TESTING
No. L2264

OET 65

TEST REPORT

Product Name	GSM Quad Band Mobile Phone
Model Name	Xpress
Marketing Name	ONE TOUCH 838
FCC ID	RAD265
Client	TCT Mobile Limited

TA Technology (Shanghai) Co., Ltd.

GENERAL SUMMARY

Product Name	GSM Quad Band Mobile Phone	**Model**	Xpress
Report No.	RXA1204-0112SAR01R1	**FCC ID**	RAD265
Client	TCT Mobile Limited		
Manufacturer	TCT Mobile Limited		
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. **KDB 648474 D01 SAR Handsets Multi Xmiter and Ant, v01r05:** SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas.		
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: May 30th, 2012**		
Comment	The test result only responds to the measured sample.		

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

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1. General Information

1.1. Notes of the Test Report

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

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

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

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

1.2. Testing Laboratory

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1.4. Manufacturer Information

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City:	Shanghai
Postal Code:	201203
Country:	P.R. China
Telephone:	0086-21-61460890
Fax:	0086-21-61460602

1.5. Information of EUT

General Information

Device Type:	Portable Device		
Exposure Category:	Uncontrolled Environment / General Population		
State of Sample:	Prototype Unit		
Product Name:	GSM Quad Band Mobile Phone		
IMEI:	863744010510153		
Hardware Version:	PIO		
Software Version:	E1A		
Antenna Type:	Internal Antenna		
Device Operating Configurations :			
Supporting Mode(s):	GSM 850/GSM 1900; (tested) GSM 900/GSM 1800; (untested) 802.11b/g; tested) Bluetooth; (untested)		
Test Modulation:	(GSM)GMSK;		
Device Class:	B		
GPRS Multislot Class(12):	Max Number of Timeslots in Uplink		4
	Max Number of Timeslots in Downlink		4
	Max Total Timeslot		5
EGPRS Multislot Class(12):	Max Number of Timeslots in Uplink		4
	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
Power Class:	GSM 850: 4, tested with power level 5		
	GSM 1900: 1, tested with power level 0		
Test Channel: (Low - Middle - High)	128 - 190 - 251 (GSM 850) (tested) 512 - 661 - 810 (GSM 1900) (tested)		

Auxiliary Equipment Details

Name	Model	Manufacturer	S/N
Battery 1	CAB31L0000C1	BYD	B012212388A
Battery 2	CAB31L0000C2	BAK	BAK2011110814649
Stereo Headset 1	CCB3160A11C1	Juwei	/
Stereo Headset 2	CCB3160A11C4	Meihao	/
Stereo Headset 3	CCB3160A15C1	Juwei	/
Stereo Headset 4	CCB3160A15C4	Meihao	/
Note: 1. Stereo Headset 1 and Stereo Headset 2, non-REACH, need test. 2. Stereo Headset 3 and Stereo Headset 4 ,REACH,no need test.			

Equipment Under Test (EUT) is a GSM Quad Band Mobile Phone. The EUT has a GSM antenna that is used for Tx/Rx, the second is WIFI antenna that can be used for Tx/Rx, the third is BT antenna that can be used for Tx/Rx. The detail about EUT and Lithium Battery is in chapter 1.5 in this report. SAR are tested for GSM 850 , GSM 1900 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	High/251	Right, Cheek	**0.870**
GSM 1900	Low/512	Left, Cheek	**0.763**

Body Worn Configuration

Mode	Channel	Position	Separation distance	SAR_{1g} (W/kg)
4Txslots EGPRS 850	Low/128	Towards Ground	15mm	**0.784**
4Txslots GPRS 1900	Low/512	Towards Ground	15mm	**0.447**

Simultaneous SAR

SAR_{1g}(W/kg) / Test Position	GSM 850	WIFI(802.11b)	MAX. ΣSAR_{1g}
Left hand, Touch cheek	0.862	0.563	1.425

1.7. Test Date

The test performed from May 2, 2012 to May 14, 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.

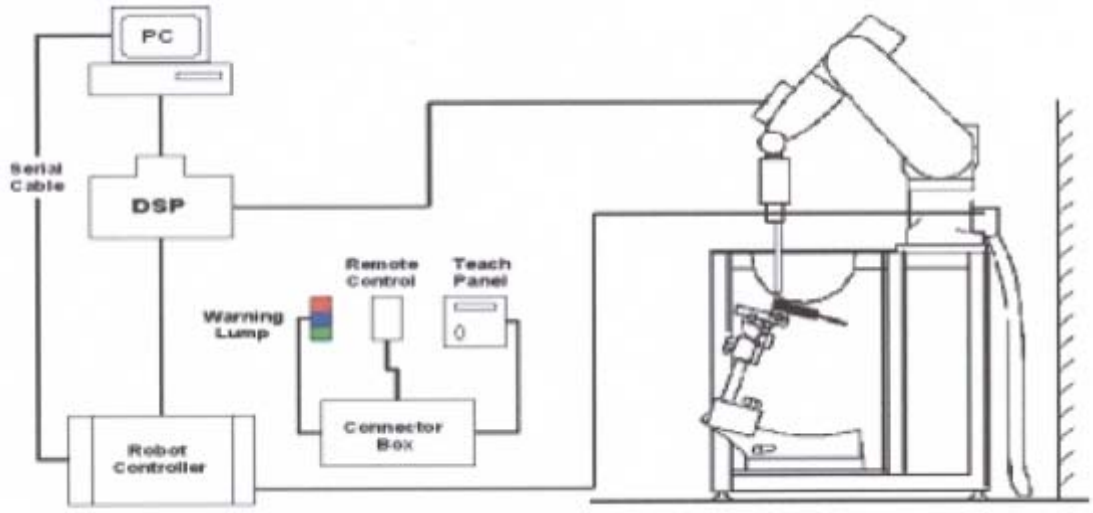

Figure 1 SAR Lab Test Measurement Set-up

2.2. DASY5 E-field Probe System

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

2.2.1. EX3DV4 Probe Specification

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

Figure 2.EX3DV4 E-field Probe

Figure 3. EX3DV4 E-field probe

2.2.2. E-field Probe Calibration

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than ± 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 15 mm x 15 mm is set. During the scan the distance of the probe to the phantom remains unchanged.
After finishing area scan, the field maxima within a range of 2 dB will be ascertained.

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

- Spatial Peak Detection
  The procedure for spatial peak SAR evaluation has been implemented and can determine values of masses of 1g and 10g, as well as for user-specific masses.The 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 to175 measurement points, the uncertainty of the extrapolation routines is less than 1% for 1g and 10g cubes.
- A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube 5x5x7 scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 5mm steps.

2.5. Data Storage and Evaluation

2.5.1. Data Storage

The 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 ".DA4". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated.

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

2.5.2. Data Evaluation by SEMCAD

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

Probe parameters:	- Sensitivity	Normi, a_{i0}, a_{i1}, a_{i2}
	- Conversion factor	$ConvF_i$
	- Diode compression point	Dcp_i
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	
	- Density	

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the 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) 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) 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 2012-5-2	42.3	0.888	21.5
1900MHz (head)	Target value ±5% window	40.00 38.00 — 42.00	1.40 1.33 — 1.47	22.0
	Measurement value 2012-5-2	40.8	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 2012-5-14	39.3	1.81	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 2012-5-12	54.3	0.986	21.5
1900MHz (body)	Target value ±5% window	53.30 50.64 — 55.97	1.52 1.44 — 1.60	22.0
	Measurement value 2012-5-13	53.0	1.48	21.5
2450MHz (body)	Target value ±5% window	52.70 50.07 — 55.34	1.95 1.85 — 2.05	22.0
	Measurement value 2012-5-14	51.7	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.

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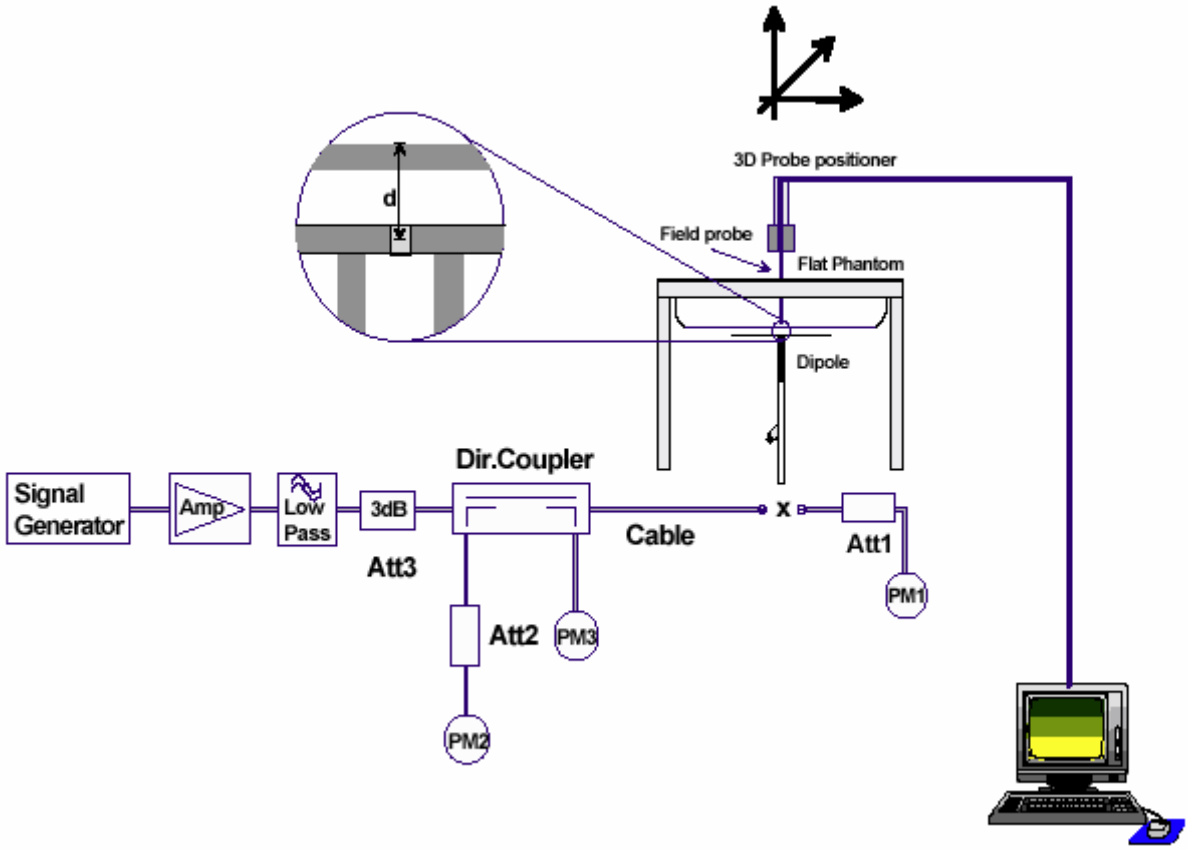


Figure 6 System Check Set-up

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	2012-5-2	42.3	0.888	21.5	2.47	9.88	9.34 (8.41~10.27)
1900MHz	2012-5-2	40.8	1.41	21.5	9.33	37.32	40.30 (36.27~ 44.33)
2450MHz	2012-5-14	39.3	1.81	21.5	13.9	55.6	53.80 (48.42~ 59.18)

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

Table 7: System Check in Body Tissue Simulating Liquid

Frequency	Test Date	Dielectric Parameters		Temp	250mW Measured SAR_{1g}	1W Normalized SAR_{1g}	1W Target SAR_{1g} (±10% deviation)
		ε_r	σ(s/m)	(℃)	(W/kg)		
835MHz	2012-5-12	54.3	0.986	21.5	2.58	10.32	9.46 (8.51~10.41)
1900MHz	2012-5-13	53.0	1.48	21.5	9.51	38.04	41.70 (37.53~45.87)
2450MHz	2012-5-14	51.7	1.90	21.5	13.0	52.0	51.70 (46.53~56.87)

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

6. Operational Conditions during Test

6.1. General Description of Test Procedures

A communication link is set up with a System Simulator (SS) by air link, and a call is established. The Absolute Radiofrequency Channel Number (ARFCN) is allocated to 128, 190 and 251 in the case of GSM 850, to 512, 661 and 810 in the case of GSM 1900. 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. The distance between the device and the phantom was kept 15mm.

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 12 for this EUT, it has at most 4 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslots is 5; the EGPRS class is 12 for this EUT, it has at most 4 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:

Table 8: The allowed power reduction in the multi-slot configuration

Number of timeslots in uplink assignment	Permissible nominal reduction of maximum output power,(dB)
1	0
2	0 to 3,0
3	1,8 to 4,8
4	3,0 to 6,0

6.3.2. WIFI Test Configuration

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

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

802.11b/g operating modes are tested independently according to the service requirements in each frequency band.802.11b/g modes are tested on 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 9.

Table 9: “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 10: 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		32.69	32.60	32.57	-9.03dB	23.66	23.57	23.54
GPRS (GMSK)	1Txslot	32.62	32.55	32.50	-9.03dB	23.59	23.52	23.47
	2Txslots	30.48	30.41	30.34	-6.02dB	24.46	24.39	24.32
	3Txslots	28.70	28.64	28.58	-4.26dB	24.44	24.38	24.32
	4Txslots	27.51	27.42	27.40	-3.01dB	**24.50**	**24.41**	**24.39**
EGPRS (GMSK)	1Txslot	32.67	32.56	32.54	-9.03dB	23.64	23.53	23.51
	2Txslots	30.54	30.38	30.40	-6.02dB	24.52	24.36	24.38
	3Txslots	28.77	28.61	28.63	-4.26dB	24.51	24.35	24.37
	4Txslots	27.54	27.42	27.41	-3.01dB	**24.53**	**24.41**	**24.40**
GSM 1900		**Burst Conducted Power(dBm)**				**Average power(dBm)**		
		Channel 512	Channel 661	Channel 810		Channel 512	Channel 661	Channel 810
GSM		29.79	29.93	30.03	-9.03dB	20.76	20.90	21.00
GPRS (GMSK)	1Txslot	29.77	29.9	30.01	-9.03dB	20.74	20.87	20.98
	2Txslots	27.49	27.62	27.72	-6.02dB	21.47	21.60	21.70
	3Txslots	25.83	25.98	26.10	-4.26dB	21.57	21.72	21.84
	4Txslots	24.60	24.77	24.88	-3.01dB	**21.59**	**21.76**	**21.87**
EGPRS (GMSK)	1Txslot	29.75	29.91	30.01	-9.03dB	20.72	20.88	20.98
	2Txslots	27.47	27.62	27.71	-6.02dB	21.45	21.60	21.69
	3Txslots	25.81	25.98	26.09	-4.26dB	21.55	21.72	21.83
	4Txslots	24.59	24.77	24.88	-3.01dB	**21.58**	**21.76**	**21.87**

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

3Txslots = 3 transmit time slots out of 8 time slots

=> conducted power divided by (8/3) => -4.26 dB

4Txslots = 4 transmit time slots out of 8 time slots

=> conducted power divided by (8/4) => -3.01 dB

2) Average power numbers

The maximum power numbers are marks in bold.

7.2. SAR Test Results

7.2.1. GSM 850 (GPRS/EGPRS)

Table 11: 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 with Battery 1					
Left hand, Touch Cheek	High/251	0.633	0.862	0.030	Figure 13
	Middle/190	0.618	0.838	-0.092	Figure 14
	Low/128	0.616	0.832	-0.007	Figure 15
Left hand, Tilt 15 Degree	High/251	0.319	0.417	0.009	Figure 16
	Middle/190	0.313	0.409	-0.017	Figure 17
	Low/128	0.305	0.397	0.015	Figure 18
Right hand, Touch Cheek	High/251	0.649	0.870	0.049	Figure 19
	Middle/190	0.636	0.849	0.019	Figure 20
	Low/128	0.619	0.824	0.045	Figure 21
Right hand, Tilt 15 Degree	High/251	0.296	0.388	0.003	Figure 22
	Middle/190	0.291	0.379	0.042	Figure 23
	Low/128	0.279	0.362	0.014	Figure 24
Worst Case Position of Head with Battery 2					
Right hand, Touch Cheek	High/251	0.626	0.830	-0.154	Figure 25
Test position of Body with Battery 1 (Distance 15mm)					
Towards Ground (4Txslots)	High/251	0.518	0.707	-0.001	Figure 26
	Middle/190	0.540	0.739	0.000	Figure 27
	Low/128	0.561	0.768	-0.002	Figure 28
Towards Phantom (4Txslots)	High/251	0.492	0.664	-0.004	Figure 29
	Middle/190	0.511	0.689	0.040	Figure 30
	Low/128	0.532	0.716	0.008	Figure 31
Worst Case Position of Body with EGPRS (Battery 1, GMSK, Distance 15mm)					
Towards Ground (4Txslots)	Low/128	0.563	0.771	-0.010	Figure 32
Worst Case Position of Body with Stereo Headset 1 and Battery 1 (Distance 15mm)					
Towards Ground (GSM)	Low/128	0.300	0.408	0.005	Figure 33
Worst Case Position of Body with Stereo Headset 2 and Battery 1 (Distance 15mm)					
Towards Ground (GSM)	Low/128	0.280	0.377	-0.002	Figure 34
Worst Case Position of Body with Battery 2 (Distance 15mm)					
Towards Ground (4Txslots)	Low/128	0.574	0.784	-0.046	Figure 35

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

2. The Head SAR test shall be performed at the high, middle and low frequency channels of each operating mode.

3. The Body SAR test firstly shall be performed at the high, middle and low frequency channels of the maximum source-based time-averaged output power.

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

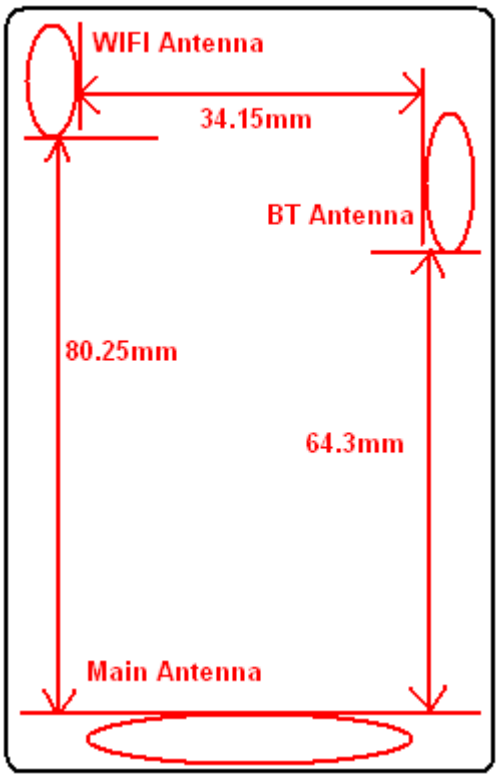
Limit of SAR		10 g Average	1 g Average	Power Drift	Graph Results
		2.0 W/kg	1.6 W/kg	± 0.21 dB	
Different Test Position	Channel	Measurement Result(W/kg)		Power Drift (dB)	
		10 g Average	1 g Average		
Test Position of Head with Battery 1					
Left hand, Touch Cheek	High/810	0.347	0.588	0.020	Figure 36
	Middle/661	0.424(max.cube)	0.712(max.cube)	0.030	Figure 37
	Low/512	0.451(max.cube)	0.763(max.cube)	0.042	Figure 38
Left hand, Tilt 15 Degree	High/810	0.098	0.169	0.050	Figure 39
	Middle/661	0.130	0.221	0.035	Figure 40
	Low/512	0.138	0.233	-0.028	Figure 41
Right hand, Touch Cheek	High/810	0.290	0.485	0.083	Figure 42
	Middle/661	0.377(max.cube)	0.628(max.cube)	-0.009	Figure 43
	Low/512	0.422(max.cube)	0.697(max.cube)	0.028	Figure 44
Right hand, Tilt 15 Degree	High/810	0.101	0.179	0.006	Figure 45
	Middle/661	0.128	0.224	0.007	Figure 46
	Low/512	0.144	0.249	0.025	Figure 47
Test position of Body with Battery 1 (Distance 15mm)					
Towards Ground (4Txslots)	High/810	0.217	0.353	0.083	Figure 48
	Middle/661	0.257	0.419	0.017	Figure 49
	Low/512	0.273	0.447	0.123	Figure 50
Towards Phantom (4Txslots)	High/810	0.187	0.302	0.038	Figure 51
	Middle/661	0.212	0.342	-0.004	Figure 52
	Low/512	0.227	0.368	0.037	Figure 53
Worst Case Position of Body with EGPRS (Battery 1, GMSK, Distance 15mm)					
Towards Ground (4Txslots)	Low/512	0.255	0.417	-0.101	Figure 54
Worst Case Position of Body with Stereo Headset 1 and Battery 1 (Distance 15mm)					
Towards Ground (GSM)	Low/512	0.203	0.332	-0.085	Figure 55
Worst Case Position of Body with Stereo Headset 2 and Battery 1 (Distance 15mm)					
Towards Ground (GSM)	Low/512	0.209	0.341	-0.042	Figure 56

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

2. The Head SAR test shall be performed at the high, middle and low frequency channels of each operating mode.
3. The Body SAR test firstly shall be performed at the high, middle and low frequency channels of the maximum source-based time-averaged output power.
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 (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.

7.2.3. Bluetooth/WiFi Function

The location of the antennas inside EUT is shown in Annex I:



The output power of BT antenna is as following:

Channel	Ch 0 2402 MHz	Ch 39 2441 MHz	Ch 78 2480 MHz
GFSK(dBm)	3.19	4.29	4.13
EDR2M-4_DQPSK(dBm)	3.40	4.48	4.15
EDR3M-8DPSK(dBm)	3.89	4.96	4.55

The output power of WIFI antenna is as following:

Mode	Channel	Data rate	AV Power (dBm)
11b	1	1 Mbps	16.8
		2 Mbps	16.71
		5.5 Mbps	16.61
		11 Mbps	16.55
	6	1 Mbps	16.76
		2 Mbps	16.67
		5.5 Mbps	16.72

		11 Mbps	16.81
	11	1 Mbps	17.15
		2 Mbps	17.06
		5.5 Mbps	17.05
		11 Mbps	17.04
11g	1	6 Mbps	13.8
		9 Mbps	13.76
		12 Mbps	13.74
		18 Mbps	13.73
		24 Mbps	13.67
		36 Mbps	13.66
		48 Mbps	13.65
		54 Mbps	13.74
	6	6 Mbps	14.03
		9 Mbps	14.01
		12 Mbps	13.99
		18 Mbps	13.97
		24 Mbps	13.92
		36 Mbps	13.9
		48 Mbps	13.89
		54 Mbps	13.88
	11	6 Mbps	14.51
		9 Mbps	14.51
		12 Mbps	14.5
		18 Mbps	14.5
		24 Mbps	14.46
		36 Mbps	14.47
		48 Mbps	14.47
		54 Mbps	14.43

Note: 1. KDB 248227-SAR is not required for 802.11g 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 antenna we can draw the conclusion that:

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

BT antenna is ＞2.5cm and ＜5cm from WIFI antenna,stand-alone SAR is not required for BT, because the output power of BT transmitter is ≤P_{Ref}=10.8dBm.

WIFI antenna is ＞5cm from GSM antenna,stand-alone SAR is required for WIFI, because the output power of WIFI transmitter is ＞$2P_{Ref}$=13.8dBm

Table 13: 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 with Battery 1					
Left hand, Touch cheek	High/11	0.279	0.563	-0.004	Figure 105
Left hand, Tilt 15 Degree	High/11	0.164	0.318	0.049	Figure 106
Right hand, Touch cheek	High/11	0.157	0.357	0.044	Figure 107
Right hand, Tilt 15 Degree	High/11	0.136	0.258	0.129	Figure 108
Test position of Body with Battery 1 (Distance 15mm)					
Towards Ground	High/11	0.106	0.182	0.192	Figure 109
Towards Phantom	High/11	0.034	0.059	0.120	Figure 110

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

2. SAR test at the channel with maximum averaged output power, if the SAR value is at least 3.0 dB lower than the SAR limit (< 0.8W/kg), testing at the other channels is optional.

3. KDB 248227-SAR is not required for 802.11g channels when the maximum average output power is less than ¼ dB higher than measured on the corresponding 802.11b channels.

Simultaneous SAR

About BT and WIFI Antenna, BT antenna is ＞2.5cm and ＜5cm from WIFI Antenna. (BT Antenna SAR_{MAX}) 0 +(WIFI Antenna SAR_{MAX}) 0.563 =0.563 ＜1.6, So the Simultaneous SAR are not required for WIFI and BT Antenna.

About WIFI and GSM Antenna,

SAR_{1g}(W/kg) / Test Position	GSM850	GSM1900	WIFI (802.11b)	MAX. ΣSAR_{1g}
Left hand, Touch cheek	**0.862**	0.763	**0.563**	1.425
Left hand, Tilt 15 Degree	**0.417**	0.233	**0.318**	0.735
Right hand, Touch cheek	**0.870**	0.697	**0.357**	1.227
Right hand, Tilt 15 Degree	**0.388**	0.249	**0.258**	0.646
Body, Towards Ground	**0.784**	0.447	**0.182**	0.966
Body, Towards Phantom	**0.716**	0.368	**0.059**	0.775
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 Antenna. (GSM Antenna SAR_{MAX}) 0.862 +(WIFI Antenna SAR_{MAX}) 0.563 =1.425＜1.6 . So the Simultaneous SAR are not required for WIFI and GSM antenna.

About BT and GSM Antenna,

SAR_{1g}(W/kg) / Test Position	GSM850	GSM1900	BT	MAX. ΣSAR_{1g}
Left hand, Touch cheek	**0.862**	0.763	0	0.862
Left hand, Tilt 15 Degree	**0.417**	0.233	0	0.417
Right hand, Touch cheek	**0.870**	0.697	0	0.870
Right hand, Tilt 15 Degree	**0.388**	0.249	0	0.388
Body, Towards Ground	**0.784**	0.447	0	0.784
Body, Towards Phantom	**0.716**	0.368	0	0.716
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 summingprocess to determine simultaneous transmission SAR evaluation requirments.				

BT antenna is ＞5cm from GSM Antenna. (GSM Antenna SAR_{MAX})0.870 +(BT Antenna SAR_{MAX})0 =0.870 ＜1.6. So the Simultaneous SAR are not required for BT and GSM antenna.

8. 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		$u_c^{'} = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$					12.16	
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$		N		k=2	23.00	

9. Main Test Instruments

Table 14: List of Main Instruments

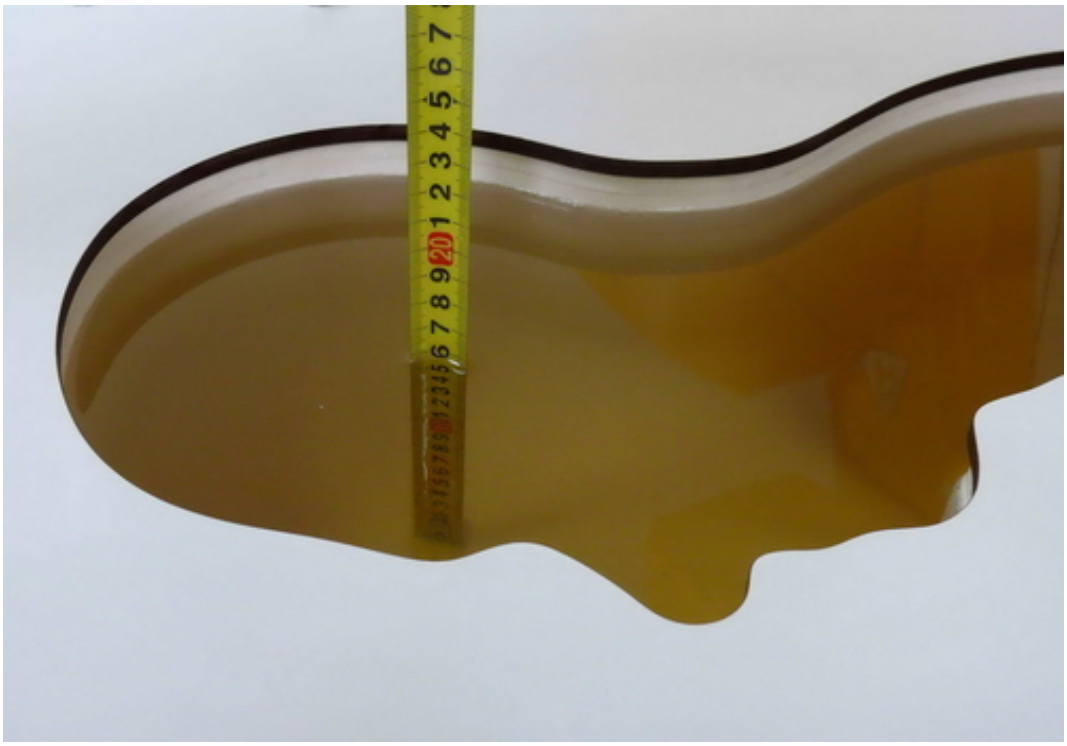
No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	Agilent 8753E	US37390326	September 12, 2011	One year
02	Dielectric Probe Kit	Agilent 85070E	US44020115	No Calibration Requested	
03	Power meter	Agilent E4417A	GB41291714	March 11, 2012	One year
04	Power sensor	Agilent N8481H	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	5051P	August 21, 2011	One year
08	Dual directional coupler	777D	50146	March 26, 2012	One year
09	Amplifier	IXA-020	0401	No Calibration Requested	
10	BTS	E5515C	MY48360988	December 2, 2011	One year
11	E-field Probe	EX3DV4	3753	January 4, 2012	One year
12	DAE	DAE4	871	November 22, 2011	One year
13	Validation Kit 835MHz	D835V2	4d020	August 26, 2011	One year
14	Validation Kit 1900MHz	D1900V2	5d060	August 31, 2011	One year
15	Validation Kit 2450MHz	D2450V2	786	August 29, 2011	One year
16	Temperature Probe	JM222	AA1009129	March 15, 2012	One year
17	Hygrothermograph	WS-1	64591	September 28, 2011	One year

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

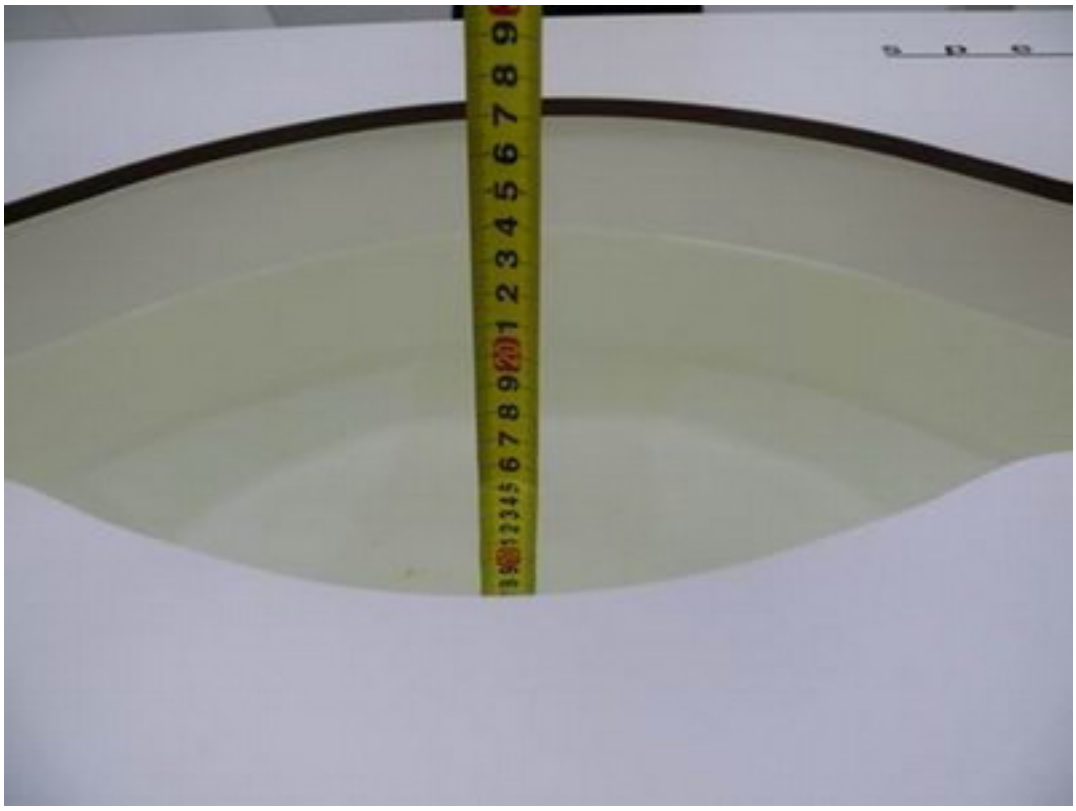
ANNEX A: Test Layout

Picture 1: Specific Absorption Rate Test Layout

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

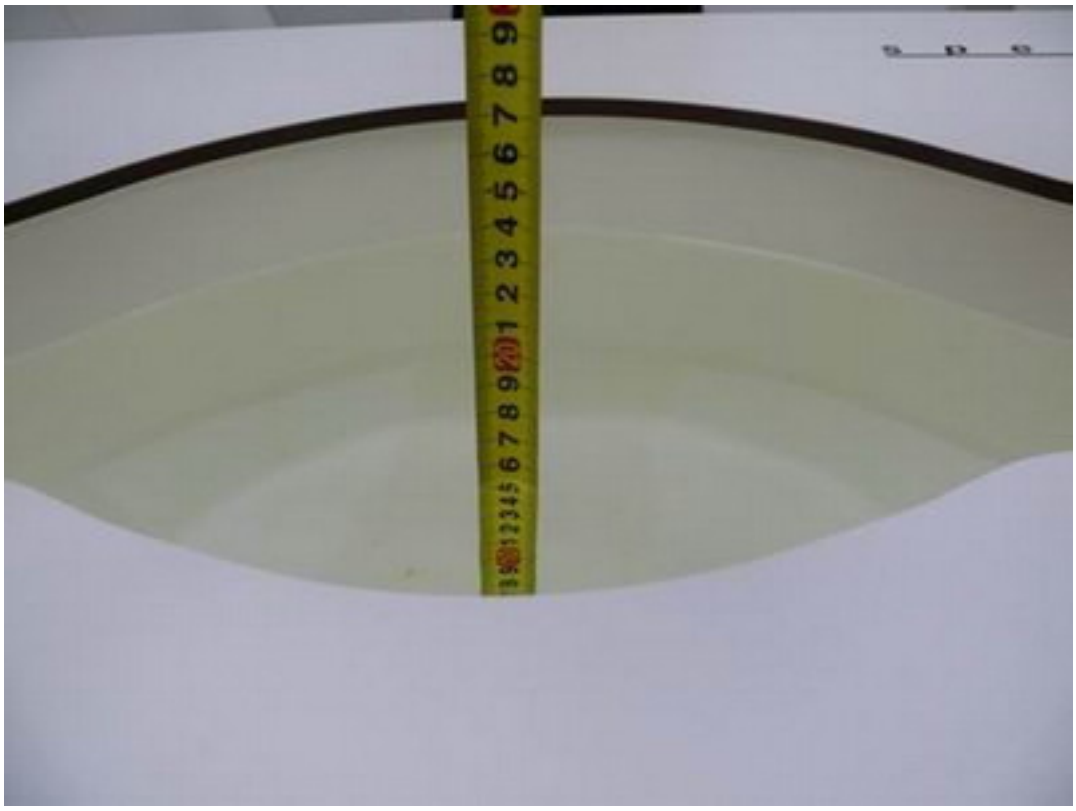


Picture 3: Liquid depth in the head Phantom (835MHz, 15.3cm depth)



