



OET 65

TEST REPORT

Product Name	HSUPA/HSDPA/UMTS triband / GSM quadband mobile phone
Model	Medoc_US
Marketing Name	one touch 985A
FCC ID	RAD237
Client	TCT Mobile Limited

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Test Report

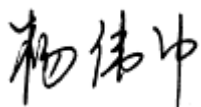
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GENERAL SUMMARY

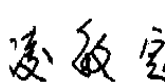
Product Name	HSUPA/HSDPA/UMTS triband / GSM quadband mobile phone	Model	Medoc_US
Report No.	RXA1204-0073SAR01R1	FCC ID	RAD237
Client	TCT Mobile Limited		
Manufacturer	TCT Mobile Limited		
Reference Standard(s)	IEEE Std C95.1, 1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radiofrequency 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. KDB941225 D01 SAR test for 3G devices v02: SAR Measurement Procedures CDMA 20001x RTT, 1x Ev-Do, WCDMA, HSDPA/HSPA KDB 941225 D06 Hot Spot SAR v01 SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities KDB 648474 D01 SAR Handsets Multi Xmitter 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: April 26th, 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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1.3. Applicant Information

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City: Shanghai
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1.5. Information of EUT

General Information

Device Type:	Portable Device		
Exposure Category:	Uncontrolled Environment / General Population		
State of Sample:	Prototype Unit		
Product Name:	HSUPA/HSDPA/UMTS triband / GSM quadband mobile phone		
IMEI:	013020000011034		
Hardware Version:	PIO01		
Software Version:	v517-1-band125		
Antenna Type:	Internal Antenna		
Device Operating Configurations :			
Supporting Mode(s):	GSM 850/GSM 1900; (tested) WCDMA Band II /WCDMA Band V; (tested) GSM 900/GSM 1800/WCDMA Band I; (untested) 802.11b/g/n HT20; (tested) Bluetooth; (untested)		
Test Modulation:	(GSM)GMSK; (WCDMA)QPSK		
Device Class:	B		
HSDPA UE Category:	8		
HSUPA UE Category:	6		
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
	WCDMA Band II	1852.4 ~ 1907.6	1932.4 ~ 1987.6
	WCDMA Band V	826.4 ~ 846.6	871.4 ~ 891.6
Power Class:	GSM 850: 4, tested with power level 5		
	GSM 1900: 1, tested with power level 0		
	WCDMA Band II: 3, tested with power control all up bits		
	WCDMA Band V: 3, tested with power control all up bits		
Test Channel: (Low - Middle - High)	128 - 190 - 251	(GSM 850)	(tested)
	512 - 661 - 810	(GSM 1900)	(tested)
	9262 - 9400 - 9538	(WCDMA Band II)	(tested)
	4132 - 4183 - 4233	(WCDMA Band V)	(tested)
	1-6-11	(WIFI)	(tested)

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Auxiliary Equipment Details

Name	Model	Manufacturer	S/N
Battery 1	CAB31P0000C1	BYD	B31806018EA
Battery 2	CAB31P0000C2	BAK	BAK2011060100311
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 HSUPA/HSDPA/UMTS triband / GSM quadband mobile phone. The EUT has a GSM/WCDMA antenna that is used for Tx/Rx, the second is GPS antenna that only can be used for Rx, and the third is BT/WIFI antenna that can be used for Tx/Rx. It has Personal Wireless Routers (hot spots) function and Proximity Sensor function.

The proximity sensor is a sensor able to detect the presence of nearby objects without any physical contact. It can transmit a kind of light pulse, and measure the time from launching and responding, then calculate the distance through the time. It only shut off the LCD and will not reduce the transmit power. Software update need special software tool in a computer and it is not available to the user.

The detail about EUT and Lithium Battery is in chapter 1.5 in this report. SAR are tested for GSM 850, GSM 1900, WCDMA Band II, WCDMA Band V and WIFI.

The sample under test was selected by the Client.

Components list please refer to documents of the manufacturer.

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1.6. The Maximum SAR_{1g} Values

Head SAR Configuration

Mode	Channel	Position	SAR _{1g} (W/kg)
GSM 850	Middle/190	Left, Cheek	0.667
GSM 1900	Low/512	Left, Cheek	0.470
WCDMA Band II	Middle/9400	Left, Cheek	0.991
WCDMA Band V	High/4233	Left, Cheek	0.655
WiFi(802.11b)	Low/1	Left, Cheek	0.198

Body Worn Configuration

Mode	Channel	Position	Separation distance	SAR _{1g} (W/kg)
4Txslots GPRS 850	Low/128	Back Side	10mm	1.050
4Txslots GPRS 1900	Low/512	Back Side	10mm	0.953
WCDMA Band II	Middle/9400	Back Side	10mm	0.546
WCDMA Band V	Low/4132	Back Side	10mm	0.853
WiFi(802.11b)	Low/1	Back Side	10mm	0.546

Hotspot SAR Configuration

Mode	Channel	Position	Separation distance	SAR _{1g} (W/kg)
4Txslots GPRS 850	Low/128	Back Side	10mm	1.050
4Txslots EGPRS 1900	Low/512	Bottom Edge	10mm	1.160
WCDMA Band II	Middle/9400	Bottom Edge	10mm	0.766
WCDMA Band V	Low/4132	Back Side	10mm	0.853
WiFi(802.11b)	Low/1	Back Side	10mm	0.546

Simultaneous SAR

SAR _{1g} (W/kg) Test Position	GSM 850	WIFI(802.11b)	MAX. ΣSAR _{1g}
Body, Back Side	1.050	0.546	1.596

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1.7. Test Date

The test performed from April 21, 2012 to April 24, 2012.

2. SAR Measurements System Configuration

2.1. SAR Measurement Set-up

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

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

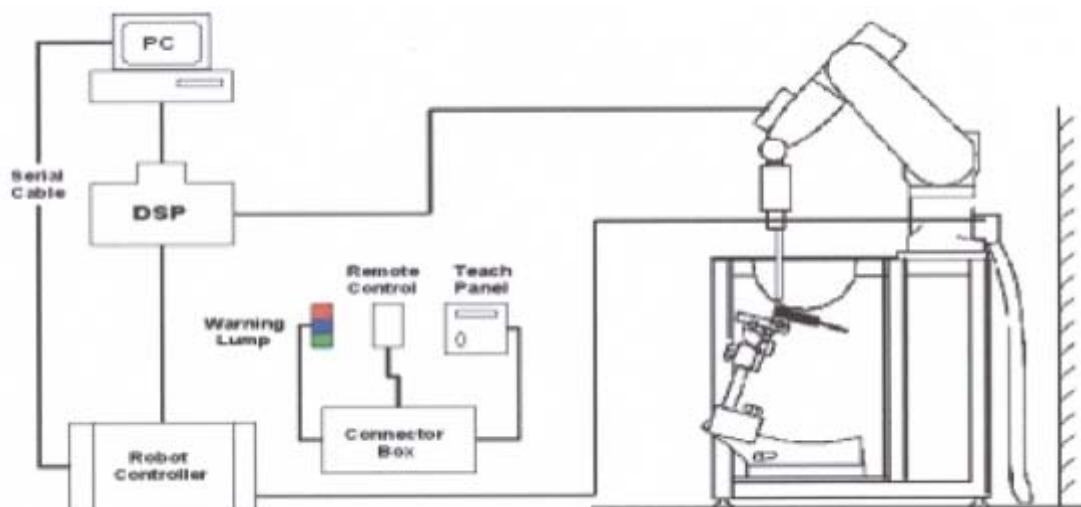


Figure 1 SAR Lab Test Measurement Set-up

2.2. DASY4 E-field Probe System

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

2.2.1. EX3DV4 Probe Specification

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



Figure 2.EX3DV4 E-field Probe



Figure 3. EX3DV4 E-field probe

2.2.2. E-field Probe Calibration

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

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

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

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

Where: Δt = Exposure time (30 seconds),

C = Heat capacity of tissue (brain or muscle),

ΔT = Temperature increase due to RF exposure.

Or

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

Where:

σ = Simulated tissue conductivity,

ρ = Tissue density (kg/m^3).

2.3. Other Test Equipment

2.3.1. Device Holder for Transmitters

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

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

The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.



Figure 4 Device Holder

2.3.2. Phantom

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

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



Figure 5 Generic Twin Phantom

2.4. Scanning Procedure

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

- The “reference” and “drift” measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure. The indicated drift is mainly the variation of the DUT’s output power and should vary max. $\pm 5\%$.
- 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 $\pm 0.1\text{mm}$). 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 $\pm 30^\circ$.)
- Area Scan
The Area Scan is used as a fast scan in two dimensions to find the area of high field values before running a detailed measurement around the hot spot. Before starting the area scan a grid

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

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

- Zoom Scan

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

- Spatial Peak Detection

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

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

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

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

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

2.5. Data Storage and Evaluation

2.5.1. Data Storage

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

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

2.5.2. Data Evaluation by SEMCAD

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

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

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

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

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If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

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

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

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

cf = crest factor of exciting field (DASY parameter)

dcp_i = diode compression point (DASY parameter)

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

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

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

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

$Norm_i$ = sensor sensitivity of channel i (i = x, y, z)
[mV/(V/m)²] for E-field Probes

$ConvF$ = sensitivity enhancement in solution

a_{ij} = sensor sensitivity factors for H-field probes

f = carrier frequency [GHz]

E_i = electric field strength of channel i in V/m

H_i = magnetic field strength of channel i in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

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

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

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

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

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

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

ρ = equivalent tissue density in g/cm³

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

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

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

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

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

3. Laboratory Environment

Table 1: The Requirements of the Ambient Conditions

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

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4. Tissue-equivalent Liquid

4.1. Tissue-equivalent Liquid Ingredients

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

Table 2: Composition of the Head Tissue Equivalent Matter

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

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

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

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Table 3: Composition of the Body Tissue Equivalent Matter

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

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

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

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4.2. Tissue-equivalent Liquid Properties

Table 4: Dielectric Performance of Head Tissue Simulating Liquid

Frequency	Description	Dielectric Parameters		Temp ℃
		ϵ_r	$\sigma(\text{s/m})$	
835MHz (head)	Target value ± 5% window	41.50 39.43 — 43.58	0.90 0.86 — 0.95	22.0
	Measurement value 2012-4-22	42.3	0.888	21.5
1900MHz (head)	Target value ±5% window	40.00 38.00 — 42.00	1.40 1.33 — 1.47	22.0
	Measurement value 2012-4-22	40.1	1.39	21.5
2450MHz (head)	Target value ±5% window	39.20 37.24 — 41.16	1.80 1.71 — 1.89	22.0
	Measurement value 2012-4-23	38.3	1.88	21.5

Table 5: Dielectric Performance of Body Tissue Simulating Liquid

Frequency	Description	Dielectric Parameters		Temp ℃
		ϵ_r	$\sigma(\text{s/m})$	
835MHz (body)	Target value ±5% window	55.20 52.44 — 57.96	0.97 0.92 — 1.02	22.0
	Measurement value 2012-4-22	54.3	0.986	21.5
1900MHz (body)	Target value ±5% window	53.30 50.64 — 55.97	1.52 1.44 — 1.60	22.0
	Measurement value 2012-4-21	52.1	1.55	21.5
	Measurement value 2012-4-24	52	1.56	21.5
2450MHz (body)	Target value ±5% window	52.70 50.07 — 55.34	1.95 1.85 — 2.05	22.0
	Measurement value 2012-4-22	51.7	1.9	21.5

