TESTING
No. L2264

OET 65

TEST REPORT

Product Name	HSPA+/HSUPA/HSDPA/UMTS/GSM/GPRS/EDGE Mobile Phone with Bluetooth
Model	HUAWEI U9200E, U9200E
FCC ID	QISU9200E
Client	Huawei Technologies Co., Ltd.

TA Technology (Shanghai) Co., Ltd.

GENERAL SUMMARY

Product Name	HSPA+/HSUPA/HSDPA/UMTS/GSM/GPRS/EDGE Mobile Phone with Bluetooth	**Model**	HUAWEI U9200E, U9200E
Report No.	RHA1207-0062SAR01	**FCC ID**	QISU9200E
Client	Huawei Technologies Co., Ltd.		
Manufacturer	Huawei Technologies Co., Ltd.		
Reference Standard(s)	**IEEE Std C95.1, 1999:** IEEE Standard for Safety Levels with Respect to Human Exposure to Radiofrequency Electromagnetic Fields, 3 kHz to 300 GHz. **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. **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. **RSS-102 Issue 4 March 2010:** Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands) **KDB 648474 D01 SAR Handsets Multi Xmiter and Ant, v01r05:** SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas. **KDB 941225 D06 Hot Spot SAR v01** SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities **KDB941225 D01 SAR test for 3G devices v02:** SAR Measurement Procedures CDMA 20001x RTT, 1x Ev-Do, WCDMA, HSDPA/HSPA		
Conclusion	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. General Judgment: **Pass** (Stamp) **Date of issue: August 13th, 2012**		
Comment	The test result only responds to the measured sample.		

Approved by _____ Director **Revised by** _____ SAR Manager **Performed by** _____ SAR Engineer

TABLE OF CONTENT

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

Company:	TA Technology (Shanghai) Co., Ltd.
Address:	No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China
City:	Shanghai
Post code:	201201
Country:	P. R. China
Contact:	Yang Weizhong
Telephone:	+86-021-50791141/2/3
Fax:	+86-021-50791141/2/3-8000
Website:	http://www.ta-shanghai.com
E-mail:	yangweizhong@ta-shanghai.com

1.3. Applicant Information

Company:	Huawei Technologies Co., Ltd.
Address:	Bantian, Longgang District
City:	Shenzhen
Postal Code:	518129
Country:	P.R. China

1.4. Manufacturer Information

Company:	Huawei Technologies Co., Ltd.
Address:	Bantian, Longgang District
City:	Shenzhen
Postal Code:	518129
Country:	P.R.China

1.5. Information of EUT

General Information

Device Type:	Portable Device		
Exposure Category:	Uncontrolled Environment / General Population		
State of Sample:	Prototype Unit		
Product Name:	HSPA+/HSUPA/HSDPA/UMTS/GSM/GPRS/EDGE Mobile Phone with Bluetooth		
IMEI:	867007010051297		
Hardware Version:	U9200EV100R001CHNC00B116		
Software Version:	Ver.B		
Antenna Type:	Internal Antenna		
Device Operating Configurations :			
Supporting Mode(s):	GSM 850/GSM 1900; (tested) WCDMA Band II/WCDMA Band IV/WCDMA Band V; (tested) WiFi (802.11b/g/n HT20); (tested) GSM 900/GSM 1800/WCDMA Band I/WCDMA Band VIII; (untested) Bluetooth; (untested)		
Test Modulation:	(GSM)GMSK; (WCDMA)QPSK		
Device Class:	B		
HSDPA UE Category:	14		
HSUPA UE Category:	6		
GPRS Multislot Class(10):	Max Number of Timeslots in Uplink		2
	Max Number of Timeslots in Downlink		4
	Max Total Timeslot		5
EGPRS Multislot Class(10):	Max Number of Timeslots in Uplink		2
	Max Number of Timeslots in Downlink		4
	Max Total Timeslot		5
Operating Frequency Range(s):	Mode	Tx (MHz)	Rx (MHz)
	GSM 850	824.2 ~ 848.8	869.2 ~ 893.8

	GSM 1900	1850.2 ~ 1909.8	1930.2 ~ 1989.8
	WCDMA Band II	1852.4 ~ 1907.6	1932.4 ~ 1987.6
	WCDMA Band IV	1712.4 ~ 1752.6	2112.4 ~ 2152.6
	WCDMA Band V	826.4 ~ 846.6	871.4 ~ 891.6
Power Class:	GSM 850: 4		
	GSM 1900: 1		
	WCDMA Band II: 3		
	WCDMA Band IV: 3		
	WCDMA Band V: 3		
Power Level	GSM 850: tested with power level 5		
	GSM 1900: tested with power level 0		
	WCDMA Band II: tested with power control all up bits		
	WCDMA Band IV: tested with power control all up bits		
	WCDMA Band V: tested with power control all up bits		
Test Channel: (Low - Middle - High)	128 - 190 - 251 512 - 661 - 810 9262 - 9400 - 9538 1312 - 1413 - 1513 4132 - 4183 - 4233 1 - 6 - 11	(GSM 850) (GSM 1900) (WCDMA Band II) (WCDMA Band IV) (WCDMA Band V) (802.11b)	(tested) (tested) (tested) (tested) (tested) (tested)

Auxiliary Equipment Details

AE:Battery

Model:	HB5Q1HV
Manufacturer:	Huawei Technologies Co., Ltd.
S/N:	/

Equipment Under Test (EUT) is a HSPA+/HSUPA/HSDPA/UMTS/GSM/GPRS/EDGE Mobile Phone with Bluetooth. The EUT has a GSM/WCDMA antenna that is used for Tx/Rx, the other is BT/WIFI antenna that can be used for Tx/Rx. It has Personal Wireless Routers (hot spots) function. The detail about EUT and Lithium Battery is in chapter 1.5 in this report. SAR are tested for GSM 850, GSM 1900, WCDMA Band II, WCDMA Band IV, WCDMA Band V and WiFi.

The sample under test was selected by the Client.

Components list please refer to documents of the manufacturer.

1.6. The Maximum SAR_{1g} Values

Head SAR Configuration

Mode	Channel	Position	SAR_{1g} (W/kg)
GSM 850	Middle/190	Right, Cheek	**0.255**
GSM 1900	Middle/661	Left, Cheek	**0.254**
WCDMA Band II	Middle/9400	Right, Cheek	**0.441**
WCDMA Band IV	Middle/1413	Right, Cheek	**0.603**
WCDMA Band V	Middle/4183	Right, Cheek	**0.275**
WiFi(802.11b)	High/11	Left, Tilt	**0.128**

Body Worn Configuration

Mode	Channel	Position	Separation distance	SAR_{1g} (W/kg)
2Txslots EGPRS 850	Middle/190	Back Side	10mm	**0.697**
2Txslots GPRS 1900	Middle/661	Back Side	10mm	**0.638**
WCDMA Band II	Middle/9400	Front Side	10mm	**0.802**
WCDMA Band IV	High/1513	Front Side	10mm	**1.040**
WCDMA Band V	Middle/4183	Back Side	10mm	**0.619**
WiFi(802.11b)	High/11	Back Side	10mm	**0.066**

Hotspot SAR Configuration

Mode	Channel	Position	Separation distance	SAR_{1g} (W/kg)
2Txslots EGPRS 850	Middle/190	Back Side	10mm	**0.697**
2Txslots EGPRS 1900	High/810	Bottom Edge	10mm	**0.860**
WCDMA Band II	Middle/9400	Bottom Edge	10mm	**1.080**
WCDMA Band IV	High/1513	Bottom Edge	10mm	**1.070**
WCDMA Band V	Middle/4183	Back Side	10mm	**0.619**
WiFi(802.11b)	High/11	Back Side	10mm	**0.066**

Simultaneous SAR

SAR1g(W/kg) / Test Position	WCDMA Band II	WIFI (802.11b)	MAX. ΣSAR_{1g}
Body, Bottom Edge	1.080	N/A	**1.080**

Extrapolated SAR Values of the highest measured SAR

Mode	Test Position	Channel	Measurement Result		Tune-up procedures MAX Average Power(dBm)	1g Average Limit 1.6 W/kg
			Average Conducted Power(dBm)	1g Average (W/kg)		Extrapolated Result (W/kg)
GSM850	Right, Cheek	Middle/190	23.96	0.255	25.47	0.361
GSM850	Back Side	Middle/190	23.96	0.538	25.47	0.762
2Txslots GPRS850	Back Side	Middle/190	25.05	0.679	26.48	0.944
2Txslots EGPRS850	Back Side	Middle/190	25.05	0.697	26.48	0.969
GSM1900	Left, Cheek	Middle/661	21.11	0.254	21.97	0.310
GSM1900	Back Side	Middle/661	21.11	0.501	21.97	0.611
2Txslots GPRS1900	Bottom Edge	High/810	22.05	0.858	22.98	1.063
2Txslots EGPRS1900	Bottom Edge	High/810	22.07	0.860	22.98	1.060
WCDMA Band II	Right, Cheek	Middle/9400	23.35	0.441	23.8	0.489
WCDMA Band II	Bottom Edge	Middle/9400	23.35	1.080	23.8	1.198
WCDMA Band IV	Right, Cheek	Middle/1413	23.56	0.603	24.5	0.749
WCDMA Band IV	Bottom Edge	High/1513	23.54	1.070	24.5	1.335
WCDMA Band V	Right, Cheek	Middle/4183	23.55	0.275	24.7	0.358
WCDMA Band V	Back Side	Middle/4183	23.55	0.619	24.7	0.807

1.7. Maximum Conducted Power of each tested Mode

Mode		Max Burst Conducted Power (dBm)	Max Average Power (dBm)
GSM 850	GSM	**33.09**	**24.06**
	GPRS, 2Txslots	**31.12**	**25.1**
	EGPRS, 2Txslots	**31.12**	**25.1**
GSM 1900	GSM	**30.17**	**21.14**
	GPRS, 2Txslots	**28.13**	**22.11**
	EGPRS, 2Txslots	**28.11**	**22.09**

Mode	Maximum Conducted Power (dBm)
WCDMA Band II	**23.51**
WCDMA Band IV	**23.77**
WCDMA Band V	**23.59**
WiFi(802.11b)	**17.04**

Note: The detail Power refer to Table 14 (Power Measurement Results).

1.8. Test Date

The test performed from July 29, 2012 to August 5, 2012.

2. SAR Measurements System Configuration

2.1. SAR Measurement Set-up

The DASY5 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 DASY5 measurement server.
- The DASY5 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
- DASY5 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.

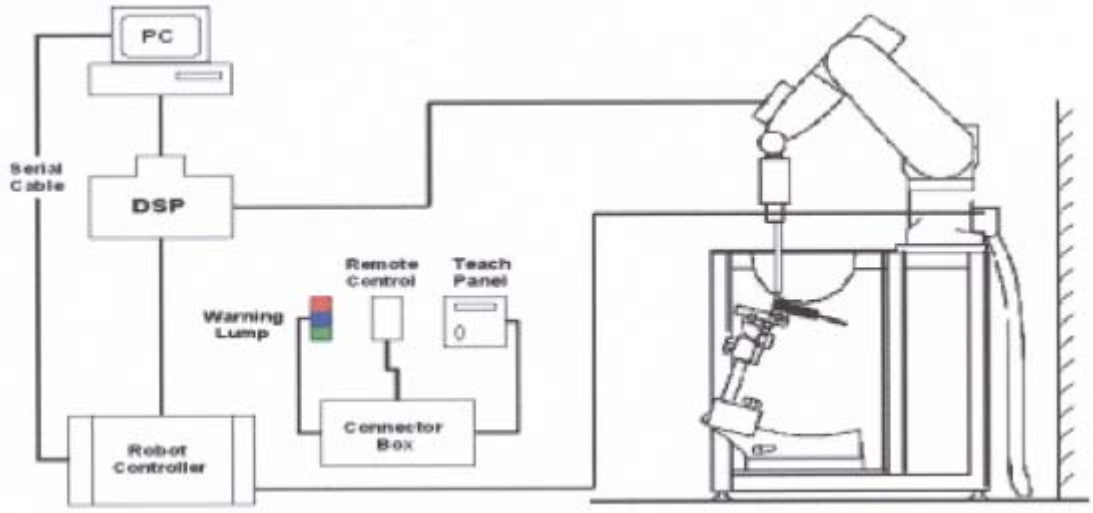


Figure 1 SAR Lab Test Measurement Set-up

2.2. DASY5 E-field Probe System

The SAR measurements were conducted with the dosimetric probe ES3DV3 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

2.2.1. ES3DV3 Probe Specification

Construction	Symmetrical design with triangular core Interleaved sensors 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 4 GHz Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.3 dB in tissue material (rotation normal to probe axis)
Dynamic Range	5 µW/g to > 100 mW/g Linearity: ± 0.2dB
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 3.9 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.0 mm
Application	General dosimetry up to 4 GHz Dosimetry in strong gradient fields Compliance tests of mobile phones

Figure 2.ES3DV3 E-field Probe

Figure 3. ES3DV3 E-field probe

2.2.2. E-field Probe Calibration

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than ± 10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB. 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 bellow 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.

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

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

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

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 die rent 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 inference 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)
Aailable	Special

Figure 5 Generic Twin Phantom

2.4. Scanning Procedure

The DASY5 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 DASY5 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

spacing of 15mm x 15mm(<2GHz)/ 12mm x 12mm(2GHz ~ 3GHz) 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(<2GHz)/ 7x7x7(2GHz ~ 3GHz) 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 DASY5 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 8mm resolution amounting to 175 measurement points, For a grid using 7x7x7 measurement points with 5mm resolution amounting to 343 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(<2GHz)/ 7x7x7(2GHz ~ 3GHz) 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 DASY5 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 ".DAE4". 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 DASY5 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.

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.

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

with SAR = local specific absorption rate in mW/g

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

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

ρ = equivalent tissue density in g/cm^3

Note that the density is 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.

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

with P_{pwe} = equivalent power density of a plane wave in mW/cm^2

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 ε=41.5 σ=0.9

MIXTURE%	FREQUENCY(Brain) 1750MHz
Water	55.24
Glycol	44.45
Salt	0.31
Dielectric Parameters Target Value	f=1750MHz ε=40.1 σ=1.37

MIXTURE%	FREQUENCY(Brain) 1900MHz
Water	55.242
Glycol monobutyl	44.452
Salt	0.306
Dielectric Parameters Target Value	f=1900MHz ε=40.0 σ=1.40

MIXTURE%	FREQUENCY(Brain) 2450MHz
Water	62.7
Glycol	36.8
Salt	0.5
Dielectric Parameters Target Value	f=2450MHz ε=39.20 σ=1.80

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 ε=55.2 σ=0.97

MIXTURE%	FREQUENCY(Body) 1750MHz
Water	69.91
Glycol	29.97
Salt	0.12
Dielectric Parameters Target Value	f=1750MHz ε=53.4 σ=1.49

MIXTURE%	FREQUENCY (Body) 1900MHz
Water	69.91
Glycol monobutyl	29.96
Salt	0.13
Dielectric Parameters Target Value	f=1900MHz ε=53.3 σ=1.52

MIXTURE%	FREQUENCY(Body) 2450MHz
Water	73.2
Glycol	26.7
Salt	0.1
Dielectric Parameters Target Value	f=2450MHz ε=52.70 σ=1.95

4.2. Tissue-equivalent Liquid Properties

Table 4: Dielectric Performance of Head Tissue Simulating Liquid

Frequency	Description	Dielectric Parameters		Temp ℃
		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 2012-7-29	41.81	0.90	21.5
1750MHz (head)	Target value ±5% window	40.1 38.10 — 42.11	1.37 1.30 — 1.44	22.0
	Measurement value 2012-8-5	39.17	1.40	21.5
1900MHz (head)	Target value ±5% window	40.00 38.00 — 42.00	1.40 1.33 — 1.47	22.0
	Measurement value 2012-7-30	40.82	1.41	21.5
2450MHz (head)	Target value ±5% window	39.20 37.24 — 41.16	1.80 1.71 — 1.89	22.0
	Measurement value 2012-8-5	38.32	1.88	21.5

Table 5: Dielectric Performance of Body Tissue Simulating Liquid

Frequency	Description	Dielectric Parameters		Temp ℃
		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 2012-8-3	54.54	0.97	21.5
1750MHz (body)	Target value ±5% window	53.40 50.73 — 56.07	1.49 1.42 — 1.56	22.0
	Measurement value 2012-8-3	52.65	1.48	21.5
1900MHz (body)	Target value ±5% window	53.30 50.64 — 55.97	1.52 1.44 — 1.60	22.0
	Measurement value 2012-8-4	53.12	1.52	21.5
2450MHz (body)	Target value ±5% window	52.70 50.07 — 55.34	1.95 1.85 — 2.05	22.0
	Measurement value 2012-8-5	51.69	1.90	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 (±10 %).

System check is performed regularly on all frequency bands where tests are performed with the DASY5 system.

.

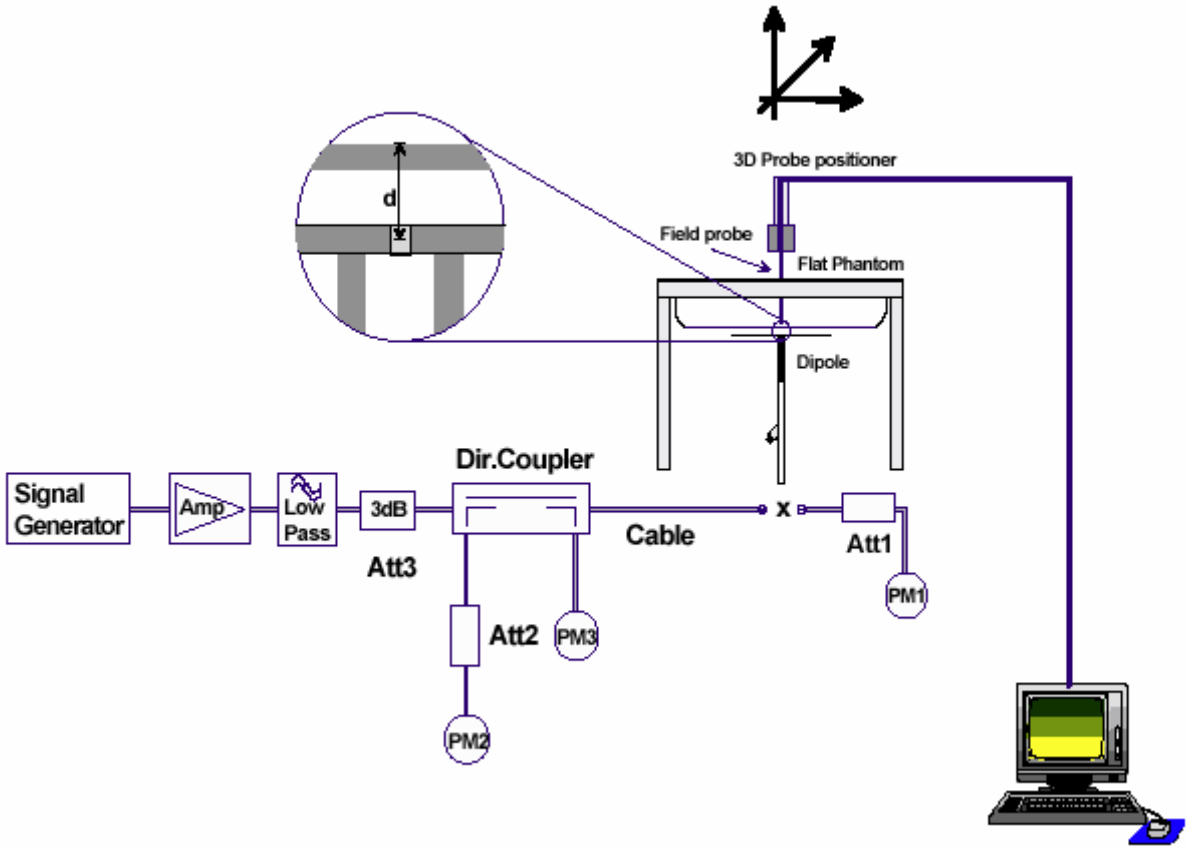


Figure 6 System Check Set-up

Justification for Extended SAR Dipole Calibrations

Usage of SAR dipoles calibrated less than 2 years ago but more than 1 year ago were confirmed in maintaining return loss (< - 20 dB, within 20% of prior calibration) and impedance (within 5 ohm from prior calibration) requirements per extended calibrations in KDB Publication 450824:

Dipole D1750V2 SN: 1033				
Head Liquid				
Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	ΔΩ
5/17/2010	-38.1	/	49.4	/
5/16/2011	-36.5	4.2%	51.1	1.7Ω
5/15/2012	-36.7	3.7%	50.9	1.5Ω
Body Liquid				
Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	ΔΩ
5/17/2010	-25.7	/	45.1	/
5/16/2011	-26.4	2.7 %	46.7	1.6Ω
5/15/2012	-24.9	3.1%	46.9	1.8Ω

5.2. System Check Results

Table 6: System Check in Head Tissue Simulating Liquid

Frequency	Test Date	Dielectric Parameters		Temp	250mW Measured SAR_{1g}	1W Normalized SAR_{1g}	1W Target SAR_{1g} (±10% Deviation)
		ε_r	σ(s/m)	(℃)	(W/kg)		
835MHz	2012-7-29	41.81	0.90	21.5	2.44	9.76	9.34 (8.41~10.27)
1750MHz	2012-8-5	39.17	1.40	21.5	8.61	34.44	36.10 (32.49~39.71)
1900MHz	2012-7-30	40.82	1.41	21.5	9.48	37.92	40.30 (36.27~ 44.33)
2450MHz	2012-8-5	38.32	1.88	21.5	13.70	54.80	53.80 (48.42~ 59.18)

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

Table 7: System Check in Body Tissue Simulating Liquid

Frequency	Test Date	Dielectric Parameters		Temp	250mW Measured SAR_{1g}	1W Normalized SAR_{1g}	1W Target SAR_{1g} (±10% Deviation)
		ε_r	σ(s/m)	(℃)	(W/kg)		
835MHz	2012-8-3	54.54	0.97	21.5	2.41	9.64	9.46 (8.51~10.41)
1750MHz	2012-8-3	52.65	1.48	21.5	8.73	34.92	38.50 (34.65~ 42.35)
1900MHz	2012-8-4	53.12	1.52	21.5	9.93	39.72	41.70 (37.53~45.87)
2450MHz	2012-8-5	51.69	1.90	21.5	12.90	51.60	51.70 (46.53~56.87)

Note：1. The graph results see ANNEX B.
2. Target Values used 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 128, 190 and 251 in the case of GSM 850, to 512, 661 and 810 in the case of GSM 1900, to 9262, 9400 and 9538 in the case of WCDMA Band II, to 1312, 1413 and 1513 in the case of WCDMA Band IV, to 4132, 4183 and 4233 in the case of WCDMA Band V. 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.

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. GSM Test Configuration

SAR tests for GSM 850 and GSM 1900, a communication link is set up with a System Simulator (SS) by air link. Using E5515C the power lever is set to “5” for GSM 850, set to “0” for GSM 1900. Since the GPRS class is 10 for this EUT, it has at most 2 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslots is 5; the EGPRS class is 10 for this EUT, it has at most 2 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslots is 5.

When SAR tests for EGPRS mode is necessary, GMSK modulation should be used to minimize SAR measurement error due to higher peak-to-average power (PAR) ratios inherent in 8-PSK.

According to specification 3GPP TS 51.010, the maximum power of the GSM can do the power reduction for the multi-slot. The allowed power reduction in the multi-slot configuration is as following:

Output power of reductions:

GSM 850

GPRS (GMSK):

Number of timeslots in uplink assignment	**reduction of maximum output power, (dB)**
1	0
2	2

EGPRS (8PSK):

Number of timeslots in uplink assignment	**reduction of maximum output power, (dB)**
1	0
2	2.5

EGPRS (GMSK):

Number of timeslots in uplink assignment	**reduction of maximum output power, (dB)**
1	0
2	2

GSM 1900

GPRS (GMSK):

Number of timeslots in uplink assignment	reduction of maximum output power, (dB)
1	0
2	2

EGPRS (8PSK):

Number of timeslots in uplink assignment	reduction of maximum output power, (dB)
1	0
2	2.5

EGPRS (GMSK):

Number of timeslots in uplink assignment	reduction of maximum output power, (dB)
1	0
2	2

6.3.2. WCDMA Test Configuration

6.3.2.1. Output power Verification

Maximum output power is verified on the High, Middle and Low channel according to the procedures described in section 5.2 of 3GPP TS 34. 121, using the appropriate RMC or AMR with TPC(transmit power control) set to all up bits for WCDMA/HSDPA or applying the required inner loop power control procedures to the maximum output power while HSUPA is active. Results for all applicable physical channel configuration (DPCCH, $DPDCH_n$ and spreading codes, HSDPA, HSPA) should be tabulated in the SAR report. All configuration that are not supported by the DUT or can not be measured due to technical or equipment limitations should be clearly identified

6.3.2.2. Head SAR Measurements

SAR for head exposure configurations in voice mode is measured using a 12.2kbps RMC with TPC bits configured to all up bits. SAR in AMR configurations is not required when the maximum average output of each RF channel for 12.2kbps AMR is less than 1/4 dB higher than that measured in 12.2 kbps RMC. Otherwise, SAR is measured on the maximum output channel in 12.2kbps AMR with a 3.4 kbps SRB(Signaling radio bearer) using the exposure configuration that results in the highest SAR in 12.2kbps RMC for that RF channel.

6.3.2.3. Body SAR Measurements

SAR for body exposure configurations in voice and data modes is measured using 12.2kbps RMC with TPC bits configured to all up bits. SAR for other spreading codes and multiple $DPDCH_n$, when supported by the DUT, are not required when the maximum average output of each RF channel, for each spreading code and $DPDCH_n$ configuration, are less than 1/4 dB higher than those measured in 12.2kbps RMC. Otherwise, SAR is measured on the maximum output channel with an applicable RMC configuration for the corresponding spreading code or $DPDCH_n$ using the exposure configuration that results in the highest SAR with 12.2 kbps RMC. When more than 2 $DPDCH_n$ are supported by the DUT, it may be necessary to configure additional $DPDCH_n$ for a DUT using FTM (Factory Test Mode) or other chipset based test approaches with parameters similar to those used in 384 kbps and 768 kbps RMC.

6.3.3. HSDPA Test Configuration

SAR for body exposure configurations is measured according to the 'Body SAR Measurements' procedures of that section. In addition,body SAR is also measured for HSDPA when the maximum average output of each RF channel with HSDPA active is at least ¼ dB higher than that measured without HSDPA using 12.2 kbps RMC or the maximum SAR for 12.2 kbps RMC is above 75% of the SAR limit.30 Body SAR for HSDPA is measured using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, using the highest body SAR configuration in 12.2 kbps RMC without HSDPA.

HSDPA should be configured according to the UE category of a test device.The number of HSDSCH/ HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms with a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors(βc, βd), and HS-DPCCH power offset parameters (ΔACK, ΔNACK, ΔCQI) should be set according to values indicated in the Table below.32 The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

Table 8: Subtests for UMTS Release 5 HSDPA

Sub-set	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (note 1, note 2)	CM(dB) (note 3)	MPR(dB)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (note 4)	15/15 (note 4)	64	12/15 (note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note1: $\triangle_{ACK}$, $\triangle_{NACK}$ and $\triangle_{CQI}$= 8 $\Leftrightarrow$ $A_{hs} = \beta_{hs}/\beta_c$=30/15 $\Leftrightarrow$ β_{hs}=30/15*β_c

Note2:For the HS-DPCCH power mask requirement test in clause 5.2C,5.7A,and the Error Vector Magnitude(EVM) with HS-DPCCH test in clause 5.13.1.A,and HSDPA EVM with phase discontinuity in clause 5.13.1AA, $\triangle_{ACK}$ and $\triangle_{NACK}$= 8 (A_{hs}=30/15) with β_{hs}=30/15*β_c,and $\triangle_{CQI}$=

7 ($A_{hs=}24/15$) with $\beta_{hs}=24/15*\beta_c$.

Note3: CM=1 forβ_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4:For subtest 2 the $\beta_c\beta_d$ ratio of 12/15 for the TFC during the measurement period(TF1,TF0) is achieved by setting the signaled gain factors for the reference TFC (TFC1,TF1) to β_c=11/15 and β_d=15/15.

Table 9: Settings of required H-Set 1 QPSK in HSDPA mode

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	534
Inter-TTI Distance	TTI's	3
Number of HARQ Processes	Processes	2
Information Bit Payload (N_{INF})	Bits	3202
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	4800
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	9600
Coding Rate	/	0.67
Number of Physical Channel Codes	Codes	5
Modulation	/	QPSK

Table 10: HSDPA UE category

HS-DSCH Category	Maximum HS-DSCH Codes Received	Minimum Inter-TTI Interval	Maximum Transport Bits/HS-DSCH	Total Channel
1	5	3	7298	19200
2	5	3	7298	28800
3	5	2	7298	28800
4	5	2	7298	38400
5	5	1	7298	57600
6	5	1	7298	67200
7	10	1	14411	115200
8	10	1	14411	134400
9	15	1	25251	172800
10	15	1	27952	172800
11	5	2	3630	14400
12	5	1	3630	28800
13	15	1	34800	259200
14	15	1	42196	259200
15	15	1	23370	345600
16	15	1	27952	345600

6.3.4. HSUPA Test Configuration

Body SAR is also measured for HSPA when the maximum average output of each RF channel with HSPA active is at least ¼ dB higher than that measured without HSPA using 12.2 kbps RMC or the maximum SAR for 12.2 kbps RMC is above 75% of the SAR limit. Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set 1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 with power control algorithm 2, according to the highest body SAR configuration in 12.2 kbps RMC without HSPA.[40]

Due to inner loop power control requirements in HSPA, a commercial communication test set should be used for the output power and SAR tests.[41] The 12.2 kbps RMC, FRC H-set 1 and E- DCH configurations for HSPA should be configured according to the β values indicated below as well as other applicable procedures described in the 'WCDMA Handset' and 'Release 5 HSDPA Data Devices' sections of 3 G device.

Table 11：Sub-Test 5 Setup for Release 6 HSUPA

Sub-set	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs}(1)	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM(2) (dB)	MPR (dB)	AG(4) Index	E-TFCI
1	11/15(3)	15/15(3)	64	11/15(3)	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1}:47/15 β_{ed2}:47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15(4)	15/15(4)	64	15/15(4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, ΔNACK and Δ_{CQI} = 8 ⇔ $A_{hs} = \beta_{hs}/\beta_c$ = 30/15 ⇔ β_{hs}= 30/15 *β_c.
Note 2: CM = 1 for βc/βd =12/15, β_{hs}/β_c =24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-
DPCCH the MPR is based on the relative CM difference.
Note 3: For subtest 1 the βc/βd ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the
signaled gain factors for the reference TFC (TF1, TF1) to βc = 10/15 and βd = 15/15.
Note 4: For subtest 5 the βc/βd ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the
signaled gain factors for the reference TFC (TF1, TF1) to βc = 14/15 and βd = 15/15.
Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Figure 5.1g.
Note 6: βed can not be set directly; it is set by Absolute Grant Value.

Table 12: HSUPA UE category

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCH TTI (ms)	Minimum Spreading Factor	Maximum E-DCH Transport Block Bits	Max Rate (Mbps)
1	1	4	10	4	7110	0.7296
2	2	8	2	4	2798	1.4592
	2	4	10	4	14484	
3	2	4	10	4	14484	1.4592
4	2	8	2	2	5772	2.9185
	2	4	10	2	20000	2.00
5	2	4	10	2	20000	2.00
6 (No DPDCH)	4	8	2	2 SF2 & 2 SF4	11484	5.76
	4	4	10		20000	2.00
7 (No DPDCH)	4	8	2	2 SF2 & 2 SF4	22996	?
	4	4	10		20000	?

NOTE: When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4.
UE Categories 1 to 6 supports QPSK only. UE Category 7 supports QPSK and 16QAM. (TS25.306-7.3.0)

6.3.5. WIFI Test Configuration

For WLAN SAR testing, WLAN engineering testing software installed on the DUT 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. Each channel should be tested at the lowest data rate. Testing at higher data rates is not required when the maximum average output power is less than 0.25dB higher than those measured at the lowest data rate.

802.11b/g operating modes are tested independently according to the service requirements in each frequency band.802.11b/g modes are tested on channels1,6,11; 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 13.

Table 13: “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 11to 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

7. Test Results

7.1. Conducted Power Results

Table 14: Conducted Power Measurement Results

GSM 850		Burst Conducted Power(dBm)				Average power(dBm)		
		Channel 128	Channel 190	Channel 251		Channel 128	Channel 190	Channel 251
GSM		33.09	32.99	32.98	-9.03dB	24.06	23.96	23.95
GPRS (GMSK)	1Txslot	33.07	32.96	32.99	-9.03dB	24.04	23.93	23.96
	2Txslots	31.12	31.07	31.11	-6.02dB	**25.1**	**25.05**	**25.09**
EGPRS (GMSK)	1Txslot	33.07	32.96	32.99	-9.03dB	24.04	23.93	23.96
	2Txslots	31.12	31.07	31.11	-6.02dB	**25.1**	**25.05**	**25.09**
EGPRS (8PSK)	1Txslot	27.16	27.12	27.18	-9.03dB	18.13	18.09	18.15
	2Txslots	25.08	25.05	25.08	-6.02dB	19.06	19.03	19.06
GSM 1900		**Burst Conducted Power(dBm)**				**Average power(dBm)**		
		Channel 512	Channel 661	Channel 810		Channel 512	Channel 661	Channel 810
GSM		30.17	30.14	30.09	-9.03dB	21.14	21.11	21.06
GPRS (GMSK)	1Txslot	30.18	30.16	30.08	-9.03dB	21.15	21.13	21.05
	2Txslots	28.08	28.13	28.07	-6.02dB	**22.06**	**22.11**	**22.05**
EGPRS (GMSK)	1Txslot	30.19	30.15	30.07	-9.03dB	21.16	21.12	21.04
	2Txslots	28.1	28.11	28.09	-6.02dB	**22.08**	**22.09**	**22.07**
EGPRS (8PSK)	1Txslot	25.94	25.87	25.88	-9.03dB	16.91	16.84	16.85
	2Txslots	23.75	23.83	23.82	-6.02dB	17.73	17.81	17.8

Note:

1) Division Factors

To average the power, the division factor is as follows:

1Txslot = 1 transmit time slot out of 8 time slots

=> conducted power divided by (8/1) => -9.03 dB

2Txslots = 2 transmit time slots out of 8 time slots

=> conducted power divided by (8/2) => -6.02 dB

2) Average power numbers

The maximum power numbers are marks in bold.

WCDMA Band II		Conducted Power (dBm)		
		Channel 9262	Channel 9400	Channel 9538
RMC	12.2kbps RMC	23.43	23.35	23.42
	64kbps RMC	23.48	23.38	23.43
	144kbps RMC	23.46	23.41	23.42
	384kbps RMC	23.51	23.42	23.45
HSDPA	Sub - Test 1	23.45	23.37	23.36
	Sub - Test 2	22.21	22.1	22.2
	Sub - Test 3	21.88	21.81	21.83
	Sub - Test 4	21.67	21.49	21.61
HSUPA	Sub - Test 1	22.37	22.22	22.3
	Sub - Test 2	20.41	20.3	20.35
	Sub - Test 3	21.15	20.95	21.09
	Sub - Test 4	20.62	20.53	20.59
	Sub - Test 5	22.61	22.47	20.47
WCDMA Band IV		Conducted Power (dBm)		
		Channel 1312	Channel 1413	Channel 1513
RMC	12.2kbps RMC	23.72	23.56	23.54
	64kbps RMC	23.75	23.62	23.55
	144kbps RMC	23.73	23.59	23.54
	384kbps RMC	23.77	23.61	23.56
HSDPA	Sub - Test 1	23.42	23.25	23.26
	Sub - Test 2	22.02	22.01	21.99
	Sub - Test 3	21.82	21.65	21.67
	Sub - Test 4	21.56	21.39	21.4
HSUPA	Sub - Test 1	22.37	22.21	22.24
	Sub - Test 2	20.36	20.22	20.17
	Sub - Test 3	21.11	20.99	20.95
	Sub - Test 4	20.63	20.47	20.49
	Sub - Test 5	22.67	22.48	22.45
WCDMA Band V		Conducted Power (dBm)		
		Channel 4132	Channel 4183	Channel 4233

RMC	12.2kbps RMC	23.59	23.55	23.52
	64kbps RMC	23.55	23.54	23.56
	144kbps RMC	23.58	23.52	23.54
	384kbps RMC	23.56	23.53	23.55
HSDPA	Sub - Test 1	23.41	23.28	23.29
	Sub - Test 2	22.04	21.93	21.91
	Sub - Test 3	21.62	21.67	21.64
	Sub - Test 4	21.42	21.31	21.32
HSUPA	Sub - Test 1	22.18	22.08	22.07
	Sub - Test 2	20.17	20.03	20.13
	Sub - Test 3	20.87	20.81	20.78
	Sub - Test 4	20.38	20.3	20.37
	Sub - Test 5	22.41	22.32	22.31

7.2. SAR Test Results

7.2.1. GSM 850 (GPRS/EGPRS)

Table 15: SAR Values [GSM 850 (GPRS/EGPRS)]

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					
Left hand, Touch Cheek	Middle/190	0.174	0.228	-0.038	Figure 15
Left hand, Tilt 15 Degree	Middle/190	0.129	0.168	0.097	Figure 16
Right hand, Touch Cheek	Middle/190	0.197	0.255	0.093	Figure 17
Right hand, Tilt 15 Degree	Middle/190	0.140	0.183	0.014	Figure 18
Test position of Body (Distance 10mm)					
Back Side (GSM/1Txslot)	Middle/190	0.409	0.538	-0.029	Figure 19
Back Side (2Txslots)	Middle/190	0.520	0.679	-0.066	Figure 20
Front Side(2Txslots)	Middle/190	0.340	0.440	0.005	Figure 21
Left Edge(2Txslots)	Middle/190	0.121	0.176	0.002	Figure 22
Right Edge(2Txslots)	Middle/190	0.185	0.267	-0.025	Figure 23
Top Edge(2Txslots)	N/A	N/A	N/A	N/A	N/A
Bottom Edge(2Txslots)	Middle/190	0.044	0.078	0.113	Figure 24
Worst Case Position of Body with EGPRS (GMSK, Distance 10mm)					
Back Side (2Txslots)	Middle/190	0.531	0.697	-0.011	Figure 25
Worst Case Position of Body with Earphone (Distance 10mm)					
Back Side (GSM)	Middle/190	0.345	0.472	0.034	Figure 26

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

2. The SAR test shall be performed at the middle frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8W/kg), testing at the high and low channels is optional.
3. WWAN antenna is located at bottom edge; antenna-to-top edge distance is more than 2.5 cm (see ANNEX J). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.
4. When SAR tests for EGPRS mode is necessary, GMSK modulation should be used to minimize SAR measurement error due to higher peak-to-average power (PAR) ratios inherent in 8-PSK.

7.2.2. GSM 1900 (GPRS/EGPRS)

Table 16: SAR Values [GSM 1900(GPRS/EGPRS)]

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					
Left hand, Touch Cheek	Middle/661	0.155	0.254	0.085	Figure 27
Left hand, Tilt 15 Degree	Middle/661	0.078	0.129	0.113	Figure 28
Right hand, Touch Cheek	Middle/661	0.149	0.240	-0.034	Figure 29
Right hand, Tilt 15 Degree	Middle/661	0.077	0.134	0.019	Figure 30
Test position of Body (Distance 10mm)					
Back Side (GSM/1Txslot)	Middle/661	0.291	0.501	-0.057	Figure 31
Back Side (2Txslots)	Middle/661	0.362	0.638	-0.053	Figure 32
Front Side(2Txslots)	Middle/661	0.303	0.512	-0.047	Figure 33
Left Edge(2Txslots)	Middle/661	0.070	0.114	-0.182	Figure 34
Right Edge(2Txslots)	Middle/661	0.058	0.097	0.070	Figure 35
Top Edge(2Txslots)	N/A	N/A	N/A	N/A	N/A
Bottom Edge(2Txslots)	High/810	0.457	0.858	0.066	Figure 36
	Middle/661	0.439	0.822	0.049	Figure 37
	Low/512	0.450	0.843	0.063	Figure 38
Worst Case Position of Body with EGPRS (GMSK, Distance 10mm)					
Bottom Edge(2Txslots)	High/810	0.459	0.860	0.030	Figure 39
Worst Case Position of Body with Earphone (Distance 10mm)					
Back Side (GSM)	Middle/661	0.283	0.485	0.014	Figure 40

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

2. The SAR test shall be performed at the middle frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8W/kg), testing at the high and low channels is optional.
3. WWAN antenna is located at bottom edge; antenna-to-top edge distance is more than 2.5 cm (see ANNEX J). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.
4. When SAR tests for EGPRS mode is necessary, GMSK modulation should be used to minimize SAR measurement error due to higher peak-to-average power (PAR) ratios inherent in 8-PSK.
5. The test position with earphone changed for its physical reason.

7.2.3. WCDMA Band II (WCDMA)

Table 17: SAR Values [WCDMA Band II (WCDMA)]

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					
Left Hand, Touch Cheek	Middle/9400	0.257	0.422	0.172	Figure 41
Left Hand, Tilt 15 Degree	Middle/9400	0.133	0.218	0.101	Figure 42
Right Hand, Touch Cheek	Middle/9400	0.272	0.441	-0.097	Figure 43
Right Hand, Tilt 15 Degree	Middle/9400	0.132	0.228	-0.100	Figure 44
Test position of Body (Distance 10mm)					
Back Side	Middle/9400	0.434(max.cube)	0.737(max.cube)	-0.110	Figure 45
Front Side	Middle/9400	0.443	0.773	0.029	Figure 46
Left Edge	Middle/9400	0.078	0.127	0.119	Figure 47
Right Edge	Middle/9400	0.100	0.163	0.076	Figure 48
Top Edge	N/A	N/A	N/A	N/A	N/A
Bottom Edge	High/9538	0.570	1.060	0.132	Figure 49
	Middle/9400	0.578	1.080	0.182	Figure 50
	Low/9262	0.555	1.030	0.179	Figure 51
Worst Case Position of Body with Earphone (Distance 10mm)					
Front Side	Middle/9400	0.458	0.802	0.060	Figure 52

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

2. The SAR test shall be performed at the middle frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8W/kg), testing at the high and low channels is optional.
3. WWAN antenna is located at bottom edge; antenna-to-top edge distance is more than 2.5 cm (see ANNEX J). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.
4. The test position with earphone changed for its physical reason.
5. WCDMA mode were tested under RMC 12.2kbps with HSPA (HSDPA/HSUPA) inactive per KDB Publication 941225 D01. HSPA (HSDPA/HSUPA) SAR for body was not required since the average output power of the HSPA (HSDPA/HSUPA) subtests was not more than 0.25 dB higher than the RMC level and the maximum SAR for 12.2kbps RMC was less than 75% SAR limit.
6. 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; the value from the second assessed cube is given in the SAR distribution plots (See ANNEX C).

7.2.4. WCDMA Band IV (WCDMA)

Table 18: SAR Values [WCDMA Band IV (WCDMA)]

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					
Left Hand, Touch Cheek	Middle/1413	0.325	0.535	0.011	Figure 53
Left Hand, Tilt 15 Degree	Middle/1413	0.150	0.242	-0.191	Figure 54
Right Hand, Touch Cheek	Middle/1413	0.378	0.603	-0.072	Figure 55
Right Hand, Tilt 15 Degree	Middle/1413	0.144	0.243	0.043	Figure 56
Test position of Body (Distance 10mm)					
Back Side	High/1513	0.493(max.cube)	0.853(max.cube)	0.009	Figure 57
	Middle/1413	0.463(max.cube)	0.804(max.cube)	-0.046	Figure 58
	Low/1312	0.464(max.cube)	0.795(max.cube)	0.014	Figure 59
Front Side	High/1513	0.578	1.040	0.040	Figure 60
	Middle/1413	0.566	1.020	0.044	Figure 61
	Low/1312	0.552	0.989	0.028	Figure 62
Left Edge	Middle/1413	0.106	0.169	0.130	Figure 63
Right Edge	Middle/1413	0.113	0.185	-0.018	Figure 64
Top Edge	N/A	N/A	N/A	N/A	N/A
Bottom Edge	High/1513	0.577	1.070	-0.115	Figure 65
	Middle/1413	0.540	1.000	-0.095	Figure 66
	Low/1312	0.514	0.951	-0.113	Figure 67
Worst Case Position of Body with Earphone (Distance 10mm)					
Front Side	High/1513	0.429	0.744	0.027	Figure 68

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

2. The SAR test shall be performed at the middle frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8W/kg), testing at the high and low channels is optional.
3. WWAN antenna is located at bottom edge; antenna-to-top edge distance is more than 2.5 cm (see ANNEX J). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.
4. The test position with earphone changed for its physical reason.
5. WCDMA mode were tested under RMC 12.2kbps with HSPA (HSDPA/HSUPA) inactive per KDB Publication 941225 D01. HSPA (HSDPA/HSUPA) SAR for body was not required since the average output power of the HSPA (HSDPA/HSUPA) subtests was not more than 0.25 dB higher than the RMC level and the maximum SAR for 12.2kbps RMC was less than 75% SAR limit.
6. 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; the value from the second assessed cube is given in the SAR distribution plots (See ANNEX C).

7.2.5. WCDMA Band V (WCDMA)

Table 19: SAR Values [WCDMA Band V (WCDMA)]

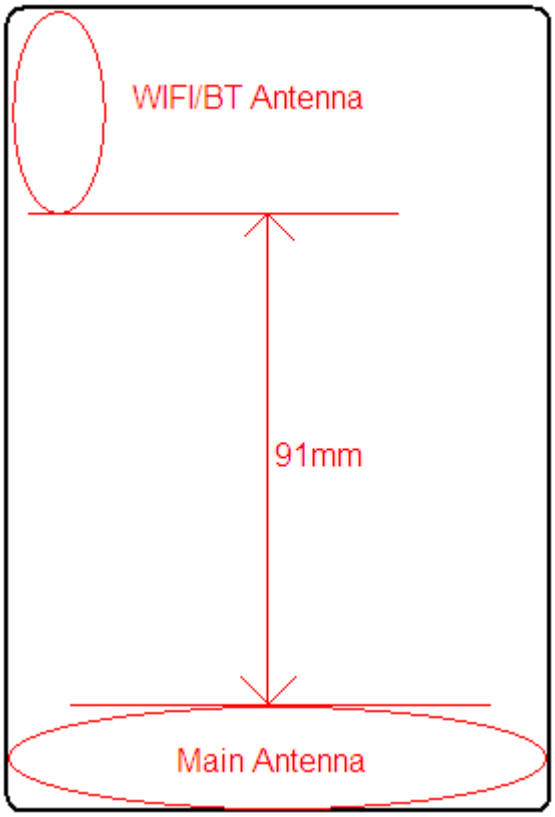
Limit of SAR		10 g Average	1 g Average	Power Drift	Graph Results
		2.0 W/kg	1.6 W/kg	± 0.21 dB	
Different Test Position	Channel	Measurement Result(W/kg)		Power Drift (dB)	
		10 g Average	1 g Average		
Test Position of Head					
Left Hand, Touch Cheek	Middle/4183	0.191	0.251	0.135	Figure 69
Left Hand, Tilt 15 Degree	Middle/4183	0.152	0.199	0.079	Figure 70
Right Hand, Touch Cheek	Middle/4183	0.212	0.275	0.149	Figure 71
Right Hand, Tilt 15 Degree	Middle/4183	0.158	0.207	0.128	Figure 72
Test position of Body (Distance 10mm)					
Back Side	Middle/4183	0.473	0.619	-0.065	Figure 73
Front Side	Middle/4183	0.295	0.381	-0.036	Figure 74
Left Edge	Middle/4183	0.133	0.194	0.033	Figure 75
Right Edge	Middle/4183	0.205	0.296	-0.036	Figure 76
Top Edge	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Middle/4183	0.050	0.095	0.134	Figure 77
Worst Case Position of Body with Earphone (Distance 10mm)					
Back Side	Middle/4183	0.342	0.466	-0.149	Figure 78

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

2. The SAR test shall be performed at the middle frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8W/kg), testing at the high and low channels is optional.
3. WWAN antenna is located at bottom edge; antenna-to-top edge distance is more than 2.5 cm (see ANNEX J). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.
4. WCDMA mode were tested under RMC 12.2kbps with HSPA (HSDPA/HSUPA) inactive per KDB Publication 941225 D01. HSPA (HSDPA/HSUPA) SAR for body was not required since the average output power of the HSPA (HSDPA/HSUPA) subtests was not more than 0.25 dB higher than the RMC level and the maximum SAR for 12.2kbps RMC was less than 75% SAR limit.

7.2.6. Bluetooth/WiFi Function

The distance between BT/WIFI antenna and GSM/WCDMA antenna is ＞5cm. The location of the antennas inside mobile phone is shown in Annex J:



The output power of BT antenna is as following:

Channel	Ch 0 2402 MHz	Ch 39 2441 MHz	Ch 78 2480 MHz
For GFSK (dBm)	2.61	4.25	4.17
For π/4 DQPSK (dBm)	0.43	2.1	1.92
For 8DPSK (dBm)	0.46	2.15	1.89

The output power of WIFI antenna is as following:

Mode	Channel	Data rate (Mbps)	AV Power (dBm)
11b	1	1	15.52
		2	15.53
		5.5	15.49
		11	15.48
	6	1	15.9

		2	15.85
		5.5	16.16
		11	16.17
	11	1	16.86
		2	17
		5.5	17.01
		11	17.04
11g	1	6	14.22
		9	14.19
		12	14.24
		18	14.26
		24	14.21
		36	14.25
		48	14.25
		54	14.19
	6	6	15.1
		9	15.18
		12	15.13
		18	15.21
		24	15.12
		36	15.17
		48	15.31
		54	15.29
	11	6	15.76
		9	15.68
		12	15.74
		18	15.92
		24	16.01
		36	16.02
		48	15.96
		54	15.96
11n HT20	1	6.5	12.07
		13	11.84
		19.5	11.89

		26	11.94
		39	11.92
		52	11.95
		58.5	12.15
		65	11.94
	6	6.5	12.77
		13	13.08
		19.5	12.52
		26	13.11
		39	12.69
		52	12.7
		58.5	12.79
		65	12.56
	11	6.5	13.67
		13	13.24
		19.5	13.18
		26	13.71
		39	13.64
		52	13.71
		58.5	13.87
		65	13.84
Note: 1. KDB 248227-SAR is not required for 802.11g/n channels when the maximum average output power is less than ¼ dB higher than measured on the corresponding 802.11b channels.			

