



OET 65

TEST REPORT

Product Name	CDMA2000 dual band mobile phone
Model	Venus
Marketing Name	one touch 909B
FCC ID	RAD210
Client	TCT Mobile Limited


TA Technology (Shanghai) Co., Ltd.

TA Technology (Shanghai) Co., Ltd.
Test Report

Report No.: RXA1204-0071SAR01R1

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GENERAL SUMMARY

Product Name	CDMA2000 dual band mobile phone	Model	Venus
Report No.	RXA1204-0071SAR01R1	FCC ID	RAD210
Client	TCT Mobile Limited		
Manufacturer	TCT Mobile Limited		
Reference Standard(s)	<p>IEEE Std C95.1, 1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radiofrequency Electromagnetic Fields, 3 kHz to 300 GHz.</p> <p>IEEE Std 1528™-2003: IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.</p> <p>SUPPLEMENT C Edition 01-01 to OET BULLETIN 65 Edition 97-01 June 2001 including DA 02-1438, published June 2002: Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields Additional Information for Evaluation Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions.</p> <p>KDB941225 D01 SAR test for 3G devices v02: SAR Measurement Procedures CDMA 20001x RTT, 1x Ev-Do, WCDMA, HSDPA/HSPA</p> <p>KDB 941225 D06 Hot Spot SAR v01 SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities</p> <p>KDB 648474 D01 SAR Handsets Multi Xmitter and Ant, v01r05: SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas.</p>		
Conclusion	<p>This portable wireless equipment has been measured in all cases requested by the relevant standards. Test results in Chapter 7 of this test report are below limits specified in the relevant standards.</p> <p>General Judgment: Pass</p> <div style="text-align: right;">  (Stamp) Date of issue: May 4th, 2012 </div>		
Comment	The test result only responds to the measured sample.		

Approved by 杨伟中
Director

Revised by 凌敏宝
SAR Manager

Performed by 张先金
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1. General Information

1.1. Notes of the Test Report

TA Technology (Shanghai) Co., Ltd. guarantees the reliability of the data presented in this test report, which is the results of measurements and tests performed for the items under test on the date and under the conditions stated in this test report and is based on the knowledge and technical facilities available at TA Technology (Shanghai) Co., Ltd. at the time of execution of the test.

TA Technology (Shanghai) Co., Ltd. is liable to the client for the maintenance by its personnel of the confidentiality of all information related to the items under test and the results of the test. This report only refers to the item that has undergone the test.

This report standalone dose not constitute or imply by its own an approval of the product by the certification Bodies or competent Authorities. This report cannot be used partially or in full for publicity and/or promotional purposes without previous written approval of **TA Technology (Shanghai) Co., Ltd.** and the Accreditation Bodies, if it applies.

If the electrical report is inconsistent with the printed one, it should be subject to the latter.

1.2. Testing Laboratory

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1.3. Applicant Information

Company: TCT Mobile Limited
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Country: P.R. China
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1.4. Manufacturer Information

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Postal Code: 201203
Country: P.R. China
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1.5. Information of EUT

General Information

Device Type:	Portable Device		
Exposure Category:	Uncontrolled Environment / General Population		
State of Sample:	Prototype Unit		
Product Name:	CDMA2000 dual band mobile phone		
MEID:	A100000868BA0A		
Hardware Version:	PIO		
Software Version:	vF84		
Antenna Type:	Internal Antenna		
Device Operating Configurations :			
Supporting Mode(s):	CDMA Cellular; (tested) CDMA PCS; (tested) 802.11b/g/n HT20; (tested) Bluetooth; (untested)		
Test Modulation:	QPSK		
Operating Frequency Range(s):	Mode	Tx (MHz)	Rx (MHz)
	CDMA Cellular	824.7 ~ 848.31	869.7 ~ 893.31
	CDMA PCS	1851.25 ~ 1908.75	1931.25 ~ 1988.75
Power Class:	CDMA Cellular: Tested with Power Control All up bits		
	CDMA PCS: Tested with Power Control All up bits		
Test Channel: (Low - Middle - High)	1013 - 384 – 777	(CDMA Cellular)	(tested)
	25 - 600 - 1175	(CDMA PCS)	(tested)
	1-6-11	(WIFI)	(tested)

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Auxiliary Equipment Details

Name	Model	Manufacturer	S/N
Battery	CAB31P0000C1	BYD	B323152791A
Headset	CCB3001A10C1	/	/

Equipment Under Test (EUT) is a CDMA2000 dual band mobile phone. The EUT has a CDMA antenna that is used for Tx/Rx, the second is GPS antenna that only can be used for Rx, and the third is BT/WIFI antenna that can be used for Tx/Rx. It has Personal Wireless Routers (hot spots) function, during the hot spot mode actived, the output power of CDMA band will be reduced, the detail of output power, please refer to chapter 7.1 of this report.

The detail about EUT and Lithium Battery is in chapter 1.5 in this report. SAR are tested for CDMA Cellular, and CDMA PCS.

The sample under test was selected by the Client.

Components list please refer to documents of the manufacturer.

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1.6. The Maximum SAR_{1g} Values

Head SAR Configuration

Mode	Channel	Position	SAR _{1g} (W/kg)
CDMA Cellular	High/777	Left, Cheek	0.767
CDMA PCS	Low/25	Right, Cheek	1.350
WiFi(802.11b)	Middle/6	Right, Cheek	0.144

Body Worn Configuration

Mode	Channel	Position	Separation distance	SAR _{1g} (W/kg)
CDMA Cellular	High/777	Back Side	15mm	0.814
CDMA PCS	Middle/600	Back Side	15mm	1.070
WiFi(802.11b)	Middle/6	Back Side	10mm	0.133

Hotspot SAR Configuration

Mode	Channel	Position	Separation distance	SAR _{1g} (W/kg)
CDMA Cellular	High/777	Back Side	10mm	0.723
CDMA PCS	Middle/600	Back Side	10mm	0.971
WiFi(802.11b)	Middle/6	Back Side	10mm	0.133

Simultaneous SAR

SAR _{1g} (W/kg) Test Position	CDMA PCS	WIFI(802.11b)	MAX. ΣSAR _{1g}
Right, Cheek	1.350	0.144	1.494

1.7. Test Date

The test performed from April 26, 2012 to May 3, 2012.

2. SAR Measurements System Configuration

2.1. SAR Measurement Set-up

The DASY4 system for performing compliance tests consists of the following items:

- A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).
- A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
- A data acquisition electronic (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- A unit to operate the optical surface detector which is connected to the EOC.
- The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY4 measurement server.
- The DASY4 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation. A computer operating Windows 2003
- DASY4 software and SEMCAD data evaluation software.
- Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
- The generic twin phantom enabling the testing of left-hand and right-hand usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- System validation dipoles allowing to validate the proper functioning of the system.

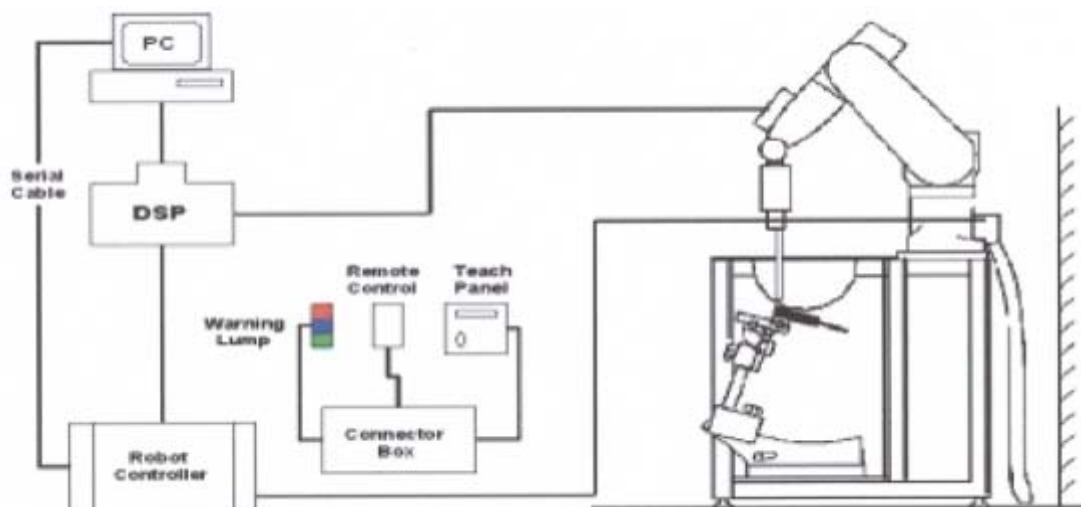


Figure 1 SAR Lab Test Measurement Set-up

2.2. DASY4 E-field Probe System

The SAR measurements were conducted with the dosimetric probe EX3DV4 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

2.2.1. EX3DV4 Probe Specification

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 μ W/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 μ W/g)
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.



Figure 2. EX3DV4 E-field Probe



Figure 3. EX3DV4 E-field probe

2.2.2. E-field Probe Calibration

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than $\pm 10\%$. The spherical isotropy was evaluated and found to be better than $\pm 0.25\text{dB}$. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies below 1 GHz, and in a wave guide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The measured free space E-field in the medium correlates to temperature rise in a dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

$$\text{SAR} = C \frac{\Delta T}{\Delta t}$$

Where: Δt = Exposure time (30 seconds),
C = Heat capacity of tissue (brain or muscle),
 ΔT = Temperature increase due to RF exposure.
Or

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

Where:
 σ = Simulated tissue conductivity,
 ρ = Tissue density (kg/m³).

2.3. Other Test Equipment

2.3.1. Device Holder for Transmitters

The DASY device holder is designed to cope with the different positions given in the standard.

It has two scales for device rotation (with respect to the body axis) and device inclination (with respect to the line between the ear reference points). The rotation centers for both scales is the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.

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.



Figure 4 Device Holder

2.3.2. Phantom

The Generic Twin Phantom is constructed of a fiberglass shell integrated in a wooden Figure. The shape of the shell is based on data from an anatomical study designed to determine the maximum exposure in at least 90% of all users. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents the evaporation of the liquid. Reference markings on the Phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot.

Shell Thickness	2±0.1 mm
Filling Volume	Approx. 20 liters
Dimensions	810 x 1000 x 500 mm (H x L x W)
Available	Special



Figure 5 Generic Twin Phantom

2.4. Scanning Procedure

The DASY4 installation includes predefined files with recommended procedures for measurements and validation. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.

- The “reference” and “drift” measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure. The indicated drift is mainly the variation of the DUT’s output power and should vary max. ± 5 %.
- The “surface check” measurement tests the optical surface detection system of the DASY4 system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above ± 0.1mm). To prevent wrong results tests are only executed when the liquid is free of air bubbles. The difference between the optical surface detection and the actual surface depends on the probe and is specified with each probe. (It does not depend on the surface reflectivity or the probe angle to the surface within ± 30°.)

- **Area Scan**

The Area Scan is used as a fast scan in two dimensions to find the area of high field values before running a detailed measurement around the hot spot. Before starting the area scan a grid

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spacing of 15 mm x 15 mm is set. During the scan the distance of the probe to the phantom remains unchanged.

After finishing area scan, the field maxima within a range of 2 dB will be ascertained.

- Zoom Scan

Zoom Scans are used to estimate the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The default Zoom Scan is done by 5x5x7 points within a cube whose base is centered around the maxima found in the preceding area scan.

- Spatial Peak Detection

The procedure for spatial peak SAR evaluation has been implemented and can determine values of masses of 1g and 10g, as well as for user-specific masses. The DASY4 system allows evaluations that combine measured data and robot positions, such as:

- maximum search
- extrapolation
- boundary correction
- peak search for averaged SAR

During a maximum search, global and local maxima searches are automatically performed in 2-D after each Area Scan measurement with at least 6 measurement points. It is based on the evaluation of the local SAR gradient calculated by the Quadratic Shepard's method. The algorithm will find the global maximum and all local maxima within -2 dB of the global maxima for all SAR distributions.

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. Several measurements at different distances are necessary for the extrapolation. Extrapolation routines require at least 10 measurement points in 3-D space. They are used in the Zoom Scan to obtain SAR values between the lowest measurement points and the inner phantom surface. The routine uses the modified Quadratic Shepard's method for extrapolation. For a grid using 5x5x7 measurement points with 8 mm resolution amounting to 175 measurement points, the uncertainty of the extrapolation routines is less than 1% for 1g and 10g cubes.

- A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube 5x5x7 scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 5mm steps.

2.5. Data Storage and Evaluation

2.5.1. Data Storage

The DASY4 software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension “.DA4”. The 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 incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated.

The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [mW/g], [mW/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

2.5.2. Data Evaluation by SEMCAD

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

Probe parameters:	- Sensitivity	Normi, a _{i0} , a _{i1} , a _{i2}
	- Conversion factor	ConvF _i
	- Diode compression point	Dcp _i
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	
	- Density	

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 DASY4 components. In the direct measuring mode of the multimeter 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.

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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:

$$V_i = U_i + U_i^2 \cdot c f / d c p_i$$

With V_i = compensated signal of channel i (i = x, y, z)

U_i = input signal of channel i (i = x, y, z)

cf = crest factor of exciting field (DASY parameter)

dcp_i = diode compression point (DASY parameter)

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

E-field probes: $E_i = (V_i / Norm_i \cdot ConvF)^{1/2}$

H-field probes: $H_i = (V_i)^{1/2} \cdot (a_{i0} + a_{i1} f + a_{i2} f^2) / f$

With V_i = compensated signal of channel i (i = x, y, z)

$Norm_i$ = sensor sensitivity of channel i (i = x, y, z)
[mV/(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):

$$E_{tot} = (E_x^2 + E_y^2 + E_z^2)^{1/2}$$

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

$$SAR = (E_{tot})^2 \cdot \sigma / (\rho \cdot 1000)$$

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with **SAR** = local specific absorption rate in mW/g

E_{tot} = total field strength in V/m

σ = conductivity in [mho/m] or [Siemens/m]

ρ = equivalent tissue density in g/cm³

Note that the density is normally set to 1 (or 1.06), to account for actual brain density rather than the density of the simulation liquid. The power flow density is calculated assuming the excitation field to be a free space field.

$$P_{pwe} = E_{tot}^2 / 3770 \quad \text{or} \quad P_{pwe} = H_{tot}^2 \cdot 37.7$$

with **P_{pwe}** = equivalent power density of a plane wave in mW/cm²

E_{tot} = total electric field strength in V/m

H_{tot} = total magnetic field strength in A/m

3. Laboratory Environment

Table 1: The Requirements of the Ambient Conditions

Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards.	
Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

4. Tissue-equivalent Liquid

4.1. Tissue-equivalent Liquid Ingredients

The liquid is consisted of water, salt, Glycol, Sugar, Preventol and Cellulose. The liquid has previously been proven to be suited for worst-case. The table 2 and table 3 show the detail solution. It's satisfying the latest tissue dielectric parameters requirements proposed by the OET 65.

Table 2: Composition of the Head Tissue Equivalent Matter

MIXTURE%	FREQUENCY(Brain) 835MHz
Water	41.45
Sugar	56
Salt	1.45
Preventol	0.1
Cellulose	1.0
Dielectric Parameters Target Value	f=835MHz $\epsilon=41.5$ $\sigma=0.9$

MIXTURE%	FREQUENCY(Brain) 1900MHz
Water	55.242
Glycol monobutyl	44.452
Salt	0.306
Dielectric Parameters Target Value	f=1900MHz $\epsilon=40.0$ $\sigma=1.40$

MIXTURE%	FREQUENCY(Brain) 2450MHz
Water	62.7
Glycol	36.8
Salt	0.5
Dielectric Parameters Target Value	f=2450MHz $\epsilon=39.20$ $\sigma=1.80$

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Table 3: Composition of the Body Tissue Equivalent Matter

MIXTURE%	FREQUENCY(Body) 835MHz
Water	52.5
Sugar	45
Salt	1.4
Preventol	0.1
Cellulose	1.0
Dielectric Parameters Target Value	f=835MHz $\epsilon=55.2$ $\sigma=0.97$

MIXTURE%	FREQUENCY (Body) 1900MHz
Water	69.91
Glycol monobutyl	29.96
Salt	0.13
Dielectric Parameters Target Value	f=1900MHz $\epsilon=53.3$ $\sigma=1.52$

MIXTURE%	FREQUENCY(Body) 2450MHz
Water	73.2
Glycol	26.7
Salt	0.1
Dielectric Parameters Target Value	f=2450MHz $\epsilon=52.70$ $\sigma=1.95$

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4.2. Tissue-equivalent Liquid Properties

Table 4: Dielectric Performance in Head Tissue Simulating Liquid

Frequency	Description	Dielectric Parameters		Temp °C
		ϵ_r	σ (s/m)	
835MHz (head)	Target value ± 5% window	41.50 39.43 — 43.58	0.90 0.86 — 0.95	22.0
	Measurement value 2012-4-27	42.3	0.888	21.5
1900MHz (head)	Target value ±5% window	40.00 38.00 — 42.00	1.40 1.33 — 1.47	22.0
	Measurement value 2012-4-27	40.1	1.39	21.5
2450MHz (head)	Target value ±5% window	39.20 37.24 — 41.16	1.80 1.71 — 1.89	22.0
	Measurement value 2012-5-2	38.3	1.88	21.5

Table 5: Dielectric Performance in Body Tissue Simulating Liquid

Frequency	Description	Dielectric Parameters		Temp °C
		ϵ_r	σ (s/m)	
835MHz (body)	Target value ±5% window	55.20 52.44 — 57.96	0.97 0.92 — 1.02	22.0
	Measurement value 2012-4-27	54.3	0.986	21.5
1900MHz (body)	Target value ±5% window	53.30 50.64 — 55.97	1.52 1.44 — 1.60	22.0
	Measurement value 2012-4-26	52	1.56	21.5
2450MHz (body)	Target value ±5% window	52.70 50.07 — 55.34	1.95 1.85 — 2.05	22.0
	Measurement value 2012-4-27	51.7	1.90	21.5
	Measurement value 2012-5-3	52	1.97	21.5

5. System Check

5.1. Description of System Check

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulates were measured every day using the dielectric probe kit and the network analyzer. A system check measurement was made following the determination of the dielectric parameters of the simulates, using the dipole validation kit. A power level of 250 mW was supplied to the dipole antenna, which was placed under the flat section of the twin SAM phantom. The system check results (dielectric parameters and SAR values) are given in the table 6 and table 7.

System check results have to be equal or near the values determined during dipole calibration with the relevant liquids and test system ($\pm 10\%$).

System check is performed regularly on all frequency bands where tests are performed with the DASY4 system.

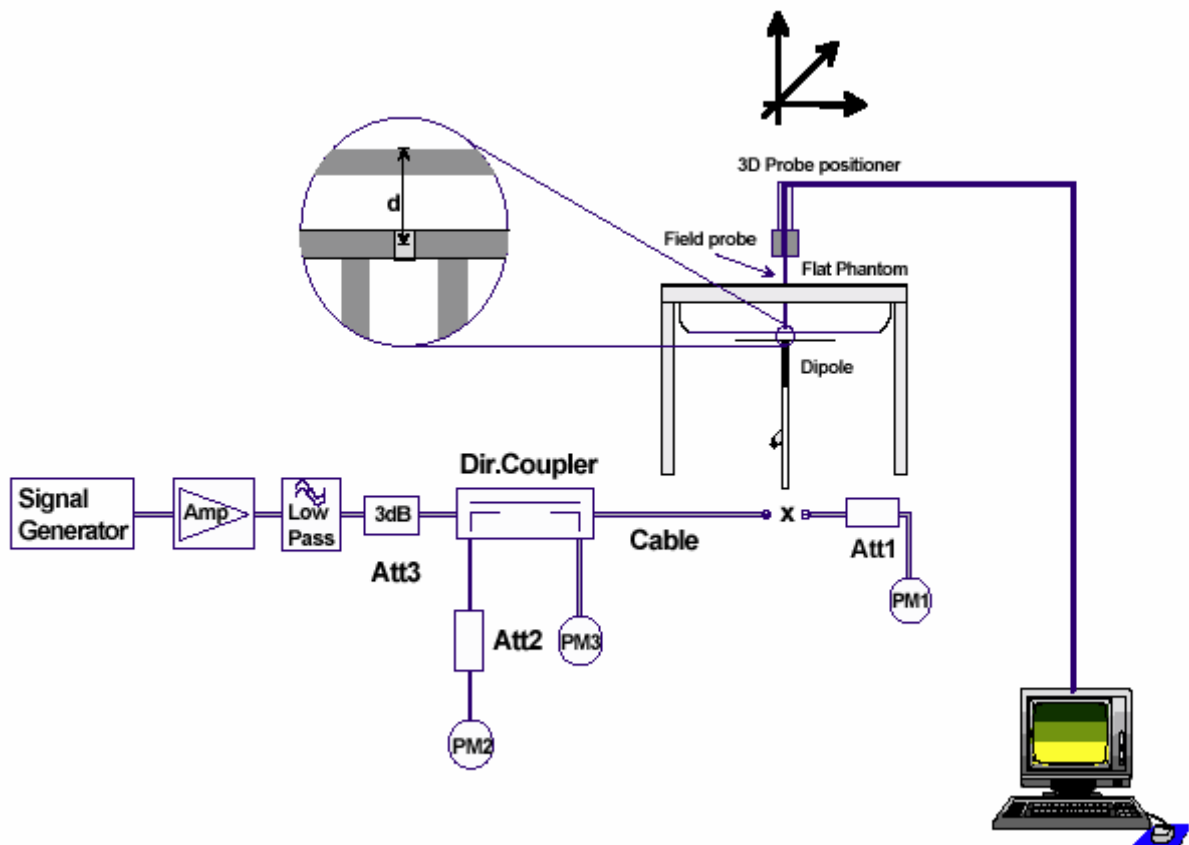


Figure 6 System Check Set-up

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5.2. System Check Results

Table 6: System Check in Head Tissue Simulating Liquid

Frequency	Test Date	Dielectric Parameters		Temp (°C)	250mW Measured SAR _{1g}	1W Normalized SAR _{1g}	1W Target SAR _{1g} (±10% deviation)
		ε _r	σ(s/m)				
835MHz	2012-4-27	42.3	0.888	21.5	2.45	9.8	9.34 (8.41~10.27)
1900MHz	2012-4-27	40.1	1.39	21.5	9.8	39.2	40.30 (36.27~ 44.33)
2450MHz	2012-5-2	38.3	1.88	21.5	13.4	53.6	53.80 (48.42~ 59.18)

Note: 1. The graph results see ANNEX B.
2. Target Values derive from the calibration certificate

Table 7: System Check in Body Tissue Simulating Liquid

Frequency	Test Date	Dielectric Parameters		Temp (°C)	250mW Measured SAR _{1g}	1W Normalized SAR _{1g}	1W Target SAR _{1g} (±10% deviation)
		ε _r	σ(s/m)				
835MHz	2012-4-27	54.3	0.986	21.5	2.52	10.08	9.46 (8.51~10.41)
1900MHz	2012-4-26	52	1.56	21.5	10.6	42.4	41.70 (37.53~45.87)
2450MHz	2012-4-27	51.7	1.9	21.5	12.9	51.6	51.70 (46.53~56.87)
	2012-5-3	52	1.97	21.5	13.5	54	

Note: 1. The graph results see ANNEX B.
2. Target Values derive from the calibration certificate

6. Operational Conditions during Test

6.1. General Description of Test Procedures

A communication link is set up with a System Simulator (SS) by air link, and a call is established. The Absolute Radiofrequency Channel Number (ARFCN) is allocated to 1013, 384 and 777 respectively in the case of CDMA Cellular, to 25, 600 and 1175 respectively in the case of CDMA PCS. The EUT is commanded to operate at maximum transmitting power.

Connection to the EUT is established via air interface with E5515C, and the EUT is set to maximum output power by E5515C. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output. The antenna connected to the output of the base station simulator shall be placed at least 50 cm away from the EUT. The signal transmitted by the simulator to the antenna feeding point shall be lower than the output power level of the EUT by at least 30 dB.

6.2. Test Positions

6.2.1. Against Phantom Head

Measurements were made in "cheek" and "tilt" positions on both the left hand and right hand sides of the phantom.

The positions used in the measurements were according to IEEE 1528 - 2003 "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate(SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques".

6.2.2. Body Worn Configuration

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations. Devices with a headset output should be tested with a headset connected to the device. When Hotspot off, the distance between the device and the phantom was kept 15mm.

When Hotspot on, Based upon KDB941225 D06 V01, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested. The distance between the device and the phantom was kept 10mm of wireless routers.

6.3. Test Configuration

6.3.1. Information for the Measurement of CDMA 1x Devices

6.3.1.1. Output Power Verification

Test Parameter setup for maximum RF output power according to section 4.4.5 of 3GPP2

Parameter	Units	Value
I or	dBm/1.23MHz	-104
PilotE c /I or	dB	-7
TrafficE c /I or	dB	-7.4

For SAR test, the maximum power output is very important and essential; it is identical under the measurement uncertainty. It is proper to use typical Test Mode 3 (FW RC3, RVS RC3, SO55) as the worst case for SAR test.

6.3.1.2. Head SAR Measurements

SAR is measured in RC3 with the DUT configured to transmit at full rate using Loopback Service Option SO55. SAR for RC1 is not required because the maximum average output of each channel is less than 0.25 dB higher than that measured in RC3. Otherwise, SAR is measured on the maximum output channel in RC1 using the exposure configuration that results in the highest SAR for that channel in RC3.

6.3.1.3. Body SAR Measurements

SAR is measured in RC3 with the EUT configured to transmit at full rate using TDSO/SO32, transmit at full rate on FCH with all other code channels disabled. SAR for multiple code channels (FCH+SCHn) is not required when the maximum average output of each RF channel is less than 0.25dB higher than measured with FCH only.

Body SAR in RC1 is not required because the maximum average output of each channel is less than 0.25 dB higher than that measured in RC3. Otherwise, SAR is measured on the maximum output channel in RC1; with Loopback Service Option SO55, at full rate using the body exposure configuration that results in the highest SAR for that channel in RC3.

Test communication setup meet as followings:

Communication standard between mobile station and base station simulator	3GPP2 C.S0011-B
Radio configuration	RC3 (Supporting CDMA 1X)
Spreading Rate	SR1
Data Rate	9600bps
Service Options	SO55 (loop back mode)
Service Options	SO32 (test data service mode)
Multiplex Options	The mobile station does not support this service.

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6.3.2. Handsets with Ev-Do

For handsets with Ev-Do capabilities, when the maximum average output of each channel in Rev. 0 is less than $\frac{1}{4}$ dB higher than that measured in RC3 (1x RTT), body SAR for Ev-Do is not required. Otherwise, SAR for Rev. 0 is measured on the maximum output channel, at 153.6 kbps using the body exposure configuration that results in the highest SAR for that channel in RC3. SAR for Rev. A is not required when the maximum average output of each channel is less than that measured in Rev. 0 or less than $\frac{1}{4}$ dB higher than that measured in RC3. Otherwise, SAR is measured on the maximum output channel for Rev. A using a Reverse Data Channel payload size of 4096 bits and a Termination Target of 16 slots defined for Subtype 2 Physical Layer configurations. A Forward Traffic Channel data rate corresponding to the 2-slot version of 307.2 kbps with the ACK Channel transmitting in all slots should be configured in the downlink for both Rev. 0 and Rev. A.

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6.3.3. WIFI Test Configuration

For WLAN SAR testing, WLAN engineering testing software installed on the EUT can provide continuous transmitting RF signal. This RF signal utilized in SAR measurement has almost 100% duty cycle and its crest factor is 1.

For the 802.11b/g SAR tests, a communication link is set up with the test mode software for WIFI mode test. The Absolute Radio Frequency Channel Number (ARFCN) is allocated to 1, 6 and 11 respectively in the case of 2450 MHz. During the test, at the each test frequency channel, the EUT is operated at the RF continuous emission mode.

