

# FCC SAR Test Report

**APPLICANT** : Teleepoch Ltd.  
**EQUIPMENT** : CDMA1X handset  
**BRAND NAME** : PCD  
**MODEL NAME** : CDM2070PM  
**FCC ID** : U46-CDM2070  
**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 received on Apr. 26, 2012 and completely tested on Jun. 15, 2012. We, SPORTON INTERNATIONAL (KUNSHAN) 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.

Reviewed by:



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FCC ID : U46-CDM2070

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## Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA242601	Rev. 01	Initial issue of report	Jun. 25, 2012
FA242601	Rev. 02	Update report for revising model name	Jul. 18, 2012
FA242601	Rev. 03	Update report for revising photograph of EUT	Jul. 26, 2012

## 1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Teleepoch Ltd. DUT: CDMA1X handset, Brand Name: PCD, Model Name: CDM2070PM** are as follows.

### <Standalone SAR>

Band	Position	SAR <sub>1g</sub> (W/kg)
CDMA2000 BC0	Head	0.959
CDMA2000 BC1	Head	0.955
CDMA2000 BC14	Head	0.912
CDMA2000 BC0	Body-worn (1.5 cm)	1.130
CDMA2000 BC1	Body-worn (1.5 cm)	1.060
CDMA2000 BC14	Body-worn (1.5 cm)	0.968

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

### **2.2 Applicant**

Company Name	Teleepoch Ltd.
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### **2.3 Manufacturer**

Company Name	Teleepoch Ltd.
Address	5A, B1 building, Digital tech zone, Hi-Tech industry park, Nanshan District Shenzhen, 518057, China

### **2.4 Application Details**

Date of Receipt of Application	Apr. 26, 2012
Date of Start during the Test	Jun. 14, 2012
Date of End during the Test	Jun. 15, 2012

### **3. General Information**

#### **3.1 Description of Equipment Under Test (DUT)**

<b>Product Feature &amp; Specification</b>	
<b>DUT</b>	CDMA1X handset
<b>Brand Name</b>	PCD
<b>Model Name</b>	CDM2070PM
<b>FCC ID</b>	U46-CDM2070
<b>Tx Frequency</b>	CDMA2000 BC0 : 824.70 MHz ~ 848.31 MHz CDMA2000 BC1 : 1851.25 MHz ~ 1908.75 MHz CDMA2000 BC14 : 1851.25 ~ 1913.75 MHz Bluetooth : 2402 MHz ~ 2480 MHz
<b>Rx Frequency</b>	CDMA2000 BC0 : 869.70 MHz ~ 893.31 MHz CDMA2000 BC1 : 1931.25 MHz ~ 1988.75 MHz CDMA2000 BC14: 1931.25 ~ 1993.75 MHz Bluetooth : 2402 MHz ~ 2480 MHz
<b>Maximum Average Output Power to Antenna</b>	CDMA2000 BC0 : 24.28 dBm CDMA2000 BC1 : 24.50 dBm CDMA2000 BC14 : 24.05 dBm Bluetooth: 3.68 dBm
<b>Antenna Type</b>	WWAN : Fixed Internal Antenna Bluetooth : PCB Antenna
<b>HW Version</b>	C5630_Main_V1.0
<b>SW Version</b>	C5630_01.01.11I
<b>Type of Modulation</b>	CDMA2000 : QPSK Bluetooth (1Mbps) : GFSK Bluetooth EDR (2Mbps) : $\pi/4$ -DQPSK Bluetooth EDR (3Mbps) : 8-DPSK
<b>DUT Stage</b>	Identical Prototype
<b>Remark:</b> The above DUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.	

#### **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

### **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 DUT 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 DUT. The DUT was set from the emulator to radiate maximum output power during all tests.

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

## **4. Specific Absorption Rate (SAR)**

### **4.1 Introduction**

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

### **4.2 SAR Definition**

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density ( $\rho$ ). 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,  $\delta T$  is the temperature rise and  $\delta t$  is the exposure duration, or related to the electrical field in the tissue by

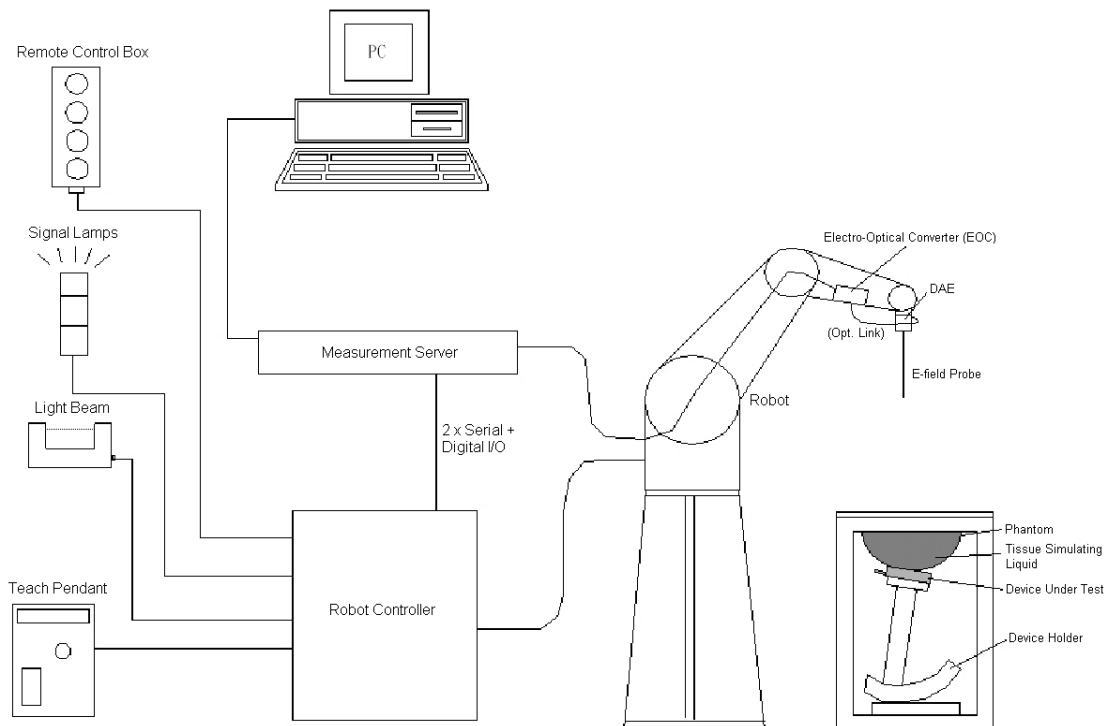
$$SAR = \frac{\sigma |E|^2}{\rho}$$

Where:  $\sigma$  is the conductivity of the tissue,  $\rho$  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 (ECO) 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


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

## 5.1 E-Field Probe

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

### 5.1.1 E-Field Probe Specification

#### <ES3DV3>

<b>Construction</b>	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	 <p><b>Fig 5.2 Photo of ES3DV3</b></p>
<b>Frequency</b>	10 MHz to 4 GHz; Linearity: $\pm 0.2$ dB	
<b>Directivity</b>	$\pm 0.2$ dB in HSL (rotation around probe axis) $\pm 0.3$ dB in tissue material (rotation normal to probe axis)	
<b>Dynamic Range</b>	5 $\mu$ W/g to 100 mW/g; Linearity: $\pm 0.2$ dB	
<b>Dimensions</b>	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 3.9 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.0 mm	

### 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  $\pm 0.25$  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 5.3 Photo of DAE**

## 5.3 Robot

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

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



**Fig 5.4 Photo of DASY5**

## 5.4 Measurement Server

The measurement server is based on a PC/104 CPU board with CPU (DASY5: 400 MHz, Intel Celeron), chipdisk (DASY5: 128 MB), RAM (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 5.5 Photo of Server for DASY5**

## 5.5 Phantom

### <SAM Twin Phantom>

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



**Fig 5.6 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.

## 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  $\pm 0.5$  mm would produce a SAR uncertainty of  $\pm 20$  %. 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 (EPR). 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 5.7     Device Holder**

## 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 :

<b>Probe parameters :</b>	- Sensitivity	Norm <sub>i</sub> , a <sub>i0</sub> , a <sub>i1</sub> , a <sub>i2</sub>
	- Conversion factor	ConvF <sub>i</sub>
	- Diode compression point	dcp <sub>i</sub>
<b>Device parameters :</b>	- Frequency	f
	- Crest factor	cf
<b>Media parameters :</b>	- Conductivity	$\sigma$
	- Density	$\rho$

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<sub>i</sub> = 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)  
 $\text{Norm}_i$  = 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  
 $E_{\text{tot}}$  = total field strength in V/m  
 $\sigma$  = conductivity in [mho/m] or [Siemens/m]  
 $\rho$  = equivalent tissue density in  $\text{g/cm}^3$

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	Dosimetric E-Field Probe	ES3DV3	3270	Sep. 12, 2011	Sep. 11, 2012
SPEAG	Data Acquisition Electronics	DAE4	1303	Nov. 10, 2011	Nov. 09, 2012
SPEAG	835MHz System Validation Kit	D835V2	4d091	Nov. 18, 2011	Nov. 17, 2012
SPEAG	1900MHz System Validation Kit	D1900V2	5d118	Nov. 21, 2011	Nov. 20, 2012
SPEAG	SAM Twin Phantom	QD 000 P40 CD	TP-1670	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CD	TP-1671	NCR	NCR
SPEAG	Test Arch Phantom	Par phantom	1105	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio Communication Analyzer	MT8820C	6201091028	Jun. 10, 2012	Jun. 09, 2013
Agilent	Base Station	E5515C	MY50267224	Dec. 29, 2011	Dec. 28, 2012
Agilent	ENA Series Network Analyzer	E5071C	MY46111157	Apr. 13, 2012	Apr. 14, 2013
Agilent	Dielectric Probe Kit	85070E	MY44300475	NCR	NCR
R&S	Signal Generator	SMR40	100455	Dec. 30, 2011	Dec. 29, 2012
AR	Amplifier	551G4	333096	NCR	NCR
Agilent	Power Meter	E4416A	MY45101555	Aug. 23, 2012	Aug. 22, 2012
Agilent	Power Sensor	E9327A	MY44421198	Aug. 23, 2012	Aug. 22, 2012
ARRA	Power Divider	A3200-2	N/A	NA	NA
MCL	Attenuation	BW-S10W5	N/A	NA	NA
R&S	Spectrum Analyzer	FSP30	101400	Jun. 01, 2012	May. 31, 2013

**Table 5.1 Test Equipment List**

**Note:** The calibration certificate of DASY can be referred to appendix C of this report.



## 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 ( $\sigma$ )	Permittivity ( $\epsilon_r$ )
<b>For Head</b>								
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
<b>For Body</b>								
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

**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 ( $\sigma$ )	Permittivity ( $\epsilon_r$ )	Conductivity Target ( $\sigma$ )	Permittivity Target ( $\epsilon_r$ )	Delta ( $\sigma$ ) (%)	Delta ( $\epsilon_r$ ) (%)	Limit (%)	Date
835	Head	21.4	0.93	42.77	0.90	41.5	3.33	3.06	±5	Jun. 14, 2012
835	Body	21.6	0.978	54.413	0.97	55.2	0.82	-1.43	±5	Jun. 15, 2012
1900	Head	21.5	1.412	39.311	1.40	40.0	0.86	-1.72	±5	Jun. 14, 2012
1900	Body	21.7	1.539	52.698	1.52	53.3	1.25	-1.13	±5	Jun. 15, 2012

**Table 6.2 Measuring Results for Simulating Liquid**

## **7. 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 7.1

<b>Uncertainty Distributions</b>	<b>Normal</b>	<b>Rectangular</b>	<b>Triangular</b>	<b>U-Shape</b>
Multi-plying Factor <sup>(a)</sup>	$1/k^{(b)}$	$1/\sqrt{3}$	$1/\sqrt{6}$	$1/\sqrt{2}$

(a) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity

(b)  $k$  is the coverage factor

**Table 7.1 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 showed in Table 7.2.

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

**Table 7.2 Uncertainty Budget of DASY for frequency range 300 MHz to 3 GHz**

## 8. 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.

### 8.1 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.

### 8.2 System Setup

In the simplified setup for system evaluation, the DUT 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:

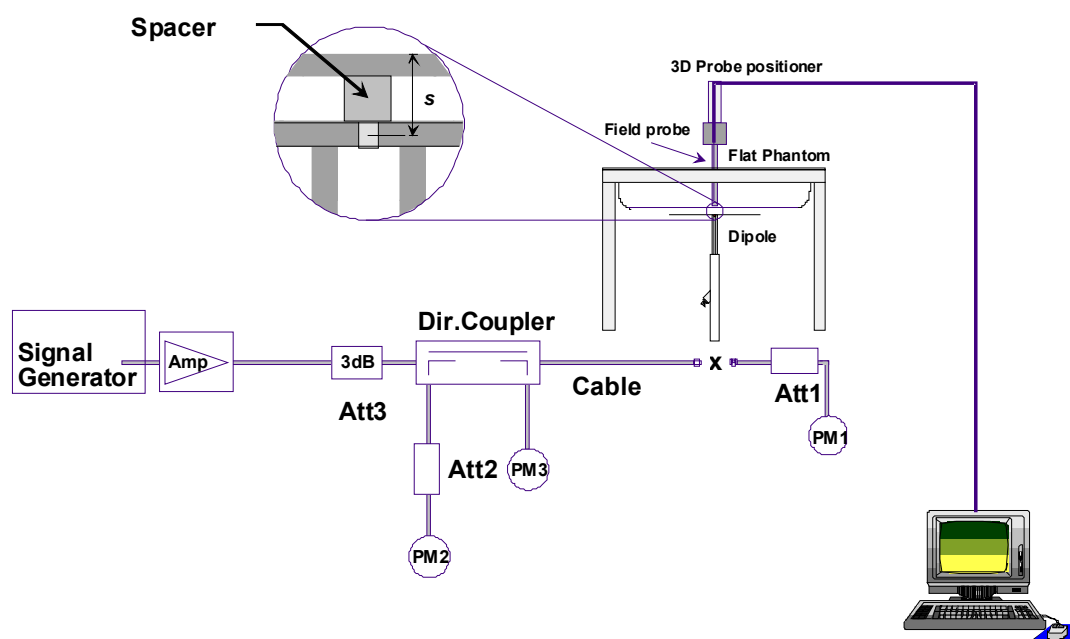


Fig 8.1 System Setup for System Evaluation

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.



**Fig 8.2 Photo of Dipole Setup**

### **8.3 Validation Results**

Comparing to the original SAR value provided by SPEAG, the validation data should be within its specification of 10 %. Table 8.1 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 <sub>1g</sub> (W/kg)	Measured SAR <sub>1g</sub> (W/kg)	Normalized SAR <sub>1g</sub> (W/kg)	Deviation (%)
Jun. 14, 2012	835	Head	9.4	2.44	9.76	3.83
Jun. 15, 2012	835	Body	9.42	2.44	9.76	3.61
Jun. 14, 2012	1900	Head	40.30	9.52	38.08	-5.51
Jun. 15, 2012	1900	Body	41.80	10.7	42.80	2.39

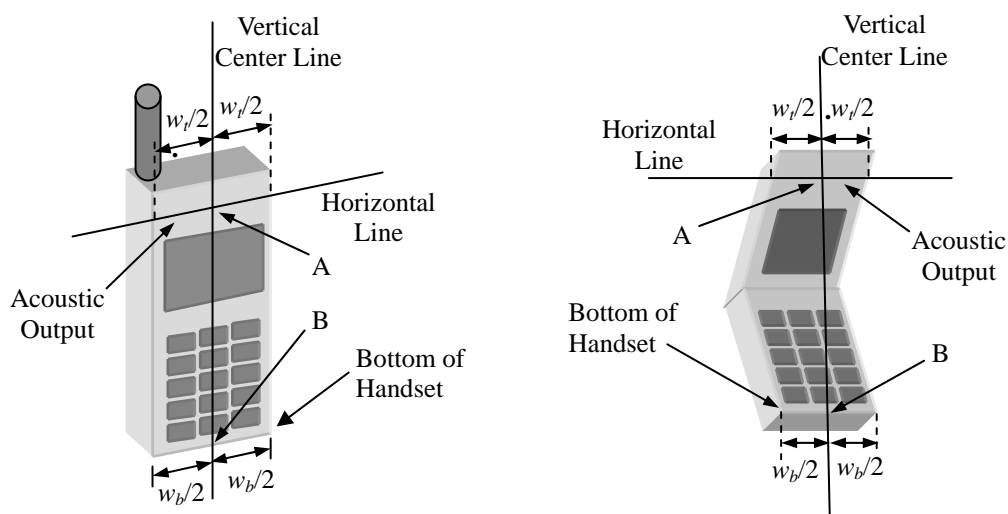
**Table 8.1 Target and Measurement SAR after Normalized**

## 9. DUT Testing Position

This DUT was tested in six different positions. They are right cheek, right tilted, left cheek, left tilted, Front of the DUT with phantom 1.5 cm gap, and Back of the DUT with phantom 1.5 cm gap, as illustrated below:

### 9.1 Define two imaginary lines on the handset

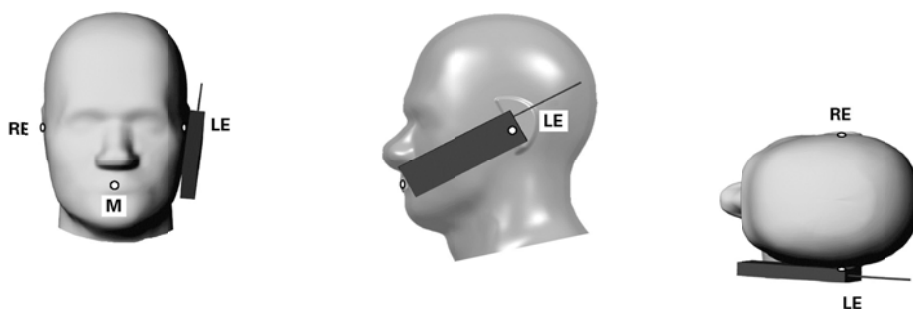
- The vertical centerline passes through two points on the front side of the handset - the midpoint of the width  $w_t$  of the handset at the level of the acoustic output, and the midpoint of the width  $w_b$  of the bottom of the handset.
- The horizontal line is perpendicular to the vertical centerline 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 9.1 Illustration for Handset Vertical and Horizontal Reference Lines**

## 9.2 Cheek Position

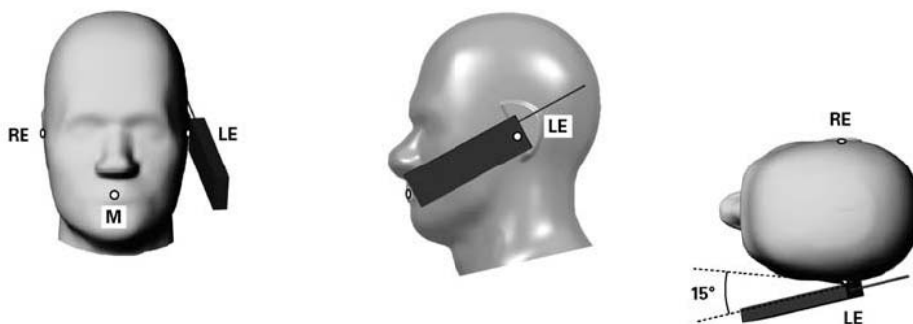
- (a) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing 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. 9.2).



**Fig 9.2 Illustration for Cheek Position**

## 9.3 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. 9.3).

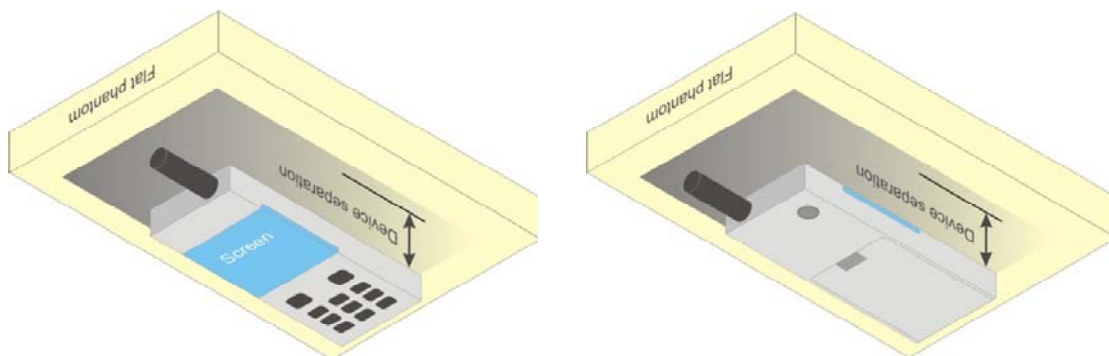


**Fig 9.3 Illustration for Tilted Position**



#### 9.4 Body Worn Position

- (a) To position the device parallel to the phantom surface with either keypad up or down.
- (b) To adjust the device parallel to the flat phantom.
- (c) To adjust the distance between the device surface and the flat phantom to 1.5 cm.



**Fig 9.4 Illustration for Body Worn Position**

#### <DUT Setup Photos>

Please refer to Appendix E for the test setup photos.

## **10. Measurement Procedures**

The measurement procedures are as follows:

- (a) Use base station simulator (if applicable) or engineering software to transmit RF power continuously (continuous Tx) in the highest power channel.
- (b) Keep DUT to radiate maximum output power or 100% duty factor (if applicable)
- (c) Measure output power through RF cable and power meter.
- (d) Place the DUT in the positions as Appendix E demonstrates.
- (e) Set scan area, grid size and other setting on the DASY software.
- (f) Measure SAR results for the highest power channel on each testing position.
- (g) Find out the largest SAR result on these testing positions of each band
- (h) Measure SAR results for other channels in worst SAR testing position if the SAR of highest power channel is larger than 0.8 W/kg

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

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

### **10.1 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

## **10.2 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.

## **10.3 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 DUT 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.

## **10.4 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.

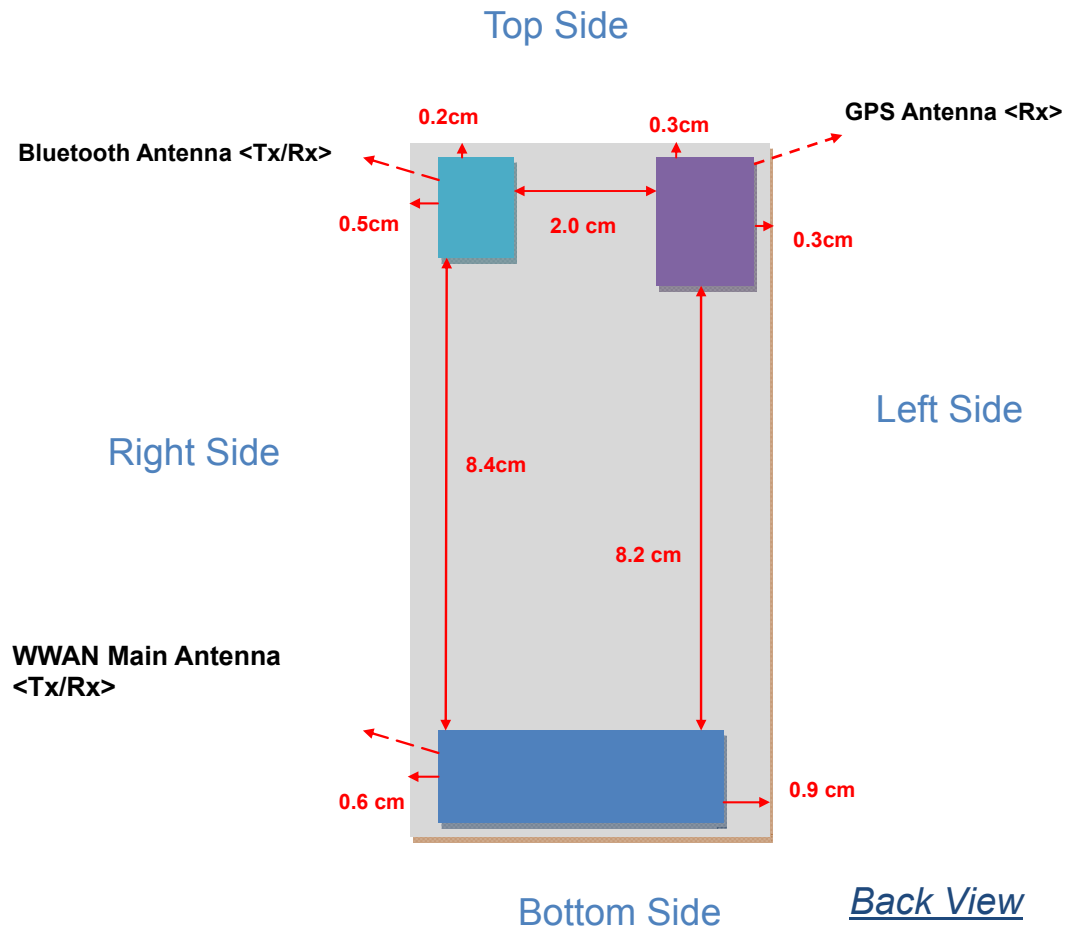
Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. The uncertainty increases with the extrapolation distance. To keep the uncertainty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

## **10.5 Power Drift Monitoring**

All SAR testing is under the DUT 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 DUT 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 drift more than 5%, the SAR will be retested.