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

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



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

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

ANNEX B: System Check Results

System Performance Check at 835 MHz Head TSL

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

Date/Time: 5/2/2012 9:53:08 AM

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

Medium parameters used: f = 835 MHz; σ = 0.888 mho/m; ε_r = 42.3; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 - SN3753; ConvF(9.02, 9.02, 9.02); Calibrated: 1/4/2012

Electronics: DAE4 Sn871; Calibrated: 11/22/2011

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

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

System Performance Check at Head 835 MHz/d=15mm, Pin=250mW/Area Scan (41x121x1):

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.65 mW/g

System Performance Check at Head 835 MHz/d=15mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.8 V/m; Power Drift = -0.028 dB

Peak SAR (extrapolated) = 3.68 W/kg

SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.62 mW/g

Maximum value of SAR (measured) = 2.66 mW/g

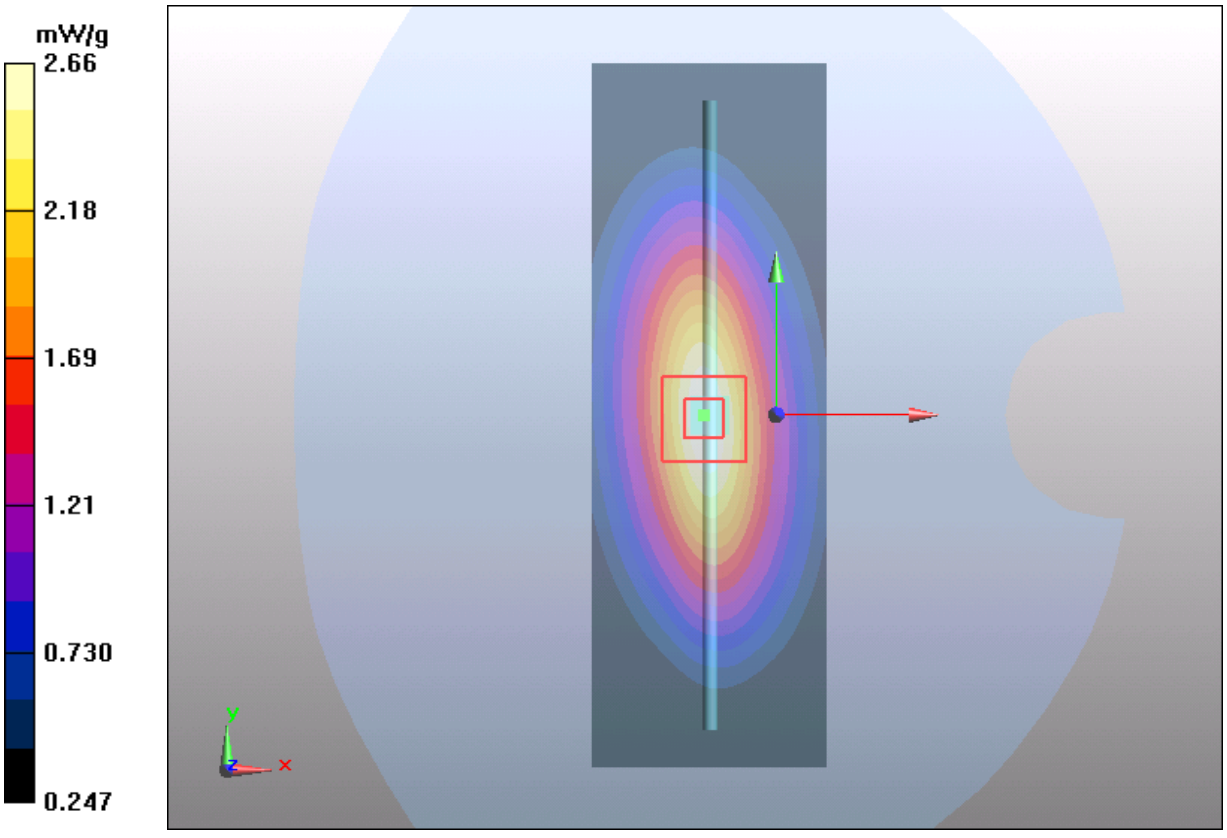


Figure 7 System Performance Check 835MHz 250mW

System Performance Check at 835 MHz Body TSL

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

Date/Time: 5/12/2012 8:40:44 PM

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

Medium parameters used: f = 835 MHz; σ = 0.986 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 - SN3753; ConvF(9.18, 9.18, 9.18); Calibrated: 1/4/2012

Electronics: DAE4 Sn871; Calibrated: 11/22/2011

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

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

System Performance Check at Body 835 MHz/835 MHZ Dipole/Area Scan (41x121x1):

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.78 mW/g

System Performance Check at Body 835 MHz/835 MHZ Dipole/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.9 V/m; Power Drift = -0.114 dB

Peak SAR (extrapolated) = 3.83 W/kg

SAR(1 g) = 2.58 mW/g; SAR(10 g) = 1.7 mW/g

Maximum value of SAR (measured) = 2.79 mW/g

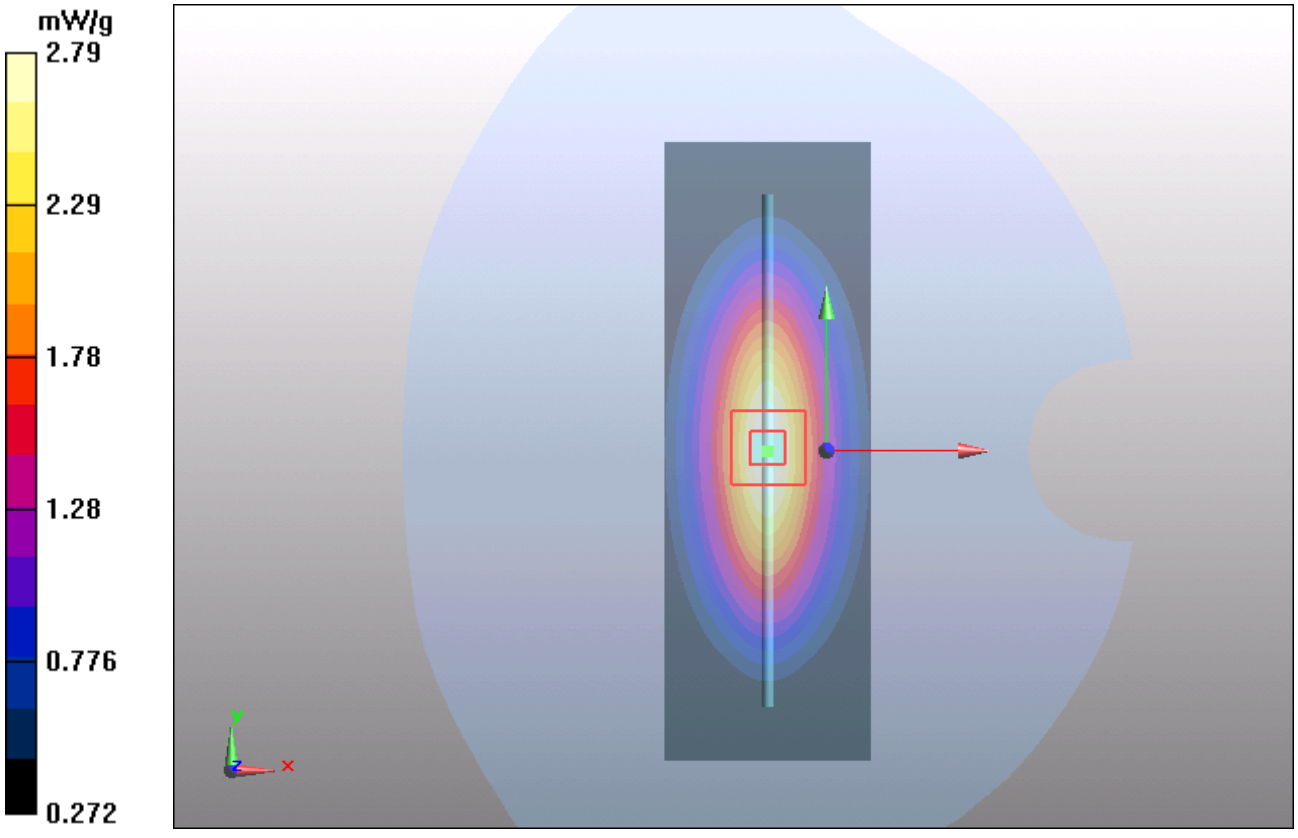


Figure 8 System Performance Check 835MHz 250mW

System Performance Check at 1900 MHz Head TSL

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

Date/Time: 5/2/2012 5:52:07 PM

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

Medium parameters used: f = 1900 MHz; σ = 1.41 mho/m; ε_r = 40.8; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 - SN3753; ConvF(8.05, 8.05, 8.05); Calibrated: 1/4/2012

Electronics: DAE4 Sn871; Calibrated: 11/22/2011

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

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

System Performance Check at Head 1900 MHz/1900 MHZ Dipole/Area Scan (41x71x1):

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 11.2 mW/g

System Performance Check at Head 1900 MHz/1900 MHZ Dipole/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 83.2 V/m; Power Drift = 0.073 dB

Peak SAR (extrapolated) = 17.4 W/kg

SAR(1 g) = 9.33 mW/g; SAR(10 g) = 4.85 mW/g

Maximum value of SAR (measured) = 10.5 mW/g

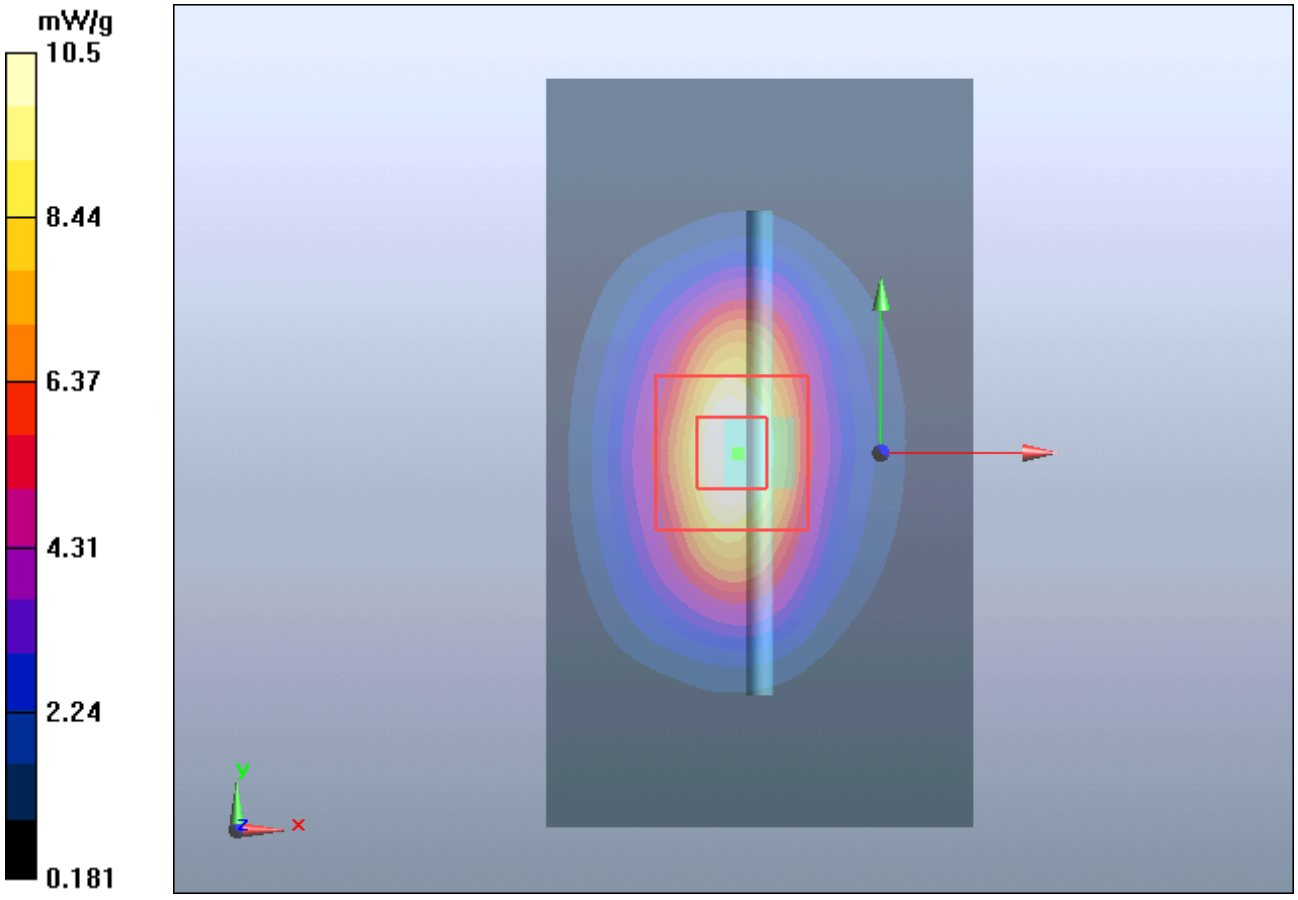


Figure 9 System Performance Check 1900MHz 250mW

System Performance Check at 1900 MHz Body TSL

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

Date/Time: 5/13/2012 11:00:11 AM

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

Medium parameters used: f = 1900 MHz; σ = 1.48 mho/m; ε_r = 53; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 - SN3753; ConvF(7.57, 7.57, 7.57); Calibrated: 1/4/2012

Electronics: DAE4 Sn871; Calibrated: 11/22/2011

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

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

System Performance Check at Body 1900 MHz/d=10mm, Pin=250mW/Area Scan (41x71x1):

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 12 mW/g

System Performance Check at Body 1900 MHz/d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 83.3 V/m; Power Drift = 0.086 dB

Peak SAR (extrapolated) = 17.3 W/kg

SAR(1 g) = 9.51 mW/g; SAR(10 g) = 4.98 mW/g

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

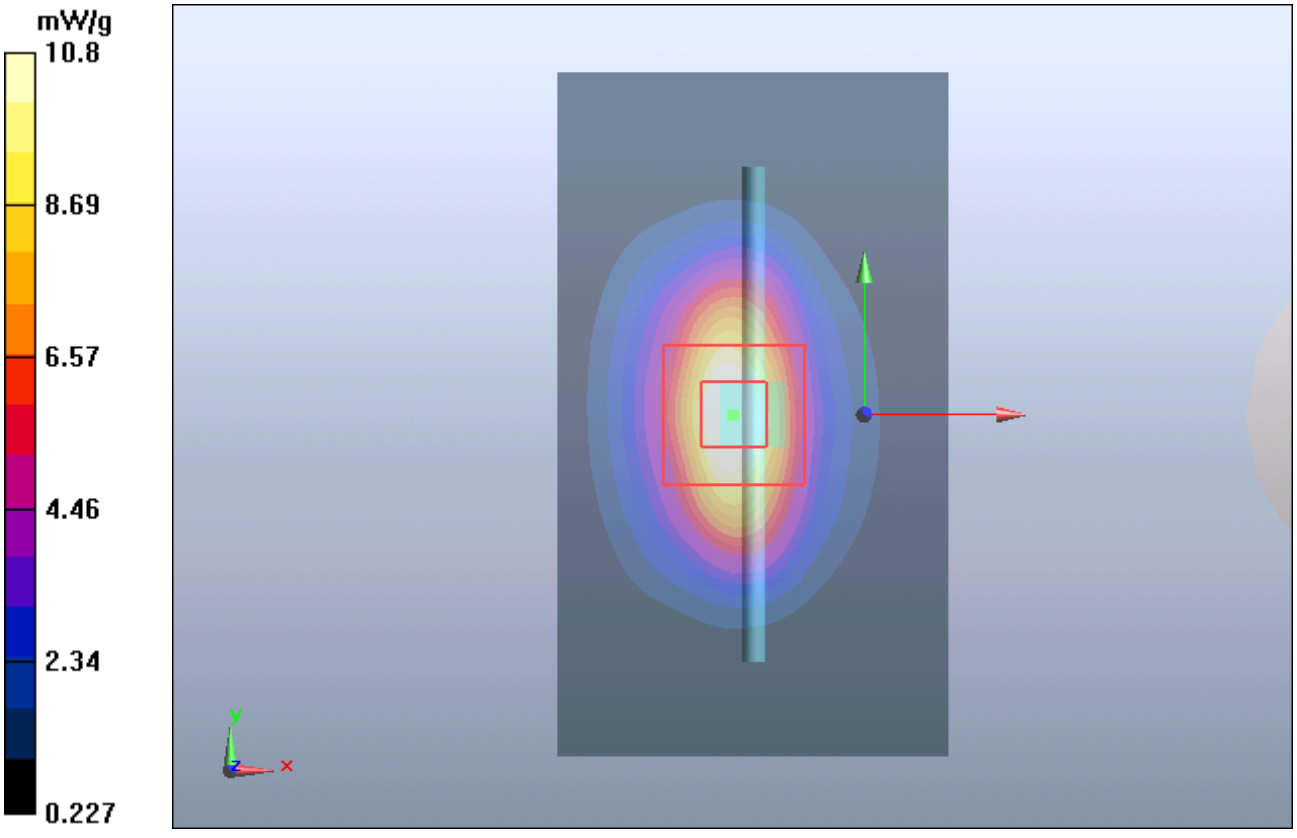


Figure 10 System Performance Check 1900MHz 250mW

System Performance Check at 2450 MHz Head TSL

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

Date/Time: 5/14/2012 9:20:46 PM

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

Medium parameters used: f = 2450 MHz; σ = 1.81 mho/m; ε_r = 39.3; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 - SN3753; ConvF(6.89, 6.89, 6.89); Calibrated: 1/4/2012

Electronics: DAE4 Sn871; Calibrated: 11/22/2011

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

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

System Performance Check at Head 2450 MHz/d=10mm, Pin=250mW/Area Scan (41x71x1):

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 17.9 mW/g

System Performance Check at Head 2450 MHz/d=10mm, Pin=250mW/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 93.6 V/m; Power Drift = 0.00826 dB

Peak SAR (extrapolated) = 29.9 W/kg

SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.32 mW/g

Maximum value of SAR (measured) = 15.8 mW/g

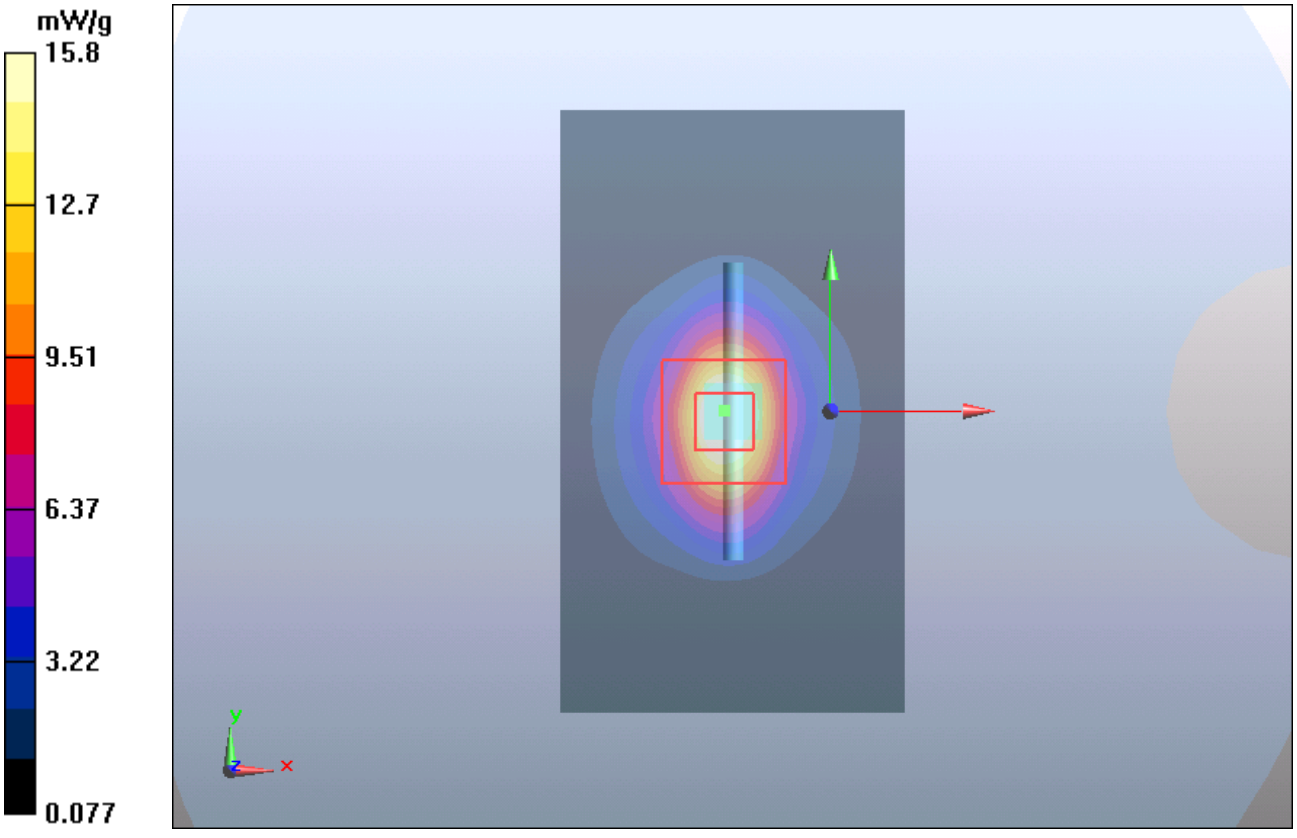


Figure 11 System Performance Check 2450MHz 250mW

System Performance Check at 2450 MHz Body TSL

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

Date/Time: 5/14/2012 7:32:08 PM

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

Medium parameters used: f = 2450 MHz; σ = 1.9 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: EX3DV4 - SN3753; ConvF(7.03, 7.03, 7.03); Calibrated: 1/4/2012

Electronics: DAE4 Sn871; Calibrated: 11/22/2011

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

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

System Performance Check at Body 2450 MHz/d=10mm, Pin=250mW/Area Scan (41x71x1):

Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 16.7 mW/g

System Performance Check at Body 2450 MHz/d=10mm, Pin=250mW/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 84 V/m; Power Drift = 0.150 dB

Peak SAR (extrapolated) = 25.3 W/kg

SAR(1 g) = 13 mW/g; SAR(10 g) = 6.14 mW/g

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

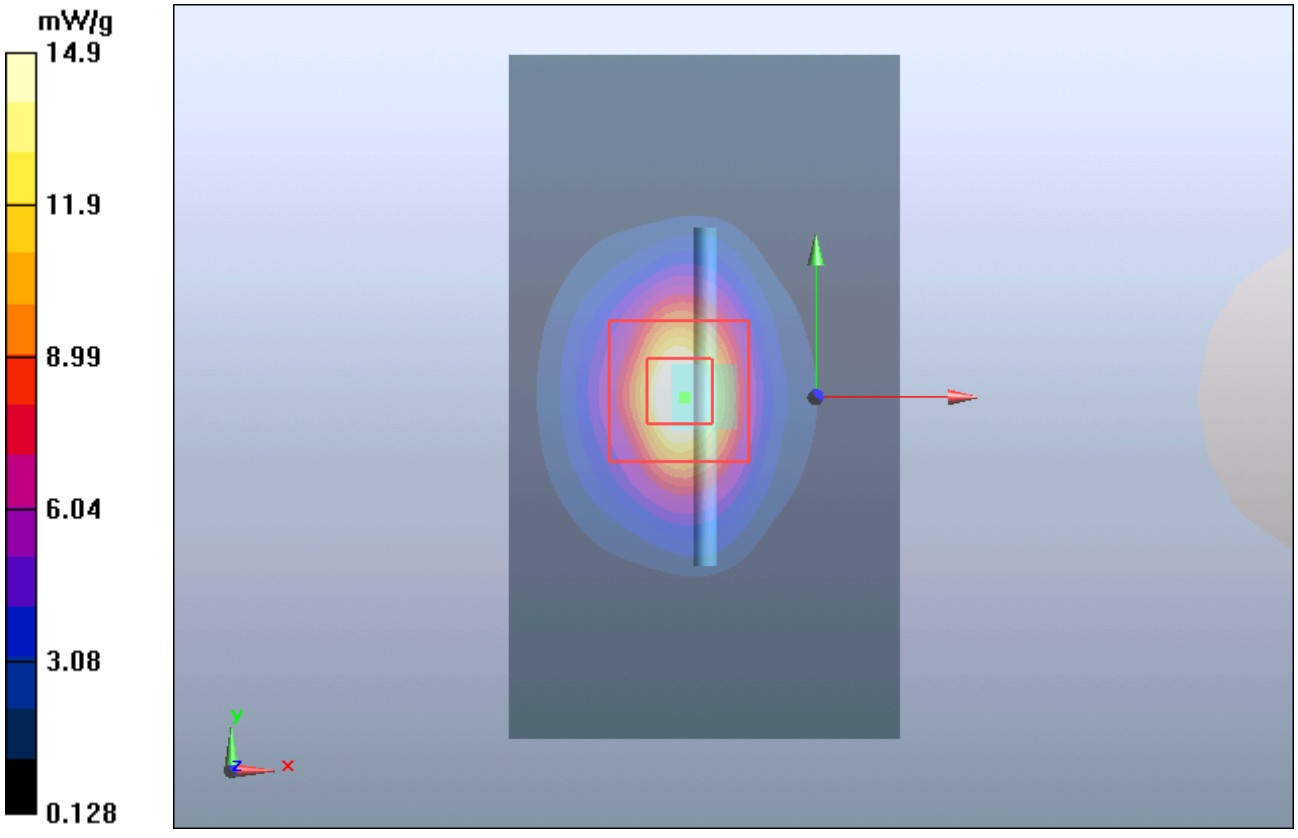


Figure 12 System Performance Check 2450MHz 250mW

ANNEX C: Graph Results

GSM 850 Left Cheek High (Battery 1)

Date/Time: 5/2/2012 2:45:38 PM
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.913 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.02, 9.02, 9.02); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.905 mW/g

Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.77 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.862 mW/g; SAR(10 g) = 0.633 mW/g
Maximum value of SAR (measured) = 0.904 mW/g

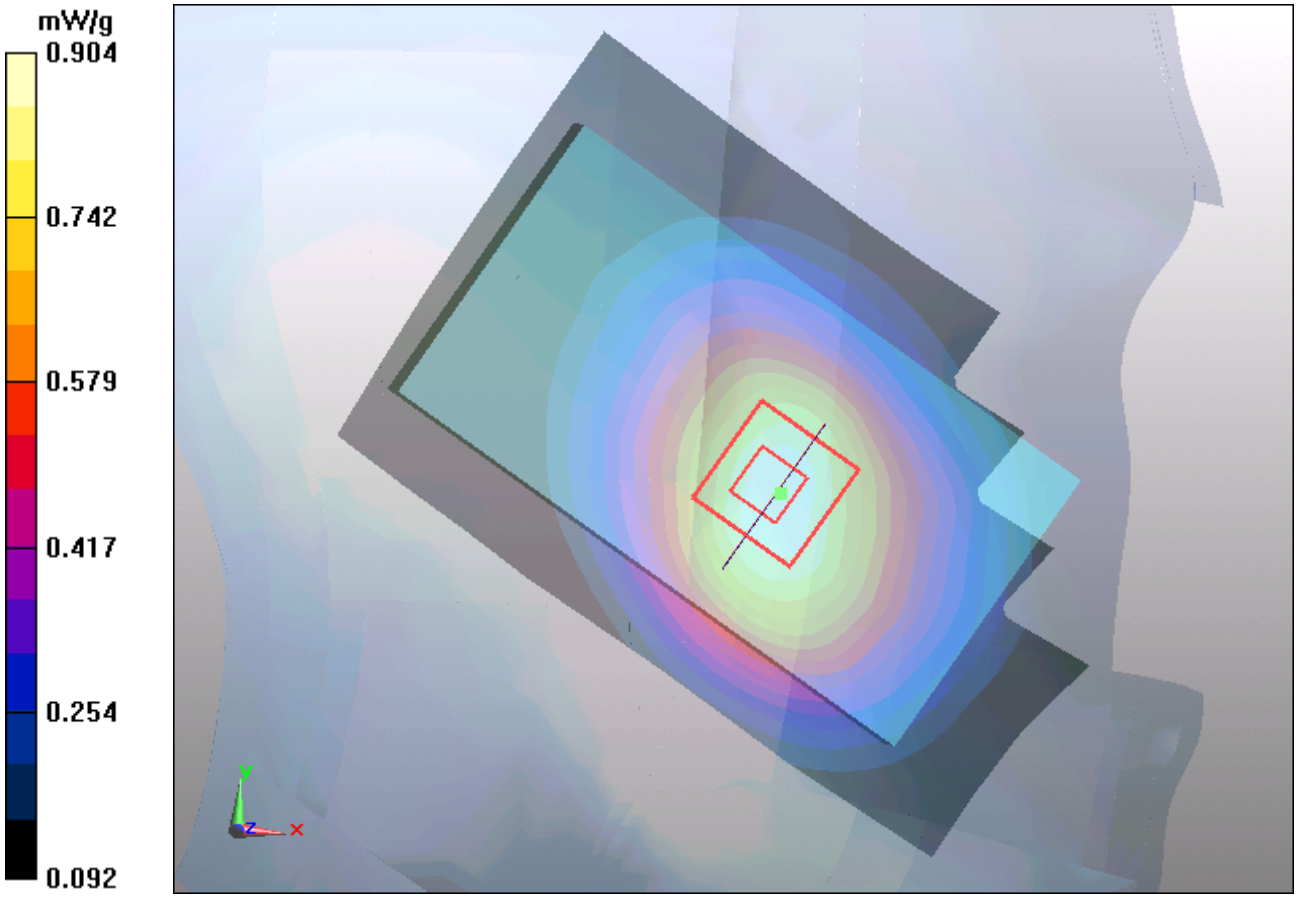


Figure 13 Left Hand Touch Cheek GSM 850 Channel 251

GSM 850 Left Cheek Middle (Battery 1)

Date/Time: 5/2/2012 2:04:00 PM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 41.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.02, 9.02, 9.02); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Cheek Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.884 mW/g

Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.86 V/m; Power Drift = -0.092 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.838 mW/g; SAR(10 g) = 0.618 mW/g
Maximum value of SAR (measured) = 0.881 mW/g

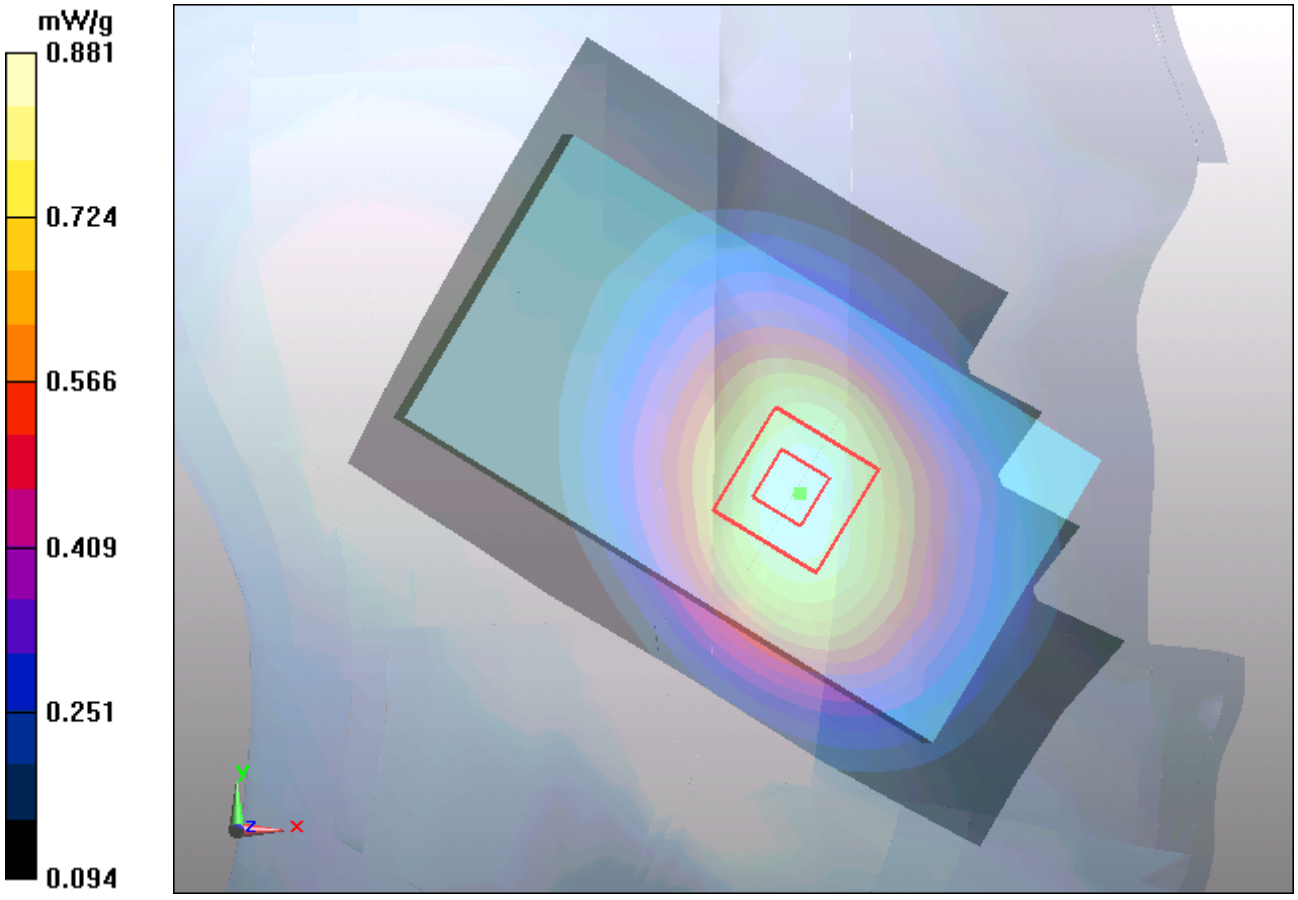


Figure 14 Left Hand Touch Cheek GSM 850 Channel 190

GSM 850 Left Cheek Low (Battery 1)