802.11b/g operating modes are tested independently according to the service requirements in each frequency band. 802.11b/g modes are tested on channels 1, 6, 11; however, if output power reduction is necessary for channels 1 and /or 11 to meet restricted band requirements the highest output channels closest to each of these channels must be tested instead.

SAR is not required for 802.11g channels when the maximum average output power is less than 0.25dB higher than that measured on the corresponding 802.11b channels. When the maximum average output channel in each frequency band is not included in the “default test channels”, the maximum channel should be tested instead of an adjacent “default test channels”, these are referred to as the “required test channels” and are illustrated in table 8.

Table 8: “Default Test Channels”

Mode	GHz	Channel	Turbo Channel	“Default Test Channels”			
				15.247		UNII	
				802.11b	802.11g		
802.11b/g	2.412	1 [#]		√	*		
	2.437	6	6	√	*		
	2.462	11 [#]		√	*		

Note: [#]=when output power is reduced for channel 1 and /or 11 to meet restricted band requirements the highest out put channels closet to each of these channels should be tested.
 √= “default test channels”
 * =possible 802.11g channels with maximum average output 0.25dB>=the “default test channels”

”

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7. Test Results

7.1. Conducted Power Results

Table 9: Conducted Power Measurement Results

Hot Spots Off

CDMA Cellular	Conducted Power(dBm)		
	Channel 1013	Channel 384	Channel 777
RC3	24.48	24.73	24.41
RC1	24.38	24.63	24.35
EVDO.0	24.43	24.5	24.4
EVDO.A	24.59	24.7	24.58
CDMA PCS	Conducted Power(dBm)		
	Channel 25	Channel 600	Channel 1175
RC3	24.59	24.74	24.68
RC1	24.67	24.8	24.72
EVDO.0	24.52	24.68	24.53
EVDO.A	24.66	24.83	24.61

Hot Spots On

CDMA Cellular	Conducted Power(dBm)		
	Channel 1013	Channel 384	Channel 777
RC3	23.09	23.24	23.04
RC1	23	23.2	22.95
EVDO.0	23.02	22.97	22.9
EVDO.A	23.19	23.38	23.18
CDMA PCS	Conducted Power(dBm)		
	Channel 25	Channel 600	Channel 1175
RC3	21.85	21.92	21.85
RC1	21.8	21.86	21.84
EVDO.0	21.76	21.87	21.7
EVDO.A	21.95	22.12	22.03

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7.2. SAR Test Results

7.2.1. CDMA Cellular

Table 10: SAR Values (CDMA Cellular)

Limit of SAR		10 g Average	1 g Average	Power Drift	Graph Results
		2.0 W/kg	1.6 W/kg	± 0.21 dB	
Different Test Position	Channel	Measurement Result(W/kg)		Power Drift (dB)	
		10 g Average	1 g Average		
Test Position of Head (Hot Spots Off)					
Left hand, Touch cheek	High/777	0.574	0.767	-0.036	Figure 14
	Middle/384	0.567	0.754	0.088	Figure 15
	Low/1013	0.409	0.546	0.095	Figure 16
Left hand, Tilt 15 Degree	High/777	0.355	0.471	0.004	Figure 17
	Middle/384	0.346	0.454	-0.172	Figure 18
	Low/1013	0.246	0.323	-0.066	Figure 19
Right hand, Touch cheek	High/777	0.552	0.723	-0.078	Figure 20
	Middle/384	0.557	0.724	-0.089	Figure 21
	Low/1013	0.416	0.541	0.134	Figure 22
Right hand, Tilt 15 Degree	High/777	0.338	0.449	0.097	Figure 23
	Middle/384	0.394	0.524	-0.190	Figure 24
	Low/1013	0.272	0.355	0.120	Figure 25
Test Position of Body with HotSpot On(Distance 10mm)					
Back Side	High/777	0.536	0.723	0.046	Figure 26
	Middle/384	0.525	0.708	-0.175	Figure 27
	Low/1013	0.518	0.698	0.012	Figure 28
Front Side	Middle/384	0.457	0.612	0.010	Figure 29
Left Edge	Middle/384	0.252	0.365	0.005	Figure 30
Right Edge	Middle/384	0.272	0.392	-0.002	Figure 31
Top Edge	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Middle/384	0.030	0.047	-0.023	Figure 32

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Test Position of Body with HotSpot Off(Distance 15mm)					
Back Side	High/777	0.602	0.814	-0.008	Figure 33
	Middle/384	0.589	0.801	0.021	Figure 34
	Low/1013	0.551	0.741	0.045	Figure 35
Front Side	Middle/384	0.478	0.641	-0.074	Figure 36
Worst Case Position of Body with Earphone (Distance 15mm)					
Back Side	High/777	0.429	0.589	-0.066	Figure 37
<p>Note: 1. The value with blue color is the maximum SAR Value of each test band.</p> <p>2. The Head SAR test shall be performed at the high, middle and low frequency channels of each operating mode.</p> <p>3. The Body SAR test firstly shall be performed at the highest output power channel of each operating mode. If the SAR measured at highest output power channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8W/kg), testing at the other channels is optional, and also other channel were measured at the worst case</p> <p>4. WWAN antenna is located at bottom edge; antenna-to-top edge distance is more than 2.5 cm (see ANNEX I). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.</p>					

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7.2.2. CDMA PCS

Table 11: SAR Values (CDMA PCS)

Limit of SAR		10 g Average	1 g Average	Power Drift	Graph Results
		2.0 W/kg	1.6 W/kg	± 0.21 dB	
Different Test Position	Channel	Measurement Result(W/kg)		Power Drift (dB)	
		10 g Average	1 g Average		
Test Position of Head (Hot Spots Off)					
Left hand, Touch cheek	High/1175	0.568(max.cube)	0.922(max.cube)	0.004	Figure 38
	Middle/600	0.669(max.cube)	1.080(max.cube)	0.026	Figure 39
	Low/25	0.779(max.cube)	1.250(max.cube)	0.032	Figure 40
Left hand, Tilt 15 Degree	High/1175	0.337	0.547	0.005	Figure 41
	Middle/600	0.376	0.604	-0.048	Figure 42
	Low/25	0.392	0.620	0.055	Figure 43
Right hand, Touch cheek	High/1175	0.669	1.110	0.018	Figure 44
	Middle/600	0.789	1.300	0.056	Figure 45
	Low/25	0.829	1.350	0.124	Figure 46
Right hand, Tilt 15 Degree	High/1175	0.298	0.504	0.007	Figure 47
	Middle/600	0.344	0.568	0.017	Figure 48
	Low/25	0.341	0.557	0.011	Figure 49
Test Position of Body with Hot Spots On(Distance 10mm)					
Back Side	High/1175	0.512	0.833	0.069	Figure 50
	Middle/600	0.589	0.971	0.078	Figure 51
	Low/25	0.545	0.899	0.086	Figure 52
Front Side	Middle/600	0.441	0.733	-0.094	Figure 53
Left Edge	Middle/600	0.159	0.268	0.035	Figure 54
Right Edge	Middle/600	0.130	0.218	-0.065	Figure 55
Top Edge	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Middle/600	0.265	0.476	-0.047	Figure 56
Test Position of Body with Hot Spots Off(Distance 15mm)					

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Back Side	High/1175	0.632	1.020	0.015	Figure 57
	Middle/600	0.660	1.070	-0.008	Figure 58
	Low/25	0.657	1.070	-0.130	Figure 59
Front Side	Middle/600	0.478	0.769	-0.002	Figure 60
Worst Case Position of Body with Earphone (Distance 15mm)					
Back Side	Middle/600	0.546	0.875	-0.014	Figure 61

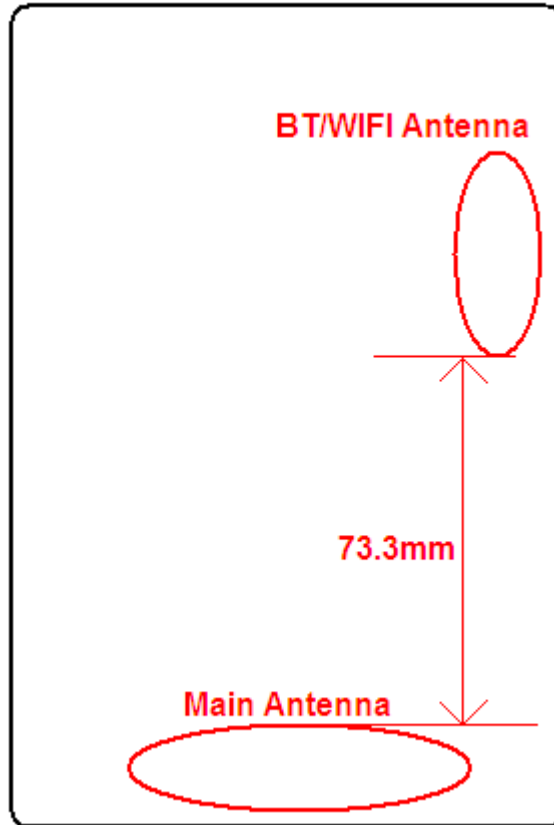
Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. The Head SAR test shall be performed at the high, middle and low frequency channels of each operating mode.
3. The Body SAR test firstly shall be performed at the highest output power channel of each operating mode. If the SAR measured at highest output power channel for each test configuration is at least 3.0 dB lower than the SAR limit ($< 0.8W/kg$), testing at the other channels is optional, and also other channel were measured at the worst case
4. WWAN antenna is located at bottom edge; antenna-to-top edge distance is more than 2.5 cm (see ANNEX I). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.
5. The (max.cube) labeling indicates that during the grid scanning an additional peak was found which was within 2.0dB of the highest peak. The value of the highest cube is given in the table above.

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7.2.3. Bluetooth/WiFi Function

The distance between BT/WIFI antenna and CDMA antenna is >5cm. The location of the antennas inside EUT is shown in Annex I:



The output power of BT antenna is as following:

Channel	Ch 0 2402 MHz	Ch 39 2441 MHz	Ch 78 2480 MHz
Conducted Output Power (dBm)	3.14	4.52	4.79

The output power of WIFI antenna is as following:

Mode	Channel	Data rate	AV Power (dBm)
11b	1	1 Mbps	13.53
		2 Mbps	13.68
		5.5 Mbps	13.73
		11 Mbps	13.31
	6	1 Mbps	13.60
		2 Mbps	13.84

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		5.5 Mbps	13.80	
		11 Mbps	13.40	
		11	1 Mbps	13.52
			2 Mbps	13.73
			5.5 Mbps	13.77
			11 Mbps	13.41
			6 Mbps	12.52
11g	1	9 Mbps	12.39	
		12 Mbps	12.30	
		18 Mbps	11.97	
		24 Mbps	11.69	
		36 Mbps	11.34	
		48 Mbps	11.01	
		54 Mbps	11.01	
		6	6 Mbps	12.62
	9 Mbps		12.46	
	12 Mbps		12.35	
	18 Mbps		12.06	
	24 Mbps		12.12	
	36 Mbps		11.61	
	48 Mbps		11.03	
	54 Mbps		10.91	
	11	6 Mbps	12.83	
		9 Mbps	12.75	
		12 Mbps	12.65	
		18 Mbps	12.45	
		24 Mbps	12.23	
		36 Mbps	11.86	
		48 Mbps	11.54	
		54 Mbps	11.33	
	11n HT20	1	MCS0	11.03
MCS1			11.00	
MCS2			10.72	
MCS3			11.00	

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		MCS4	10.88
		MCS5	10.73
		MCS6	10.66
		MCS7	10.68
	6	MCS0	11.24
		MCS1	10.94
		MCS2	10.92
		MCS3	10.95
		MCS4	10.90
		MCS5	10.95
		MCS6	10.74
		MCS7	10.73
	11	MCS0	11.21
		MCS1	11.18
		MCS2	11.13
		MCS3	11.14
		MCS4	11.49
		MCS5	11.12
		MCS6	11.21
		MCS7	11.14
	<p>Note: 1. KDB 248227-SAR is not required for 802.11g/n HT20 channels when the maximum average output power is less than ¼ dB higher than measured on the corresponding 802.11b channels.</p>		

Output Power Thresholds for Unlicensed Transmitters

	2.45	5.15 - 5.35	5.47 - 5.85	GHz
P_{Ref}	12	6	5	mW
<p>Device output power should be rounded to the nearest mW to compare with values specified in this table.</p>				

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Stand-alone SAR

According to the output power measurement result and the distance between BT/WIFI antenna and CDMA antenna we can draw the conclusion that:

Stand-alone SAR are required for WIFI, because WIFI antenna is >5cm from other antennas and the output power of WIFI transmitter is $>2P_{Ref}=13.8\text{dBm}$

Table 12: SAR Values (802.11b)

Limit of SAR (W/kg)		10 g Average	1g Average	Power Drift (dB)	Graph Results
		2.0	1.6	± 0.21	
Different Test Position	Channel	Measurement Result(W/kg)		Power Drift (dB)	
		10 g Average	1g Average		
Test Position of Head					
Left hand, Touch cheek	Middle/6	0.047	0.086	0.172	Figure 62
Left hand, Tilt 15 Degree	Middle/6	0.045	0.090	0.089	Figure 63
Right hand, Touch cheek	Middle/6	0.071	0.144	0.142	Figure 64
Right hand, Tilt 15 Degree	Middle/6	0.055	0.103	0.123	Figure 65
Test position of Body (Distance 10mm)					
Back Side	Middle/6	0.071	0.133	0.079	Figure 66
Front Side	Middle/6	0.024	0.041	0.094	Figure 67
Left Edge	Middle/6	0.038	0.072	0.172	Figure 68
Right Edge	N/A	N/A	N/A	N/A	N/A
Top Edge	Middle/6	0.020	0.036	0.003	Figure 69
Bottom Edge	N/A	N/A	N/A	N/A	N/A

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. SAR test at the channel with maximum averaged output power, if the SAR value is at least 3.0 dB lower than the SAR limit ($< 0.8\text{W/kg}$), testing at the other channels is optional.
3. WLAN antenna is located at Left edge, near to Top edge; antenna-to- Right/Bottom edge distance are more than 2.5 cm (see ANNEX I). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.
4. KDB 248227-SAR is not required for 802.11g/n HT20 channels when the maximum average output power is less than $\frac{1}{4}$ dB higher than measured on the corresponding 802.11b channels.

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BT antenna is >5cm from CDMA antenna, stand-alone SAR is not required for BT, because the output power of BT transmitter is $\leq 2P_{Ref} = 13.8\text{dBm}$.

BT antenna is <2.5cm from WIFI antenna and the output power of BT transmitter is $\leq P_{Ref} = 10.8\text{dBm}$, stand-alone SAR is not required for BT, because $SAR_{MAX,WIFI} \leq 1.2\text{W/Kg}$.

Simultaneous SAR

About WIFI and CDMA Antenna

SAR _{1g} (W/kg) Test Position	CDMA Cellular	CDMA PCS	WIFI	MAX. Σ SAR _{1g}
Left hand, Touch cheek	0.767	1.250	0.086	1.336
Left hand, Tilt 15 Degree	0.471	0.620	0.090	0.71
Right hand, Touch cheek	0.724	1.350	0.144	1.494
Right hand, Tilt 15 Degree	0.524	0.568	0.103	0.671
Body, Back Side	0.814	1.070	0.133	1.203
Body, Front Side	0.641	0.769	0.041	0.81
Body, Left Edge	0.365	0.362	0.072	0.437
Body, Right Edge	0.392	0.286	N/A	0.392
Body, Top Edge	N/A	N/A	0.036	0.036
Body, Bottom Edge	0.070	0.597	N/A	0.597
<p>Note: 1. The value with blue color is the maximum ΣSAR_{1g} Value. 2. MAX. ΣSAR_{1g} = Unlicensed SAR_{MAX} + Licensed SAR_{MAX}</p>				

WIFI antenna is >5cm from CDMA Antenna. (CDMA Antenna SAR_{MAX})1.350 +(WIFI Antenna SAR_{MAX})0.144 =1.494 <1.6. So the Simultaneous SAR are not required for WIFI and CDMA antenna.

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About BT and CDMA Antenna,

SAR _{1g} (W/kg) Test Position	CDMA Cellular	CDMA PCS	BT	MAX. Σ SAR _{1g}
Left hand, Touch cheek	0.767	1.250	0	1.250
Left hand, Tilt 15 Degree	0.471	0.620	0	0.620
Right hand, Touch cheek	0.724	1.350	0	1.350
Right hand, Tilt 15 Degree	0.524	0.568	0	0.568
Body, Back Side	0.814	1.070	0	1.070
Body, Front Side	0.641	0.769	0	0.769
Body, Left Edge	0.365	0.362	0	0.365
Body, Right Edge	0.392	0.286	0	0.392
Body, Top Edge	N/A	N/A	0	0
Body, Bottom Edge	0.070	0.597	0	0.597

Note: 1. The value with blue color is the maximum Σ SAR_{1g} Value.

2. MAX. Σ SAR_{1g} =Unlicensed SAR_{MAX} +Licensed SAR_{MAX}

3. Stand alone SAR for WIFI is not required. Its SAR is considered 0 in the 1-g SAR summing process to determine simultaneous transmission SAR evaluation requirements.

BT antenna is >5cm from CDMA Antenna. (CDMA Antenna SAR_{MAX})1.350 +(BT Antenna SAR_{MAX})0 =1.350 <1.6. So the Simultaneous SAR are not required for BT and CDMA antenna.

About BT and WIFI Antenna, BT antenna is <2.5cm from WIFI Antenna. (BT Antenna SAR_{MAX}) 0 +(WIFI Antenna SAR_{MAX}) 0.144 =0.144 <1.6, So the Simultaneous SAR are not required for WIFI and BT Antenna.

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8. Measurement Uncertainty

No.	source	Type	Uncertainty Value (%)	Probability Distribution	k	c _i	Standard uncertainty u _i (%)	Degree of freedom V _{eff} or V _i
1	System repetivity	A	0.5	N	1	1	0.5	9
Measurement system								
2	-probe calibration	B	6.0	N	1	1	6.0	∞
3	-axial isotropy of the probe	B	4.7	R	$\sqrt{3}$	$\sqrt{0.5}$	1.9	∞
4	- Hemispherical isotropy of the probe	B	9.4	R	$\sqrt{3}$	$\sqrt{0.5}$	3.9	∞
6	-boundary effect	B	1.9	R	$\sqrt{3}$	1	1.1	∞
7	-probe linearity	B	4.7	R	$\sqrt{3}$	1	2.7	∞
8	- System detection limits	B	1.0	R	$\sqrt{3}$	1	0.6	∞
9	-readout Electronics	B	1.0	N	1	1	1.0	∞
10	-response time	B	0	R	$\sqrt{3}$	1	0	∞
11	-integration time	B	4.32	R	$\sqrt{3}$	1	2.5	∞
12	-noise	B	0	R	$\sqrt{3}$	1	0	∞
13	-RF Ambient Conditions	B	3	R	$\sqrt{3}$	1	1.73	∞
14	-Probe Positioner Mechanical Tolerance	B	0.4	R	$\sqrt{3}$	1	0.2	∞
15	-Probe Positioning with respect to Phantom Shell	B	2.9	R	$\sqrt{3}$	1	1.7	∞
16	-Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	B	3.9	R	$\sqrt{3}$	1	2.3	∞
Test sample Related								
17	-Test Sample Positioning	A	2.9	N	1	1	2.9	71
18	-Device Holder Uncertainty	A	4.1	N	1	1	4.1	5
19	-Output Power Variation - SAR drift measurement	B	5.0	R	$\sqrt{3}$	1	2.9	∞
Physical parameter								
20	-phantom	B	4.0	R	$\sqrt{3}$	1	2.3	∞

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21	-liquid conductivity (deviation from target)	B	5.0	R	$\sqrt{3}$	0.64	1.8	∞
22	-liquid conductivity (measurement uncertainty)	B	2.5	N	1	0.64	1.6	9
23	-liquid permittivity (deviation from target)	B	5.0	R	$\sqrt{3}$	0.6	1.7	∞
24	-liquid permittivity (measurement uncertainty)	B	2.5	N	1	0.6	1.5	9
Combined standard uncertainty		$u_c = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$					12.16	
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$		N	k=2	23.00		

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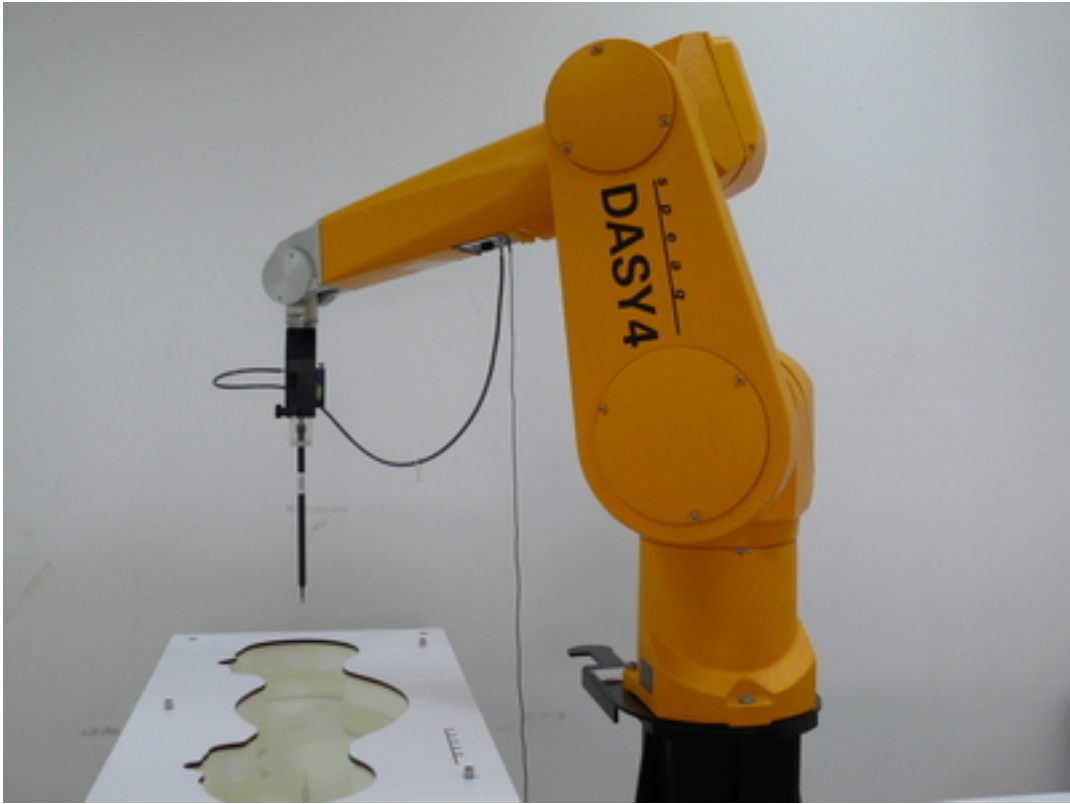
9. Main Test Instruments

Table 13: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	Agilent 8753E	US37390326	September 12, 2011	One year
02	Dielectric Probe Kit	Agilent 85070E	US44020115	No Calibration Requested	
03	Power meter	Agilent E4417A	GB41291714	March 11, 2012	One year
04	Power sensor	Agilent N8481H	MY50350004	September 25, 2011	One year
05	Power sensor	E9327A	US40441622	September 24, 2011	One year
06	Signal Generator	HP 8341B	2730A00804	September 12, 2011	One year
07	Dual directional coupler	778D-012	50519	March 26, 2012	One year
08	Dual directional coupler	777D	50146	March 26, 2012	One year
09	Amplifier	IXA-020	0401	No Calibration Requested	
10	BTS	E5515C	MY48360988	December 2, 2011	One year
11	E-field Probe	EX3DV4	3816	October 3, 2011	One year
12	DAE	DAE4	1317	January 23, 2012	One year
13	Validation Kit 835MHz	D835V2	4d020	August 26, 2011	One year
14	Validation Kit 1900MHz	D1900V2	5d060	August 31, 2011	One year
15	Validation Kit 2450MHz	D2450V2	786	August 29, 2011	One year
16	Temperature Probe	JM222	AA1009129	March 15, 2012	One year
17	Hygrothermograph	WS-1	64591	September 28, 2011	One year

*****END OF REPORT *****

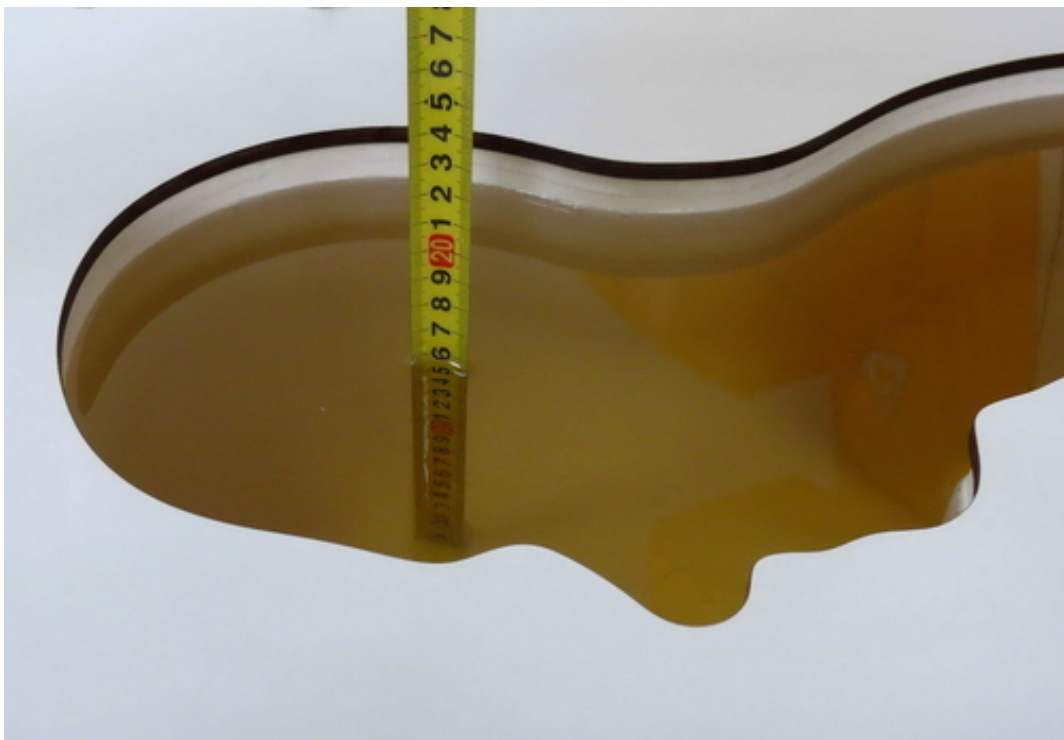
ANNEX A: Test Layout



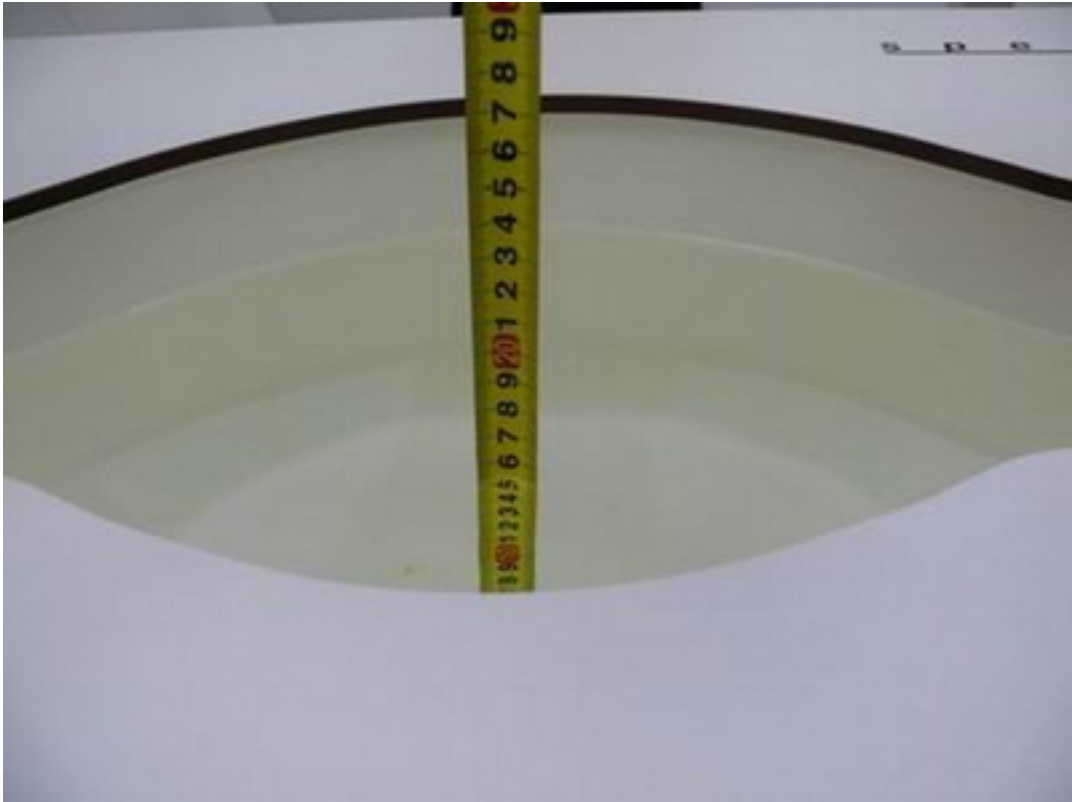
Picture 1: Specific Absorption Rate Test Layout



