1); Calibrated: 2012/6/21;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2012/6/12
- Phantom: SAM Left; Type: QD000P40CD; Serial: TP:1542
- Measurement SW: DASY52, Version 52.8 (3); SEMCAD X Version 14.6.5 (6469)

Configuration/Ch11/Area Scan (81x131x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.0516 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.018 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.064 mW/g
SAR(1 g) = 0.032 mW/g; SAR(10 g) = 0.016 mW/g
Maximum value of SAR (measured) = 0.0475 mW/g

Configuration/Ch11/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.018 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 0.067 mW/g
SAR(1 g) = 0.035 mW/g; SAR(10 g) = 0.019 mW/g
Maximum value of SAR (measured) = 0.0504 mW/g



0 dB = 0.0504 mW/g = -25.95 dB mW/g
For any secondary peaks found in the area scan which are within 2 dB of the maximum peak and are not within this zoom scan, the zoom scan should be repeated.

Appendix C. DASY Calibration Certificate

The DASY calibration certificates are shown as follows.