Date/Time: 5/2/2012 2:28:38 PM
Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.887 mho/m; ε_r = 41.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.02, 9.02, 9.02); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Cheek Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.874 mW/g

Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.89 V/m; Power Drift = -0.00667 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.832 mW/g; SAR(10 g) = 0.616 mW/g
Maximum value of SAR (measured) = 0.874 mW/g

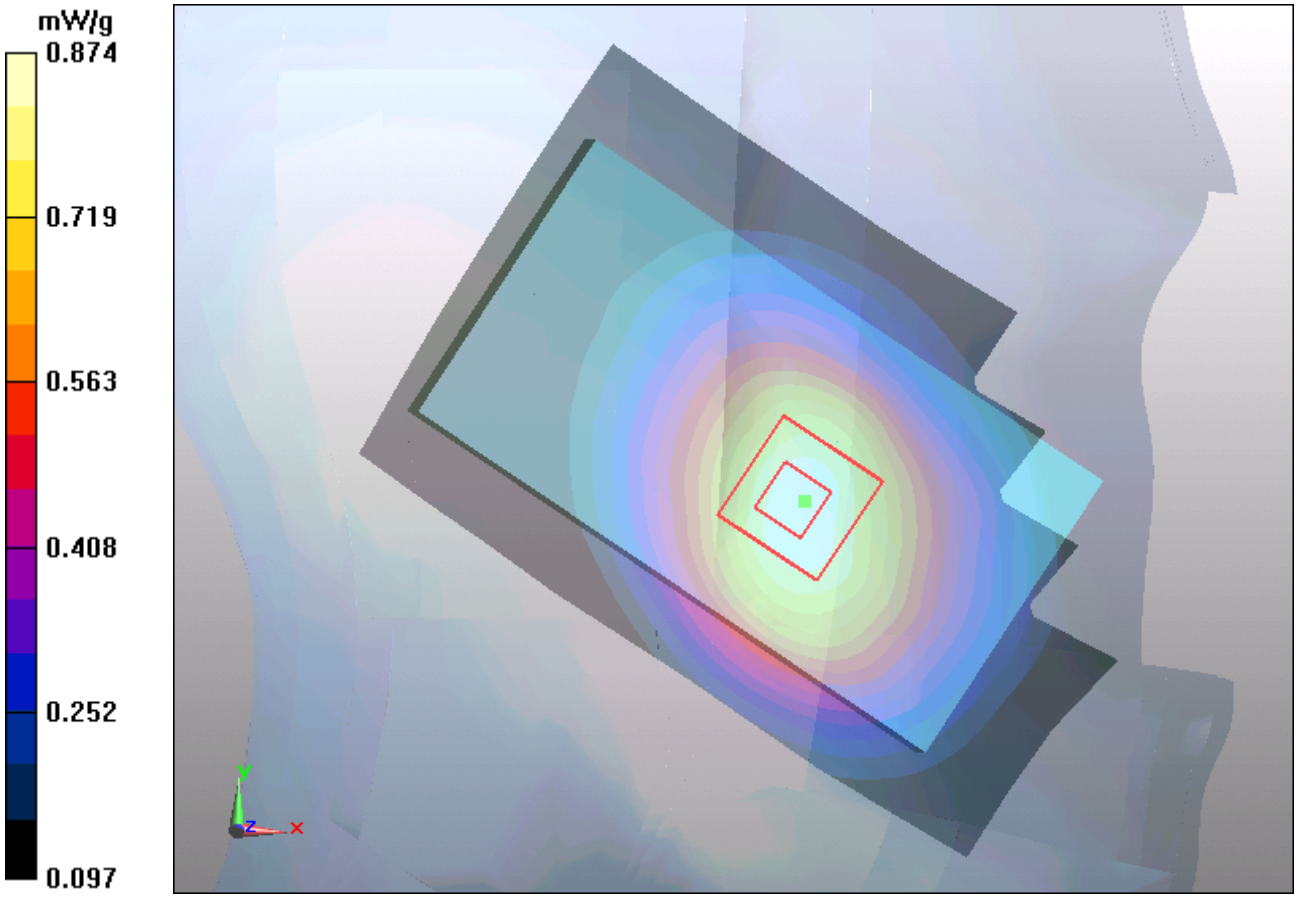


Figure 15 Left Hand Touch Cheek GSM 850 Channel 128

GSM 850 Left Tilt High (Battery 1)

Date/Time: 5/2/2012 3:34:31 PM
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.913 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.02, 9.02, 9.02); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Tilt High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.435 mW/g

Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = 0.00912 dB
Peak SAR (extrapolated) = 0.513 W/kg
SAR(1 g) = 0.417 mW/g; SAR(10 g) = 0.319 mW/g
Maximum value of SAR (measured) = 0.437 mW/g

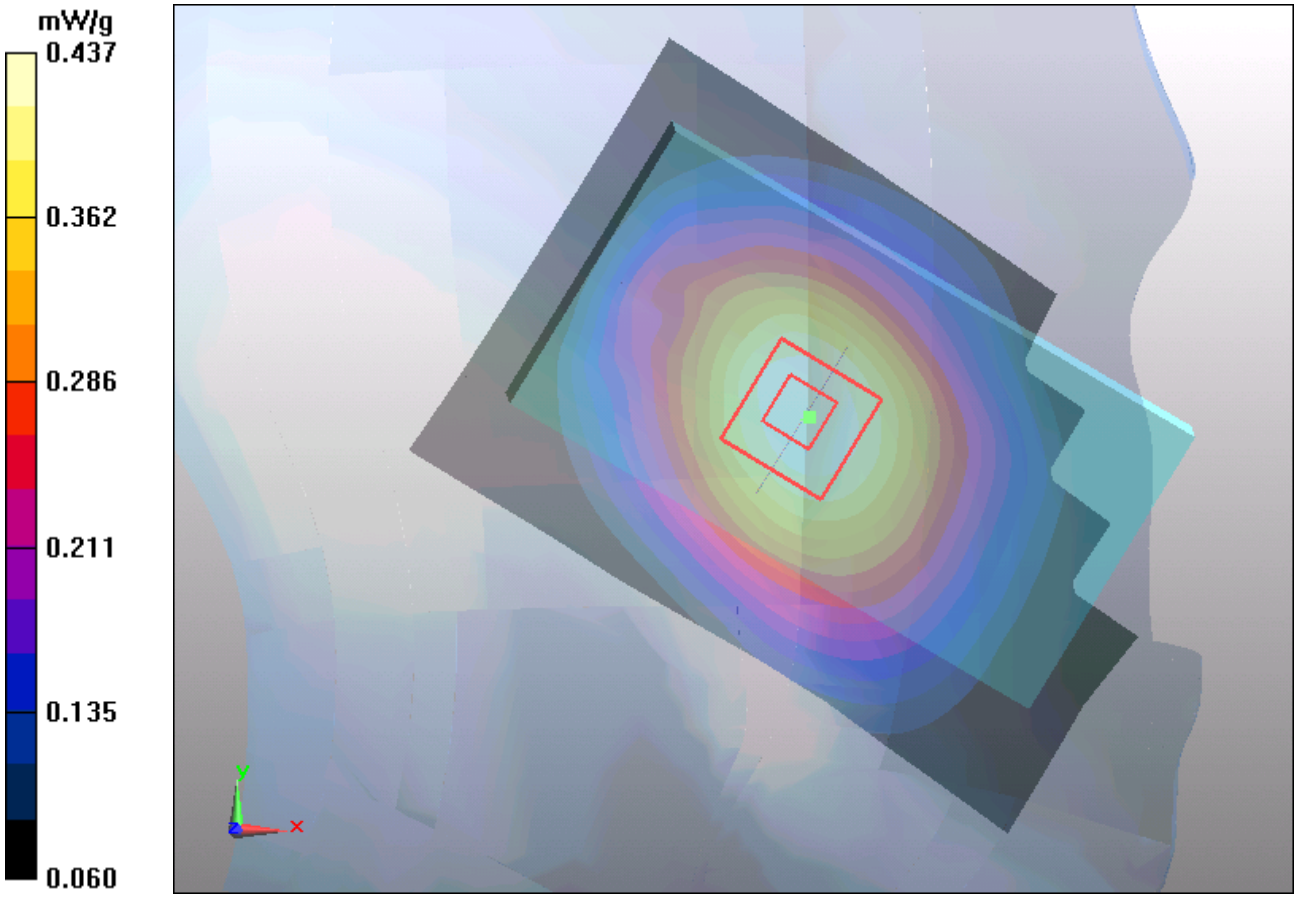


Figure 16 Left Hand Tilt 15° GSM 850 Channel 251

GSM 850 Left Tilt Middle (Battery 1)

Date/Time: 5/2/2012 3:05:26 PM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 41.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.02, 9.02, 9.02); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Tilt Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.422 mW/g

Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = -0.017 dB
Peak SAR (extrapolated) = 0.503 W/kg
SAR(1 g) = 0.409 mW/g; SAR(10 g) = 0.313 mW/g
Maximum value of SAR (measured) = 0.428 mW/g

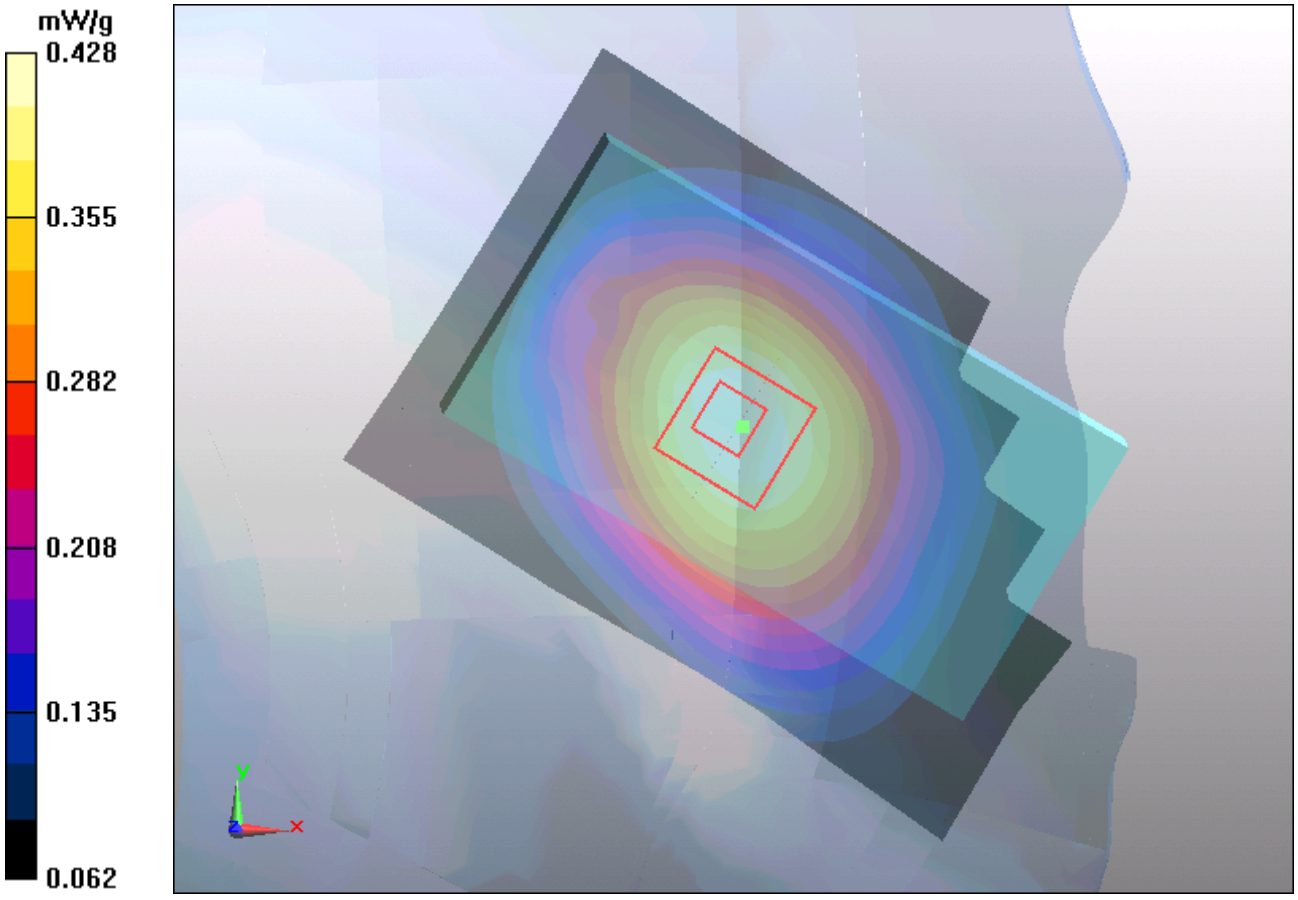


Figure 17 Left Hand Tilt 15° GSM 850 Channel 190

GSM 850 Left Tilt Low (Battery 1)

Date/Time: 5/2/2012 3:50:27 PM
Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.887 mho/m; ε_r = 41.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.02, 9.02, 9.02); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Tilt Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.407 mW/g

Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.8 V/m; Power Drift = 0.015 dB
Peak SAR (extrapolated) = 0.484 W/kg
SAR(1 g) = 0.397 mW/g; SAR(10 g) = 0.305 mW/g
Maximum value of SAR (measured) = 0.415 mW/g

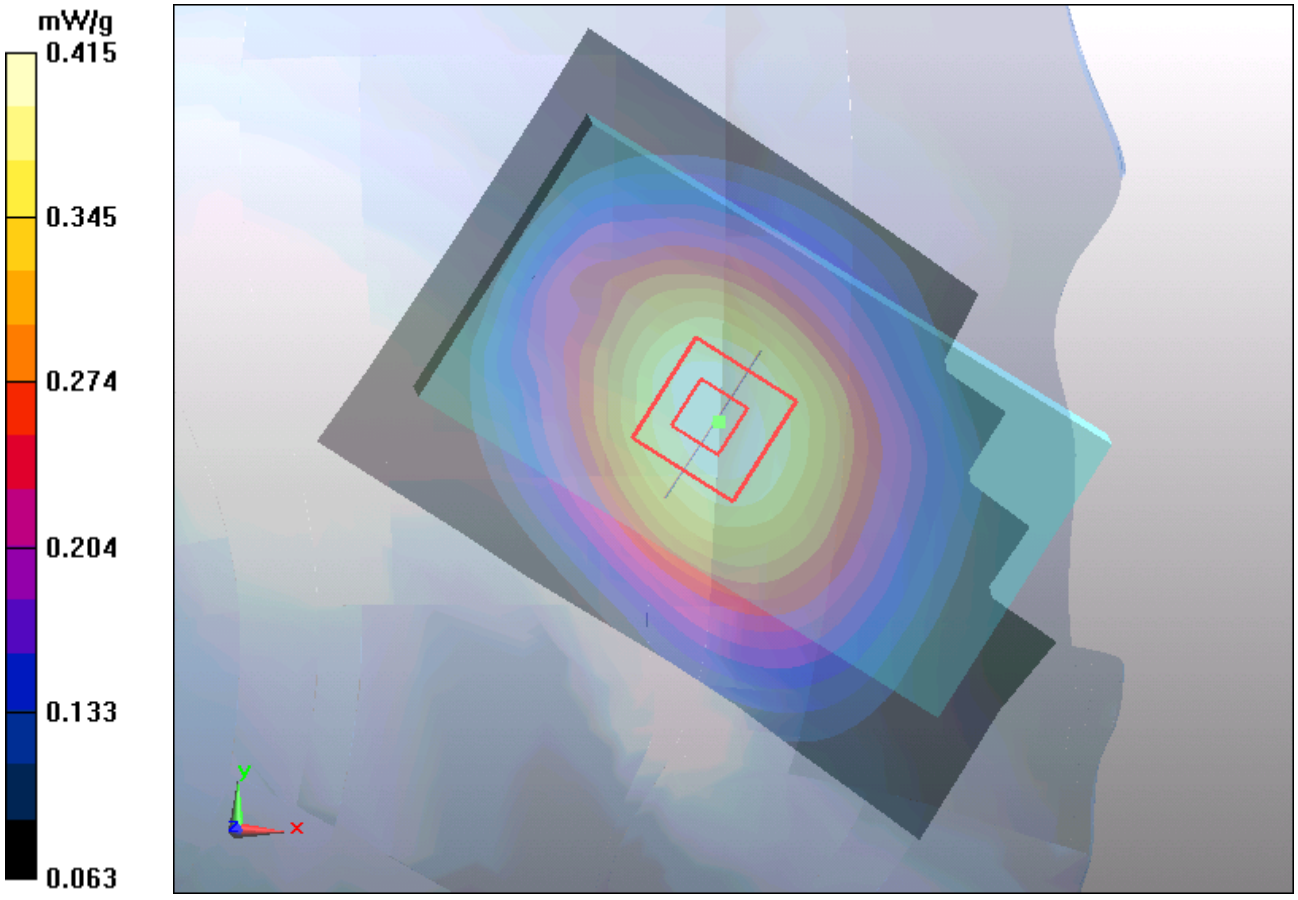


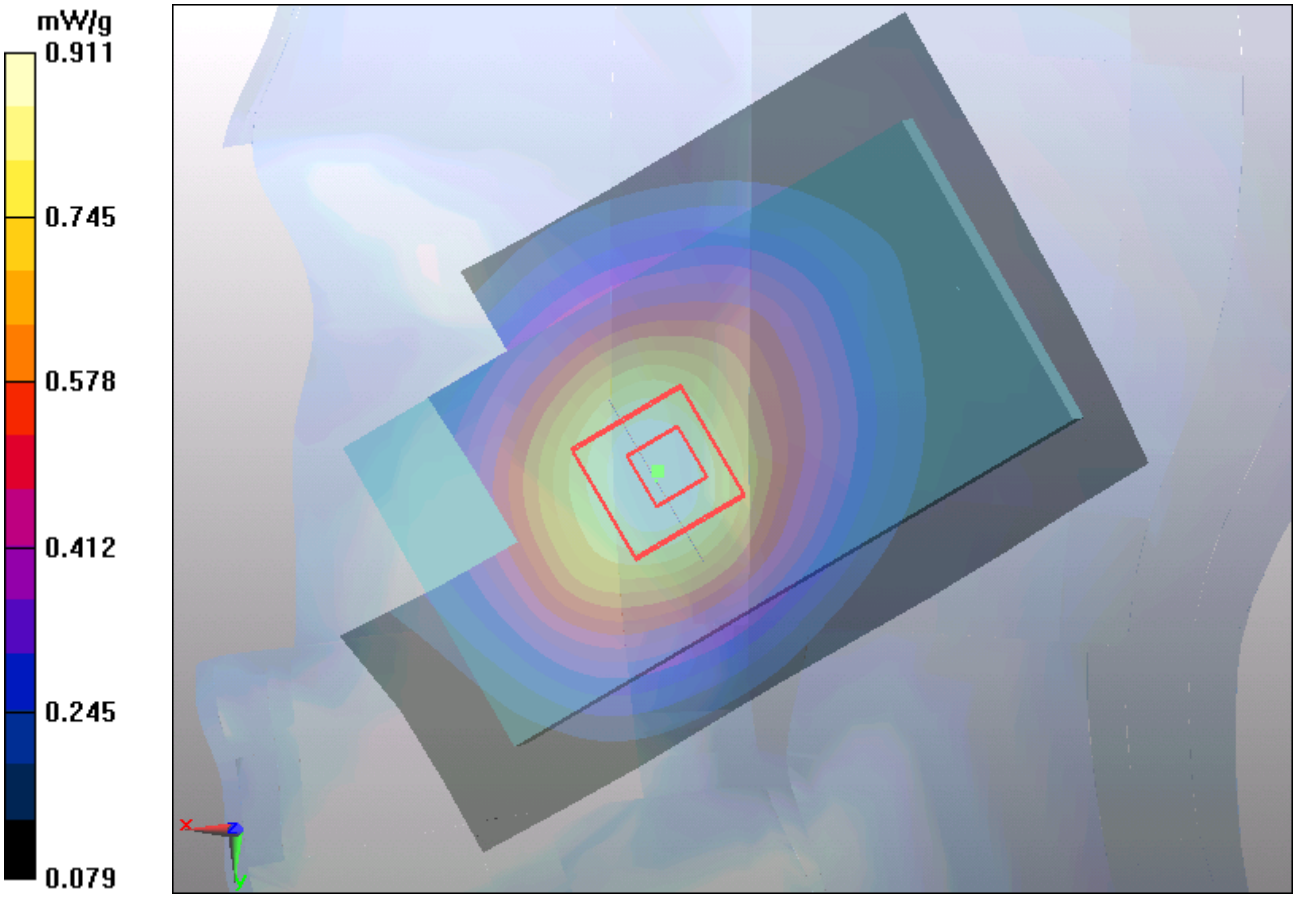
Figure 18 Left Hand Tilt 15° GSM 850 Channel 128

GSM 850 Right Cheek High (Battery 1)

Date/Time: 5/2/2012 4:27:25 PM
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.901 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.02, 9.02, 9.02); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.924 mW/g

Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.96 V/m; Power Drift = 0.049 dB
Peak SAR (extrapolated) = 1.08 W/kg
SAR(1 g) = 0.870 mW/g; SAR(10 g) = 0.649 mW/g
Maximum value of SAR (measured) = 0.911 mW/g



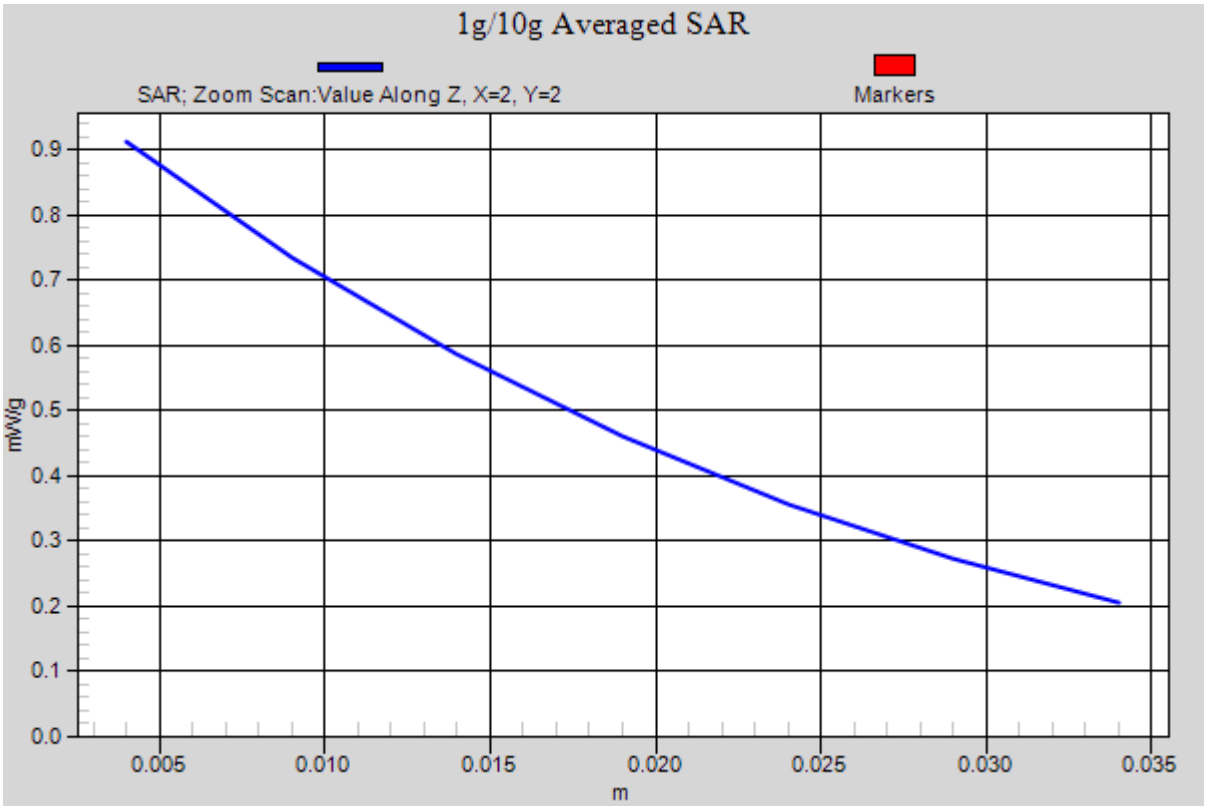


Figure 19 Right Hand Touch Cheek GSM 850 Channel 251

GSM 850 Right Cheek Middle (Battery 1)

Date/Time: 5/2/2012 4:11:47 PM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.89 mho/m; ε_r = 42.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.02, 9.02, 9.02); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Cheek Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.902 mW/g

Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.95 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.849 mW/g; SAR(10 g) = 0.636 mW/g
Maximum value of SAR (measured) = 0.886 mW/g

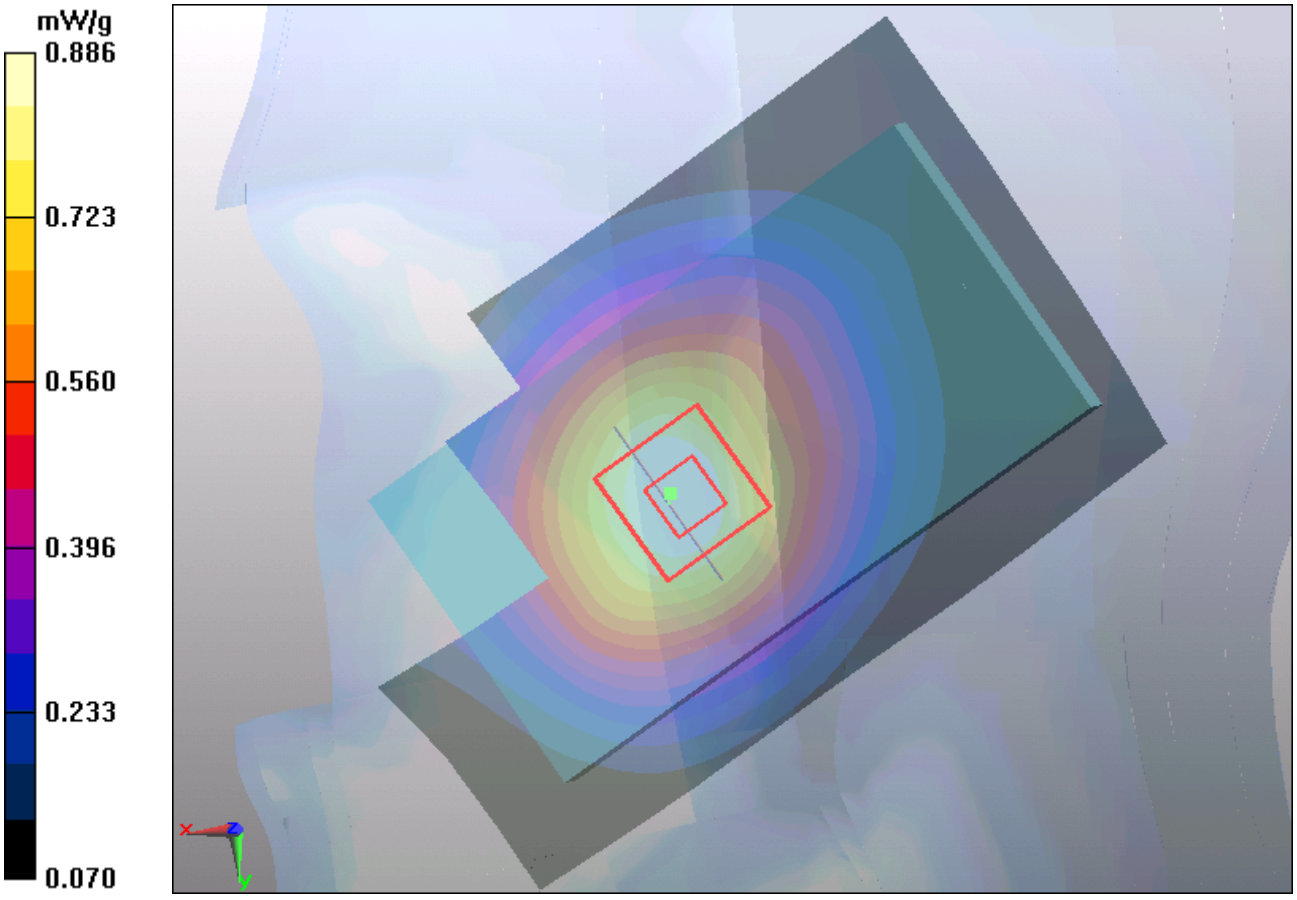


Figure 20 Right Hand Touch Cheek GSM 850 Channel 190

GSM 850 Right Cheek Low (Battery 1)

Date/Time: 5/2/2012 4:43:10 PM
Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.878 mho/m; ε_r = 42.4; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.02, 9.02, 9.02); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Cheek Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.878 mW/g

Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.75 V/m; Power Drift = 0.045 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.824 mW/g; SAR(10 g) = 0.619 mW/g
Maximum value of SAR (measured) = 0.856 mW/g

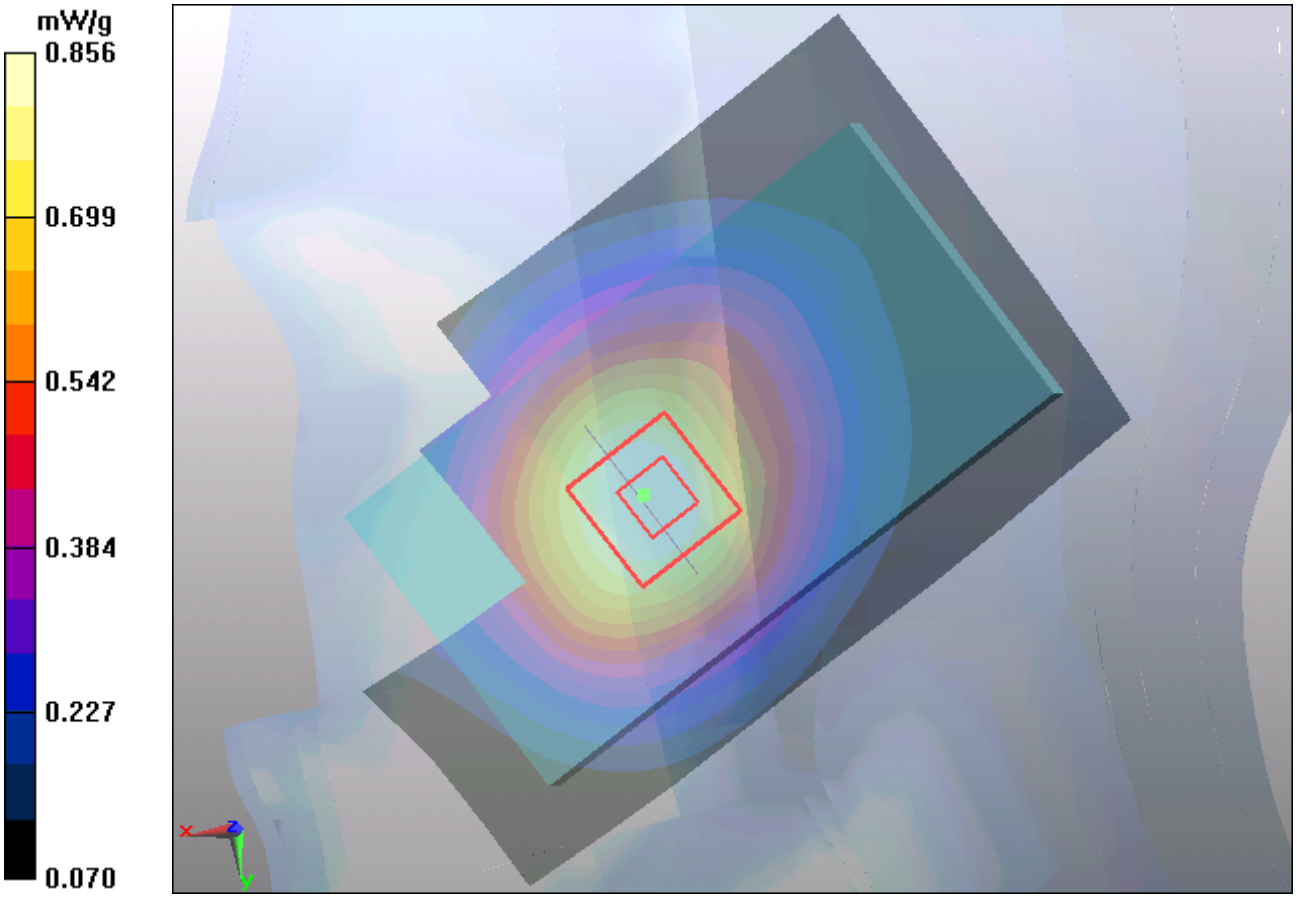


Figure 21 Right Hand Touch Cheek GSM 850 Channel 128

GSM 850 Right Tilt High (Battery 1)

Date/Time: 5/2/2012 5:16:36 PM
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.901 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.02, 9.02, 9.02); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Tilt High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.405 mW/g

Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.1 V/m; Power Drift = 0.00305 dB
Peak SAR (extrapolated) = 0.481 W/kg
SAR(1 g) = 0.388 mW/g; SAR(10 g) = 0.296 mW/g
Maximum value of SAR (measured) = 0.405 mW/g