Picture 2: Liquid depth in the flat Phantom (835MHz, 15.4cm depth)



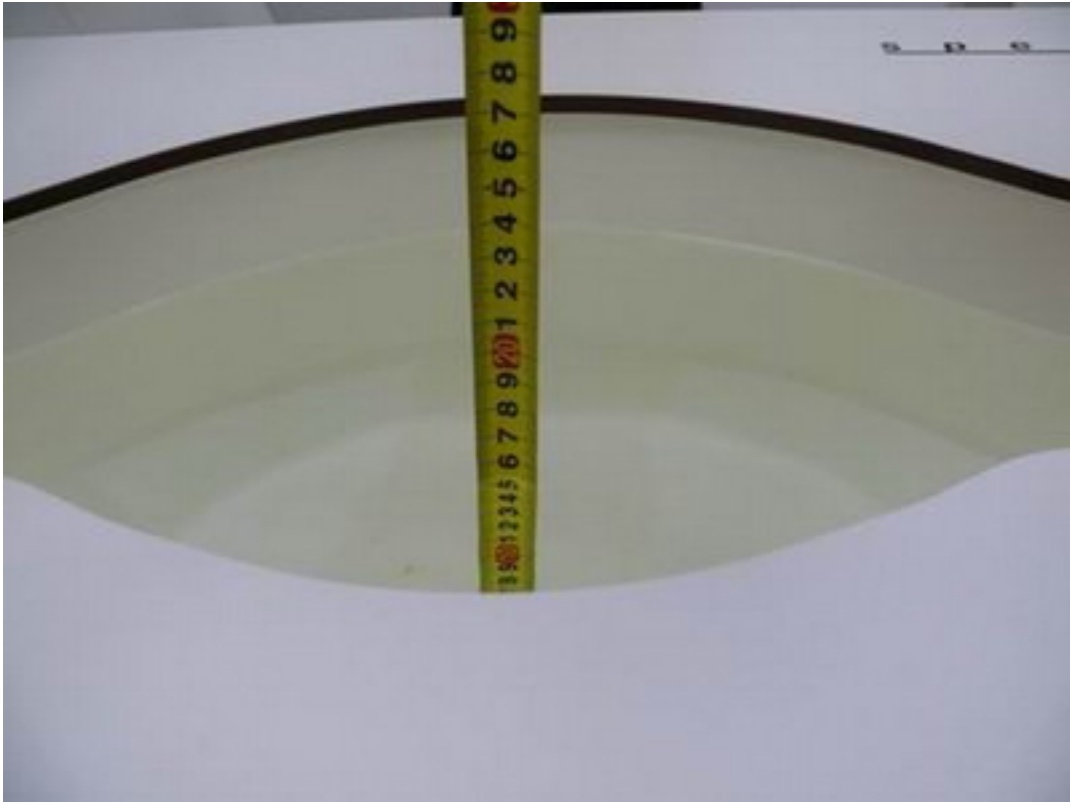
Picture 3: Liquid depth in the head Phantom (835MHz, 15.3cm depth)



Picture 4: Liquid depth in the flat Phantom (1900 MHz, 15.2cm depth)



Picture 5: liquid depth in the head Phantom (1900 MHz, 15.3cm depth)



Picture 6: Liquid depth in the flat Phantom (2450 MHz, 15.4cm depth)



Picture 7: liquid depth in the head Phantom (2450 MHz, 15.2cm depth)

ANNEX B: System Check Results

System Performance Check at 835 MHz Head TSL

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020

Date/Time: 4/27/2012 3:28:49 AM

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

Medium parameters used: $f = 835$ MHz; $\sigma = 0.888$ mho/m; $\epsilon_r = 42.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (41x121x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.65 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.9 V/m; Power Drift = -0.082 dB

Peak SAR (extrapolated) = 3.66 W/kg

SAR(1 g) = 2.45 mW/g; SAR(10 g) = 1.61 mW/g

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

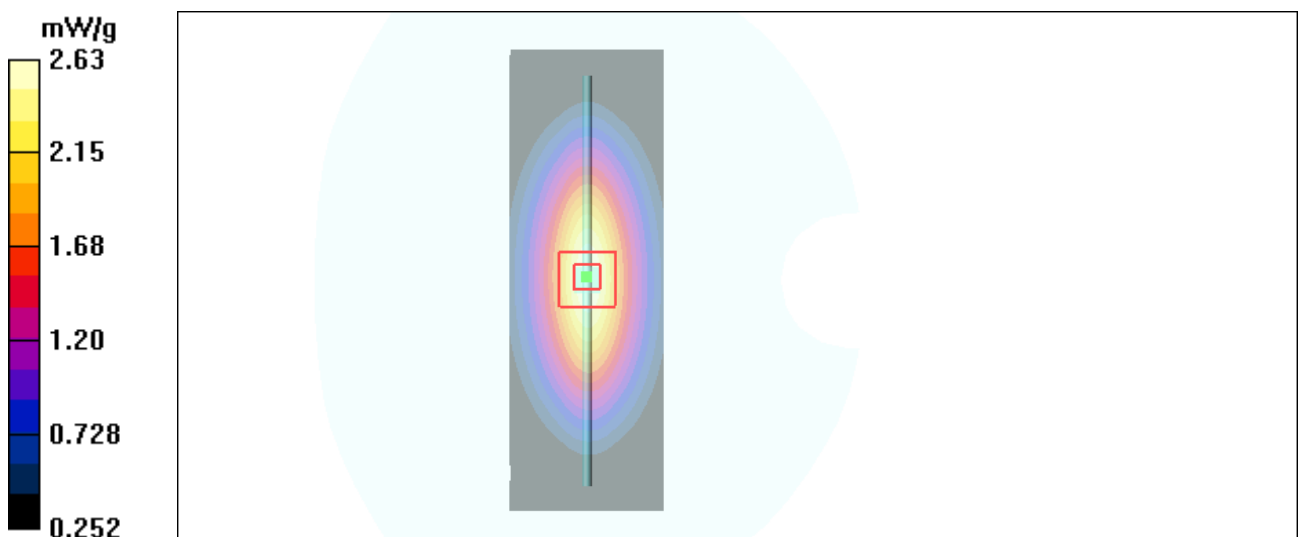


Figure 7 System Performance Check 835MHz 250mW

System Performance Check at 835 MHz Body TSL

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020

Date/Time: 4/27/2012 10:56:00 AM

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

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.986 \text{ mho/m}$; $\epsilon_r = 54.3$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: $22.3 \text{ }^\circ\text{C}$ Liquid Temperature: $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=15mm, Pin=250mW/Area Scan (41x121x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$
Maximum value of SAR (interpolated) = 2.72 mW/g

d=15mm, Pin=250mW/Zoom Scan (7x7x7) /Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$,
 $dz=5\text{mm}$

Reference Value = 52.6 V/m ; Power Drift = -0.027 dB

Peak SAR (extrapolated) = 3.77 W/kg

SAR(1 g) = 2.52 mW/g ; SAR(10 g) = 1.66 mW/g

Maximum value of SAR (measured) = 2.73 mW/g

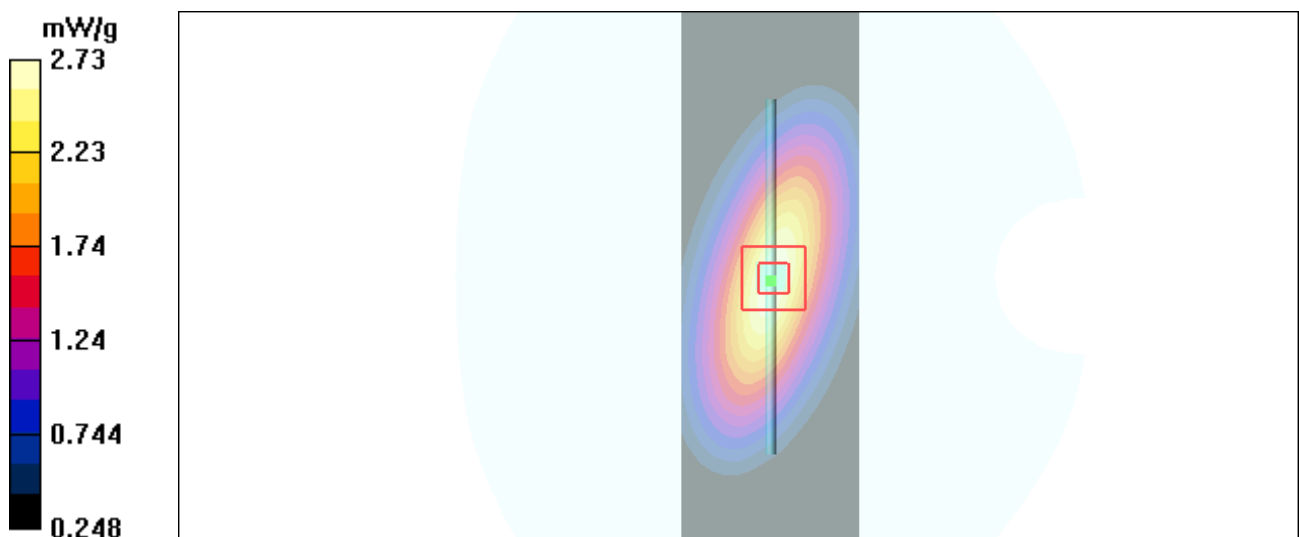


Figure 8 System Performance Check 835MHz 250mW

System Performance Check at 1900 MHz Head TSL

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060

Date/Time: 4/27/2012 4:24:36 PM

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

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.39 \text{ mho/m}$; $\epsilon_r = 40.1$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: $22.3 \text{ }^\circ\text{C}$ Liquid Temperature: $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.9, 7.9, 7.9); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW /Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 11.3 mW/g

d=10mm, Pin=250mW /Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.9 V/m; Power Drift = 0.017 dB

Peak SAR (extrapolated) = 18.1 W/kg

SAR(1 g) = 9.8 mW/g; SAR(10 g) = 5.14 mW/g

Maximum value of SAR (measured) = 10.8 mW/g

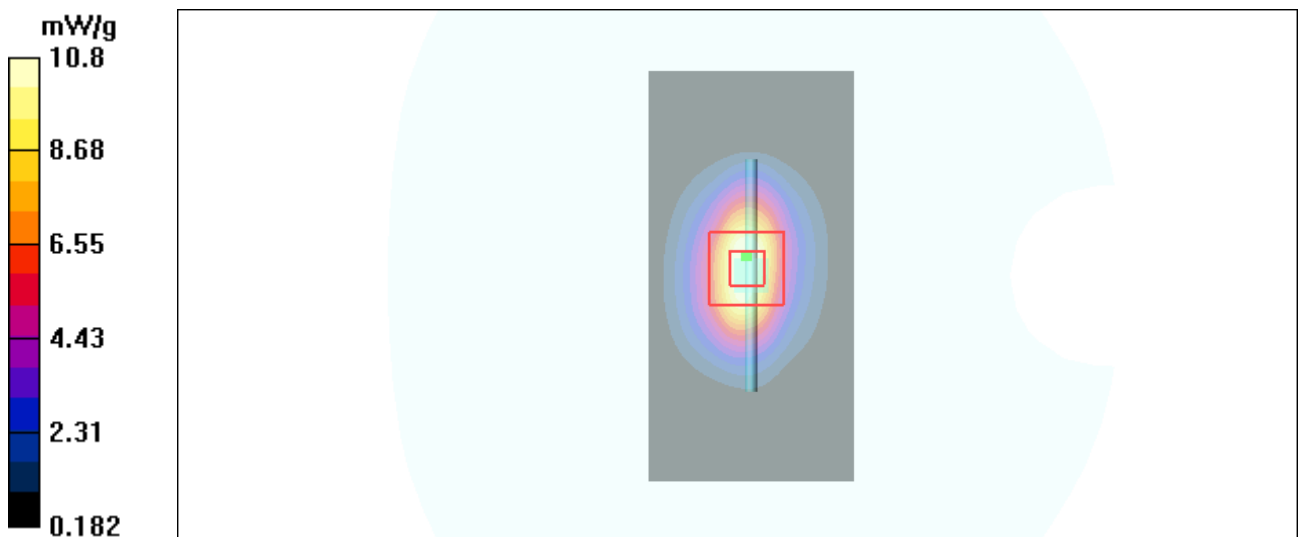


Figure 9 System Performance Check 1900MHz 250mW

System Performance Check at 1900 MHz Body TSL

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060

Date/Time: 4/26/2012 1:06:01 PM

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.51, 7.51, 7.51); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

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

d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.9 V/m; Power Drift = -0.079 dB

Peak SAR (extrapolated) = 19.2 W/kg

SAR(1 g) = 10.6 mW/g; SAR(10 g) = 5.55 mW/g

Maximum value of SAR (measured) = 11.9 mW/g

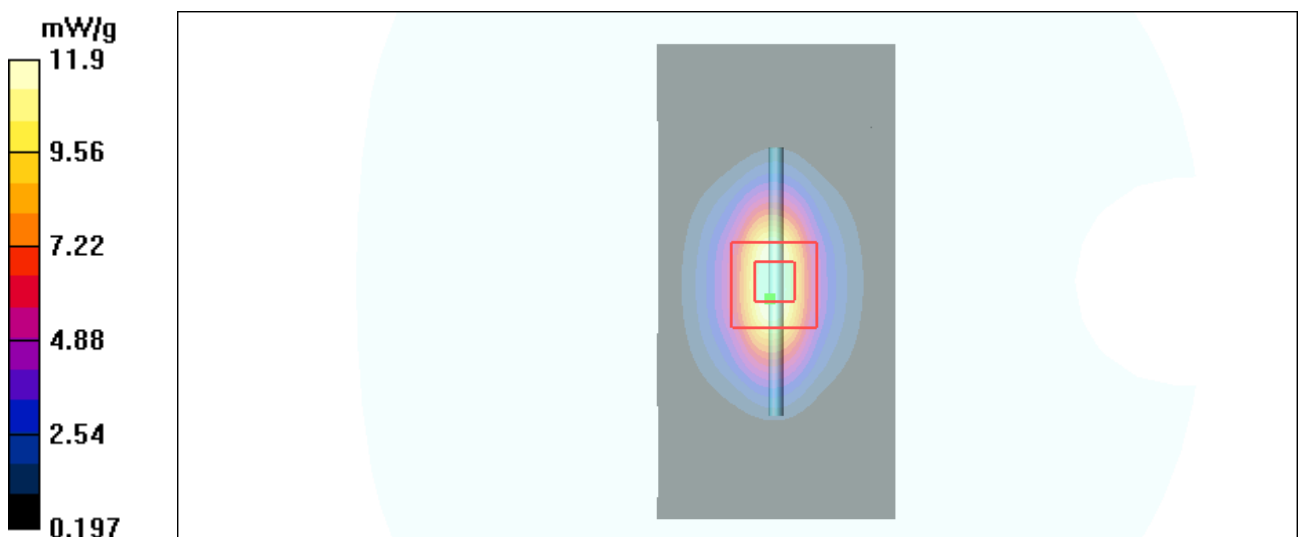


Figure 10 System Performance Check 1900MHz 250Mw

System Performance Check at 2450 MHz Head TSL

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 786

Date/Time: 5/2/2012 8:16:27 PM

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

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.88$ mho/m; $\epsilon_r = 38.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.17, 7.17, 7.17); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (41x71x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 17.8 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 91.4 V/m; Power Drift = -0.053 dB

Peak SAR (extrapolated) = 29.1 W/kg

SAR(1 g) = 13.4 mW/g; SAR(10 g) = 6.11 mW/g

Maximum value of SAR (measured) = 15.3 mW/g

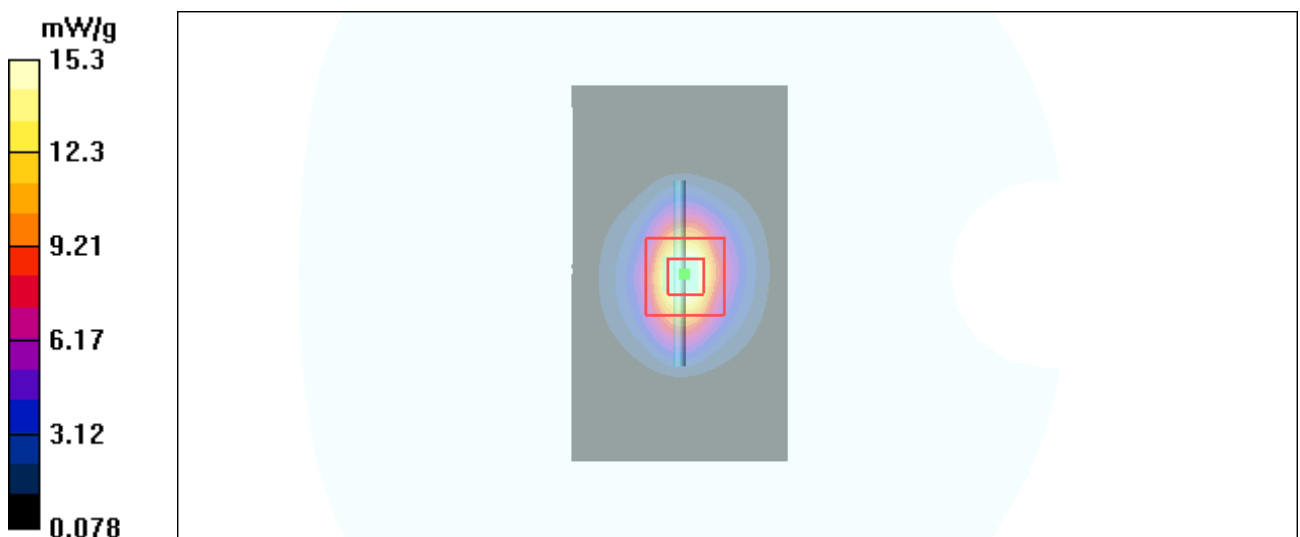


Figure 11 System Performance Check 2450MHz 250mW

System Performance Check at 2450 MHz Body TSL

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 786

Date/Time: 4/27/2012 8:29:56 AM

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

Medium parameters used: $f = 2450$ MHz; $\sigma = 1.9$ mho/m; $\epsilon_r = 51.7$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.19, 7.19, 7.19); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (71x71x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 15.9 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 89.0 V/m; Power Drift = 0.090 dB

Peak SAR (extrapolated) = 25.1 W/kg

SAR(1 g) = 12.9 mW/g; SAR(10 g) = 6.13 mW/g

Maximum value of SAR (measured) = 14.9 mW/g

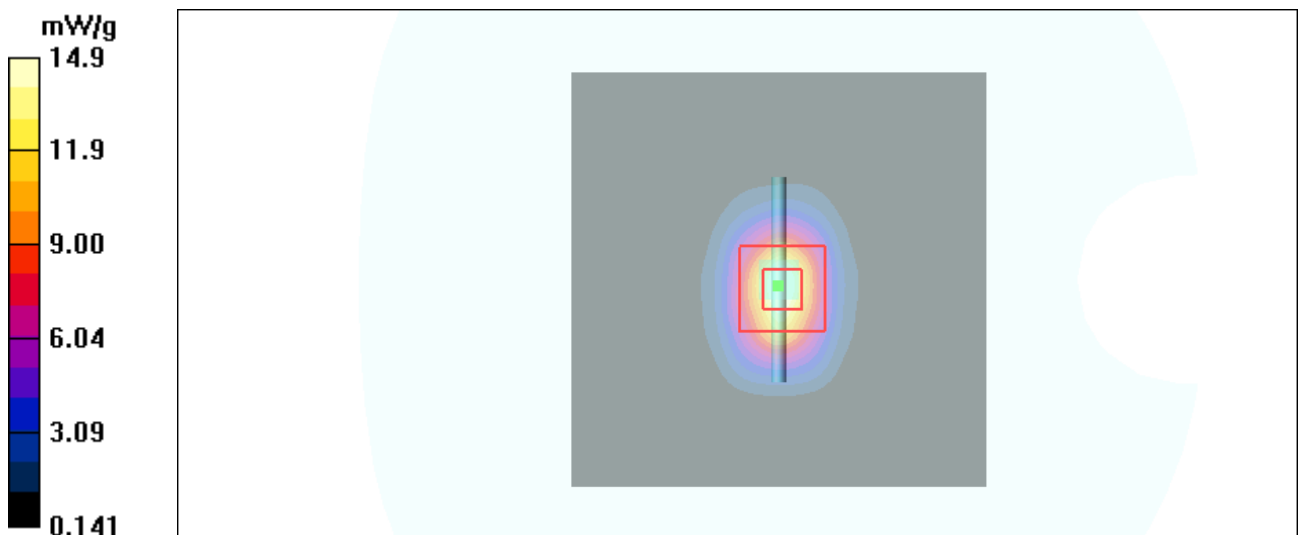


Figure 12 System Performance Check 2450MHz 250mW

System Performance Check at 2450 MHz Body TSL

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 786

Date/Time: 5/3/2012 12:54:49 AM

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

Medium parameters used: $f = 2450 \text{ MHz}$; $\sigma = 1.97 \text{ mho/m}$; $\epsilon_r = 52$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: $22.3 \text{ }^\circ\text{C}$ Liquid Temperature: $21.5 \text{ }^\circ\text{C}$

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.19, 7.19, 7.19); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

d=10mm, Pin=250mW/Area Scan (41x71x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 17.7 mW/g

d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 88.0 V/m; Power Drift = 0.012 dB

Peak SAR (extrapolated) = 26.5 W/kg

SAR(1 g) = 13.5 mW/g; SAR(10 g) = 6.36 mW/g

Maximum value of SAR (measured) = 15.5 mW/g

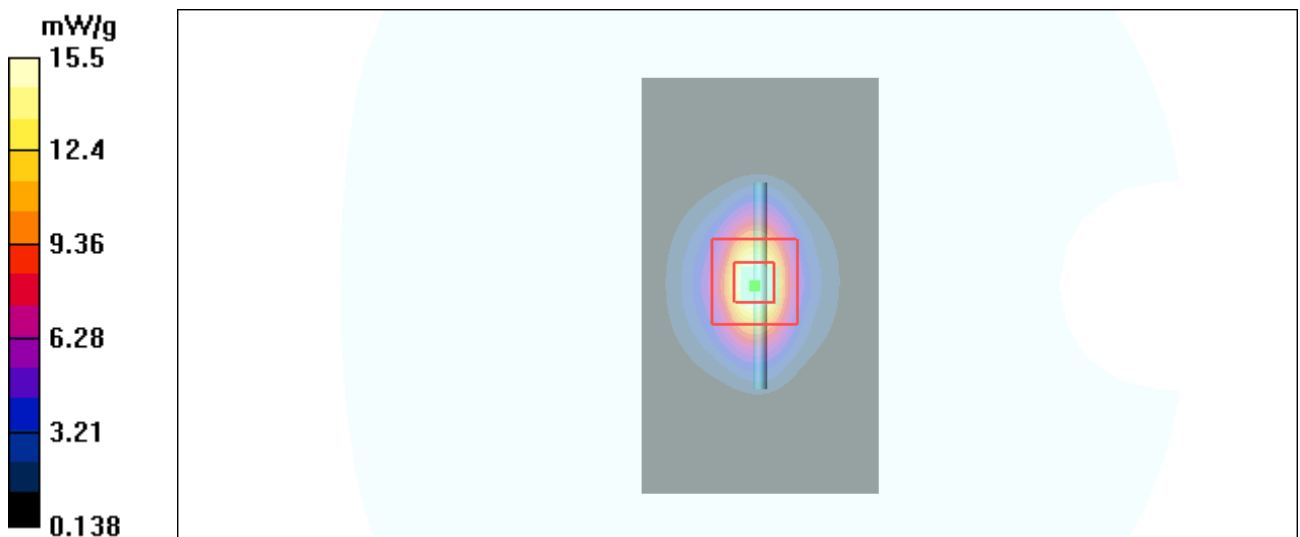


Figure 13 System Performance Check 2450MHz 250mW

ANNEX C: Graph Results

CDMA Cellular Left Cheek High

Date/Time: 4/27/2012 6:55:45 AM

Communication System: CDMA Cellular; Frequency: 848.31 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 848.31$ MHz; $\sigma = 0.899$ mho/m; $\epsilon_r = 42.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.826 mW/g

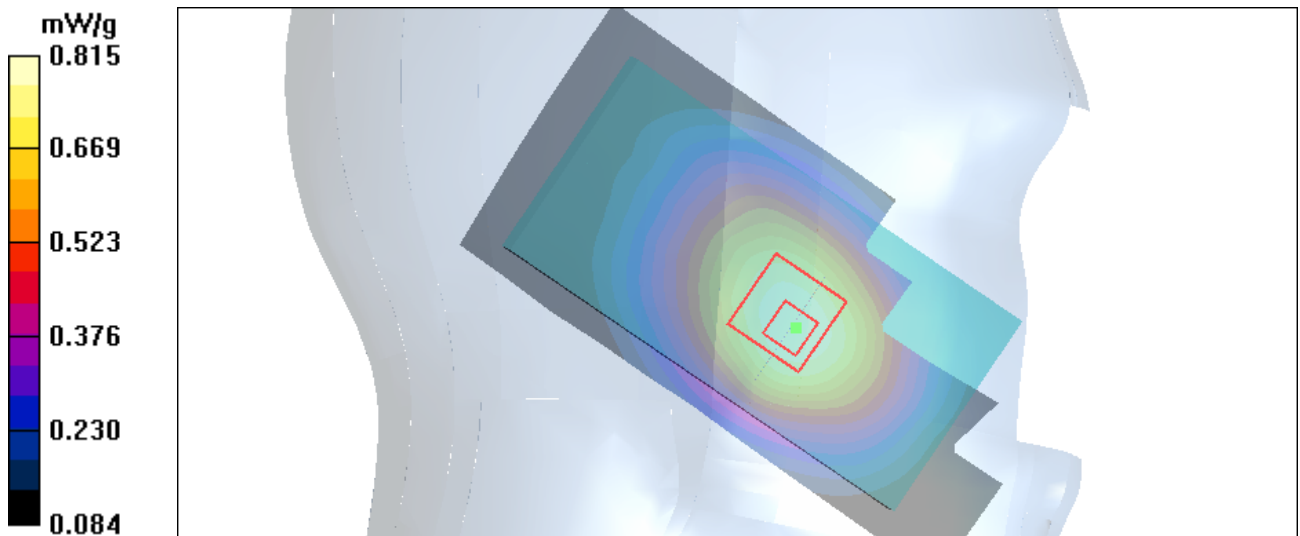
Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.8 V/m; Power Drift = -0.036 dB