## 11. SAR Test Configurations

### 11.1 Exposure Positions Consideration



Antenna	Length	Width
WWAN Main Antenna (Tx / Rx)	3.5cm	1.5 cm
Bluetooth Antenna (Tx / Rx)	0.7 cm	1.6 cm
GPS Antenna (Rx)	1.5 cm	1.7 cm

### 11.2 Simultaneous Transmitting Configurations

	Applicable Combination
Simultaneous Transmission	CDMA2000+BT

**Note:**

Per KDB 648474 D01, Bluetooth output power (3.68 dBm)  $\leq 2P_{Ref}$  and the distance to WWAN transmitting antenna  $\geq 5$ cm, therefore, stand-alone SAR required; the simultaneous transmission SAR for WWAN and Bluetooth were not required, because Bluetooth standalone SAR is not required and the maximum WWAN SAR (1.130 W/kg), so the SAR summation is less than 1.6 W/kg.

## 12. SAR Test Results

### 12.1 Conducted Power (Unit: dBm)

#### <CDMA2000>

Band	CDMA2000 BC0			CDMA2000 BC1			CDMA2000 BC14
Channel	1013	384	777	25	600	1175	1275
Frequency (MHz)	824.70	836.52	848.31	1851.25	1880.00	1908.75	1913.75
1xRTT RC1+SO55	24.24	24.16	24.10	24.22	24.46	24.39	24.03
1xRTT RC3+SO55	24.28	24.15	24.11	24.24	24.45	24.36	24.03
1xRTT RC3+SO32(+ F-SCH)	24.21	24.08	24.06	24.20	24.50	24.46	24.05
1xRTT RC3+SO32(+SCH)	24.19	24.09	24.08	24.27	24.44	24.43	24.02

#### Note:

1. According to KDB 941225 D01, Head SAR for RC1+SO55 is not required because the maximum average output power of RC1 is less than 1/4 dB higher than RC3+SO55.
2. Referring to KDB 941225 D01, the CDMA Handset Body-worn SAR tests based on RC3+SO32. RC1, RTAP (REV 0), and RETAP (Rev A) power are all less than 1/4 dB higher than RC3, thus SAR tests in these mode are not necessary.
3. Due to CDMA BC1 (uplink: 1850~1910MHz) and BC14 (uplink: 1850~1915MHz) have overlapped spectrum allocation, additionally evaluated BC14 channel 1275 for the frequency range that is not overlapped (uplink: 1910~1915MHz).

#### <Bluetooth>

Mode	Channel	Frequency (MHz)	Average power (dBm)								
			Data Rate								
			DH1	DH3	DH5	2DH1	2DH3	2DH5	3DH1	3DH3	3DH5
Bluetooth	CH 00	2402 MHz	1.90	1.79	1.77	1.25	1.13	1.27	-0.48	-0.66	-0.53
	CH 39	2441 MHz	2.23	2.17	2.18	1.63	1.79	1.81	0.48	0.27	0.55
	CH 78	2480 MHz	3.62	3.67	3.68	2.98	2.96	2.97	1.62	1.41	1.65

**12.2 Test Records for Head SAR Test**
**<CDMA2000>**

Plot No.	Band	Mode	Test Position	Ch.	DUT Status	SAR <sub>1g</sub> (W/kg)
1	CDMA2000 BC0	RC3 SO55	Right Cheek	1013	Slide Off	0.879
2	CDMA2000 BC0	RC3 SO55	Right Tilted	1013	Slide Off	0.377
3	<b>CDMA2000 BC0</b>	<b>RC3 SO55</b>	<b>Left Cheek</b>	<b>1013</b>	<b>Slide Off</b>	<b>0.959</b>
4	CDMA2000 BC0	RC3 SO55	Left Tilted	1013	Slide Off	0.354
5	CDMA2000 BC0	RC3 SO55	Right Cheek	1013	Slide On	0.525
6	CDMA2000 BC0	RC3 SO55	Right Tilted	1013	Slide On	0.402
7	CDMA2000 BC0	RC3 SO55	Left Cheek	1013	Slide On	0.655
8	CDMA2000 BC0	RC3 SO55	Left Tilted	1013	Slide On	0.397
9	CDMA2000 BC0	RC3 SO55	Right Cheek	384	Slide Off	0.920
10	CDMA2000 BC0	RC3 SO55	Right Cheek	777	Slide Off	0.825
11	CDMA2000 BC0	RC3 SO55	Left Cheek	384	Slide Off	0.880
12	CDMA2000 BC0	RC3 SO55	Left Cheek	777	Slide Off	0.793
21	CDMA2000 BC1	RC3 SO55	Right Cheek	600	Slide Off	0.883
22	CDMA2000 BC1	RC3 SO55	Right Tilted	600	Slide Off	0.271
23	CDMA2000 BC1	RC3 SO55	Left Cheek	600	Slide Off	0.698
24	CDMA2000 BC1	RC3 SO55	Left Tilted	600	Slide Off	0.327
25	CDMA2000 BC1	RC3 SO55	Right Cheek	600	Slide On	0.876
26	CDMA2000 BC1	RC3 SO55	Right Tilted	600	Slide On	0.192
27	CDMA2000 BC1	RC3 SO55	Left Cheek	600	Slide On	0.677
28	CDMA2000 BC1	RC3 SO55	Left Tilted	600	Slide On	0.178
29	CDMA2000 BC1	RC3 SO55	Right Cheek	25	Slide Off	0.721
30	<b>CDMA2000 BC1</b>	<b>RC3 SO55</b>	<b>Right Cheek</b>	<b>1175</b>	<b>Slide Off</b>	<b>0.955</b>
31	CDMA2000 BC1	RC3 SO55	Right Cheek	25	Slide On	0.760
32	CDMA2000 BC1	RC3 SO55	Right Cheek	1175	Slide On	0.867
13	<b>CDMA2000 BC14</b>	<b>RC3 SO55</b>	<b>Right Cheek</b>	<b>1275</b>	<b>Slide Off</b>	<b>0.912</b>
14	CDMA2000 BC14	RC3 SO55	Right Tilted	1275	Slide Off	0.289
15	CDMA2000 BC14	RC3 SO55	Left Cheek	1275	Slide Off	0.531
16	CDMA2000 BC14	RC3 SO55	Left Tilted	1275	Slide Off	0.350
17	CDMA2000 BC14	RC3 SO55	Right Cheek	1275	Slide On	0.792
18	CDMA2000 BC14	RC3 SO55	Right Tilted	1275	Slide On	0.177
19	CDMA2000 BC14	RC3 SO55	Left Cheek	1275	Slide On	0.615
20	CDMA2000 BC14	RC3 SO55	Left Tilted	1275	Slide On	0.171

**Note:** Per KDB 648474, if the highest output channel SAR for each exposure position  $\leq 0.8$  W/kg other channels SAR tests are not necessary.

### 12.3 Test Records for Body-worn SAR Test

#### <CDMA2000>

Plot No.	Band	Mode	Test Position	Gap (cm)	Ch.	DUT Status	SAR <sub>1g</sub> (W/kg)
33	CDMA2000 BC0	RC3 SO32	Front	1.5	1013	Slide Off	0.488
<b>34</b>	<b>CDMA2000 BC0</b>	<b>RC3 SO32</b>	<b>Back</b>	<b>1.5</b>	<b>1013</b>	<b>Slide Off</b>	<b>1.130</b>
35	CDMA2000 BC0	RC3 SO32	Back	1.5	384	Slide Off	0.694
36	CDMA2000 BC0	RC3 SO32	Back	1.5	777	Slide Off	0.606
37	CDMA2000 BC1	RC3 SO32	Front	1.5	600	Slide Off	0.437
<b>38</b>	<b>CDMA2000 BC1</b>	<b>RC3 SO32</b>	<b>Back</b>	<b>1.5</b>	<b>600</b>	<b>Slide Off</b>	<b>1.060</b>
39	CDMA2000 BC1	RC3 SO32	Back	1.5	25	Slide Off	0.940
40	CDMA2000 BC1	RC3 SO32	Back	1.5	1175	Slide Off	1.050
41	CDMA2000 BC14	RC3 SO32	Front	1.5	1275	Slide Off	0.339
<b>42</b>	<b>CDMA2000 BC14</b>	<b>RC3 SO32</b>	<b>Back</b>	<b>1.5</b>	<b>1275</b>	<b>Slide Off</b>	<b>0.968</b>

**Note:** Per KDB 648474, if the highest output channel SAR for each exposure position  $\leq 0.8$  W/kg other channels SAR tests are not necessary.

**Test Engineer :** Krin Wu and Jeme Li

### **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
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- [8] FCC KDB 447498 D02 v02, "SAR Measurement Procedures for USB Dongle Transmitters", November 2009
- [9] FCC KDB 616217 D01 v01r01, "SAR Evaluation Considerations for Laptop Computers with Antennas Built-in on Display Screens", November 2009
- [10] FCC KDB 616217 D03 v01, "SAR Evaluation Considerations for Laptop/Notebook/Netbook and Tablet Computers", November 2009
- [11] FCC KDB 648474 D01 v01r05, "SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas", September 2008
- [12] FCC KDB 941225 D01 v02, "SAR Measurement Procedures for 3G Devices – CDMA 2000 / Ev-Do / WCDMA / HSDPA / HSPA", October 2007
- [13] FCC KDB 941225 D02 v02 "3GPP R6 HSPA and R7 HSPA+ SAR Guidance", December 2009.
- [14] FCC KDB 941225 D03 v01, "Recommended SAR Test Reduction Procedures for GSM / GPRS / EDGE", December 2008
- [15] FCC KDB 941225 D04 v01, "Evaluating SAR for GSM/(E)GPRS Dual Transfer Mode", January 27 2010
- [16] FCC KDB 941225 D05 v01, "SAR Test Considerations for LTE Handsets and Data Modems", December 15 2010
- [17] 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\_120614****DUT: D835V2 - SN: 4d091**

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

Medium: HSL\_835\_120614 Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.93 \text{ mho/m}$ ;  $\epsilon_r = 42.77$ ;  $\rho = 1000 \text{ kg/m}^3$ 

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- 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) = 2.62 mW/g

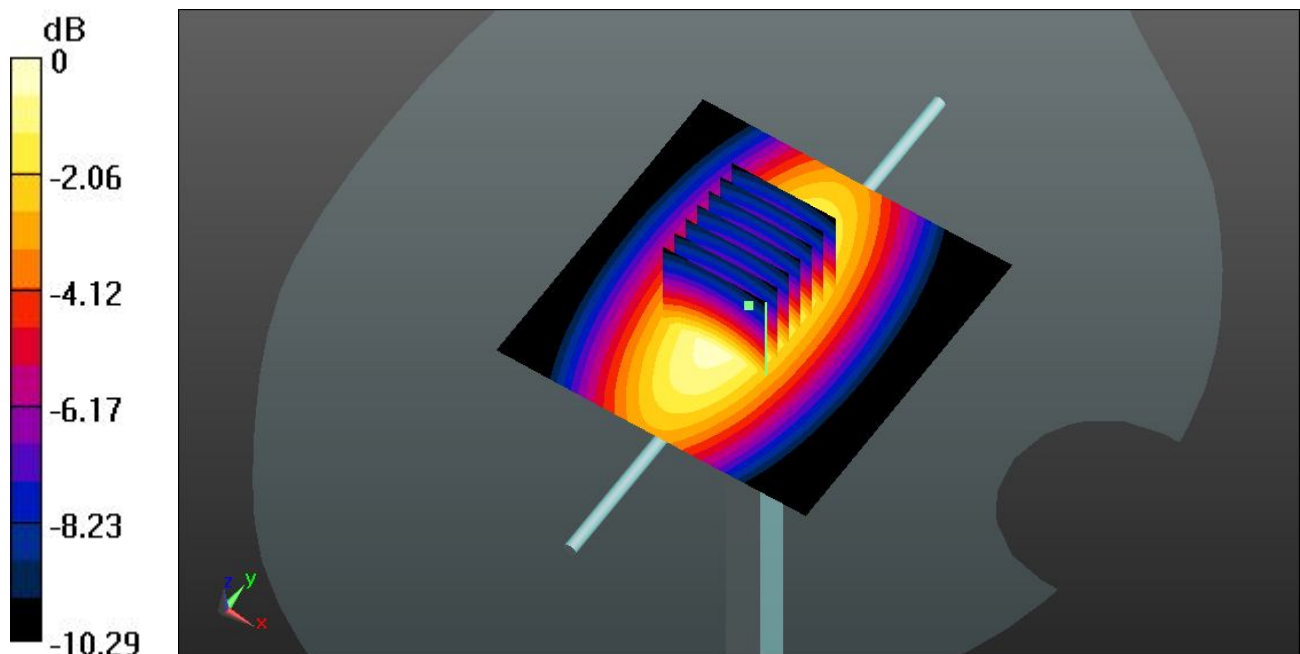
**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.114 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 3.688 mW/g

**SAR(1 g) = 2.44 mW/g; SAR(10 g) = 1.6 mW/g**

Maximum value of SAR (measured) = 2.63 mW/g



0 dB = 2.63 mW/g = 8.40 dB mW/g

**System Check\_Body\_835MHz\_1200615****DUT: D835V2 - SN: 4d091**

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

Medium: MSL\_835\_120615 Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.978$  mho/m;  $\epsilon_r = 54.413$ ; $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.6 °C ; Liquid Temperature : 21.6 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.16, 6.16, 6.16); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- 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) = 2.63 mW/g

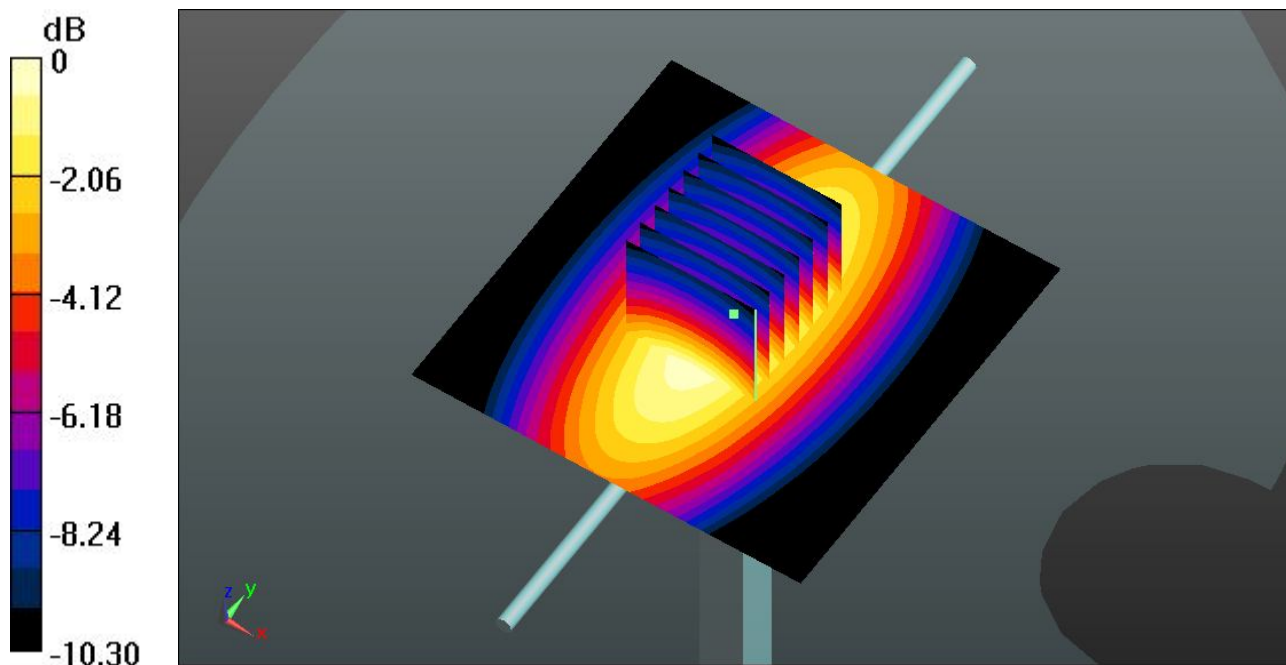
**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 52.198 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 3.696 mW/g

**SAR(1 g) = 2.44 mW/g; SAR(10 g) = 1.59 mW/g**

Maximum value of SAR (measured) = 2.62 mW/g



0 dB = 2.62 mW/g = 8.37 dB mW/g

**System Check\_Head\_1900MHz\_120614****DUT: D1900V2 - SN: 5d118**

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

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.412$  mho/m;  $\epsilon_r =$ 39.311;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- 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) = 10.7 mW/g

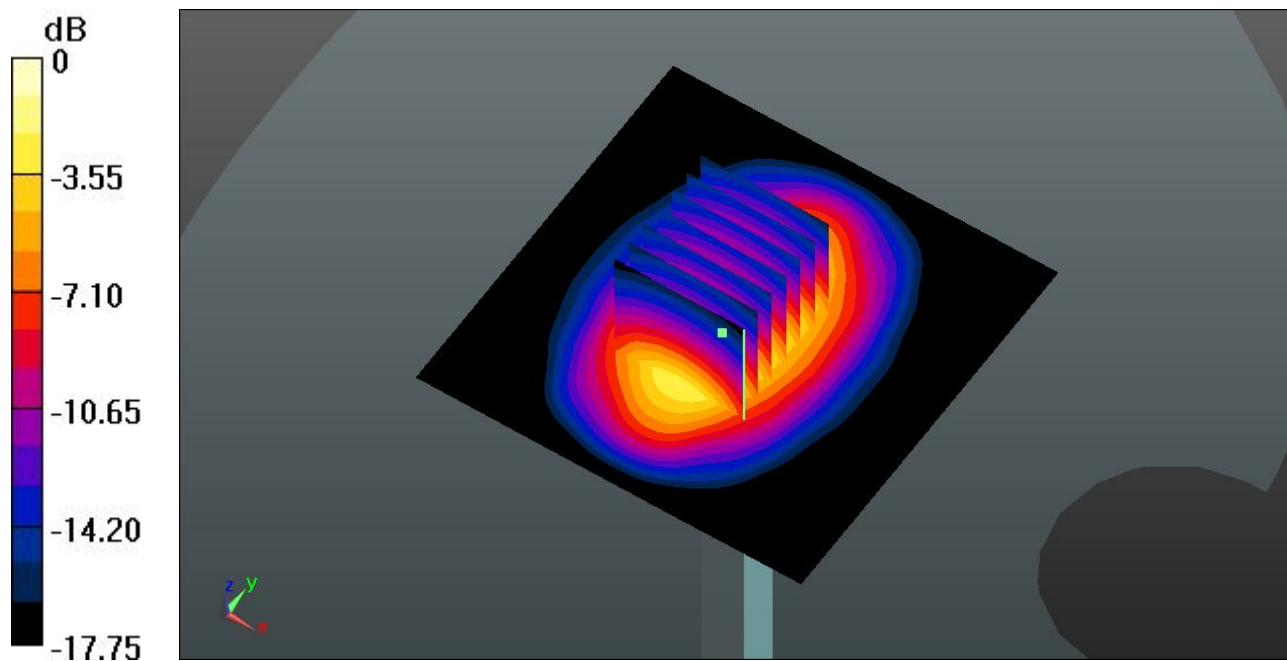
**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.965 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 17.652 mW/g

**SAR(1 g) = 9.52 mW/g; SAR(10 g) = 4.95 mW/g**

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



**System Check\_Body\_1900MHz\_120615****DUT: D1900V2 - SN: 5d118**

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

Medium: MSL\_1900\_120615 Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.539$  mho/m;  $\epsilon_r =$ 52.698;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.3 °C ; Liquid Temperature : 21.7 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(4.64, 4.64, 4.64); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

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

Maximum value of SAR (interpolated) = 12.5 mW/g

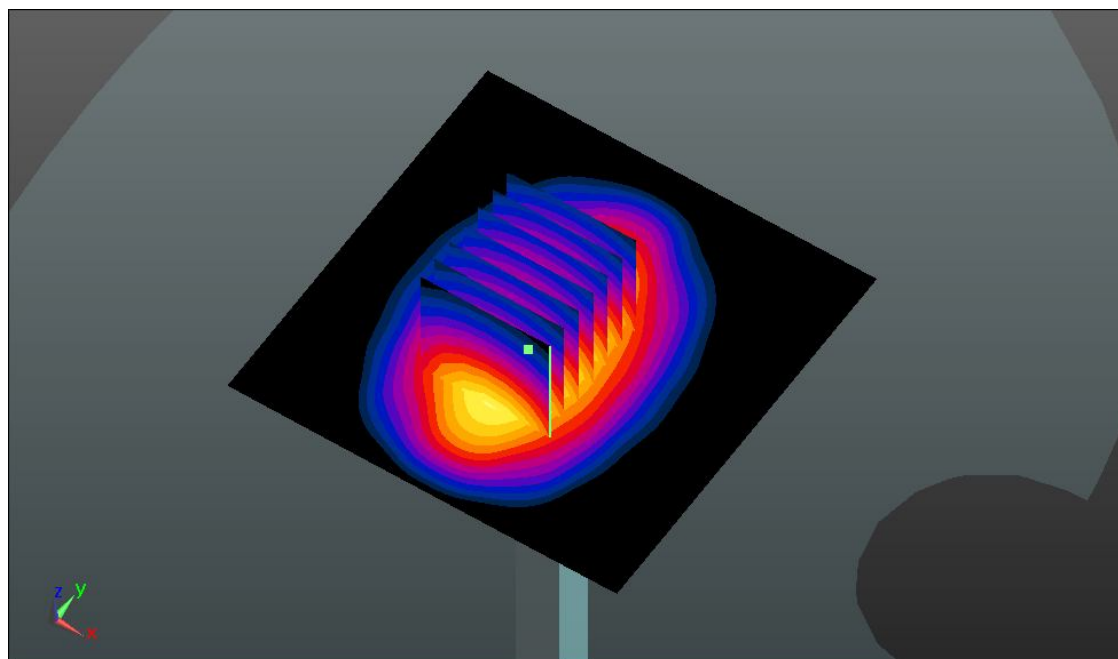
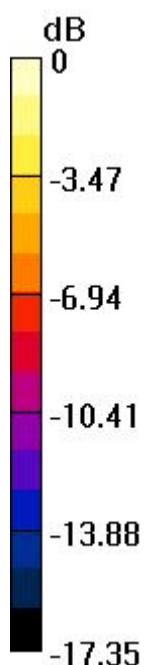
**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 88.882 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 19.560 mW/g

**SAR(1 g) = 10.7 mW/g; SAR(10 g) = 5.57 mW/g**

Maximum value of SAR (measured) = 12.1 mW/g



0 dB = 12.1 mW/g = 21.66 dB mW/g



## ***Appendix B. Plots of SAR Measurement***

The plots are shown as follows.