Output Power Thresholds for Unlicensed Transmitters

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

Stand-alone SAR

According to the output power measurement result and the distance between BT/WIFI antenna and GSM/WCDMA 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 ＞$2P_{Ref}$=13.8dBm

Table 20: 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	High/11	0.054	0.112	0.043	Figure 79
Left hand, Tilt 15 Degree	High/11	0.059	0.128	0.136	Figure 80
Right hand, Touch cheek	High/11	0.049	0.098	0.037	Figure 81
Right hand, Tilt 15 Degree	High/11	0.052	0.104	0.132	Figure 82
Test position of Body (Distance 10mm)					
Back Side	High/11	0.032	0.066	0.088	Figure 83
Front Side	High/11	0.017	0.031	0.031	Figure 84
Left Edge	N/A	N/A	N/A	N/A	N/A
Right Edge	High/11	0.021	0.044	0.093	Figure 85
Top Edge	High/11	0.021	0.038	0.074	Figure 86
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. The SAR test shall be performed at the middle frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8W/kg), testing at the high and low channels is optional.
3. WLAN antenna is located at Right edge; antenna-to- Left/Bottom edge distance is more than 2.5 cm (see ANNEX J). 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 channels when the maximum average output power is less than ¼ dB higher than measured on the corresponding 802.11b channels.

BT antenna is ＞5cm from GSM/WCDMA antenna, stand-alone SAR are not required for BT, because the output power of BT transmitter is ≤$2P_{Ref}$=13.8dBm.

BT antenna is ＜2.5cm from WIFI antenna, stand-alone SAR are not required for BT, because $SAR_{MAX.WIFI}$ ≤1.2W/Kg.

Simultaneous SAR

About WIFI and GSM/WCDMA Antenna,

SAR_{1g}(W/kg) Test Position	GSM850	GSM1900	WCDMA Band II	WCDMA Band IV	WCDMA Band V	WIFI (802.11b)	MAX. ΣSAR_{1g}
Left hand, Touch cheek	0.228	0.254	0.422	**0.535**	0.251	0.112	0.647
Left hand, Tilt 15 Degree	0.168	0.129	0.218	**0.242**	0.199	0.128	0.370
Right hand, Touch cheek	0.255	0.240	0.441	**0.603**	0.275	0.098	0.701
Right hand, Tilt 15 Degree	0.183	0.134	0.228	**0.243**	0.207	0.104	0.347
Body, Back Side	0.697	0.638	0.737	**0.853**	0.619	0.066	0.919
Body, Front Side	0.440	0.512	0.802	**1.040**	0.381	0.031	1.071
Body, Left Edge	0.176	0.114	0.127	0.169	**0.194**	N/A	0.194
Body, Right Edge	0.267	0.097	0.163	0.185	**0.296**	0.044	0.340
Body, Top Edge	N/A	N/A	N/A	N/A	N/A	0.038	0.038
Body, Bottom Edge	0.078	0.860	**1.080**	1.070	0.095	N/A	1.080

Note: 1.The value with blue color is the maximum ΣSAR_{1g} Value.
2. MAX. ΣSAR_{1g} =Unlicensed SAR_{MAX} +Licensed SAR_{MAX}

WIFI antenna is ＞5cm from GSM/WCDMA Antenna. (GSM/WCDMA Antenna SAR_{MAX})1.080 +(WIFI Antenna SAR) N/A =1.080 ＜1.6, So the Simultaneous SAR are not required for WIFI and GSM/WCDMA antenna.

About BT and GSM/WCDMA Antenna,

SAR_{1g}(W/kg) Test Position	GSM850	GSM1900	WCDMA Band II	WCDMA Band IV	WCDMA Band V	BT	MAX. ΣSAR_{1g}
Left hand, Touch cheek	0.228	0.254	0.422	**0.535**	0.251	0	0.535
Left hand, Tilt 15 Degree	0.168	0.129	0.218	**0.242**	0.199	0	0.242
Right hand, Touch cheek	0.255	0.240	0.441	**0.603**	0.275	0	0.603
Right hand, Tilt 15 Degree	0.183	0.134	0.228	**0.243**	0.207	0	0.243
Body, Back Side	0.697	0.638	0.737	**0.853**	0.619	0	0.853
Body, Front Side	0.440	0.512	0.802	**1.040**	0.381	0	1.040
Body, Left Edge	0.176	0.114	0.127	0.169	**0.194**	0	0.194
Body, Right Edge	0.267	0.097	0.163	0.185	**0.296**	0	0.296
Body, Top Edge	N/A	N/A	N/A	N/A	N/A	0	0
Body, Bottom Edge	0.078	0.860	**1.080**	1.070	0.095	0	1.080

Note: 1.The value with blue color is the maximum ΣSAR_{1g} Value.
2. MAX. ΣSAR_{1g} =Unlicensed SAR_{MAX} +Licensed SAR_{MAX}
3. Stand alone SAR for BT is not required. Its SAR is considered 0 in the 1-g SAR summing process to determine simultaneous transmission SAR evaluation requirments.

BT antenna is ＞5cm from GSM/WCDMA Antenna. (GSM/WCDMA Antenna SAR_{MAX})1.080 +(BT Antenna SAR_{MAX})0 =1.080 ＜1.6, So the Simultaneous SAR are not required for BT and GSM/WCDMA antenna.

About BT and WIFI Antenna, BT antenna is ＜2.5cm from WIFI Antenna. (WIFI Antenna SAR_{MAX}) 0.128 +(BT Antenna SAR_{MAX})0 =0.128 ＜1.6, So the Simultaneous SAR are not required for BT and WIFI antenna.

8. 700MHz to 3GHz Measurement Uncertainty

No.	source	Type	Uncertainty Value (%)	Probability Distribution	k	c_i	Standard ncertainty 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	∞

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		$u_c^{'} = \sqrt{\sum_{i=1}^{24} c_i^2 u_i^2}$					11.50	
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$		N		k=2	23.00	

9. Main Test Instruments

Table 21: List of Main Instruments

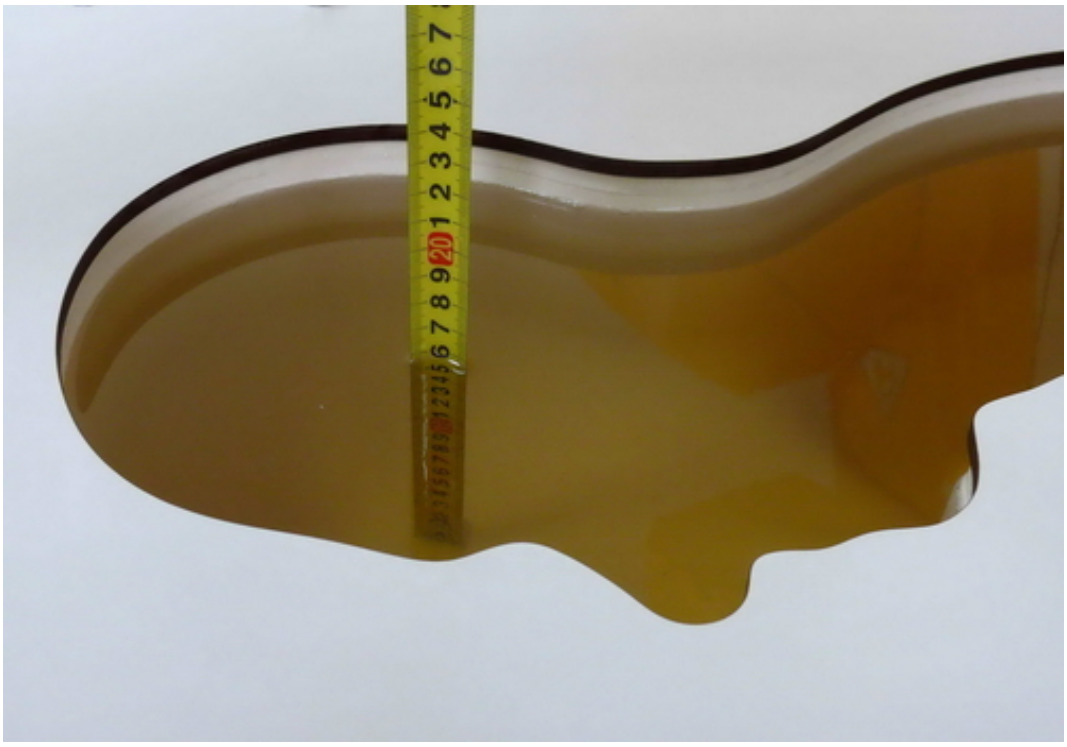
No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	Agilent 8753E	US37390326	September 12, 2011	One year
02	Dielectric Probe Kit	Agilent 85070E	US44020115	No Calibration Requested	
03	Power meter	Agilent E4417A	GB41291714	March 11, 2012	One year
04	Power sensor	Agilent N8481H	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	ES3DV3	3189	June 22, 2012	One year
12	DAE	DAE4	1317	January 23, 2012	One year
13	Validation Kit 835MHz	D835V2	4d020	August 26, 2011	Three years
14	Validation Kit 1750MHz	D1750V2	1033	May 17, 2010	Three years
15	Validation Kit 1900MHz	D1900V2	5d060	August 31, 2011	Three years
16	Validation Kit 2450MHz	D2450V2	786	August 29, 2011	Three years
17	Temperature Probe	JM222	AA1009129	March 15, 2012	One year
18	Hygrothermograph	WS-1	64591	September 28, 2011	One year

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

ANNEX A: Test Layout

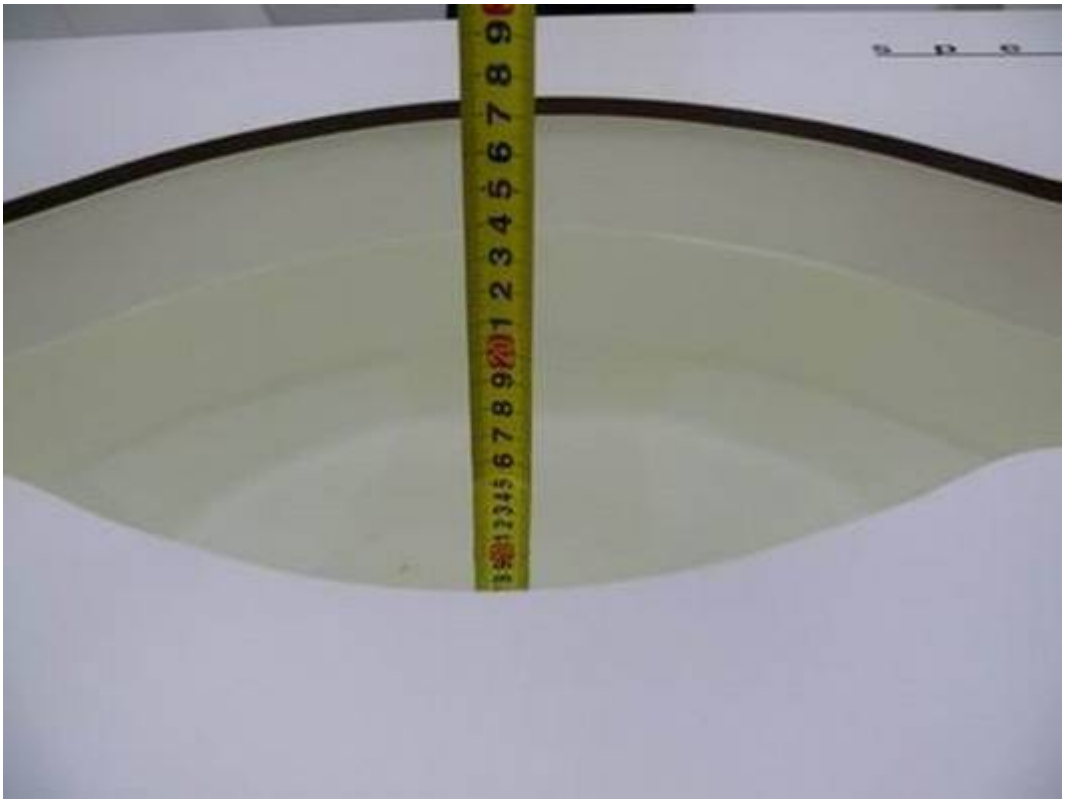
Picture 1: Specific Absorption Rate Test Layout

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

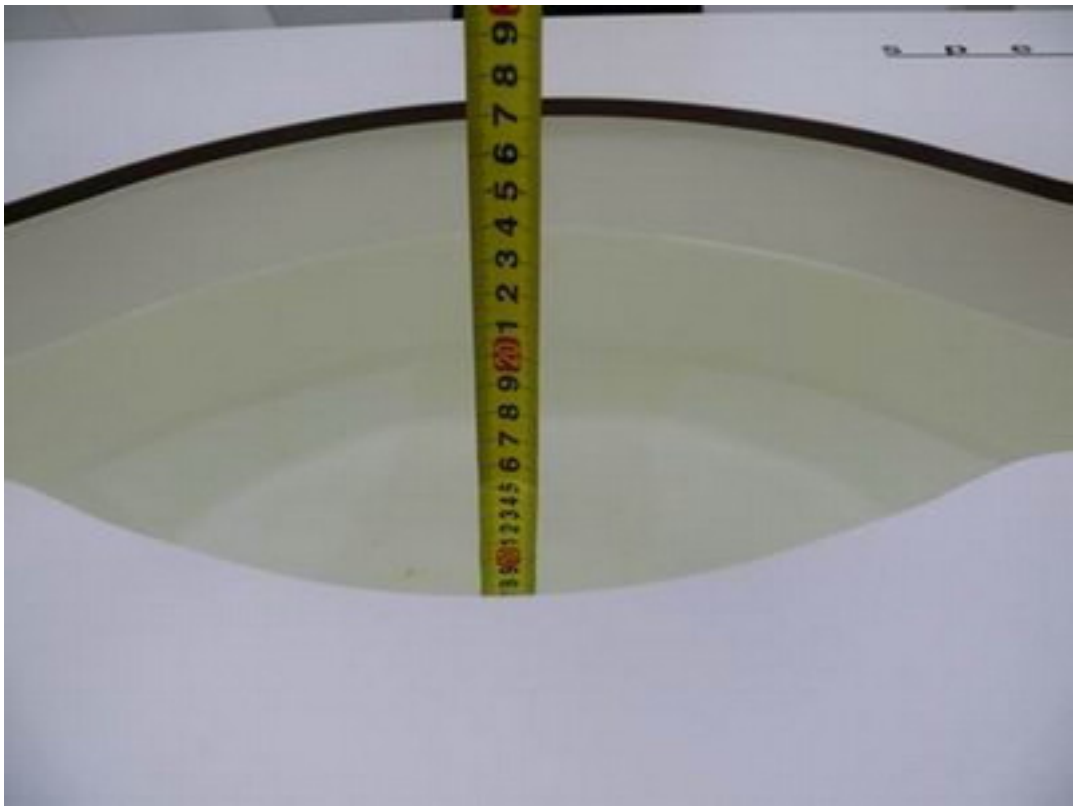


Picture 3: Liquid depth in the head Phantom (835MHz, 15.3cm depth)

Picture 4: liquid depth in the head Phantom (1750 MHz, 15.2cm depth)

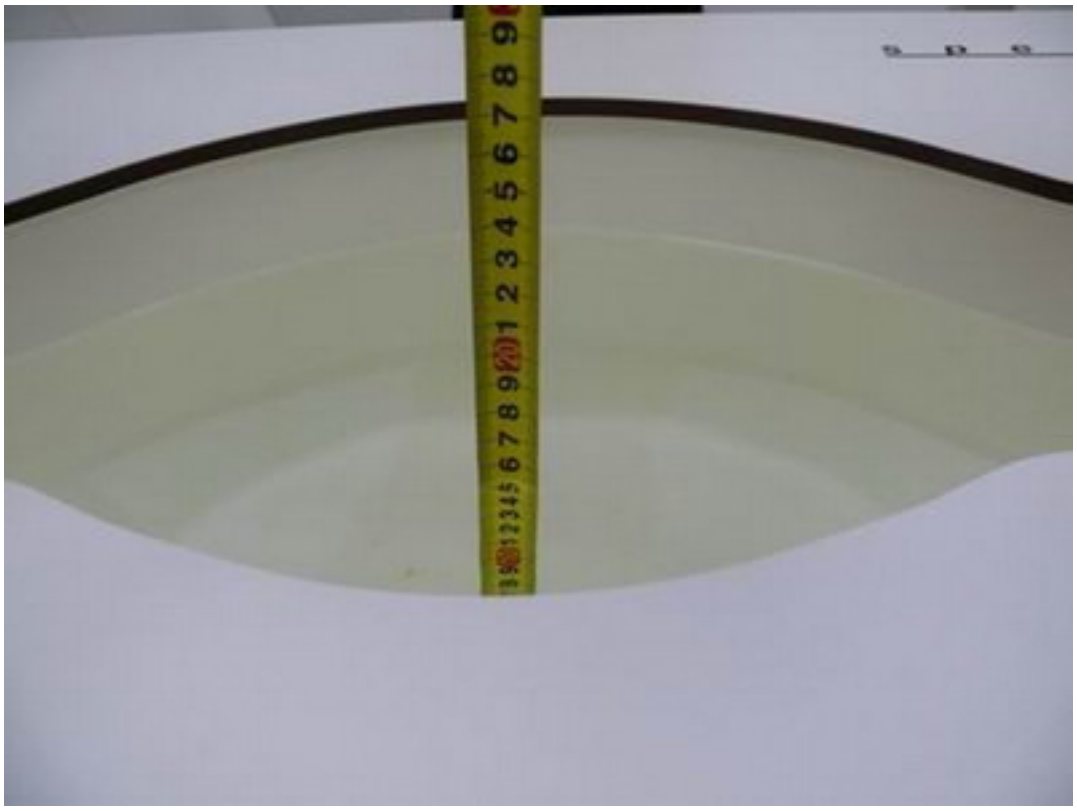


Picture 5: Liquid depth in the Flat Phantom (1750 MHz, 15.3cm depth)



Picture 6: Liquid depth in the flat Phantom (1900 MHz, 15.2cm depth)

Picture 7: liquid depth in the head Phantom (1900 MHz, 15.3cm depth)



Picture 8: Liquid depth in the flat Phantom (2450 MHz, 15.3cm depth)

Picture 9: Liquid depth in the head Phantom (2450 MHz, 15.4cm 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: 7/29/2012 7:51:38 PM

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

Medium parameters used: f = 835 MHz; σ = 0.90 mho/m; ε_r = 41.81; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012

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

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

d=15mm, Pin=250mW/Area Scan (41x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.64 mW/g

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

Reference Value = 54.4 V/m; Power Drift = -0.076 dB

Peak SAR (extrapolated) = 3.67 W/kg

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

Maximum value of SAR (measured) = 2.64 mW/g

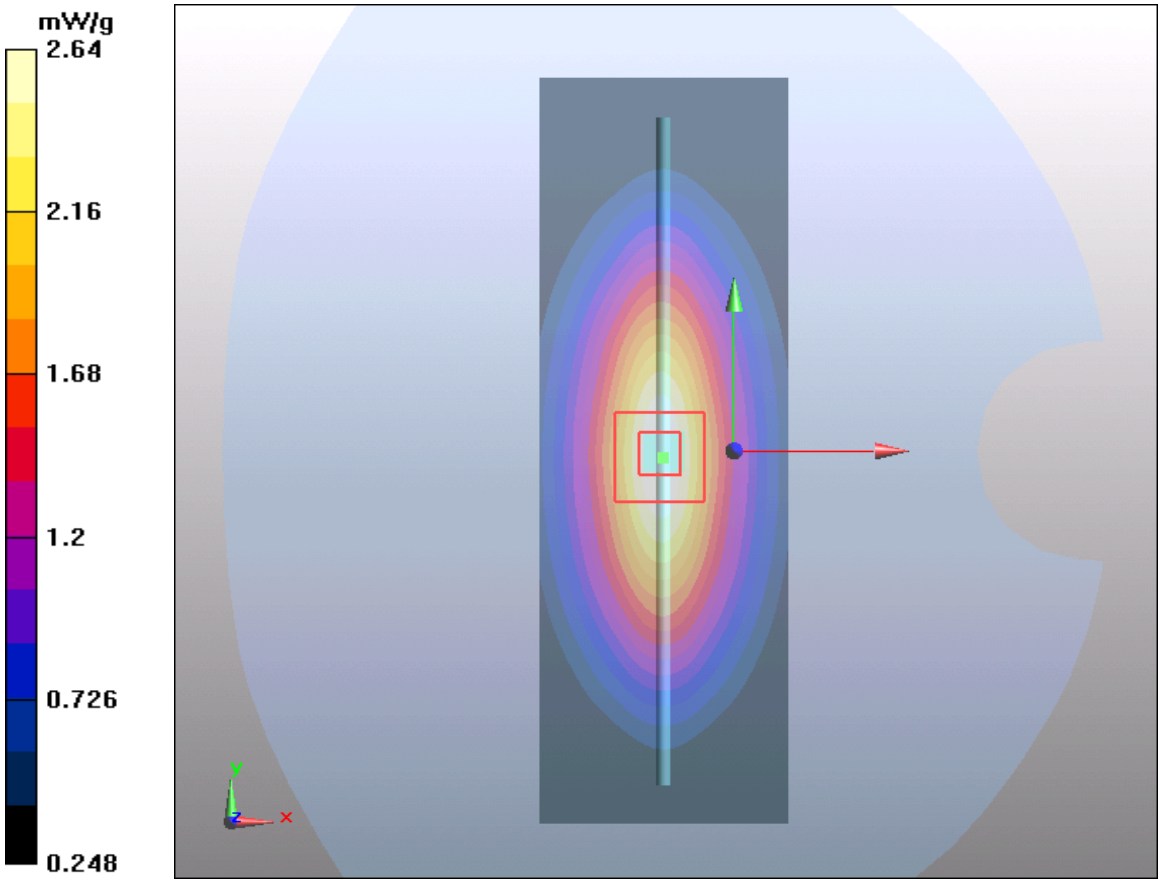


Figure 7 System Performance Check 835MHz 250mW

System Performance Check at 835 MHz Body TSL

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

Date/Time: 8/3/2012 4:10:37 AM

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

Medium parameters used: f = 835 MHz; σ = 0.97 mho/m; ε_r = 54.54; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012

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

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

d=15mm, Pin=250mW/Area Scan (41x121x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 51.9 V/m; Power Drift = -0.058 dB

Peak SAR (extrapolated) = 3.5 W/kg

SAR(1 g) = 2.41 mW/g; SAR(10 g) = 1.6 mW/g

Maximum value of SAR (measured) = 2.6 mW/g

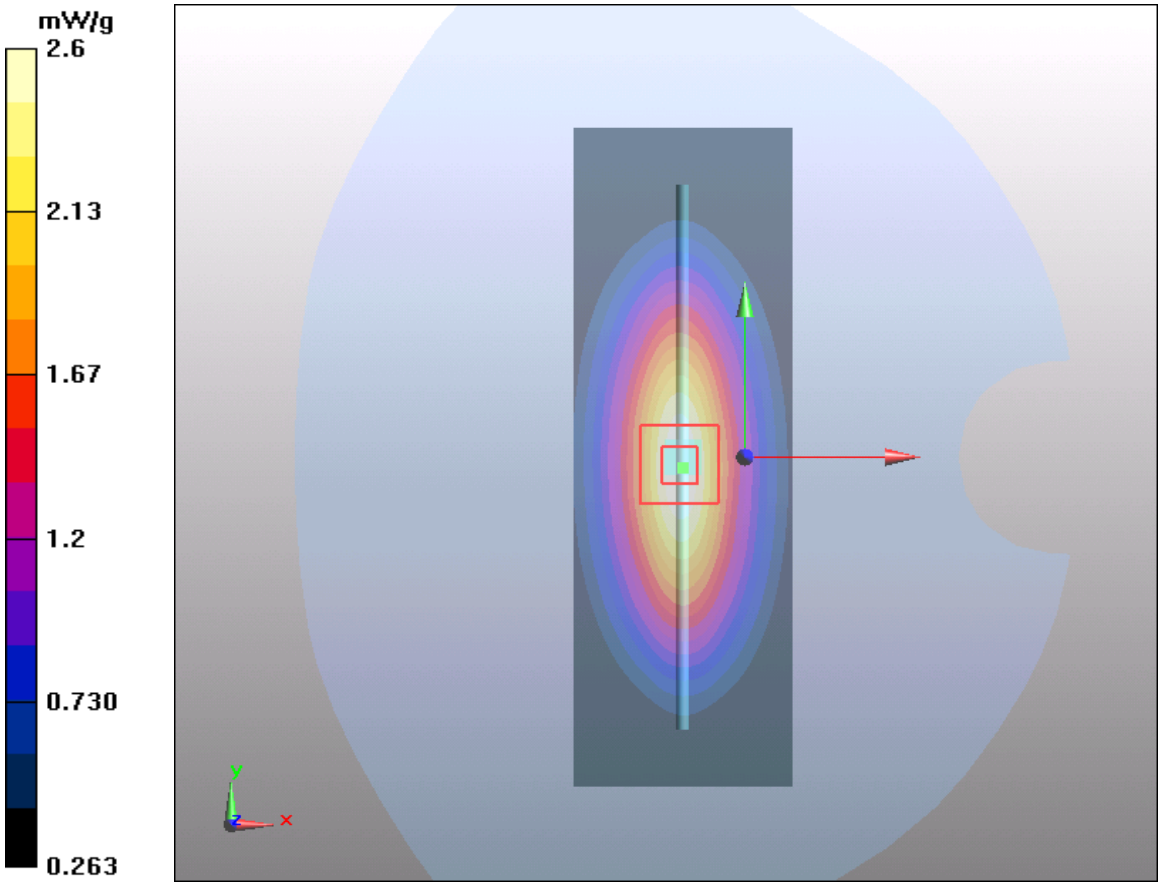


Figure 8 System Performance Check 835MHz 250mW

System Performance Check at 1750 MHz Head TSL

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1033

Date/Time: 8/5/2012 5:11:33 AM

Communication System: CW; Frequency: 1750 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1750 MHz; σ = 1.40 mho/m; ε_r = 39.17; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(4.9, 4.9, 4.9); Calibrated: 6/22/2012

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

Phantom: SAM2; Type: SAM; Serial: TP-1524

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

d=10mm, Pin=250mW/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 9.89 mW/g

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

Reference Value = 81.1 V/m; Power Drift = 0.007 dB

Peak SAR (extrapolated) = 15.5 W/kg

SAR(1 g) = 8.61 mW/g; SAR(10 g) = 4.57 mW/g

Maximum value of SAR (measured) = 9.63 mW/g

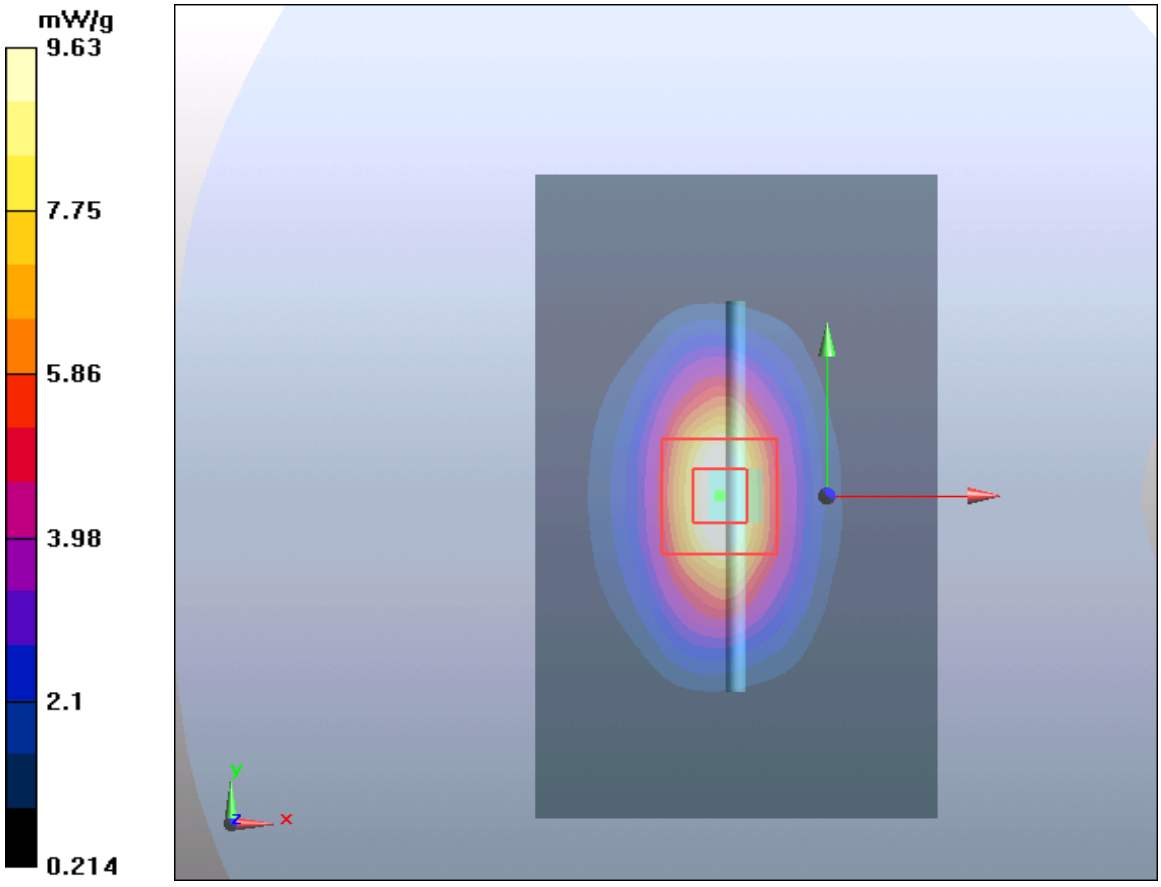


Figure 9 System Performance Check 1750MHz 250mW

System Performance Check at 1750 MHz Body TSL

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1033

Date/Time: 8/3/2012 7:59:45 PM

Communication System: CW; Frequency: 1750 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1750 MHz; σ = 1.48 mho/m; ε_r = 52.65; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(4.65, 4.65, 4.65); Calibrated: 6/22/2012

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

Phantom: SAM2; Type: SAM; Serial: TP-1524

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

d=10mm, Pin=250mW/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 10 mW/g

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

Reference Value = 74.8 V/m; Power Drift = 0.050 dB

Peak SAR (extrapolated) = 15.3 W/kg

SAR(1 g) = 8.73 mW/g; SAR(10 g) = 4.69 mW/g

Maximum value of SAR (measured) = 9.86 mW/g

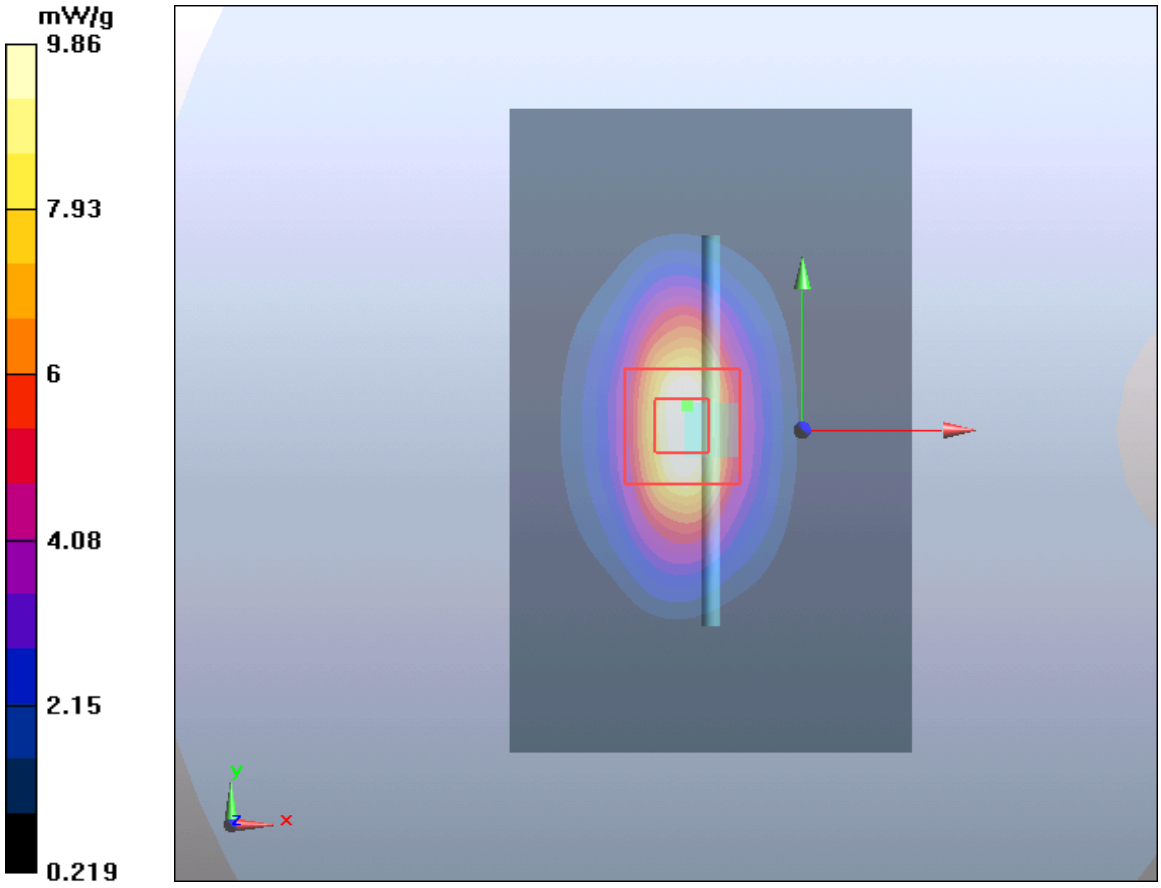


Figure 10 System Performance Check 1750MHz 250mW

System Performance Check at 1900 MHz Head TSL

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

Date/Time: 7/30/2012 10:45:55 AM

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

Medium parameters used: f = 1900 MHz; σ = 1.41 mho/m; ε_r = 40.82; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(4.69, 4.69, 4.69); Calibrated: 6/22/2012

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

Phantom: SAM2; Type: SAM; Serial: TP-1524

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

d=10mm, Pin=250mW/Area Scan (41x71x1): 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 = 85.5 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 17.8 W/kg

SAR(1 g) = 9.48 mW/g; SAR(10 g) = 4.9 mW/g

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

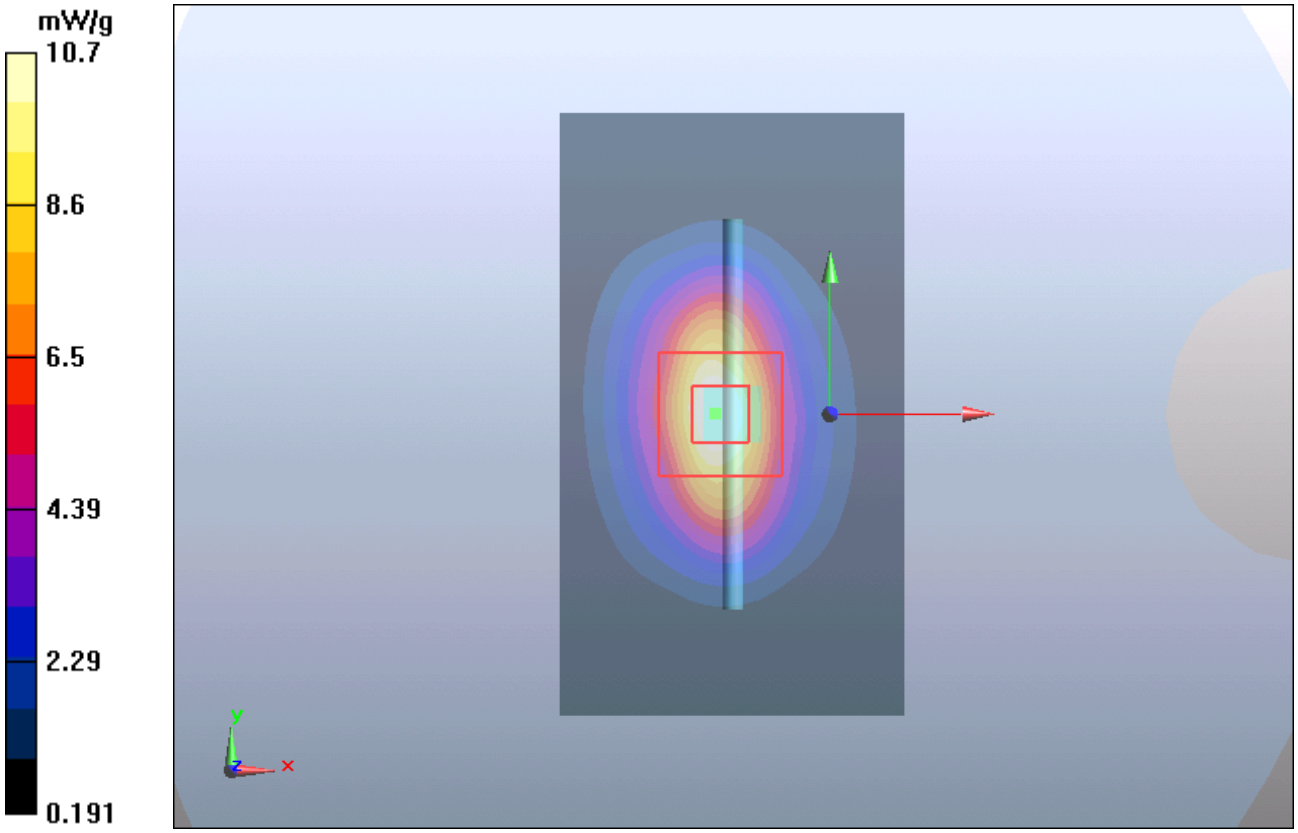


Figure 11 System Performance Check 1900MHz 250mW

System Performance Check at 1900 MHz Body TSL

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

Date/Time: 8/4/2012 6:21:25 PM

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

Medium parameters used: f = 1900 MHz; σ = 1.52 mho/m; ε_r = 53.12; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012

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

Phantom: SAM2; Type: SAM; Serial: TP-1524

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

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

Maximum value of SAR (interpolated) = 12.2 mW/g

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

Reference Value = 82.3 V/m; Power Drift = 0.068 dB

Peak SAR (extrapolated) = 17.8 W/kg

SAR(1 g) = 9.93 mW/g; SAR(10 g) = 5.25 mW/g

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

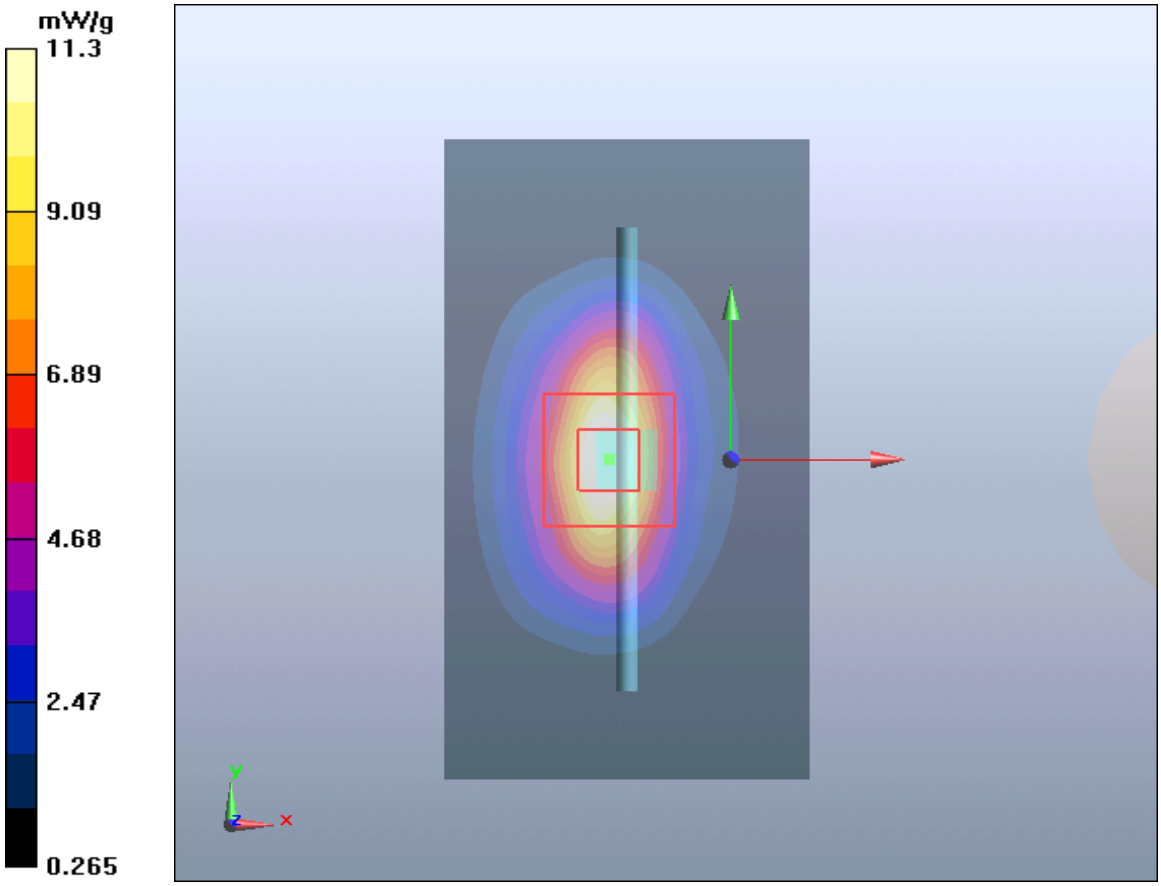


Figure 12 System Performance Check 1900MHz 250mW

System Performance Check at 2450 MHz Head TSL

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

Date/Time: 8/5/2012 1:48:12 PM

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

Medium parameters used: f = 2450 MHz; σ = 1.88 mho/m; ε_r = 38.32; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(4.14, 4.14, 4.14); Calibrated: 6/22/2012

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

Phantom: SAM2; Type: SAM; Serial: TP-1524

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

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

Maximum value of SAR (interpolated) = 18.2 mW/g

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

Reference Value = 88.8 V/m; Power Drift = 0.075 dB

Peak SAR (extrapolated) = 30 W/kg

SAR(1 g) = 13.7 mW/g; SAR(10 g) = 6.22 mW/g

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

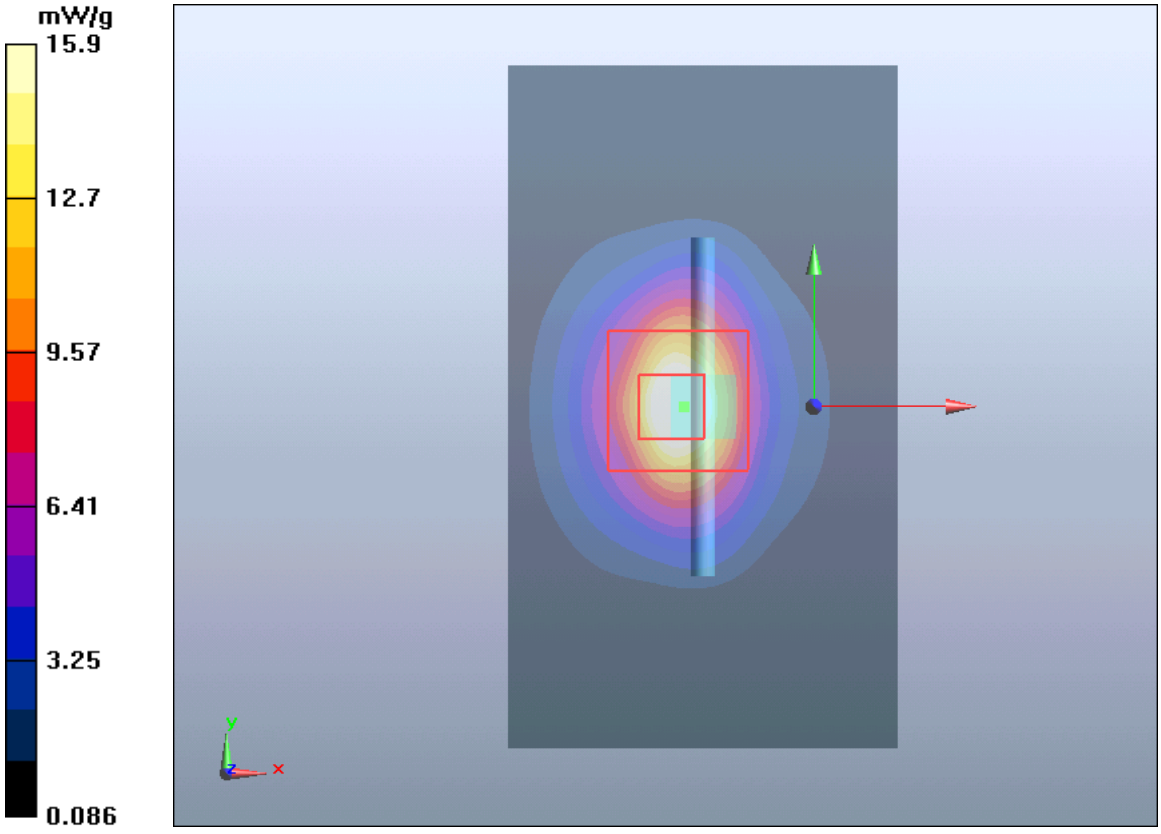


Figure 13 System Performance Check 2450MHz 250mW

System Performance Check at 2450 MHz Body TSL

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

Date/Time: 8/5/2012 8:11:59 PM

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

Medium parameters used: f = 2450 MHz; σ = 1.90 mho/m; ε_r = 51.69; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(3.96, 3.96, 3.96); Calibrated: 6/22/2012

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

Phantom: SAM2; Type: SAM; Serial: TP-1524

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

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

Maximum value of SAR (interpolated) = 16 mW/g

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

Reference Value = 81.2 V/m; Power Drift = 0.076 dB

Peak SAR (extrapolated) = 25.4 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

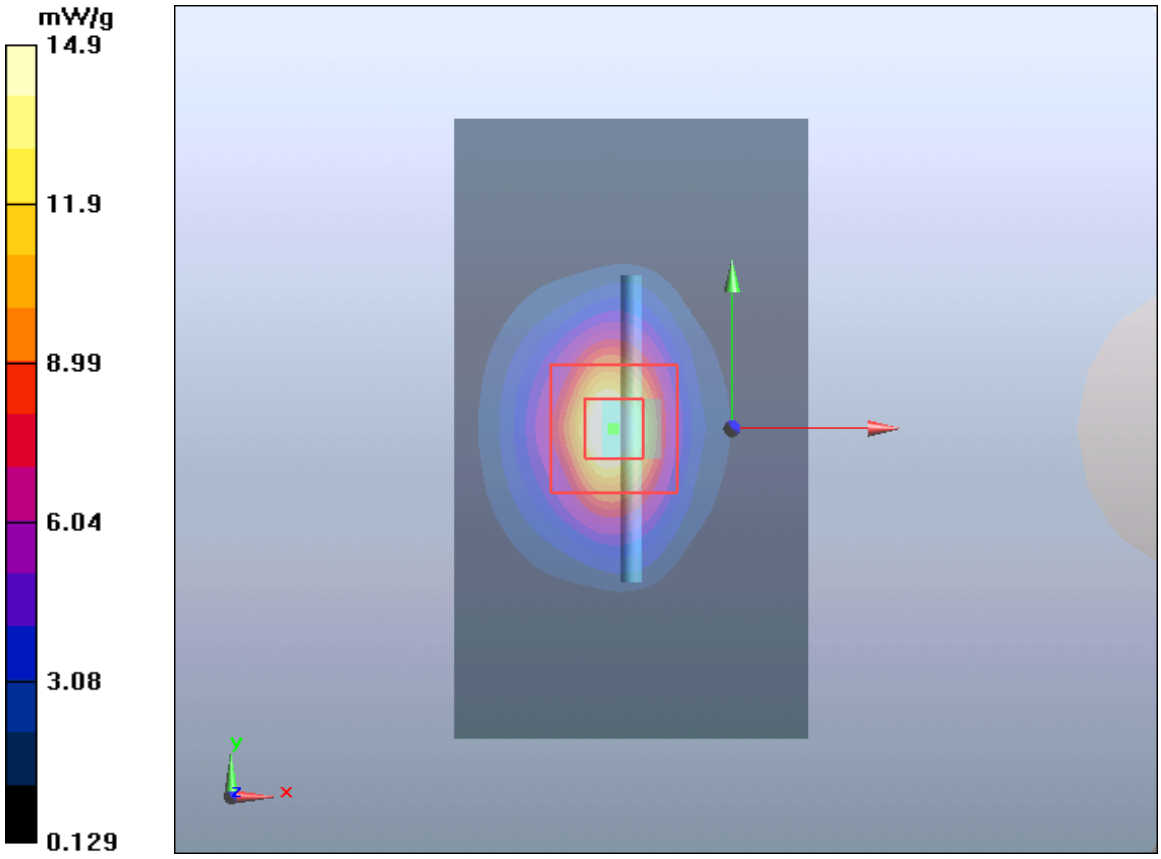


Figure 14 System Performance Check 2450MHz 250mW

ANNEX C: Graph Results

GSM 850 Left Cheek Middle

Date/Time: 7/29/2012 10:08:53 PM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.896 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left/Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.239 mW/g

Left/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.1 V/m; Power Drift = -0.038 dB
Peak SAR (extrapolated) = 0.288 W/kg
SAR(1 g) = 0.228 mW/g; SAR(10 g) = 0.174 mW/g
Maximum value of SAR (measured) = 0.238 mW/g

