TESTING
No. L2264

OET 65

TEST REPORT

Product Name	GSM dual band mobile phone
Model Name	Clip US
Marketing Name	one touch 292A
FCC ID	RAD229
Client	TCT Mobile Limited

TA Technology (Shanghai) Co., Ltd.

GENERAL SUMMARY

Product Name	GSM dual band mobile phone	**Model**	Clip US
Report No.	RXA1206-0404SAR	**FCC ID**	RAD229
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.		
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: June 25th, 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.

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

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

1.2. Testing Laboratory

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1.3. Applicant Information

Company:	TCT Mobile Limited
Address:	5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203
City:	Shanghai
Postal Code:	201203
Country:	P.R. China

1.4. Manufacturer Information

Company:	TCT Mobile Limited
Address:	5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203
City:	Shanghai
Postal Code:	201203
Country:	P.R. China

1.5. Information of EUT

General Information

Device Type:	Portable Device		
Exposure Category:	Uncontrolled Environment / General Population		
State of Sample:	Prototype Unit		
Product Name:	GSM dual band mobile phone		
IMEI:	012978000010192		
Hardware Version:	EP02		
Software Version:	V622		
Antenna Type:	Internal Antenna		
Device Operating Configurations :			
Supporting Mode(s):	GSM 850/GSM 1900; (tested)		
Test Modulation:	(GSM)GMSK;		
Device Class:	C		
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		
	GSM 1900: 1		
power level:	GSM 850: tested with power level 5		
	GSM 1900: tested with power level 0		
Test Channel: (Low - Middle - High)	128 - 190 - 251 512 - 661 - 810	(GSM 850) (GSM 1900)	(tested) (tested)

Auxiliary Equipment Details

Name	Model	Capacity	Manufacturer	S/N
Battery 1	CAB22B0000C1	750mAh	BYD	**B25406006DA**
Battery 2	CAB22D0000C1	650mAh	BYD	B2700601B9A
Battery 3	CAB24Q0000C1	500mAh	BAK	BAK2012011000582
Battery 4	CAB2170000C1	500mAh	BYD	B3259605B0A
Battery 5	CAB229A000C1	500mAh	BAK	BAK2010102101758
Stereo Headset 1	CCA23L0A10C2	/	Juwei	/
Stereo Headset 2	CCA23L0A10C4	/	Meihao	/
Stereo Headset 3	CCA23L0A15C2	/	Juwei	/
Stereo Headset 4	CCA23L0A15C4	/	Meihao	/
Note: 1. Stereo Headset 1 and Stereo Headset 2 need test. 2. Stereo Headset 3 and Stereo Headset 4 no need test.				

Equipment Under Test (EUT) is a GSM dual band mobile phone. The EUT has a GSM antenna that is 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 and GSM 1900 that using maximum capacity battery, test additional batteries resulted in the highest SAR among all tested.

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	**1.050**
GSM 1900	High/810	Left, Cheek	**1.020**

Body Worn Configuration

Mode	Channel	Position	Separation distance	SAR_{1g} (W/kg)
GSM 850	Low/128	Towards Ground	15mm	**0.501**
GSM 1900	High/810	Towards Ground	15mm	**0.551**

1.7. Test Date

The test performed from June 19, 2012 to June 20, 2012.

2. SAR Measurements System Configuration

2.1. SAR Measurement Set-up

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

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

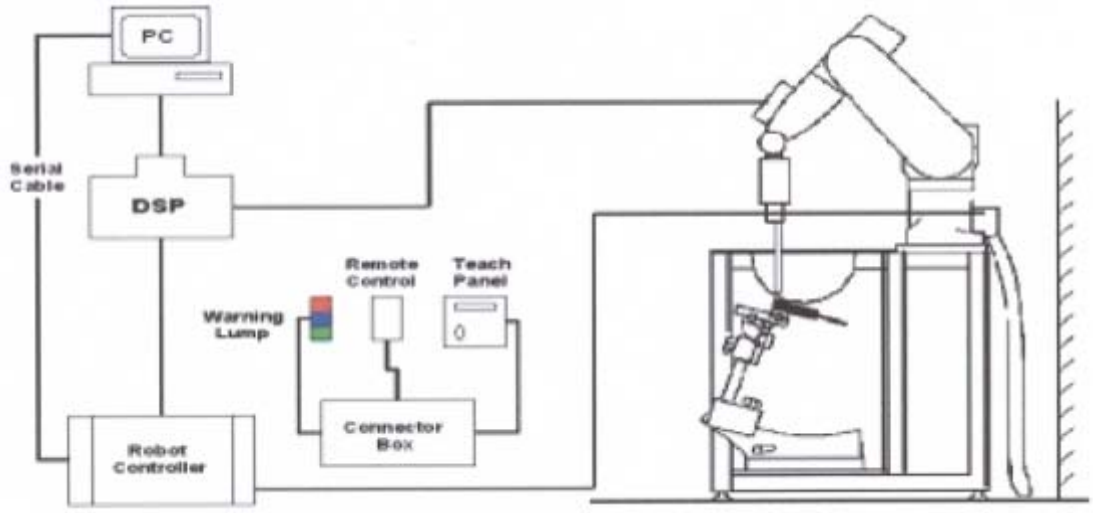

Figure 1 SAR Lab Test Measurement Set-up

2.2. DASY4 E-field Probe System

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

2.2.1. EX3DV4 Probe Specification

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 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 DASY4 installation includes predefined files with recommended procedures for measurements and validation. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.

- The “reference” and “drift” measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure. The indicated drift is mainly the variation of the DUT’s output power and should vary max. ± 5 %.

- The “surface check” measurement tests the optical surface detection system of the DASY4 system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above ± 0.1mm). To prevent wrong results tests are only executed when the liquid is free of air bubbles. The difference between the optical surface detection and the actual surface depends on the probe and is specified with each probe. (It does not depend on the surface reflectivity or the probe angle to the surface within ± 30°.)

- Area Scan

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

spacing of 15 mm x 15 mm is set. During the scan the distance of the probe to the phantom remains unchanged.
After finishing area scan, the field maxima within a range of 2 dB will be ascertained.

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

- Spatial Peak Detection
  The procedure for spatial peak SAR evaluation has been implemented and can determine values of masses of 1g and 10g, as well as for user-specific masses.The DASY4 system allows evaluations that combine measured data and robot positions, such as:
  • maximum search
  • extrapolation
  • boundary correction
  • peak search for averaged SAR
  During a maximum search, global and local maxima searches are automatically performed in 2-D after each Area Scan measurement with at least 6 measurement points. It is based on the evaluation of the local SAR gradient calculated by the Quadratic Shepard's method. The algorithm will find the global maximum and all local maxima within -2 dB of the global maxima for all SAR distributions.
  Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. Several measurements at different distances are necessary for the extrapolation. Extrapolation routines require at least 10 measurement points in 3-D space. They are used in the Zoom Scan to obtain SAR values between the lowest measurement points and the inner phantom surface. The routine uses the modified Quadratic Shepard's method for extrapolation. For a grid using 5x5x7 measurement points with 8mm resolution amounting to 175 measurement points, the uncertainty of the extrapolation routines is less than 1% for 1g and 10g cubes.
- A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube 5x5x7 scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 5mm steps.

2.5. Data Storage and Evaluation

2.5.1. Data Storage

The DASY4 software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension ".DA4". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated.

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

2.5.2. Data Evaluation by SEMCAD

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

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

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY4 components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics.

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

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

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 2012-6-20	41.8	0.895	21.5
1900MHz (head)	Target value ±5% window	40.00 38.00 — 42.00	1.40 1.33 — 1.47	22.0
	Measurement value 2012-6-20	40.1	1.39	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 2012-6-19	54.9	0.955	21.5
1900MHz (body)	Target value ±5% window	53.30 50.64 — 55.97	1.52 1.44 — 1.60	22.0
	Measurement value 2012-6-19	52.0	1.56	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 DASY4 system.

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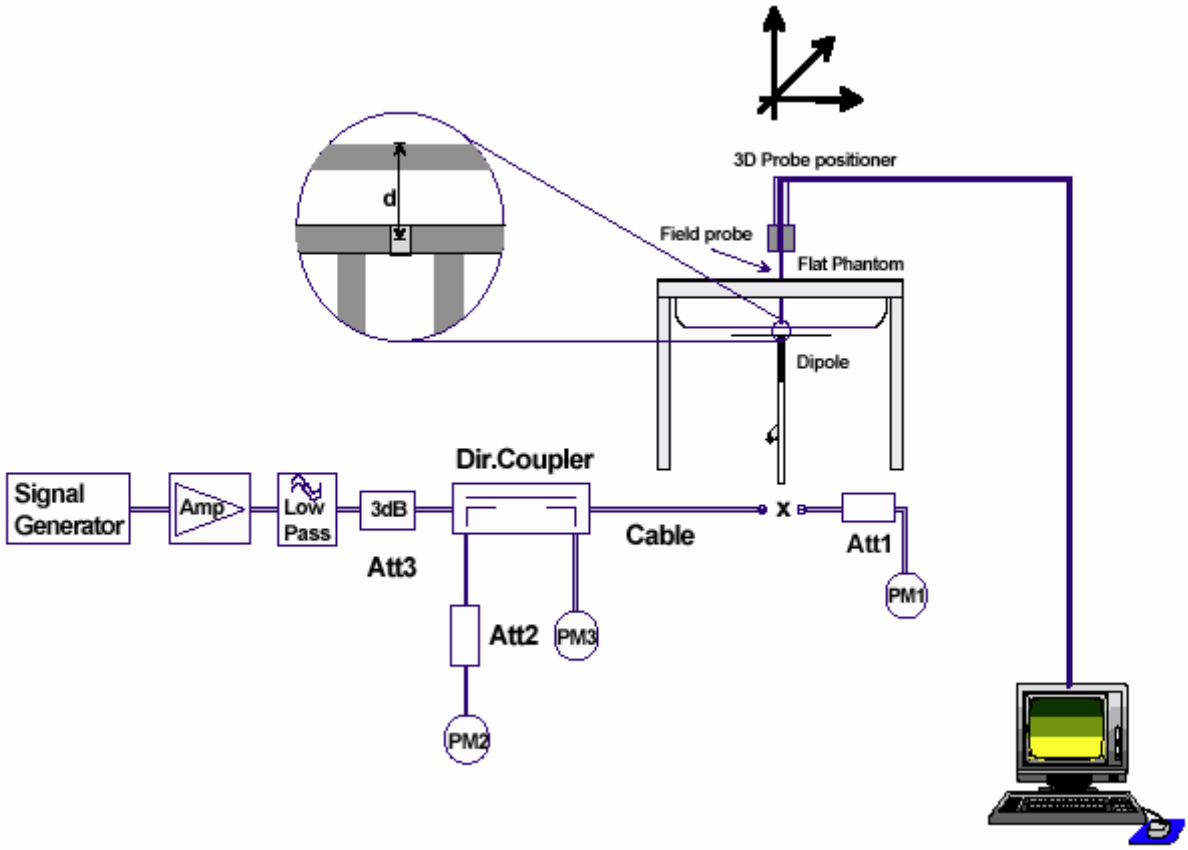


Figure 6 System Check Set-up

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	2012-6-20	41.8	0.895	21.5	2.43	9.72	9.34 (8.41~10.27)
1900MHz	2012-6-20	40.1	1.39	21.5	9.8	39.2	40.30 (36.27~ 44.33)

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	2012-6-19	54.9	0.955	21.5	2.32	9.28	9.46 (8.51~10.41)
1900MHz	2012-6-19	52.0	1.56	21.5	10.8	43.2	41.70 (37.53~45.87)

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.

7. Test Results

7.1. Conducted Power Results

Table 8: 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	31.9	31.92	32.2	-9.03dB	22.87	22.89	23.17
GSM 1900	**Burst Conducted Power(dBm)**				**Average power(dBm)**		
	Channel 512	Channel 661	Channel 810		Channel 512	Channel 661	Channel 810
GSM	29.89	29.98	30.04	-9.03dB	20.86	20.95	21.01

7.2. SAR Test Results

7.2.1. GSM 850

Table 9: SAR Values

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 (Cover Open)					
Left hand, Touch Cheek	High/251	0.549	0.795	0.126	Figure 11
	Middle/190	0.528	0.745	0.001	Figure 12
	Low/128	0.527	0.764	0.054	Figure 13
Left hand, Tilt 15 Degree	High/251	0.213	0.289	-0.024	Figure 14
	Middle/190	0.186	0.253	-0.004	Figure 15
	Low/128	0.176	0.239	0.012	Figure 16
Right hand, Touch Cheek	High/251	0.672	1.050	0.068	Figure 17
	Middle/190	0.625	0.954	0.132	Figure 18
	Low/128	0.639	0.976	-0.004	Figure 19
Right hand, Tilt 15 Degree	High/251	0.206	0.281	-0.027	Figure 20
	Middle/190	0.184	0.250	-0.030	Figure 21
	Low/128	0.185	0.252	-0.022	Figure 22
Worst Case Position of Head with Battery 2 (Cover Open)					
Right hand, Touch Cheek	High/251	0.654	1.020	-0.160	Figure 23
Worst Case Position of Head with Battery 3 (Cover Open)					
Right hand, Touch Cheek	High/251	0.655	1.040	0.109	Figure 24
Worst Case Position of Head with Battery 4 (Cover Open)					
Right hand, Touch Cheek	High/251	0.655	0.993	0.019	Figure 25
Worst Case Position of Head with Battery 5 (Cover Open)					
Right hand, Touch Cheek	High/251	0.642	0.977	0.042	Figure 26
Test position of Body with Battery 1 (Cover Close, Distance 15mm)					
Towards Ground	High/251	0.230	0.336	-0.022	Figure 27
	Middle/190	0.250	0.365	-0.071	Figure 28
	Low/128	0.290	0.423	0.008	Figure 29
Towards Phantom	High/251	0.154	0.214	-0.022	Figure 30

	Middle/190	0.166	0.230	-0.056	Figure 31
	Low/128	0.196	0.271	0.026	Figure 32
Test position of Body with Battery 1 (Cover Open, Distance 15mm)					
Towards Ground	High/251	0.304	0.424	0.066	Figure 33
	Middle/190	0.303	0.423	-0.021	Figure 34
	Low/128	0.335	0.467	0.071	Figure 35
Worst Case Position of Body with Stereo Headset 1 and Battery 1 (Cover Open, Distance 15mm)					
Towards Ground	Low/128	0.330	0.465	-0.020	Figure 36
Worst Case Position of Body with Stereo Headset 2 and Battery 1 (Cover Open, Distance 15mm)					
Towards Ground	Low/128	0.357	0.501	0.017	Figure 37

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

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

7.2.2. GSM 1900

Table 10: SAR Values

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(Cover Open)					
Left hand, Touch Cheek	High/810	0.579	1.020	-0.187	Figure 38
	Middle/661	0.528	0.924	0.165	Figure 39
	Low/512	0.443	0.766	0.179	Figure 40
Left hand, Tilt 15 Degree	High/810	0.067(max.cube)	0.107(max.cube)	0.162	Figure 41
	Middle/661	0.061(max.cube)	0.097(max.cube)	0.151	Figure 42
	Low/512	0.055	0.087	0.066	Figure 43
Right hand, Touch Cheek	High/810	0.367	0.613	-0.081	Figure 44
	Middle/661	0.335	0.553	-0.151	Figure 45
	Low/512	0.250	0.408	-0.200	Figure 46
Right hand, Tilt 15 Degree	High/810	0.079(max.cube)	0.133(max.cube)	-0.019	Figure 47
	Middle/661	0.069(max.cube)	0.113(max.cube)	-0.113	Figure 48
	Low/512	0.049	0.081	0.035	Figure 49
Test position of Body with Battery 1 (Cover Close, Distance 15mm)					
Towards Ground	High/810	0.289	0.476	0.020	Figure 50
	Middle/661	0.278	0.463	-0.102	Figure 51
	Low/512	0.219	0.373	-0.059	Figure 52
Towards Phantom	High/810	0.186	0.293	-0.018	Figure 53
	Middle/661	0.157	0.247	-0.001	Figure 54
	Low/512	0.122	0.191	-0.006	Figure 55
Test position of Body with Battery 1 (Cover Open, Distance 15mm)					
Towards Ground	High/810	0.341	0.551	0.039	Figure 56
	Middle/661	0.313	0.508	0.106	Figure 57
	Low/512	0.304	0.495	-0.123	Figure 58
Worst Case Position of Body with Stereo Headset 1 and Battery 1 (Cover Open, Distance 15mm)					
Towards Ground	High/810	0.310	0.507	0.023	Figure 59
Worst Case Position of Body with Stereo Headset 2 and Battery 1 (Cover Open, Distance 15mm)					

Towards Ground	High/810	0.292	0.483	0.193	Figure 60
Worst Case Position of Body with Battery 2 (Cover Open, Distance 15mm)					
Towards Ground	High/810	0.255	0.430	0.133	Figure 61
Worst Case Position of Body with Battery 3 (Cover Open, Distance 15mm)					
Towards Ground	High/810	0.296	0.479	-0.112	Figure 62
Worst Case Position of Body with Battery 4 (Cover Open, Distance 15mm)					
Towards Ground	High/810	0.229	0.381	0.037	Figure 63
Worst Case Position of Body with Battery 5 (Cover Open, Distance 15mm)					
Towards Ground	High/810	0.306	0.497	0.028	Figure 64

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

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

3. The (max.cube) labeling indicates that during the grid scanning an additional peak was found which was within 2.0dB of the highest peak. The value of the highest cube is given in the table above; the value from the second assessed cube is given in the SAR distribution plots (See ANNEX C).