**01 CDMA2000 BC0\_RC3 SO55\_Right Cheek\_Ch1013\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: HSL\_835\_120614 Medium parameters used:  $f = 825$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 42.889$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1013/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.961 mW/g

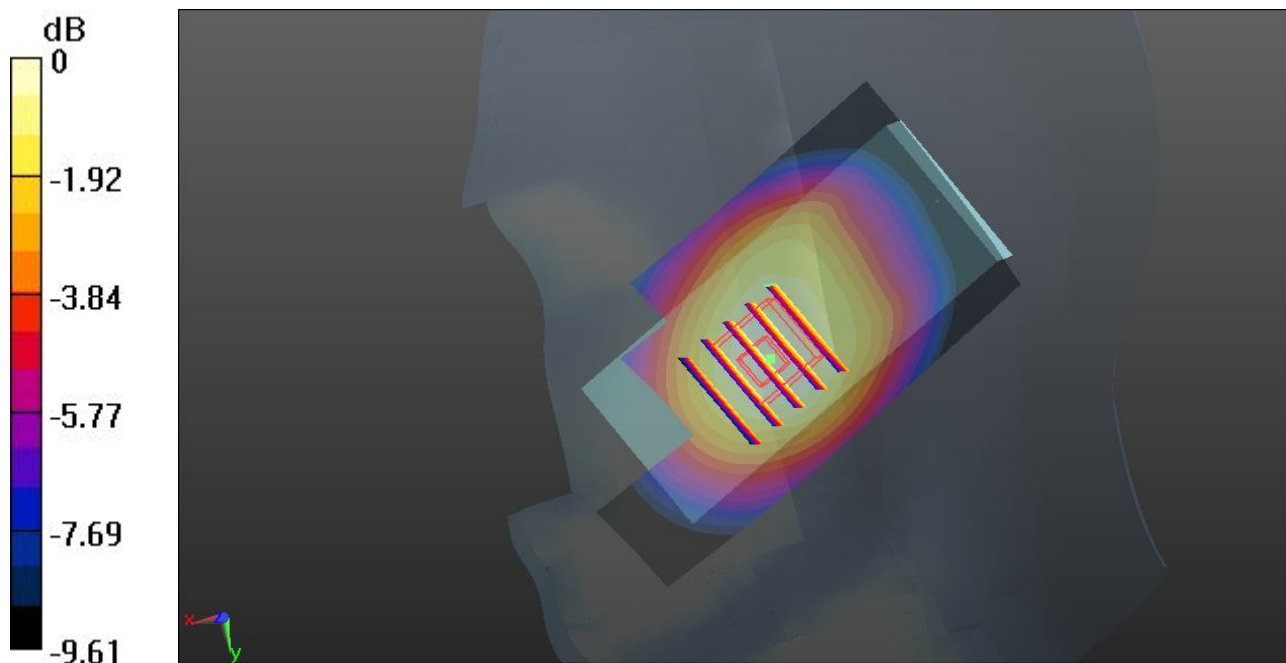
**Ch1013/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.468 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.224 mW/g

**SAR(1 g) = 0.879 mW/g; SAR(10 g) = 0.629 mW/g**

Maximum value of SAR (measured) = 0.949 mW/g



0 dB = 0.949 mW/g = -0.45 dB mW/g

**02 CDMA2000 BC0\_RC3 SO55\_Right Tilted\_Ch1013\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: HSL\_835\_120614 Medium parameters used:  $f = 825$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 42.889$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1013/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.487 mW/g

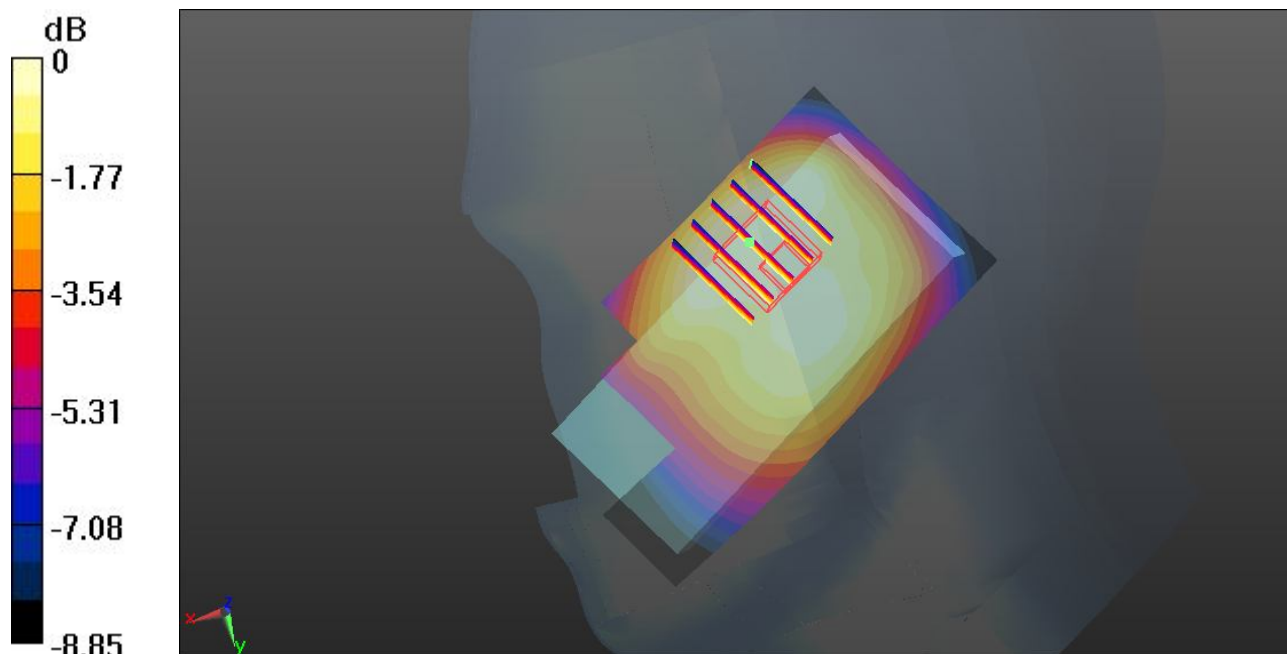
**Ch1013/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.786 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.477 mW/g

**SAR(1 g) = 0.377 mW/g; SAR(10 g) = 0.282 mW/g**

Maximum value of SAR (measured) = 0.399 mW/g



0 dB = 0.399 mW/g = -7.98 dB mW/g



**03 CDMA2000 BC0\_RC3 SO55\_Left Cheek\_Ch1013\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: HSL\_835\_120614 Medium parameters used:  $f = 825$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 42.889$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1013/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.995 mW/g

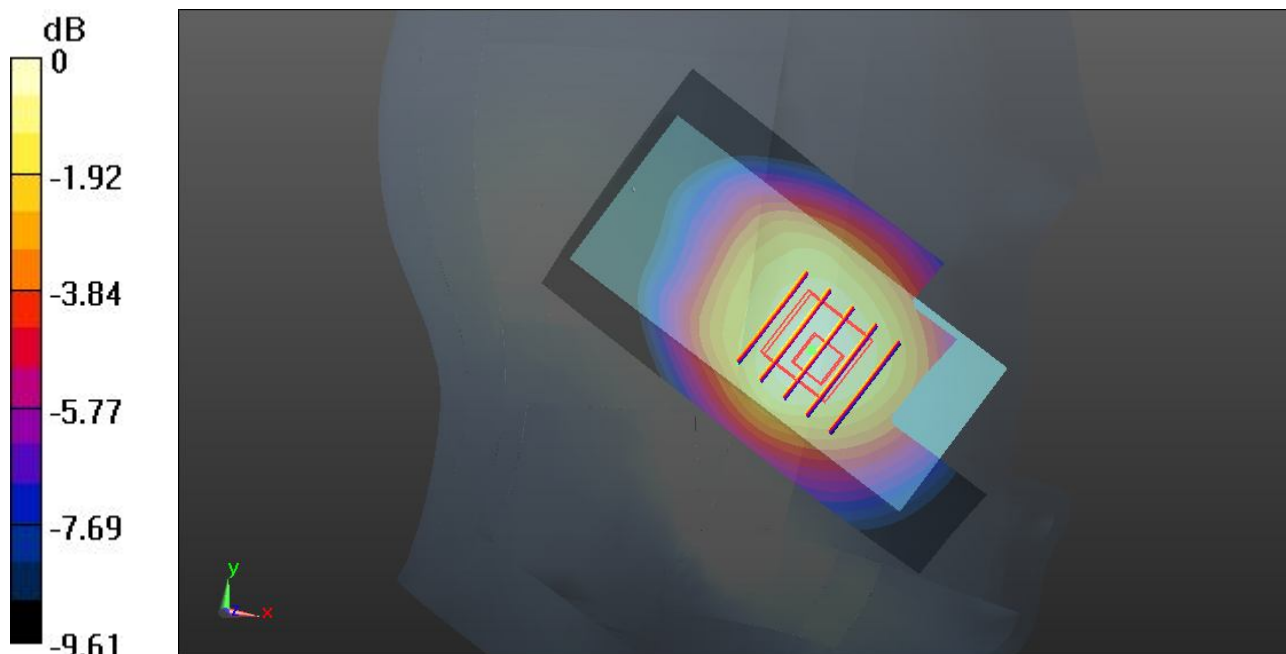
**Ch1013/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.017 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 1.339 mW/g

**SAR(1 g) = 0.959 mW/g; SAR(10 g) = 0.685 mW/g**

Maximum value of SAR (measured) = 1.03 mW/g



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

**03 CDMA2000 BC0\_RC3 SO55\_Left Cheek\_Ch1013\_Slide Off\_2D****DUT: 242601**

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: HSL\_835\_120614 Medium parameters used:  $f = 825$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 42.889$ ;  $\rho$  $= 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1013/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.995 mW/g

**Ch1013/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.017 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 1.339 mW/g

**SAR(1 g) = 0.959 mW/g; SAR(10 g) = 0.685 mW/g**

Maximum value of SAR (measured) = 1.03 mW/g



**04 CDMA2000 BC0\_RC3 SO55\_Left Tilted\_Ch1013\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: HSL\_835\_120614 Medium parameters used:  $f = 825$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 42.889$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1013/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.353 mW/g

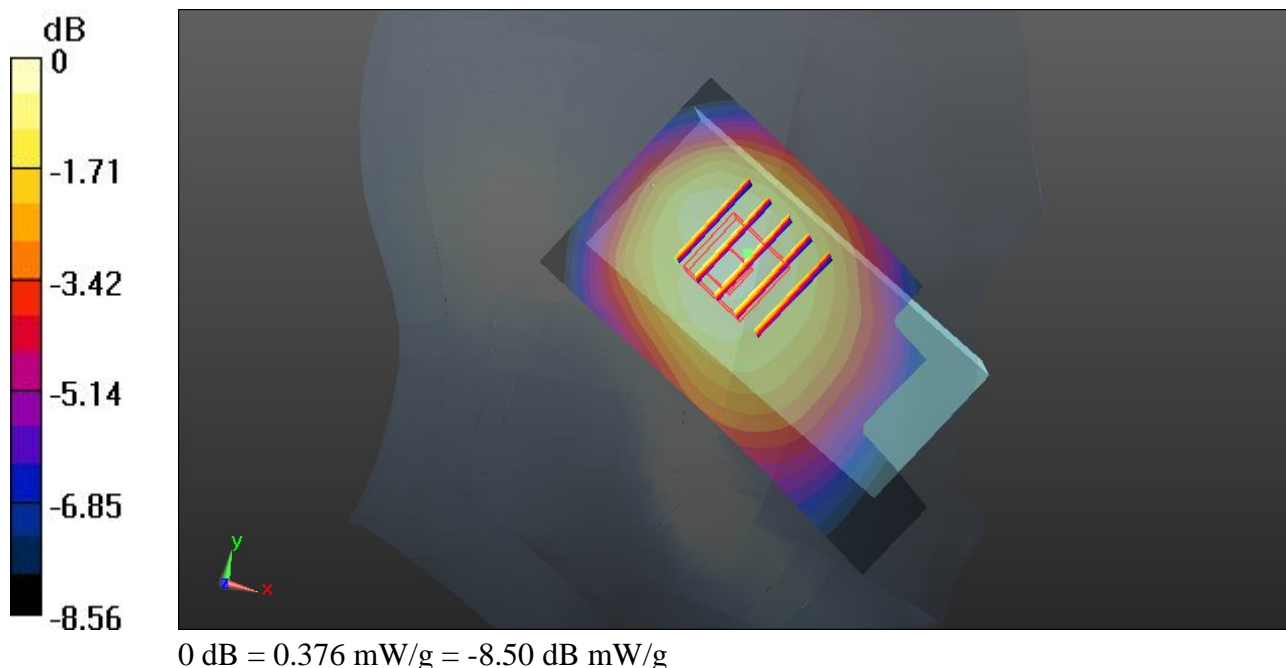
**Ch1013/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.283 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.440 mW/g

**SAR(1 g) = 0.354 mW/g; SAR(10 g) = 0.272 mW/g**

Maximum value of SAR (measured) = 0.376 mW/g



**05 CDMA2000 BC0\_RC3 SO55\_Right Cheek\_Ch1013\_Slide On****DUT: 242601**

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: HSL\_835\_120614 Medium parameters used:  $f = 825$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 42.889$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1013/Area Scan (71x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.567 mW/g

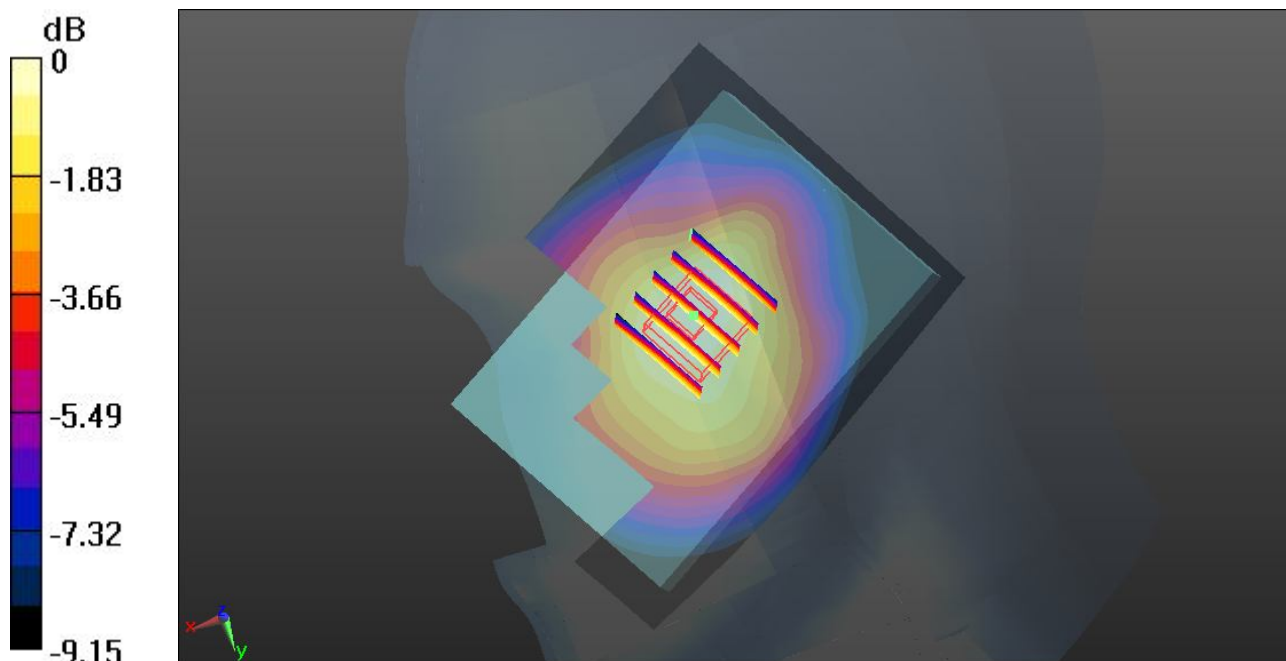
**Ch1013/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.003 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.703 mW/g

**SAR(1 g) = 0.525 mW/g; SAR(10 g) = 0.394 mW/g**

Maximum value of SAR (measured) = 0.552 mW/g



0 dB = 0.552 mW/g = -5.16 dB mW/g

**06 CDMA2000 BC0\_RC3 SO55\_Right Tilted\_Ch1013\_Slide On****DUT: 242601**

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: HSL\_835\_120614 Medium parameters used:  $f = 825$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 42.889$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1013/Area Scan (71x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.420 mW/g

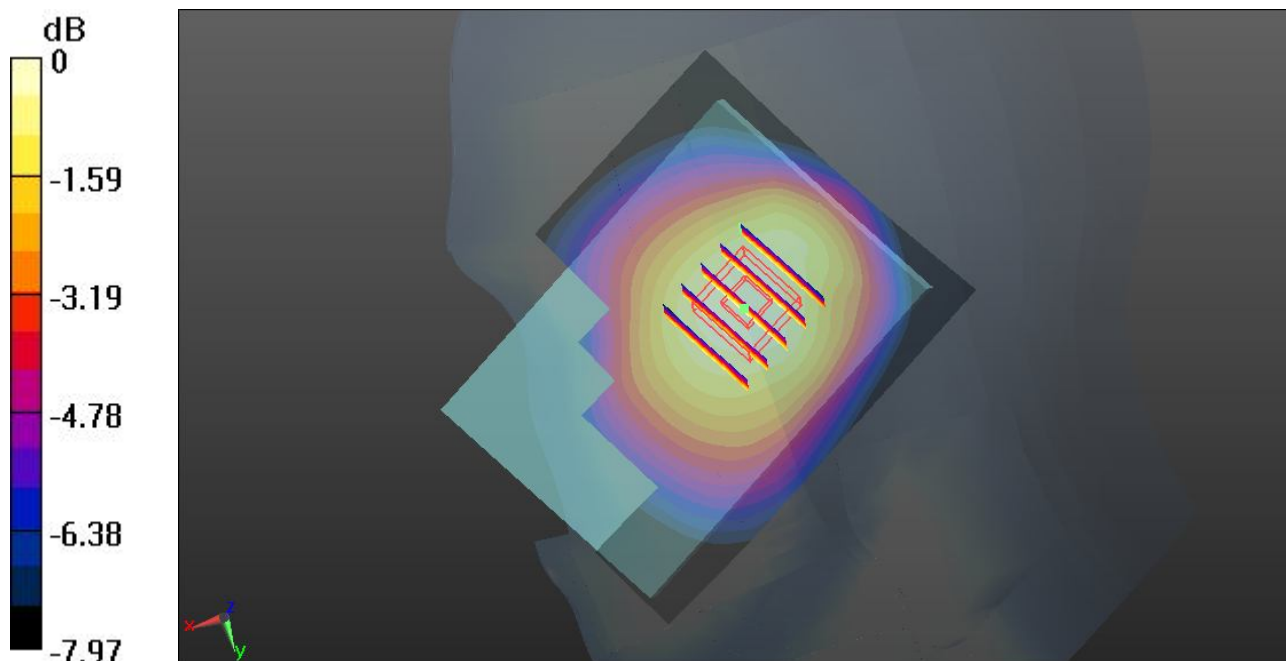
**Ch1013/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.977 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.500 mW/g

**SAR(1 g) = 0.402 mW/g; SAR(10 g) = 0.310 mW/g**

Maximum value of SAR (measured) = 0.417 mW/g



0 dB = 0.417 mW/g = -7.60 dB mW/g

**07 CDMA2000 BC0\_RC3 SO55\_Left Cheek\_Ch1013\_Slide On****DUT: 242601**

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: HSL\_835\_120614 Medium parameters used:  $f = 825$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 42.889$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1013/Area Scan (71x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.719 mW/g

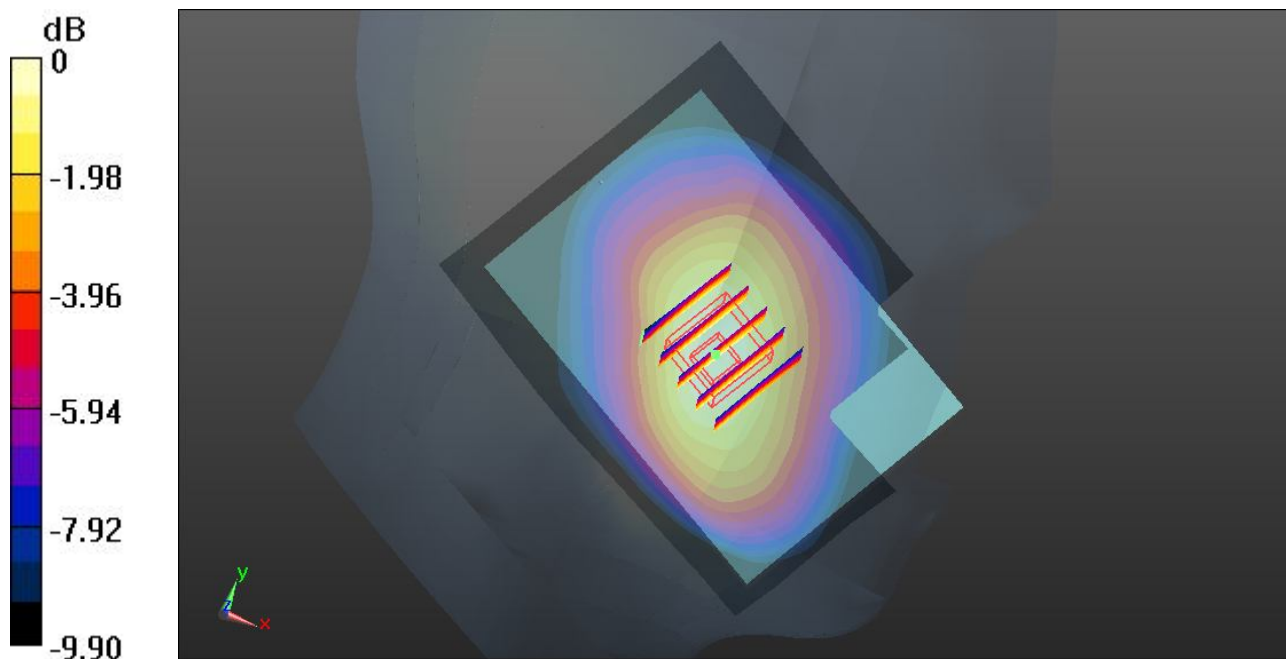
**Ch1013/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.091 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.885 mW/g

**SAR(1 g) = 0.655 mW/g; SAR(10 g) = 0.468 mW/g**

Maximum value of SAR (measured) = 0.698 mW/g



0 dB = 0.698 mW/g = -3.12 dB mW/g



**08 CDMA2000 BC0\_RC3 SO55\_Left Tilted\_Ch1013\_Slide On****DUT: 242601**

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: HSL\_835\_120614 Medium parameters used:  $f = 825$  MHz;  $\sigma = 0.92$  mho/m;  $\epsilon_r = 42.889$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1013/Area Scan (71x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.417 mW/g

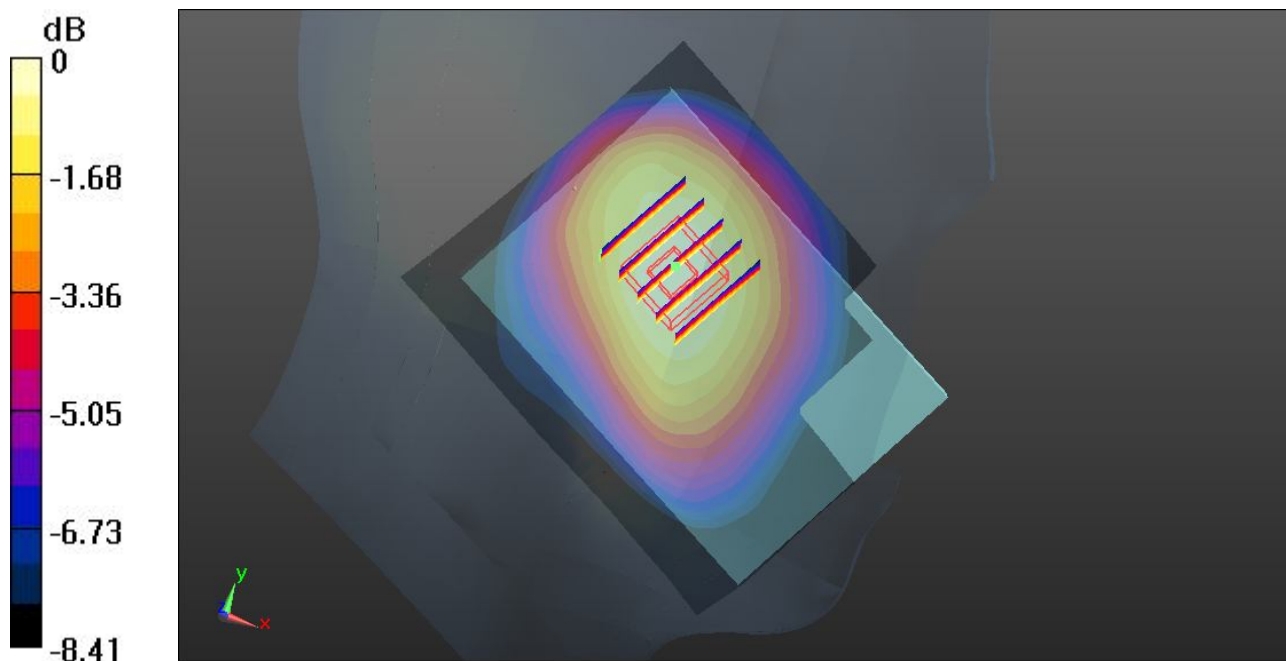
**Ch1013/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.326 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.504 mW/g

**SAR(1 g) = 0.397 mW/g; SAR(10 g) = 0.300 mW/g**

Maximum value of SAR (measured) = 0.415 mW/g



**09 CDMA2000 BC0\_RC3 SO55\_Right Cheek\_Ch384\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: HSL\_835\_120614 Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.932$  mho/m;  $\epsilon_r = 42.748$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch384/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.985 mW/g

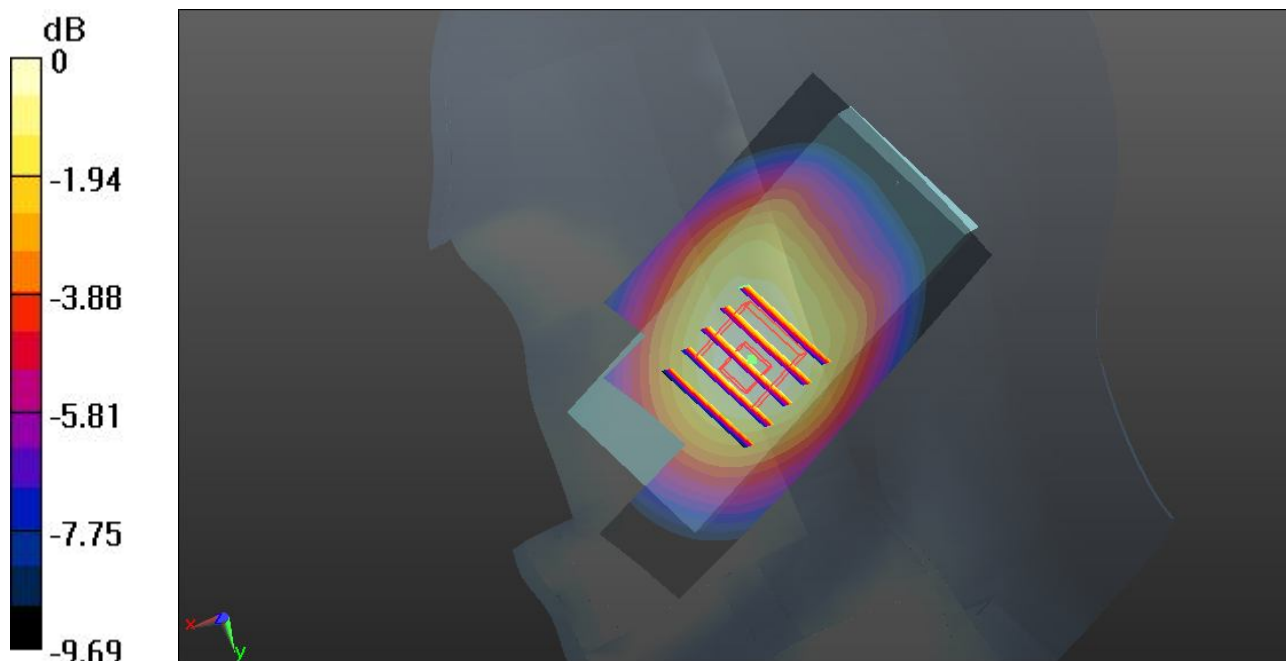
**Ch384/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.214 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 1.277 mW/g