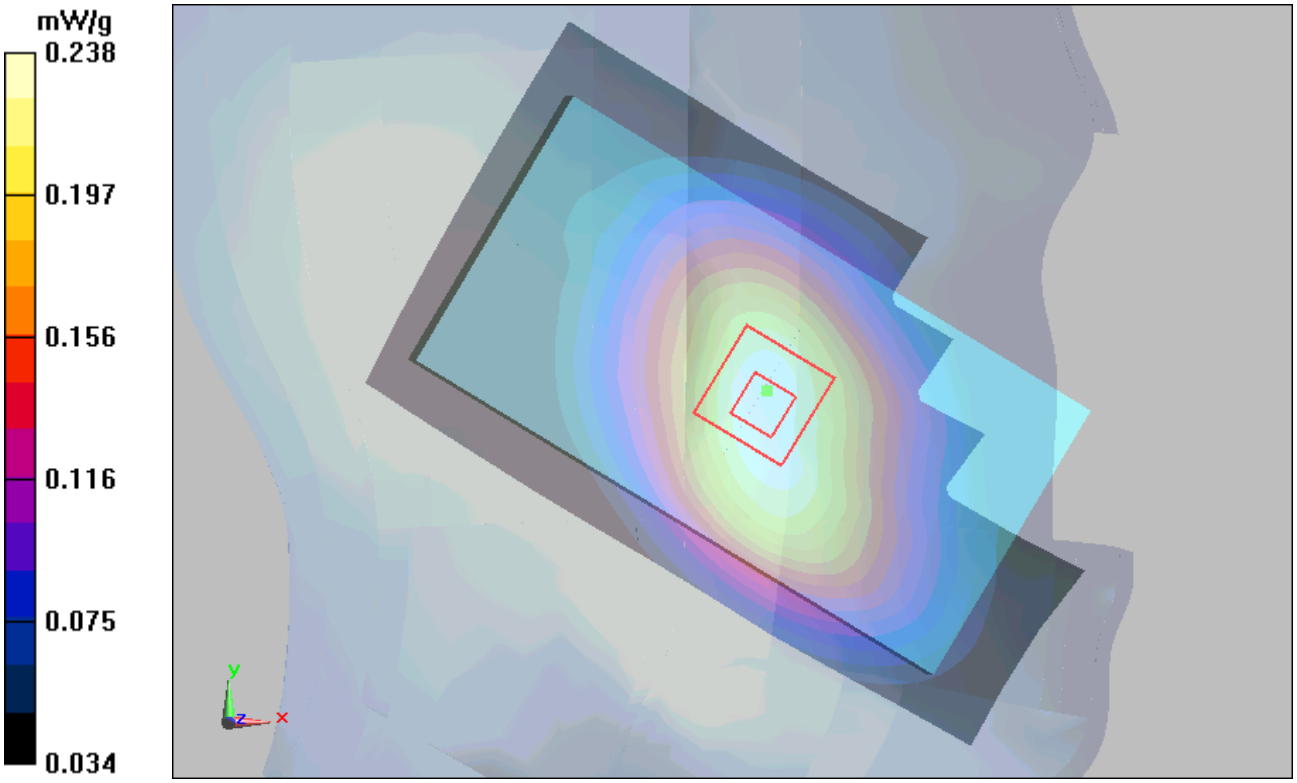


Figure 15 Left Hand Touch Cheek GSM 850 Channel 190

GSM 850 Left Tilt Middle

Date/Time: 7/29/2012 10:30:49 PM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.896 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left/Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.175 mW/g

Left/Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.71 V/m; Power Drift = 0.097 dB
Peak SAR (extrapolated) = 0.206 W/kg
SAR(1 g) = 0.168 mW/g; SAR(10 g) = 0.129 mW/g
Maximum value of SAR (measured) = 0.177 mW/g

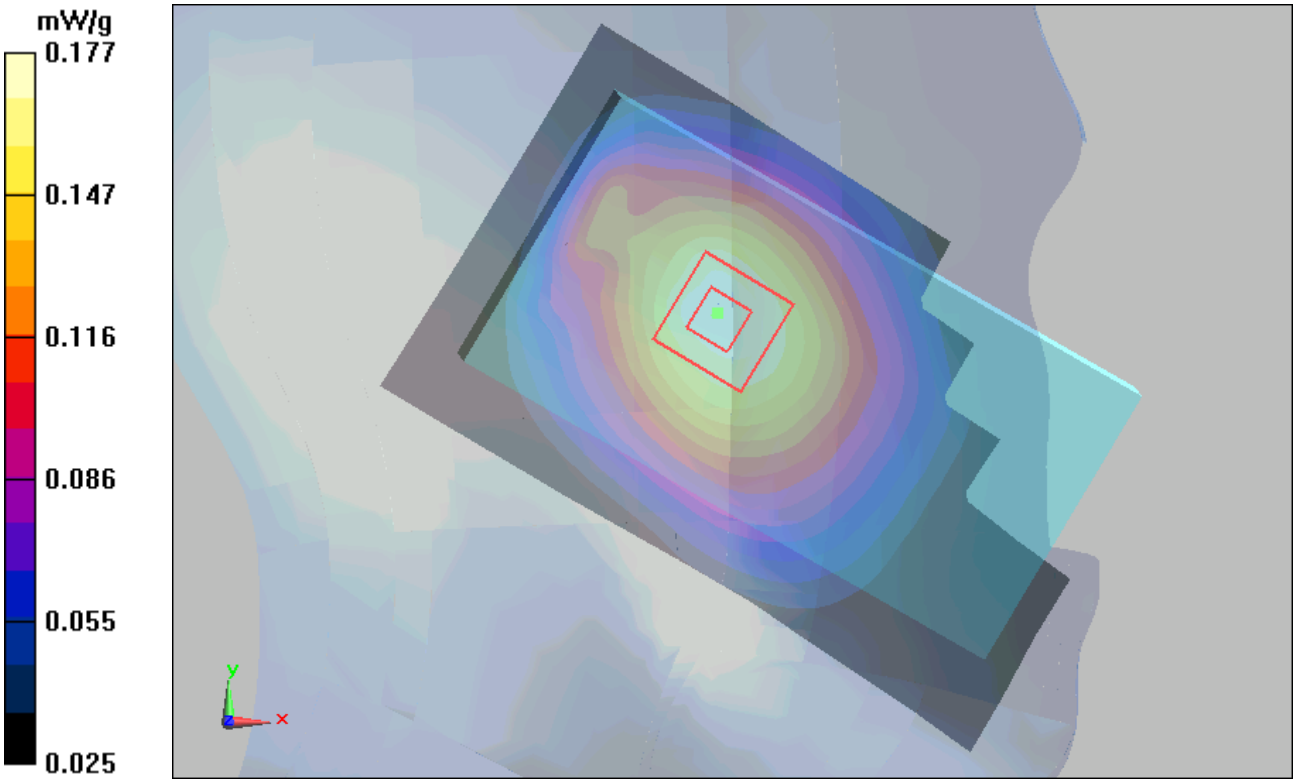


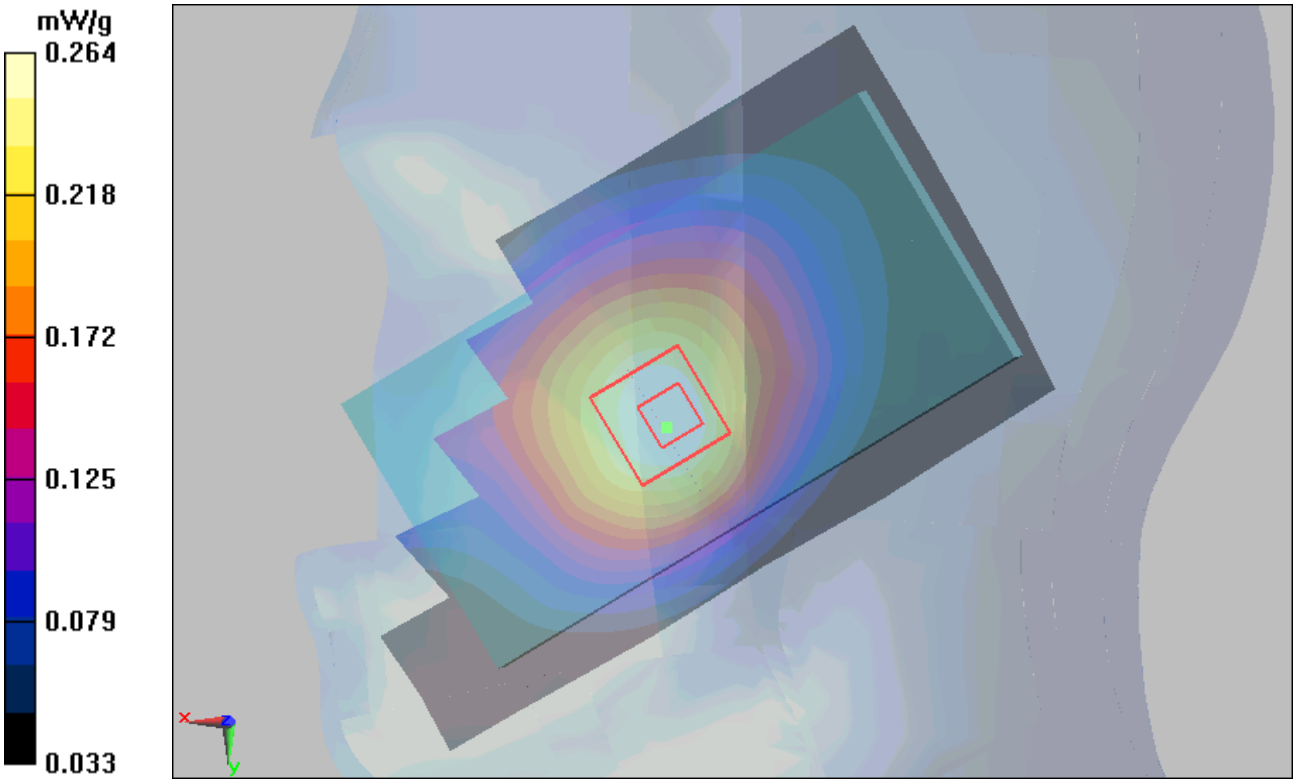
Figure 16 Left Hand Tilt 15° GSM 850 Channel 190

GSM 850 Right Cheek Middle

Date/Time: 7/29/2012 9:34:16 PM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.896 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right/Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.271 mW/g

Right/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.49 V/m; Power Drift = 0.093 dB
Peak SAR (extrapolated) = 0.307 W/kg
SAR(1 g) = 0.255 mW/g; SAR(10 g) = 0.197 mW/g
Maximum value of SAR (measured) = 0.264 mW/g



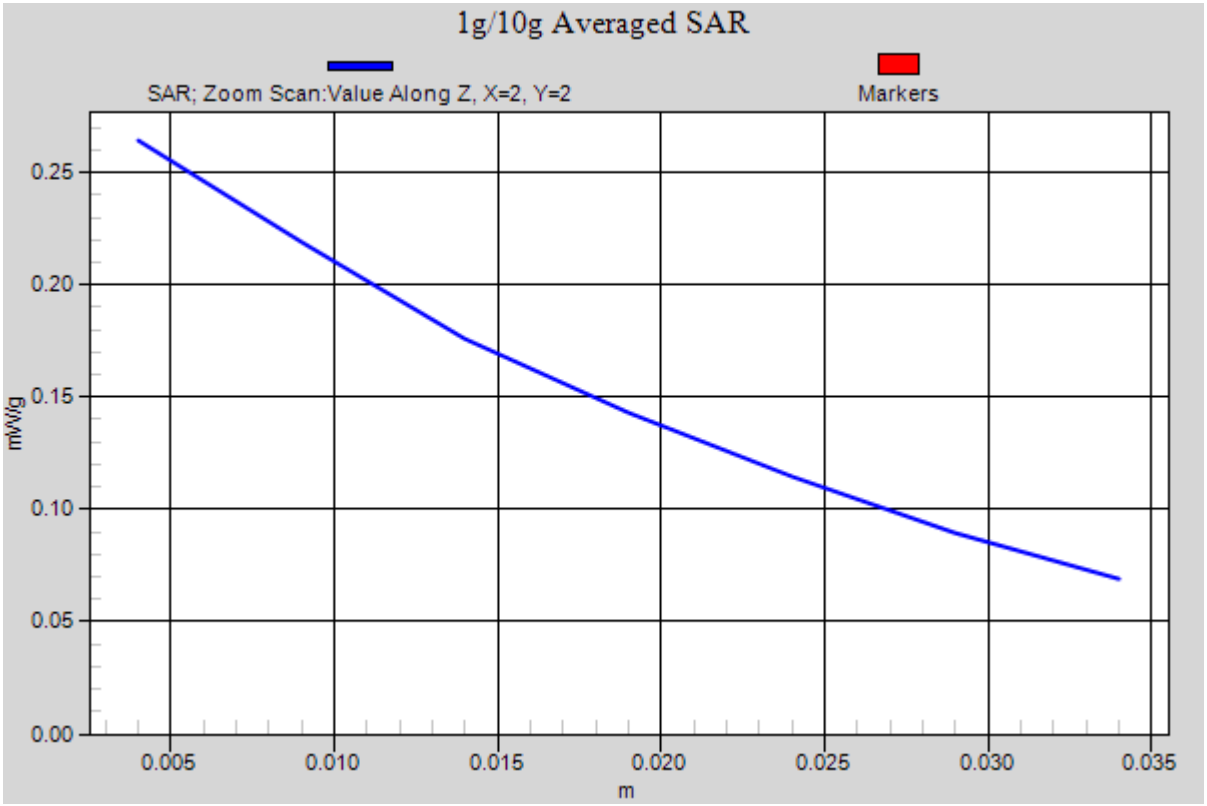


Figure 17 Right Hand Touch Cheek GSM 850 Channel 190

GSM 850 Right Tilt Middle

Date/Time: 7/29/2012 9:50:31 PM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.896 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right/Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.191 mW/g

Right/Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.2 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 0.226 W/kg
SAR(1 g) = 0.183 mW/g; SAR(10 g) = 0.140 mW/g
Maximum value of SAR (measured) = 0.193 mW/g

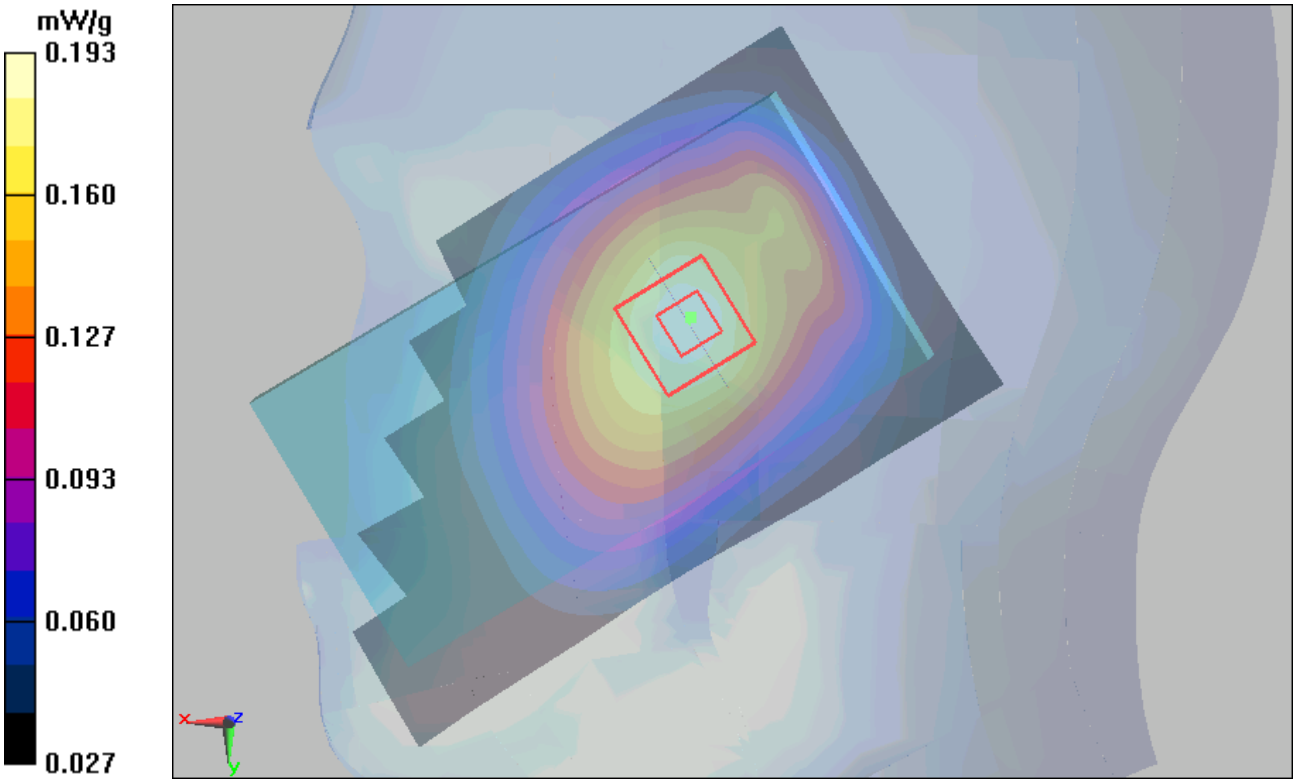


Figure 18 Right Hand Tilt 15° GSM 850 Channel 190

GSM 850 GPRS (1Txslot) Back Side Middle

Date/Time: 8/3/2012 4:31:37 PM
Communication System: GPRS 1TX; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.971 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Back Side Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.562 mW/g

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.7 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 0.666 W/kg
SAR(1 g) = 0.538 mW/g; SAR(10 g) = 0.409 mW/g
Maximum value of SAR (measured) = 0.564 mW/g

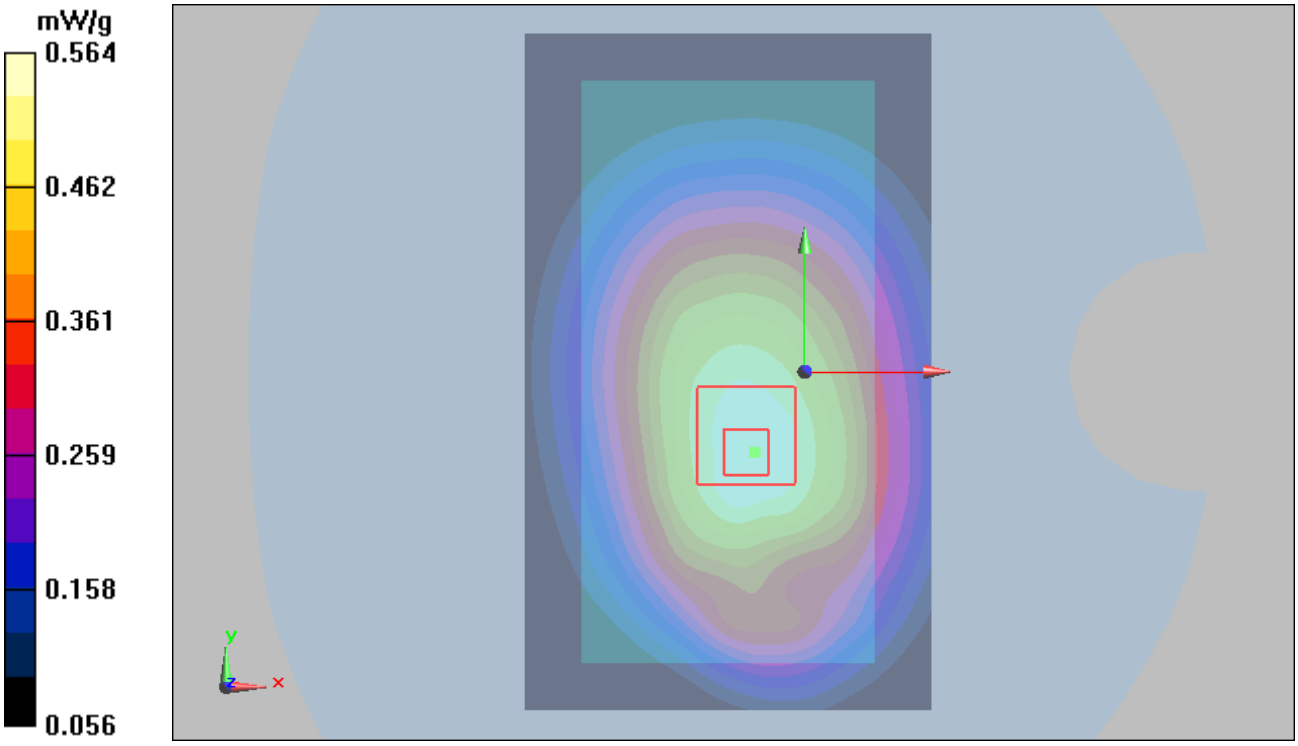


Figure 19 Body, Back Side, GSM 850 GPRS (1Txslot) Channel 190

GSM 850 GPRS (2Txslots) Back Side Middle

Date/Time: 8/3/2012 4:48:09 PM
Communication System: GPRS 2TX ; Frequency: 836.6 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 837 MHz; σ = 0.971 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Back Side Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.716 mW/g

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.7 V/m; Power Drift = -0.066 dB
Peak SAR (extrapolated) = 0.848 W/kg
SAR(1 g) = 0.679 mW/g; SAR(10 g) = 0.520 mW/g
Maximum value of SAR (measured) = 0.710 mW/g

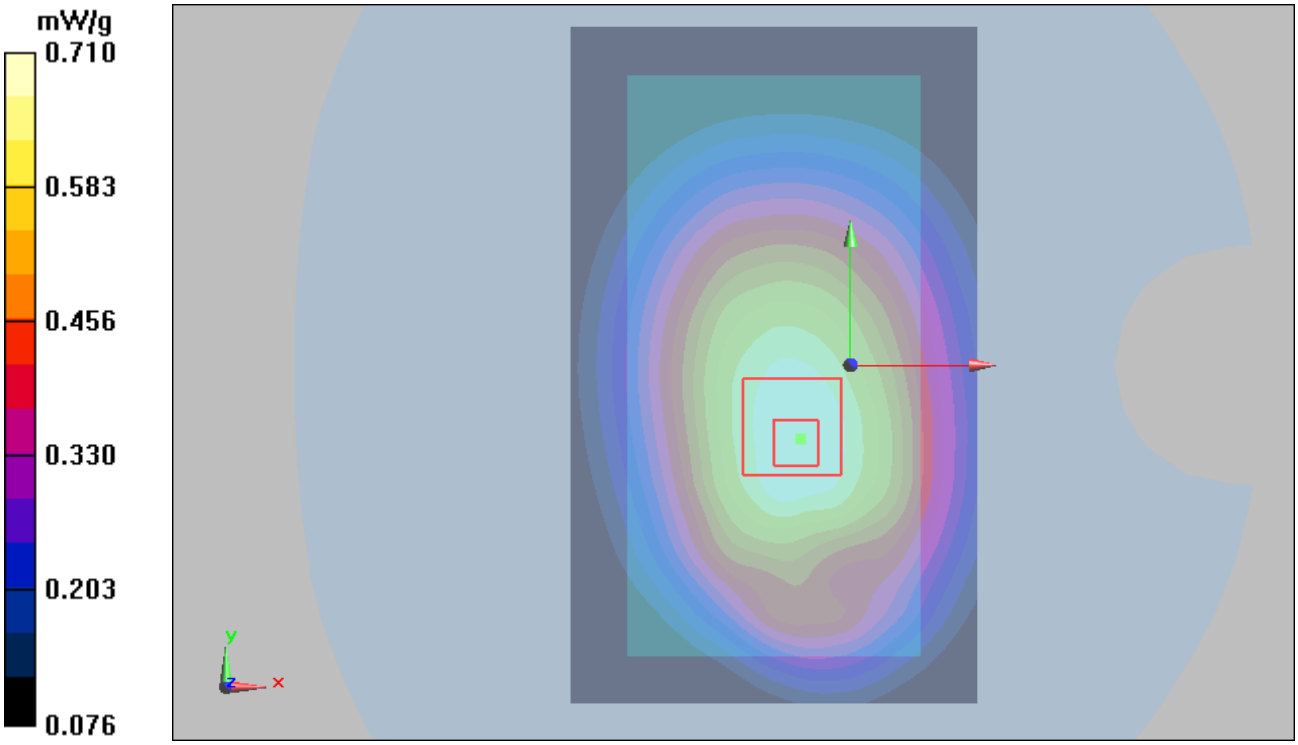


Figure 20 Body, Back Side, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 GPRS (2Txslots) Front Side Middle

Date/Time: 8/3/2012 5:06:36 PM
Communication System: GPRS 2TX ; Frequency: 836.6 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 837 MHz; σ = 0.971 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Front Side Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.459 mW/g

Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.4 V/m; Power Drift = 0.005 dB
Peak SAR (extrapolated) = 0.564 W/kg
SAR(1 g) = 0.440 mW/g; SAR(10 g) = 0.340 mW/g
Maximum value of SAR (measured) = 0.459 mW/g

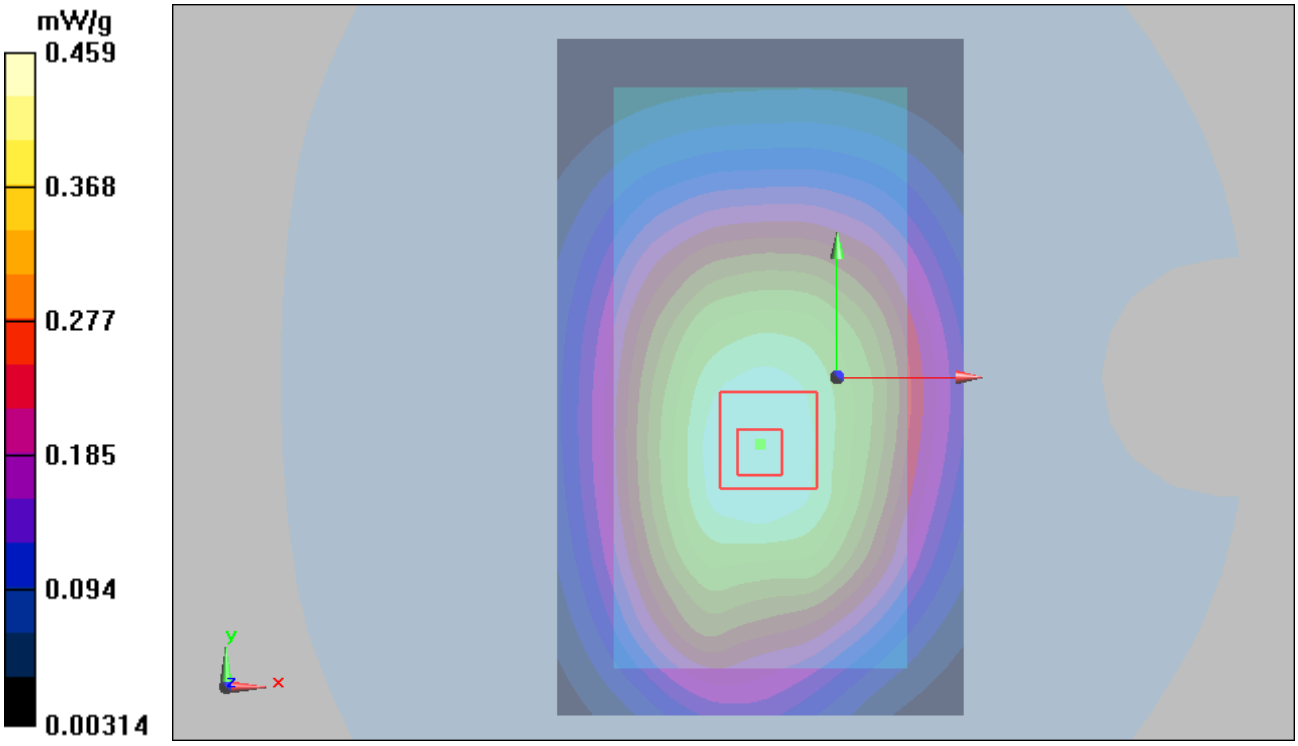


Figure 21 Body, Front Side, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 GPRS (2Txslots) Left Edge Middle

Date/Time: 8/3/2012 6:40:27 PM
Communication System: GPRS 2TX ; Frequency: 836.6 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 837 MHz; σ = 0.971 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left Edge Middle/Area Scan (21x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.187 mW/g

Left Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.1 V/m; Power Drift = 0.002 dB
Peak SAR (extrapolated) = 0.247 W/kg
SAR(1 g) = 0.176 mW/g; SAR(10 g) = 0.121 mW/g
Maximum value of SAR (measured) = 0.188 mW/g

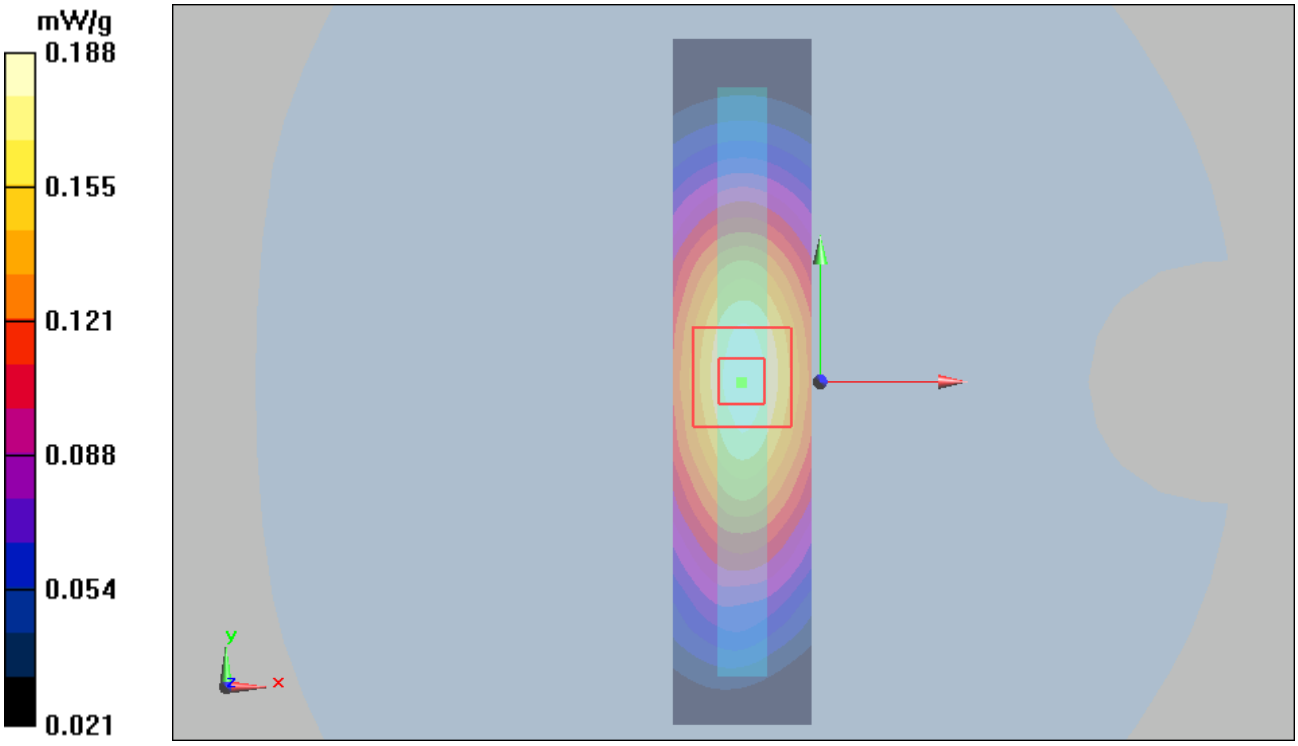


Figure 22 Body, Left Edge, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 GPRS (2Txslots) Right Edge Middle

Date/Time: 8/3/2012 6:53:54 PM
Communication System: GPRS 2TX ; Frequency: 836.6 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 837 MHz; σ = 0.971 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right Edge Middle/Area Scan (21x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.297 mW/g

Right Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.4 V/m; Power Drift = -0.025 dB
Peak SAR (extrapolated) = 0.377 W/kg
SAR(1 g) = 0.267 mW/g; SAR(10 g) = 0.185 mW/g
Maximum value of SAR (measured) = 0.283 mW/g

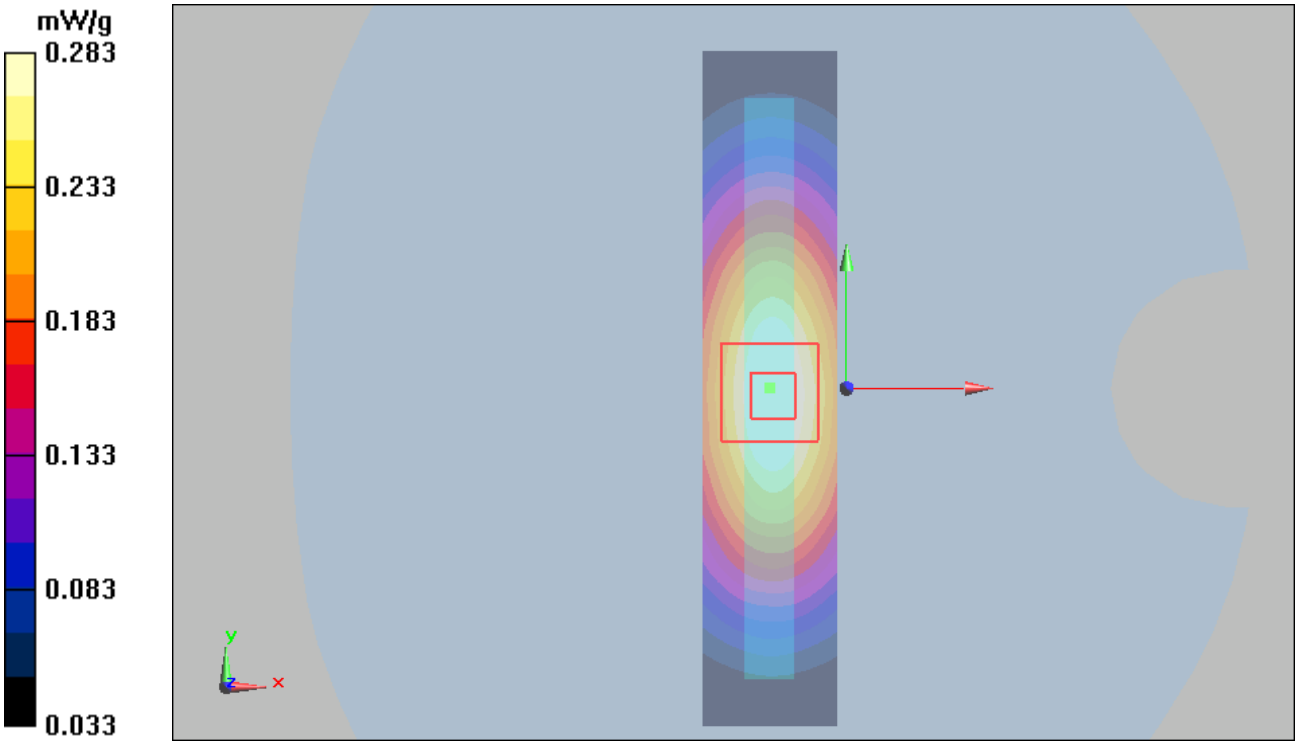


Figure 23 Body, Right Edge, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 GPRS (2Txslots) Bottom Edge Middle

Date/Time: 8/3/2012 7:09:28 PM
Communication System: WCDMA ; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.971 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Bottom Edge Middle/Area Scan (21x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.080 mW/g

Bottom Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.07 V/m; Power Drift = 0.113 dB
Peak SAR (extrapolated) = 0.148 W/kg
SAR(1 g) = 0.078 mW/g; SAR(10 g) = 0.044 mW/g
Maximum value of SAR (measured) = 0.086 mW/g

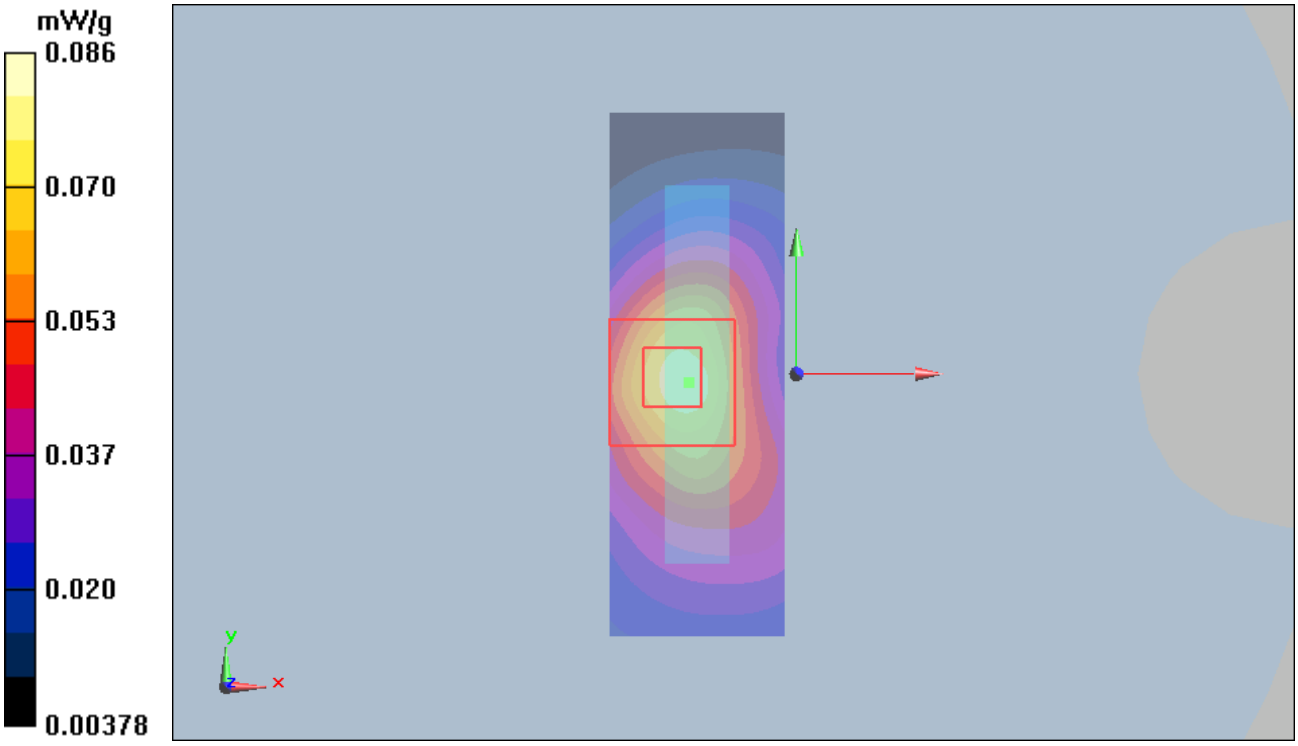


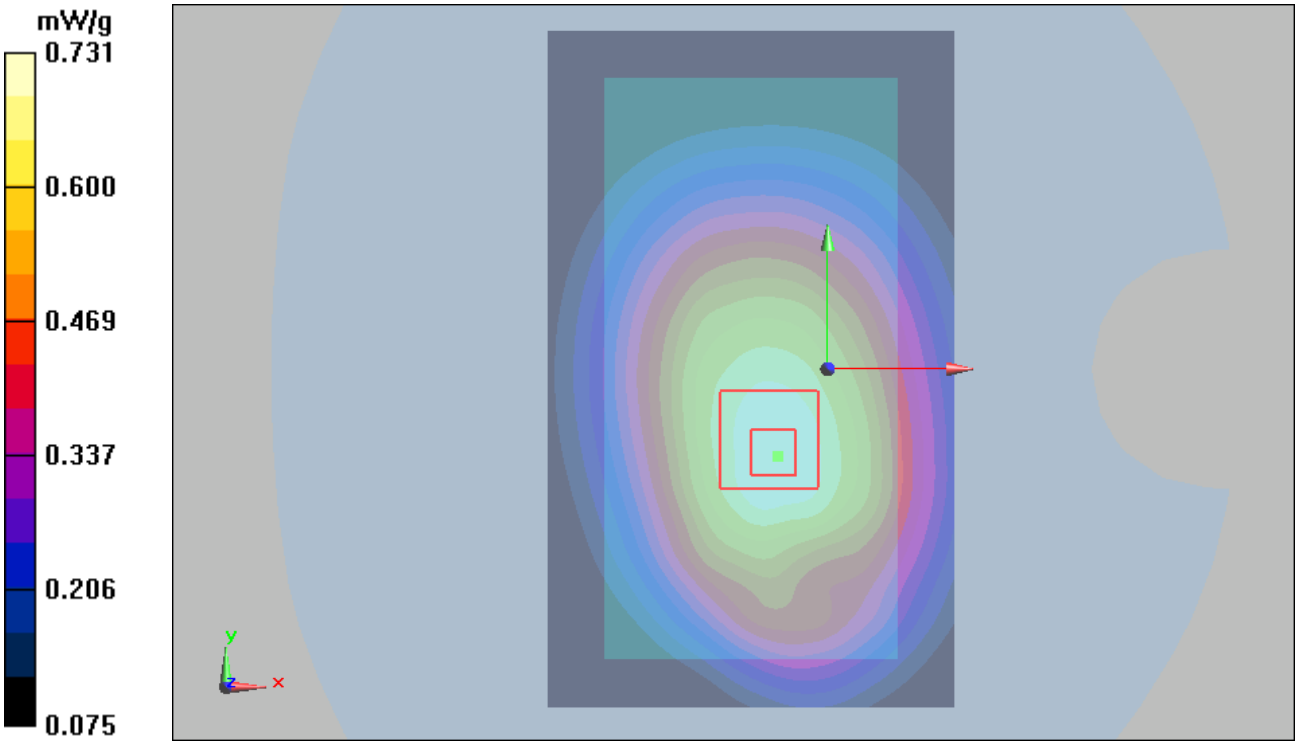
Figure 24 Body, Bottom Edge, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 EGPRS (2Txslots) Back Side Middle

Date/Time: 8/3/2012 5:52:46 PM
Communication System: EGPRS 2TX; Frequency: 836.6 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 837 MHz; σ = 0.971 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Back Side Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.733 mW/g

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.8 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 0.878 W/kg
SAR(1 g) = 0.697 mW/g; SAR(10 g) = 0.531 mW/g
Maximum value of SAR (measured) = 0.731 mW/g



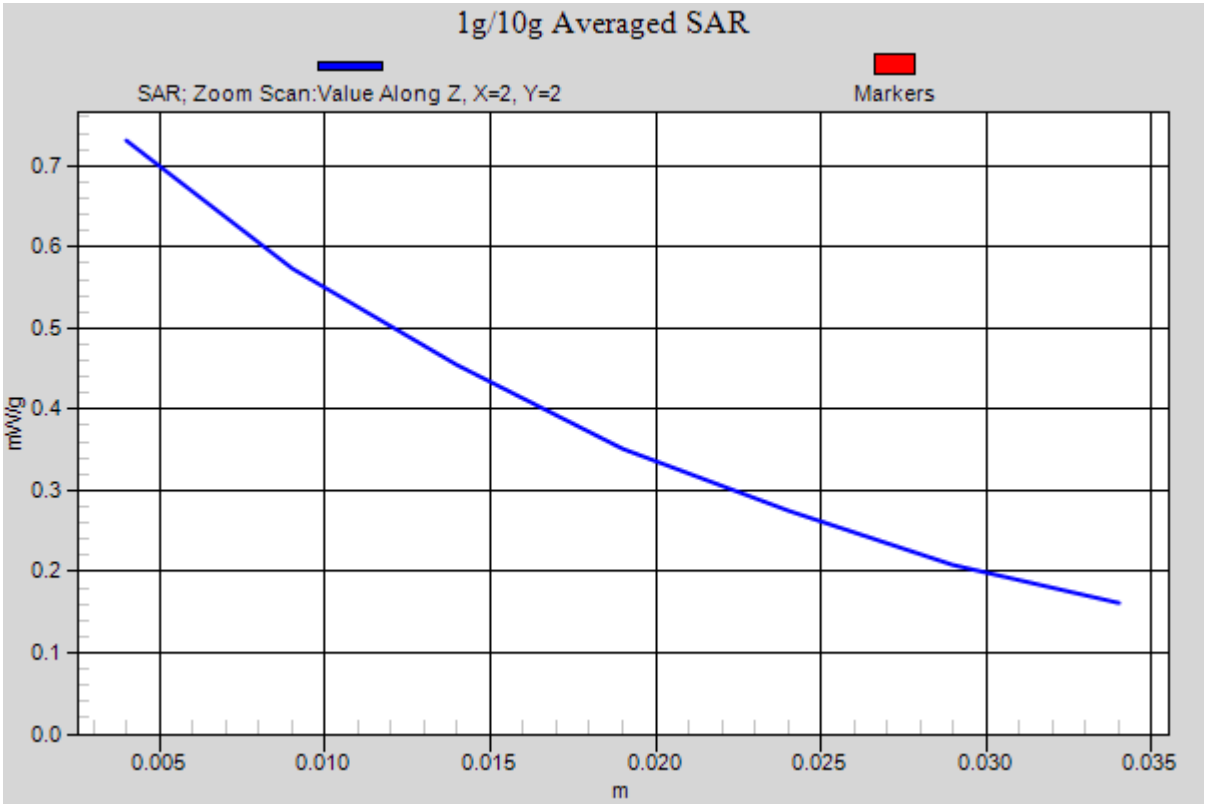


Figure 25 Body, Back Side, GSM 850 EGPRS (2Txslots) Channel 190

GSM 850 with Earphone Back Side Middle

Date/Time: 8/3/2012 5:32:34 PM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.971 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Back Side Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.495 mW/g

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.1 V/m; Power Drift = 0.034 dB
Peak SAR (extrapolated) = 0.632 W/kg
SAR(1 g) = 0.472 mW/g; SAR(10 g) = 0.345 mW/g
Maximum value of SAR (measured) = 0.497 mW/g

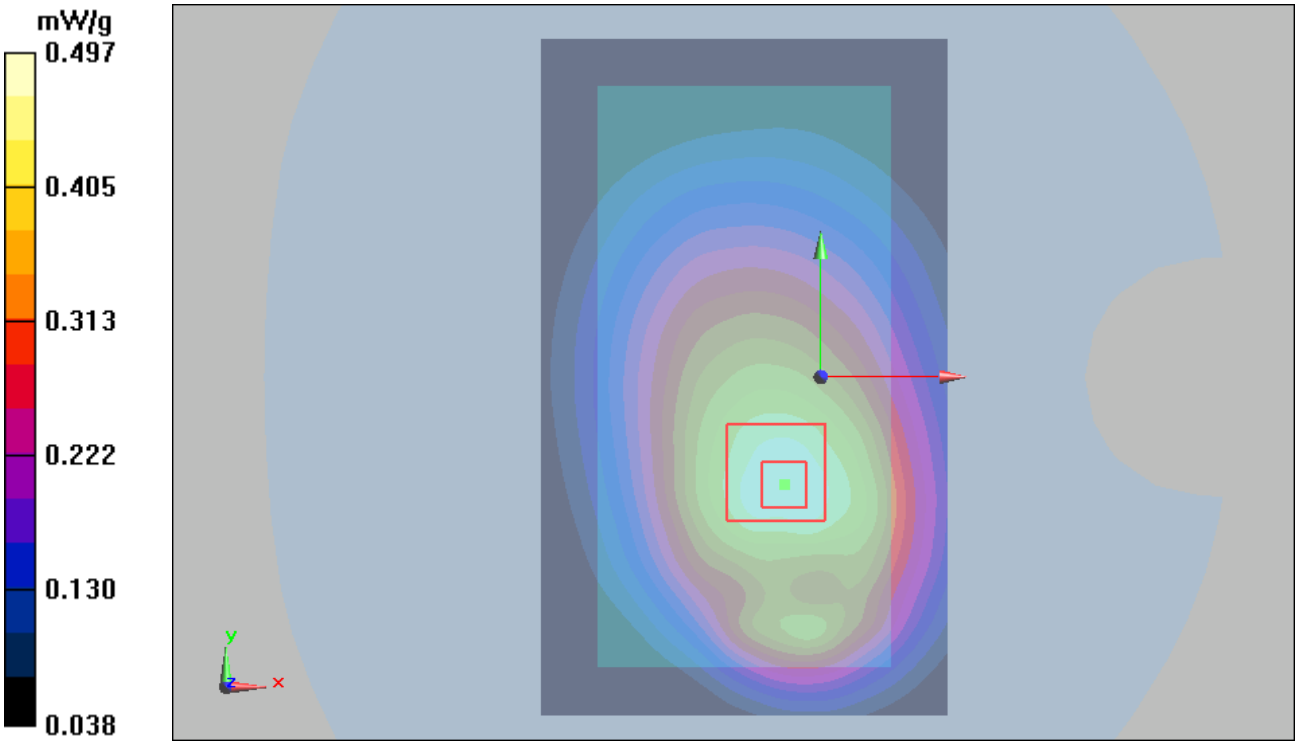


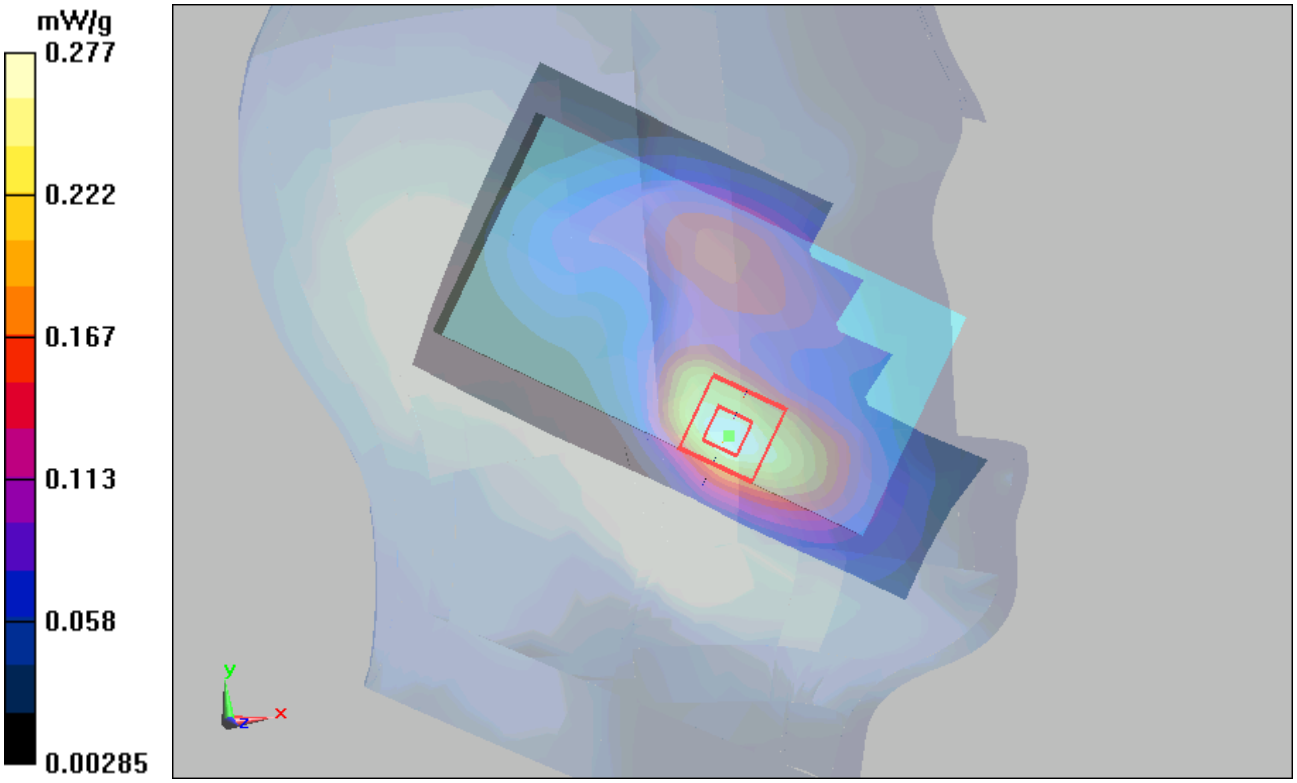
Figure 26 Body with Earphone, Back Side, GSM 850 Channel 190

