

FCC SAR Test Report

APPLICANT : NEC Corp. of America
EQUIPMENT : GSM / WCDMA Mobile Phone
BRAND NAME : NEC CASIO Mobile Communications, Ltd.
MODEL NAME : KMP7R4H1-1A
FCC ID : A98-FWP7935
STANDARD : FCC 47 CFR Part 2 (2.1093)
ANSI/IEEE C95.1-1992
IEEE 1528-2003
FCC OET Bulletin 65 Supplement C (Edition 01-01)

The product was completely tested on Nov. 14, 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 / Manager



SPORTON INTERNATIONAL INC.

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA282414-02	Rev. 01	Initial issue of report	Nov. 07, 2012
FA282414-02	Rev. 02	Revise Section 3.1 on Page 7	Nov. 13, 2012
FA282414-02	Rev. 03	1. Clarify the sample differences in Section 3.1 on Page 7. 2. Update GSM850 sample 2 & 3 body-worn SAR of plot number #117 & #118. 3. Revise notes in Section 11 to explain the test plan of different sample. 4. Remove section 11 about Scaled SAR Data	Nov. 14, 2012
FA282414-02	Rev. 04	Remove section 11 about Scaled SAR Data	Nov. 16, 2012

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **NEC Corp. of America GSM / WCDMA Mobile Phone, NEC CASIO Mobile Communications, Ltd., KMP7R4H1-1A** are as follows.

Band	Position	SAR_{1g} (W/kg)
GSM850	Head	0.498
GSM1900	Head	0.384
WCDMA Band V	Head	0.438
WLAN 2.4G	Head	0.488
GSM850	Hotspot (1 cm Gap)	0.827
GSM1900	Hotspot (1 cm Gap)	0.426
WCDMA Band V	Hotspot (1 cm Gap)	0.773
WLAN 2.4G	Hotspot (1 cm Gap)	0.068
GSM850	Body-worn (1 cm Gap)	0.827
GSM1900	Body-worn (1 cm Gap)	0.426
WCDMA Band V	Body-worn (1 cm Gap)	0.773
WLAN 2.4G	Body-worn (1 cm Gap)	0.068

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 1 st 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	NEC Corp. of America
Address	Mobile Communications Division, 6535 N. State Highway 161, Irving Texas 75039, United States

2.3 Manufacturer

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

2.4 Application Details

Date of Start during the Test	Sep. 06, 2012
Date of End during the Test	Nov. 14, 2012

3. General Information

3.1 Description of Equipment Under Test (EUT)

Product Feature & Specification	
EUT	GSM / WCDMA Mobile Phone
Brand Name	NEC CASIO Mobile Communications, Ltd.
Model Name	KMP7R4H1-1A
Sample 1	EUT with black color
Sample 2	EUT with white color
Sample 3	EUT with brown color
FCC ID	A98-FWP7935
Tx Frequency	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WLAN2.4G: 2412 MHz ~ 2462 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Measure Maximum Average Output Power to Antenna	GSM850: 33.09 dBm GSM1900: 29.63 dBm WCDMA Band V: 23.46 dBm 802.11b: 13.47 dBm 802.11g: 12.68 dBm 802.11n-HT20 (2.4GHz) : 10.71 dBm Bluetooth : 1.41 dBm

Product Feature & Specification	
Antenna Type	WWAN: Monopole Antenna WLAN: Chip Antenna Bluetooth: Chip Antenna NFC : Loop antenna
HW Version	8007MB-004
SW Version	AN0020220r
Uplink Modulations	GSM: GMSK GPRS: GMSK WCDMA (Rel 99): QPSK HSDPA (Rel 6): QPSK HSUPA (Rel 6): QPSK 802.11b: DSSS (BPSK / QPSK / CCK) 802.11g/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) Bluetooth : GFSK Bluetooth EDR : $\pi/4$ -DQPSK, 8-DPSK Bluetooth v4.0+LE: GFSK NFC : ASK
Dual Transfer Mode (DTM) Category	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype
Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.	

The color plan didn't change the HW and SW design. The color variant between sample 1/2/3 are:

	Front Cover			Rear Cover		
Sample	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3
Color	Black/Red	White/Green	Brown	Black/Red	White/Green	Brown
AI content	4%	4%	5%	N/A	5%	N/A

Because of there are metallic material differences between the cover color used, we chose the sample 1 to perform the conducted power measurement and full SAR testing, and verify the sample 2 and 3 SAR at the worst cases obtained from sample 1.

3.2 Product Photos

Please refer to Appendix D.

3.3 Applied Standard

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

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2003
- FCC OET Bulletin 65 Supplement C (Edition 01-01)
- FCC KDB 447498 D01 v04
- FCC KDB 648474 D01 v01r05
- FCC KDB 941225 D01 v02
- FCC KDB 941225 D03 v01
- FCC KDB 941225 D06 v01
- FCC KDB 248227 D01 v01r02

3.4 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.

3.5 Test Conditions

3.5.1 Ambient Condition

Ambient Temperature	20 to 24 °C
Humidity	< 60 %

3.5.2 Test Configuration

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

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

The maximum rated power of WWAN and WLAN is listed in "Tune-Up Procedure" exhibit; the scaling factor is calculated according to the difference between measured output power and maximum tolerance power on this device.

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:

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

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

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

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

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

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

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

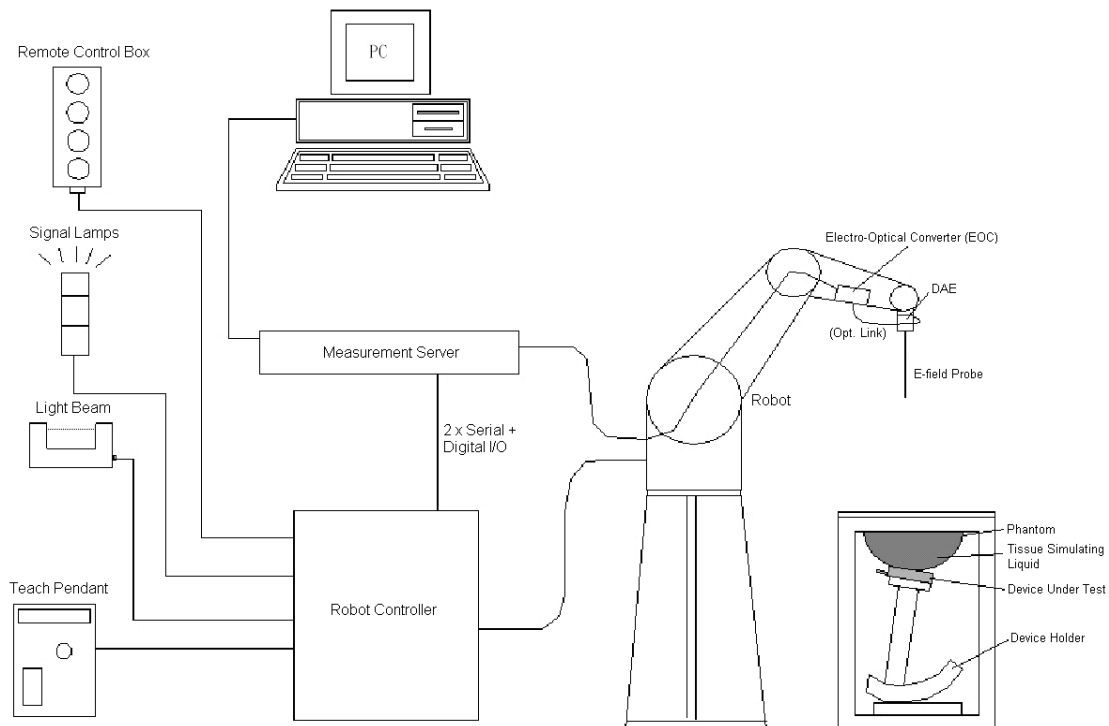


Fig 5.1 SPEAG DASY System Configurations

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
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom
- A device holder
- Tissue simulating liquid
- Dipole for evaluating the proper functioning of the system

Component details are described in in the following sub-sections.

5.1 E-Field Probe

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

5.1.1 E-Field Probe Specification

<ET3DV6 / ET3DV6R 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 μ W/g to 100 mW/g; Linearity: ± 0.2 dB	
Dimensions	Overall length: 330 mm (Tip: 16 mm) Tip diameter: 6.8 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.7 mm	

Fig 5.2 Photo of ET3DV6/ET3DV6

<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 μ W/g to 100 mW/g; Linearity: ± 0.2 dB (noise: typically < 1 μ W/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 $\pm 10\%$. 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

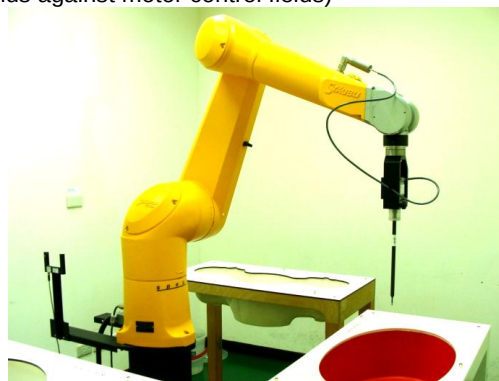


Fig 5.6 Photo of DASY5

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
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



Fig 5.9 Photo of SAM Phantom

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

<ELI4 Phantom>

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

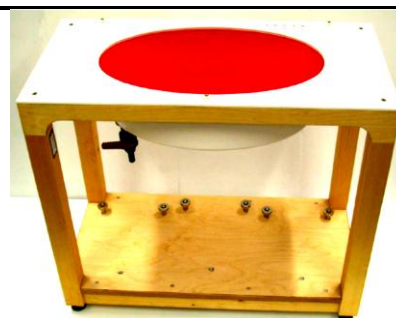


Fig 5.10 Photo of ELI4 Phantom

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

5.6 Device Holder

<Device Holder for SAM Twin Phantom>

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

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

The DASY device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity $\epsilon = 3$ 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.

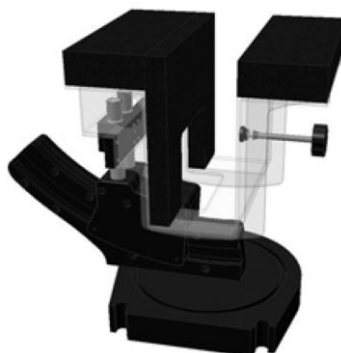


Fig 5.12 Laptop Extension Kit

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 :

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

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 :

$$\text{E-field Probes : } E_i = \sqrt{\frac{V_i}{\text{Norm}_i \cdot \text{ConvF}}}$$

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

with V_i = compensated signal of channel i, (i = x, y, z)
 Norm_i = sensor sensitivity of channel i, (i = x, y, z), $\mu\text{V}/(\text{V/m})^2$ 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) :

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

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

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

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	577	Jun. 06, 2012	Jun. 05, 2013
SPEAG	Data Acquisition Electronics	DAE4	778	Aug. 27, 2012	Aug. 26, 2013
SPEAG	Data Acquisition Electronics	DAE4	1338	June. 12 2012	June. 11 2013
SPEAG	Dosimetric E-Field Probe	ET3DV6	1787	May. 29, 2012	May. 28, 2013
SPEAG	Dosimetric E-Field Probe	EX3DV4	3801	Jun. 22, 2012	Jun. 21, 2013
SPEAG	Dosimetric E-Field Probe	ES3DV3	3296	Apr. 10, 2012	Apr. 09, 2013
SPEAG	Dosimetric E-Field Probe	EX3DV4	3697	Sep. 28. 2012	Sep. 27. 2013
Wisewind	Thermometer	ETP-101	TM560	Nov. 16, 2011	Nov. 15, 2012
Wisewind	Thermometer	HTC-1	TM685	Nov. 16, 2011	Nov. 15, 2012
Wisewind	Thermometer	HTC-1	TM659	Nov. 16, 2011	Nov. 15, 2012
H.M.IRIS	Thermometer	TH-08	TM658	Nov. 16, 2011	Nov. 15, 2012
SPEAG	Device Holder	N/A	N/A	NCR	NCR
SPEAG	SAM Phantom	QD 000 P40 C	TP-1303	NCR	NCR
SPEAG	SAM Phantom	QD 000 P40 CD	TP-1718	NCR	NCR
SPEAG	SAM Phantom	QD 000 P40 CD	TP-1719	NCR	NCR
SPEAG	SAM Phantom	QD 000 P41 C	TP-1150	NCR	NCR
Agilent	Network Analyzer	E5071C	MY46101588	May. 11, 2012	May. 10, 2013
Agilent	ESG Vector Series Signal Generator	E4438C	MY49070755	Oct. 17, 2011	Oct. 16, 2012
Agilent	ESG Vector Series Signal Generator	E4438C	MY49070755	Oct. 02, 2012	Oct. 01, 2013
Anritsu	Power Meter	ML2495A	1132003	Aug. 14, 2012	Aug. 13, 2013
Agilent	Wireless Communication Test Set	E5515C	MY48360820	Jan. 05, 2012	Jan. 04, 2014
R&S	Universal Digital Radiocommunication Tester	CMU200	106656	Jun. 28, 2012	Jun. 27, 2013
Agilent	Dual Directional Coupler	778D	50422	NCR	NCR
Woken	Attenuator	WK0602-XX	N/A	NCR	NCR
AR	Power Amplifier	5S1G4M2	0328767	NCR	NCR
R&S	Spectrum Analyzer	FSP	101131	Jul. 23, 2012	Jul. 22, 2013

Table 5.1 Test Equipment List

Note:

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

6. Tissue Simulating Liquids

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



Fig 6.1 Photo of Liquid Height for Head SAR



Fig 6.2 Photo of Liquid Height for Body SAR

The following table gives the recipes for tissue simulating liquid.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (ϵ_r)
For Head								
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
For Body								
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0	0	31.4	1.95	52.7

Table 6.1 Recipes of Tissue Simulating Liquid

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. (°C)	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Date
835	Head	21.5	0.902	43.3	0.9	41.5	0.22	4.34	±5	Sep. 06, 2012
835	Head	21.5	0.885	42.041	0.9	41.5	-1.67	1.30	±5	Nov. 05, 2012
835	Body	21.5	0.963	54.5	0.97	55.2	-0.72	-1.27	±5	Sep. 06, 2012
835	Body	21.3	0.996	54.786	0.97	55.2	2.68	-0.75	±5	Nov. 05, 2012
835	Body	21.6	0.963	54.539	0.97	55.2	-0.72	-1.20	±5	Nov. 14, 2012
1900	Head	21.5	1.44	38.1	1.4	40	2.86	-4.75	±5	Sep. 06, 2012
1900	Head	21.4	1.449	38.532	1.4	40	3.50	-3.67	±5	Nov. 05, 2012
1900	Body	21.5	1.52	53.2	1.52	53.3	0.00	-0.19	±5	Sep. 07, 2012
1900	Body	21.4	1.53	52.859	1.52	53.3	0.66	-0.83	±5	Nov. 05, 2012
2450	Head	21.5	1.84	39.3	1.8	39.2	2.22	0.26	±5	Sep. 07, 2012
2450	Head	21.3	1.851	39.252	1.8	39.2	2.83	0.13	±5	Nov. 04, 2012
2450	Body	21.5	1.93	53.6	1.95	52.7	-1.03	1.71	±5	Sep. 08, 2012
2450	Body	21.5	1.931	53.584	1.95	52.7	-0.97	1.68	±5	Nov. 06, 2012

Table 6.2 Measuring Results for Simulating Liquid

7. SAR Measurement Evaluation

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

7.1 Purpose of System Performance check

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

7.2 System Setup

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

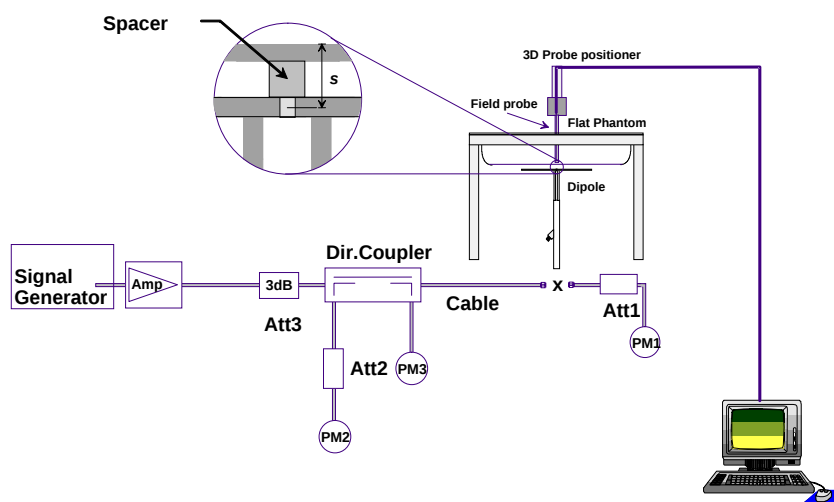


Fig 7.1 System Setup for System Evaluation



Fig 7.2 Photo of Dipole Setup

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

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

7.3 SAR System Verification Results

Comparing to the original SAR value provided by SPEAG, the validation data should be within its specification of 10 %. Table 7.1 shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

Measurement Date	Frequency (MHz)	Liquid Type	Targeted SAR _{1g} (W/kg)	Measured SAR _{1g} (W/kg)	Normalized SAR _{1g} (W/kg)	Deviation (%)
Sep. 06, 2012	835	Head	9.71	2.26	9.04	-6.90
Nov. 05, 2012	835	Head	9.71	2.39	9.56	-1.54
Sep. 06, 2012	835	Body	9.82	2.45	9.80	-0.20
Nov. 05, 2012	835	Body	9.82	2.4	9.60	-2.24
Nov. 14, 2012	835	Body	9.82	2.46	9.84	0.20
Sep. 06, 2012	1900	Head	39.8	9.36	37.44	-5.93
Nov. 05, 2012	1900	Head	39.8	9.98	39.92	0.30
Sep. 07, 2012	1900	Body	40	10.1	40.40	1.00
Nov. 05, 2012	1900	Body	40	9.94	39.76	-0.60
Sep. 07, 2012	2450	Head	54.8	14.1	56.40	2.92
Nov. 04, 2012	2450	Head	54.8	13.5	54.00	-1.46
Sep. 08, 2012	2450	Body	52.3	14	56.00	7.07
Nov. 06, 2012	2450	Body	52.3	13	52.00	-0.57

Table 7.1 Target and Measurement SAR after Normalized

8. EUT Testing Position

8.1 Define two imaginary lines on the handset

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

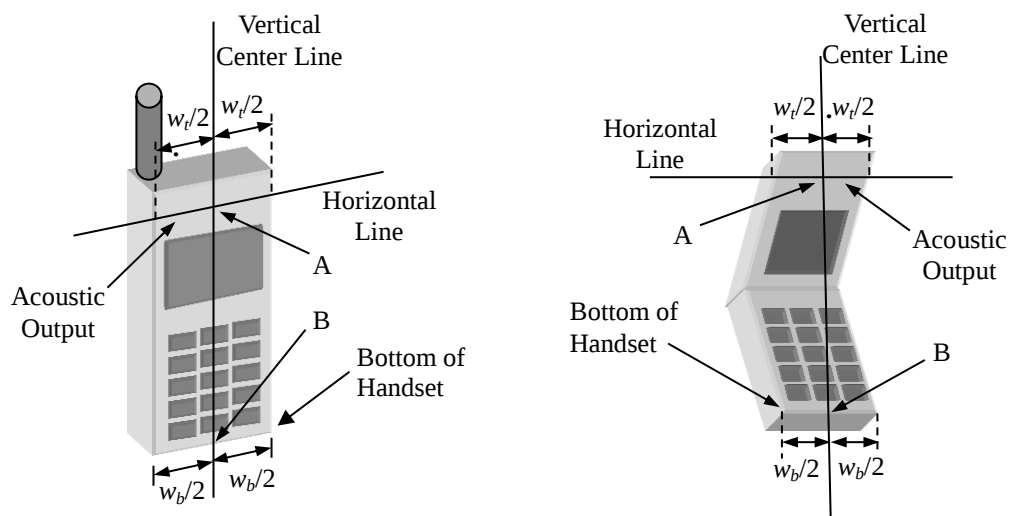


Fig 8.1 Illustration for Handset Vertical and Horizontal Reference Lines

8.2 Cheek Position

- (a) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the three ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.
- (b) To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost (see Fig. 8.2).

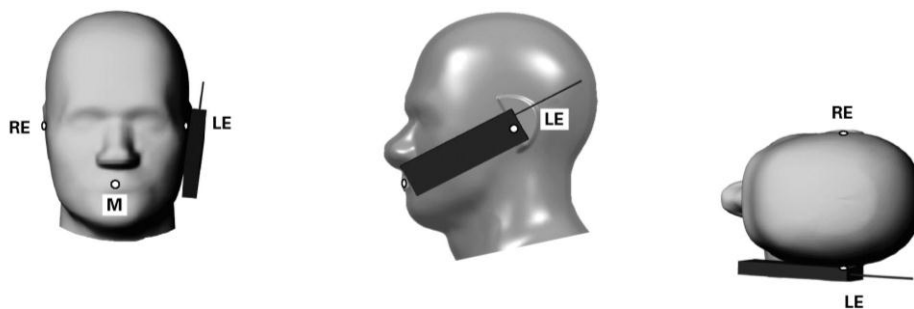


Fig 8.2 Illustration for Cheek Position

8.3 Tilted Position

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



Fig 8.3 Illustration for Tilted Position

8.4 Body Worn Position

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

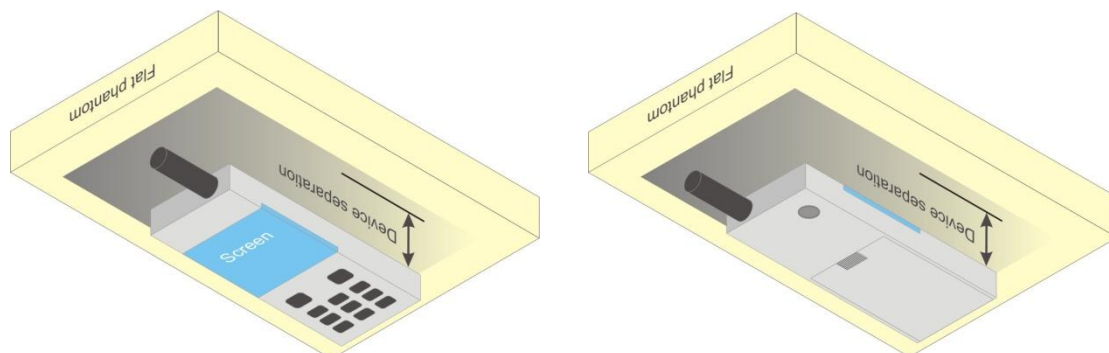


Fig 8.4 Illustration for Body Worn Position

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

9.2 Area & Zoom Scan Procedures

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

9.3 Volume Scan Procedures

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing (step-size is 4, 4 and 2.5 mm). When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

9.4 SAR Averaged Methods

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

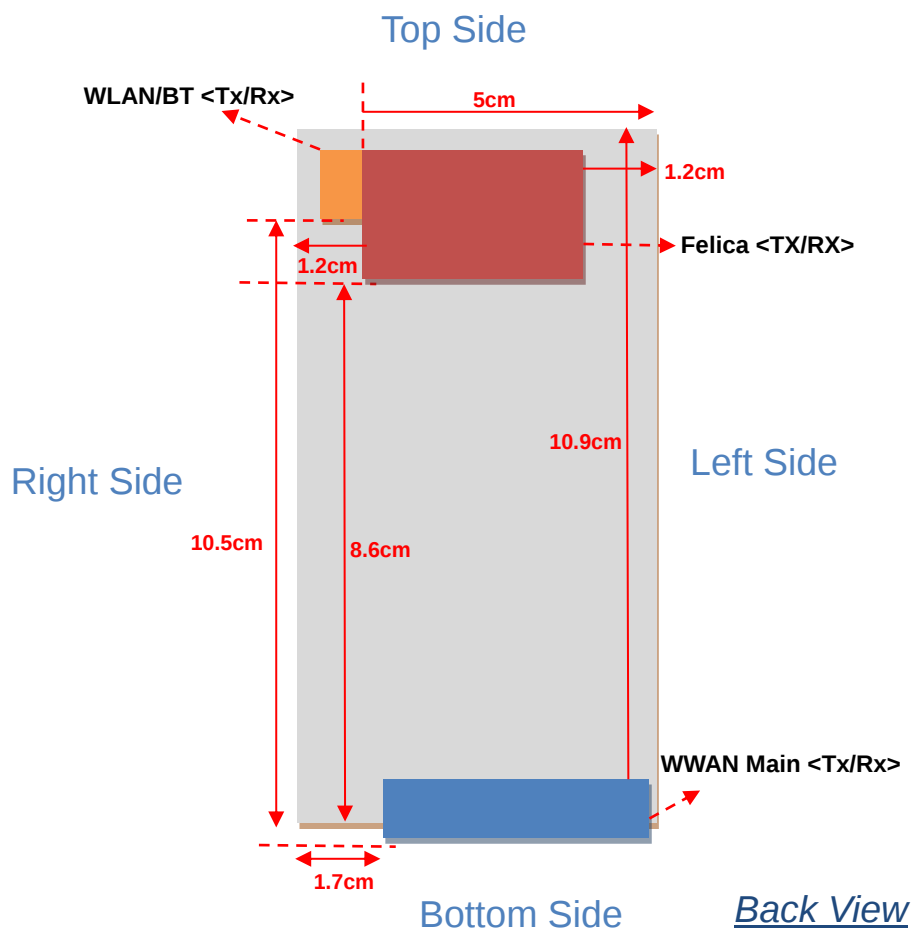
Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. The uncertainty increases with the extrapolation distance. To keep the uncertainty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

9.5 Power Drift Monitoring

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

10. SAR Test Configurations

10.1 Exposure Positions Consideration



Antennas	Wireless Interface
WWAN Antenna (Tx / Rx)	GSM850 GSM1900 WCDMA Band V
BT&WLAN Antenna (Tx / Rx)	WLAN 2.4GHz Bluetooth
Felica Antenna(Tx / Rx)	NFC

Sides 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
BT&WLAN	YES	YES	YES	NO	YES	NO

Note:

1. Head/Body-worn/Hotspot mode SAR assessments are required.
2. Referring to KDB 941225 D06, when the overall device length and width are $\geq 9\text{cm} \times 5\text{cm}$, the test distance is 10 mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.
3. For WWAN antenna, SAR measurements at Top side is not required since the distance between EUT and flat phantom $> 25\text{mm}$.
4. For BT&WLAN antenna, SAR measurements Bottom/Left side are not required since the distance between EUT and flat phantom $> 25\text{mm}$.
5. Per KDB 648474 D01, Bluetooth output power $\leq 2 \times P_{\text{Ref}}$ and the distance to other antennas $\geq 5\text{cm}$, therefore, stand-alone SAR is not required.

10.2 Conducted RF Output Power (Unit: dBm)

<GSM Conducted Power>

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 (1 Uplink)	33.03	33.08	33.09	24.03	24.08	24.09
GPRS 8 (1 Uplink) – CS1	32.99	33.04	33.05	23.99	24.04	24.05
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 Uplink) - 9 dB						

Note:

1. For Head SAR testing, GSM should be evaluated, therefore the EUT was set in GSM for GSM850 due to its highest frame-average power.
2. For Body SAR testing, GPRS should be evaluated, therefore the EUT was set in GPRS 8 for GSM850 due to its highest frame-average power.
3. Per KDB 447498, the maximum output power channel is used for SAR testing and for further SAR test reduction.
4. The EUT do not support DTM function.

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 (1 Uplink)	29.44	29.13	29.63	20.44	20.13	20.63
GPRS 8 (1 Uplink) – CS1	29.34	29.05	29.50	20.34	20.05	20.50
Remark: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots. The calculated method are shown as below: Frame-averaged power = Maximum burst averaged power (1 Uplink) - 9 dB						

Note:

1. For Head SAR testing, GSM should be evaluated, therefore the EUT was set in GSM for GSM1900 due to its highest frame-average power.
2. For Body SAR testing, GPRS should be evaluated, therefore the EUT was set in GPRS 8 for GSM1900 due to its highest frame-average power.
3. Per KDB 447498, the maximum output power channel is used for SAR testing and for further SAR test reduction.
4. The EUT do not support DTM function.

<WCDMA Conducted Power>

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (Note 1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5
Note 1: Δ_{ACK}, Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$. Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and $\Delta_{NACK} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$, and $\Delta_{CQI} = 24/15$ with $\beta_{hs} = 24/15 * \beta_c$. Note 3: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases. Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$.							

Setup Configuration

HSUPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note 1)	β_{ec}	β_{ed} (Note 5) (Note 6)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 6)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1} : 47/15 β_{ed2} : 47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81
Note 1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$. Note 2: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference. Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 10/15$ and $\beta_d = 15/15$. Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 14/15$ and $\beta_d = 15/15$. Note 5: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g. Note 6: β_{ed} can not be set directly, it is set by Absolute Grant Value.													

Setup Configuration

WCDMA Average power (dBm)				
Band		WCDMA Band V		
Channel		4132	4182	4233
Frequency (MHz)		826.4	836.4	846.6
3GPP Rel 99	AMR 12.2K	23.31	23.14	22.83
3GPP Rel 99	RMC 12.2K	23.38	23.20	23.46
3GPP Rel 6	HSDPA Subtest-1	23.30	23.16	23.38
3GPP Rel 6	HSDPA Subtest-2	23.32	23.17	23.41
3GPP Rel 6	HSDPA Subtest-3	22.90	22.68	22.86
3GPP Rel 6	HSDPA Subtest-4	22.84	22.66	22.85
3GPP Rel 6	HSUPA Subtest-1	23.09	22.88	23.00
3GPP Rel 6	HSUPA Subtest-2	21.26	21.12	21.40
3GPP Rel 6	HSUPA Subtest-3	21.94	22.05	22.11
3GPP Rel 6	HSUPA Subtest-4	21.60	21.43	21.65
3GPP Rel 6	HSUPA Subtest-5	23.15	23.02	23.34

MPR (dB)				
3GPP MPR	Subtest		WCDMA Band V	
0	3GPP Rel 6	HSDPA Subtest-1	0.00	0.00
0	3GPP Rel 6	HSDPA Subtest-2	-0.02	-0.03
≤ 0.5	3GPP Rel 6	HSDPA Subtest-3	0.40	0.48
≤ 0.5	3GPP Rel 6	HSDPA Subtest-4	0.46	0.50
0	3GPP Rel 6	HSUPA Subtest-1	0.06	0.14
≤ 2	3GPP Rel 6	HSUPA Subtest-2	1.89	1.90
≤ 1	3GPP Rel 6	HSUPA Subtest-3	1.21	0.97
≤ 2	3GPP Rel 6	HSUPA Subtest-4	1.55	1.59
0	3GPP Rel 6	HSUPA Subtest-5	0.00	0.00

Note:

1. Applying the subtest setup in Table C.11.1.3 of 3GPP TS 34.121-1 V9.1.0 to Rel. 6 HSPA.
2. For Head SAR, per KDB 941225 D01, RMC 12.2kbps setting is used to evaluate SAR. If AMR 12.2kbps power is < 0.25dB higher than RMC 12.2kbps, SAR tests with AMR 12.2kbps can be excluded.
3. For Body SAR, per KDB 941225 D01, RMC 12.2kbps setting is used to evaluate SAR. If HSDPA/HSUPA output power is < 0.25dB higher than RMC, or SAR with RMC 12.2kbps setting is ≤ 1.2W/kg, HSDPA/HSUPA SAR evaluation can be excluded.
4. By design, AMR, HSDPA/HSUPA RF power will not be larger than RMC 12.2kbps, detailed information is included in Tune-up Procure exhibit.
5. It is expected by the manufacturer that MPR for some HSDPA/HSUPA subtests may differ from the specification of 3GPP, according to the chipset implementation in this model. The implementation and expected deviation are detailed in tune-up procedure exhibit.

<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	12.80	CH 6	13.46	13.45	13.44
CH 06	2437	13.47				
CH 11	2462	12.93				

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	12.15	CH 6	12.66	12.66	12.67	12.66	12.66	12.65	12.67
CH 06	2437	12.68								
CH 11	2462	12.25								

<400ns>

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	10.10	CH 6	10.63	10.61	10.61	10.56	10.56	10.60	10.62
CH 06	2437	10.67								
CH 11	2462	10.20								

<800ns>

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	10.12	CH 6	10.66	10.63	10.65	10.27	10.60	10.62	10.68
CH 06	2437	10.71								
CH 11	2462	10.25								

Note:

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

<Bluetooth Conducted Power>

Channel	Frequency (MHz)	Average power (dBm)		
		Mode		
		GFSK	π/4-DQPSK	8-DPSK
CH 0	2402	1.14	-0.22	-0.21
CH 39	2441	1.03	-0.32	-0.31
CH 78	2480	1.14	-0.24	-0.22

Channel	Frequency (MHz)	Average power (dBm)	
		Mode	
		BT 4.0 LE, GFSK	
CH 0	2402	-3.55	
CH 19	2440	-3.52	
CH 39	2480	-3.47	

11. SAR Test Results

11.1 Test Records for Head SAR Test

<GSM SAR>

Plot No.	Band	Mode	Test Position	Ch.	Freq. (MHz)	Burst Average Power (dBm)	Sample	Power Drift (dB)	SAR _{1g} (W/kg)
1	GSM850	GSM	Right Cheek	251	848.8	33.09	1	0.166	0.498
2	GSM850	GSM	Right Tilted	251	848.8	33.09	1	-0.035	0.309
3	GSM850	GSM	Left Cheek	251	848.8	33.09	1	0.002	0.425
4	GSM850	GSM	Left Tilted	251	848.8	33.09	1	-0.062	0.287
108	GSM850	GSM	Right Cheek	251	848.8	33.09	2	0.02	0.292
109	GSM850	GSM	Right Cheek	251	848.8	33.09	3	0.02	0.291
9	GSM1900	GSM	Right Cheek	810	1909.8	29.63	1	0.009	0.246
10	GSM1900	GSM	Right Tilted	810	1909.8	29.63	1	0.02	0.144
11	GSM1900	GSM	Left Cheek	810	1909.8	29.63	1	0.012	0.384
12	GSM1900	GSM	Left Tilted	810	1909.8	29.63	1	-0.083	0.166
114	GSM1900	GSM	Left Cheek	810	1909.8	29.63	2	0.01	0.289
115	GSM1900	GSM	Left Cheek	810	1909.8	29.63	3	-0.01	0.305

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Ch.	Freq. (MHz)	Average Power (dBm)	Sample	Power Drift (dB)	SAR _{1g} (W/kg)
5	WCDMA V	RMC12.2K	Right Cheek	4233	846.6	23.46	1	0.065	0.438
6	WCDMA V	RMC12.2K	Right Tilted	4233	846.6	23.46	1	-0.151	0.269
7	WCDMA V	RMC12.2K	Left Cheek	4233	846.6	23.46	1	-0.167	0.373
8	WCDMA V	RMC12.2K	Left Tilted	4233	846.6	23.46	1	-0.147	0.26
111	WCDMA V	RMC12.2K	Right Cheek	4233	846.6	23.46	2	0	0.341
112	WCDMA V	RMC12.2K	Right Cheek	4233	846.6	23.46	3	0.05	0.293

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Ch.	Freq. (MHz)	Average Power (dBm)	Sample	Power Drift (dB)	SAR _{1g} (W/kg)
35	WLAN2.4G	802.11b	Right Cheek	6	2437.0	13.47	1	0.03	0.228
36	WLAN2.4G	802.11b	Right Tilted	6	2437.0	13.47	1	0.02	0.241
37	WLAN2.4G	802.11b	Left Cheek	6	2437.0	13.47	1	0.104	0.291
38	WLAN2.4G	802.11b	Left Tilted	6	2437.0	13.47	1	-0.082	0.189
102	WLAN2.4G	802.11b	Left Cheek	6	2437.0	13.47	2	0.08	0.366
103	WLAN2.4G	802.11b	Left Cheek	6	2437.0	13.47	3	0.09	0.488

Note:

- Per KDB 648474, KDB 248227 and KDB 447498, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.
- Considering the metallic material used in the cover colors, we chose the sample 1 to perform full SAR testing and verify the sample 2 and 3 SAR at the worst cases obtained from sample 1.

11.2 Test Records for Hotspot SAR Test

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	Burst Average Power (dBm)	Sample	Power Drift (dB)	SAR _{1g} (W/kg)
13	GSM850	GPRS8	Front	1	251	848.8	33.05	1	-0.064	0.542
15	GSM850	GPRS8	Back	1	128	824.2	32.99	1	-0.057	0.518
16	GSM850	GPRS8	Back	1	189	836.4	33.04	1	-0.071	0.691
14	GSM850	GPRS8	Back	1	251	848.8	33.05	1	0.027	0.827
117	GSM850	GPRS8	Back	1	251	848.8	33.05	2	-0.18	0.751
118	GSM850	GPRS8	Back	1	251	848.8	33.05	3	-0.11	0.743
18	GSM850	GPRS8	Left Side	1	251	848.8	33.05	1	-0.055	0.462
19	GSM850	GPRS8	Right Side	1	251	848.8	33.05	1	-0.009	0.446
21	GSM850	GPRS8	Bottom Side	1	251	848.8	33.05	1	0.034	0.057
29	GSM1900	GPRS8	Front	1	810	1909.8	29.5	1	0.07	0.302
30	GSM1900	GPRS8	Back	1	810	1909.8	29.5	1	-0.085	0.426
123	GSM1900	GPRS8	Back	1	810	1909.8	29.5	2	0.05	0.302
124	GSM1900	GPRS8	Back	1	810	1909.8	29.5	3	-0.02	0.32
32	GSM1900	GPRS8	Left Side	1	810	1909.8	29.5	1	-0.041	0.134
33	GSM1900	GPRS8	Right Side	1	810	1909.8	29.5	1	0.129	0.108
34	GSM1900	GPRS8	Bottom Side	1	810	1909.8	29.5	1	0.101	0.22

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	Average Power (dBm)	Sample	Power Drift (dB)	SAR _{1g} (W/kg)
22	WCDMA V	RMC12.2K	Front	1	4233	846.6	23.46	1	-0.052	0.487
23	WCDMA V	RMC12.2K	Back	1	4233	846.6	23.46	1	-0.029	0.773
120	WCDMA V	RMC12.2K	Back	1	4233	846.6	23.46	2	-0.13	0.576
121	WCDMA V	RMC12.2K	Back	1	4233	846.6	23.46	3	0.02	0.501
25	WCDMA V	RMC12.2K	Left Side	1	4233	846.6	23.46	1	-0.029	0.389
26	WCDMA V	RMC12.2K	Right Side	1	4233	846.6	23.46	1	0.106	0.356
28	WCDMA V	RMC12.2K	Bottom Side	1	4233	846.6	23.46	1	0.149	0.055

Note:

1. Per KDB 941225 D06, for EUT dimension $\geq 9\text{cm} \times 5\text{cm}$, 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.
2. As in (1), SAR for Front / Back / Bottom Side / Left Side / Right Side is necessary.
3. Per KDB 648474 and KDB 447498, if the highest output channel SAR for each exposure position $\leq 0.8 \text{ W/kg}$ other channels SAR tests are not necessary.
4. Considering the metallic material used in the cover colors, we chose the sample 1 to perform full SAR testing and verify the sample 2 and 3 SAR at the worst cases obtained from sample 1.

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	Average Power (dBm)	Sample	Power Drift (dB)	SAR _{1g} (W/kg)
39	WLAN2.4G	802.11b	Front	1	6	2437.0	13.47	1	-0.067	0.058
40	WLAN2.4G	802.11b	Back	1	6	2437.0	13.47	1	-0.034	0.068
126	WLAN2.4G	802.11b	Back	1	6	2437.0	13.47	2	0.11	0.044
127	WLAN2.4G	802.11b	Back	1	6	2437.0	13.47	3	0.01	0.059
41	WLAN2.4G	802.11b	Right Side	1	6	2437.0	13.47	1	-0.149	0.036
42	WLAN2.4G	802.11b	Top Side	1	6	2437.0	13.47	1	-0.193	0.055

Note:

1. Per KDB 941225 D06, for EUT dimension $\geq 9\text{cm} \times 5\text{cm}$, 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.
2. As in (1), SAR for Front / Back / Top Side / Right Side is necessary.
3. Per KDB 648474 and KDB 248227, if the highest output channel SAR for each exposure position $\leq 0.8 \text{ W/kg}$ other channels SAR tests are not necessary.
4. Considering the metallic material used in the cover colors, we chose the sample 1 to perform full SAR testing and verify the sample 2 and 3 SAR at the worst cases obtained from sample 1.

11.3 Test Records for Body-worn SAR Test

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	Burst Average Power (dBm)	Headset	Sample	Power Drift (dB)	SAR _{1g} (W/kg)
13	GSM850	GPRS8	Front	1	251	848.8	33.05	-	1	-0.064	0.542
15	GSM850	GPRS8	Back	1	128	824.2	32.99	-	1	-0.057	0.518
16	GSM850	GPRS8	Back	1	189	836.4	33.04	-	1	-0.071	0.691
14	GSM850	GPRS8	Back	1	251	848.8	33.05	-	1	0.027	0.827
17	GSM850	GPRS8	Back	1	251	848.8	33.05	v	1	-0.043	0.767
117	GSM850	GPRS8	Back	1	251	848.8	33.05	-	2	-0.18	0.751
118	GSM850	GPRS8	Back	1	251	848.8	33.05	-	3	-0.11	0.743
29	GSM1900	GPRS8	Front	1	810	1909.8	29.5	-	1	0.07	0.302
30	GSM1900	GPRS8	Back	1	810	1909.8	29.5	-	1	-0.085	0.426
31	GSM1900	GPRS8	Back	1	810	1909.8	29.5	v	1	-0.146	0.414
123	GSM1900	GPRS8	Back	1	810	1909.8	29.5	-	2	0.05	0.302
124	GSM1900	GPRS8	Back	1	810	1909.8	29.5	-	3	-0.02	0.32

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	Average Power (dBm)	Headset	Sample	Power Drift (dB)	SAR _{1g} (W/kg)
22	WCDMA V	RMC12.2K	Front	1	4233	846.6	23.46	-	1	-0.052	0.487
23	WCDMA V	RMC12.2K	Back	1	4233	846.6	23.46	-	1	-0.029	0.773
24	WCDMA V	RMC12.2K	Back	1	4233	846.6	23.46	v	1	-0.062	0.516
120	WCDMA V	RMC12.2K	Back	1	4233	846.6	23.46	-	2	-0.13	0.576
121	WCDMA V	RMC12.2K	Back	1	4233	846.6	23.46	-	3	0.02	0.501

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	Freq. (MHz)	Average Power (dBm)	Headset	Sample	Power Drift (dB)	SAR _{1g} (W/kg)
39	WLAN2.4G	802.11b	Front	1	6	2437.0	13.47	-	1	-0.067	0.058
40	WLAN2.4G	802.11b	Back	1	6	2437.0	13.47	-	1	-0.034	0.068
43	WLAN2.4G	802.11b	Back	1	6	2437.0	13.47	v	1	-0.102	0.061
126	WLAN2.4G	802.11b	Back	1	6	2437.0	13.47	-	2	0.11	0.044
127	WLAN2.4G	802.11b	Back	1	6	2437.0	13.47	-	3	0.01	0.059

Note:

1. Per KDB 648474 and KDB 248227 and KDB 447498, if the highest output channel SAR for each exposure position ≤ 0.8 W/kg other channels SAR tests are not necessary.
2. "V" in the Headset column means the Headset is plugged during SAR testing.
3. Considering the metallic material used in the cover colors, we chose the sample 1 to perform full SAR testing and verify the sample 2 and 3 SAR at the worst cases obtained from sample 1.

11.4 Simultaneous Multi-band Transmission Analysis

No.	Applicable Simultaneous Transmission Combination
1.	2G/3G + WLAN2.4G

Note:

1. WLAN and BT share the same antenna, and cannot transmit simultaneously.
2. EUT will choose either GSM/WCDMA according to the network signal condition; therefore, they will not transmit simultaneously.
3. The maximum SAR summation is calculated based on the same configuration and test position.
4. When stand-alone 1-g SAR is not required for a transmitter or antenna, its SAR is considered zero in the 1-g SAR summing process to determine simultaneous transmission SAR evaluation requirements
5. If 1g-SAR scalar summation < 1.6W/kg, simultaneous SAR measurement is not necessary.