**SAR(1 g) = 0.920 mW/g; SAR(10 g) = 0.657 mW/g**

Maximum value of SAR (measured) = 0.992 mW/g



0 dB = 0.992 mW/g = -0.07 dB mW/g



**10 CDMA2000 BC0\_RC3 SO55\_Right Cheek\_Ch777\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 848.31 MHz; Duty Cycle: 1:1

Medium: HSL\_835\_120614 Medium parameters used:  $f = 848.31$  MHz;  $\sigma = 0.944$  mho/m;  $\epsilon_r =$ 42.612;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch777/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.880 mW/g

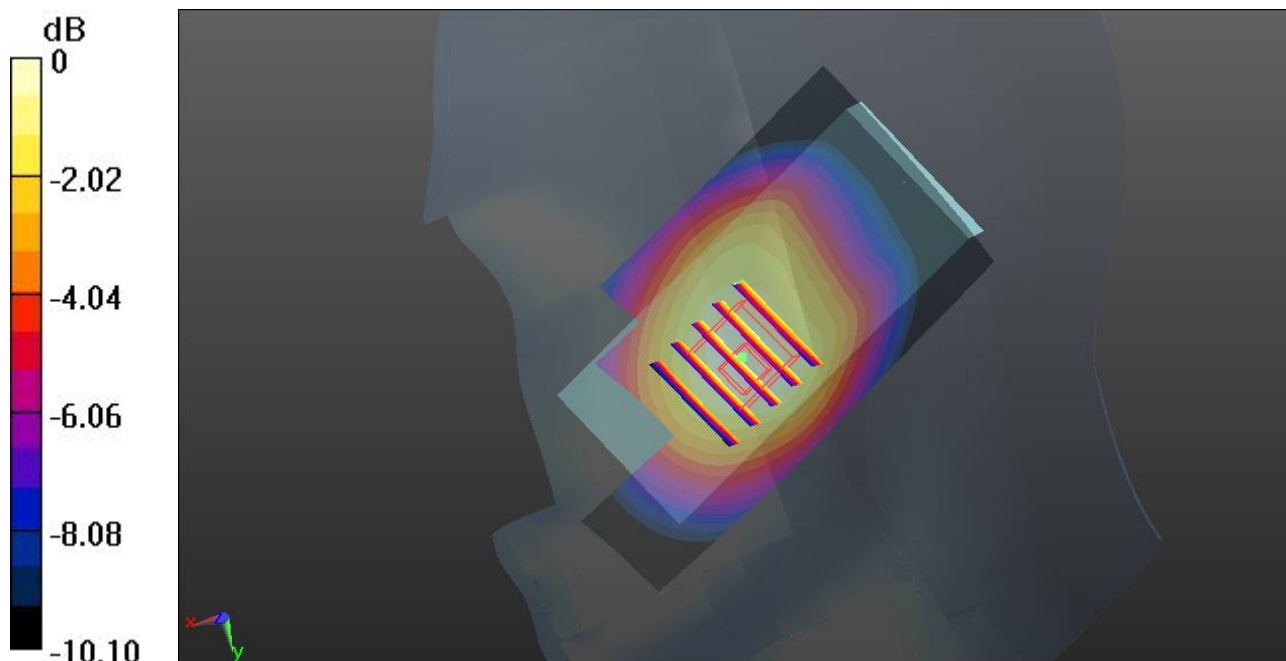
**Ch777/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.154 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 1.157 mW/g

**SAR(1 g) = 0.825 mW/g; SAR(10 g) = 0.582 mW/g**

Maximum value of SAR (measured) = 0.892 mW/g



0 dB = 0.892 mW/g = -0.99 dB mW/g

**11 CDMA2000 BC0\_RC3 SO55\_Left Cheek\_Ch384\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: HSL\_835\_120614 Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.932$  mho/m;  $\epsilon_r = 42.748$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch384/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.901 mW/g

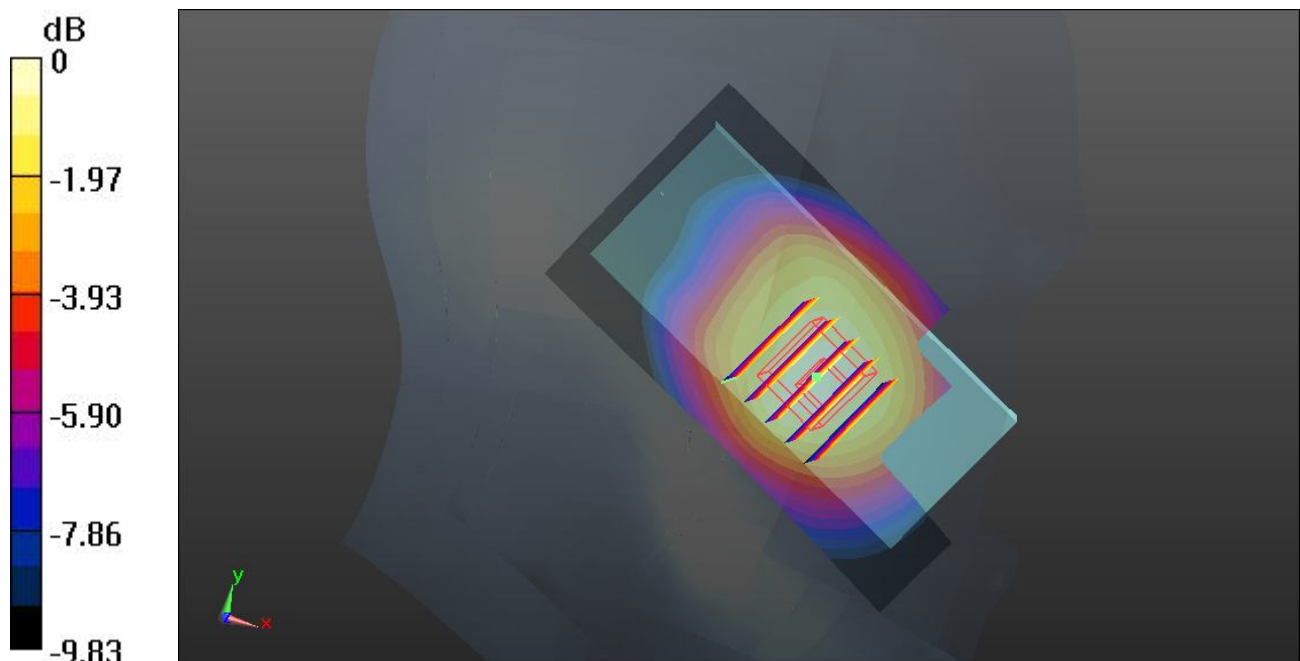
**Ch384/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.244 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 1.232 mW/g

**SAR(1 g) = 0.880 mW/g; SAR(10 g) = 0.626 mW/g**

Maximum value of SAR (measured) = 0.948 mW/g



0 dB = 0.948 mW/g = -0.46 dB mW/g

**12 CDMA2000 BC0\_RC3 SO55\_Left Cheek\_Ch777\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 848.31 MHz; Duty Cycle: 1:1

Medium: HSL\_835\_120614 Medium parameters used:  $f = 848.31$  MHz;  $\sigma = 0.944$  mho/m;  $\epsilon_r =$ 42.612;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.4 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.04, 6.04, 6.04); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch777/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.818 mW/g

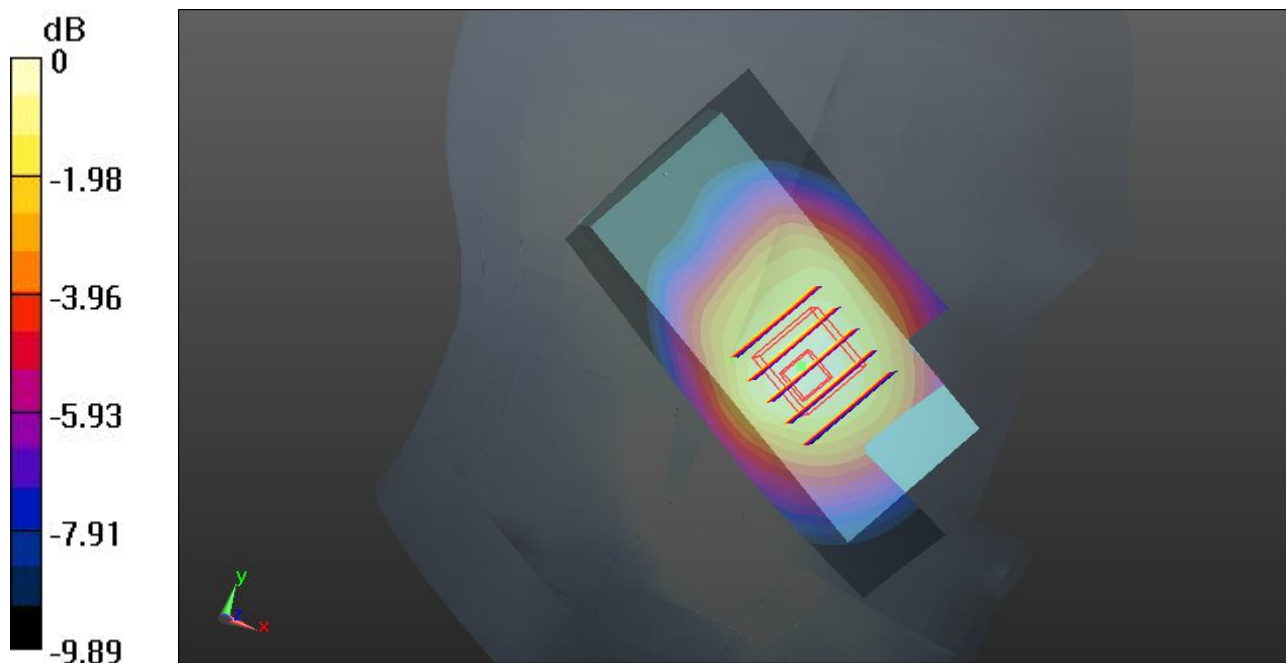
**Ch777/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.492 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.122 mW/g

**SAR(1 g) = 0.793 mW/g; SAR(10 g) = 0.561 mW/g**

Maximum value of SAR (measured) = 0.852 mW/g



0 dB = 0.852 mW/g = -1.39 dB mW/g

**21 CDMA2000 BC1\_R3 SO55\_Right Cheek\_Ch600\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.387$  mho/m;  $\epsilon_r =$ 39.308;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch600/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.05 mW/g

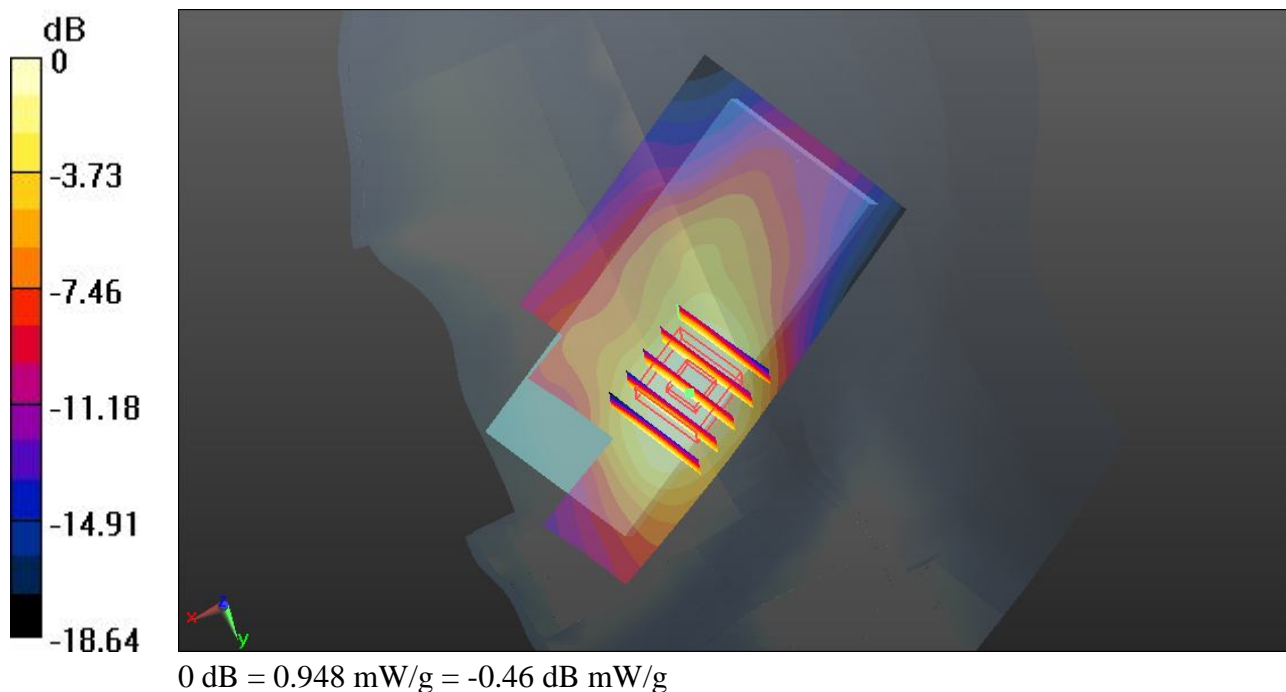
**Ch600/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.907 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.354 mW/g

**SAR(1 g) = 0.883 mW/g; SAR(10 g) = 0.539 mW/g**

Maximum value of SAR (measured) = 0.948 mW/g



**22 CDMA2000 BC1\_R3 SO55\_Right Tilted\_Ch600\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.387$  mho/m;  $\epsilon_r =$ 39.308;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch600/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

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

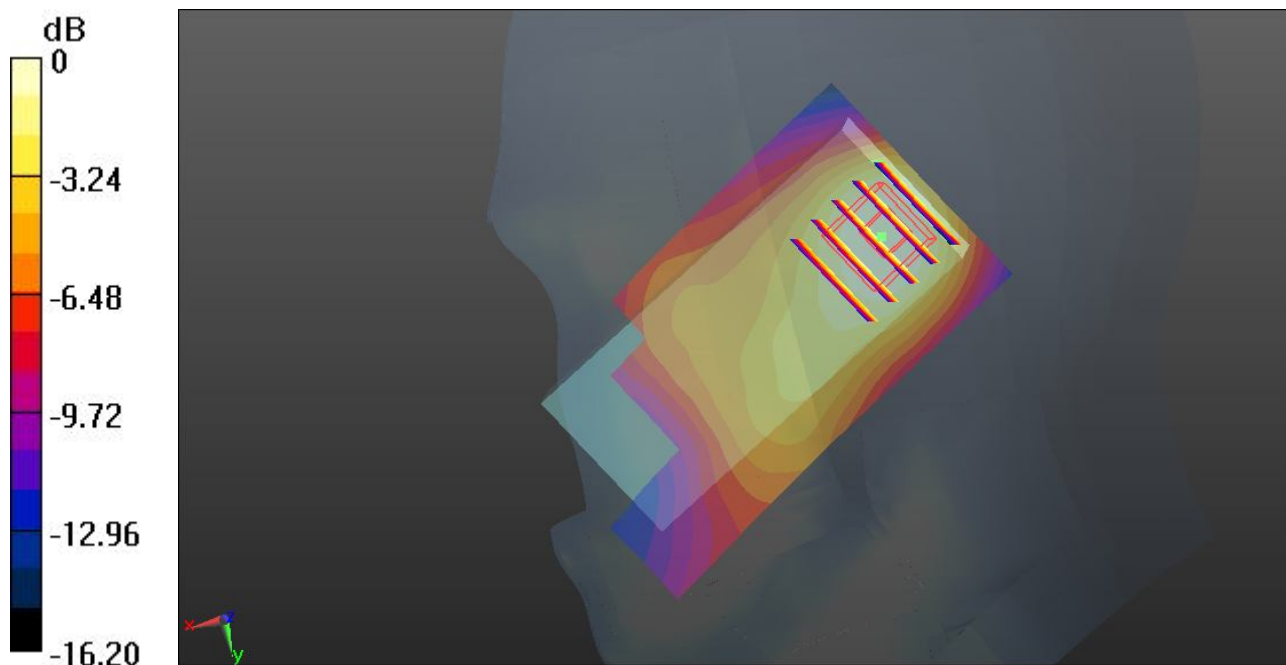
**Ch600/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.970 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.406 mW/g

**SAR(1 g) = 0.271 mW/g; SAR(10 g) = 0.169 mW/g**

Maximum value of SAR (measured) = 0.286 mW/g



0 dB = 0.286 mW/g = -10.87 dB mW/g

**23 CDMA2000 BC1\_R3 SO55\_Left Cheek\_Ch600\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.387$  mho/m;  $\epsilon_r =$ 39.308;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch600/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.729 mW/g

**Ch600/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.606 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 1.053 mW/g

**SAR(1 g) = 0.698 mW/g; SAR(10 g) = 0.428 mW/g**

Maximum value of SAR (measured) = 0.738 mW/g

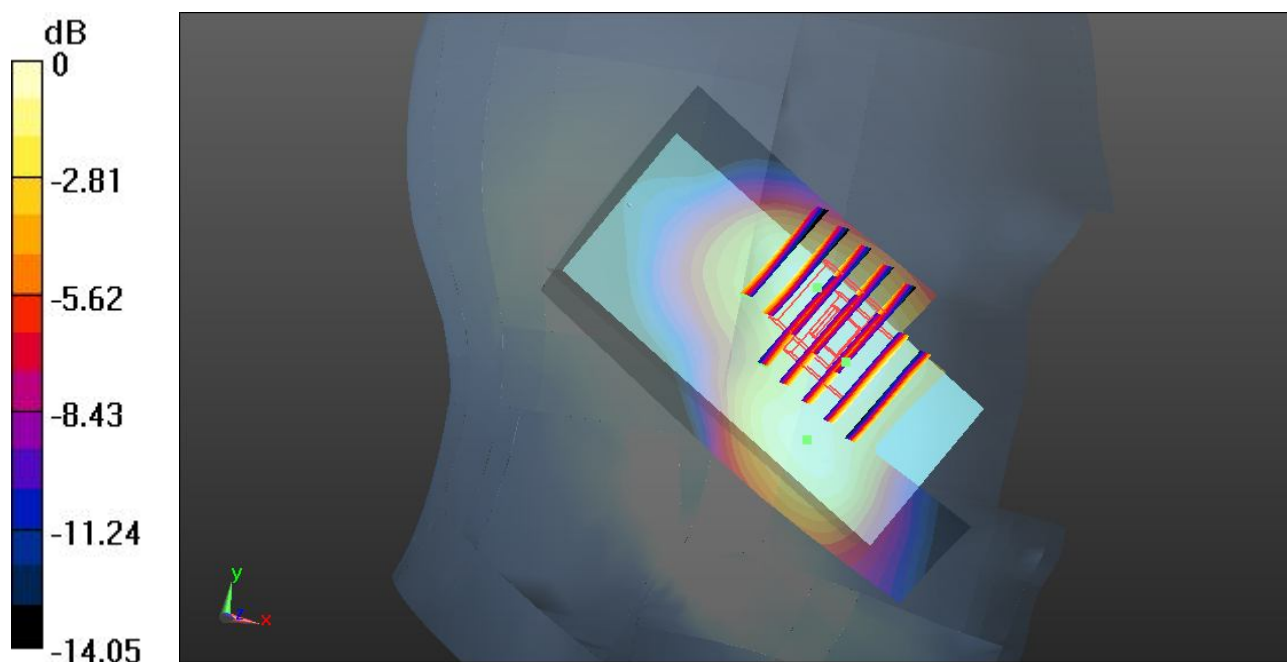
**Ch600/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.606 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 1.042 mW/g

**SAR(1 g) = 0.695 mW/g; SAR(10 g) = 0.451 mW/g**

Maximum value of SAR (measured) = 0.726 mW/g



0 dB = 0.726 mW/g = -2.78 dB mW/g



**24 CDMA2000 BC1\_R3 SO55\_Left Tilted\_Ch600\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.387$  mho/m;  $\epsilon_r =$ 39.308;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch600/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.395 mW/g

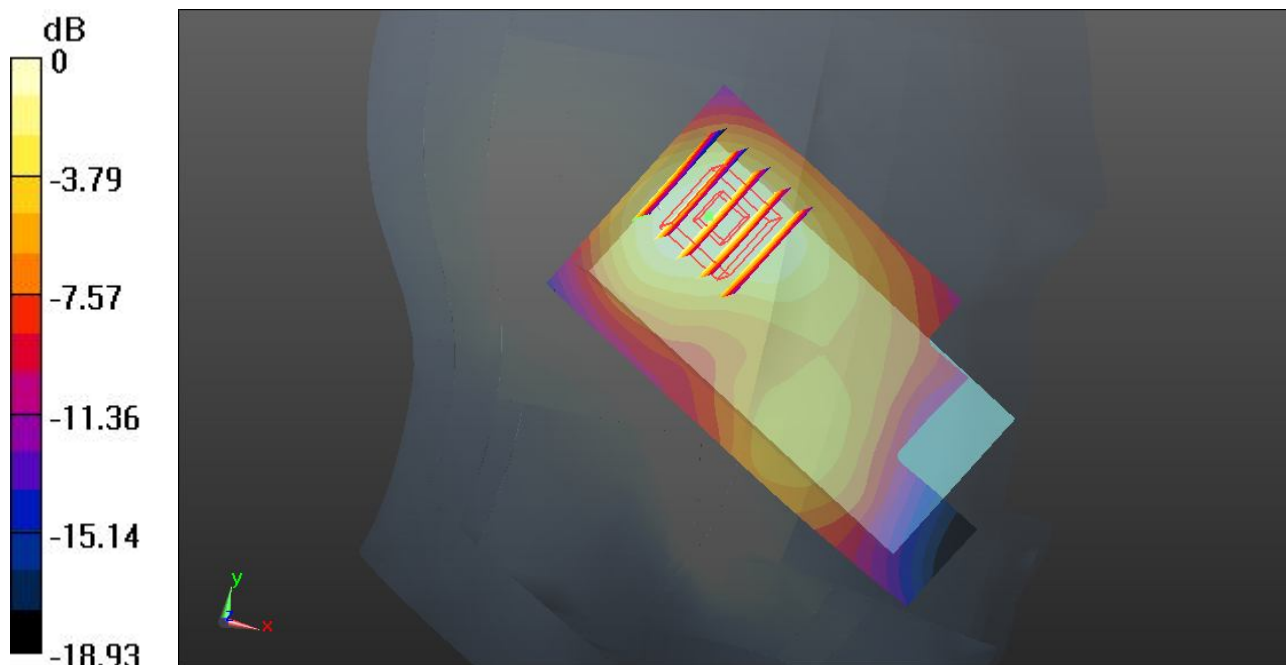
**Ch600/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.459 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.499 mW/g

**SAR(1 g) = 0.327 mW/g; SAR(10 g) = 0.206 mW/g**

Maximum value of SAR (measured) = 0.346 mW/g



0 dB = 0.346 mW/g = -9.22 dB mW/g

**25 CDMA2000 BC1\_R3 SO55\_Right Cheek\_Ch600\_Slide On****DUT: 242601**

Communication System: CDMA2000; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.387$  mho/m;  $\epsilon_r =$ 39.308;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch600/Area Scan (71x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.959 mW/g

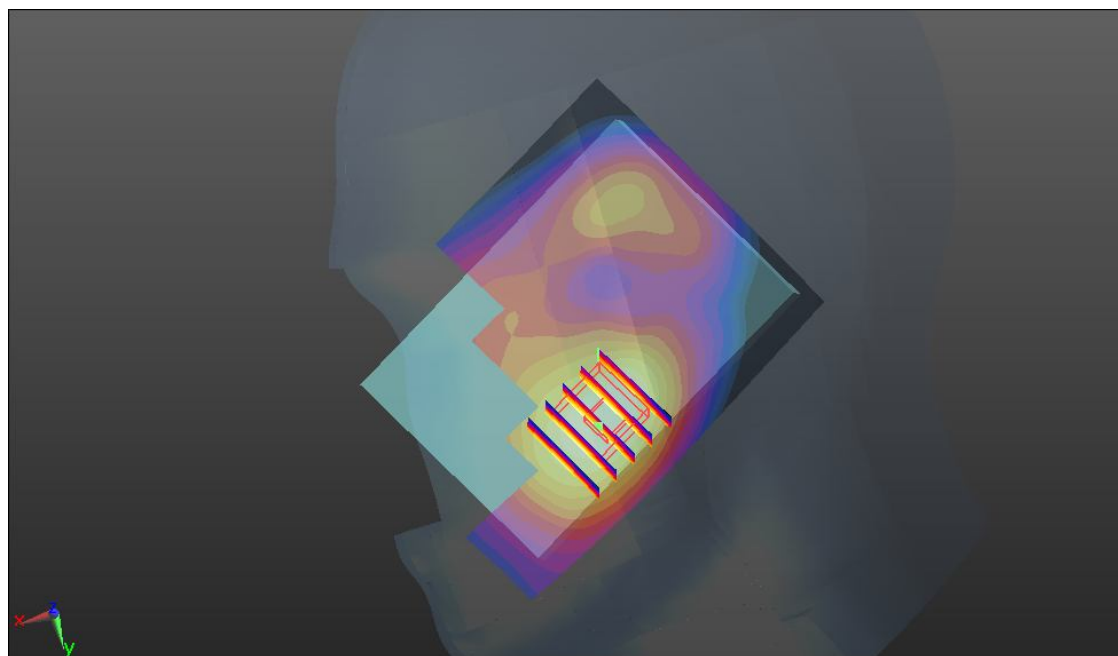
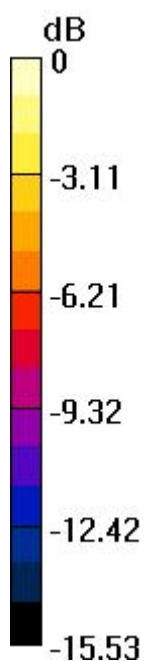
**Ch600/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.334 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.309 mW/g