GSM 1900 Left Cheek Middle

Date/Time: 7/30/2012 1:41:24 PM
Communication System: GSM; Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 40.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.69, 4.69, 4.69); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left/Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.282 mW/g

Left/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.4 V/m; Power Drift = 0.085 dB
Peak SAR (extrapolated) = 0.395 W/kg
SAR(1 g) = 0.254 mW/g; SAR(10 g) = 0.155 mW/g
Maximum value of SAR (measured) = 0.277 mW/g



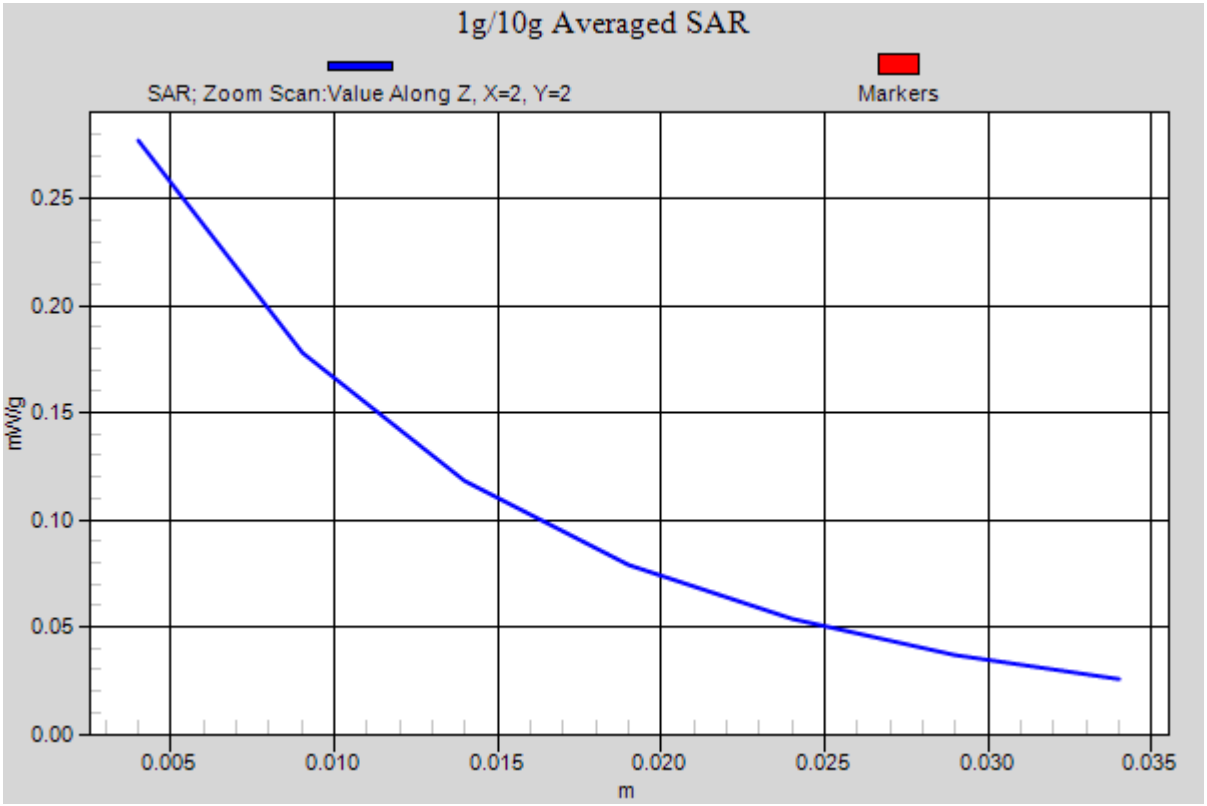


Figure 27 Left Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Left Tilt Middle

Date/Time: 7/30/2012 1:25:15 PM
Communication System: GSM; Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 40.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.69, 4.69, 4.69); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left/Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.157 mW/g

Left/Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.83 V/m; Power Drift = 0.113 dB
Peak SAR (extrapolated) = 0.203 W/kg
SAR(1 g) = 0.129 mW/g; SAR(10 g) = 0.078 mW/g
Maximum value of SAR (measured) = 0.141 mW/g

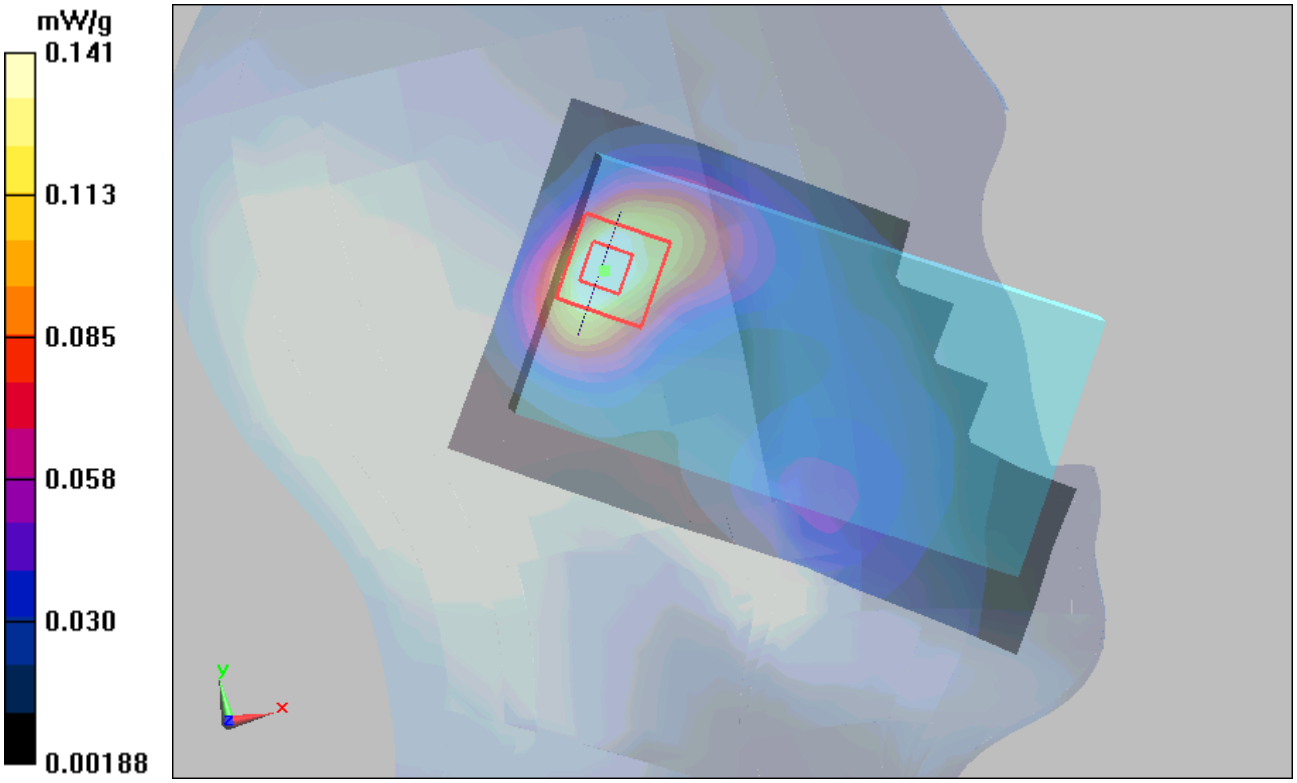


Figure 28 Left Hand Tilt 15° GSM 1900 Channel 661

GSM 1900 Right Cheek Middle

Date/Time: 7/30/2012 2:00:55 PM
Communication System: GSM; Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 40.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.69, 4.69, 4.69); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right/Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.264 mW/g

Right/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.66 V/m; Power Drift = -0.034 dB
Peak SAR (extrapolated) = 0.366 W/kg
SAR(1 g) = 0.240 mW/g; SAR(10 g) = 0.149 mW/g
Maximum value of SAR (measured) = 0.260 mW/g

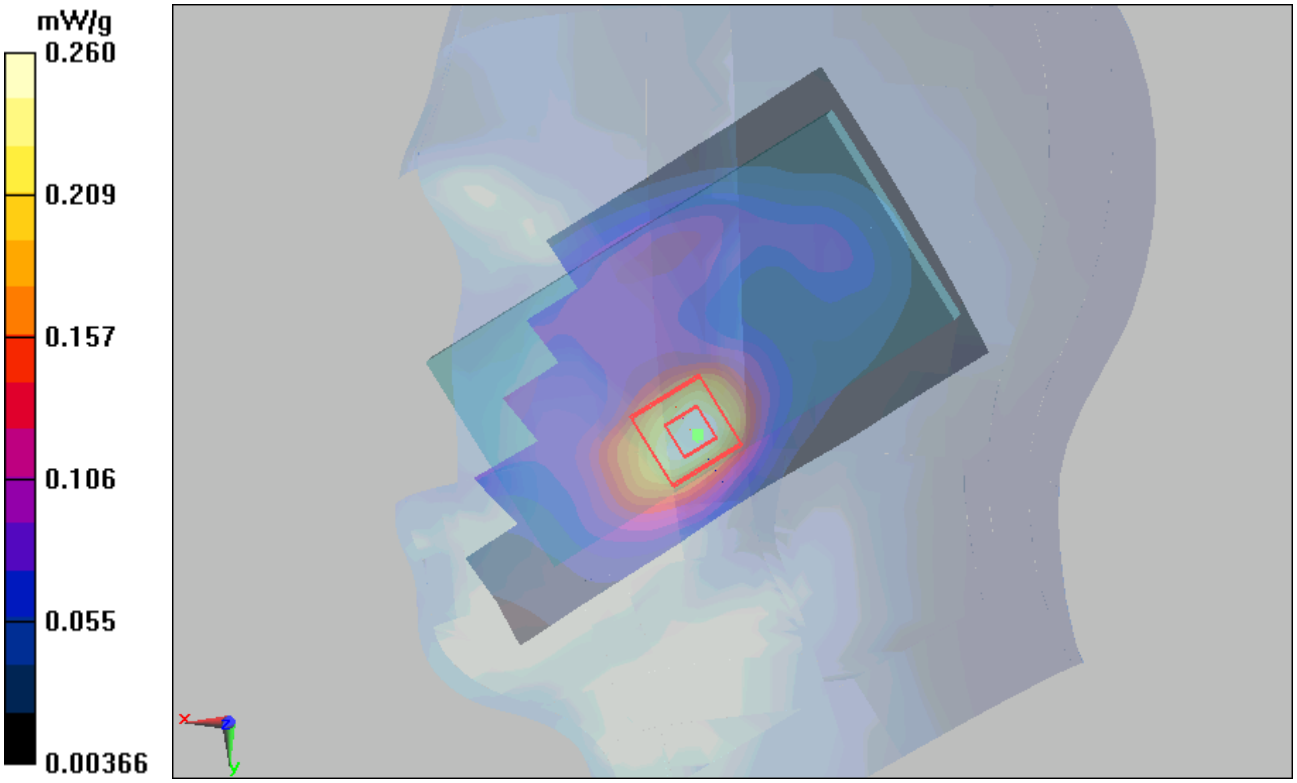


Figure 29 Right Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Right Tilt Middle

Date/Time: 7/30/2012 2:16:49 PM
Communication System: GSM; Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 40.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.69, 4.69, 4.69); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right/Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.160 mW/g

Right/Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.3 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 0.216 W/kg
SAR(1 g) = 0.134 mW/g; SAR(10 g) = 0.077 mW/g
Maximum value of SAR (measured) = 0.145 mW/g

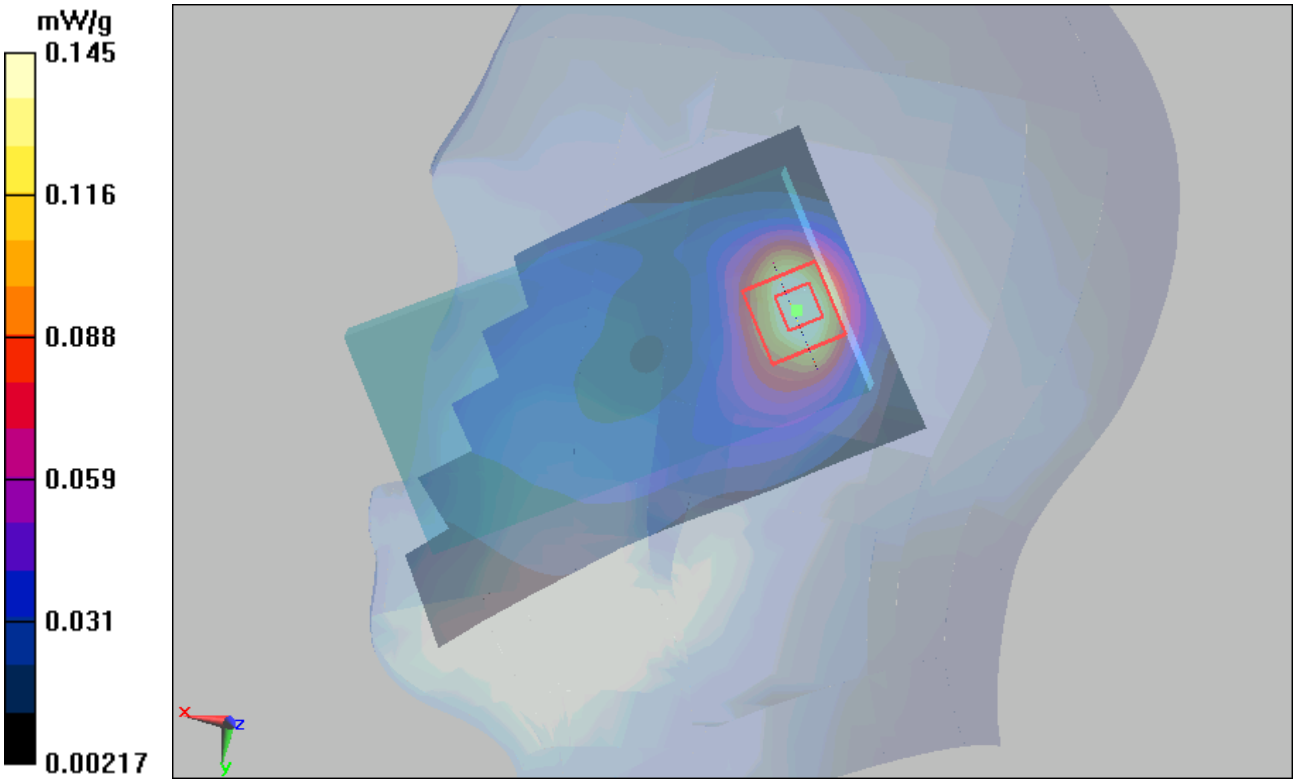


Figure 30 Right Hand Tilt 15° GSM 1900 Channel 661

GSM 1900 GPRS (1Txslot) Back Side Middle

Date/Time: 8/5/2012 2:33:47 AM
Communication System: GPRS 1TX; Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Back Side Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.546 mW/g

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.67 V/m; Power Drift = -0.057 dB
Peak SAR (extrapolated) = 0.808 W/kg
SAR(1 g) = 0.501 mW/g; SAR(10 g) = 0.291 mW/g
Maximum value of SAR (measured) = 0.556 mW/g

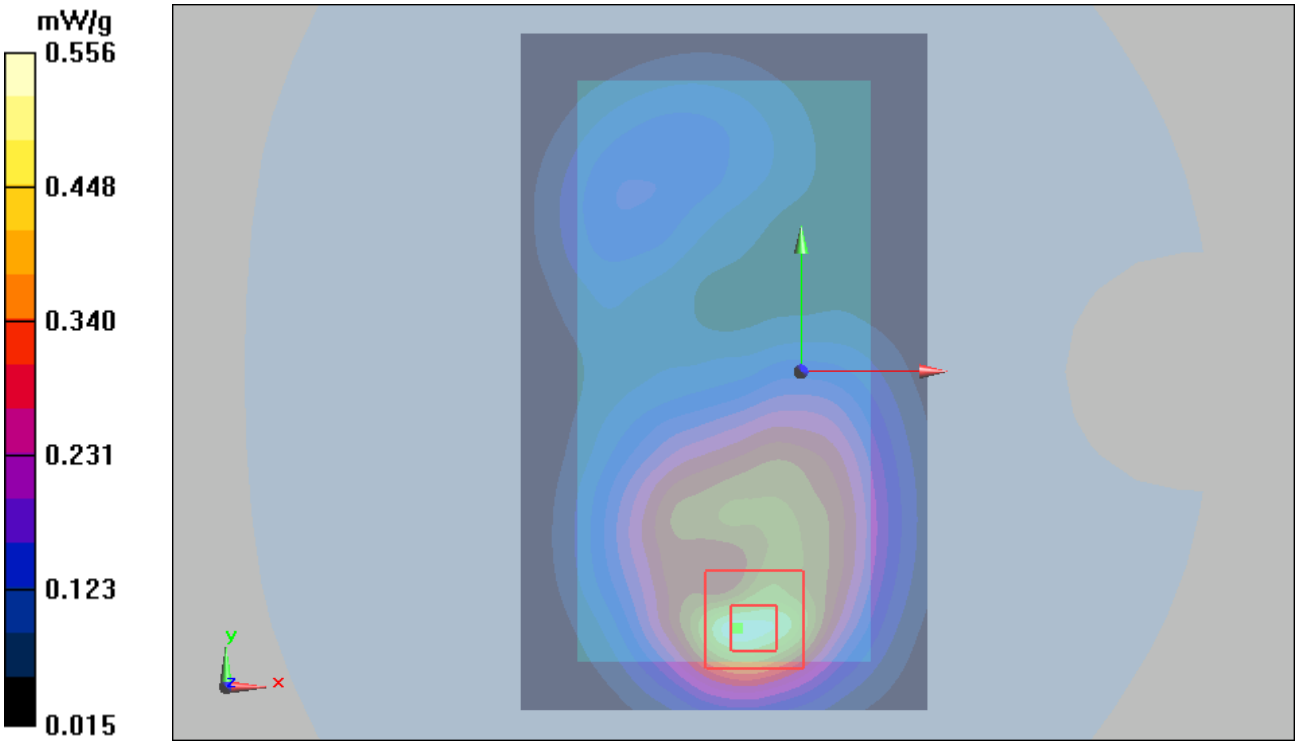


Figure 31 Body, Back Side, GSM 1900 GPRS (1Txslot) Channel 661

GSM 1900 GPRS (2Txslots) Back Side Middle

Date/Time: 8/5/2012 2:50:32 AM
Communication System: GPRS 2TX ; Frequency: 1880 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Back Side Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.693 mW/g

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.81 V/m; Power Drift = -0.053 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.638 mW/g; SAR(10 g) = 0.362 mW/g
Maximum value of SAR (measured) = 0.706 mW/g

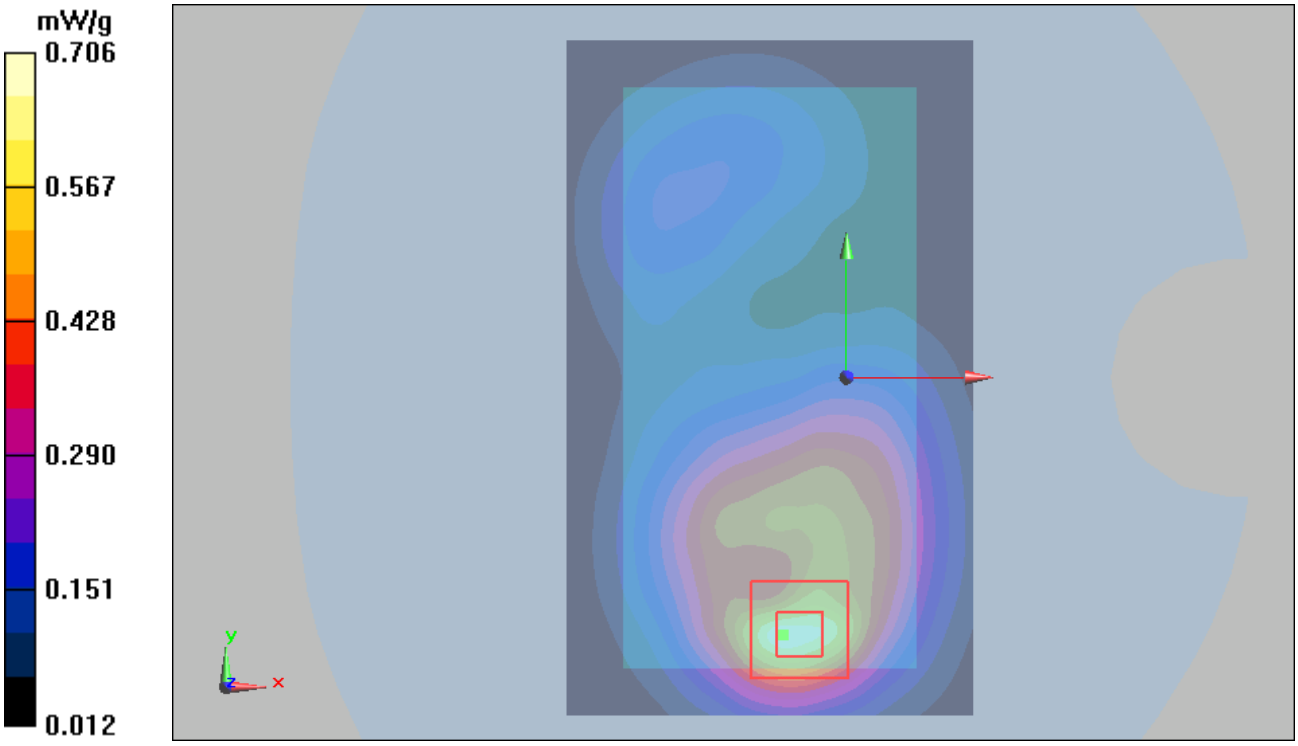


Figure 32 Body, Back Side, GSM 1900 GPRS (2Txslots) Channel 661

GSM 1900 GPRS (2Txslots) Front Side Middle

Date/Time: 8/5/2012 3:12:12 AM
Communication System: GPRS 2TX ; Frequency: 1880 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Front Side Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.530 mW/g

Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.81 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 0.911 W/kg
SAR(1 g) = 0.512 mW/g; SAR(10 g) = 0.303 mW/g
Maximum value of SAR (measured) = 0.559 mW/g

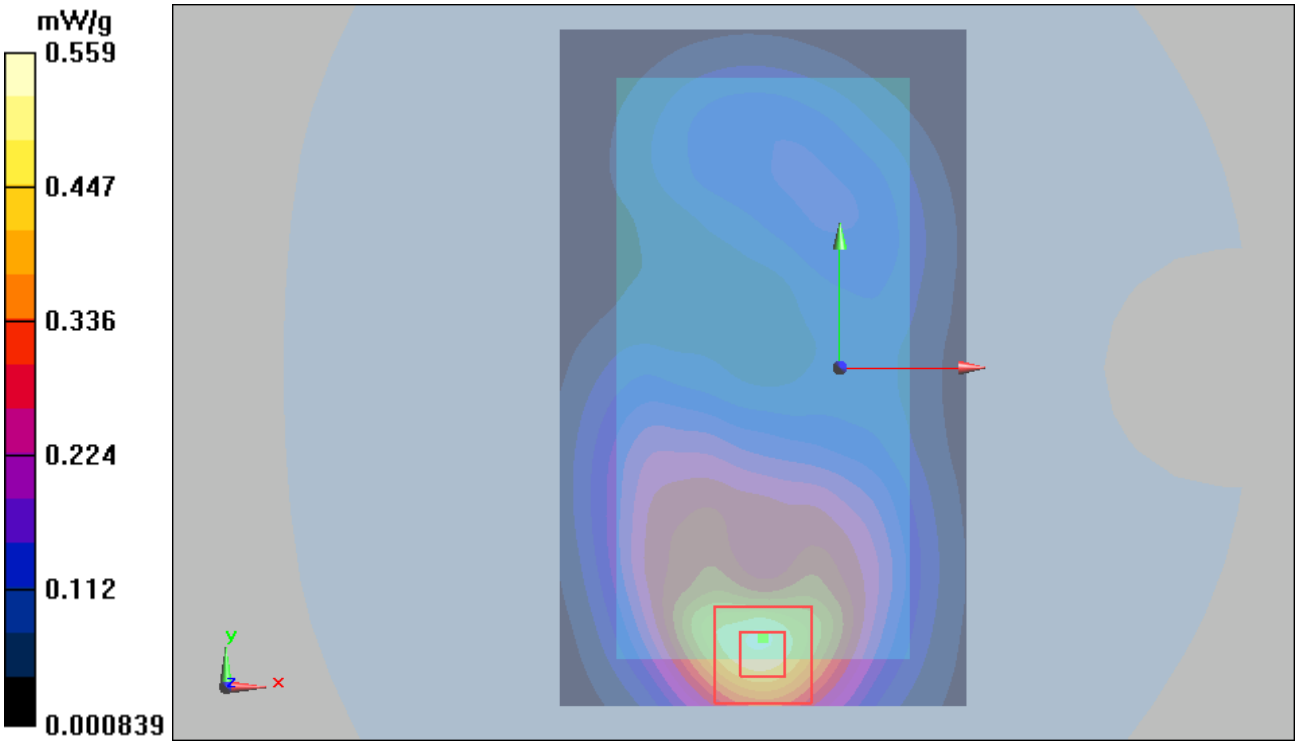


Figure 33 Body, Front Side, GSM 1900 GPRS (2Txslots) Channel 661

GSM 1900 GPRS (2Txslots) Left Edge Middle

Date/Time: 8/5/2012 4:01:10 AM
Communication System: GPRS 2TX ; Frequency: 1880 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left Edge Middle/Area Scan (21x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.125 mW/g

Left Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.09 V/m; Power Drift = -0.182 dB
Peak SAR (extrapolated) = 0.178 W/kg
SAR(1 g) = 0.114 mW/g; SAR(10 g) = 0.070 mW/g
Maximum value of SAR (measured) = 0.124 mW/g

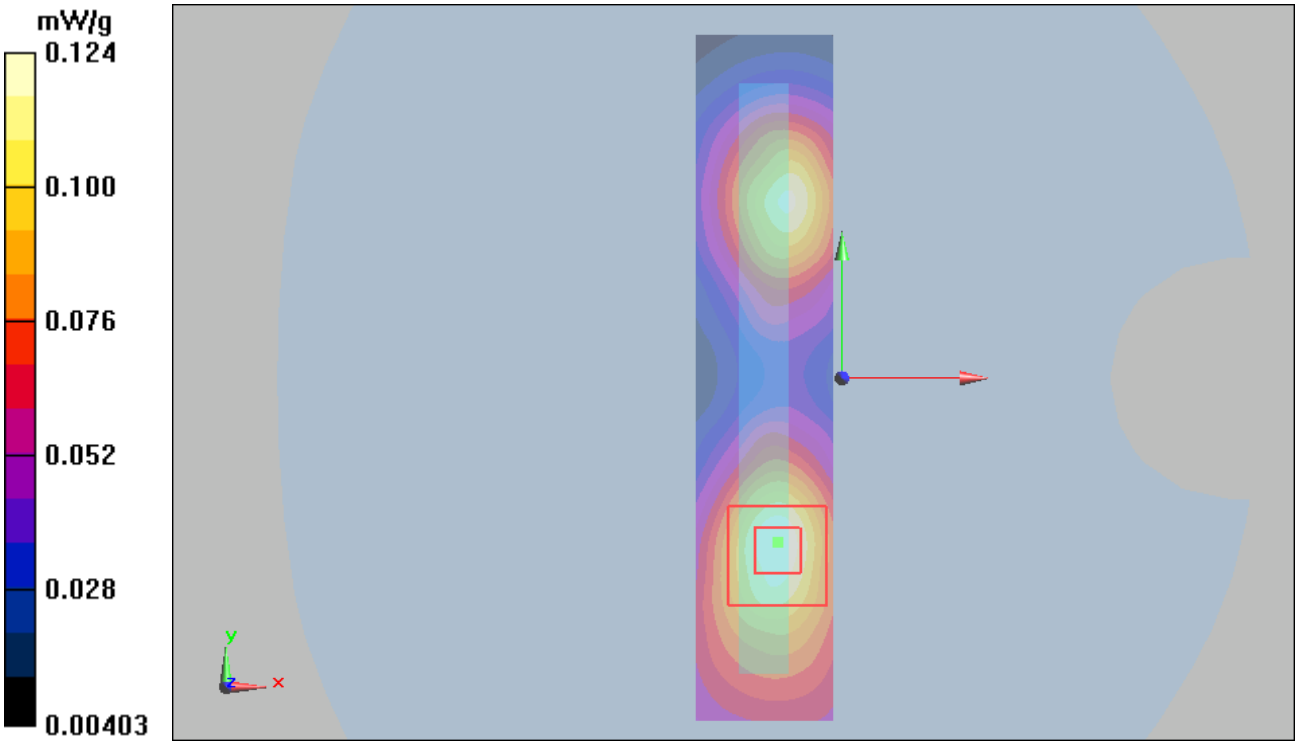


Figure 34 Body, Left Edge, GSM 1900 GPRS (2Txslots) Channel 661

GSM 1900 GPRS (2Txslots) Right Edge Middle

Date/Time: 8/5/2012 4:19:04 AM
Communication System: GPRS 2TX ; Frequency: 1880 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right Edge Middle/Area Scan (21x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.106 mW/g

Right Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.72 V/m; Power Drift = 0.070 dB
Peak SAR (extrapolated) = 0.159 W/kg
SAR(1 g) = 0.097 mW/g; SAR(10 g) = 0.058 mW/g
Maximum value of SAR (measured) = 0.108 mW/g

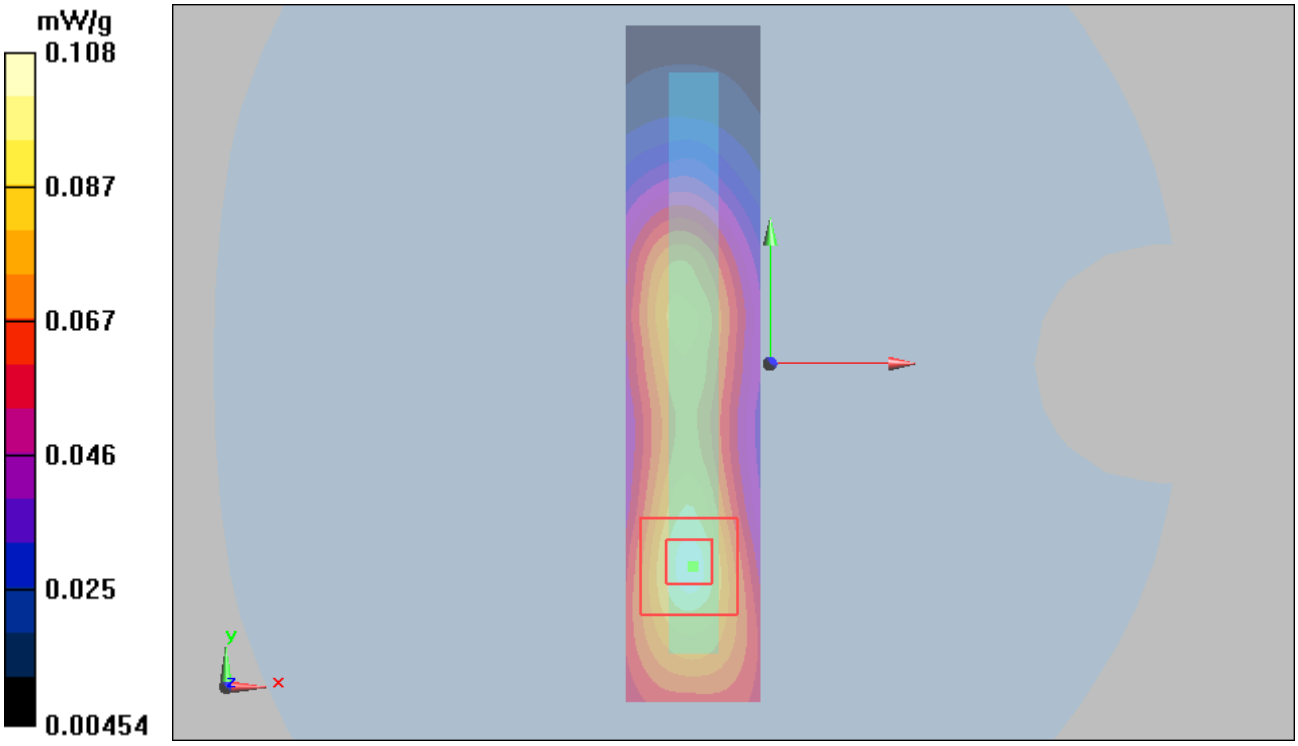


Figure 35 Body, Right Edge, GSM 1900 GPRS (2Txslots) Channel 661

GSM 1900 GPRS (2Txslots) Bottom Edge High

Date/Time: 8/5/2012 4:53:22 AM
Communication System: GPRS 2TX ; Frequency: 1909.8 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 1910 MHz; σ = 1.53 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Bottom Edge High/Area Scan (21x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.965 mW/g

Bottom Edge High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.8 V/m; Power Drift = 0.066 dB
Peak SAR (extrapolated) = 1.46 W/kg
SAR(1 g) = 0.858 mW/g; SAR(10 g) = 0.457 mW/g
Maximum value of SAR (measured) = 0.976 mW/g

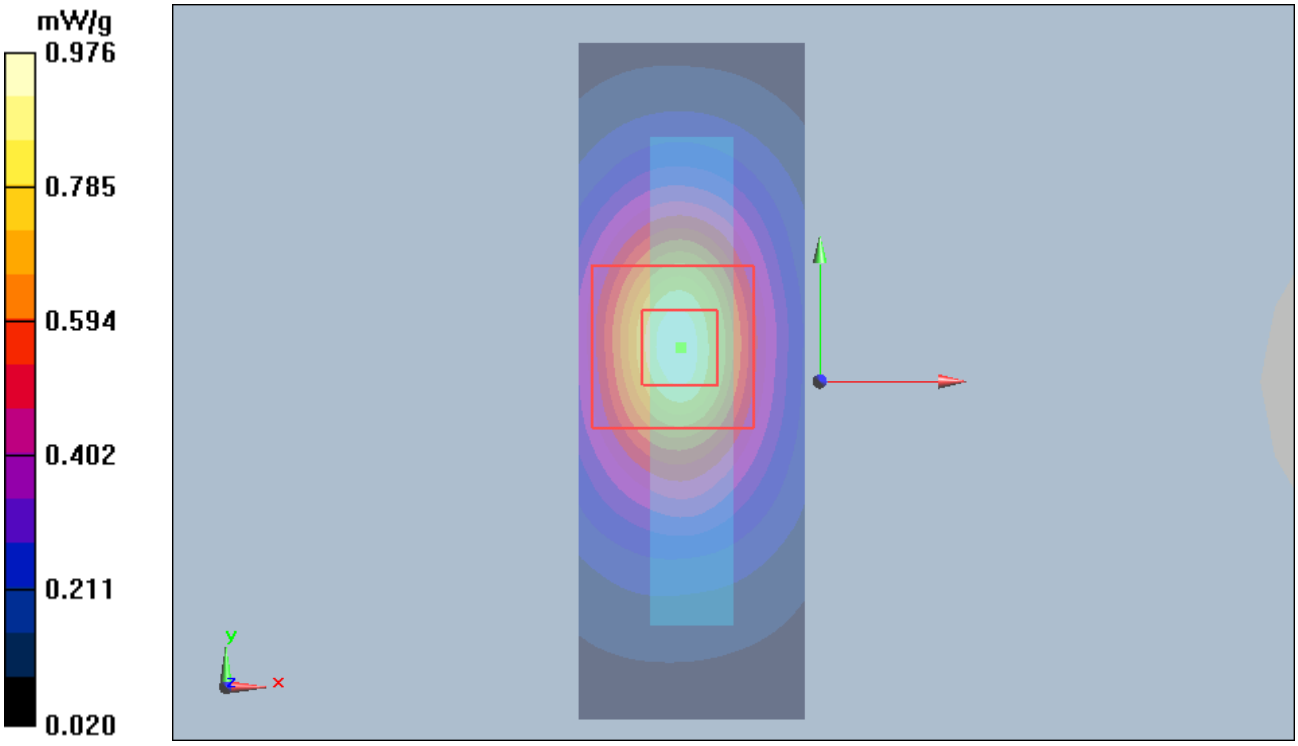


Figure 36 Body, Bottom Edge, GSM 1900 GPRS (2Txslots) Channel 810

GSM 1900 GPRS (2Txslots) Bottom Edge Middle

Date/Time: 8/5/2012 4:41:50 AM
Communication System: GPRS 2TX ; Frequency: 1880 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Bottom Edge Middle/Area Scan (21x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.917 mW/g

Bottom Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.7 V/m; Power Drift = 0.049 dB
Peak SAR (extrapolated) = 1.38 W/kg
SAR(1 g) = 0.822 mW/g; SAR(10 g) = 0.439 mW/g
Maximum value of SAR (measured) = 0.932 mW/g

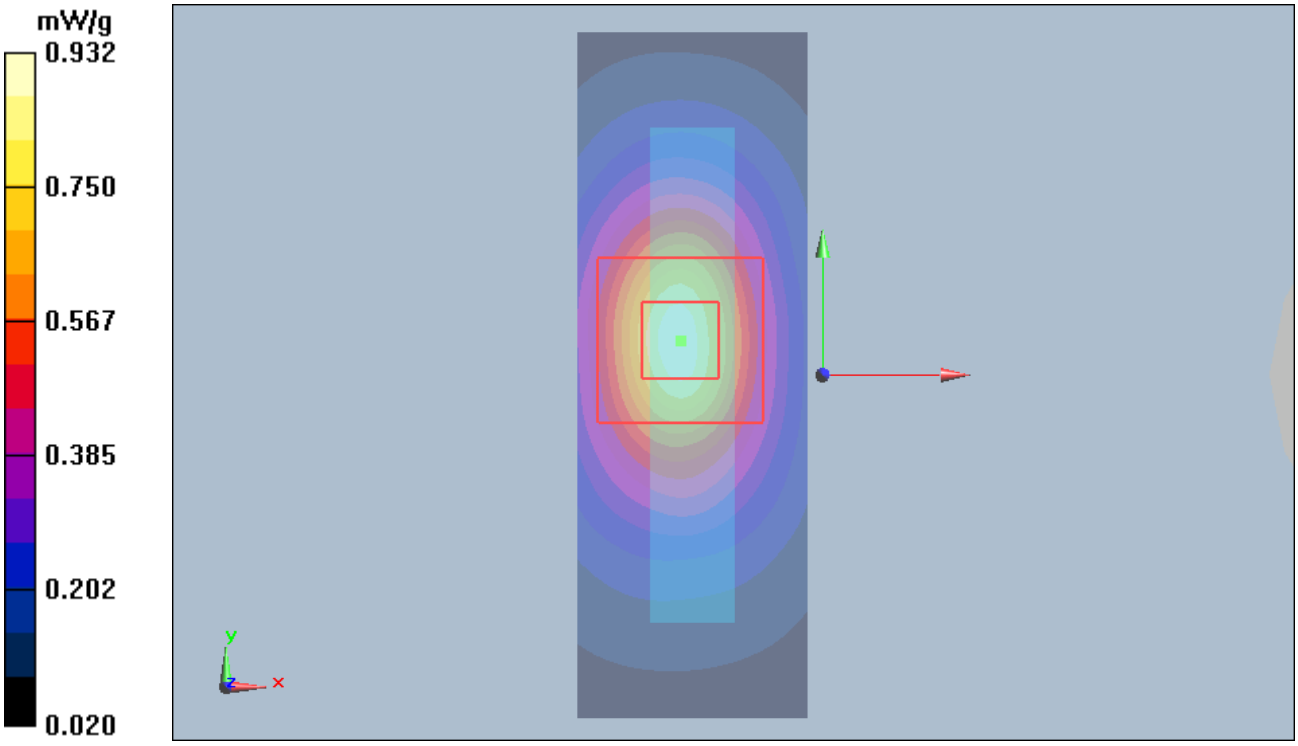


Figure 37 Body, Bottom Edge, GSM 1900 GPRS (2Txslots) Channel 661

GSM 1900 GPRS (2Txslots) Bottom Edge Low

Date/Time: 8/5/2012 5:04:38 AM
Communication System: GPRS 2TX ; Frequency: 1850.2 MHz;Duty Cycle: 1:4.14954
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.47 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Bottom Edge Low/Area Scan (21x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.929 mW/g

Bottom Edge Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.1 V/m; Power Drift = 0.063 dB
Peak SAR (extrapolated) = 1.45 W/kg
SAR(1 g) = 0.843 mW/g; SAR(10 g) = 0.450 mW/g
Maximum value of SAR (measured) = 0.954 mW/g

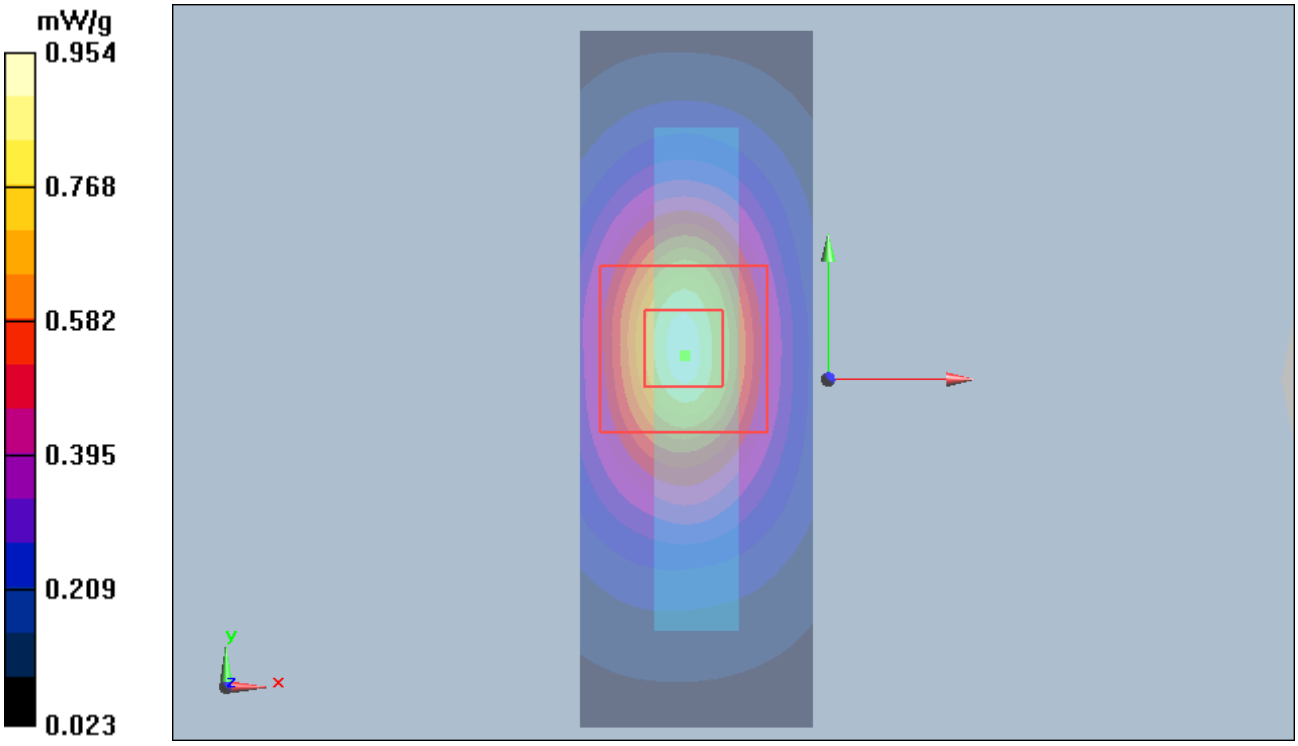


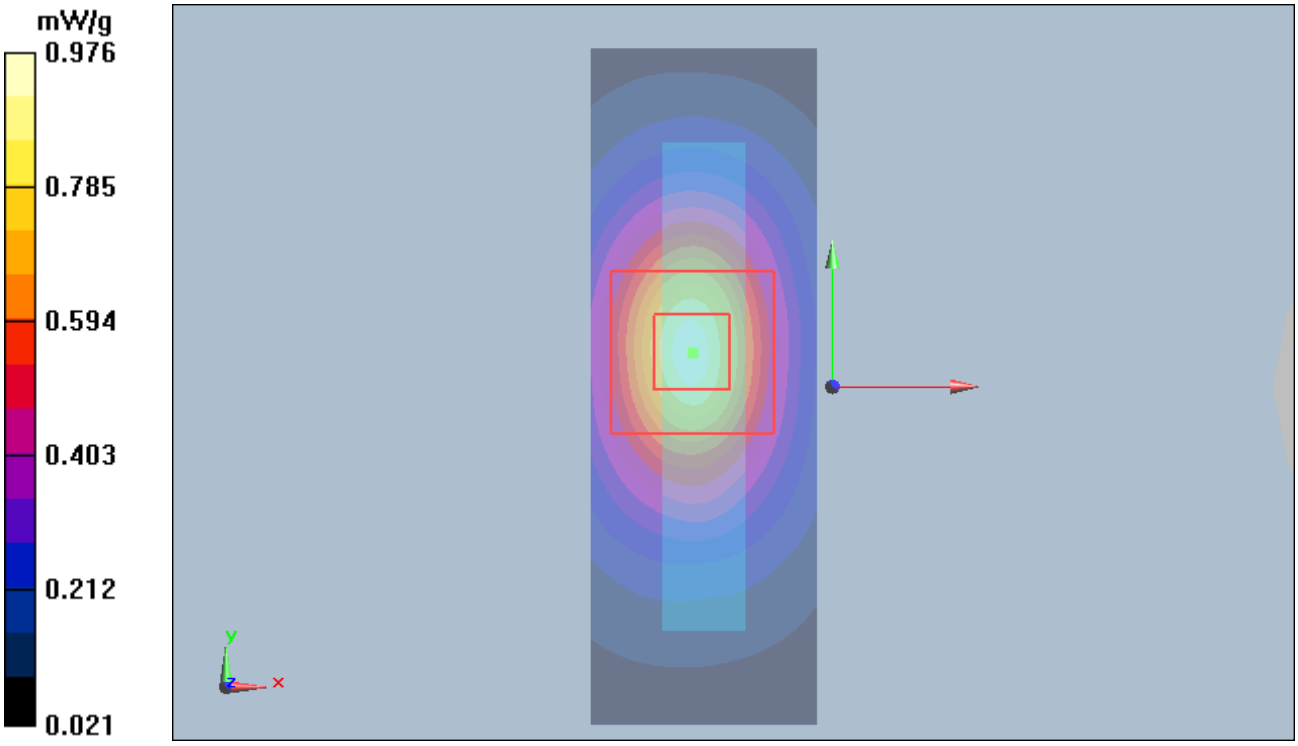
Figure 38 Body, Bottom Edge, GSM 1900 GPRS (2Txslots) Channel 512

GSM 1900 EGPRS (2Txslots) Bottom Edge High

Date/Time: 8/5/2012 5:20:02 AM
Communication System: EGPRS 2TX; Frequency: 1909.8 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 1910 MHz; σ = 1.53 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Bottom Edge High/Area Scan (21x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.952 mW/g

Bottom Edge High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.8 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 1.47 W/kg
SAR(1 g) = 0.860 mW/g; SAR(10 g) = 0.459 mW/g
Maximum value of SAR (measured) = 0.976 mW/g



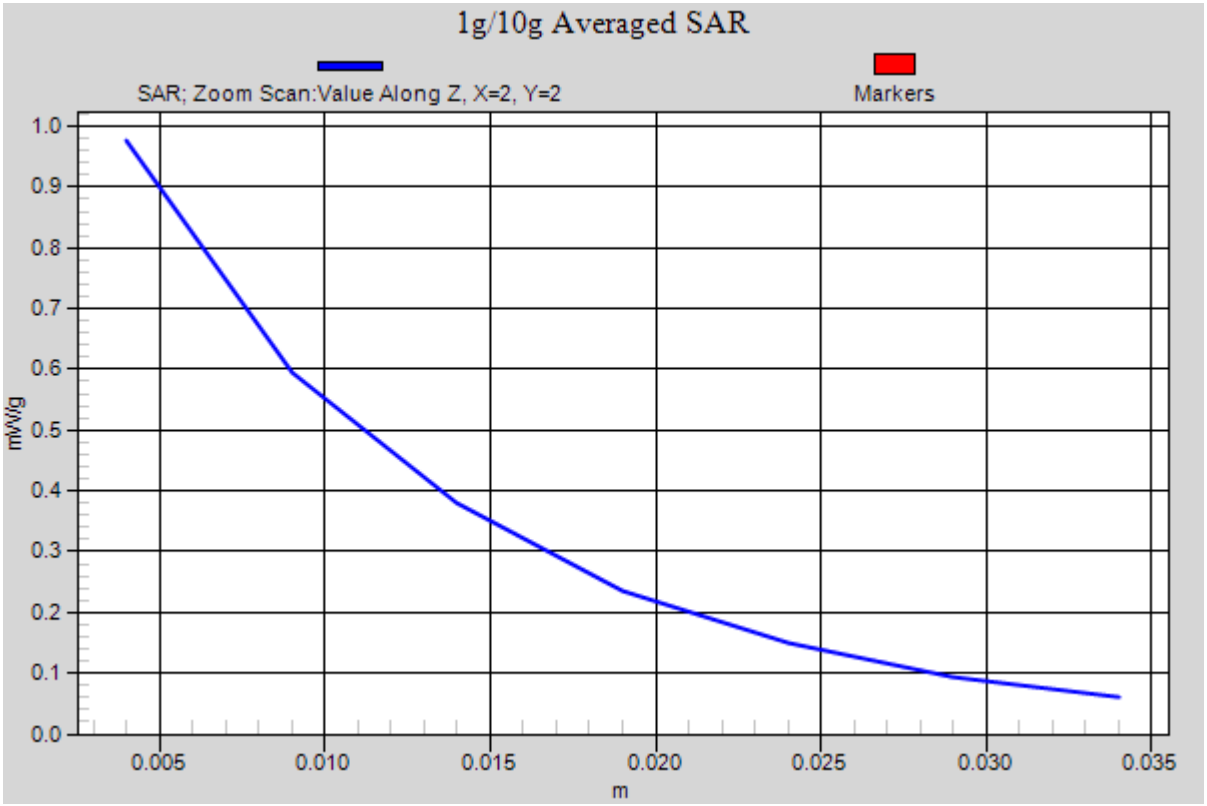


Figure 39 Body, Bottom Side, GSM 1900 EGPRS (2Txslots) Channel 810

GSM 1900 with Earphone Back Side Middle

Date/Time: 8/5/2012 3:36:57 AM
Communication System: GSM; Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Back Side Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.533 mW/g