8. 300MHz to 3GHz Measurement Uncertainty

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

21	-liquid conductivity (deviation from target)	B	5.0	R	$\sqrt{3}$	0.64	1.8	∞
22	-liquid conductivity (measurement uncertainty)	B	2.5	N	1	0.64	1.6	9
23	-liquid permittivity (deviation from target)	B	5.0	R	$\sqrt{3}$	0.6	1.7	∞
24	-liquid permittivity (measurement uncertainty)	B	2.5	N	1	0.6	1.5	9
Combined standard uncertainty		$u_c^{'} = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$					11.50	
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$		N		k=2	23.00	

9. Main Test Instruments

Table 11: List of Main Instruments

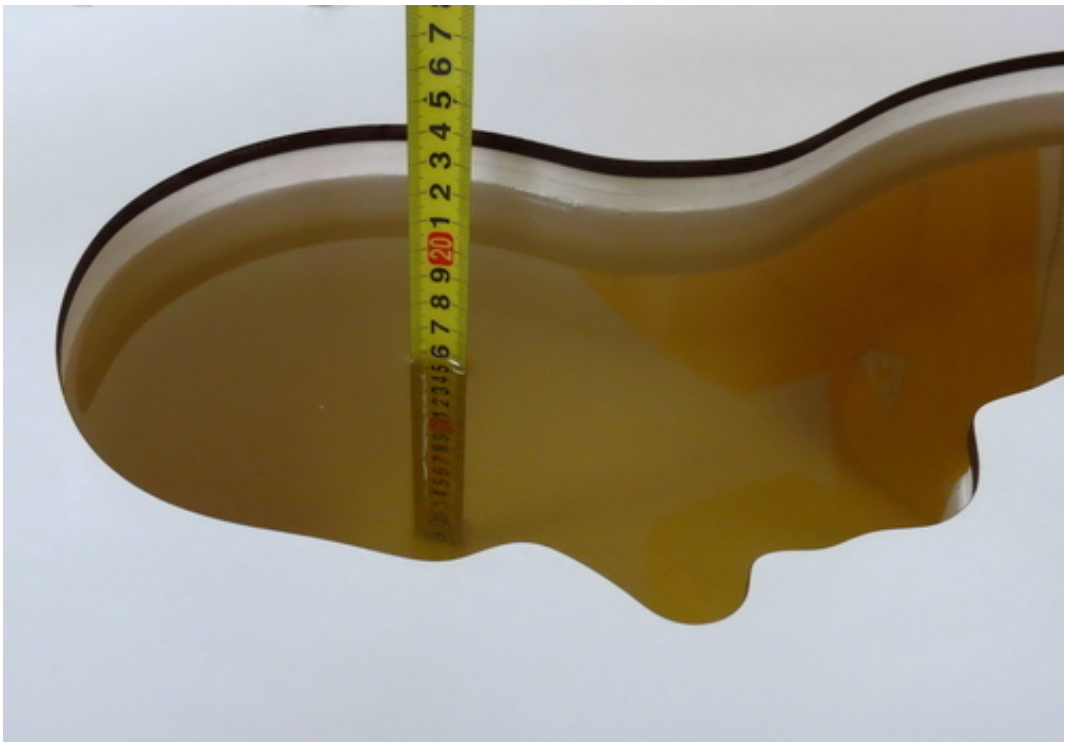
No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	Agilent 8753E	US37390326	September 12, 2011	One year
02	Dielectric Probe Kit	Agilent 85070E	US44020115	No Calibration Requested	
03	Power meter	Agilent E4417A	GB41291714	March 11, 2012	One year
04	Power sensor	Agilent N8481H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

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

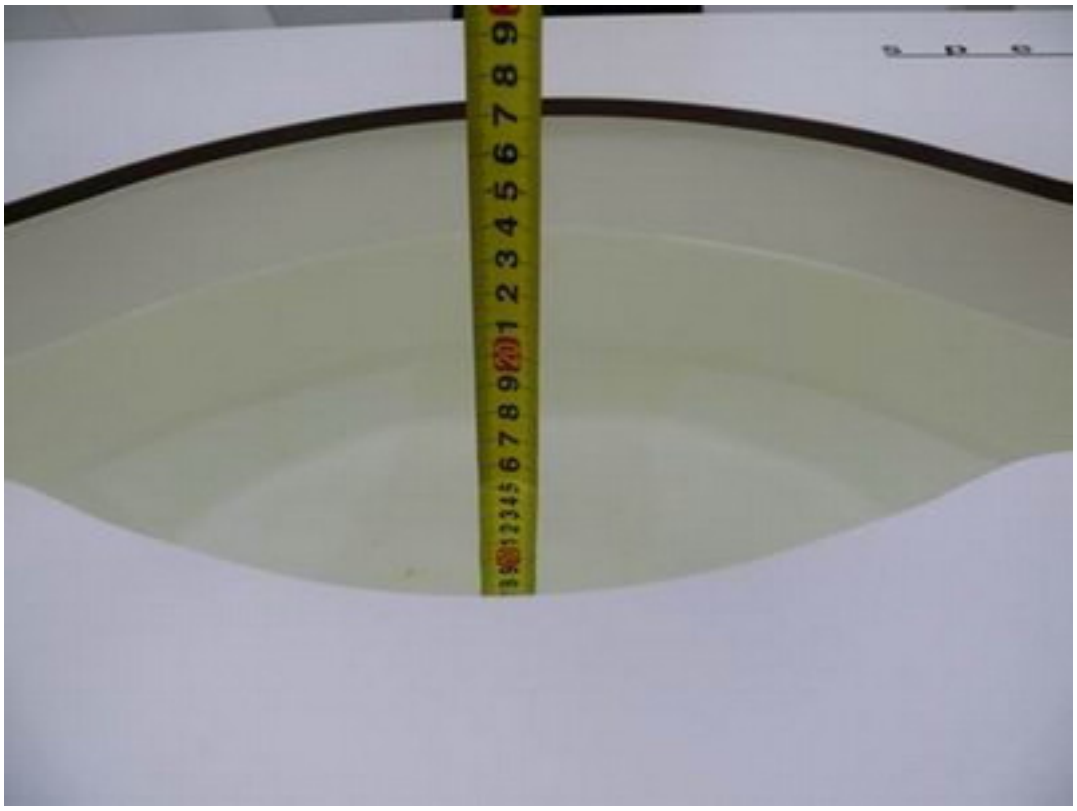
ANNEX A: Test Layout

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)

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: 2012-6-20 14:44:24

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

Medium parameters used: f = 835 MHz; σ = 0.895 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 2.67 mW/g

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

Reference Value = 54.6 V/m; Power Drift = -0.117 dB

Peak SAR (extrapolated) = 3.66 W/kg

SAR(1 g) = 2.43 mW/g; SAR(10 g) = 1.59 mW/g

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

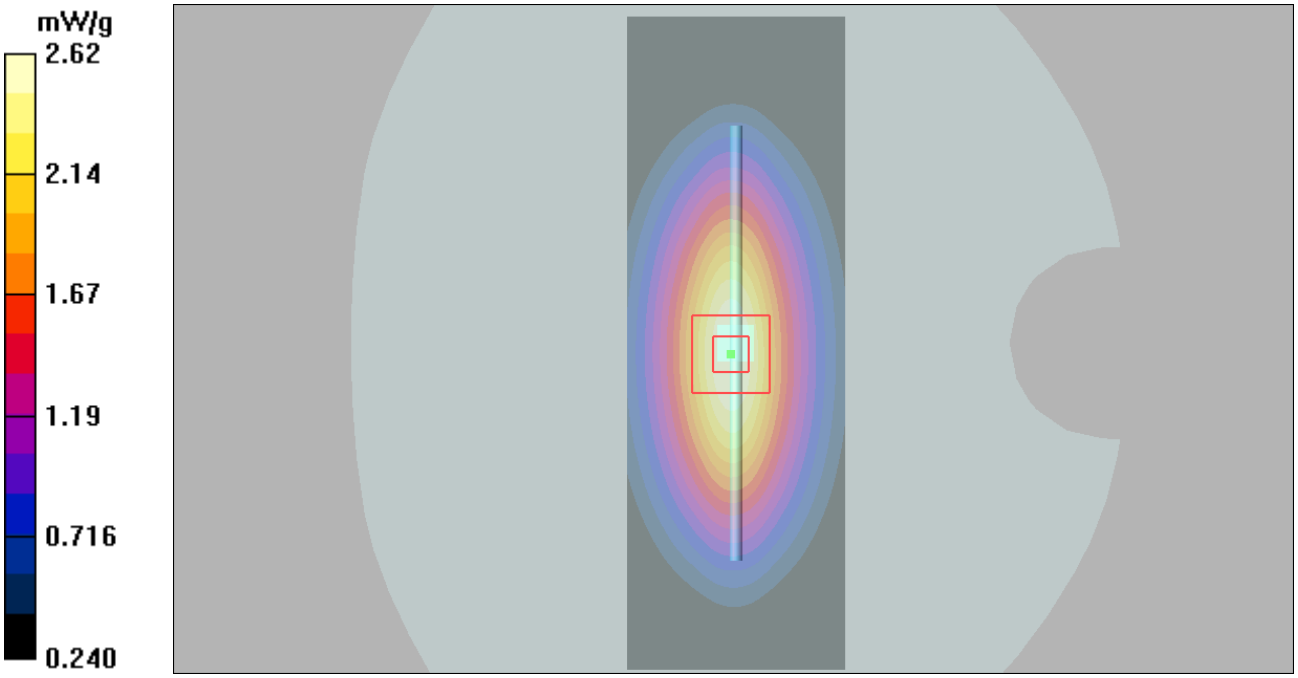


Figure 7 System Performance Check 835MHz 250mW

System Performance Check at 835 MHz Body TSL

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

Date/Time: 2012-6-19 9:40:32

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

Medium parameters used: f = 835 MHz; σ = 0.955 mho/m; ε_r = 54.9; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 2.75 mW/g

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

Reference Value = 53.6 V/m; Power Drift = -0.061 dB

Peak SAR (extrapolated) = 3.57 W/kg

SAR(1 g) = 2.32 mW/g; SAR(10 g) = 1.53 mW/g

Maximum value of SAR (measured) = 2.55 mW/g

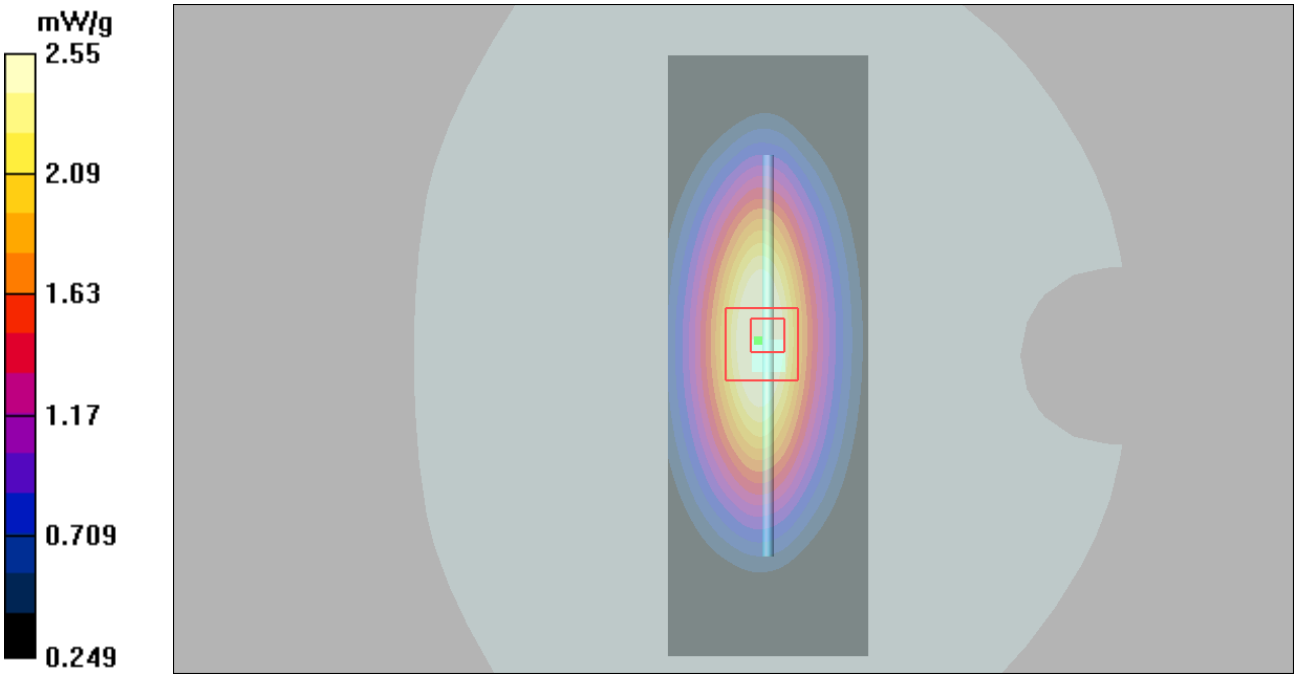


Figure 8 System Performance Check 835MHz 250mW

System Performance Check at 1900 MHz Head TSL

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

Date/Time: 2012-6-20 9:50:44

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

Medium parameters used: f = 1900 MHz; σ = 1.39 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

d=10mm, Pin=250mW 2/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

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

d=10mm, Pin=250mW 2/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 88.7 V/m; Power Drift = 0.004 dB

Peak SAR (extrapolated) = 18.4 W/kg

SAR(1 g) = 9.8 mW/g; SAR(10 g) = 5.06 mW/g

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

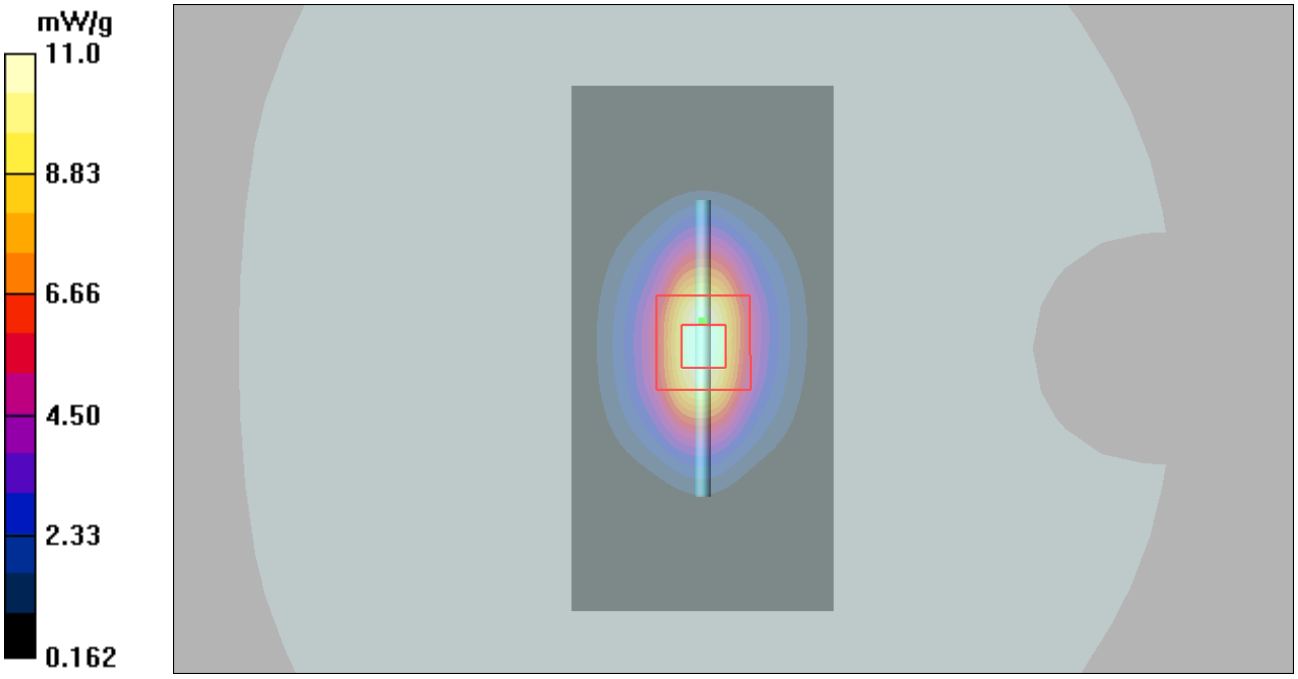


Figure 9 System Performance Check 1900MHz 250Mw

System Performance Check at 1900 MHz Body TSL

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

Date/Time: 2012-6-19 14:03:28

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

Medium parameters used: f = 1900 MHz; σ = 1.56 mho/m; ε_r = 52; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

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

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

Reference Value = 87.5 V/m; Power Drift = -0.005 dB

Peak SAR (extrapolated) = 19.7 W/kg

SAR(1 g) = 10.8 mW/g; SAR(10 g) = 5.59 mW/g

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

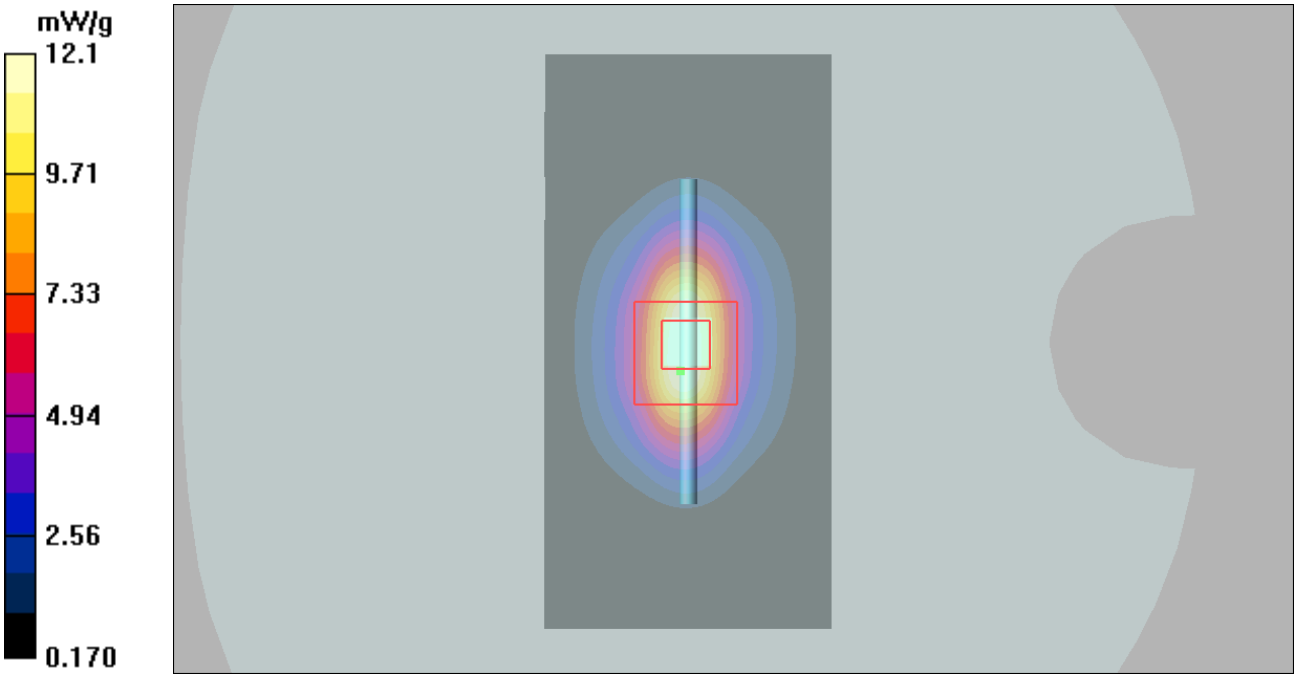


Figure 10 System Performance Check 1900MHz 250Mw

ANNEX C: Graph Results

GSM 850 Left Cheek High (Cover Open, Battery 1)