<Head SAR>

Position	WWAN			WLAN		WWAN + WLAN
	WWAN Band	Plot No	Max. WWAN SAR (W/kg)	Plot No	Max. WLAN SAR (W/kg)	
Right Cheek	GSM850	1	0.498	35	0.228	0.73
	GSM1900	9	0.246	35	0.228	0.47
	WCDMA V	5	0.438	35	0.228	0.67
Right Tilted	GSM850	2	0.309	36	0.241	0.55
	GSM1900	10	0.144	36	0.241	0.39
	WCDMA V	6	0.269	36	0.241	0.51
Left Cheek	GSM850	3	0.425	103	0.488	0.91
	GSM1900	11	0.384	103	0.488	0.87
	WCDMA V	7	0.373	103	0.488	0.86
Left Tilted	GSM850	4	0.287	38	0.189	0.48
	GSM1900	12	0.166	38	0.189	0.36
	WCDMA V	8	0.26	38	0.189	0.45

<Hotspot SAR>

Position	WWAN			WLAN		WWAN + WLAN
	WWAN Band	Plot No	Max. WWAN SAR (W/kg)	Plot No	Max. WLAN SAR (W/kg)	
Front	GSM850	13	0.542	39	0.058	0.60
	GSM1900	29	0.302	39	0.058	0.36
	WCDMA V	22	0.487	39	0.058	0.55
Back	GSM850	14	0.827	40	0.068	0.90
	GSM1900	30	0.426	40	0.068	0.49
	WCDMA V	23	0.773	40	0.068	0.84
Left Side	GSM850	18	0.462			0.46
	GSM1900	32	0.134			0.13
	WCDMA V	25	0.389			0.39
Right Side	GSM850	19	0.446	41	0.036	0.48
	GSM1900	33	0.108	41	0.036	0.14
	WCDMA V	26	0.356	41	0.036	0.39
Top Side				42	0.055	0.06
				42	0.055	0.06
				42	0.055	0.06
Bottom Side	GSM850	21	0.057			0.06
	GSM1900	34	0.22			0.22
	WCDMA V	28	0.055			0.06

<Body-worn SAR>

Position	WWAN			WLAN		WWAN + WLAN
	WWAN Band	Plot No	Max. WWAN SAR (W/kg)	Plot No	Max. WLAN SAR (W/kg)	
Front	GSM850	13	0.542	39	0.058	0.60
	GSM1900	29	0.302	39	0.058	0.36
	WCDMA V	22	0.487	39	0.058	0.55
Back	GSM850	14	0.827	40	0.068	0.90
	GSM1900	30	0.426	40	0.068	0.49
	WCDMA V	23	0.773	40	0.068	0.84
Back (w/ Headset)	GSM850	17	0.767	43	0.061	0.83
	GSM1900	31	0.414	43	0.061	0.48
	WCDMA V	24	0.516	43	0.061	0.58

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12. Uncertainty Assessment

The component of uncertainty may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainty by the statistical analysis of a series of observations is termed a Type A 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/ κ ^(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

13. References

- [1] FCC 47 CFR Part 2 "Frequency Allocations and Radio Treaty Matters; General Rules and Regulations"
- [2] ANSI/IEEE Std. C95.1-1992, "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz", September 1992
- [3] IEEE Std. 1528-2003, "Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
- [4] FCC OET Bulletin 65 (Edition 97-01) Supplement C (Edition 01-01), "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", June 2001
- [5] SPEAG DASY System Handbook
- [6] FCC KDB 248227 D01 v01r02, "SAR Measurement Procedures for 802.11 a/b/g Transmitters", May 2007
- [7] FCC KDB 447498 D01 v04, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", November 2009
- [8] FCC KDB 648474 D01 v01r05, "SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas", September 2008
- [9] FCC KDB 941225 D01 v02, "SAR Measurement Procedures for 3G Devices – CDMA 2000 / Ev-Do / WCDMA / HSDPA / HSPA", October 2007
- [10] FCC KDB 941225 D02 v02 "3GPP R6 HSPA and R7 HSPA+ SAR Guidance", December 2009.
- [11] FCC KDB 941225 D03 v01, "Recommended SAR Test Reduction Procedures for GSM / GPRS / EDGE", December 2008
- [12] FCC KDB 941225 D04 v01, "Evaluating SAR for GSM/(E)GPRS Dual Transfer Mode", January 27 2010
- [13] FCC KDB 941225 D06 v01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", April 2011



Appendix A. Plots of System Performance Check

The plots are shown as follows.

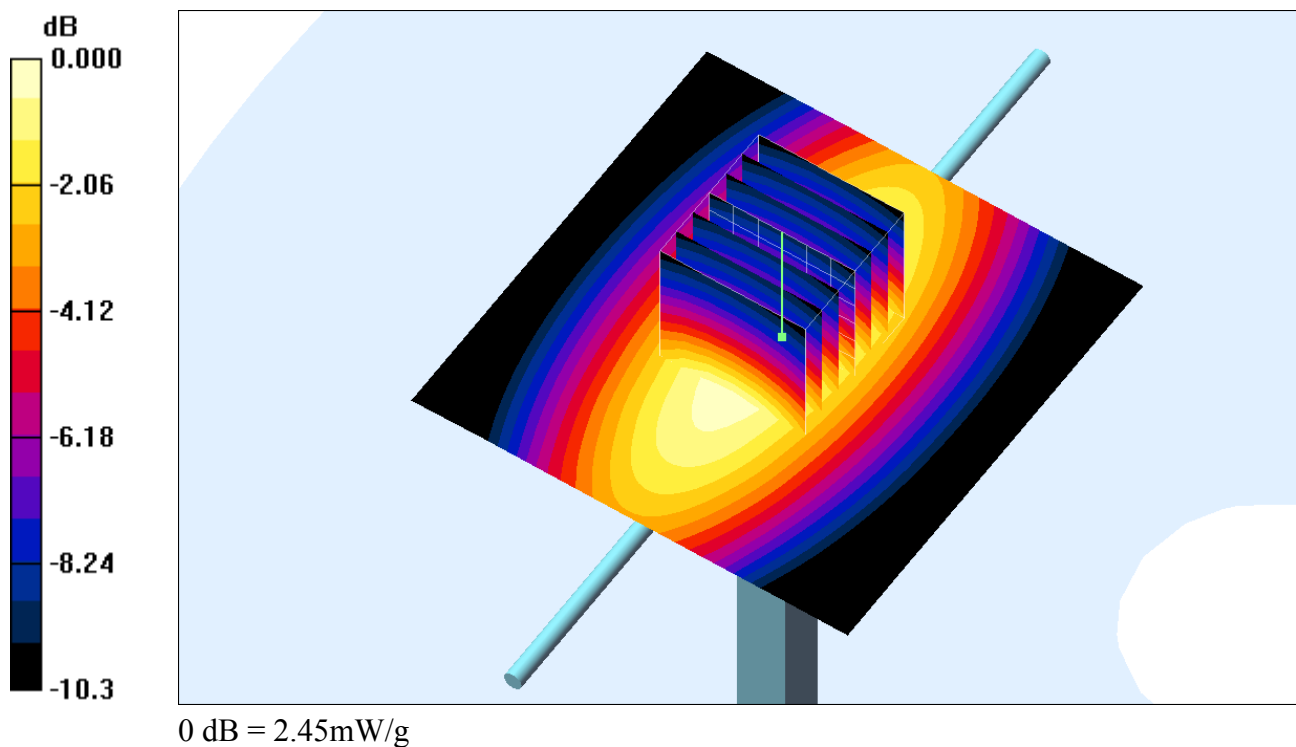
System Check_Head_835MHz_120906**DUT: D835V2-SN:499**

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL_835_120906 Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.902 \text{ mho/m}$; $\epsilon_r = 43.3$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : 22.5°C ; Liquid Temperature : 21.5°C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (61x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (interpolated) = 2.46 mW/g **Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 54.8 V/m ; Power Drift = -0.028 dB Peak SAR (extrapolated) = 3.19 W/kg **SAR(1 g) = 2.26 mW/g ; SAR(10 g) = 1.5 mW/g** Maximum value of SAR (measured) = 2.45 mW/g 

System Check_Head_835MHz_121105**DUT: D835V2-SN:499**

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: HSL_850_121105 Medium parameters used: $f = 835$ MHz; $\sigma = 0.885$ mho/m; $\epsilon_r = 42.041$; $\rho =$

1000 kg/m^3

Ambient Temperature : 22.5°C ; Liquid Temperature : 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(8.71, 8.71, 8.71); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Pin=250mW/Area Scan (61x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 2.57 mW/g

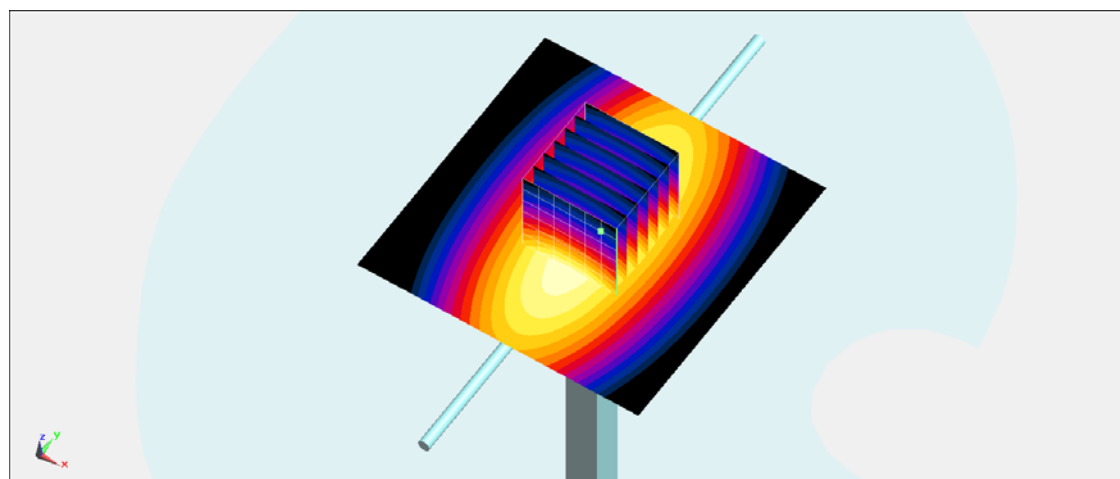
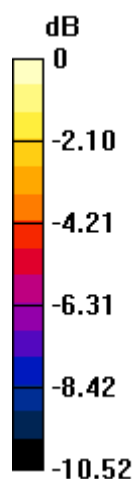
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 53.920 V/m ; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 3.620 mW/g

SAR(1 g) = 2.39 mW/g ; SAR(10 g) = 1.56 mW/g

Maximum value of SAR (measured) = 2.58 mW/g



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

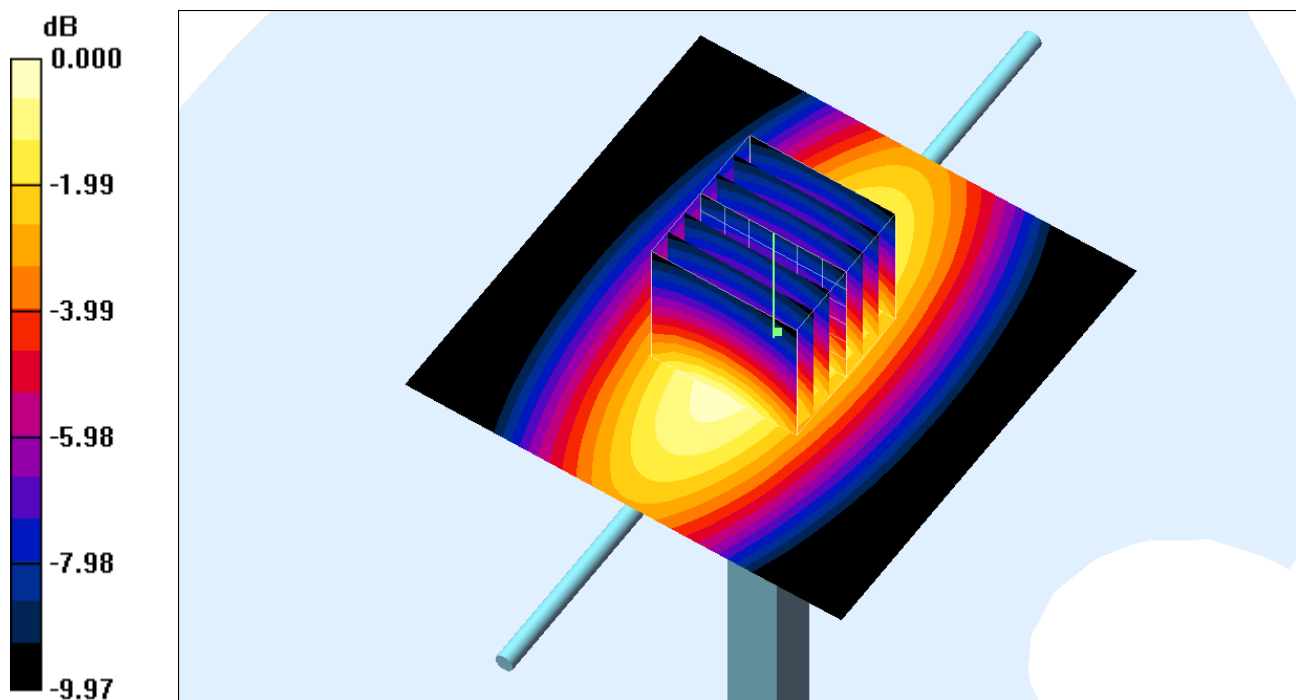
System Check_Body_835MHz_120906**DUT: D835V2-SN:499**

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: MSL_835_120906 Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.963 \text{ mho/m}$; $\epsilon_r = 54.5$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : 22.5°C ; Liquid Temperature : 21.5°C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (61x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (interpolated) = 2.66 mW/g **Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$ Reference Value = 54.5 V/m ; Power Drift = -0.036 dB Peak SAR (extrapolated) = 3.45 W/kg **SAR(1 g) = 2.45 mW/g ; SAR(10 g) = 1.63 mW/g** Maximum value of SAR (measured) = 2.65 mW/g 0 dB = 2.65 mW/g

System Check_Body_835MHz_121105**DUT: D835V2-SN:499**

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: MSL_850_121105 Medium parameters used: $f = 835$ MHz; $\sigma = 0.996$ mho/m; $\epsilon_r = 54.786$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.3 °C; Liquid Temperature : 21.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(8.82, 8.82, 8.82); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.60 mW/g

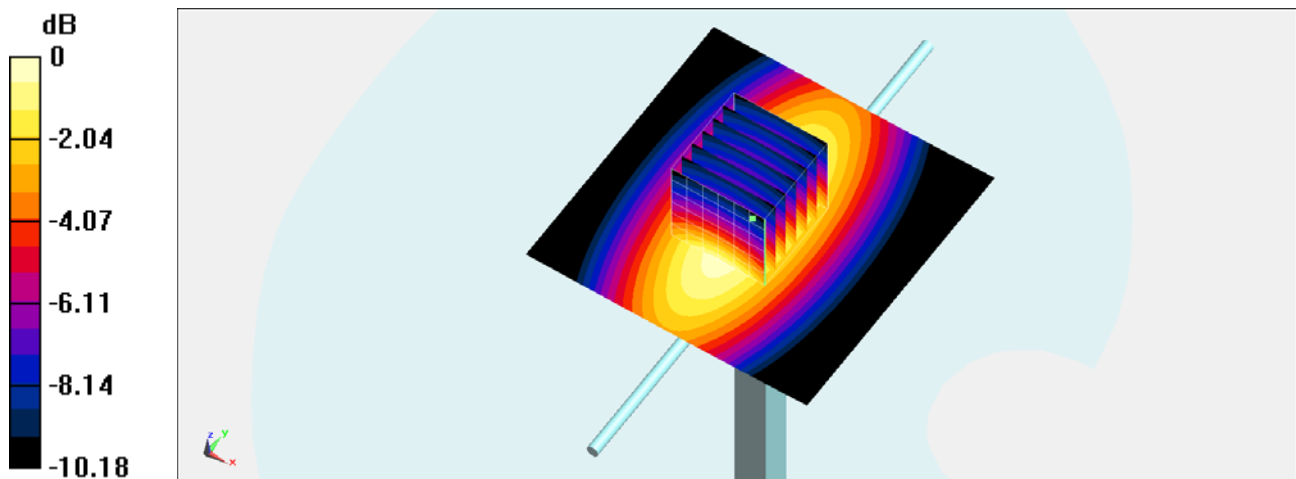
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 50.898 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 3.587 mW/g

SAR(1 g) = 2.4 mW/g; SAR(10 g) = 1.57 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_121114**DUT: D835V2-SN:499**

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: MSL_850_121114 Medium parameters used: $f = 835$ MHz; $\sigma = 0.963$ mho/m; $\epsilon_r = 54.539$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3697; ConvF(8.65, 8.65, 8.65); Calibrated: 2012/9/28;
- Sensor-Surface: 4mm (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 14.6.7 (6848)

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 2.66 W/kg

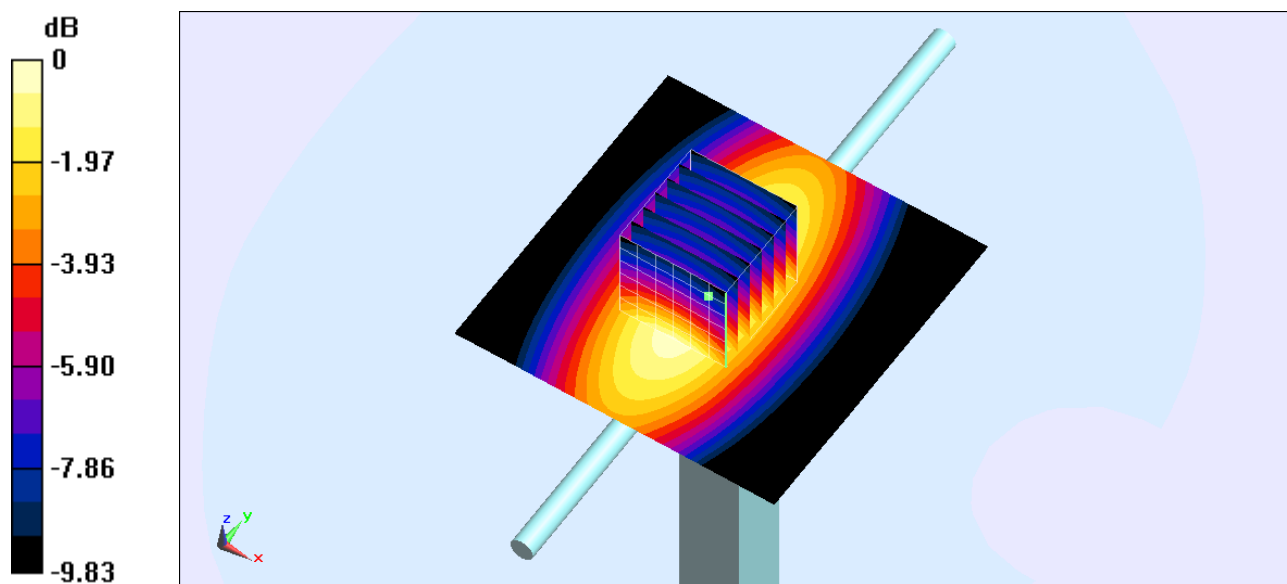
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 52.667 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 3.59 W/kg

SAR(1 g) = 2.46 W/kg; SAR(10 g) = 1.64 W/kg

Maximum value of SAR (measured) = 2.64 W/kg



0 dB = 2.64 W/kg = 4.22 dBW/kg

System Check_Head_1900MHz_120906**DUT: D1900V2-SN:5d041**

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL_1900_120906 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.44$ mho/m; $\epsilon_r = 38.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 11.0 mW/g

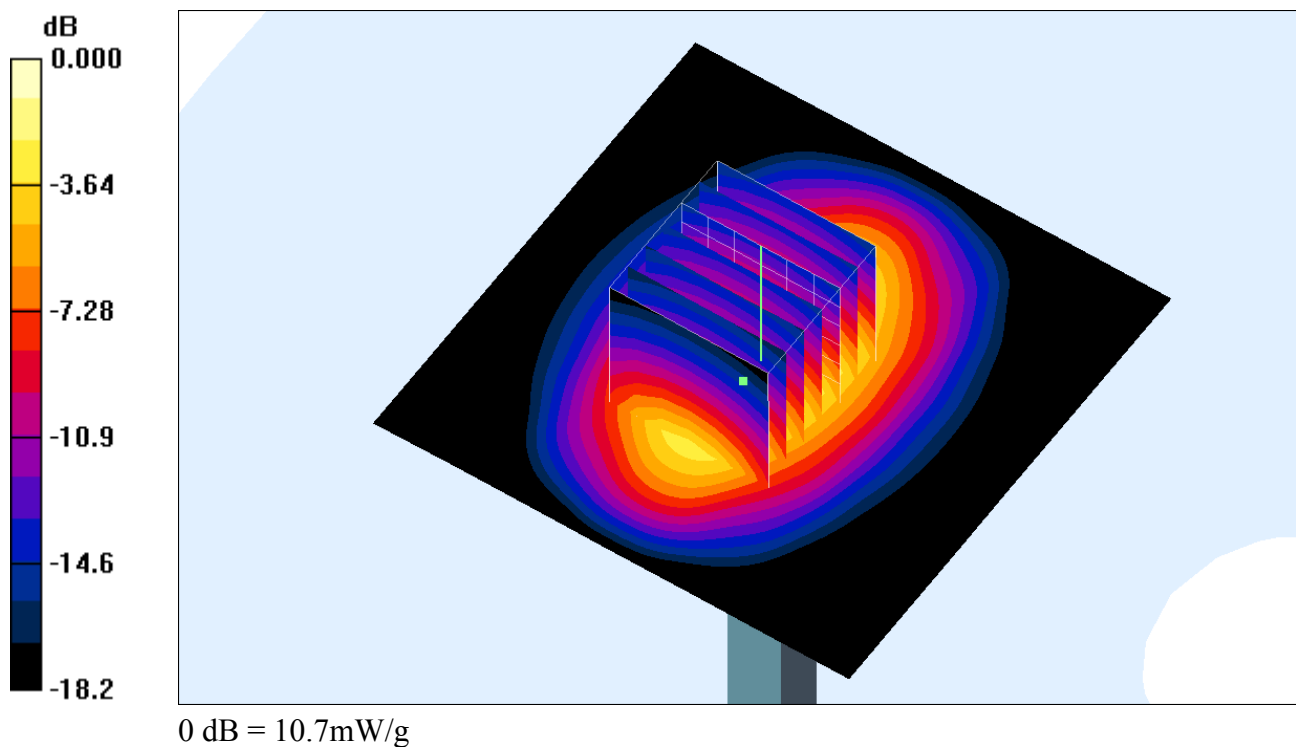
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 91.4 V/m; Power Drift = -0.019 dB

Peak SAR (extrapolated) = 15.7 W/kg

SAR(1 g) = 9.36 mW/g; SAR(10 g) = 4.99 mW/g

Maximum value of SAR (measured) = 10.7 mW/g



System Check_Head_1900MHz_121105**DUT: D1900V2-SN:5d041**

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: HSL_1900_1211105 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.449$ mho/m; $\epsilon_r = 38.532$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.4 °C; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(7.42, 7.42, 7.42); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 11.1 mW/g

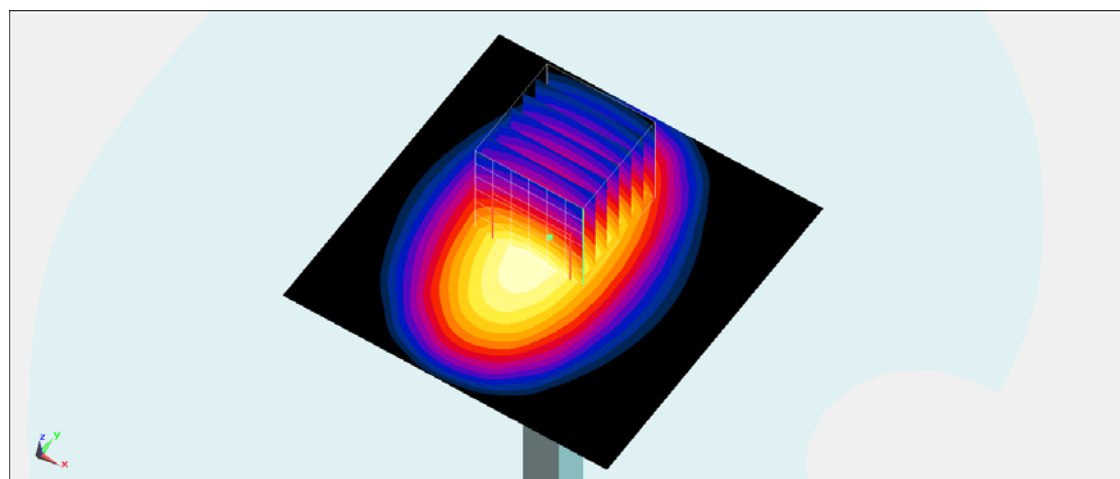
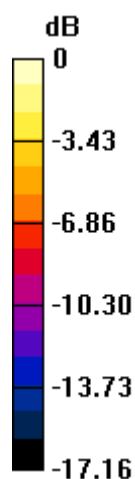
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 84.961 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 18.106 mW/g

SAR(1 g) = 9.98 mW/g; SAR(10 g) = 5.52 mW/g

Maximum value of SAR (measured) = 11.0 mW/g



0 dB = 11.0 mW/g = 20.83 dB mW/g

System Check_Body_1900MHz_120907**DUT: D1900V2-SN:5d041**

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: MSL_1900_120907 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.52$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 12.3 mW/g

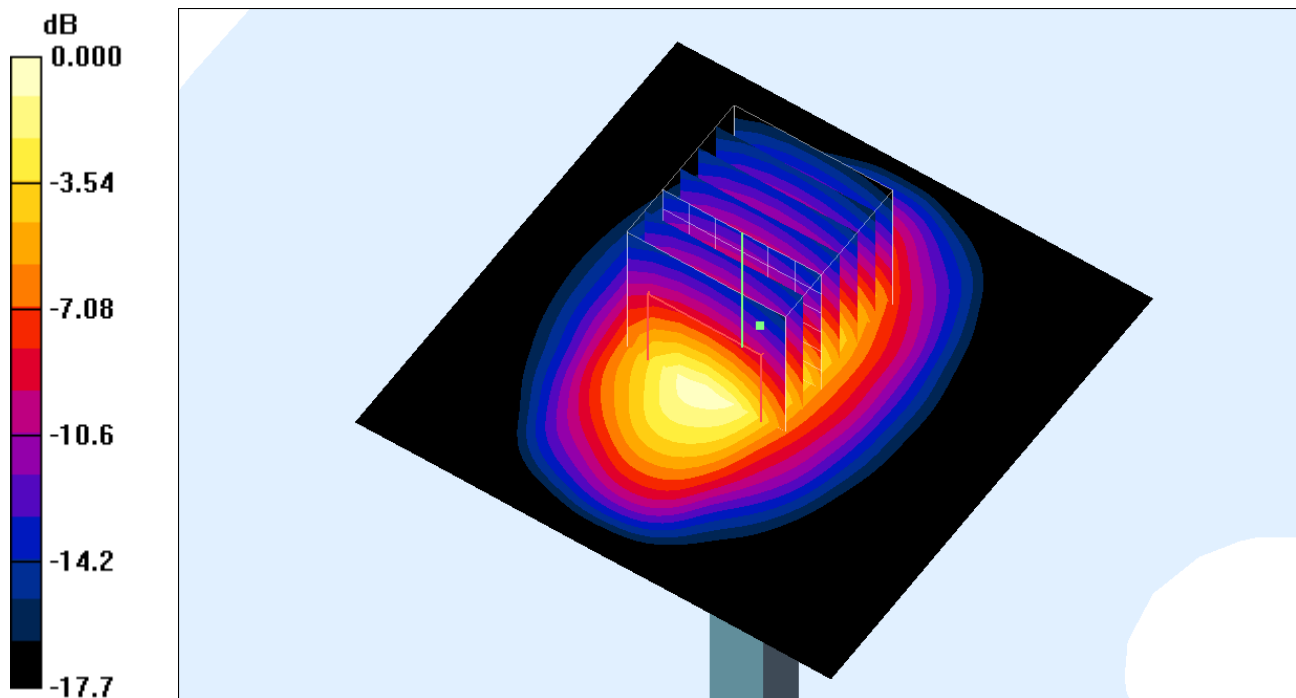
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 92.6 V/m; Power Drift = 0.023 dB

Peak SAR (extrapolated) = 16.2 W/kg

SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.45 mW/g

Maximum value of SAR (measured) = 11.6 mW/g



0 dB = 11.6mW/g

System Check_Body_1900MHz_121105**DUT: D1900V2-SN:5d041**

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: MSL_1900_121105 Medium parameters used: $f = 1900$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 52.859$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.°C; Liquid Temperature : 21.°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(7.13, 7.13, 7.13); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 11.0 mW/g

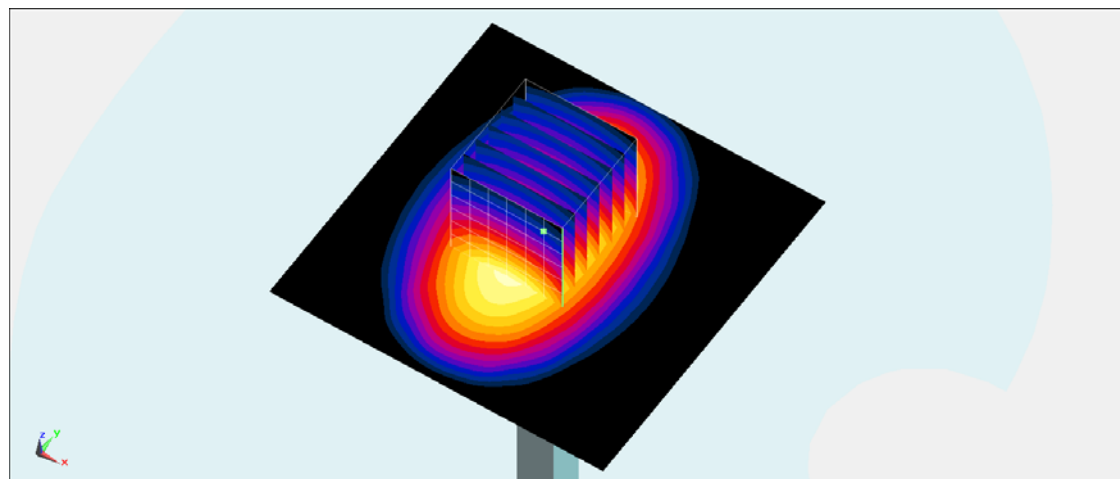
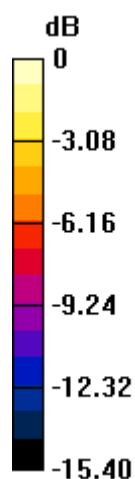
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 82.171 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 18.233 mW/g

SAR(1 g) = 9.94 mW/g; SAR(10 g) = 5.51 mW/g

Maximum value of SAR (measured) = 11.0 mW/g



0 dB = 11.0 mW/g = 20.83 dB mW/g

System Check_Head_2450MHz_120907**DUT: D2450V2-SN:736**

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: HSL_2450_120907 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.84$ mho/m; $\epsilon_r = 39.3$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ES3DV3 - SN3296; ConvF(4.63, 4.63, 4.63); Calibrated: 2012/4/10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 16.5 mW/g

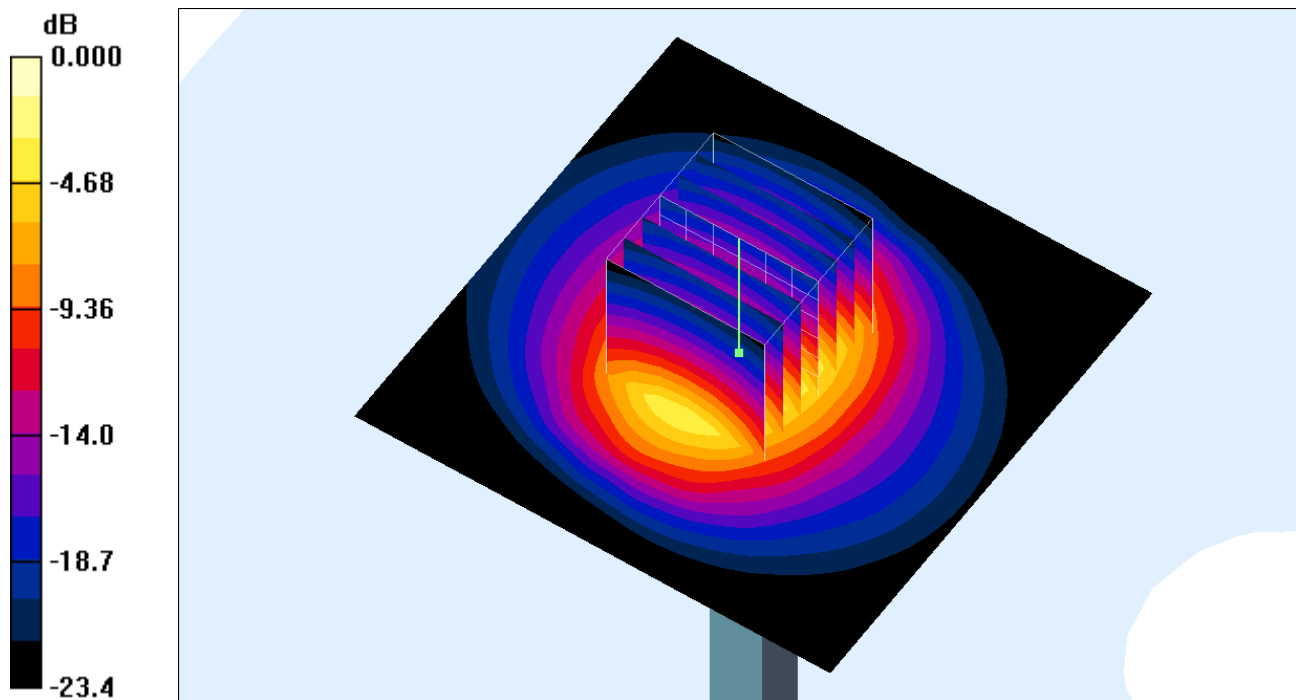
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 95.2 V/m; Power Drift = 0.084 dB

Peak SAR (extrapolated) = 29.2 W/kg

SAR(1 g) = 14.1 mW/g; SAR(10 g) = 6.36 mW/g

Maximum value of SAR (measured) = 16.2 mW/g



0 dB = 16.2mW/g

System Check_Head_2450MHz_121104**DUT: D2450V2-SN:736**

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: HSL_2450_121104 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.851$ mho/m; $\epsilon_r = 39.252$; ρ

$= 1000$ kg/m³

Ambient Temperature : 22.1 °C; Liquid Temperature : 21.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(6.7, 6.7, 6.7); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 15.7 mW/g

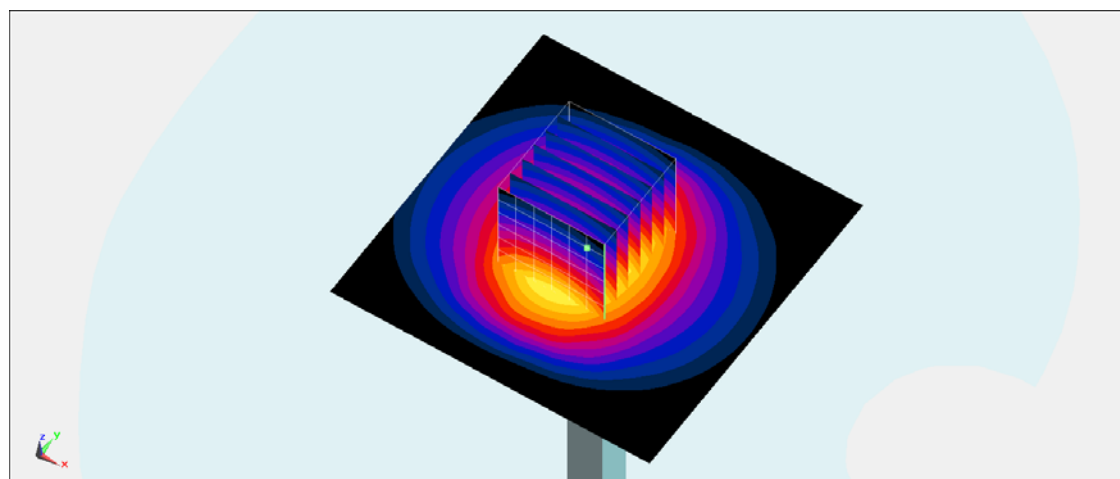
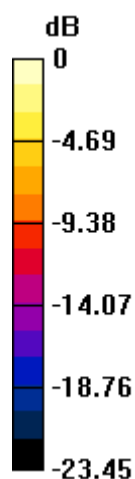
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 89.731 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 30.416 mW/g

SAR(1 g) = 13.5 mW/g; SAR(10 g) = 6.01 mW/g

Maximum value of SAR (measured) = 15.4 mW/g



0 dB = 15.4 mW/g = 23.75 dB mW/g

System Check_Body_2450MHz_120908**DUT: D2450V2-SN:736**

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: MSL_2450_120908 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.93$ mho/m; $\epsilon_r = 53.6$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ES3DV3 - SN3296; ConvF(4.28, 4.28, 4.28); Calibrated: 2012/4/10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 17.0 mW/g

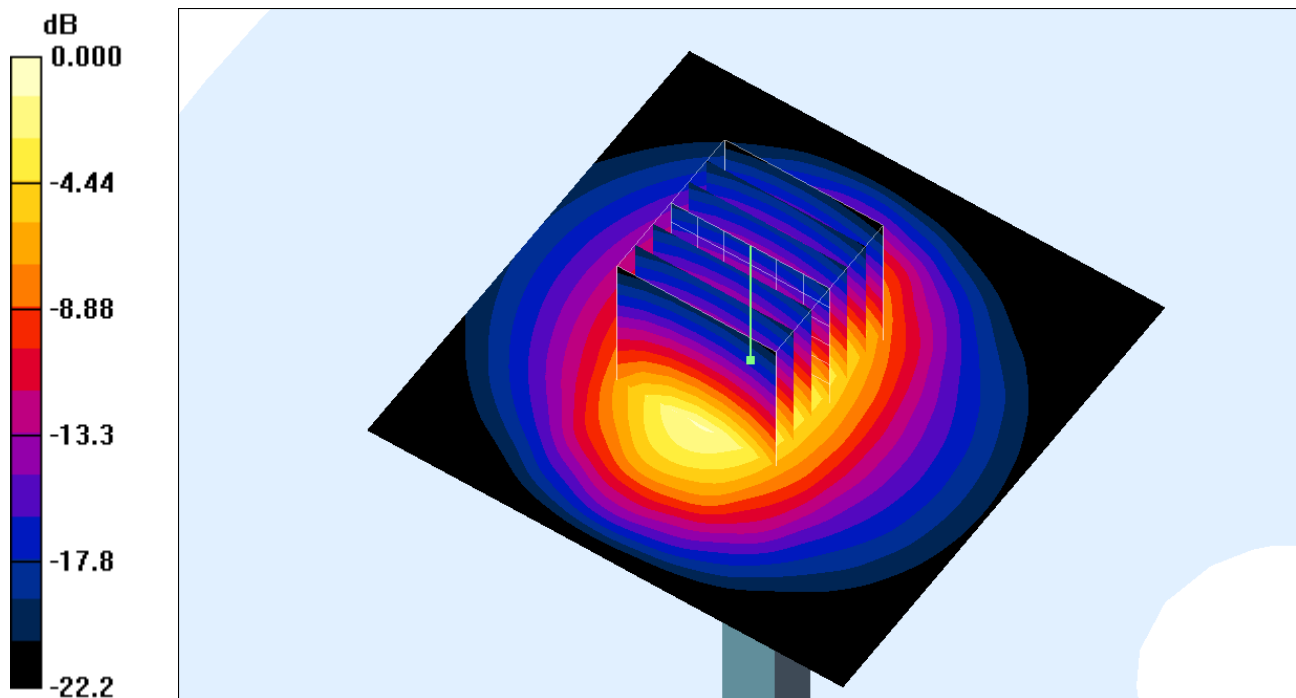
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 91.4 V/m; Power Drift = 0.103 dB

Peak SAR (extrapolated) = 31.9 W/kg

SAR(1 g) = 14 mW/g; SAR(10 g) = 7.12 mW/g

Maximum value of SAR (measured) = 16.6 mW/g



0 dB = 16.6mW/g

System Check_Body_2450MHz_121106**DUT: Dipole 2450 MHz**

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium: MSL_2450_121106 Medium parameters used: $f = 2450$ MHz; $\sigma = 1.931$ mho/m; $\epsilon_r = 53.584$; ρ

$= 1000$ kg/m³

Ambient Temperature : 22.5 °C; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(6.59, 6.59, 6.59); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Pin=250mW/Area Scan (91x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 14.7 mW/g

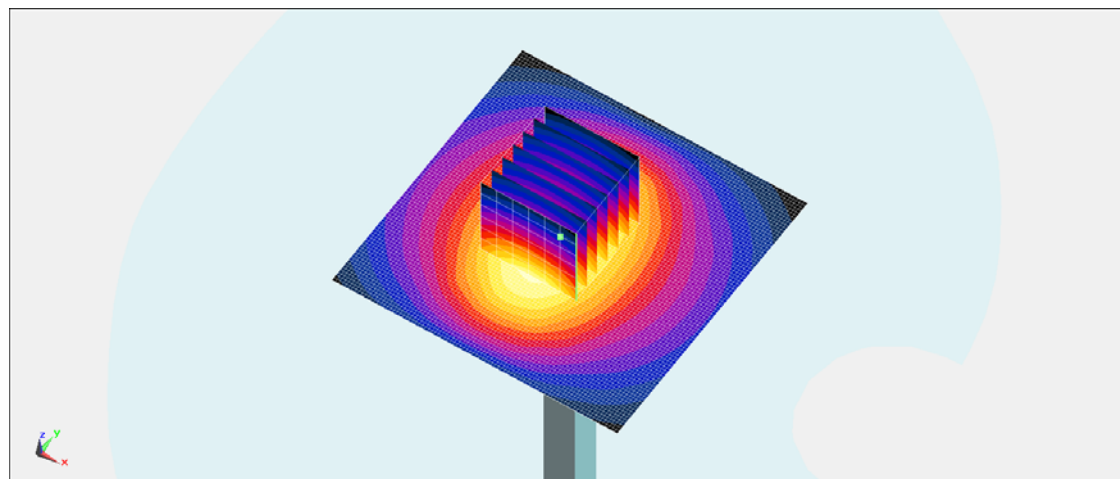
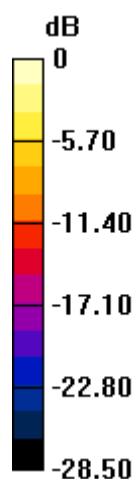
Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 84.528 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 28.414 mW/g

SAR(1 g) = 13 mW/g; SAR(10 g) = 6.18 mW/g

Maximum value of SAR (measured) = 14.4 mW/g



0 dB = 14.7 mW/g = 23.37 dB mW/g



Appendix B. Plots of SAR Measurement

The plots are shown as follows.