Peak SAR (extrapolated) = 0.977 W/kg

SAR(1 g) = 0.767 mW/g; SAR(10 g) = 0.574 mW/g

Maximum value of SAR (measured) = 0.815 mW/g



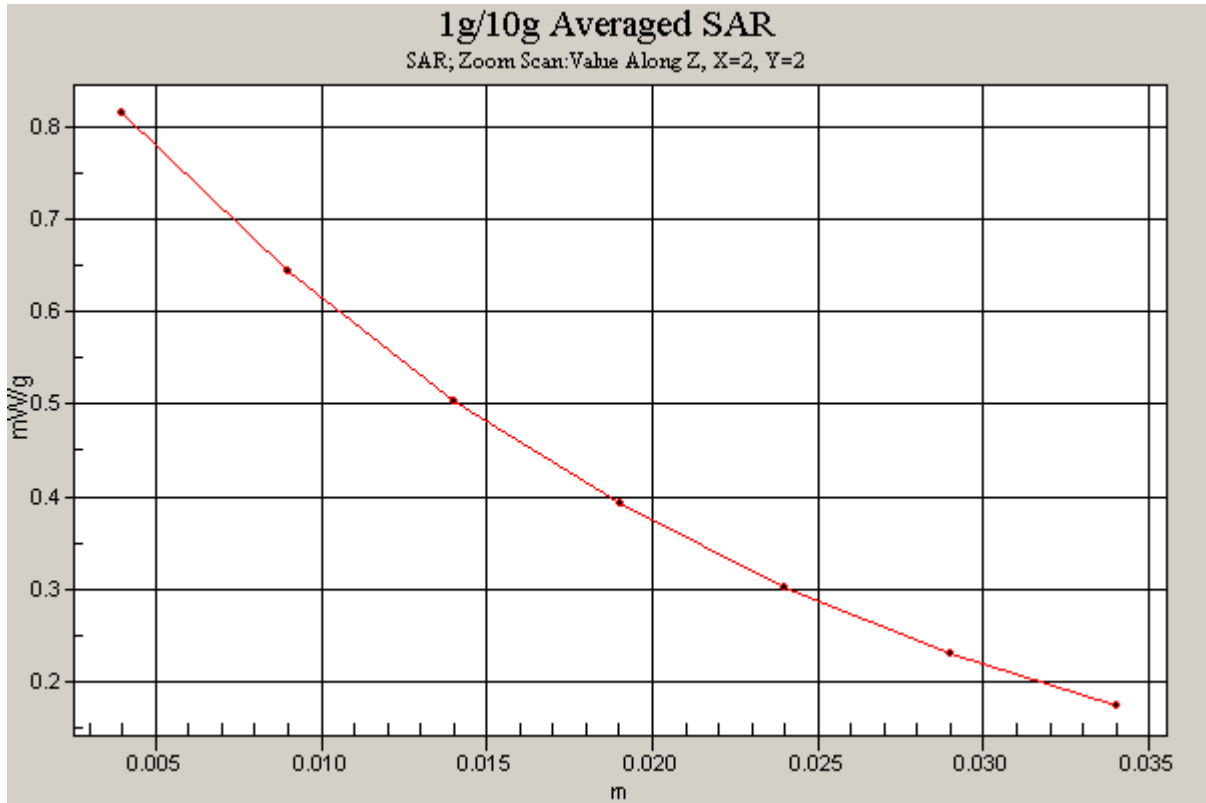


Figure 14 CDMA Cellular Left Hand Touch Cheek Channel 777

CDMA Cellular Left Cheek Middle

Date/Time: 4/27/2012 6:23:59 AM

Communication System: CDMA Cellular; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 42.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.780 mW/g

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

Reference Value = 10.8 V/m; Power Drift = 0.088 dB

Peak SAR (extrapolated) = 0.962 W/kg

SAR(1 g) = 0.754 mW/g; SAR(10 g) = 0.567 mW/g

Maximum value of SAR (measured) = 0.790 mW/g

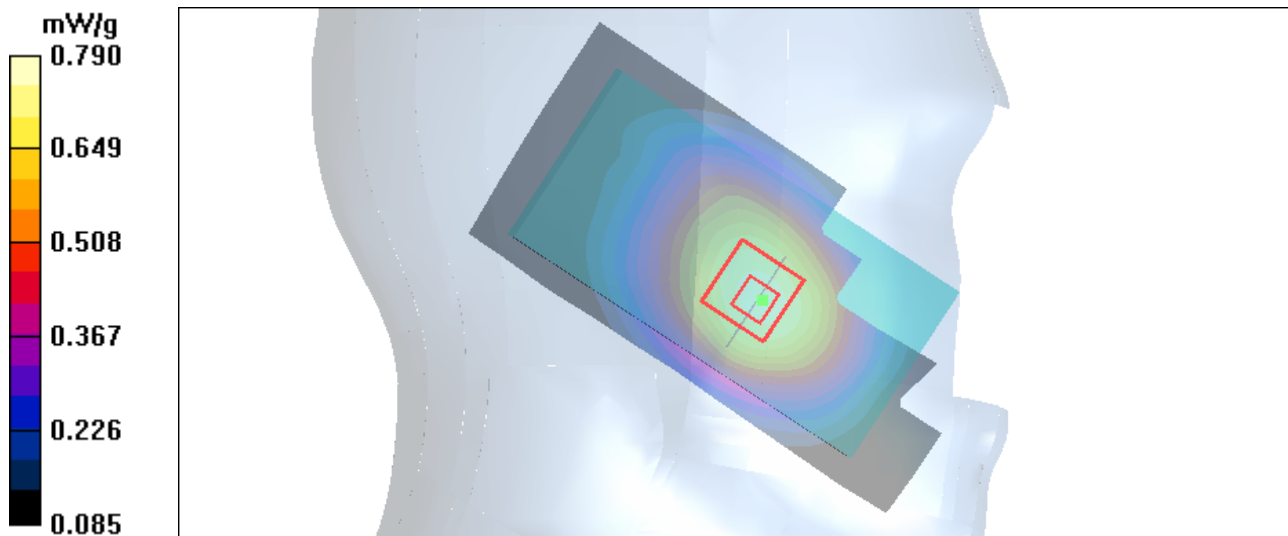


Figure 15 CDMA Cellular Left Hand Touch Cheek Channel 384

CDMA Cellular Left Cheek Low

Date/Time: 4/27/2012 6:42:26 AM

Communication System: CDMA Cellular; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 825$ MHz; $\sigma = 0.878$ mho/m; $\epsilon_r = 42.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.574 mW/g

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

Reference Value = 9.31 V/m; Power Drift = 0.095 dB

Peak SAR (extrapolated) = 0.696 W/kg

SAR(1 g) = 0.546 mW/g; SAR(10 g) = 0.409 mW/g

Maximum value of SAR (measured) = 0.574 mW/g

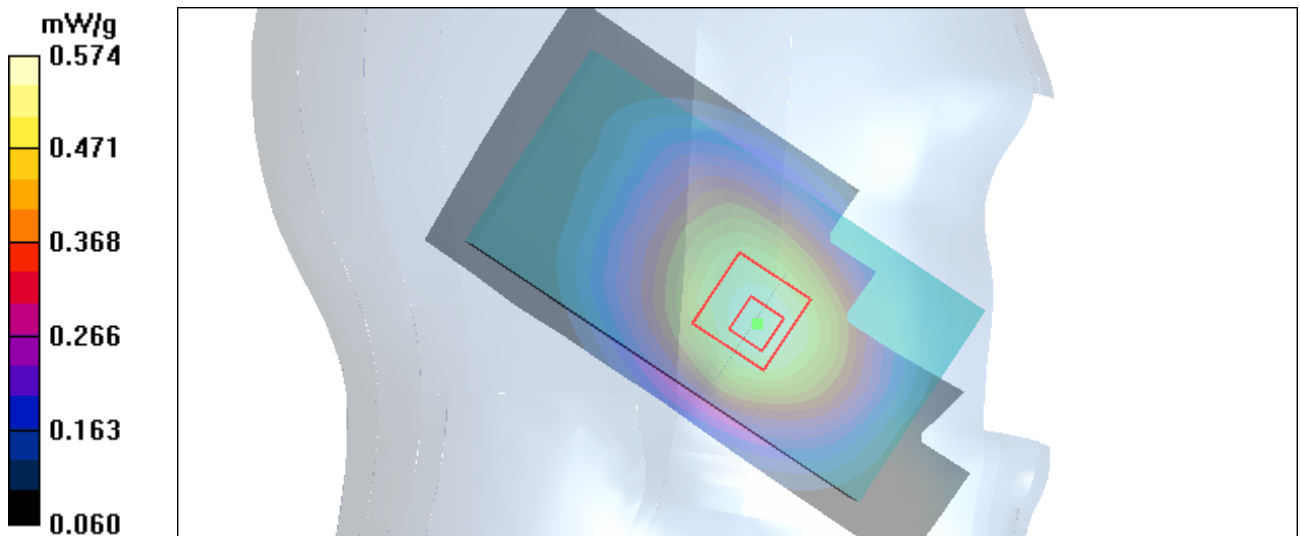


Figure 16 CDMA Cellular Left Hand Touch Cheek Channel 1013

CDMA Cellular Left Tilt High

Date/Time: 4/27/2012 7:10:00 AM

Communication System: CDMA Cellular; Frequency: 848.31 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 848.31$ MHz; $\sigma = 0.899$ mho/m; $\epsilon_r = 42.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.490 mW/g

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

Reference Value = 15.9 V/m; Power Drift = 0.004 dB

Peak SAR (extrapolated) = 0.596 W/kg

SAR(1 g) = 0.471 mW/g; SAR(10 g) = 0.355 mW/g

Maximum value of SAR (measured) = 0.494 mW/g

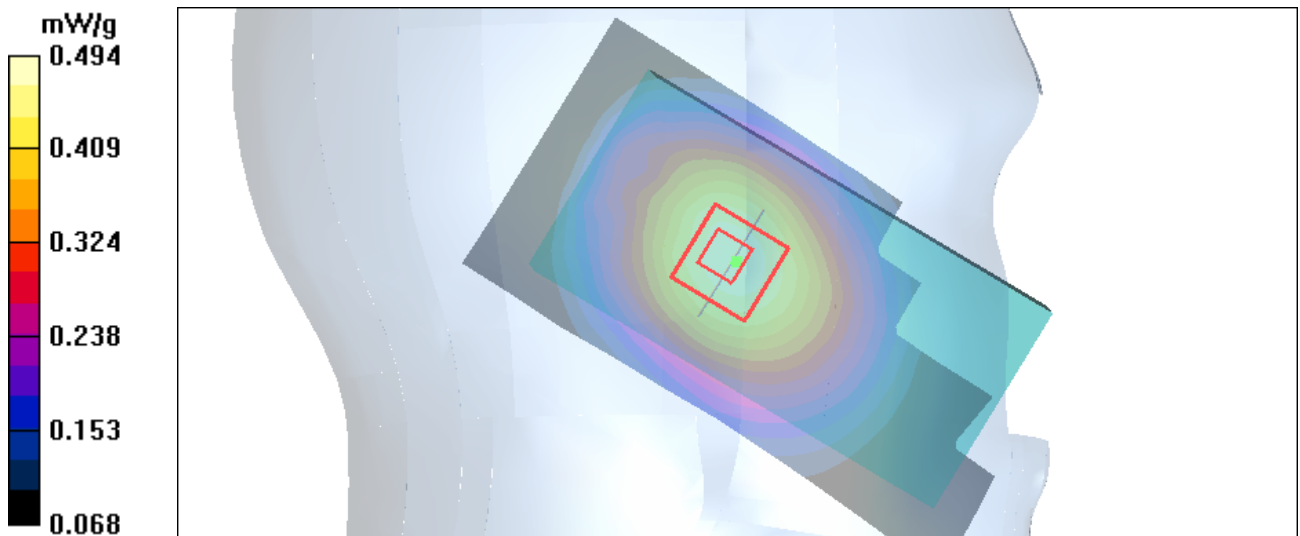


Figure 17 CDMA Cellular Left Hand Tilt 15° Channel 777

CDMA Cellular Left Tilt Middle

Date/Time: 4/27/2012 7:47:00 AM

Communication System: CDMA Cellular; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 42.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.499 mW/g

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

Reference Value = 14.8 V/m; Power Drift = -0.172 dB

Peak SAR (extrapolated) = 0.566 W/kg

SAR(1 g) = 0.454 mW/g; SAR(10 g) = 0.346 mW/g

Maximum value of SAR (measured) = 0.475 mW/g

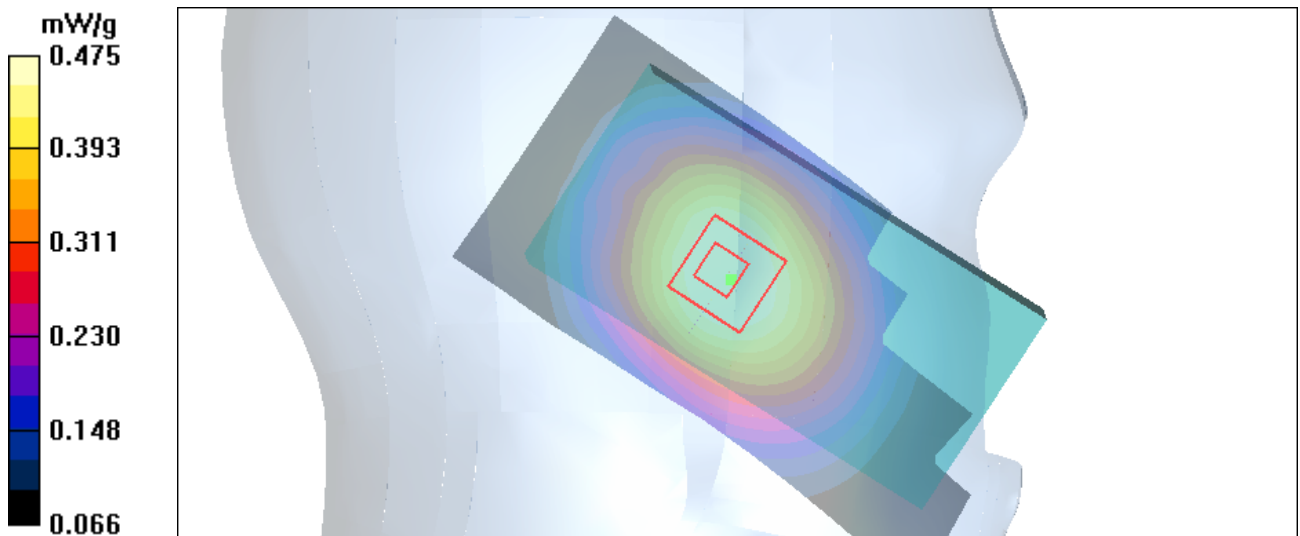


Figure 18 CDMA Cellular Left Hand Tilt 15° Channel 384

CDMA Cellular Left Tilt Low

Date/Time: 4/27/2012 8:00:21 AM

Communication System: CDMA Cellular; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 825$ MHz; $\sigma = 0.878$ mho/m; $\epsilon_r = 42.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.339 mW/g

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

Reference Value = 12.6 V/m; Power Drift = -0.066 dB

Peak SAR (extrapolated) = 0.402 W/kg

SAR(1 g) = 0.323 mW/g; SAR(10 g) = 0.246 mW/g

Maximum value of SAR (measured) = 0.343 mW/g

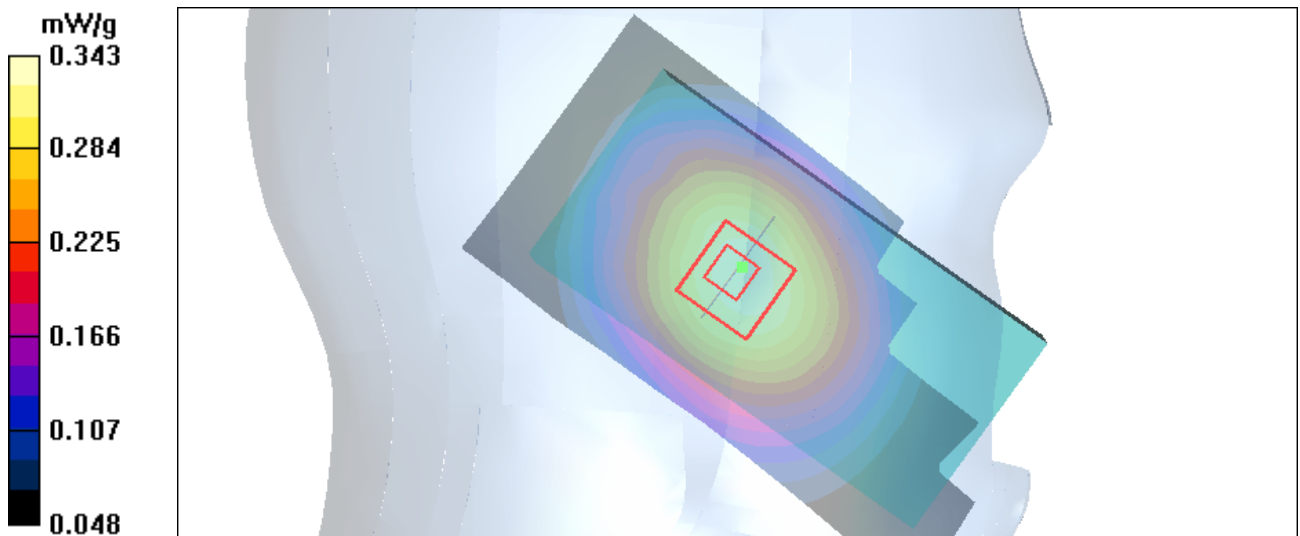


Figure 19 CDMA Cellular Left Hand Tilt 15° Channel 1013

CDMA Cellular Right Cheek High

Date/Time: 4/27/2012 4:34:42 AM

Communication System: CDMA Cellular; Frequency: 848.31 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 848.31$ MHz; $\sigma = 0.899$ mho/m; $\epsilon_r = 42.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.770 mW/g

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

Reference Value = 9.94 V/m; Power Drift = -0.078 dB

Peak SAR (extrapolated) = 0.891 W/kg

SAR(1 g) = 0.723 mW/g; SAR(10 g) = 0.552 mW/g

Maximum value of SAR (measured) = 0.758 mW/g

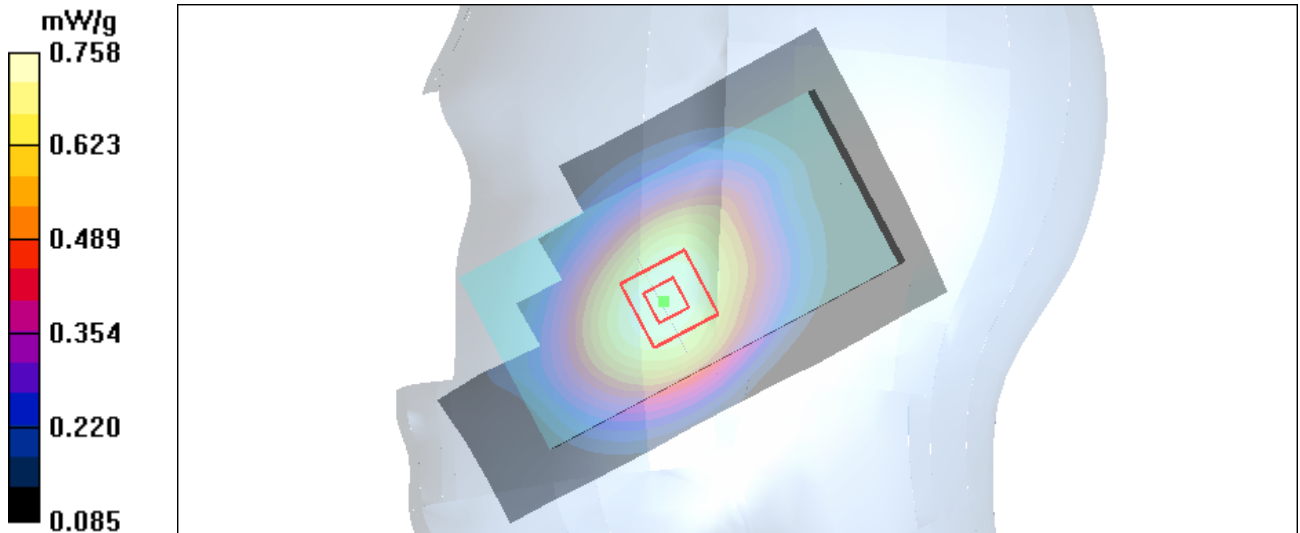


Figure 20 CDMA Cellular Right Hand Touch Cheek Channel 777

CDMA Cellular Right Cheek Middle

Date/Time: 4/27/2012 4:01:28 AM

Communication System: CDMA Cellular; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 42.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.791 mW/g

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

Reference Value = 10.5 V/m; Power Drift = -0.089 dB

Peak SAR (extrapolated) = 0.882 W/kg

SAR(1 g) = 0.724 mW/g; SAR(10 g) = 0.557 mW/g

Maximum value of SAR (measured) = 0.747 mW/g

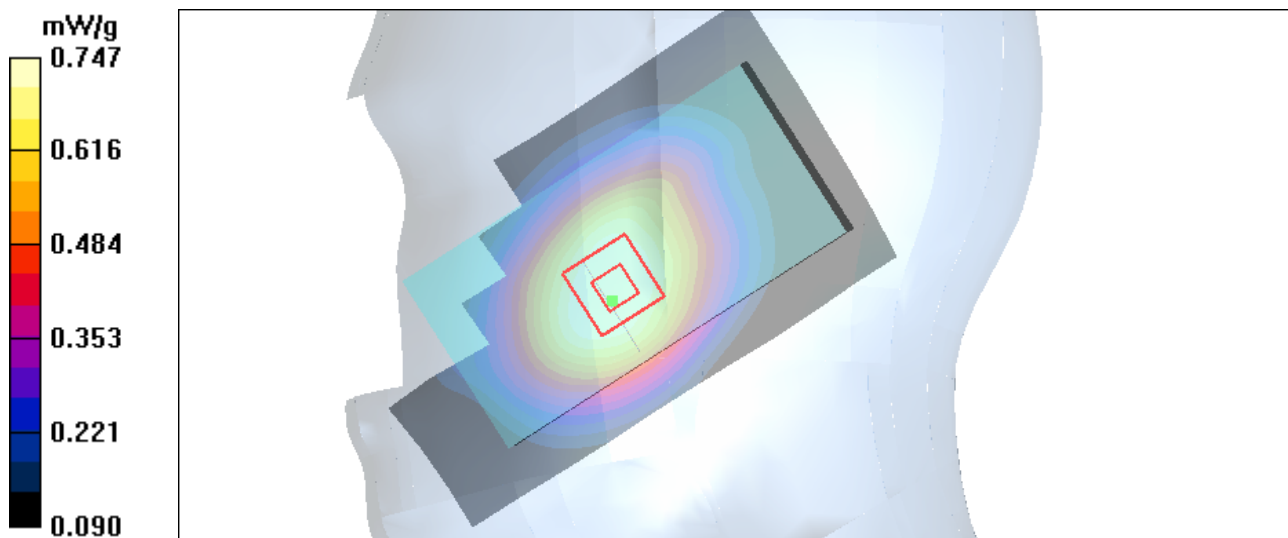


Figure 21 CDMA Cellular Right Hand Touch Cheek Channel 384

CDMA Cellular Right Cheek Low

Date/Time: 4/27/2012 4:18:02 AM

Communication System: CDMA Cellular; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 825$ MHz; $\sigma = 0.878$ mho/m; $\epsilon_r = 42.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.558 mW/g

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

Reference Value = 8.79 V/m; Power Drift = 0.134 dB

Peak SAR (extrapolated) = 0.658 W/kg

SAR(1 g) = 0.541 mW/g; SAR(10 g) = 0.416 mW/g

Maximum value of SAR (measured) = 0.562 mW/g

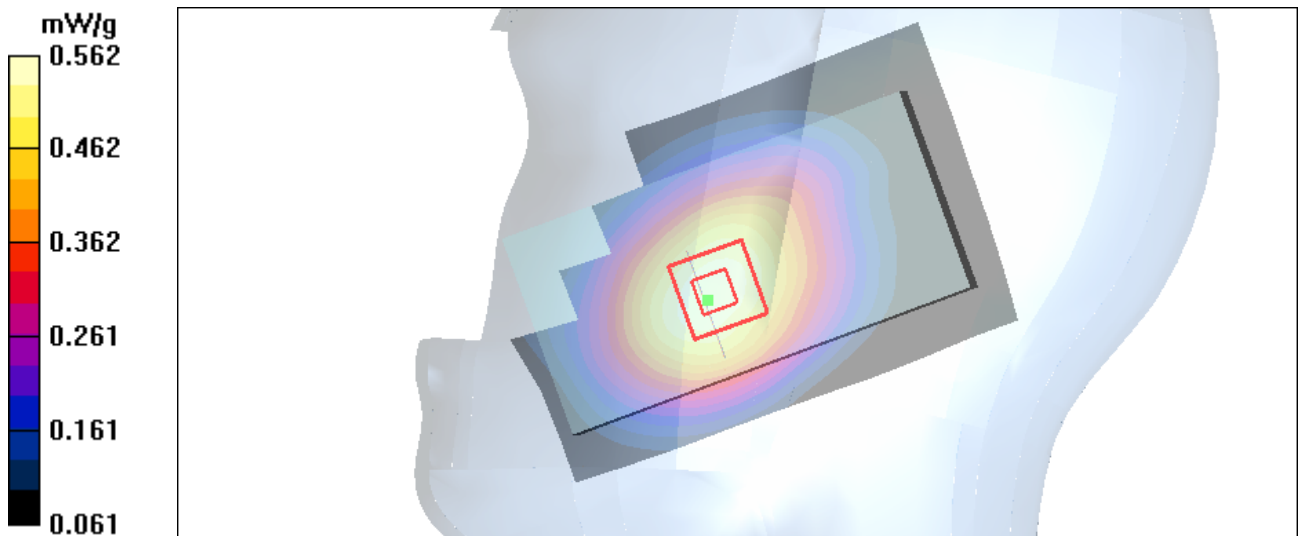


Figure 22 CDMA Cellular Right Hand Touch Cheek Channel 1013

CDMA Cellular Right Tilt High

Date/Time: 4/27/2012 5:11:24 AM

Communication System: CDMA Cellular; Frequency: 848.31 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 848.31$ MHz; $\sigma = 0.899$ mho/m; $\epsilon_r = 42.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.473 mW/g