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.28 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 0.781 W/kg
SAR(1 g) = 0.485 mW/g; SAR(10 g) = 0.283 mW/g
Maximum value of SAR (measured) = 0.536 mW/g

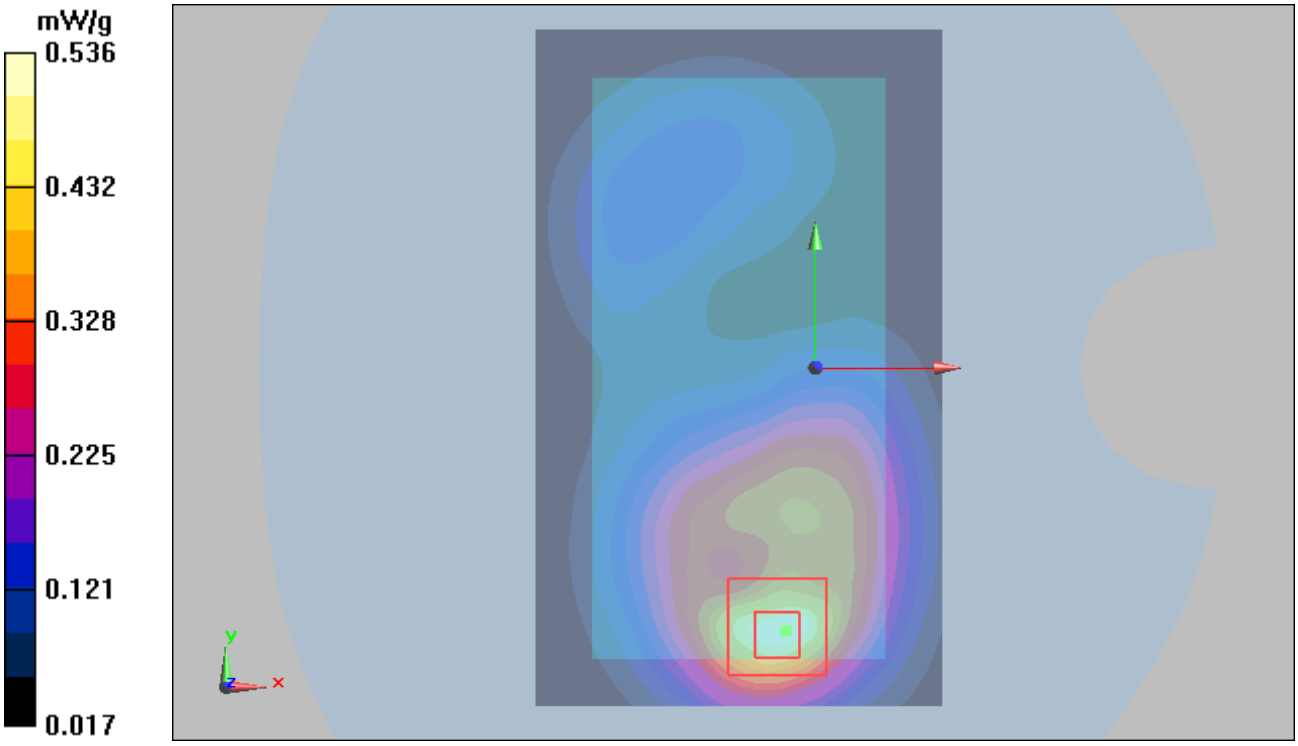


Figure 40 Body with Earphone, Back Side, GSM 1900 Channel 661

WCDMA Band II Left Cheek Middle

Date/Time: 7/30/2012 12:51:13 PM
Communication System: WCDMA ; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 40.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.69, 4.69, 4.69); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left/Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.473 mW/g

Left/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.31 V/m; Power Drift = 0.172 dB
Peak SAR (extrapolated) = 0.662 W/kg
SAR(1 g) = 0.422 mW/g; SAR(10 g) = 0.257 mW/g
Maximum value of SAR (measured) = 0.462 mW/g

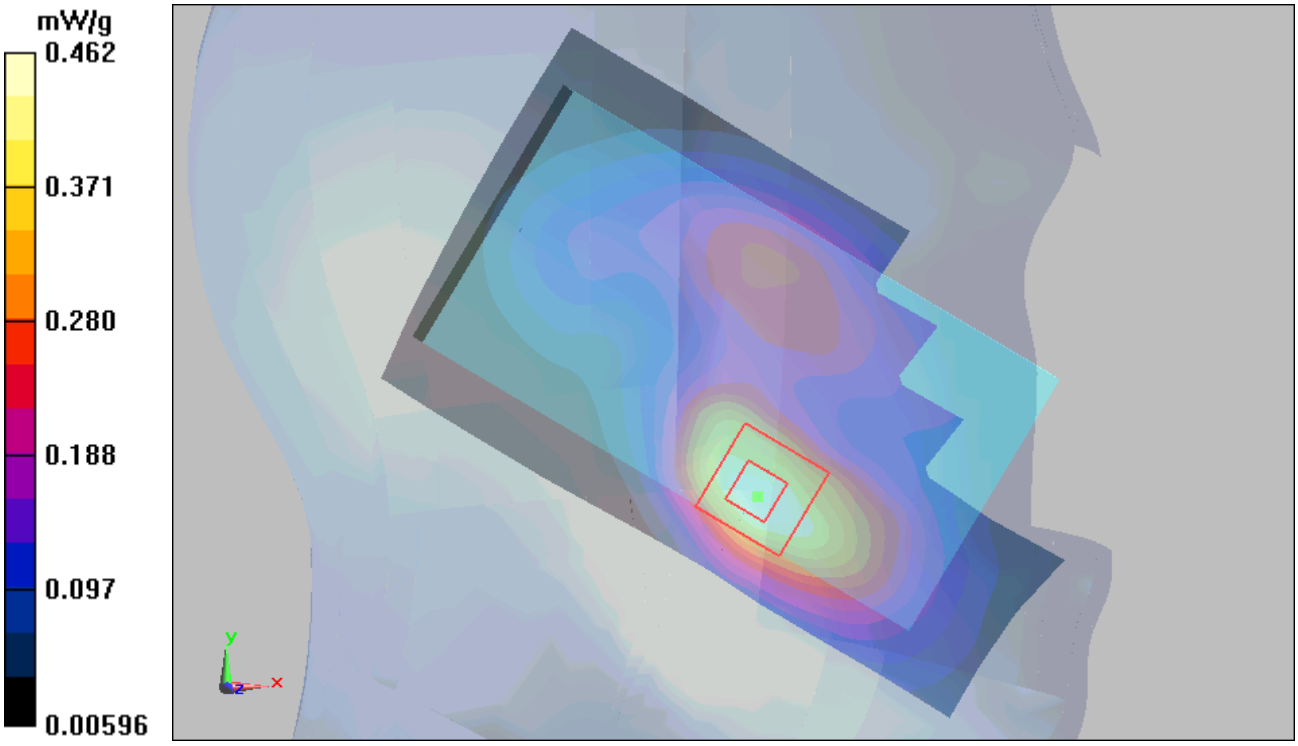


Figure 41 Left Hand Touch Cheek WCDMA Band II Channel 9400

WCDMA Band II Left Tilt Middle

Date/Time: 7/30/2012 1:07:27 PM
Communication System: WCDMA ; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 40.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.69, 4.69, 4.69); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left/Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.263 mW/g

Left/Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.8 V/m; Power Drift = 0.101 dB
Peak SAR (extrapolated) = 0.342 W/kg
SAR(1 g) = 0.218 mW/g; SAR(10 g) = 0.133 mW/g
Maximum value of SAR (measured) = 0.237 mW/g

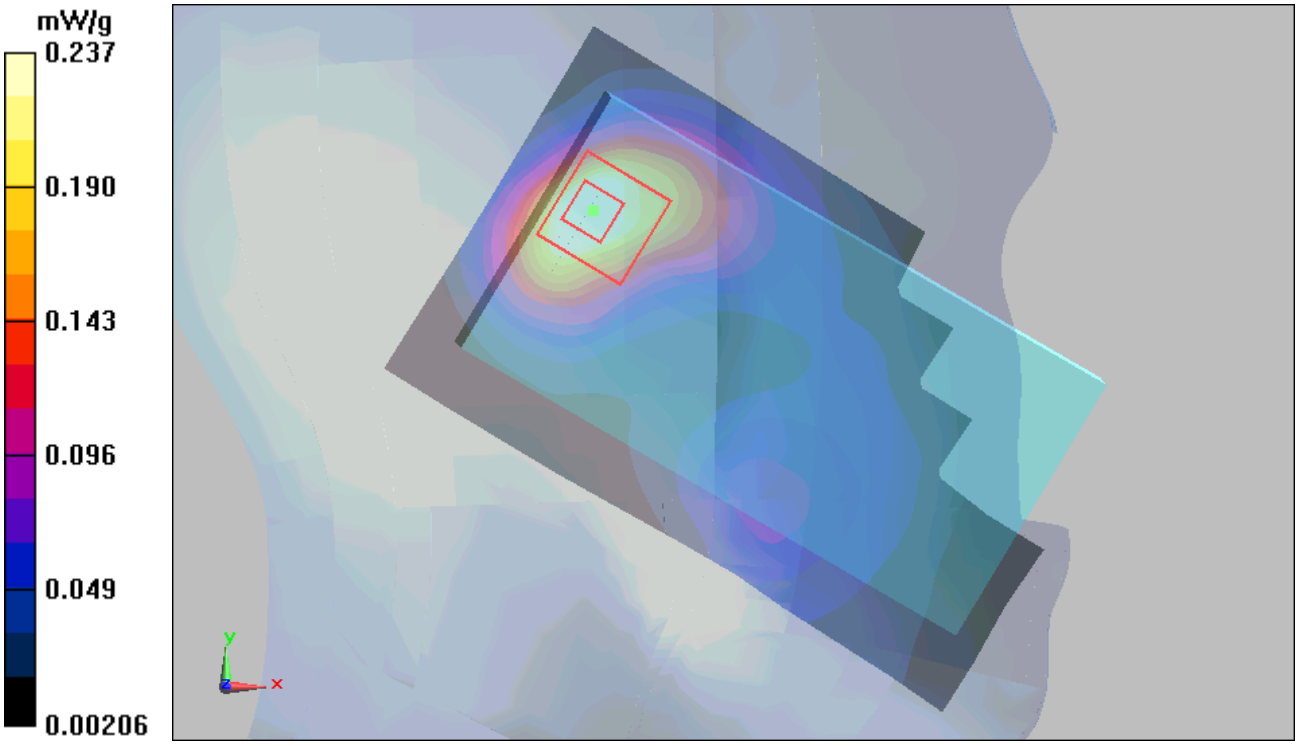


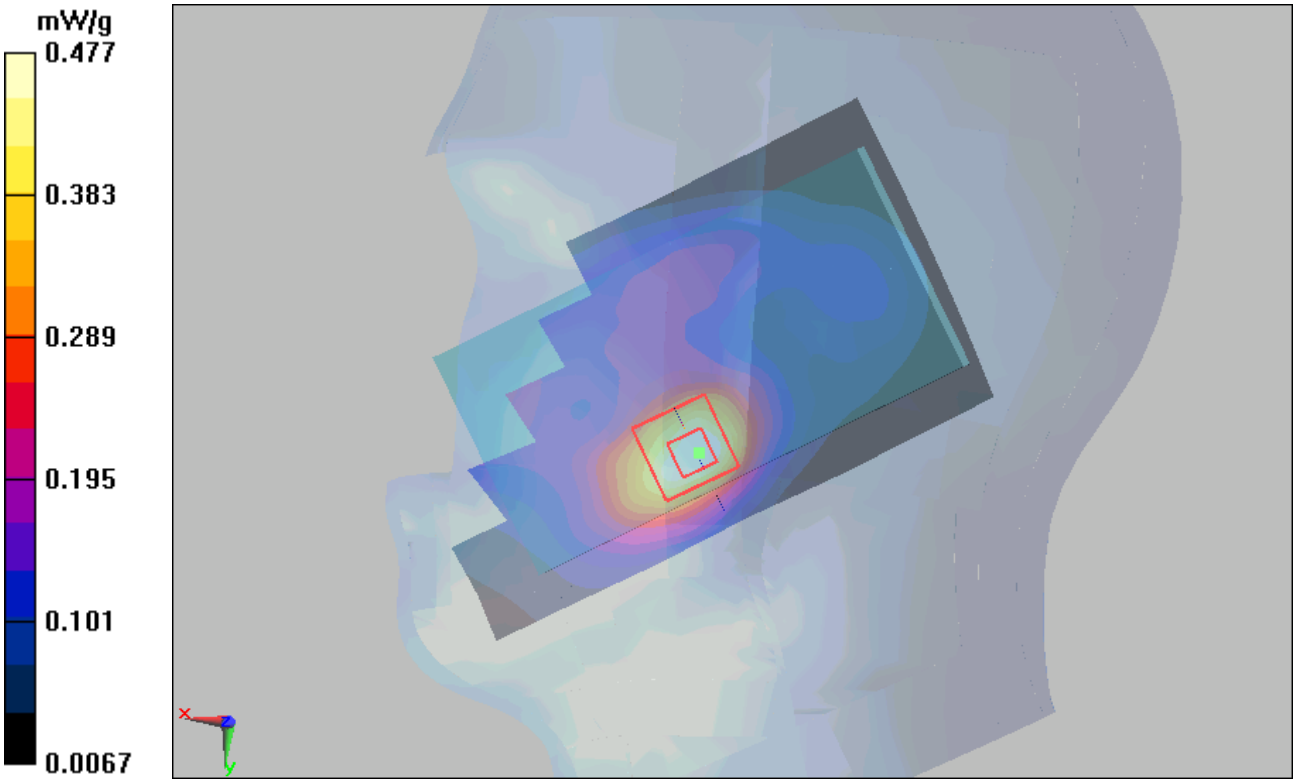
Figure 42 Left Hand Tilt 15° WCDMA Band II Channel 9400

WCDMA Band II Right Cheek Middle

Date/Time: 7/30/2012 12:15:13 PM
Communication System: WCDMA ; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 40.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.69, 4.69, 4.69); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right/Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.500 mW/g

Right/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.07 V/m; Power Drift = -0.097 dB
Peak SAR (extrapolated) = 0.671 W/kg
SAR(1 g) = 0.441 mW/g; SAR(10 g) = 0.272 mW/g
Maximum value of SAR (measured) = 0.477 mW/g



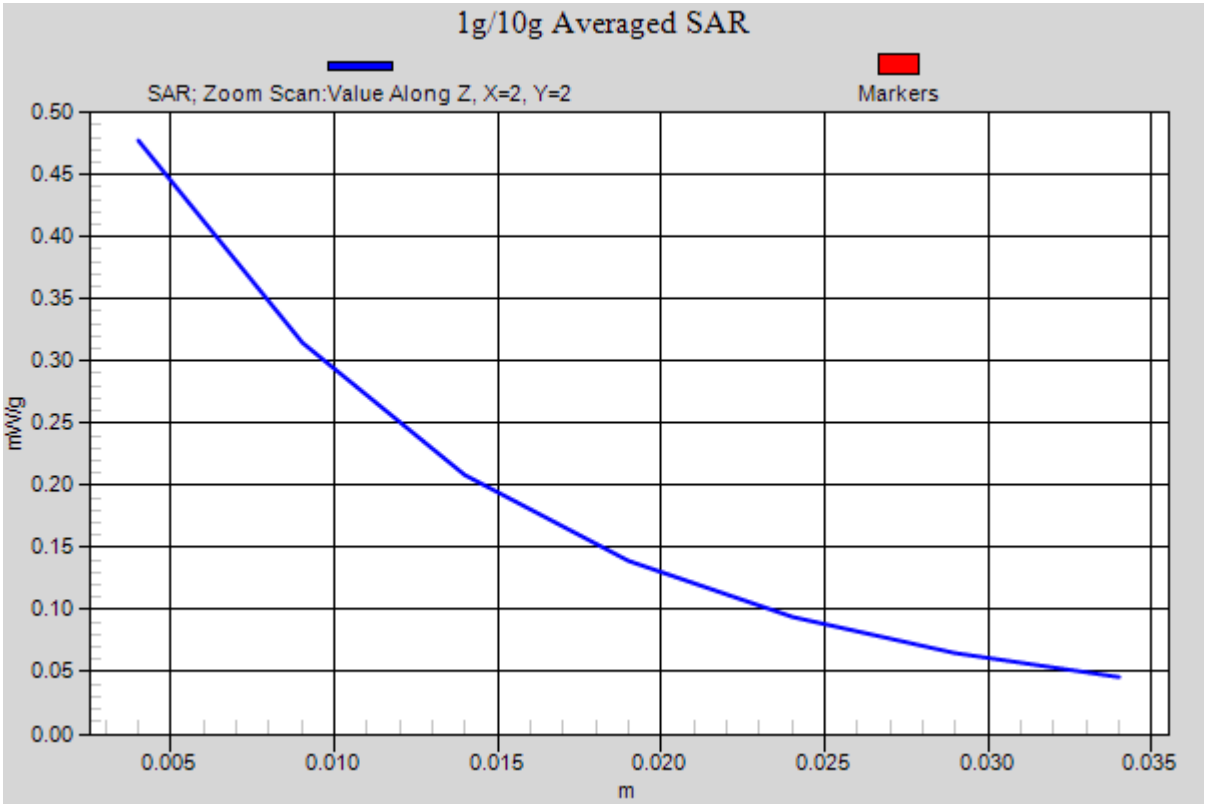


Figure 43 Right Hand Touch Cheek WCDMA Band II Channel 9400

WCDMA Band II Right Tilt Middle

Date/Time: 7/30/2012 12:32:38 PM
Communication System: WCDMA ; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 40.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.69, 4.69, 4.69); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right/Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.269 mW/g

Right/Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.7 V/m; Power Drift = -0.100 dB
Peak SAR (extrapolated) = 0.364 W/kg
SAR(1 g) = 0.228 mW/g; SAR(10 g) = 0.132 mW/g
Maximum value of SAR (measured) = 0.247 mW/g

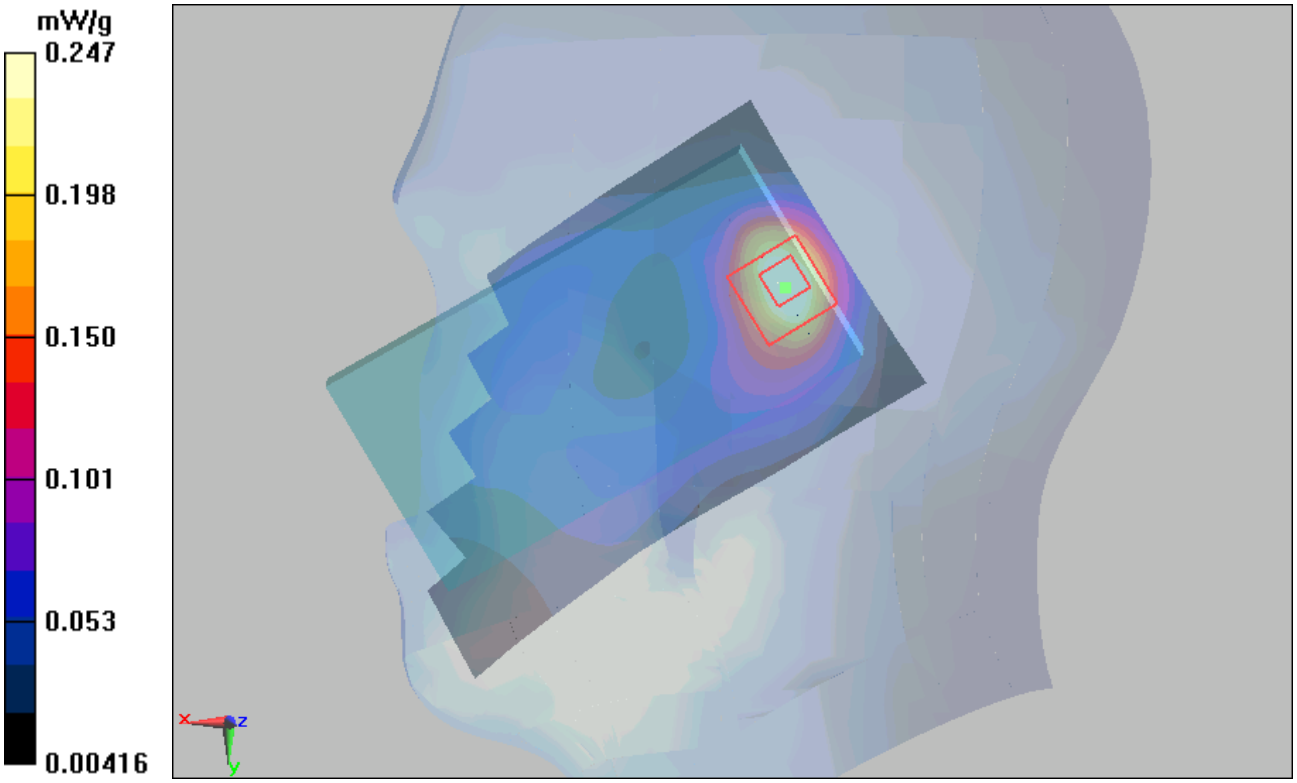


Figure 44 Right Hand Tilt 15° WCDMA Band II Channel 9400

WCDMA Band II Back Side Middle

Date/Time: 8/4/2012 7:56:28 PM
Communication System: WCDMA ; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Back Side Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.804 mW/g

Back Side Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.85 V/m; Power Drift = -0.110 dB
Peak SAR (extrapolated) = 0.890 W/kg
SAR(1 g) = 0.524 mW/g; SAR(10 g) = 0.343 mW/g
Maximum value of SAR (measured) = 0.616 mW/g

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.85 V/m; Power Drift = -0.110 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.737 mW/g; SAR(10 g) = 0.434 mW/g
Maximum value of SAR (measured) = 0.801 mW/g

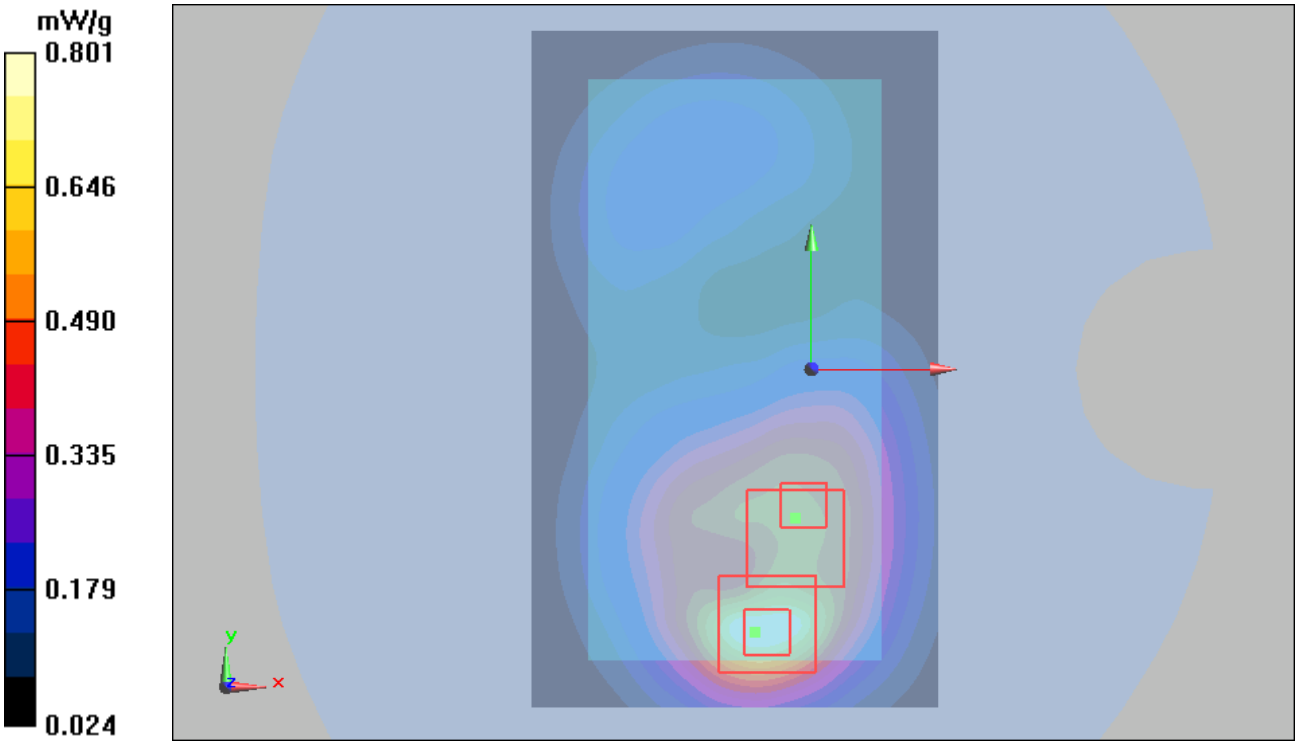


Figure 45 Body, Back Side, WCDMA Band II Channel 9400

WCDMA Band II Front Side Middle

Date/Time: 8/4/2012 8:29:39 PM
Communication System: WCDMA ; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Front Side Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.886 mW/g

Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.8 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 0.773 mW/g; SAR(10 g) = 0.443 mW/g
Maximum value of SAR (measured) = 0.852 mW/g

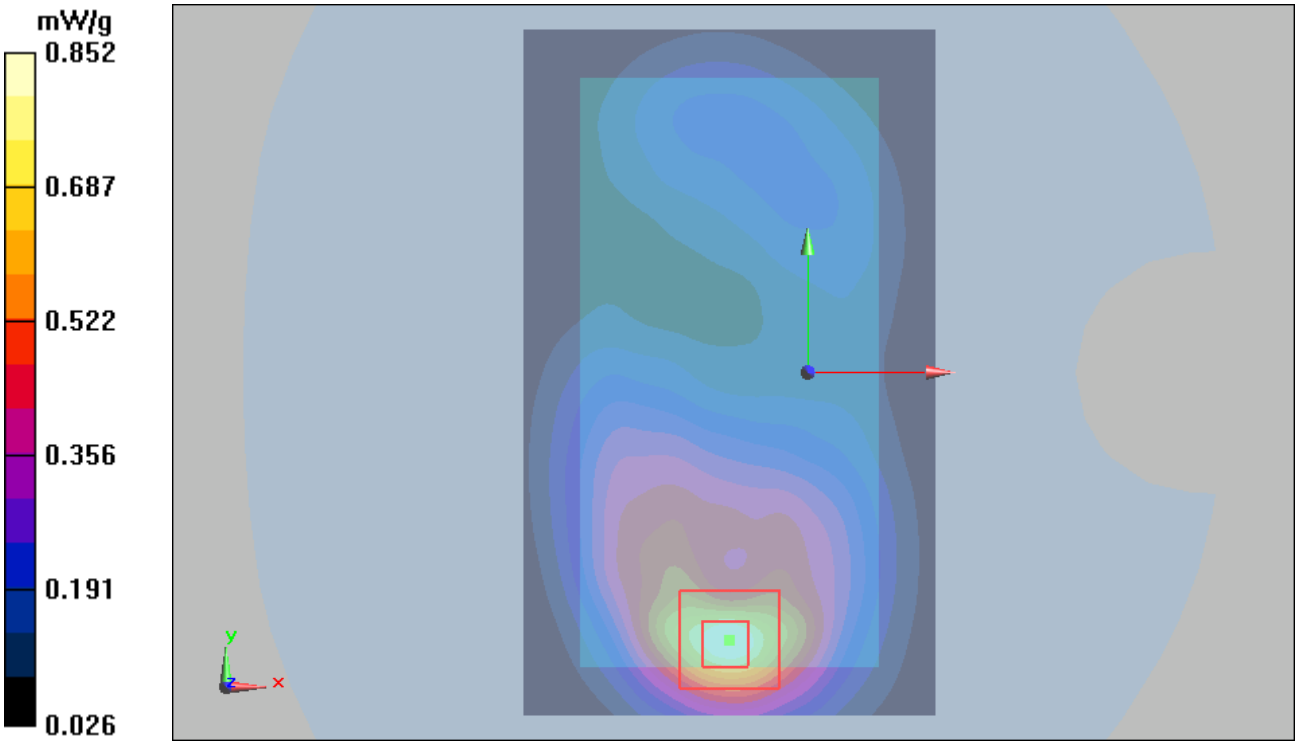


Figure 46 Body, Front Side, WCDMA Band II Channel 9400

WCDMA Band II Left Edge Middle

Date/Time: 8/4/2012 9:57:24 PM
Communication System: WCDMA ; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left Edge Middle/Area Scan (21x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.137 mW/g

Left Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.11 V/m; Power Drift = 0.119 dB
Peak SAR (extrapolated) = 0.203 W/kg
SAR(1 g) = 0.127 mW/g; SAR(10 g) = 0.078 mW/g
Maximum value of SAR (measured) = 0.138 mW/g

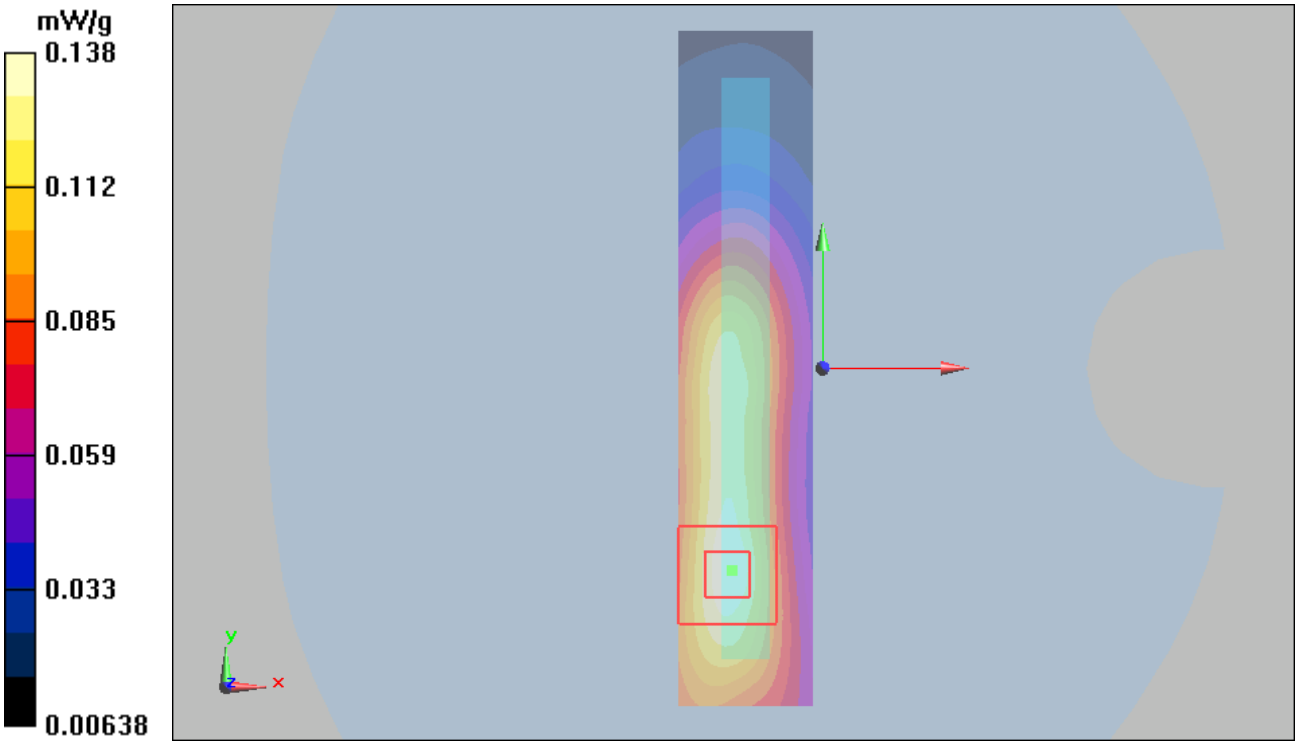


Figure 47 Body, Left Edge, WCDMA Band II Channel 9400

WCDMA Band II Right Edge Middle

Date/Time: 8/4/2012 10:12:01 PM
Communication System: WCDMA ; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right Edge Middle/Area Scan (21x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.175 mW/g

Right Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.22 V/m; Power Drift = 0.076 dB
Peak SAR (extrapolated) = 0.252 W/kg
SAR(1 g) = 0.163 mW/g; SAR(10 g) = 0.100 mW/g
Maximum value of SAR (measured) = 0.175 mW/g

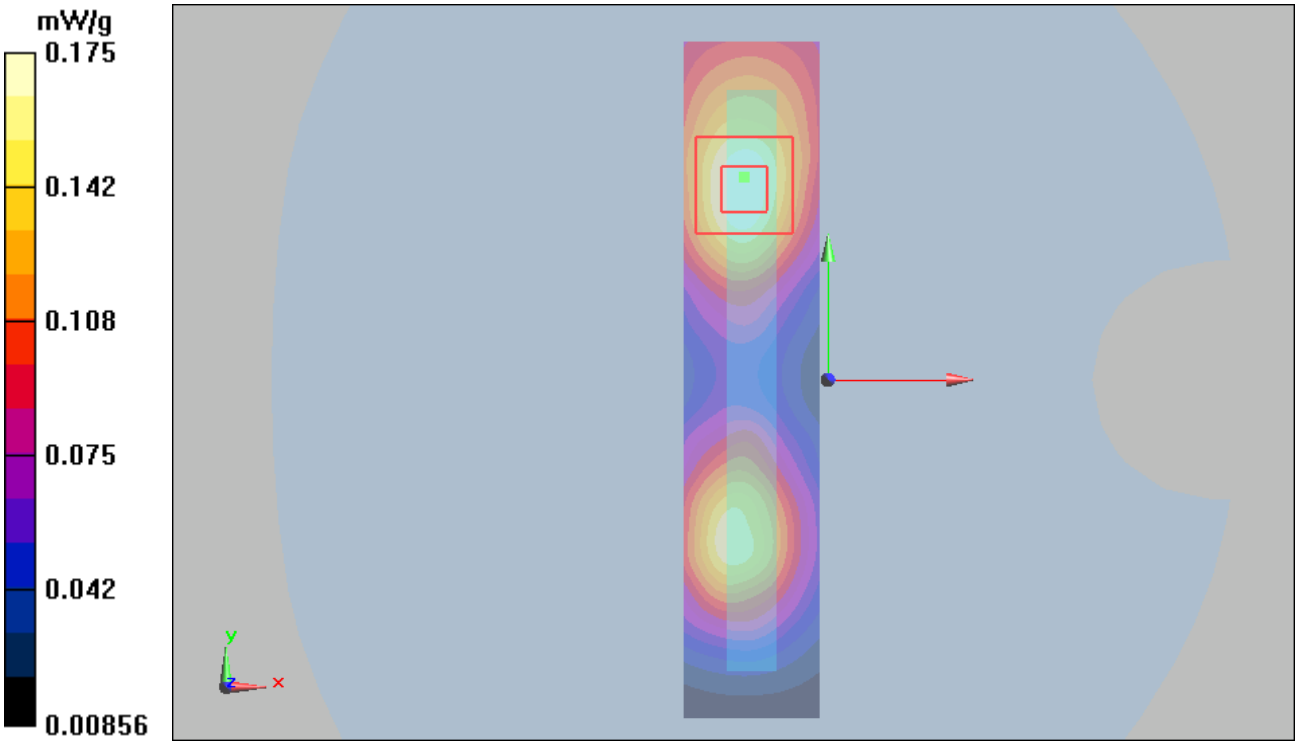


Figure 48 Body, Right Edge, WCDMA Band II Channel 9400

WCDMA Band II Bottom Edge High

Date/Time: 8/4/2012 9:32:00 PM
Communication System: WCDMA ; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.52 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Bottom Edge High/Area Scan (21x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.19 mW/g

Bottom Edge High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.6 V/m; Power Drift = 0.132 dB
Peak SAR (extrapolated) = 1.81 W/kg
SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.570 mW/g
Maximum value of SAR (measured) = 1.19 mW/g

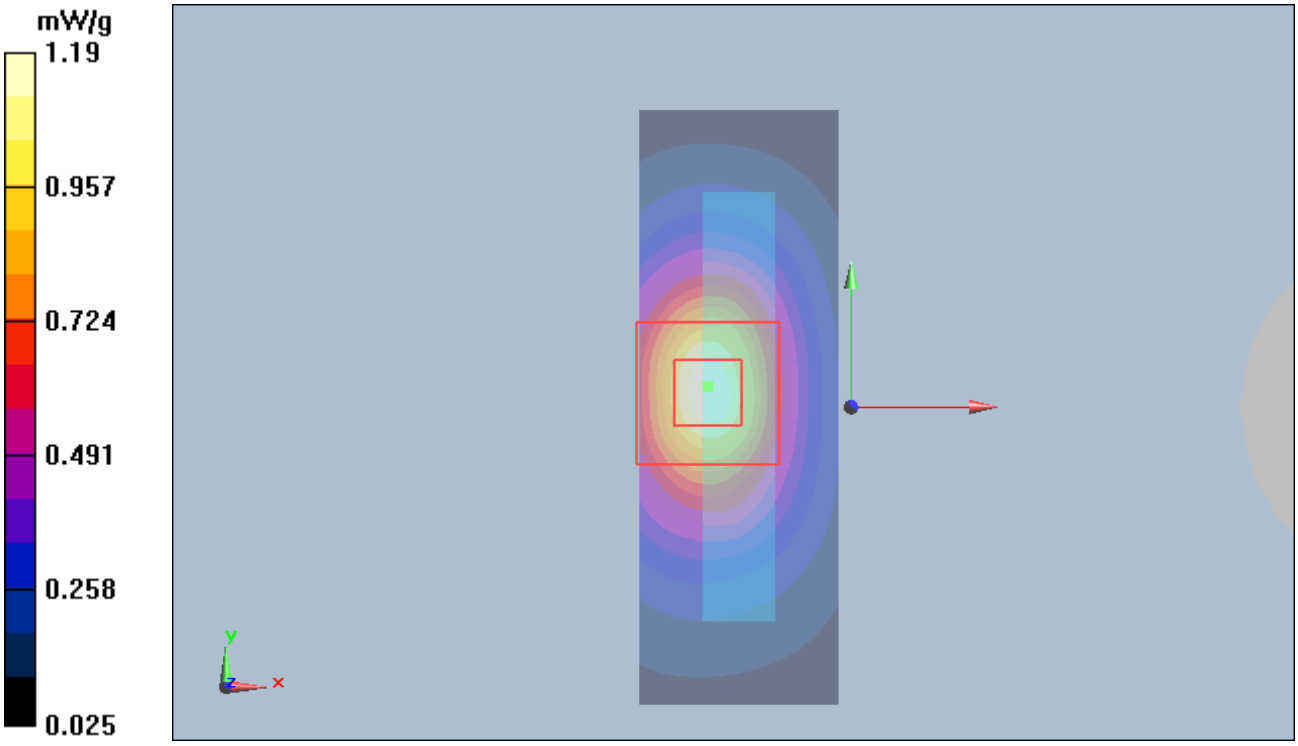


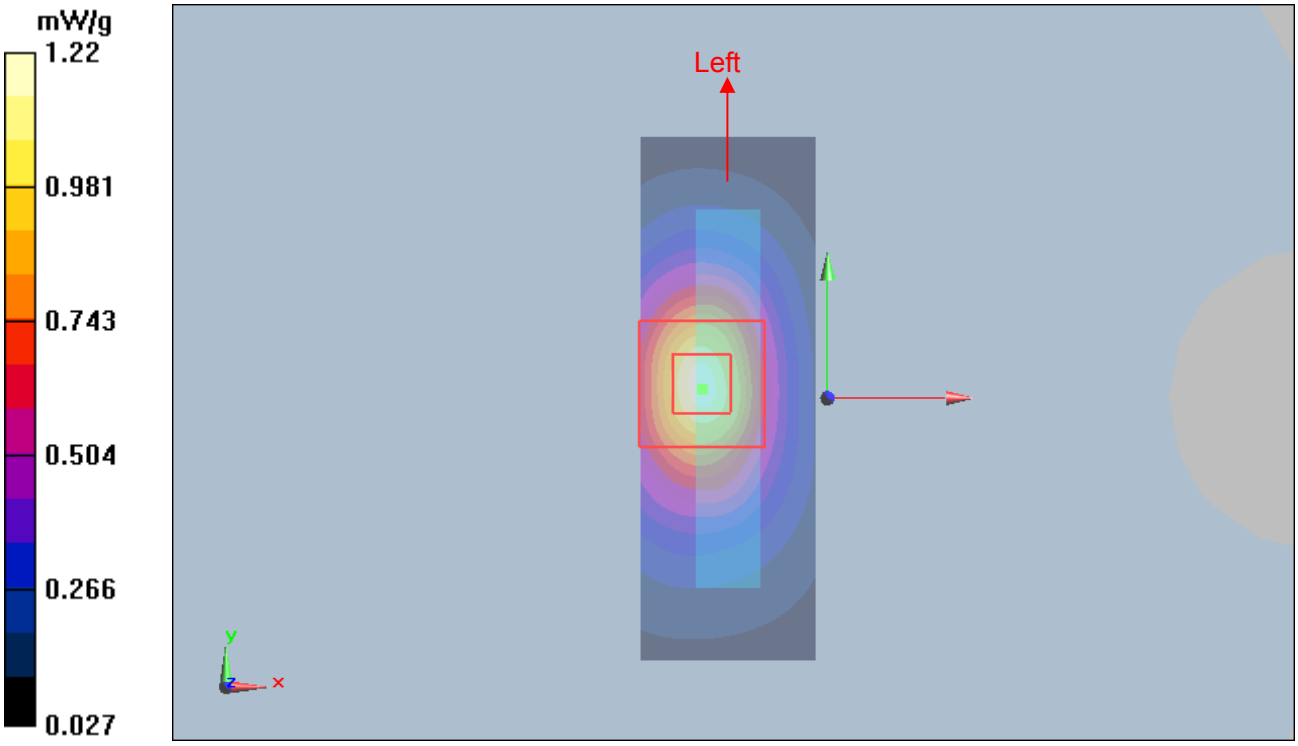
Figure 49 Body, Bottom Edge, WCDMA Band II Channel 9538

WCDMA Band II Bottom Edge Middle

Date/Time: 8/4/2012 9:19:35 PM
Communication System: WCDMA ; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Bottom Edge Middle/Area Scan (21x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.19 mW/g

Bottom Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.9 V/m; Power Drift = 0.182 dB
Peak SAR (extrapolated) = 1.82 W/kg
SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.578 mW/g
Maximum value of SAR (measured) = 1.22 mW/g



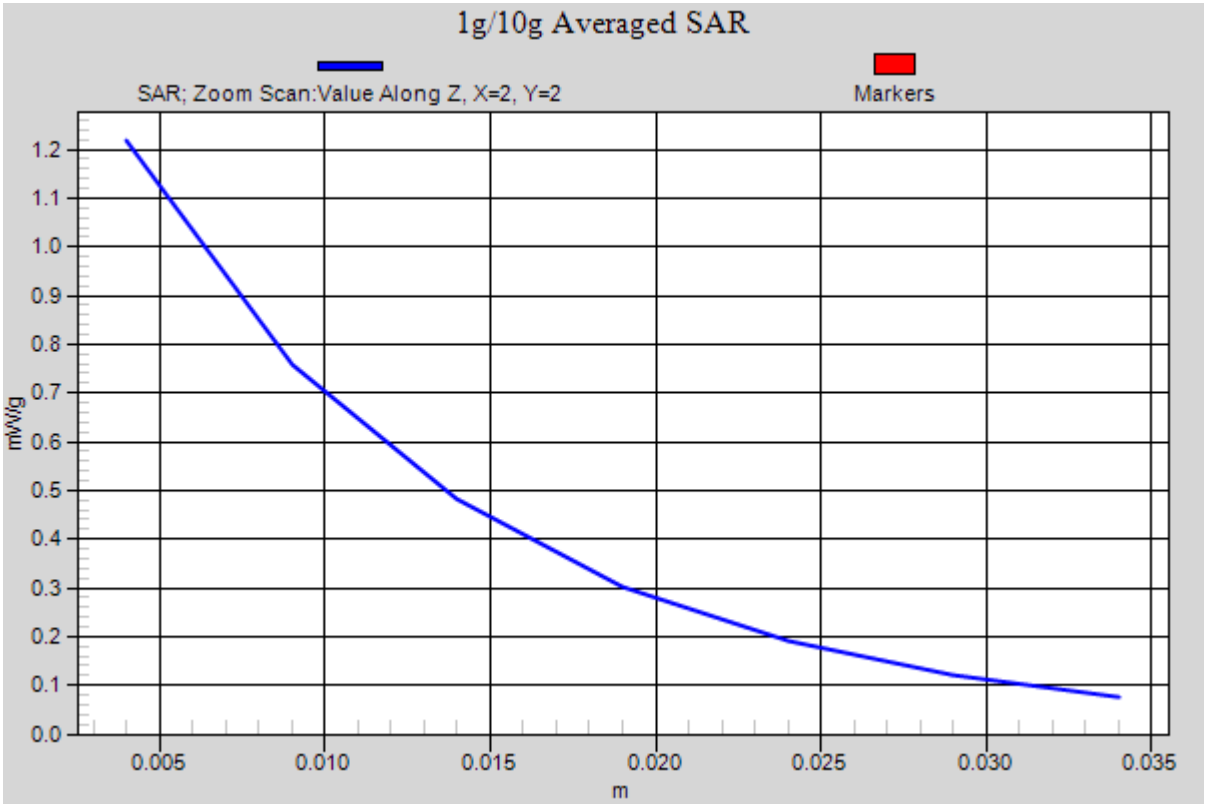


Figure 50 Body, Bottom Edge, WCDMA Band II Channel 9400

WCDMA Band II Bottom Edge Low

Date/Time: 8/4/2012 9:42:38 PM

Communication System: WCDMA ; Frequency: 1852.4 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.47 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012

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

Phantom: SAM2; Type: SAM; Serial: TP-1524

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Bottom Edge Low/Area Scan (21x61x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 26.8 V/m; Power Drift = 0.179 dB

Peak SAR (extrapolated) = 1.74 W/kg

SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.555 mW/g

Maximum value of SAR (measured) = 1.16 mW/g

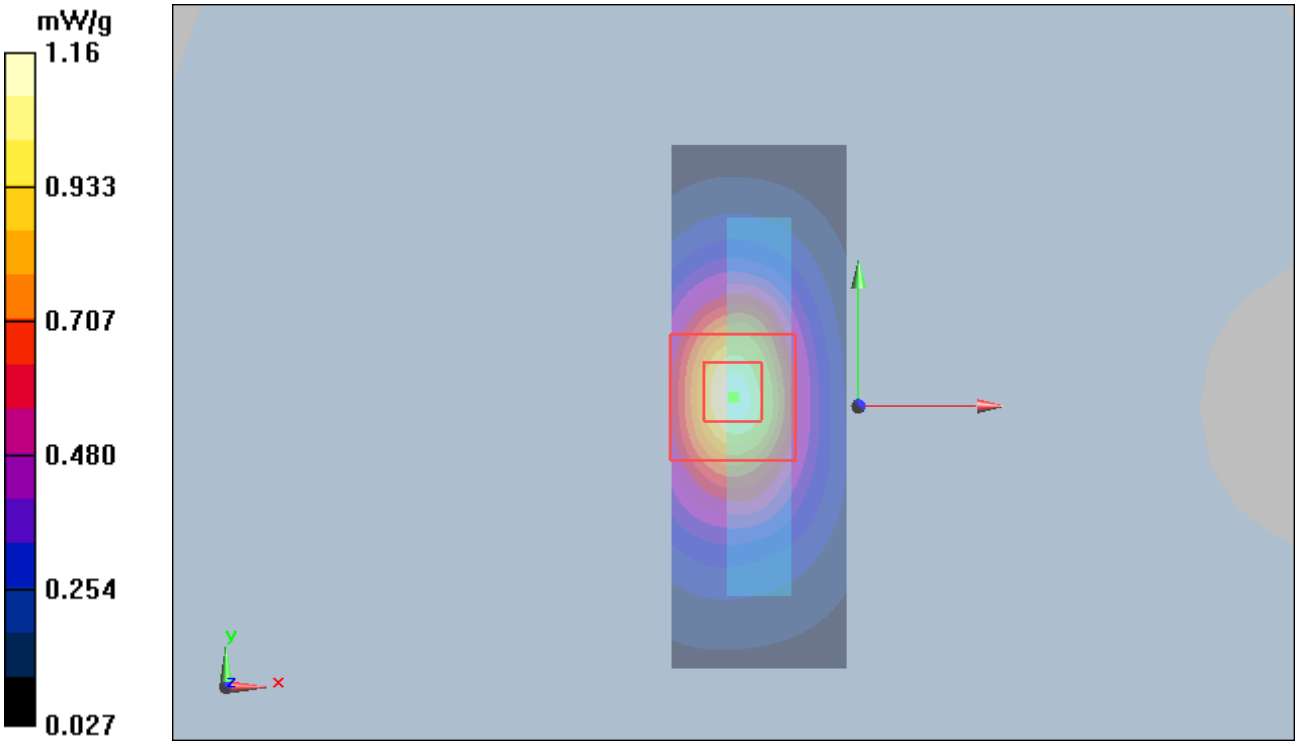


Figure 51 Body, Bottom Edge, WCDMA Band II Channel 9262

WCDMA Band II with Earphone Front Side Middle

Date/Time: 8/4/2012 8:47:19 PM

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

Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 53.1; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(4.36, 4.36, 4.36); Calibrated: 6/22/2012