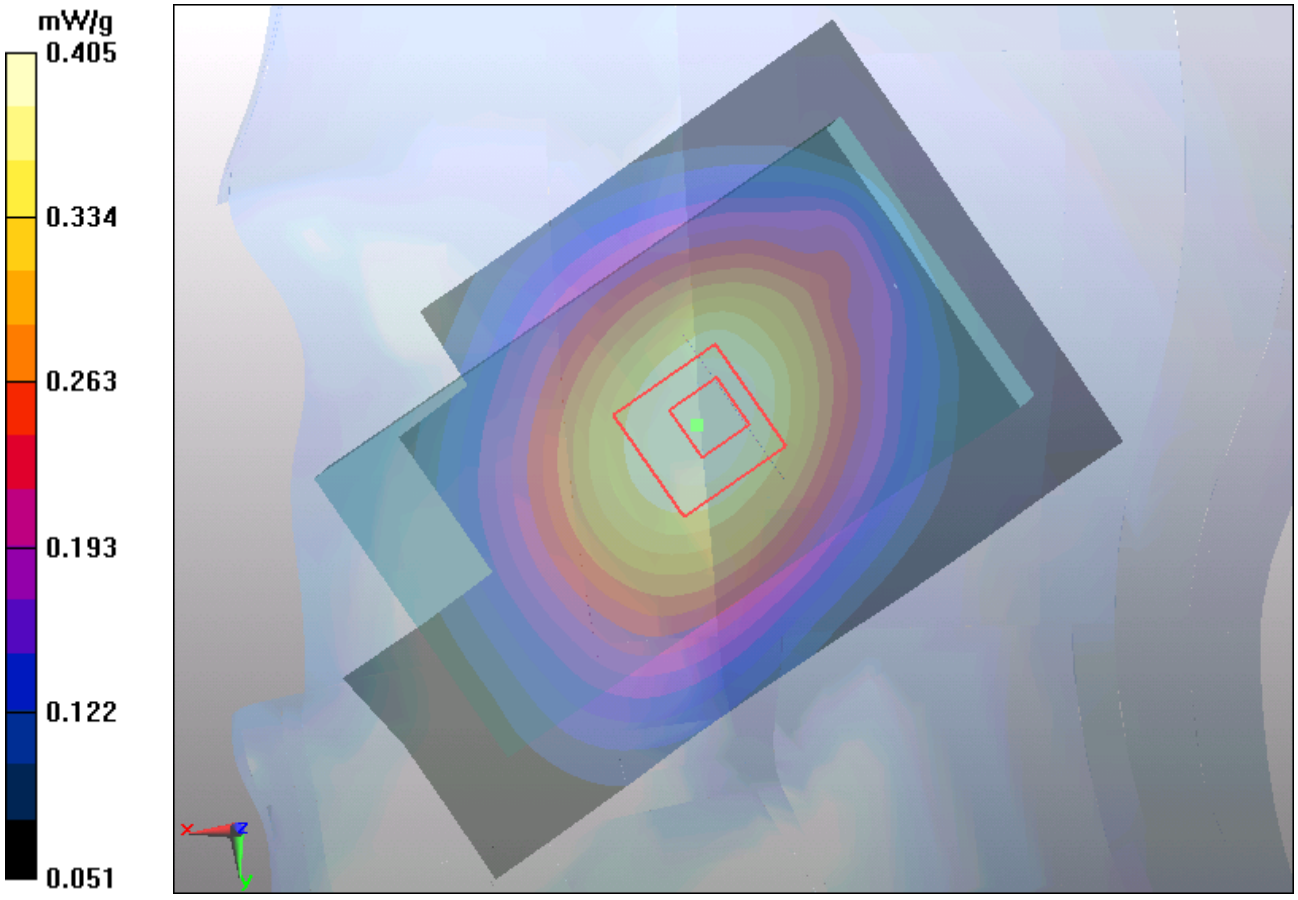


Figure 22 Right Hand Tilt 15° GSM 850 Channel 251

GSM 850 Right Tilt Middle (Battery 1)

Date/Time: 5/2/2012 5:00:57 PM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.89 mho/m; ε_r = 42.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.02, 9.02, 9.02); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Tilt Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.392 mW/g

Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = 0.042 dB
Peak SAR (extrapolated) = 0.473 W/kg
SAR(1 g) = 0.379 mW/g; SAR(10 g) = 0.291 mW/g
Maximum value of SAR (measured) = 0.394 mW/g

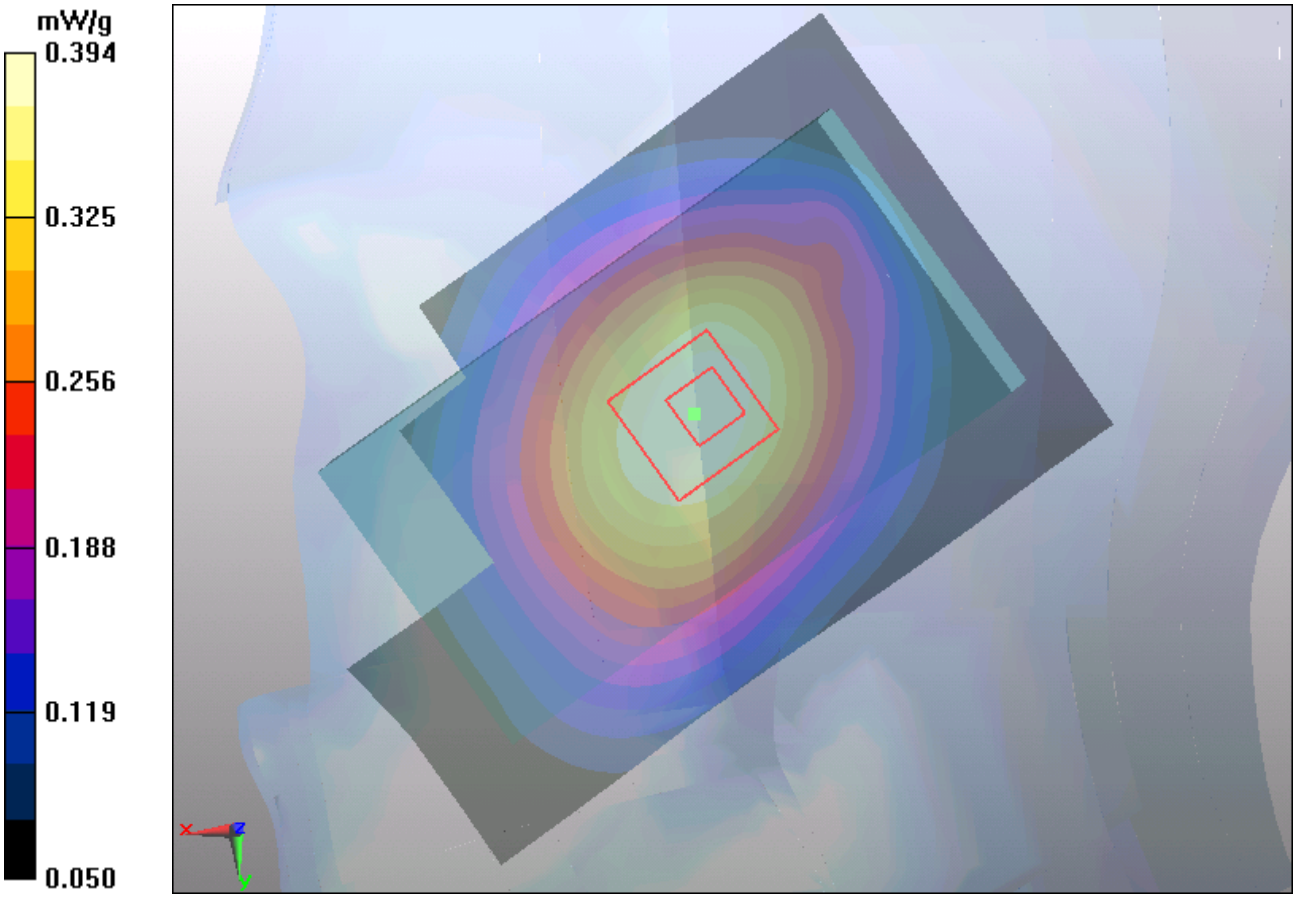


Figure 23 Right Hand Tilt 15° GSM 850 Channel 190

GSM 850 Right Tilt Low (Battery 1)

Date/Time: 5/2/2012 5:32:09 PM
Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.878 mho/m; ε_r = 42.4; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.02, 9.02, 9.02); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Tilt Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.379 mW/g

Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 0.456 W/kg
SAR(1 g) = 0.362 mW/g; SAR(10 g) = 0.279 mW/g
Maximum value of SAR (measured) = 0.376 mW/g

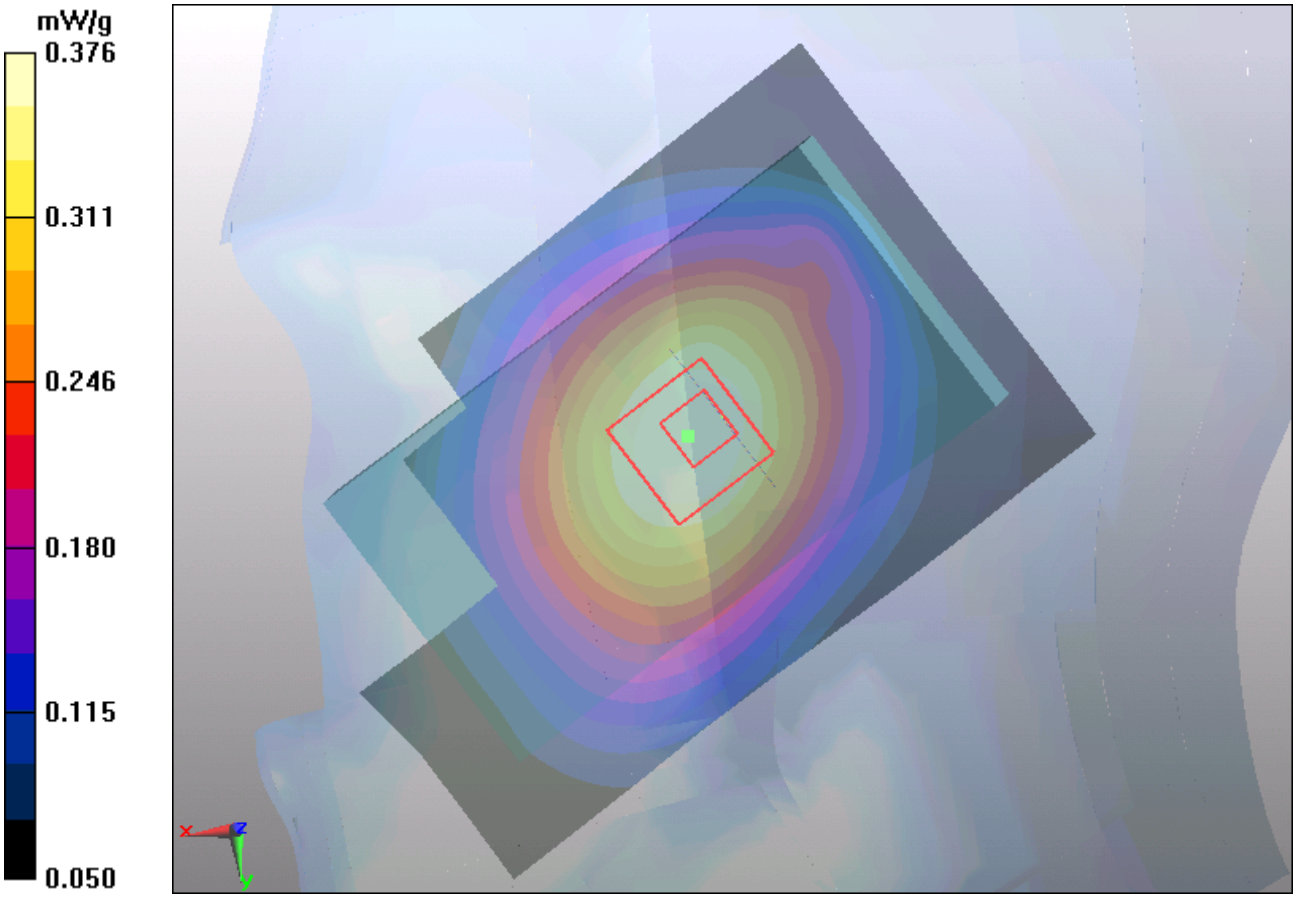


Figure 24 Right Hand Tilt 15° GSM 850 Channel 128

GSM 850 Right Cheek High (Battery 2)

Date/Time: 5/2/2012 10:28:06 PM
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.901 mho/m; ε_r = 42.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.02, 9.02, 9.02); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.921 mW/g

Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = -0.154 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.830 mW/g; SAR(10 g) = 0.626 mW/g
Maximum value of SAR (measured) = 0.869 mW/g

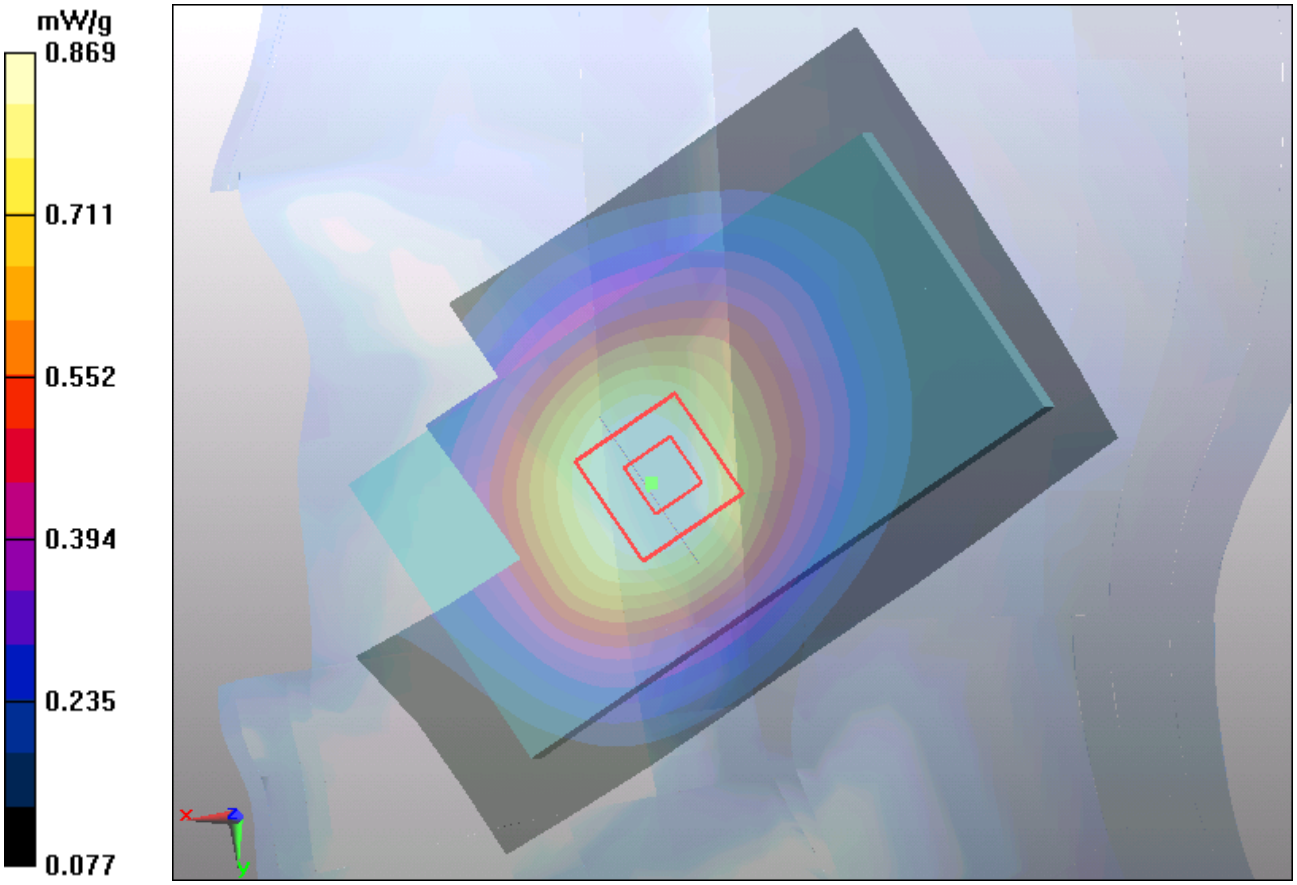


Figure 25 Right Hand Touch Cheek GSM 850 Channel 251

GSM 850 GPRS (4Txslots) Towards Ground High (Battery 1)

Date/Time: 5/12/2012 5:29:40 PM
Communication System: GPRS 4TX; Frequency: 848.8 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 849 MHz; σ = 0.986 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.18, 9.18, 9.18); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Ground High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.743 mW/g

Towards Ground High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.3 V/m; Power Drift = -0.000686 dB
Peak SAR (extrapolated) = 0.931 W/kg
SAR(1 g) = 0.707 mW/g; SAR(10 g) = 0.518 mW/g
Maximum value of SAR (measured) = 0.746 mW/g

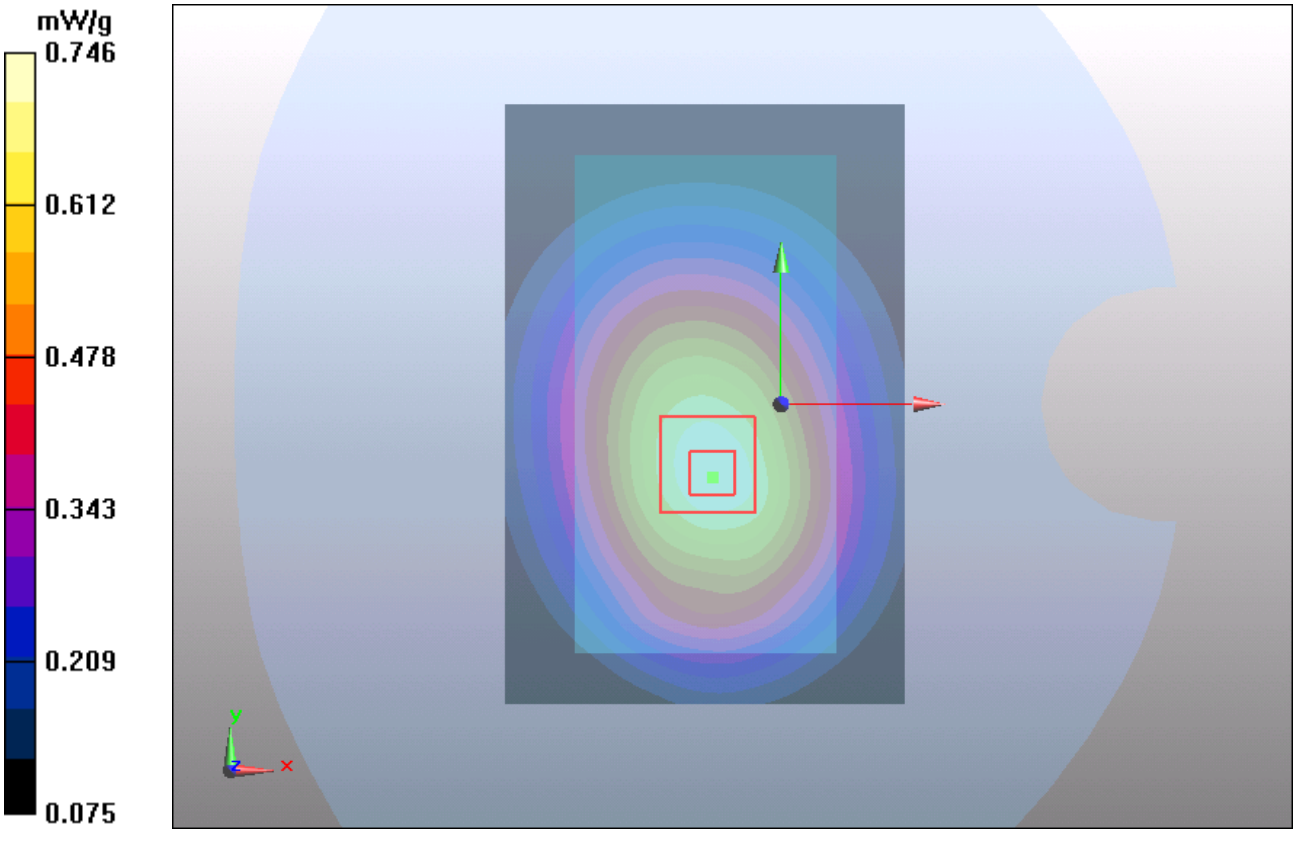


Figure 26 Body, Towards Ground, GSM 850 GPRS (4Txslots) Channel 251

GSM 850 GPRS (4Txslots) Towards Ground Middle (Battery 1)

Date/Time: 5/12/2012 4:57:09 PM
Communication System: GPRS 4TX; Frequency: 836.6 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 837 MHz; σ = 0.977 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.18, 9.18, 9.18); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Ground Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.787 mW/g

Towards Ground Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.9 V/m; Power Drift = 0.000306 dB
Peak SAR (extrapolated) = 0.971 W/kg
SAR(1 g) = 0.739 mW/g; SAR(10 g) = 0.540 mW/g
Maximum value of SAR (measured) = 0.780 mW/g

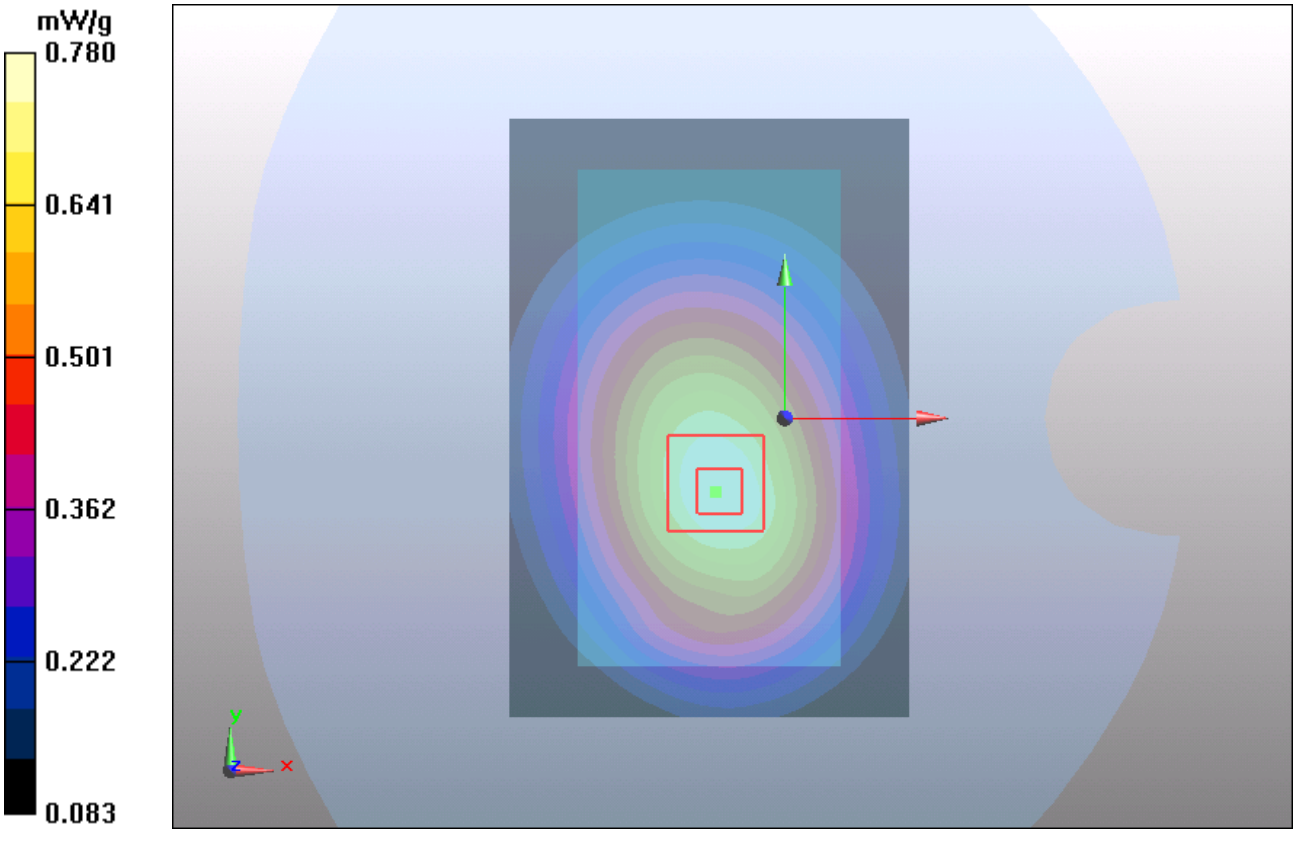


Figure 27 Body, Towards Ground, GSM 850 GPRS (4Txslots) Channel 190

GSM 850 GPRS (4Txslots) Towards Ground Low (Battery 1)

Date/Time: 5/12/2012 5:13:27 PM
Communication System: GPRS 4TX; Frequency: 824.2 MHz;Duty Cycle: 1:2.07491
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.967 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.18, 9.18, 9.18); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Ground Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.808 mW/g

Towards Ground Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.1 V/m; Power Drift = -0.00204 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.768 mW/g; SAR(10 g) = 0.561 mW/g
Maximum value of SAR (measured) = 0.811 mW/g

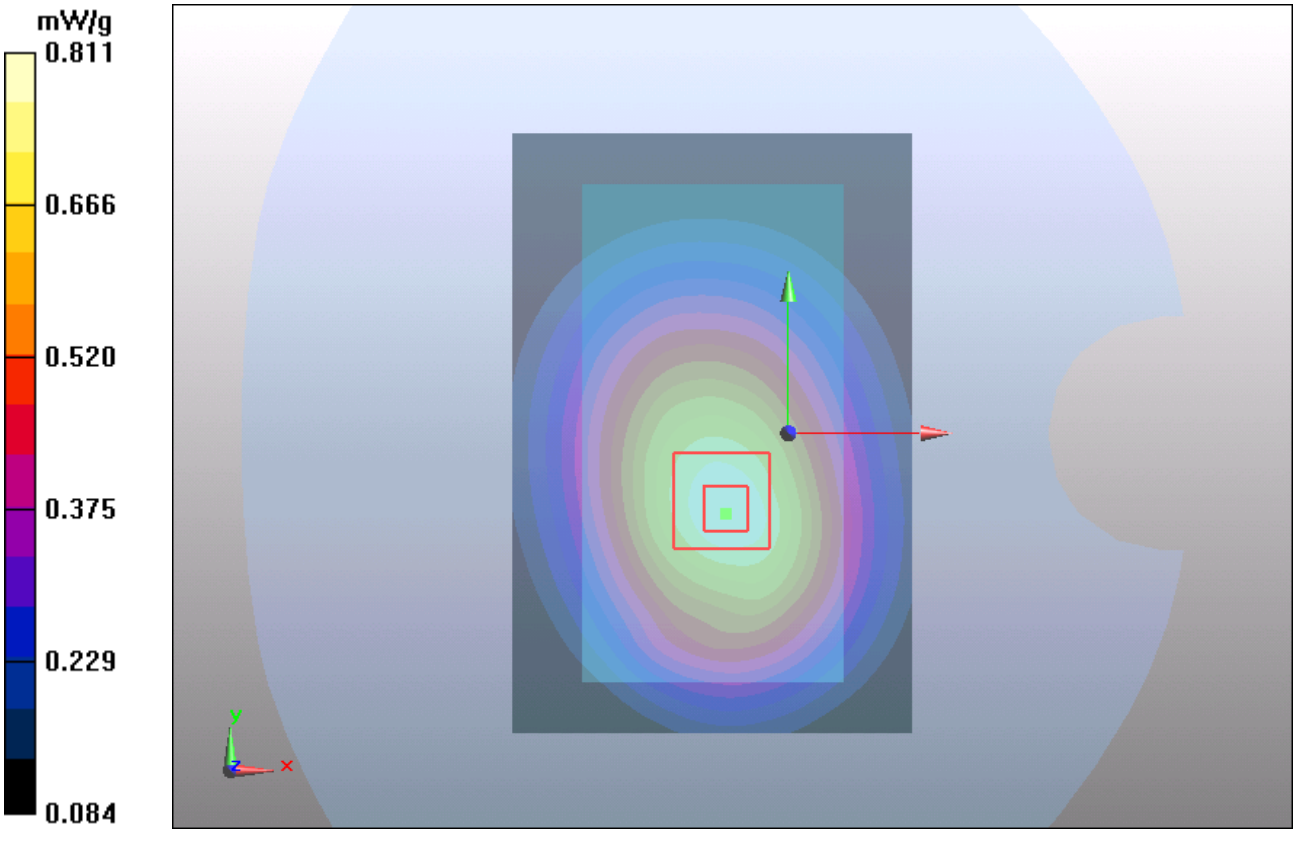


Figure 28 Body, Towards Ground, GSM 850 GPRS (4Txslots) Channel 128

GSM 850 GPRS (4Txslots) Towards Phantom High (Battery 1)

Date/Time: 5/12/2012 7:37:01 PM
Communication System: GPRS 4TX; Frequency: 848.8 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 849 MHz; σ = 0.986 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.18, 9.18, 9.18); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Phantom High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.695 mW/g

Towards Phantom High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.9 V/m; Power Drift = -0.00357 dB
Peak SAR (extrapolated) = 0.868 W/kg
SAR(1 g) = 0.664 mW/g; SAR(10 g) = 0.492 mW/g
Maximum value of SAR (measured) = 0.699 mW/g

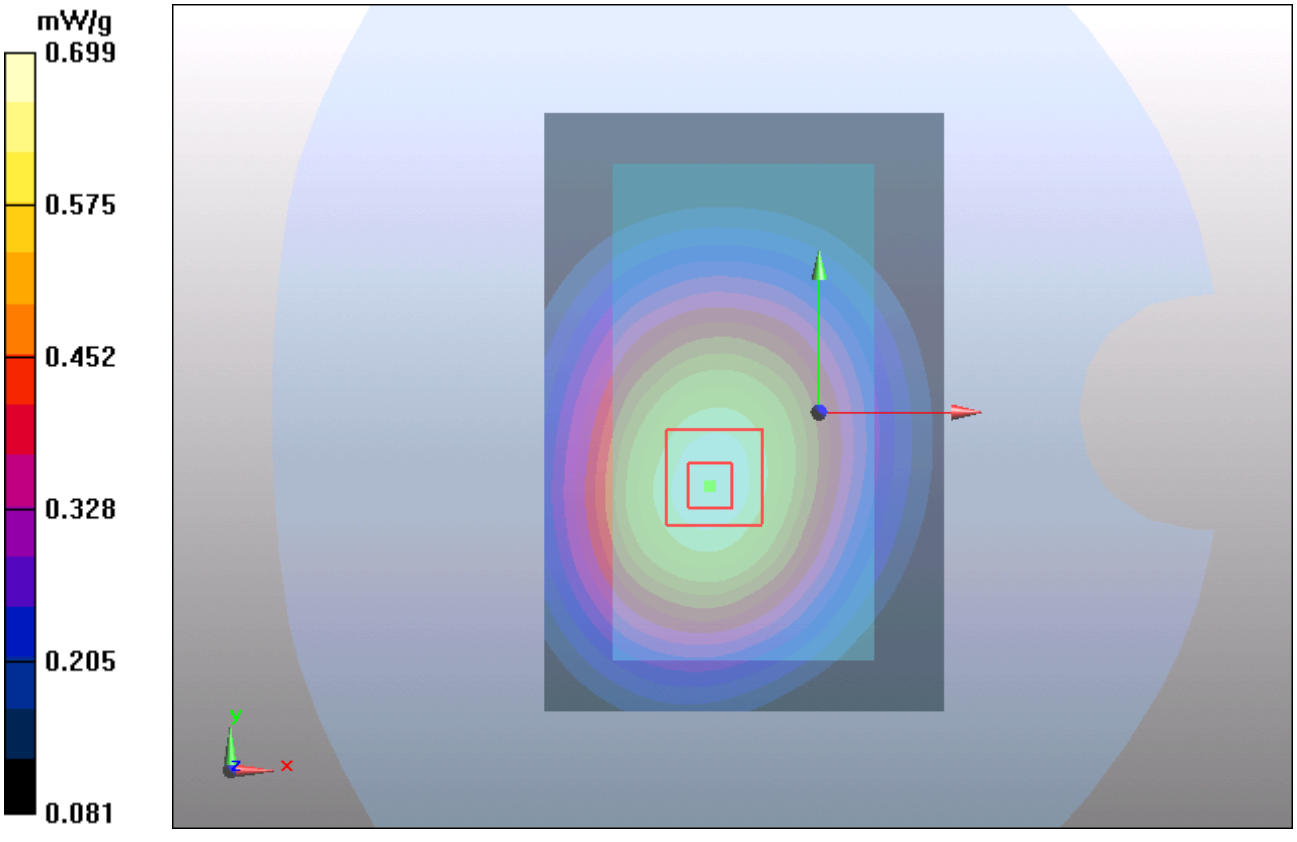


Figure 29 Body, Towards Phantom, GSM 850 GPRS (4Txslots) Channel 251

GSM 850 GPRS (4Txslots) Towards Phantom Middle (Battery 1)

Date/Time: 5/12/2012 7:20:32 PM
Communication System: GPRS 4TX; Frequency: 836.6 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 837 MHz; σ = 0.977 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.18, 9.18, 9.18); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Phantom Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.728 mW/g

Towards Phantom Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.3 V/m; Power Drift = 0.040 dB
Peak SAR (extrapolated) = 0.894 W/kg
SAR(1 g) = 0.689 mW/g; SAR(10 g) = 0.511 mW/g
Maximum value of SAR (measured) = 0.724 mW/g

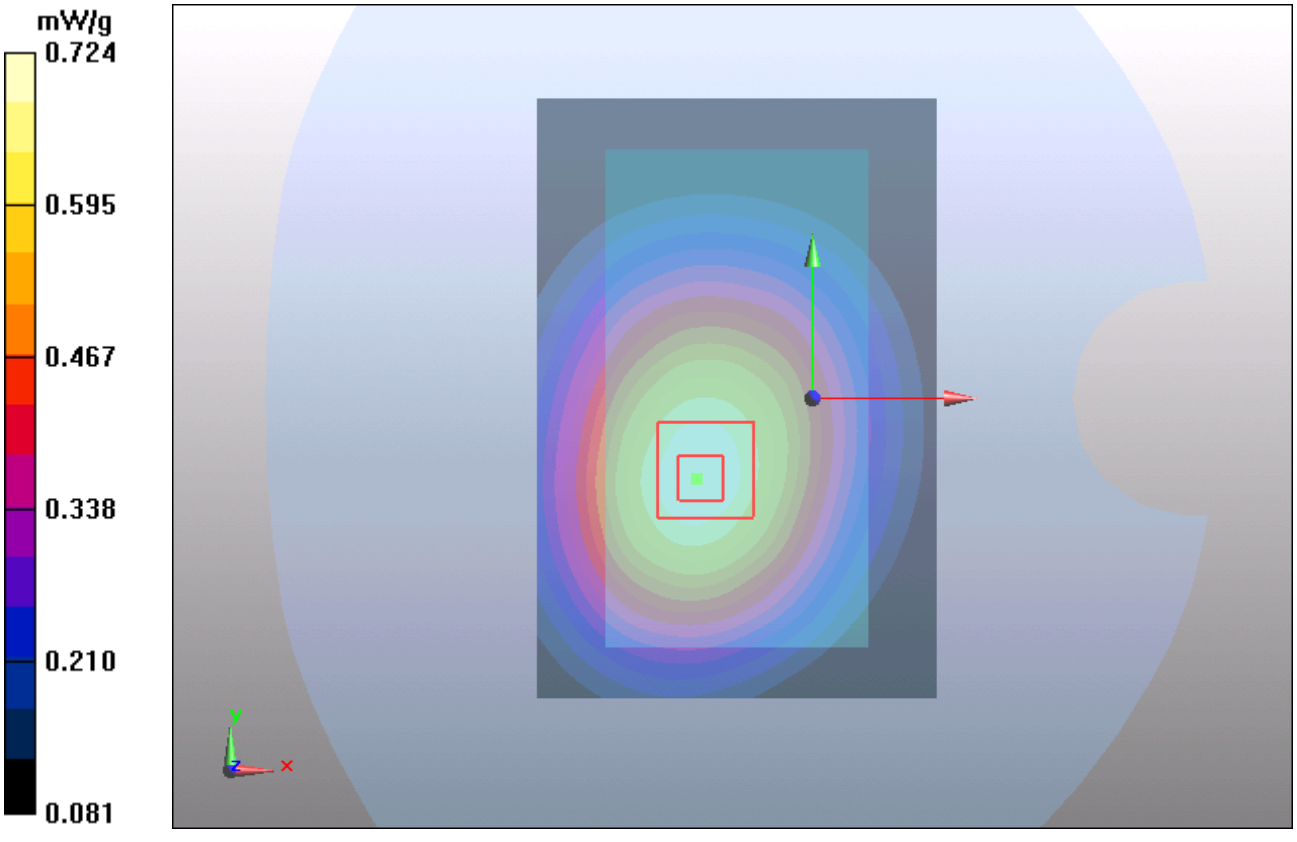


Figure 30 Body, Towards Phantom, GSM 850 GPRS (4Txslots) Channel 190

GSM 850 GPRS (4Txslots) Towards Phantom Low (Battery 1)