5. System Check

5.1. Description of System Check

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

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

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

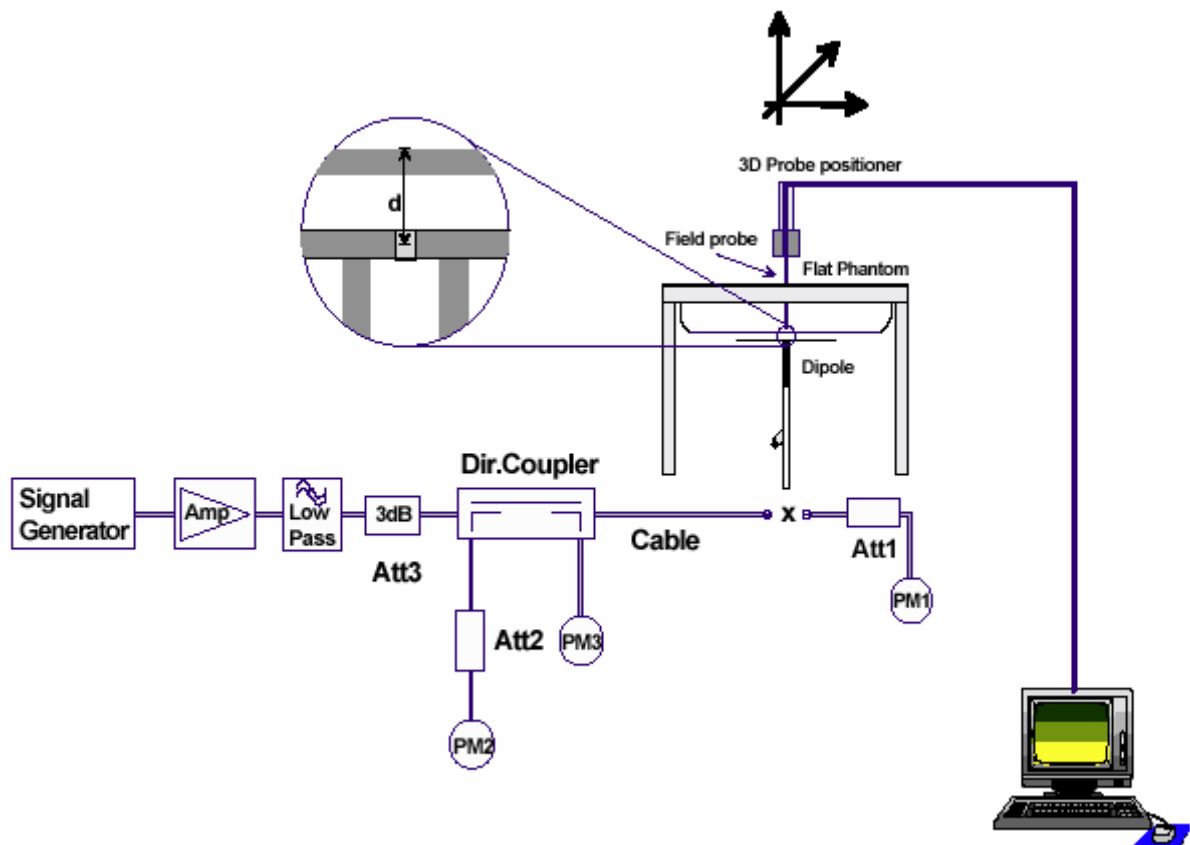


Figure 6 System Check Set-up

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Frequency	Test Date	Dielectric Parameters		Temp (°C)	250mW Measured SAR _{1g}	1W Normalized SAR _{1g}	1W Target SAR _{1g} (±10% deviation)
		ε _r	σ(s/m)				
835MHz	2012-4-22	54.3	0.986	21.5	2.5	10	9.46 (8.51~10.41)
1900MHz	2012-4-21	52.1	1.55	21.5	10.1	40.4	41.70 (37.53~45.87)
	2012-4-24	52	1.56	21.5	10.2	40.8	
2450MHz	2012-4-22	51.7	1.9	21.5	13	52	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, to 9262, 9400 and 9538 in the case of WCDMA Band II, to 4132, 4183 and 4233 in the case of WCDMA Band V. The EUT is commanded to operate at maximum transmitting power.

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

6.2. Test Positions

6.2.1. Against Phantom Head

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

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

6.2.2. Body Worn Configuration

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations. Devices with a headset output should be tested with a headset connected to the device.

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

6.3. Test Configuration

6.3.1. GSM Test Configuration

SAR tests for GSM 850 and GSM 1900, a communication link is set up with a System Simulator (SS) by air link. Using E5515C the power lever is set to “5” for GSM 850, set to “0” for GSM 1900. Since the GPRS class is 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. WCDMA Test Configuration

6.3.2.1. Output power Verification

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

6.3.2.2. Head SAR Measurements

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

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6.3.2.3. Body SAR Measurements

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

6.3.3. HSDPA Test Configuration

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

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

Table 9: Subtests for UMTS Release 5 HSDPA

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

Note1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$
Note2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1.A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and $\Delta_{NACK} = 8$ ($A_{hs} = 30/15$) with $\beta_{hs} = 30/15 * \beta_c$, and $\Delta_{CQI} =$

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

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

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

Table 10: Settings of required H-Set 1 QPSK in HSDPA mode

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

Table 11: HSDPA UE category

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

6.3.4. HSUPA Test Configuration

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

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

Table 12: Sub-Test 5 Setup for Release 6 HSUPA

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

Note 1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$.

Note 2: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 10/15$ and $\beta_d = 15/15$.

Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 14/15$ and $\beta_d = 15/15$.

Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Figure 5.1g.

Note 6: β_{ed} can not be set directly; it is set by Absolute Grant Value.

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Table 13: HSUPA UE category

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

NOTE: When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4.

UE Categories 1 to 6 supports QPSK only. UE Category 7 supports QPSK and 16QAM. (TS25.306-7.3.0)

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6.3.5. WIFI Test Configuration

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

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

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

SAR is not required for 802.11g channels when the maximum average output power is less than 0.25dB higher than that measured on the corresponding 802.11b channels. When the maximum average output channel in each frequency band is not included in the “default test channels”, the maximum channel should be tested instead of an adjacent “default test channels”, these are referred to as the “required test channels” and are illustrated in table 14.

Table 14: “Default Test Channels”

Mode	GHz	Channel	Turbo Channel	“Default Test Channels”			
				15.247		UNII	
				802.11b	802.11g		
802.11b/g	2.412	1 [#]		√	*		
	2.437	6	6	√	*		
	2.462	11 [#]		√	*		
Note: [#] =when output power is reduced for channel 1 and /or 11 to meet restricted band requirements the highest out put channels closet to each of these channels should be tested. √= “default test channels” * =possible 802.11g channels with maximum average output 0.25dB>=the “default test channels”							

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7. Test Results

7.1. Conducted Power Results

Table 15: Conducted Power Measurement Results

GSM 850		Burst Conducted Power(dBm)				Average power(dBm)		
		Channel 128	Channel 190	Channel 251		Channel 128	Channel 190	Channel 251
GSM		33.05	32.94	32.92	-9.03dB	24.02	23.91	23.89
GPRS (GMSK)	1Txslot	33.08	32.98	32.96	-9.03dB	24.05	23.95	23.93
	2Txslots	31.42	31.32	31.36	-6.02dB	25.4	25.3	25.34
	3Txslots	29.7	29.54	29.57	-4.26dB	25.44	25.28	25.31
	4Txslots	28.56	28.43	28.44	-3.01dB	25.55	25.42	25.43
EGPRS (GMSK)	1Txslot	33.07	32.97	32.72	-9.03dB	24.04	23.94	23.69
	2Txslots	31.4	31.3	31.46	-6.02dB	25.38	25.28	25.44
	3Txslots	29.69	29.53	29.54	-4.26dB	25.43	25.27	25.28
	4Txslots	28.54	28.4	28.46	-3.01dB	25.53	25.39	25.45
GSM 1900		Burst Conducted Power(dBm)				Average power(dBm)		
		Channel 512	Channel 661	Channel 810		Channel 512	Channel 661	Channel 810
GSM		30.22	29.9	30.13	-9.03dB	21.19	20.87	21.1
GPRS (GMSK)	1Txslot	30.26	29.88	30.16	-9.03dB	21.23	20.85	21.13
	2Txslots	28.23	27.65	27.86	-6.02dB	22.21	21.63	21.84
	3Txslots	26.38	25.8	25.91	-4.26dB	22.12	21.54	21.65
	4Txslots	25.27	24.65	24.89	-3.01dB	22.26	21.64	21.88
EGPRS (GMSK)	1Txslot	30.25	29.83	30.11	-9.03dB	21.22	20.8	21.08
	2Txslots	28.21	27.64	27.81	-6.02dB	22.19	21.62	21.79
	3Txslots	26.37	25.81	25.83	-4.26dB	22.11	21.55	21.57
	4Txslots	25.23	24.63	24.81	-3.01dB	22.22	21.62	21.8

Note:

1) Division Factors

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

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

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

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

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

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

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=> 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.

WCDMA Band II		Conducted Power (dBm)		
		Channel 9262	Channel 9400	Channel 9538
RMC		23.4	23.33	23.43
HSDPA	Sub - Test 1	21.4	21.41	21.53
	Sub - Test 2	21.38	21.42	21.52
	Sub - Test 3	21.37	21.38	21.46
	Sub - Test 4	21.38	21.39	21.48
HSUPA	Sub - Test 1	21.25	21.26	21.38
	Sub - Test 2	20.5	20.53	20.68
	Sub - Test 3	20.78	20.8	20.92
	Sub - Test 4	20.49	20.56	20.64
	Sub - Test 5	21.28	21.33	21.4
WCDMA Band V		Conducted Power (dBm)		
		Channel 4132	Channel 4183	Channel 4233
RMC		23.35	23.17	23.25
HSDPA	Sub - Test 1	21.26	21.16	21.22
	Sub - Test 2	21.23	21.16	21.21
	Sub - Test 3	21.2	21.15	21.2
	Sub - Test 4	21.22	21.13	21.21
HSUPA	Sub - Test 1	21.11	21.04	21.06
	Sub - Test 2	20.37	20.41	20.59
	Sub - Test 3	20.67	20.73	20.76
	Sub - Test 4	20.42	20.46	20.53
	Sub - Test 5	21.13	21.08	21.14

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7.2. SAR Test Results

7.2.1. GSM 850 (GPRS/EGPRS)

Table 16: 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	0.411	0.550	0.050	Figure 14
	Middle/190	0.499	0.667	0.032	Figure 15
	Low/128	0.446	0.596	-0.008	Figure 16
Left hand, Tilt 15 Degree	High/251	0.250	0.327	0.020	Figure 17
	Middle/190	0.280	0.363	0.055	Figure 18
	Low/128	0.256	0.331	0.071	Figure 19
Right hand, Touch Cheek	High/251	0.395	0.515	0.027	Figure 20
	Middle/190	0.459	0.597	0.057	Figure 21
	Low/128	0.420	0.543	0.048	Figure 22
Right hand, Tilt 15 Degree	High/251	0.271	0.356	0.055	Figure 23
	Middle/190	0.308	0.403	0.029	Figure 24
	Low/128	0.318	0.414	0.016	Figure 25
Test position of Body with Battery 1 (Distance 10mm)					
Back Side (4Txslots)	High/251	0.390	0.528	-0.181	Figure 26
	Middle/190	0.517(max.cube)	0.705(max.cube)	0.067	Figure 27
	Low/128	0.762(max.cube)	1.050(max.cube)	0.042	Figure 28
Front Side (4Txslots)	High/251	0.327	0.436	0.064	Figure 29
	Middle/190	0.437	0.570	0.016	Figure 30
	Low/128	0.633	0.842	0.021	Figure 31
Left Edge(4Txslots)	Low/128	0.384	0.558	-0.020	Figure 32
Right Edge(4Txslots)	Low/128	0.353	0.505	0.035	Figure 33
Top Edge(4Txslots)	N/A	N/A	N/A	N/A	N/A
Bottom Edge(4Txslots)	Low/128	0.040	0.064	0.098	Figure 34
Worst Case Position of Body with EGPRS (Battery 1, GMSK, Distance 10mm)					
Back Side (4Txslots)	Low/128	0.751	1.040	-0.160	Figure 35

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Worst Case Position of Body with Stereo Headset 1 and Battery 1 (Distance 10mm)					
Back Side(GSM)	Low/128	0.486	0.669	-0.025	Figure 36
Worst Case Position of Body with Stereo Headset 2 and Battery 1 (Distance 10mm)					
Back Side(GSM)	Low/128	0.444	0.586	0.022	Figure 37

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

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7.2.2. GSM 1900 (GPRS/EGPRS)

Table 17: 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	0.182	0.316	0.119	Figure 38
	Middle/661	0.263	0.452	0.049	Figure 39
	Low/512	0.276	0.470	0.101	Figure 40
Left hand, Tilt 15 Degree	High/810	0.067	0.120	0.123	Figure 41
	Middle/661	0.085	0.150	0.022	Figure 42
	Low/512	0.088	0.152	0.015	Figure 43
Right hand, Touch Cheek	High/810	0.126	0.205	0.076	Figure 44
	Middle/661	0.189	0.304	0.163	Figure 45
	Low/512	0.190	0.306	0.081	Figure 46
Right hand, Tilt 15 Degree	High/810	0.069	0.121	-0.146	Figure 47
	Middle/661	0.091	0.160	0.034	Figure 48
	Low/512	0.097	0.167	-0.072	Figure 49
Test position of Body with Battery 1 (Distance 10mm)					
Back Side (4Txslots)	High/810	0.197	0.333	-0.004	Figure 50
	Middle/661	0.289	0.489	0.010	Figure 51
	Low/512	0.550(max.cube)	0.953(max.cube)	0.030	Figure 52
Front Side (4Txslots)	High/810	0.169	0.285	0.159	Figure 53
	Middle/661	0.288	0.492	-0.129	Figure 54
	Low/512	0.532	0.917	-0.038	Figure 55
Left Edge(4Txslots)	Low/512	0.196	0.338	0.021	Figure 56
Right Edge(4Txslots)	Low/512	0.086	0.144	-0.117	Figure 57
Top Edge(4Txslots)	N/A	N/A	N/A	N/A	N/A
Bottom Edge(4Txslots)	High/810	0.246	0.439	0.022	Figure 58
	Middle/661	0.364	0.667	0.036	Figure 59
	Low/512	0.605	1.100	-0.043	Figure 60
Worst Case Position of Body with EGPRS (Battery 1, GMSK, Distance 10mm)					

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Bottom Edge (4Txslots)	Low/512	0.649	1.160	0.113	Figure 61
Worst Case Position of Body with Stereo Headset 1 and Battery 1 (Distance 10mm)					
Bottom Edge (GSM)	Low/512	0.312	0.559	-0.045	Figure 62
Worst Case Position of Body with Stereo Headset 2 and Battery 1 (Distance 10mm)					
Bottom Edge (GSM)	Low/512	0.291	0.517	-0.023	Figure 63
Worst Case Position of Body with Battery 2 (Distance 10mm)					
Bottom Edge (4Txslots)	Low/512	0.584	1.040	-0.002	Figure 64

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 maximum source-based time-averaged output power channel of each operating mode. If the SAR measured at highest output power channel for each test configuration is at least 3.0 dB lower than the SAR limit ($< 0.8\text{W/kg}$), testing at the other channels is optional, and also other channel were measured at the worst case
4. WWAN antenna is located at bottom edge; antenna-to-top edge distance is more than 2.5 cm (see ANNEX I). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.
5. 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.