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

Phantom: SAM2; Type: SAM; Serial: TP-1524

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

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

Maximum value of SAR (interpolated) = 0.920 mW/g

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

Reference Value = 8.35 V/m; Power Drift = 0.060 dB

Peak SAR (extrapolated) = 1.3 W/kg

SAR(1 g) = 0.802 mW/g; SAR(10 g) = 0.458 mW/g

Maximum value of SAR (measured) = 0.873 mW/g

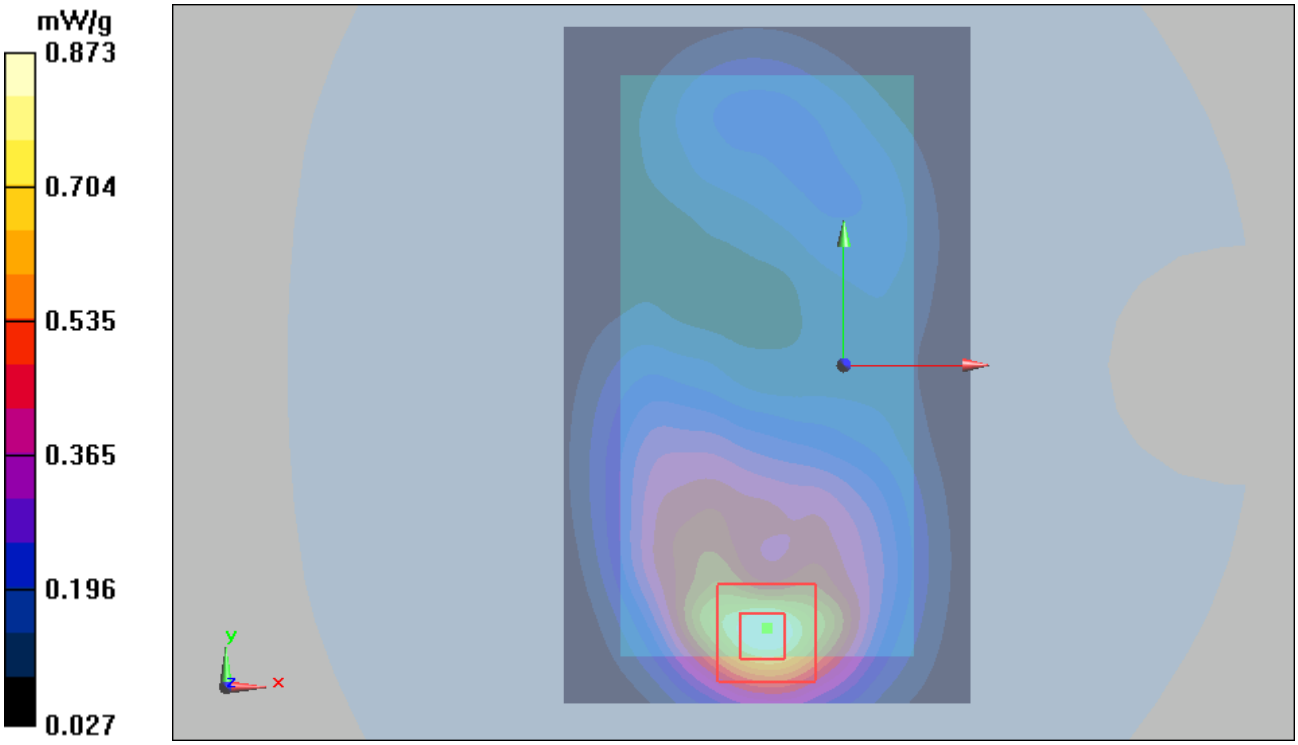


Figure 52 Body with Earphone, Front Side, WCDMA Band II Channel 9400

WCDMA Band IV Left Cheek Middle

Date/Time: 8/5/2012 6:45:04 AM
Communication System: WCDMA ; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.38 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.9, 4.9, 4.9); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left/Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.575 mW/g

Left/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.63 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 0.841 W/kg
SAR(1 g) = 0.535 mW/g; SAR(10 g) = 0.325 mW/g
Maximum value of SAR (measured) = 0.587 mW/g

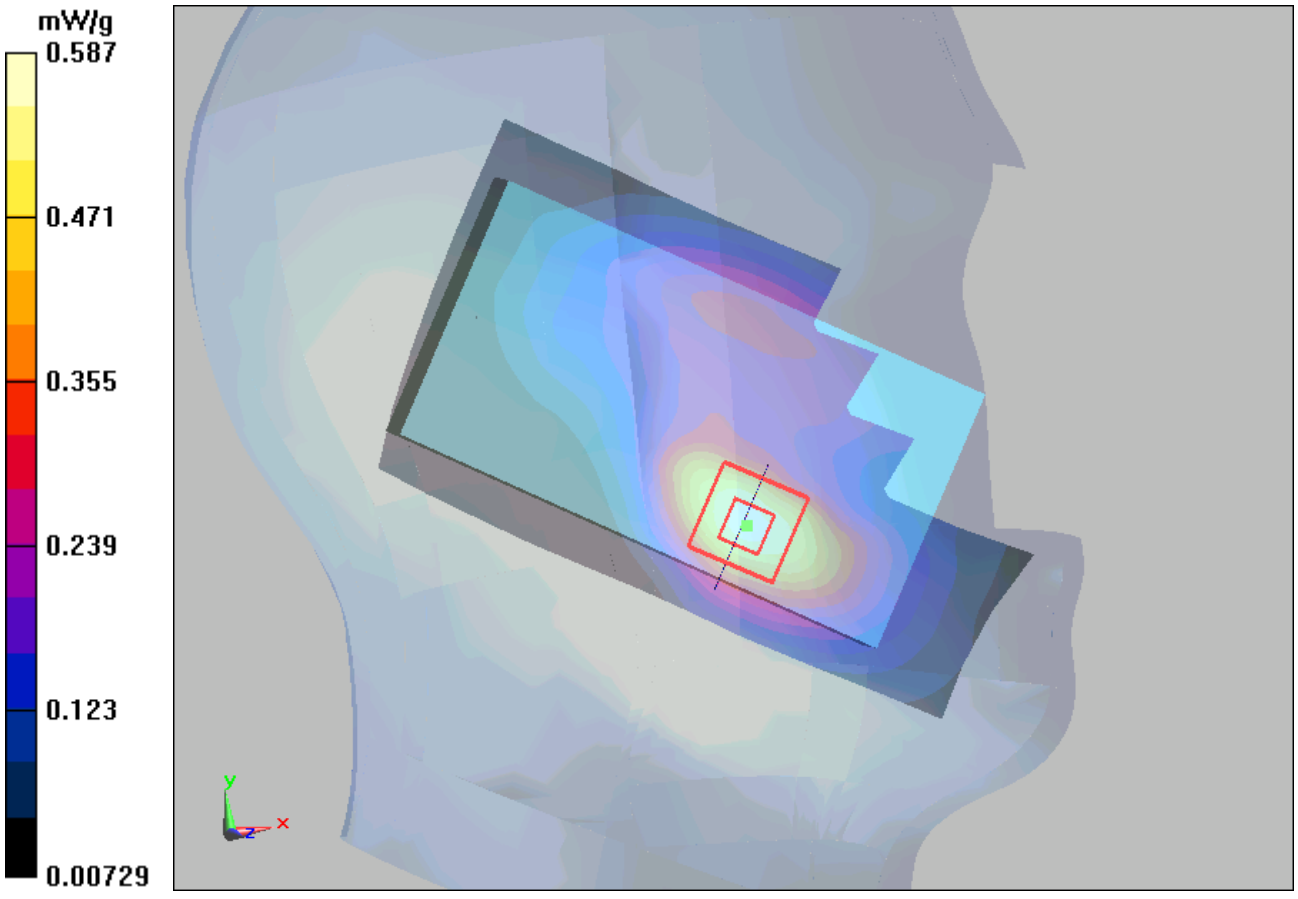


Figure 53 Left Hand Touch Cheek WCDMA Band IV Channel 1413

WCDMA Band IV Left Tilt Middle

Date/Time: 8/5/2012 7:08:59 AM
Communication System: WCDMA ; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.38 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.9, 4.9, 4.9); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left/Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.281 mW/g

Left/Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = -0.191 dB
Peak SAR (extrapolated) = 0.375 W/kg
SAR(1 g) = 0.242 mW/g; SAR(10 g) = 0.150 mW/g
Maximum value of SAR (measured) = 0.260 mW/g

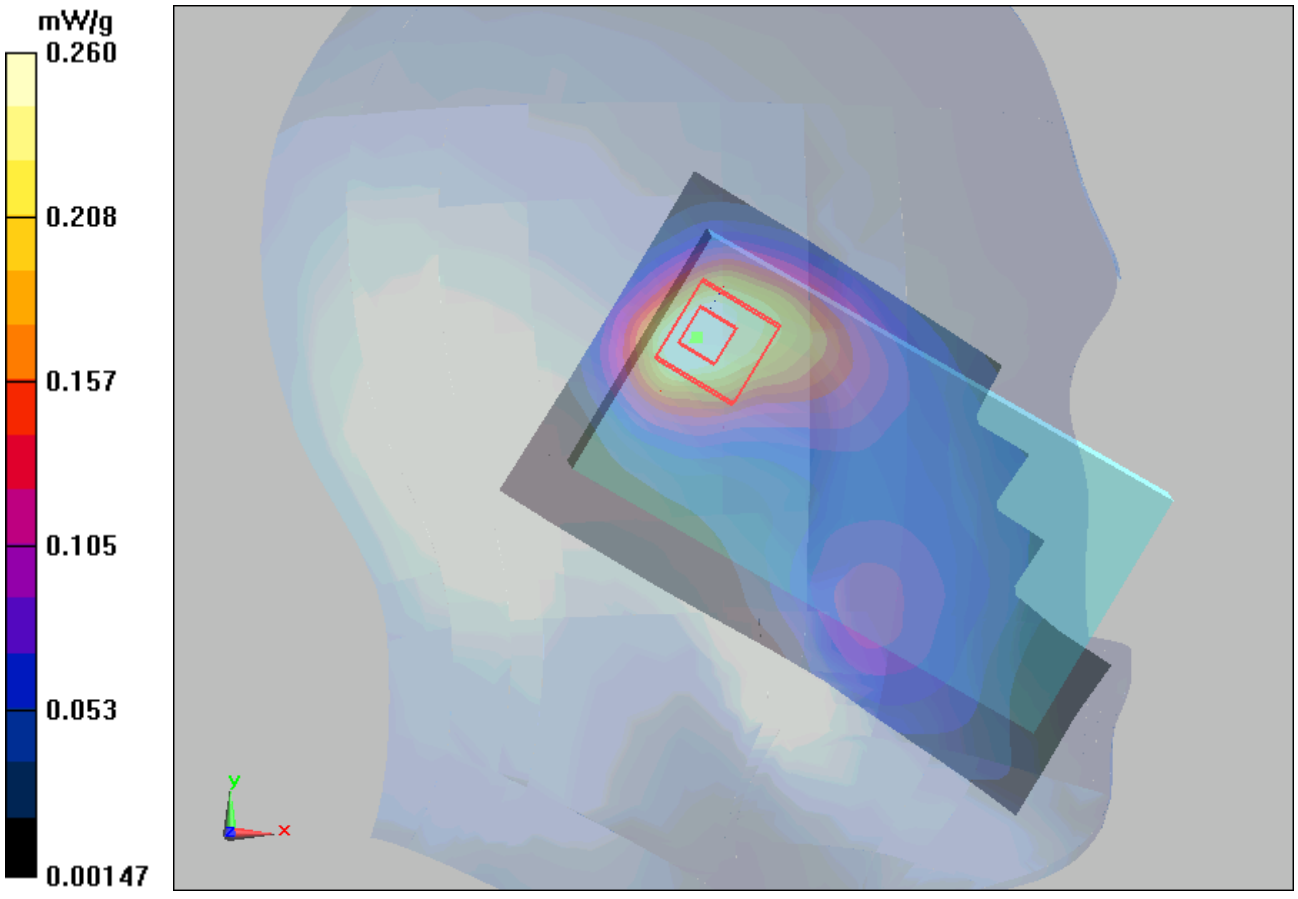


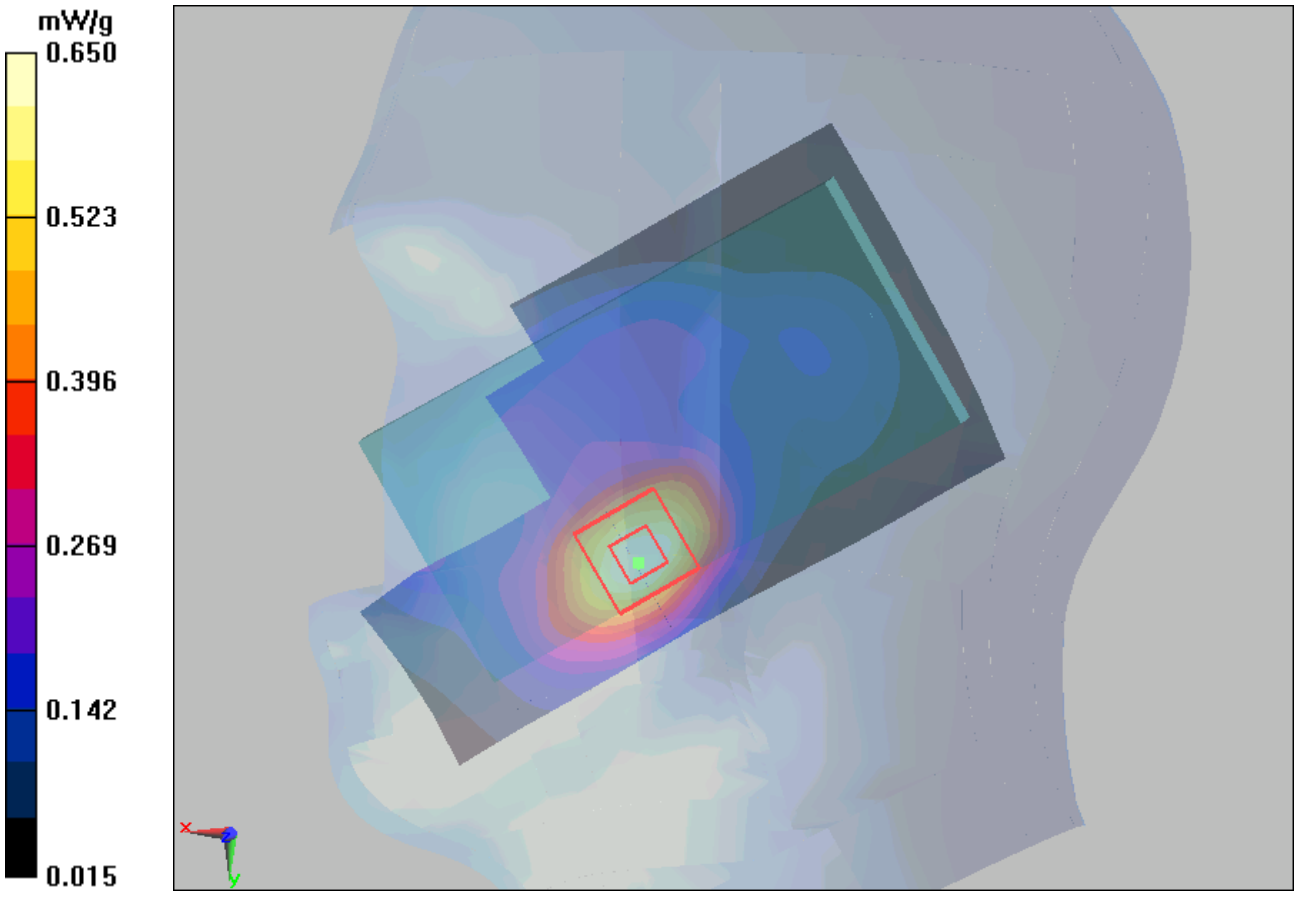
Figure 54 Left Hand Tilt 15°WCDMA Band IV Channel 1413

WCDMA Band IV Right Cheek Middle

Date/Time: 8/5/2012 7:47:27 AM
Communication System: WCDMA ; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.38 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.9, 4.9, 4.9); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right/Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.670 mW/g

Right/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.37 V/m; Power Drift = -0.072 dB
Peak SAR (extrapolated) = 0.894 W/kg
SAR(1 g) = 0.603 mW/g; SAR(10 g) = 0.378 mW/g
Maximum value of SAR (measured) = 0.650 mW/g



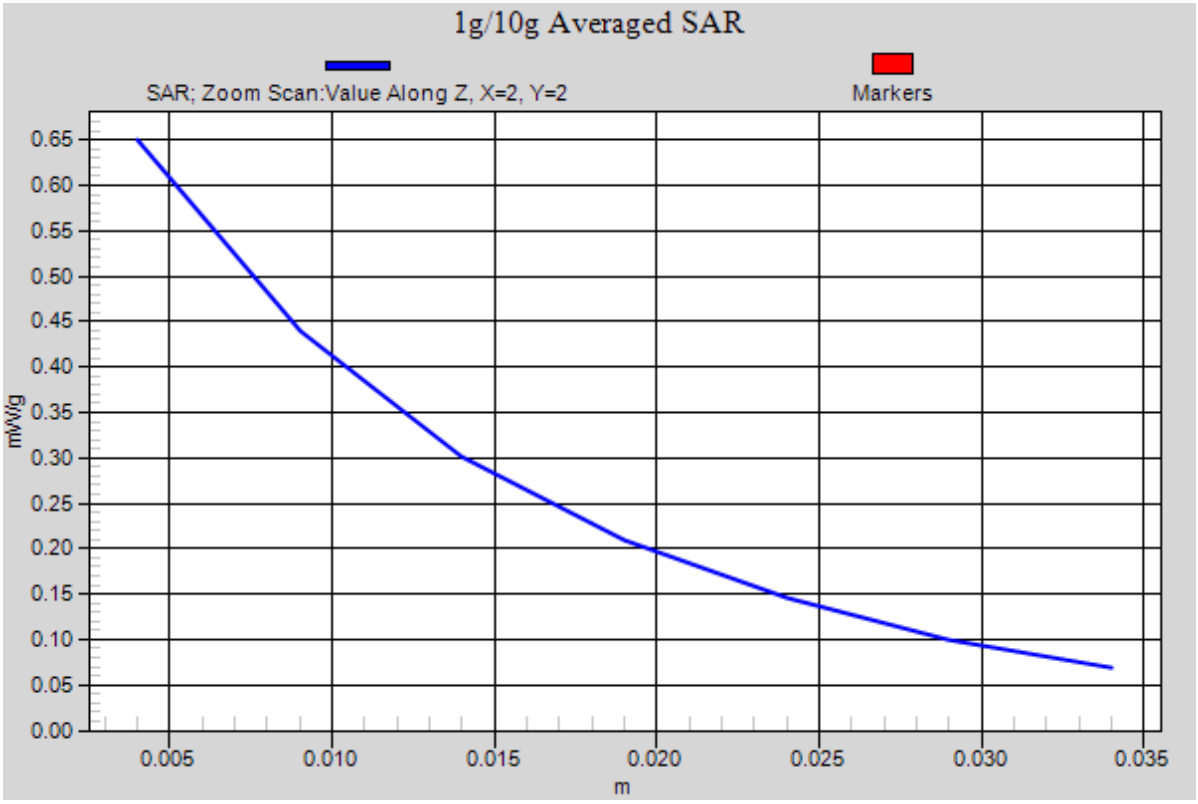


Figure 55 Right Hand Touch Cheek WCDMA Band IV Channel 1413

WCDMA Band IV Right Tilt Middle

Date/Time: 8/5/2012 8:24:45 AM
Communication System: WCDMA ; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.38 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.9, 4.9, 4.9); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right/Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.273 mW/g

Right/Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.2 V/m; Power Drift = 0.043 dB
Peak SAR (extrapolated) = 0.383 W/kg
SAR(1 g) = 0.243 mW/g; SAR(10 g) = 0.144 mW/g
Maximum value of SAR (measured) = 0.264 mW/g

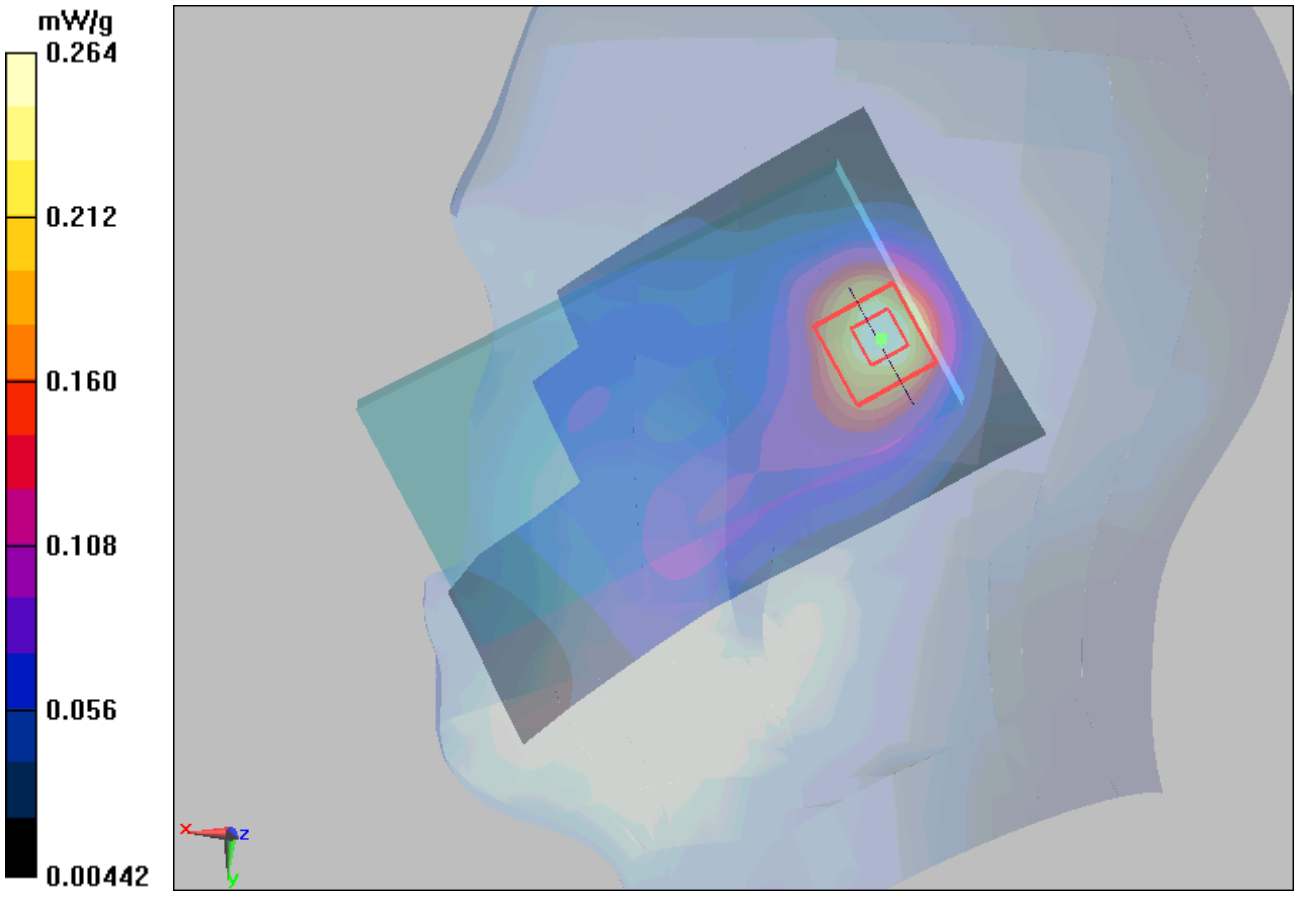


Figure 56 Right Hand Tilt 15°WCDMA Band IV Channel 1413

WCDMA Band IV Back Side High

Date/Time: 8/3/2012 9:45:08 PM
Communication System: WCDMA ; Frequency: 1752.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1752.6 MHz; σ = 1.48 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.65, 4.65, 4.65); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Back Side High/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.937 mW/g

Back Side High/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.9 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.759 mW/g; SAR(10 g) = 0.465 mW/g
Maximum value of SAR (measured) = 0.817 mW/g
Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.9 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 1.39 W/kg
SAR(1 g) = 0.853 mW/g; SAR(10 g) = 0.493 mW/g
Maximum value of SAR (measured) = 0.894 mW/g

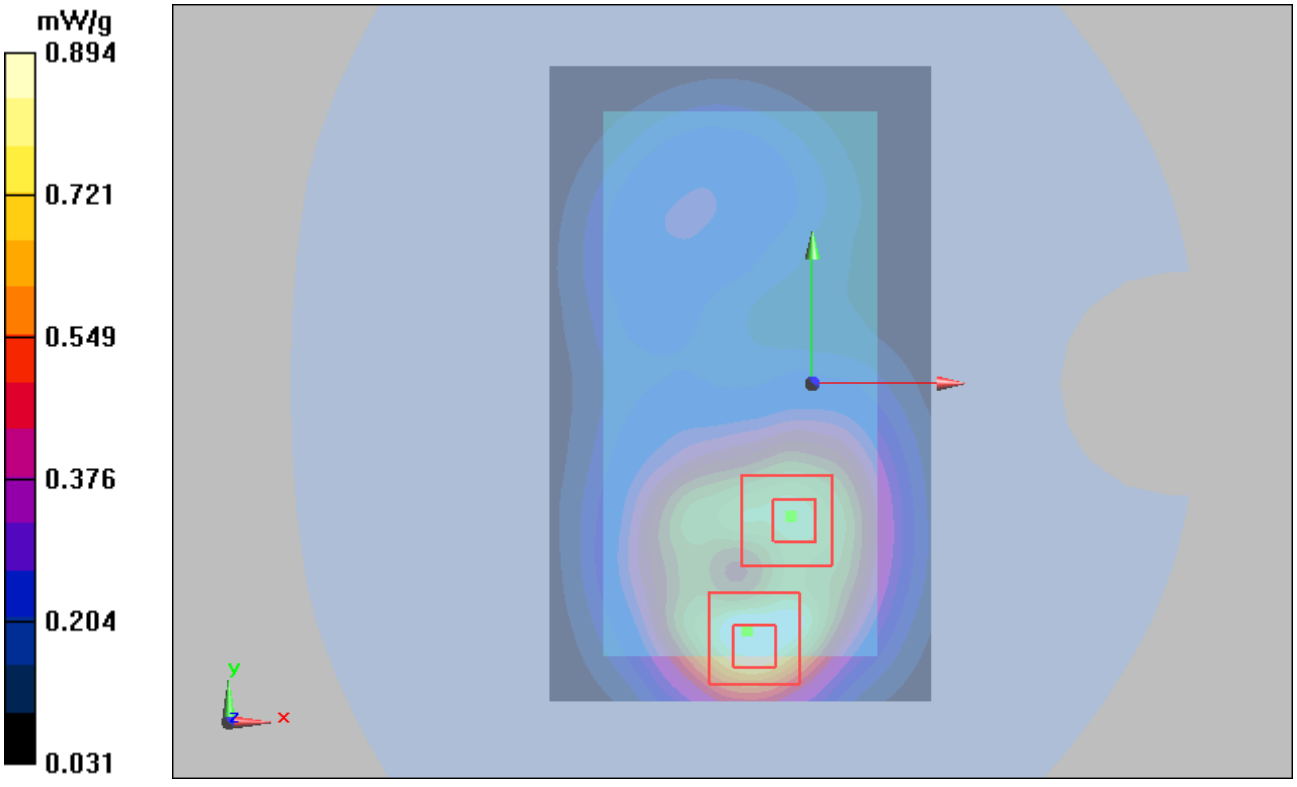


Figure 57 Body, Back Side, WCDMA Band IV Channel 1513

WCDMA Band IV Back Side Middle

Date/Time: 8/3/2012 10:03:02 PM
Communication System: WCDMA ; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.46 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.65, 4.65, 4.65); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Back Side Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.818 mW/g

Back Side Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.3 V/m; Power Drift = -0.046 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.741 mW/g; SAR(10 g) = 0.455 mW/g
Maximum value of SAR (measured) = 0.788 mW/g
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.3 V/m; Power Drift = -0.046 dB
Peak SAR (extrapolated) = 1.28 W/kg
SAR(1 g) = 0.804 mW/g; SAR(10 g) = 0.463 mW/g
Maximum value of SAR (measured) = 0.884 mW/g

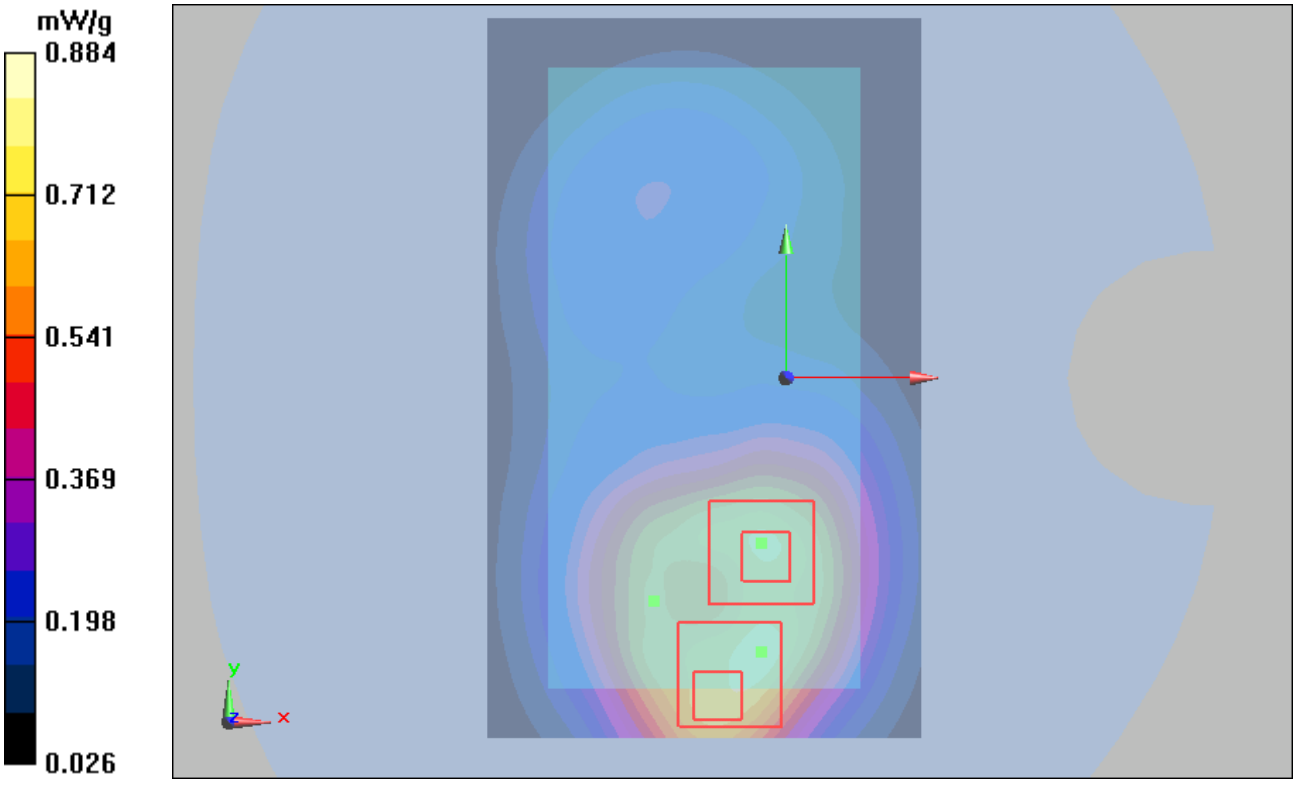


Figure 58 Body, Back Side, WCDMA Band IV Channel 1413

WCDMA Band IV Back Side Low

Date/Time: 8/3/2012 10:30:00 PM
Communication System: WCDMA ; Frequency: 1712.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.44 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.65, 4.65, 4.65); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Back Side Low/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.841 mW/g

Back Side Low/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 1.19 W/kg
SAR(1 g) = 0.751 mW/g; SAR(10 g) = 0.460 mW/g
Maximum value of SAR (measured) = 0.804 mW/g
Back Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.795 mW/g; SAR(10 g) = 0.464 mW/g
Maximum value of SAR (measured) = 0.863 mW/g

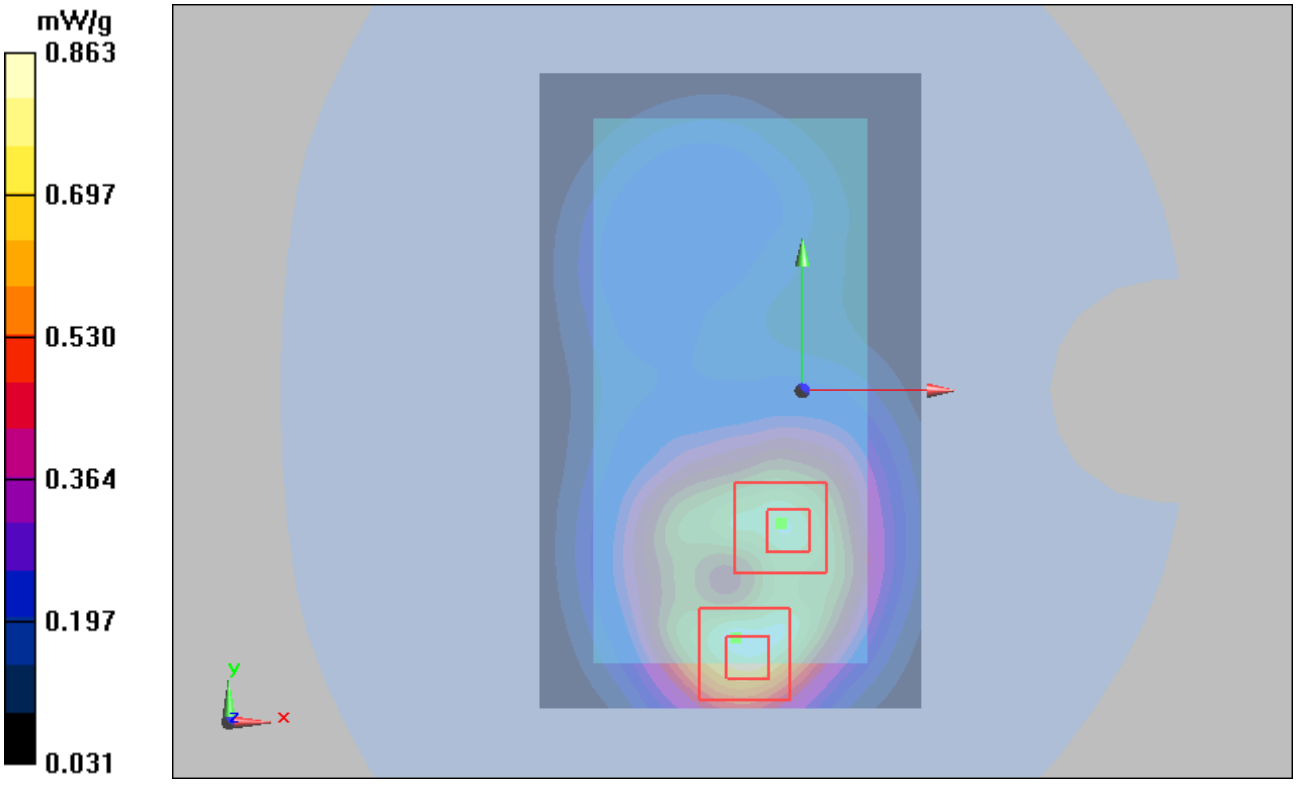


Figure 59 Body, Back Side, WCDMA Band IV Channel 1312

WCDMA Band IV Front Side High

Date/Time: 8/3/2012 10:50:15 PM
Communication System: WCDMA ; Frequency: 1752.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1752.6 MHz; σ = 1.48 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.65, 4.65, 4.65); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Front Side High/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.18 mW/g

Front Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.3 V/m; Power Drift = 0.040 dB
Peak SAR (extrapolated) = 1.74 W/kg
SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.578 mW/g
Maximum value of SAR (measured) = 1.1 mW/g

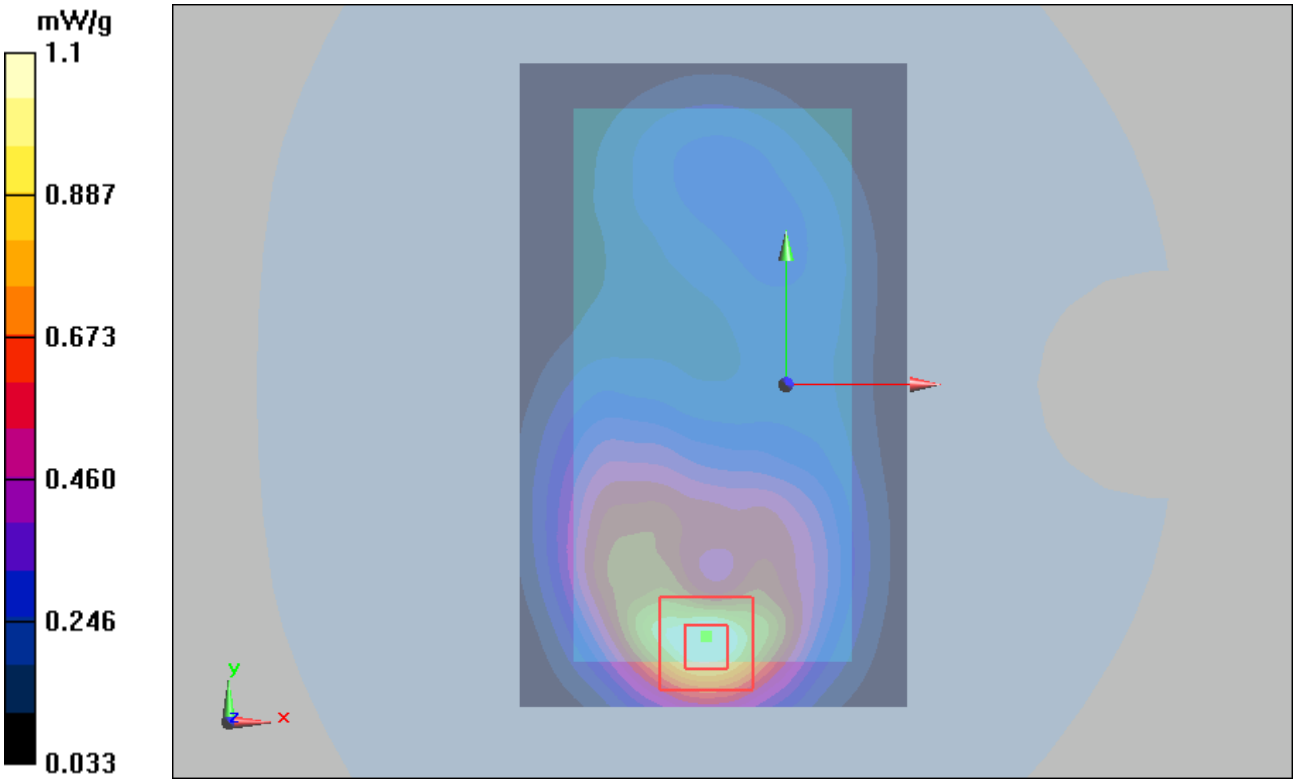


Figure 60 Body, Front Side, WCDMA Band IV Channel 1513

WCDMA Band IV Front Side Middle

Date/Time: 8/3/2012 11:29:18 PM

Communication System: WCDMA ; Frequency: 1732.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.46 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(4.65, 4.65, 4.65); Calibrated: 6/22/2012

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

Phantom: SAM2; Type: SAM; Serial: TP-1524

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

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

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

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

Reference Value = 11.7 V/m; Power Drift = 0.044 dB

Peak SAR (extrapolated) = 1.68 W/kg

SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.566 mW/g

Maximum value of SAR (measured) = 1.07 mW/g

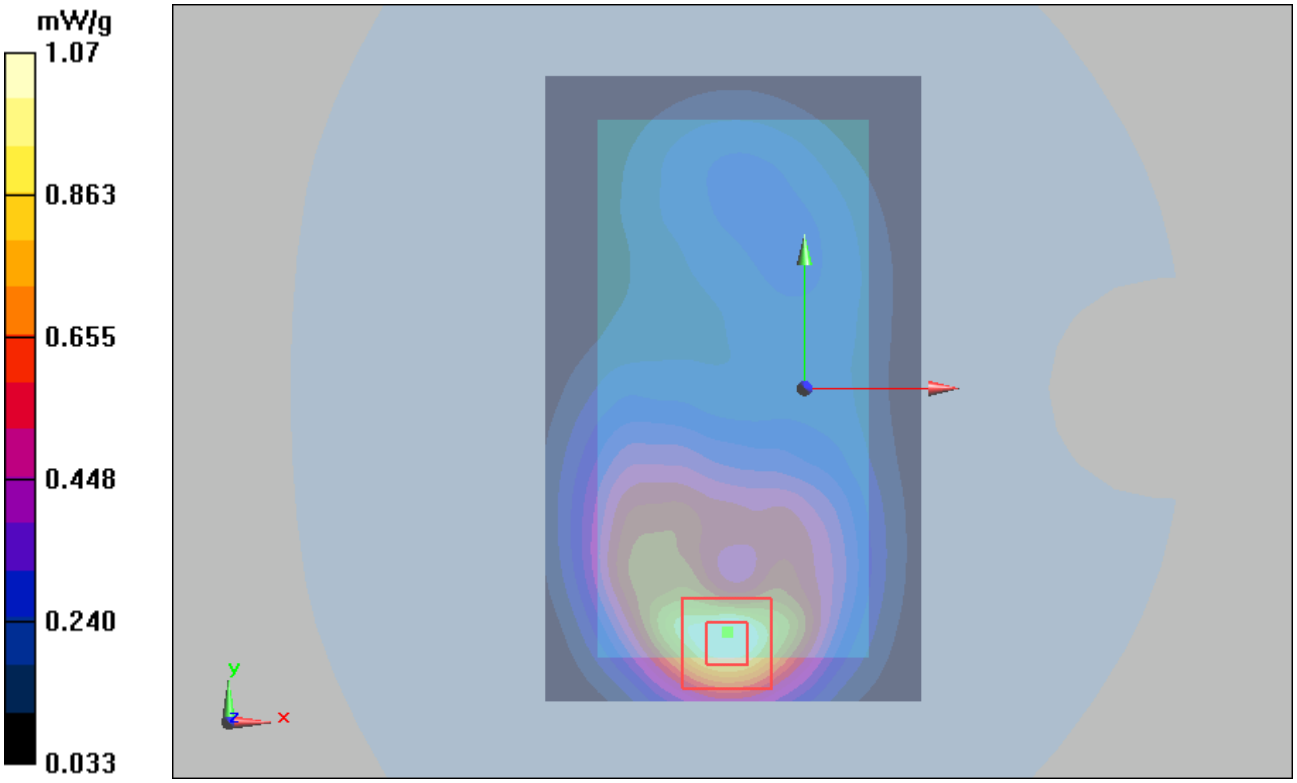


Figure 61 Body, Front Side, WCDMA Band IV Channel 1413

WCDMA Band IV Front Side Low

Date/Time: 8/3/2012 11:51:43 PM

Communication System: WCDMA ; Frequency: 1712.4 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.44 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(4.65, 4.65, 4.65); Calibrated: 6/22/2012

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

Phantom: SAM2; Type: SAM; Serial: TP-1524

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

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

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

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

Reference Value = 12.1 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 1.62 W/kg

SAR(1 g) = 0.989 mW/g; SAR(10 g) = 0.552 mW/g

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

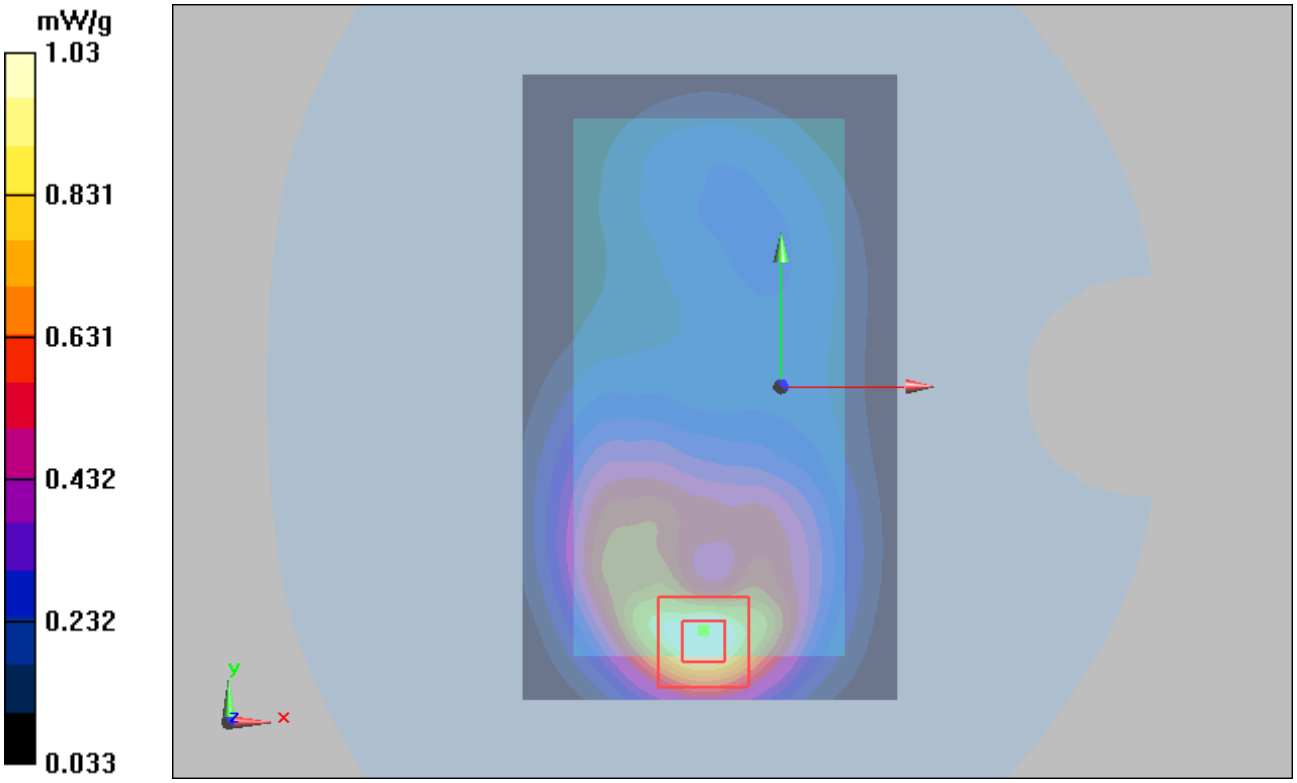


Figure 62 Body, Front Side, WCDMA Band IV Channel 1312

WCDMA Band IV Left Edge Middle

Date/Time: 8/4/2012 2:20:50 AM

Communication System: WCDMA ; Frequency: 1732.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.46 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(4.65, 4.65, 4.65); Calibrated: 6/22/2012

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

Phantom: SAM2; Type: SAM; Serial: TP-1524

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left Edge Middle/Area Scan (21x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.184 mW/g

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

Reference Value = 8.94 V/m; Power Drift = 0.130 dB

Peak SAR (extrapolated) = 0.263 W/kg

SAR(1 g) = 0.169 mW/g; SAR(10 g) = 0.106 mW/g

Maximum value of SAR (measured) = 0.182 mW/g

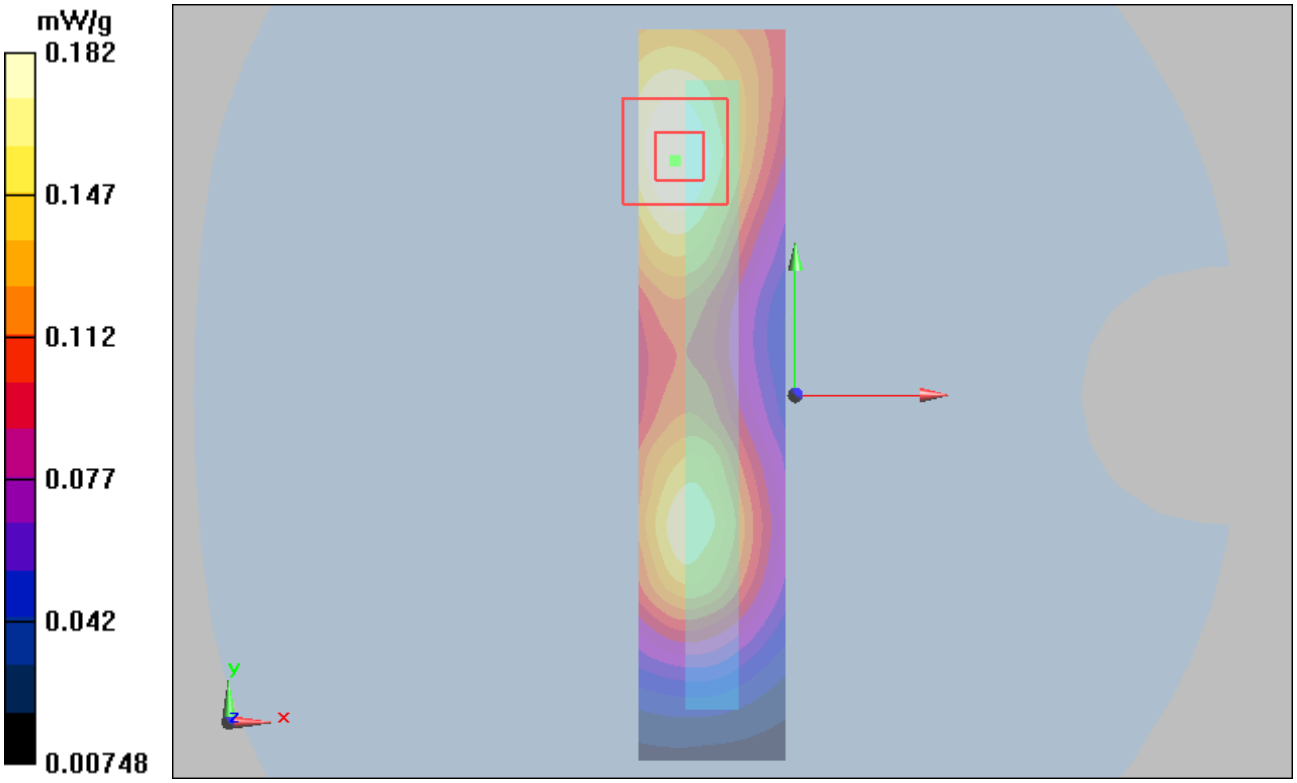


Figure 63 Body, Left Edge, W WCDMA Band IV Channel 1413

WCDMA Band IV Right Edge Middle

Date/Time: 8/4/2012 2:34:56 AM

Communication System: WCDMA ; Frequency: 1732.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.46 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(4.65, 4.65, 4.65); Calibrated: 6/22/2012