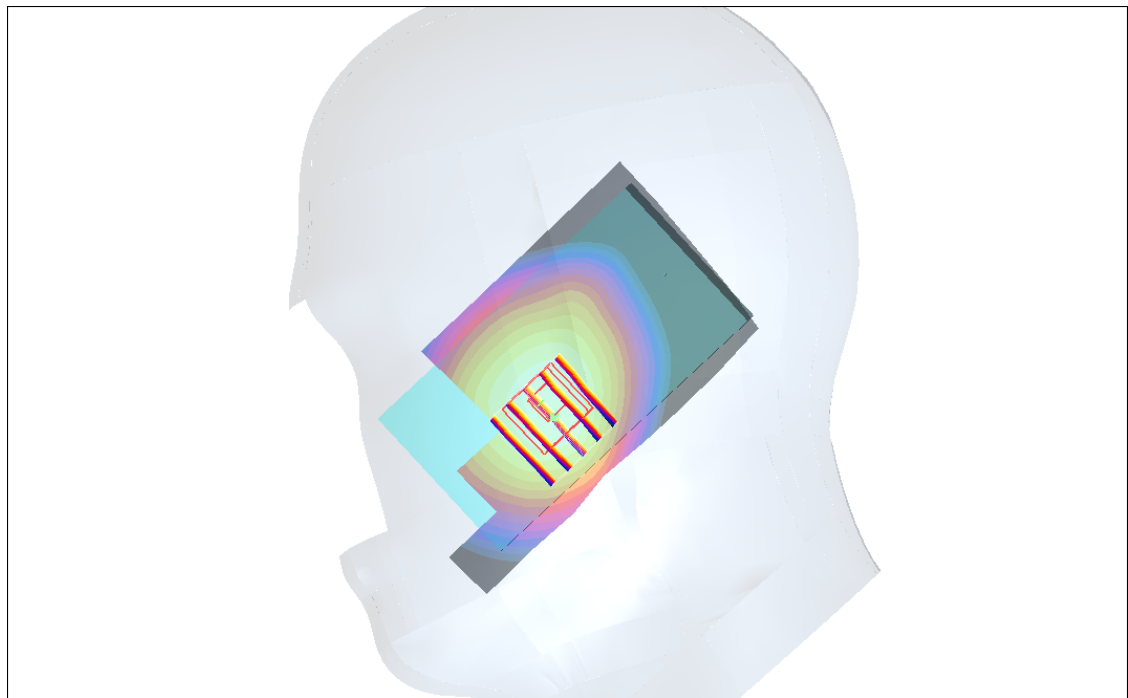
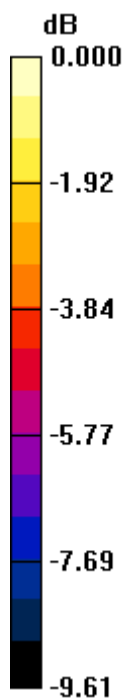
#01 GSM850_Right Cheek_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_850_120906 Medium parameters used: $f = 849 \text{ MHz}$; $\sigma = 0.914 \text{ mho/m}$; $\epsilon_r = 43.2$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : 22.5°C ; Liquid Temperature : 21.5°C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch251/Area Scan (41x71x1): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$ Maximum value of SAR (interpolated) = 0.549 mW/g **Ch251/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 7.57 V/m ; Power Drift = 0.106 dB Peak SAR (extrapolated) = 0.596 W/kg **SAR(1 g) = 0.498 mW/g ; SAR(10 g) = 0.377 mW/g** Maximum value of SAR (measured) = 0.523 mW/g 0 dB = 0.523 mW/g

#01 GSM850_Right Cheek_Ch251_2D**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_850_120906 Medium parameters used: $f = 849$ MHz; $\sigma = 0.914$ mho/m; $\epsilon_r = 43.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch251/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.549 mW/g

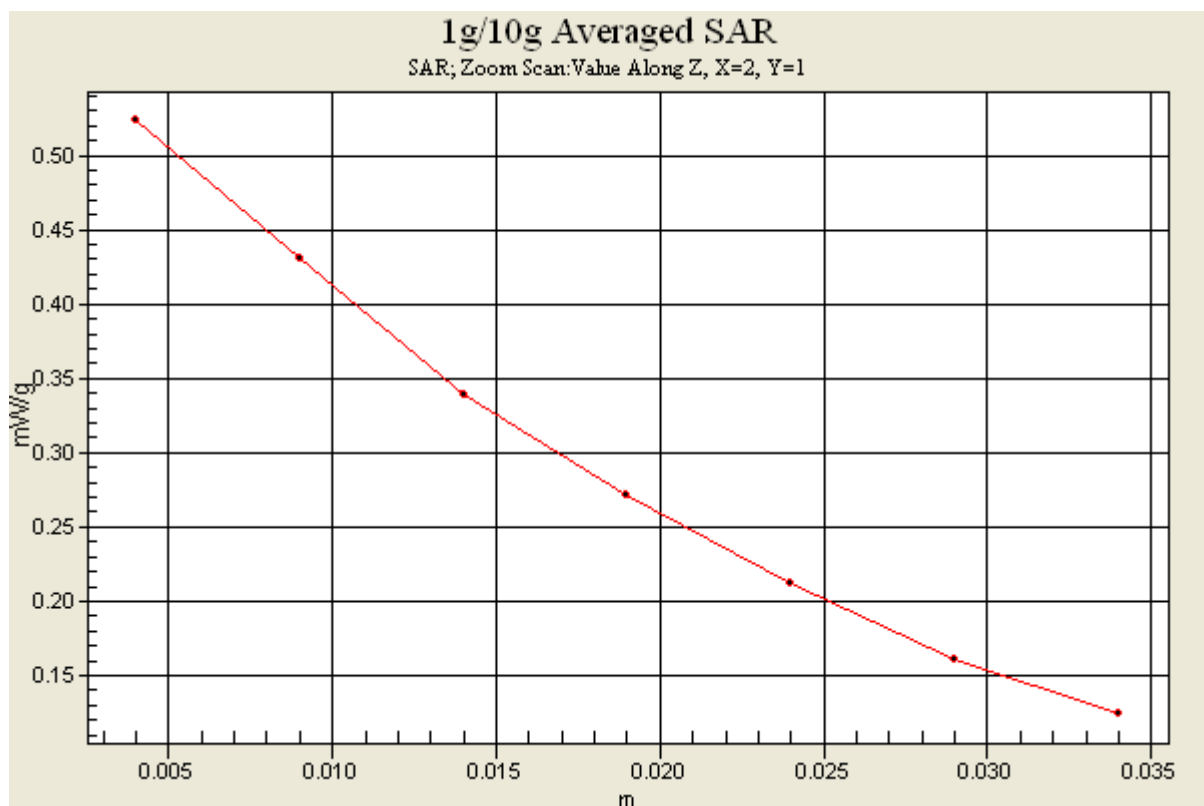
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.57 V/m; Power Drift = 0.106 dB

Peak SAR (extrapolated) = 0.596 W/kg

SAR(1 g) = 0.498 mW/g; SAR(10 g) = 0.377 mW/g

Maximum value of SAR (measured) = 0.523 mW/g



#02 GSM850_Right Tilted_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_850_120906 Medium parameters used: $f = 849$ MHz; $\sigma = 0.914$ mho/m; $\epsilon_r = 43.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch251/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.315 mW/g

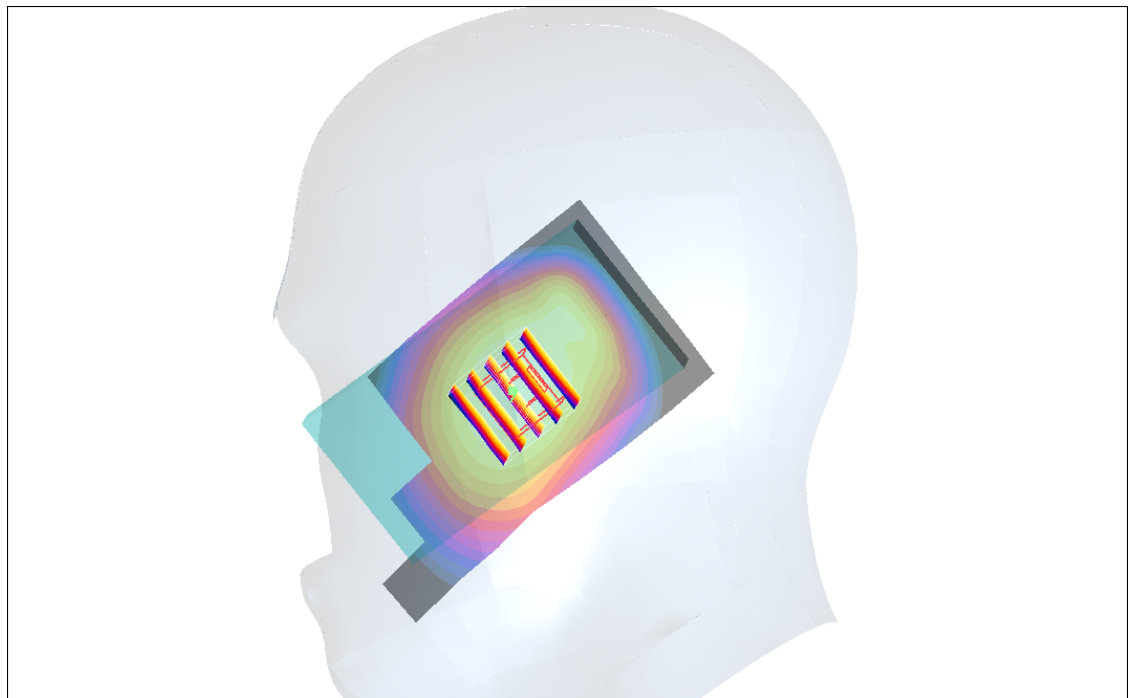
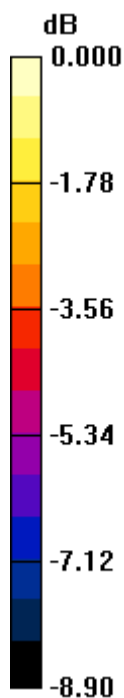
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.0 V/m; Power Drift = -0.035 dB

Peak SAR (extrapolated) = 0.372 W/kg

SAR(1 g) = 0.309 mW/g; SAR(10 g) = 0.234 mW/g

Maximum value of SAR (measured) = 0.322 mW/g



0 dB = 0.322mW/g

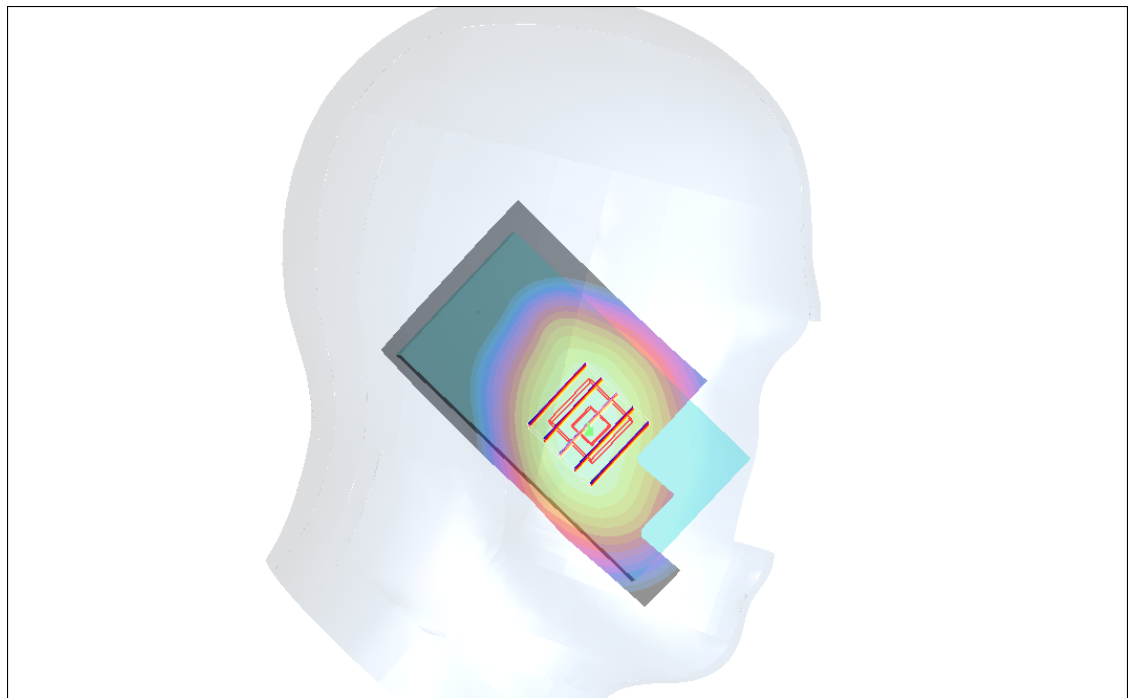
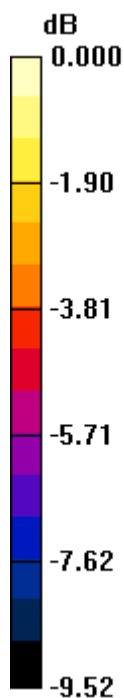
#03 GSM850_Left Cheek_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_850_120906 Medium parameters used: $f = 849 \text{ MHz}$; $\sigma = 0.914 \text{ mho/m}$; $\epsilon_r = 43.2$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : 22.5°C ; Liquid Temperature : 21.5°C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch251/Area Scan (41x71x1): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$ Maximum value of SAR (interpolated) = 0.456 mW/g **Ch251/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 6.90 V/m ; Power Drift = 0.002 dB Peak SAR (extrapolated) = 0.520 W/kg **SAR(1 g) = 0.425 mW/g ; SAR(10 g) = 0.317 mW/g** Maximum value of SAR (measured) = 0.454 mW/g 0 dB = 0.454 mW/g

#04 GSM850_Left Tilted_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_850_120906 Medium parameters used: $f = 849$ MHz; $\sigma = 0.914$ mho/m; $\epsilon_r = 43.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch251/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.295 mW/g

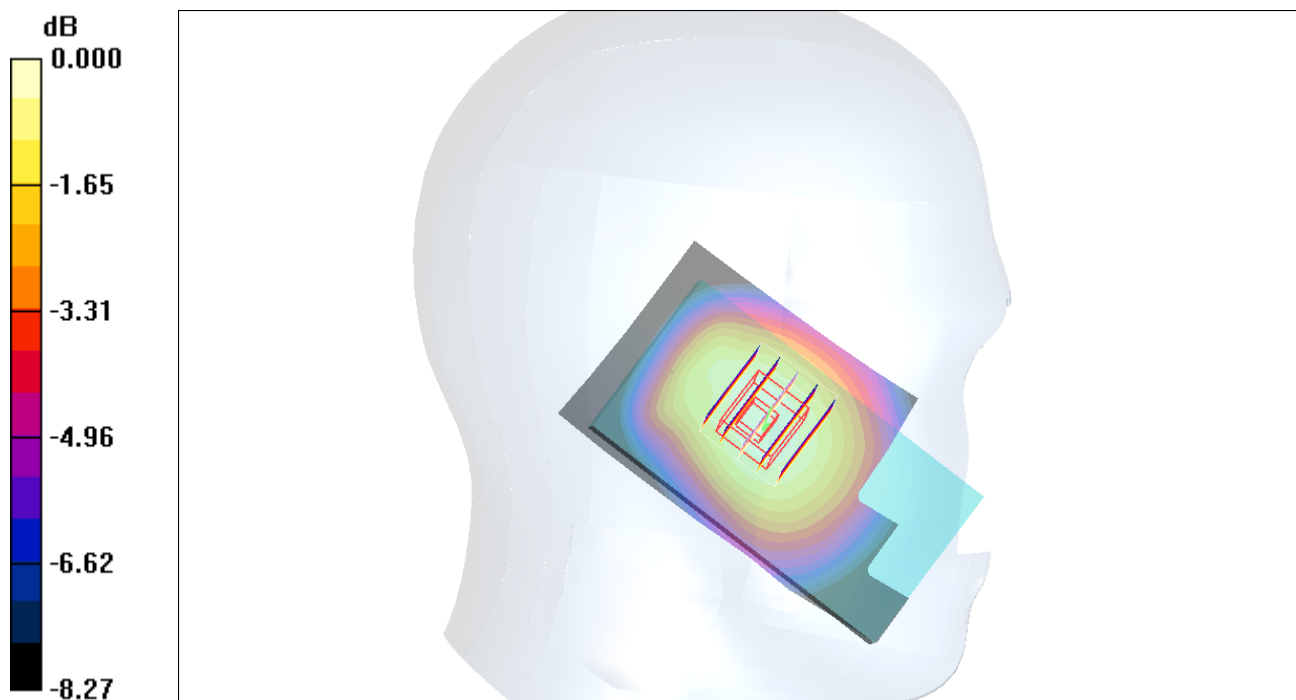
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.2 V/m; Power Drift = -0.062 dB

Peak SAR (extrapolated) = 0.338 W/kg

SAR(1 g) = 0.287 mW/g; SAR(10 g) = 0.219 mW/g

Maximum value of SAR (measured) = 0.300 mW/g



0 dB = 0.300mW/g

#108_GSM850_Right Cheek_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_850_121105 Medium parameters used: $f = 849$ MHz; $\sigma = 0.898$ mho/m; $\epsilon_r = 41.88$; $\rho =$

1000 kg/m^3

Ambient Temperature : 22.5°C ; Liquid Temperature : 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(8.71, 8.71, 8.71); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch251/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.307 mW/g

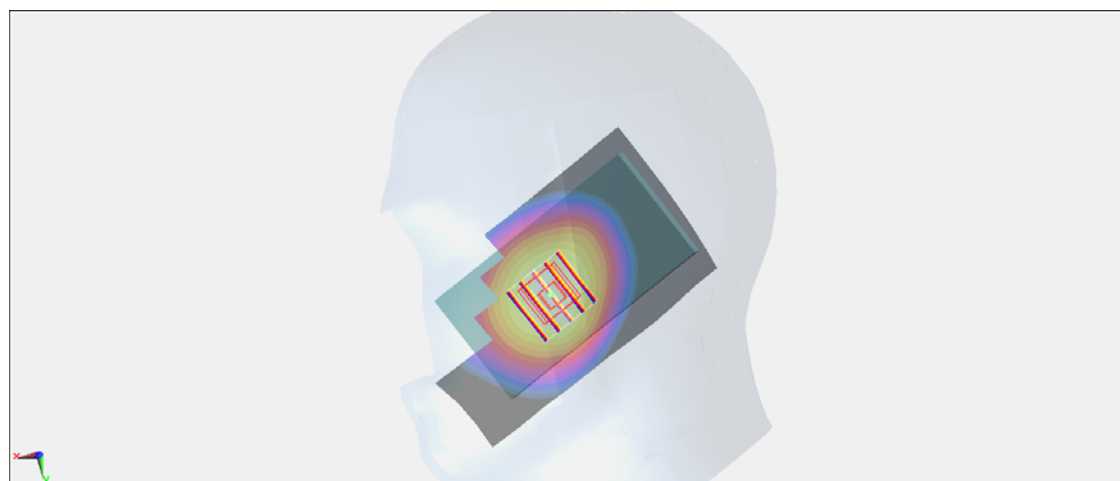
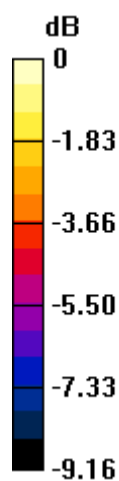
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 18.621 V/m ; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.359 mW/g

SAR(1 g) = 0.292 mW/g ; SAR(10 g) = 0.222 mW/g

Maximum value of SAR (measured) = 0.307 mW/g



0 dB = 0.307 mW/g = -10.26 dB mW/g

#109_GSM850_Right Cheek_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_850_121105 Medium parameters used: $f = 849$ MHz; $\sigma = 0.898$ mho/m; $\epsilon_r = 41.88$; $\rho =$

1000 kg/m^3

Ambient Temperature : 22.5°C ; Liquid Temperature : 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(8.71, 8.71, 8.71); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch251/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.308 mW/g

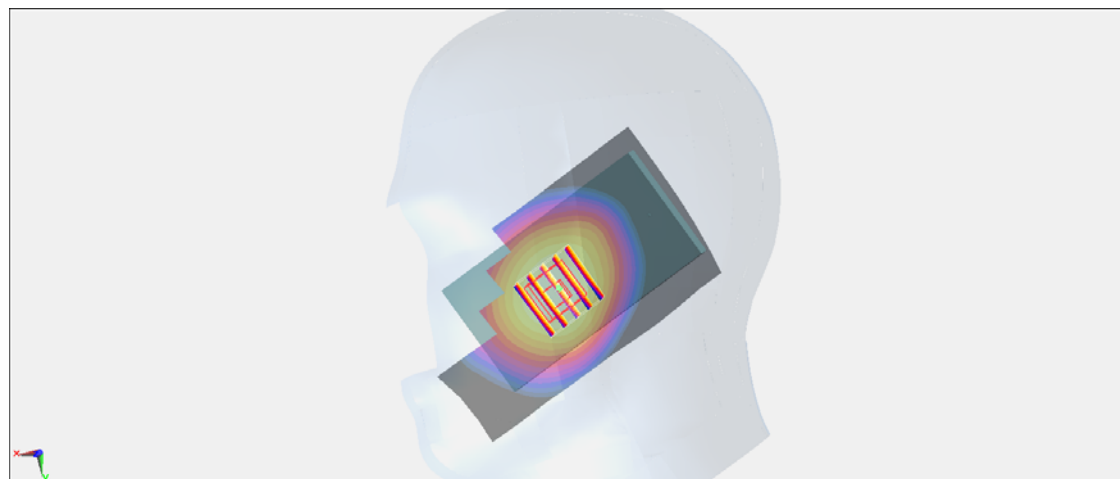
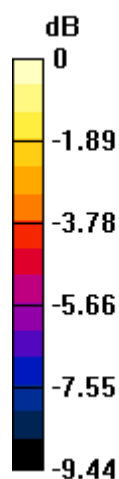
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 18.517 V/m ; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.363 mW/g

SAR(1 g) = 0.291 mW/g ; SAR(10 g) = 0.221 mW/g

Maximum value of SAR (measured) = 0.305 mW/g



0 dB = 0.305 mW/g = -10.31 dB mW/g

#09 GSM1900_Right Cheek_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_1900_120906 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 38.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.278 mW/g

Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.24 V/m; Power Drift = 0.009 dB

Peak SAR (extrapolated) = 0.341 W/kg

SAR(1 g) = 0.246 mW/g; SAR(10 g) = 0.153 mW/g

Maximum value of SAR (measured) = 0.258 mW/g

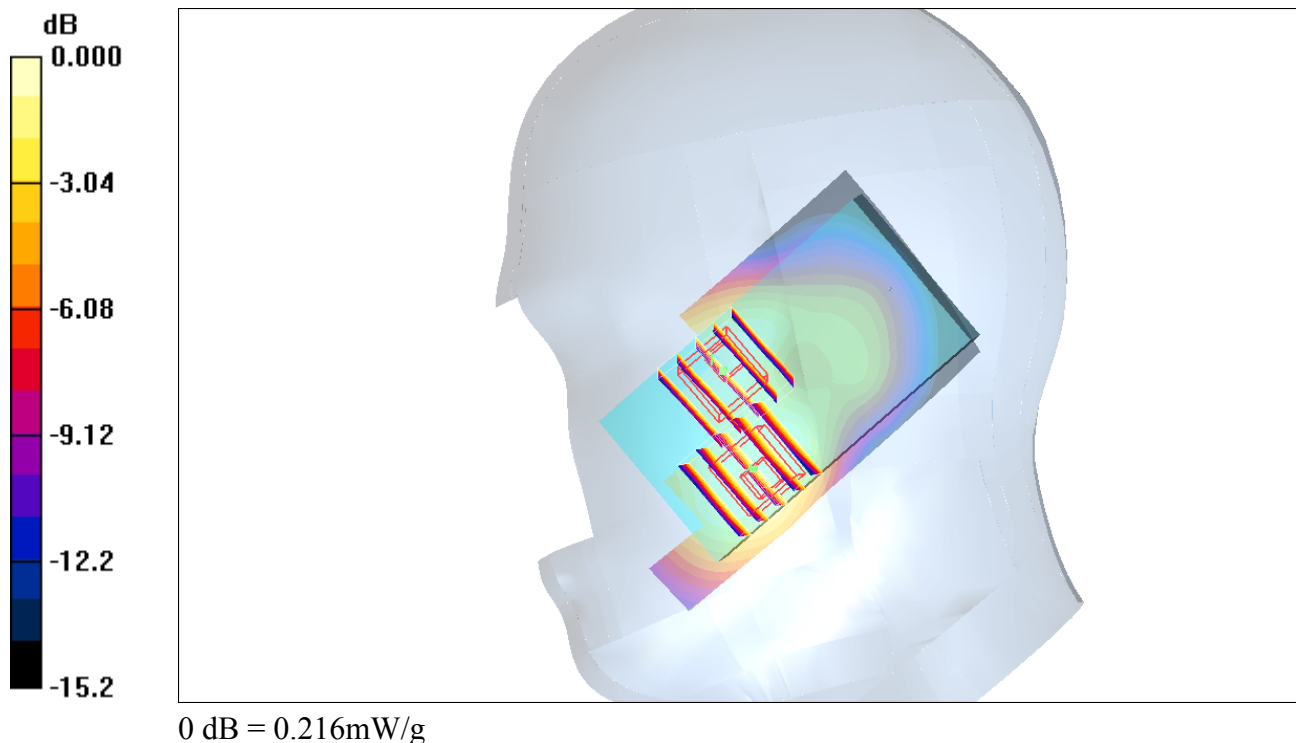
Ch810/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.24 V/m; Power Drift = 0.009 dB

Peak SAR (extrapolated) = 0.312 W/kg

SAR(1 g) = 0.208 mW/g; SAR(10 g) = 0.129 mW/g

Maximum value of SAR (measured) = 0.216 mW/g



#10 GSM1900_Right Tilted_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_1900_120906 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 38.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.167 mW/g

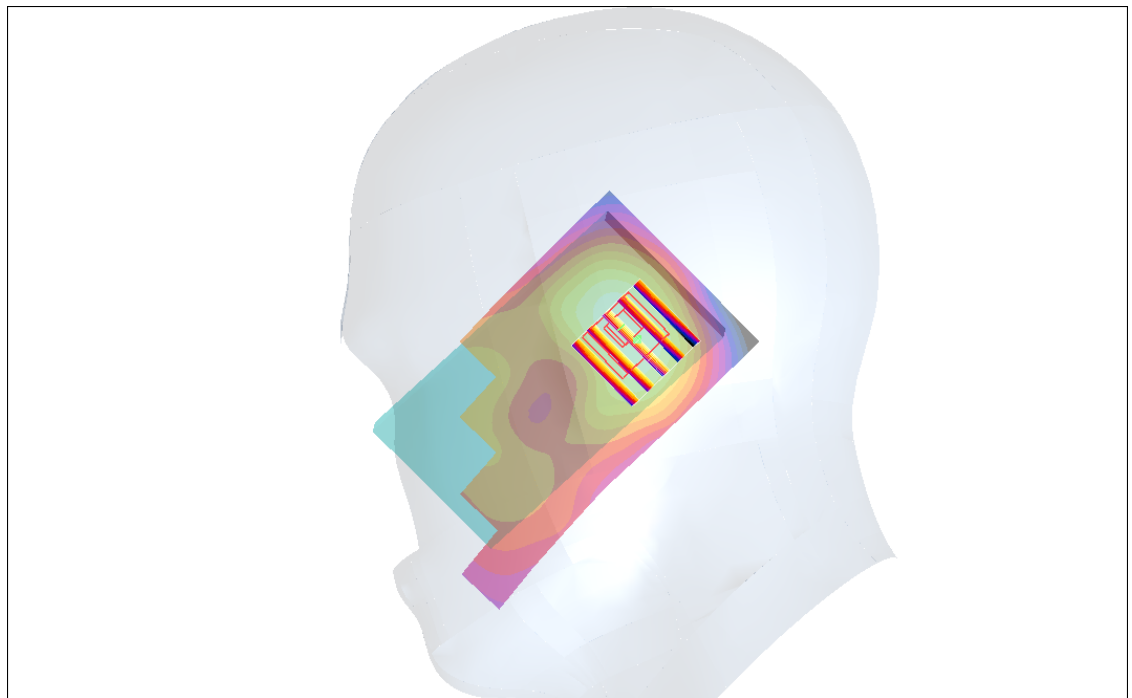
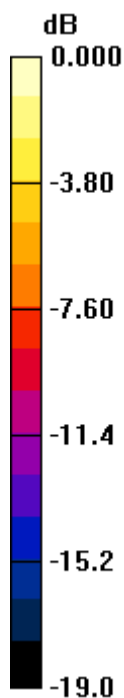
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.01 V/m; Power Drift = 0.020 dB

Peak SAR (extrapolated) = 0.212 W/kg

SAR(1 g) = 0.144 mW/g; SAR(10 g) = 0.089 mW/g

Maximum value of SAR (measured) = 0.157 mW/g



0 dB = 0.157mW/g

#11 GSM1900_Left Cheek_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_1900_120906 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 38.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.466 mW/g

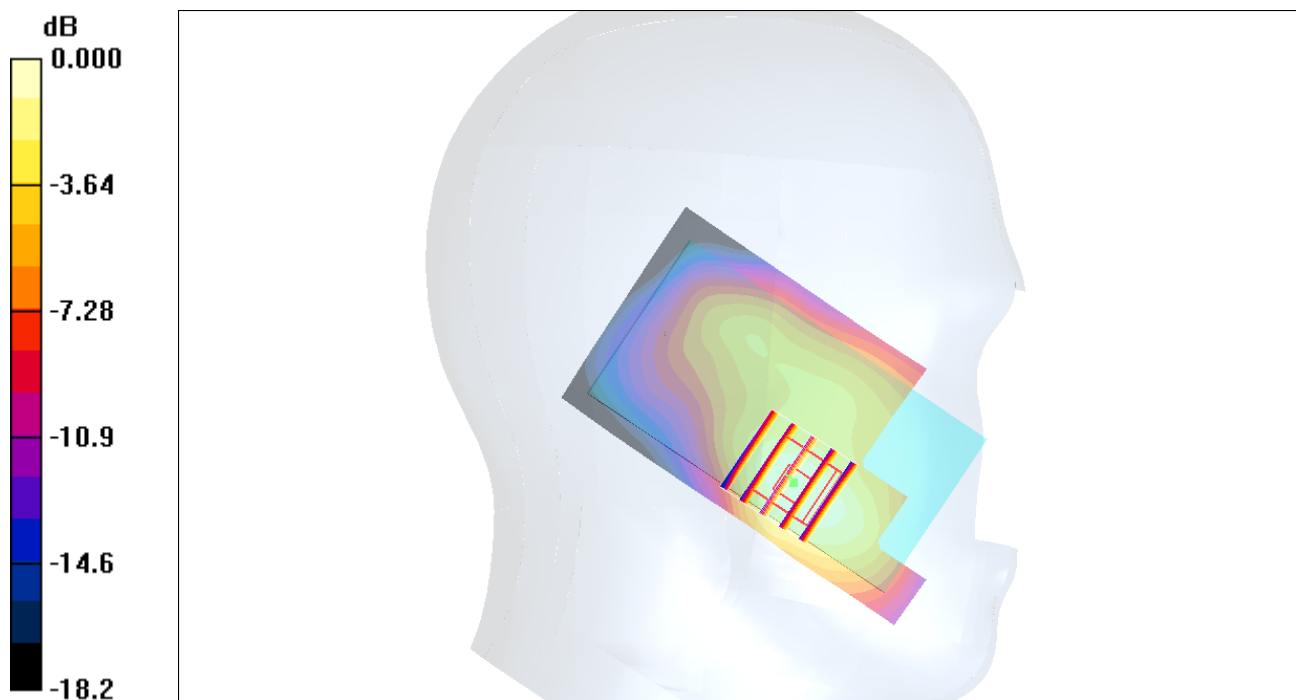
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.91 V/m; Power Drift = 0.012 dB

Peak SAR (extrapolated) = 0.588 W/kg

SAR(1 g) = 0.384 mW/g; SAR(10 g) = 0.234 mW/g

Maximum value of SAR (measured) = 0.418 mW/g



0 dB = 0.418mW/g

#11 GSM1900_Left Cheek_Ch810_2D**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_1900_120906 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 38.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.466 mW/g

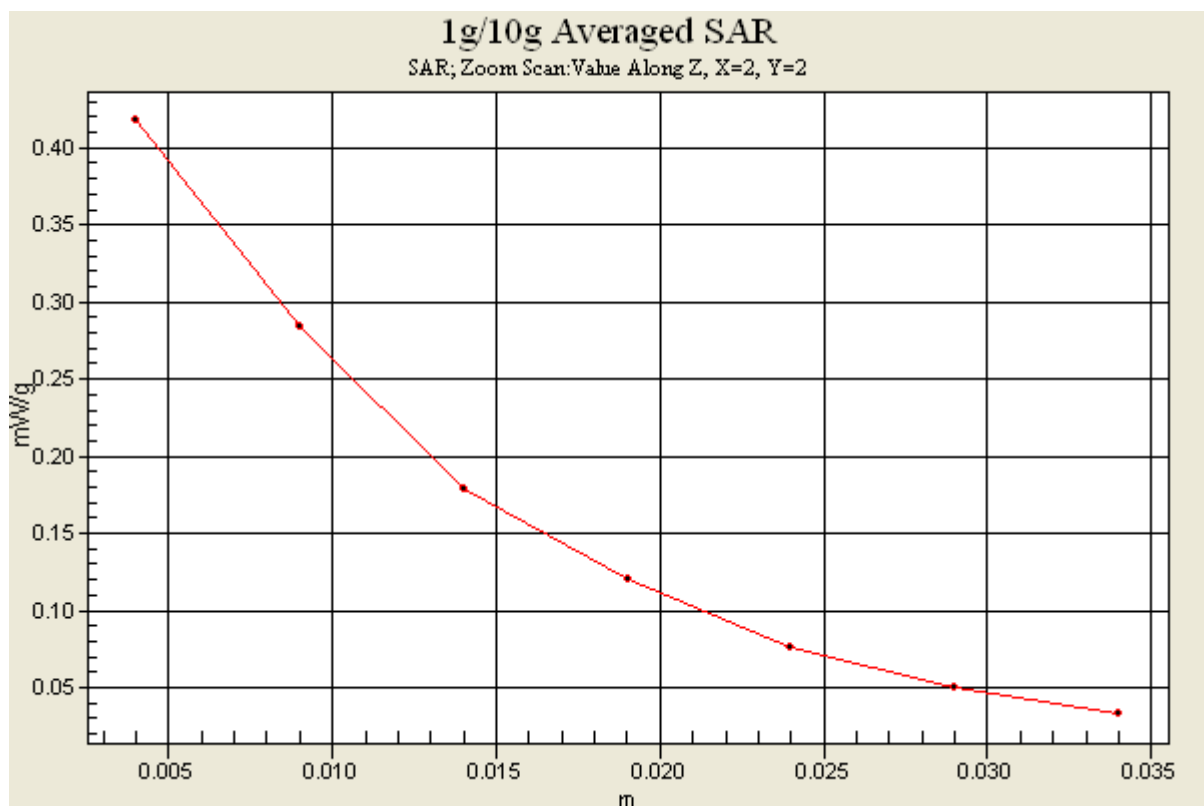
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.91 V/m; Power Drift = 0.012 dB

Peak SAR (extrapolated) = 0.588 W/kg

SAR(1 g) = 0.384 mW/g; SAR(10 g) = 0.234 mW/g

Maximum value of SAR (measured) = 0.418 mW/g



#12 GSM1900_Left Tilted_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_1900_120906 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 38.1$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(5.06, 5.06, 5.06); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.236 mW/g

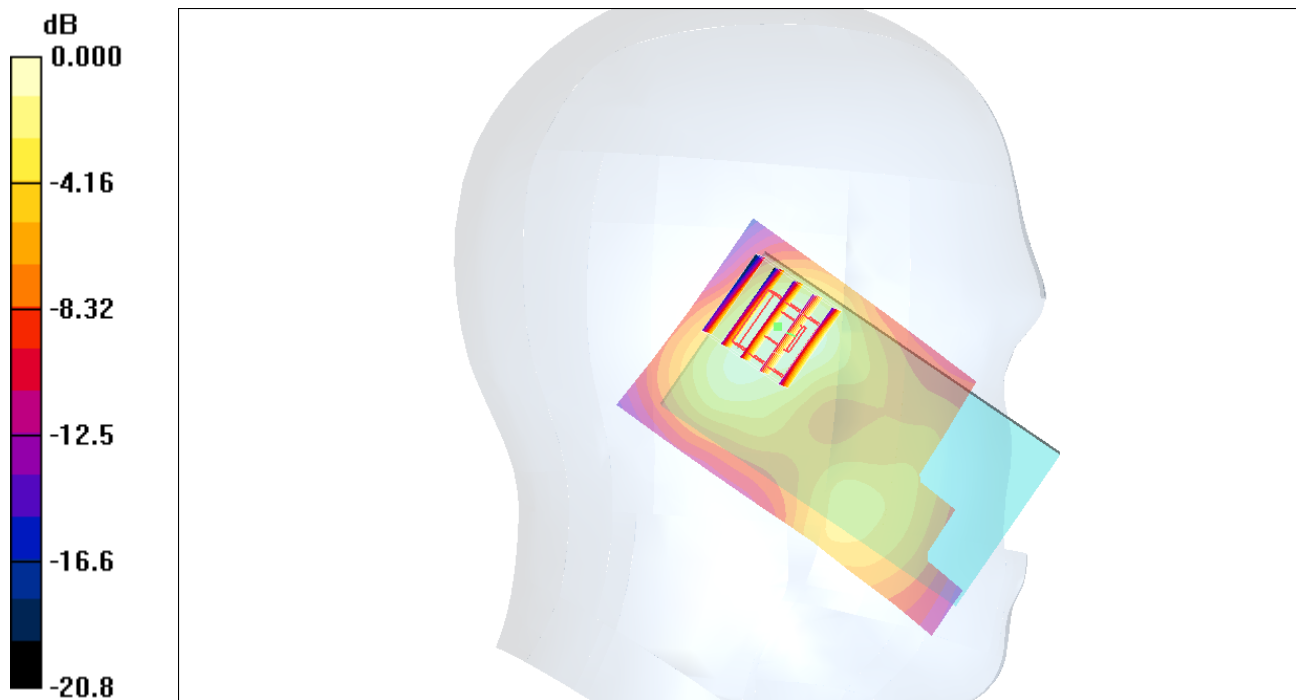
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.4 V/m; Power Drift = -0.083 dB

Peak SAR (extrapolated) = 0.247 W/kg

SAR(1 g) = 0.166 mW/g; SAR(10 g) = 0.102 mW/g

Maximum value of SAR (measured) = 0.176 mW/g



0 dB = 0.176mW/g

#114_GSM1900_Left Cheek_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_1900_1211105 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.457$ mho/m; $\epsilon_r = 38.422$; ρ

$= 1000$ kg/m³

Ambient Temperature : 22.4 °C; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(7.42, 7.42, 7.42); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch810/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.319 mW/g

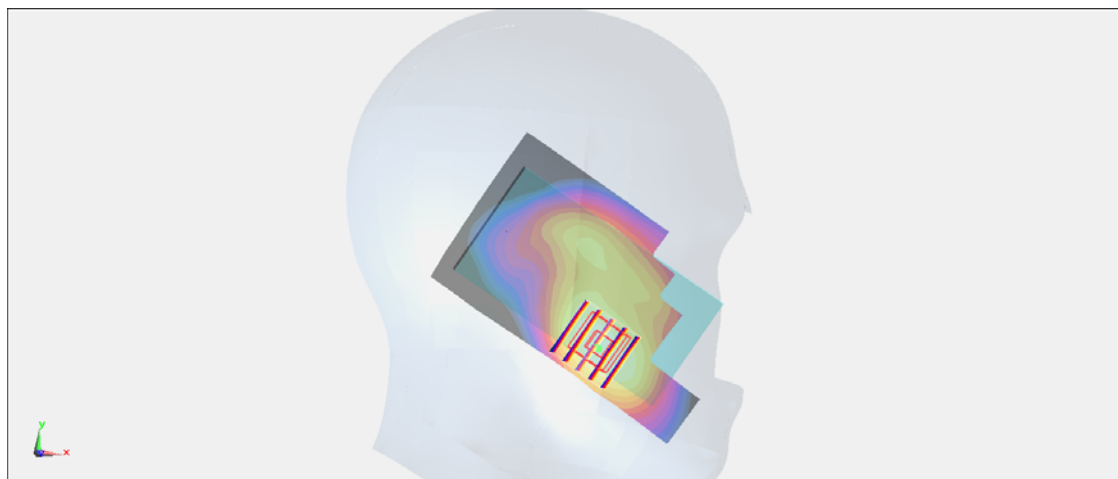
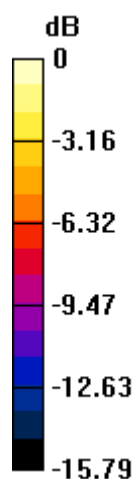
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.760 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.463 mW/g

SAR(1 g) = 0.289 mW/g; SAR(10 g) = 0.174 mW/g

Maximum value of SAR (measured) = 0.316 mW/g



0 dB = 0.316 mW/g = -10.01 dB mW/g

#115_GSM1900_Left Cheek_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: HSL_1900_1211105 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.457$ mho/m; $\epsilon_r = 38.422$; ρ

$= 1000$ kg/m³

Ambient Temperature : 22.4 °C; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(7.42, 7.42, 7.42); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch810/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.341 mW/g

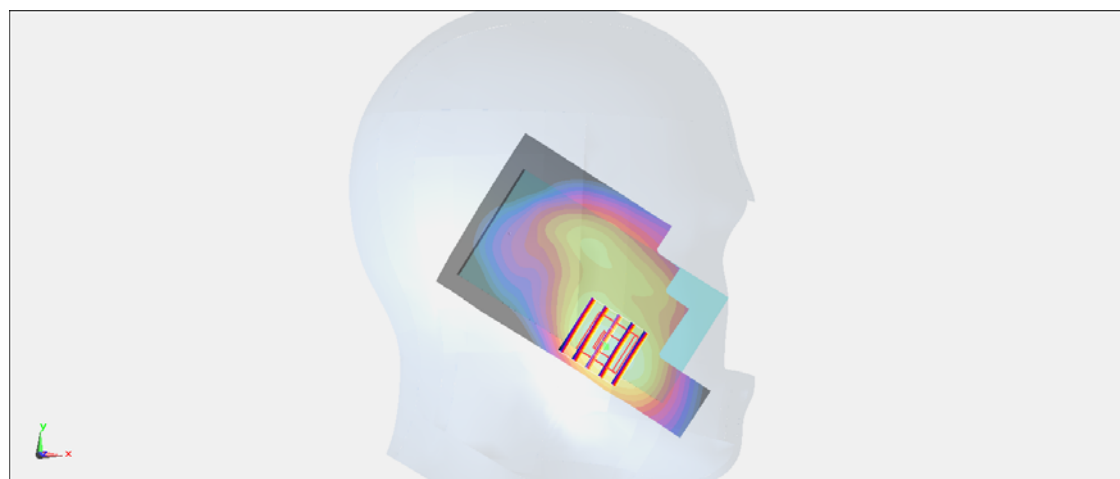
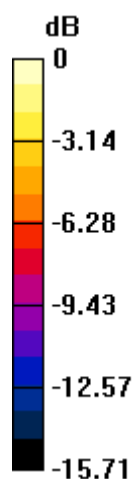
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.204 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.490 mW/g

SAR(1 g) = 0.305 mW/g; SAR(10 g) = 0.183 mW/g

Maximum value of SAR (measured) = 0.335 mW/g



0 dB = 0.335 mW/g = -9.50 dB mW/g

#05 WCDMA V_RMC12.2K_Right Cheek_Ch4233**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: HSL_850_120906 Medium parameters used: $f = 847$ MHz; $\sigma = 0.913$ mho/m; $\epsilon_r = 43.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch4233/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.471 mW/g