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7.2.3. WCDMA Band II (WCDMA)

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

Limit of SAR		10 g Average	1 g Average	Power Drift	Graph Results
		2.0 W/kg	1.6 W/kg	± 0.21 dB	
Different Test Position	Channel	Measurement Result(W/kg)		Power Drift (dB)	
		10 g Average	1 g Average		
Test Position of Head with Battery 1					
Left hand, Touch Cheek	High/9538	0.458	0.820	0.089	Figure 65
	Middle/9400	0.559	0.991	-0.042	Figure 66
	Low/9262	0.514	0.905	0.113	Figure 67
Left hand, Tilt 15 Degree	High/9538	0.134	0.234	0.055	Figure 68
	Middle/9400	0.149	0.264	0.044	Figure 69
	Low/9262	0.134	0.233	0.059	Figure 70
Right hand, Touch Cheek	High/9538	0.242	0.386	0.094	Figure 71
	Middle/9400	0.297	0.473	0.004	Figure 72
	Low/9262	0.277	0.443	0.016	Figure 73
Right hand, Tilt 15 Degree	High/9538	0.131	0.230	-0.013	Figure 74
	Middle/9400	0.148	0.259	0.083	Figure 75
	Low/9262	0.129	0.225	0.127	Figure 76
Worst Case Position of Head with Battery 2					
Left hand, Touch Cheek	Middle/9400	0.521	0.907	0.054	Figure 77
Test position of Body with Battery 1 (Distance 10mm)					
Back Side	High/9538	0.322	0.546	-0.007	Figure 78
Front Side	High/9538	0.312	0.536	0.009	Figure 79
Left Edge	High/9538	0.129	0.227	0.016	Figure 80
Right Edge	High/9538	0.057	0.097	0.022	Figure 81
Top Edge	N/A	N/A	N/A	N/A	N/A
Bottom Edge	High/9538	0.398	0.724	0.013	Figure 82
	Middle/9400	0.422	0.766	-0.021	Figure 83
	Low/9262	0.377	0.681	-0.013	Figure 84
Worst Case Position of Body with Stereo Headset 1 and Battery 1 (Distance 10mm)					
Bottom Edge	Middle/9400	0.413	0.736	-0.004	Figure 85
Worst Case Position of Body with Stereo Headset 2 and Battery 1 (Distance 10mm)					

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Bottom Edge	Middle/9400	0.411	0.736	-0.064	Figure 86
Note: 1. The value with blue color is the maximum SAR Value of each test band. 2. The Head SAR test shall be performed at the high, middle and low frequency channels of each operating mode. 3. The Body SAR test firstly shall be performed at the highest output power channel of each operating mode. If the SAR measured at highest output power channel for each test configuration is at least 3.0 dB lower than the SAR limit ($< 0.8\text{W/kg}$), testing at the other channels is optional, and also other channel were measured at the worst case 4. WCDMA mode were tested under RMC 12.2kbps with HSPA (HSDPA/HSUPA) inactive per KDB Publication 941225 D01. HSPA (HSDPA/HSUPA) SAR for body was not required since the average output power of the HSPA (HSDPA/HSUPA) subtests was not more than 0.25 dB higher than the RMC level and the maximum SAR for 12.2kbps RMC was less than 75% SAR limit. 5. WWAN antenna is located at bottom edge; antenna-to-top edge distance is more than 2.5 cm (see ANNEX I). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.					

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7.2.4. WCDMA Band V (WCDMA)

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

Limit of SAR		10 g Average	1 g Average	Power Drift	Graph Results
		2.0 W/kg	1.6 W/kg	± 0.21 dB	
Different Test Position	Channel	Measurement Result(W/kg)		Power Drift (dB)	
		10 g Average	1 g Average		
Test Position of Head with Battery 1					
Left hand, Touch Cheek	High/4233	0.489	0.655	0.022	Figure 87
	Middle/4183	0.445	0.596	0.102	Figure 88
	Low/4132	0.442	0.590	0.060	Figure 89
Left hand, Tilt 15 Degree	High/4233	0.292	0.380	-0.022	Figure 90
	Middle/4183	0.272	0.351	-0.029	Figure 91
	Low/4132	0.264	0.340	0.064	Figure 92
Right hand, Touch Cheek	High/4233	0.495	0.653	0.117	Figure 93
	Middle/4183	0.456	0.599	0.031	Figure 94
	Low/4132	0.465	0.610	0.101	Figure 95
Right hand, Tilt 15 Degree	High/4233	0.305	0.399	0.082	Figure 96
	Middle/4183	0.287	0.374	0.021	Figure 97
	Low/4132	0.291	0.377	0.089	Figure 98
Test position of Body with Battery 1 (Distance 10mm)					
Back Side	High/4233	0.556(max.cube)	0.764(max.cube)	0.008	Figure 99
	Middle/4183	0.547(max.cube)	0.753(max.cube)	0.009	Figure 100
	Low/4132	0.623	0.853	0.004	Figure 101
Front Side	Low/4132	0.492	0.649	0.015	Figure 102
Left Edge	Low/4132	0.278	0.405	0.004	Figure 103
Right Edge	Low/4132	0.264	0.381	0.013	Figure 104
Top Edge	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Low/4132	0.035	0.058	0.019	Figure 105
Worst Case Position of Body with Stereo Headset 1 and Battery 1 (Distance 10mm)					
Back Side	Low/4132	0.478(max.cube)	0.656(max.cube)	0.006	Figure 106
Worst Case Position of Body with Stereo Headset 2 and Battery 1 (Distance 10mm)					
Back Side	Low/4132	0.458	0.628	0.001	Figure 107
Note: 1.The value with blue color is the maximum SAR Value of each test band.					

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

2. The Head SAR test shall be performed at the high, middle and low frequency channels of each operating mode.
3. The Body SAR test firstly shall be performed at the highest output power channel of each operating mode. If the SAR measured at highest output power channel for each test configuration is at least 3.0 dB lower than the SAR limit ($< 0.8\text{W/kg}$), testing at the other channels is optional, and also other channel were measured at the worst case
4. WCDMA mode were tested under RMC 12.2kbps with HSPA (HSDPA/HSUPA) inactive per KDB Publication 941225 D01. HSPA (HSDPA/HSUPA) SAR for body was not required since the average output power of the HSPA (HSDPA/HSUPA) subtests was not more than 0.25 dB higher than the RMC level and the maximum SAR for 12.2kbps RMC was less than 75% SAR limit.
5. WWAN antenna is located at bottom edge; antenna-to-top edge distance is more than 2.5 cm (see ANNEX I). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.
6. The (max.cube) labeling indicates that during the grid scanning an additional peak was found which was within 2.0dB of the highest peak. The value of the highest cube is given in the table above.

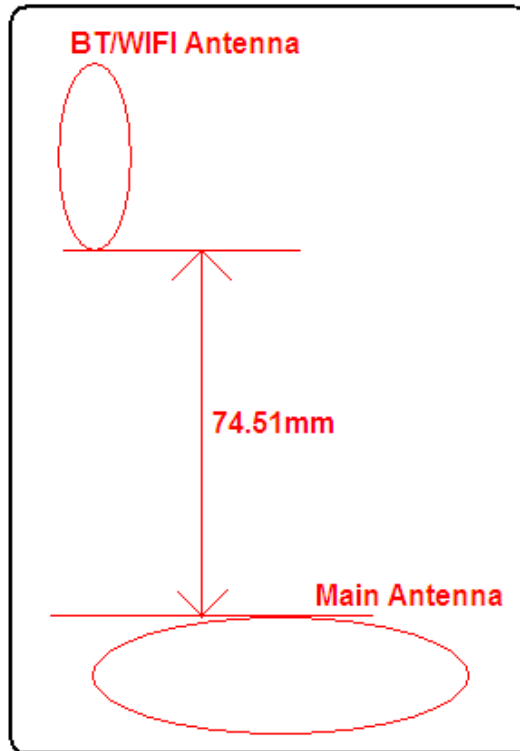
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7.2.5. Bluetooth/WiFi Function

The distance between BT/WIFI antenna and GSM/WCDMA antenna is $>5\text{cm}$. The location of the antennas inside EUT is shown in Annex I:



The output power of BT antenna is as following:

Channel	Ch 0 2402 MHz	Ch 39 2441 MHz	Ch 78 2480 MHz
Conducted Output Power (dBm)	9.15	8.24	10.11

The output power of WIFI antenna is as following:

Mode	Channel	Data rate	AV Power (dBm)
11b	1	1 Mbps	18.15
		2 Mbps	18.05
		5.5 Mbps	18.06
		11 Mbps	18.38
	6	1 Mbps	16.59
		2 Mbps	16.55
		5.5 Mbps	16.56
		11 Mbps	16.53

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	11	1 Mbps	17.21
		2 Mbps	17.17
		5.5 Mbps	17.49
		11 Mbps	17.5
11g	1	6 Mbps	14.87
		9 Mbps	14.84
		12 Mbps	14.81
		18 Mbps	14.86
		24 Mbps	14.74
		36 Mbps	14.71
		48 Mbps	14.72
		54 Mbps	14.7
	6	6 Mbps	13.9
		9 Mbps	13.82
		12 Mbps	13.78
		18 Mbps	13.77
		24 Mbps	13.67
		36 Mbps	13.61
		48 Mbps	13.68
		54 Mbps	13.62
	11	6 Mbps	13.71
		9 Mbps	13.7
		12 Mbps	13.7
		18 Mbps	13.77
		24 Mbps	13.64
		36 Mbps	13.57
		48 Mbps	13.66
		54 Mbps	13.61
11n HT20	1	MCS0	14.89
		MCS1	14.96
		MCS2	15.02
		MCS3	14.95
		MCS4	14.93
		MCS5	14.9

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		MCS6	14.9
		MCS7	14.83
	6	MCS0	13.78
		MCS1	13.65
		MCS2	13.72
		MCS3	14.05
		MCS4	13.99
		MCS5	13.95
		MCS6	13.95
		MCS7	13.84
	11	MCS0	13.78
		MCS1	13.79
		MCS2	13.77
		MCS3	13.84
		MCS4	13.79
		MCS5	13.75
		MCS6	13.78
		MCS7	13.72

Note: 1. KDB 248227-SAR is not required for 802.11g/n HT20 channels when the maximum average output power is less than ¼ dB higher than measured on the corresponding 802.11b channels.

Output Power Thresholds for Unlicensed Transmitters

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

Stand-alone SAR

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

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

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Table 20: SAR Values (802.11b)

Limit of SAR (W/kg)		10 g Average	1g Average	Power Drift (dB)	Graph Results
		2.0	1.6	± 0.21	
Different Test Position	Channel	Measurement Result(W/kg)		Power Drift (dB)	
		10 g Average	1g Average		
Test Position of Head with Battery 1					
Left hand, Touch cheek	Low/1	0.093	0.198	0.050	Figure 108
Left hand, Tilt 15 Degree	Low/1	0.047	0.096	0.095	Figure 109
Right hand, Touch cheek	Low/1	0.043	0.085	0.086	Figure 110
Right hand, Tilt 15 Degree	Low/1	0.030	0.058	0.081	Figure 111
Test position of Body with Battery 1 (Distance 10mm)					
Back Side	Low/1	0.238	0.546	-0.046	Figure 112
Front Side	Low/1	0.016	0.028	-0.075	Figure 113
Left Edge	N/A	N/A	N/A	N/A	N/A
Right Edge	Low/1	0.062	0.120	0.008	Figure 114
Top Edge	Low/1	0.010	0.019	0.106	Figure 115
Bottom Edge	N/A	N/A	N/A	N/A	N/A
Note: 1.The value with blue color is the maximum SAR Value of each test band.					
2. SAR test at the channel with maximum averaged output power, if the SAR value is at least 3.0 dB lower than the SAR limit (< 0.8W/kg), testing at the other channels is optional.					
3. WLAN antenna is located at Right edge, near to Top edge; antenna-to- Left/Bottom edge distance are more than 2.5 cm (see ANNEX I). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.					
4. KDB 248227-SAR is not required for 802.11g/n HT20 channels when the maximum average output power is less than ¼ dB higher than measured on the corresponding 802.11b channels.					