Date/Time: 5/12/2012 7:03:48 PM
Communication System: GPRS 4TX; Frequency: 824.2 MHz;Duty Cycle: 1:2.07491
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.967 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.18, 9.18, 9.18); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Phantom Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.770 mW/g

Towards Phantom Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26 V/m; Power Drift = 0.00802 dB
Peak SAR (extrapolated) = 0.929 W/kg
SAR(1 g) = 0.716 mW/g; SAR(10 g) = 0.532 mW/g
Maximum value of SAR (measured) = 0.755 mW/g

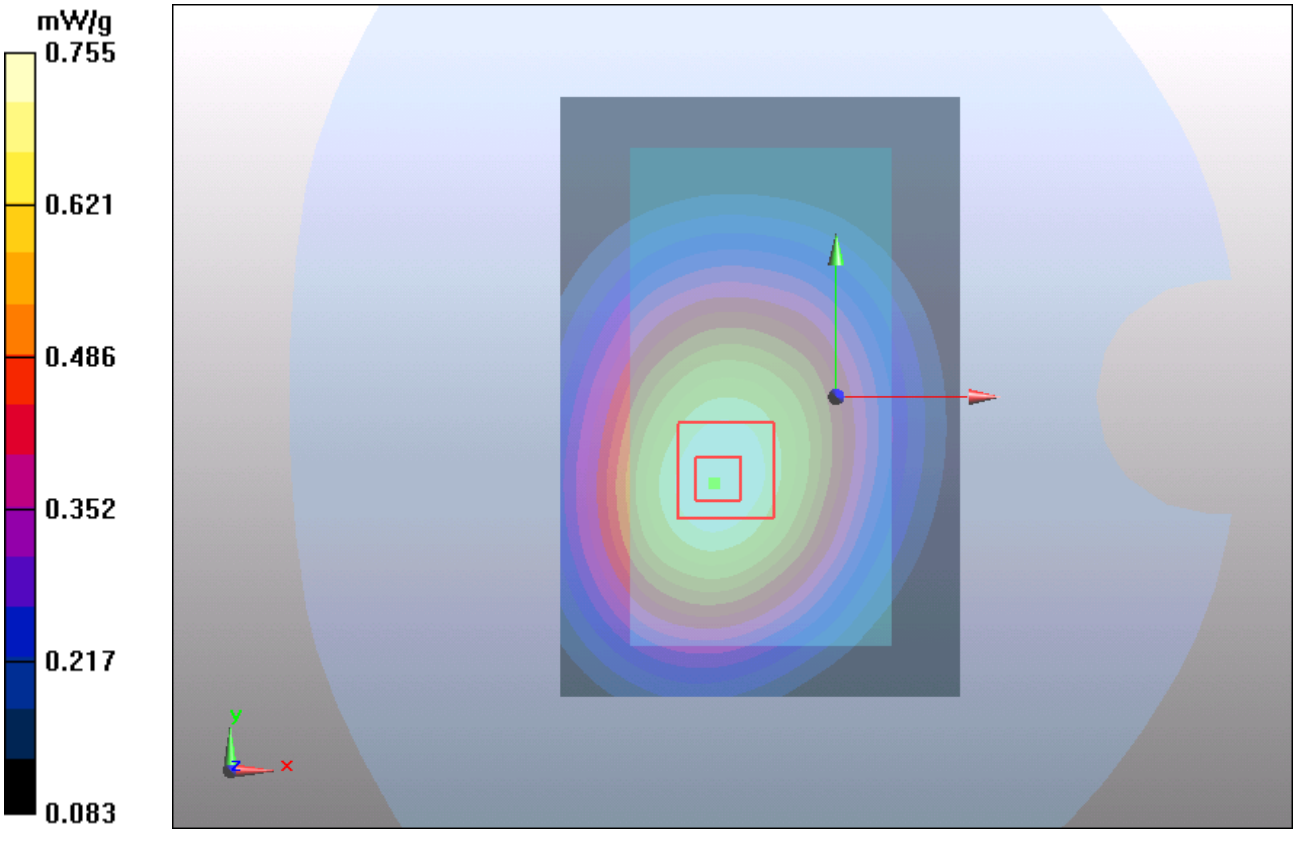


Figure 31 Body, Towards Phantom, GSM 850 GPRS (4Txslots) Channel 128

GSM 850 EGPRS (4Txslots) Towards Ground Low (Battery 1)

Date/Time: 5/12/2012 5:47:51 PM
Communication System: EGPRS 4TX; Frequency: 824.2 MHz;Duty Cycle: 1:2.07491
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.967 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.18, 9.18, 9.18); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Ground Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.812 mW/g

Towards Ground Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.4 V/m; Power Drift = -0.00955 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.771 mW/g; SAR(10 g) = 0.563 mW/g
Maximum value of SAR (measured) = 0.819 mW/g

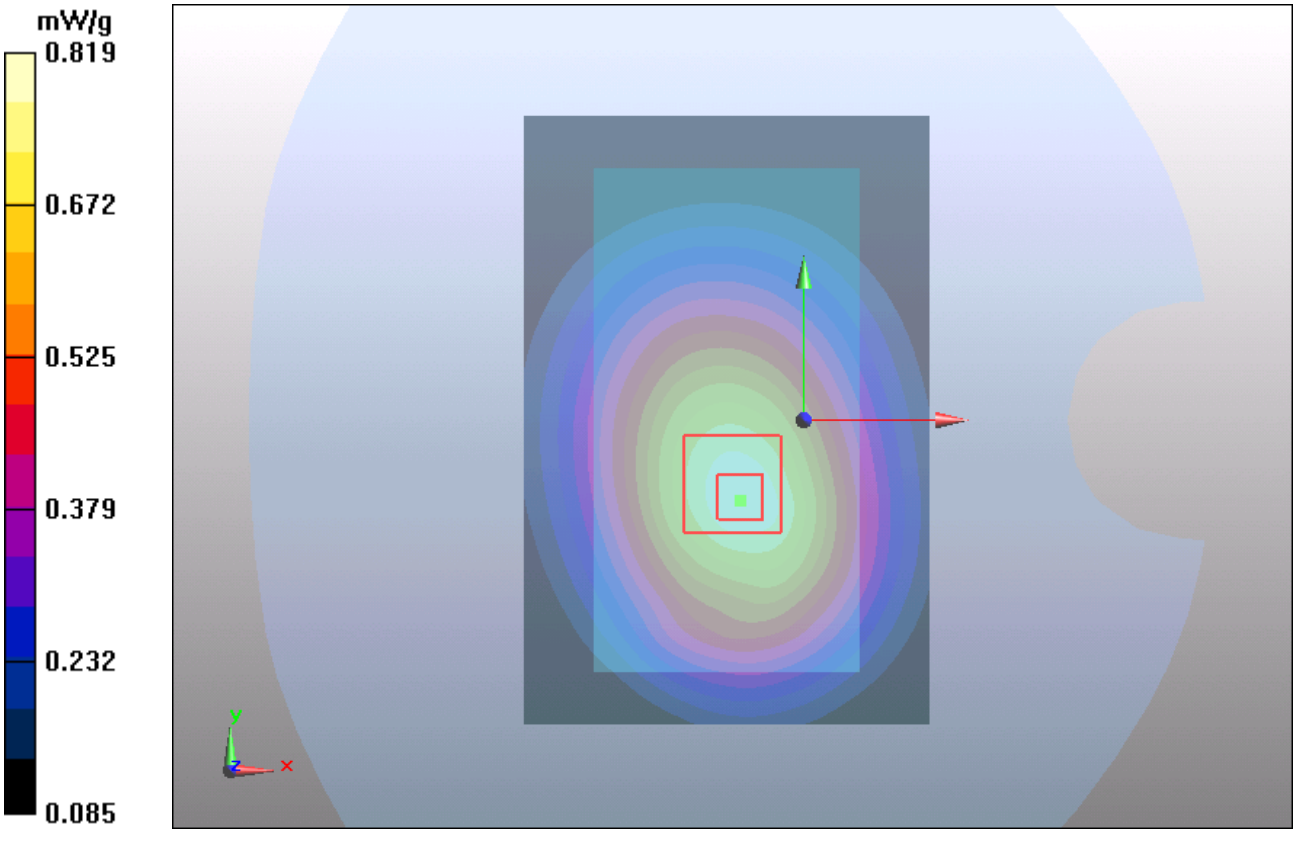


Figure 32 Body, Towards Ground, GSM 850 EGPRS (4Txslots) Channel 128

GSM 850 with Stereo Headset 1 Towards Ground Low (Battery 1)

Date/Time: 5/12/2012 6:44:22 PM
Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.967 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.18, 9.18, 9.18); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Ground Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.432 mW/g

Towards Ground Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.7 V/m; Power Drift = 0.00465 dB
Peak SAR (extrapolated) = 0.532 W/kg
SAR(1 g) = 0.408 mW/g; SAR(10 g) = 0.300 mW/g
Maximum value of SAR (measured) = 0.431 mW/g

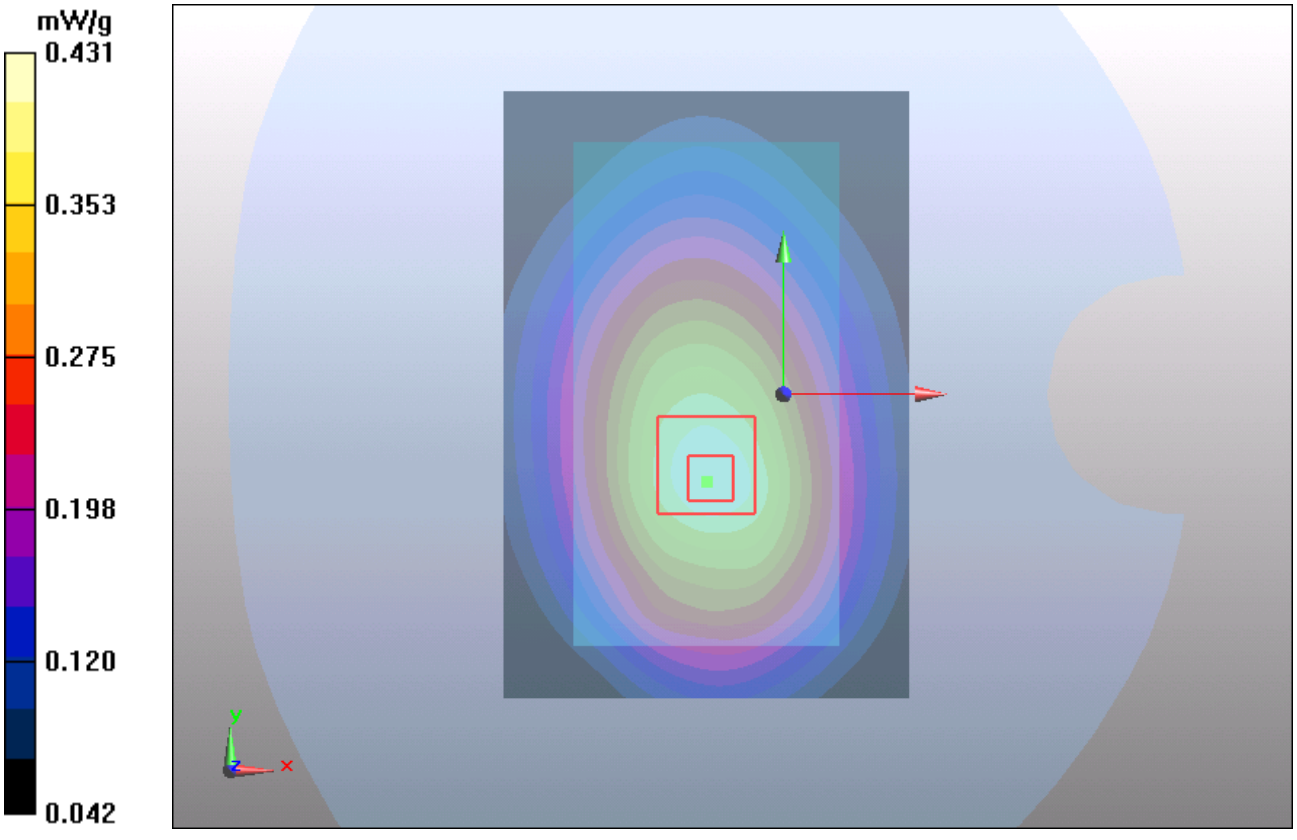


Figure 33 Body with Stereo Headset 1, Towards Ground, GSM 850 Channel 128

GSM 850 with Stereo Headset 2 Towards Ground Low (Battery 1)

Date/Time: 5/12/2012 6:27:46 PM
Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.967 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.18, 9.18, 9.18); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Ground Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.397 mW/g

Towards Ground Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.5 V/m; Power Drift = -0.00211 dB
Peak SAR (extrapolated) = 0.488 W/kg
SAR(1 g) = 0.377 mW/g; SAR(10 g) = 0.280 mW/g
Maximum value of SAR (measured) = 0.397 mW/g

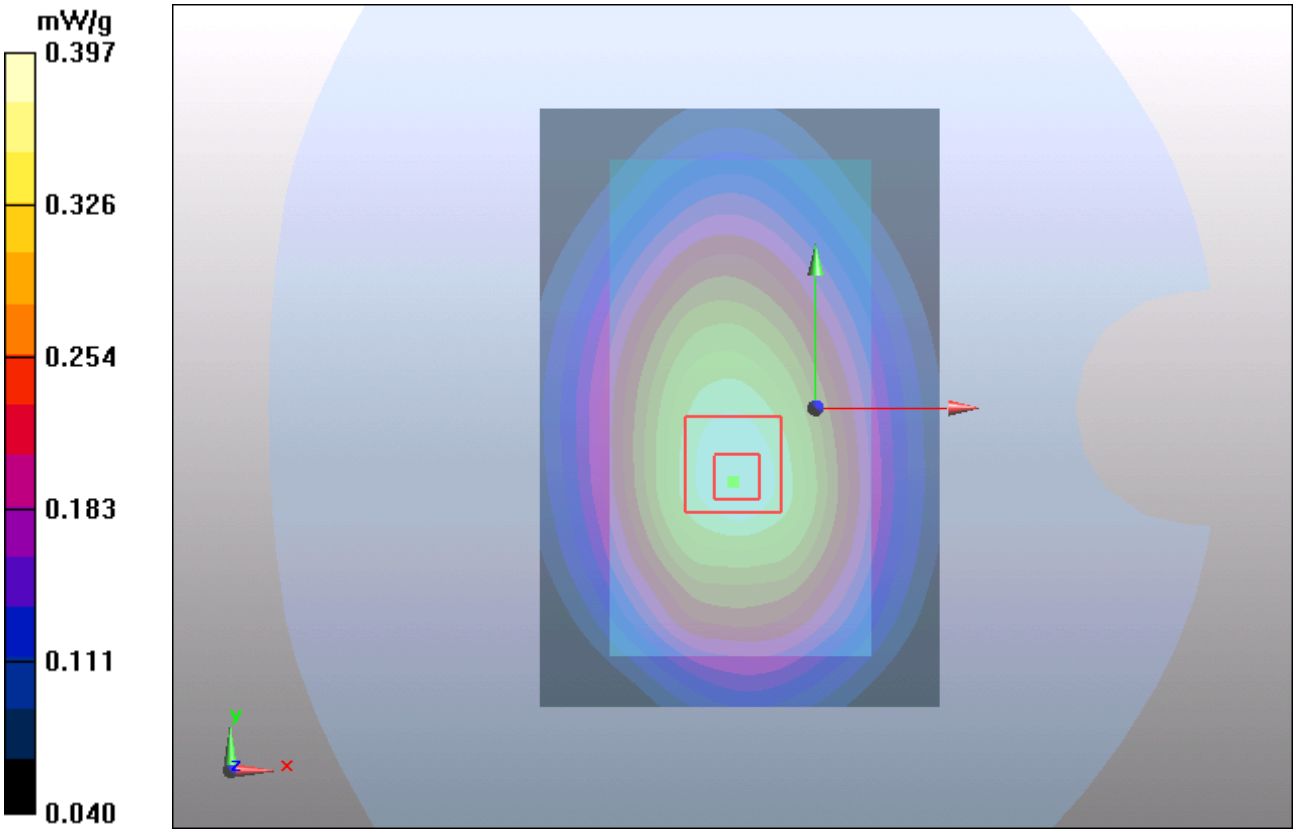


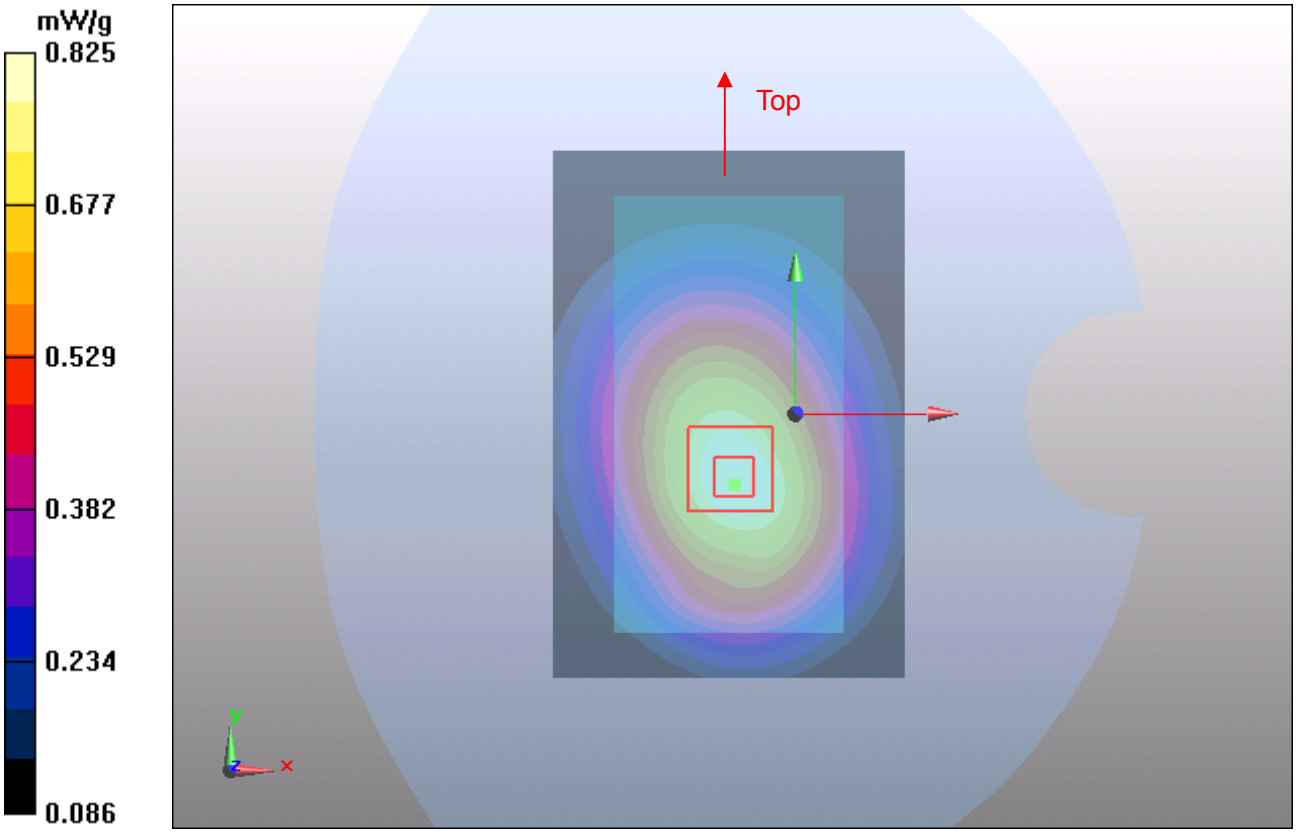
Figure 34 Body with Stereo Headset 2, Towards Ground, GSM 850 Channel 128

GSM 850 EGPRS (4Txslots) Towards Ground Low (Battery 2)

Date/Time: 5/12/2012 7:54:41 PM
Communication System: EGPRS 4TX; Frequency: 824.2 MHz;Duty Cycle: 1:2.07491
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.967 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(9.18, 9.18, 9.18); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Ground Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.838 mW/g

Towards Ground Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.7 V/m; Power Drift = -0.046 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.784 mW/g; SAR(10 g) = 0.574 mW/g
Maximum value of SAR (measured) = 0.825 mW/g



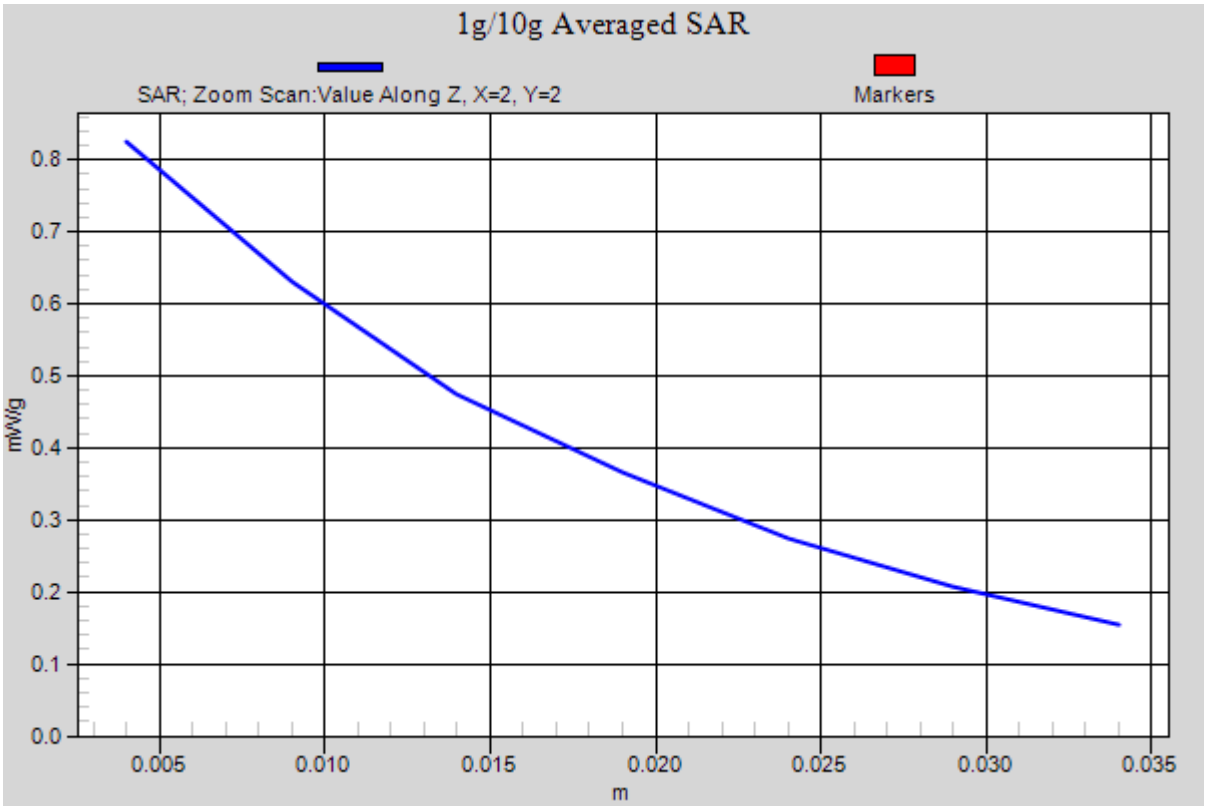


Figure 35 Body, Towards Ground, GSM 850 EGPRS (4Txslots) Channel 128

GSM 1900 Left Cheek High (Battery 1)

Date/Time: 5/2/2012 6:50:25 PM
Communication System: GSM; Frequency: 1909.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1910 MHz; σ = 1.42 mho/m; ε_r = 40.8; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(8.05, 8.05, 8.05); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.625 mW/g

Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.96 V/m; Power Drift = 0.020 dB
Peak SAR (extrapolated) = 0.962 W/kg
SAR(1 g) = 0.588 mW/g; SAR(10 g) = 0.347 mW/g
Maximum value of SAR (measured) = 0.654 mW/g

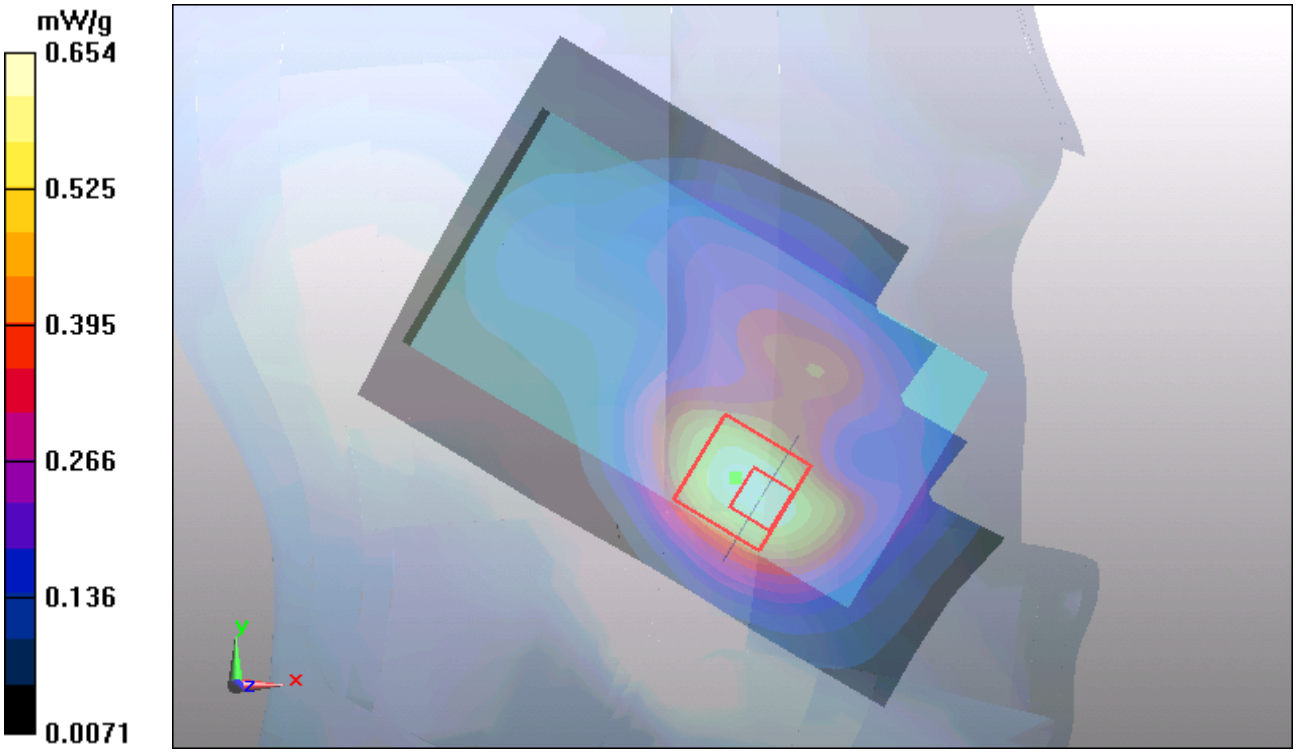


Figure 36 Left Hand Touch Cheek GSM 1900 Channel 810

GSM 1900 Left Cheek Middle (Battery 1)

Date/Time: 5/2/2012 6:27:02 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: EX3DV4 - SN3753; ConvF(8.05, 8.05, 8.05); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Cheek Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.754 mW/g

Cheek Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.7 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 0.772 W/kg
SAR(1 g) = 0.441 mW/g; SAR(10 g) = 0.293 mW/g
Maximum value of SAR (measured) = 0.491 mW/g

Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.7 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.712 mW/g; SAR(10 g) = 0.424 mW/g
Maximum value of SAR (measured) = 0.783 mW/g

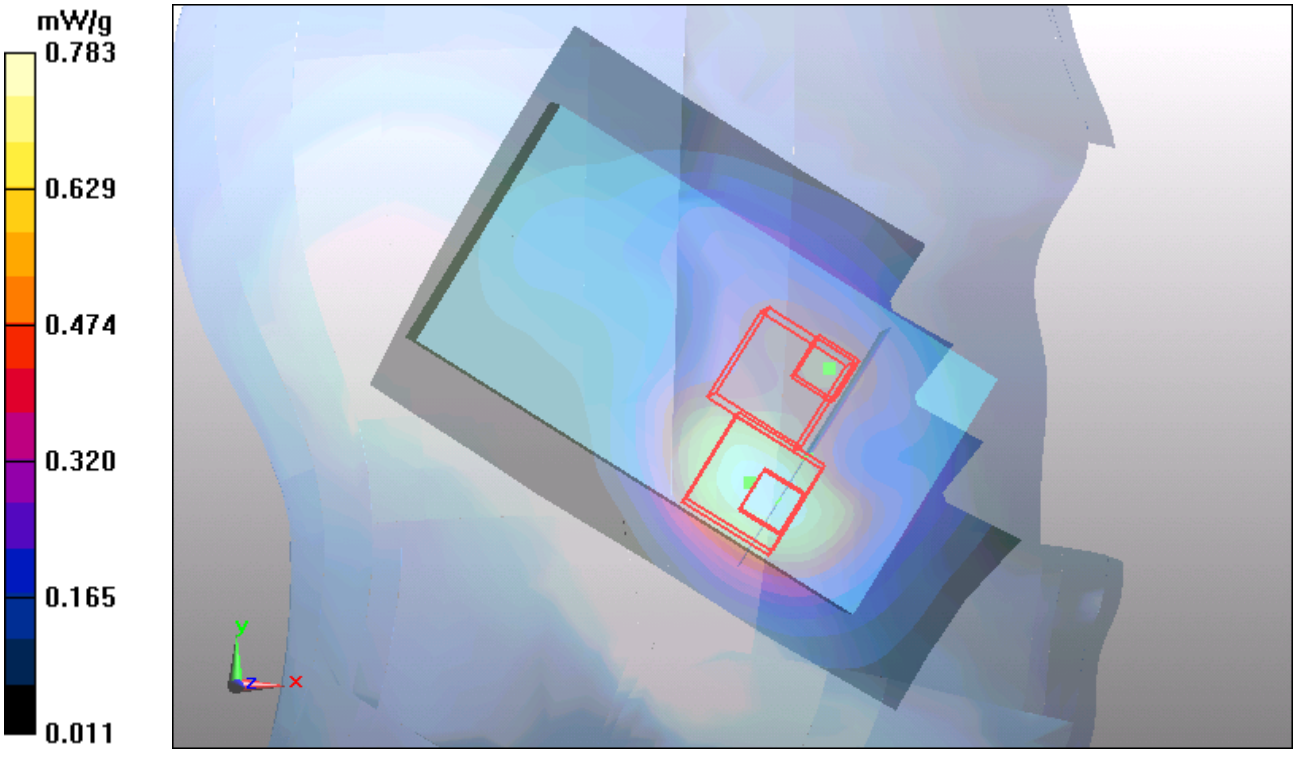
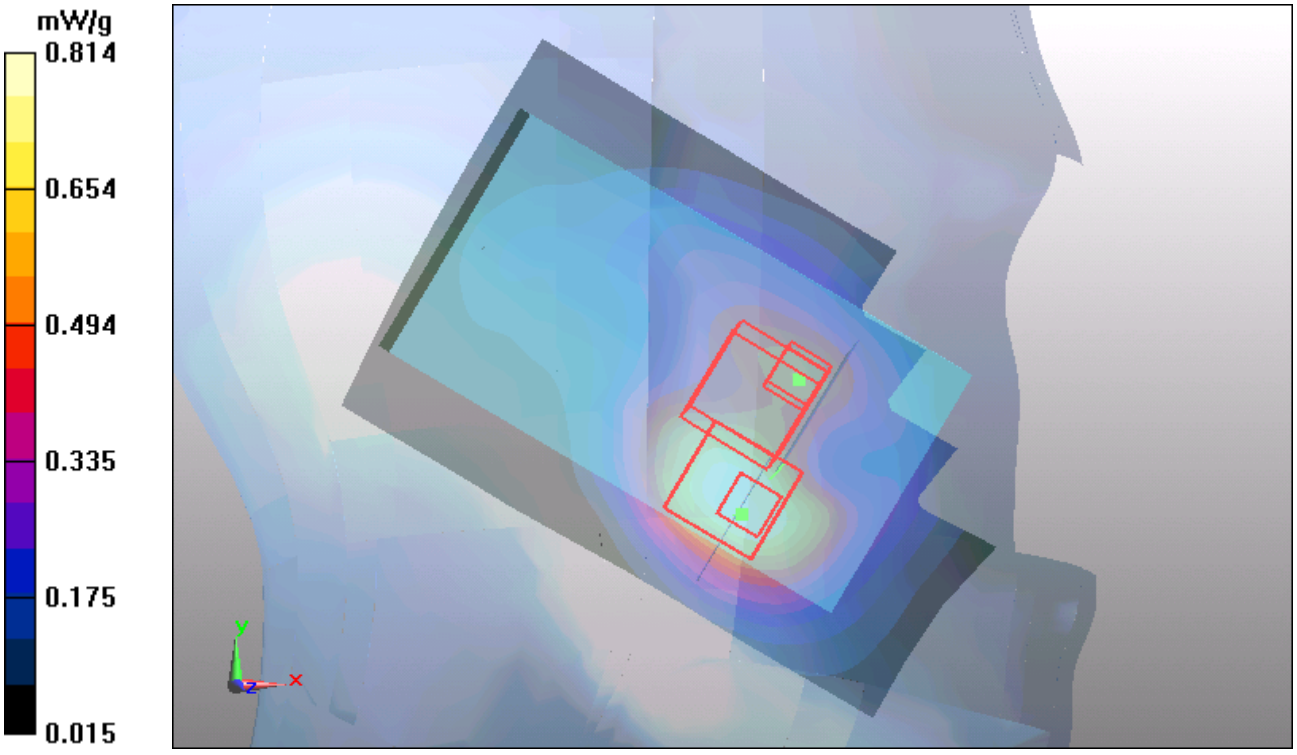