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

Reference Value = 13.7 V/m; Power Drift = 0.097 dB

Peak SAR (extrapolated) = 0.567 W/kg

SAR(1 g) = 0.449 mW/g; SAR(10 g) = 0.338 mW/g

Maximum value of SAR (measured) = 0.470 mW/g

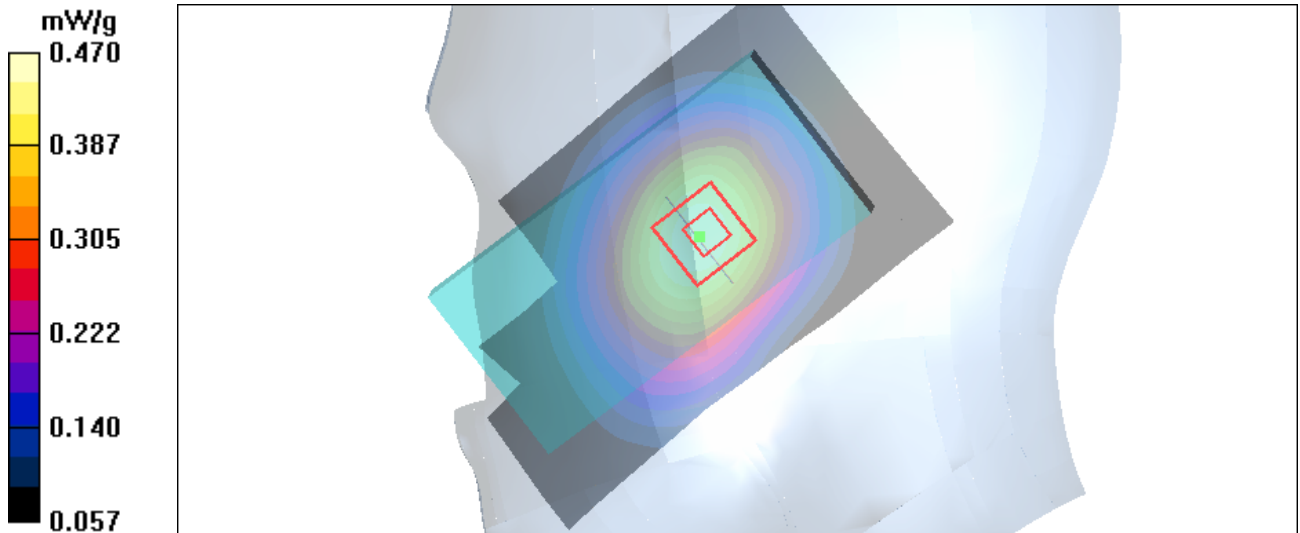


Figure 23 CDMA Cellular Right Hand Tilt 15° Channel 777

CDMA Cellular Right Tilt Middle

Date/Time: 4/27/2012 5:44:53 AM

Communication System: CDMA Cellular; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.89$ mho/m; $\epsilon_r = 42.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.583 mW/g

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

Reference Value = 16.7 V/m; Power Drift = -0.190 dB

Peak SAR (extrapolated) = 0.661 W/kg

SAR(1 g) = 0.524 mW/g; SAR(10 g) = 0.394 mW/g

Maximum value of SAR (measured) = 0.545 mW/g

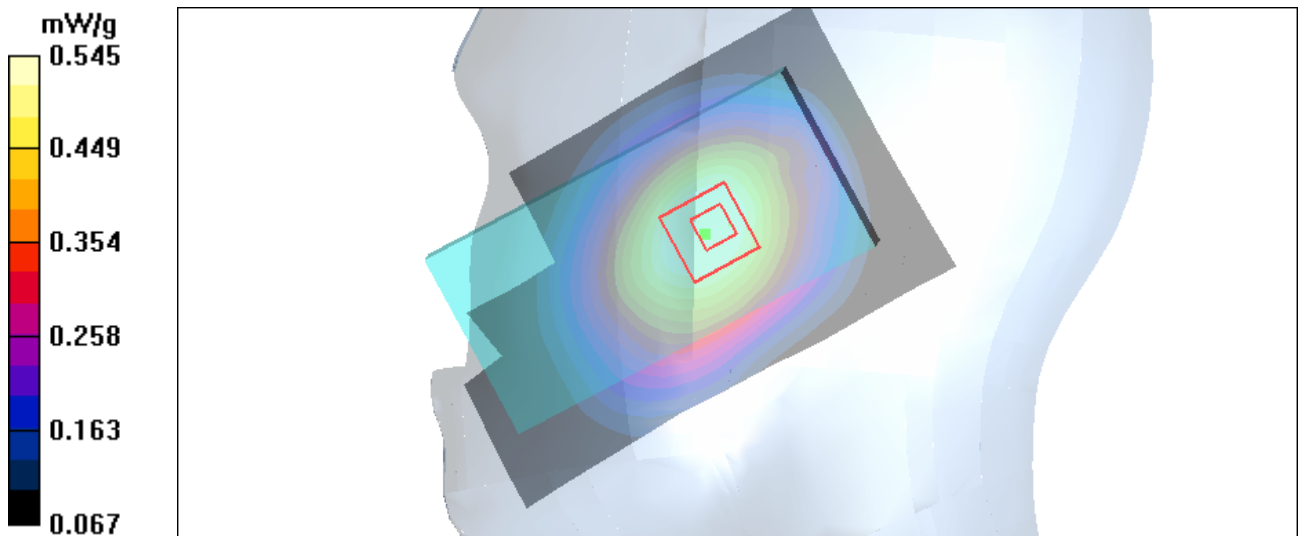


Figure 24 CDMA Cellular Right Hand Tilt 15° Channel 384

CDMA Cellular Right Tilt Low

Date/Time: 4/27/2012 4:56:10 AM

Communication System: CDMA Cellular; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 825$ MHz; $\sigma = 0.878$ mho/m; $\epsilon_r = 42.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.380 mW/g

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

Reference Value = 12.6 V/m; Power Drift = 0.120 dB

Peak SAR (extrapolated) = 0.444 W/kg

SAR(1 g) = 0.355 mW/g; SAR(10 g) = 0.272 mW/g

Maximum value of SAR (measured) = 0.368 mW/g

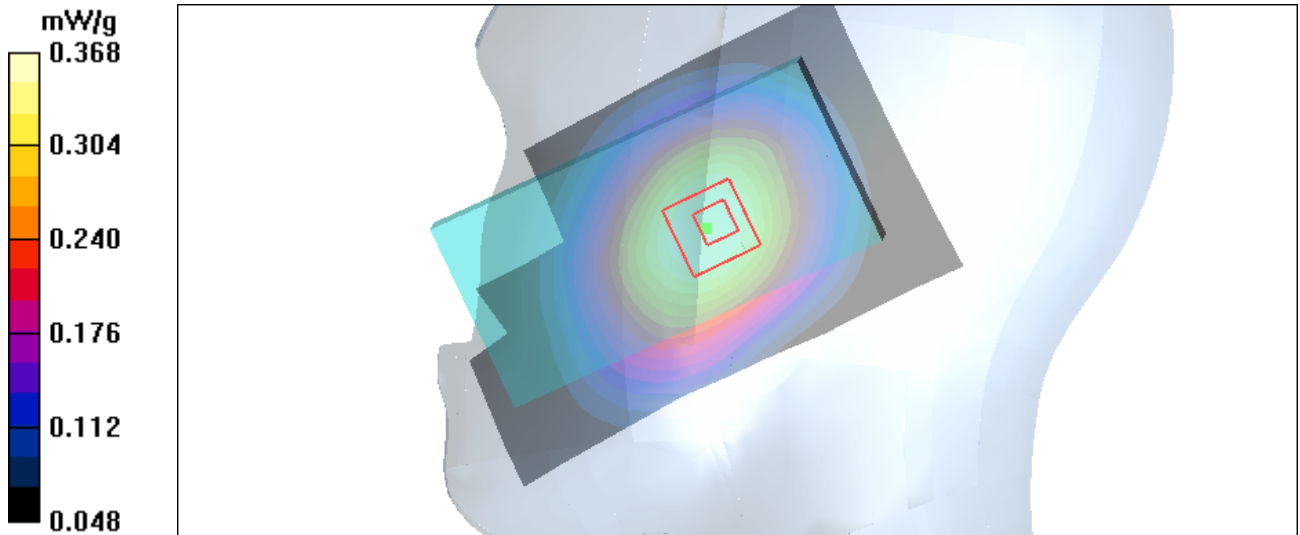


Figure 25 CDMA Cellular Right Hand Tilt 15° Channel 1013

CDMA Cellular Back Side High (Hot Spots On)

Date/Time: 4/27/2012 3:00:16 PM

Communication System: CDMA Cellular; Frequency: 848.31 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 848.31$ MHz; $\sigma = 1$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Side High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.769 mW/g

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

Reference Value = 27.1 V/m; Power Drift = 0.046 dB

Peak SAR (extrapolated) = 0.923 W/kg

SAR(1 g) = 0.723 mW/g; SAR(10 g) = 0.536 mW/g

Maximum value of SAR (measured) = 0.761 mW/g

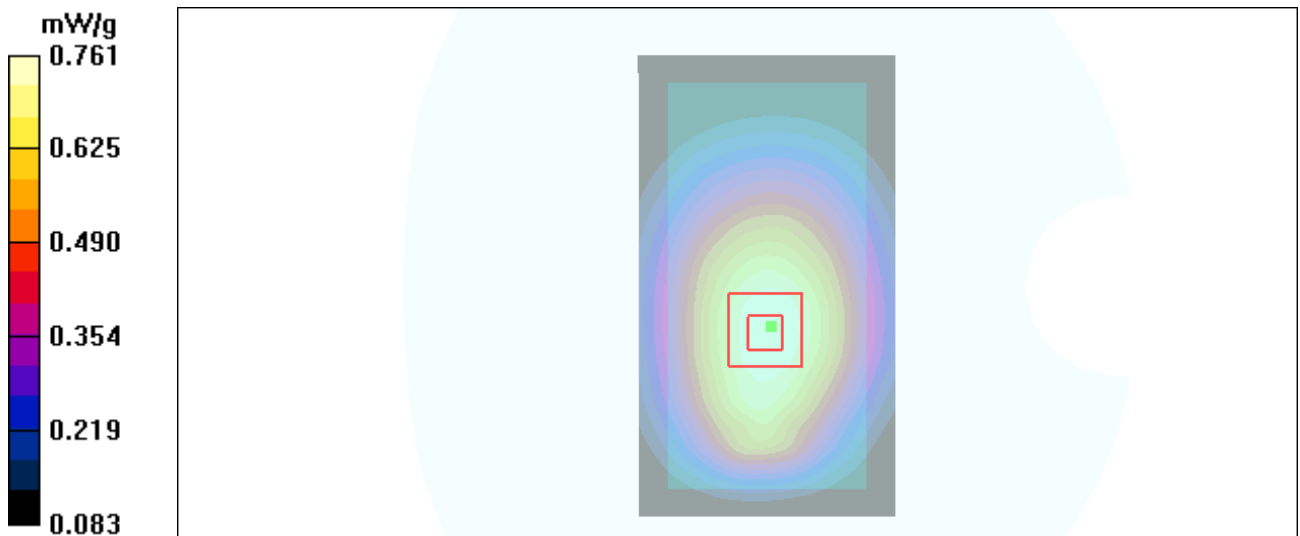


Figure 26 Body, CDMA Cellular Back Side Channel 777

CDMA Cellular Back Side Middle (Hot Spots On)

Date/Time: 4/27/2012 2:35:39 PM

Communication System: CDMA Cellular; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.988$ mho/m; $\epsilon_r = 54.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Side Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.780 mW/g

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

Reference Value = 27.6 V/m; Power Drift = -0.175 dB

Peak SAR (extrapolated) = 0.906 W/kg

SAR(1 g) = 0.708 mW/g; SAR(10 g) = 0.525 mW/g

Maximum value of SAR (measured) = 0.743 mW/g

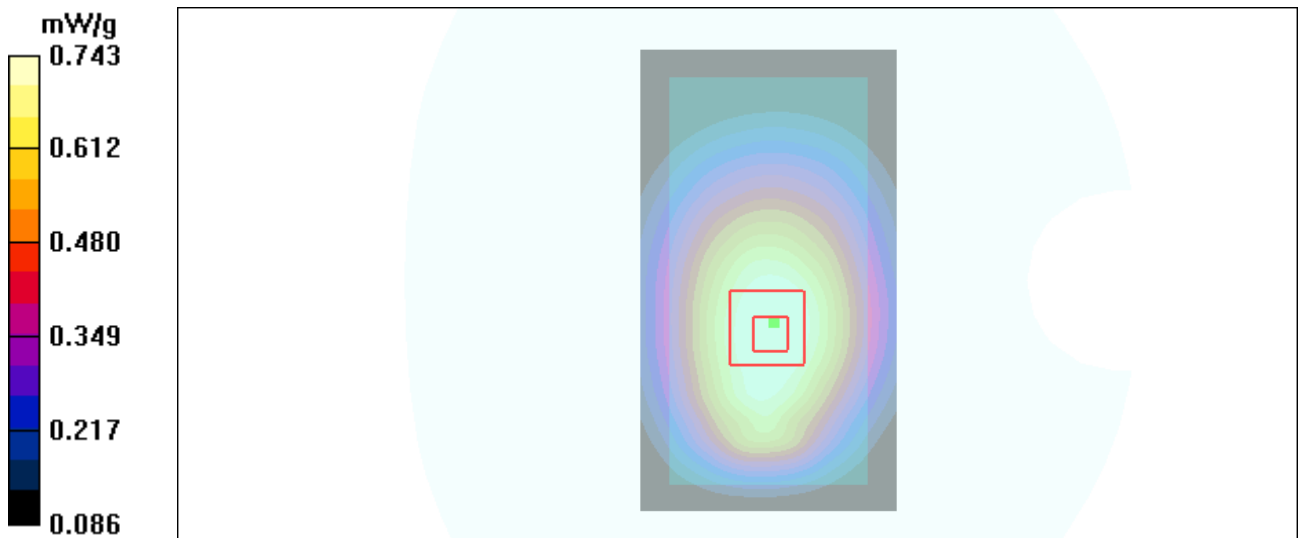


Figure 27 Body, CDMA Cellular Back Side Channel 384

CDMA Cellular Back Side Low (Hot Spots On)

Date/Time: 4/27/2012 2:48:09 PM

Communication System: CDMA Cellular; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 825 \text{ MHz}$; $\sigma = 0.972 \text{ mho/m}$; $\epsilon_r = 54.4$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Side Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 26.1 V/m; Power Drift = 0.012 dB

Peak SAR (extrapolated) = 0.890 W/kg

SAR(1 g) = 0.698 mW/g; SAR(10 g) = 0.518 mW/g

Maximum value of SAR (measured) = 0.737 mW/g

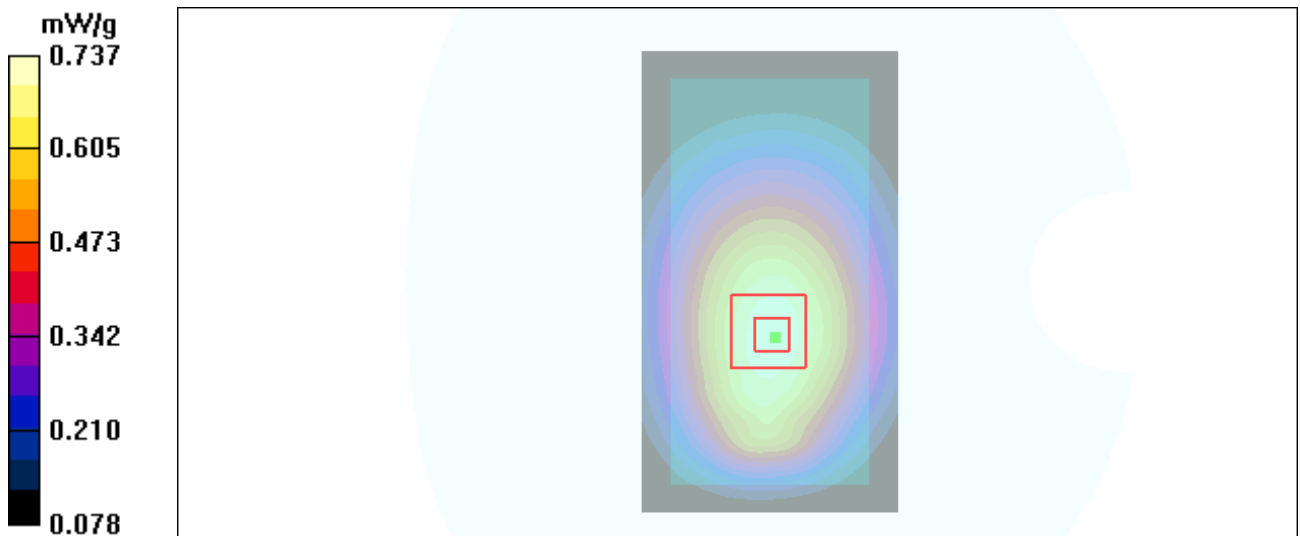


Figure 28 Body, CDMA Cellular Back Side Channel 1013

CDMA Cellular Front Side Middle (Hot Spots On)

Date/Time: 4/27/2012 2:18:06 PM

Communication System: CDMA Cellular; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.988$ mho/m; $\epsilon_r = 54.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Front Side Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.677 mW/g

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

Reference Value = 25.4 V/m; Power Drift = 0.010 dB

Peak SAR (extrapolated) = 0.781 W/kg

SAR(1 g) = 0.612 mW/g; SAR(10 g) = 0.457 mW/g

Maximum value of SAR (measured) = 0.644 mW/g

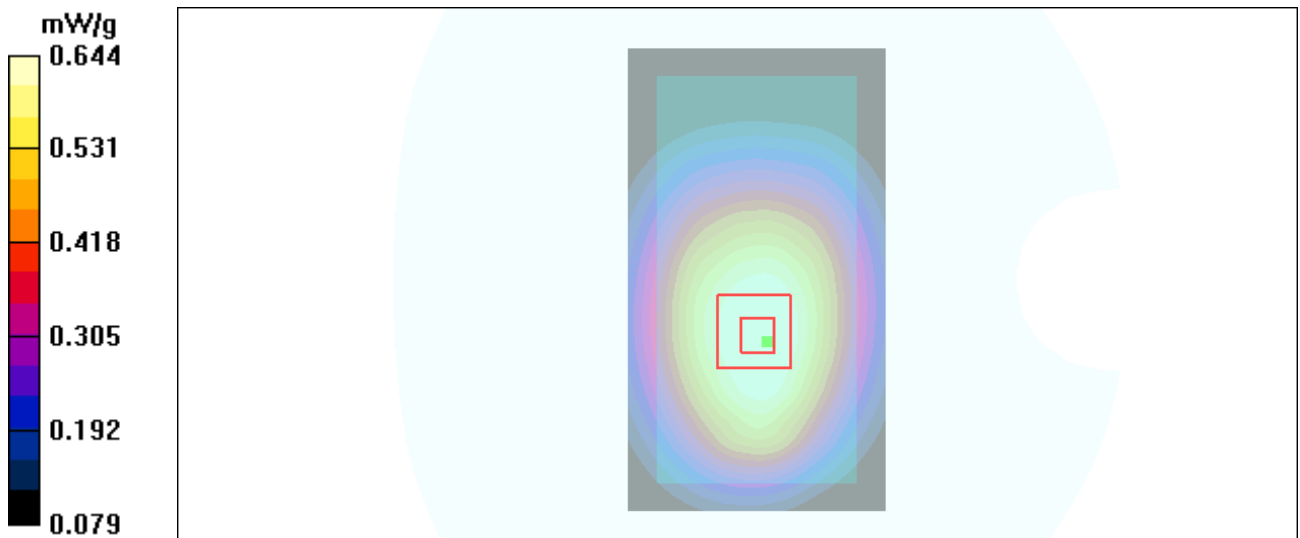


Figure 29 Body, Front Side, CDMA Cellular Channel 384

CDMA Cellular Left Edge Middle (Hot Spots On)

Date/Time: 4/27/2012 1:38:40 PM

Communication System: CDMA Cellular; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.988$ mho/m; $\epsilon_r = 54.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Left Edge Middle/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 19.8 V/m; Power Drift = 0.005 dB

Peak SAR (extrapolated) = 0.518 W/kg

SAR(1 g) = 0.365 mW/g; SAR(10 g) = 0.252 mW/g

Maximum value of SAR (measured) = 0.390 mW/g

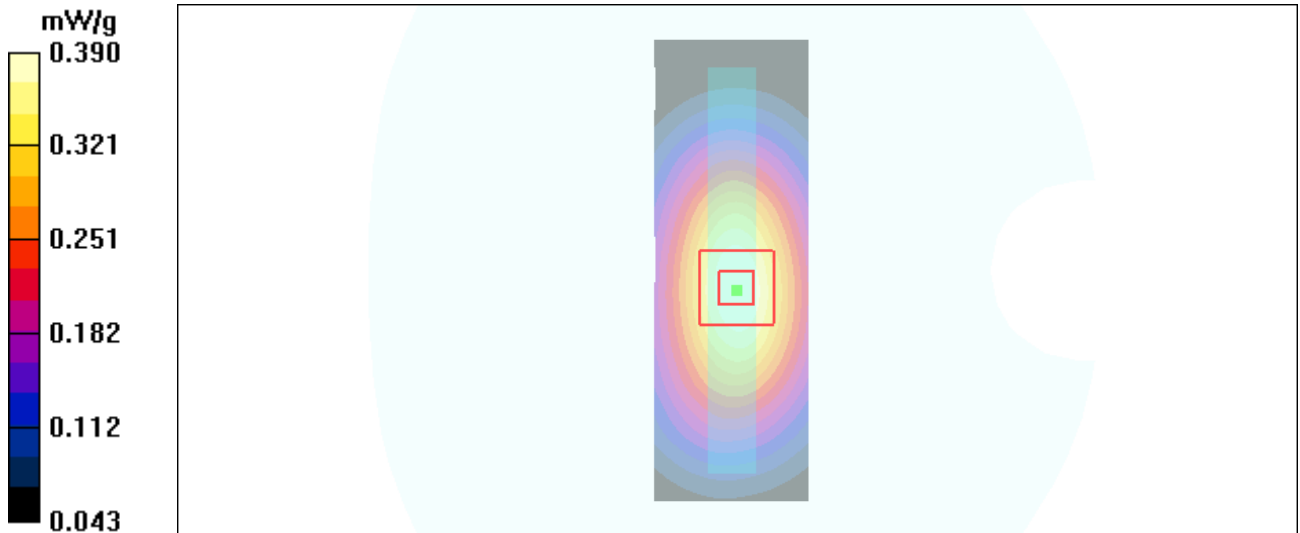


Figure 30 Body, Left Edge, CDMA Cellular Channel 384

CDMA Cellular Right Edge Middle (Hot Spots On)

Date/Time: 4/27/2012 1:50:26 PM

Communication System: CDMA Cellular; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.988$ mho/m; $\epsilon_r = 54.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Right Edge Middle/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.414 mW/g

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

Reference Value = 20.4 V/m; Power Drift = -0.002 dB

Peak SAR (extrapolated) = 0.549 W/kg

SAR(1 g) = 0.392 mW/g; SAR(10 g) = 0.272 mW/g

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

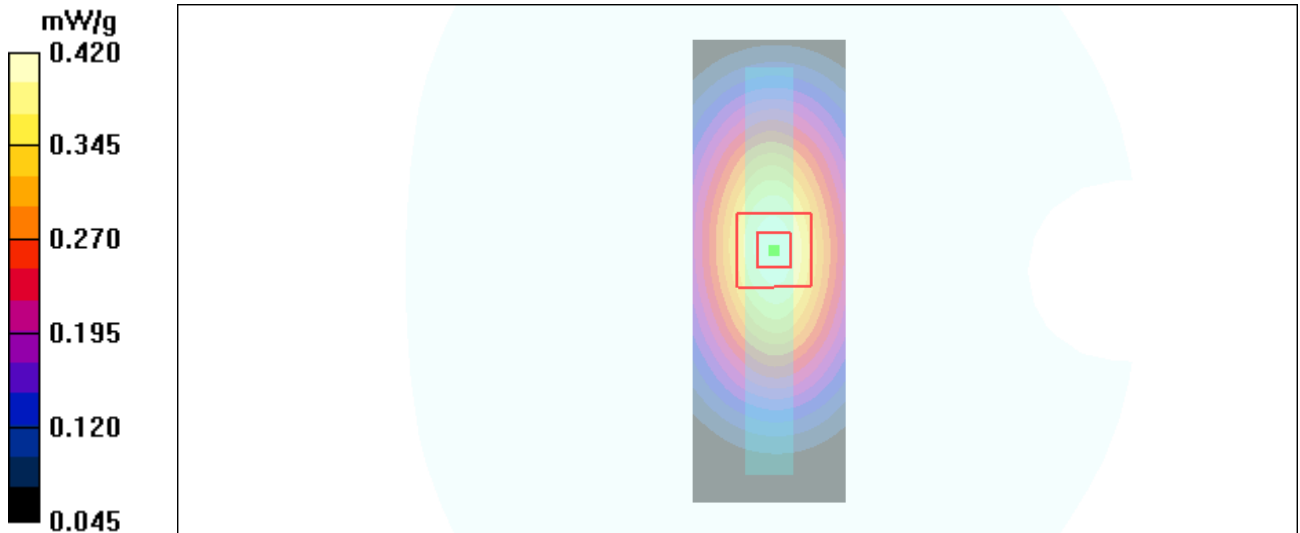


Figure 31 Body, Right Edge, CDMA Cellular Channel 384

CDMA Cellular Bottom Edge Middle (Hot Spots On)

Date/Time: 4/27/2012 1:26:41 PM

Communication System: CDMA Cellular; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.988$ mho/m; $\epsilon_r = 54.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Bottom Edge Middle/Area Scan (31x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.054 mW/g

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

Reference Value = 6.77 V/m; Power Drift = -0.023 dB

Peak SAR (extrapolated) = 0.075 W/kg

SAR(1 g) = 0.047 mW/g; SAR(10 g) = 0.030 mW/g

Maximum value of SAR (measured) = 0.051 mW/g

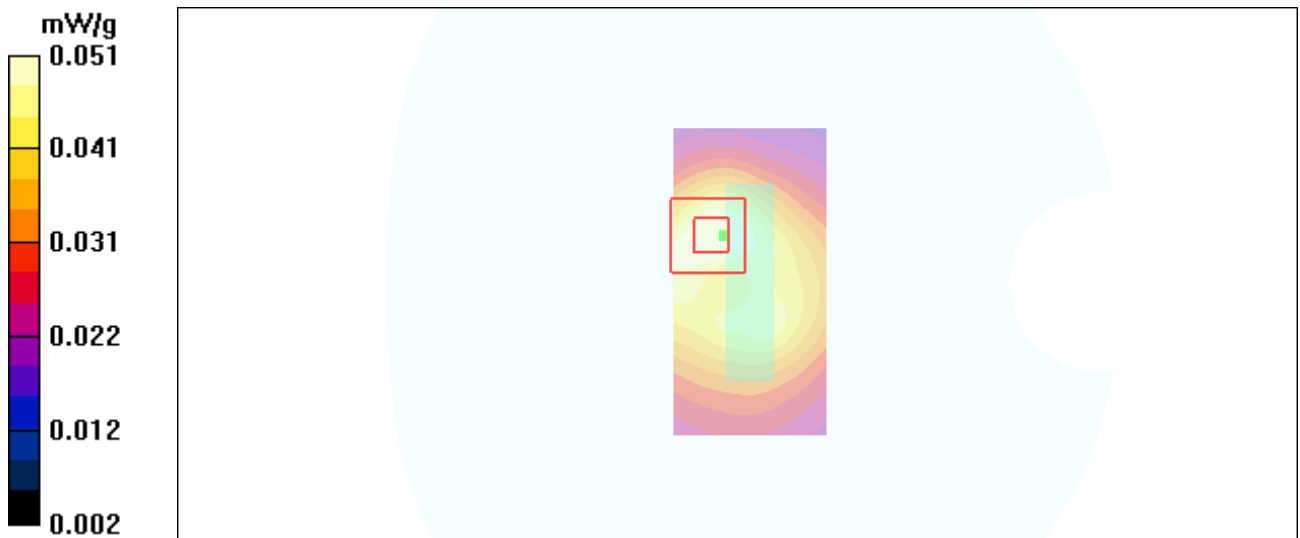


Figure 32 Body, Bottom Edge, CDMA Cellular Channel 384

TA Technology (Shanghai) Co., Ltd.