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

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

Simultaneous SAR

About WIFI and GSM/WCDMA Antenna,

SAR _{1g} (W/kg) Test Position	GSM850	GSM1900	WCDMA Band II	WCDMA Band V	WIFI (802.11b)	MAX. ΣSAR_{1g}
Left hand, Touch cheek	0.667	0.470	0.991	0.655	0.198	1.189
Left hand, Tilt 15 Degree	0.363	0.152	0.264	0.380	0.096	0.476
Right hand, Touch cheek	0.597	0.306	0.473	0.653	0.085	0.738
Right hand, Tilt 15 Degree	0.414	0.167	0.259	0.399	0.058	0.472
Body, Back Side	1.050	0.953	0.546	0.853	0.546	1.596
Body, Front Side	0.842	0.917	0.536	0.649	0.028	0.945
Body, Left Edge	0.558	0.338	0.227	0.405	N/A	0.558
Body, Right Edge	0.505	0.144	0.097	0.381	0.120	0.625
Body, Top Edge	N/A	N/A	N/A	N/A	0.019	0.019
Body, Bottom Edge	0.064	1.160	0.766	0.058	N/A	1.160
Note: 1. The value with blue color is the maximum ΣSAR_{1g} Value. 2. MAX. $\Sigma\text{SAR}_{1g} = \text{Unlicensed SAR}_{\text{MAX}} + \text{Licensed SAR}_{\text{MAX}}$						

WIFI antenna is $>5\text{cm}$ from GSM/WCDMA Antenna. (GSM/WCDMA Antenna SAR) 1.050 +(WIFI Antenna SAR) 0.546 =1.596.

addition calculate:

Ratio= (SAR1+SAR2)/Distance(cm)

The position SAR1 is (x= -10.99, y= -21.01, z= -202.1), the position SAR2 is (x= -43.99, y=39.01, z= -207.4), so the distance between the SAR1 and SAR2 is 6.85cm. Thus [(SAR_{GSM/WCDMA}) 1.050W/kg + (SAR_{WIFI}) 0.546 W/kg] /Peak SAR Location Separation =1.596 /6.85 =0.233 <0.3

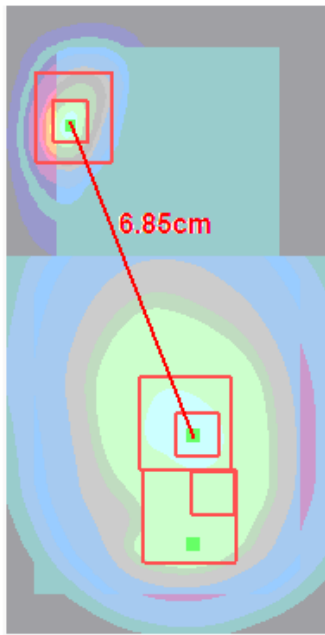
So the Simultaneous SAR are not required for wifi and GSM/WCDMA antenna.

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About BT and GSM/WCDMA Antenna,

SAR _{1g} (W/kg) Test Position	GSM850	GSM1900	WCDMA Band II	WCDMA Band V	BT	MAX. ΣSAR _{1g}
Left hand, Touch cheek	0.667	0.470	0.991	0.655	0	0.991
Left hand, Tilt 15 Degree	0.363	0.152	0.264	0.380	0	0.38
Right hand, Touch cheek	0.597	0.306	0.473	0.653	0	0.653
Right hand, Tilt 15 Degree	0.414	0.167	0.259	0.399	0	0.414
Body, Back Side	1.050	0.953	0.546	0.853	0	1.05
Body, Front Side	0.842	0.917	0.536	0.649	0	0.917
Body, Left Edge	0.558	0.338	0.227	0.405	0	0.558
Body, Right Edge	0.505	0.144	0.097	0.381	0	0.505
Body, Top Edge	N/A	N/A	N/A	N/A	0	0
Body, Bottom Edge	0.064	1.160	0.766	0.058	0	1.160

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

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

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

BT antenna is >5cm from GSM/WCDMA Antenna. (GSM/WCDMA Antenna SAR)1.160 +(BT Antenna SAR)0 =1.160 <1.6. So the Simultaneous SAR are not required for BT and GSM/WCDMA antenna.

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About BT and WIFI Antenna, BT antenna is <2.5cm from WIFI Antenna. (BT Antenna SAR_{MAX}) 0 + (WIFI Antenna SAR_{MAX}) 0.546 = 0.546 < 1.6, So the Simultaneous SAR are not required for WIFI and BT Antenna.

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8. Measurement Uncertainty

No.	source	Type	Uncertainty Value (%)	Probability Distribution	k	c _i	Standard 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	∞

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

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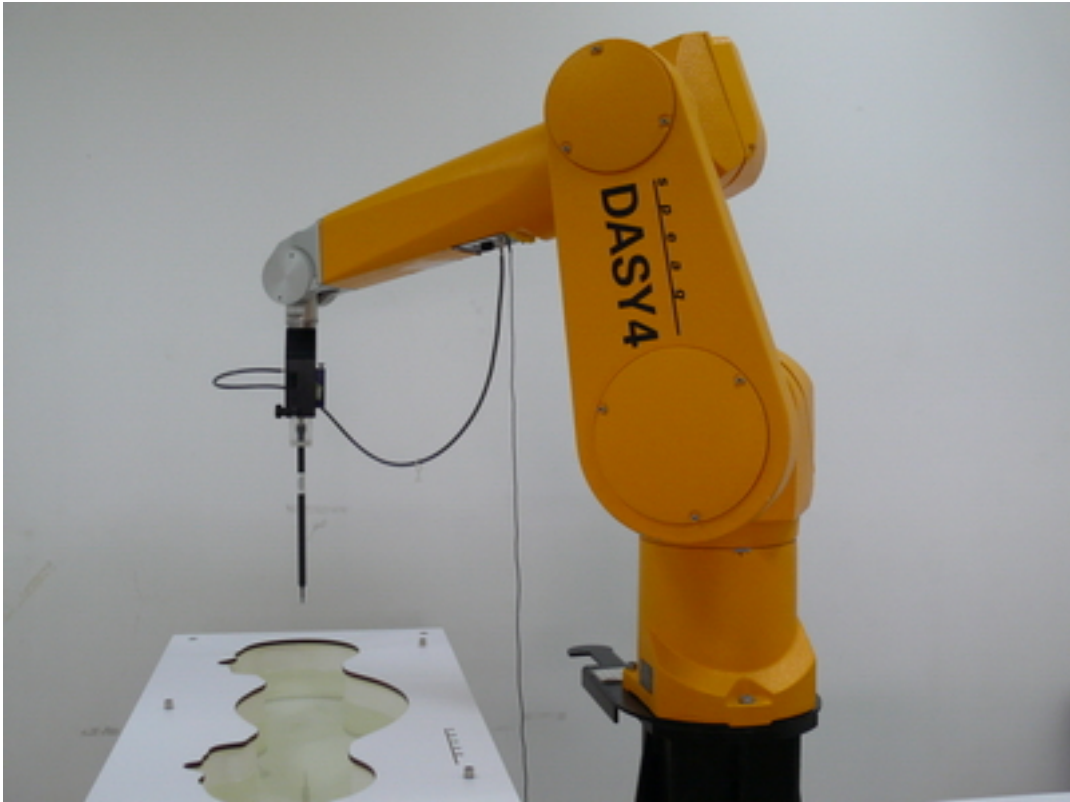
9. Main Test Instruments

Table 21: List of Main Instruments

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

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

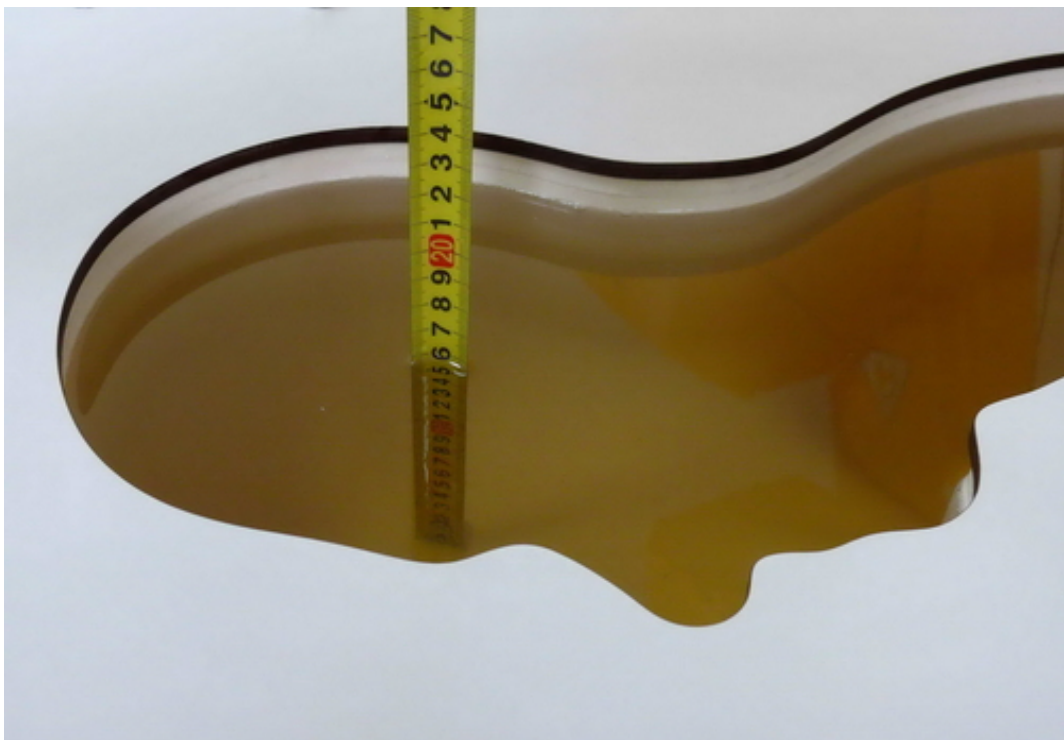
ANNEX A: Test Layout



Picture 1: Specific Absorption Rate Test Layout



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

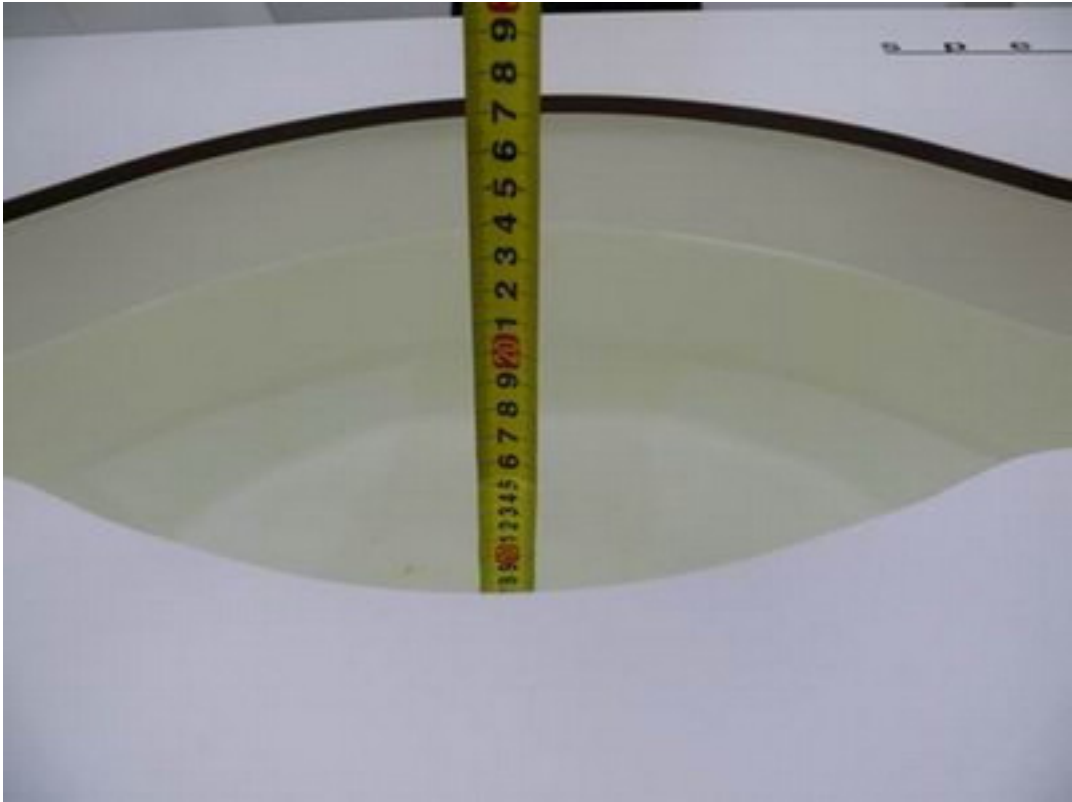


Picture 3: Liquid depth in the head Phantom (835MHz, 15.3cm depth)