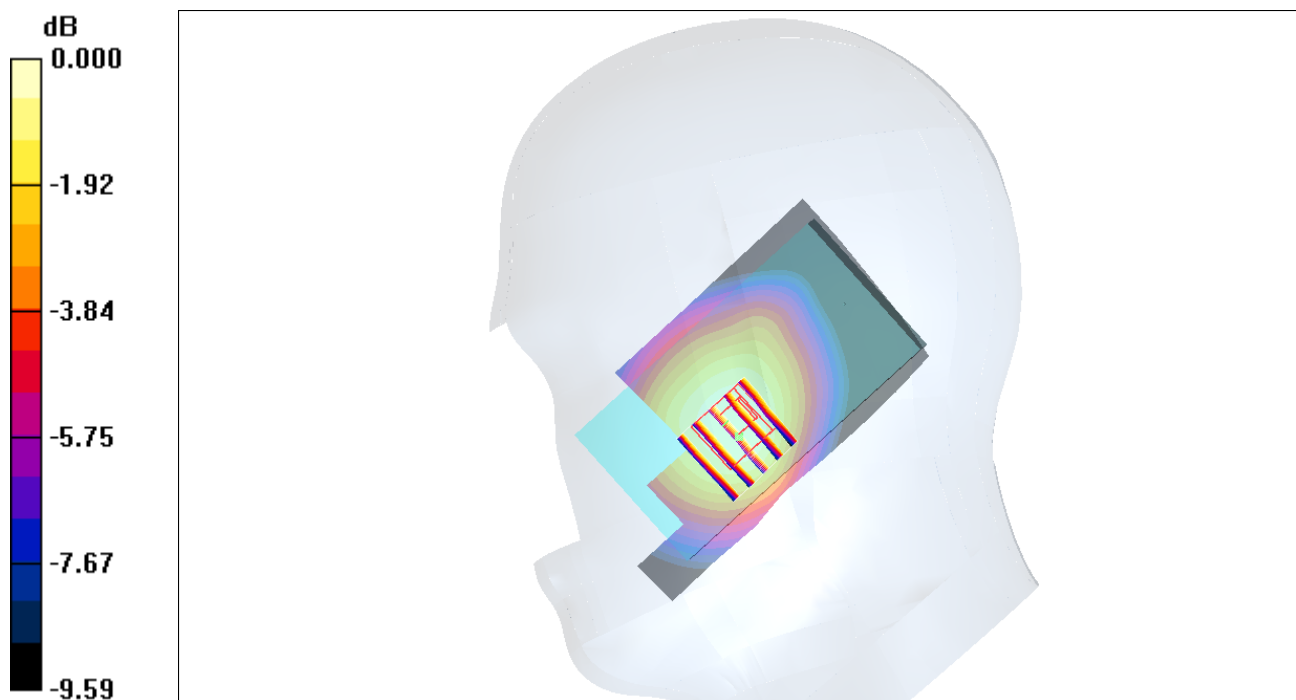
Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.73 V/m; Power Drift = 0.065 dB

Peak SAR (extrapolated) = 0.547 W/kg

SAR(1 g) = 0.438 mW/g; SAR(10 g) = 0.325 mW/g

Maximum value of SAR (measured) = 0.460 mW/g



0 dB = 0.460mW/g

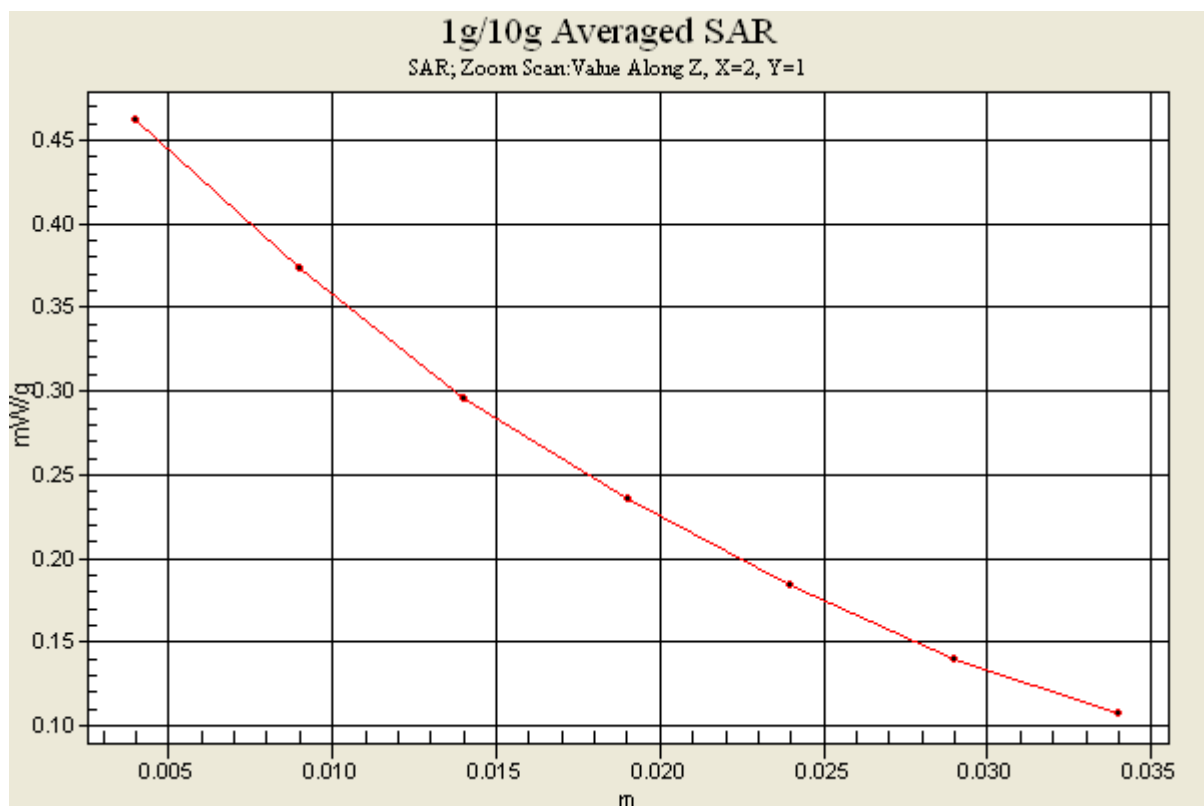
#05 WCDMA V_RMC12.2K_Right Cheek_Ch4233_2D**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: HSL_850_120906 Medium parameters used: $f = 847 \text{ MHz}$; $\sigma = 0.913 \text{ mho/m}$; $\epsilon_r = 43.2$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : 22.5°C ; Liquid Temperature : 21.5°C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch4233/Area Scan (41x71x1): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$ Maximum value of SAR (interpolated) = 0.471 mW/g **Ch4233/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 7.73 V/m ; Power Drift = 0.065 dB Peak SAR (extrapolated) = 0.547 W/kg **SAR(1 g) = 0.438 mW/g ; SAR(10 g) = 0.325 mW/g** Maximum value of SAR (measured) = 0.460 mW/g 

#06 WCDMA V_RMC12.2K_Right Tilted_Ch4233**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: HSL_850_120906 Medium parameters used: $f = 847$ MHz; $\sigma = 0.913$ mho/m; $\epsilon_r = 43.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch4233/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.285 mW/g

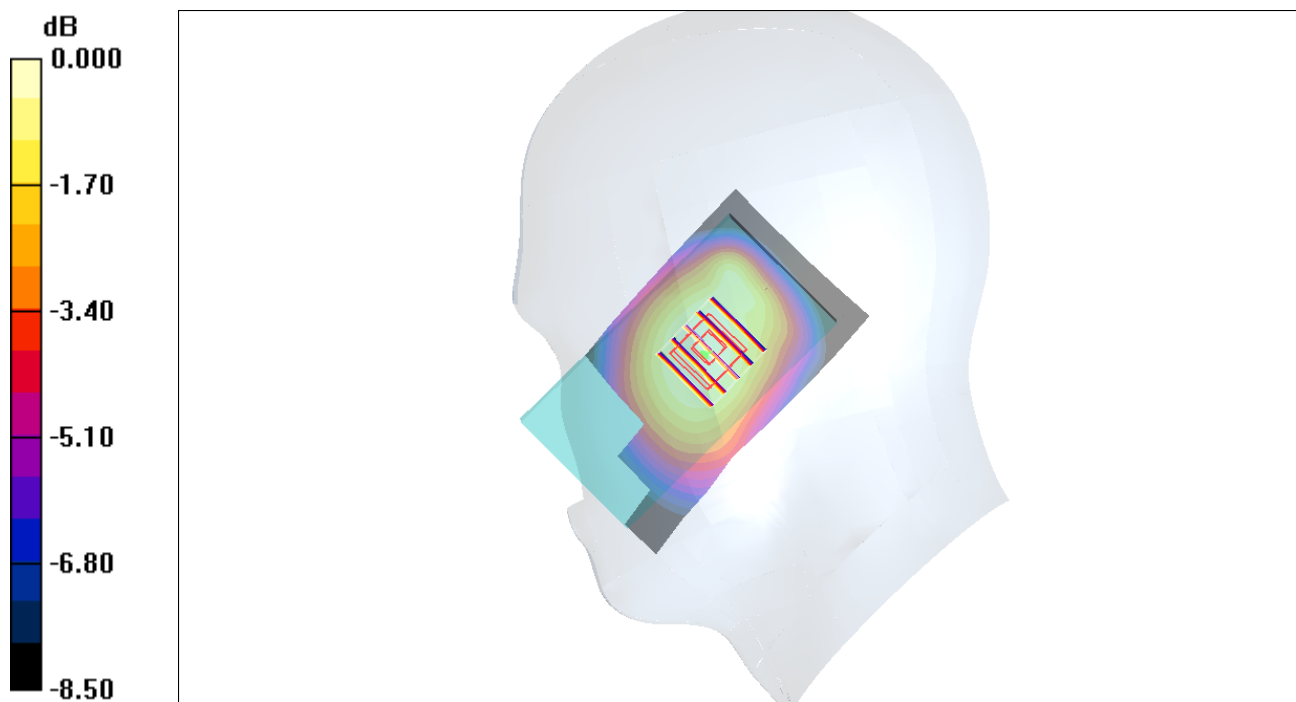
Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.6 V/m; Power Drift = -0.151 dB

Peak SAR (extrapolated) = 0.317 W/kg

SAR(1 g) = 0.269 mW/g; SAR(10 g) = 0.205 mW/g

Maximum value of SAR (measured) = 0.282 mW/g



0 dB = 0.282mW/g

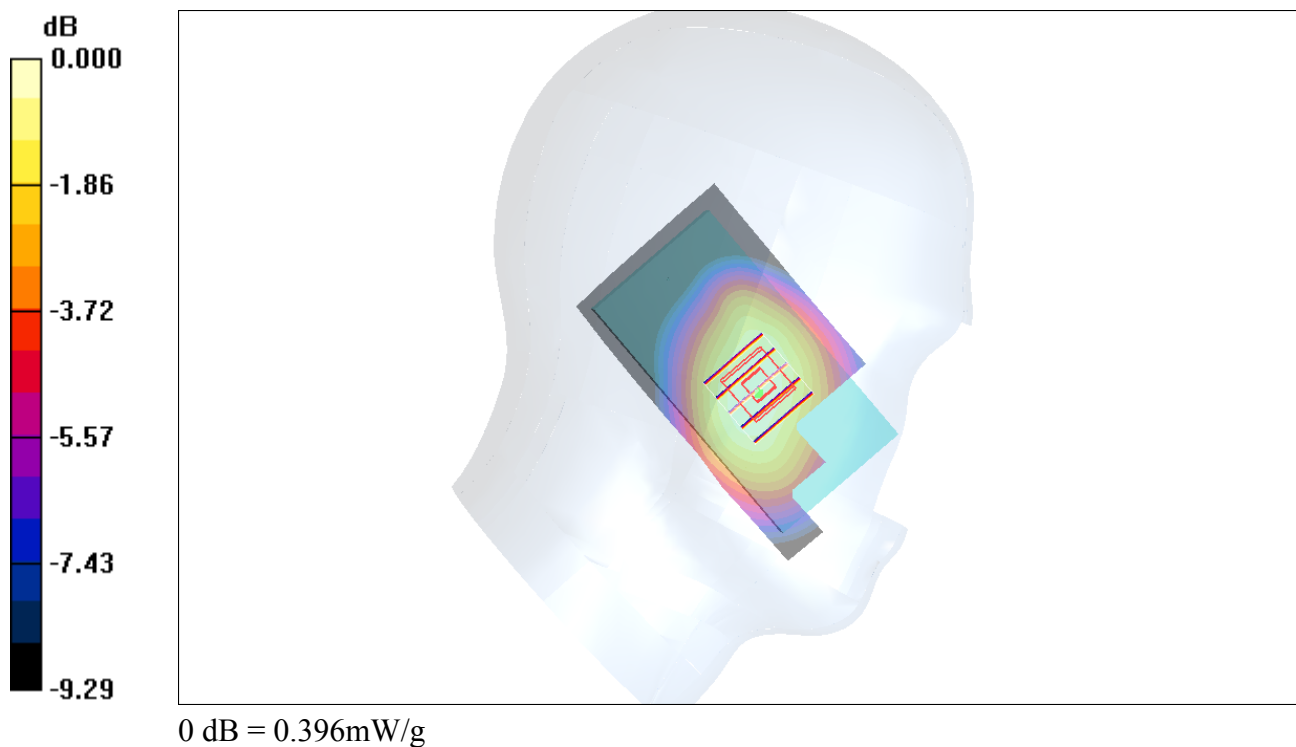
#07 WCDMA V_RMC12.2K_Left Cheek_Ch4233**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: HSL_850_120906 Medium parameters used: $f = 847 \text{ MHz}$; $\sigma = 0.913 \text{ mho/m}$; $\epsilon_r = 43.2$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : 22.5°C ; Liquid Temperature : 21.5°C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch4233/Area Scan (41x71x1): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$ Maximum value of SAR (interpolated) = 0.398 mW/g **Ch4233/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 6.43 V/m ; Power Drift = -0.167 dB Peak SAR (extrapolated) = 0.452 W/kg **SAR(1 g) = 0.373 mW/g ; SAR(10 g) = 0.278 mW/g** Maximum value of SAR (measured) = 0.396 mW/g 

#08 WCDMA V_RMC12.2K_Left Tilted_Ch4233**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: HSL_850_120906 Medium parameters used: $f = 847$ MHz; $\sigma = 0.913$ mho/m; $\epsilon_r = 43.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.12, 6.12, 6.12); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch4233/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.265 mW/g

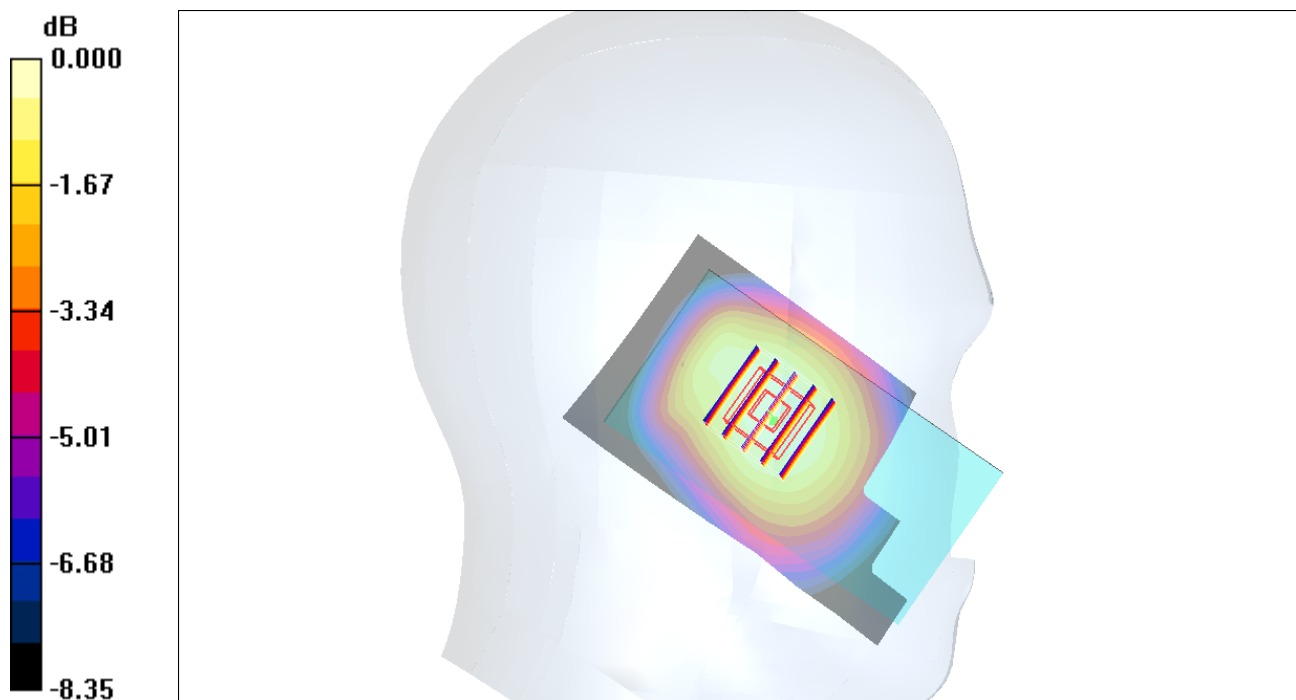
Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.5 V/m; Power Drift = -0.147 dB

Peak SAR (extrapolated) = 0.306 W/kg

SAR(1 g) = 0.260 mW/g; SAR(10 g) = 0.199 mW/g

Maximum value of SAR (measured) = 0.272 mW/g



0 dB = 0.272mW/g

#111_WCDMA V_RMC12.2K_Right Cheek_Ch4233**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: HSL_850_121105 Medium parameters used: $f = 847$ MHz; $\sigma = 0.896$ mho/m; $\epsilon_r = 41.9$; $\rho =$

1000 kg/m^3

Ambient Temperature : 22.5°C ; Liquid Temperature : 21.5°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(8.71, 8.71, 8.71); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch4233/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.374 mW/g

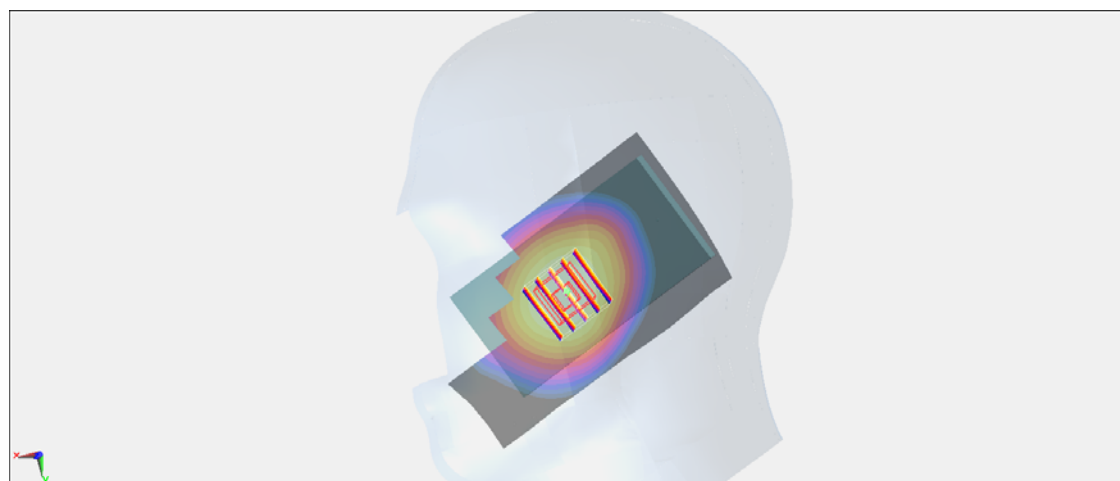
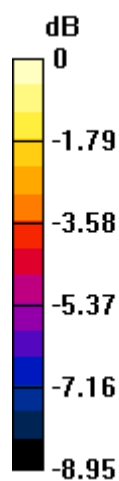
Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 20.310 V/m ; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.422 mW/g

SAR(1 g) = 0.341 mW/g ; SAR(10 g) = 0.261 mW/g

Maximum value of SAR (measured) = 0.357 mW/g



0 dB = 0.357 mW/g = -8.95 dB mW/g

#112_WCDMA V_RMC12.2K_Right Cheek_Ch4233**DUT:282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: HSL_850_121105 Medium parameters used: $f = 847$ MHz; $\sigma = 0.896$ mho/m; $\epsilon_r = 41.9$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(8.71, 8.71, 8.71); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch4233/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.310 mW/g

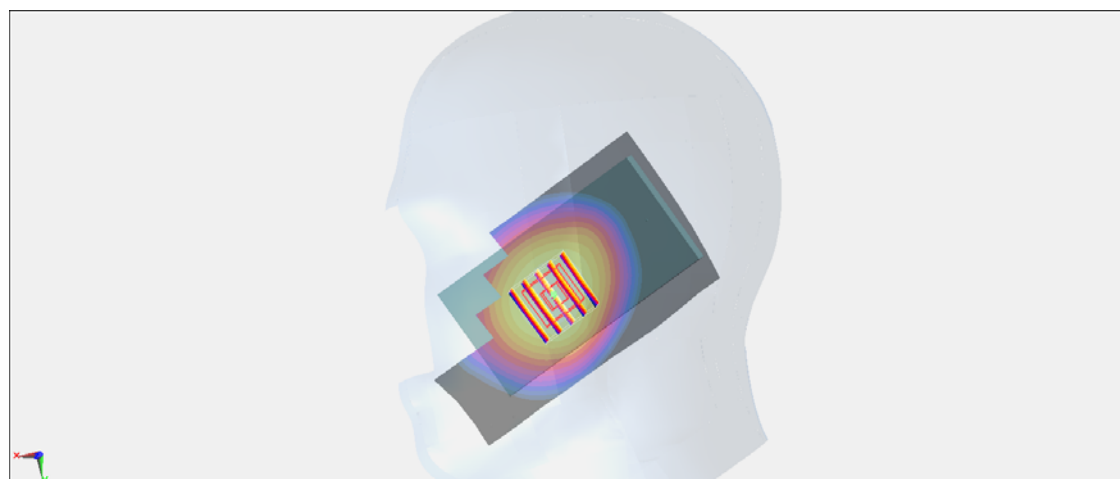
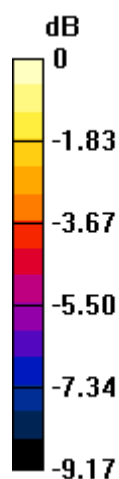
Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.473 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.364 mW/g

SAR(1 g) = 0.293 mW/g; SAR(10 g) = 0.223 mW/g

Maximum value of SAR (measured) = 0.308 mW/g



0 dB = 0.308 mW/g = -10.23 dB mW/g

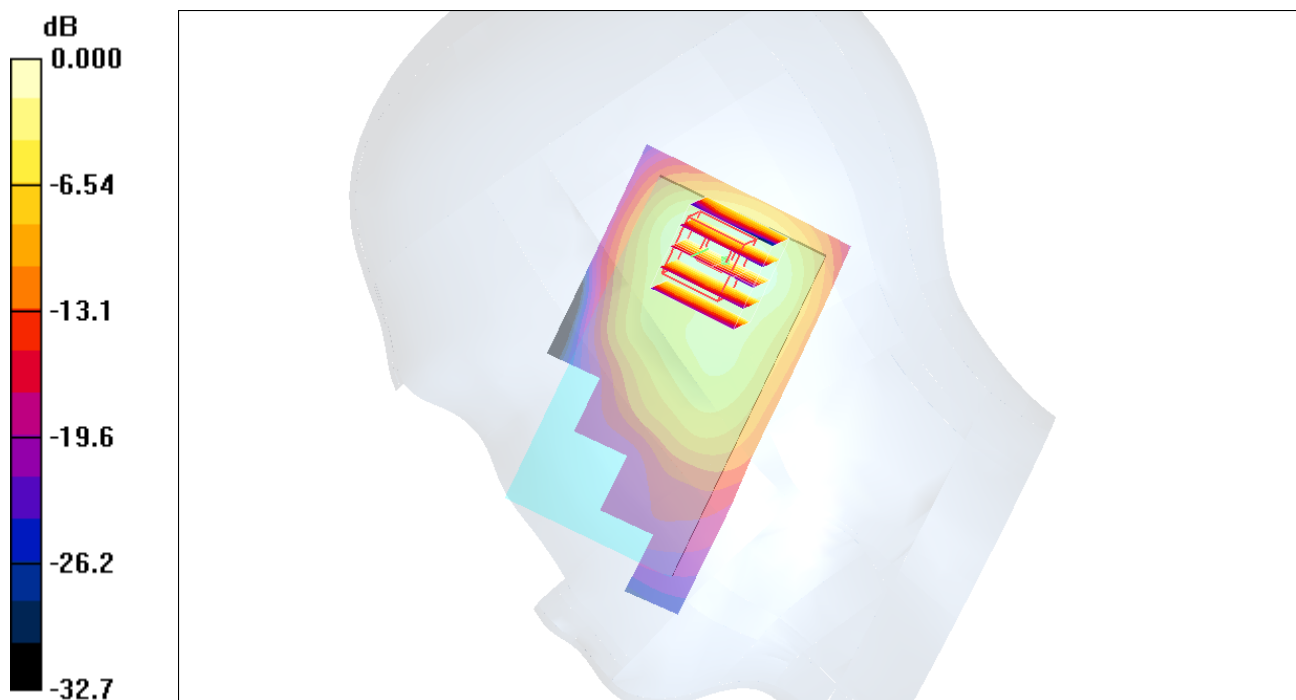
#35 WLAN2.4G_80211b_Right Cheek_Ch6**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: HSL_2450_120907 Medium parameters used: $f = 2437 \text{ MHz}$; $\sigma = 1.82 \text{ mho/m}$; $\epsilon_r = 39.4$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : 22.5°C ; Liquid Temperature : 21.5°C

DASY4 Configuration:

- Probe: ES3DV3 - SN3296; ConvF(4.63, 4.63, 4.63); Calibrated: 2012/4/10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (41x71x1): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$ Maximum value of SAR (interpolated) = 0.264 mW/g **Ch6/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 11.9 V/m ; Power Drift = -0.030 dB Peak SAR (extrapolated) = 0.426 W/kg **SAR(1 g) = 0.228 mW/g ; SAR(10 g) = 0.114 mW/g** Maximum value of SAR (measured) = 0.255 mW/g 0 dB = 0.255 mW/g

#36 WLAN2.4G_80211b_Right Tilted_Ch6**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: HSL_2450_120907 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.82$ mho/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ES3DV3 - SN3296; ConvF(4.63, 4.63, 4.63); Calibrated: 2012/4/10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.257 mW/g

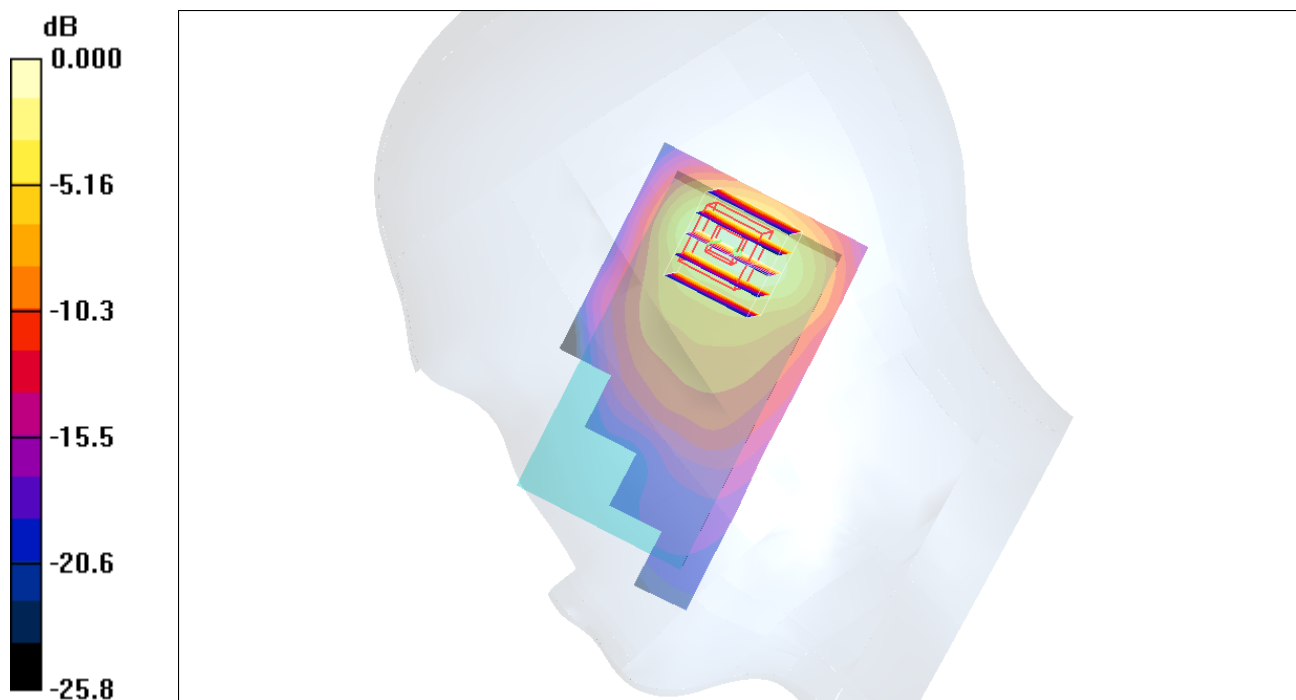
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.0 V/m; Power Drift = 0.020 dB

Peak SAR (extrapolated) = 0.474 W/kg

SAR(1 g) = 0.241 mW/g; SAR(10 g) = 0.114 mW/g

Maximum value of SAR (measured) = 0.275 mW/g



0 dB = 0.275mW/g

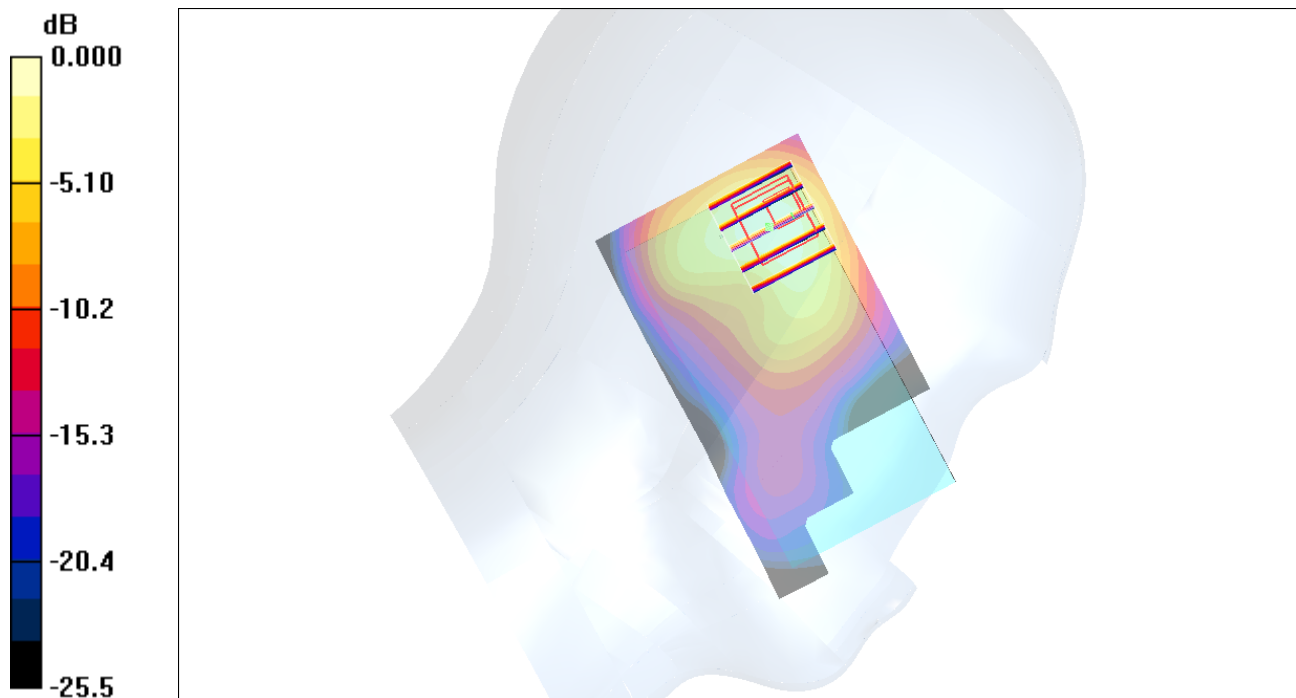
#37 WLAN2.4G_80211b_Left Cheek_Ch6**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: HSL_2450_120907 Medium parameters used: $f = 2437 \text{ MHz}$; $\sigma = 1.82 \text{ mho/m}$; $\epsilon_r = 39.4$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : 22.5°C ; Liquid Temperature : 21.5°C

DASY4 Configuration:

- Probe: ES3DV3 - SN3296; ConvF(4.63, 4.63, 4.63); Calibrated: 2012/4/10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (41x71x1): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$ Maximum value of SAR (interpolated) = 0.364 mW/g **Ch6/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 10.2 V/m ; Power Drift = 0.104 dB Peak SAR (extrapolated) = 0.726 W/kg **SAR(1 g) = 0.291 mW/g ; SAR(10 g) = 0.135 mW/g** Maximum value of SAR (measured) = 0.333 mW/g 0 dB = 0.333 mW/g

#38 WLAN2.4G_80211b_Left Tilted_Ch6**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: HSL_2450_120907 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.82$ mho/m; $\epsilon_r = 39.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ES3DV3 - SN3296; ConvF(4.63, 4.63, 4.63); Calibrated: 2012/4/10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM_Left; Type: SAM; Serial: TP-1150
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.200 mW/g

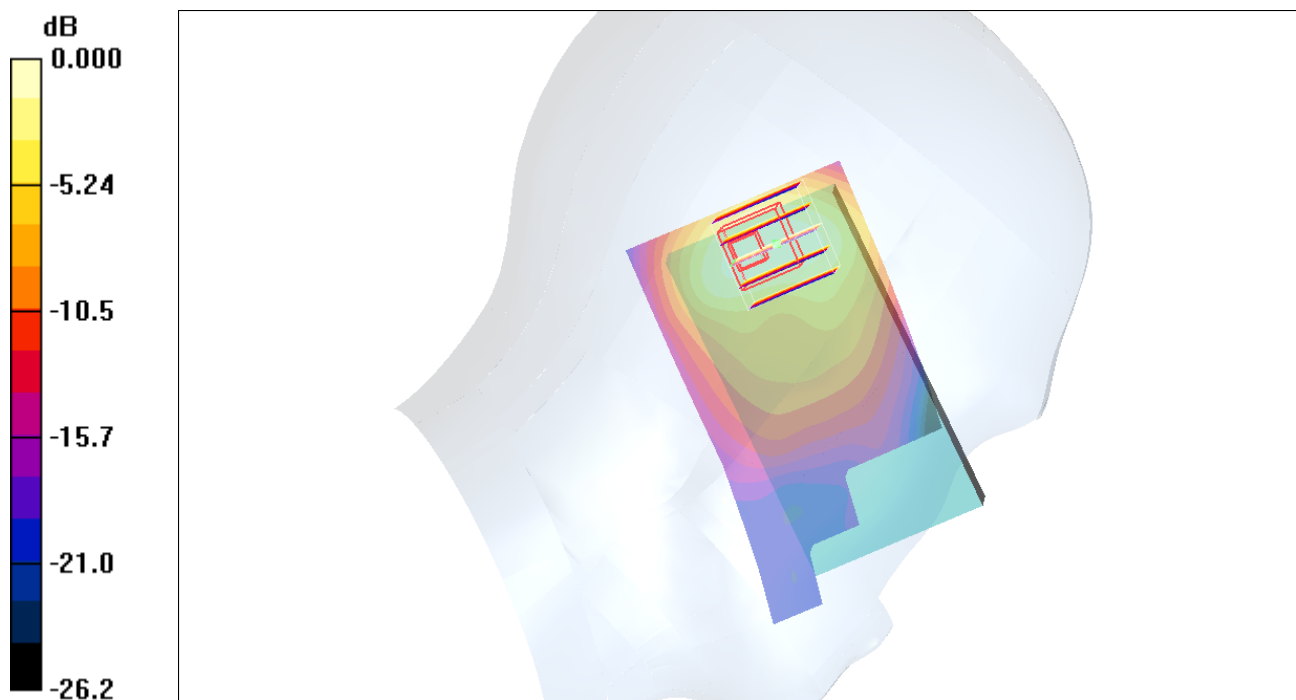
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.5 V/m; Power Drift = -0.082 dB

Peak SAR (extrapolated) = 0.401 W/kg

SAR(1 g) = 0.189 mW/g; SAR(10 g) = 0.095 mW/g

Maximum value of SAR (measured) = 0.212 mW/g



0 dB = 0.212mW/g

#102_WLAN2.4G_802.11b_Left Cheek_Ch6**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: HSL_2450_121104 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.836$ mho/m; $\epsilon_r = 39.314$; ρ

$= 1000$ kg/m³

Ambient Temperature : 22.1 °C ; Liquid Temperature : 21.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(6.7, 6.7, 6.7); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch6/Area Scan (71x121x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 0.385 mW/g

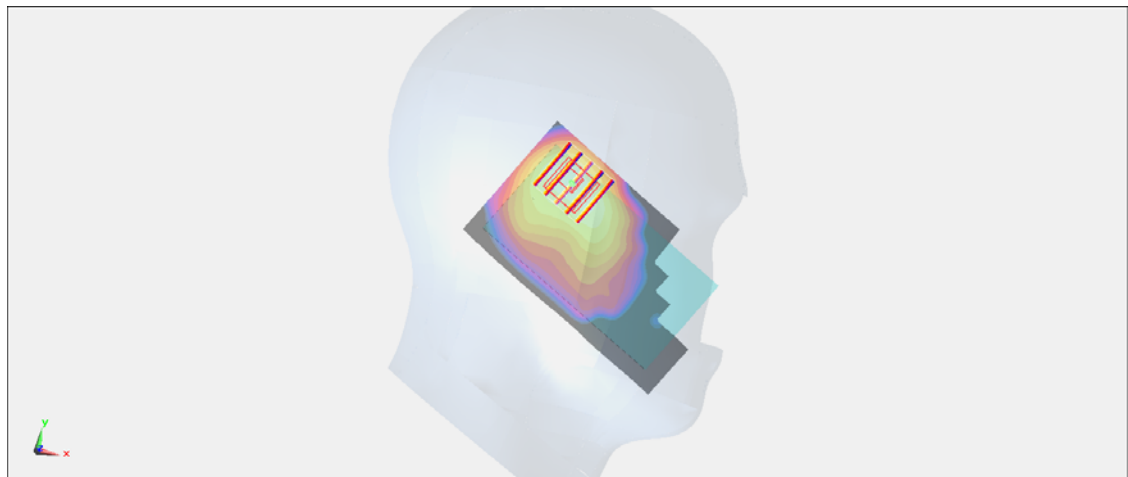
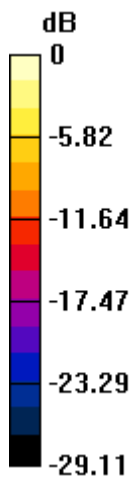
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.891 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.830 mW/g

SAR(1 g) = 0.366 mW/g; SAR(10 g) = 0.173 mW/g

Maximum value of SAR (measured) = 0.413 mW/g



0 dB = 0.413 mW/g = -7.68 dB mW/g

#103_WLAN2.4G_802.11b_Left Cheek_Ch6**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: HSL_2450_121104 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.836$ mho/m; $\epsilon_r = 39.314$; ρ

$= 1000$ kg/m³

Ambient Temperature : 22.1 °C ; Liquid Temperature : 21.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(6.7, 6.7, 6.7); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch6/Area Scan (71x121x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 0.579 mW/g

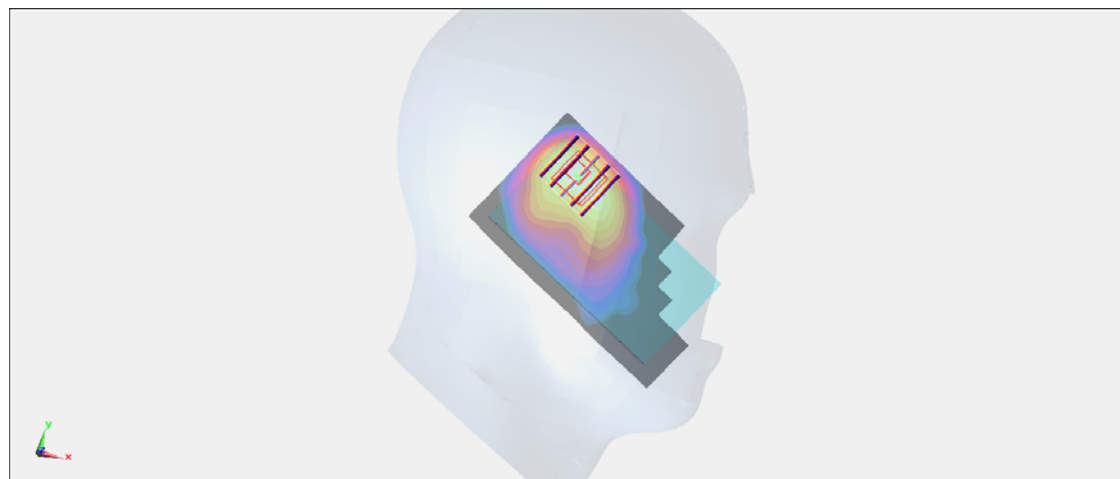
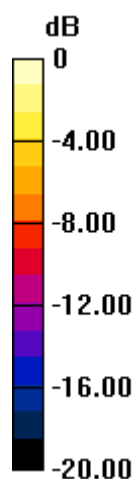
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.688 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 1.207 mW/g

SAR(1 g) = 0.488 mW/g; SAR(10 g) = 0.245 mW/g

Maximum value of SAR (measured) = 0.586 mW/g



0 dB = 0.586 mW/g = -4.64 dB mW/g

#103_WLAN2.4G_802.11b_Left Cheek_Ch6_2D**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: HSL_2450_121104 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.836$ mho/m; $\epsilon_r = 39.314$; ρ

$= 1000$ kg/m³

Ambient Temperature : 22.1 °C ; Liquid Temperature : 21.3 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(6.7, 6.7, 6.7); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch6/Area Scan (71x121x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 0.579 mW/g

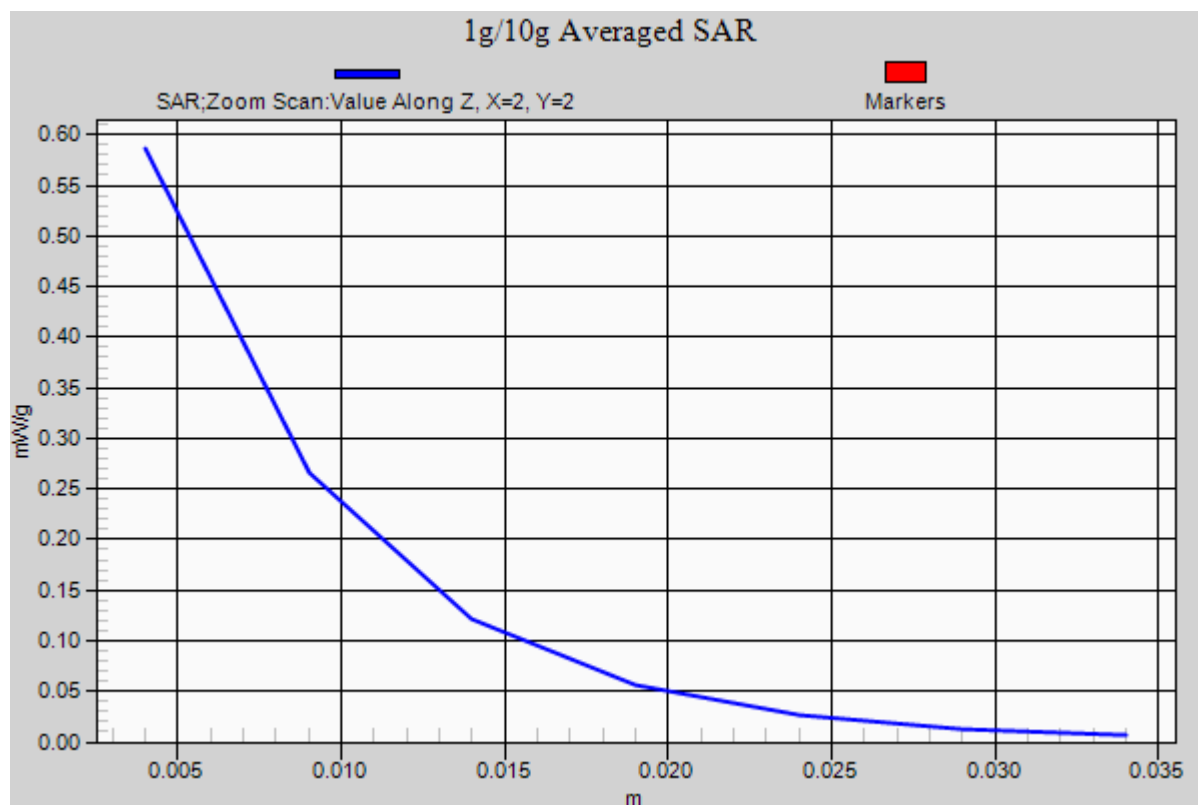
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.688 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 1.207 mW/g

SAR(1 g) = 0.488 mW/g; SAR(10 g) = 0.245 mW/g

Maximum value of SAR (measured) = 0.586 mW/g



#13 GSM850_GPRS8_Front_1cm_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_120906 Medium parameters used: $f = 849$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch251/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.578 mW/g