Date/Time: 2012-6-21 9:54:20
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.91 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek High/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.867 mW/g

Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.47 V/m; Power Drift = 0.126 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.795 mW/g; SAR(10 g) = 0.549 mW/g
Maximum value of SAR (measured) = 0.831 mW/g

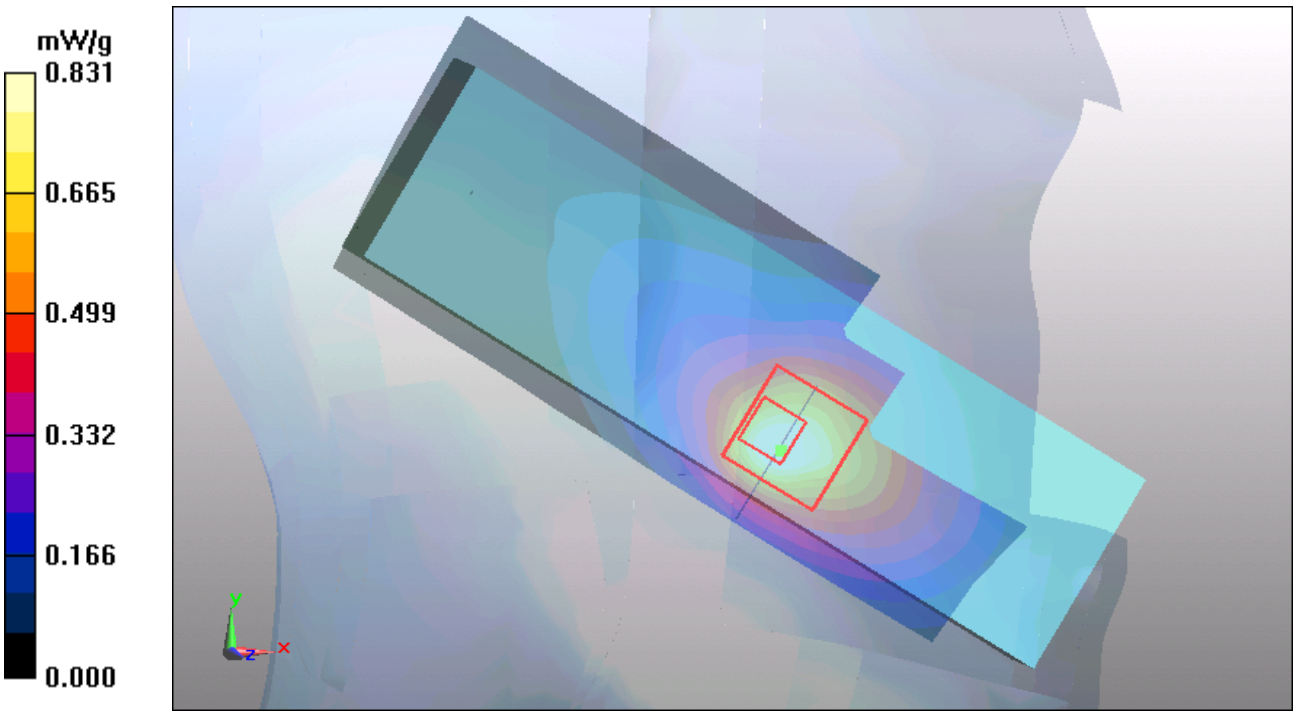


Figure 11 Left Hand Touch Cheek GSM 850 Channel 251

GSM 850 Left Cheek Middle (Cover Open, Battery 1)

Date/Time: 2012-6-21 10:06:31
Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.897 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.815 mW/g

Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.03 V/m; Power Drift = 0.001 dB
Peak SAR (extrapolated) = 1.20 W/kg
SAR(1 g) = 0.745 mW/g; SAR(10 g) = 0.528 mW/g
Maximum value of SAR (measured) = 0.798 mW/g

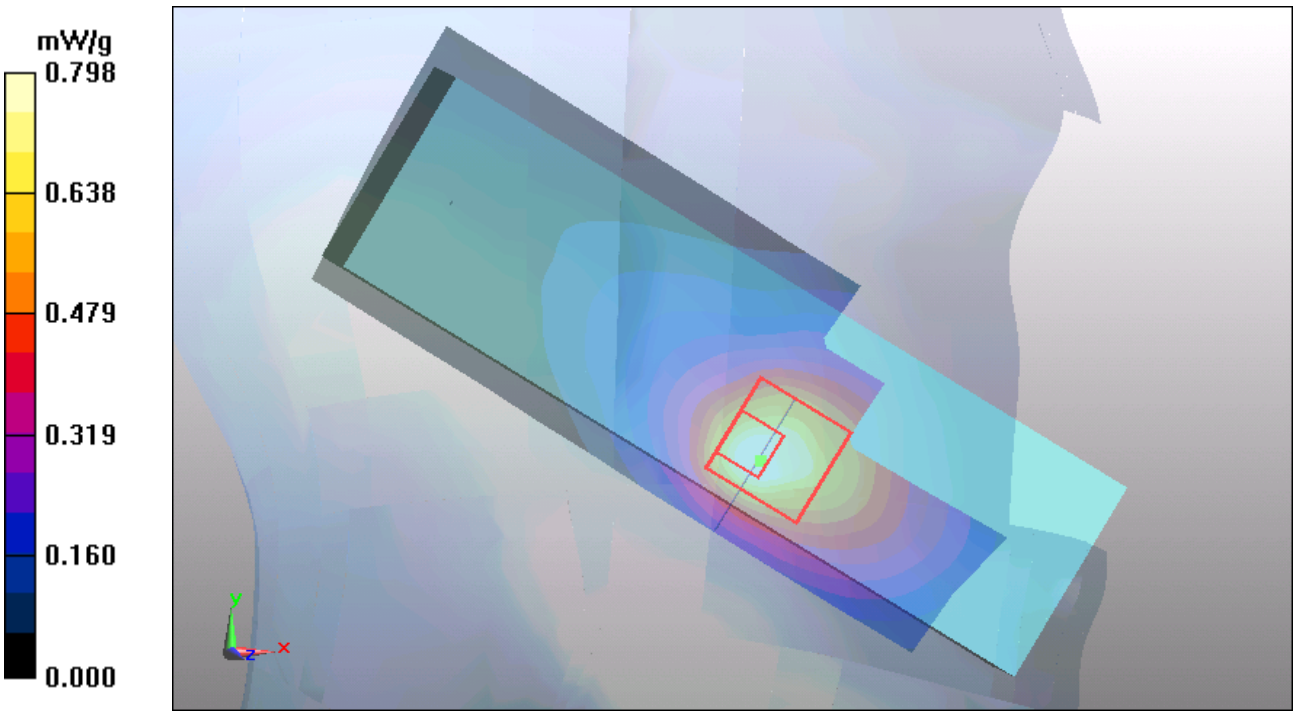


Figure 12 Left Hand Touch Cheek GSM 850 Channel 190

GSM 850 Left Cheek Low (Cover Open, Battery 1)

Date/Time: 2012-6-21 9:41:16
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.886 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Low/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.835 mW/g

Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.64 V/m; Power Drift = 0.054 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.764 mW/g; SAR(10 g) = 0.527 mW/g
Maximum value of SAR (measured) = 0.797 mW/g

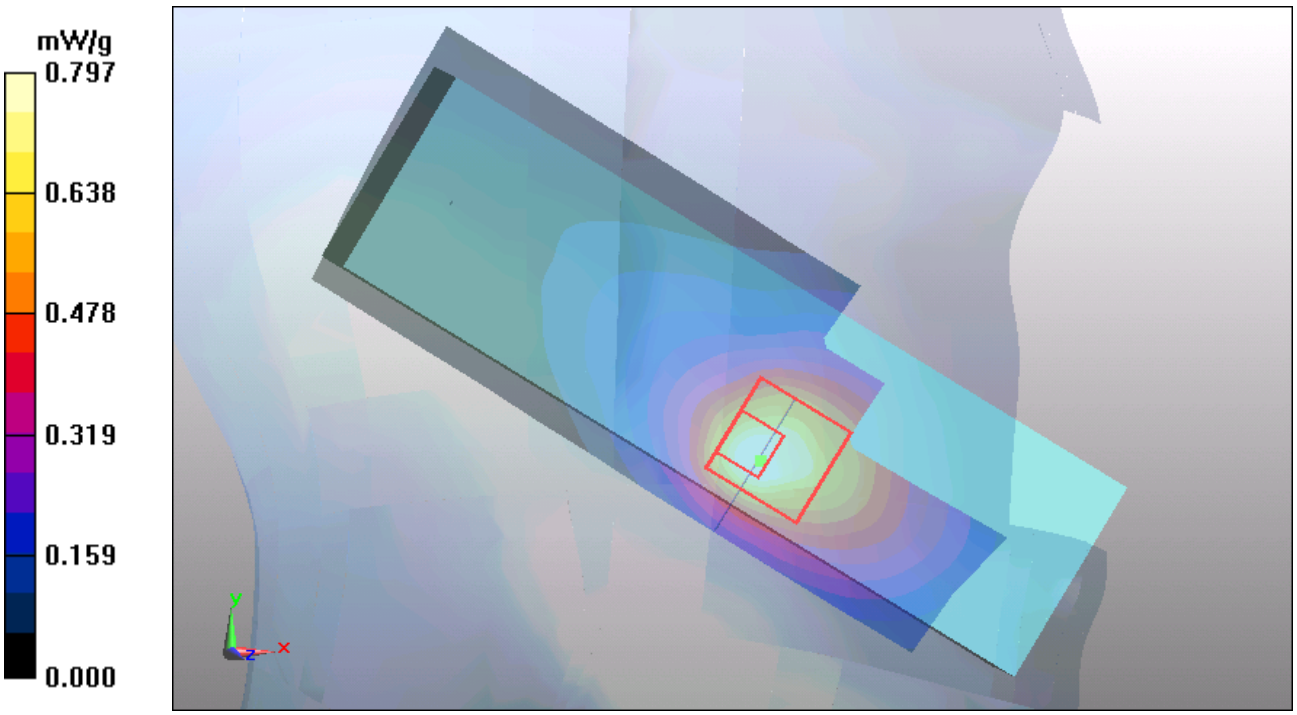


Figure 13 Left Hand Touch Cheek GSM 850 Channel 128

GSM 850 Left Tilt High (Cover Open, Battery 1)

Date/Time: 2012-6-21 10:33:28
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.91 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt High/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.304 mW/g

Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.71 V/m; Power Drift = -0.024 dB
Peak SAR (extrapolated) = 0.384 W/kg
SAR(1 g) = 0.289 mW/g; SAR(10 g) = 0.213 mW/g
Maximum value of SAR (measured) = 0.304 mW/g

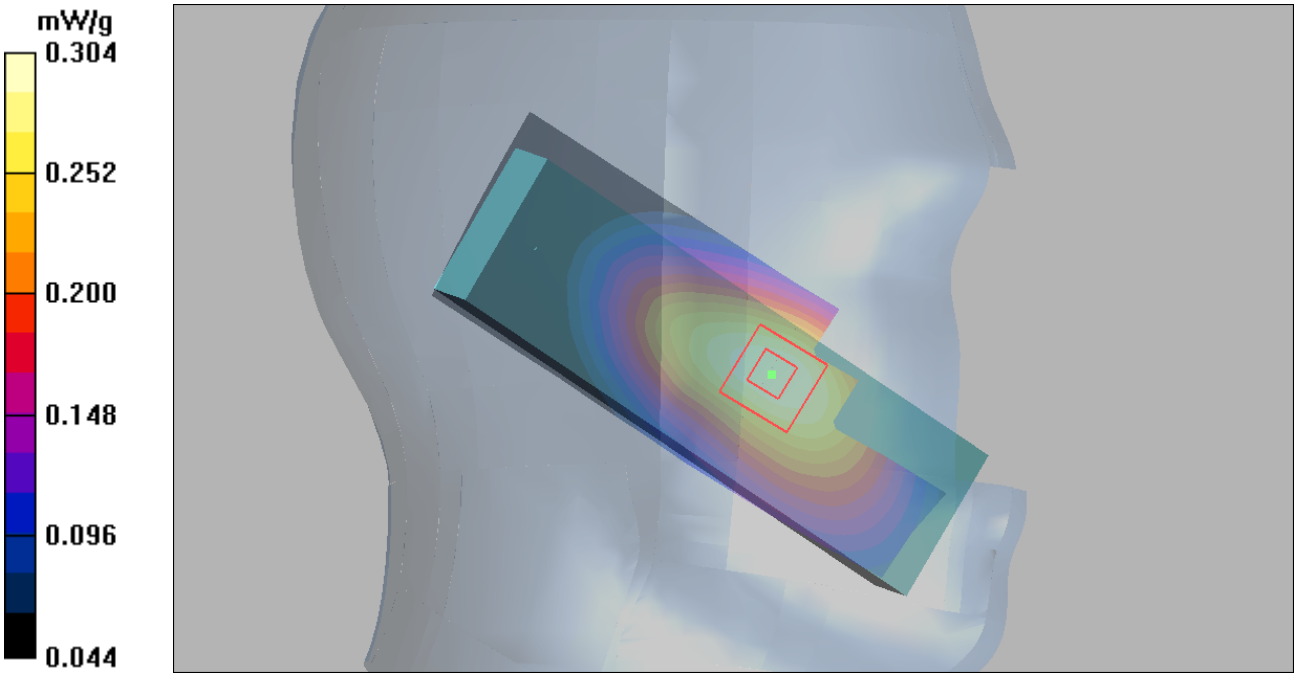


Figure 14 Left Hand Tilt 15° GSM 850 Channel 251

GSM 850 Left Tilt Middle (Cover Open, Battery 1)

Date/Time: 2012-6-21 10:21:05
Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.897 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Middle/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.266 mW/g

Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.11 V/m; Power Drift = -0.004 dB
Peak SAR (extrapolated) = 0.334 W/kg
SAR(1 g) = 0.253 mW/g; SAR(10 g) = 0.186 mW/g
Maximum value of SAR (measured) = 0.268 mW/g

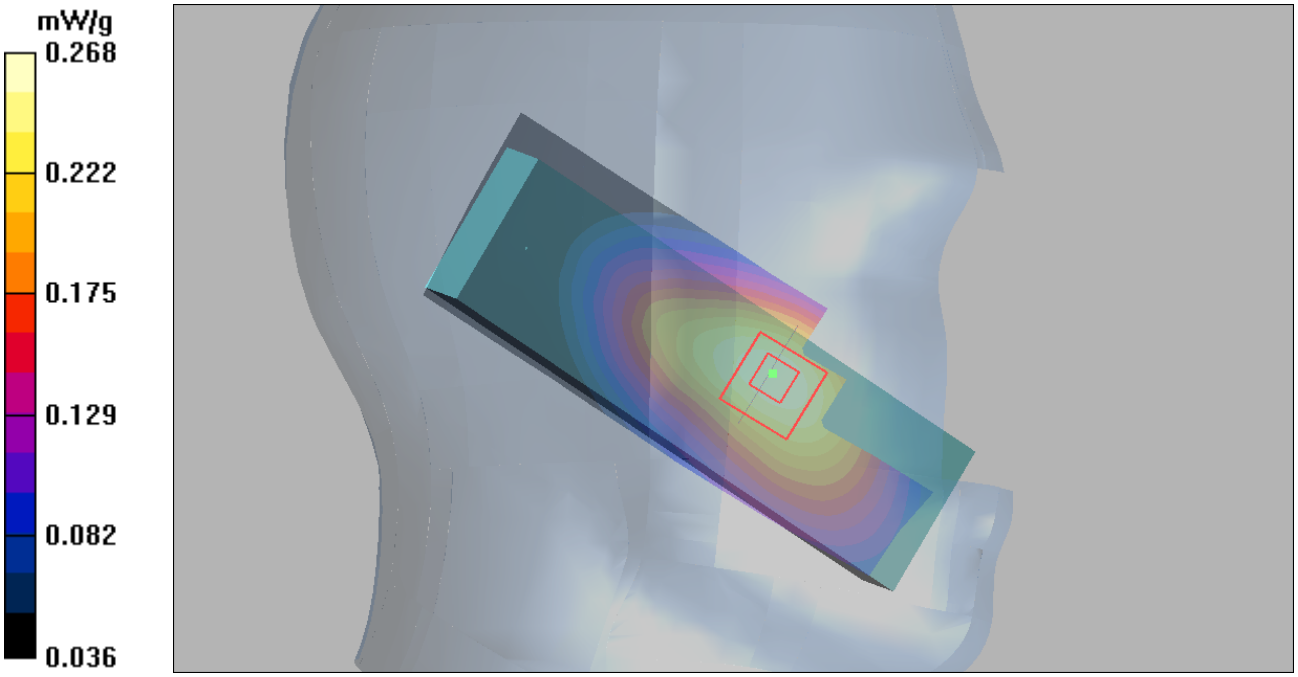


Figure 15 Left Hand Tilt 15° GSM 850 Channel 190

GSM 850 Left Tilt Low (Cover Open, Battery 1)

Date/Time: 2012-6-21 10:46:08
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.886 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Low/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.249 mW/g

Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.76 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 0.313 W/kg
SAR(1 g) = 0.239 mW/g; SAR(10 g) = 0.176 mW/g
Maximum value of SAR (measured) = 0.252 mW/g