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

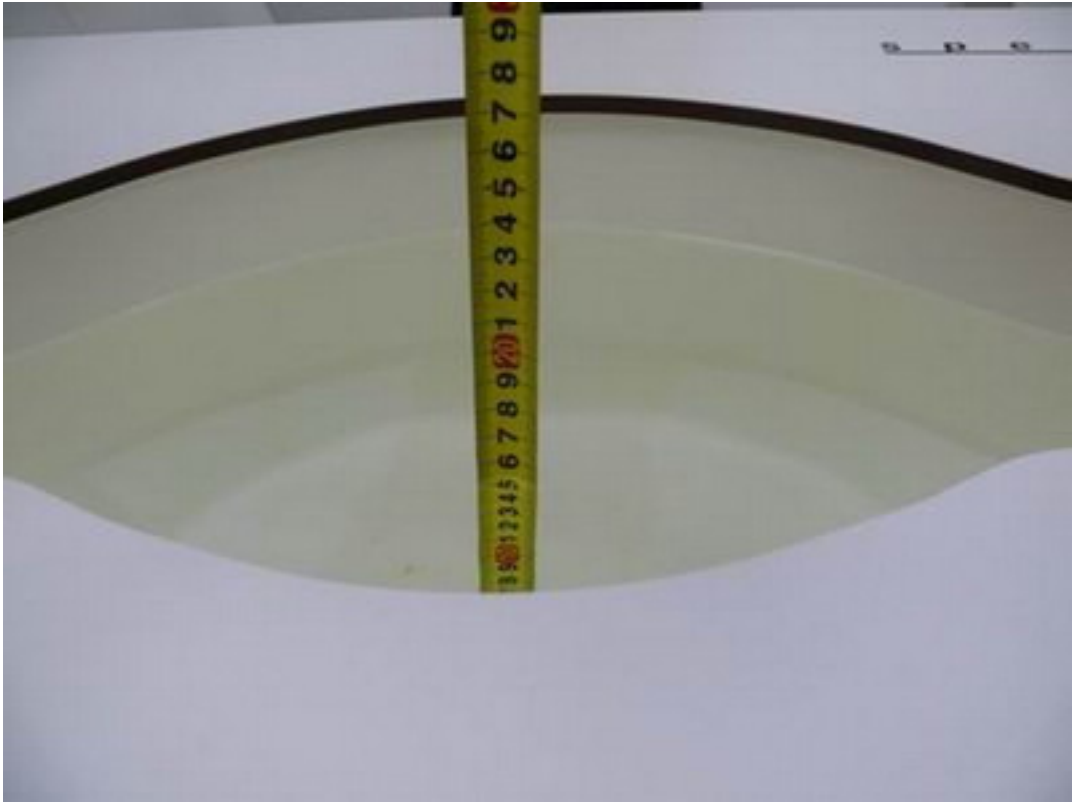


Picture 5: liquid depth in the head Phantom (1900 MHz, 15.3cm depth)

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



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

ANNEX B: System Check Results

System Performance Check at 835 MHz Head TSL

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

Date/Time: 4/22/2012 12:10:24 AM

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

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.888 \text{ mho/m}$; $\epsilon_r = 42.3$; $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

d=15mm, Pin=250mW/Area Scan (101x121x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

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

Reference Value = 54.1 V/m ; Power Drift = -0.198 dB

Peak SAR (extrapolated) = 3.56 W/kg

SAR(1 g) = 2.38 mW/g ; SAR(10 g) = 1.57 mW/g

Maximum value of SAR (measured) = 2.56 mW/g

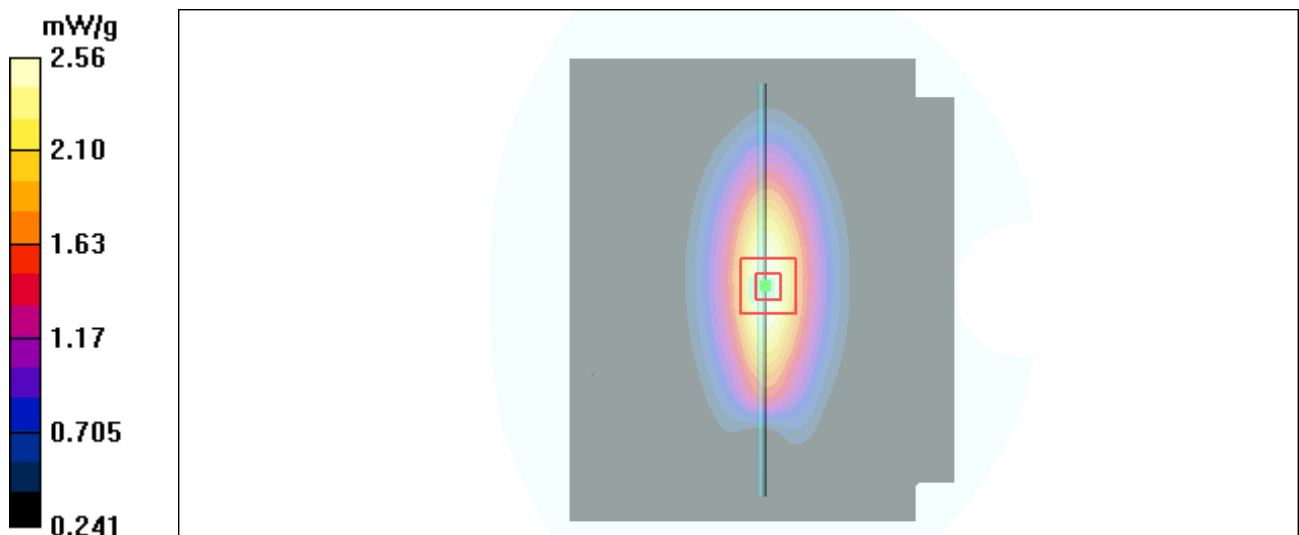


Figure 7 System Performance Check 835MHz 250mW

System Performance Check at 835 MHz Body TSL

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

Date/Time: 4/22/2012 1:10:31 PM

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

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

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 2.70 mW/g

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

Reference Value = 52.4 V/m ; Power Drift = -0.022 dB

Peak SAR (extrapolated) = 3.73 W/kg

SAR(1 g) = 2.5 mW/g ; SAR(10 g) = 1.65 mW/g

Maximum value of SAR (measured) = 2.70 mW/g

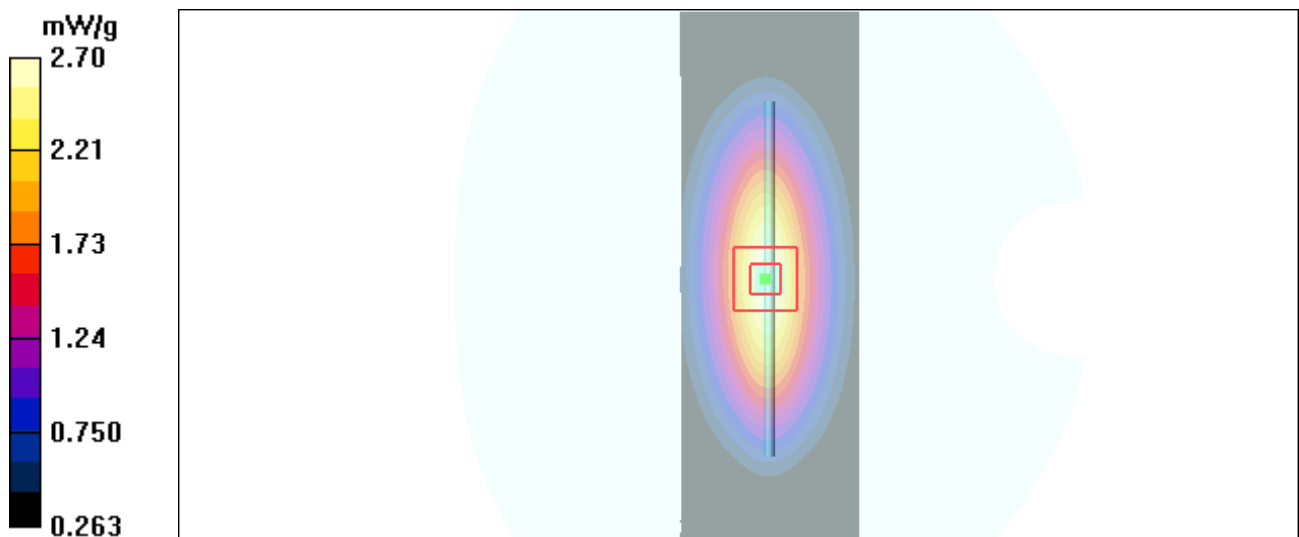


Figure 8 System Performance Check 835MHz 250mW

System Performance Check at 1900 MHz Head TSL

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

Date/Time: 4/22/2012 10:26:28 PM

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 40.1$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

d=10mm, Pin=250mW /Area Scan (61x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 11.6 mW/g

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

Reference Value = 89.1 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 18.6 W/kg

SAR(1 g) = 9.92 mW/g; SAR(10 g) = 5.15 mW/g

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

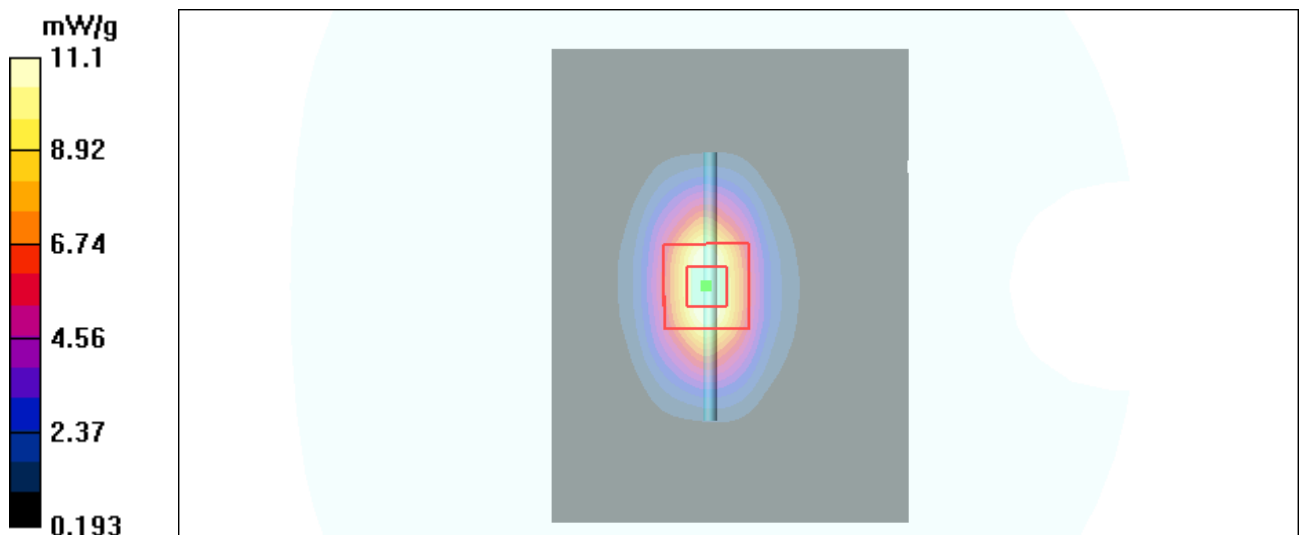


Figure 9 System Performance Check 1900MHz 250mW

System Performance Check at 1900 MHz Body TSL

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

Date/Time: 4/21/2012 10:23:54 AM

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.55$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 12.0 mW/g

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

Reference Value = 87.8 V/m; Power Drift = -0.249 dB

Peak SAR (extrapolated) = 18.4 W/kg

SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.26 mW/g

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

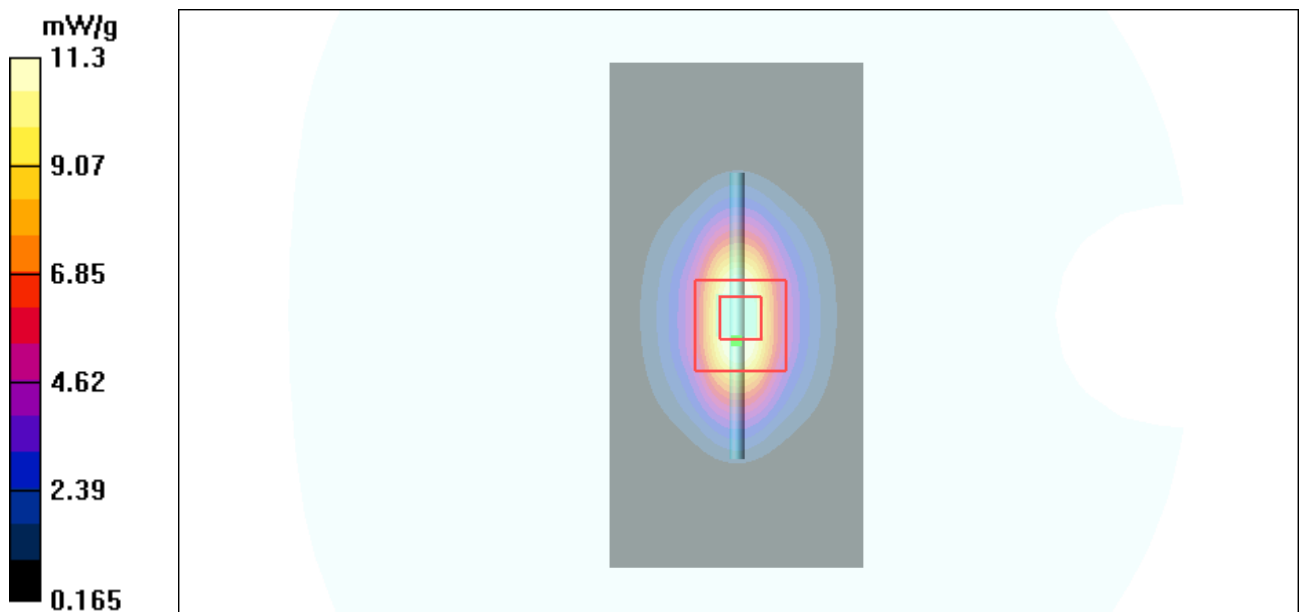


Figure 10 System Performance Check 1900MHz 250Mw

System Performance Check at 1900 MHz Body TSL

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

Date/Time: 4/24/2012 11:06:33 AM

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

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.56 \text{ mho/m}$; $\epsilon_r = 52$; $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