**SAR(1 g) = 0.876 mW/g; SAR(10 g) = 0.547 mW/g**

Maximum value of SAR (measured) = 0.945 mW/g



0 dB = 0.945 mW/g = -0.49 dB mW/g



**26 CDMA2000 BC1\_R3 SO55\_Right Tilted\_Ch600\_Slide On****DUT: 242601**

Communication System: CDMA2000; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.387$  mho/m;  $\epsilon_r =$ 39.308;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch600/Area Scan (71x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.222 mW/g

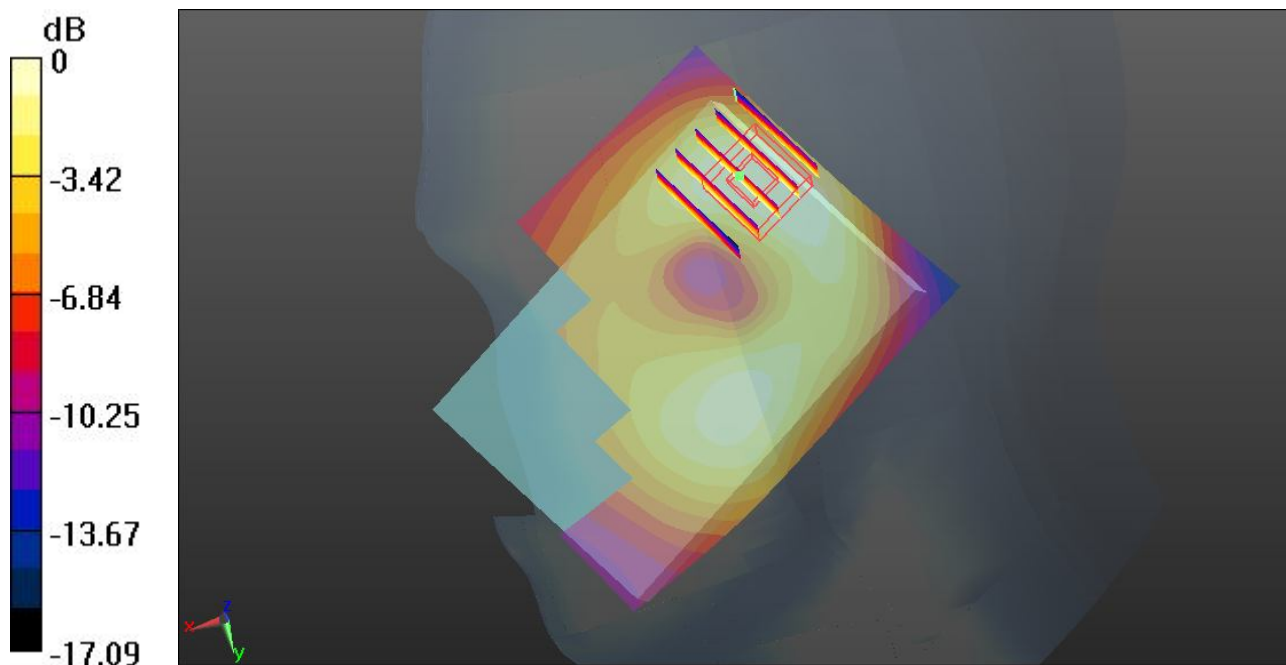
**Ch600/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.374 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.295 mW/g

**SAR(1 g) = 0.192 mW/g; SAR(10 g) = 0.119 mW/g**

Maximum value of SAR (measured) = 0.205 mW/g



**27 CDMA2000 BC1\_R3 SO55\_Left Cheek\_Ch600\_Slide On****DUT: 242601**

Communication System: CDMA2000; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.387$  mho/m;  $\epsilon_r =$ 39.308;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch600/Area Scan (71x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.776 mW/g

**Ch600/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.519 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.971 mW/g

**SAR(1 g) = 0.677 mW/g; SAR(10 g) = 0.460 mW/g**

Maximum value of SAR (measured) = 0.719 mW/g

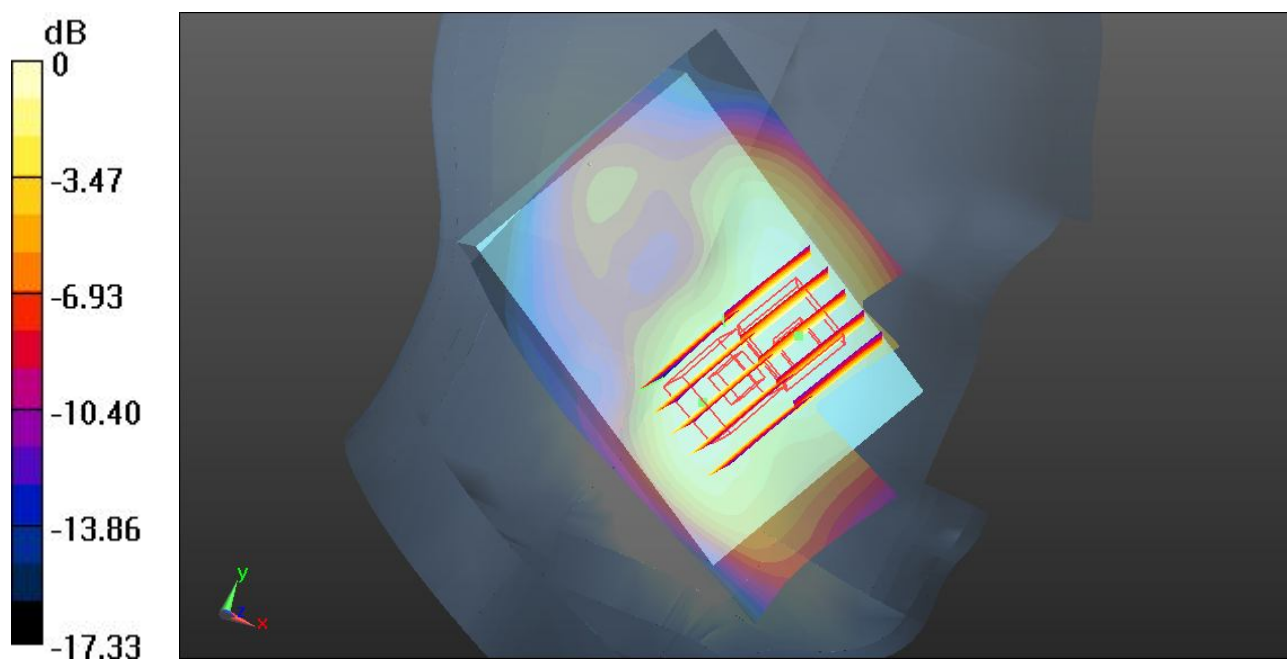
**Ch600/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.519 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.928 mW/g

**SAR(1 g) = 0.601 mW/g; SAR(10 g) = 0.406 mW/g**

Maximum value of SAR (measured) = 0.658 mW/g



0 dB = 0.658 mW/g = -3.64 dB mW/g

**28 CDMA2000 BC1\_R3 SO55\_Left Tilted\_Ch600\_Slide On****DUT: 242601**

Communication System: CDMA2000; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.387$  mho/m;  $\epsilon_r =$ 39.308;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch600/Area Scan (71x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.202 mW/g

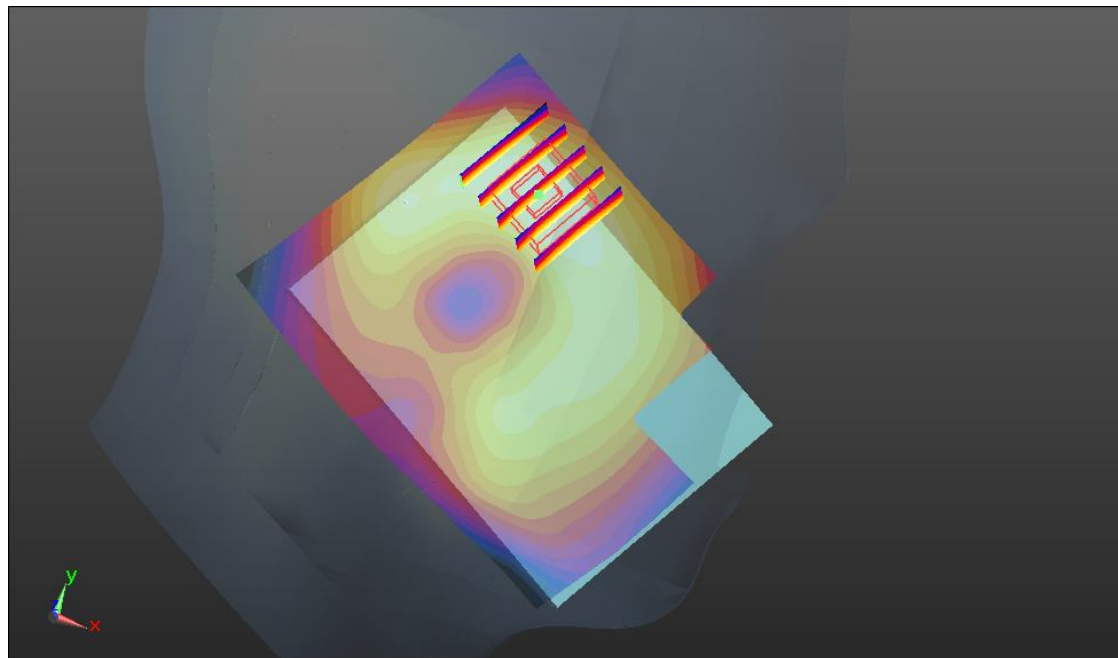
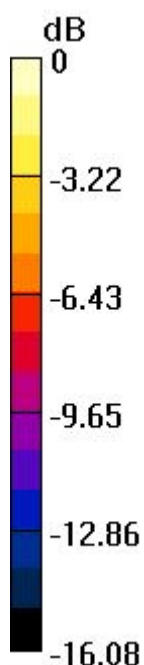
**Ch600/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.923 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.280 mW/g

**SAR(1 g) = 0.178 mW/g; SAR(10 g) = 0.110 mW/g**

Maximum value of SAR (measured) = 0.194 mW/g



0 dB = 0.194 mW/g = -14.24 dB mW/g

**29 CDMA2000 BC1\_R3 SO55\_Right Cheek\_Ch25\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 1851.25 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1851.25$  MHz;  $\sigma = 1.352$  mho/m;  $\epsilon_r =$  $39.384$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch25/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.823 mW/g

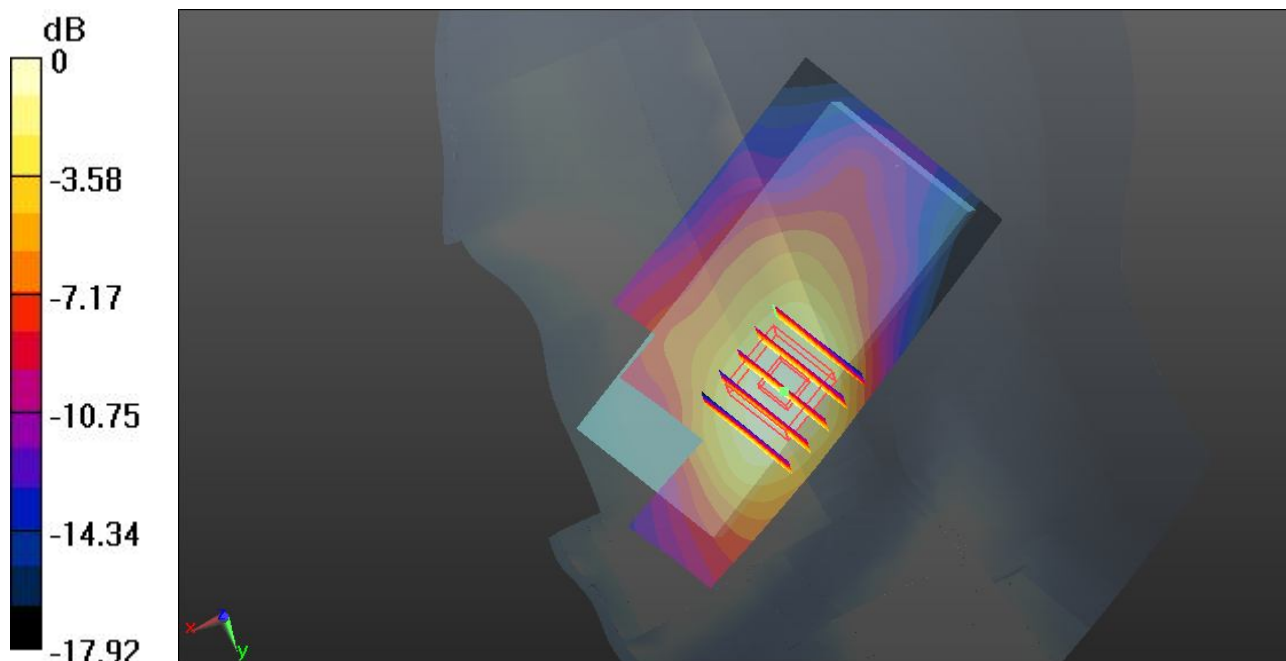
**Ch25/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.182 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.113 mW/g

**SAR(1 g) = 0.721 mW/g; SAR(10 g) = 0.436 mW/g**

Maximum value of SAR (measured) = 0.767 mW/g



0 dB = 0.767 mW/g = -2.30 dB mW/g

**30 CDMA2000 BC1\_R3 SO55\_Right Cheek\_Ch1175\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1909$  MHz;  $\sigma = 1.421$  mho/m;  $\epsilon_r =$ 39.309;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1175/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.09 mW/g

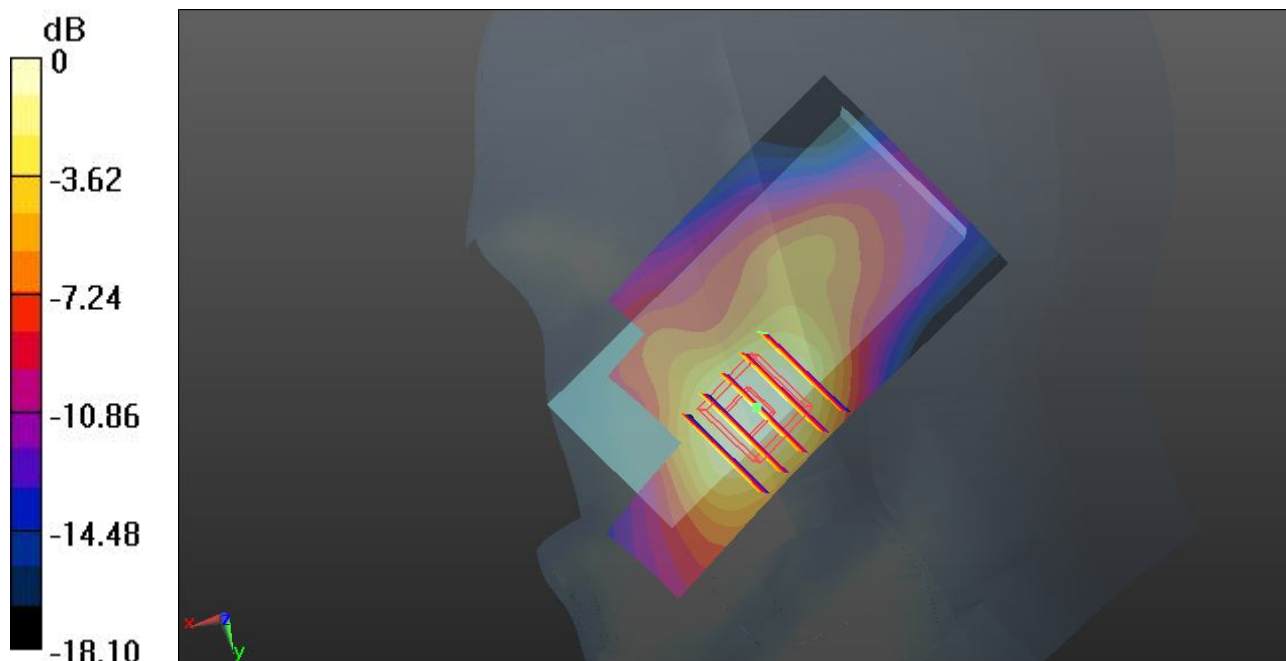
**Ch1175/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.971 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.473 mW/g

**SAR(1 g) = 0.955 mW/g; SAR(10 g) = 0.573 mW/g**

Maximum value of SAR (measured) = 1.04 mW/g



0 dB = 1.04 mW/g = 0.34 dB mW/g

**30 CDMA2000 BC1\_R3 SO55\_Right Cheek\_Ch1175\_Slide Off\_2D****DUT: 242601**

Communication System: CDMA2000; Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1909$  MHz;  $\sigma = 1.421$  mho/m;  $\epsilon_r =$ 39.309;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1175/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.09 mW/g

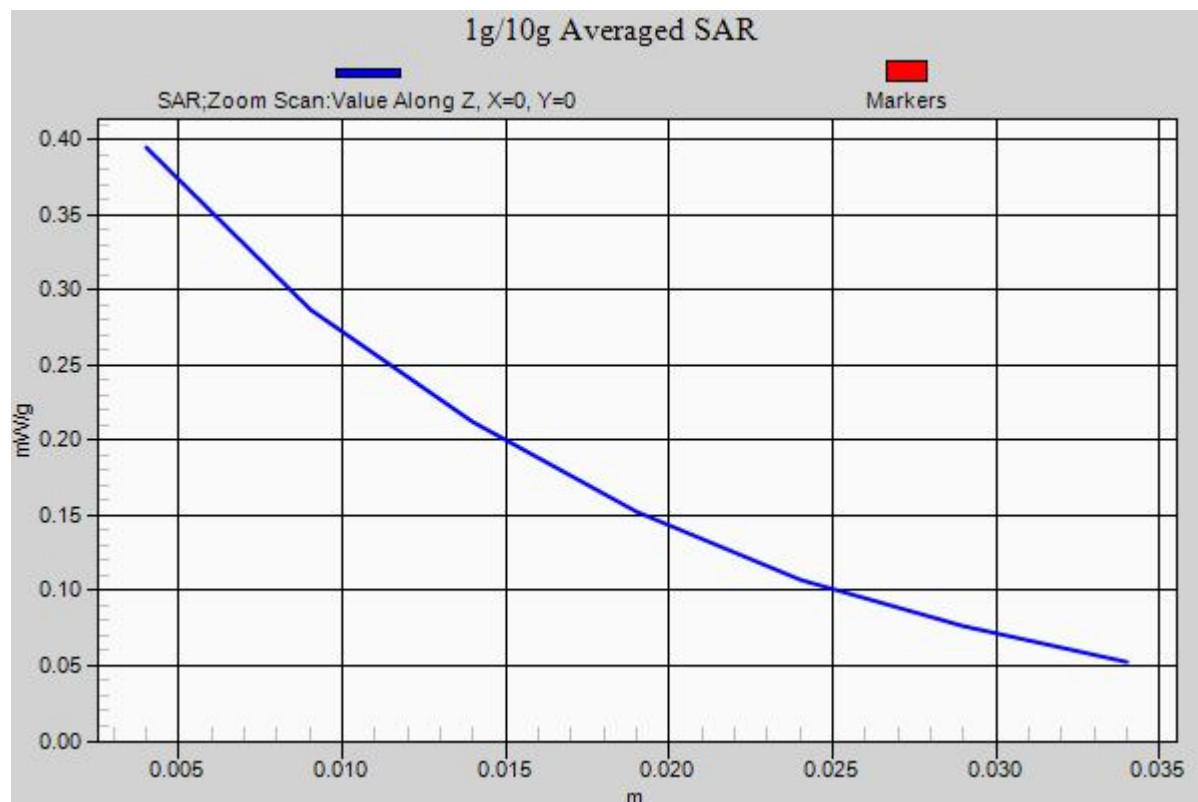
**Ch1175/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.971 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.473 mW/g

**SAR(1 g) = 0.955 mW/g; SAR(10 g) = 0.573 mW/g**

Maximum value of SAR (measured) = 1.04 mW/g





**31 CDMA2000 BC1\_R3 SO55\_Right Cheek\_Ch25\_Slide On****DUT: 242601**

Communication System: CDMA2000; Frequency: 1851.25 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1851.25$  MHz;  $\sigma = 1.352$  mho/m;  $\epsilon_r =$ 39.384;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch25/Area Scan (71x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.837 mW/g

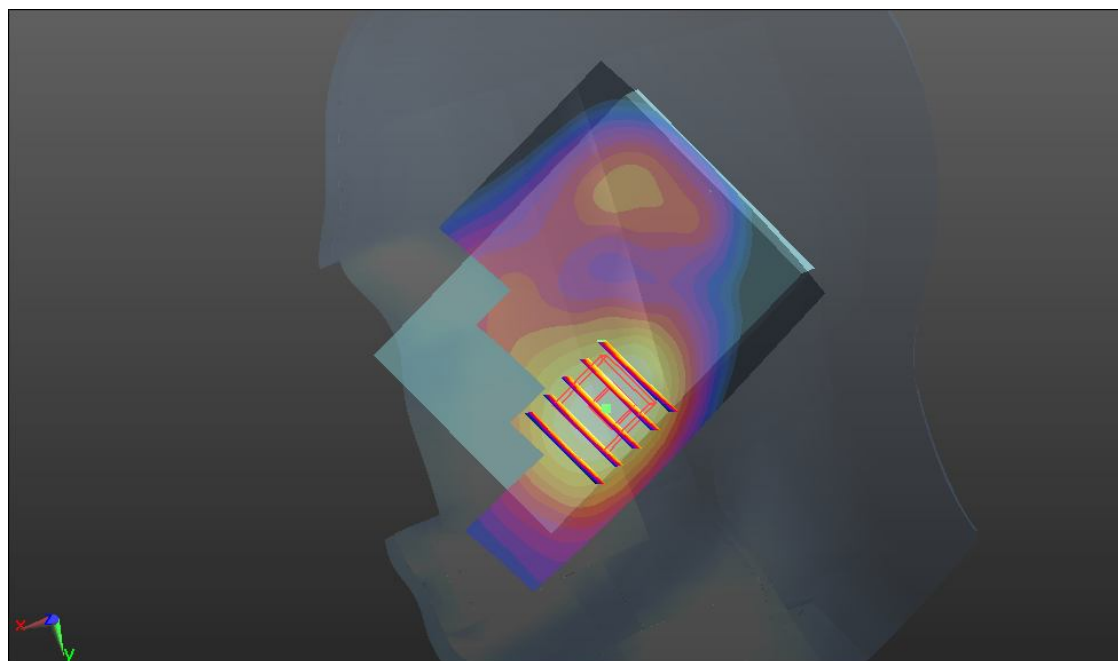
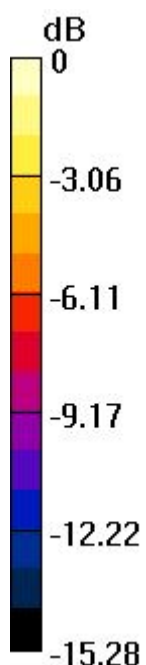
**Ch25/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.176 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 1.131 mW/g

**SAR(1 g) = 0.760 mW/g; SAR(10 g) = 0.475 mW/g**

Maximum value of SAR (measured) = 0.821 mW/g



0 dB = 0.821 mW/g = -1.71 dB mW/g

**32 CDMA2000 BC1\_R3 SO55\_Right Cheek\_Ch1175\_Slide On****DUT: 242601**

Communication System: CDMA2000; Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1909$  MHz;  $\sigma = 1.421$  mho/m;  $\epsilon_r =$ 39.309;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1175/Area Scan (71x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.957 mW/g