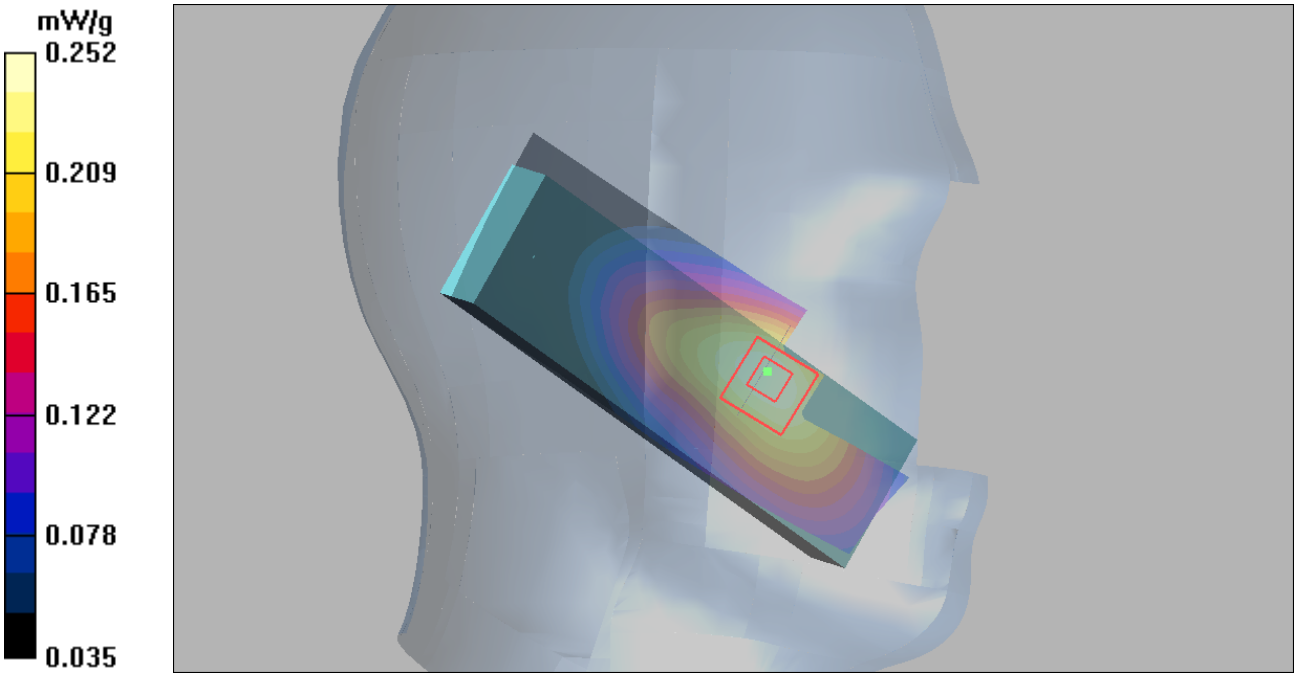


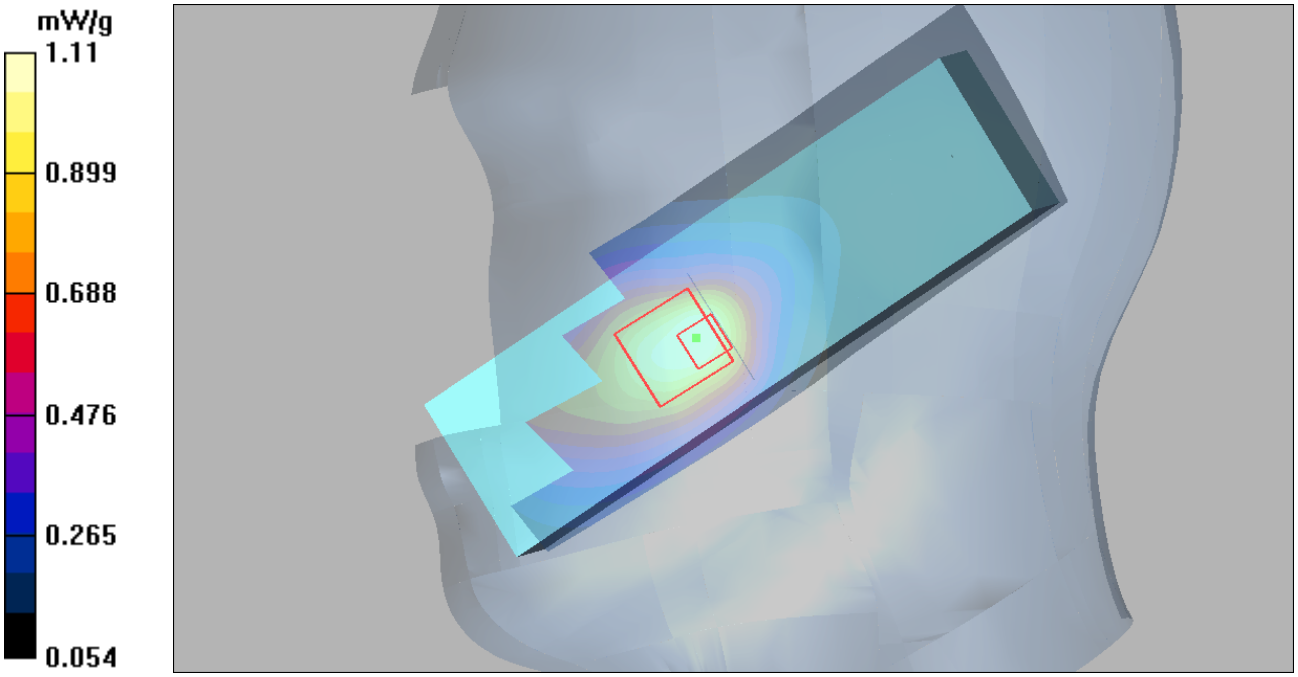
Figure 16 Left Hand Tilt 15° GSM 850 Channel 128

GSM 850 Right Cheek High (Cover Open, Battery 1)

Date/Time: 2012-6-21 11:20:13
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.91 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek High/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.16 mW/g

Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.18 V/m; Power Drift = 0.068 dB
Peak SAR (extrapolated) = 2.02 W/kg
SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.672 mW/g
Maximum value of SAR (measured) = 1.11 mW/g



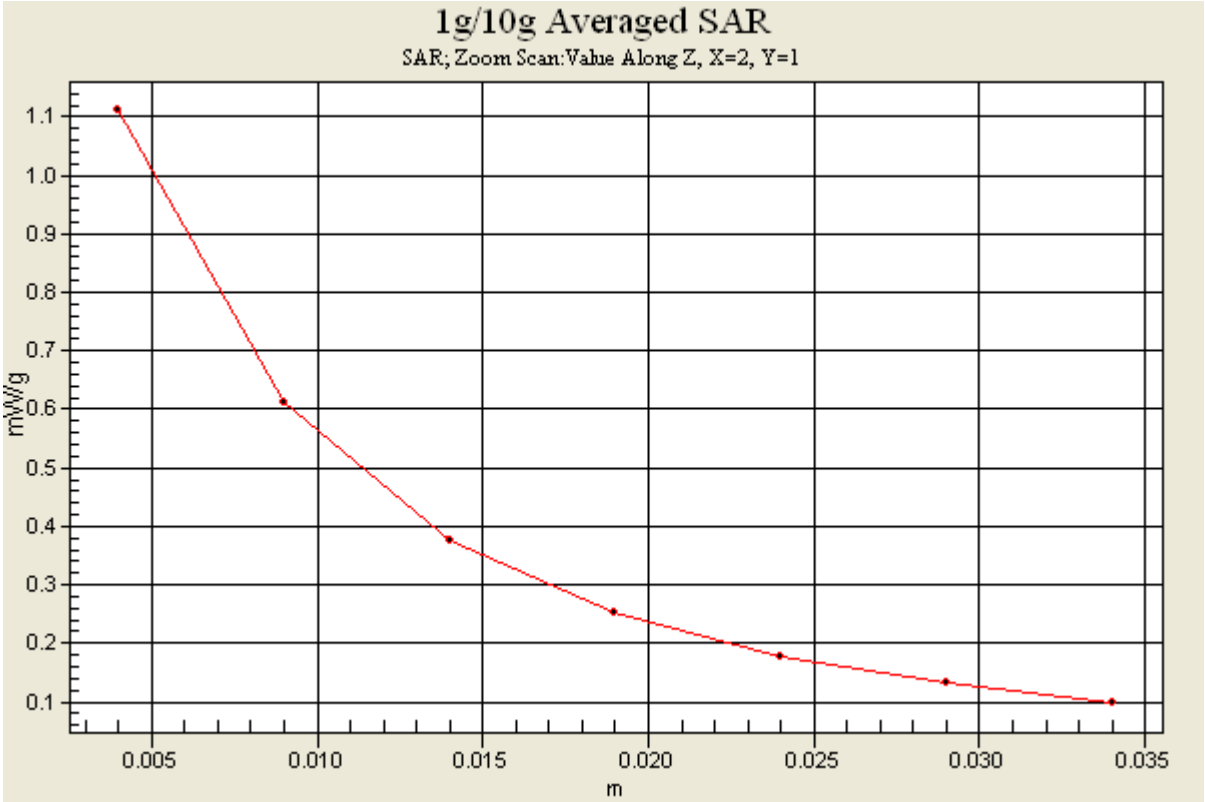


Figure 17 Right Hand Touch Cheek GSM 850 Channel 251

GSM 850 Right Cheek Middle (Cover Open, Battery 1)

Date/Time: 2012-6-20 15:23:02
Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.897 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.11 mW/g

Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.28 V/m; Power Drift = 0.132 dB
Peak SAR (extrapolated) = 1.84 W/kg
SAR(1 g) = 0.954 mW/g; SAR(10 g) = 0.625 mW/g
Maximum value of SAR (measured) = 1.02 mW/g

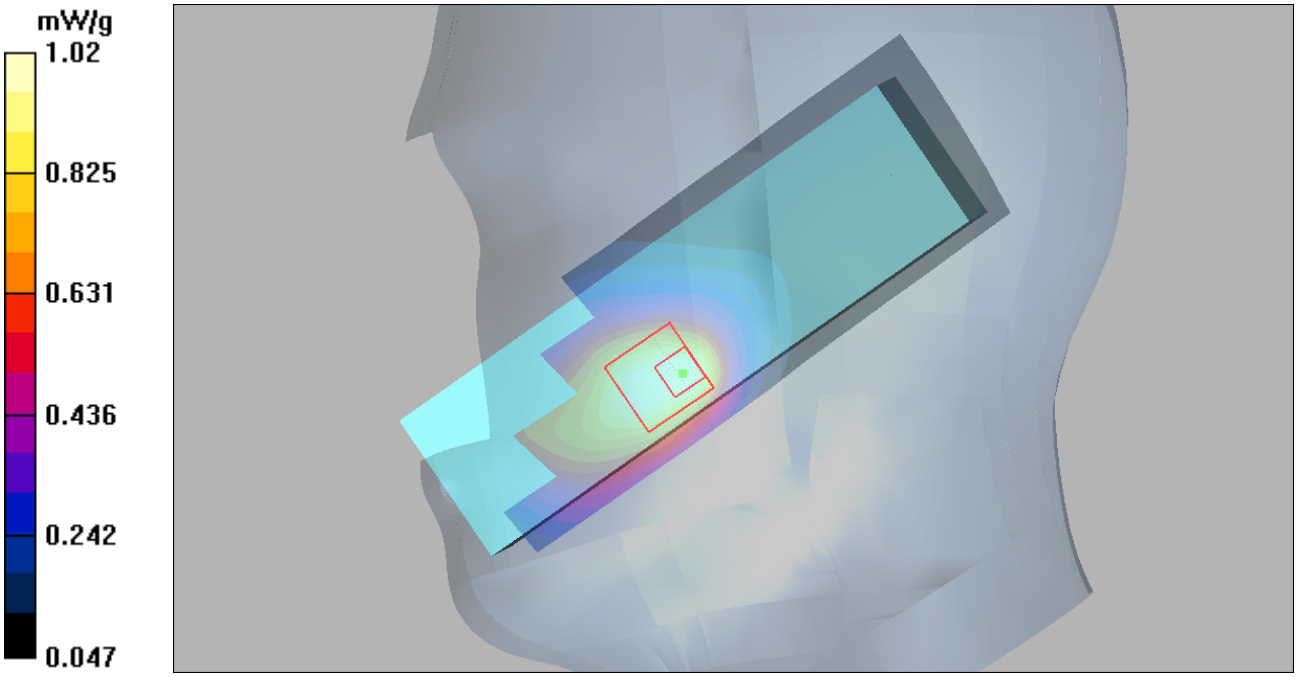


Figure 18 Right Hand Touch Cheek GSM 850 Channel 190

GSM 850 Right Cheek Low (Cover Open, Battery 1)

Date/Time: 2012-6-20 15:35:44
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.886 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Low/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.14 mW/g

Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.18 V/m; Power Drift = -0.004 dB
Peak SAR (extrapolated) = 1.89 W/kg
SAR(1 g) = 0.976 mW/g; SAR(10 g) = 0.639 mW/g
Maximum value of SAR (measured) = 1.04 mW/g

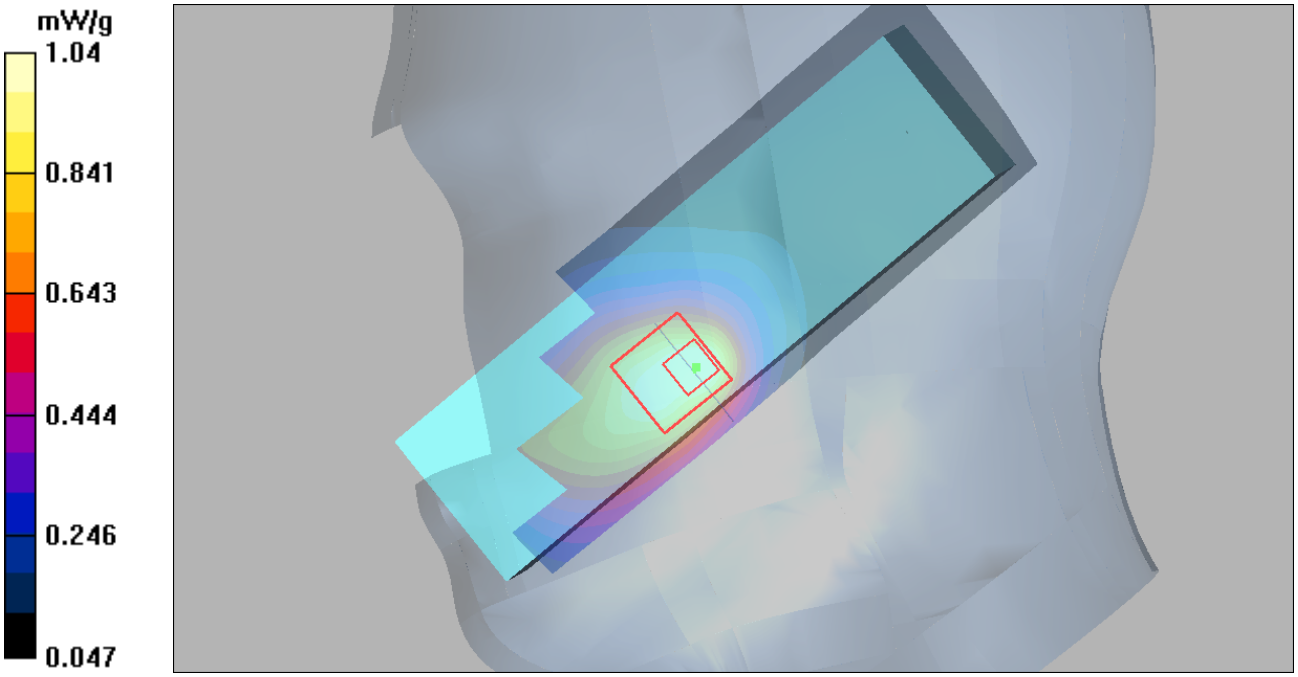


Figure 19 Right Hand Touch Cheek GSM 850 Channel 128

GSM 850 Right Tilt High (Cover Open, Battery 1)

Date/Time: 2012-6-20 16:01:41
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.91 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt High/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.298 mW/g

Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.10 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 0.380 W/kg
SAR(1 g) = 0.281 mW/g; SAR(10 g) = 0.206 mW/g
Maximum value of SAR (measured) = 0.296 mW/g

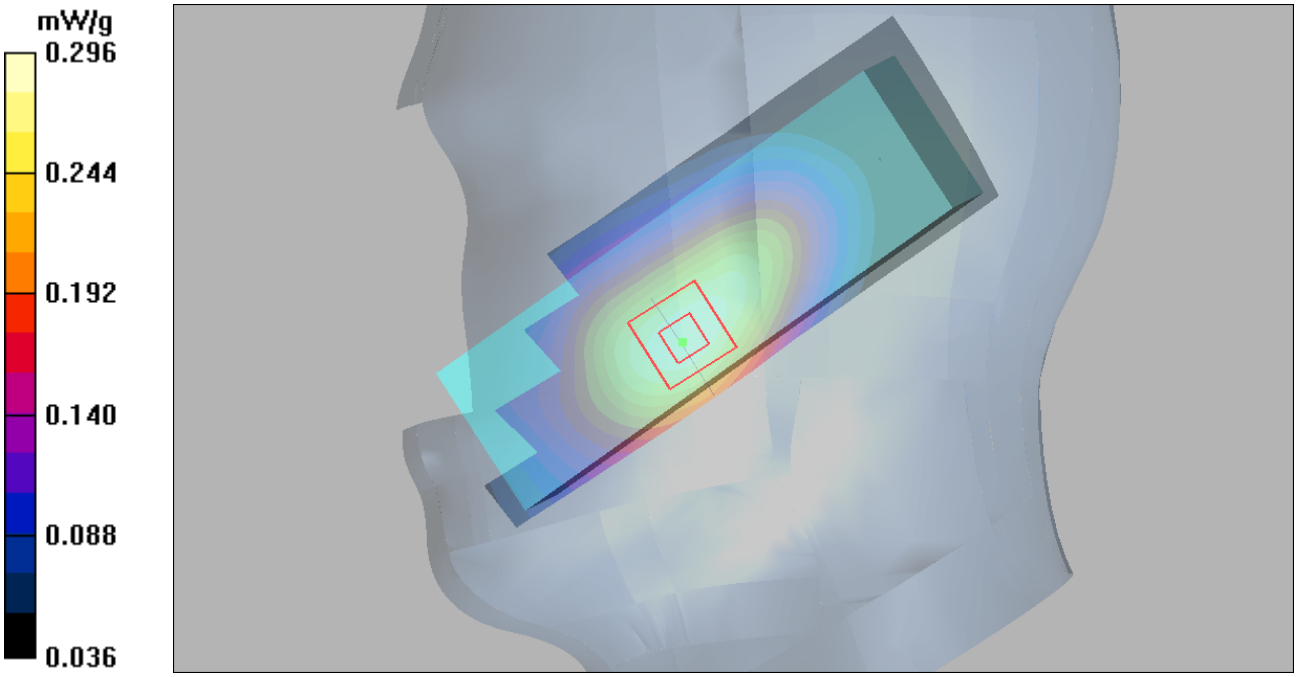


Figure 20 Right Hand Tilt 15° GSM 850 Channel 251

GSM 850 Right Tilt Middle (Cover Open, Battery 1)