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

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

Reference Value = 85.3 V/m ; Power Drift = -0.006 dB

Peak SAR (extrapolated) = 18.7 W/kg

SAR(1 g) = 10.2 mW/g ; SAR(10 g) = 5.35 mW/g

Maximum value of SAR (measured) = 11.5 mW/g

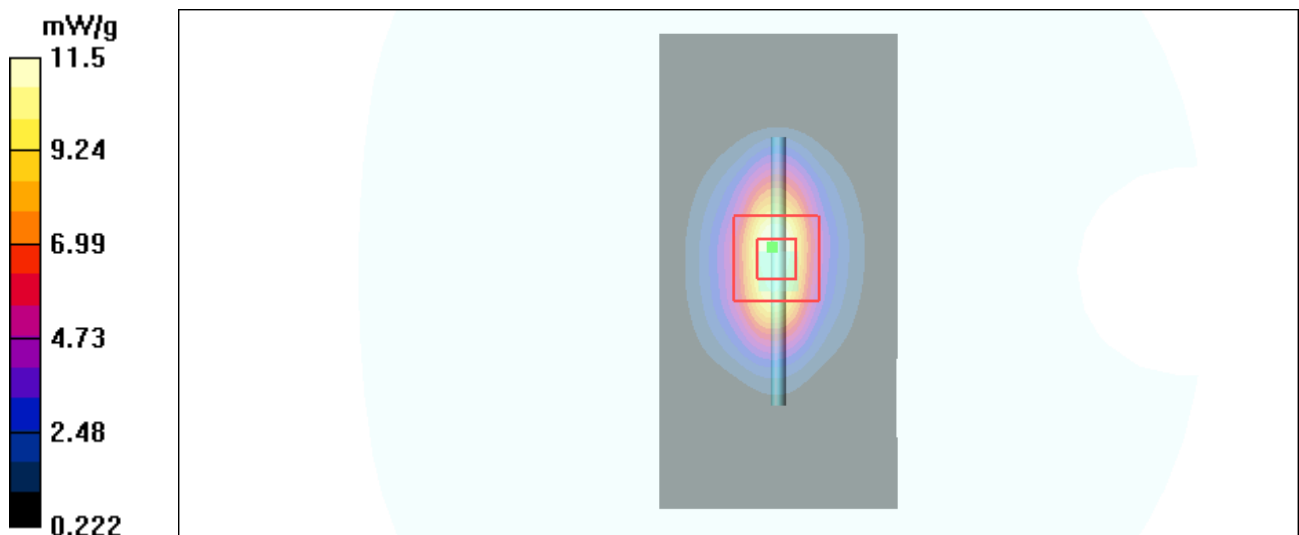


Figure 11 System Performance Check 1900MHz 250Mw

System Performance Check at 2450 MHz Head TSL

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

Date/Time: 4/23/2012 1:05:59 PM

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

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

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

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

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

Reference Value = 90.3 V/m; Power Drift = -0.021 dB

Peak SAR (extrapolated) = 30.3 W/kg

SAR(1 g) = 14.1 mW/g; SAR(10 g) = 6.44 mW/g

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

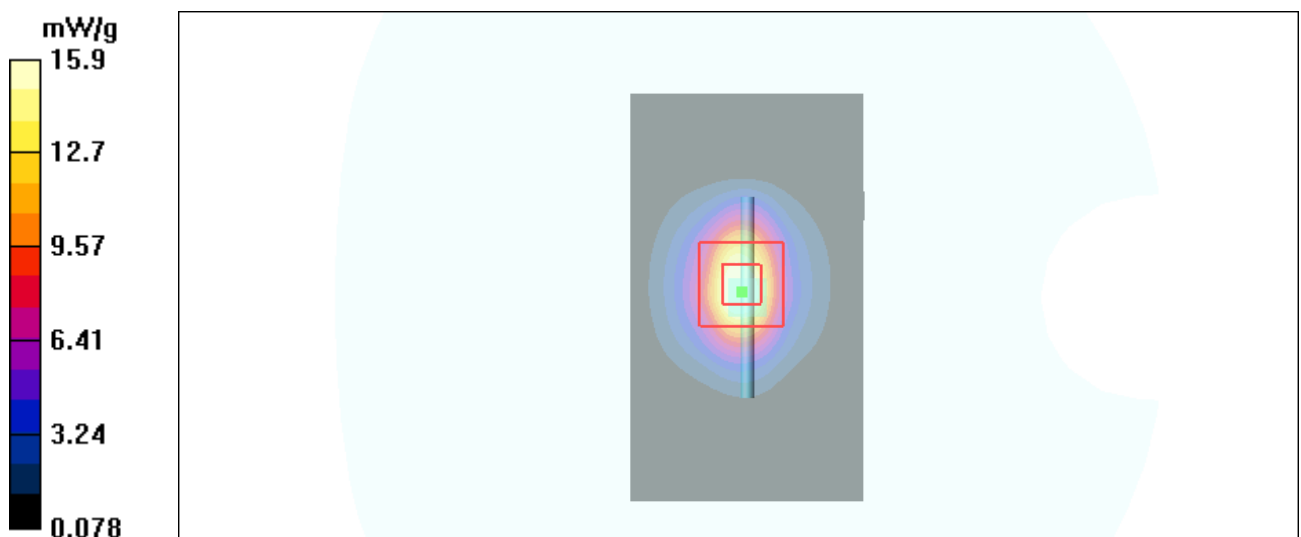


Figure 12 System Performance Check 2450MHz 250mW

System Performance Check at 2450 MHz Body TSL

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

Date/Time: 4/22/2012 7:37:47 PM

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

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

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 16.2 mW/g

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

Reference Value = 87.7 V/m; Power Drift = -0.041 dB

Peak SAR (extrapolated) = 25.5 W/kg

SAR(1 g) = 13 mW/g; SAR(10 g) = 6.17 mW/g

Maximum value of SAR (measured) = 15.0 mW/g

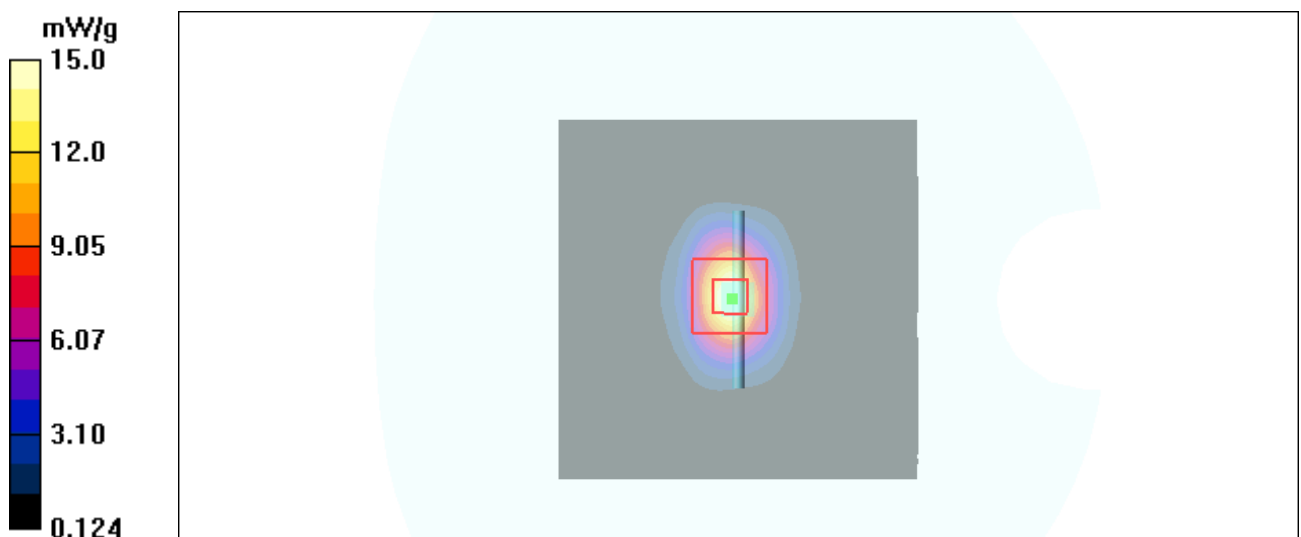


Figure 13 System Performance Check 2450MHz 250mW

ANNEX C: Graph Results

GSM 850 Left Cheek High (Battery 1)

Date/Time: 4/22/2012 1:18:56 AM

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 849$ MHz; $\sigma = 0.901$ mho/m; $\epsilon_r = 42.1$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.578 mW/g

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

Reference Value = 7.43 V/m; Power Drift = 0.050 dB

Peak SAR (extrapolated) = 0.716 W/kg

SAR(1 g) = 0.550 mW/g; SAR(10 g) = 0.411 mW/g

Maximum value of SAR (measured) = 0.580 mW/g

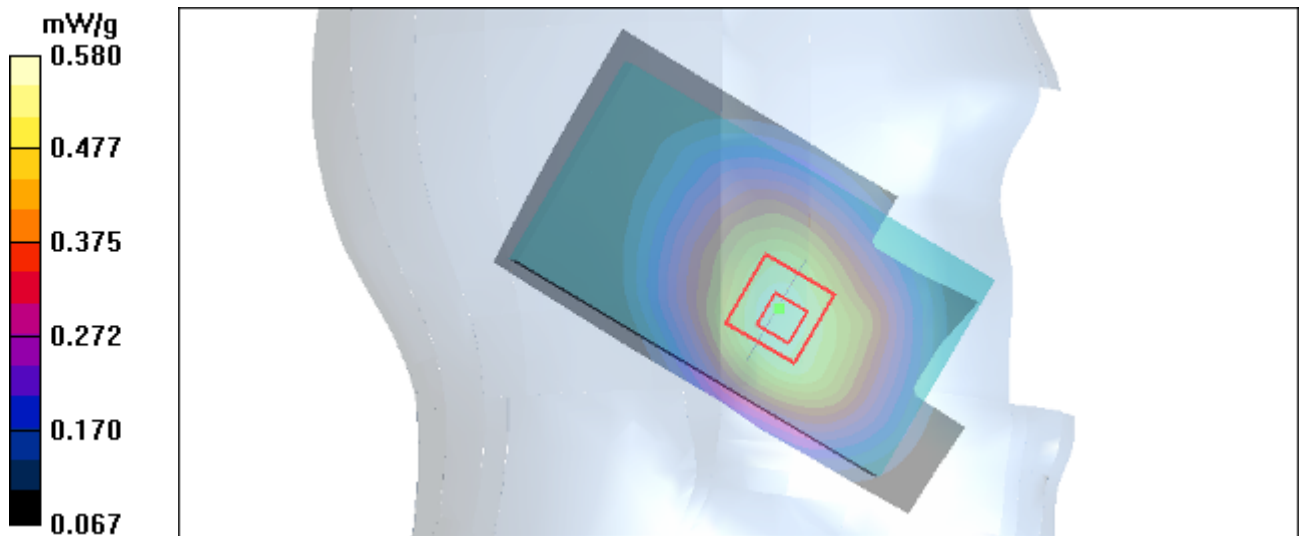


Figure 14 Left Hand Touch Cheek GSM 850 Channel 251

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GSM 850 Left Cheek Middle (Battery 1)

Date/Time: 4/22/2012 12:45:20 AM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

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

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

Phantom section: Left Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.708 mW/g

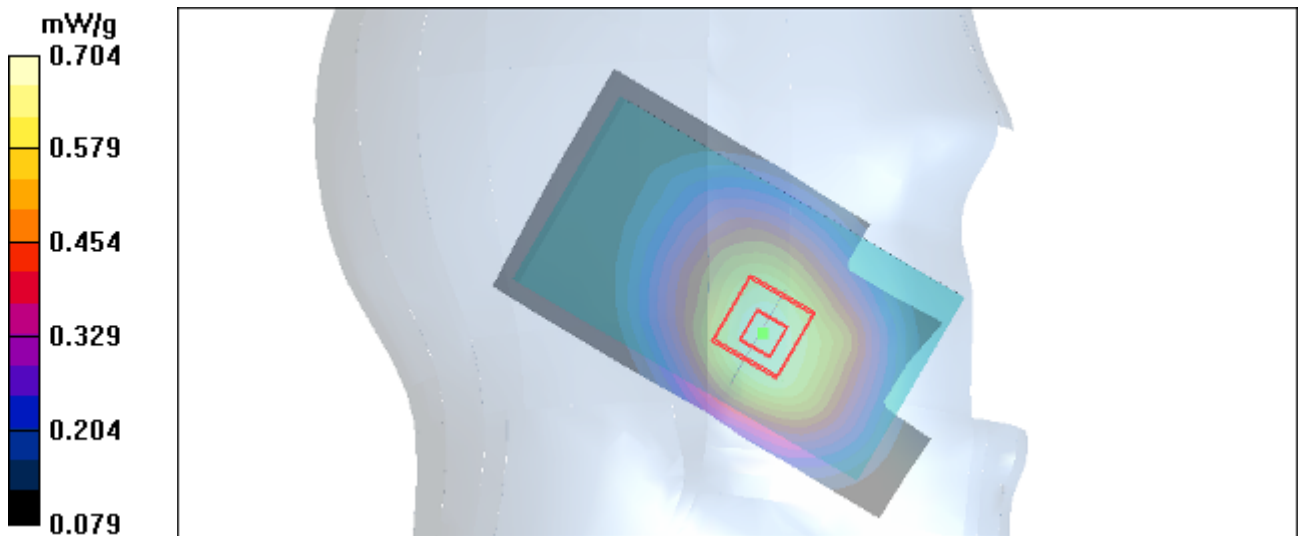
Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.23 V/m; Power Drift = 0.032 dB