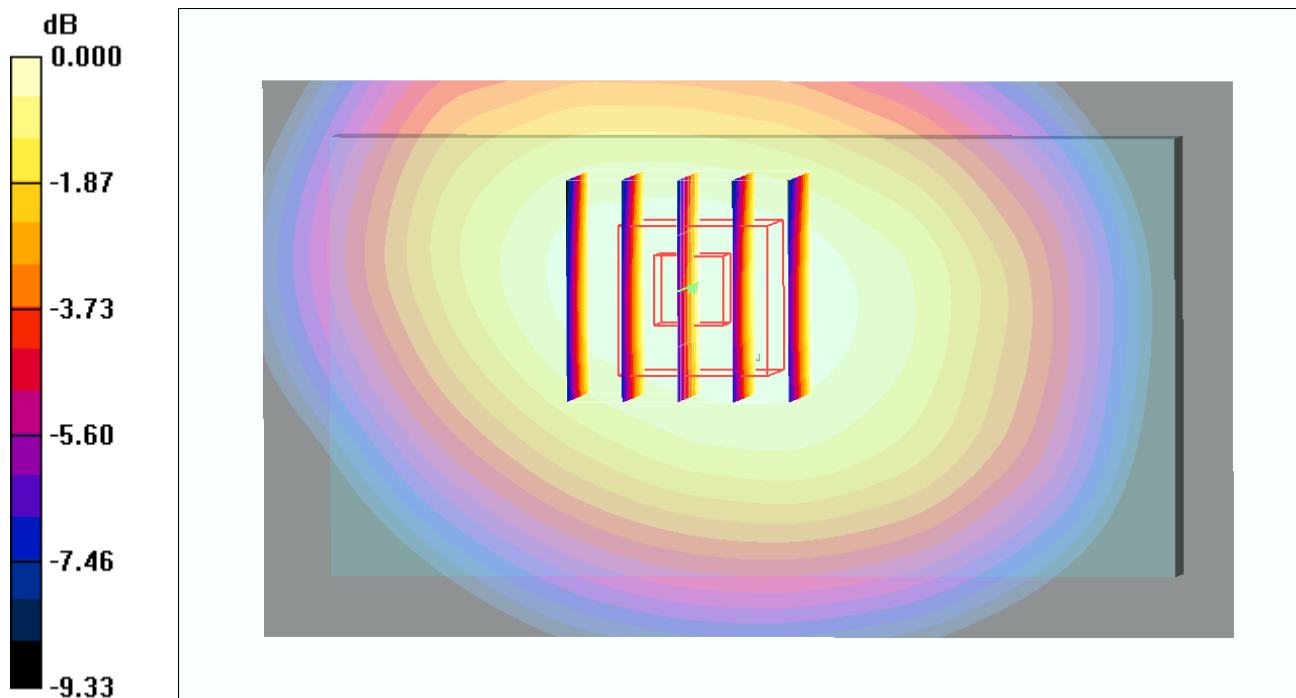
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.9 V/m; Power Drift = -0.064 dB

Peak SAR (extrapolated) = 0.656 W/kg

SAR(1 g) = 0.542 mW/g; SAR(10 g) = 0.411 mW/g

Maximum value of SAR (measured) = 0.569 mW/g



0 dB = 0.569mW/g

#15 GSM850_GPRS8_Back_1cm_Ch128**DUT: 282414-02**

Communication System: GSM850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_120906 Medium parameters used : $f = 824.2$ MHz; $\sigma = 0.952$ mho/m; $\epsilon_r = 54.7$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch128/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.543 mW/g

Ch128/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.8 V/m; Power Drift = -0.057 dB

Peak SAR (extrapolated) = 0.671 W/kg

SAR(1 g) = 0.518 mW/g; SAR(10 g) = 0.378 mW/g

Maximum value of SAR (measured) = 0.548 mW/g

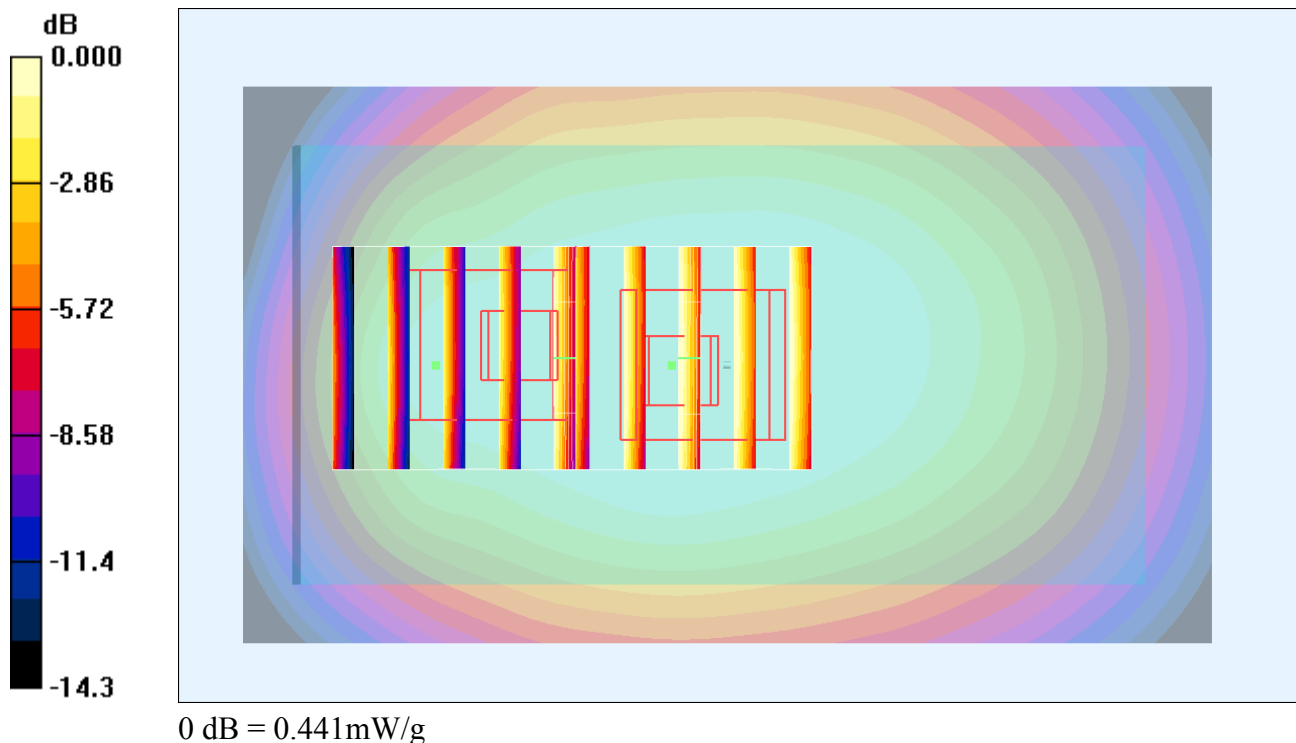
Ch128/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.8 V/m; Power Drift = -0.057 dB

Peak SAR (extrapolated) = 0.572 W/kg

SAR(1 g) = 0.364 mW/g; SAR(10 g) = 0.241 mW/g

Maximum value of SAR (measured) = 0.441 mW/g



#16 GSM850_GPRS8_Back_1cm_Ch189**DUT:282414-02**

Communication System: GSM850; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_120906 Medium parameters used : $f = 836.4$ MHz; $\sigma = 0.964$ mho/m; $\epsilon_r = 54.5$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch189/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.739 mW/g

Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.5 V/m; Power Drift = -0.071 dB

Peak SAR (extrapolated) = 0.894 W/kg

SAR(1 g) = 0.691 mW/g; SAR(10 g) = 0.505 mW/g

Maximum value of SAR (measured) = 0.727 mW/g

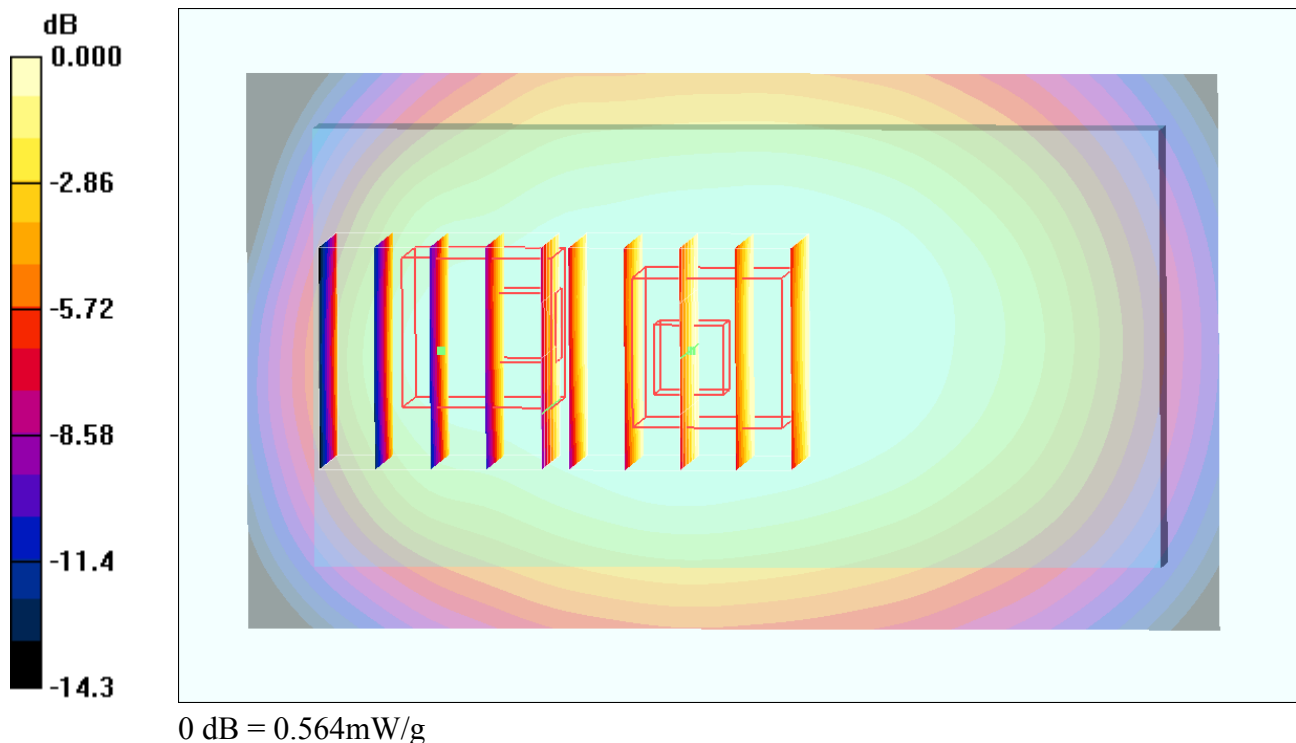
Ch189/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.5 V/m; Power Drift = -0.071 dB

Peak SAR (extrapolated) = 0.747 W/kg

SAR(1 g) = 0.465 mW/g; SAR(10 g) = 0.311 mW/g

Maximum value of SAR (measured) = 0.564 mW/g



#14 GSM850_GPRS8_Back_1cm_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_120906 Medium parameters used: $f = 849$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch251/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.882 mW/g

Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.9 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 1.07 W/kg

SAR(1 g) = 0.827 mW/g; SAR(10 g) = 0.603 mW/g

Maximum value of SAR (measured) = 0.882 mW/g

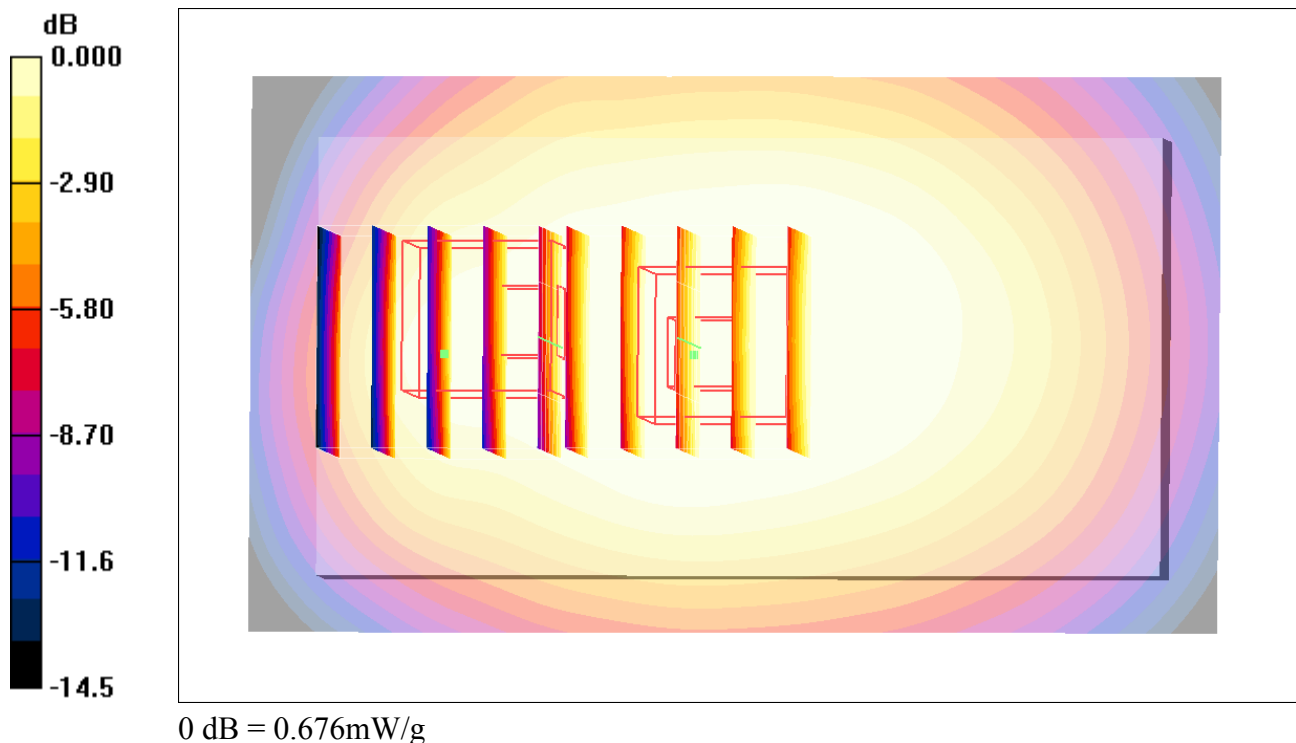
Ch251/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.9 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 0.860 W/kg

SAR(1 g) = 0.552 mW/g; SAR(10 g) = 0.365 mW/g

Maximum value of SAR (measured) = 0.676 mW/g



#14 GSM850_GPRS8_Back_1cm_Ch251_2D**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_120906 Medium parameters used: $f = 849$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch251/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.882 mW/g

Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.9 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 1.07 W/kg

SAR(1 g) = 0.827 mW/g; SAR(10 g) = 0.603 mW/g

Maximum value of SAR (measured) = 0.882 mW/g

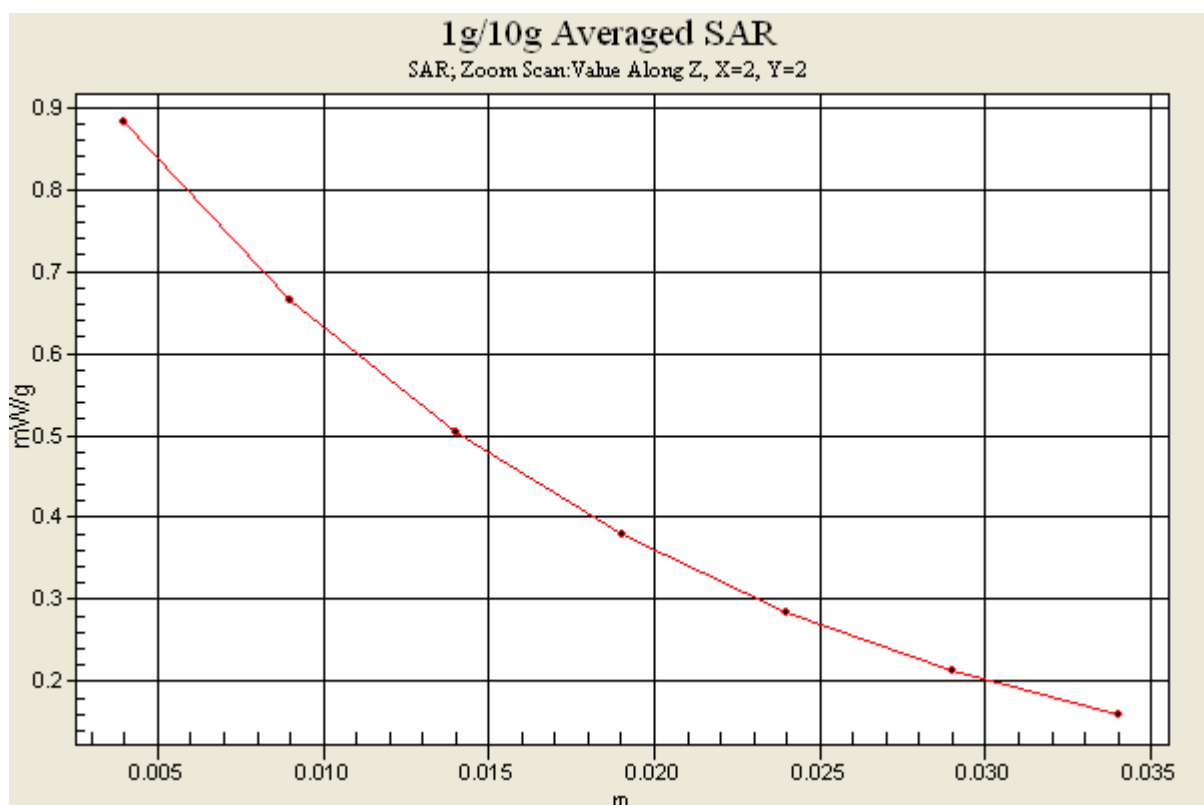
Ch251/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.9 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 0.860 W/kg

SAR(1 g) = 0.552 mW/g; SAR(10 g) = 0.365 mW/g

Maximum value of SAR (measured) = 0.676 mW/g



#117_GSM850_GPRS8_Back_1cm_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_121114 Medium parameters used: $f = 849$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.407$;

$\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3697; ConvF(8.65, 8.65, 8.65); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (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 14.6.7 (6848)

Ch251/Area Scan (61x101x1): Measurement grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.971 W/kg

Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 27.632 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 1.51 W/kg

SAR(1 g) = 0.751 W/kg; SAR(10 g) = 0.382 W/kg

Maximum value of SAR (measured) = 0.851 W/kg

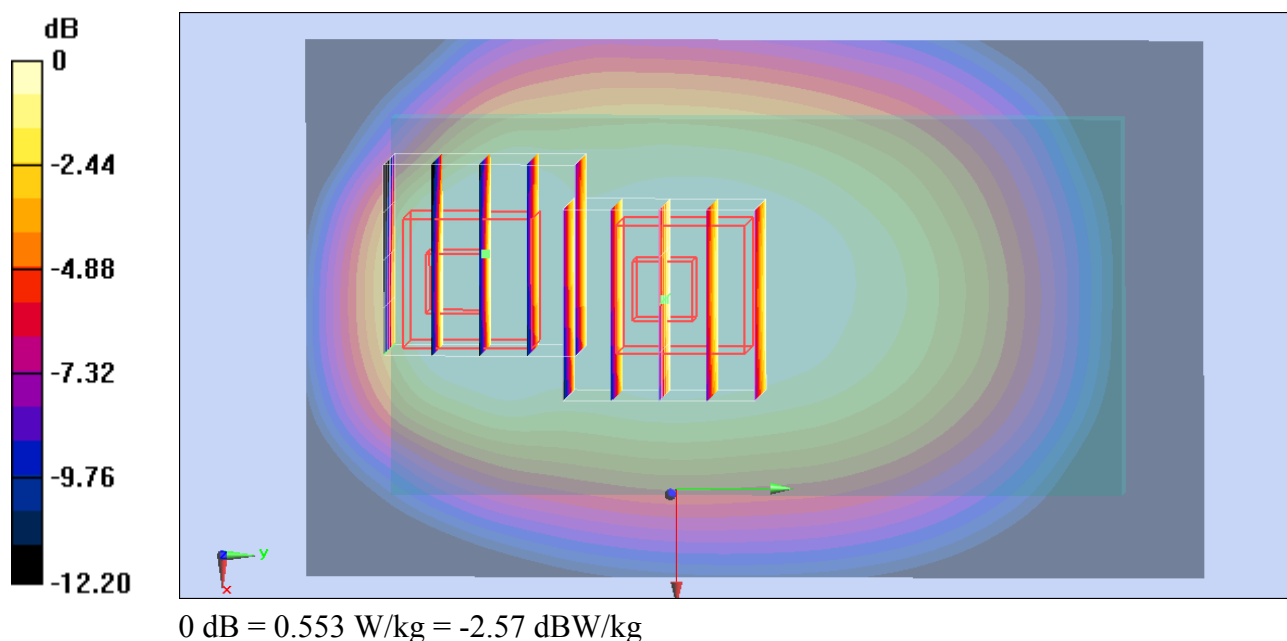
Ch251/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 27.632 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.676 W/kg

SAR(1 g) = 0.528 W/kg; SAR(10 g) = 0.393 W/kg

Maximum value of SAR (measured) = 0.553 W/kg



#118_GSM850_GPRS8_Back_1cm_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_121114 Medium parameters used: $f = 849$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.407$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3697; ConvF(8.65, 8.65, 8.65); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (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 14.6.7 (6848)

Ch251/Area Scan (61x101x1): Measurement grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 1.03 W/kg

Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 27.265 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 1.21 W/kg

SAR(1 g) = 0.743 W/kg; SAR(10 g) = 0.450 W/kg

Maximum value of SAR (measured) = 0.786 W/kg

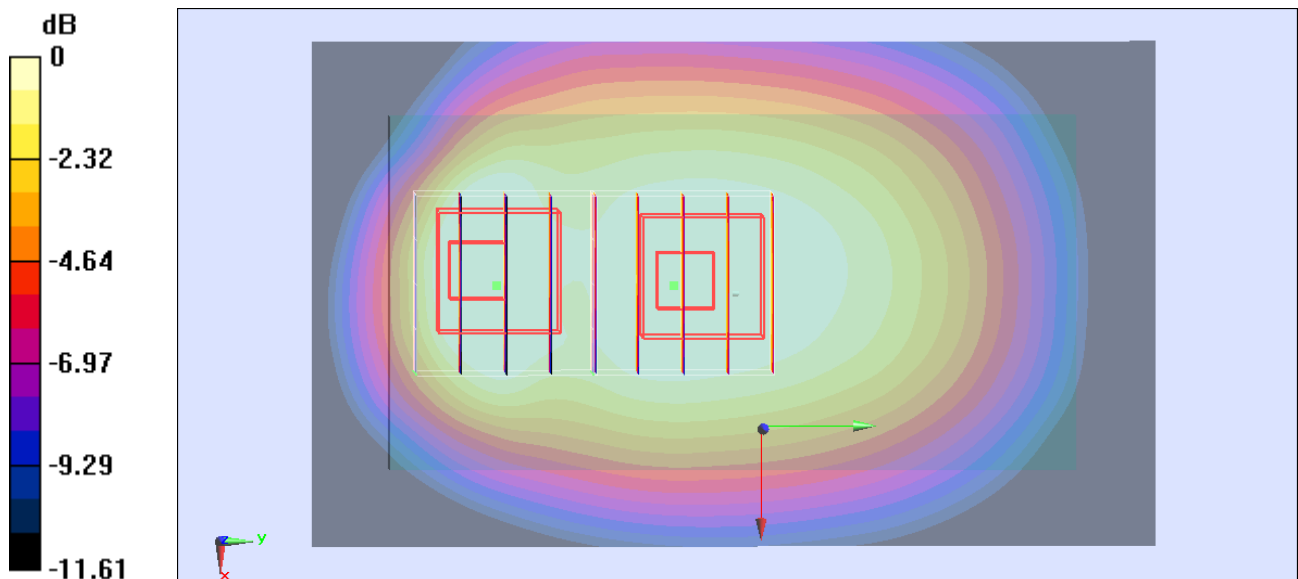
Ch251/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 27.265 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.723 W/kg

SAR(1 g) = 0.570 W/kg; SAR(10 g) = 0.422 W/kg

Maximum value of SAR (measured) = 0.601 W/kg



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

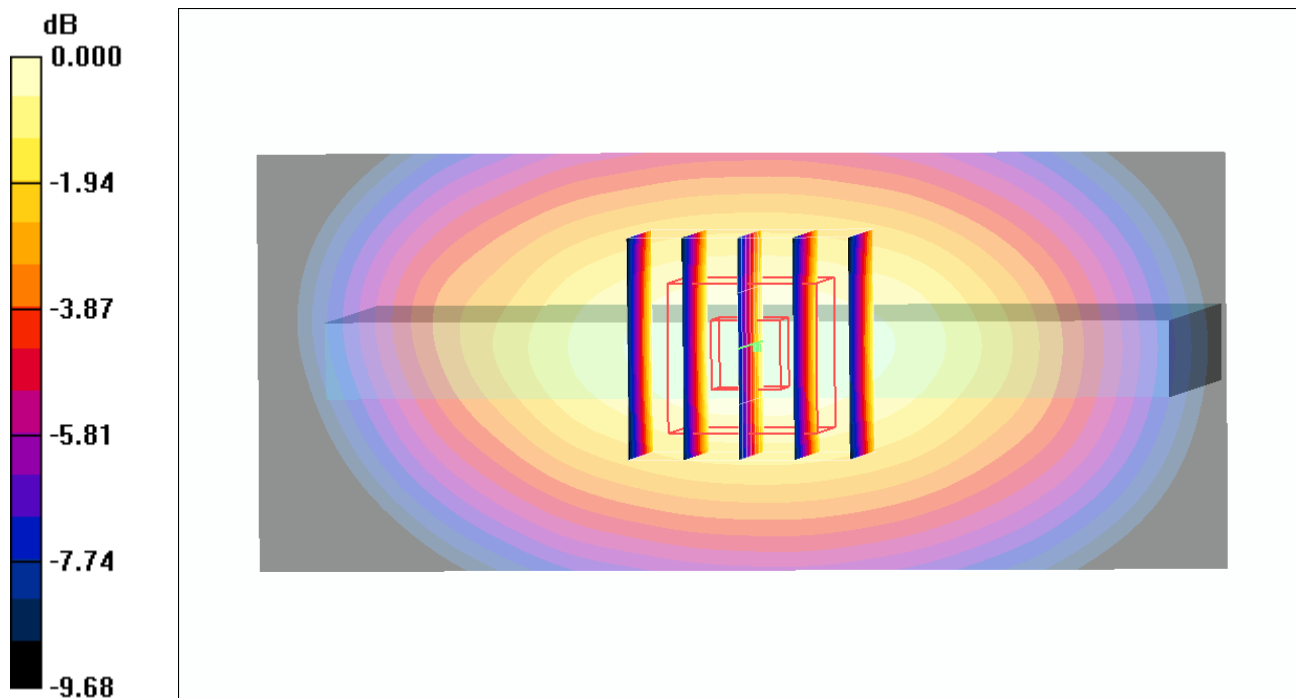
#18 GSM850_GPRS8_Left Side_1cm_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_120906 Medium parameters used: $f = 849 \text{ MHz}$; $\sigma = 0.976 \text{ mho/m}$; $\epsilon_r = 54.4$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : 22.5°C ; Liquid Temperature : 21.5°C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch251/Area Scan (31x71x1): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$ Maximum value of SAR (interpolated) = 0.488 mW/g **Ch251/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 23.3 V/m ; Power Drift = -0.055 dB Peak SAR (extrapolated) = 0.647 W/kg **SAR(1 g) = 0.462 mW/g ; SAR(10 g) = 0.317 mW/g** Maximum value of SAR (measured) = 0.492 mW/g 0 dB = 0.492 mW/g

#19 GSM850_GPRS8_Right Side_1cm_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_120906 Medium parameters used: $f = 849$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch251/Area Scan (31x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.460 mW/g

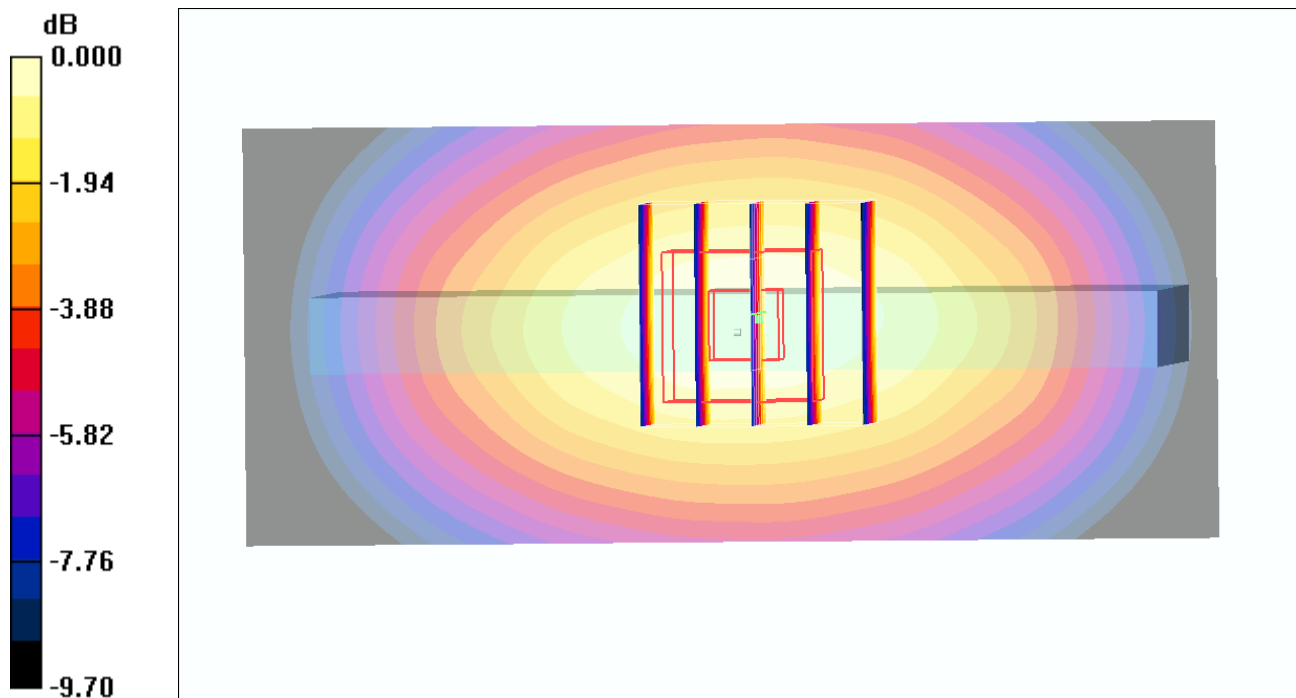
Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.0 V/m; Power Drift = -0.009 dB

Peak SAR (extrapolated) = 0.616 W/kg

SAR(1 g) = 0.446 mW/g; SAR(10 g) = 0.310 mW/g

Maximum value of SAR (measured) = 0.471 mW/g



0 dB = 0.471mW/g

#21 GSM850_GPRS8_Bottom Side_1cm_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_120906 Medium parameters used: $f = 849$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch251/Area Scan (31x51x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.055 mW/g

Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.69 V/m; Power Drift = 0.034 dB

Peak SAR (extrapolated) = 0.147 W/kg

SAR(1 g) = 0.057 mW/g; SAR(10 g) = 0.031 mW/g

Maximum value of SAR (measured) = 0.060 mW/g

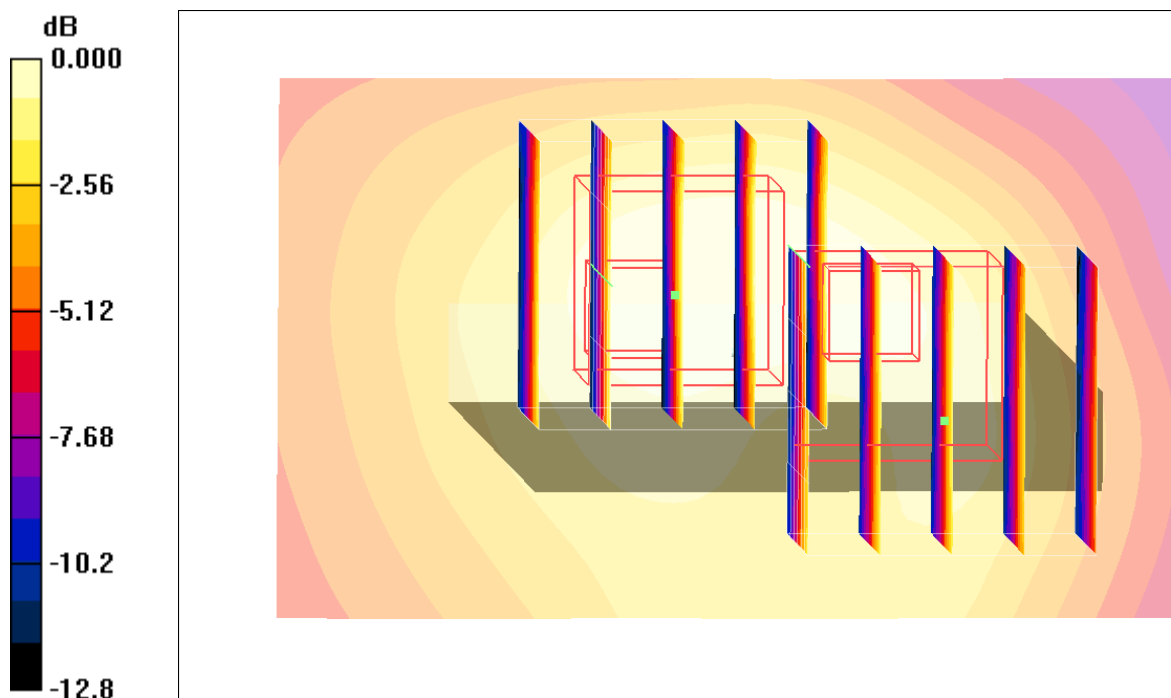
Ch251/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.69 V/m; Power Drift = 0.034 dB

Peak SAR (extrapolated) = 0.084 W/kg

SAR(1 g) = 0.045 mW/g; SAR(10 g) = 0.026 mW/g

Maximum value of SAR (measured) = 0.050 mW/g



0 dB = 0.050mW/g

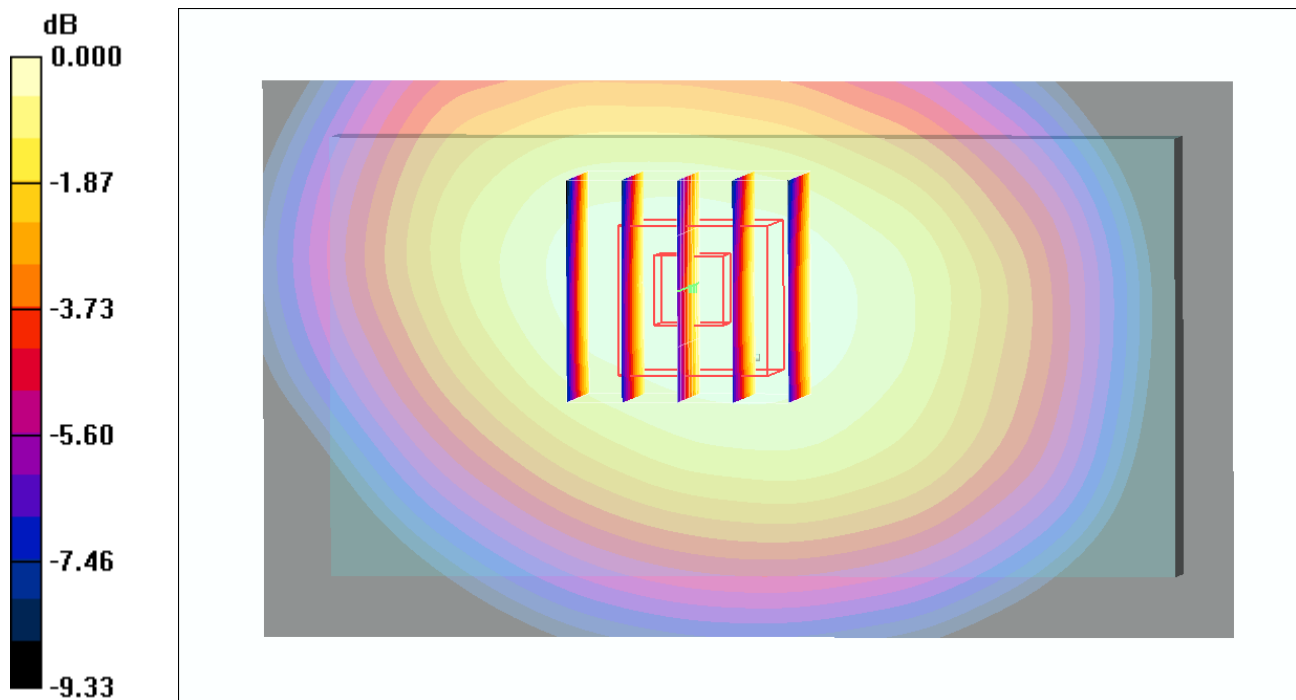
#13 GSM850_GPRS8_Front_1cm_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_120906 Medium parameters used: $f = 849 \text{ MHz}$; $\sigma = 0.976 \text{ mho/m}$; $\epsilon_r = 54.4$; $\rho = 1000 \text{ kg/m}^3$ Ambient Temperature : 22.5°C ; Liquid Temperature : 21.5°C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch251/Area Scan (41x71x1): Measurement grid: $dx=20\text{mm}$, $dy=20\text{mm}$ Maximum value of SAR (interpolated) = 0.578 mW/g **Ch251/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 24.9 V/m ; Power Drift = -0.064 dB Peak SAR (extrapolated) = 0.656 W/kg **SAR(1 g) = 0.542 mW/g ; SAR(10 g) = 0.411 mW/g** Maximum value of SAR (measured) = 0.569 mW/g 0 dB = 0.569 mW/g

#15 GSM850_GPRS8_Back_1cm_Ch128**DUT: 282414-02**

Communication System: GSM850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_120906 Medium parameters used : $f = 824.2$ MHz; $\sigma = 0.952$ mho/m; $\epsilon_r = 54.7$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch128/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.543 mW/g

Ch128/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.8 V/m; Power Drift = -0.057 dB

Peak SAR (extrapolated) = 0.671 W/kg

SAR(1 g) = 0.518 mW/g; SAR(10 g) = 0.378 mW/g

Maximum value of SAR (measured) = 0.548 mW/g

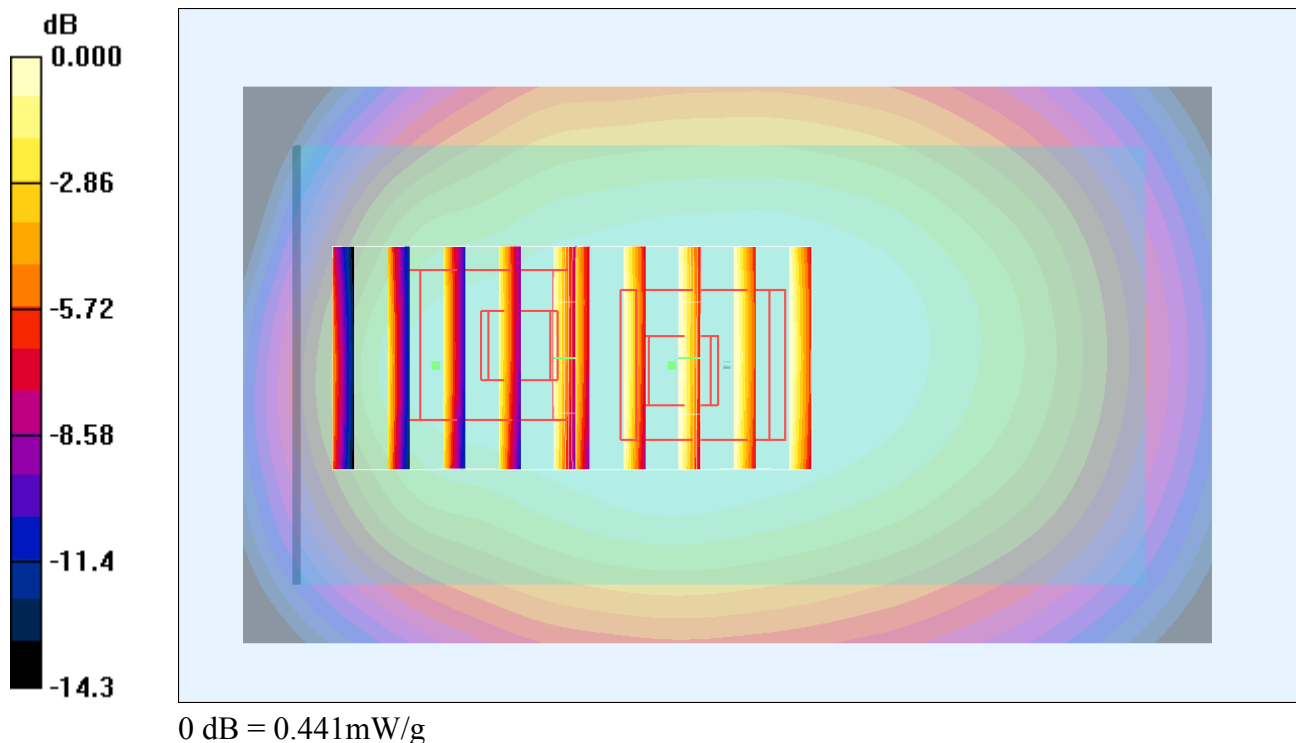
Ch128/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.8 V/m; Power Drift = -0.057 dB

Peak SAR (extrapolated) = 0.572 W/kg

SAR(1 g) = 0.364 mW/g; SAR(10 g) = 0.241 mW/g

Maximum value of SAR (measured) = 0.441 mW/g



#16 GSM850_GPRS8_Back_1cm_Ch189**DUT: 282414-02**

Communication System: GSM850; Frequency: 836.4 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_120906 Medium parameters used : $f = 836.4$ MHz; $\sigma = 0.964$ mho/m; $\epsilon_r = 54.5$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch189/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.739 mW/g

Ch189/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.5 V/m; Power Drift = -0.071 dB

Peak SAR (extrapolated) = 0.894 W/kg

SAR(1 g) = 0.691 mW/g; SAR(10 g) = 0.505 mW/g

Maximum value of SAR (measured) = 0.727 mW/g

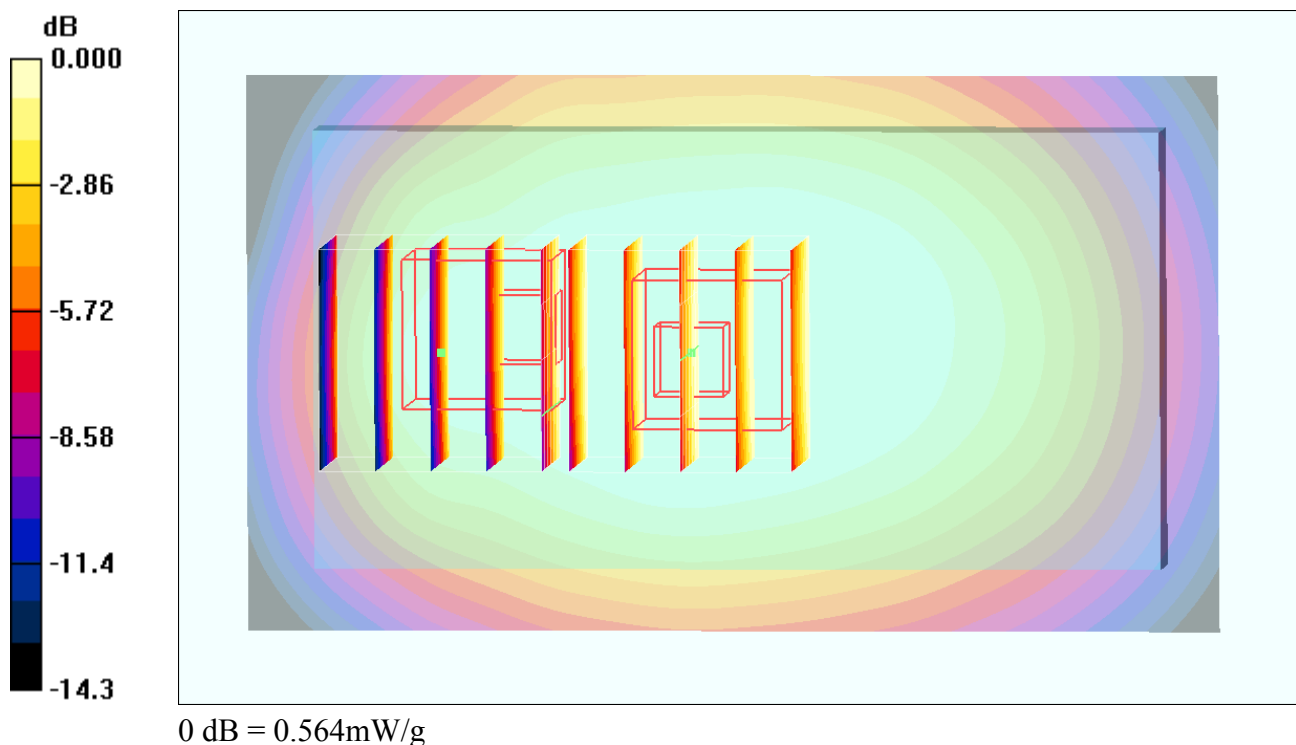
Ch189/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.5 V/m; Power Drift = -0.071 dB