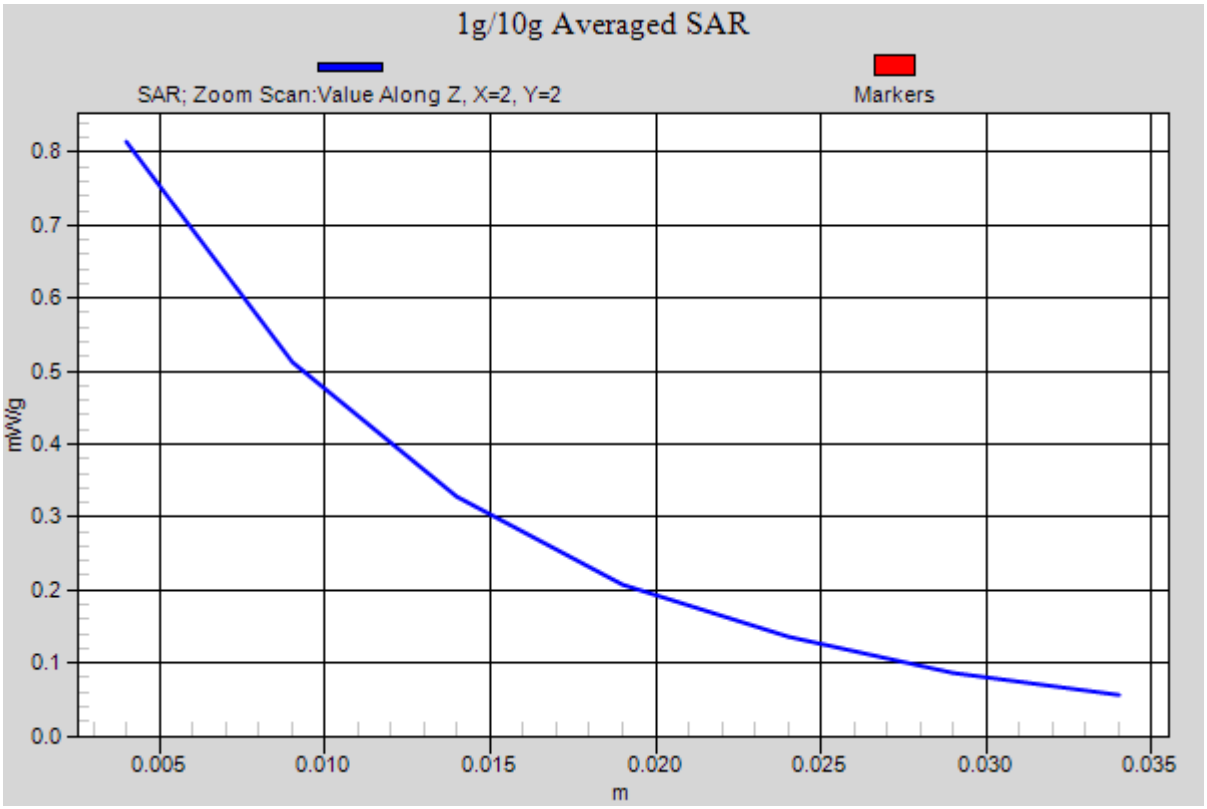
Figure 37 Left Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Left Cheek Low (Battery 1)

Date/Time: 5/2/2012 7:06:59 PM
Communication System: GSM; Frequency: 1850.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.37 mho/m; ε_r = 41; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(8.05, 8.05, 8.05); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Cheek Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.801 mW/g
Cheek Low/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.22 V/m; Power Drift = 0.042 dB
Peak SAR (extrapolated) = 0.853 W/kg
SAR(1 g) = 0.479 mW/g; SAR(10 g) = 0.320 mW/g
Maximum value of SAR (measured) = 0.566 mW/g
Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.22 V/m; Power Drift = 0.042 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 0.763 mW/g; SAR(10 g) = 0.451 mW/g
Maximum value of SAR (measured) = 0.814 mW/g





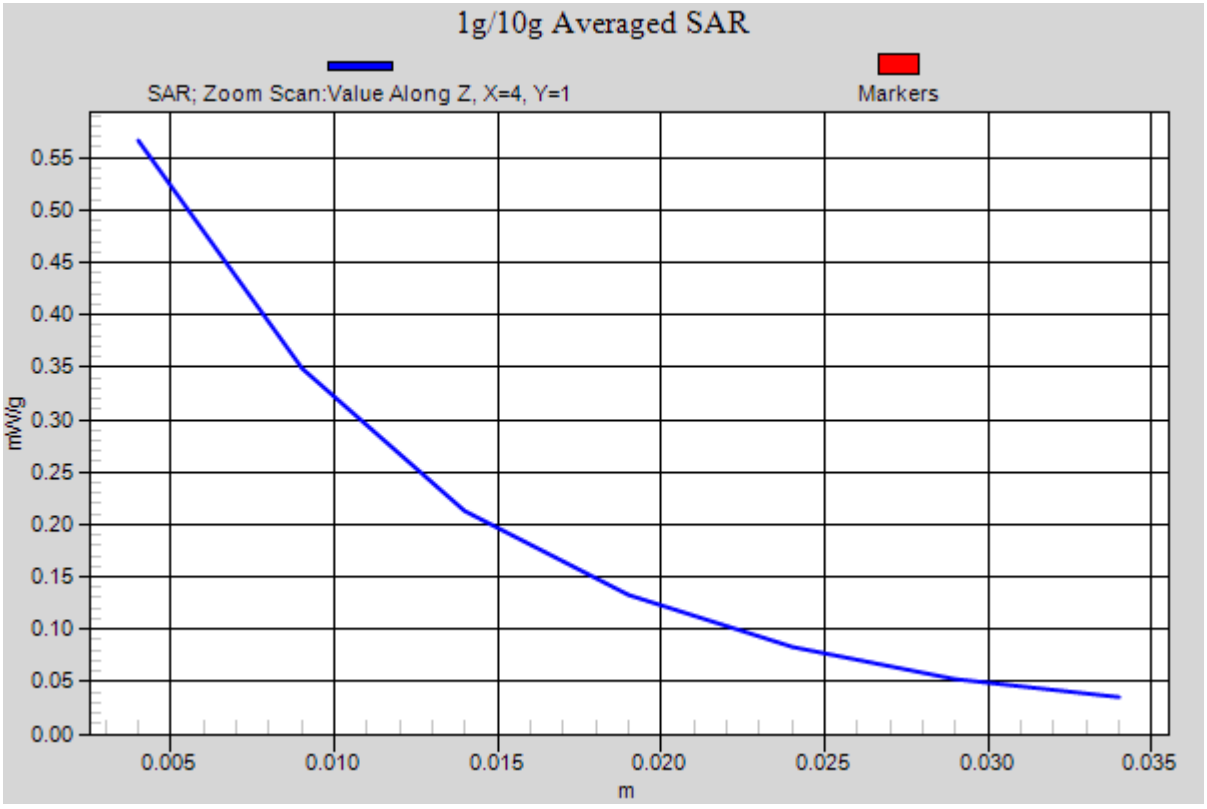


Figure 38 Left Hand Touch Cheek GSM 1900 Channel 512

GSM 1900 Left Tilt High (Battery 1)

Date/Time: 5/2/2012 7:48:32 PM
Communication System: GSM; Frequency: 1909.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1910 MHz; σ = 1.42 mho/m; ε_r = 40.8; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(8.05, 8.05, 8.05); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Tilt High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.199 mW/g

Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.8 V/m; Power Drift = 0.050 dB
Peak SAR (extrapolated) = 0.277 W/kg
SAR(1 g) = 0.169 mW/g; SAR(10 g) = 0.098 mW/g
Maximum value of SAR (measured) = 0.185 mW/g

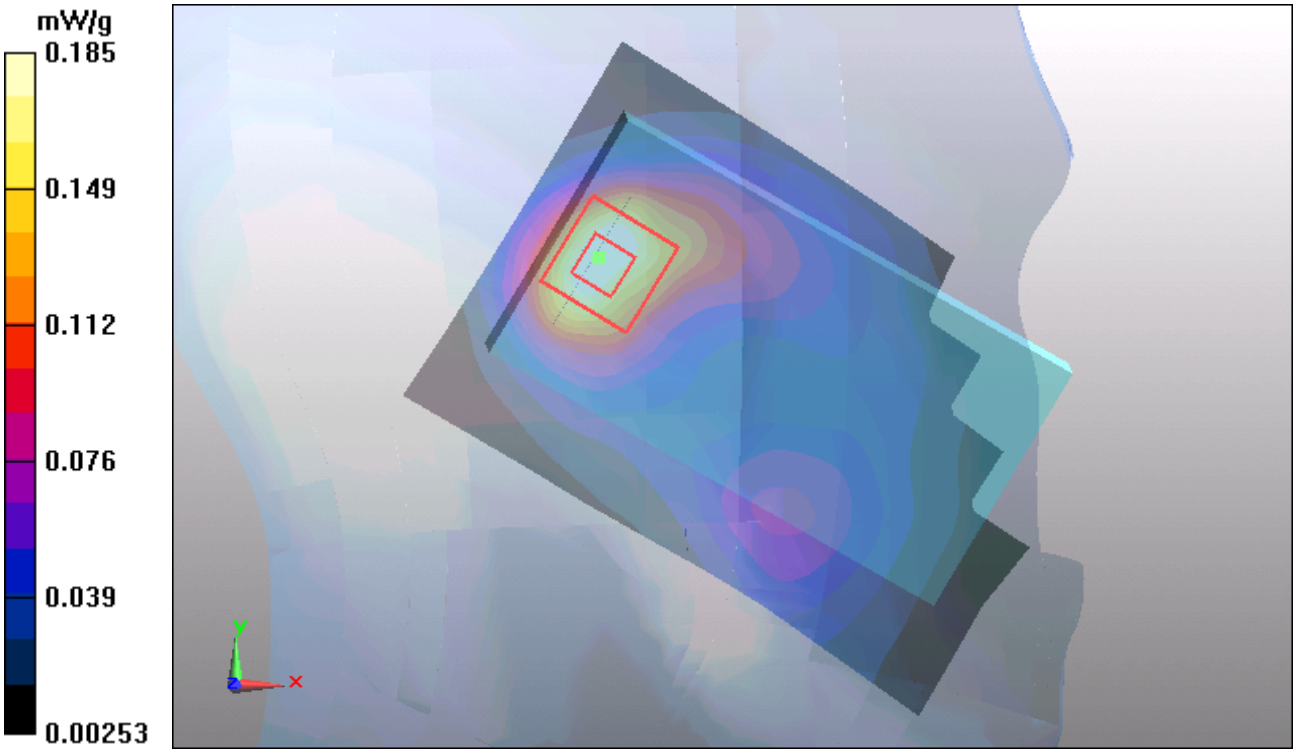


Figure 39 Left Hand Tilt 15° GSM 1900 Channel 810

GSM 1900 Left Tilt Middle (Battery 1)

Date/Time: 5/2/2012 7:32:18 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: EX3DV4 - SN3753; ConvF(8.05, 8.05, 8.05); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Tilt Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.253 mW/g

Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.4 V/m; Power Drift = 0.035 dB
Peak SAR (extrapolated) = 0.360 W/kg
SAR(1 g) = 0.221 mW/g; SAR(10 g) = 0.130 mW/g
Maximum value of SAR (measured) = 0.239 mW/g

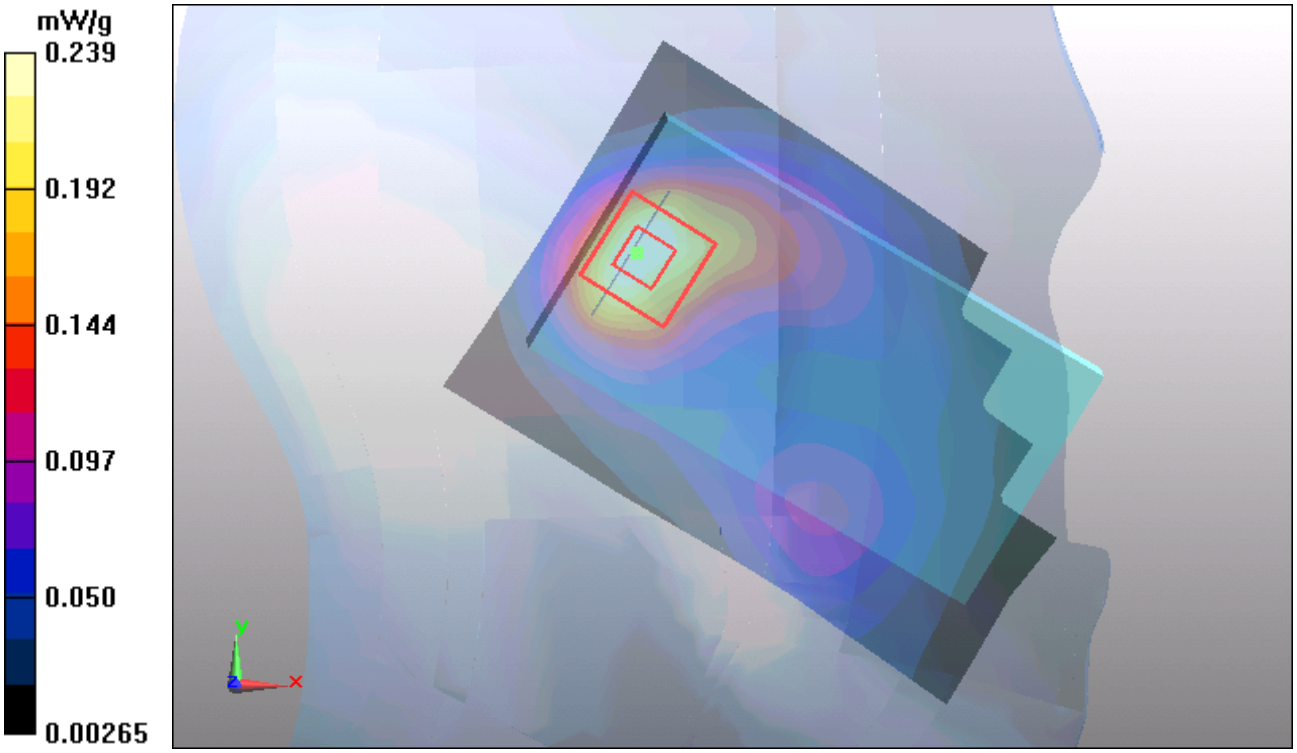


Figure 40 Left Hand Tilt 15° GSM 1900 Channel 661

GSM 1900 Left Tilt Low (Battery 1)

Date/Time: 5/2/2012 8:04:54 PM
Communication System: GSM; Frequency: 1850.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.37 mho/m; ε_r = 41; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(8.05, 8.05, 8.05); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Tilt Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.268 mW/g

Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.374 W/kg
SAR(1 g) = 0.233 mW/g; SAR(10 g) = 0.138 mW/g
Maximum value of SAR (measured) = 0.254 mW/g

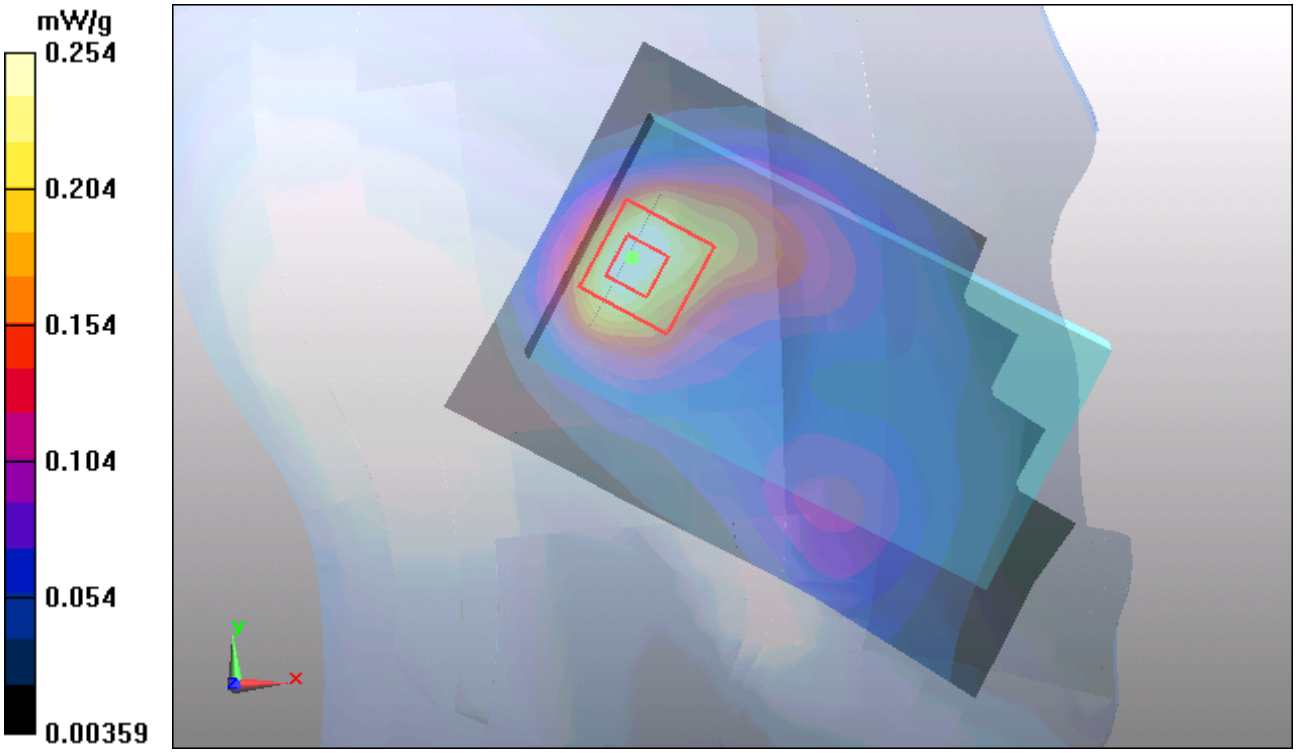


Figure 41 Left Hand Tilt 15° GSM 1900 Channel 512

GSM 1900 Right Cheek High (Battery 1)

Date/Time: 5/2/2012 8:53:35 PM
Communication System: GSM; Frequency: 1909.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1910 MHz; σ = 1.42 mho/m; ε_r = 40.8; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(8.05, 8.05, 8.05); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.539 mW/g

Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.38 V/m; Power Drift = 0.083 dB
Peak SAR (extrapolated) = 0.769 W/kg
SAR(1 g) = 0.485 mW/g; SAR(10 g) = 0.290 mW/g
Maximum value of SAR (measured) = 0.533 mW/g

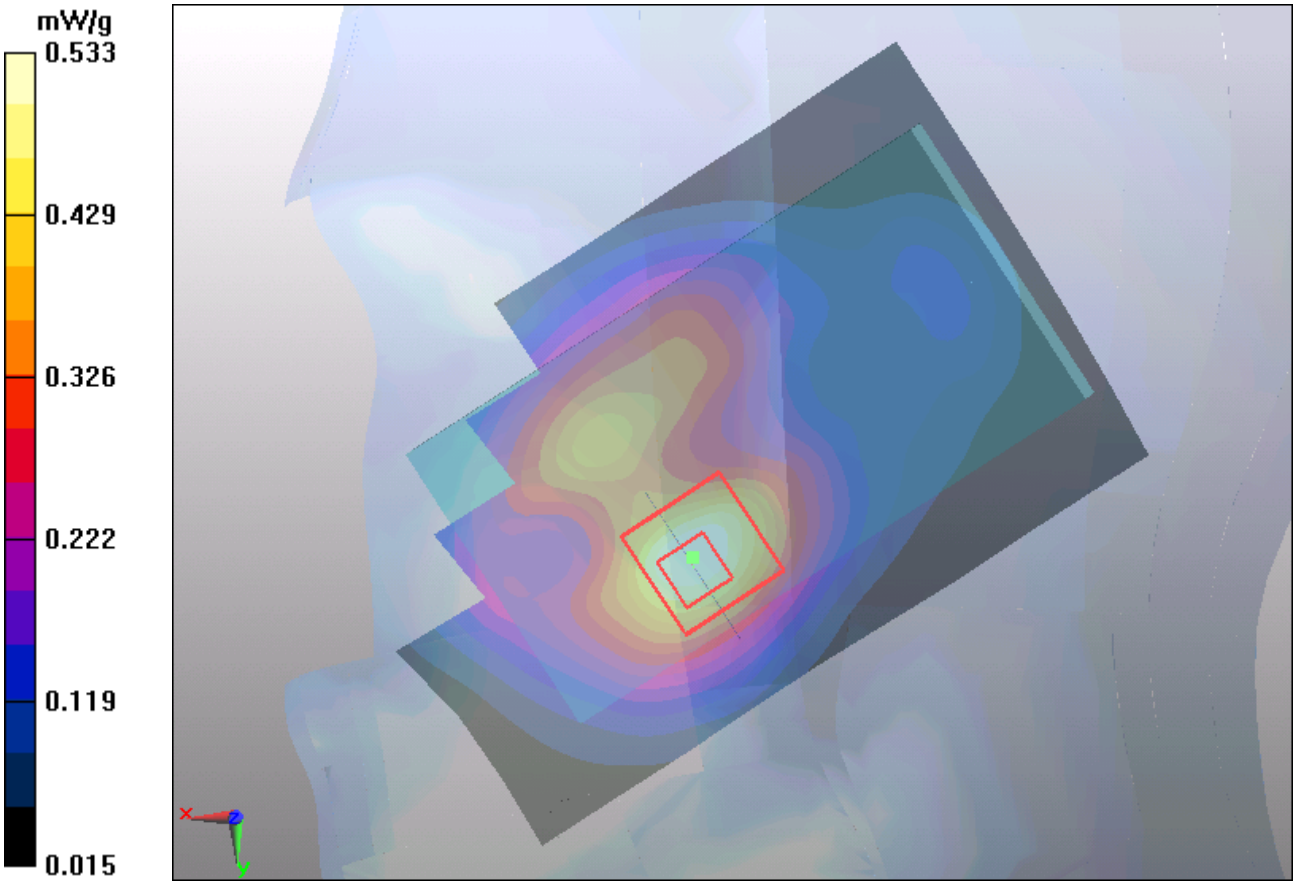


Figure 42 Right Hand Touch Cheek GSM 1900 Channel 810

GSM 1900 Right Cheek Middle (Battery 1)

Date/Time: 5/2/2012 8:28:28 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: EX3DV4 - SN3753; ConvF(8.05, 8.05, 8.05); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59
Cheek Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.705 mW/g
Cheek Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = -0.00885 dB
Peak SAR (extrapolated) = 0.768 W/kg
SAR(1 g) = 0.472 mW/g; SAR(10 g) = 0.294 mW/g
Maximum value of SAR (measured) = 0.524 mW/g
Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = -0.00885 dB
Peak SAR (extrapolated) = 0.982 W/kg
SAR(1 g) = 0.628 mW/g; SAR(10 g) = 0.377 mW/g
Maximum value of SAR (measured) = 0.677 mW/g

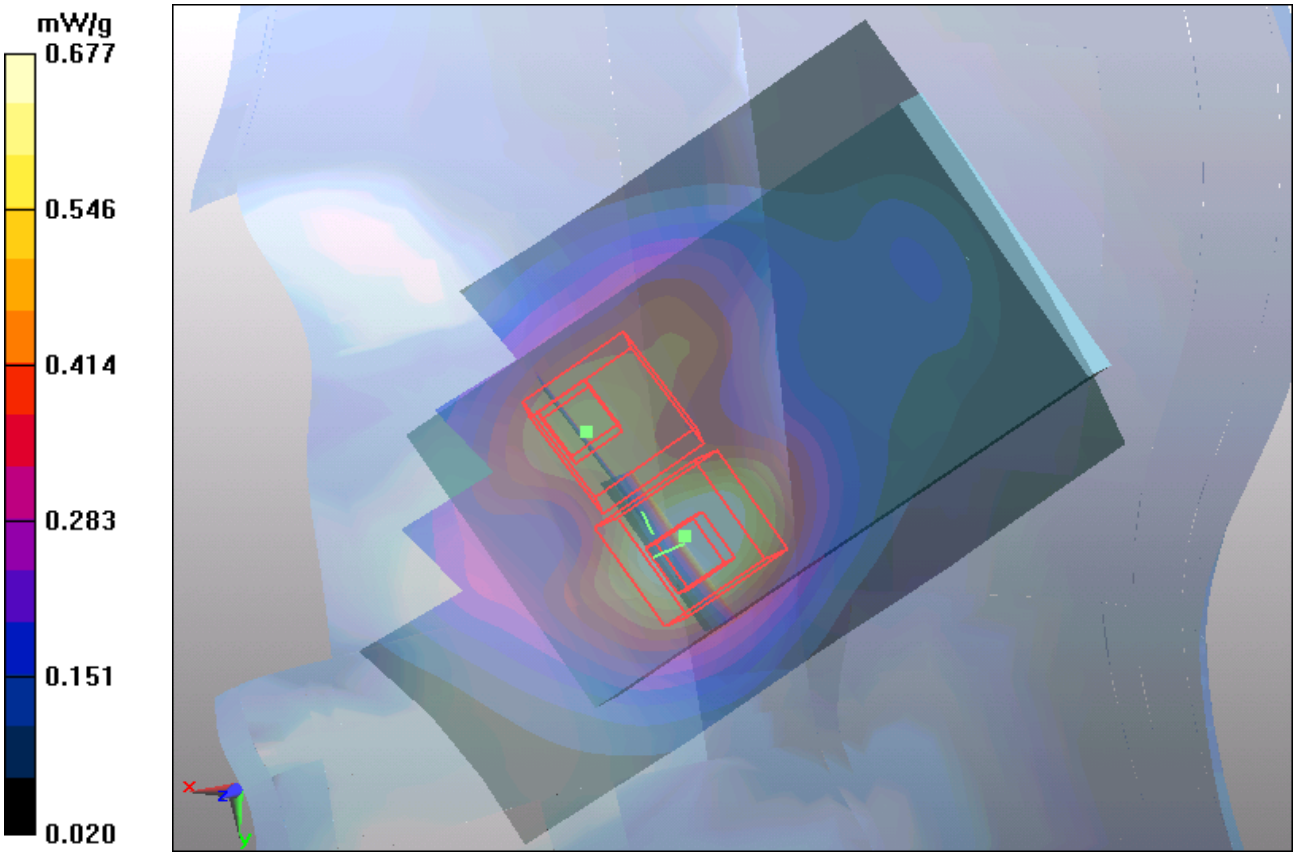


Figure 43 Right Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Right Cheek Low (Battery 1)

Date/Time: 5/2/2012 9:09:32 PM
Communication System: GSM; Frequency: 1850.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.37 mho/m; ε_r = 41; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(8.05, 8.05, 8.05); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59
Cheek Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.780 mW/g
Cheek Low/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.1 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 0.842 W/kg
SAR(1 g) = 0.510 mW/g; SAR(10 g) = 0.320 mW/g
Maximum value of SAR (measured) = 0.587 mW/g
Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.1 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 1.07 W/kg
SAR(1 g) = 0.697 mW/g; SAR(10 g) = 0.422 mW/g
Maximum value of SAR (measured) = 0.753 mW/g

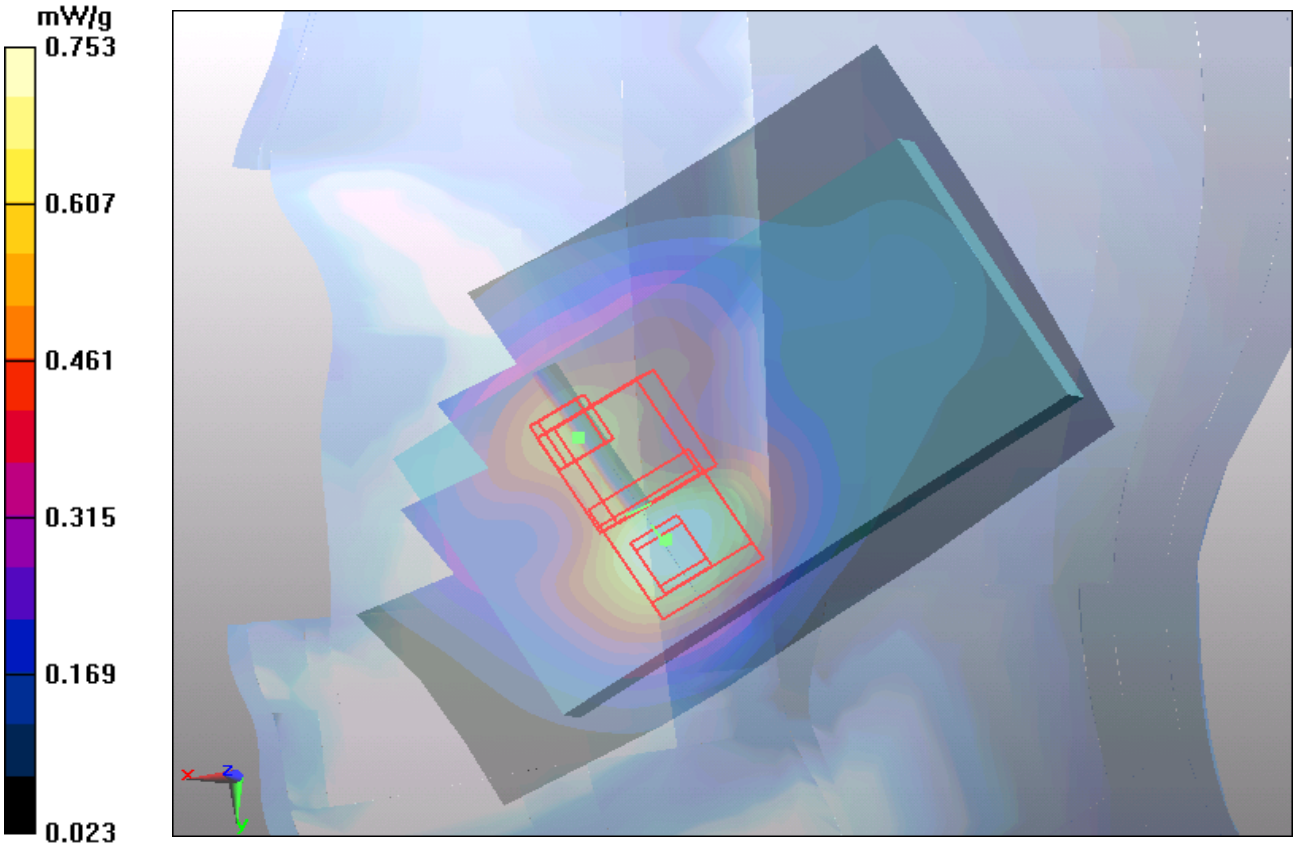


Figure 44 Right Hand Touch Cheek GSM 1900 Channel 512

GSM 1900 Right Tilt High (Battery 1)

Date/Time: 5/2/2012 9:49:42 PM
Communication System: GSM; Frequency: 1909.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1910 MHz; σ = 1.42 mho/m; ε_r = 40.8; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(8.05, 8.05, 8.05); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Tilt High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.204 mW/g

Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.4 V/m; Power Drift = 0.00555 dB
Peak SAR (extrapolated) = 0.299 W/kg
SAR(1 g) = 0.179 mW/g; SAR(10 g) = 0.101 mW/g
Maximum value of SAR (measured) = 0.196 mW/g

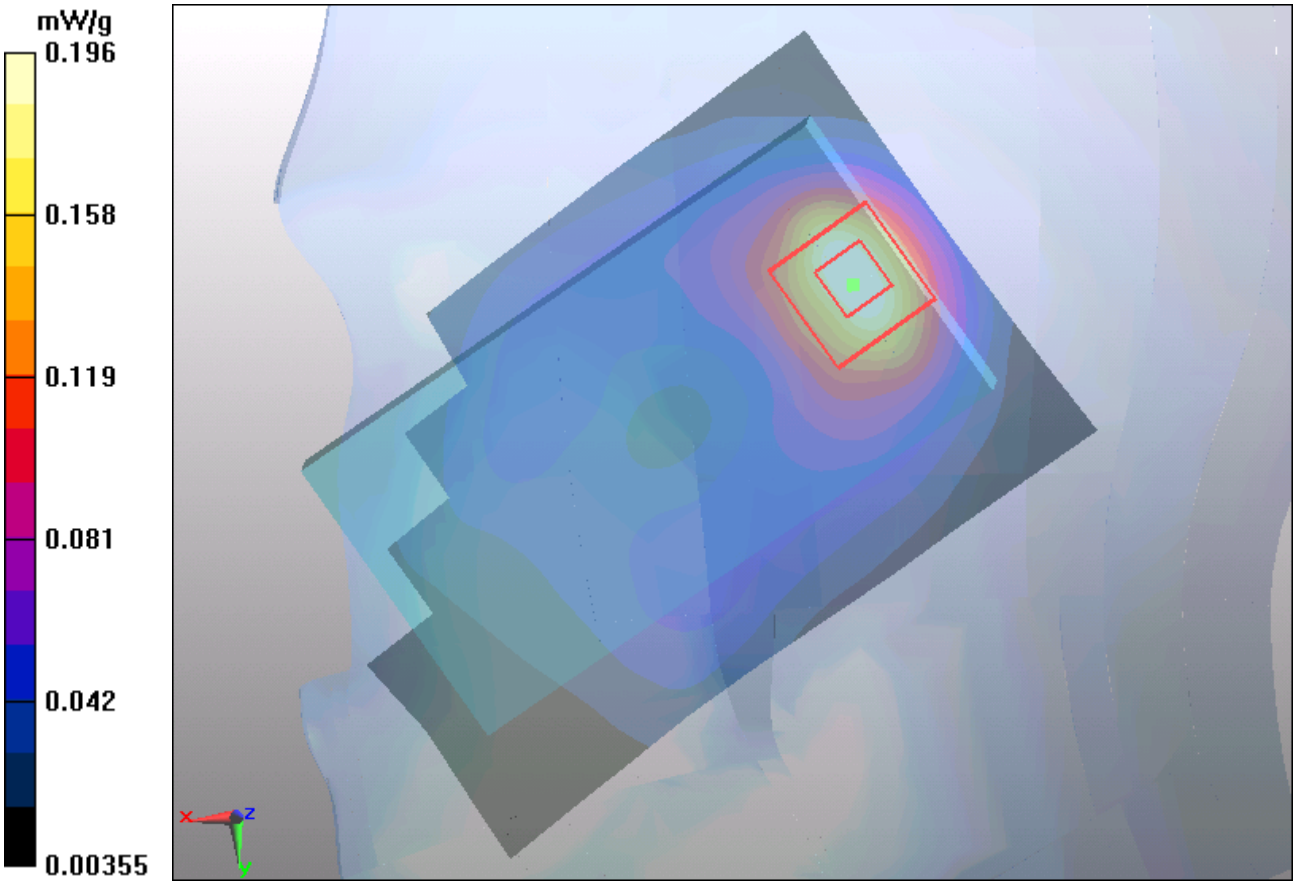


Figure 45 Right Hand Tilt 15° GSM 1900 Channel 810

GSM 1900 Right Tilt Middle (Battery 1)