Test Report

Report No.: RXA1204-0071SAR01R1

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CDMA Cellular Back Side High (Hot Spots Off)

Date/Time: 4/27/2012 11:47:42 AM

Communication System: CDMA Cellular; Frequency: 848.31 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 848.31$ MHz; $\sigma = 1$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Side High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.861 mW/g

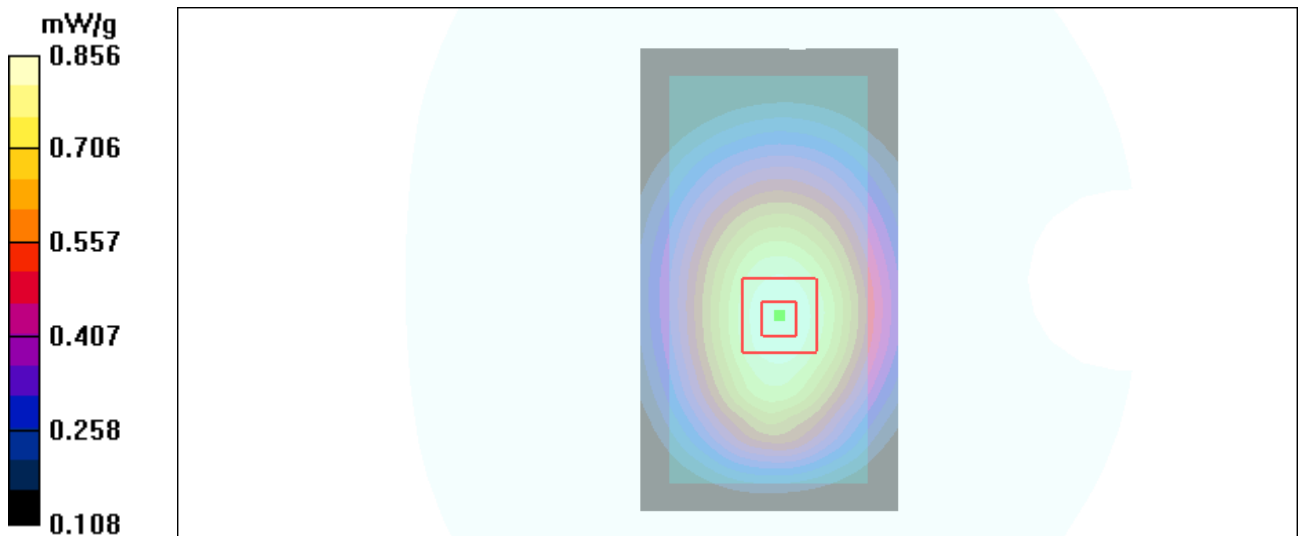
Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.5 V/m; Power Drift = -0.008 dB

Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.814 mW/g; SAR(10 g) = 0.602 mW/g

Maximum value of SAR (measured) = 0.856 mW/g



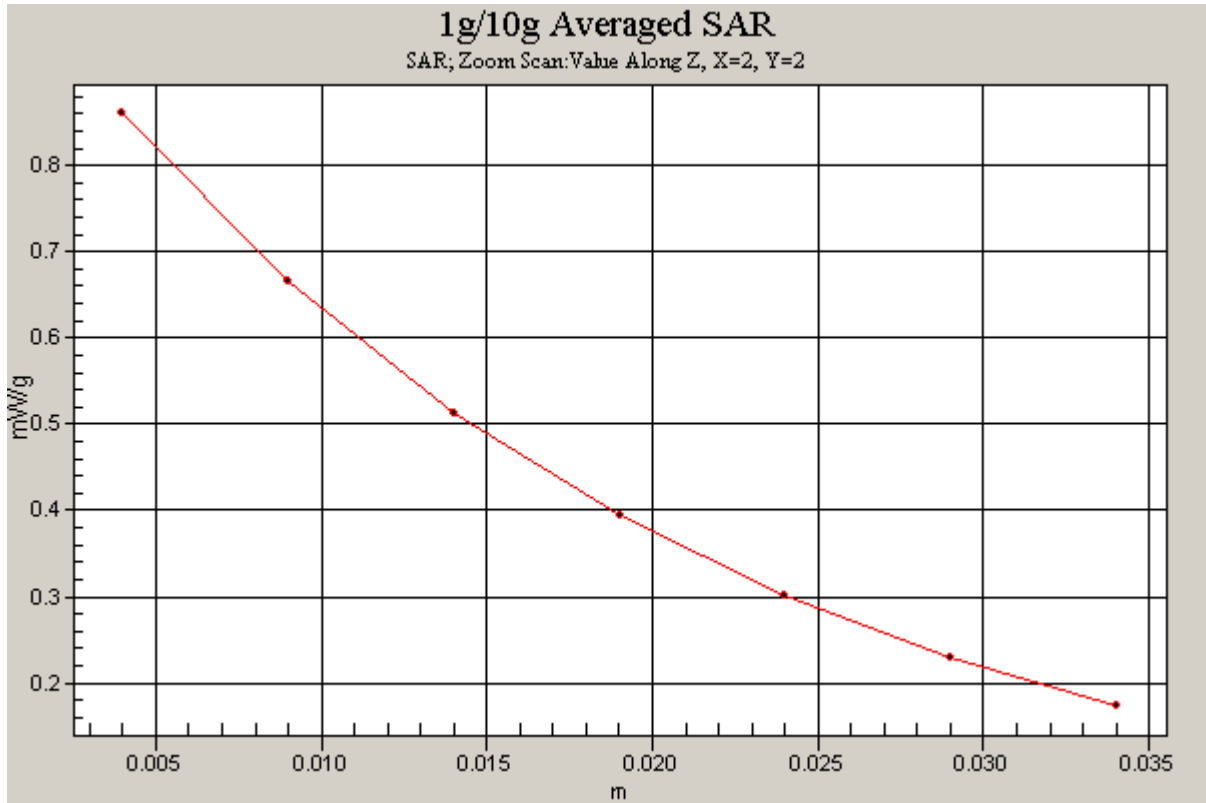


Figure 33 Body, CDMA Cellular Back Side Channel 777

CDMA Cellular Back Side Middle (Hot Spots Off)

Date/Time: 4/27/2012 11:32:48 AM

Communication System: CDMA Cellular; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.988$ mho/m; $\epsilon_r = 54.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Side Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.895 mW/g

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

Reference Value = 28.9 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.801 mW/g; SAR(10 g) = 0.589 mW/g

Maximum value of SAR (measured) = 0.846 mW/g

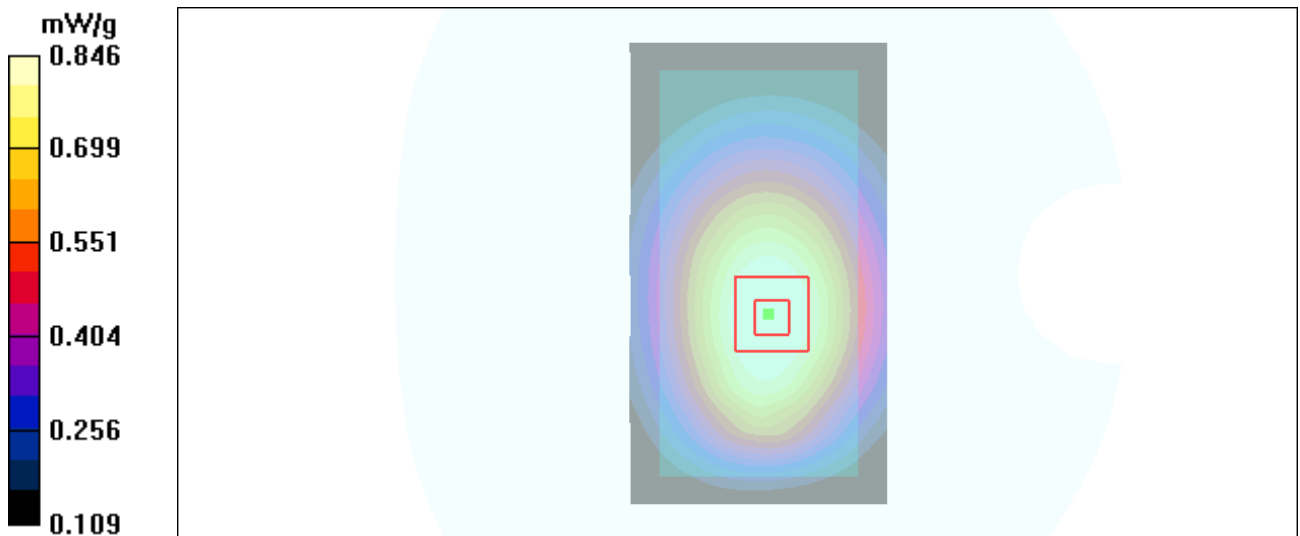


Figure 34 Body, CDMA Cellular Back Side Channel 384

CDMA Cellular Back Side Low (Hot Spots Off)

Date/Time: 4/27/2012 11:59:43 AM

Communication System: CDMA Cellular; Frequency: 824.7 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 825$ MHz; $\sigma = 0.972$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Side Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.774 mW/g

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

Reference Value = 27.3 V/m; Power Drift = 0.045 dB

Peak SAR (extrapolated) = 0.948 W/kg

SAR(1 g) = 0.741 mW/g; SAR(10 g) = 0.551 mW/g

Maximum value of SAR (measured) = 0.779 mW/g

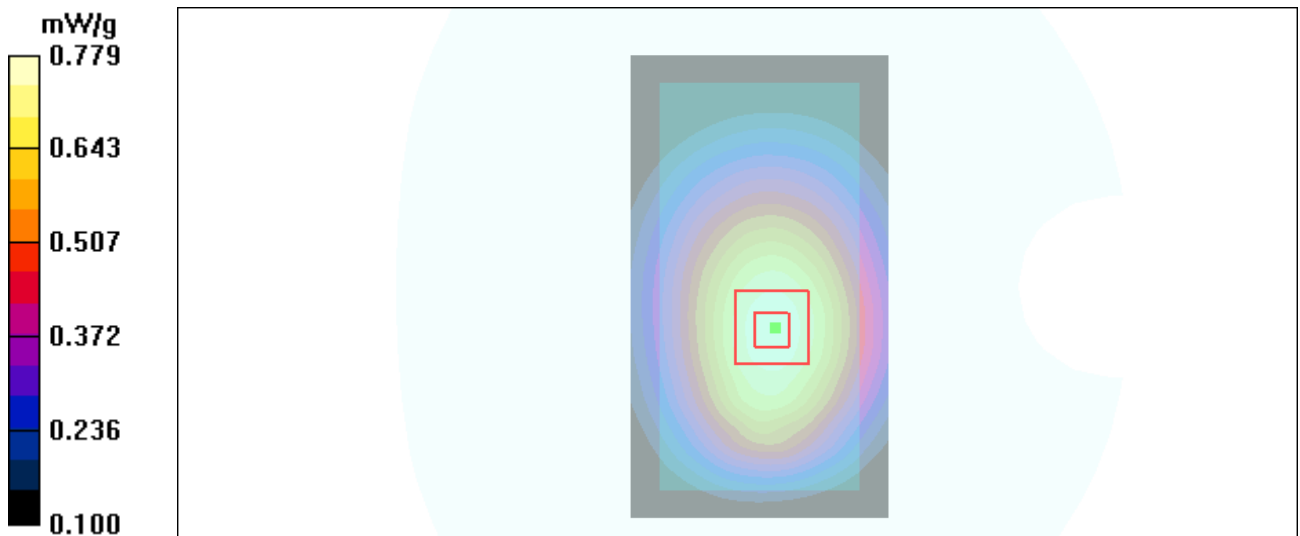


Figure 35 Body, CDMA Cellular Back Side Channel 1013

CDMA Cellular Front Side Middle (Hot Spots Off)

Date/Time: 4/27/2012 12:16:43 PM

Communication System: CDMA Cellular; Frequency: 836.52 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 0.988$ mho/m; $\epsilon_r = 54.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Front Side Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.690 mW/g

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

Reference Value = 25.7 V/m; Power Drift = -0.074 dB

Peak SAR (extrapolated) = 0.823 W/kg

SAR(1 g) = 0.641 mW/g; SAR(10 g) = 0.478 mW/g

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

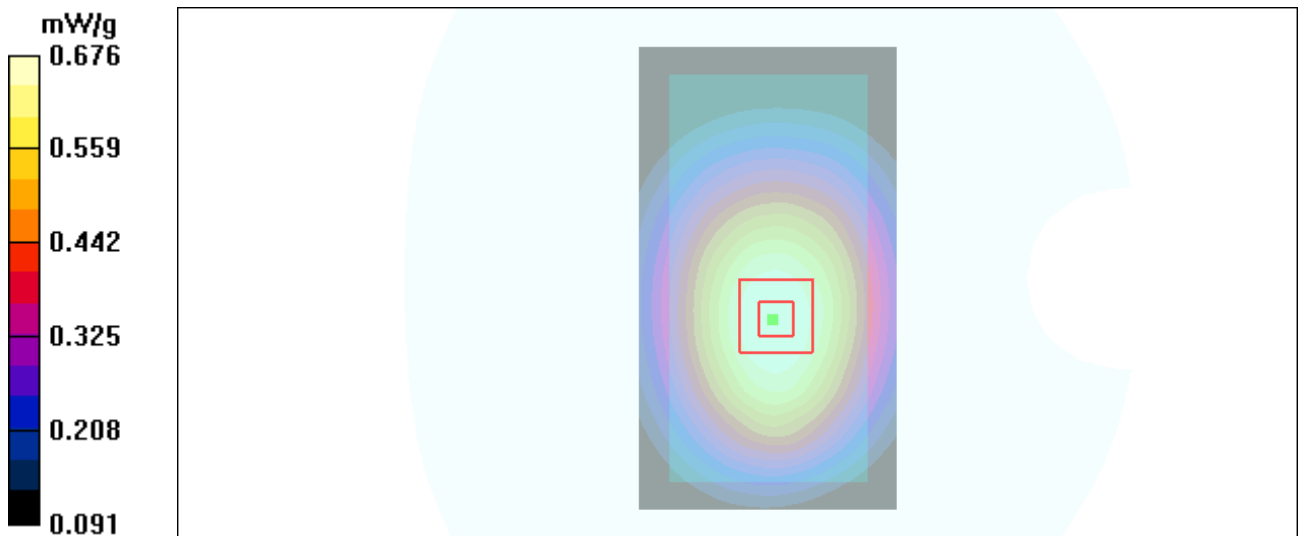


Figure 36 Body, Front Side, CDMA Cellular Channel 384

CDMA Cellular with Earphone Back Side High (Hot Spots Off)

Date/Time: 4/27/2012 3:15:54 PM

Communication System: CDMA Cellular; Frequency: 848.31 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 848.31$ MHz; $\sigma = 1$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Side High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.620 mW/g

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

Reference Value = 23.0 V/m; Power Drift = -0.066 dB

Peak SAR (extrapolated) = 0.771 W/kg

SAR(1 g) = 0.589 mW/g; SAR(10 g) = 0.429 mW/g

Maximum value of SAR (measured) = 0.621 mW/g

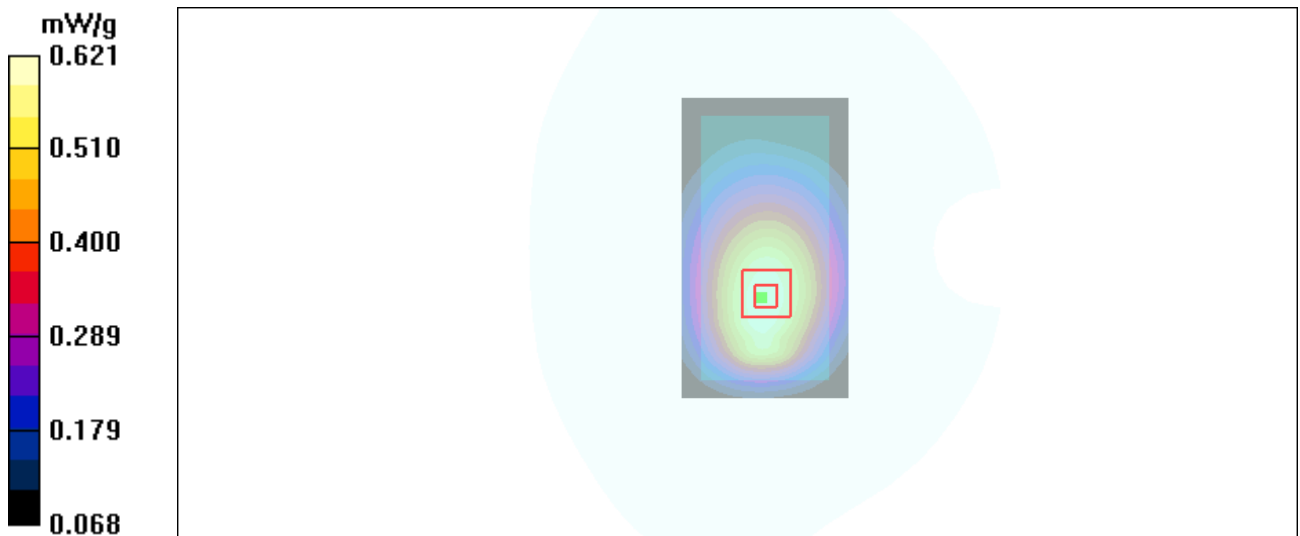


Figure 37 Body with Earphone, Back Side ,CDMA Cellular Channel 384

CDMA PCS Left Cheek High

Date/Time: 4/27/2012 7:11:55 PM

Communication System: CDMA PCS; Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1908.75$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.9, 7.9, 7.9); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

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

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

Reference Value = 9.88 V/m; Power Drift = 0.004 dB

Peak SAR (extrapolated) = 1.45 W/kg

SAR(1 g) = 0.922 mW/g; SAR(10 g) = 0.568 mW/g

Maximum value of SAR (measured) = 1.000 mW/g

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

Reference Value = 9.88 V/m; Power Drift = 0.004 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.811 mW/g; SAR(10 g) = 0.529 mW/g

Maximum value of SAR (measured) = 0.895 mW/g

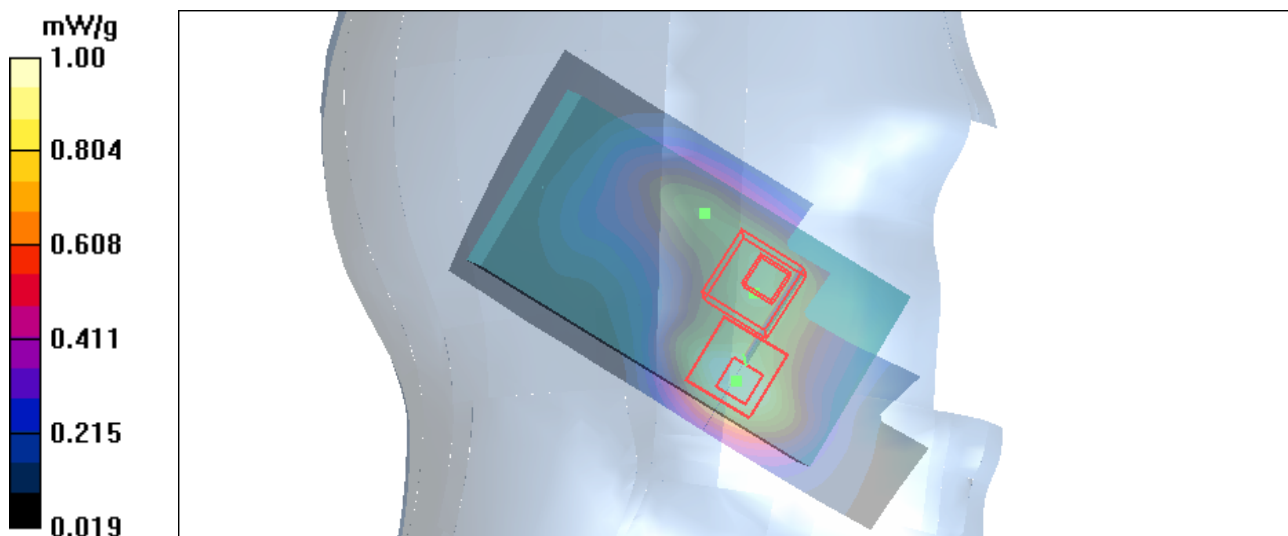


Figure 38 CDMA PCS Left Hand Touch Cheek Channel 1175

CDMA PCS Left Cheek Middle

Date/Time: 4/27/2012 6:52:04 PM

Communication System: CDMA PCS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.38$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.9, 7.9, 7.9); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 1.23 mW/g

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

Reference Value = 10.2 V/m; Power Drift = 0.026 dB

Peak SAR (extrapolated) = 1.70 W/kg

SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.669 mW/g

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

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

Reference Value = 10.2 V/m; Power Drift = 0.026 dB

Peak SAR (extrapolated) = 1.46 W/kg

SAR(1 g) = 0.932 mW/g; SAR(10 g) = 0.619 mW/g

Maximum value of SAR (measured) = 1.06 mW/g

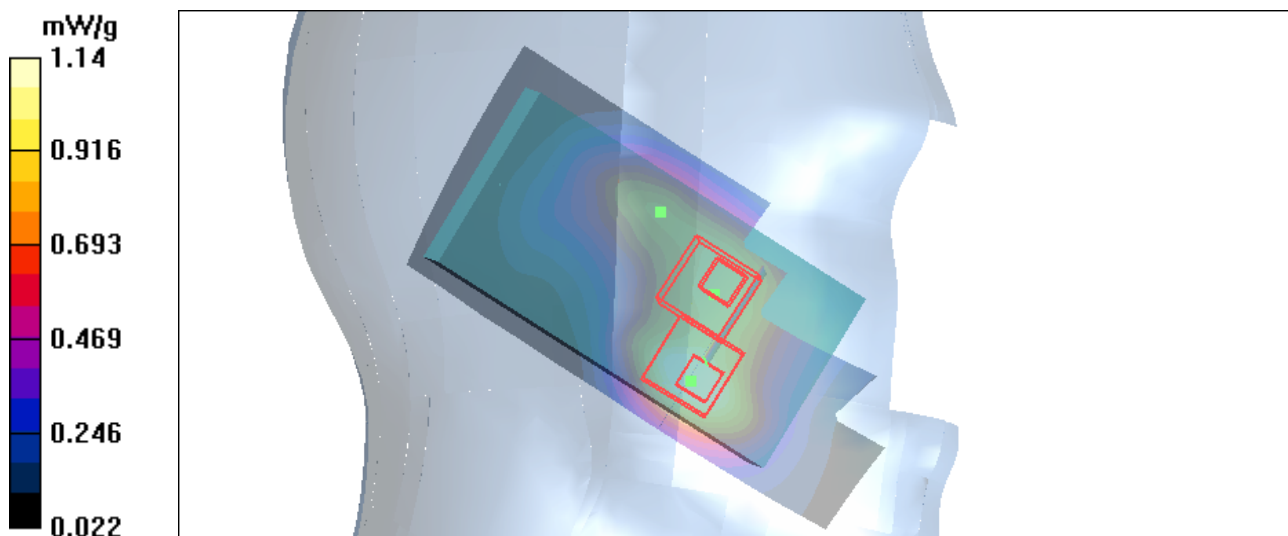


Figure 39 CDMA PCS Left Hand Touch Cheek Channel 600

CDMA PCS Left Cheek Low

Date/Time: 4/27/2012 6:25:15 PM

Communication System: CDMA PCS; Frequency: 1851.25 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1852$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.9, 7.9, 7.9); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 1.47 mW/g

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

Reference Value = 10.4 V/m; Power Drift = 0.032 dB

Peak SAR (extrapolated) = 1.94 W/kg

SAR(1 g) = 1.25 mW/g; SAR(10 g) = 0.779 mW/g

Maximum value of SAR (measured) = 1.35 mW/g

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

Reference Value = 10.4 V/m; Power Drift = 0.032 dB

Peak SAR (extrapolated) = 1.68 W/kg

SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.703 mW/g

Maximum value of SAR (measured) = 1.23 mW/g

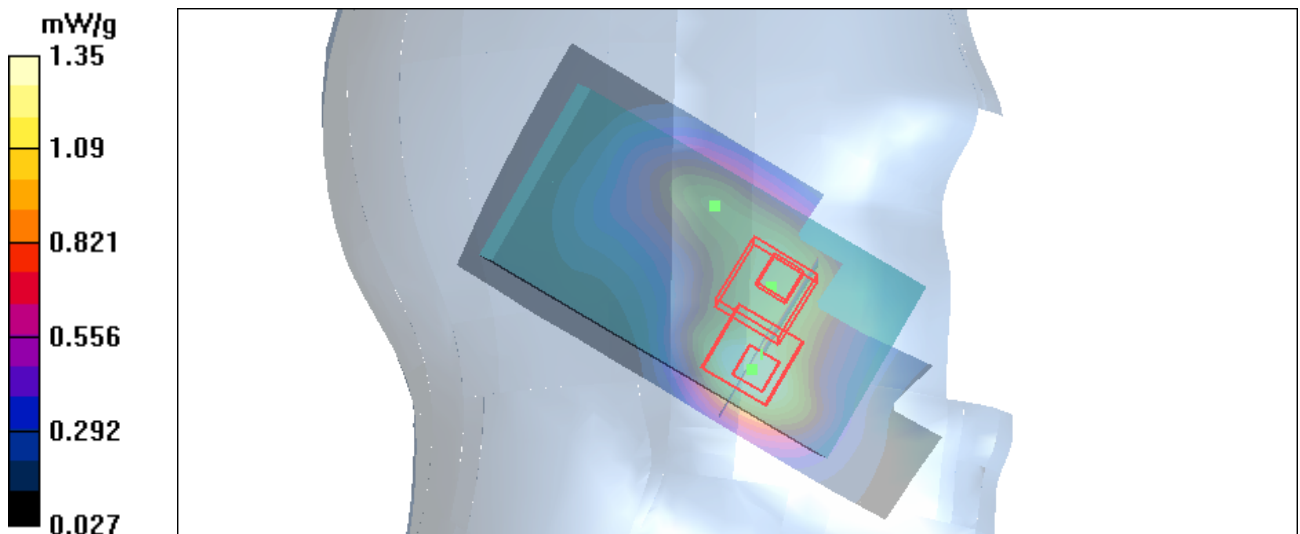


Figure 40 CDMA PCS Left Hand Touch Cheek Channel 25

CDMA PCS Left Tilt High

Date/Time: 4/27/2012 11:02:01 PM

Communication System: CDMA PCS; Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1908.75$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.9, 7.9, 7.9); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.667 mW/g

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

Reference Value = 15.9 V/m; Power Drift = 0.005 dB

Peak SAR (extrapolated) = 0.831 W/kg

SAR(1 g) = 0.547 mW/g; SAR(10 g) = 0.337 mW/g

Maximum value of SAR (measured) = 0.595 mW/g

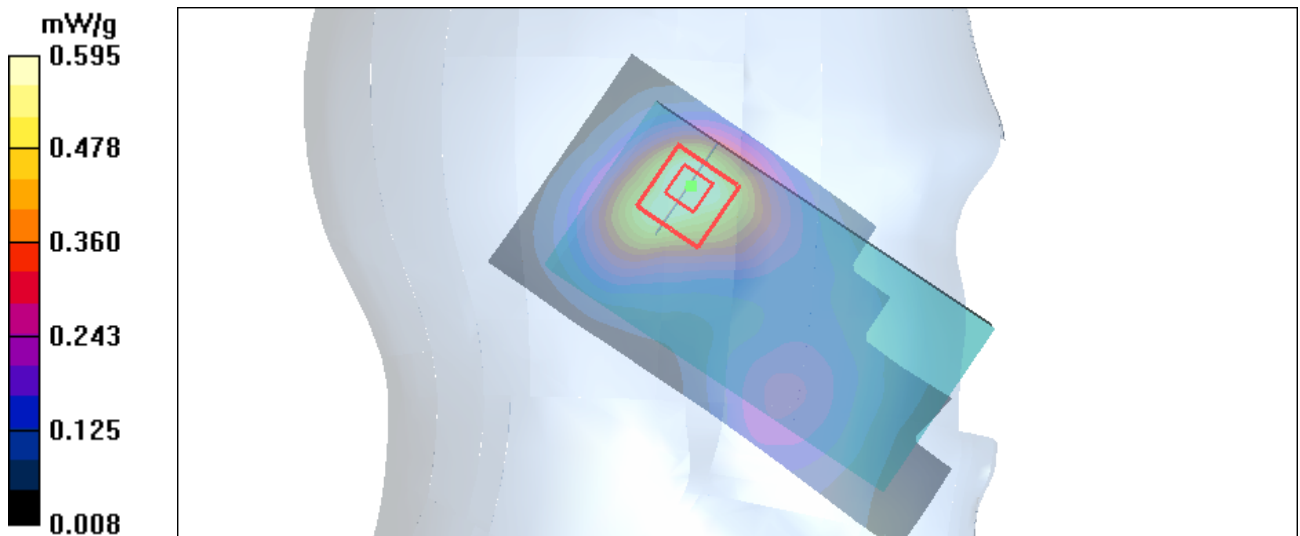


Figure 41 CDMA PCS Left Hand Tilt 15° Channel 1175

CDMA PCS Left Tilt Middle

Date/Time: 4/27/2012 11:15:19 PM

Communication System: CDMA PCS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.38$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.9, 7.9, 7.9); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.722 mW/g