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

Phantom: SAM2; Type: SAM; Serial: TP-1524

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right Edge Middle/Area Scan (21x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.203 mW/g

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

Reference Value = 6.73 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 0.290 W/kg

SAR(1 g) = 0.185 mW/g; SAR(10 g) = 0.113 mW/g

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

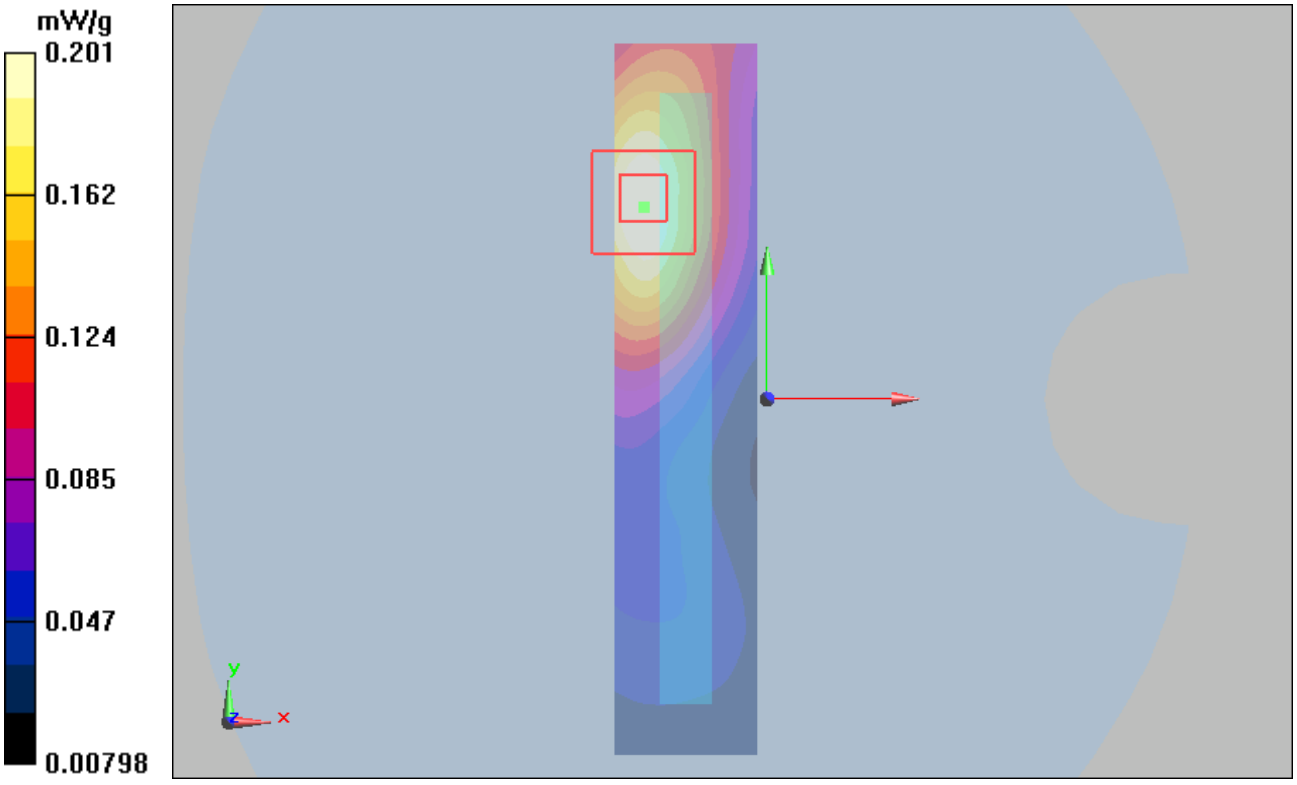


Figure 64 Body, Right Edge, WCDMA Band IV Channel 1413

WCDMA Band IV Bottom Edge High

Date/Time: 8/4/2012 3:06:14 AM

Communication System: WCDMA ; Frequency: 1752.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1752.6 MHz; σ = 1.48 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(4.65, 4.65, 4.65); Calibrated: 6/22/2012

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

Phantom: SAM2; Type: SAM; Serial: TP-1524

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Bottom Edge High/Area Scan (21x61x1): Measurement grid: dx=15mm, dy=15mm

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

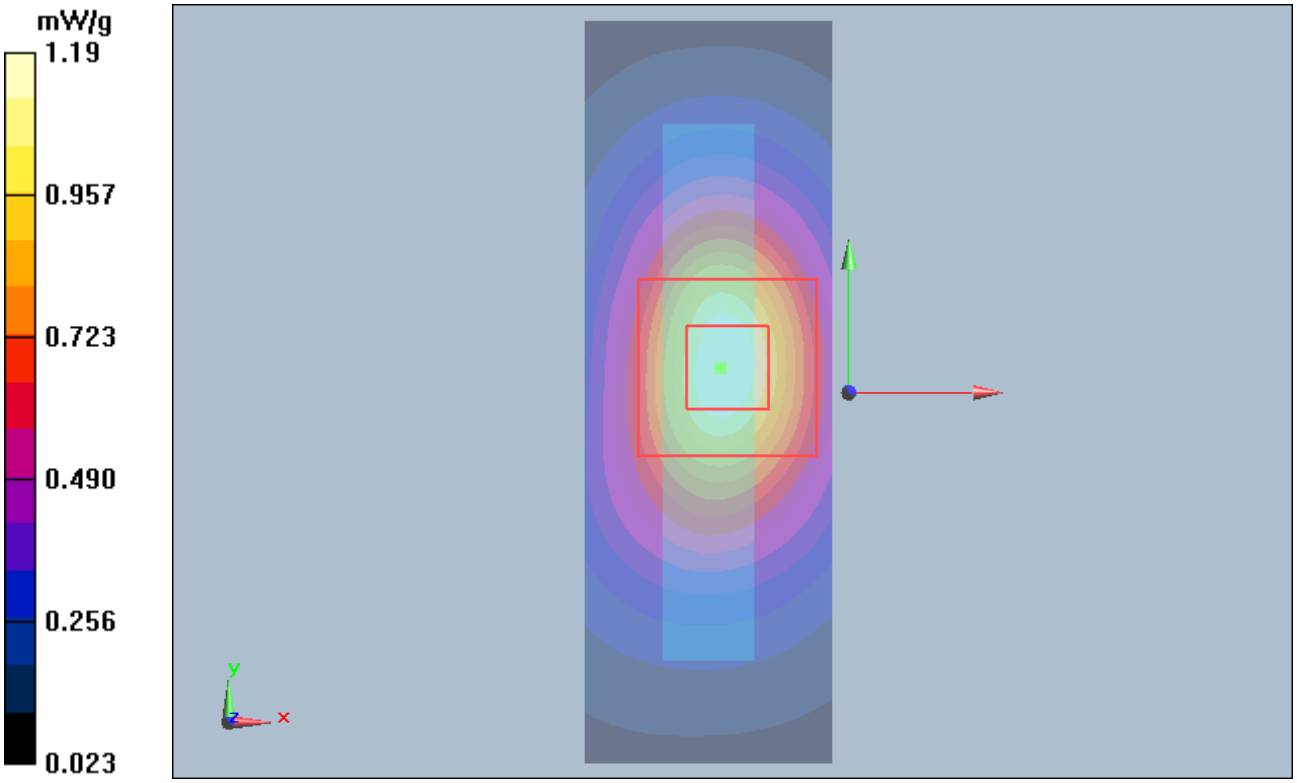
Bottom Edge High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.6 V/m; Power Drift = -0.115 dB

Peak SAR (extrapolated) = 1.81 W/kg

SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.577 mW/g

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



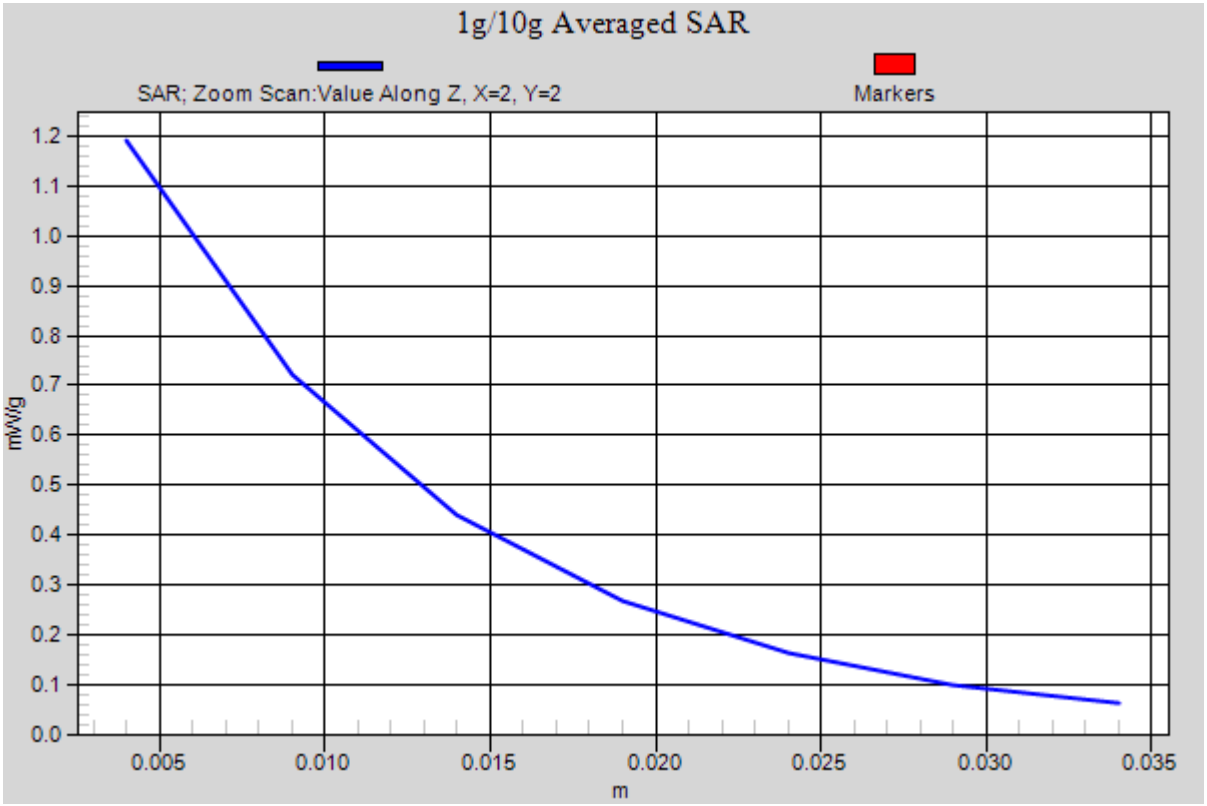


Figure 65 Body, Bottom Edge, WCDMA Band IV Channel 1513

WCDMA Band IV Bottom Edge Middle

Date/Time: 8/4/2012 2:55:09 AM

Communication System: WCDMA ; Frequency: 1732.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.46 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(4.65, 4.65, 4.65); Calibrated: 6/22/2012

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

Phantom: SAM2; Type: SAM; Serial: TP-1524

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Bottom Edge Middle/Area Scan (21x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.12 mW/g

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

Reference Value = 27.9 V/m; Power Drift = -0.095 dB

Peak SAR (extrapolated) = 1.69 W/kg

SAR(1 g) = 1 mW/g; SAR(10 g) = 0.540 mW/g

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

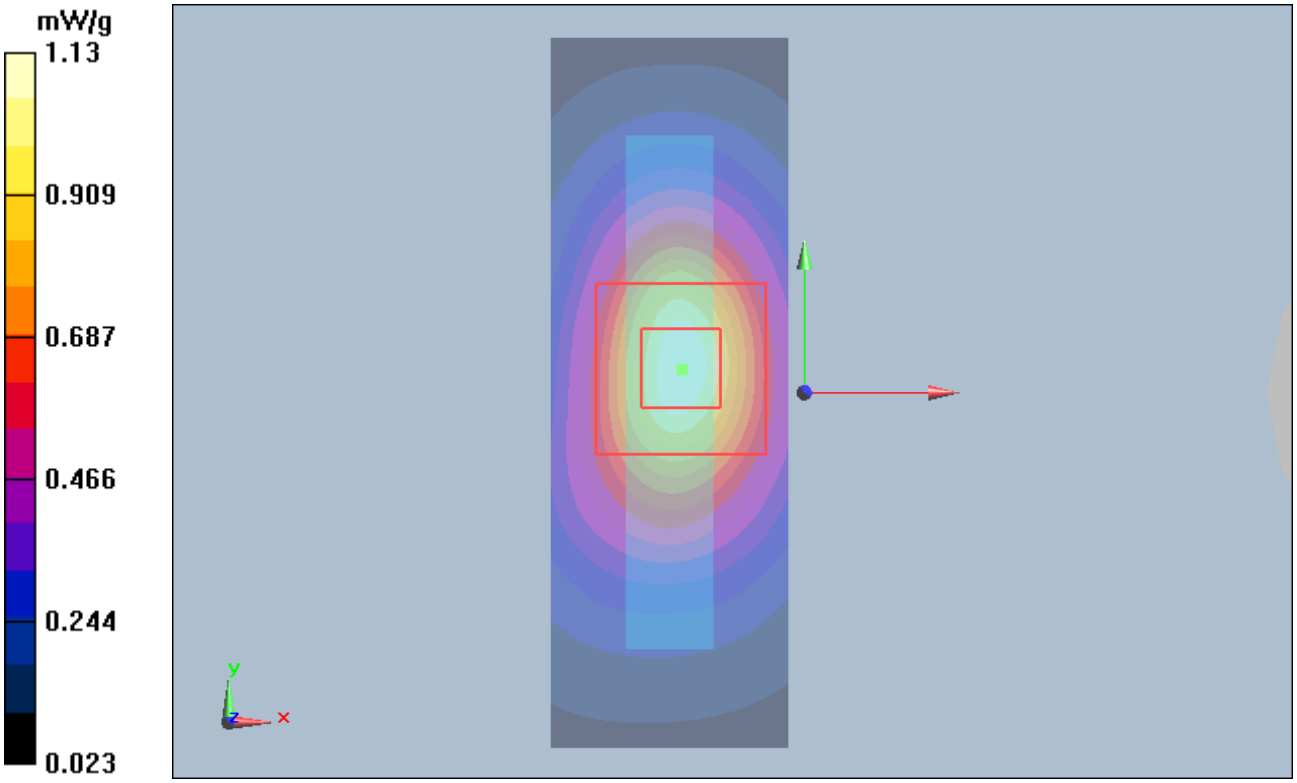


Figure 66 Body, Bottom Edge, WCDMA Band IV Channel 1413

WCDMA Band IV Bottom Edge Low

Date/Time: 8/4/2012 3:16:18 AM

Communication System: WCDMA ; Frequency: 1712.4 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.44 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(4.65, 4.65, 4.65); Calibrated: 6/22/2012

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

Phantom: SAM2; Type: SAM; Serial: TP-1524

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Bottom Edge Low/Area Scan (21x61x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 27.1 V/m; Power Drift = -0.113 dB

Peak SAR (extrapolated) = 1.59 W/kg

SAR(1 g) = 0.951 mW/g; SAR(10 g) = 0.514 mW/g

Maximum value of SAR (measured) = 1.07 mW/g

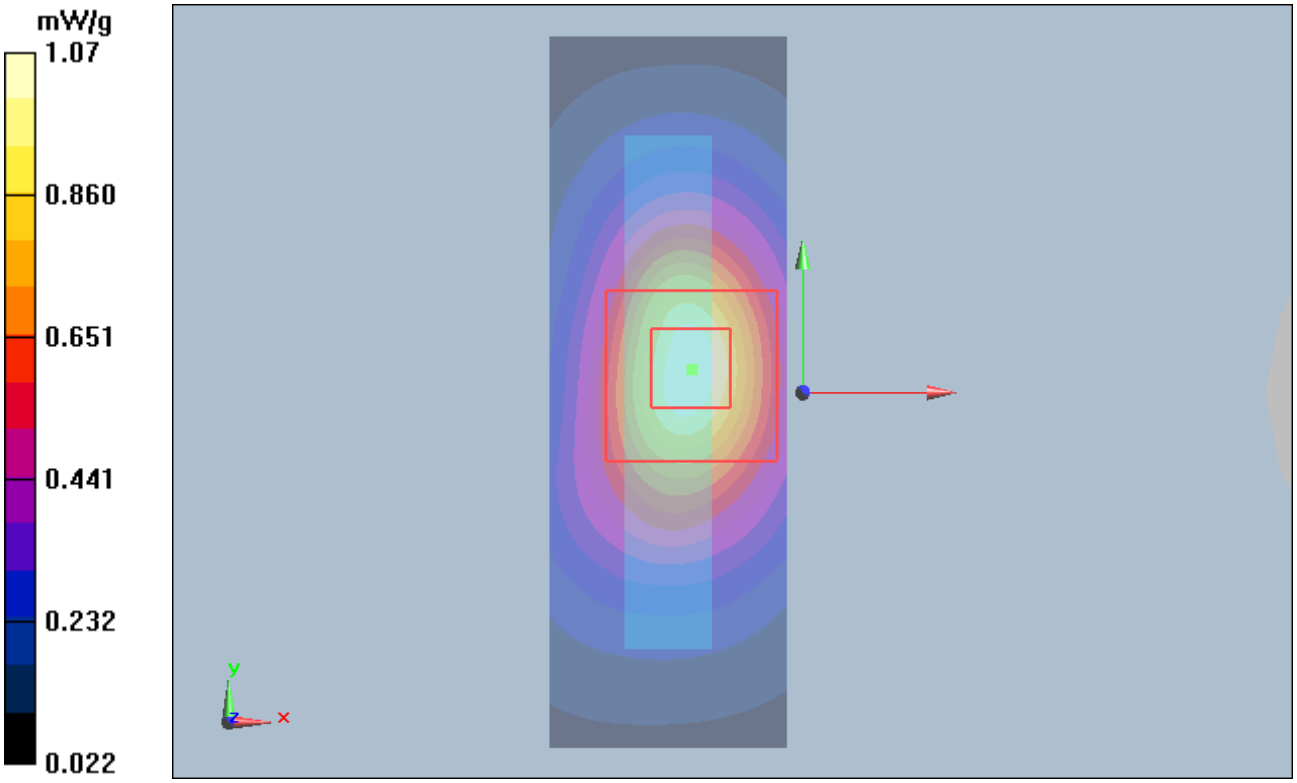


Figure 67 Body, Bottom Edge, WCDMA Band IV Channel 1312

WCDMA Band IV with Earphone Front Side High

Date/Time: 8/4/2012 3:56:12 AM

Communication System: WCDMA ; Frequency: 1752.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1752.6 MHz; σ = 1.48 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(4.65, 4.65, 4.65); Calibrated: 6/22/2012

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

Phantom: SAM2; Type: SAM; Serial: TP-1524

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

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

Maximum value of SAR (interpolated) = 0.820 mW/g

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

Reference Value = 10.1 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 1.18 W/kg

SAR(1 g) = 0.744 mW/g; SAR(10 g) = 0.429 mW/g

Maximum value of SAR (measured) = 0.799 mW/g

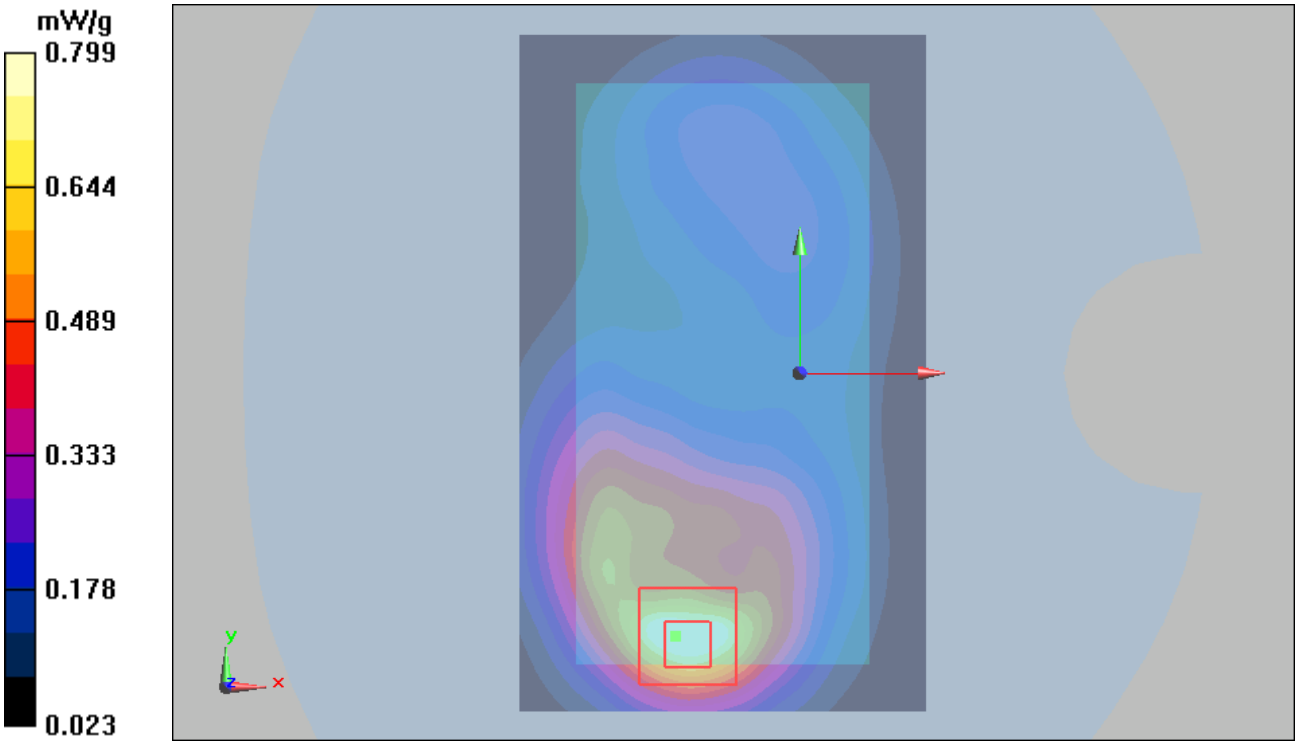


Figure 68 Body with Earphone, Front Side, WCDMA Band IV Channel 1513

WCDMA Band V Left Cheek Middle

Date/Time: 7/29/2012 10:49:19 PM
Communication System: WCDMA ; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.896 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left/Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.264 mW/g

Left/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.96 V/m; Power Drift = 0.135 dB
Peak SAR (extrapolated) = 0.322 W/kg
SAR(1 g) = 0.251 mW/g; SAR(10 g) = 0.191 mW/g
Maximum value of SAR (measured) = 0.263 mW/g

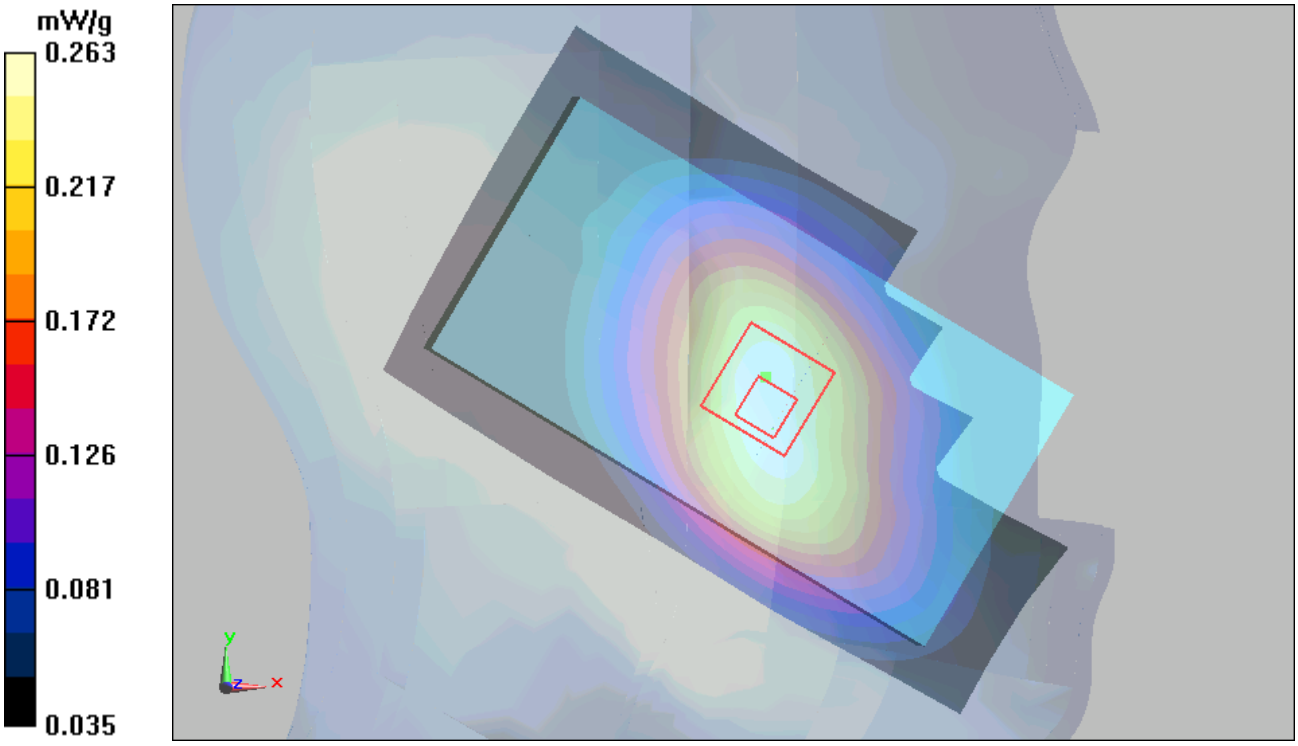


Figure 69 Left Hand Touch Cheek WCDMA Band V Channel 4183

WCDMA Band V Left Tilt Middle

Date/Time: 7/29/2012 11:05:47 PM
Communication System: WCDMA ; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.896 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left/Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.206 mW/g

Left/Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.3 V/m; Power Drift = 0.079 dB
Peak SAR (extrapolated) = 0.247 W/kg
SAR(1 g) = 0.199 mW/g; SAR(10 g) = 0.152 mW/g
Maximum value of SAR (measured) = 0.209 mW/g

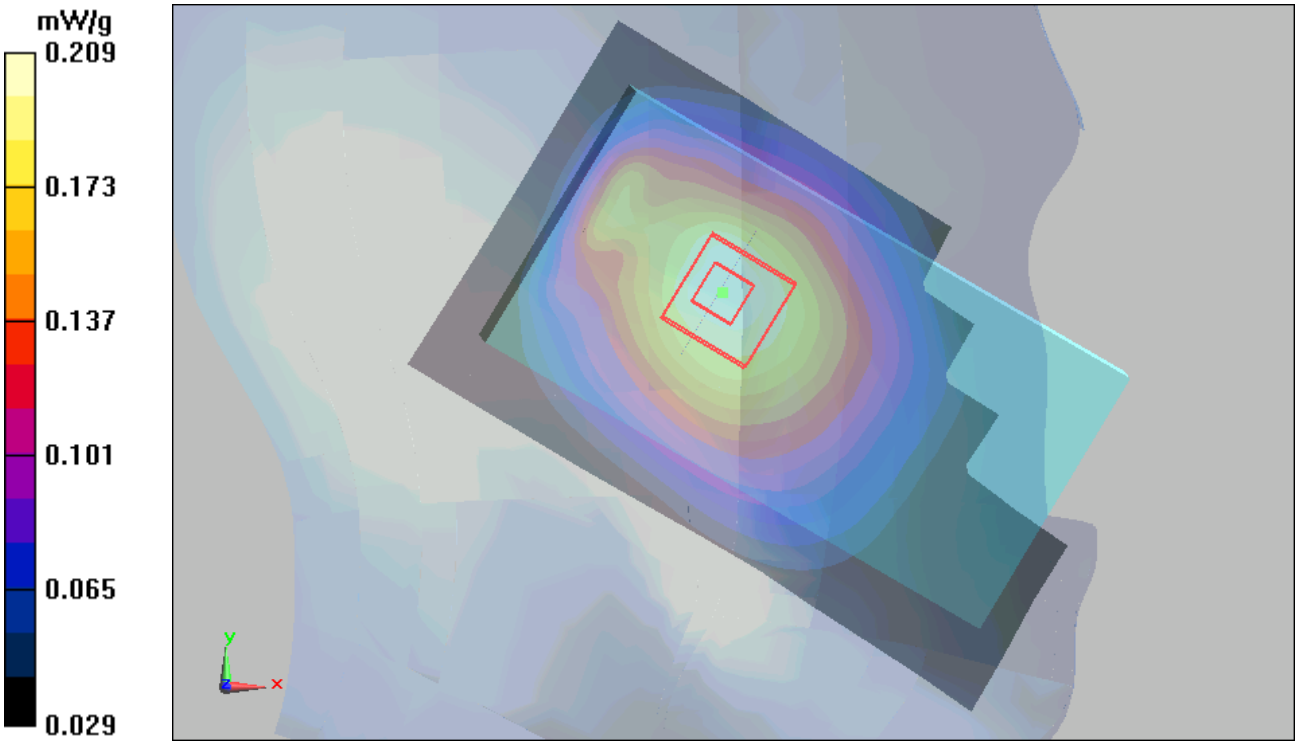


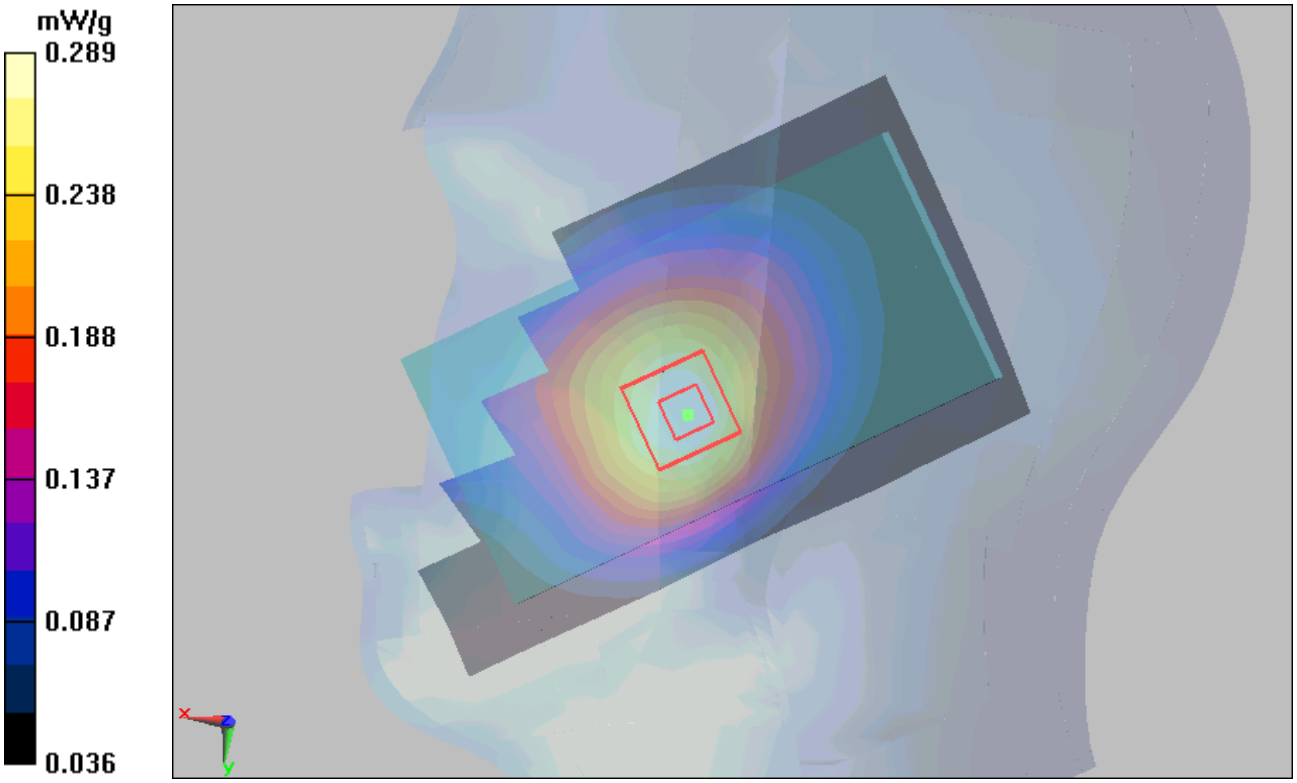
Figure 70 Left Hand Tilt 15° WCDMA Band V Channel 4183

WCDMA Band V Right Cheek Middle

Date/Time: 7/29/2012 11:34:24 PM
Communication System: WCDMA ; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.896 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right/Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.294 mW/g

Right/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.45 V/m; Power Drift = 0.149 dB
Peak SAR (extrapolated) = 0.333 W/kg
SAR(1 g) = 0.275 mW/g; SAR(10 g) = 0.212 mW/g
Maximum value of SAR (measured) = 0.289 mW/g



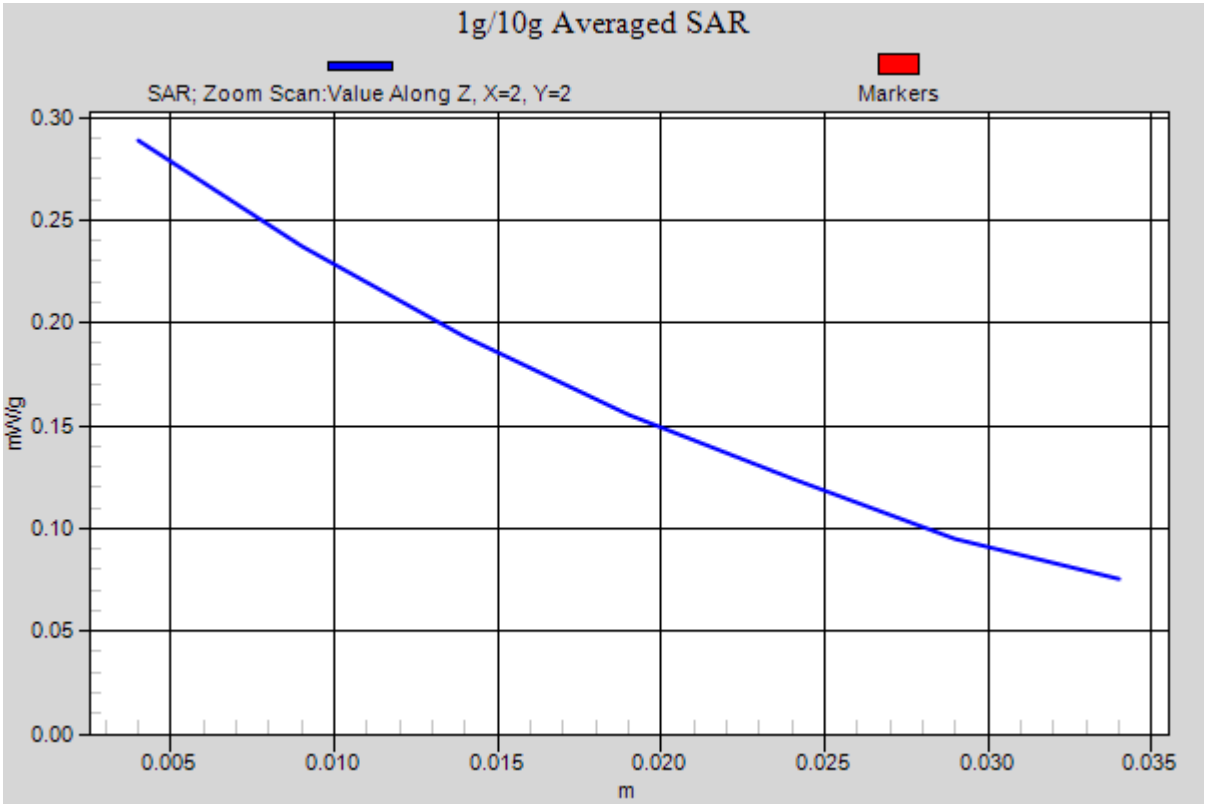


Figure 71 Right Hand Touch Cheek WCDMA Band V Channel 4183

WCDMA Band V Right Tilt Middle

Date/Time: 7/29/2012 11:50:51 PM

Communication System: WCDMA ; Frequency: 836.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 837 MHz; σ = 0.896 mho/m; ε_r = 42; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Right Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012

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

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

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

Maximum value of SAR (interpolated) = 0.214 mW/g

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

Reference Value = 11.5 V/m; Power Drift = 0.128 dB

Peak SAR (extrapolated) = 0.257 W/kg

SAR(1 g) = 0.207 mW/g; SAR(10 g) = 0.158 mW/g

Maximum value of SAR (measured) = 0.217 mW/g

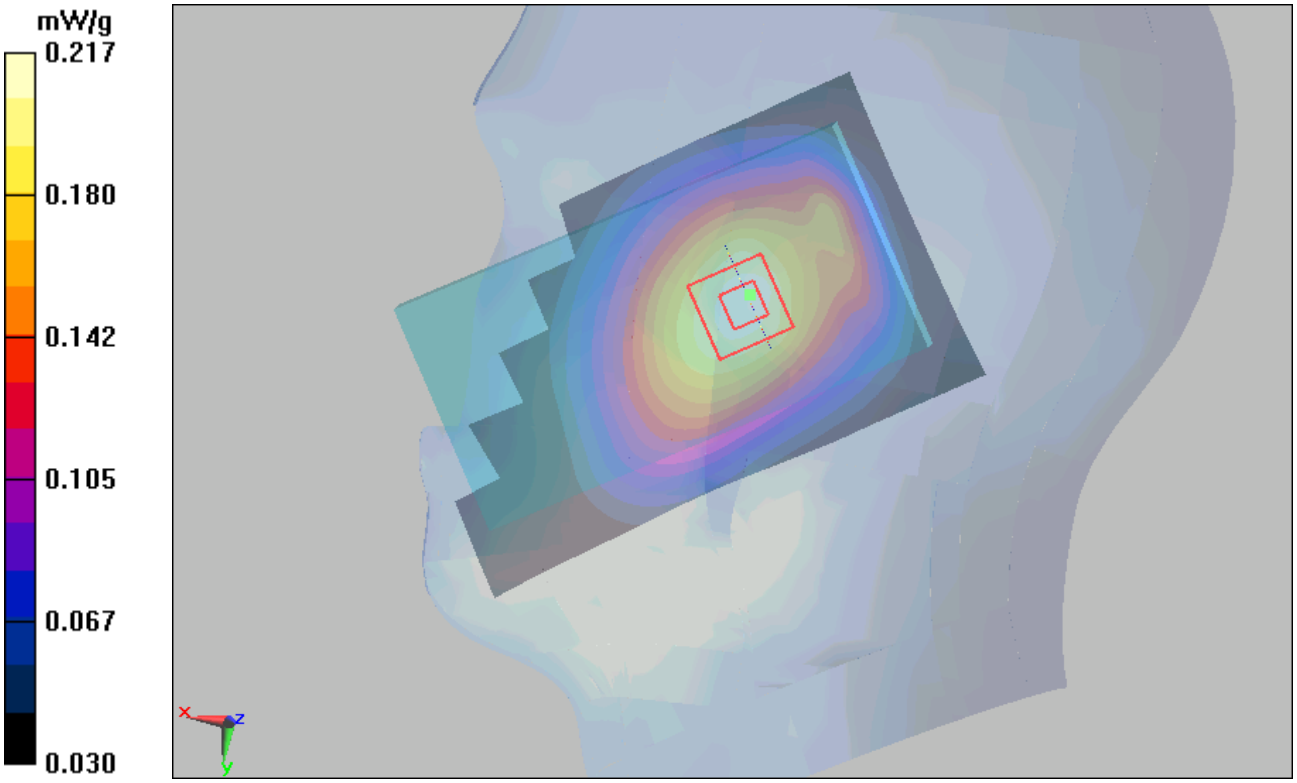


Figure 72 Right Hand Tilt 15° WCDMA Band V Channel 4183

WCDMA Band V Back Side Middle

Date/Time: 8/3/2012 5:49:42 AM

Communication System: WCDMA ; Frequency: 836.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 837 MHz; σ = 0.971 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012

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

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

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

Maximum value of SAR (interpolated) = 0.650 mW/g

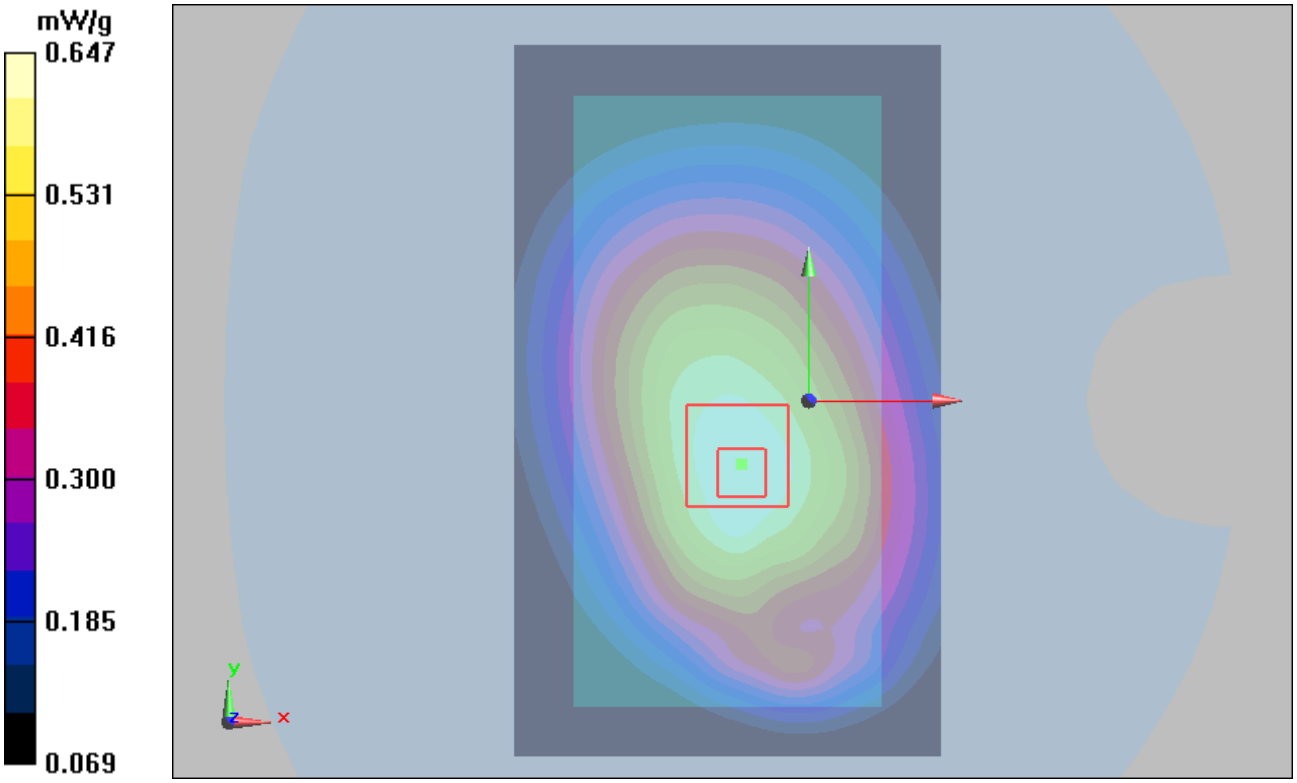
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.8 V/m; Power Drift = -0.065 dB

Peak SAR (extrapolated) = 0.767 W/kg

SAR(1 g) = 0.619 mW/g; SAR(10 g) = 0.473 mW/g

Maximum value of SAR (measured) = 0.647 mW/g



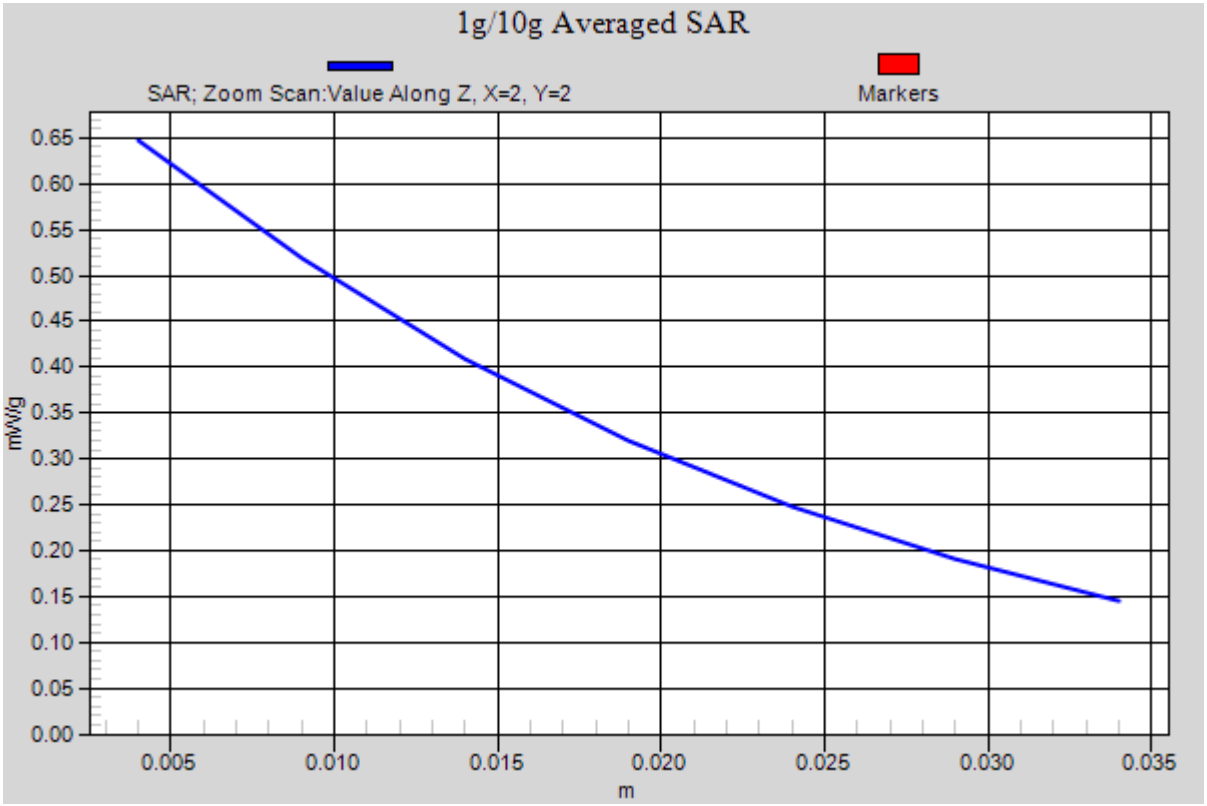


Figure 73 Body, Back Side, WCDMA Band V Channel 4183

WCDMA Band V Front Side Middle

Date/Time: 8/3/2012 6:09:50 AM
Communication System: WCDMA ; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.971 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Front Side Middle/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.403 mW/g

Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.3 V/m; Power Drift = -0.036 dB
Peak SAR (extrapolated) = 0.472 W/kg
SAR(1 g) = 0.381 mW/g; SAR(10 g) = 0.295 mW/g
Maximum value of SAR (measured) = 0.397 mW/g

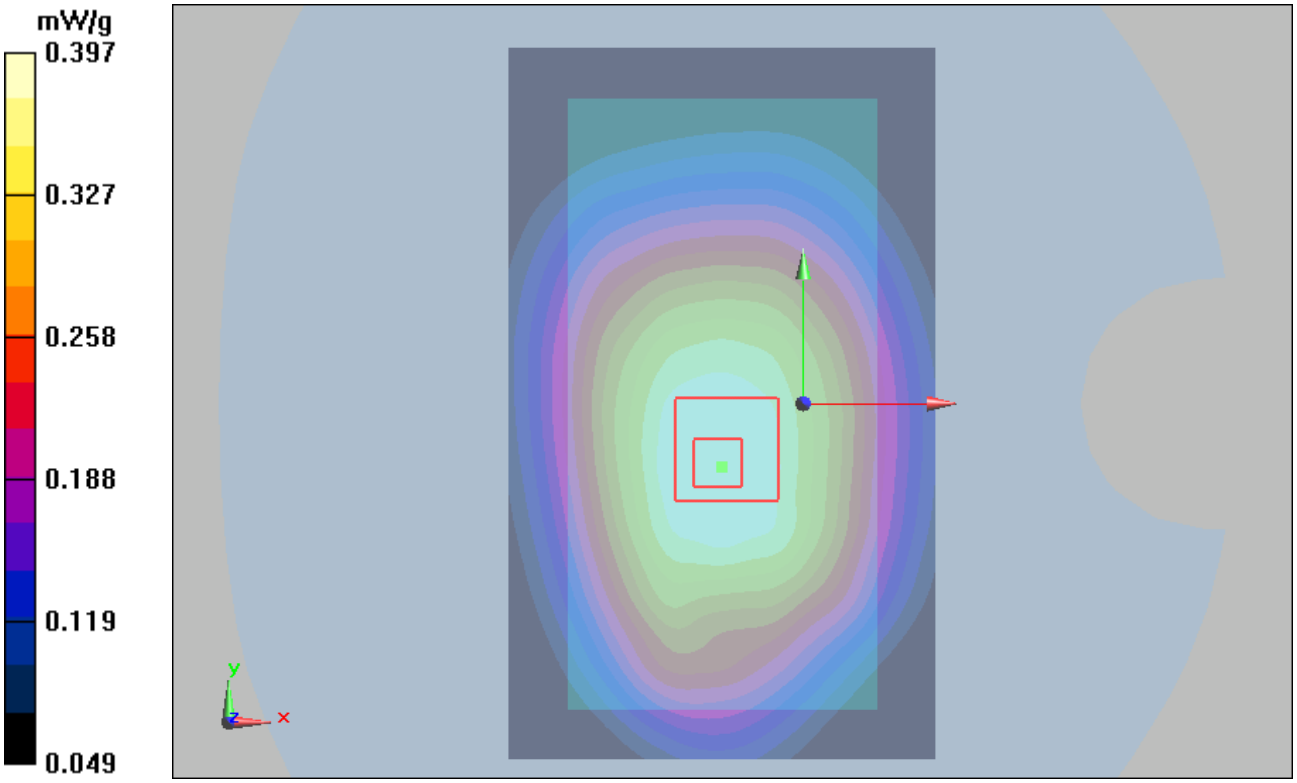


Figure 74 Body, Front Side, WCDMA Band V Channel 4183

WCDMA Band V Left Edge Middle

Date/Time: 8/3/2012 6:54:00 AM
Communication System: WCDMA ; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.971 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left Edge Middle/Area Scan (21x101x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.207 mW/g