Peak SAR (extrapolated) = 0.747 W/kg

SAR(1 g) = 0.465 mW/g; SAR(10 g) = 0.311 mW/g

Maximum value of SAR (measured) = 0.564 mW/g



#14 GSM850_GPRS8_Back_1cm_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_120906 Medium parameters used: $f = 849$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch251/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.882 mW/g

Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.9 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 1.07 W/kg

SAR(1 g) = 0.827 mW/g; SAR(10 g) = 0.603 mW/g

Maximum value of SAR (measured) = 0.882 mW/g

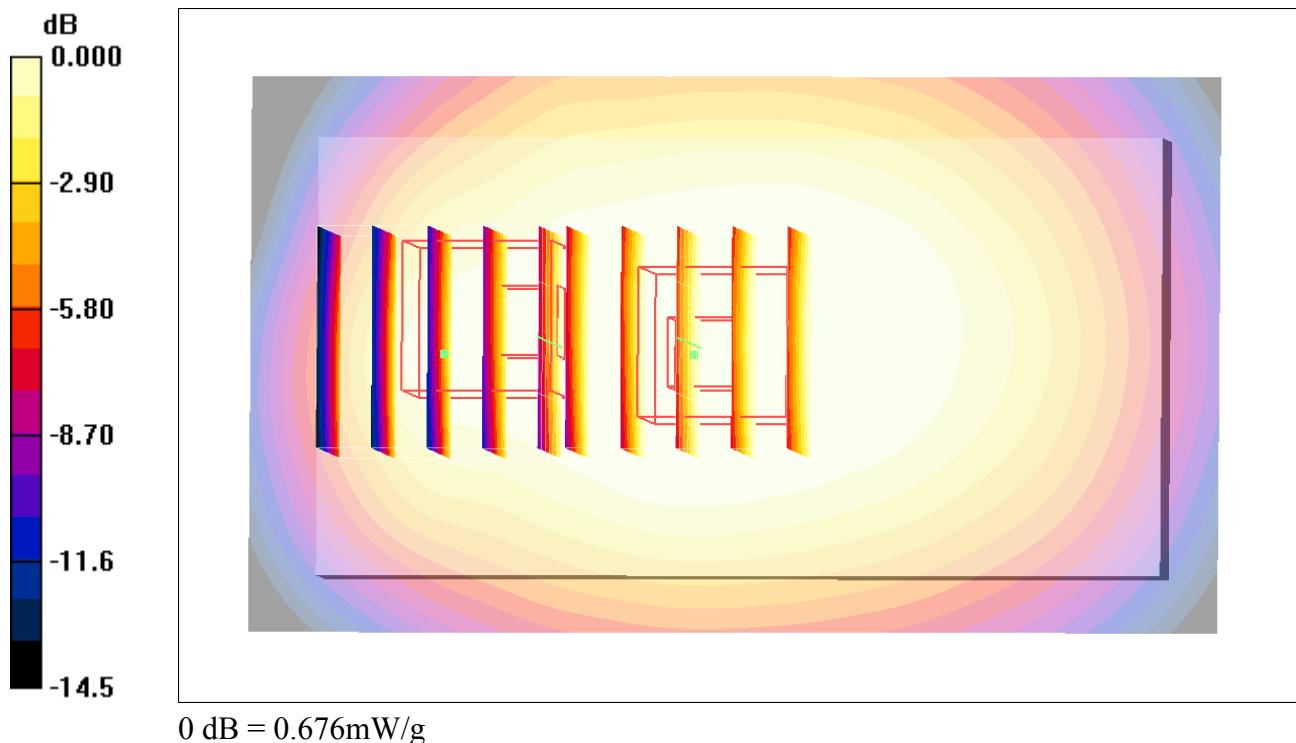
Ch251/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.9 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 0.860 W/kg

SAR(1 g) = 0.552 mW/g; SAR(10 g) = 0.365 mW/g

Maximum value of SAR (measured) = 0.676 mW/g



#17 GSM850_GPRS8_Back_1cm_Ch251_Headset**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_120906 Medium parameters used: $f = 849$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch251/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.829 mW/g

Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 29.3 V/m; Power Drift = -0.043 dB

Peak SAR (extrapolated) = 1.01 W/kg

SAR(1 g) = 0.767 mW/g; SAR(10 g) = 0.549 mW/g

Maximum value of SAR (measured) = 0.802 mW/g

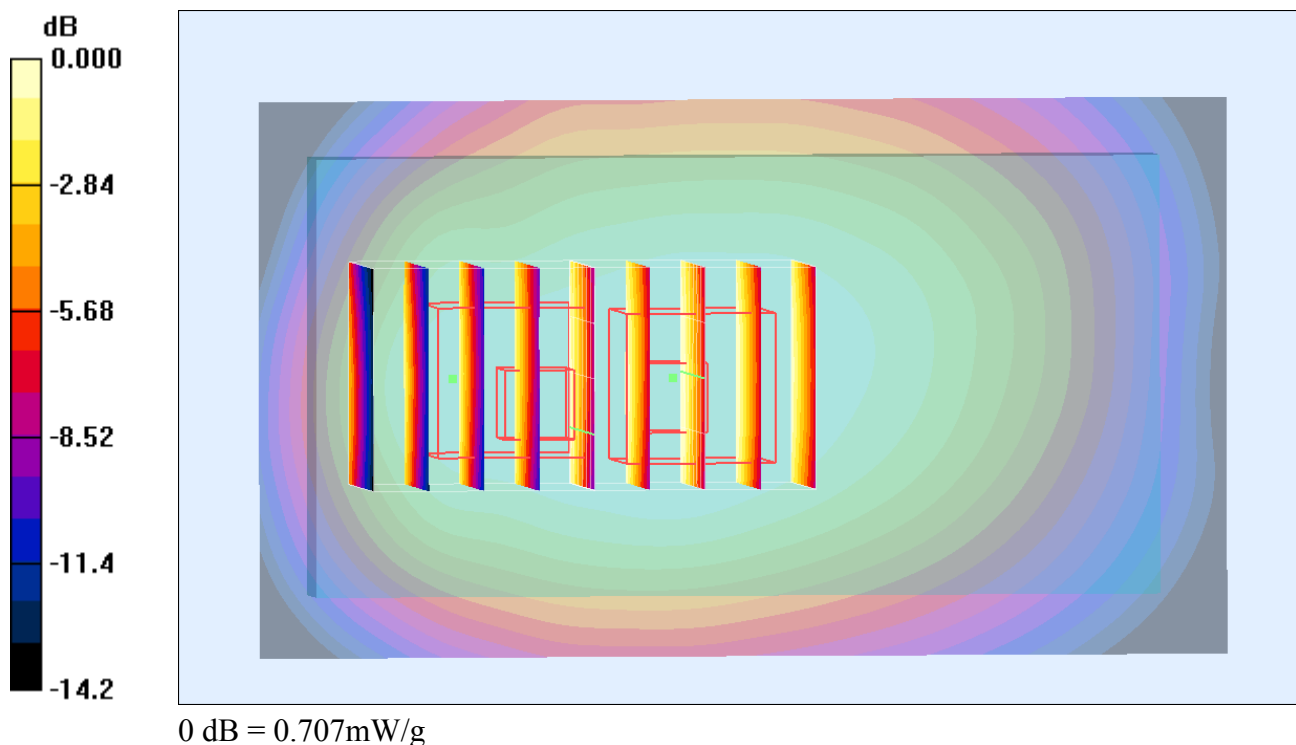
Ch251/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 29.3 V/m; Power Drift = -0.043 dB

Peak SAR (extrapolated) = 0.935 W/kg

SAR(1 g) = 0.576 mW/g; SAR(10 g) = 0.392 mW/g

Maximum value of SAR (measured) = 0.707 mW/g



#117_GSM850_GPRS8_Back_1cm_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_121114 Medium parameters used: $f = 849$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.407$;

$\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3697; ConvF(8.65, 8.65, 8.65); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (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 14.6.7 (6848)

Ch251/Area Scan (61x101x1): Measurement grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 0.971 W/kg

Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 27.632 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 1.51 W/kg

SAR(1 g) = 0.751 W/kg; SAR(10 g) = 0.382 W/kg

Maximum value of SAR (measured) = 0.851 W/kg

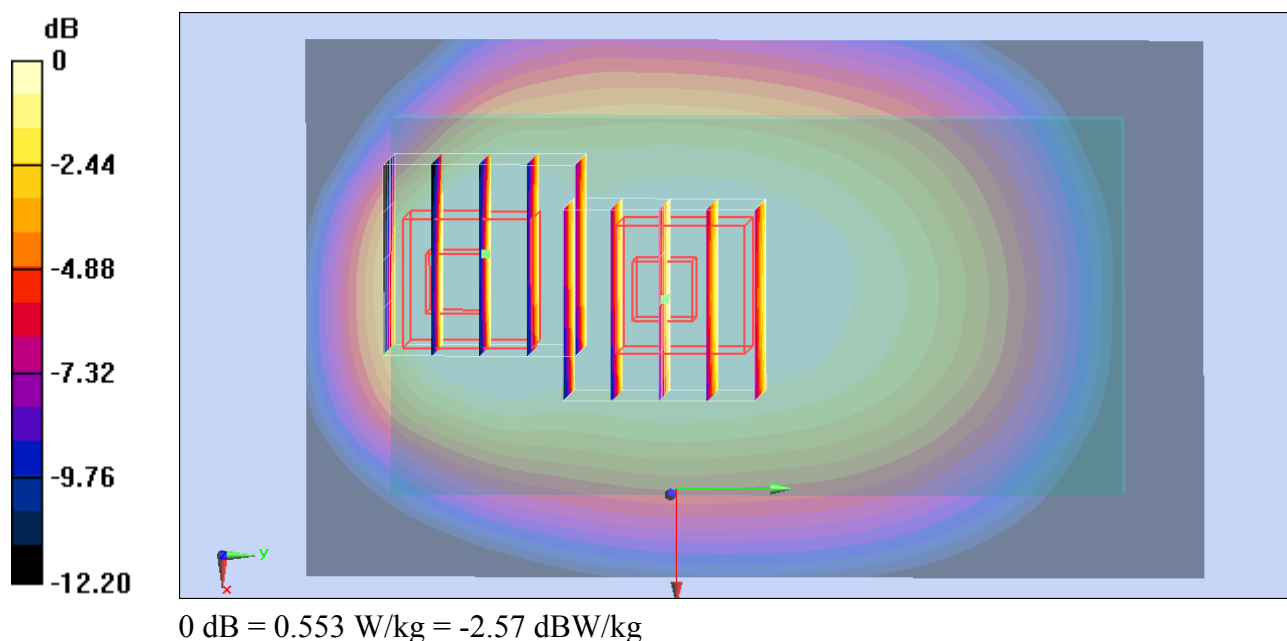
Ch251/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 27.632 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.676 W/kg

SAR(1 g) = 0.528 W/kg; SAR(10 g) = 0.393 W/kg

Maximum value of SAR (measured) = 0.553 W/kg



#118_GSM850_GPRS8_Back_1cm_Ch251**DUT: 282414-02**

Communication System: GSM850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_850_121114 Medium parameters used: $f = 849$ MHz; $\sigma = 0.976$ mho/m; $\epsilon_r = 54.407$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3697; ConvF(8.65, 8.65, 8.65); Calibrated: 2012/9/28;
- Sensor-Surface: 2mm (Mechanical Surface Detection), Sensor-Surface: 4mm (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 14.6.7 (6848)

Ch251/Area Scan (61x101x1): Measurement grid: dx=15 mm, dy=15 mm

Maximum value of SAR (interpolated) = 1.03 W/kg

Ch251/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 27.265 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 1.21 W/kg

SAR(1 g) = 0.743 W/kg; SAR(10 g) = 0.450 W/kg

Maximum value of SAR (measured) = 0.786 W/kg

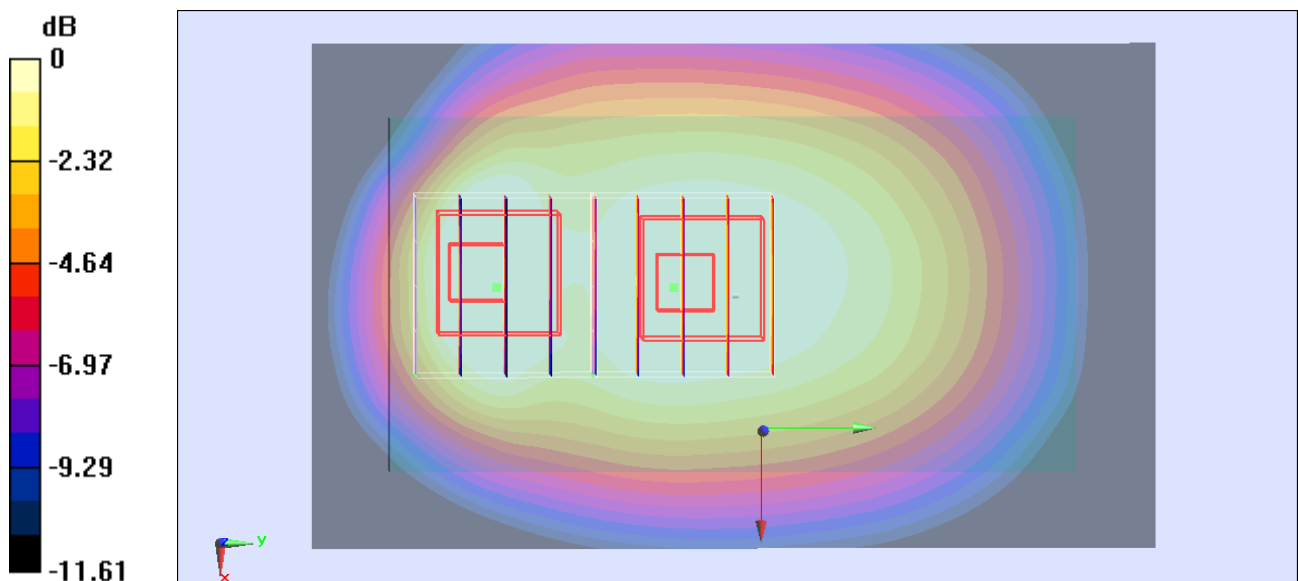
Ch251/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 27.265 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.723 W/kg

SAR(1 g) = 0.570 W/kg; SAR(10 g) = 0.422 W/kg

Maximum value of SAR (measured) = 0.601 W/kg



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

#29 GSM1900_GPRS8_Front_1cm_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_1900_120907 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.374 mW/g

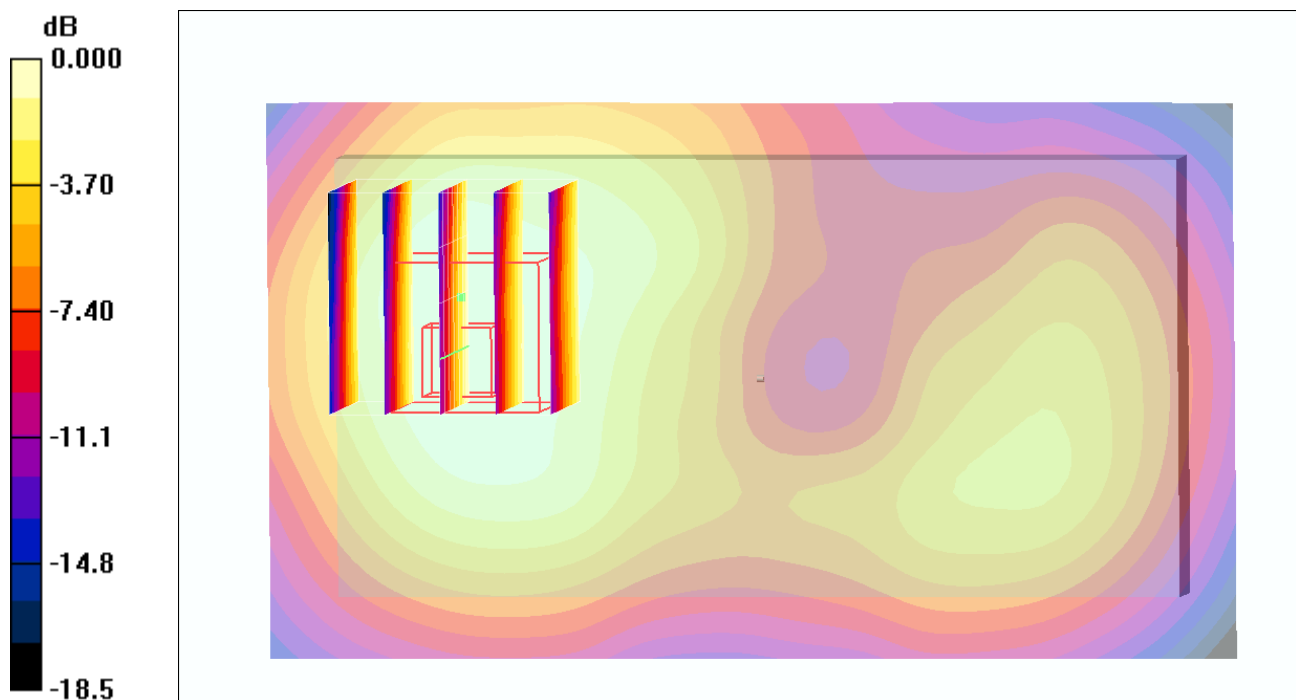
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.40 V/m; Power Drift = 0.070 dB

Peak SAR (extrapolated) = 0.437 W/kg

SAR(1 g) = 0.302 mW/g; SAR(10 g) = 0.193 mW/g

Maximum value of SAR (measured) = 0.324 mW/g



0 dB = 0.324mW/g

#30 GSM1900_GPRS8_Back_1cm_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_1900_120907 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.492 mW/g

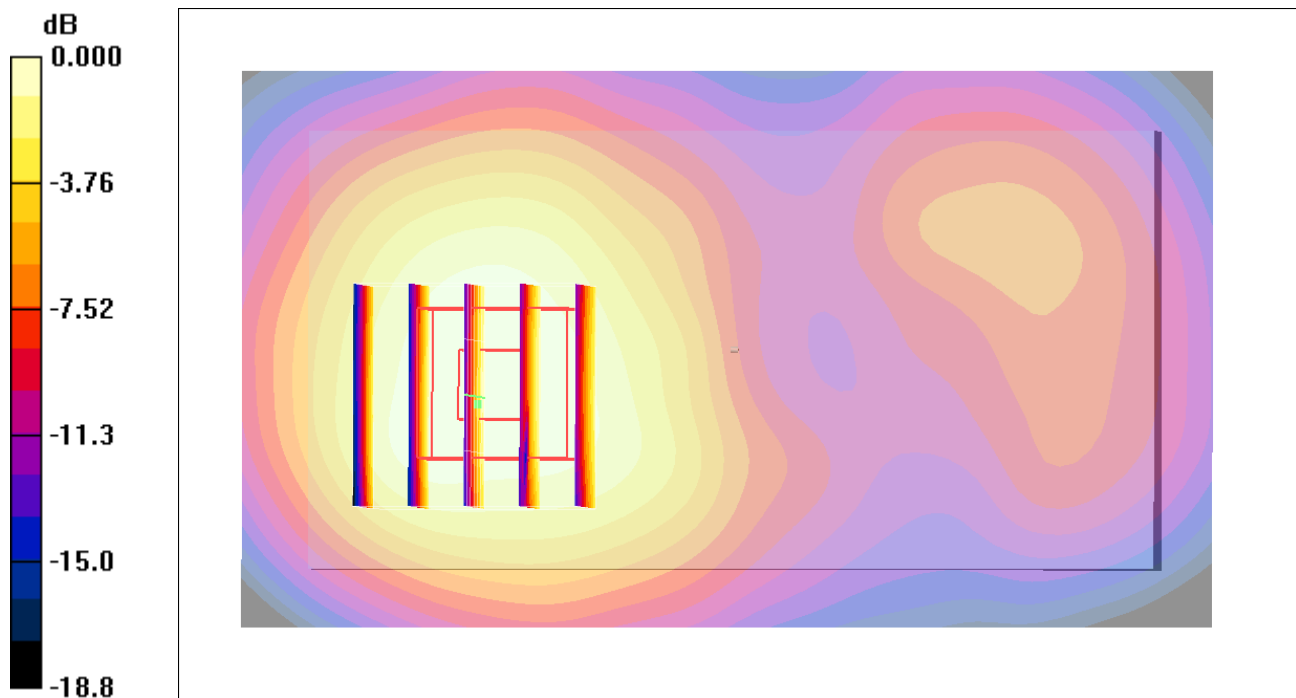
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.74 V/m; Power Drift = -0.085 dB

Peak SAR (extrapolated) = 0.632 W/kg

SAR(1 g) = 0.426 mW/g; SAR(10 g) = 0.262 mW/g

Maximum value of SAR (measured) = 0.462 mW/g



0 dB = 0.462mW/g

#30 GSM1900_GPRS8_Back_1cm_Ch810_2D**DUT:282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_1900_120907 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.492 mW/g

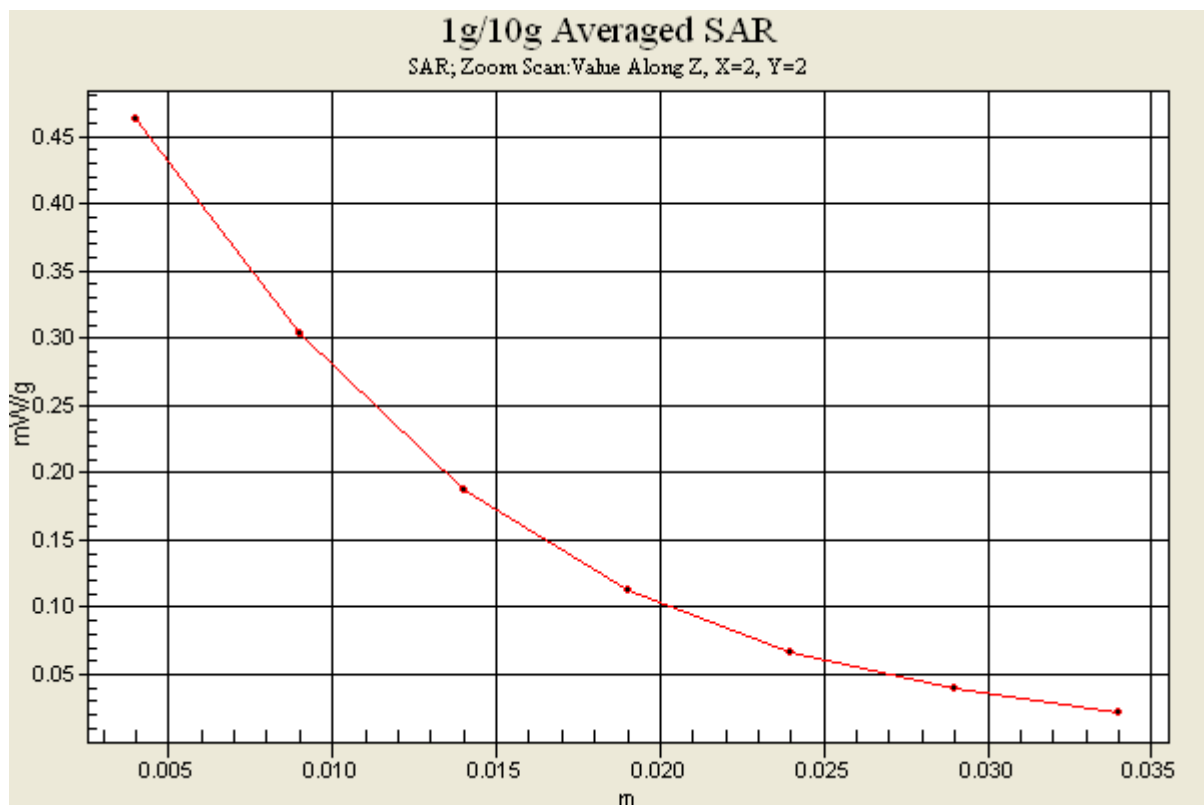
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.74 V/m; Power Drift = -0.085 dB

Peak SAR (extrapolated) = 0.632 W/kg

SAR(1 g) = 0.426 mW/g; SAR(10 g) = 0.262 mW/g

Maximum value of SAR (measured) = 0.462 mW/g



#123_GSM1900_GPRS8_Back_1cm_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_1900_121105 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52.817$; $\rho =$

1000 kg/m^3

Ambient Temperature : 22.4°C ; Liquid Temperature : 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(7.13, 7.13, 7.13); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch810/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.334 mW/g

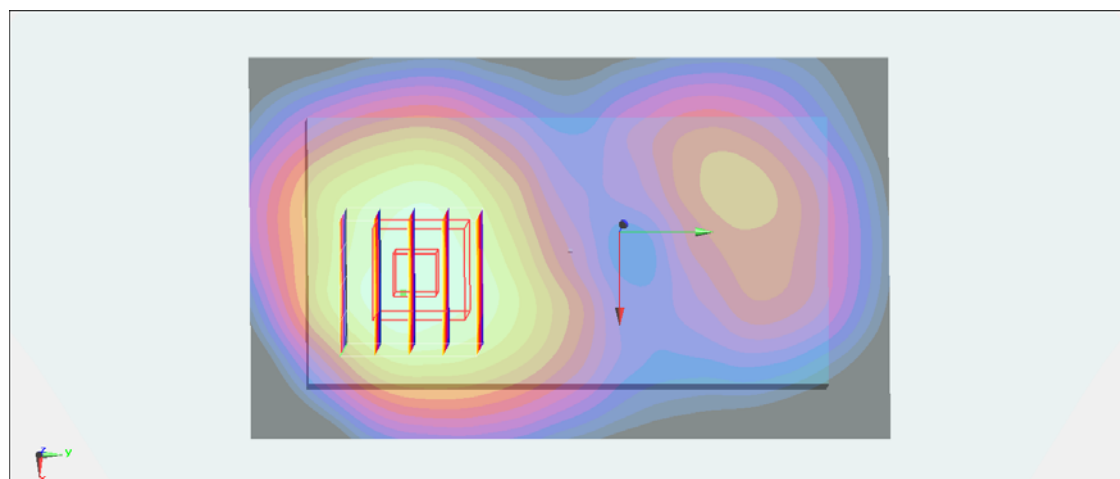
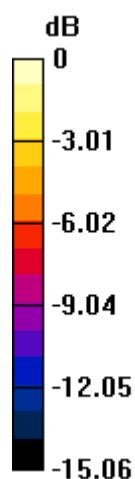
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 14.478 V/m ; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.472 mW/g

SAR(1 g) = 0.302 mW/g ; SAR(10 g) = 0.187 mW/g

Maximum value of SAR (measured) = 0.322 mW/g



$0 \text{ dB} = 0.322 \text{ mW/g} = -9.84 \text{ dB mW/g}$

#124_GSM1900_GPRS8_Back_1cm_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_1900_121105 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52.817$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.4 °C ; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(7.13, 7.13, 7.13); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch810/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.354 mW/g

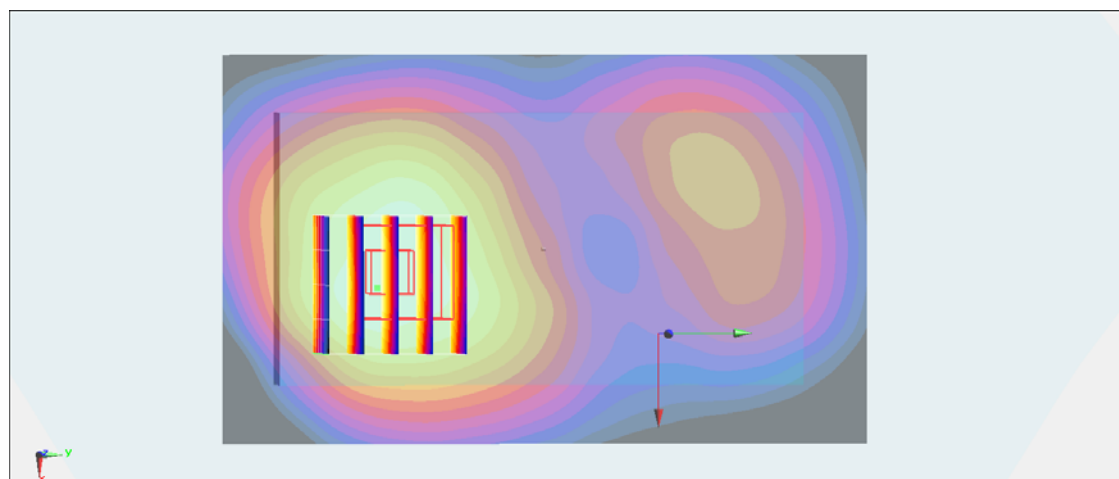
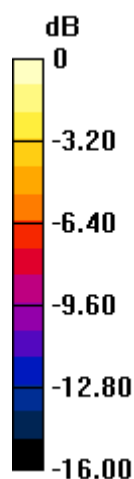
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.898 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.506 mW/g

SAR(1 g) = 0.320 mW/g; SAR(10 g) = 0.198 mW/g

Maximum value of SAR (measured) = 0.342 mW/g



0 dB = 0.342 mW/g = -9.32 dB mW/g

#32 GSM1900_GPRS8_Left Side_1cm_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_1900_120907 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (31x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.152 mW/g

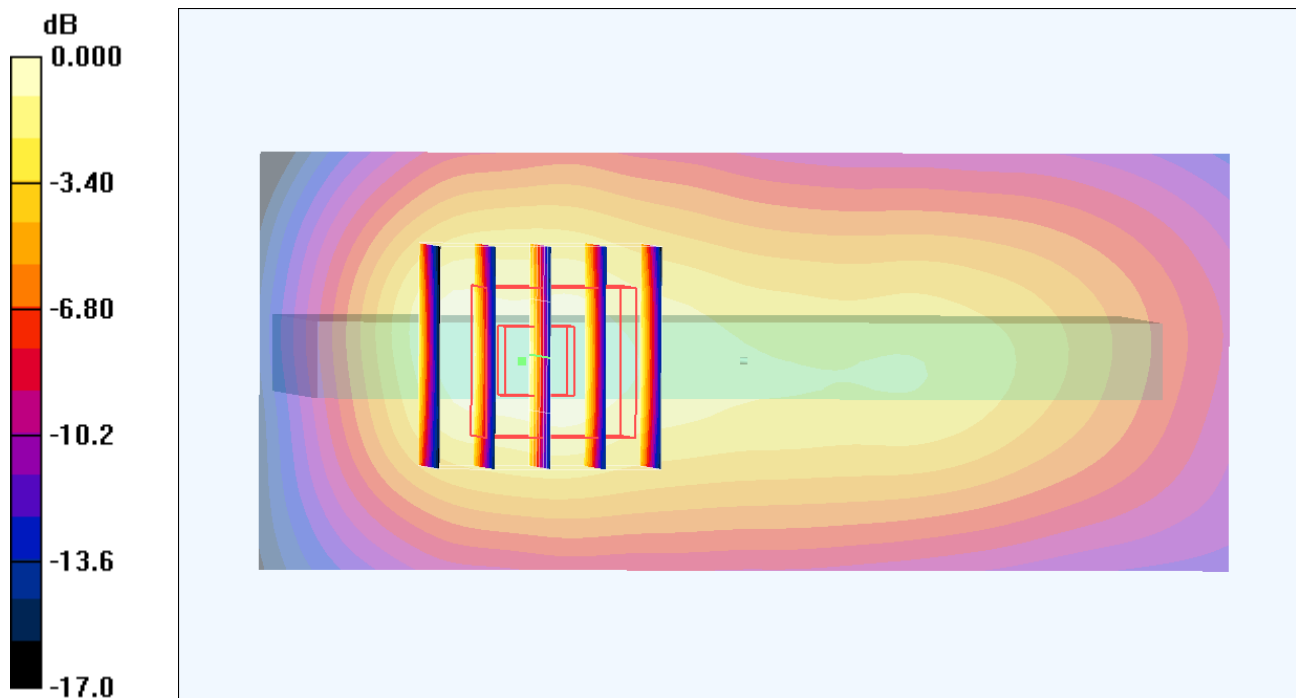
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.73 V/m; Power Drift = -0.041 dB

Peak SAR (extrapolated) = 0.208 W/kg

SAR(1 g) = 0.134 mW/g; SAR(10 g) = 0.079 mW/g

Maximum value of SAR (measured) = 0.148 mW/g



0 dB = 0.148mW/g

#33 GSM1900_GPRS8_Right Side_1cm_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_1900_120907 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (31x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.119 mW/g

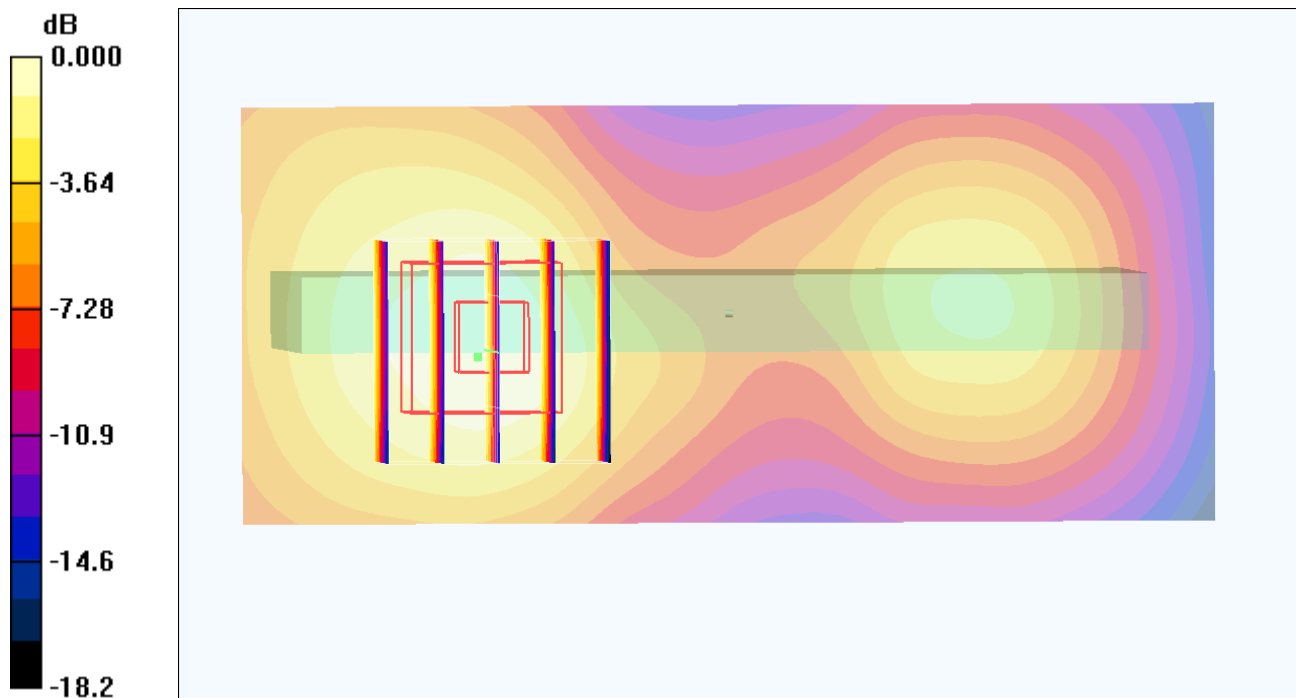
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.65 V/m; Power Drift = 0.129 dB

Peak SAR (extrapolated) = 0.164 W/kg

SAR(1 g) = 0.108 mW/g; SAR(10 g) = 0.064 mW/g

Maximum value of SAR (measured) = 0.116 mW/g



0 dB = 0.116mW/g

#34 GSM1900_GPRS8_Bottom Side_1cm_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_1900_120907 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (31x61x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.234 mW/g

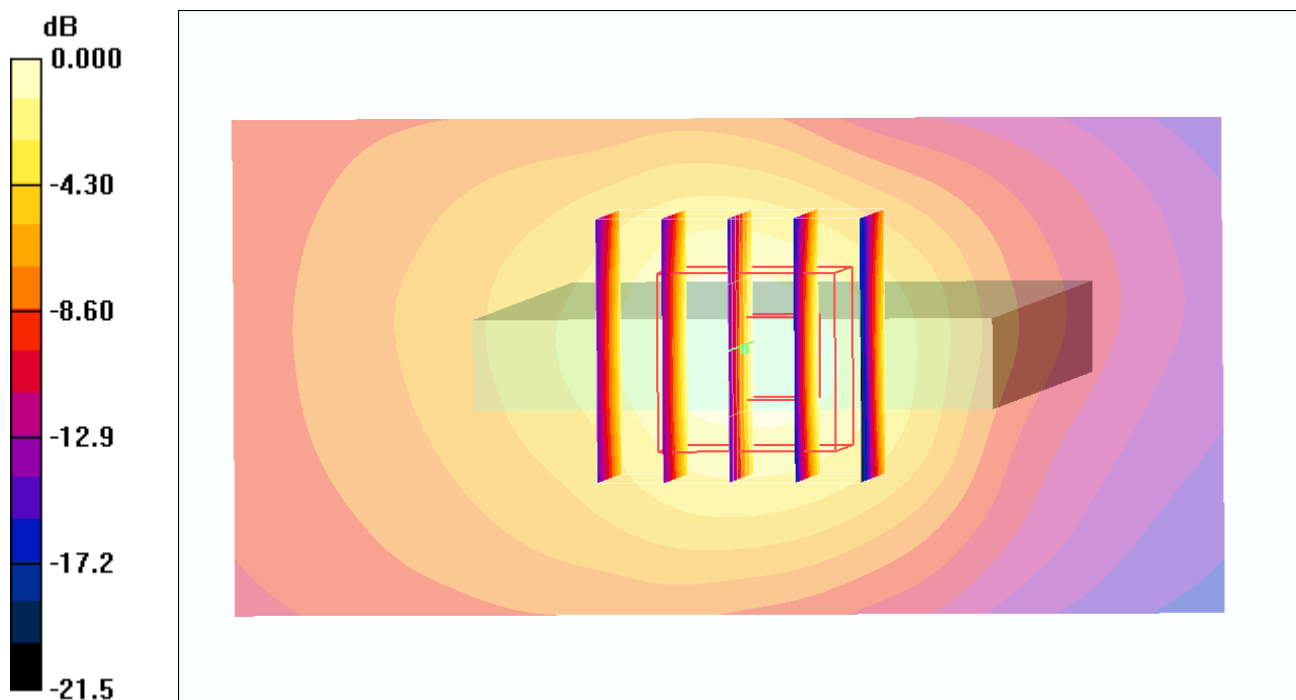
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.3 V/m; Power Drift = 0.101 dB

Peak SAR (extrapolated) = 0.367 W/kg

SAR(1 g) = 0.220 mW/g; SAR(10 g) = 0.120 mW/g

Maximum value of SAR (measured) = 0.239 mW/g



0 dB = 0.239mW/g

#29 GSM1900_GPRS8_Front_1cm_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_1900_120907 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.374 mW/g

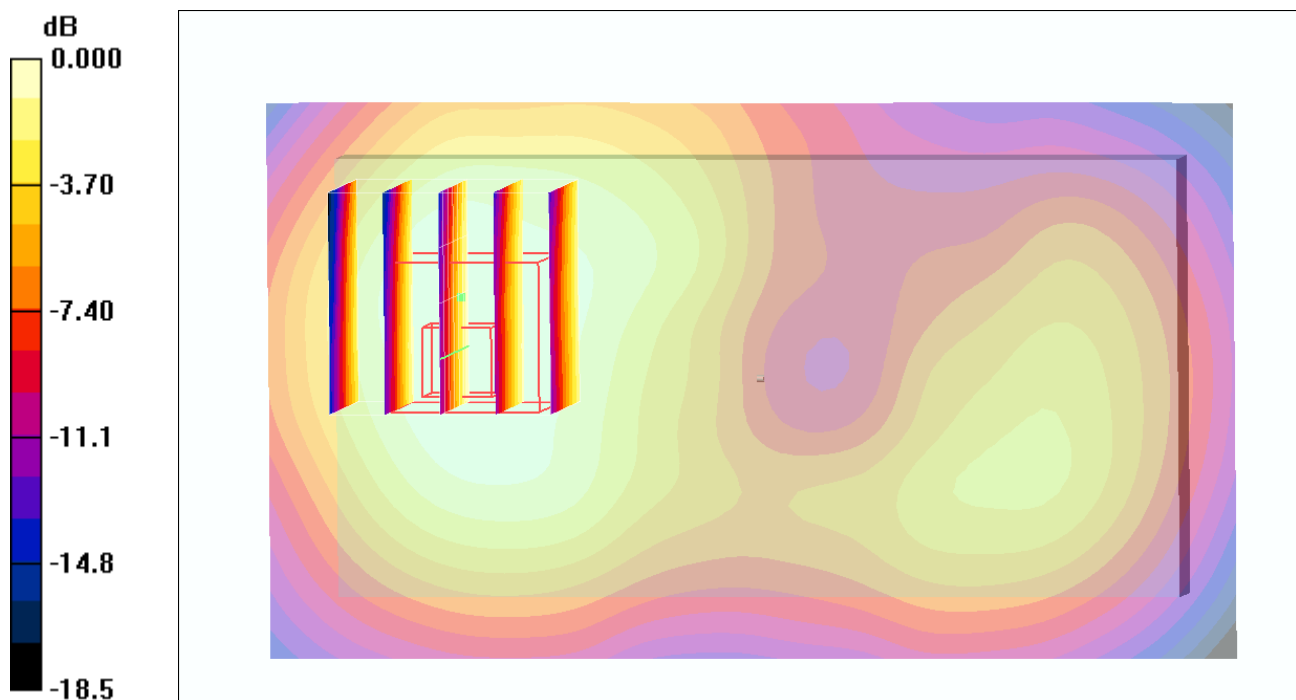
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.40 V/m; Power Drift = 0.070 dB

Peak SAR (extrapolated) = 0.437 W/kg

SAR(1 g) = 0.302 mW/g; SAR(10 g) = 0.193 mW/g

Maximum value of SAR (measured) = 0.324 mW/g



0 dB = 0.324mW/g

#30 GSM1900_GPRS8_Back_1cm_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_1900_120907 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.492 mW/g