Date/Time: 2012-6-20 16:14:31
Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.897 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Middle/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.263 mW/g

Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.57 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 0.334 W/kg
SAR(1 g) = 0.250 mW/g; SAR(10 g) = 0.184 mW/g
Maximum value of SAR (measured) = 0.265 mW/g

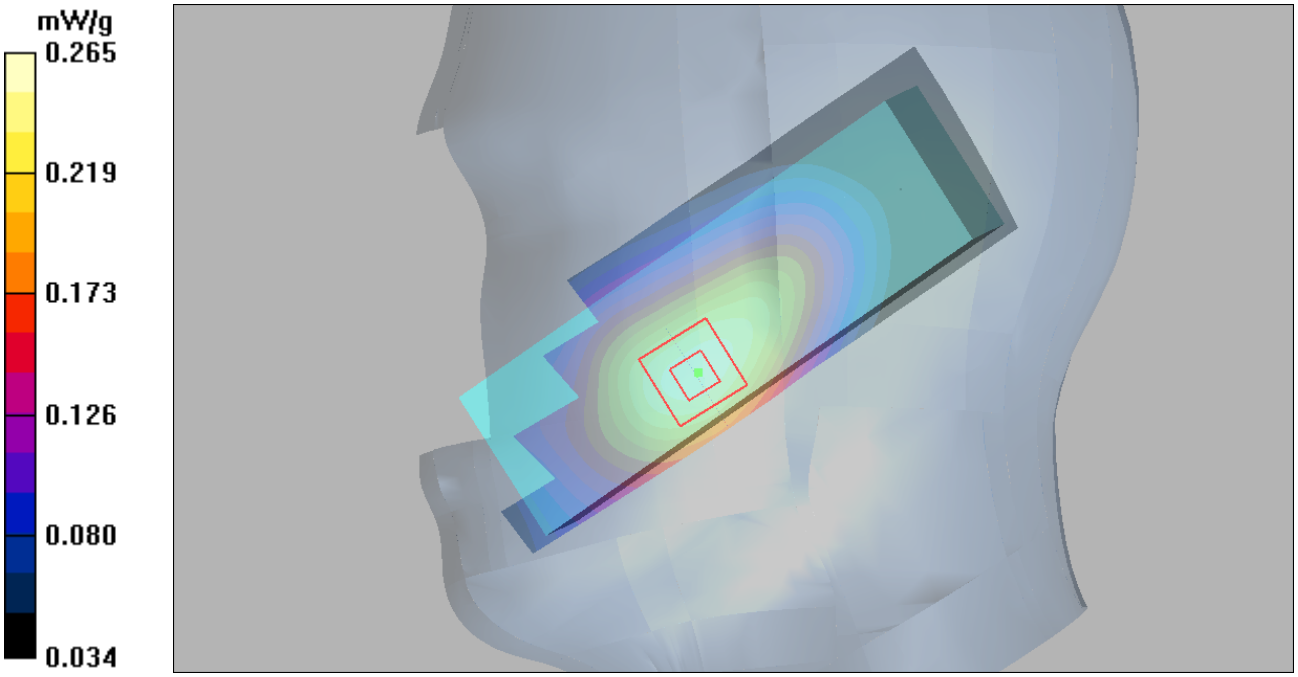


Figure 21 Right Hand Tilt 15° GSM 850 Channel 190

GSM 850 Right Tilt Low (Cover Open, Battery 1)

Date/Time: 2012-6-20 16:27:13
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.886 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Low/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.267 mW/g

Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.50 V/m; Power Drift = -0.022 dB
Peak SAR (extrapolated) = 0.335 W/kg
SAR(1 g) = 0.252 mW/g; SAR(10 g) = 0.185 mW/g
Maximum value of SAR (measured) = 0.267 mW/g

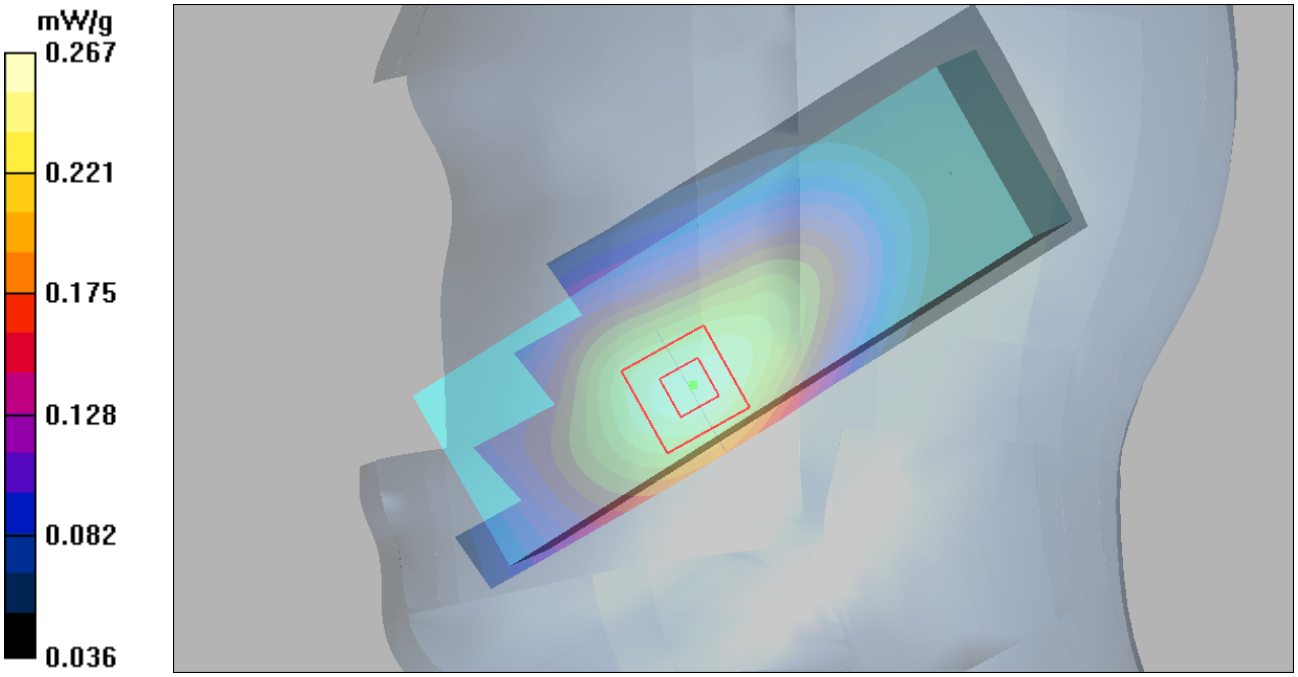


Figure 22 Right Hand Tilt 15° GSM 850 Channel 128

GSM 850 Right Cheek High (Cover Open, Battery 2)

Date/Time: 2012-6-21 11:37:16
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.91 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek High/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.10 mW/g

Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.15 V/m; Power Drift = -0.160 dB
Peak SAR (extrapolated) = 1.97 W/kg
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.654 mW/g
Maximum value of SAR (measured) = 1.08 mW/g

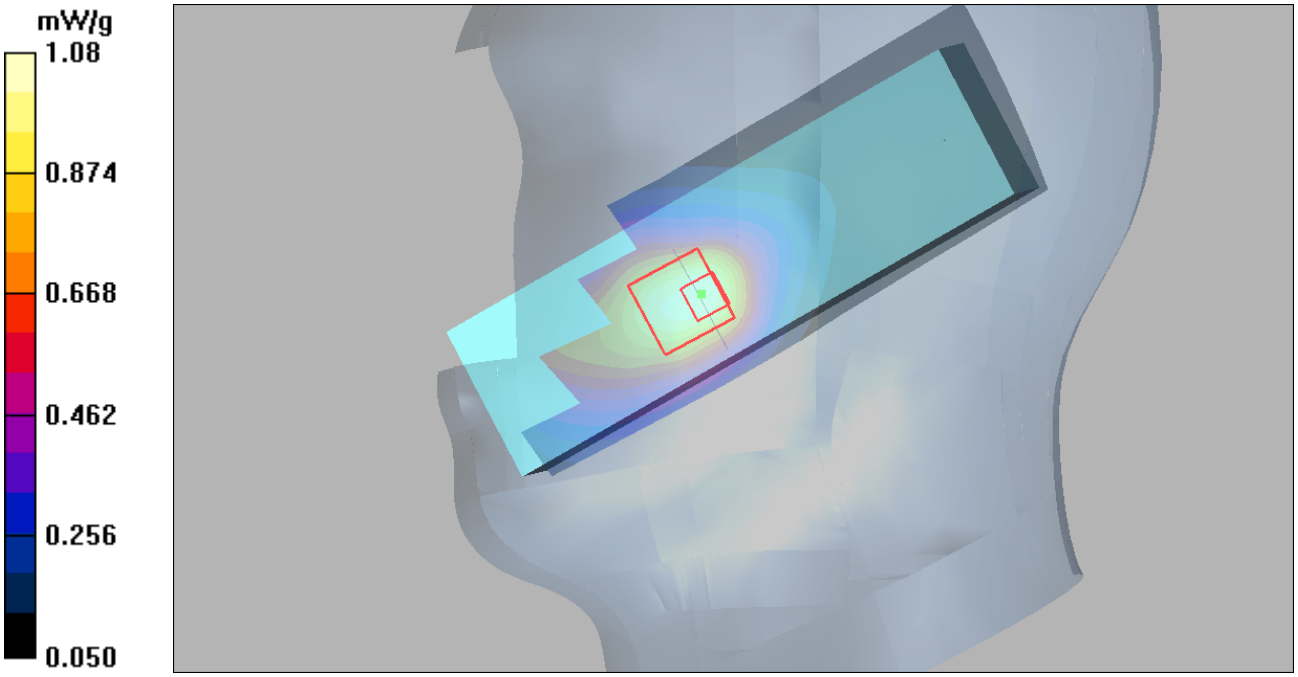


Figure 23 Right Hand Touch Cheek GSM 850 Channel 251

GSM 850 Right Cheek High (Cover Open, Battery 3)

Date/Time: 2012-6-21 13:20:56
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.91 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek High/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.16 mW/g

Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.54 V/m; Power Drift = 0.109 dB
Peak SAR (extrapolated) = 2.11 W/kg
SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.655 mW/g
Maximum value of SAR (measured) = 1.11 mW/g

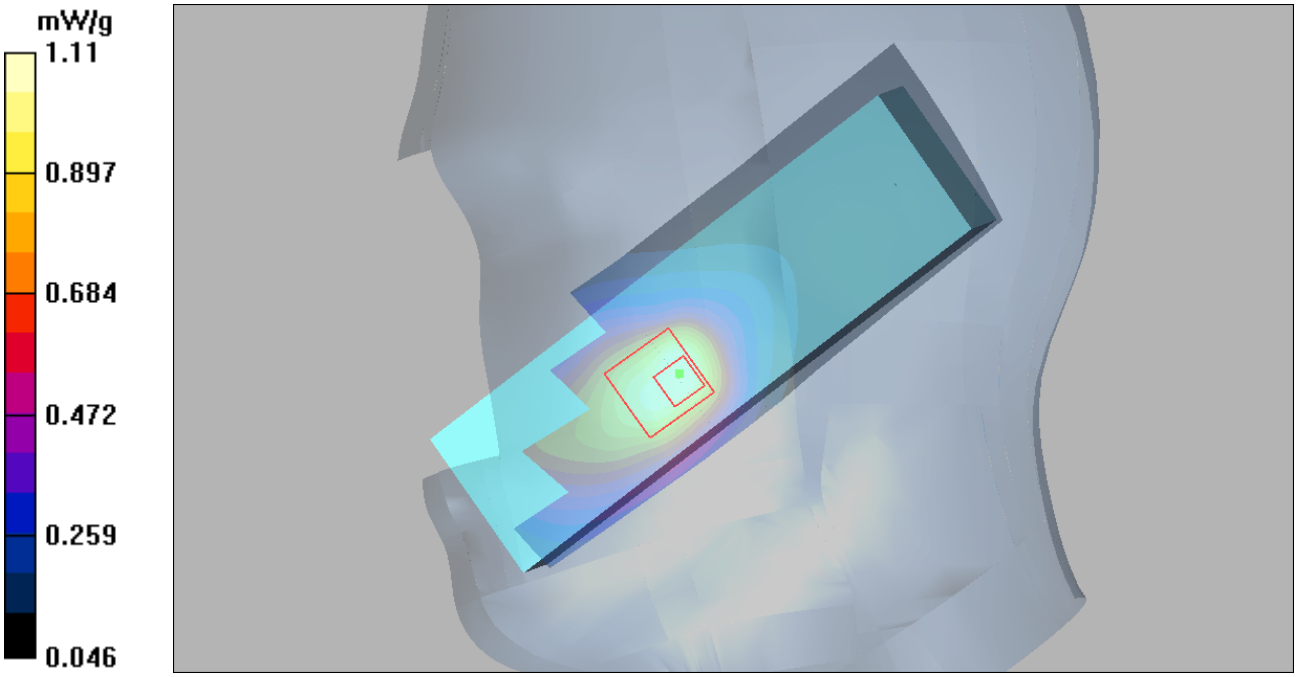


Figure 24 Right Hand Touch Cheek GSM 850 Channel 251

GSM 850 Right Cheek High (Cover Open, Battery 4)

Date/Time: 2012-6-21 11:55:22
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.91 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek High/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.07 mW/g

Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.93 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 1.87 W/kg
SAR(1 g) = 0.993 mW/g; SAR(10 g) = 0.655 mW/g
Maximum value of SAR (measured) = 1.06 mW/g

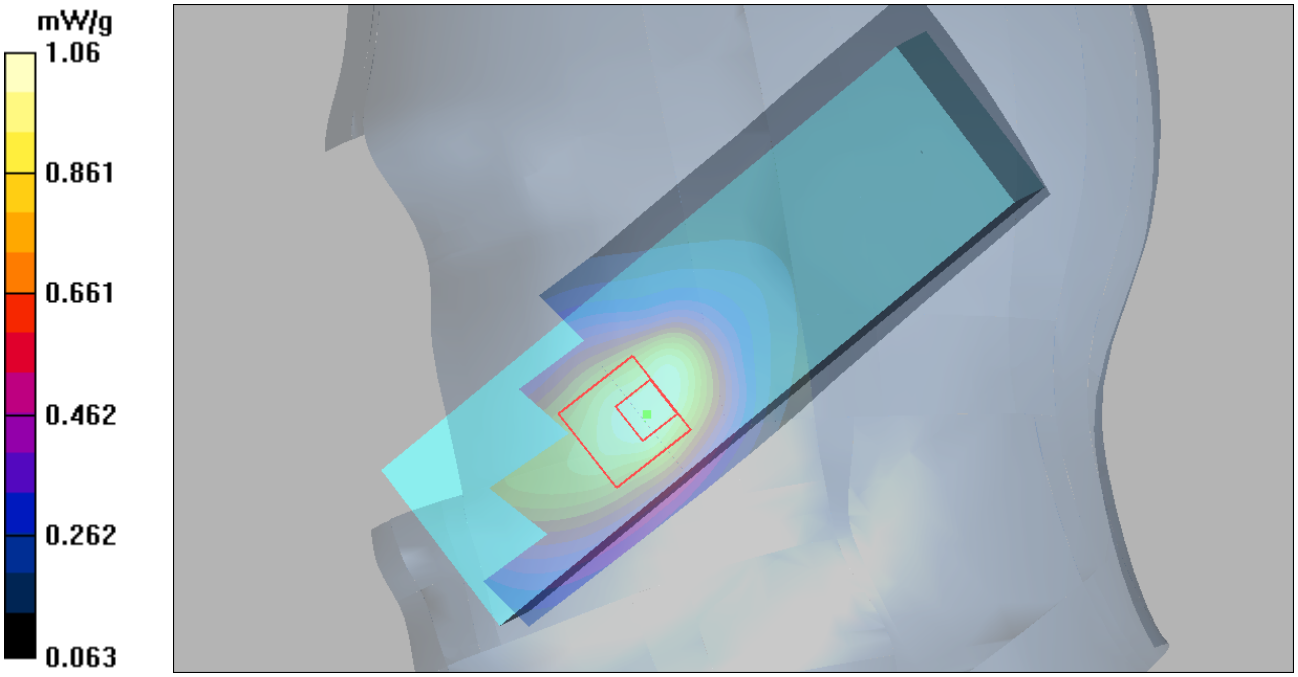


Figure 25 Right Hand Touch Cheek GSM 850 Channel 251

GSM 850 Right Cheek High (Cover Open, Battery 5)

Date/Time: 2012-6-21 13:06:29
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.91 mho/m; ε_r = 41.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.22, 9.22, 9.22); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek High/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.07 mW/g

Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.61 V/m; Power Drift = 0.042 dB
Peak SAR (extrapolated) = 1.74 W/kg
SAR(1 g) = 0.977 mW/g; SAR(10 g) = 0.642 mW/g
Maximum value of SAR (measured) = 1.04 mW/g