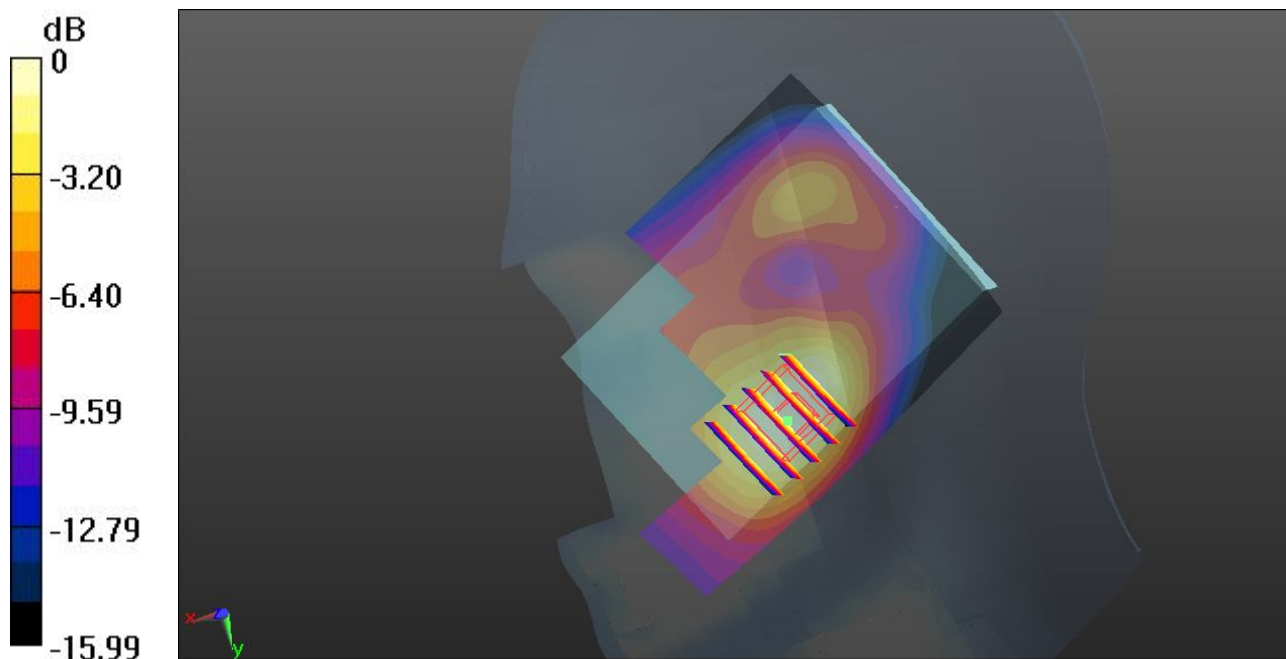
**Ch1175/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.309 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 1.313 mW/g

**SAR(1 g) = 0.867 mW/g; SAR(10 g) = 0.542 mW/g**

Maximum value of SAR (measured) = 0.934 mW/g



0 dB = 0.934 mW/g = -0.59 dB mW/g



**13 CDMA2000 BC14\_R3 SO55\_Right Cheek\_Ch1275\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 1913.75 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1913.75$  MHz;  $\sigma = 1.426$  mho/m;  $\epsilon_r =$  $39.305$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1275/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.00 mW/g

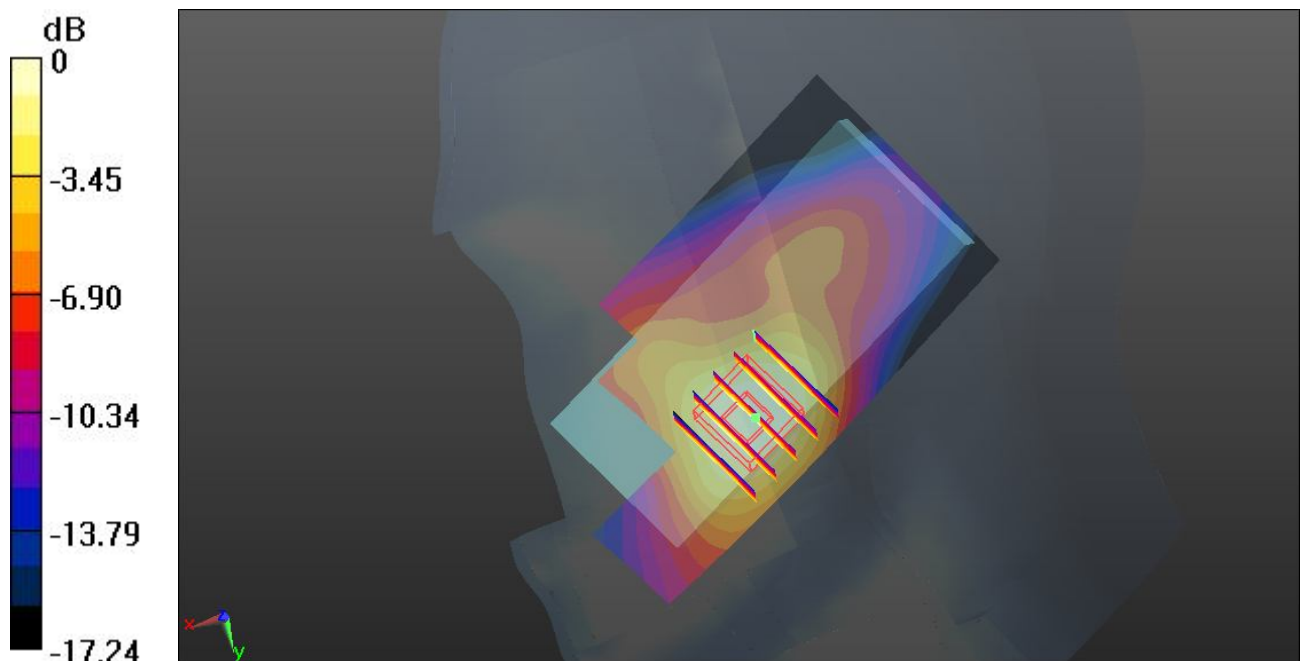
**Ch1275/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.638 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.408 mW/g

**SAR(1 g) = 0.912 mW/g; SAR(10 g) = 0.549 mW/g**

Maximum value of SAR (measured) = 0.972 mW/g



0 dB = 0.972 mW/g = -0.25 dB mW/g

**13 CDMA2000 BC14\_R3 SO55\_Right Cheek\_Ch1275\_Slide Off\_2D****DUT: 242601**

Communication System: CDMA2000; Frequency: 1913.75 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1913.75$  MHz;  $\sigma = 1.426$  mho/m;  $\epsilon_r =$ 39.305;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1275/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.00 mW/g

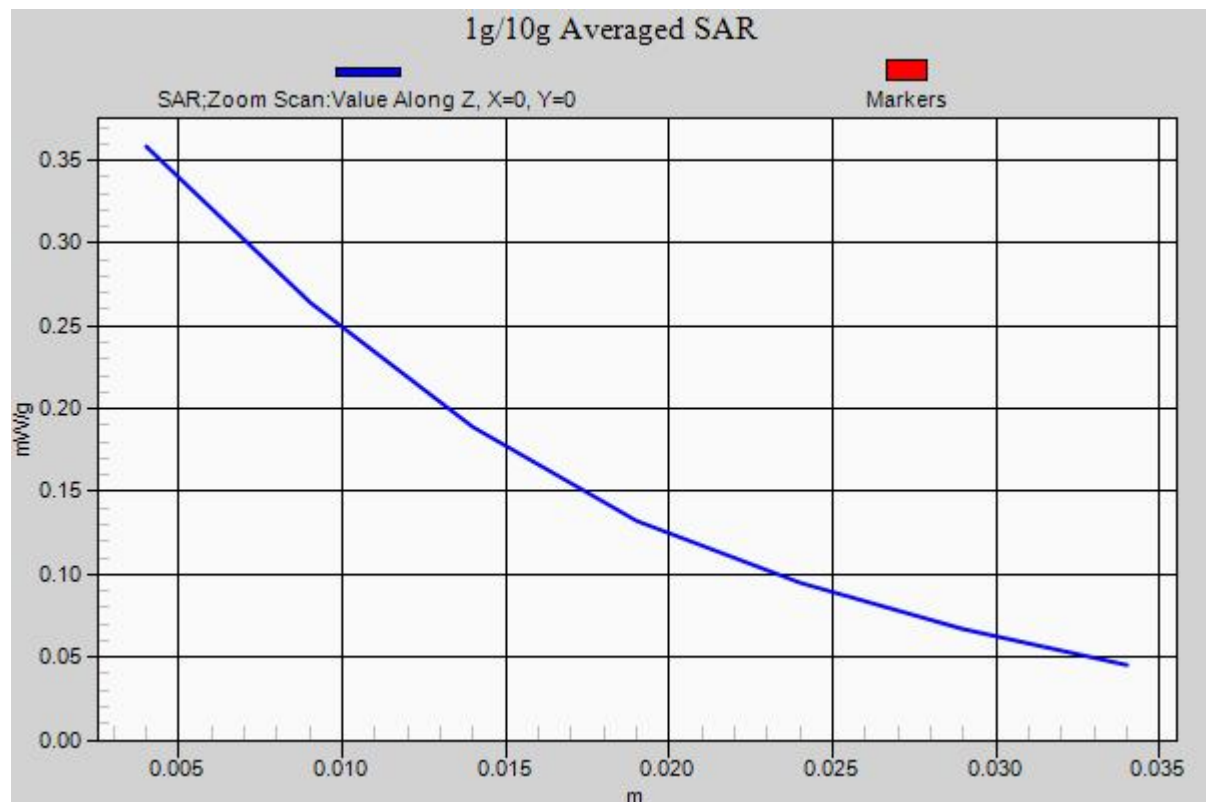
**Ch1275/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.638 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 1.408 mW/g

**SAR(1 g) = 0.912 mW/g; SAR(10 g) = 0.549 mW/g**

Maximum value of SAR (measured) = 0.972 mW/g



**14 CDMA2000 BC14\_R3 SO55\_Right Tilted\_Ch1275\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 1913.75 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1913.75$  MHz;  $\sigma = 1.426$  mho/m;  $\epsilon_r =$  $39.305$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1275/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.323 mW/g

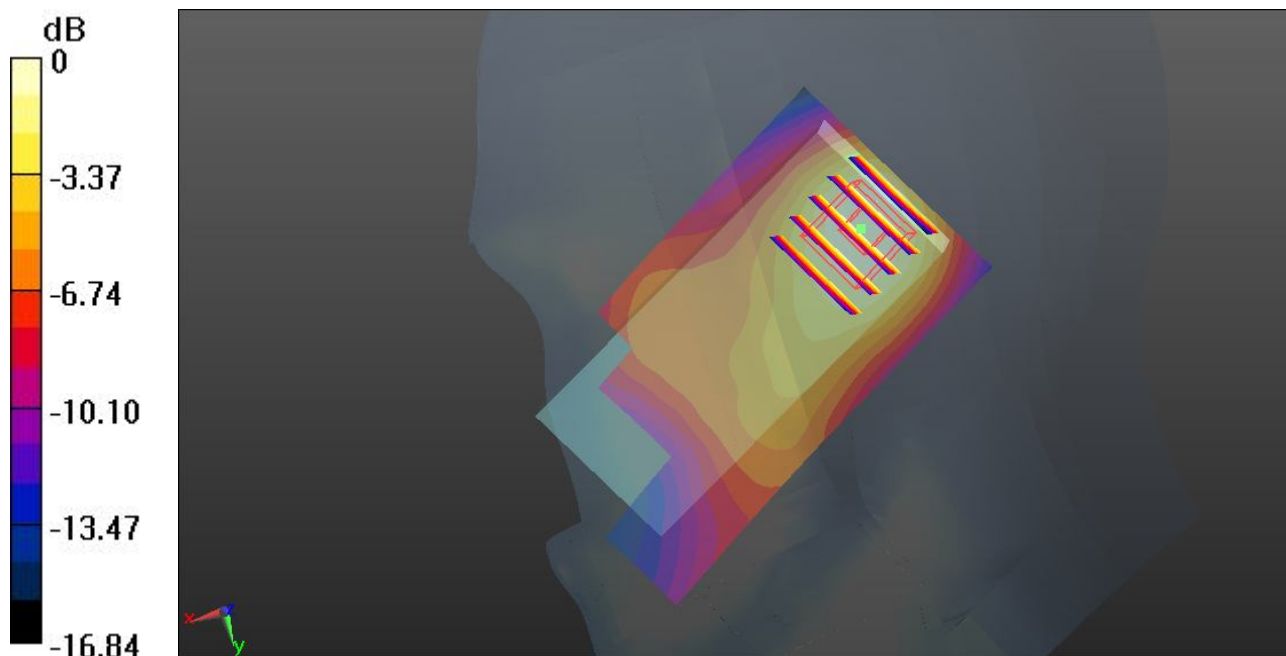
**Ch1275/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.420 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.438 mW/g

**SAR(1 g) = 0.289 mW/g; SAR(10 g) = 0.178 mW/g**

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



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

**15 CDMA2000 BC14\_R3 SO55\_Left Cheek\_Ch1275\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 1913.75 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1913.75$  MHz;  $\sigma = 1.426$  mho/m;  $\epsilon_r =$  $39.305$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1275/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.514 mW/g

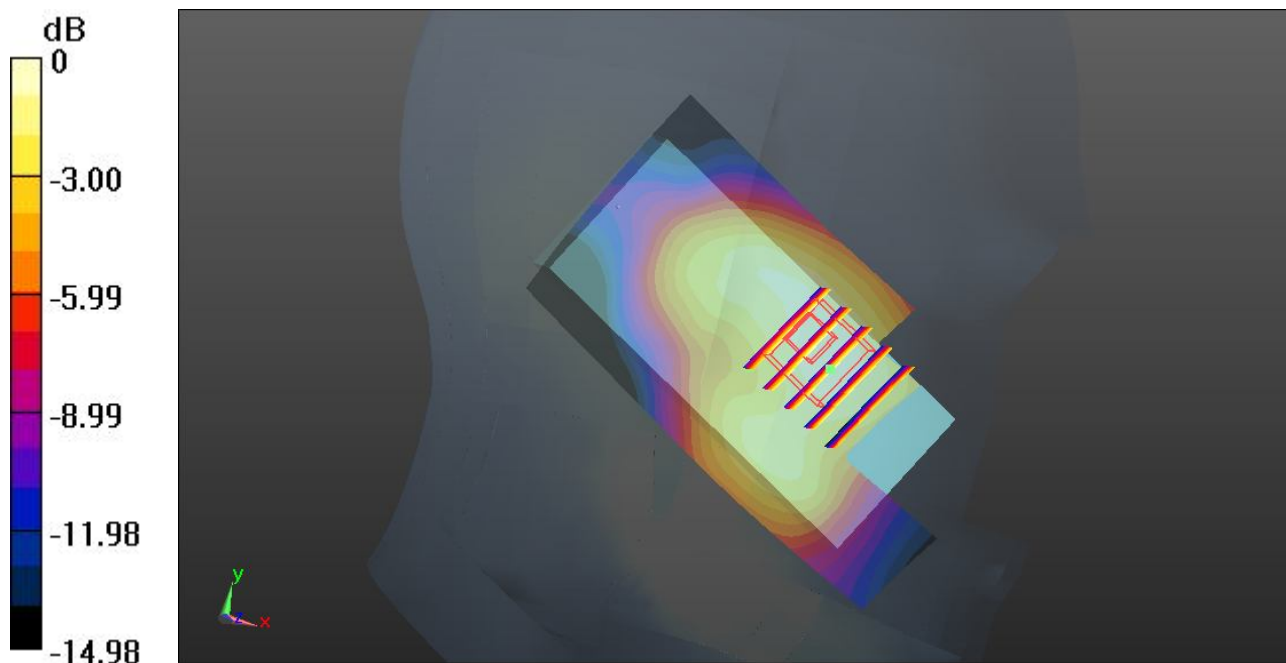
**Ch1275/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.347 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.834 mW/g

**SAR(1 g) = 0.531 mW/g; SAR(10 g) = 0.333 mW/g**

Maximum value of SAR (measured) = 0.563 mW/g



0 dB = 0.563 mW/g = -4.99 dB mW/g

**16 CDMA2000 BC14\_R3 SO55\_Left Tilted\_Ch1275\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 1913.75 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1913.75$  MHz;  $\sigma = 1.426$  mho/m;  $\epsilon_r =$  $39.305$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1275/Area Scan (51x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.394 mW/g

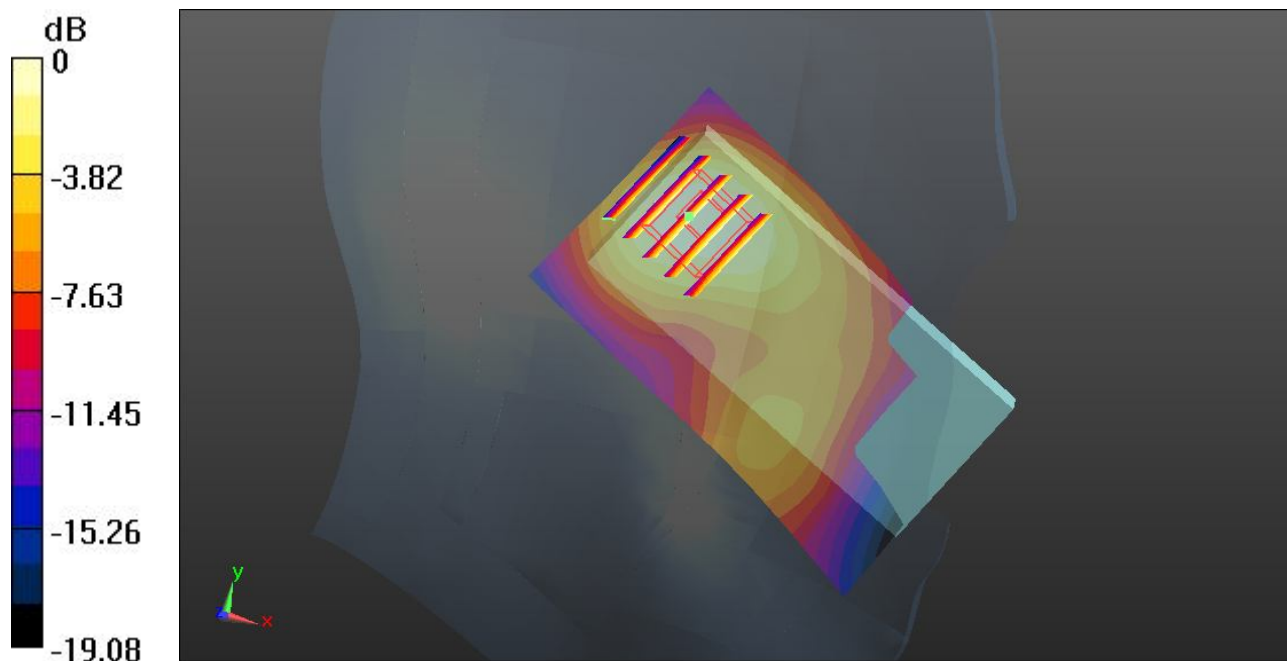
**Ch1275/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.037 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.533 mW/g

**SAR(1 g) = 0.350 mW/g; SAR(10 g) = 0.213 mW/g**

Maximum value of SAR (measured) = 0.376 mW/g



0 dB = 0.376 mW/g = -8.50 dB mW/g

**17 CDMA2000 BC14\_R3 SO55\_Right Cheek\_Ch1275\_Slide On****DUT: 242601**

Communication System: CDMA2000; Frequency: 1913.75 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1913.75$  MHz;  $\sigma = 1.426$  mho/m;  $\epsilon_r =$  $39.305$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1275/Area Scan (71x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.897 mW/g

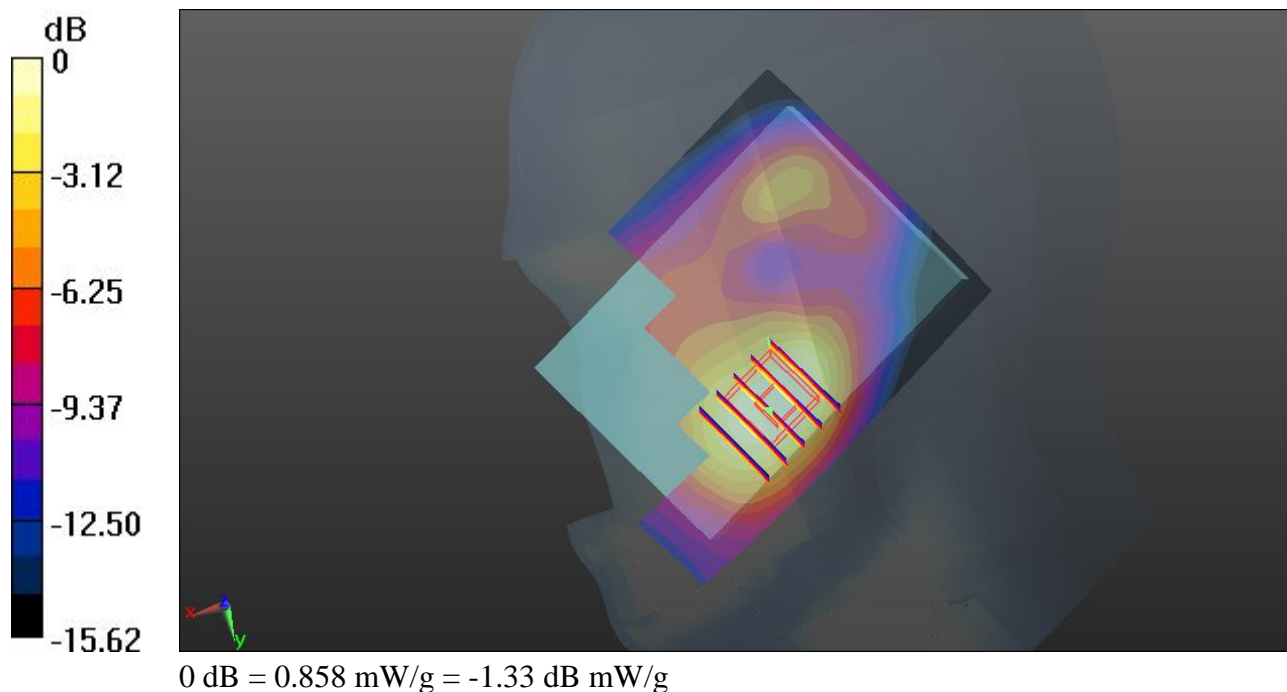
**Ch1275/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.810 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 1.201 mW/g

**SAR(1 g) = 0.792 mW/g; SAR(10 g) = 0.491 mW/g**

Maximum value of SAR (measured) = 0.858 mW/g



**18 CDMA2000 BC14\_R3 SO55\_Right Tilted\_Ch1275\_Slide On****DUT: 242601**

Communication System: CDMA2000; Frequency: 1913.75 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1913.75$  MHz;  $\sigma = 1.426$  mho/m;  $\epsilon_r =$  $39.305$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1275/Area Scan (71x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.201 mW/g

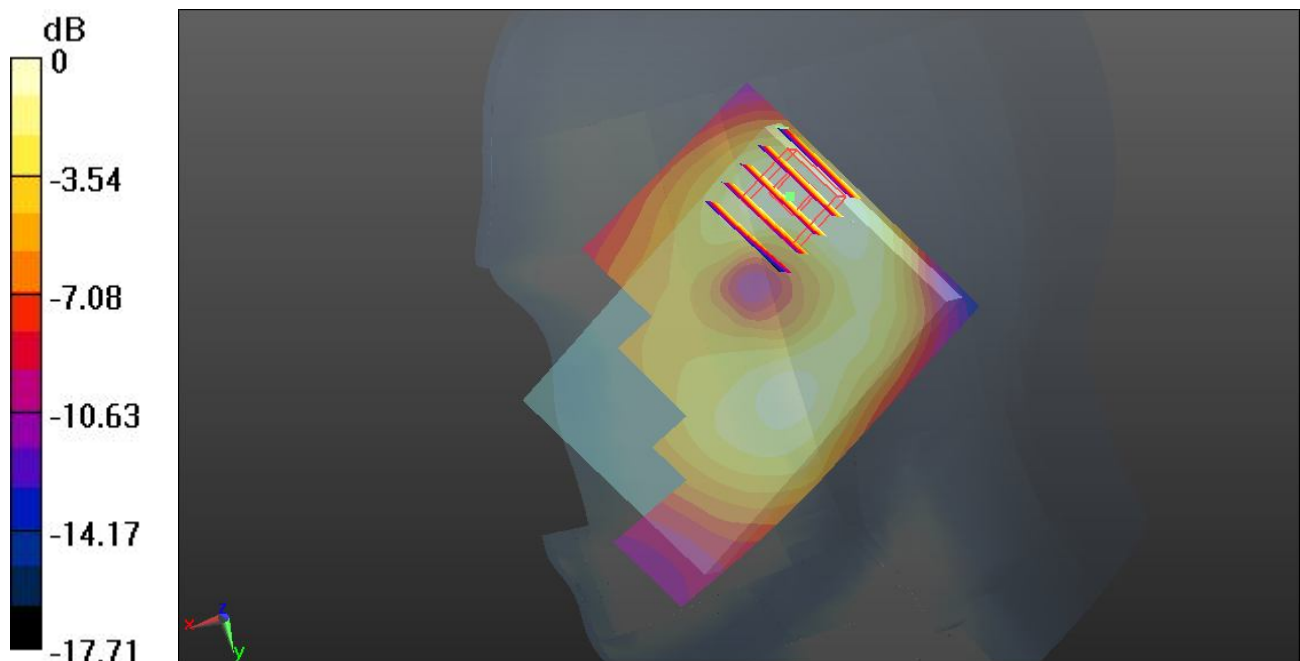
**Ch1275/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.793 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.275 mW/g

**SAR(1 g) = 0.177 mW/g; SAR(10 g) = 0.107 mW/g**

Maximum value of SAR (measured) = 0.188 mW/g



0 dB = 0.188 mW/g = -14.52 dB mW/g



**19 CDMA2000 BC14\_R3 SO55\_Left Cheek\_Ch1275\_Slide On****DUT: 242601**

Communication System: CDMA2000; Frequency: 1913.75 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1913.75$  MHz;  $\sigma = 1.426$  mho/m;  $\epsilon_r =$ 39.305;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1275/Area Scan (71x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.706 mW/g

**Ch1275/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.932 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.901 mW/g