Peak SAR (extrapolated) = 0.871 W/kg

SAR(1 g) = 0.667 mW/g; SAR(10 g) = 0.499 mW/g

Maximum value of SAR (measured) = 0.704 mW/g



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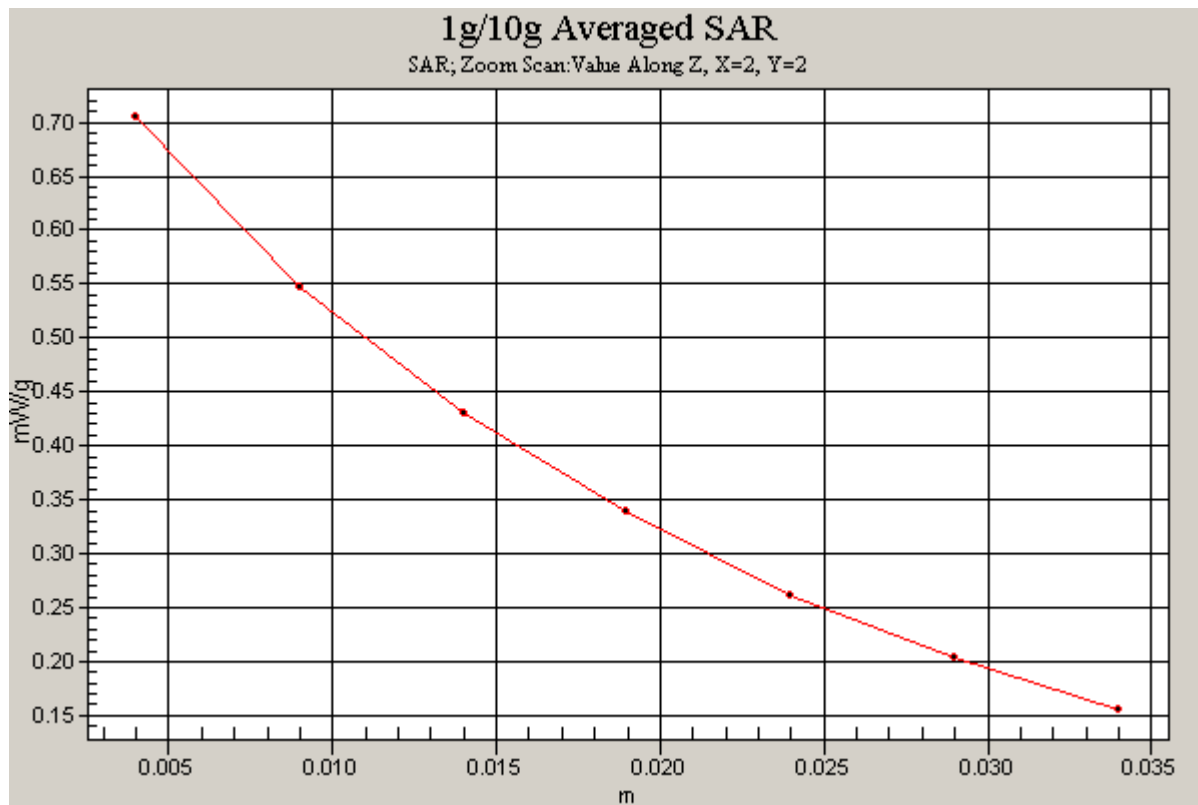


Figure 15 Left Hand Touch Cheek GSM 850 Channel 190

GSM 850 Left Cheek Low (Battery 1)

Date/Time: 4/22/2012 1:05:11 AM

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.878$ mho/m; $\epsilon_r = 42.4$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.622 mW/g

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

Reference Value = 7.98 V/m; Power Drift = -0.008 dB

Peak SAR (extrapolated) = 0.764 W/kg

SAR(1 g) = 0.596 mW/g; SAR(10 g) = 0.446 mW/g

Maximum value of SAR (measured) = 0.629 mW/g

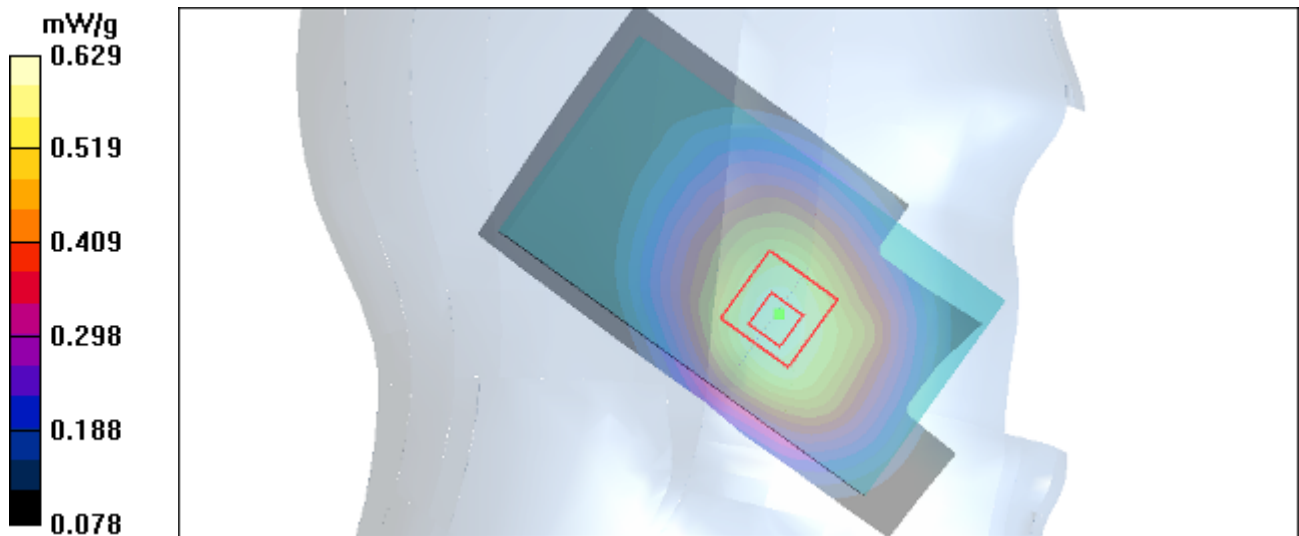


Figure 16 Left Hand Touch Cheek GSM 850 Channel 128

GSM 850 Left Tilt High (Battery 1)

Date/Time: 4/22/2012 1:34:27 AM

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 849$ MHz; $\sigma = 0.901$ mho/m; $\epsilon_r = 42.1$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.341 mW/g

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

Reference Value = 11.7 V/m; Power Drift = 0.020 dB

Peak SAR (extrapolated) = 0.408 W/kg

SAR(1 g) = 0.327 mW/g; SAR(10 g) = 0.250 mW/g

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

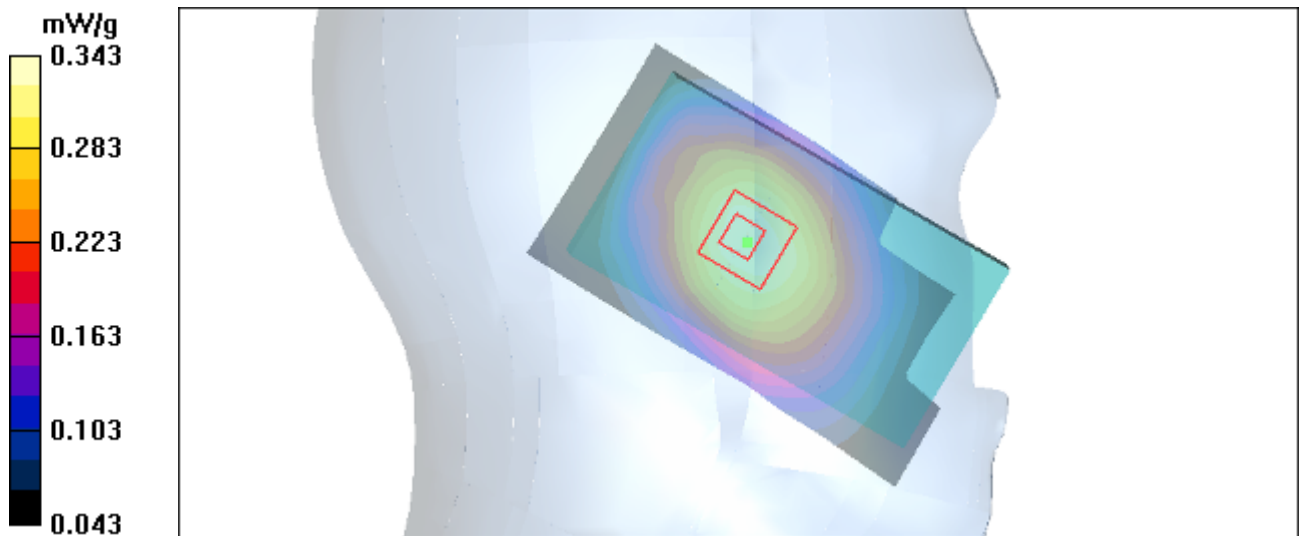


Figure 17 Left Hand Tilt 15° GSM 850 Channel 251

GSM 850 Left Tilt Middle (Battery 1)

Date/Time: 4/22/2012 1:48:00 AM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

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

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

Phantom section: Left Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.378 mW/g

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

Reference Value = 12.5 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 0.452 W/kg

SAR(1 g) = 0.363 mW/g; SAR(10 g) = 0.280 mW/g

Maximum value of SAR (measured) = 0.383 mW/g

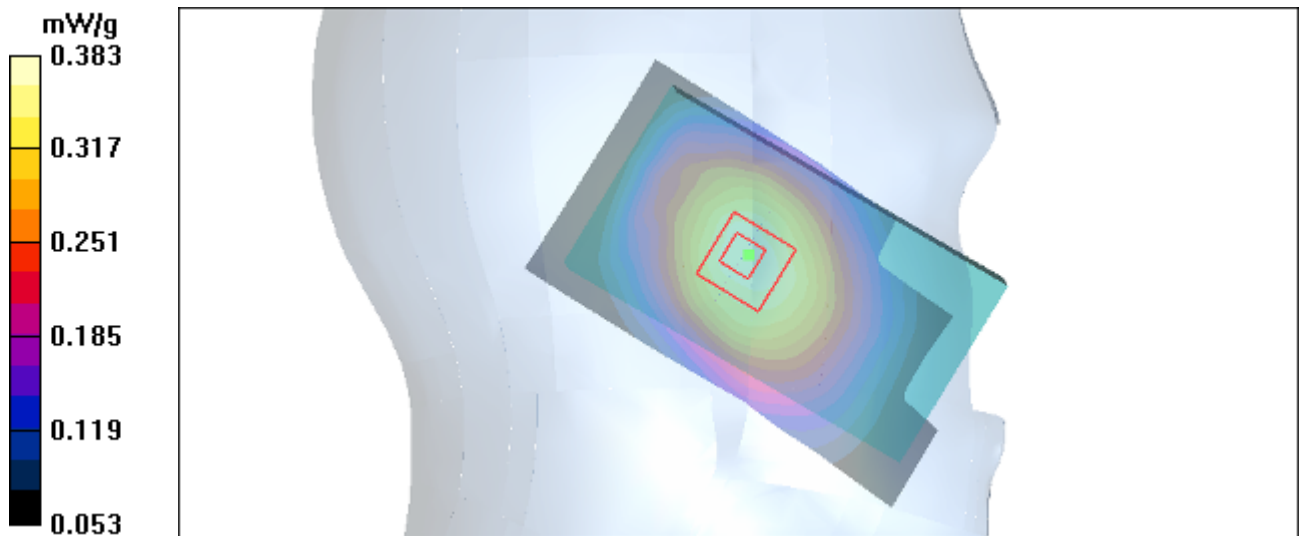


Figure 18 Left Hand Tilt 15° GSM 850 Channel 190

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GSM 850 Left Tilt Low (Battery 1)

Date/Time: 4/22/2012 2:01:20 AM

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.878$ mho/m; $\epsilon_r = 42.4$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.341 mW/g