Date/Time: 5/2/2012 9:33:50 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: EX3DV4 - SN3753; ConvF(8.05, 8.05, 8.05); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Tilt Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.260 mW/g

Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = 0.00703 dB
Peak SAR (extrapolated) = 0.365 W/kg
SAR(1 g) = 0.224 mW/g; SAR(10 g) = 0.128 mW/g
Maximum value of SAR (measured) = 0.244 mW/g

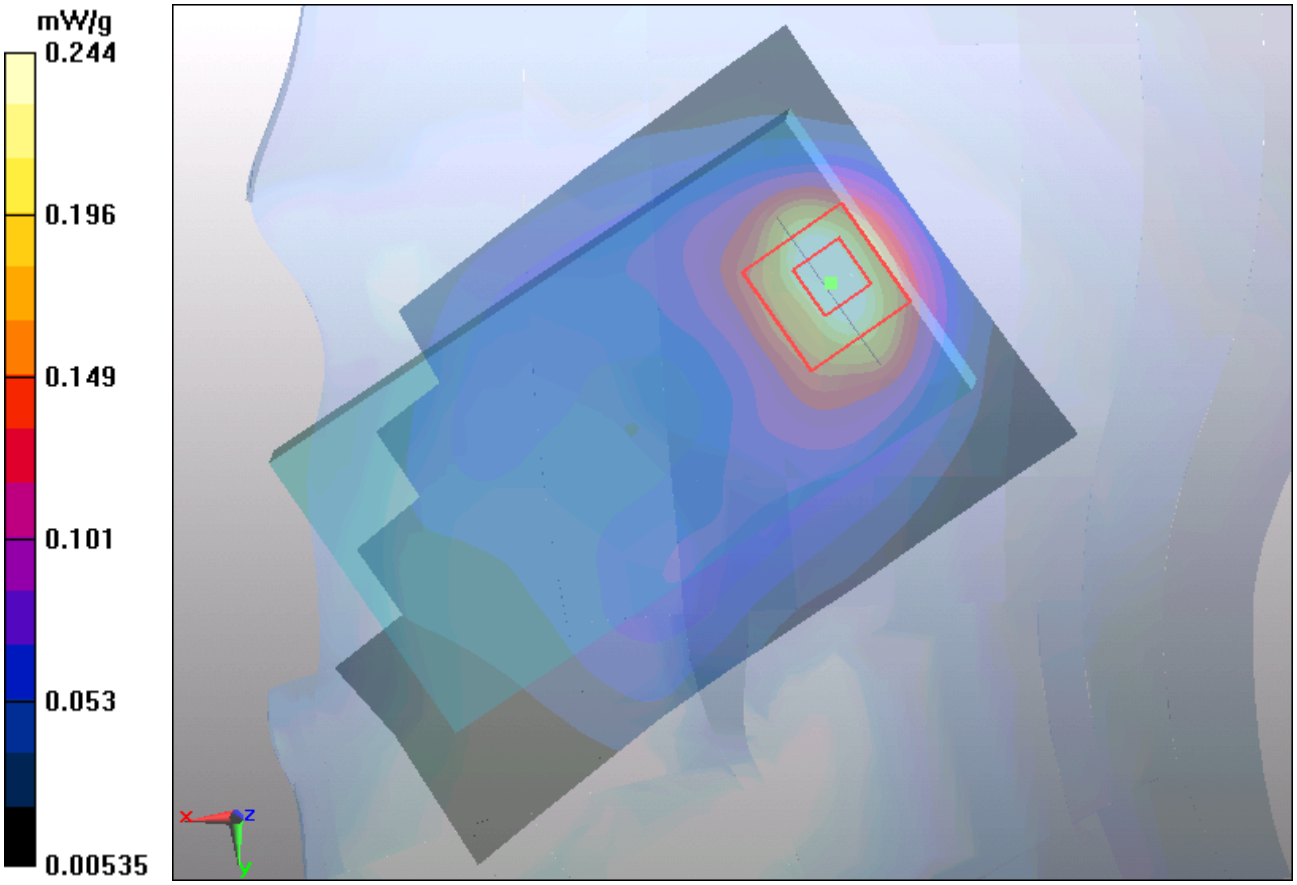


Figure 46 Right Hand Tilt 15° GSM 1900 Channel 661

GSM 1900 Right Tilt Low (Battery 1)

Date/Time: 5/2/2012 10:06:36 PM
Communication System: GSM; Frequency: 1850.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.37 mho/m; ε_r = 41; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(8.05, 8.05, 8.05); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Tilt Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.284 mW/g

Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.7 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 0.401 W/kg
SAR(1 g) = 0.249 mW/g; SAR(10 g) = 0.144 mW/g
Maximum value of SAR (measured) = 0.275 mW/g

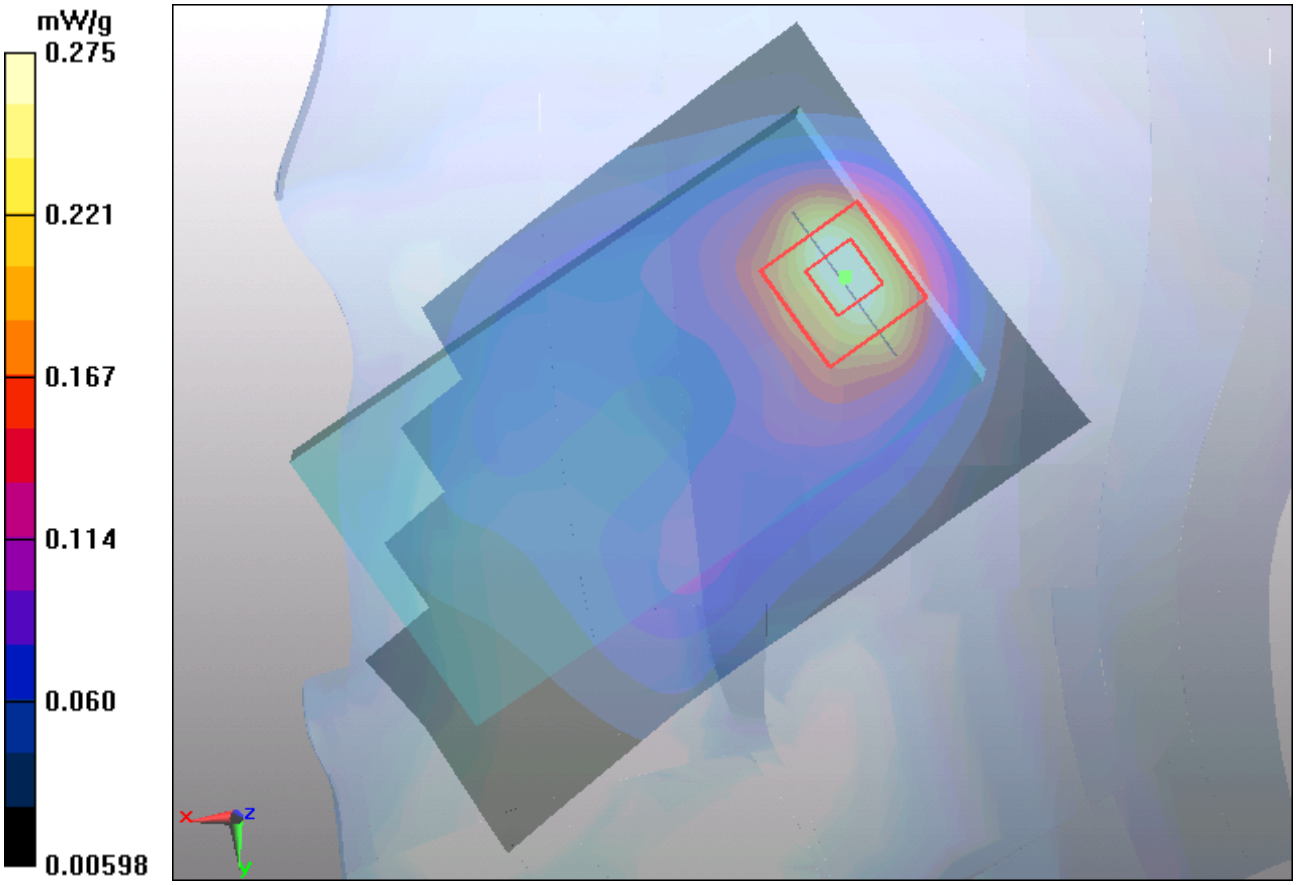


Figure 47 Right Hand Tilt 15° GSM 1900 Channel 512

GSM 1900 GPRS (4Txslots) Towards Ground High (Battery 1)

Date/Time: 5/13/2012 1:09:27 PM
Communication System: GPRS 4TX; Frequency: 1909.8 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1910 MHz; σ = 1.49 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(7.57, 7.57, 7.57); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Ground High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.384 mW/g

Towards Ground High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.97 V/m; Power Drift = 0.083 dB
Peak SAR (extrapolated) = 0.569 W/kg
SAR(1 g) = 0.353 mW/g; SAR(10 g) = 0.217 mW/g
Maximum value of SAR (measured) = 0.382 mW/g

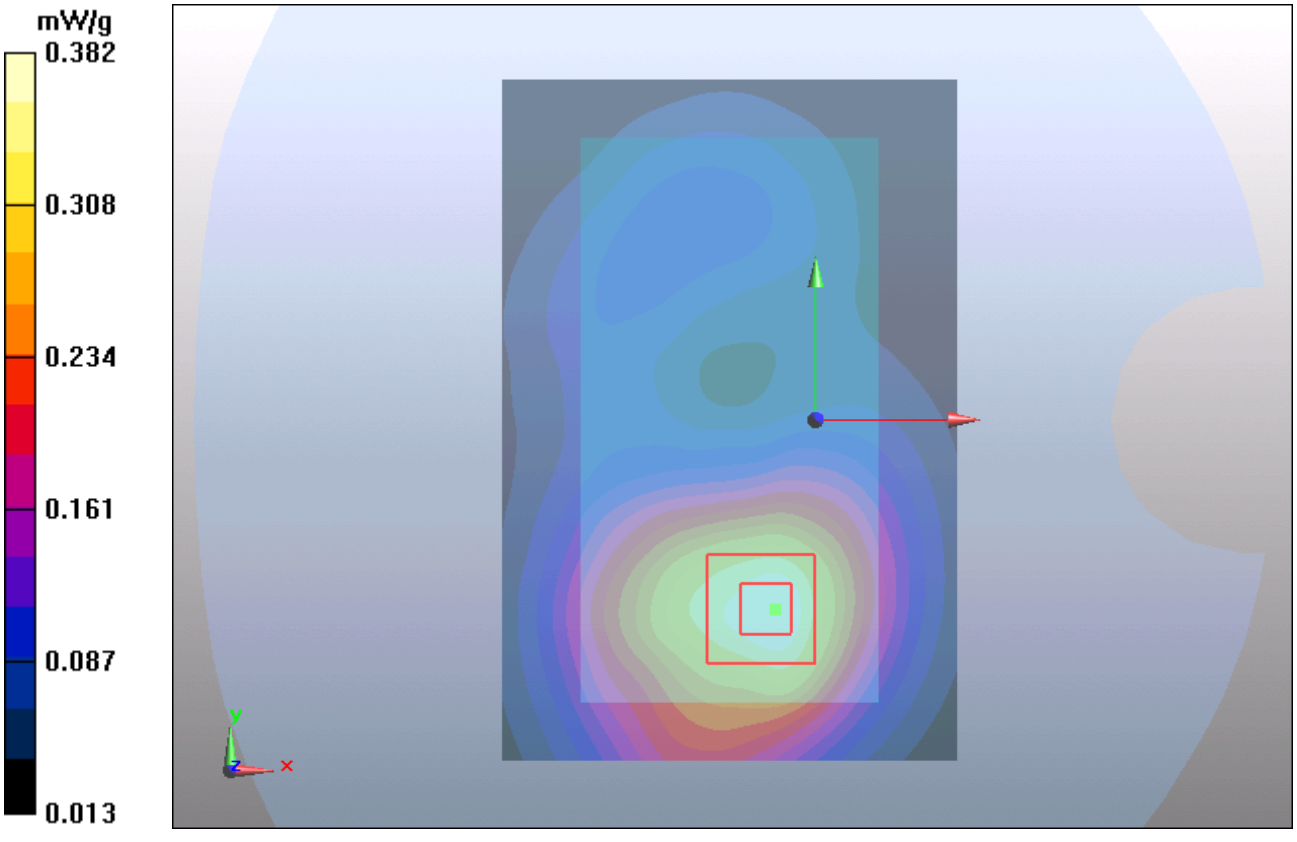


Figure 48 Body, Towards Ground, GSM 1900 GPRS (4Txslots) Channel 810

GSM 1900 GPRS (4Txslots) Towards Ground Middle (Battery 1)

Date/Time: 5/13/2012 12:53:08 PM
Communication System: GPRS 4TX; Frequency: 1880 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1880 MHz; σ = 1.47 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: EX3DV4 - SN3753; ConvF(7.57, 7.57, 7.57); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Ground Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.460 mW/g

Towards Ground Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.27 V/m; Power Drift = 0.017 dB
Peak SAR (extrapolated) = 0.669 W/kg
SAR(1 g) = 0.419 mW/g; SAR(10 g) = 0.257 mW/g
Maximum value of SAR (measured) = 0.453 mW/g

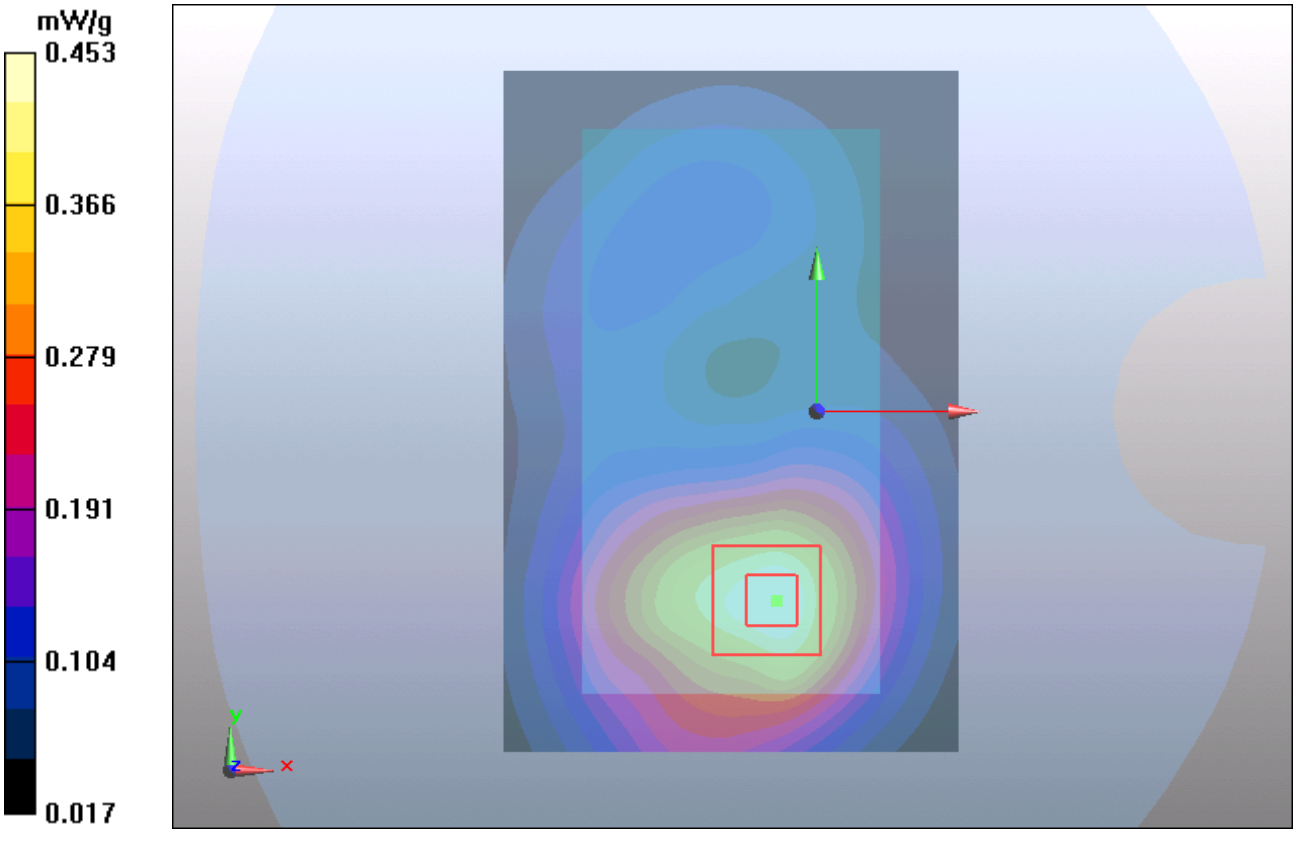


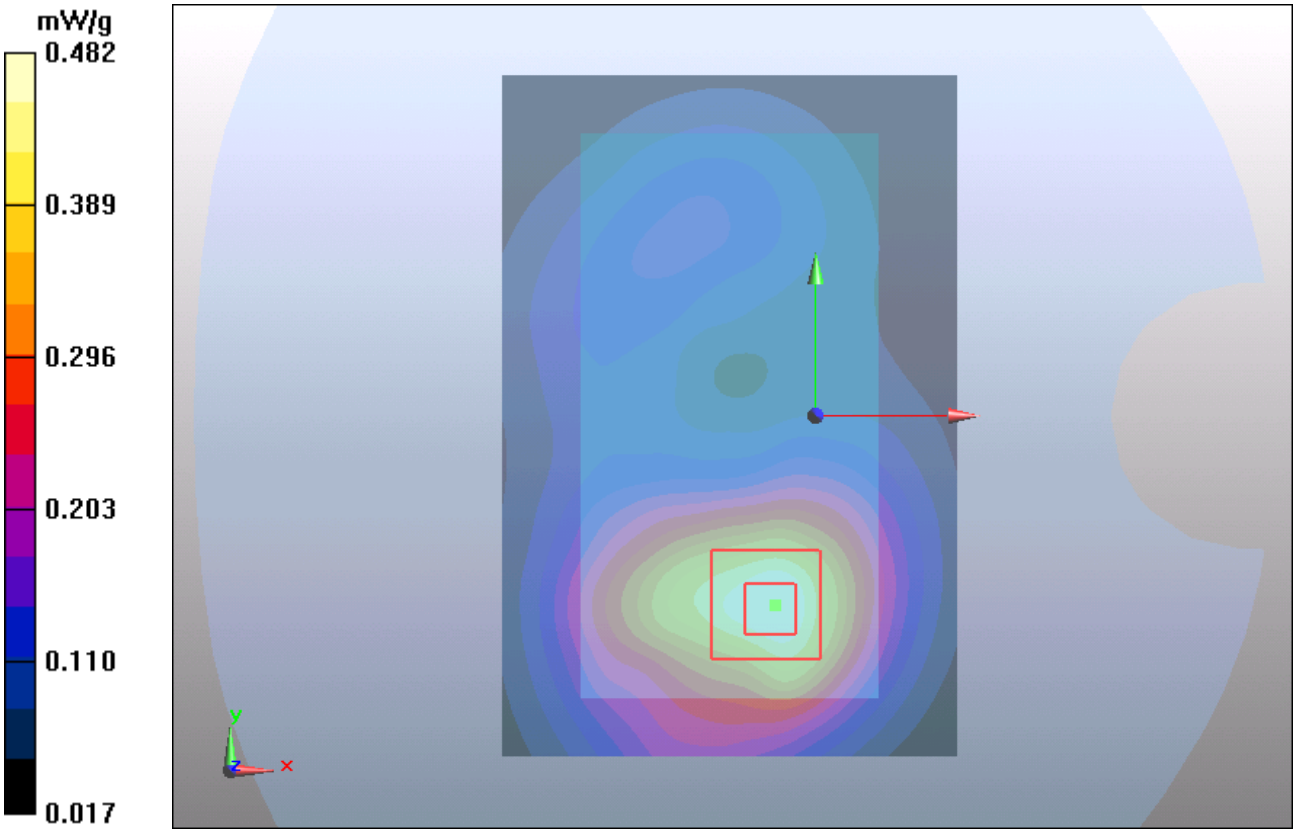
Figure 49 Body, Towards Ground, GSM 1900 GPRS (4Txslots) Channel 661

GSM 1900 GPRS (4Txslots) Towards Ground Low (Battery 1)

Date/Time: 5/13/2012 1:25:25 PM
Communication System: GPRS 4TX; Frequency: 1850.2 MHz;Duty Cycle: 1:2.07491
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.46 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: EX3DV4 - SN3753; ConvF(7.57, 7.57, 7.57); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Ground Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.494 mW/g

Towards Ground Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.22 V/m; Power Drift = 0.123 dB
Peak SAR (extrapolated) = 0.709 W/kg
SAR(1 g) = 0.447 mW/g; SAR(10 g) = 0.273 mW/g
Maximum value of SAR (measured) = 0.482 mW/g



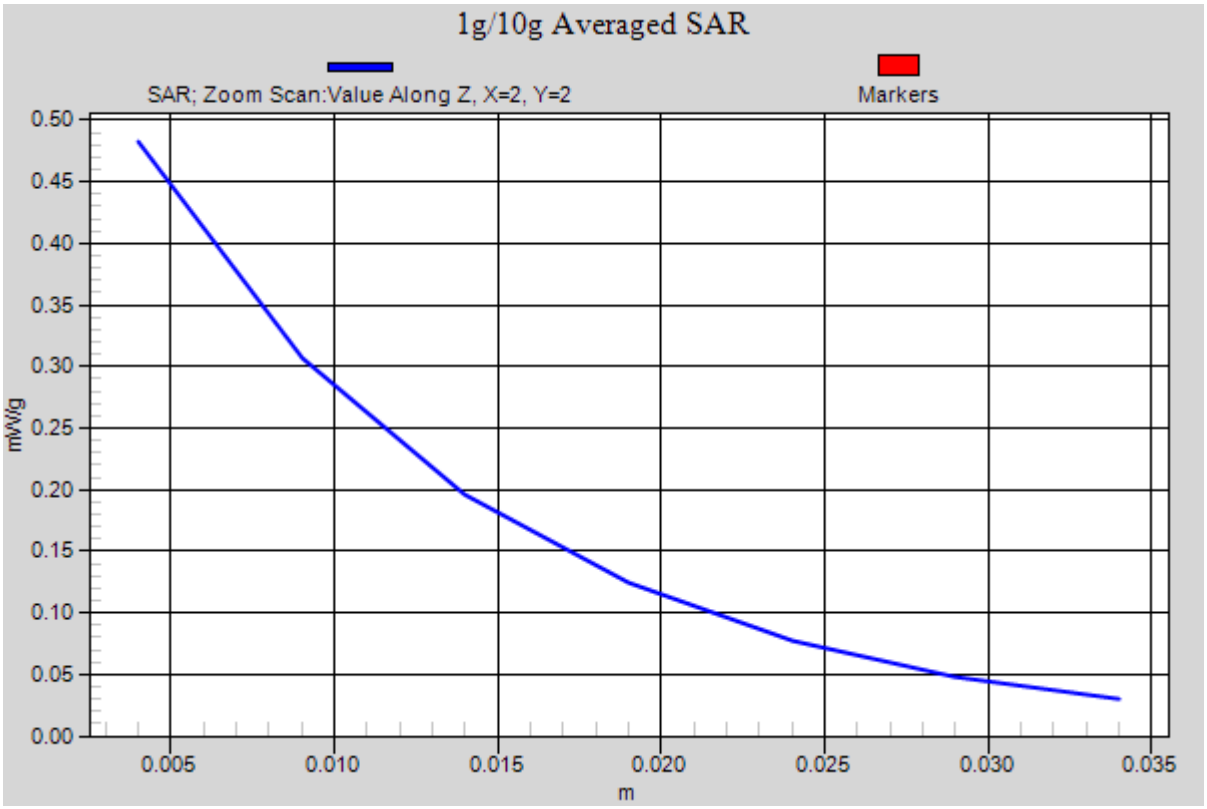


Figure 50 Body, Towards Ground, GSM 1900 GPRS (4Txslots) Channel 512

GSM 1900 GPRS (4Txslots) Towards Phantom High (Battery 1)

Date/Time: 5/13/2012 2:35:36 PM
Communication System: GPRS 4TX; Frequency: 1909.8 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1910 MHz; σ = 1.49 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: EX3DV4 - SN3753; ConvF(7.57, 7.57, 7.57); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Phantom High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.334 mW/g

Towards Phantom High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.91 V/m; Power Drift = 0.038 dB
Peak SAR (extrapolated) = 0.479 W/kg
SAR(1 g) = 0.302 mW/g; SAR(10 g) = 0.187 mW/g
Maximum value of SAR (measured) = 0.324 mW/g

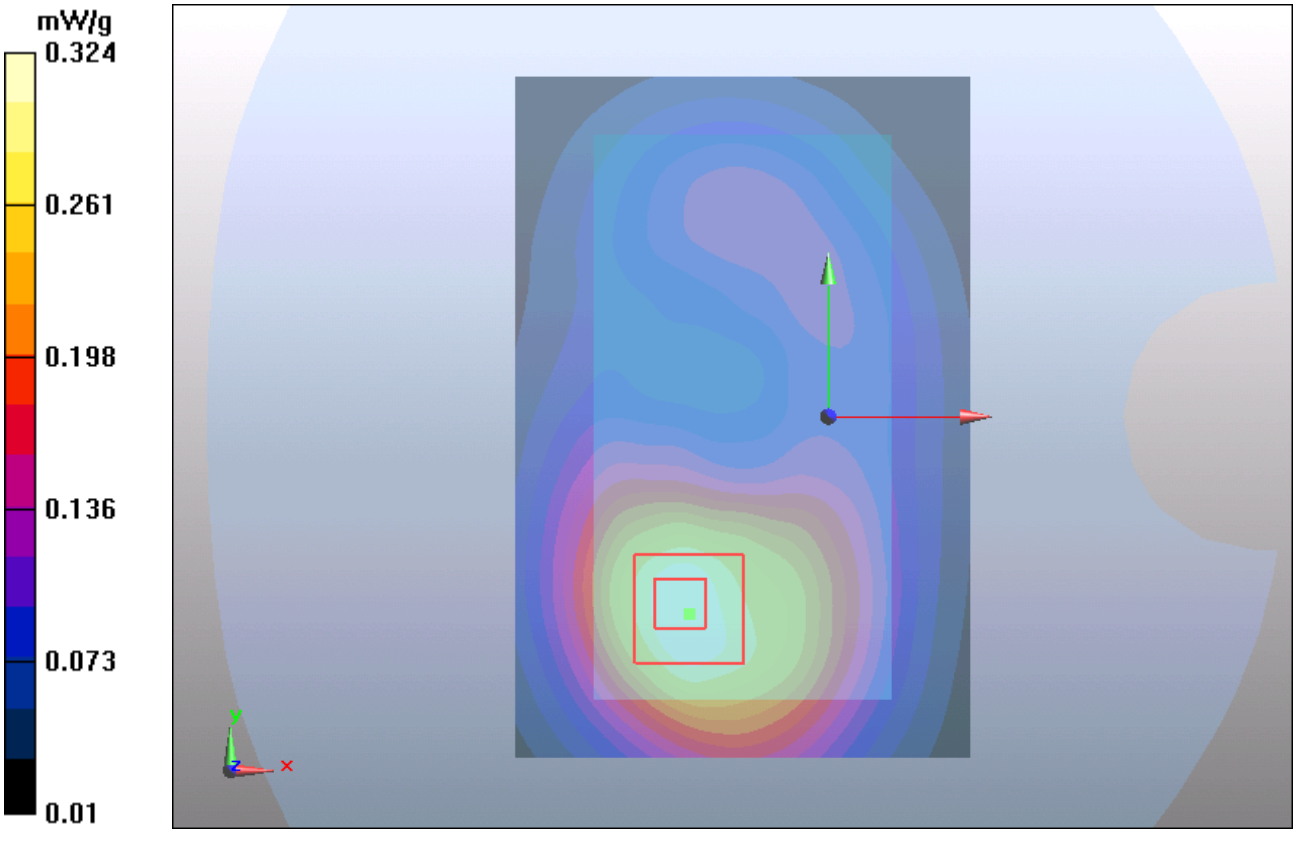


Figure 51 Body, Towards Phantom, GSM 1900 GPRS (2Txslots) Channel 810

GSM 1900 GPRS (4Txslots) Towards Phantom Middle (Battery 1)

Date/Time: 5/13/2012 2:04:24 PM
Communication System: GPRS 4TX; Frequency: 1880 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1880 MHz; σ = 1.47 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: EX3DV4 - SN3753; ConvF(7.57, 7.57, 7.57); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Phantom Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.375 mW/g

Towards Phantom Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.56 V/m; Power Drift = -0.00444 dB
Peak SAR (extrapolated) = 0.542 W/kg
SAR(1 g) = 0.342 mW/g; SAR(10 g) = 0.212 mW/g
Maximum value of SAR (measured) = 0.369 mW/g

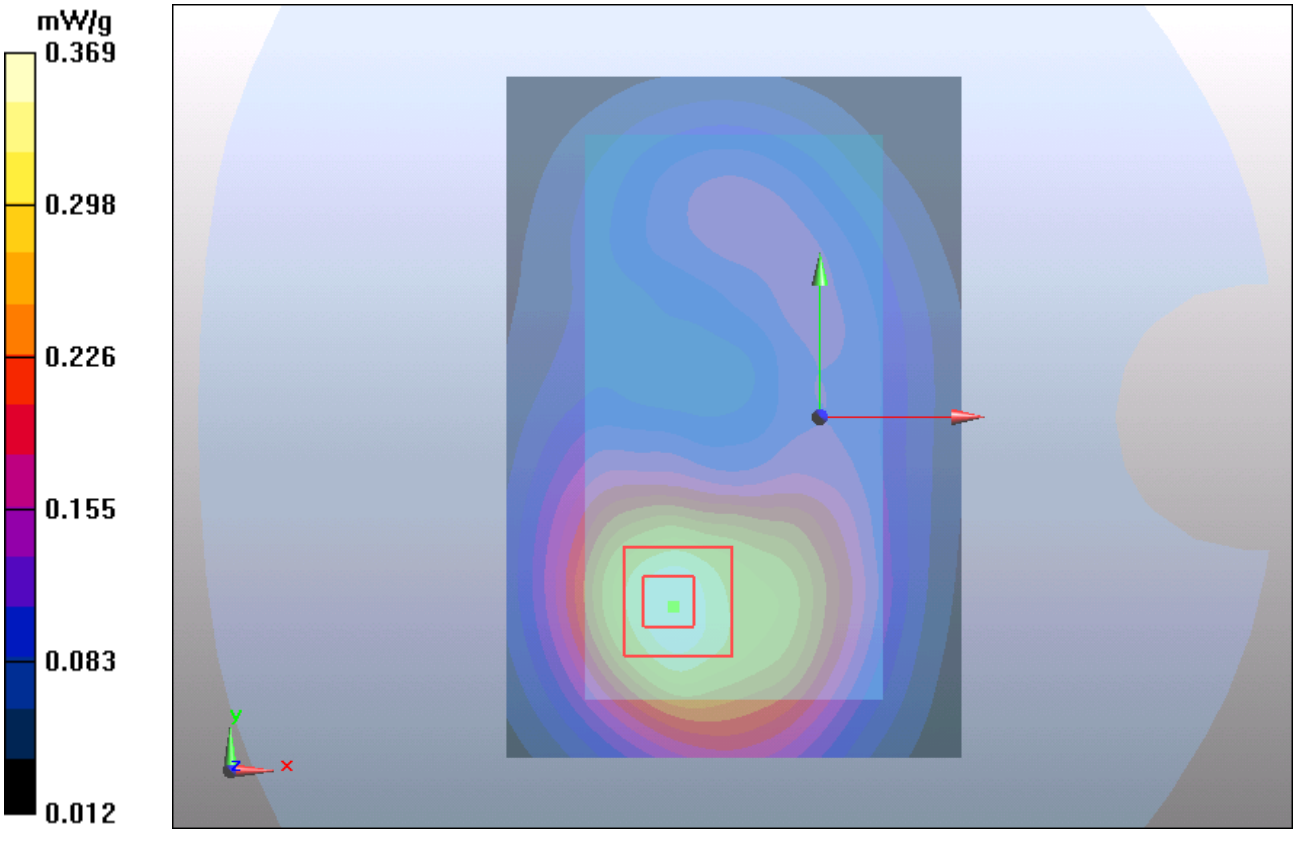


Figure 52 Body, Towards Phantom, GSM 1900 GPRS (4Txslots) Channel 661

GSM 1900 GPRS (4Txslots) Towards Phantom Low (Battery 1)

Date/Time: 5/13/2012 1:45:17 PM
Communication System: GPRS 4TX; Frequency: 1850.2 MHz;Duty Cycle: 1:2.07491
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.46 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: EX3DV4 - SN3753; ConvF(7.57, 7.57, 7.57); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Phantom Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.411 mW/g

Towards Phantom Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.77 V/m; Power Drift = 0.037 dB
Peak SAR (extrapolated) = 0.580 W/kg
SAR(1 g) = 0.368 mW/g; SAR(10 g) = 0.227 mW/g
Maximum value of SAR (measured) = 0.397 mW/g