Left Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.8 V/m; Power Drift = 0.033 dB
Peak SAR (extrapolated) = 0.272 W/kg
SAR(1 g) = 0.194 mW/g; SAR(10 g) = 0.133 mW/g
Maximum value of SAR (measured) = 0.208 mW/g

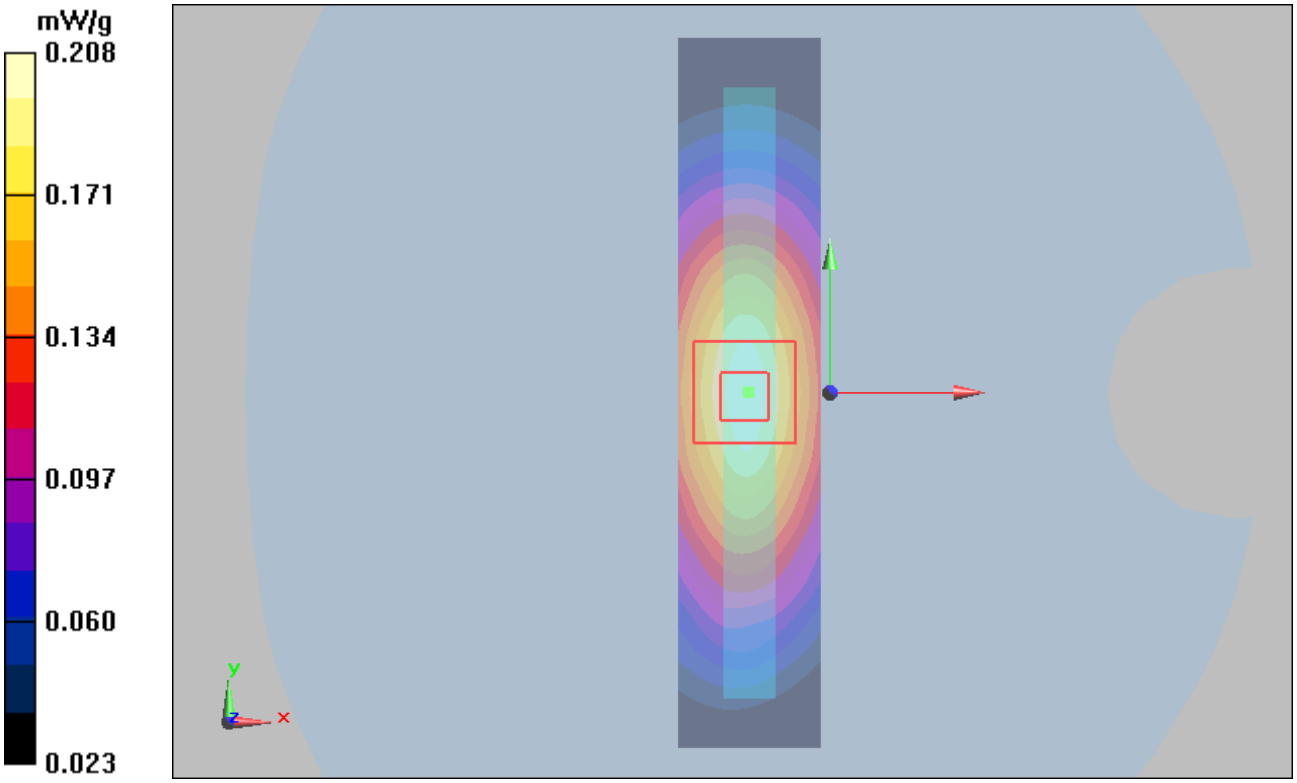


Figure 75 Body, Left Edge, WCDMA Band V Channel 4183

WCDMA Band V Right Edge Middle

Date/Time: 8/3/2012 6:39:39 AM

Communication System: WCDMA ; Frequency: 836.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 837 MHz; σ = 0.971 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012

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

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right Edge Middle/Area Scan (21x101x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 18.2 V/m; Power Drift = -0.036 dB

Peak SAR (extrapolated) = 0.414 W/kg

SAR(1 g) = 0.296 mW/g; SAR(10 g) = 0.205 mW/g

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

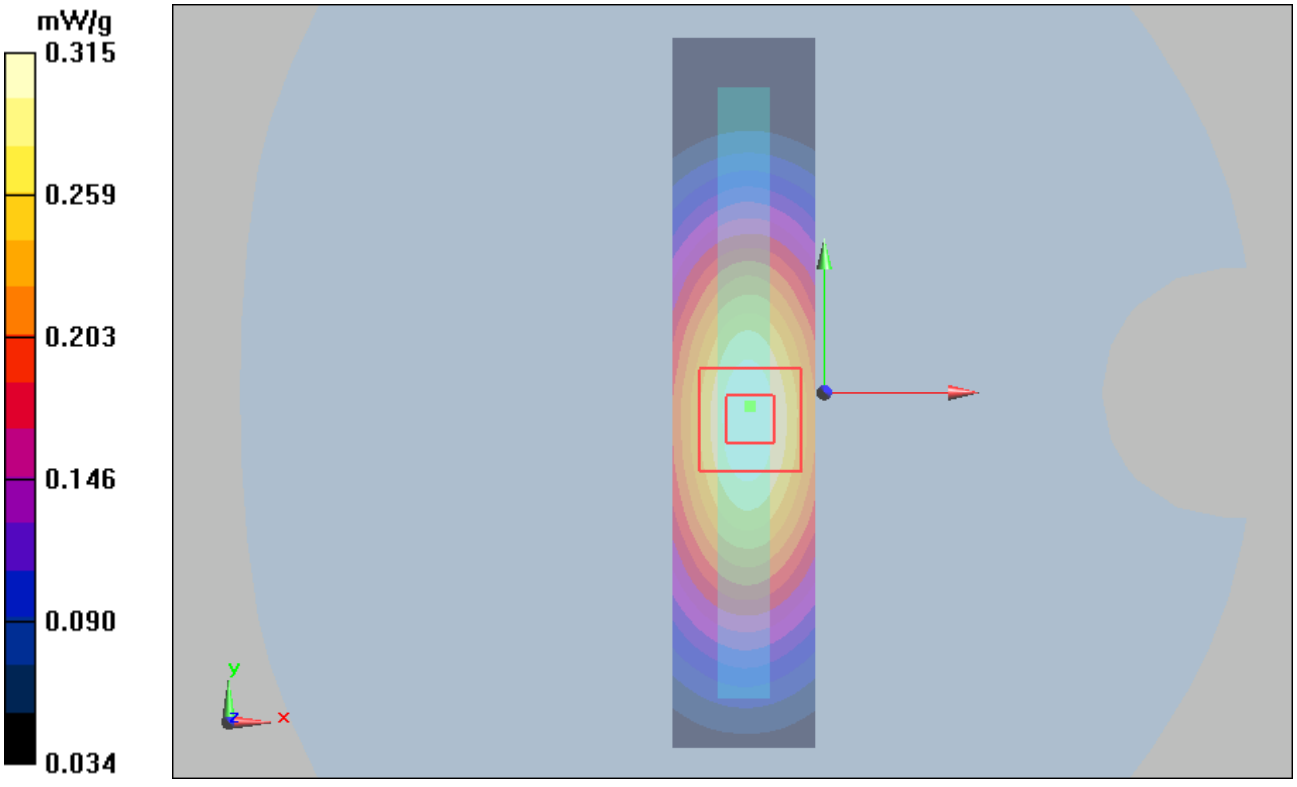


Figure 76 Body, Right Edge, WCDMA Band V Channel 4183

WCDMA Band V Bottom Edge Middle

Date/Time: 8/3/2012 7:12:22 AM
Communication System: WCDMA ; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.971 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Bottom Edge Middle/Area Scan (21x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.099 mW/g

Bottom Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.1 V/m; Power Drift = 0.134 dB
Peak SAR (extrapolated) = 0.192 W/kg
SAR(1 g) = 0.095 mW/g; SAR(10 g) = 0.050 mW/g
Maximum value of SAR (measured) = 0.105 mW/g

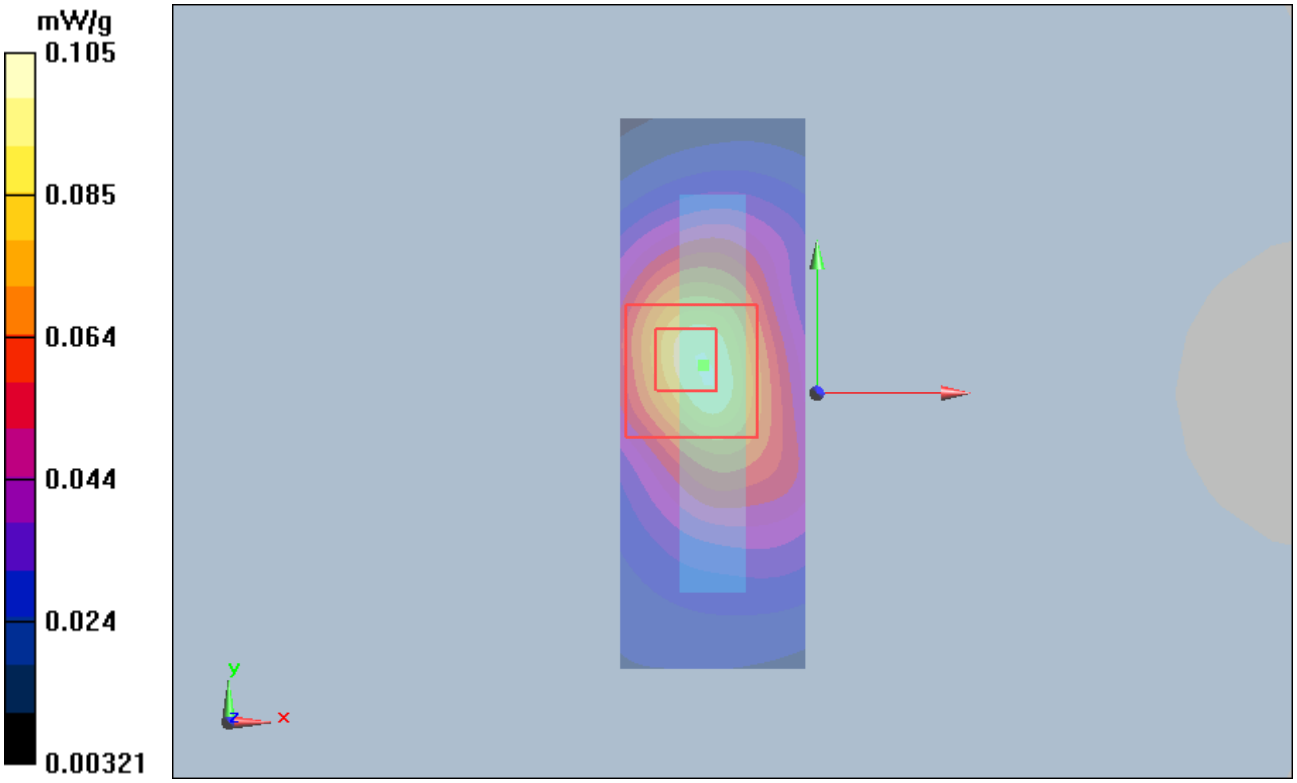


Figure 77 Body, Bottom Edge, WCDMA Band V Channel 4183

WCDMA Band V with Earphone Back Side Middle

Date/Time: 8/3/2012 7:28:03 AM

Communication System: WCDMA ; Frequency: 836.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 837 MHz; σ = 0.971 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3189; ConvF(5.81, 5.81, 5.81); Calibrated: 6/22/2012

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

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

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

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

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

Reference Value = 19.9 V/m; Power Drift = -0.149 dB

Peak SAR (extrapolated) = 0.615 W/kg

SAR(1 g) = 0.466 mW/g; SAR(10 g) = 0.342 mW/g

Maximum value of SAR (measured) = 0.486 mW/g

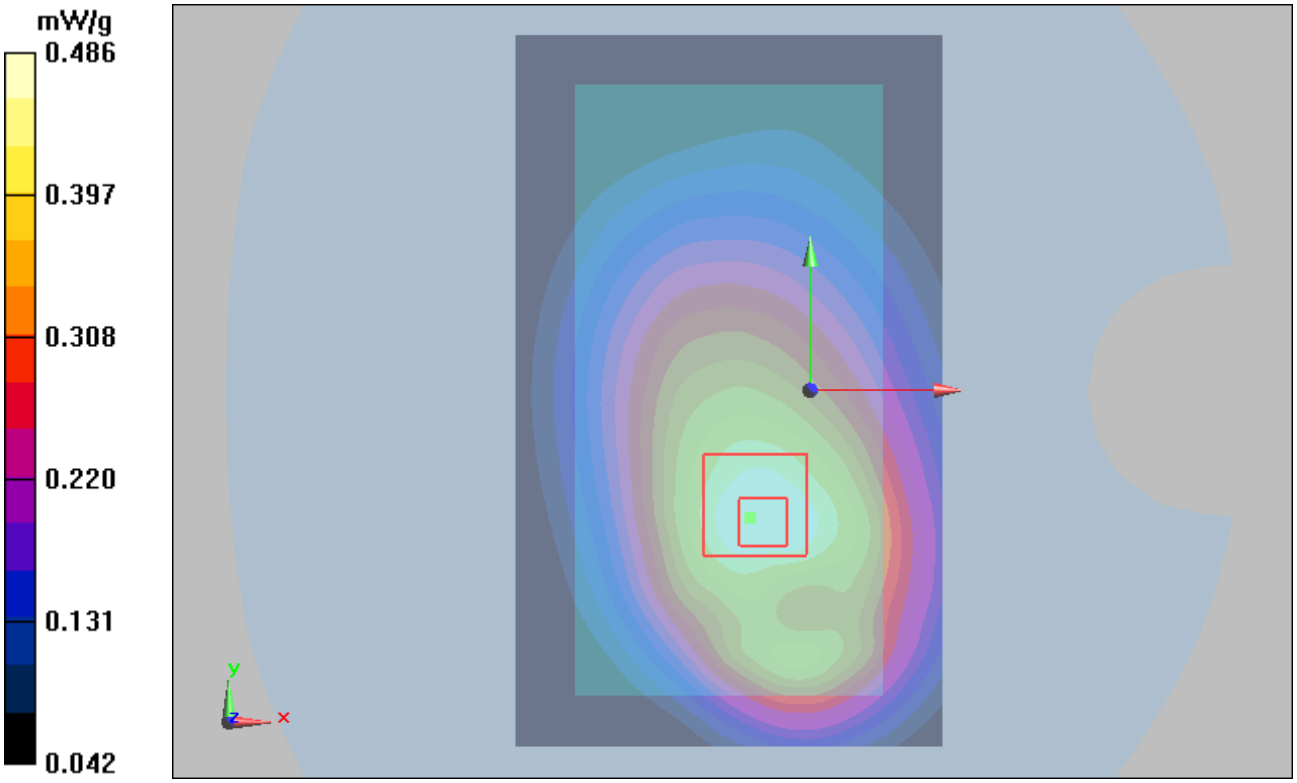


Figure 78 Body with Earphone, Back Side, WCDMA Band V Channel 4183

802.11b Left Cheek High

Date/Time: 8/5/2012 3:02:49 PM
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.89 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.14, 4.14, 4.14); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left/Cheek High/Area Scan (71x121x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.123 mW/g

Left/Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.34 V/m; Power Drift = 0.043 dB
Peak SAR (extrapolated) = 0.235 W/kg
SAR(1 g) = 0.112 mW/g; SAR(10 g) = 0.054 mW/g
Maximum value of SAR (measured) = 0.126 mW/g

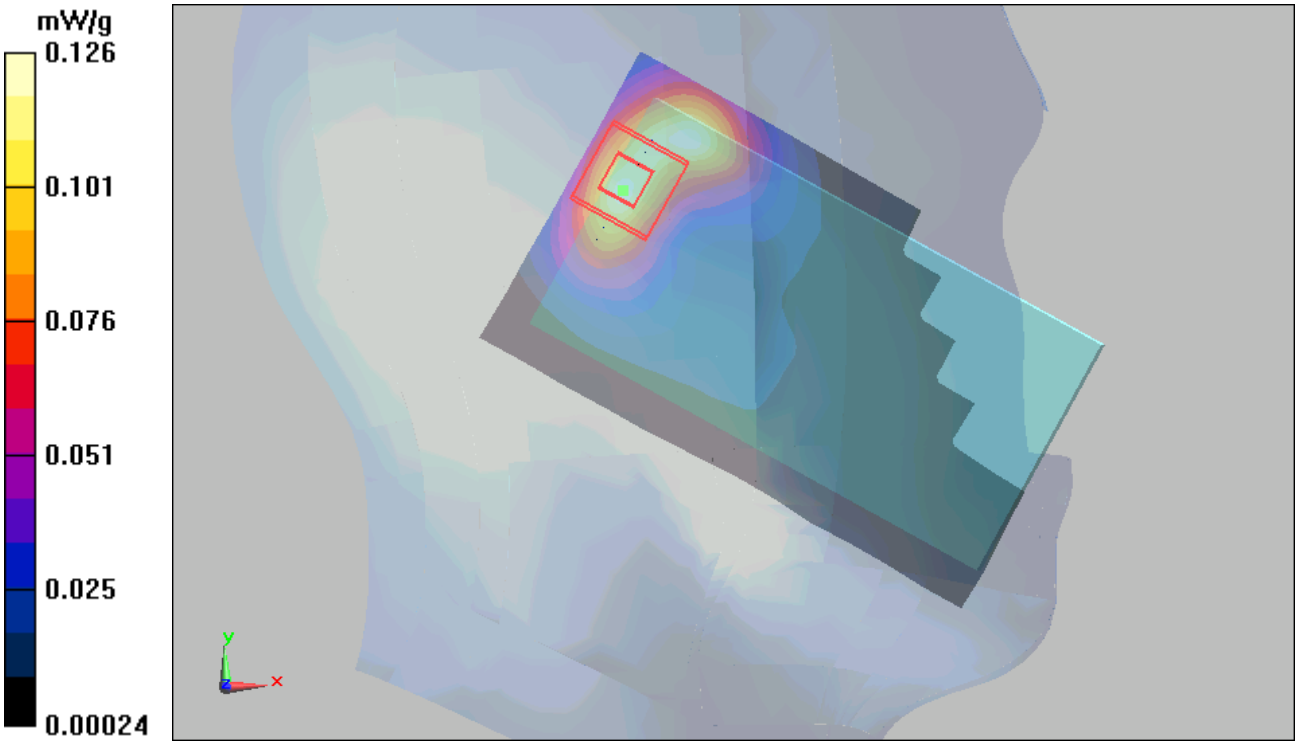


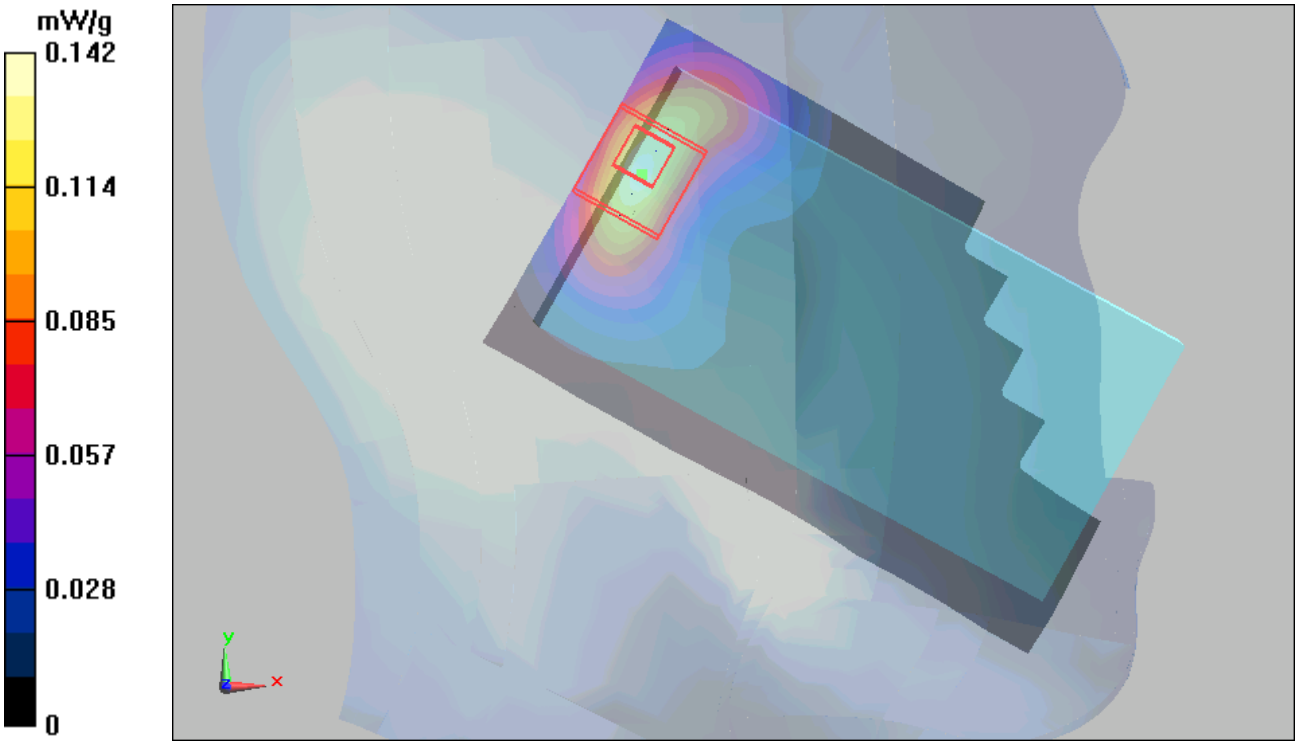
Figure 79 Left Hand Touch Cheek 802.11b Channel 11

802.11b Left Tilt High

Date/Time: 8/5/2012 3:29:28 PM
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.89 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.14, 4.14, 4.14); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Left/Tilt High/Area Scan (71x121x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.138 mW/g

Left/Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.93 V/m; Power Drift = 0.136 dB
Peak SAR (extrapolated) = 0.280 W/kg
SAR(1 g) = 0.128 mW/g; SAR(10 g) = 0.059 mW/g
Maximum value of SAR (measured) = 0.142 mW/g



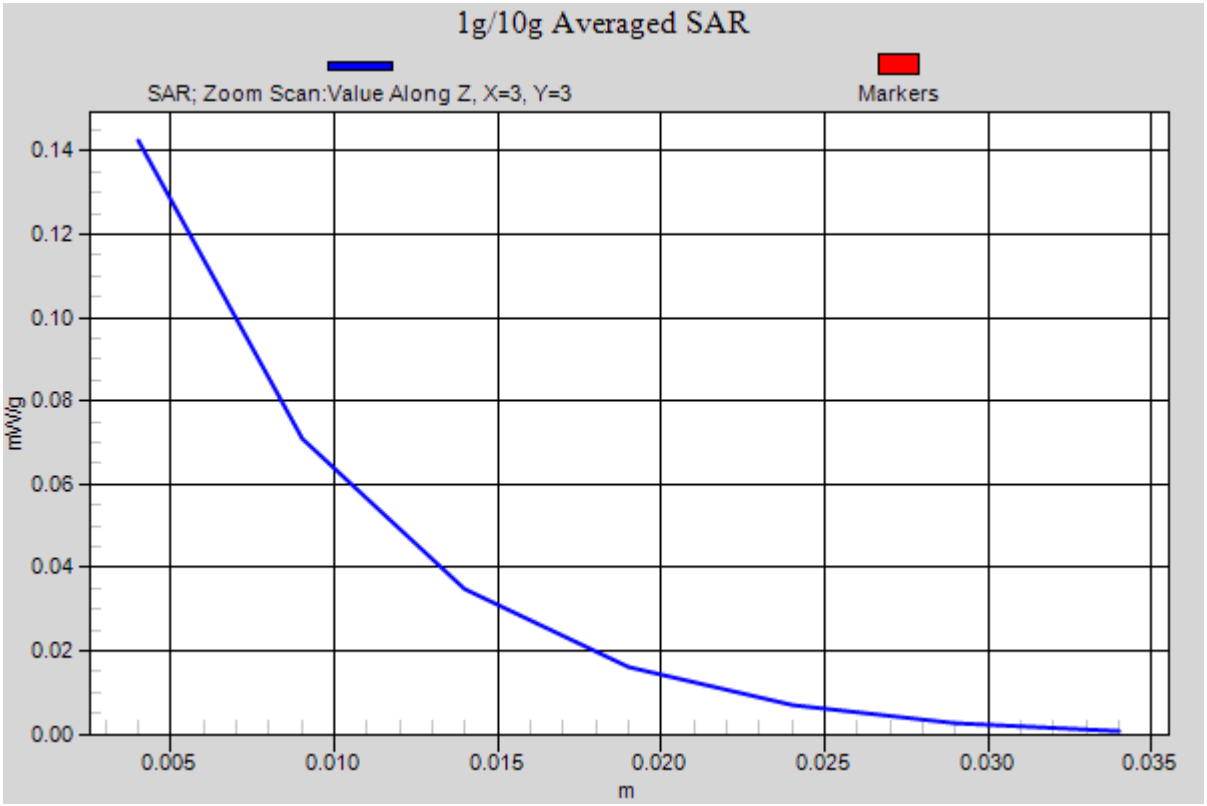


Figure 80 Left Hand Tilt 15° 802.11b Channel 11

802.11b Right Cheek High

Date/Time: 8/5/2012 4:05:16 PM
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.89 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.14, 4.14, 4.14); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right/Cheek High/Area Scan (71x121x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.107 mW/g

Right/Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.66 V/m; Power Drift = 0.037 dB
Peak SAR (extrapolated) = 0.194 W/kg
SAR(1 g) = 0.098 mW/g; SAR(10 g) = 0.049 mW/g
Maximum value of SAR (measured) = 0.110 mW/g

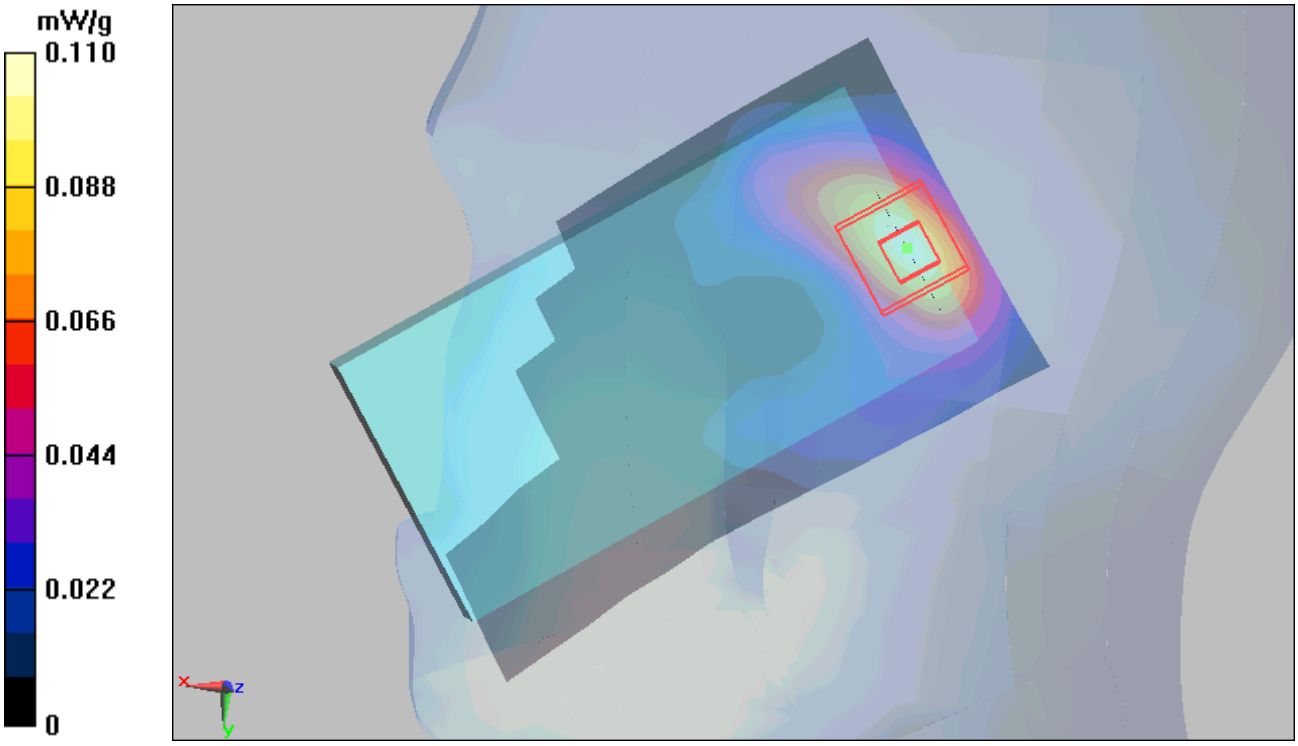


Figure 81 Right Hand Touch Cheek 802.11b Channel 11

802.11b Right Tilt High

Date/Time: 8/5/2012 4:39:32 PM
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.89 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(4.14, 4.14, 4.14); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right/Tilt High/Area Scan (71x121x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.122 mW/g

Right/Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.94 V/m; Power Drift = 0.132 dB
Peak SAR (extrapolated) = 0.211 W/kg
SAR(1 g) = 0.104 mW/g; SAR(10 g) = 0.052 mW/g
Maximum value of SAR (measured) = 0.116 mW/g

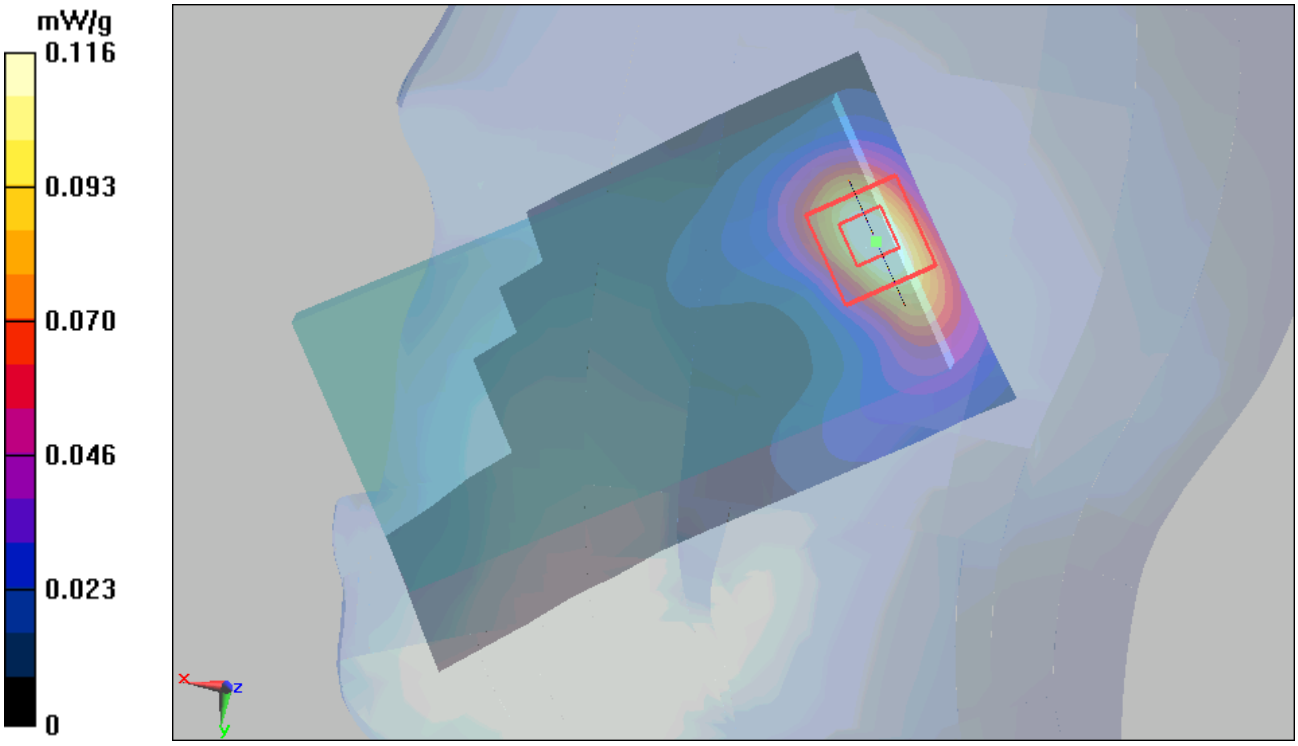


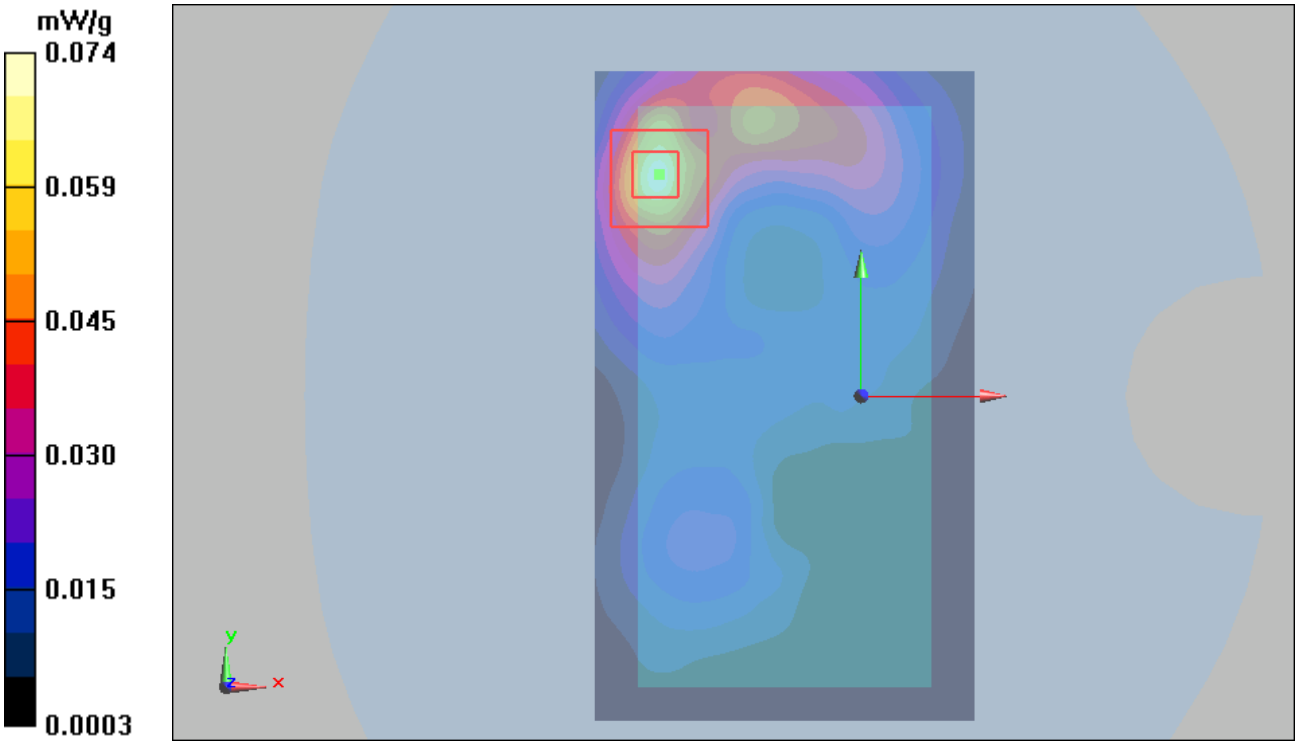
Figure 82 Right Hand Tilt 15° 802.11b Channel 11

802.11b Back Side High

Date/Time: 8/5/2012 10:19:26 PM
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.92 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(3.96, 3.96, 3.96); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Back Side High/Area Scan (71x121x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.073 mW/g

Back Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.41 V/m; Power Drift = 0.088 dB
Peak SAR (extrapolated) = 0.149 W/kg
SAR(1 g) = 0.066 mW/g; SAR(10 g) = 0.032 mW/g
Maximum value of SAR (measured) = 0.074 mW/g



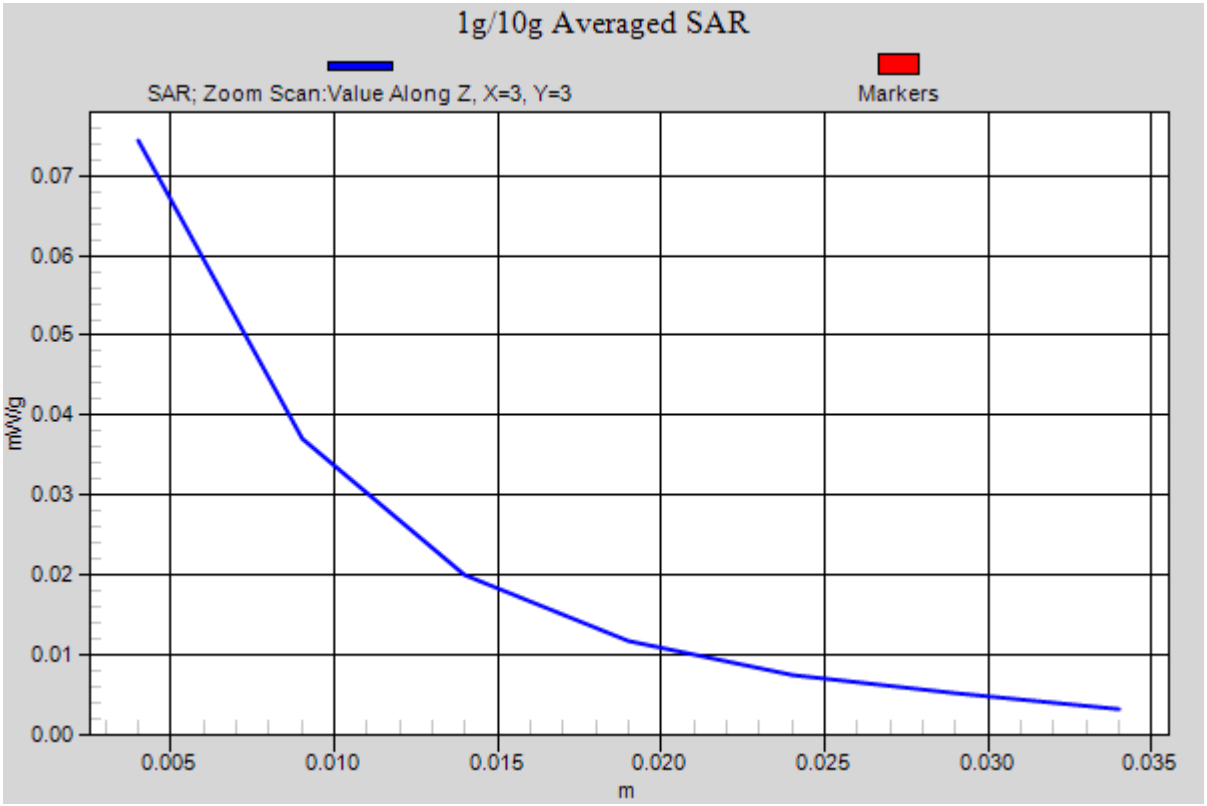


Figure 83 Body, Back Side, 802.11b Channel 11

802.11b Front Side High

Date/Time: 8/5/2012 9:47:58 PM
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.92 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(3.96, 3.96, 3.96); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Front Side High/Area Scan (71x121x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.041 mW/g

Front Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.21 V/m; Power Drift = 0.031 dB
Peak SAR (extrapolated) = 0.056 W/kg
SAR(1 g) = 0.031 mW/g; SAR(10 g) = 0.017 mW/g
Maximum value of SAR (measured) = 0.035 mW/g

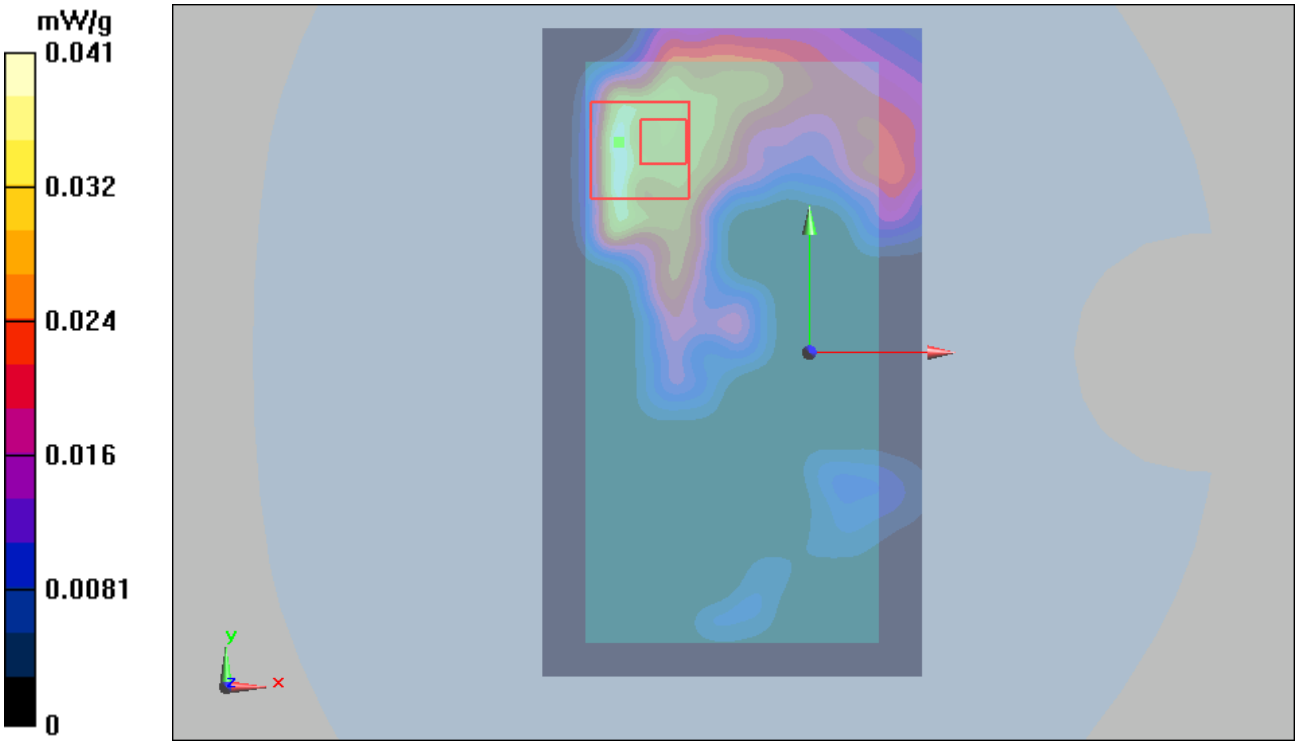


Figure 84 Body, Front Side, 802.11b Channel 11

802.11b Right Edge High

Date/Time: 8/5/2012 10:51:50 PM
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.92 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(3.96, 3.96, 3.96); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Right Edge High/Area Scan (31x121x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.040 mW/g

Right Edge High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.99 V/m; Power Drift = 0.093 dB
Peak SAR (extrapolated) = 0.092 W/kg
SAR(1 g) = 0.044 mW/g; SAR(10 g) = 0.021 mW/g
Maximum value of SAR (measured) = 0.049 mW/g

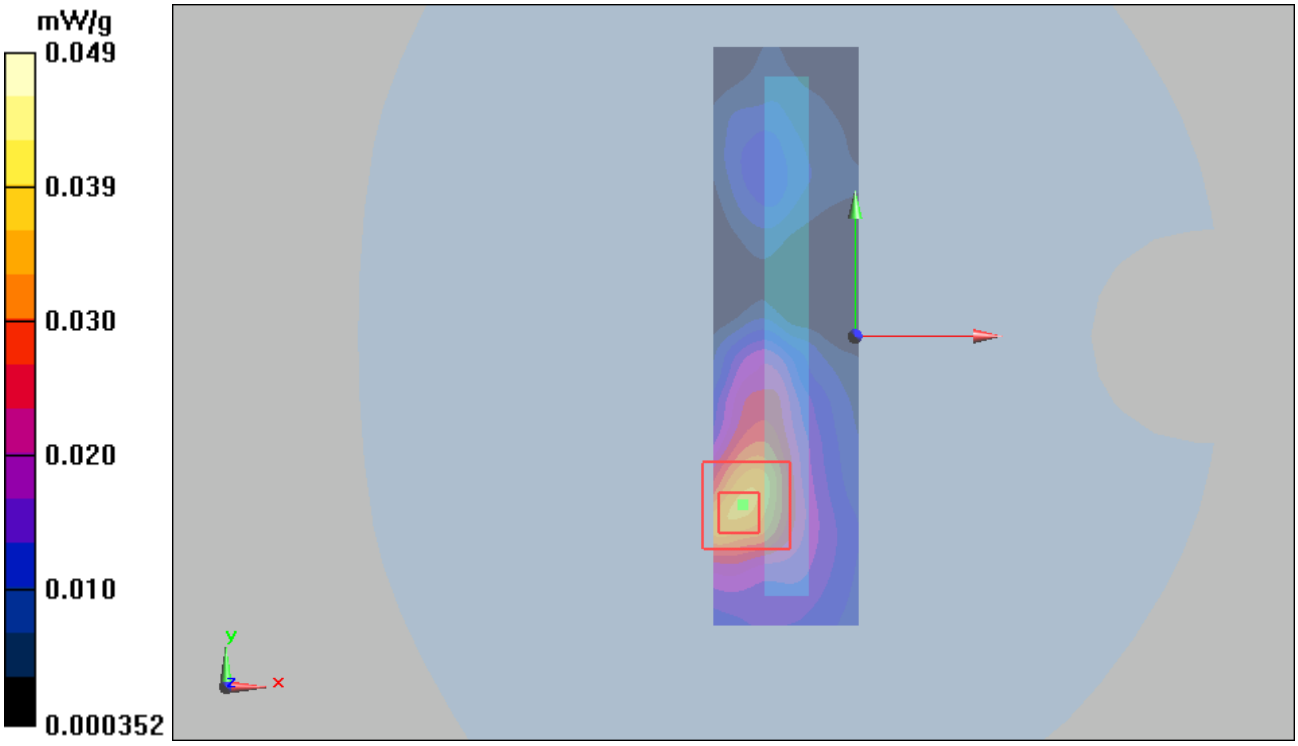


Figure 85 Body, Right Edge, 802.11b Channel 11

802.11b Top Edge High

Date/Time: 8/5/2012 11:15:34 PM
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.92 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3189; ConvF(3.96, 3.96, 3.96); Calibrated: 6/22/2012
Electronics: DAE4 Sn1317; Calibrated: 1/23/2012
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Top Edge High/Area Scan (31x71x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 0.044 mW/g

Top Edge High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.13 V/m; Power Drift = 0.074 dB
Peak SAR (extrapolated) = 0.077 W/kg
SAR(1 g) = 0.038 mW/g; SAR(10 g) = 0.021 mW/g
Maximum value of SAR (measured) = 0.042 mW/g

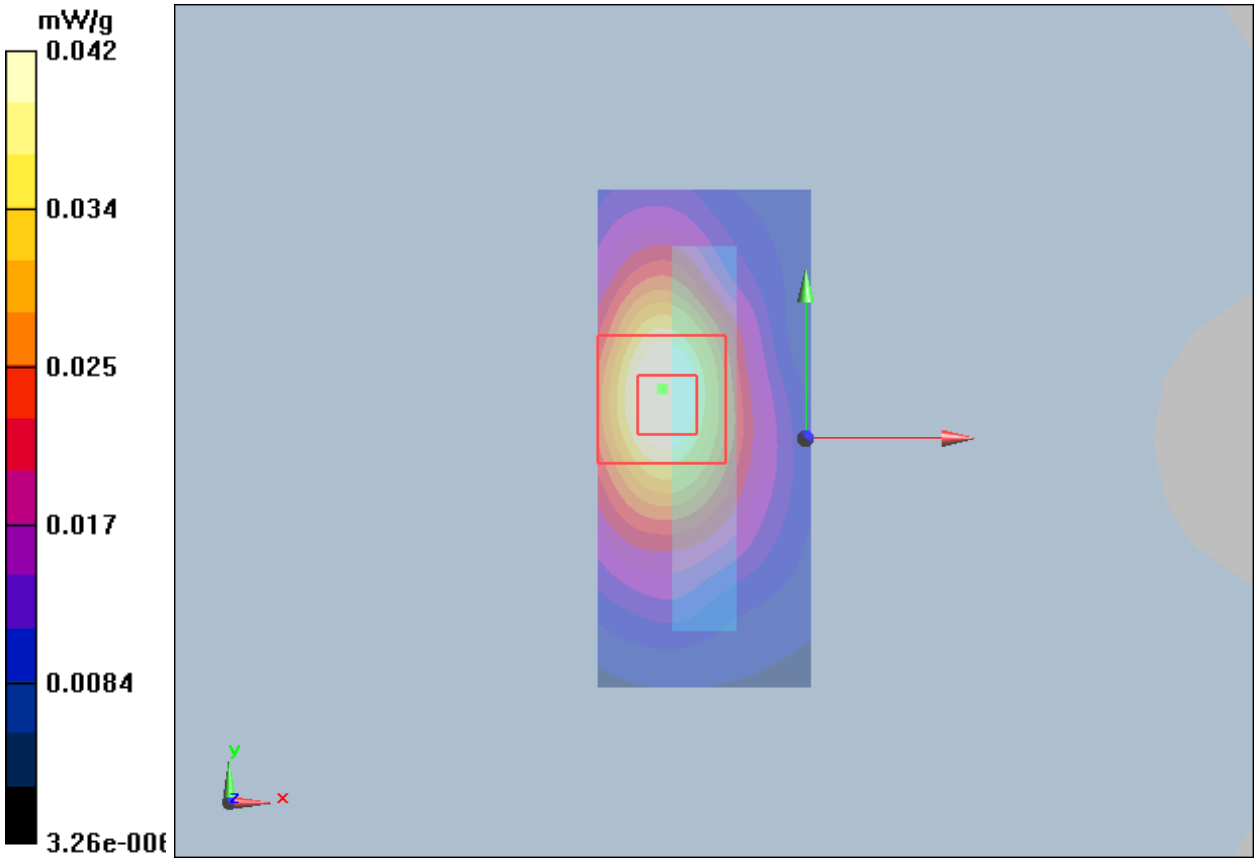


Figure 86 Body, Top Edge, 802.11b Channel 11