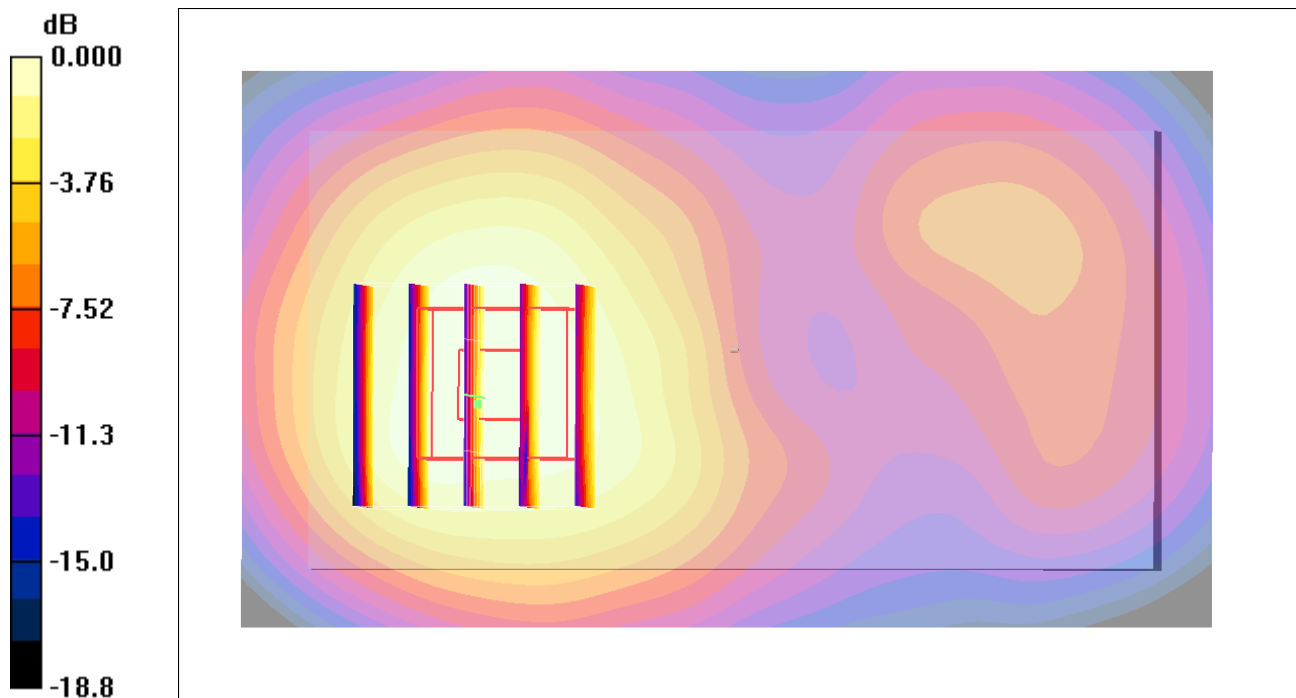
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.74 V/m; Power Drift = -0.085 dB

Peak SAR (extrapolated) = 0.632 W/kg

SAR(1 g) = 0.426 mW/g; SAR(10 g) = 0.262 mW/g

Maximum value of SAR (measured) = 0.462 mW/g



0 dB = 0.462mW/g

#31 GSM1900_GPRS8_Back_1cm_Ch810_Headset**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_1900_120907 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 53.2$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(4.58, 4.58, 4.58); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch810/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.485 mW/g

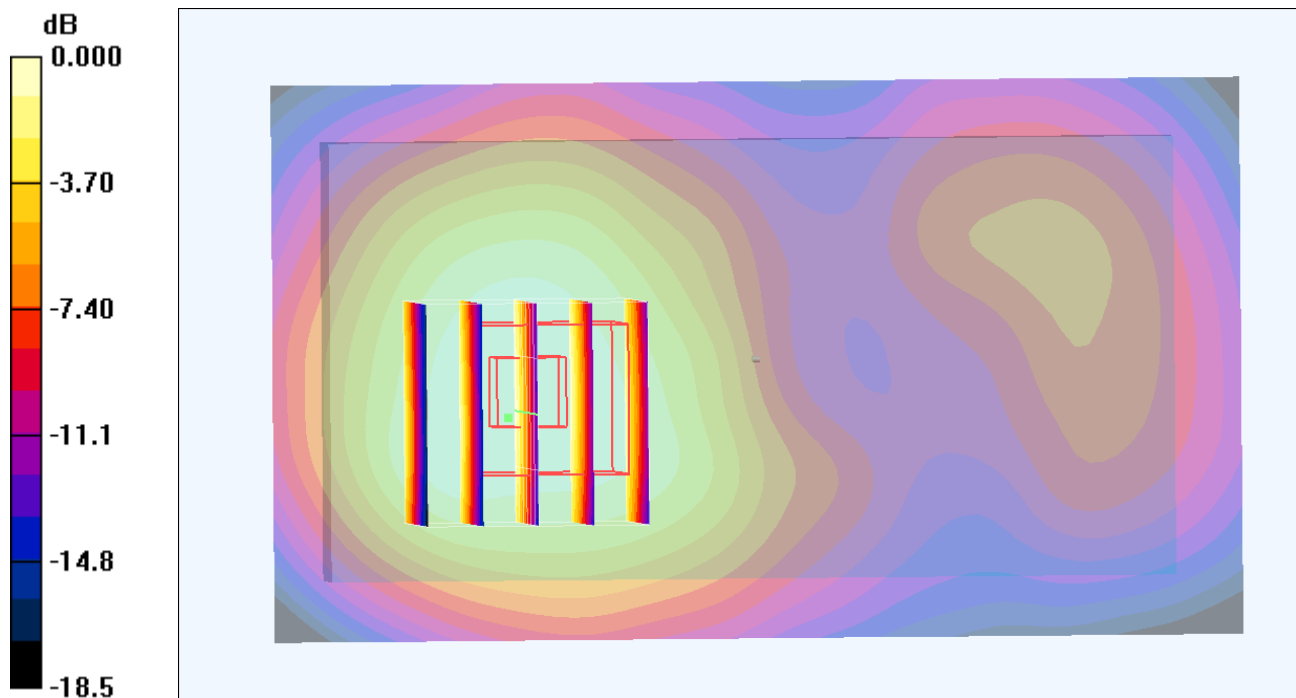
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.89 V/m; Power Drift = -0.146 dB

Peak SAR (extrapolated) = 0.613 W/kg

SAR(1 g) = 0.414 mW/g; SAR(10 g) = 0.256 mW/g

Maximum value of SAR (measured) = 0.447 mW/g



0 dB = 0.447mW/g

#123_GSM1900_GPRS8_Back_1cm_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_1900_121105 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52.817$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.4 °C ; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(7.13, 7.13, 7.13); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch810/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.334 mW/g

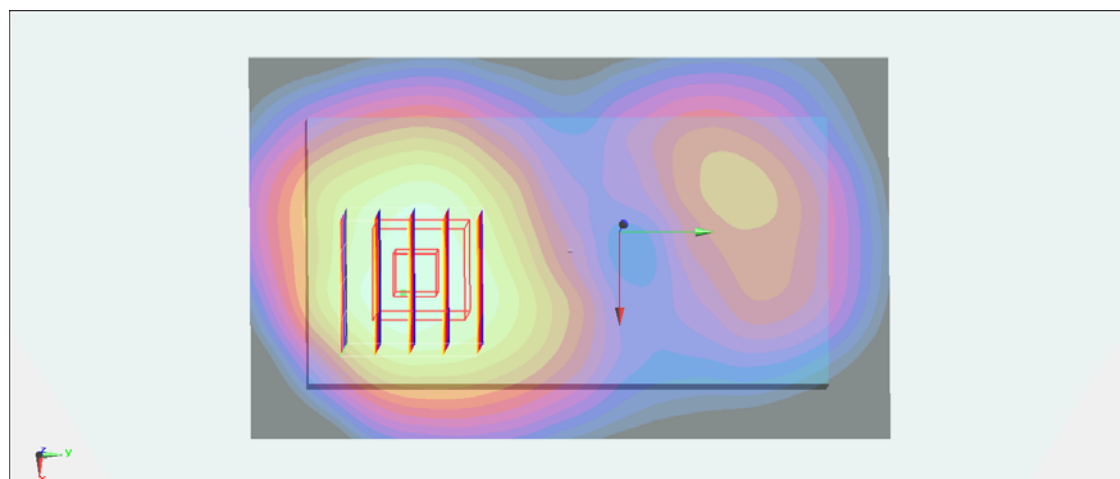
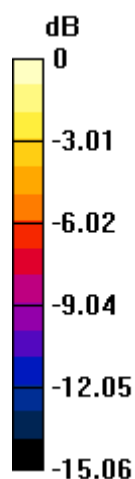
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.478 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.472 mW/g

SAR(1 g) = 0.302 mW/g; SAR(10 g) = 0.187 mW/g

Maximum value of SAR (measured) = 0.322 mW/g



0 dB = 0.322 mW/g = -9.84 dB mW/g

#124_GSM1900_GPRS8_Back_1cm_Ch810**DUT: 282414-02**

Communication System: PCS; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium: MSL_1900_121105 Medium parameters used: $f = 1910$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52.817$; $\rho =$

1000 kg/m^3

Ambient Temperature : 22.4°C ; Liquid Temperature : 21.4°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(7.13, 7.13, 7.13); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM RIGHT; Type: SAM; Serial: 1719
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch810/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.354 mW/g

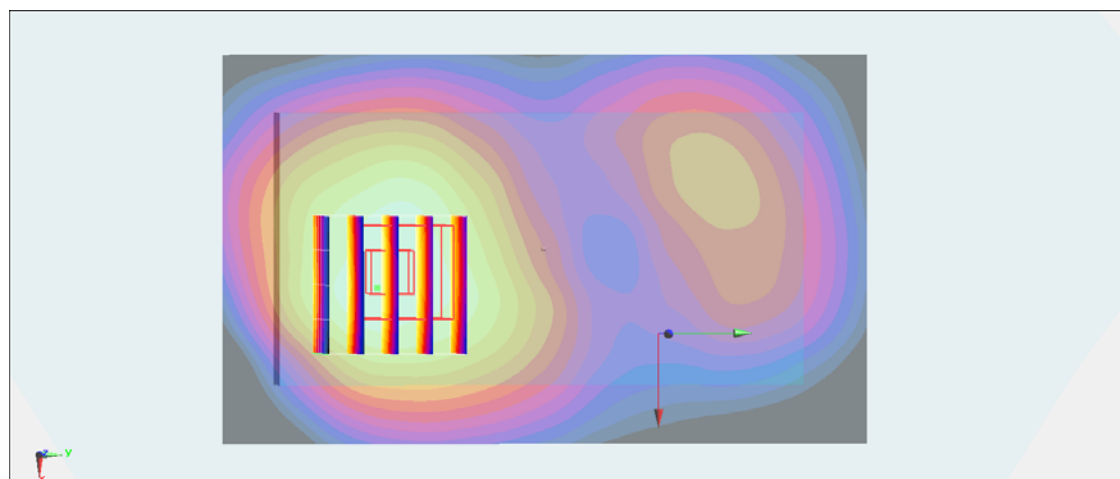
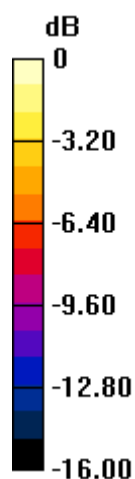
Ch810/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 14.898 V/m ; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.506 mW/g

SAR(1 g) = 0.320 mW/g ; SAR(10 g) = 0.198 mW/g

Maximum value of SAR (measured) = 0.342 mW/g



0 dB = 0.342 mW/g = -9.32 dB mW/g

#22 WCDMA V_RMC12.2K_Front_1cm_Ch4233**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: MSL_850_120906 Medium parameters used: $f = 847$ MHz; $\sigma = 0.974$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch4233/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.527 mW/g

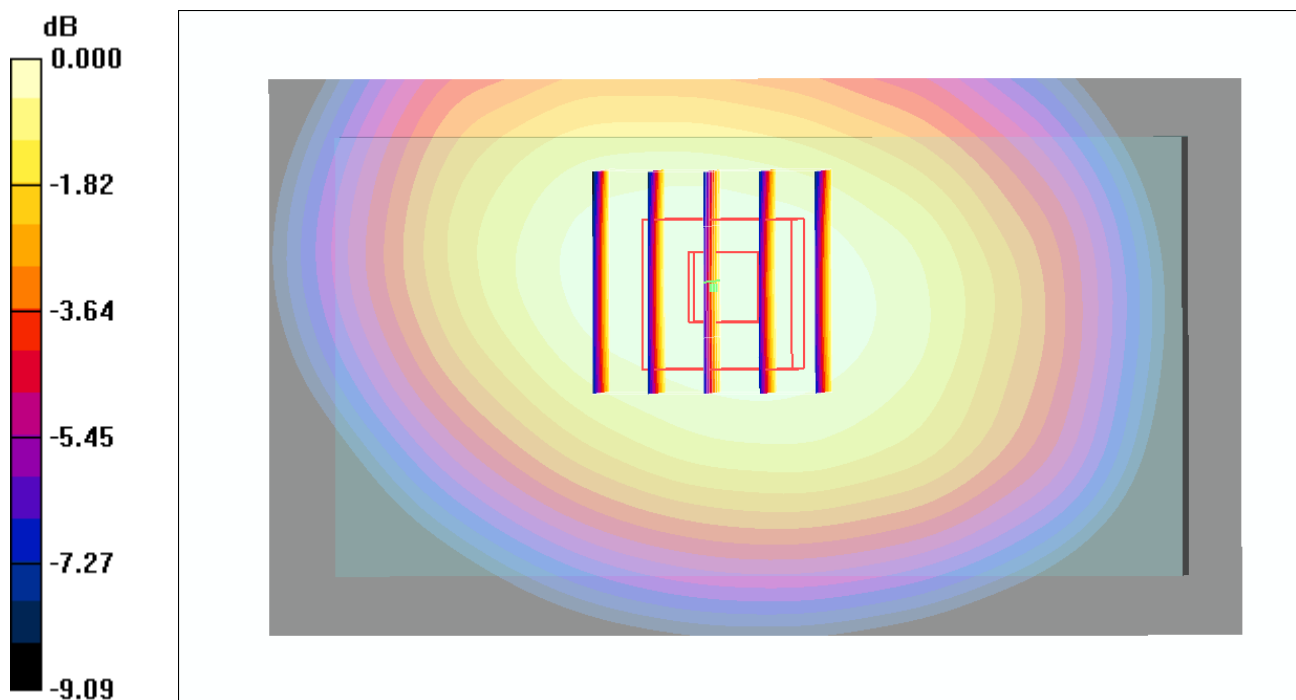
Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.4 V/m; Power Drift = -0.052 dB

Peak SAR (extrapolated) = 0.593 W/kg

SAR(1 g) = 0.487 mW/g; SAR(10 g) = 0.370 mW/g

Maximum value of SAR (measured) = 0.513 mW/g



0 dB = 0.513mW/g

#23 WCDMA V_RMC12.2K_Back_1cm_Ch4233**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: MSL_850_120906 Medium parameters used: $f = 847$ MHz; $\sigma = 0.974$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch4233/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.822 mW/g

Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.2 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 0.991 W/kg

SAR(1 g) = 0.773 mW/g; SAR(10 g) = 0.564 mW/g

Maximum value of SAR (measured) = 0.815 mW/g

Ch4233/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.2 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 0.830 W/kg

SAR(1 g) = 0.517 mW/g; SAR(10 g) = 0.341 mW/g

Maximum value of SAR (measured) = 0.637 mW/g



#23 WCDMA V_RMC12.2K_Back_1cm_Ch4233_2D**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: MSL_850_120906 Medium parameters used: $f = 847$ MHz; $\sigma = 0.974$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch4233/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.822 mW/g

Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.2 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 0.991 W/kg

SAR(1 g) = 0.773 mW/g; SAR(10 g) = 0.564 mW/g

Maximum value of SAR (measured) = 0.815 mW/g

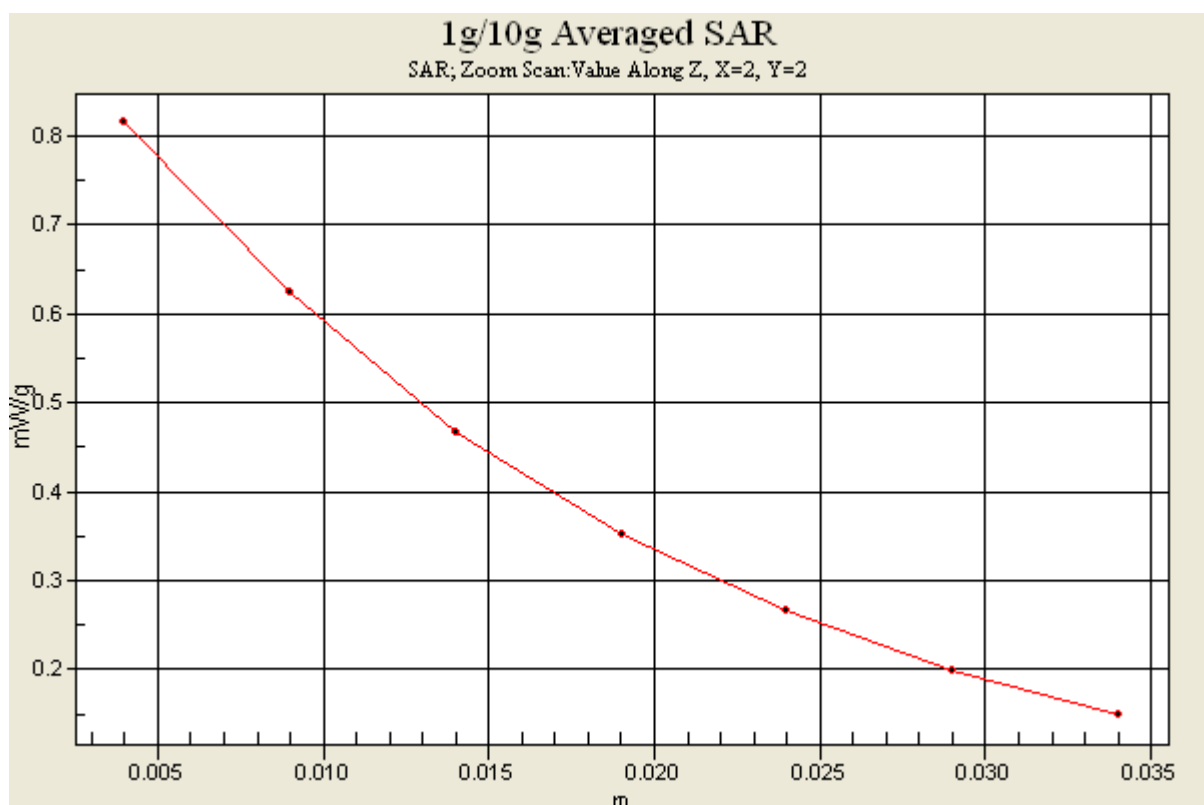
Ch4233/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.2 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 0.830 W/kg

SAR(1 g) = 0.517 mW/g; SAR(10 g) = 0.341 mW/g

Maximum value of SAR (measured) = 0.637 mW/g



#120_WCDMA V_RMC12.2K_Back_1cm_Ch4233**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: MSL_850_121105 Medium parameters used: $f = 847$ MHz; $\sigma = 1.008$ mho/m; $\epsilon_r = 54.708$; $\rho =$

1000 kg/m^3

Ambient Temperature : 22.3°C ; Liquid Temperature : 21.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(8.82, 8.82, 8.82); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch4233/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.625 mW/g

Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 24.808 V/m ; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.745 mW/g

SAR(1 g) = 0.576 mW/g ; SAR(10 g) = 0.425 mW/g

Maximum value of SAR (measured) = 0.608 mW/g

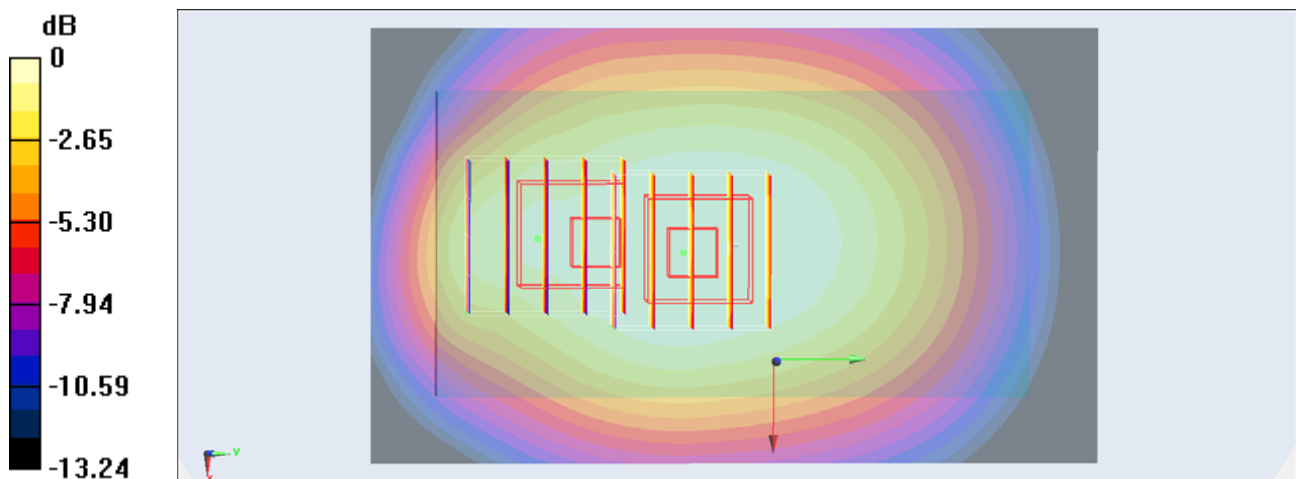
Ch4233/Zoom Scan (5x5x7)/Cube 1: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 24.808 V/m ; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.691 mW/g

SAR(1 g) = 0.447 mW/g ; SAR(10 g) = 0.298 mW/g

Maximum value of SAR (measured) = 0.533 mW/g



0 dB = 0.533 mW/g = -5.47 dB mW/g

#121_WCDMA V_RMC12.2K_Back_1cm_Ch4233**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: MSL_850_121105 Medium parameters used: $f = 847$ MHz; $\sigma = 1.008$ mho/m; $\epsilon_r = 54.708$; $\rho =$

1000 kg/m^3

Ambient Temperature : 22.3°C ; Liquid Temperature : 21.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(8.82, 8.82, 8.82); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch4233/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.533 mW/g

Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 23.085 V/m ; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.650 mW/g

SAR(1 g) = 0.501 mW/g ; SAR(10 g) = 0.370 mW/g

Maximum value of SAR (measured) = 0.528 mW/g

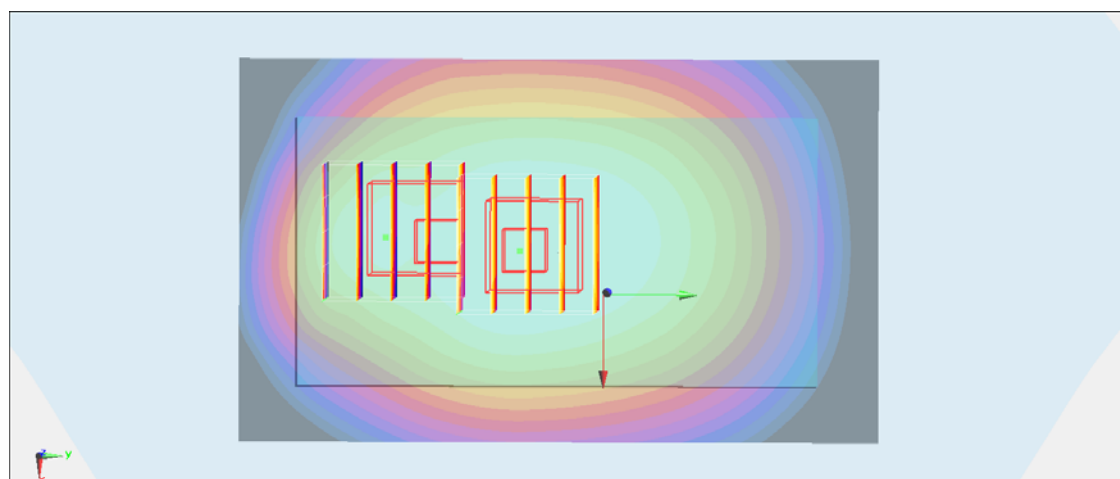
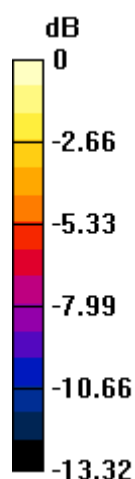
Ch4233/Zoom Scan (5x5x7)/Cube 1: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 23.085 V/m ; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.595 mW/g

SAR(1 g) = 0.379 mW/g ; SAR(10 g) = 0.257 mW/g

Maximum value of SAR (measured) = 0.455 mW/g



0 dB = 0.455 mW/g = -6.84 dB mW/g

#25 WCDMA V_RMC12.2K_Left Side_1cm_Ch4233_Headset**DUT:282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: MSL_850_120906 Medium parameters used: $f = 847$ MHz; $\sigma = 0.974$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch4233/Area Scan (31x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.412 mW/g

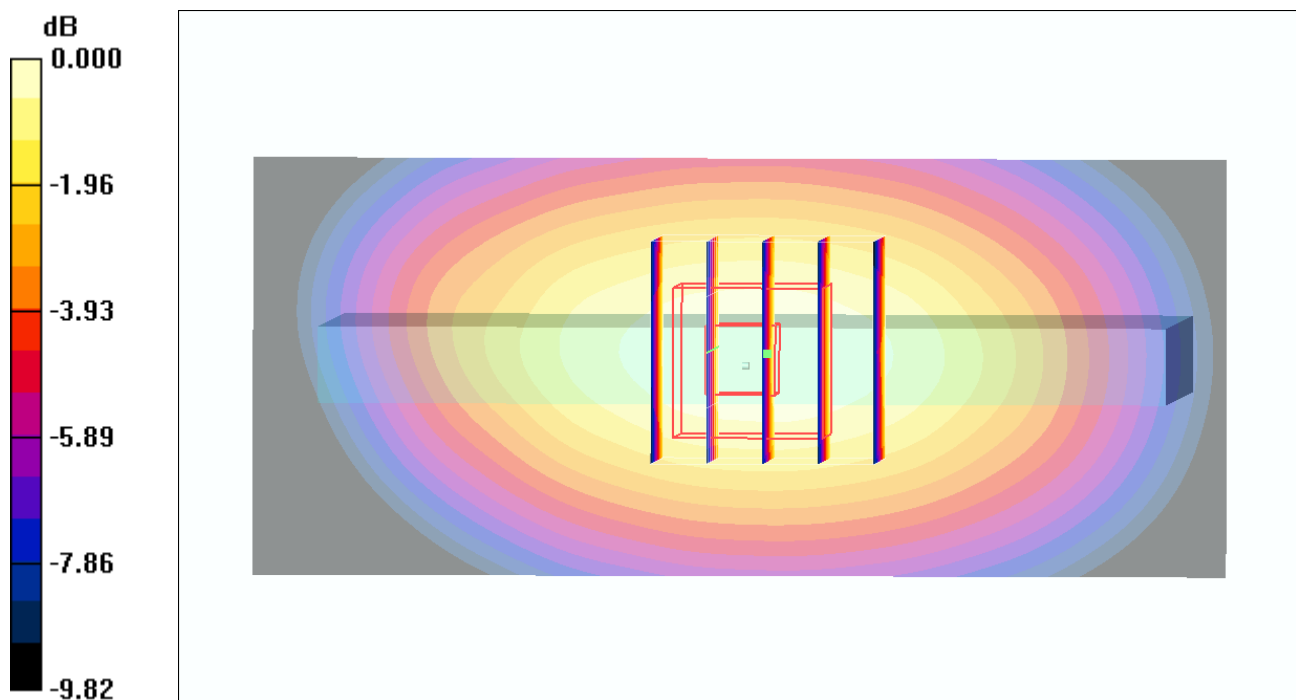
Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 21.4 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 0.543 W/kg

SAR(1 g) = 0.389 mW/g; SAR(10 g) = 0.266 mW/g

Maximum value of SAR (measured) = 0.415 mW/g



0 dB = 0.415mW/g

#26 WCDMA V_RMC12.2K_Right Side_1cm_Ch4233_Headset**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: MSL_850_120906 Medium parameters used: $f = 847$ MHz; $\sigma = 0.974$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch4233/Area Scan (31x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.358 mW/g

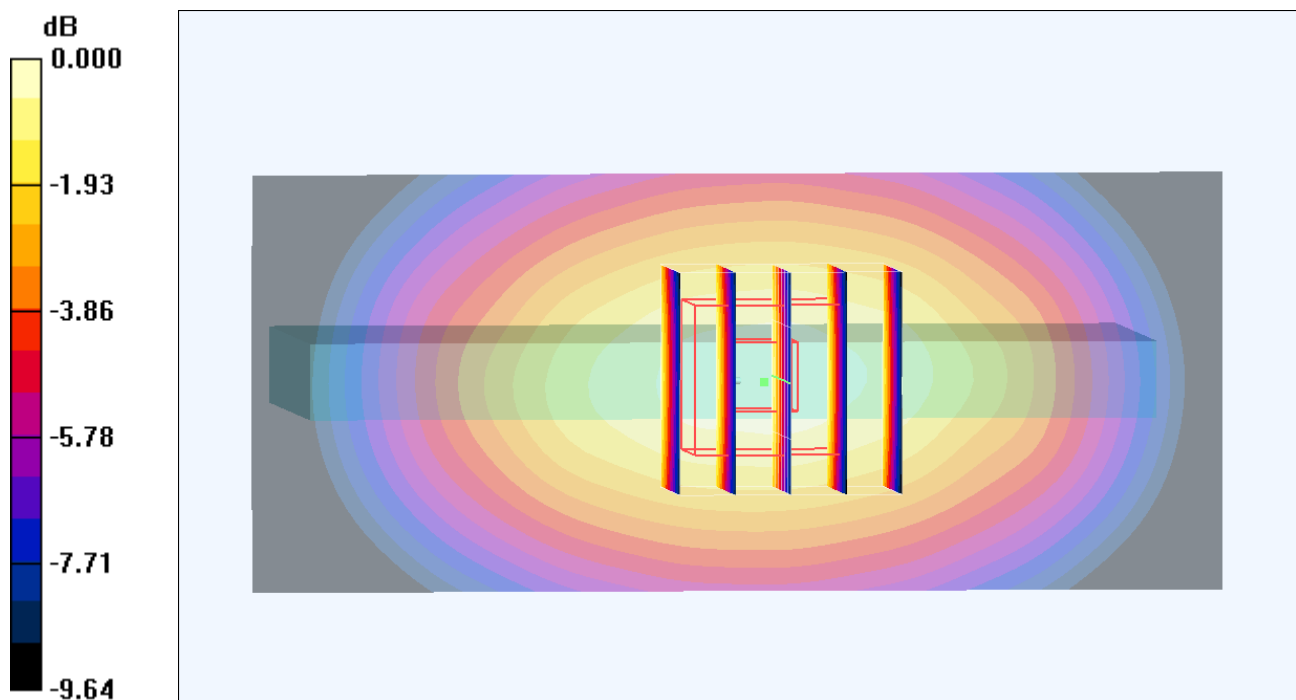
Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 20.3 V/m; Power Drift = 0.106 dB

Peak SAR (extrapolated) = 0.489 W/kg

SAR(1 g) = 0.356 mW/g; SAR(10 g) = 0.245 mW/g

Maximum value of SAR (measured) = 0.383 mW/g



0 dB = 0.383mW/g

#28 WCDMA V_RMC12.2K_Bottom Side_1cm_Ch4233_Headset**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: MSL_850_120906 Medium parameters used: $f = 847$ MHz; $\sigma = 0.974$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch4233/Area Scan (31x61x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.048 mW/g

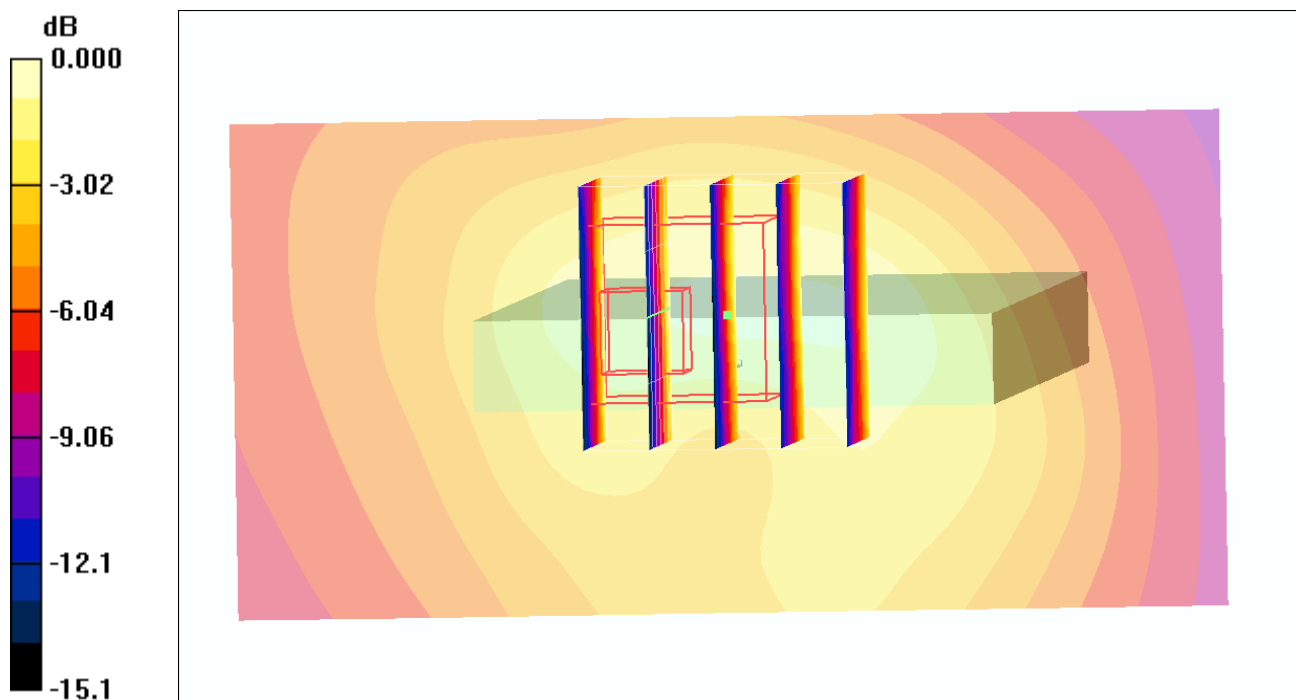
Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.41 V/m; Power Drift = 0.149 dB

Peak SAR (extrapolated) = 0.137 W/kg

SAR(1 g) = 0.055 mW/g; SAR(10 g) = 0.028 mW/g

Maximum value of SAR (measured) = 0.057 mW/g



0 dB = 0.057mW/g

#22 WCDMA V_RMC12.2K_Front_1cm_Ch4233**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: MSL_850_120906 Medium parameters used: $f = 847$ MHz; $\sigma = 0.974$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch4233/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.527 mW/g

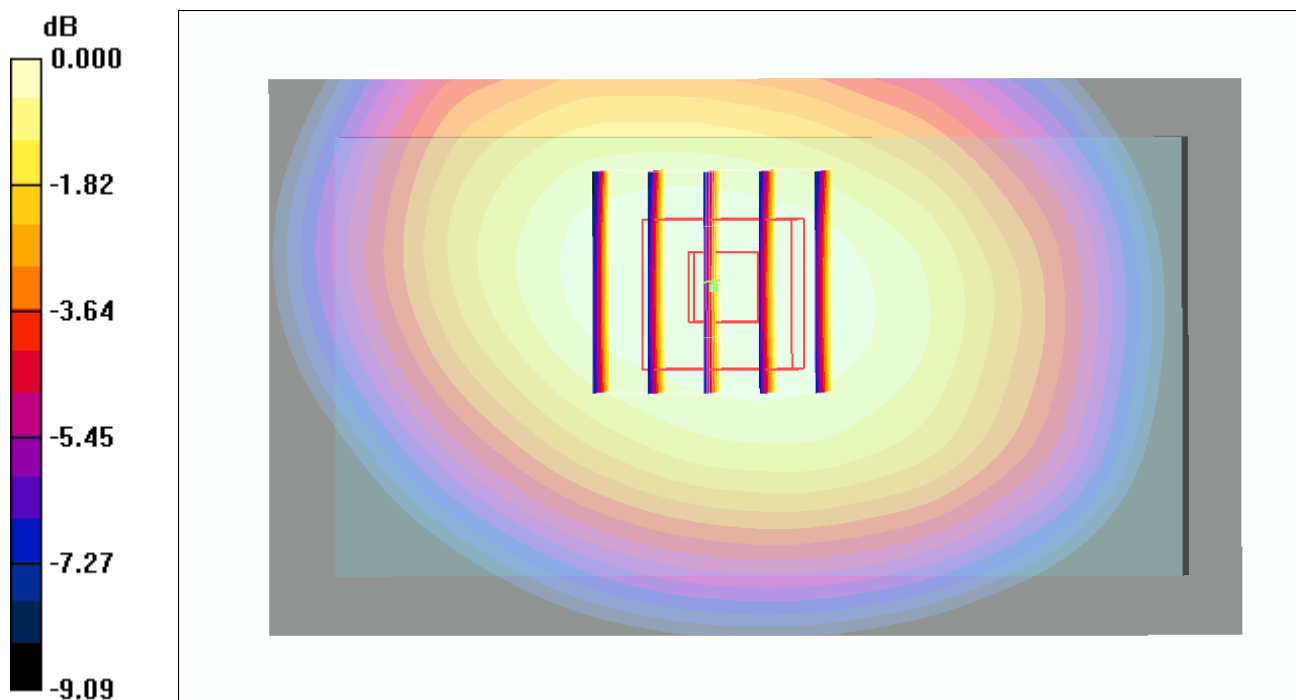
Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.4 V/m; Power Drift = -0.052 dB

Peak SAR (extrapolated) = 0.593 W/kg

SAR(1 g) = 0.487 mW/g; SAR(10 g) = 0.370 mW/g

Maximum value of SAR (measured) = 0.513 mW/g



0 dB = 0.513mW/g

#23 WCDMA V_RMC12.2K_Back_1cm_Ch4233**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: MSL_850_120906 Medium parameters used: $f = 847$ MHz; $\sigma = 0.974$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch4233/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.822 mW/g

Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.2 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 0.991 W/kg

SAR(1 g) = 0.773 mW/g; SAR(10 g) = 0.564 mW/g

Maximum value of SAR (measured) = 0.815 mW/g

Ch4233/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.2 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 0.830 W/kg

SAR(1 g) = 0.517 mW/g; SAR(10 g) = 0.341 mW/g

Maximum value of SAR (measured) = 0.637 mW/g



#24 WCDMA V_RMC12.2K_Back_1cm_Ch4233_Headset**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: MSL_850_120906 Medium parameters used: $f = 847$ MHz; $\sigma = 0.974$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ET3DV6 - SN1787; ConvF(6.08, 6.08, 6.08); Calibrated: 2012/5/29
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn577; Calibrated: 2012/6/6
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch4233/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.630 mW/g

Ch4233/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 21.7 V/m; Power Drift = -0.062 dB

Peak SAR (extrapolated) = 0.733 W/kg

SAR(1 g) = 0.516 mW/g; SAR(10 g) = 0.351 mW/g

Maximum value of SAR (measured) = 0.544 mW/g

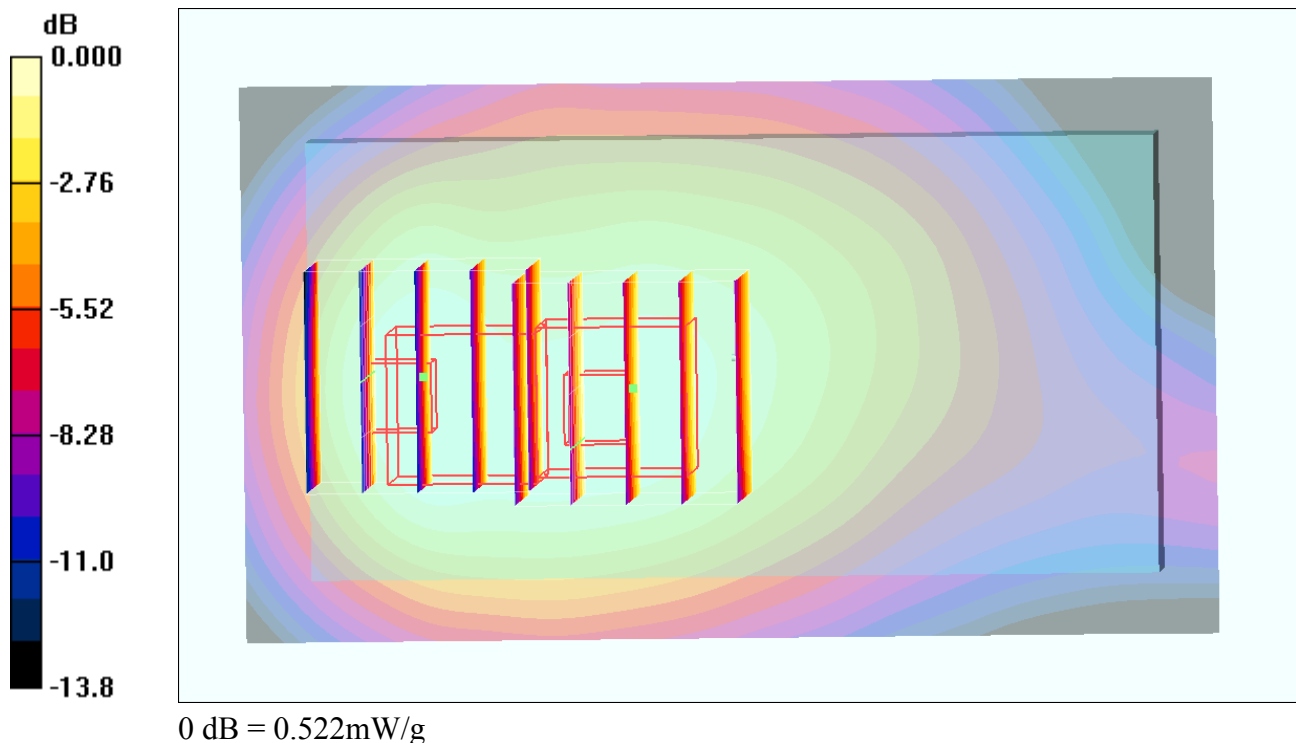
Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 21.7 V/m; Power Drift = -0.062 dB

Peak SAR (extrapolated) = 0.862 W/kg

SAR(1 g) = 0.489 mW/g; SAR(10 g) = 0.299 mW/g

Maximum value of SAR (measured) = 0.522 mW/g



#120_WCDMA V_RMC12.2K_Back_1cm_Ch4233**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: MSL_850_121105 Medium parameters used: $f = 847$ MHz; $\sigma = 1.008$ mho/m; $\epsilon_r = 54.708$; $\rho =$

1000 kg/m^3

Ambient Temperature : 22.3°C ; Liquid Temperature : 21.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(8.82, 8.82, 8.82); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch4233/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.625 mW/g

Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 24.808 V/m ; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.745 mW/g

SAR(1 g) = 0.576 mW/g ; SAR(10 g) = 0.425 mW/g

Maximum value of SAR (measured) = 0.608 mW/g

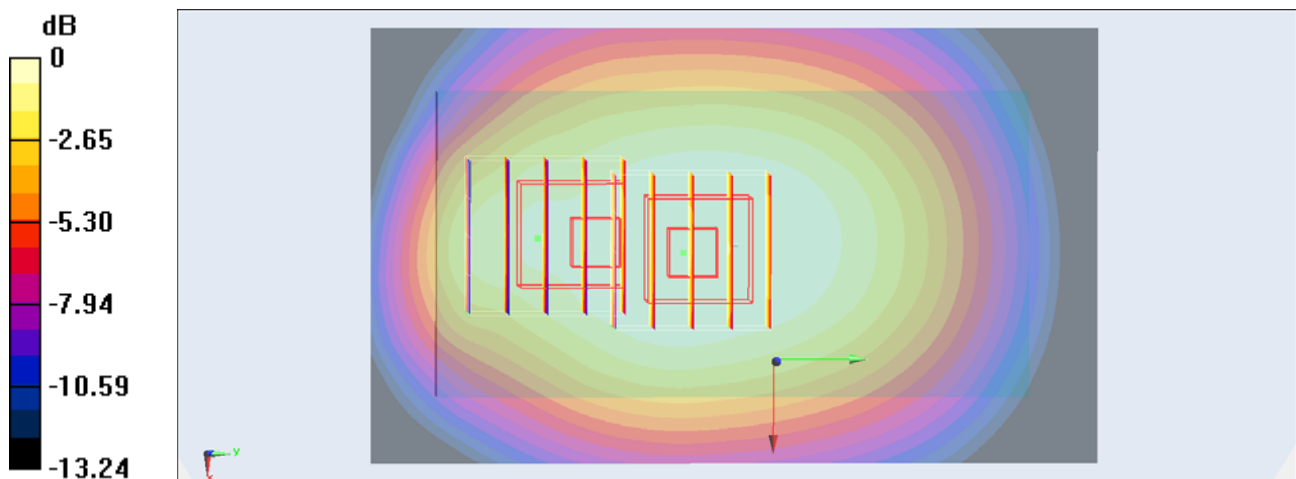
Ch4233/Zoom Scan (5x5x7)/Cube 1: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 24.808 V/m ; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.691 mW/g