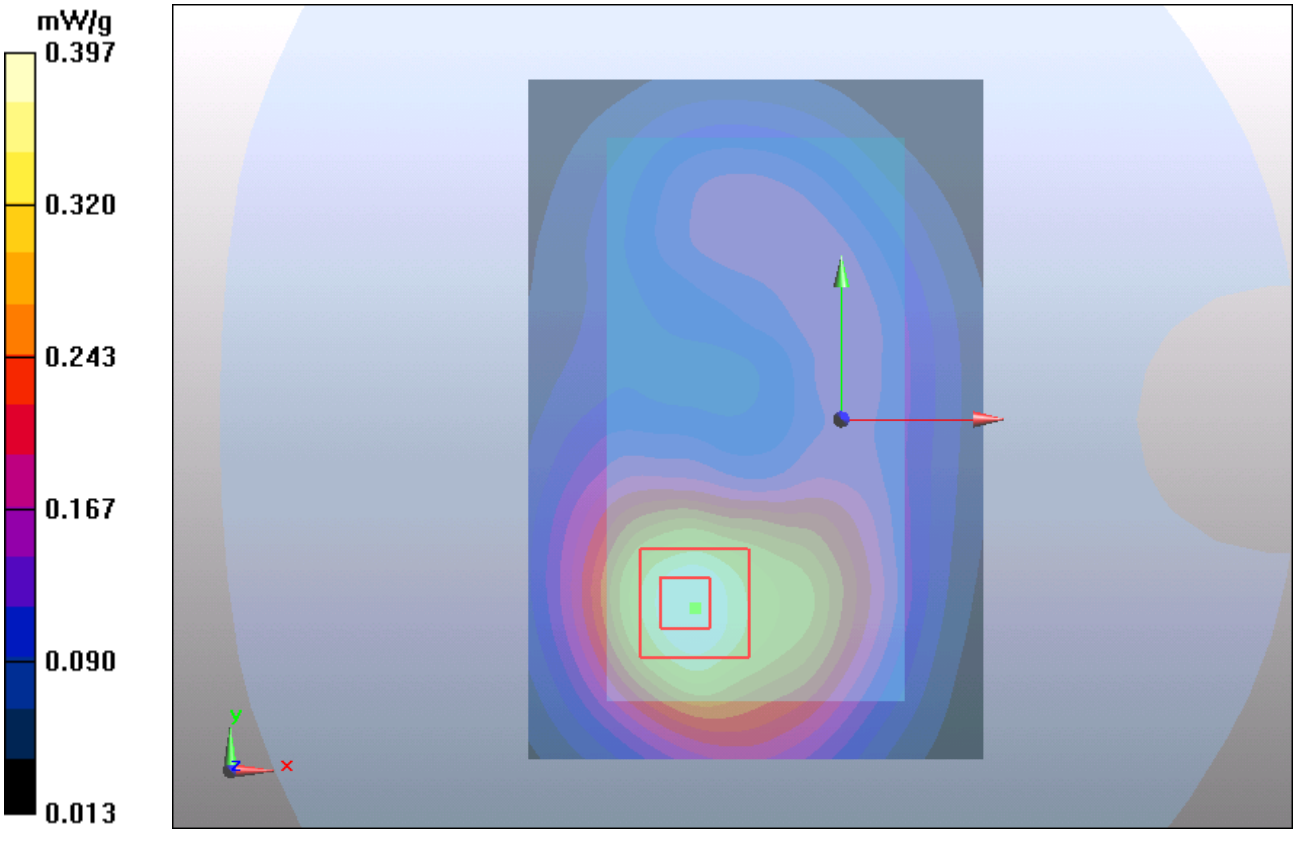


Figure 53 Body, Towards Phantom, GSM 1900 GPRS (4Txslots) Channel 512

GSM 1900 EGPRS (4Txslots) Towards Ground Low (Battery 1)

Date/Time: 5/13/2012 2:59:21 PM
Communication System: EGPRS 4TX; Frequency: 1850.2 MHz;Duty Cycle: 1:2.07491
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.46 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: EX3DV4 - SN3753; ConvF(7.57, 7.57, 7.57); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Ground Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.463 mW/g

Towards Ground Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.2 V/m; Power Drift = -0.101 dB
Peak SAR (extrapolated) = 0.660 W/kg
SAR(1 g) = 0.417 mW/g; SAR(10 g) = 0.255 mW/g
Maximum value of SAR (measured) = 0.451 mW/g

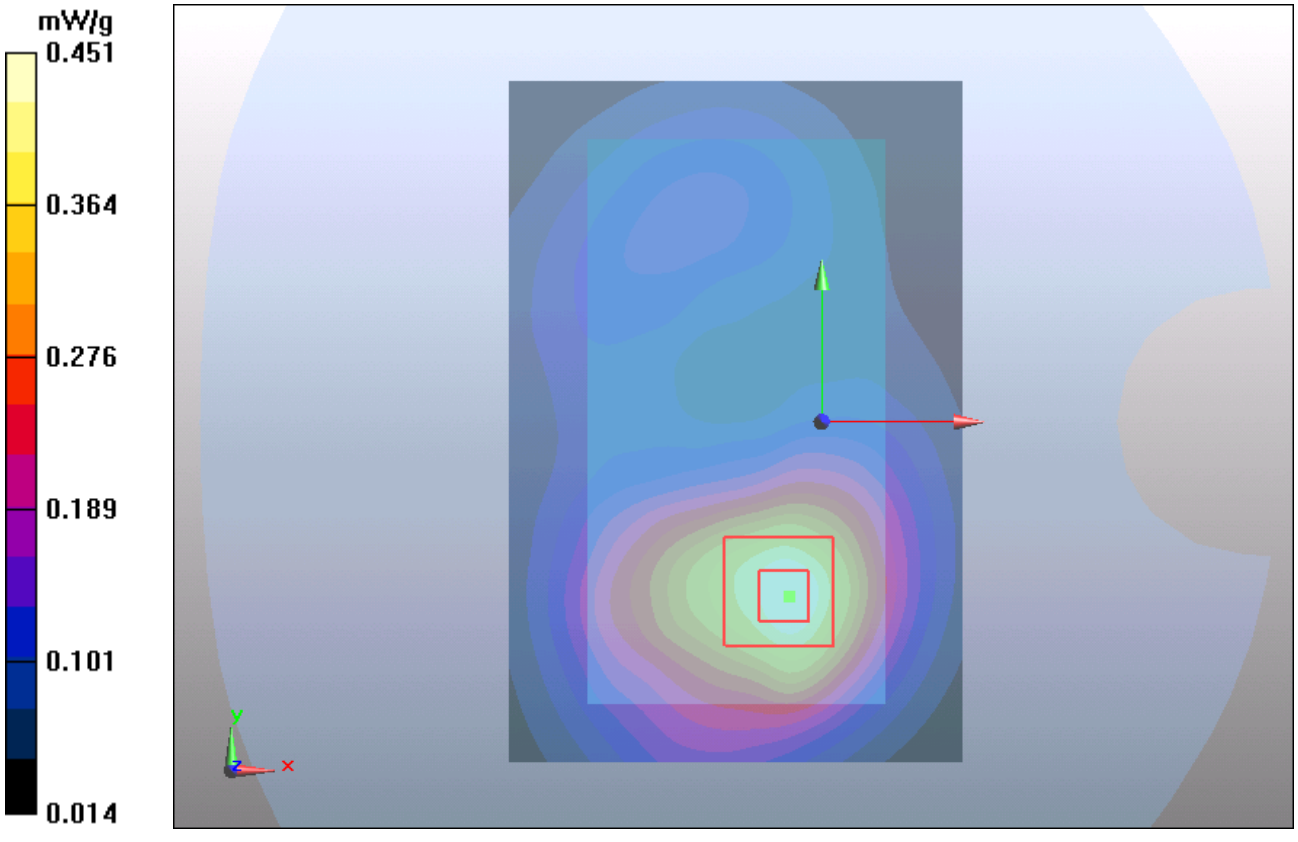


Figure 54 Body, Towards Ground, GSM 1900 EGPRS (4Txslots) Channel 512

GSM 1900 with Stereo Headset 1 Towards Ground Low (Battery 1)

Date/Time: 5/13/2012 3:19:22 PM
Communication System: GSM; Frequency: 1850.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.46 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: EX3DV4 - SN3753; ConvF(7.57, 7.57, 7.57); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Ground Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.370 mW/g

Towards Ground Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.08 V/m; Power Drift = -0.085 dB
Peak SAR (extrapolated) = 0.531 W/kg
SAR(1 g) = 0.332 mW/g; SAR(10 g) = 0.203 mW/g
Maximum value of SAR (measured) = 0.361 mW/g

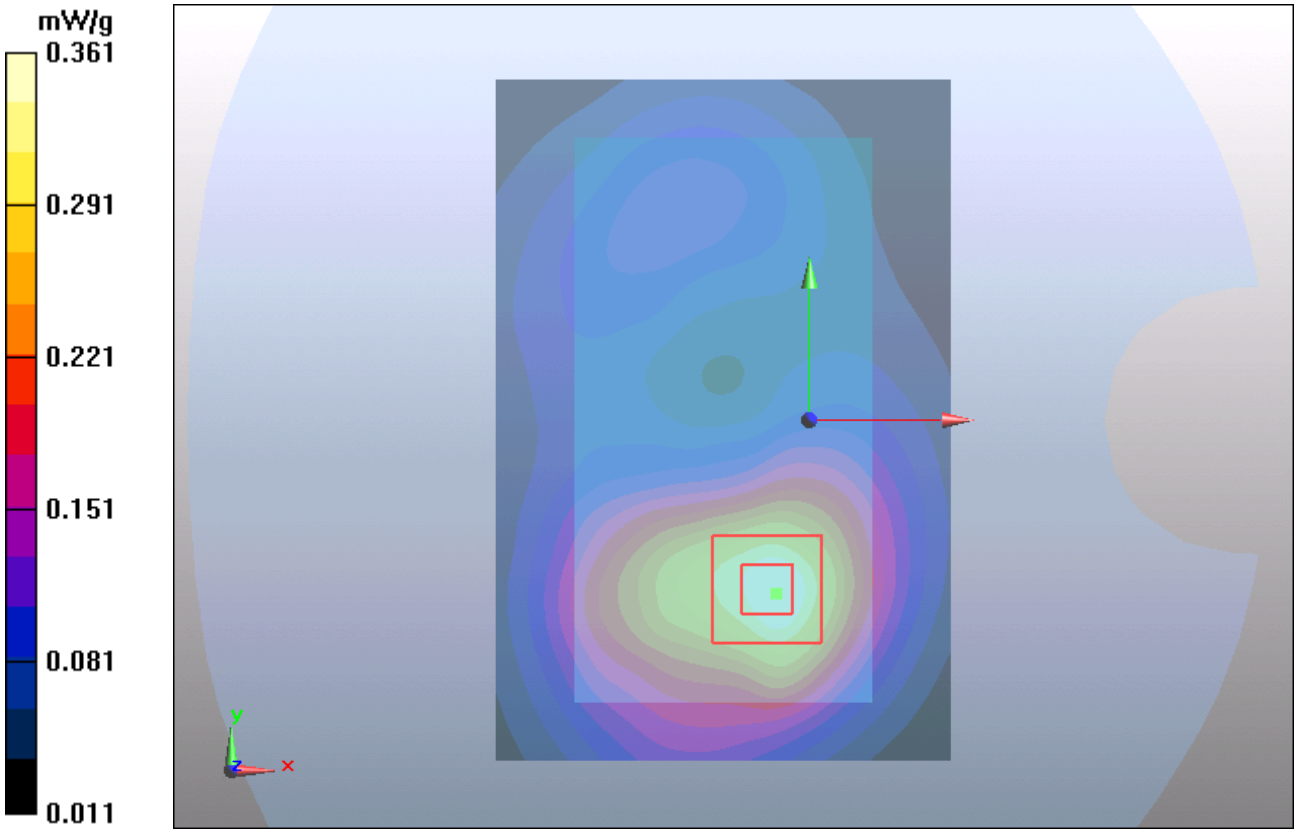


Figure 55 Body with Stereo Headset 1, Towards Ground, GSM 1900 Channel 512

GSM 1900 with Stereo Headset 2 Towards Ground Low (Battery 1)

Date/Time: 5/13/2012 3:38:55 PM
Communication System: GSM; Frequency: 1850.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.46 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: EX3DV4 - SN3753; ConvF(7.57, 7.57, 7.57); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM2; Type: SAM; Serial: TP-1524
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Towards Ground Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.376 mW/g

Towards Ground Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.25 V/m; Power Drift = -0.042 dB
Peak SAR (extrapolated) = 0.536 W/kg
SAR(1 g) = 0.341 mW/g; SAR(10 g) = 0.209 mW/g
Maximum value of SAR (measured) = 0.370 mW/g

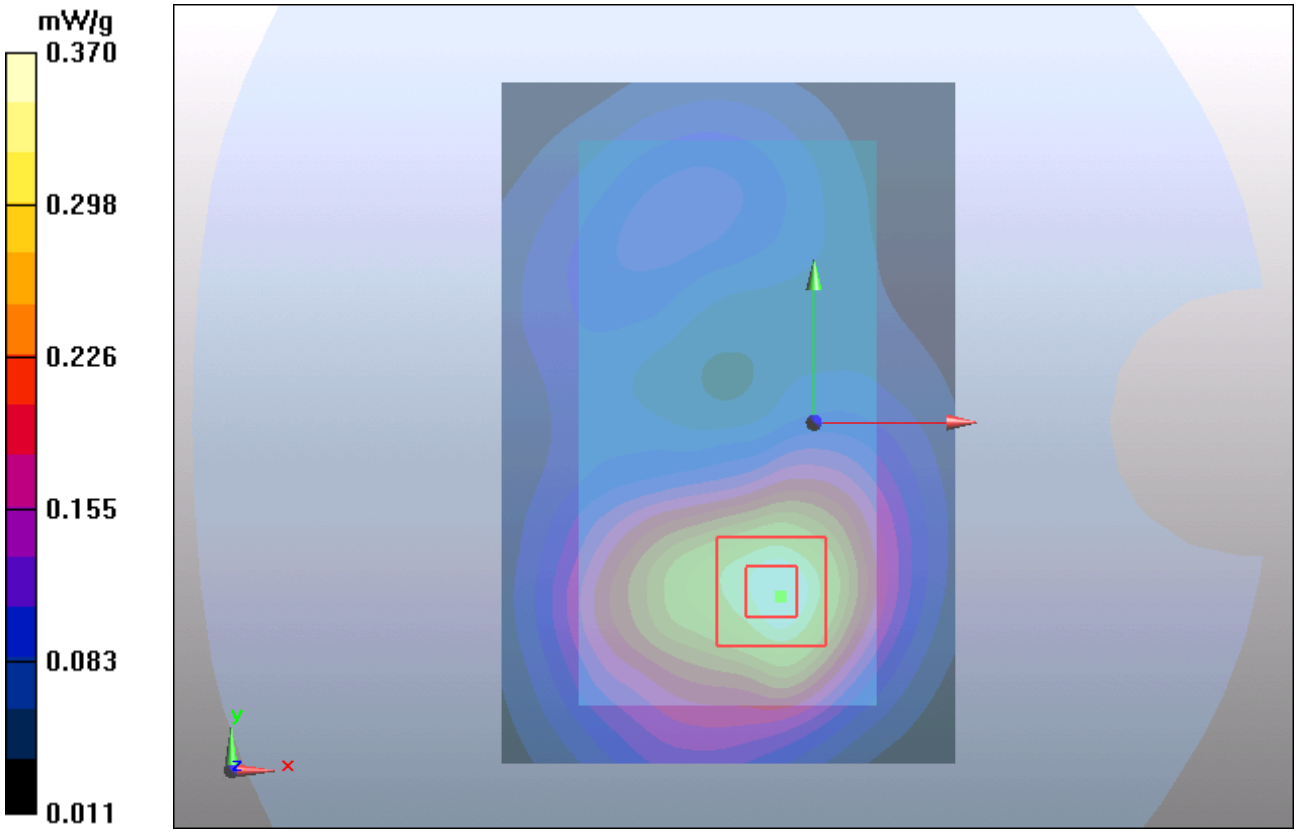


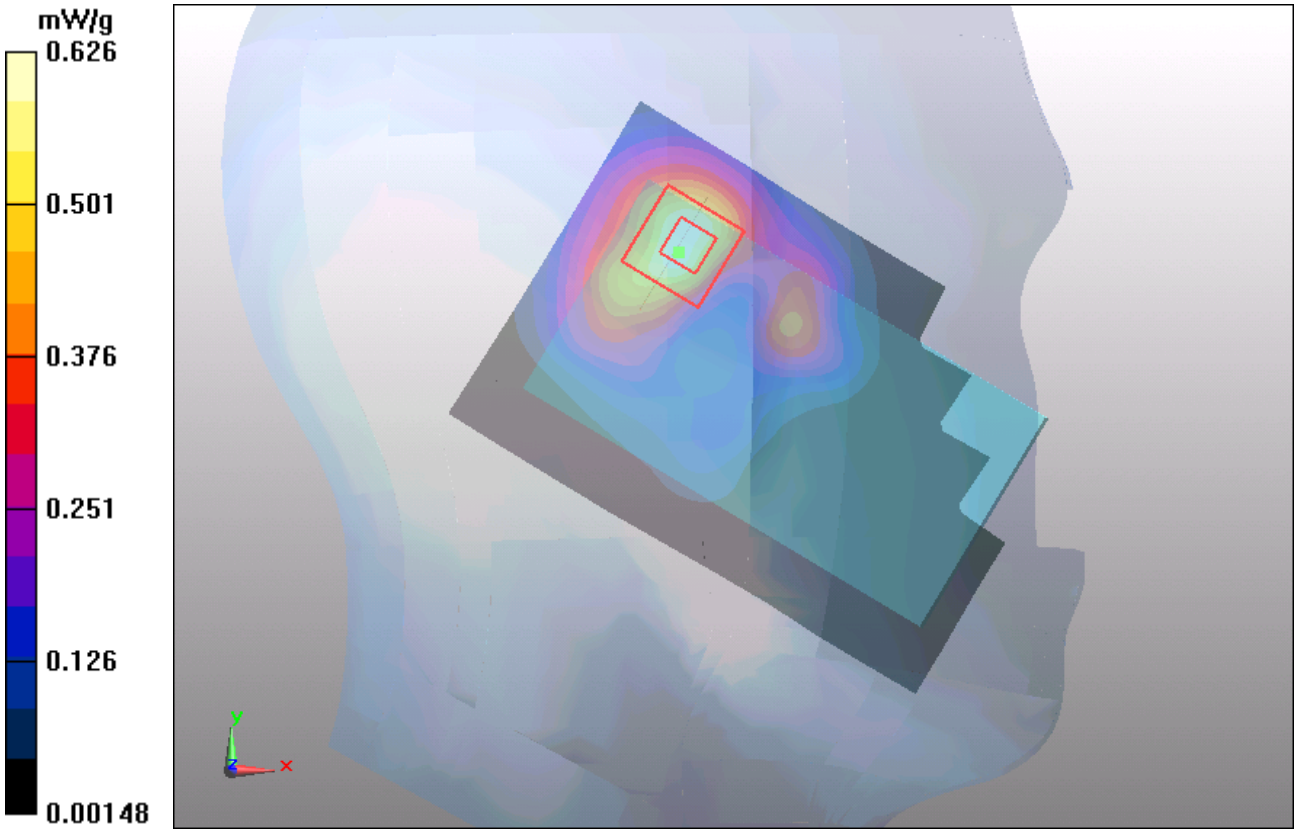
Figure 56 Body with Stereo Headset 2, Towards Ground, GSM 1900 Channel 512

802.11b Left Cheek High (Battery 1)

Date/Time: 5/14/2012 9:46:01 PM
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.82 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: EX3DV4 - SN3753; ConvF(6.89, 6.89, 6.89); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.609 mW/g

Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.8 V/m; Power Drift = -0.00423 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.563 mW/g; SAR(10 g) = 0.279 mW/g
Maximum value of SAR (measured) = 0.626 mW/g



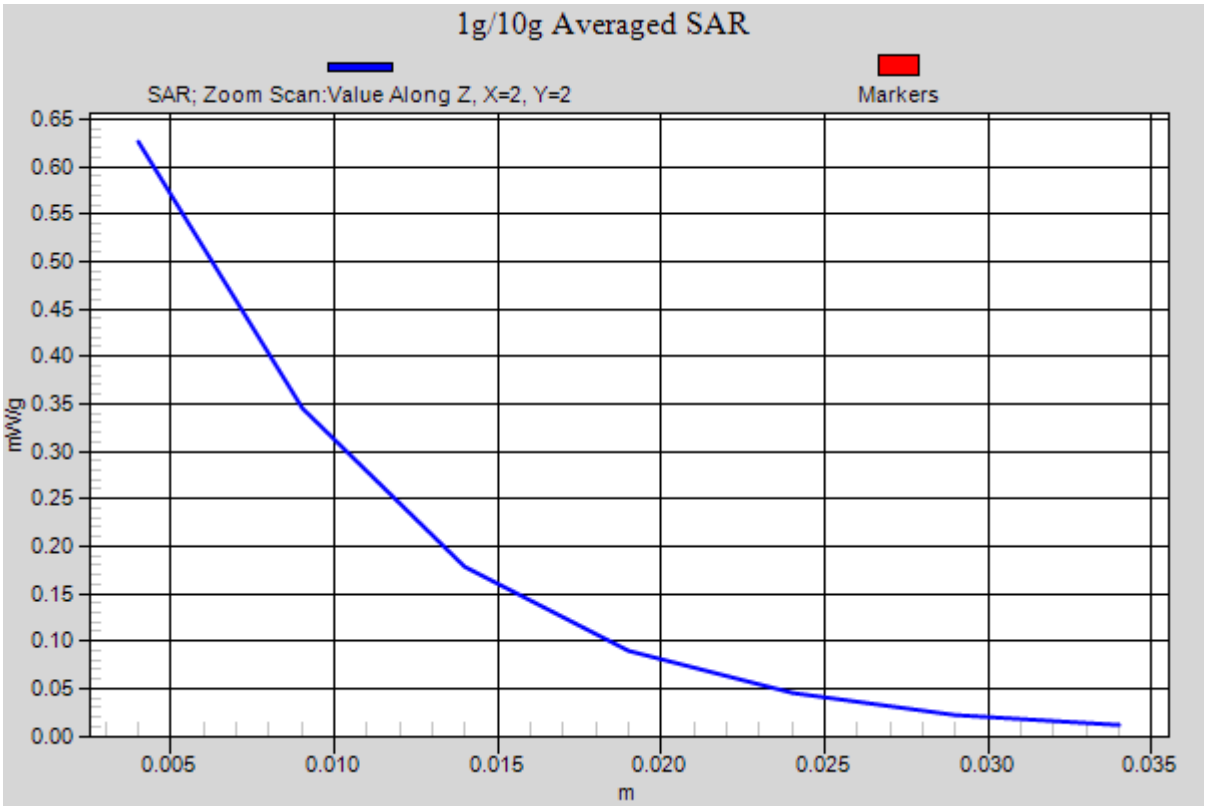


Figure 57 Left Hand Touch Cheek 802.11b Channel 11

802.11b Left Tilt High (Battery 1)

Date/Time: 5/14/2012 10:18:12 PM
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.82 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: EX3DV4 - SN3753; ConvF(6.89, 6.89, 6.89); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Tilt Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.386 mW/g

Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.4 V/m; Power Drift = 0.049 dB
Peak SAR (extrapolated) = 0.694 W/kg
SAR(1 g) = 0.318 mW/g; SAR(10 g) = 0.164 mW/g
Maximum value of SAR (measured) = 0.334 mW/g

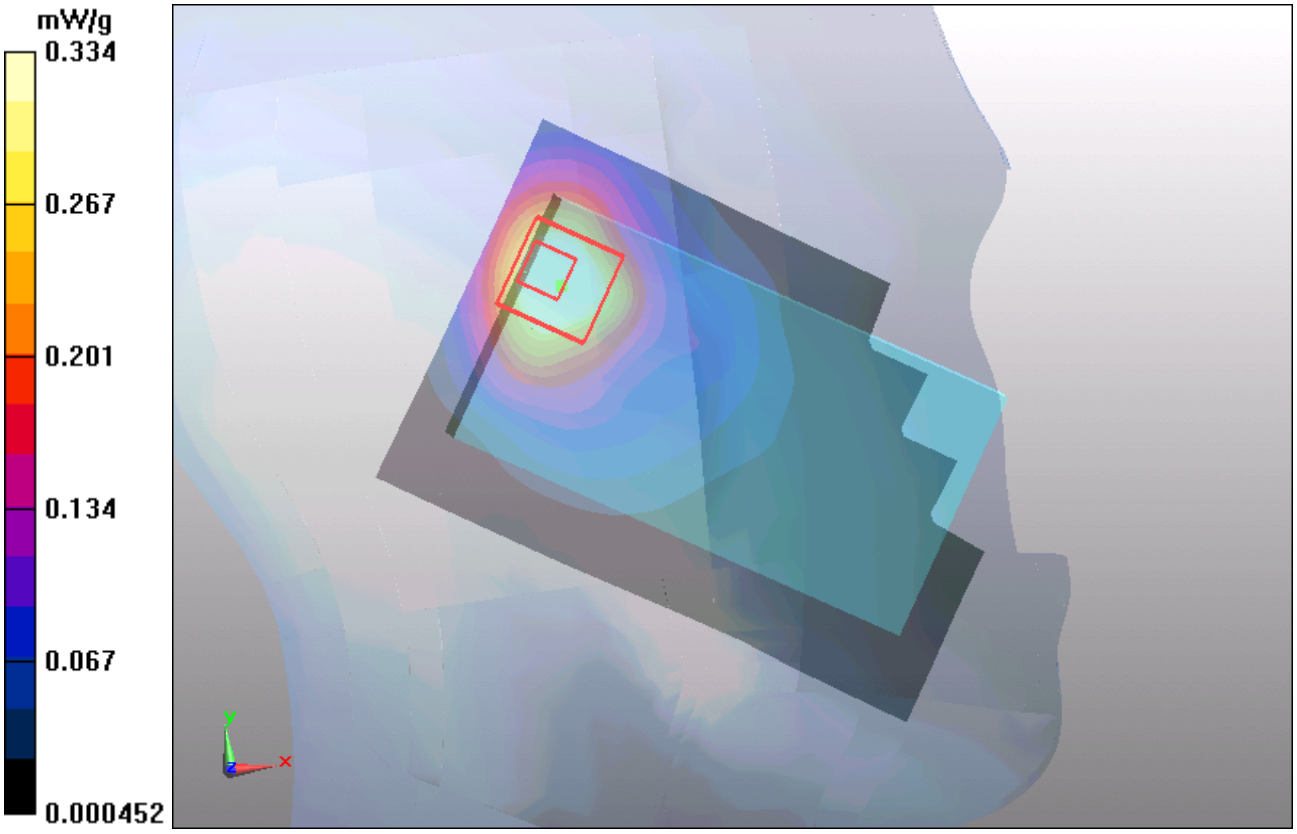


Figure 58 Left Hand Tilt 15° 802.11b Channel 11

802.11b Right Cheek High (Battery 1)

Date/Time: 5/14/2012 10:38:17 PM
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.82 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: EX3DV4 - SN3753; ConvF(6.89, 6.89, 6.89); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.343 mW/g

Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.7 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 0.778 W/kg
SAR(1 g) = 0.357 mW/g; SAR(10 g) = 0.157 mW/g
Maximum value of SAR (measured) = 0.426 mW/g

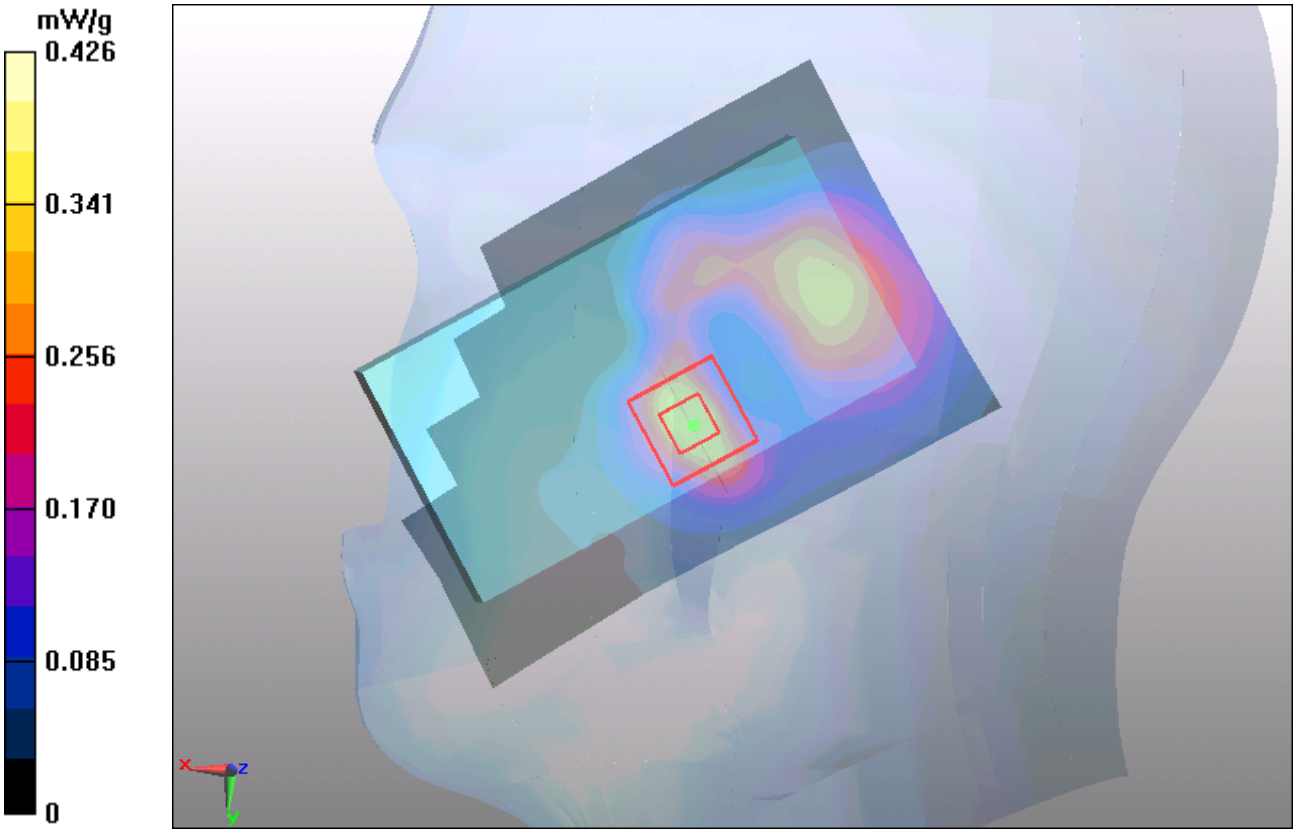


Figure 59 Right Hand Touch Cheek 802.11b Channel 11

802.11b Right Tilt High (Battery 1)

Date/Time: 5/14/2012 10:56:20 PM
Communication System: 802.11b; Frequency: 2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ = 1.82 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: EX3DV4 - SN3753; ConvF(6.89, 6.89, 6.89); Calibrated: 1/4/2012
Electronics: DAE4 Sn871; Calibrated: 11/22/2011
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY5, V5.2 Build 162; SEMCAD X Version 14.0 Build 59

Tilt High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.287 mW/g

Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.4 V/m; Power Drift = 0.129 dB
Peak SAR (extrapolated) = 0.502 W/kg
SAR(1 g) = 0.258 mW/g; SAR(10 g) = 0.136 mW/g
Maximum value of SAR (measured) = 0.276 mW/g

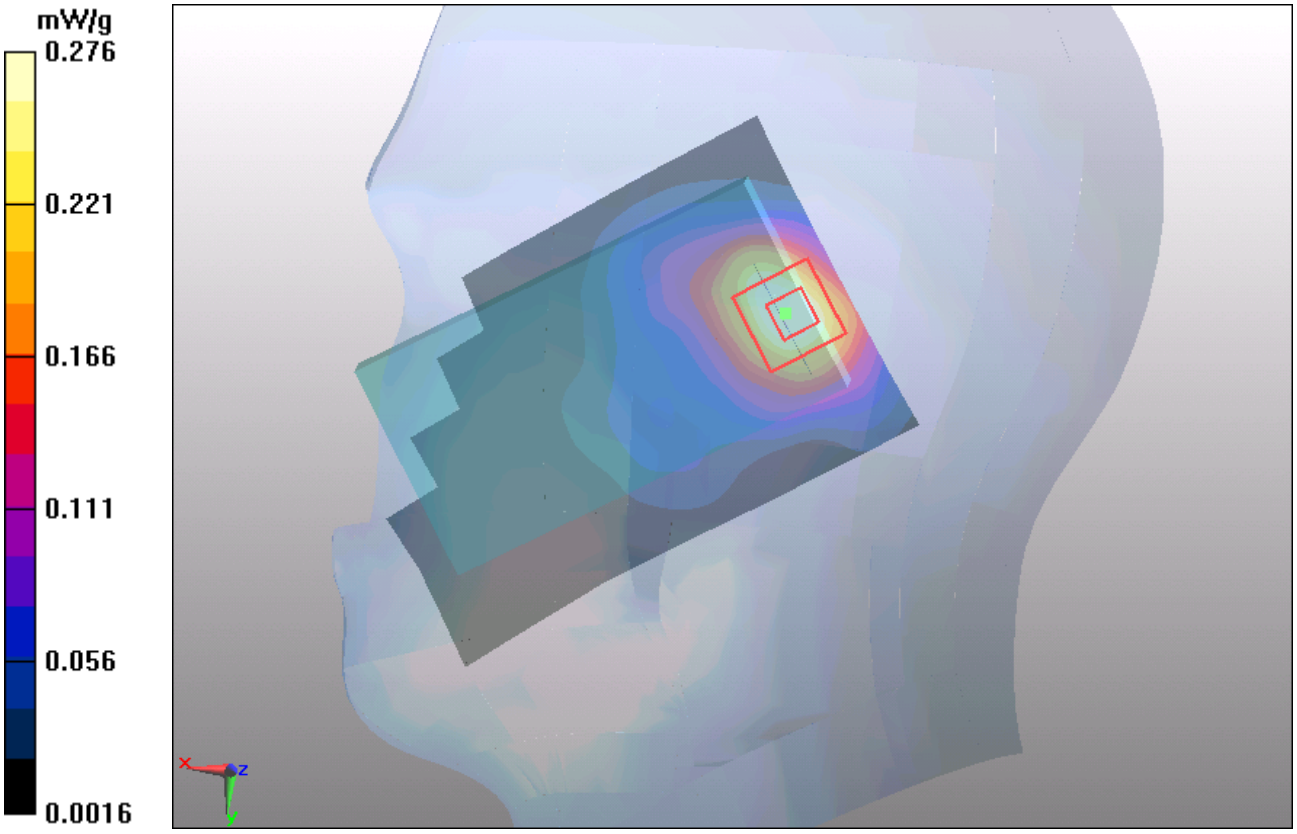


Figure 60 Right Hand Tilt 15° 802.11b Channel 11