**SAR(1 g) = 0.615 mW/g; SAR(10 g) = 0.407 mW/g**

Maximum value of SAR (measured) = 0.656 mW/g

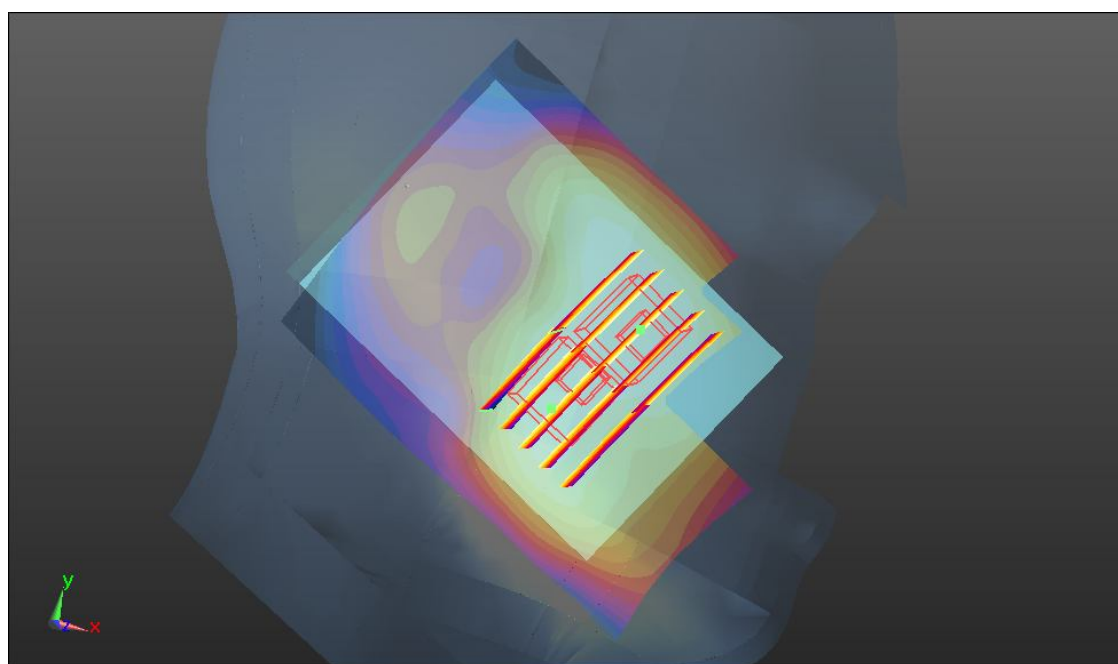
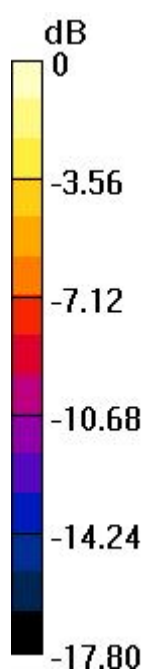
**Ch1275/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.932 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.795 mW/g

**SAR(1 g) = 0.499 mW/g; SAR(10 g) = 0.326 mW/g**

Maximum value of SAR (measured) = 0.570 mW/g



0 dB = 0.570 mW/g = -4.88 dB mW/g



**20 CDMA2000 BC14\_R3 SO55\_Left Tilted\_Ch1275\_Slide On****DUT: 242601**

Communication System: CDMA2000; Frequency: 1913.75 MHz; Duty Cycle: 1:1

Medium: HSL\_1900\_120614 Medium parameters used:  $f = 1913.75$  MHz;  $\sigma = 1.426$  mho/m;  $\epsilon_r =$  $39.305$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.5 °C ; Liquid Temperature : 21.5 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(5.14, 5.14, 5.14); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1275/Area Scan (71x91x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.190 mW/g

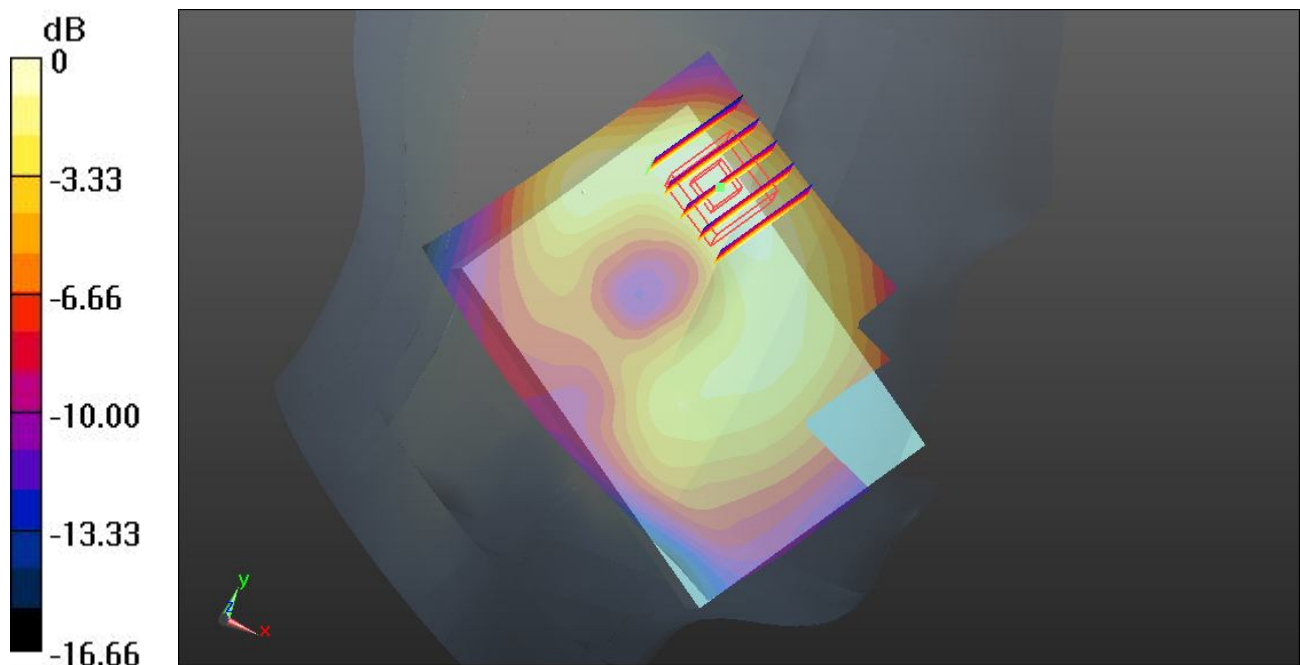
**Ch1275/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.363 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.272 mW/g

**SAR(1 g) = 0.171 mW/g; SAR(10 g) = 0.103 mW/g**

Maximum value of SAR (measured) = 0.186 mW/g



0 dB = 0.186 mW/g = -14.61 dB mW/g

**33 CDMA2000 BC0\_RC3 SO32\_Front\_1.5cm\_Ch1013\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: MSL\_835\_120615 Medium parameters used:  $f = 825$  MHz;  $\sigma = 0.968$  mho/m;  $\epsilon_r = 54.484$ ; $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.6 °C ; Liquid Temperature : 21.6 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.16, 6.16, 6.16); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1013/Area Scan (51x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.520 mW/g

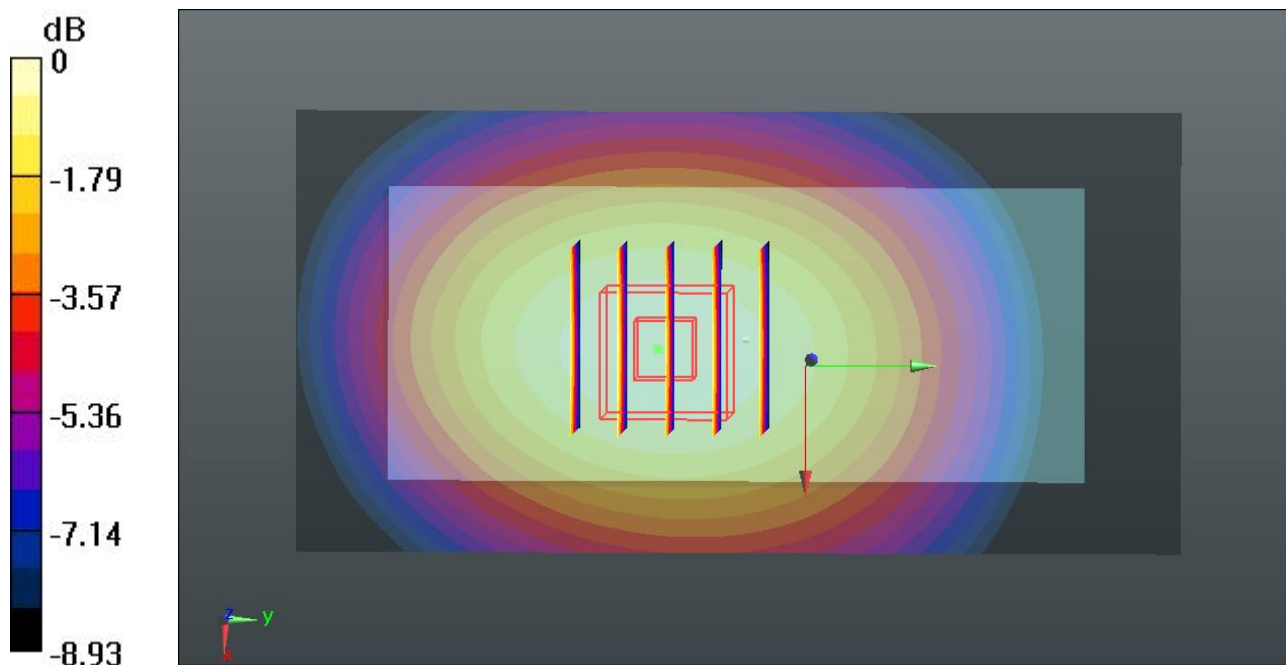
**Ch1013/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.347 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.655 mW/g

**SAR(1 g) = 0.488 mW/g; SAR(10 g) = 0.353 mW/g**

Maximum value of SAR (measured) = 0.518 mW/g



0 dB = 0.518 mW/g = -5.71 dB mW/g

**34 CDMA2000 BC0\_RC3 SO32\_Back\_1.5cm\_Ch1013\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: MSL\_835\_120615 Medium parameters used:  $f = 825$  MHz;  $\sigma = 0.968$  mho/m;  $\epsilon_r = 54.484$ ; $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.6 °C ; Liquid Temperature : 21.6 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.16, 6.16, 6.16); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1013/Area Scan (51x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.18 mW/g

**Ch1013/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 34.061 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.511 mW/g

**SAR(1 g) = 1.13 mW/g; SAR(10 g) = 0.825 mW/g**

Maximum value of SAR (measured) = 1.19 mW/g

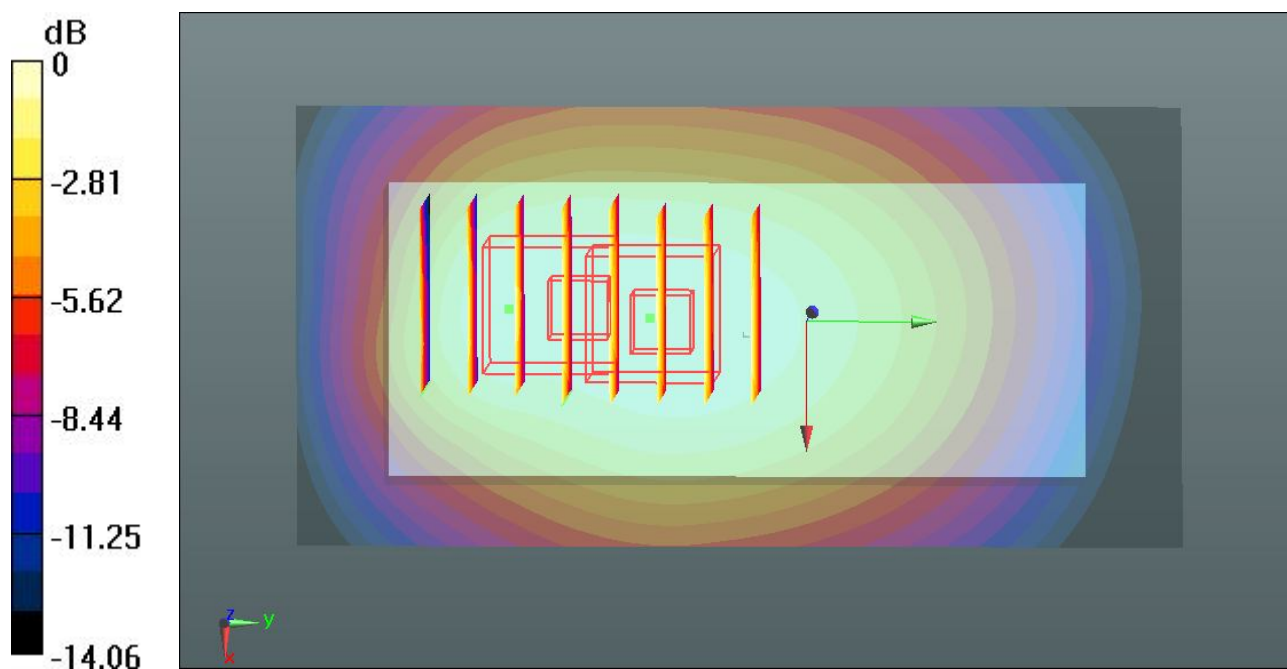
**Ch1013/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 34.061 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.515 mW/g

**SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.771 mW/g**

Maximum value of SAR (measured) = 1.15 mW/g



### **34 CDMA2000 BC0\_RC3 SO32\_Back\_1.5cm\_Ch1013\_Slide Off\_2D**

**DUT: 242601**

Communication System: CDMA2000; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium: MSL\_835\_120615 Medium parameters used:  $f = 825 \text{ MHz}$ ;  $\sigma = 0.968 \text{ mho/m}$ ;  $\epsilon_r = 54.484$ ;

$\rho = 1000 \text{ kg/m}^3$

Ambient Temperature :  $23.6^\circ\text{C}$ ; Liquid Temperature :  $21.6^\circ\text{C}$

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.16, 6.16, 6.16); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1013/Area Scan (51x101x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) =  $1.18 \text{ mW/g}$

**Ch1013/Zoom Scan (5x5x7)/Cube 1:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $34.061 \text{ V/m}$ ; Power Drift =  $0.01 \text{ dB}$

Peak SAR (extrapolated) =  $1.511 \text{ mW/g}$

**SAR(1 g) =  $1.13 \text{ mW/g}$ ; SAR(10 g) =  $0.825 \text{ mW/g}$**

Maximum value of SAR (measured) =  $1.19 \text{ mW/g}$

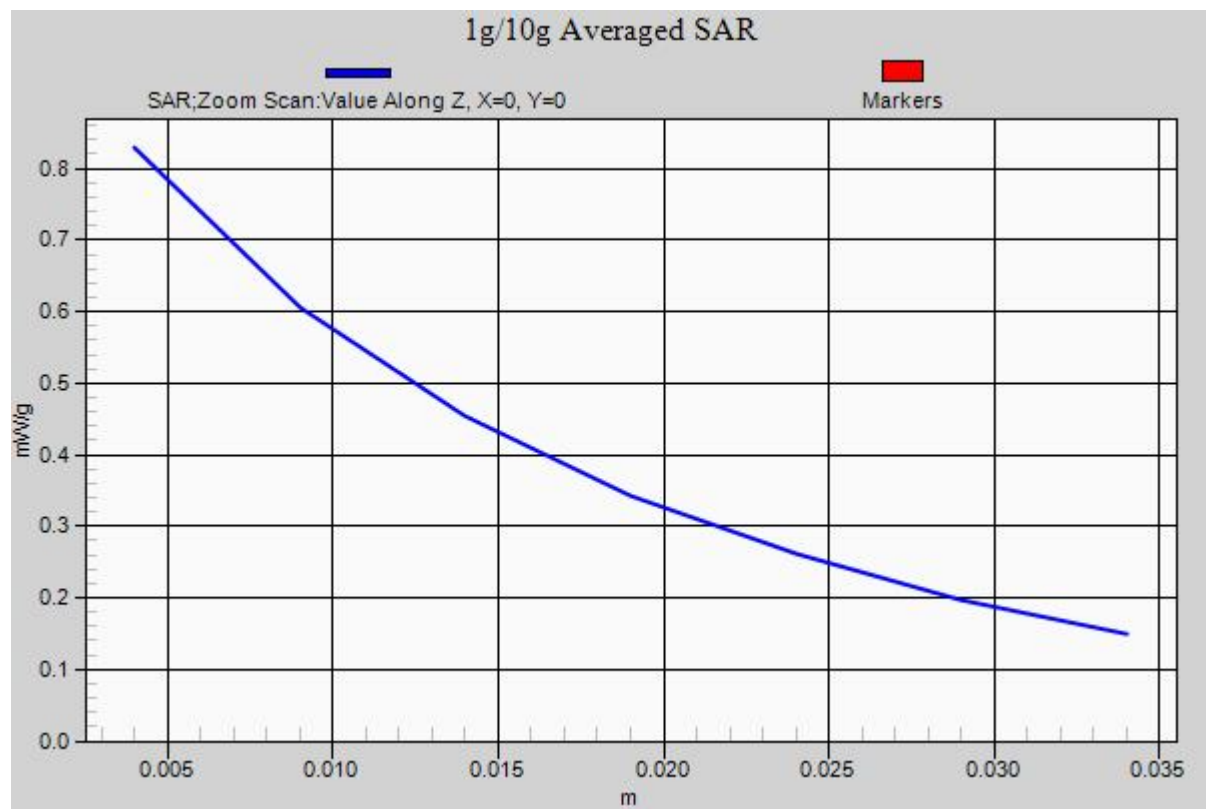
**Ch1013/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $34.061 \text{ V/m}$ ; Power Drift =  $0.01 \text{ dB}$

Peak SAR (extrapolated) =  $1.515 \text{ mW/g}$

**SAR(1 g) =  $1.08 \text{ mW/g}$ ; SAR(10 g) =  $0.771 \text{ mW/g}$**

Maximum value of SAR (measured) =  $1.15 \text{ mW/g}$



**35 CDMA2000 BC0\_RC3 SO32\_Back\_1.5cm\_Ch384\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium: MSL\_835\_120615 Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.979$  mho/m;  $\epsilon_r = 54.397$ ; $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.6 °C; Liquid Temperature : 21.6 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.16, 6.16, 6.16); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch384/Area Scan (51x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.721 mW/g

**Ch384/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 26.977 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.934 mW/g

**SAR(1 g) = 0.694 mW/g; SAR(10 g) = 0.504 mW/g**

Maximum value of SAR (measured) = 0.732 mW/g

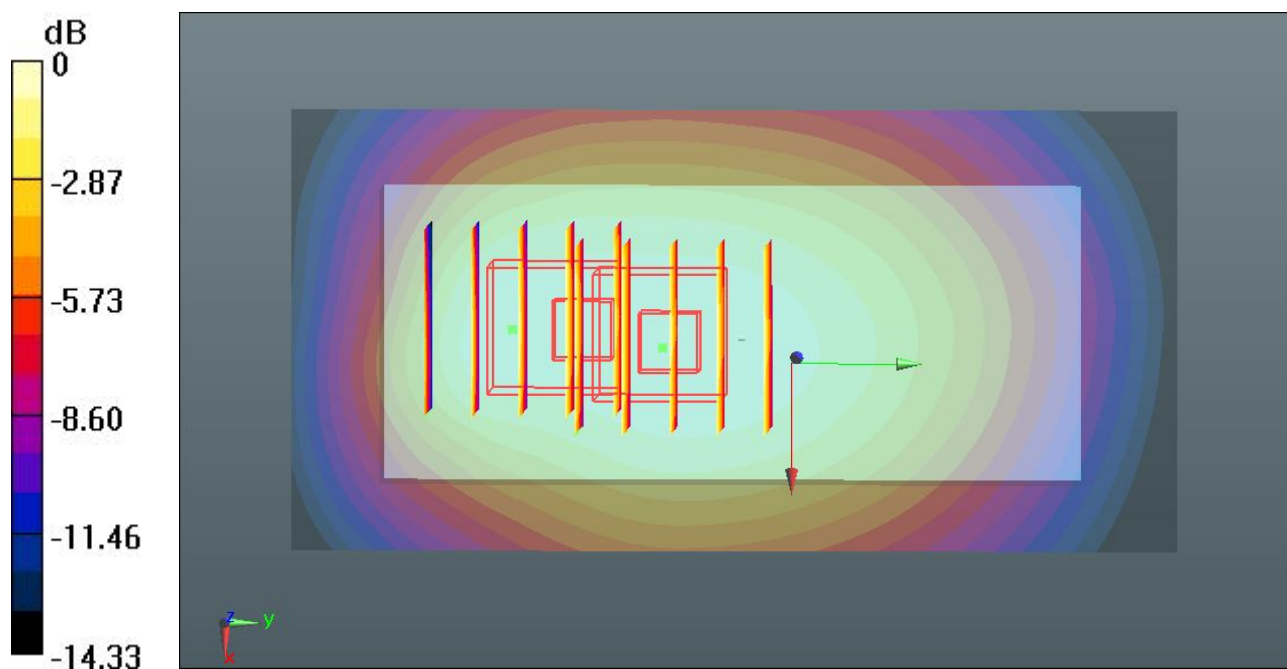
**Ch384/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 26.977 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.927 mW/g

**SAR(1 g) = 0.664 mW/g; SAR(10 g) = 0.470 mW/g**

Maximum value of SAR (measured) = 0.711 mW/g



0 dB = 0.711 mW/g = -2.96 dB mW/g

**36 CDMA2000 BC0\_RC3 SO32\_Back\_1.5cm\_Ch777\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 848.31 MHz; Duty Cycle: 1:1

Medium: MSL\_835\_120615 Medium parameters used:  $f = 848.31$  MHz;  $\sigma = 0.99$  mho/m;  $\epsilon_r =$ 54.295;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.6 °C ; Liquid Temperature : 21.6 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(6.16, 6.16, 6.16); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch777/Area Scan (51x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.634 mW/g

**Ch777/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.886 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.817 mW/g

**SAR(1 g) = 0.606 mW/g; SAR(10 g) = 0.440 mW/g**

Maximum value of SAR (measured) = 0.639 mW/g

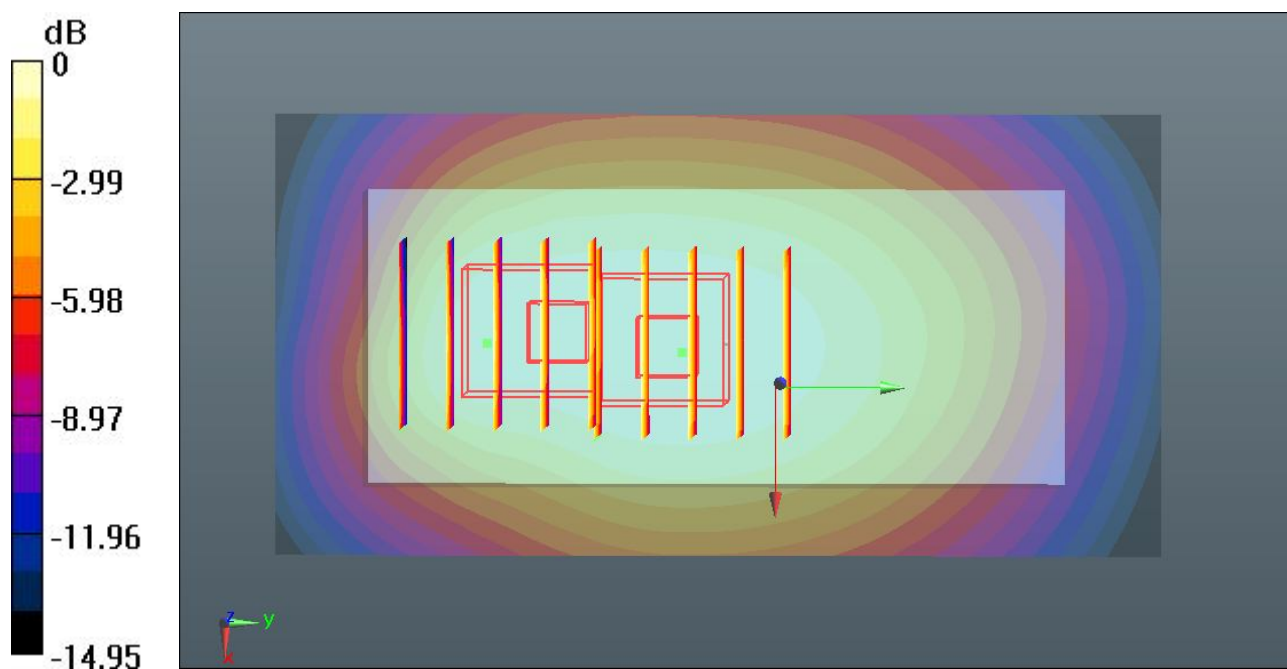
**Ch777/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.886 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.794 mW/g

**SAR(1 g) = 0.565 mW/g; SAR(10 g) = 0.392 mW/g**

Maximum value of SAR (measured) = 0.610 mW/g



0 dB = 0.610 mW/g = -4.29 dB mW/g



**37 CDMA2000 BC1\_RC3 SO32\_Front\_1.5cm\_Ch600\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: MSL\_1900\_120615 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.516$  mho/m;  $\epsilon_r =$ 52.766;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.3 °C ; Liquid Temperature : 21.7 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(4.64, 4.64, 4.64); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch600/Area Scan (51x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.455 mW/g