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

Reference Value = 16.3 V/m; Power Drift = -0.048 dB

Peak SAR (extrapolated) = 0.914 W/kg

SAR(1 g) = 0.604 mW/g; SAR(10 g) = 0.376 mW/g

Maximum value of SAR (measured) = 0.652 mW/g

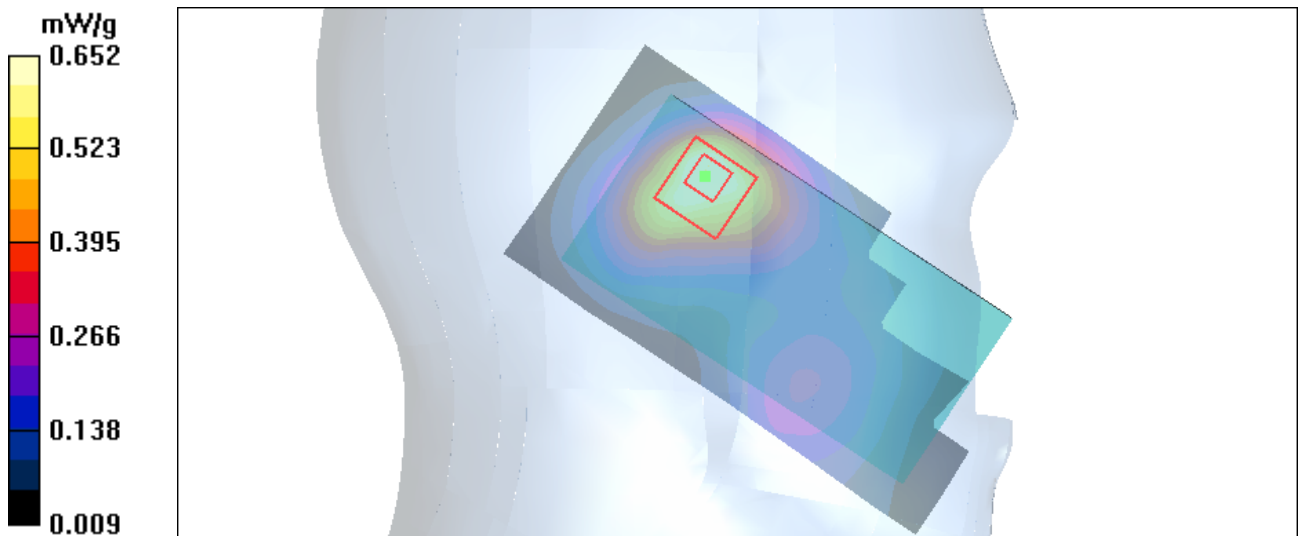


Figure 42 CDMA PCS Left Hand Tilt 15° Channel 600

CDMA PCS Left Tilt Low

Date/Time: 4/27/2012 11:30:46 PM

Communication System: CDMA PCS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.38$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.9, 7.9, 7.9); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 0.722 mW/g

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

Reference Value = 16.6 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 0.922 W/kg

SAR(1 g) = 0.620 mW/g; SAR(10 g) = 0.392 mW/g

Maximum value of SAR (measured) = 0.665 mW/g

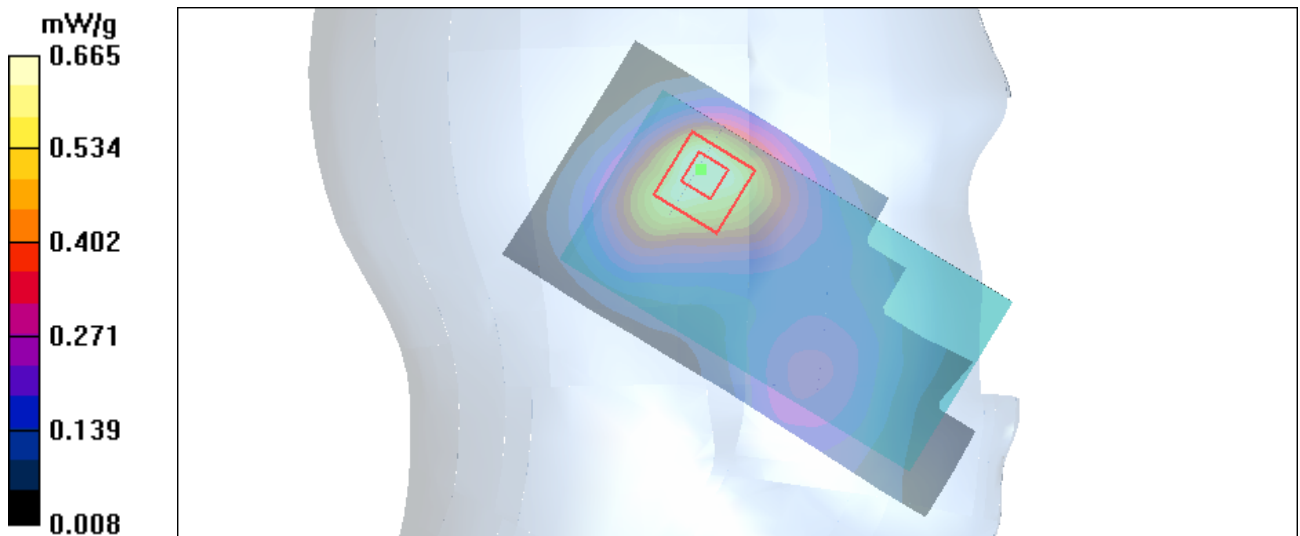


Figure 43 CDMA PCS Left Hand Tilt 15° Channel 25

CDMA PCS Right Cheek High

Date/Time: 4/27/2012 5:46:20 PM

Communication System: CDMA PCS; Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1908.75$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.9, 7.9, 7.9); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.23 mW/g

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

Reference Value = 12.4 V/m; Power Drift = 0.018 dB

Peak SAR (extrapolated) = 1.66 W/kg

SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.669 mW/g

Maximum value of SAR (measured) = 1.21 mW/g

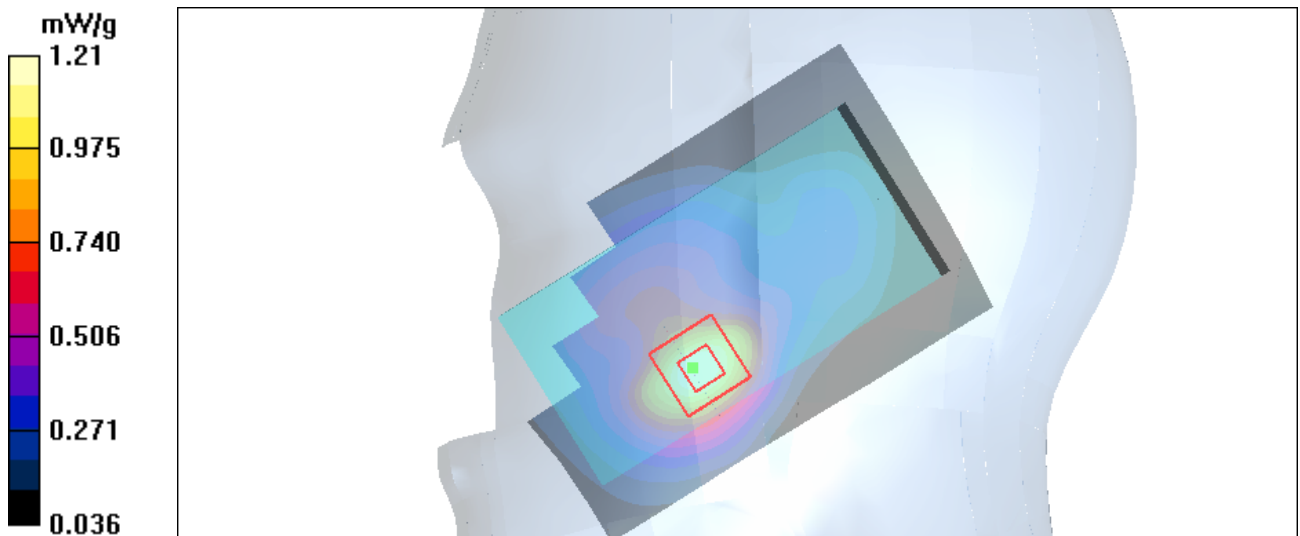


Figure 44 CDMA PCS Right Hand Touch Cheek Channel 1175

CDMA PCS Right Cheek Middle

Date/Time: 4/27/2012 5:16:37 PM

Communication System: CDMA PCS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.38$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.9, 7.9, 7.9); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.48 mW/g

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

Reference Value = 13.0 V/m; Power Drift = 0.056 dB

Peak SAR (extrapolated) = 1.92 W/kg

SAR(1 g) = 1.3 mW/g; SAR(10 g) = 0.789 mW/g

Maximum value of SAR (measured) = 1.43 mW/g

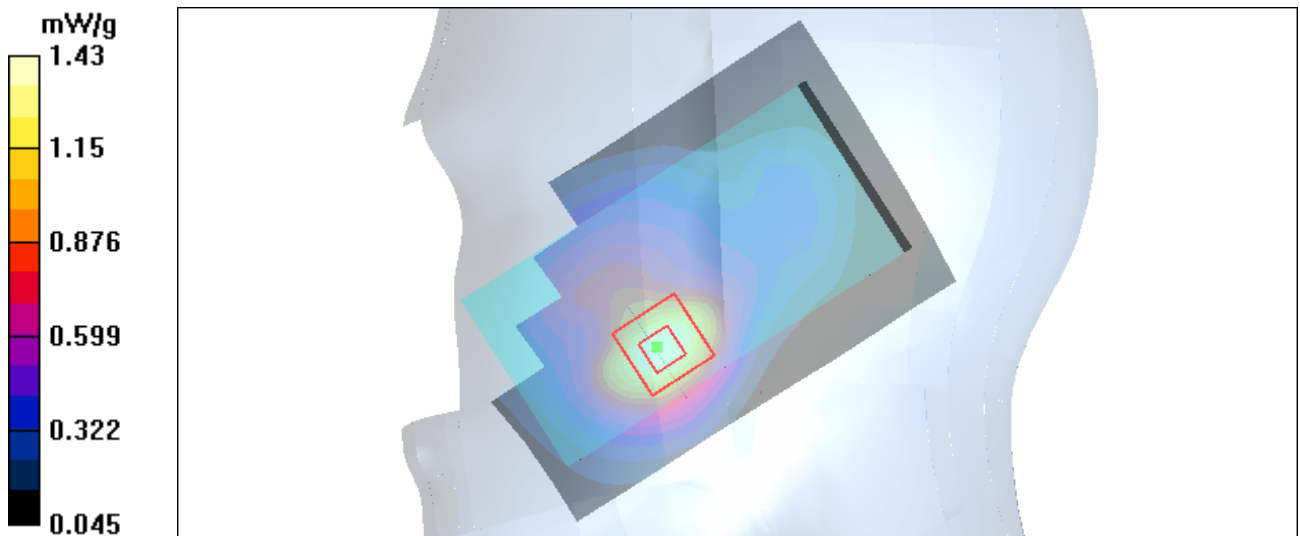


Figure 45 CDMA PCS Right Hand Touch Cheek Channel 600

CDMA PCS Right Cheek Low

Date/Time: 4/27/2012 5:31:32 PM

Communication System: CDMA PCS; Frequency: 1851.25 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1852$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.9, 7.9, 7.9); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.48 mW/g

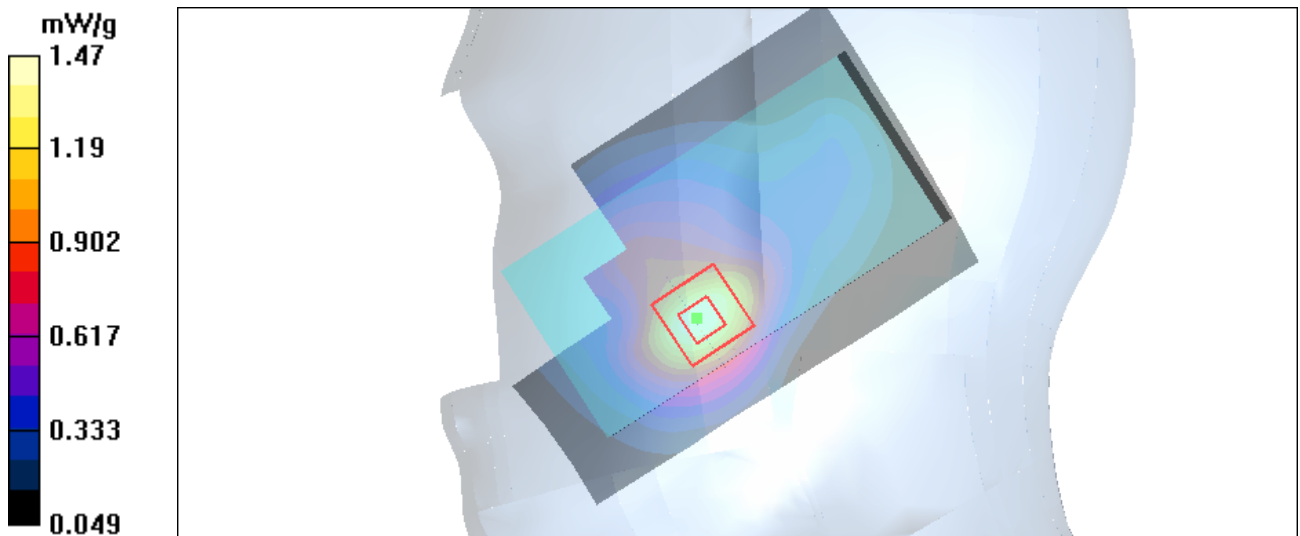
Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.7 V/m; Power Drift = 0.124 dB

Peak SAR (extrapolated) = 1.97 W/kg

SAR(1 g) = 1.35 mW/g; SAR(10 g) = 0.829 mW/g

Maximum value of SAR (measured) = 1.47 mW/g



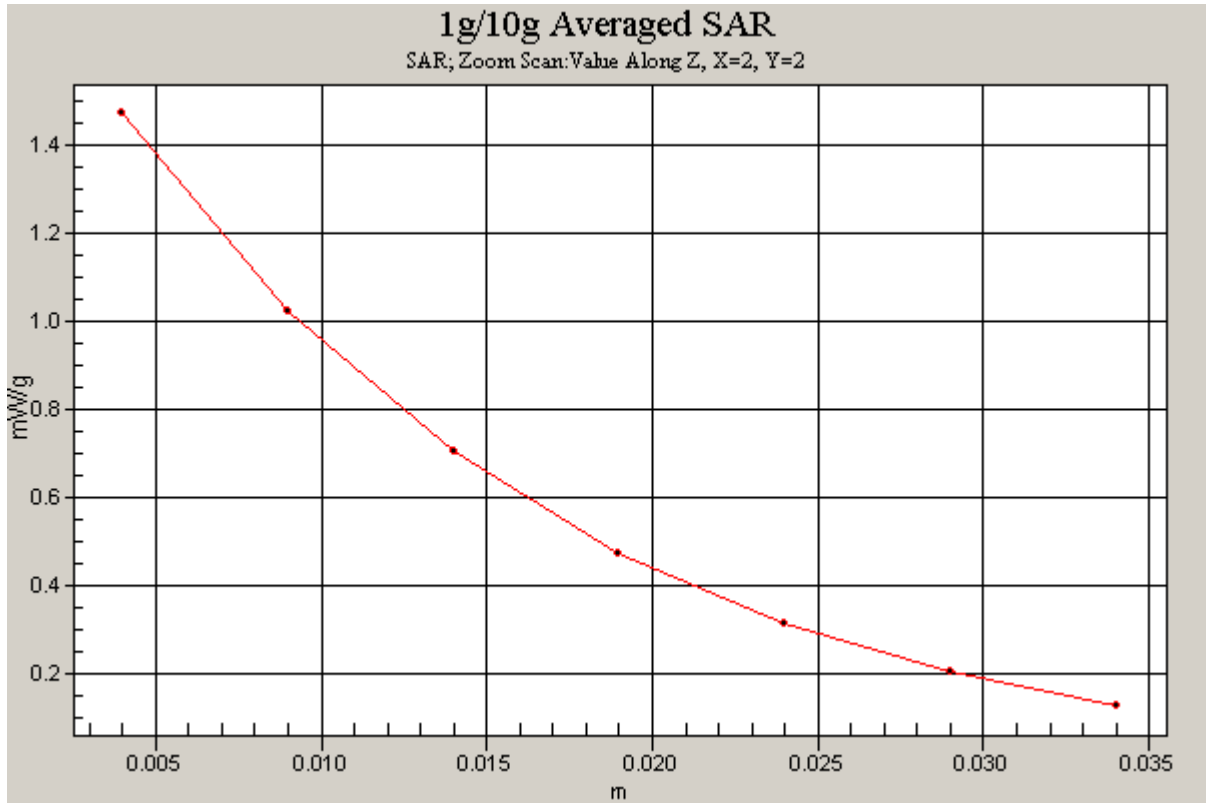


Figure 46 CDMA PCS Right Hand Touch Cheek Channel 25

CDMA PCS Right Tilt High

Date/Time: 4/27/2012 6:00:57 PM

Communication System: CDMA PCS; Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1908.75$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.9, 7.9, 7.9); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.588 mW/g

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

Reference Value = 18.3 V/m; Power Drift = 0.007 dB

Peak SAR (extrapolated) = 0.800 W/kg

SAR(1 g) = 0.504 mW/g; SAR(10 g) = 0.298 mW/g

Maximum value of SAR (measured) = 0.539 mW/g

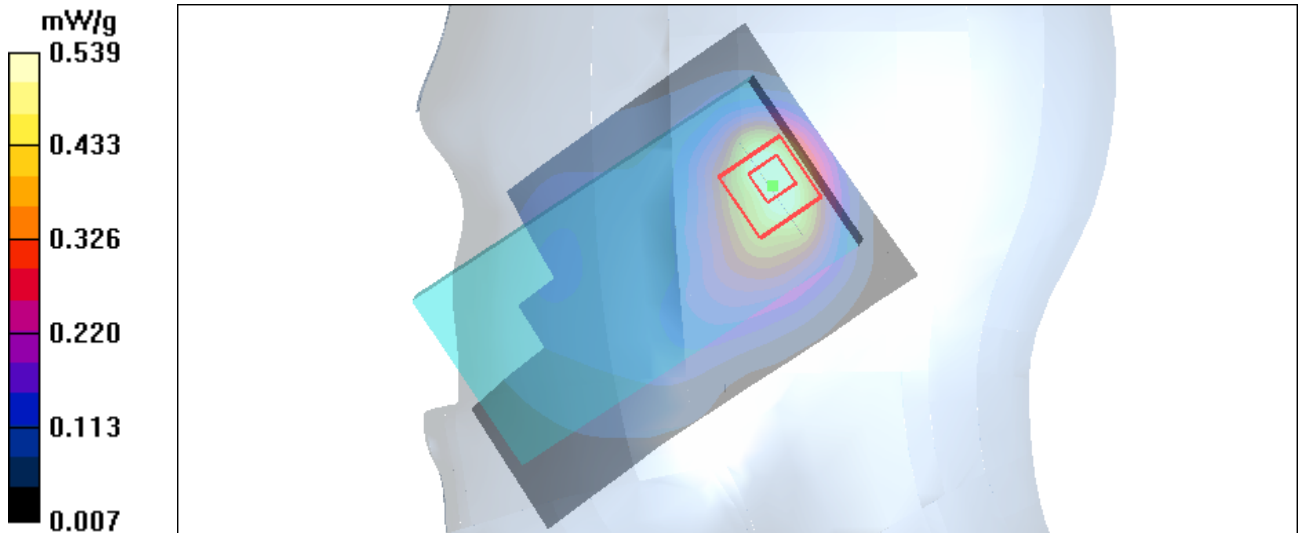


Figure 47 CDMA PCS Right Hand Tilt 15° Channel 1175

CDMA PCS Right Tilt Middle

Date/Time: 4/28/2012 9:57:14 AM

Communication System: CDMA PCS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.38$ mho/m; $\epsilon_r = 40.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.9, 7.9, 7.9); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.663 mW/g

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

Reference Value = 19.1 V/m; Power Drift = 0.017 dB

Peak SAR (extrapolated) = 0.890 W/kg

SAR(1 g) = 0.568 mW/g; SAR(10 g) = 0.344 mW/g

Maximum value of SAR (measured) = 0.596 mW/g

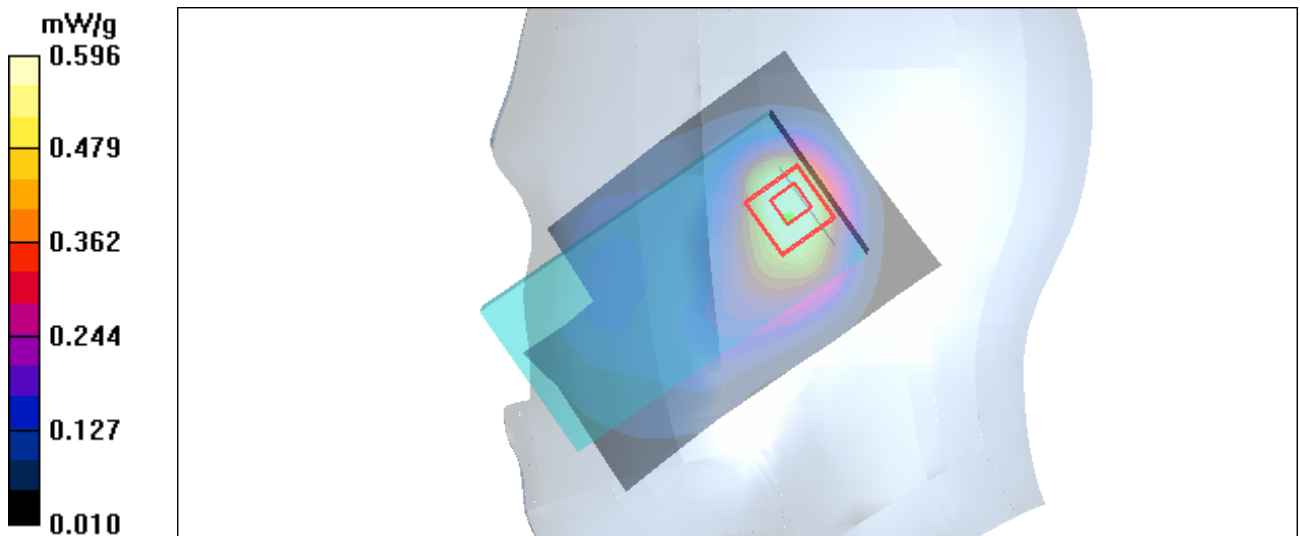


Figure 48 CDMA PCS Right Hand Tilt 15° Channel 600

CDMA PCS Right Tilt Low

Date/Time: 4/28/2012 10:12:00 AM

Communication System: CDMA PCS; Frequency: 1851.25 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1852$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.9, 7.9, 7.9); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.630 mW/g

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

Reference Value = 19.6 V/m; Power Drift = 0.011 dB

Peak SAR (extrapolated) = 0.851 W/kg

SAR(1 g) = 0.557 mW/g; SAR(10 g) = 0.341 mW/g

Maximum value of SAR (measured) = 0.573 mW/g

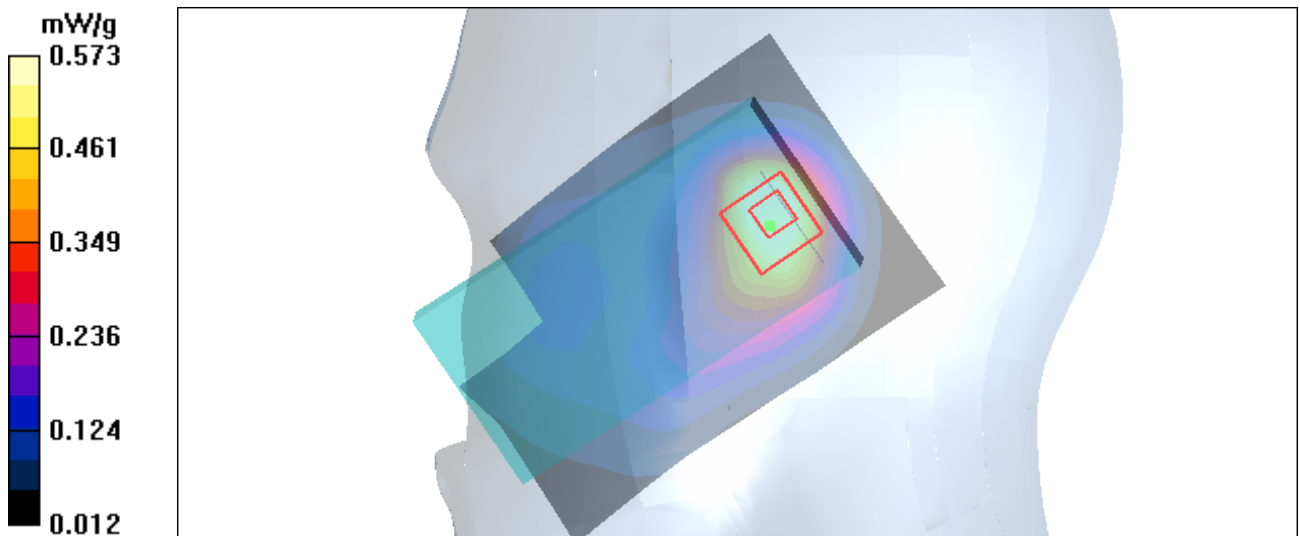


Figure 49 CDMA PCS Right Hand Tilt 15° Channel 25

CDMA PCS Back Side High (Hot Spots On)

Date/Time: 4/26/2012 11:22:23 PM

Communication System: CDMA PCS; Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1908.75$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.51, 7.51, 7.51); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Side High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.954 mW/g