SAR(1 g) = 0.447 mW/g ; SAR(10 g) = 0.298 mW/g

Maximum value of SAR (measured) = 0.533 mW/g



0 dB = 0.533 mW/g = -5.47 dB mW/g

#121_WCDMA V_RMC12.2K_Back_1cm_Ch4233**DUT: 282414-02**

Communication System: WCDMA; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium: MSL_850_121105 Medium parameters used: $f = 847$ MHz; $\sigma = 1.008$ mho/m; $\epsilon_r = 54.708$; $\rho =$

1000 kg/m^3

Ambient Temperature : 22.3°C ; Liquid Temperature : 21.3°C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(8.82, 8.82, 8.82); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch4233/Area Scan (61x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.533 mW/g

Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 23.085 V/m ; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.650 mW/g

SAR(1 g) = 0.501 mW/g ; SAR(10 g) = 0.370 mW/g

Maximum value of SAR (measured) = 0.528 mW/g

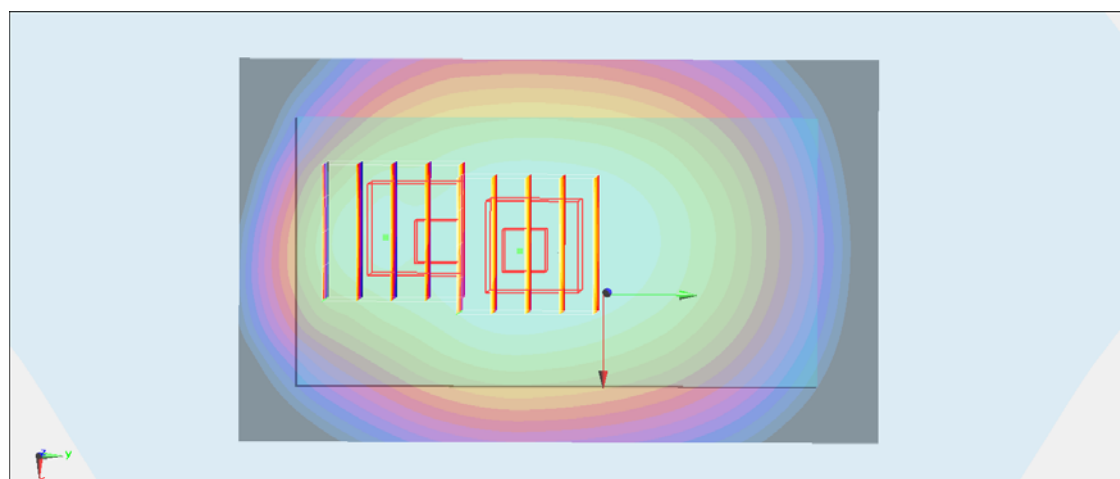
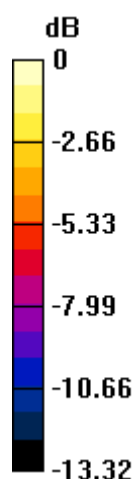
Ch4233/Zoom Scan (5x5x7)/Cube 1: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 23.085 V/m ; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.595 mW/g

SAR(1 g) = 0.379 mW/g ; SAR(10 g) = 0.257 mW/g

Maximum value of SAR (measured) = 0.455 mW/g



0 dB = 0.455 mW/g = -6.84 dB mW/g

#39 WLAN2.4G_802.11b_Front_1cm_Ch6**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: MSL_2450_120908 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.91$ mho/m; $\epsilon_r = 53.6$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ES3DV3 - SN3296; ConvF(4.28, 4.28, 4.28); Calibrated: 2012/4/10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.053 mW/g

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.50 V/m; Power Drift = -0.067 dB

Peak SAR (extrapolated) = 0.118 W/kg

SAR(1 g) = 0.058 mW/g; SAR(10 g) = 0.029 mW/g

Maximum value of SAR (measured) = 0.063 mW/g

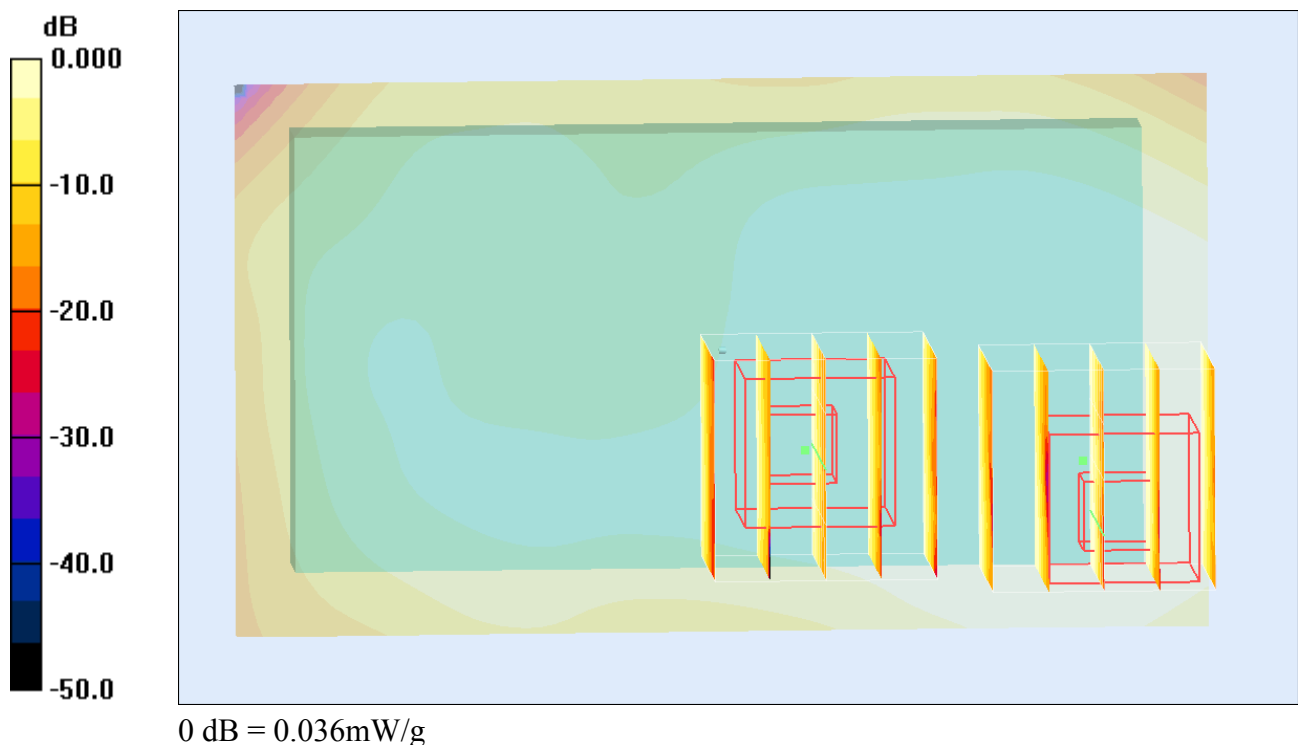
Ch6/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.50 V/m; Power Drift = -0.067 dB

Peak SAR (extrapolated) = 0.061 W/kg

SAR(1 g) = 0.033 mW/g; SAR(10 g) = 0.018 mW/g

Maximum value of SAR (measured) = 0.036 mW/g



#40 WLAN2.4G_802.11b _Back_1cm_Ch6**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: MSL_2450_120908 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.91$ mho/m; $\epsilon_r = 53.6$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ES3DV3 - SN3296; ConvF(4.28, 4.28, 4.28); Calibrated: 2012/4/10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.069 mW/g

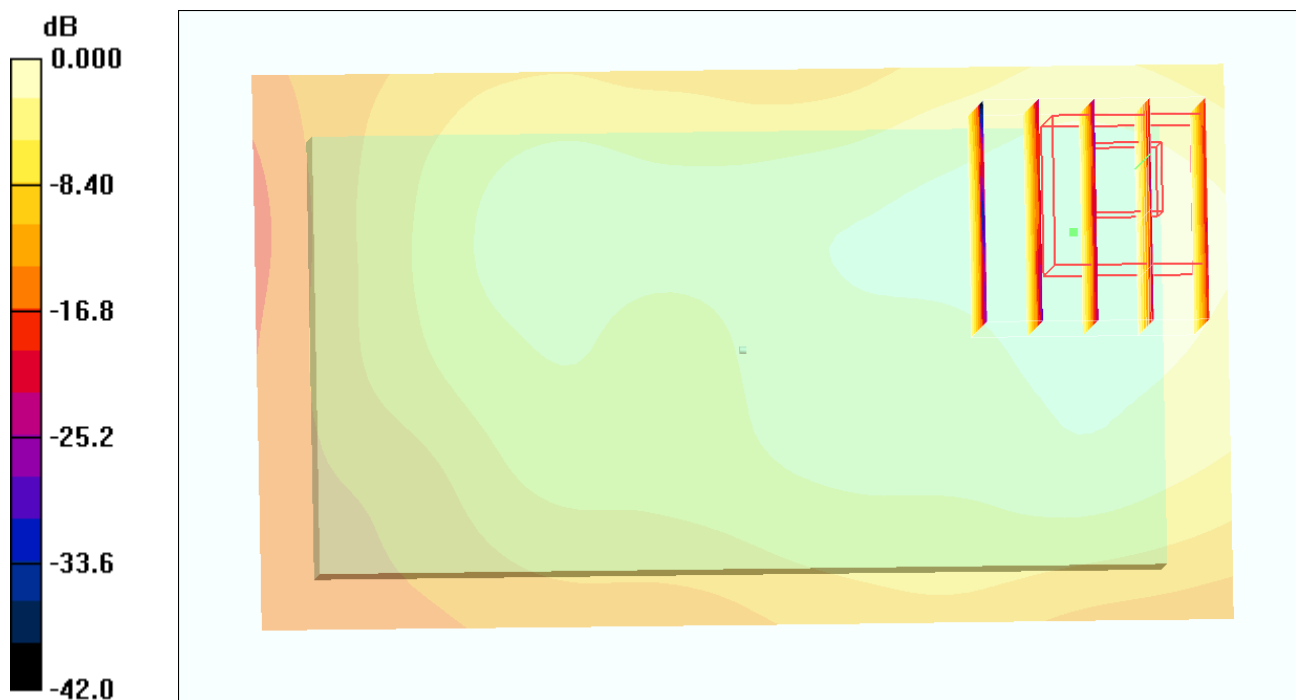
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.50 V/m; Power Drift = -0.034 dB

Peak SAR (extrapolated) = 0.146 W/kg

SAR(1 g) = 0.068 mW/g; SAR(10 g) = 0.034 mW/g

Maximum value of SAR (measured) = 0.076 mW/g



0 dB = 0.076mW/g

#40 WLAN2.4G_802.11b_Back_1cm_Ch6_2D**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: MSL_2450_120908 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.91$ mho/m; $\epsilon_r = 53.6$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ES3DV3 - SN3296; ConvF(4.28, 4.28, 4.28); Calibrated: 2012/4/10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.069 mW/g

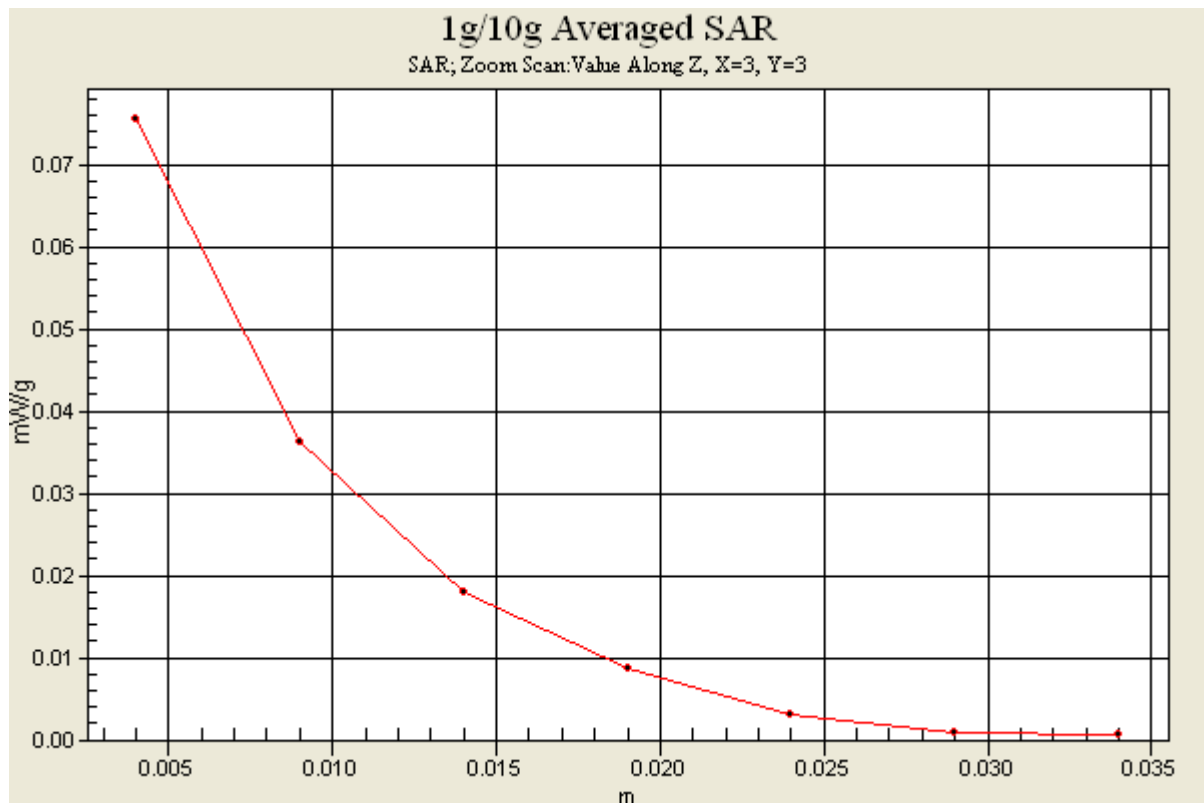
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.50 V/m; Power Drift = -0.034 dB

Peak SAR (extrapolated) = 0.146 W/kg

SAR(1 g) = 0.068 mW/g; SAR(10 g) = 0.034 mW/g

Maximum value of SAR (measured) = 0.076 mW/g



#126_WLAN2.4G_802.11b_Back_1cm_Ch6**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: MSL_2450_121106 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.914$ mho/m; $\epsilon_r = 53.624$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(6.59, 6.59, 6.59); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch6/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.0435 mW/g

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.951 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.089 mW/g

SAR(1 g) = 0.044 mW/g; SAR(10 g) = 0.022 mW/g

Maximum value of SAR (measured) = 0.0470 mW/g

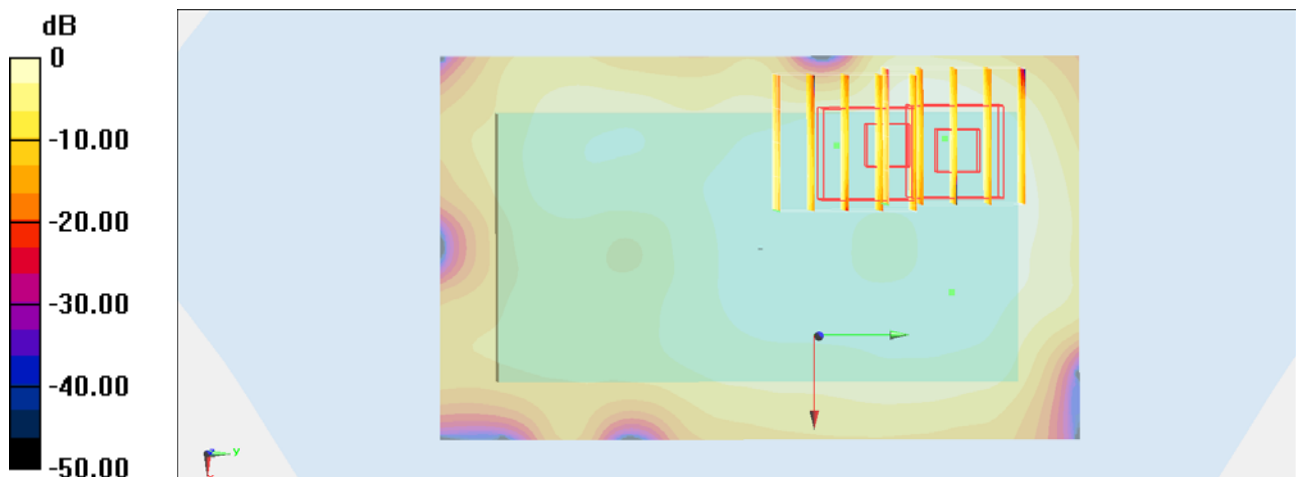
Ch6/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.951 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.062 mW/g

SAR(1 g) = 0.030 mW/g; SAR(10 g) = 0.017 mW/g

Maximum value of SAR (measured) = 0.0386 mW/g



0 dB = 0.0386 mW/g = -28.27 dB mW/g

#127_WLAN2.4G_802.11b_Back_1cm_Ch6**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: MSL_2450_121106 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.914$ mho/m; $\epsilon_r = 53.624$; ρ

$= 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(6.59, 6.59, 6.59); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch6/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.0655 mW/g

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.887 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.114 mW/g

SAR(1 g) = 0.059 mW/g; SAR(10 g) = 0.030 mW/g

Maximum value of SAR (measured) = 0.0648 mW/g

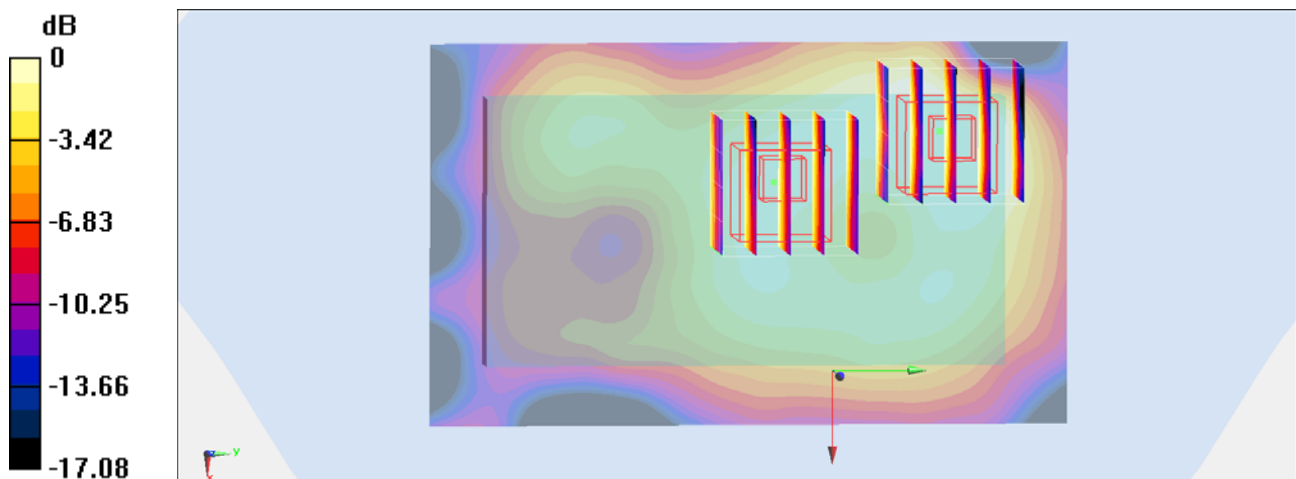
Ch6/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.887 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.068 mW/g

SAR(1 g) = 0.040 mW/g; SAR(10 g) = 0.024 mW/g

Maximum value of SAR (measured) = 0.0441 mW/g



0 dB = 0.0441 mW/g = -27.11 dB mW/g

#41 WLAN2.4G_802.11b_Right Side_1cm_Ch6**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: MSL_2450_120908 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.91$ mho/m; $\epsilon_r = 53.6$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ES3DV3 - SN3296; ConvF(4.28, 4.28, 4.28); Calibrated: 2012/4/10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (31x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.038 mW/g

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.18 V/m; Power Drift = -0.149 dB

Peak SAR (extrapolated) = 0.069 W/kg

SAR(1 g) = 0.036 mW/g; SAR(10 g) = 0.019 mW/g

Maximum value of SAR (measured) = 0.038 mW/g

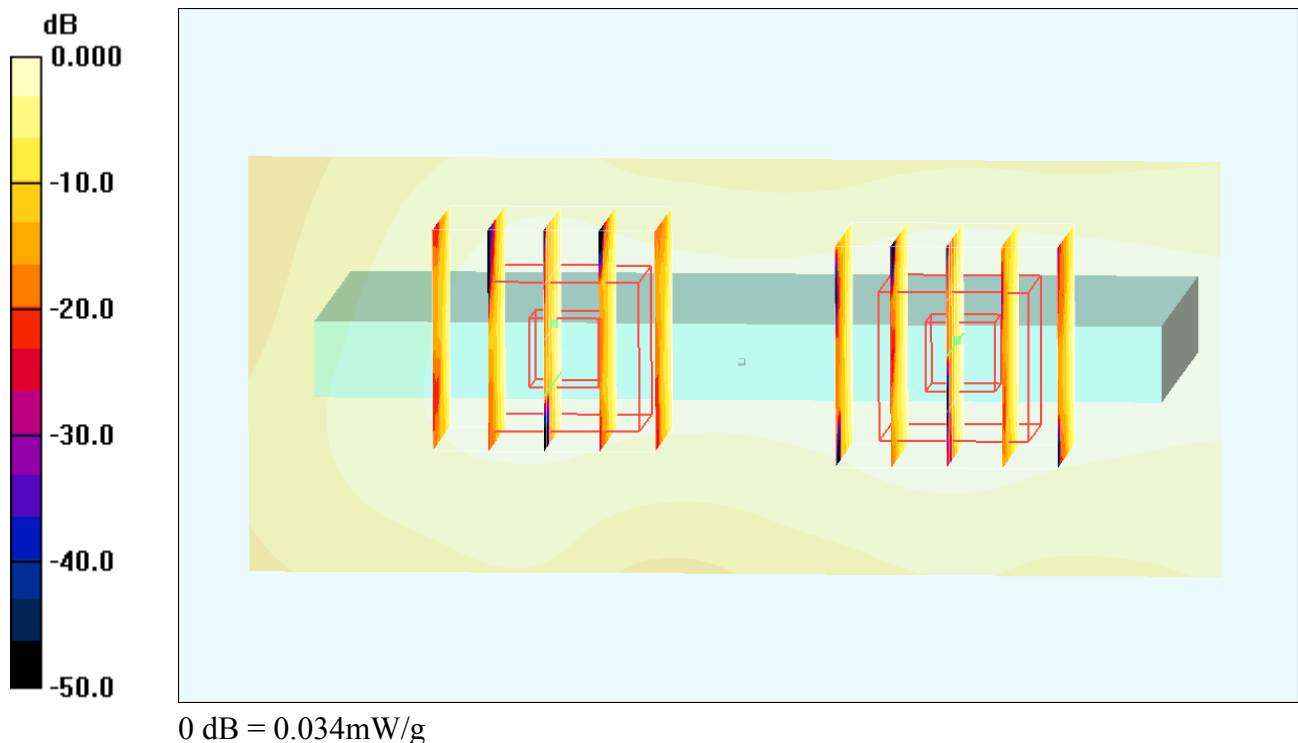
Ch6/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.18 V/m; Power Drift = -0.149 dB

Peak SAR (extrapolated) = 0.060 W/kg

SAR(1 g) = 0.031 mW/g; SAR(10 g) = 0.016 mW/g

Maximum value of SAR (measured) = 0.034 mW/g



#42 WLAN2.4G_802.11b_Top Side_1cm_Ch6**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: MSL_2450_120908 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.91$ mho/m; $\epsilon_r = 53.6$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ES3DV3 - SN3296; ConvF(4.28, 4.28, 4.28); Calibrated: 2012/4/10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (31x61x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.062 mW/g

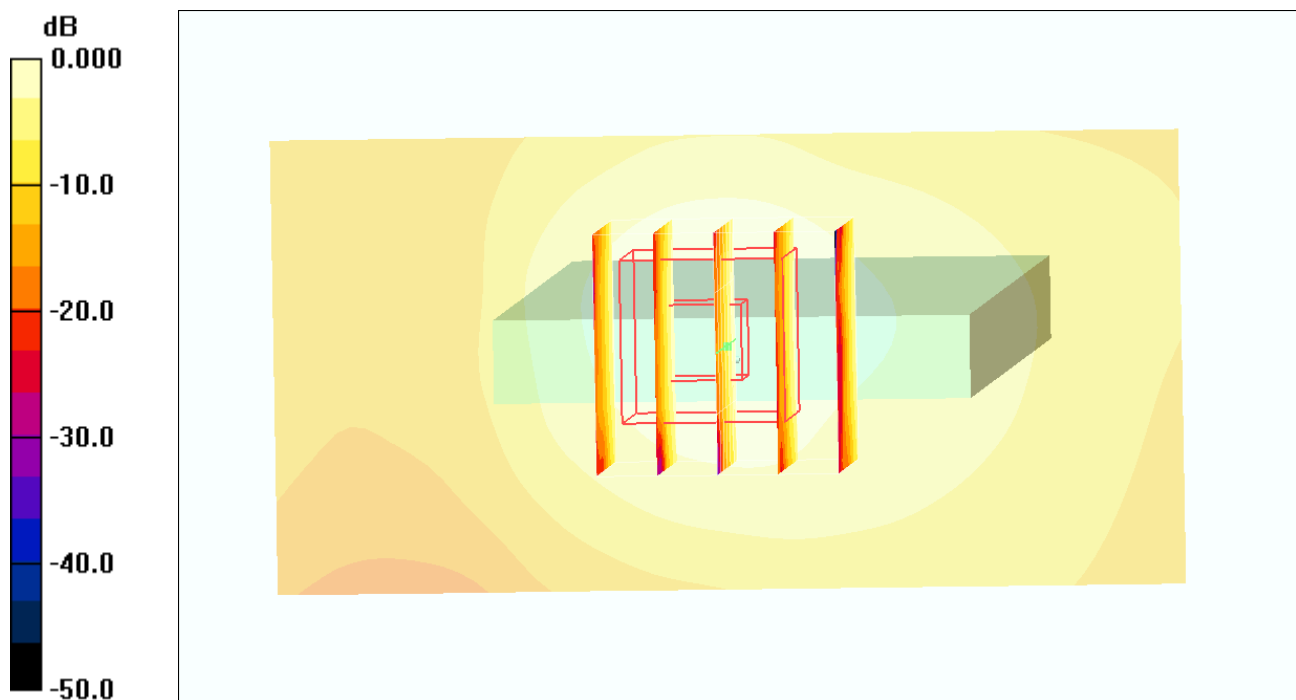
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.67 V/m; Power Drift = -0.193 dB

Peak SAR (extrapolated) = 0.106 W/kg

SAR(1 g) = 0.055 mW/g; SAR(10 g) = 0.028 mW/g

Maximum value of SAR (measured) = 0.059 mW/g



0 dB = 0.059mW/g

#39 WLAN2.4G_802.11b_Front_1cm_Ch6**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: MSL_2450_120908 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.91$ mho/m; $\epsilon_r = 53.6$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ES3DV3 - SN3296; ConvF(4.28, 4.28, 4.28); Calibrated: 2012/4/10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.053 mW/g

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.50 V/m; Power Drift = -0.067 dB

Peak SAR (extrapolated) = 0.118 W/kg

SAR(1 g) = 0.058 mW/g; SAR(10 g) = 0.029 mW/g

Maximum value of SAR (measured) = 0.063 mW/g

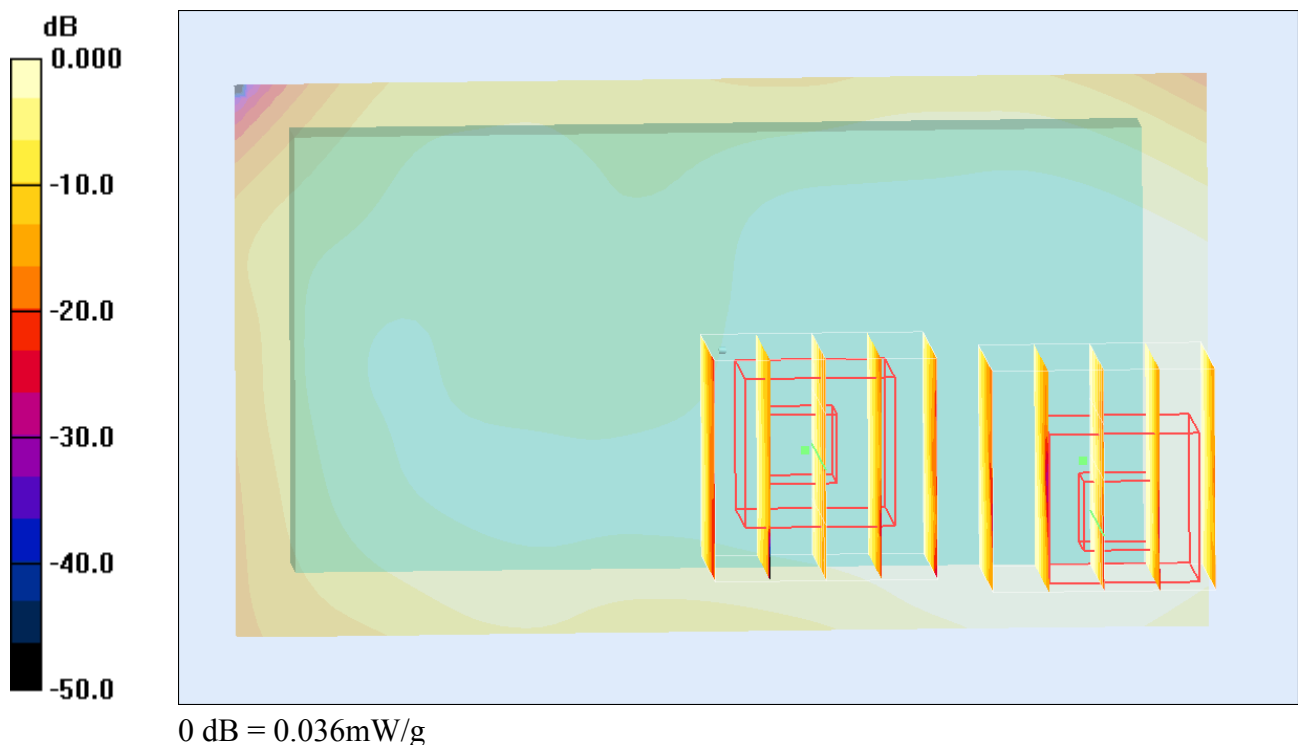
Ch6/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.50 V/m; Power Drift = -0.067 dB

Peak SAR (extrapolated) = 0.061 W/kg

SAR(1 g) = 0.033 mW/g; SAR(10 g) = 0.018 mW/g

Maximum value of SAR (measured) = 0.036 mW/g



#40 WLAN2.4G_802.11b _Back_1cm_Ch6**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: MSL_2450_120908 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.91$ mho/m; $\epsilon_r = 53.6$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ES3DV3 - SN3296; ConvF(4.28, 4.28, 4.28); Calibrated: 2012/4/10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.069 mW/g

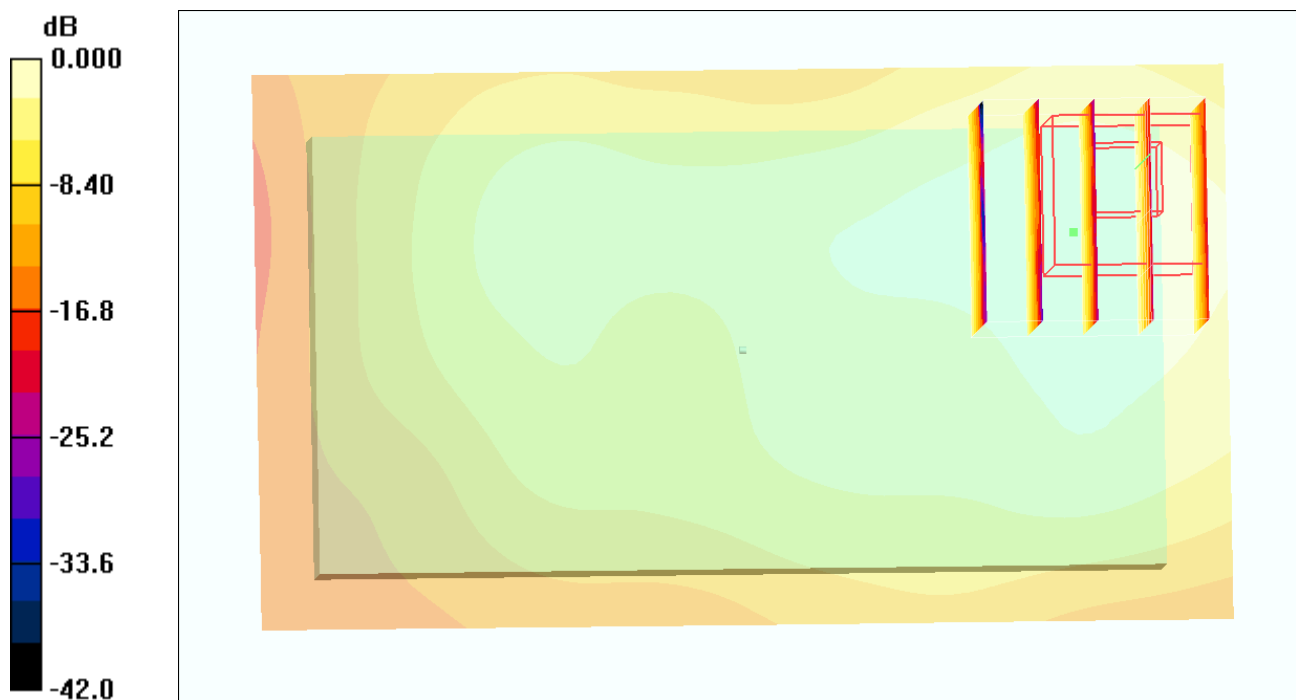
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.50 V/m; Power Drift = -0.034 dB

Peak SAR (extrapolated) = 0.146 W/kg

SAR(1 g) = 0.068 mW/g; SAR(10 g) = 0.034 mW/g

Maximum value of SAR (measured) = 0.076 mW/g



0 dB = 0.076mW/g

#43 WLAN2.4G_802.11b _Back_1cm_Ch6_Headset**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz;Duty Cycle: 1:1

Medium: MSL_2450_120908 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.91$ mho/m; $\epsilon_r = 53.6$; $\rho = 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY4 Configuration:

- Probe: ES3DV3 - SN3296; ConvF(4.28, 4.28, 4.28); Calibrated: 2012/4/10
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM_Right; Type: SAM; Serial: TP-1303
- Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Ch6/Area Scan (41x71x1): Measurement grid: dx=20mm, dy=20mm

Maximum value of SAR (interpolated) = 0.069 mW/g

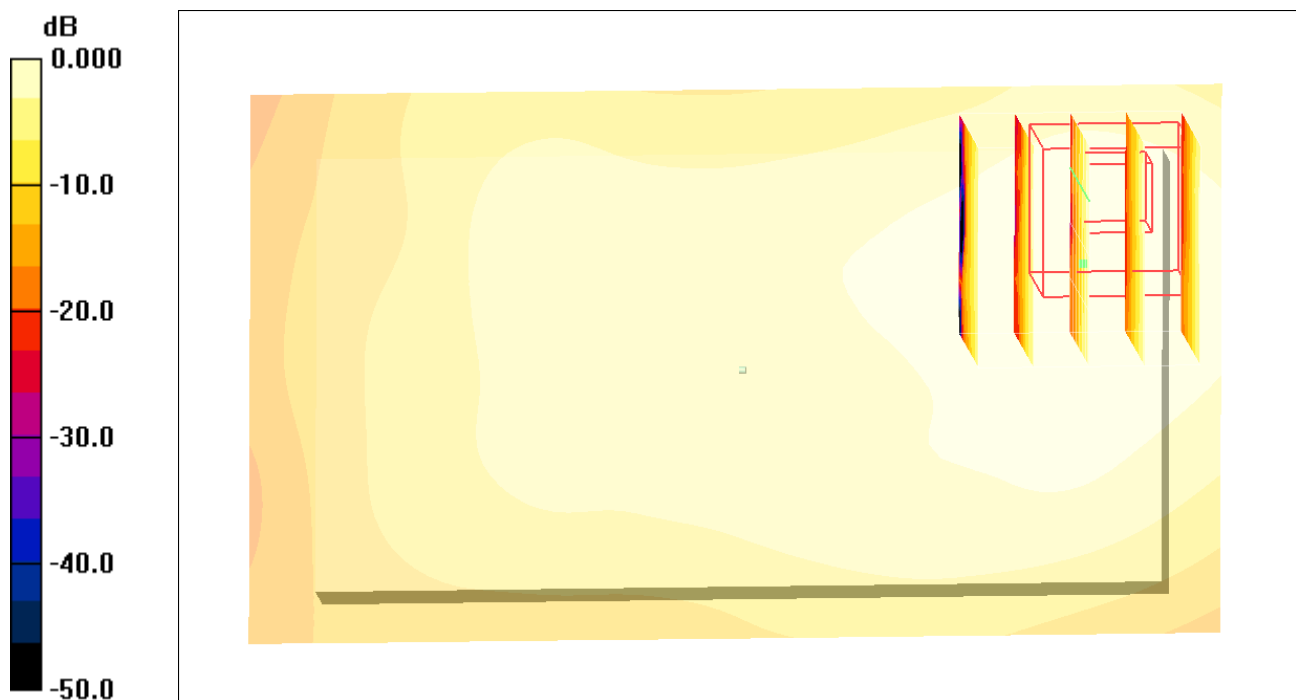
Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.20 V/m; Power Drift = -0.102 dB

Peak SAR (extrapolated) = 0.130 W/kg

SAR(1 g) = 0.061 mW/g; SAR(10 g) = 0.030 mW/g

Maximum value of SAR (measured) = 0.066 mW/g



0 dB = 0.066mW/g

#126_WLAN2.4G_802.11b_Back_1cm_Ch6**DUT: 2282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: MSL_2450_121106 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.914$ mho/m; $\epsilon_r = 53.624$; ρ

$= 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(6.59, 6.59, 6.59); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch6/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.0435 mW/g

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.951 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.089 mW/g

SAR(1 g) = 0.044 mW/g; SAR(10 g) = 0.022 mW/g

Maximum value of SAR (measured) = 0.0470 mW/g

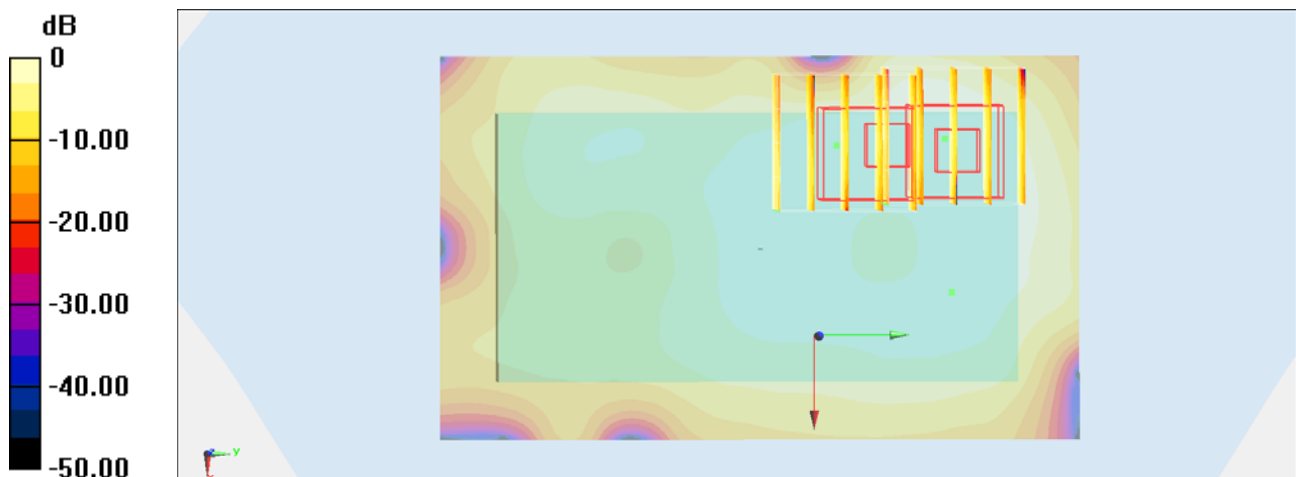
Ch6/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.951 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.062 mW/g

SAR(1 g) = 0.030 mW/g; SAR(10 g) = 0.017 mW/g

Maximum value of SAR (measured) = 0.0386 mW/g



0 dB = 0.0386 mW/g = -28.27 dB mW/g

#127_WLAN2.4G_802.11b_Back_1cm_Ch6**DUT: 282414-02**

Communication System: 802.11b ; Frequency: 2437 MHz; Duty Cycle: 1:1

Medium: MSL_2450_121106 Medium parameters used: $f = 2437$ MHz; $\sigma = 1.914$ mho/m; $\epsilon_r = 53.624$; ρ

$= 1000$ kg/m³

Ambient Temperature : 22.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3801; ConvF(6.59, 6.59, 6.59); Calibrated: 2012/6/22;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn778; Calibrated: 2012/8/27
- Phantom: SAM LEFT; Type: QD000P40CD; Serial: TP:1718
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Ch6/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.0655 mW/g

Ch6/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.887 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.114 mW/g

SAR(1 g) = 0.059 mW/g; SAR(10 g) = 0.030 mW/g

Maximum value of SAR (measured) = 0.0648 mW/g

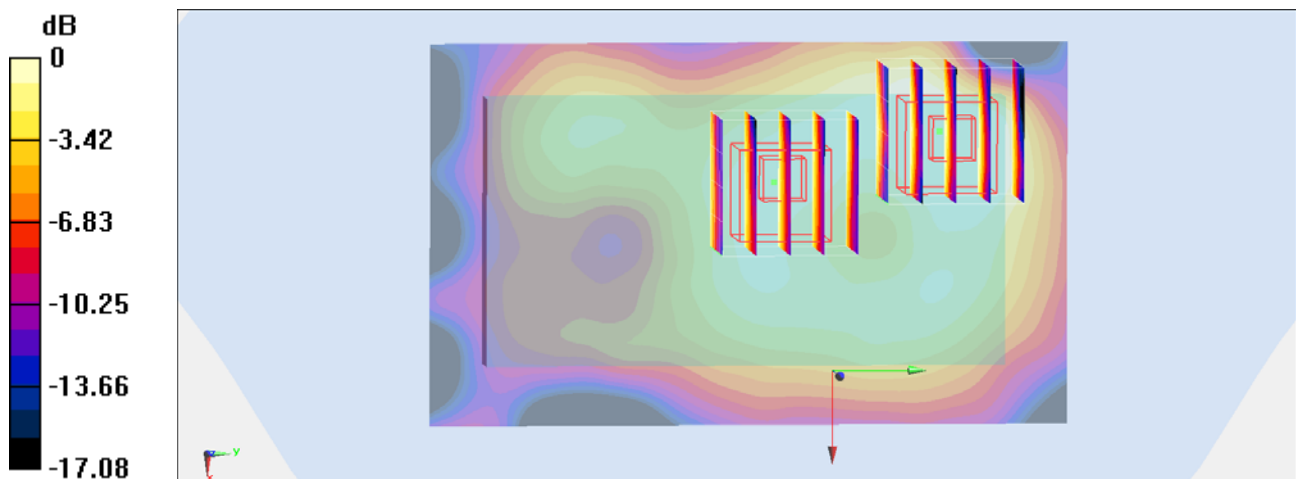
Ch6/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.887 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.068 mW/g

SAR(1 g) = 0.040 mW/g; SAR(10 g) = 0.024 mW/g

Maximum value of SAR (measured) = 0.0441 mW/g



0 dB = 0.0441 mW/g = -27.11 dB mW/g



Appendix C. DASY Calibration Certificate

The DASY calibration certificates are shown as follows.