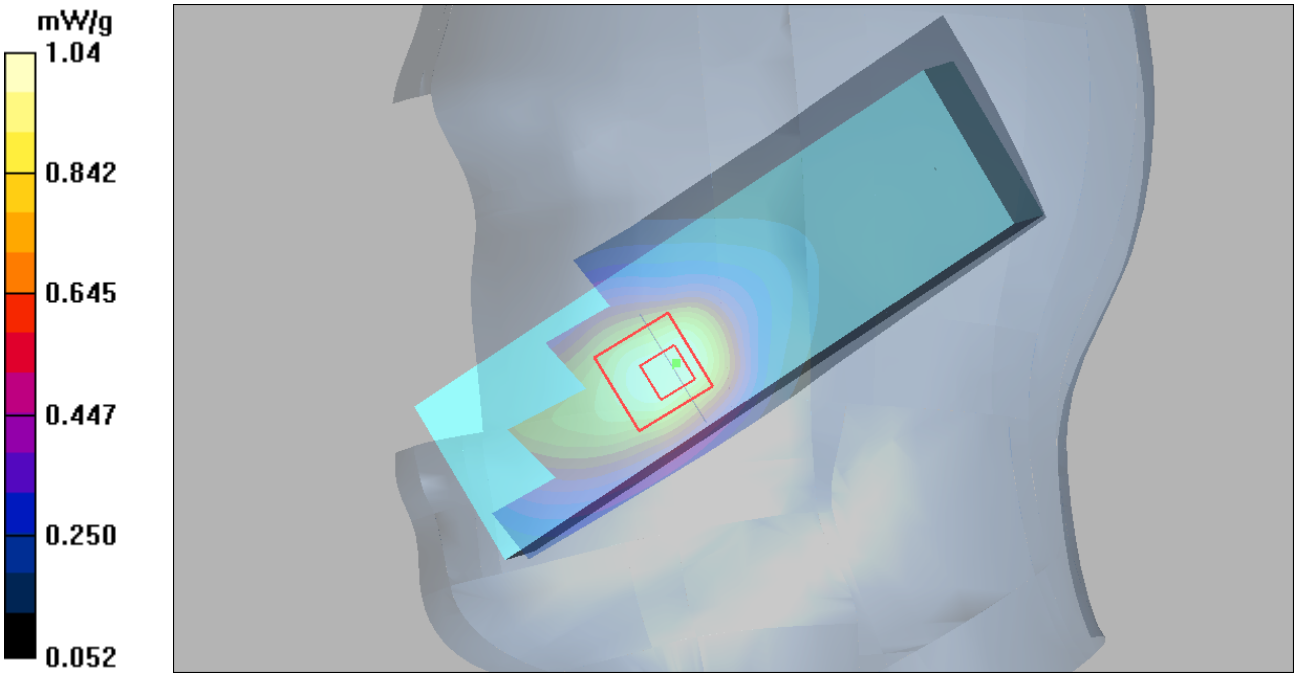


Figure 26 Right Hand Touch Cheek GSM 850 Channel 251

GSM 850 Towards Ground High (Cover Close, Battery 1)

Date/Time: 2012-6-19 10:21:03
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.97 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Toward Ground High/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.363 mW/g

Toward Ground High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.2 V/m; Power Drift = -0.022 dB
Peak SAR (extrapolated) = 0.476 W/kg
SAR(1 g) = 0.336 mW/g; SAR(10 g) = 0.230 mW/g
Maximum value of SAR (measured) = 0.360 mW/g

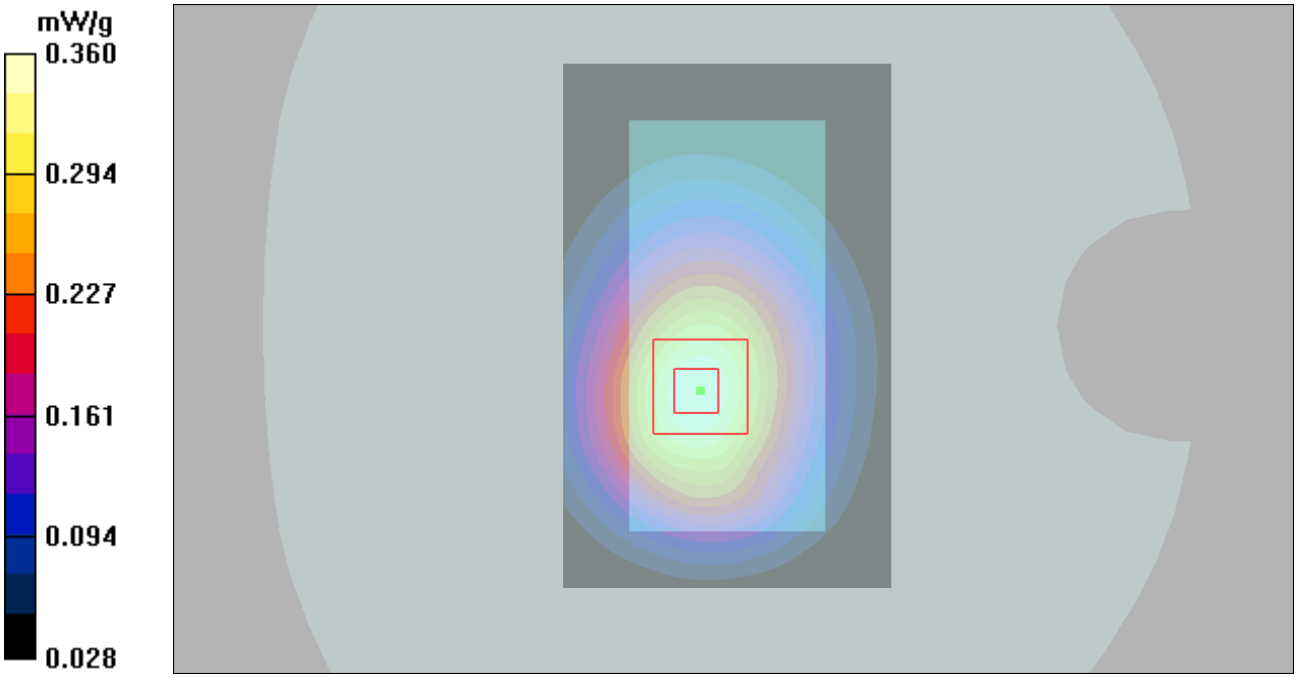


Figure 27 Body, Towards Ground, GSM 850 Channel 251

GSM 850 Towards Ground Middle (Cover Close, Battery 1)

Date/Time: 2012-6-19 10:09:38
Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.956 mho/m; ε_r = 54.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Toward Ground Middle/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.396 mW/g

Toward Ground Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.0 V/m; Power Drift = -0.071 dB
Peak SAR (extrapolated) = 0.522 W/kg
SAR(1 g) = 0.365 mW/g; SAR(10 g) = 0.250 mW/g
Maximum value of SAR (measured) = 0.390 mW/g

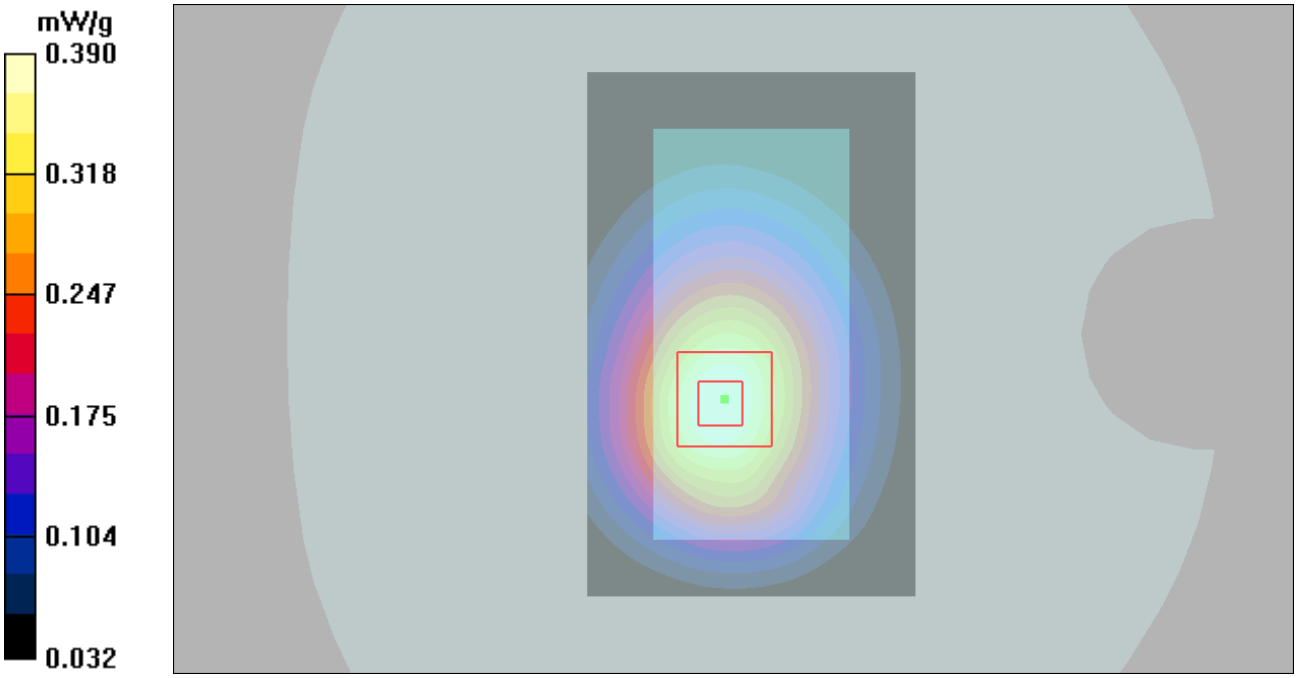


Figure 28 Body, Towards Ground, GSM 850 Channel 190

GSM 850 Towards Ground Low (Cover Close, Battery 1)

Date/Time: 2012-6-19 10:32:07
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.946 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Toward Ground Low/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.453 mW/g

Toward Ground Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.3 V/m; Power Drift = 0.008 dB
Peak SAR (extrapolated) = 0.600 W/kg
SAR(1 g) = 0.423 mW/g; SAR(10 g) = 0.290 mW/g
Maximum value of SAR (measured) = 0.450 mW/g

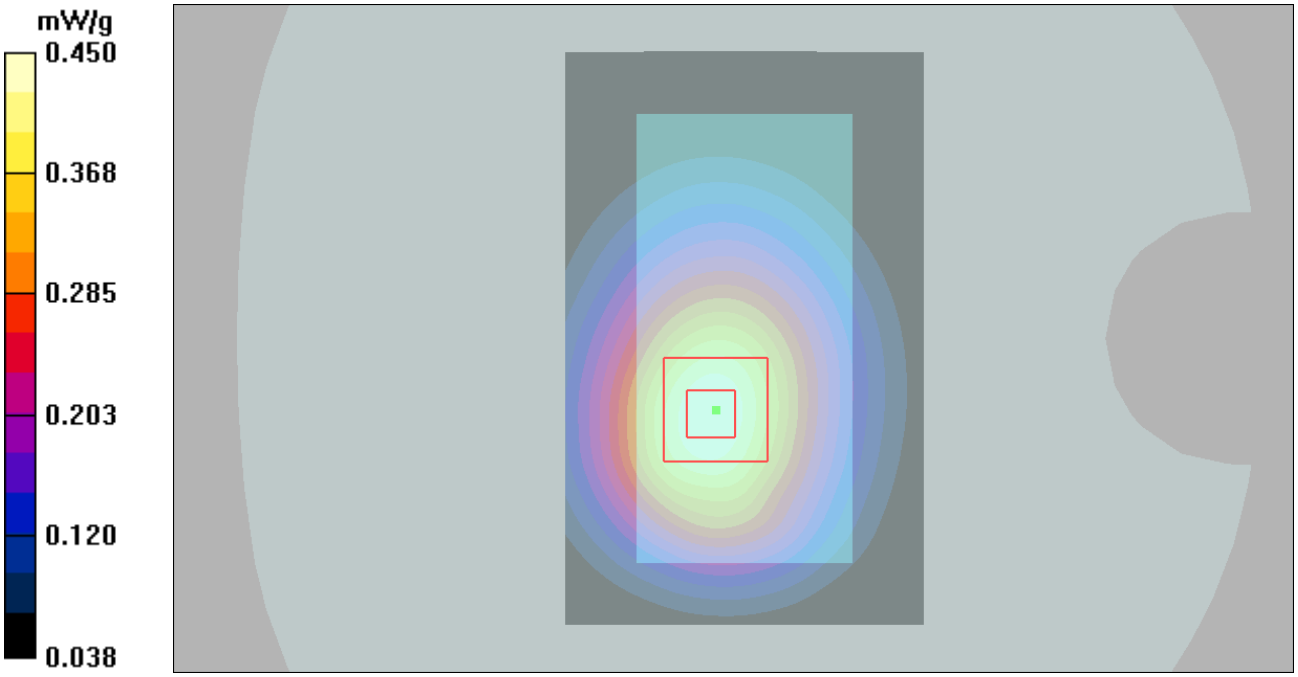


Figure 29 Body, Towards Ground, GSM 850 Channel 128

GSM 850 Towards Phantom High (Cover Close, Battery 1)

Date/Time: 2012-6-19 11:29:33
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.97 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Toward Phantom High/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.227 mW/g

Toward Phantom High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.7 V/m; Power Drift = -0.022 dB
Peak SAR (extrapolated) = 0.285 W/kg
SAR(1 g) = 0.214 mW/g; SAR(10 g) = 0.154 mW/g
Maximum value of SAR (measured) = 0.227 mW/g

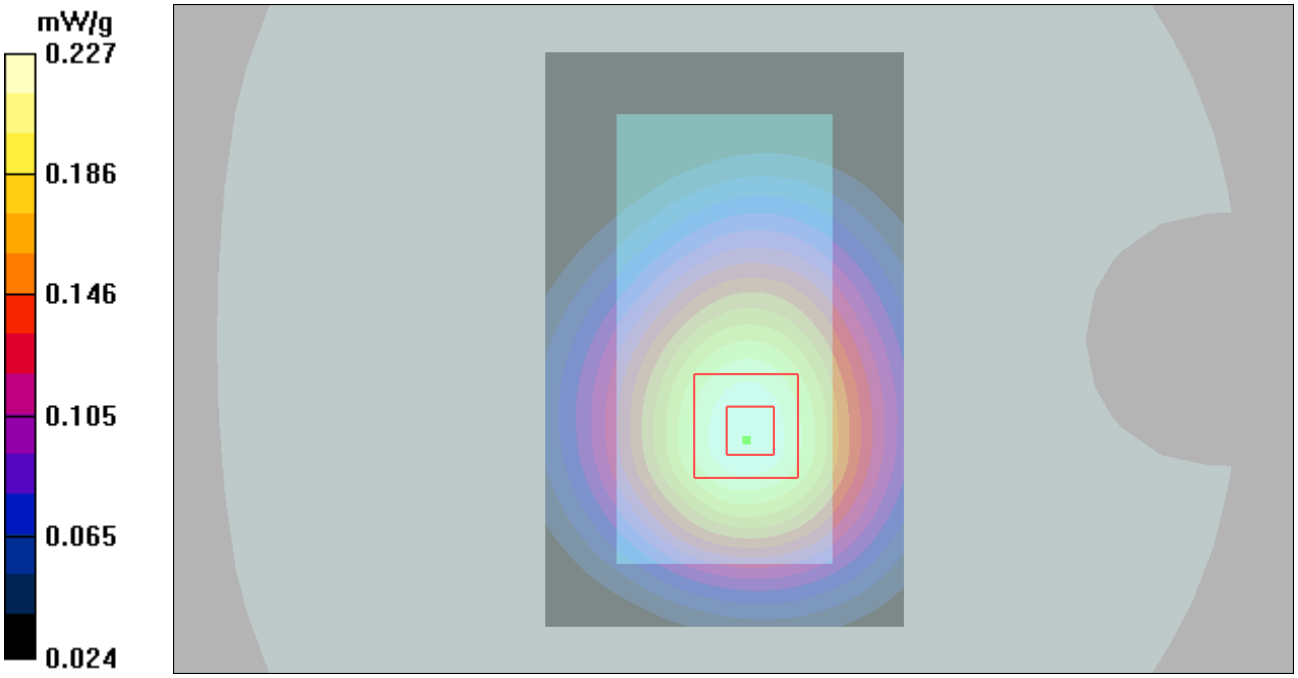


Figure 30 Body, Towards Phantom, GSM 850 Channel 251

GSM 850 Towards Phantom Middle (Cover Close, Battery 1)

Date/Time: 2012-6-19 11:40:33
Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.956 mho/m; ε_r = 54.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Toward Phantom Middle/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.244 mW/g

Toward Phantom Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.2 V/m; Power Drift = -0.056 dB
Peak SAR (extrapolated) = 0.303 W/kg
SAR(1 g) = 0.230 mW/g; SAR(10 g) = 0.166 mW/g
Maximum value of SAR (measured) = 0.243 mW/g

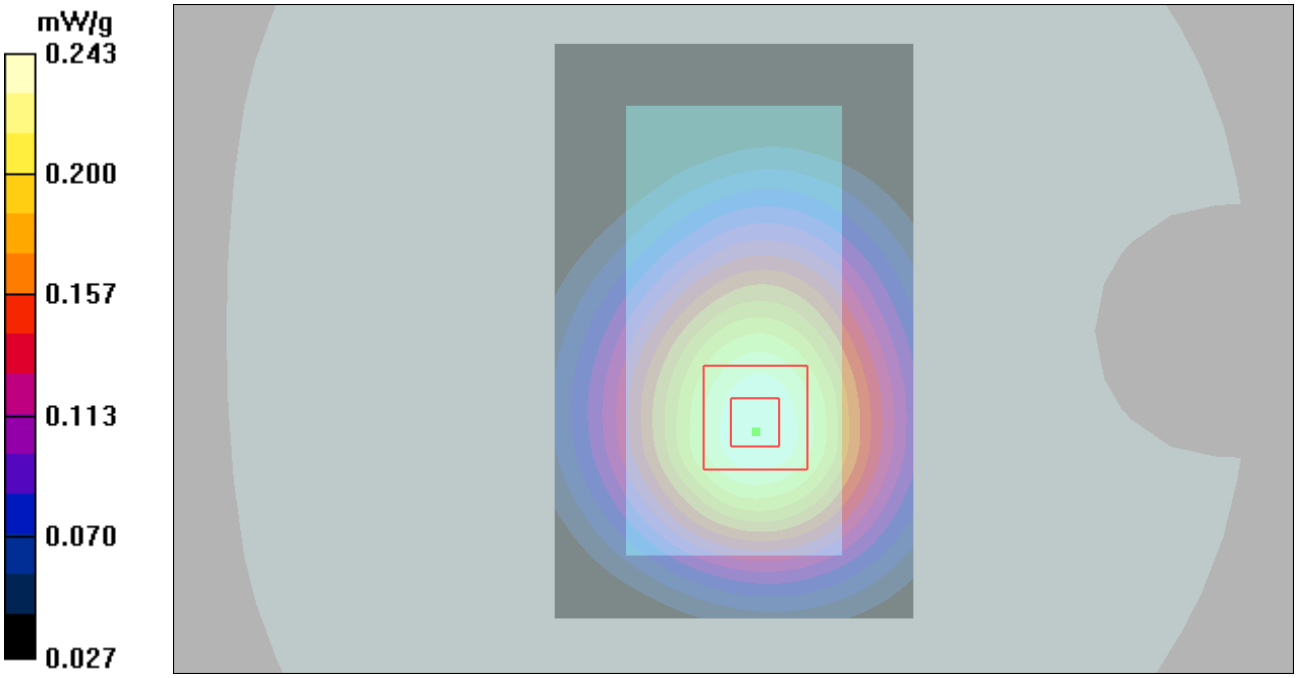


Figure 31 Body, Towards Phantom, GSM 850 Channel 190

GSM 850 Towards Phantom Low (Cover Close, Battery 1)