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

Reference Value = 11.0 V/m; Power Drift = 0.069 dB

Peak SAR (extrapolated) = 1.32 W/kg

SAR(1 g) = 0.833 mW/g; SAR(10 g) = 0.512 mW/g

Maximum value of SAR (measured) = 0.896 mW/g

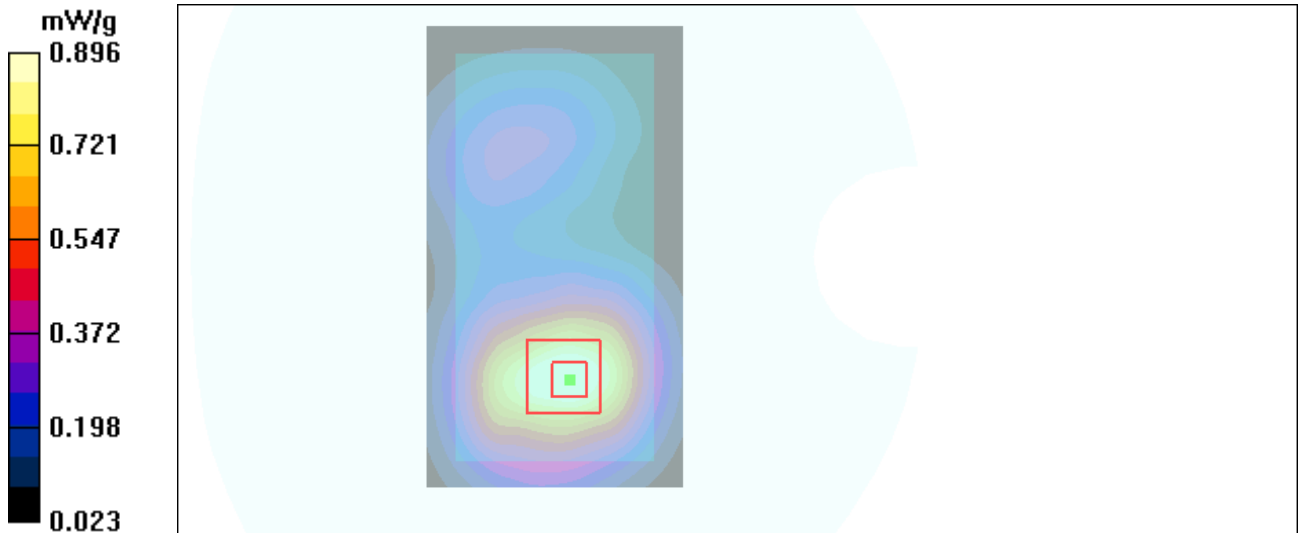


Figure 50 Body, CDMA PCS Back Side Channel 1175

CDMA PCS Back Side Middle (Hot Spots On)

Date/Time: 4/26/2012 11:09:41 PM

Communication System: CDMA PCS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.51, 7.51, 7.51); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Side Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.11 mW/g

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

Reference Value = 11.5 V/m; Power Drift = 0.078 dB

Peak SAR (extrapolated) = 1.55 W/kg

SAR(1 g) = 0.971 mW/g; SAR(10 g) = 0.589 mW/g

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

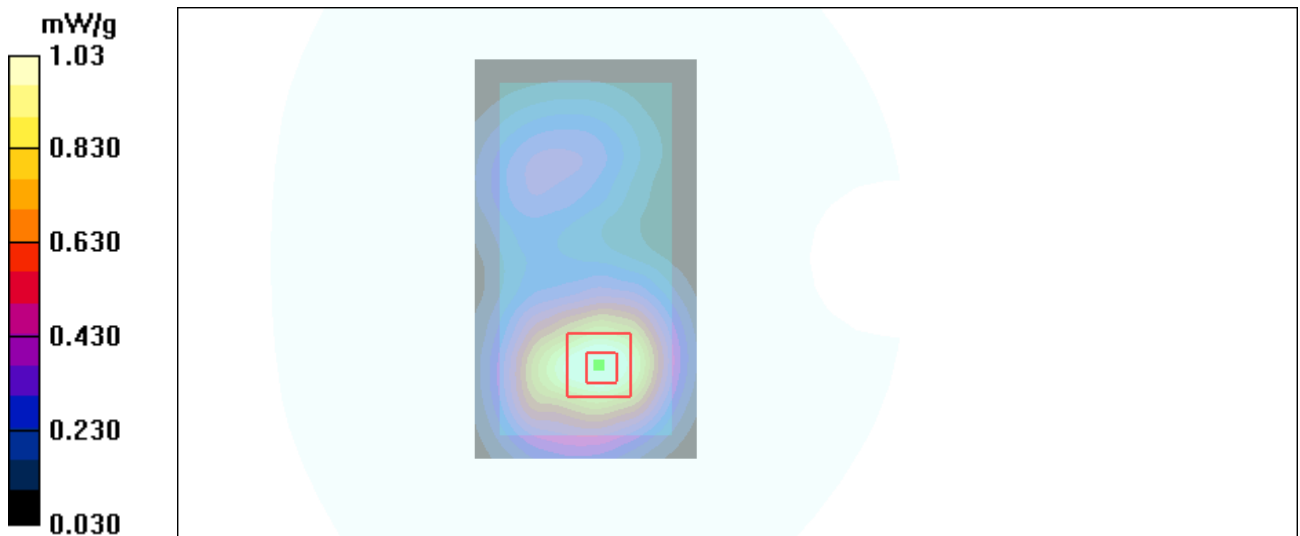


Figure 51 Body, CDMA PCS Back Side Channel 600

CDMA PCS Back Side Low (Hot Spots On)

Date/Time: 4/26/2012 11:35:04 PM

Communication System: CDMA PCS; Frequency: 1851.25 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1852 \text{ MHz}$; $\sigma = 1.51 \text{ mho/m}$; $\epsilon_r = 52.1$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: $22.3 \text{ }^\circ\text{C}$ Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.51, 7.51, 7.51); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Side Low/Area Scan (51x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.991 mW/g

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

Reference Value = 11.4 V/m ; Power Drift = 0.086 dB

Peak SAR (extrapolated) = 1.43 W/kg

SAR(1 g) = 0.899 mW/g ; SAR(10 g) = 0.545 mW/g

Maximum value of SAR (measured) = 0.960 mW/g

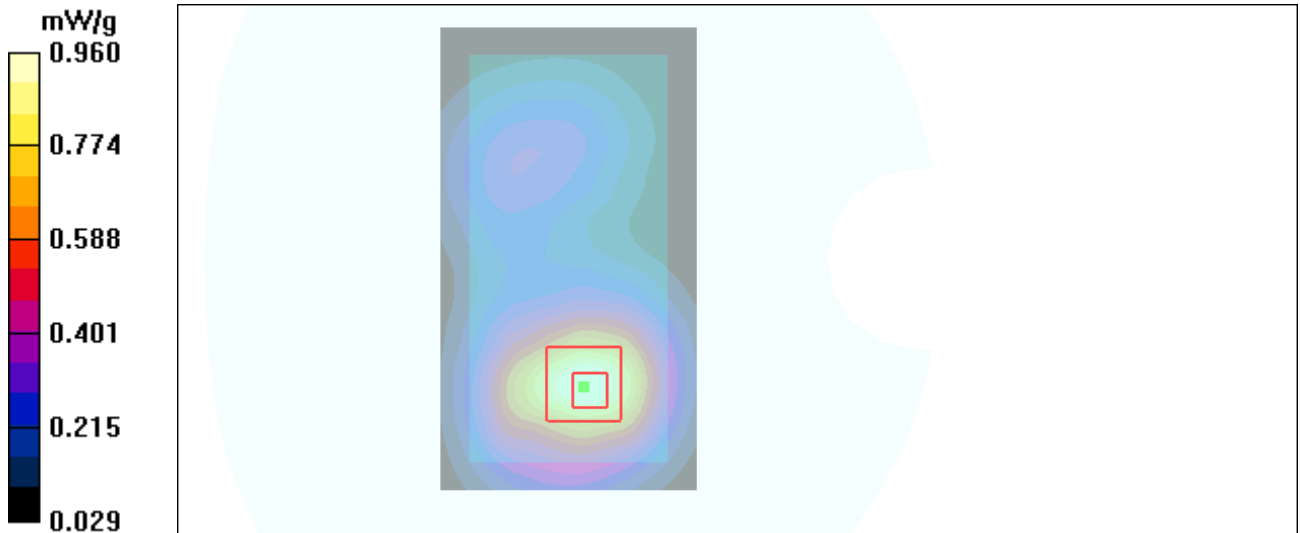


Figure 52 Body, CDMA PCS Back Side Channel 25

CDMA PCS Front Side Middle (Hot Spots On)

Date/Time: 4/27/2012 2:02:11 AM

Communication System: CDMA PCS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.51, 7.51, 7.51); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Front Side Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.817 mW/g

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

Reference Value = 10.3 V/m; Power Drift = -0.094 dB

Peak SAR (extrapolated) = 1.20 W/kg

SAR(1 g) = 0.733 mW/g; SAR(10 g) = 0.441 mW/g

Maximum value of SAR (measured) = 0.790 mW/g

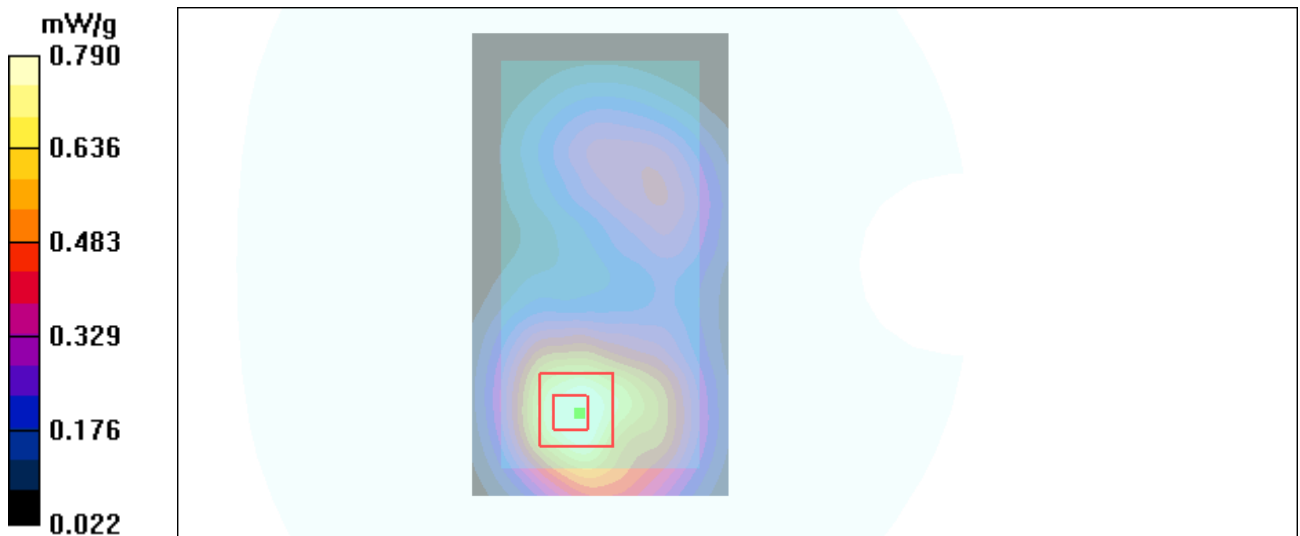


Figure 53 Body, Front Side, CDMA PCS Channel 600

CDMA PCS Left Edge Middle (Hot Spots On)

Date/Time: 4/27/2012 2:21:21 AM

Communication System: CDMA PCS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.51, 7.51, 7.51); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Left Edge Middle/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.304 mW/g

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

Reference Value = 9.13 V/m; Power Drift = 0.035 dB

Peak SAR (extrapolated) = 0.432 W/kg

SAR(1 g) = 0.268 mW/g; SAR(10 g) = 0.159 mW/g

Maximum value of SAR (measured) = 0.292 mW/g

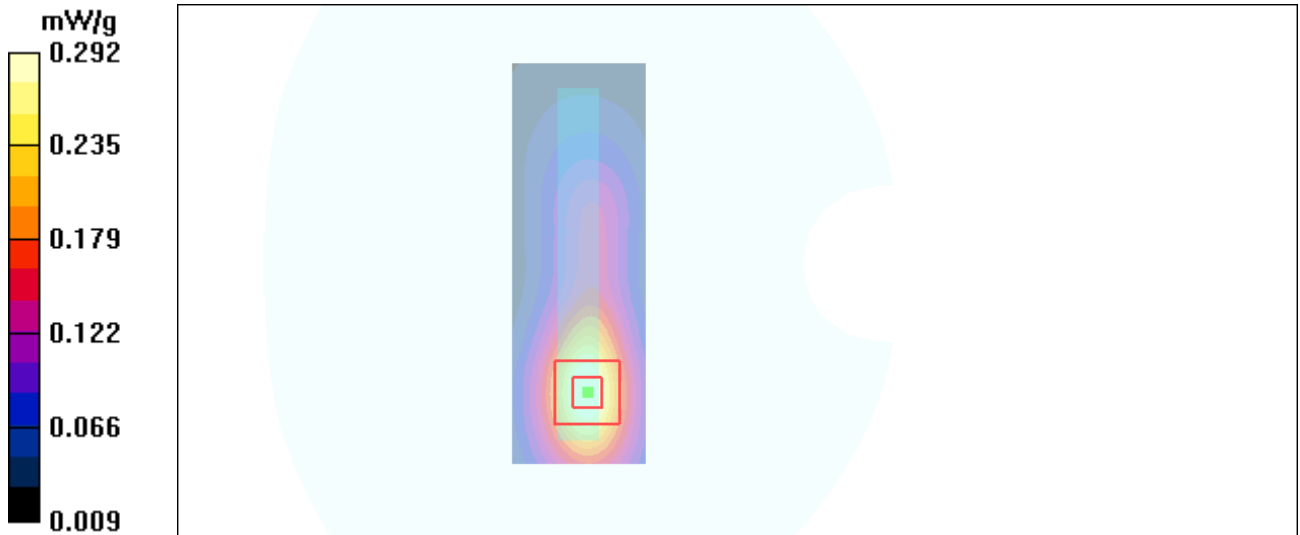


Figure 54 Body, Left Edge, CDMA PCS Channel 600

CDMA PCS Right Edge Middle (Hot Spots On)

Date/Time: 4/27/2012 2:35:13 AM

Communication System: CDMA PCS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.51, 7.51, 7.51); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Right Edge Middle/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.245 mW/g

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

Reference Value = 7.49 V/m; Power Drift = -0.065 dB

Peak SAR (extrapolated) = 0.344 W/kg

SAR(1 g) = 0.218 mW/g; SAR(10 g) = 0.130 mW/g

Maximum value of SAR (measured) = 0.239 mW/g

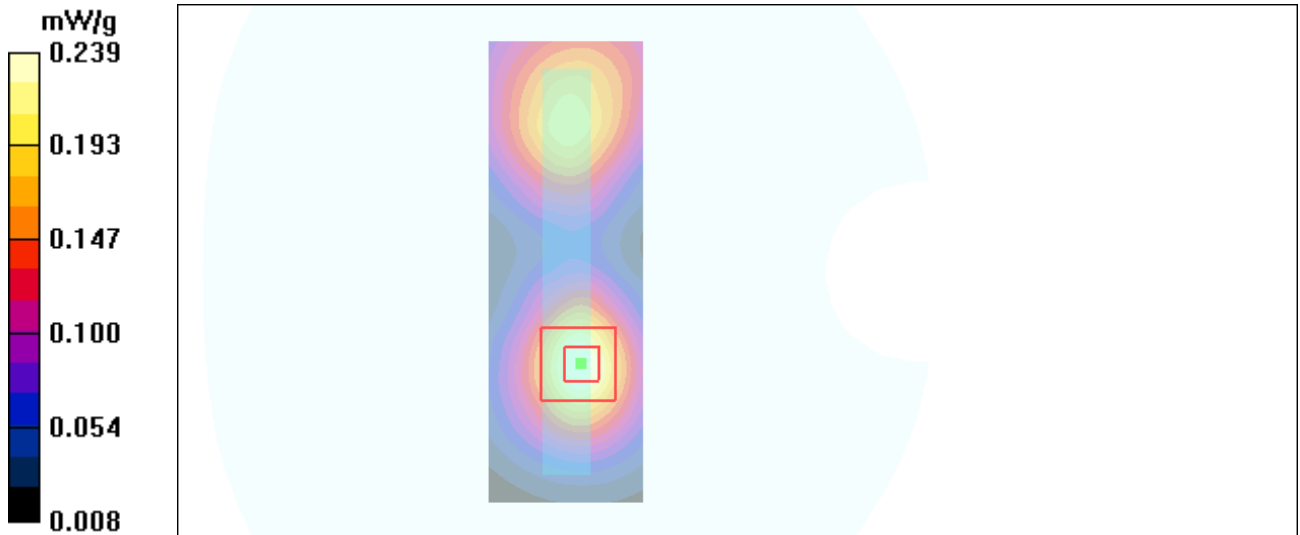


Figure 55 Body, Right Edge, CDMA PCS Channel 600

CDMA PCS Bottom Edge Middle (Hot Spots On)

Date/Time: 4/27/2012 2:49:08 AM

Communication System: CDMA PCS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.51, 7.51, 7.51); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Bottom Edge Middle/Area Scan (51x71x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.497 mW/g

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

Reference Value = 18.9 V/m; Power Drift = -0.047 dB

Peak SAR (extrapolated) = 0.780 W/kg

SAR(1 g) = 0.476 mW/g; SAR(10 g) = 0.265 mW/g

Maximum value of SAR (measured) = 0.541 mW/g

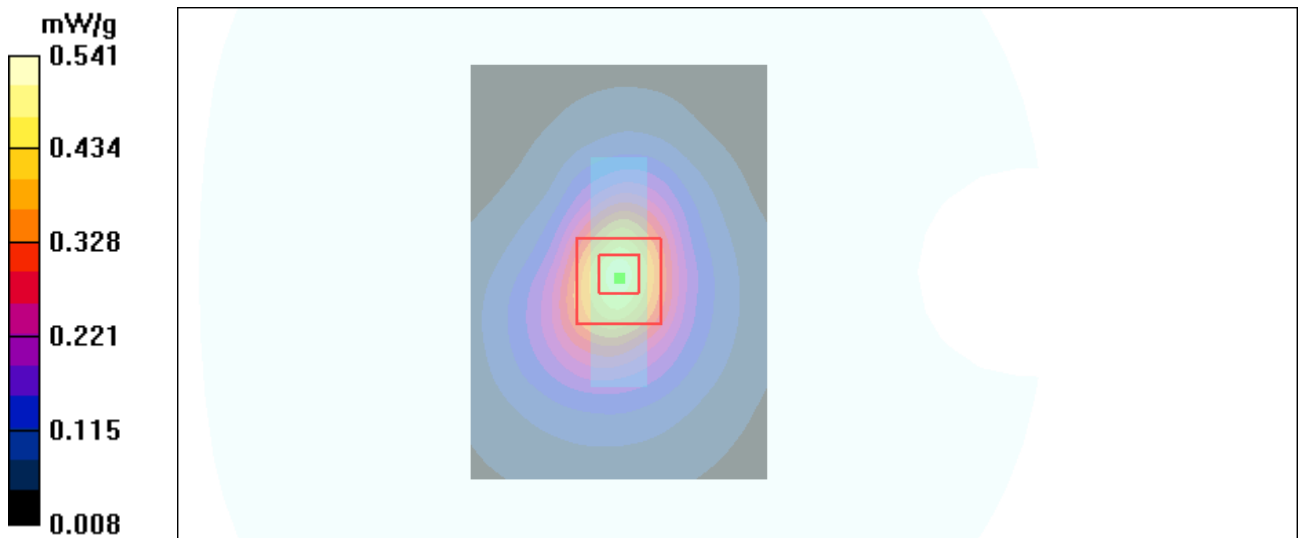


Figure 56 Body, Bottom Edge, CDMA PCS Channel 600

CDMA PCS Back Side High (Hot Spots Off)

Date/Time: 4/26/2012 5:17:02 PM

Communication System: CDMA PCS; Frequency: 1908.75 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1908.75$ MHz; $\sigma = 1.57$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.51, 7.51, 7.51); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Side High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.12 mW/g

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

Reference Value = 12.4 V/m; Power Drift = 0.015 dB

Peak SAR (extrapolated) = 1.59 W/kg

SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.632 mW/g

Maximum value of SAR (measured) = 1.08 mW/g

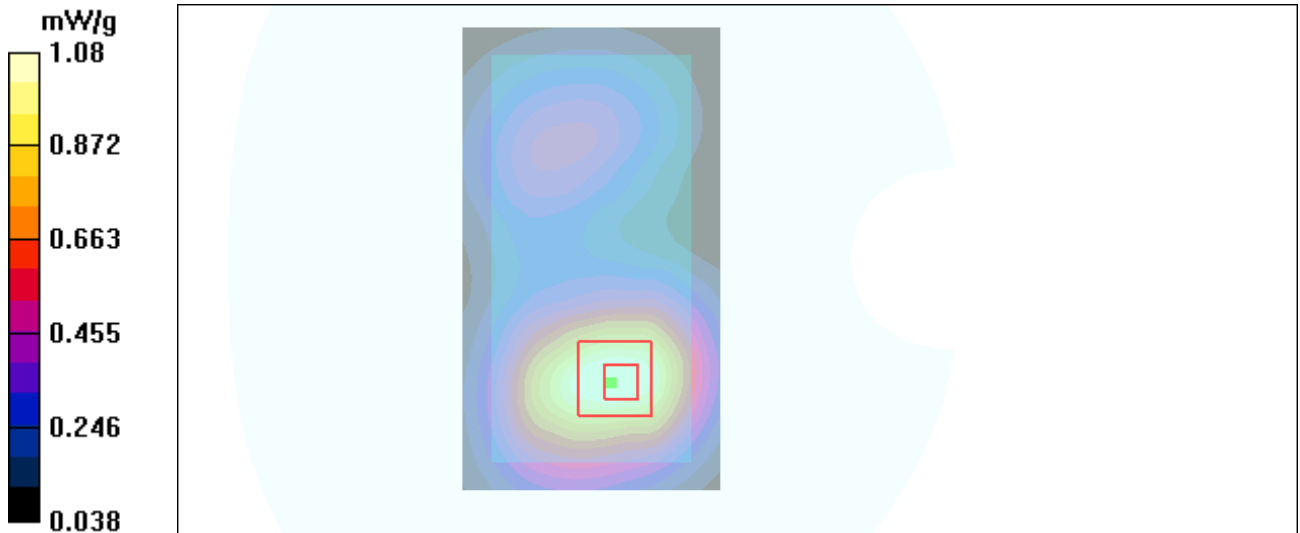


Figure 57 Body, CDMA PCS Back Side Channel 1175

TA Technology (Shanghai) Co., Ltd.
Test Report

CDMA PCS Back Side Middle (Hot Spots Off)

Date/Time: 4/26/2012 2:19:35 PM

Communication System: CDMA PCS; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3816; ConvF(7.51, 7.51, 7.51); Calibrated: 10/3/2011

Electronics: DAE4 Sn1317; Calibrated: 1/23/2012

Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Back Side Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.16 mW/g

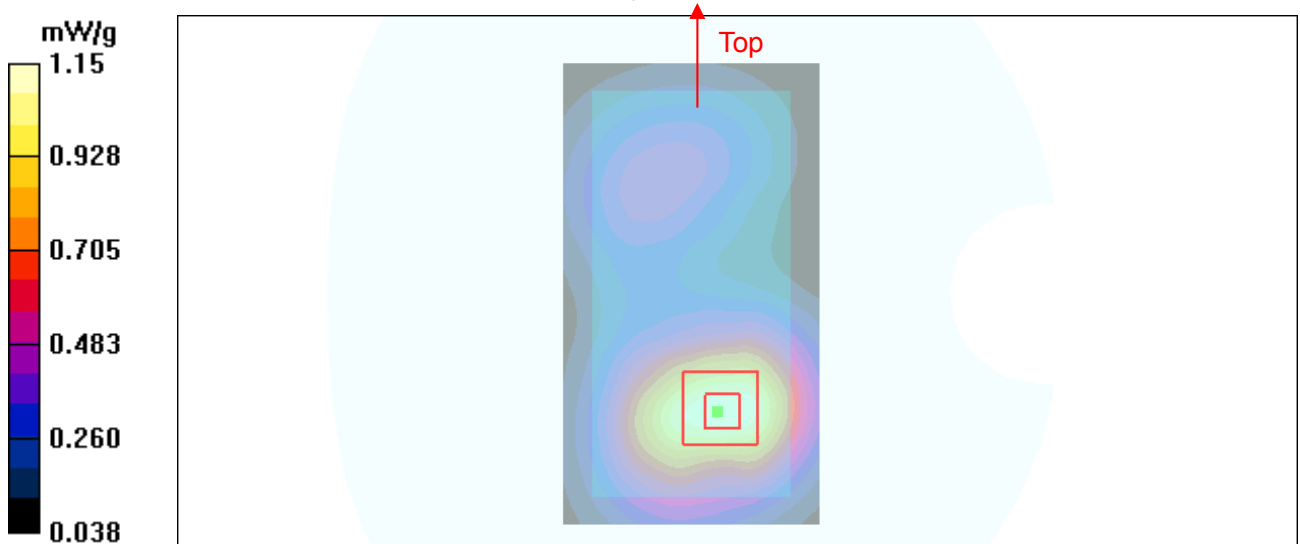
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.0 V/m; Power Drift = -0.008 dB

Peak SAR (extrapolated) = 1.69 W/kg

SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.660 mW/g

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



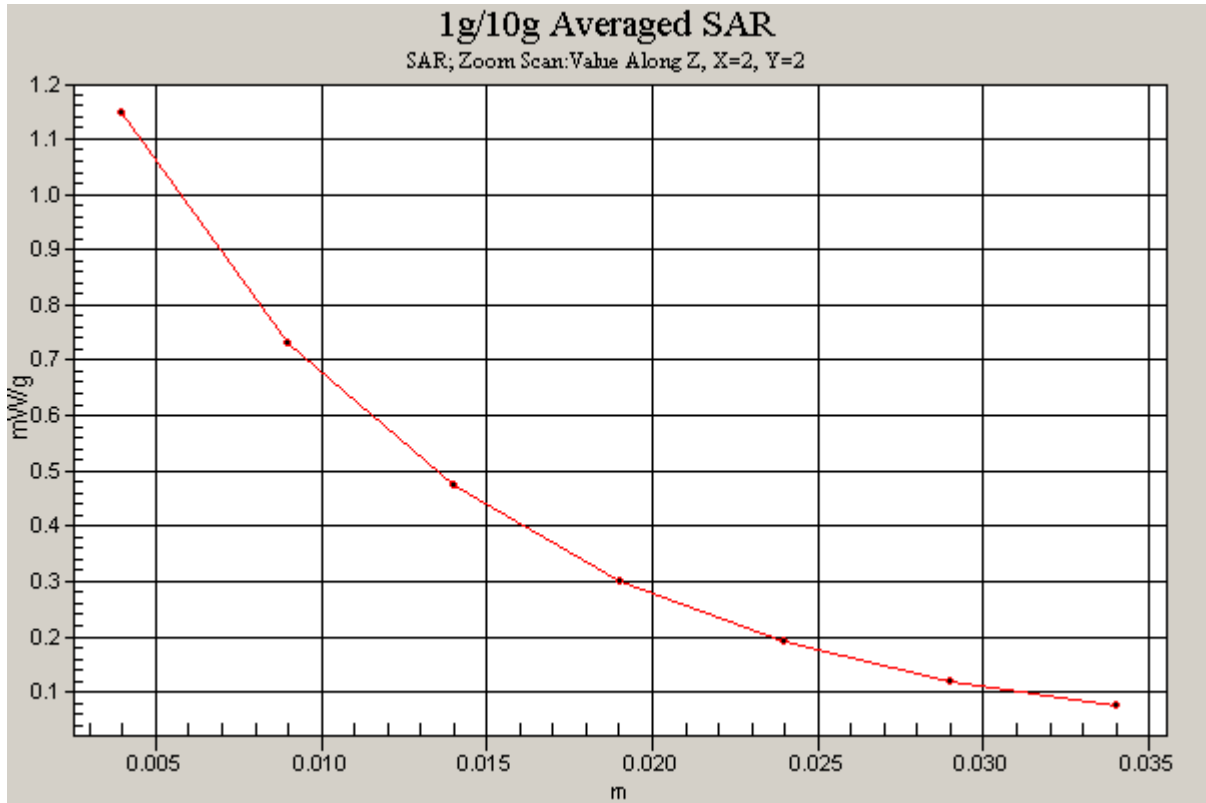


Figure 58 Body, CDMA PCS Back Side Channel 600