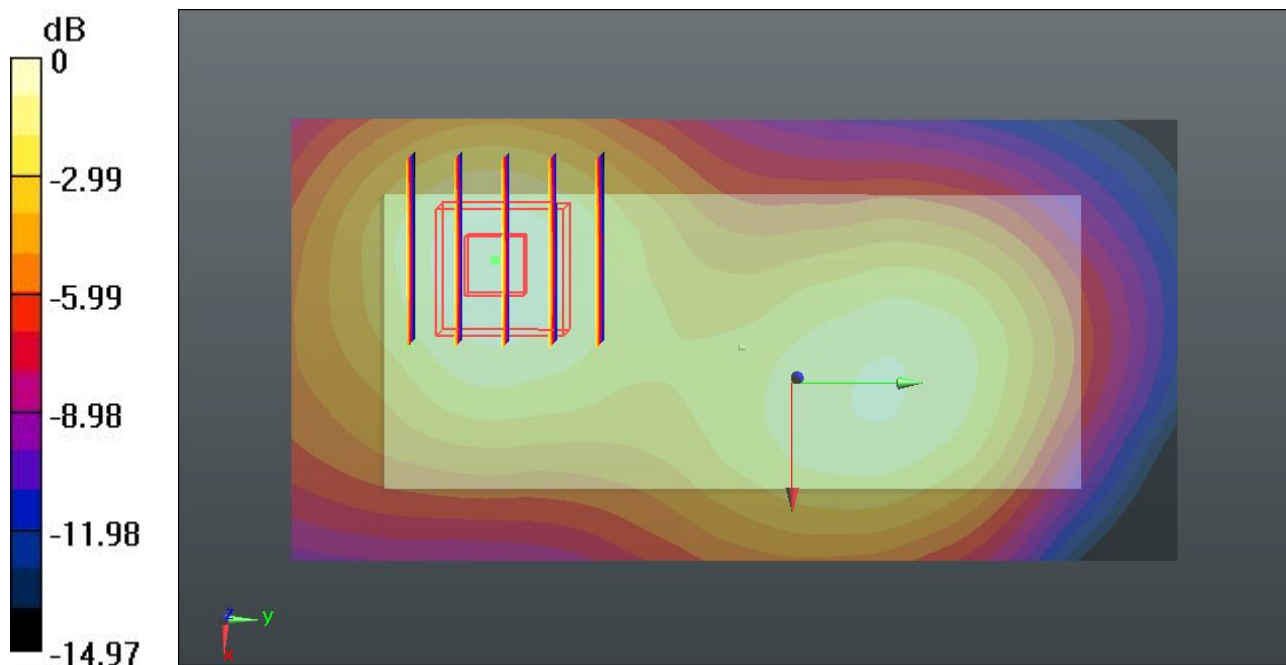
**Ch600/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.078 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.699 mW/g

**SAR(1 g) = 0.437 mW/g; SAR(10 g) = 0.268 mW/g**

Maximum value of SAR (measured) = 0.472 mW/g





**38 CDMA2000 BC1\_RC3 SO32\_Back\_1.5cm\_Ch600\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: MSL\_1900\_120615 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.516$  mho/m;  $\epsilon_r =$  $52.766$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.3 °C ; Liquid Temperature : 21.7 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(4.64, 4.64, 4.64); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch600/Area Scan (51x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.14 mW/g

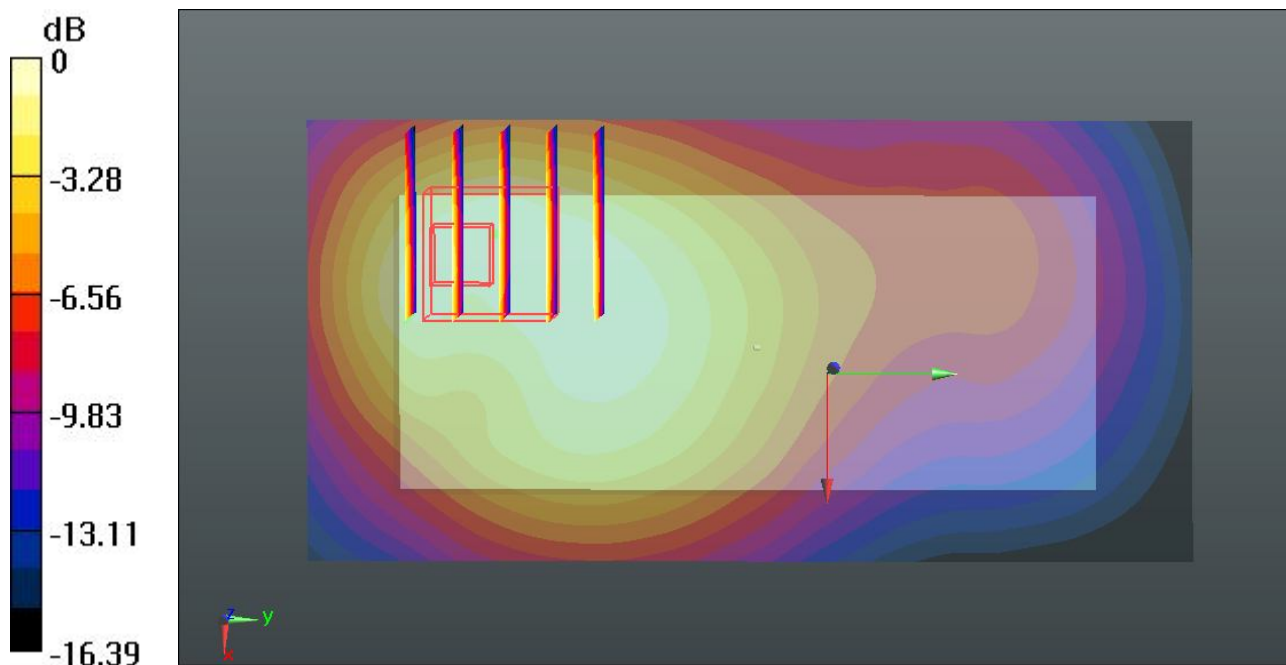
**Ch600/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.580 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 1.739 mW/g

**SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.629 mW/g**

Maximum value of SAR (measured) = 1.14 mW/g



0 dB = 1.14 mW/g = 1.14 dB mW/g

**38 CDMA2000 BC1\_RC3 SO32\_Back\_1.5cm\_Ch600\_Slide Off\_2D****DUT: 242601**

Communication System: CDMA2000; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium: MSL\_1900\_120615 Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.516$  mho/m;  $\epsilon_r =$ 52.766;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.3 °C ; Liquid Temperature : 21.7 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(4.64, 4.64, 4.64); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch600/Area Scan (51x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.14 mW/g

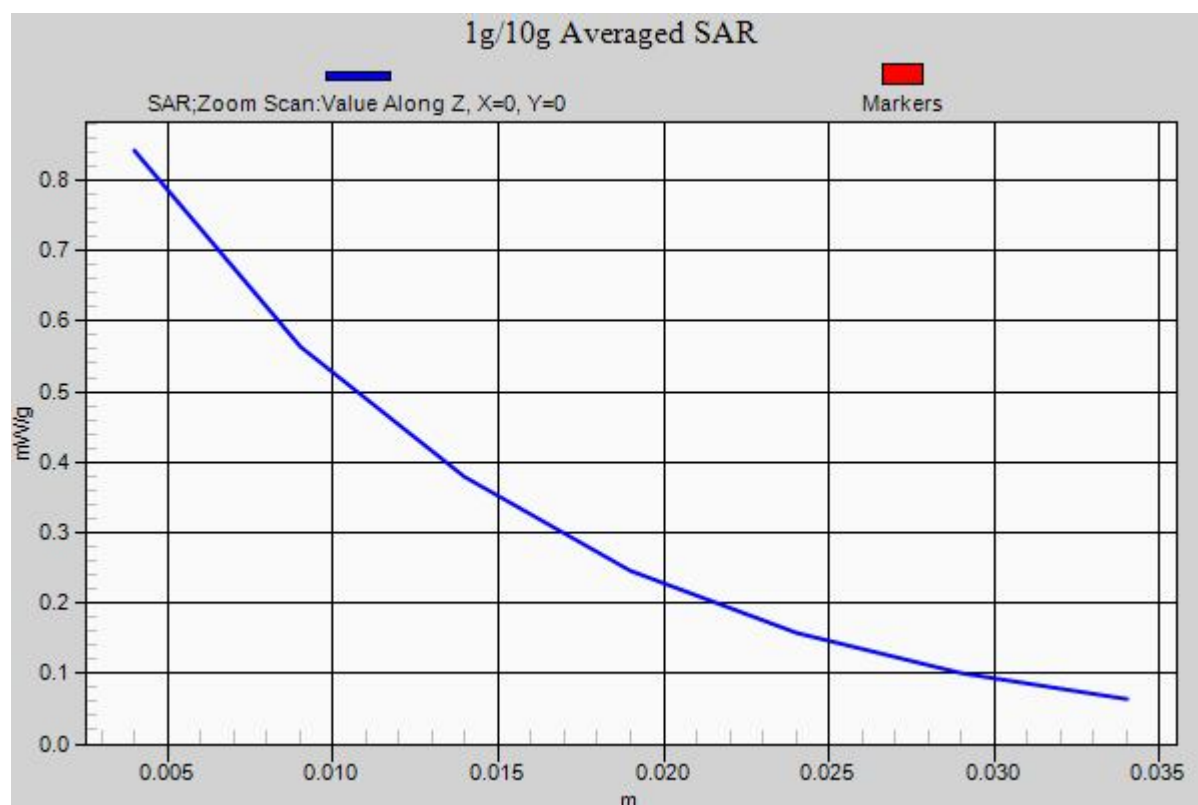
**Ch600/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.580 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 1.739 mW/g

**SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.629 mW/g**

Maximum value of SAR (measured) = 1.14 mW/g



**39 CDMA2000 BC1\_RC3 SO32\_Back\_1.5cm\_Ch25\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 1851.25 MHz; Duty Cycle: 1:1

Medium: MSL\_1900\_120615 Medium parameters used:  $f = 1851.25$  MHz;  $\sigma = 1.483$  mho/m;  $\epsilon_r =$  $52.857$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.3 °C ; Liquid Temperature : 21.7 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(4.64, 4.64, 4.64); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch25/Area Scan (51x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.978 mW/g

**Ch25/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.949 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 1.544 mW/g

**SAR(1 g) = 0.940 mW/g; SAR(10 g) = 0.571 mW/g**

Maximum value of SAR (measured) = 1.01 mW/g

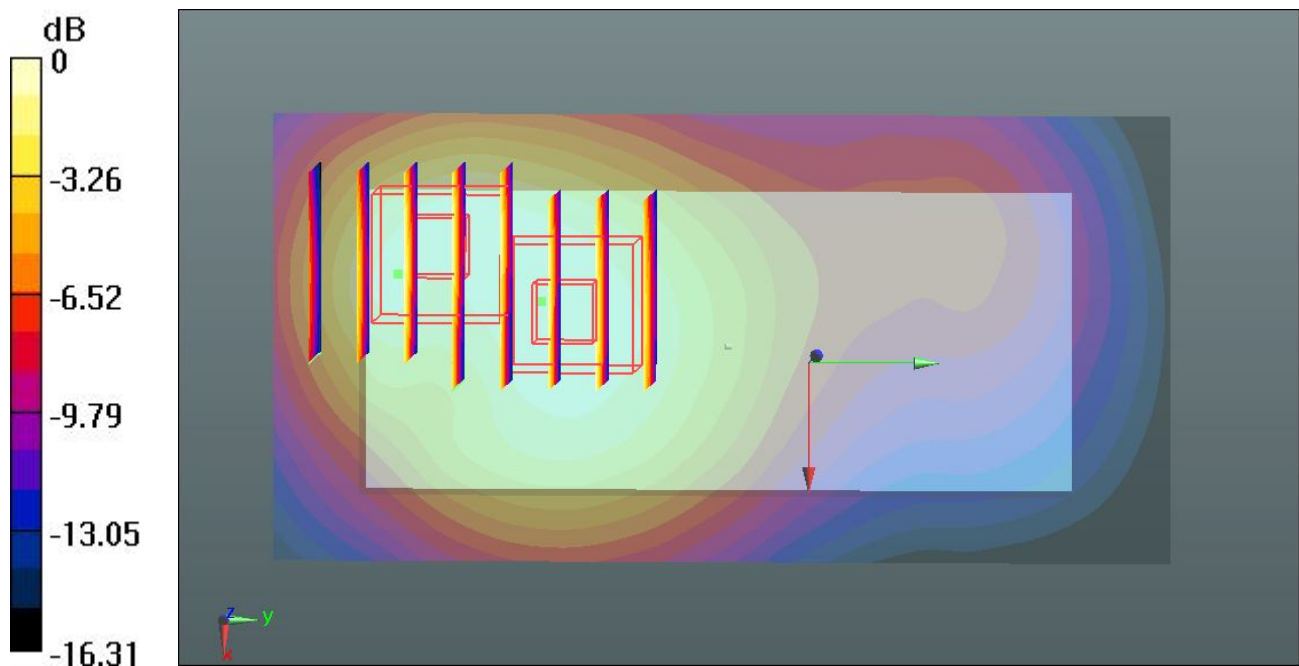
**Ch25/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.949 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 1.431 mW/g

**SAR(1 g) = 0.898 mW/g; SAR(10 g) = 0.538 mW/g**

Maximum value of SAR (measured) = 0.957 mW/g



0 dB = 0.957 mW/g = -0.38 dB mW/g

**40 CDMA2000 BC1\_RC3 SO32\_Back\_1.5cm\_Ch1175\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium: MSL\_1900\_120615 Medium parameters used:  $f = 1909$  MHz;  $\sigma = 1.549$  mho/m;  $\epsilon_r =$ 52.674;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.3 °C ; Liquid Temperature : 21.7 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(4.64, 4.64, 4.64); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1175/Area Scan (51x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.13 mW/g

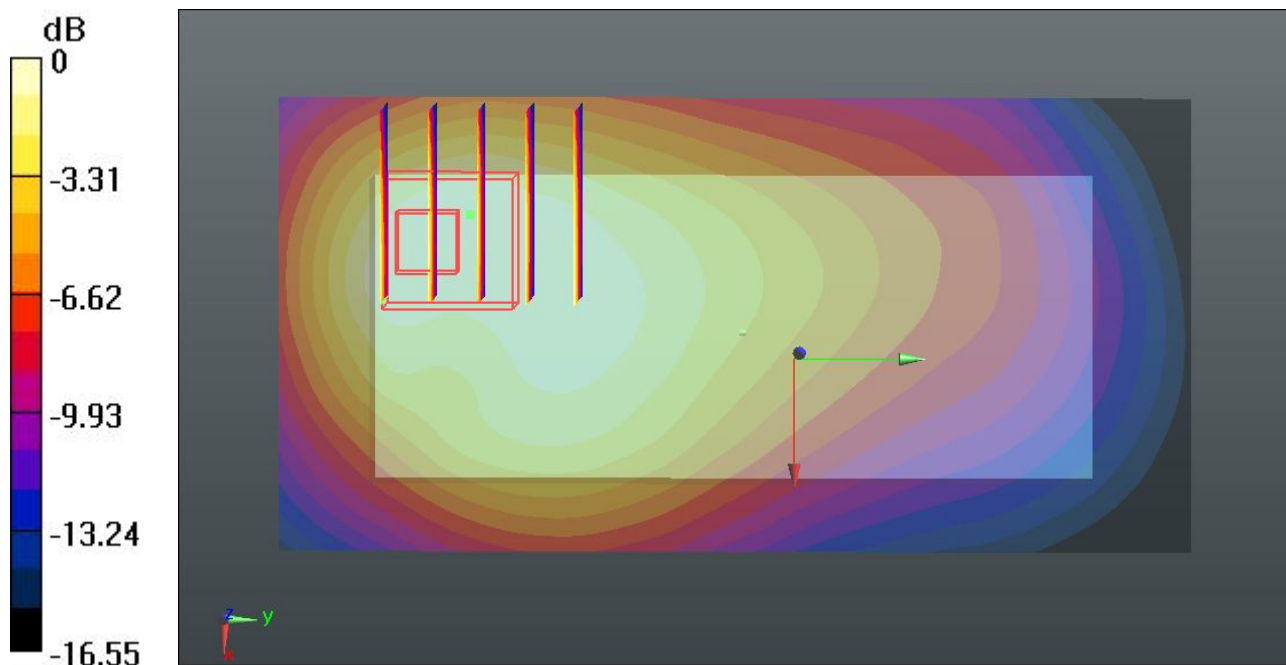
**Ch1175/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.217 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.710 mW/g

**SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.629 mW/g**

Maximum value of SAR (measured) = 1.14 mW/g



0 dB = 1.14 mW/g = 1.14 dB mW/g

**41 CDMA2000 BC14\_RC3 SO32\_Front\_1.5cm\_Ch1275\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 1913.75 MHz; Duty Cycle: 1:1

Medium: MSL\_1900\_120615 Medium parameters used:  $f = 1913.75$  MHz;  $\sigma = 1.554$  mho/m;  $\epsilon_r =$  $52.659$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.3 °C ; Liquid Temperature : 21.7 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(4.64, 4.64, 4.64); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1275/Area Scan (51x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.360 mW/g

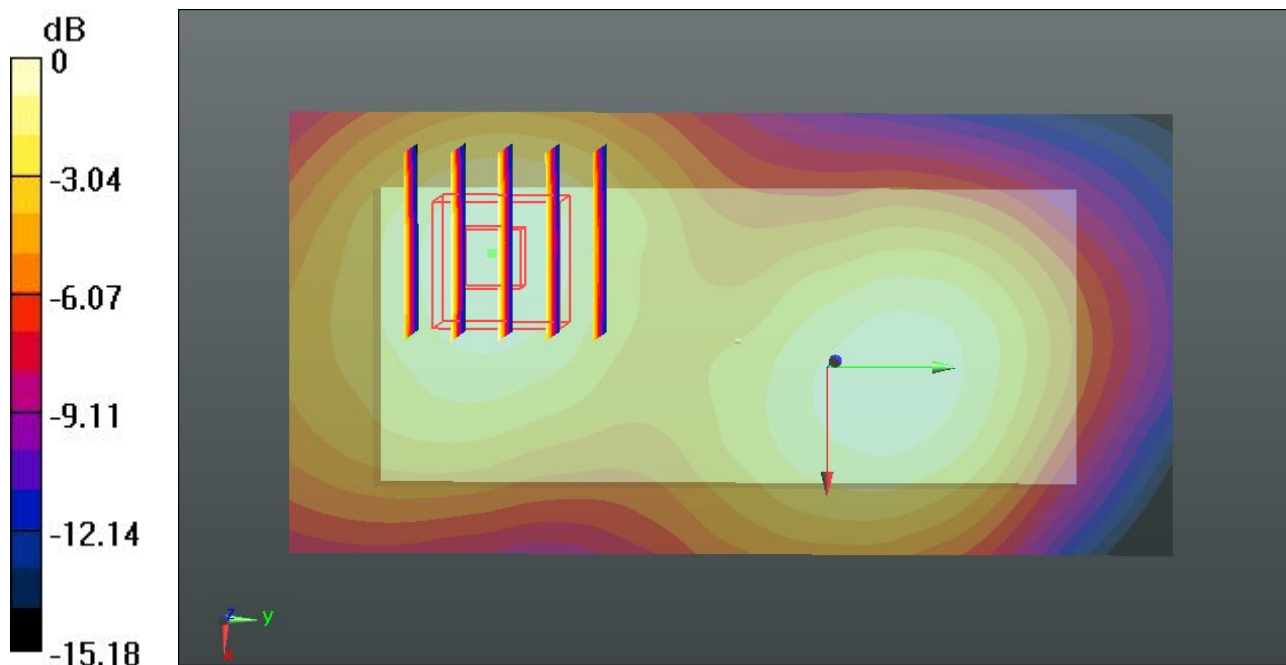
**Ch1275/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.819 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.544 mW/g

**SAR(1 g) = 0.339 mW/g; SAR(10 g) = 0.208 mW/g**

Maximum value of SAR (measured) = 0.365 mW/g



0 dB = 0.365 mW/g = -8.75 dB mW/g

**42 CDMA2000 BC14\_RC3 SO32\_Back\_1.5cm\_Ch1275\_Slide Off****DUT: 242601**

Communication System: CDMA2000; Frequency: 1913.75 MHz; Duty Cycle: 1:1

Medium: MSL\_1900\_120615 Medium parameters used:  $f = 1913.75$  MHz;  $\sigma = 1.554$  mho/m;  $\epsilon_r =$  $52.659$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.3 °C ; Liquid Temperature : 21.7 °C

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(4.64, 4.64, 4.64); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1275/Area Scan (51x101x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.01 mW/g

**Ch1275/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.206 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 1.569 mW/g

**SAR(1 g) = 0.968 mW/g; SAR(10 g) = 0.577 mW/g**

Maximum value of SAR (measured) = 1.05 mW/g

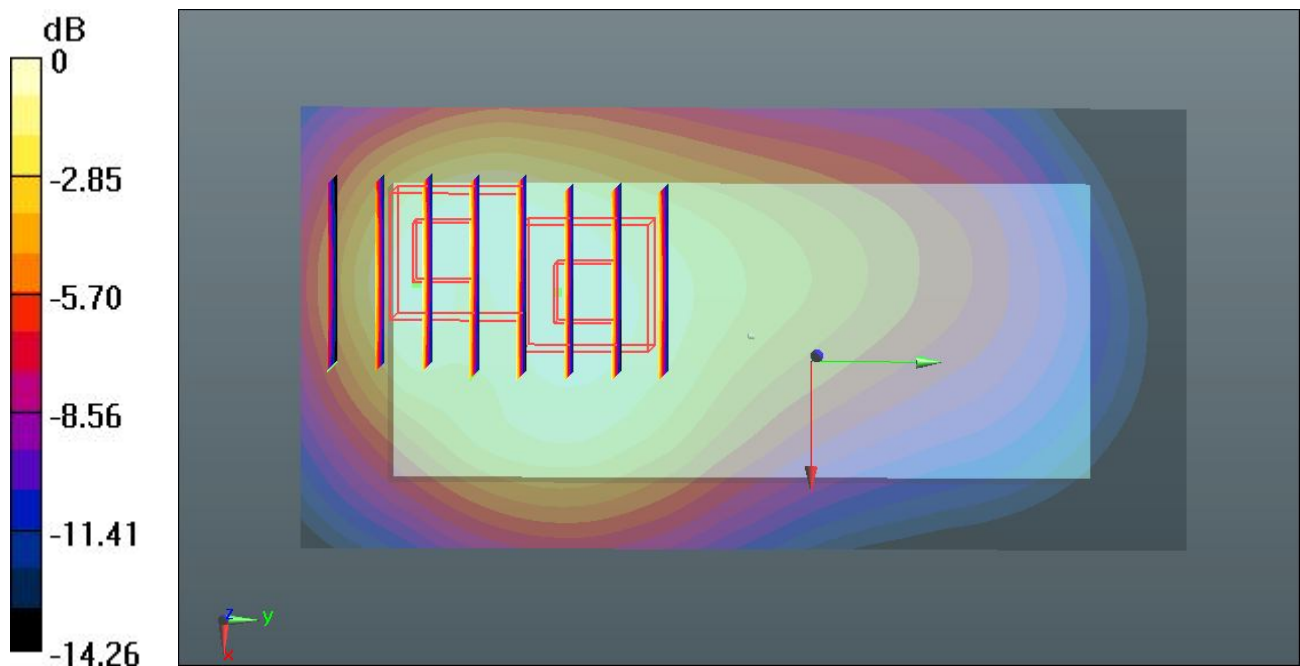
**Ch1275/Zoom Scan (5x5x7)/Cube 1:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.206 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 1.538 mW/g

**SAR(1 g) = 0.918 mW/g; SAR(10 g) = 0.560 mW/g**

Maximum value of SAR (measured) = 1.03 mW/g



## **42 CDMA2000 BC14\_RC3 SO32\_Back\_1.5cm\_Ch1275\_Slide Off\_2D**

**DUT: 242601**

Communication System: CDMA2000; Frequency: 1913.75 MHz; Duty Cycle: 1:1

Medium: MSL\_1900\_120615 Medium parameters used:  $f = 1913.75 \text{ MHz}$ ;  $\sigma = 1.554 \text{ mho/m}$ ;  $\epsilon_r =$

$52.659$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature :  $23.3 \text{ }^\circ\text{C}$ ; Liquid Temperature :  $21.7 \text{ }^\circ\text{C}$

DASY5 Configuration:

- Probe: ES3DV3 - SN3270; ConvF(4.64, 4.64, 4.64); Calibrated: 12.09.2011;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1303; Calibrated: 10.11.2011
- Phantom: SAM1; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

**Ch1275/Area Scan (51x101x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (interpolated) =  $1.01 \text{ mW/g}$

**Ch1275/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $18.206 \text{ V/m}$ ; Power Drift =  $0.15 \text{ dB}$

Peak SAR (extrapolated) =  $1.569 \text{ mW/g}$

**SAR(1 g) =  $0.968 \text{ mW/g}$ ; SAR(10 g) =  $0.577 \text{ mW/g}$**

Maximum value of SAR (measured) =  $1.05 \text{ mW/g}$

**Ch1275/Zoom Scan (5x5x7)/Cube 1:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $18.206 \text{ V/m}$ ; Power Drift =  $0.15 \text{ dB}$

Peak SAR (extrapolated) =  $1.538 \text{ mW/g}$

**SAR(1 g) =  $0.918 \text{ mW/g}$ ; SAR(10 g) =  $0.560 \text{ mW/g}$**

Maximum value of SAR (measured) =  $1.03 \text{ mW/g}$