Date/Time: 2012-6-19 11:18:38
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.946 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Toward Phantom Low/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.286 mW/g

Toward Phantom Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.4 V/m; Power Drift = 0.026 dB
Peak SAR (extrapolated) = 0.358 W/kg
SAR(1 g) = 0.271 mW/g; SAR(10 g) = 0.196 mW/g
Maximum value of SAR (measured) = 0.286 mW/g

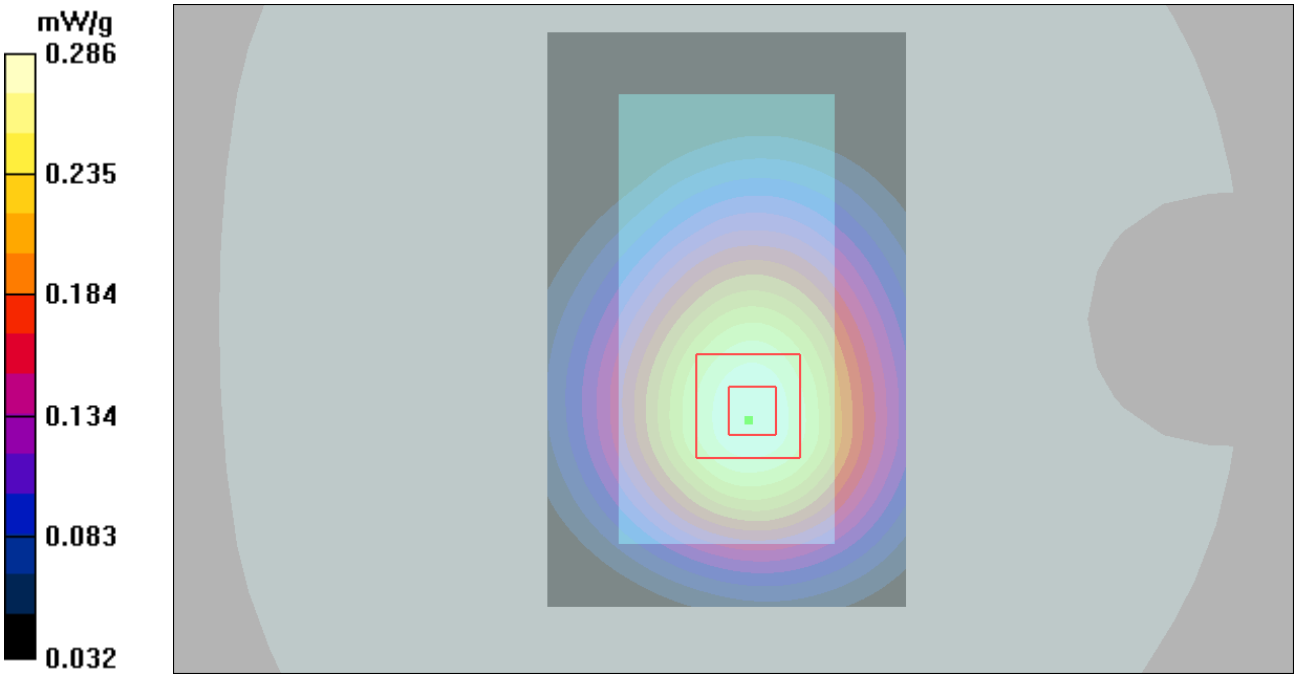


Figure 32 Body, Towards Phantom, GSM 850 Channel 128

GSM 850 Towards Ground High (Cover Open, Battery 1)

Date/Time: 2012-6-19 12:37:35
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.97 mho/m; ε_r = 54.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Toward Ground High/Area Scan (51x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.448 mW/g

Toward Ground High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.4 V/m; Power Drift = 0.066 dB
Peak SAR (extrapolated) = 0.567 W/kg
SAR(1 g) = 0.424 mW/g; SAR(10 g) = 0.304 mW/g
Maximum value of SAR (measured) = 0.450 mW/g

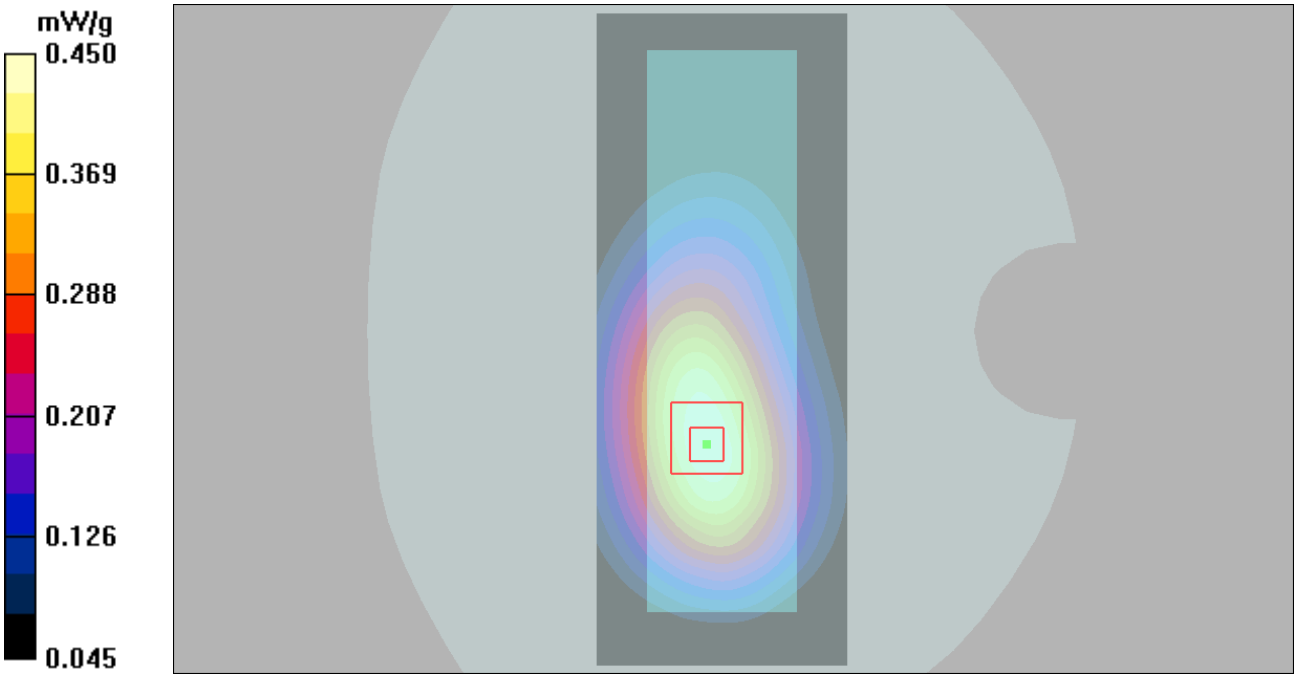


Figure 33 Body, Towards Ground, GSM 850 Channel 251

GSM 850 Towards Ground Middle (Cover Open, Battery 1)

Date/Time: 2012-6-19 11:53:52
Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.956 mho/m; ε_r = 54.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Toward Ground Middle/Area Scan (51x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.451 mW/g

Toward Ground Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.8 V/m; Power Drift = -0.021 dB
Peak SAR (extrapolated) = 0.565 W/kg
SAR(1 g) = 0.423 mW/g; SAR(10 g) = 0.303 mW/g
Maximum value of SAR (measured) = 0.448 mW/g

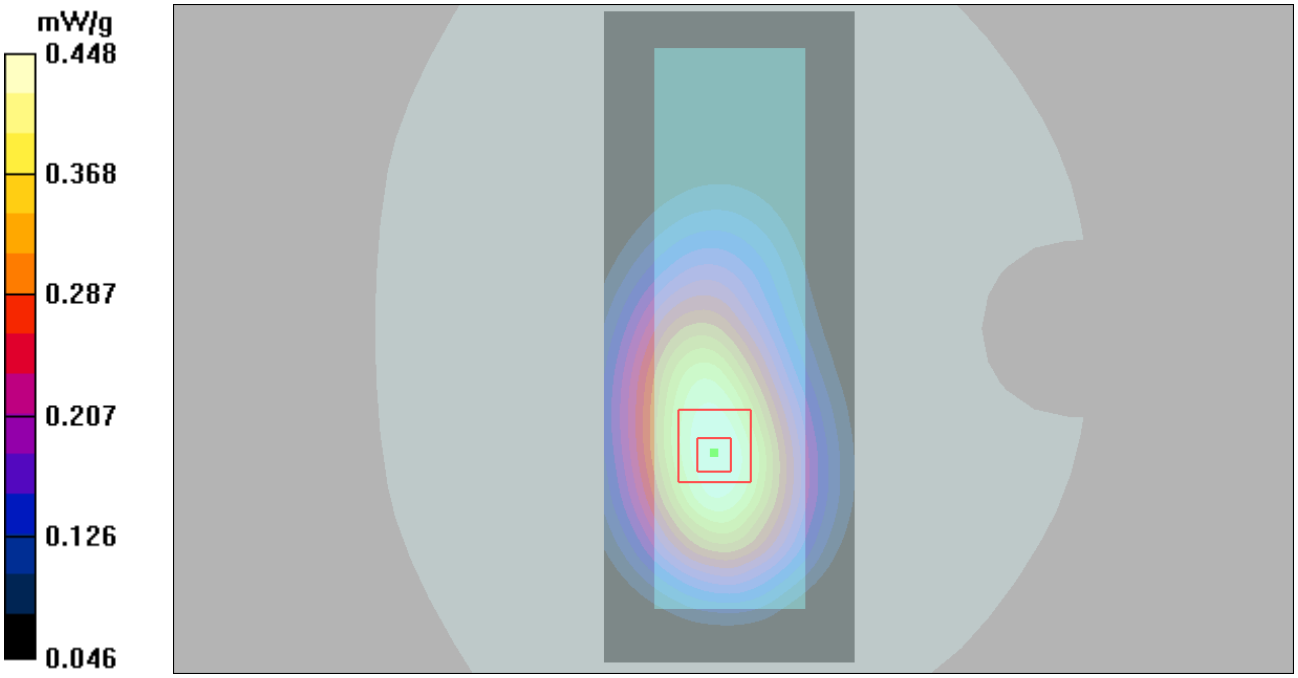


Figure 34 Body, Towards Ground, GSM 850 Channel 190

GSM 850 Towards Ground Low (Cover Open, Battery 1)

Date/Time: 2012-6-19 12:58:26
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.946 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Toward Ground Low/Area Scan (51x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.502 mW/g

Toward Ground Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.8 V/m; Power Drift = 0.071 dB
Peak SAR (extrapolated) = 0.625 W/kg
SAR(1 g) = 0.467 mW/g; SAR(10 g) = 0.335 mW/g
Maximum value of SAR (measured) = 0.492 mW/g

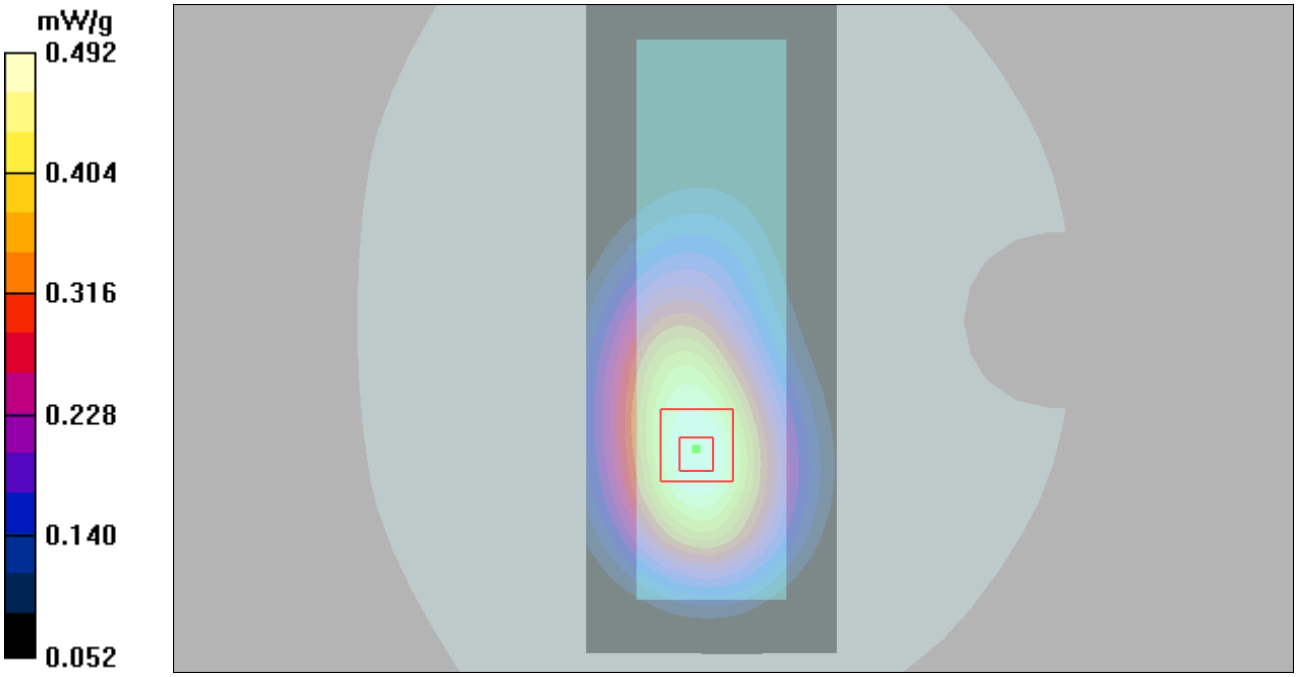


Figure 35 Body, Towards Ground, GSM 850 Channel 128

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

Date/Time: 2012-6-19 13:14:43
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.946 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Toward Ground Low/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.492 mW/g

Toward Ground Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = -0.020 dB
Peak SAR (extrapolated) = 0.625 W/kg
SAR(1 g) = 0.465 mW/g; SAR(10 g) = 0.330 mW/g
Maximum value of SAR (measured) = 0.494 mW/g

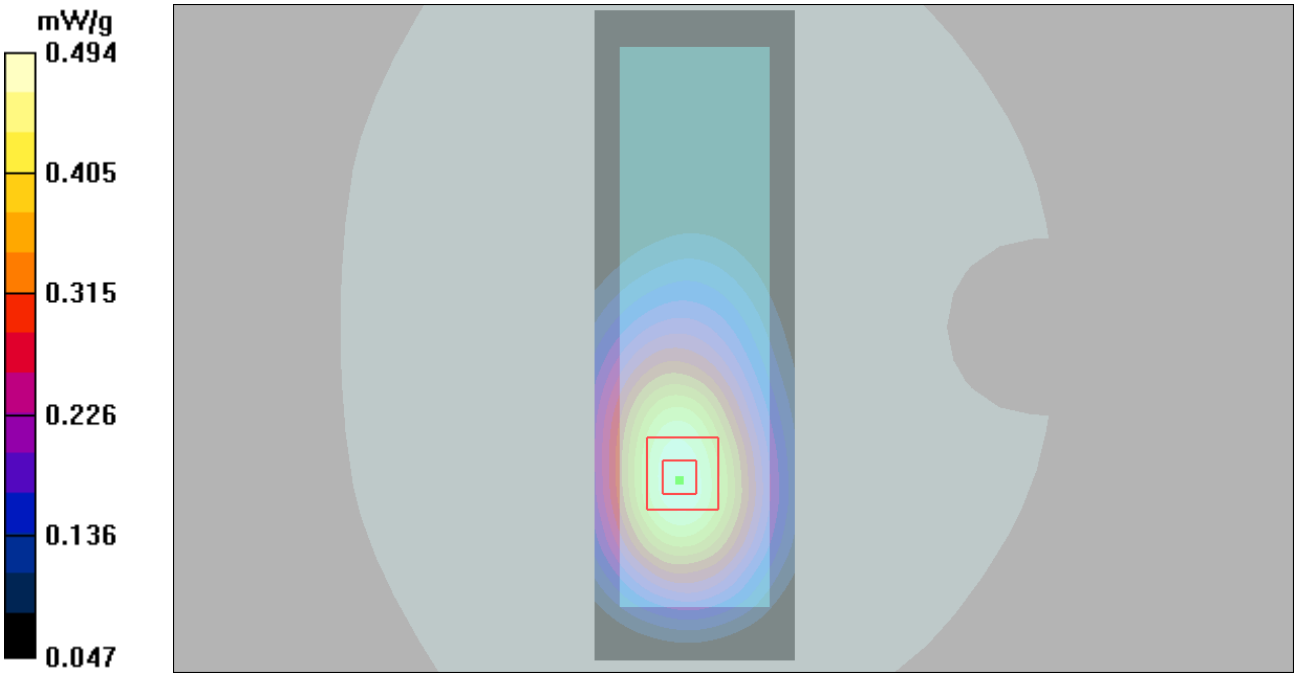


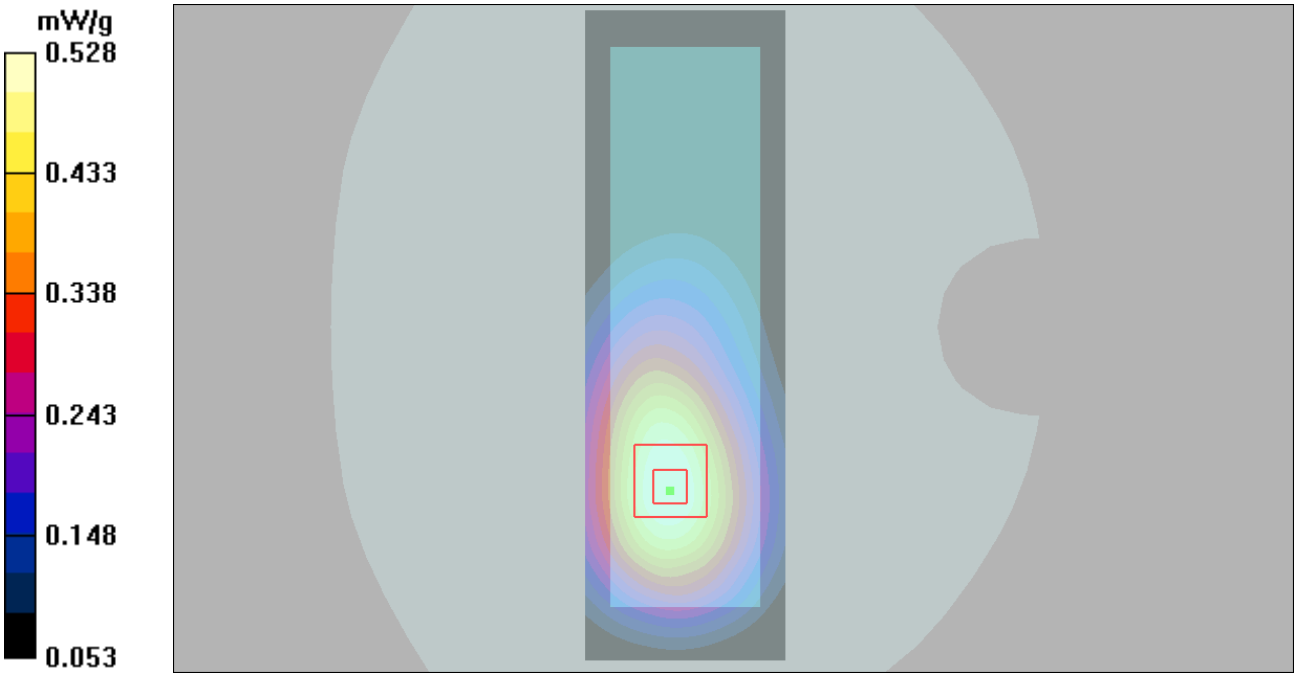
Figure 36 Body with Stereo Headset 1, Towards Ground, GSM 850 Channel 128

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

Date/Time: 2012-6-19 13:29:26
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.946 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(9.38, 9.38, 9.38); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Toward Ground Low/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.538 mW/g

Toward Ground Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.3 V/m; Power Drift = 0.017 dB
Peak SAR (extrapolated) = 0.670 W/kg
SAR(1 g) = 0.501 mW/g; SAR(10 g) = 0.357 mW/g
Maximum value of SAR (measured) = 0.528 mW/g



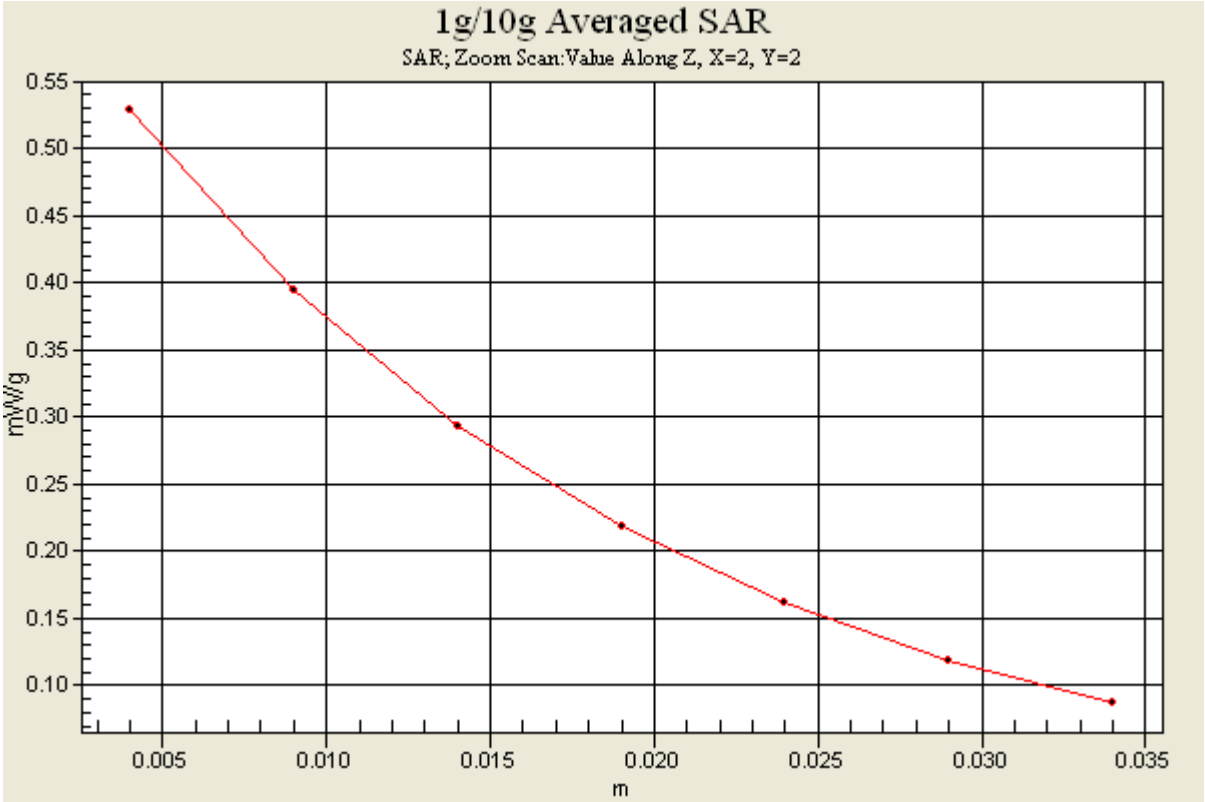


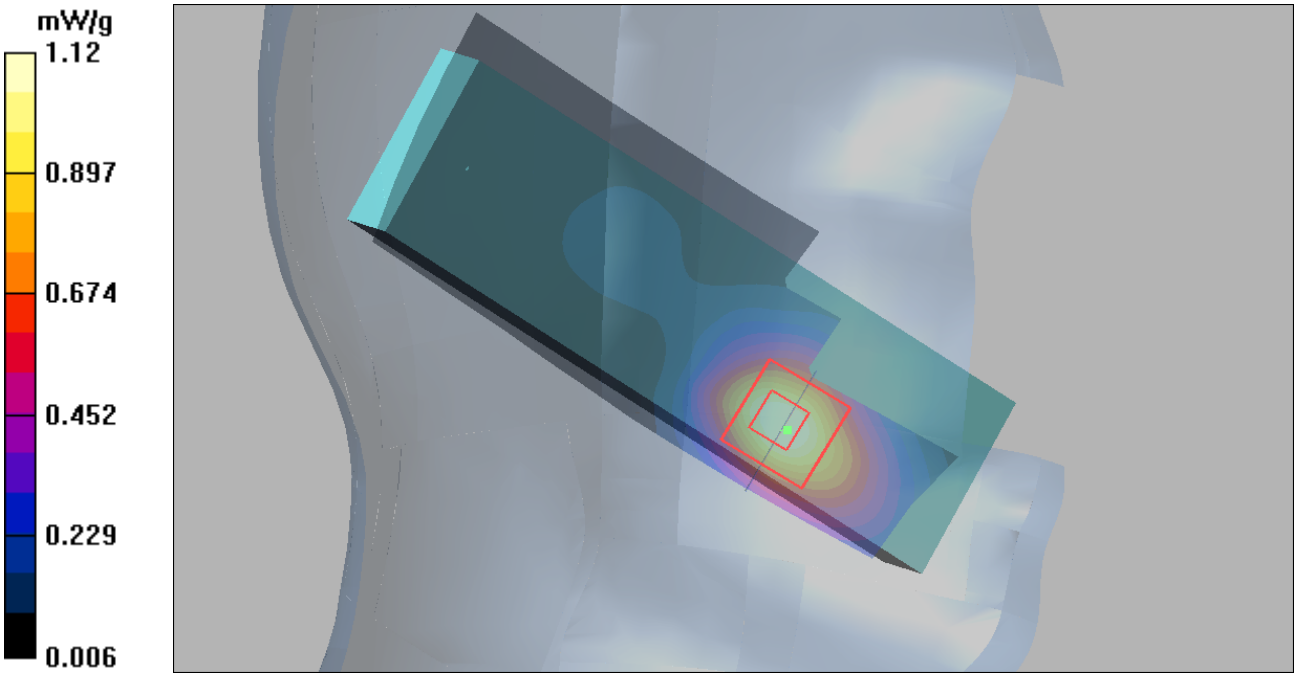
Figure 37 Body with Stereo Headset 2, Towards Ground, GSM 850 Channel 128

GSM 1900 Left Cheek High (Cover Open, Battery 1)

Date/Time: 2012-6-20 13:21:54
Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.4 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(7.9, 7.9, 7.9); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek High/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.15 mW/g

Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.89 V/m; Power Drift = -0.187 dB
Peak SAR (extrapolated) = 1.64 W/kg
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.579 mW/g
Maximum value of SAR (measured) = 1.12 mW/g



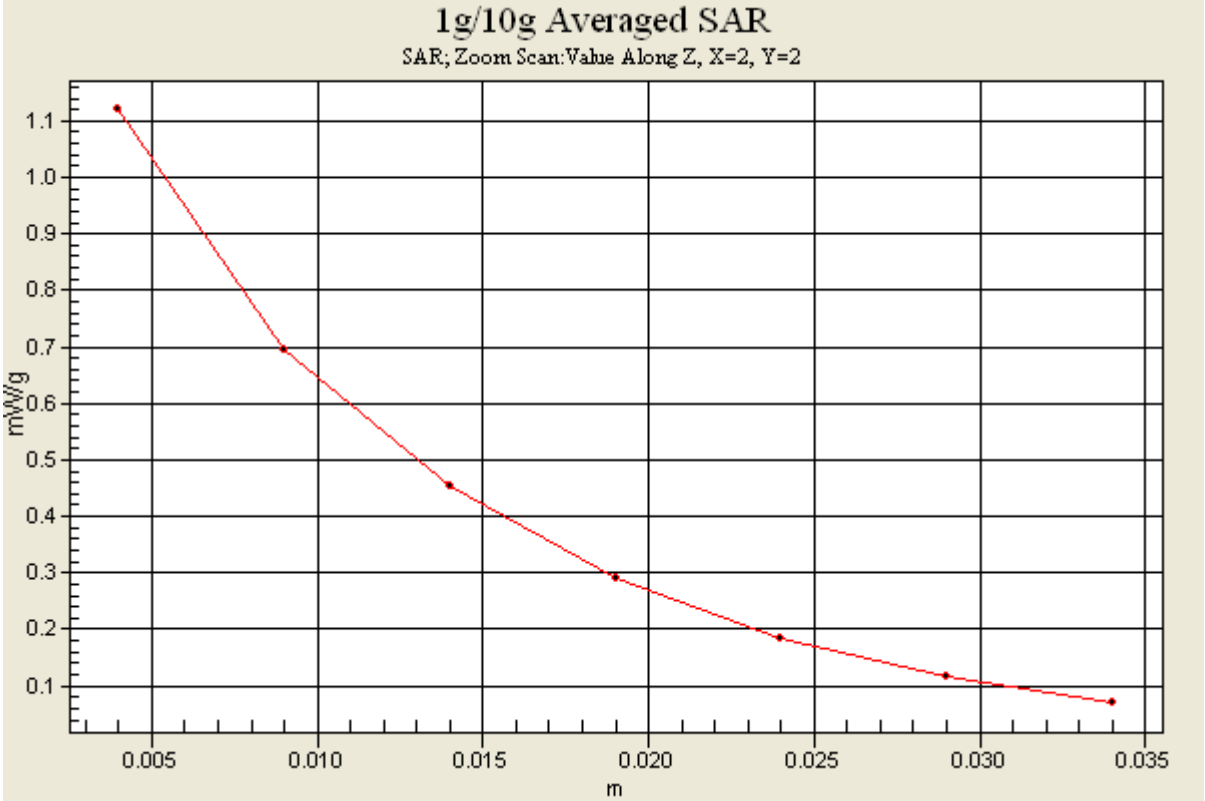


Figure 38 Left Hand Touch Cheek GSM 1900 Channel 810

GSM 1900 Left Cheek Middle (Cover Open, Battery 1)

Date/Time: 2012-6-20 13:09:11
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(7.9, 7.9, 7.9); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.04 mW/g

Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.00 V/m; Power Drift = 0.165 dB
Peak SAR (extrapolated) = 1.48 W/kg
SAR(1 g) = 0.924 mW/g; SAR(10 g) = 0.528 mW/g
Maximum value of SAR (measured) = 1.01 mW/g

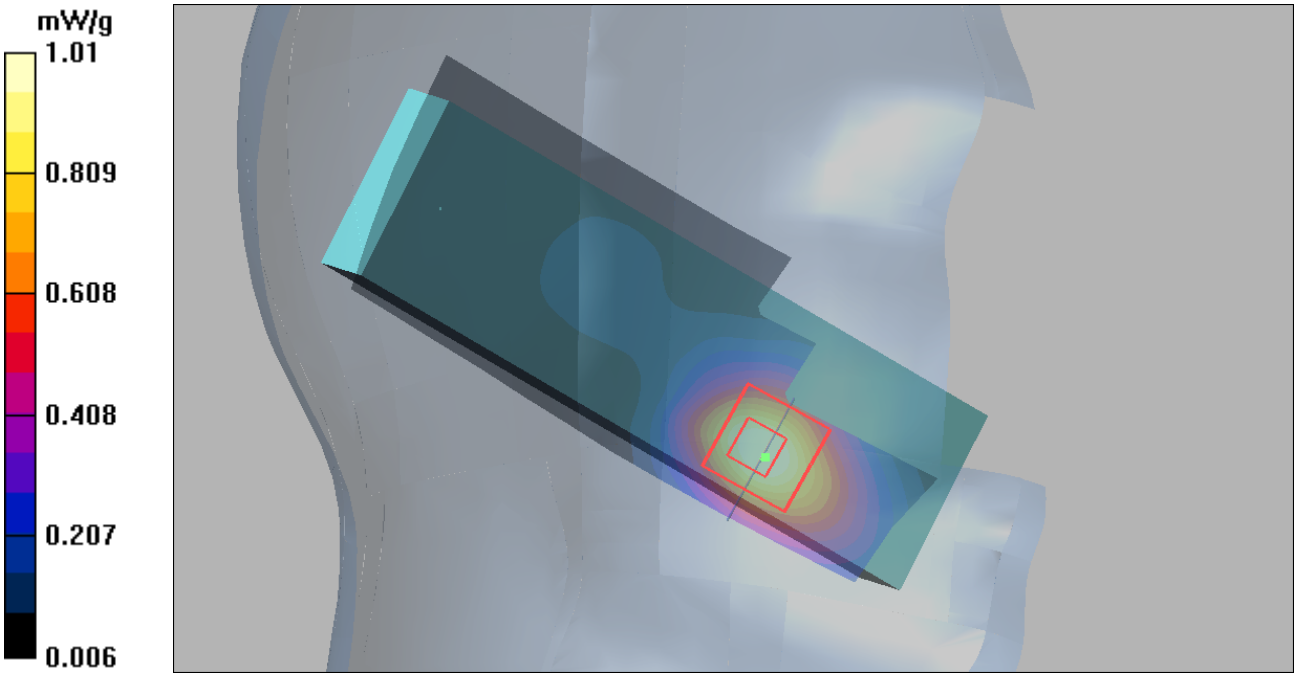


Figure 39 Left Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Left Cheek Low (Cover Open, Battery 1)

Date/Time: 2012-6-20 13:34:33
Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.35 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3816; ConvF(7.9, 7.9, 7.9); Calibrated: 2011-10-3
Electronics: DAE4 Sn1317; Calibrated: 2012-1-23
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Low/Area Scan (41x131x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.873 mW/g

Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.24 V/m; Power Drift = 0.179 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.766 mW/g; SAR(10 g) = 0.443 mW/g
Maximum value of SAR (measured) = 0.839 mW/g

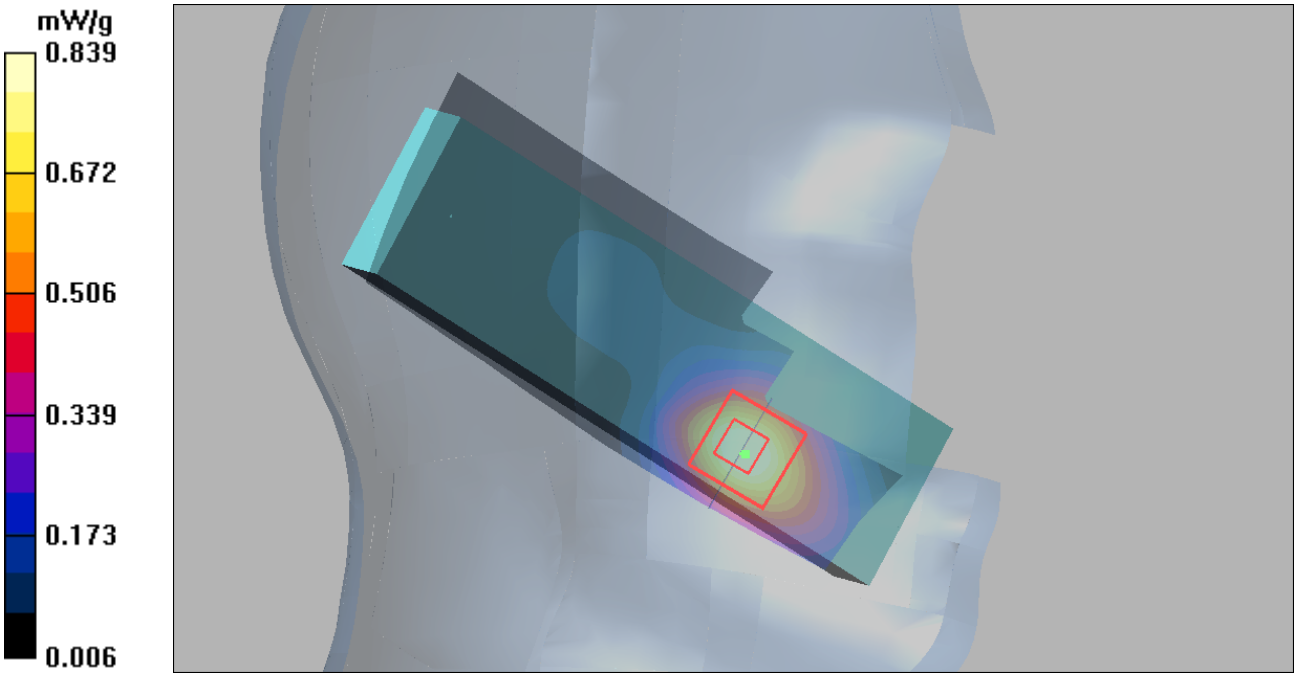


Figure 40 Left Hand Touch Cheek GSM 1900 Channel 512