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

Reference Value = 12.1 V/m; Power Drift = 0.071 dB

Peak SAR (extrapolated) = 0.409 W/kg

SAR(1 g) = 0.331 mW/g; SAR(10 g) = 0.256 mW/g

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

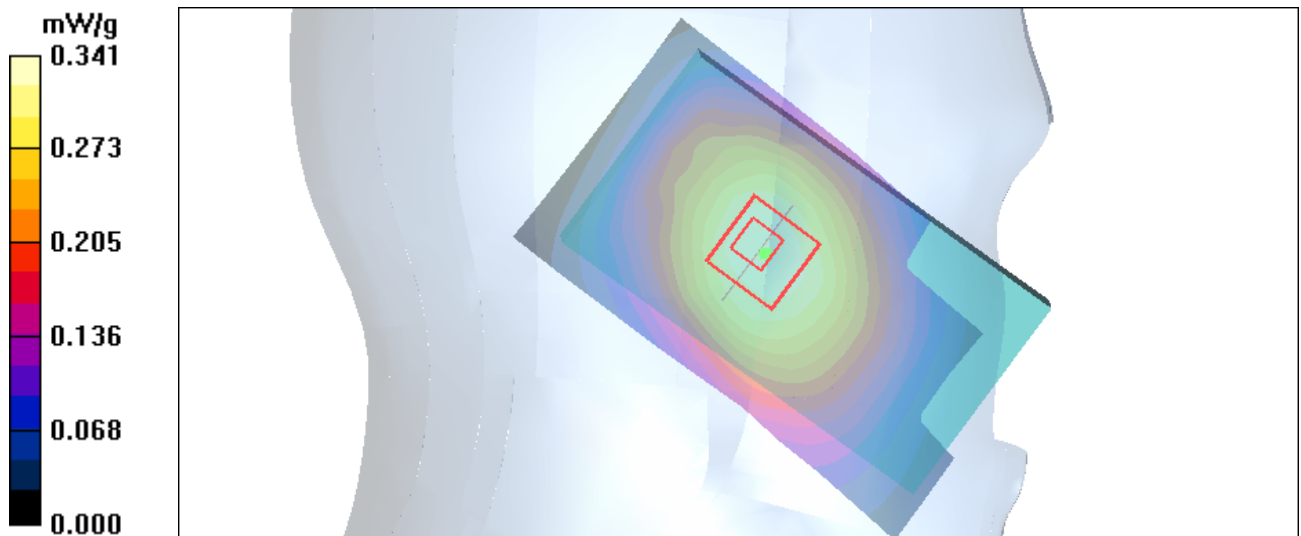


Figure 19 Left Hand Tilt 15° GSM 850 Channel 128

GSM 850 Right Cheek High (Battery 1)

Date/Time: 4/22/2012 2:57:14 AM

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 849$ MHz; $\sigma = 0.901$ mho/m; $\epsilon_r = 42.1$; $\rho = 1000$ kg/m³

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

Phantom section: Right Section

DASY4 Configuration:

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

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

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

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

Cheek High/Area Scan (51x91x1): 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 = 7.35 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 0.635 W/kg

SAR(1 g) = 0.515 mW/g; SAR(10 g) = 0.395 mW/g

Maximum value of SAR (measured) = 0.541 mW/g

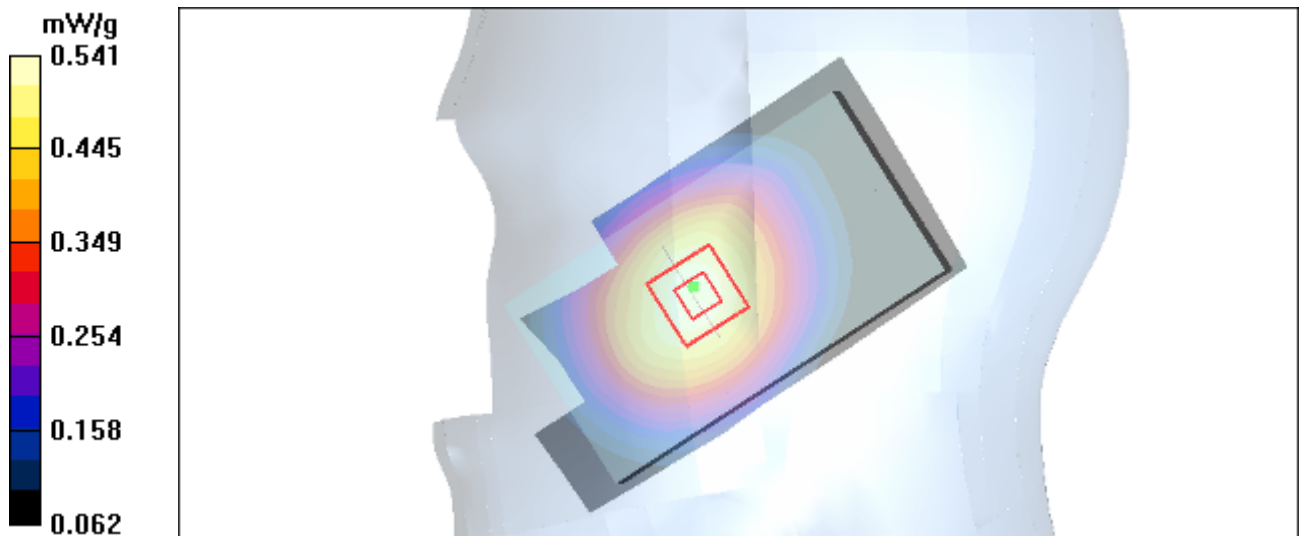


Figure 20 Right Hand Touch Cheek GSM 850 Channel 251

GSM 850 Right Cheek Middle (Battery 1)

Date/Time: 4/22/2012 2:32:52 AM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

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

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

Phantom section: Right Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.627 mW/g

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

Reference Value = 8.05 V/m; Power Drift = 0.057 dB

Peak SAR (extrapolated) = 0.725 W/kg

SAR(1 g) = 0.597 mW/g; SAR(10 g) = 0.459 mW/g

Maximum value of SAR (measured) = 0.627 mW/g

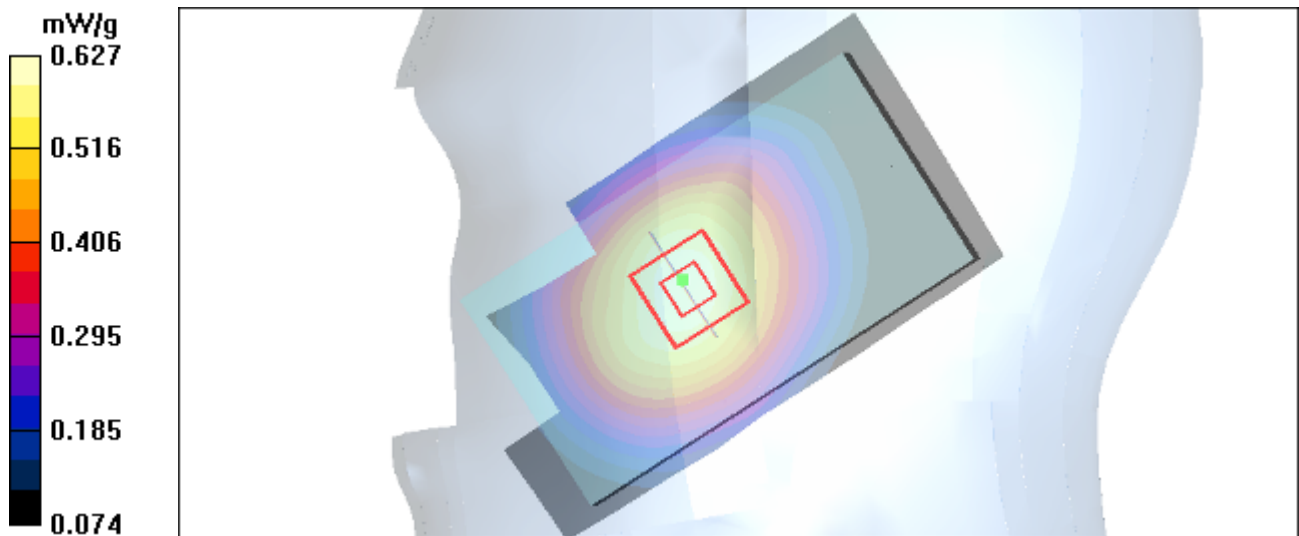


Figure 21 Right Hand Touch Cheek GSM 850 Channel 190

GSM 850 Right Cheek Low (Battery 1)

Date/Time: 4/22/2012 2:19:17 AM

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.878$ mho/m; $\epsilon_r = 42.4$; $\rho = 1000$ kg/m³

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

Phantom section: Right Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.569 mW/g

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

Reference Value = 7.92 V/m; Power Drift = 0.048 dB

Peak SAR (extrapolated) = 0.669 W/kg

SAR(1 g) = 0.543 mW/g; SAR(10 g) = 0.420 mW/g

Maximum value of SAR (measured) = 0.571 mW/g

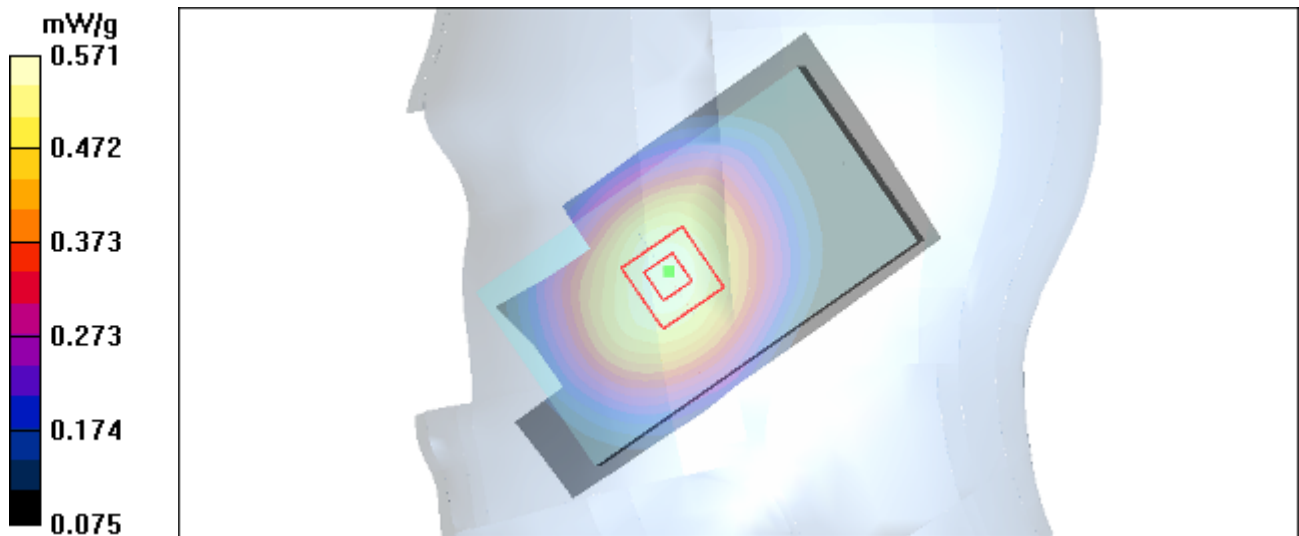


Figure 22 Right Hand Touch Cheek GSM 850 Channel 128

GSM 850 Right Tilt High (Battery 1)

Date/Time: 4/22/2012 3:15:06 AM

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 849$ MHz; $\sigma = 0.901$ mho/m; $\epsilon_r = 42.1$; $\rho = 1000$ kg/m³

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

Phantom section: Right Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.379 mW/g

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

Reference Value = 13.6 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 0.447 W/kg

SAR(1 g) = 0.356 mW/g; SAR(10 g) = 0.271 mW/g

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

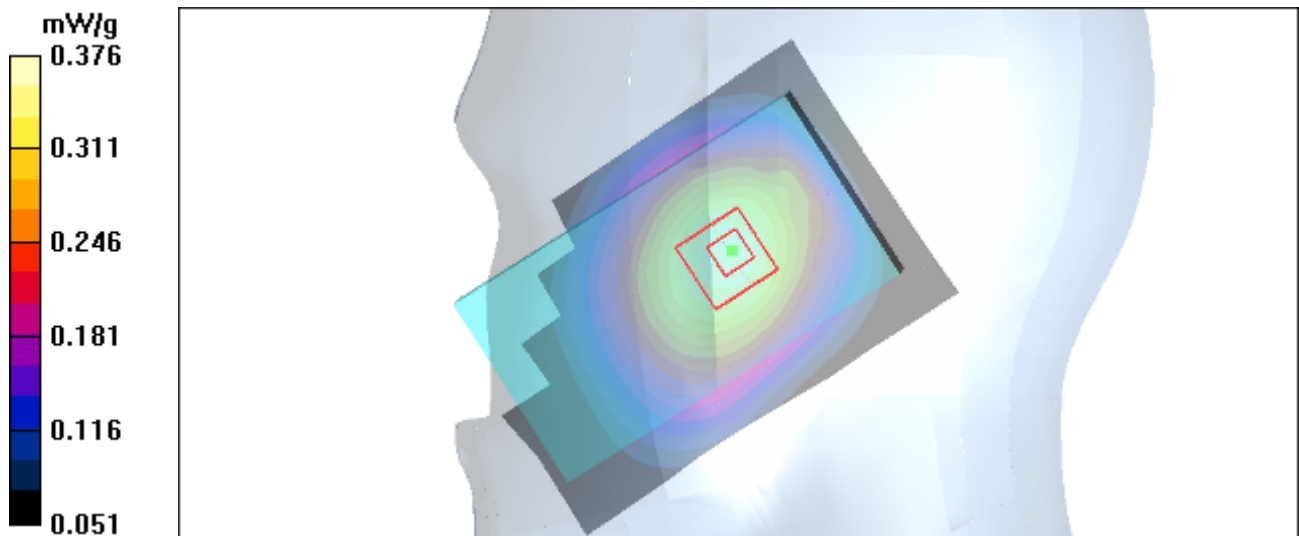


Figure 23 Right Hand Tilt 15° GSM 850 Channel 251

GSM 850 Right Tilt Middle (Battery 1)

Date/Time: 4/22/2012 3:43:44 AM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

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

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

Phantom section: Right Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.426 mW/g

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

Reference Value = 14.5 V/m; Power Drift = 0.029 dB

Peak SAR (extrapolated) = 0.502 W/kg

SAR(1 g) = 0.403 mW/g; SAR(10 g) = 0.308 mW/g

Maximum value of SAR (measured) = 0.425 mW/g

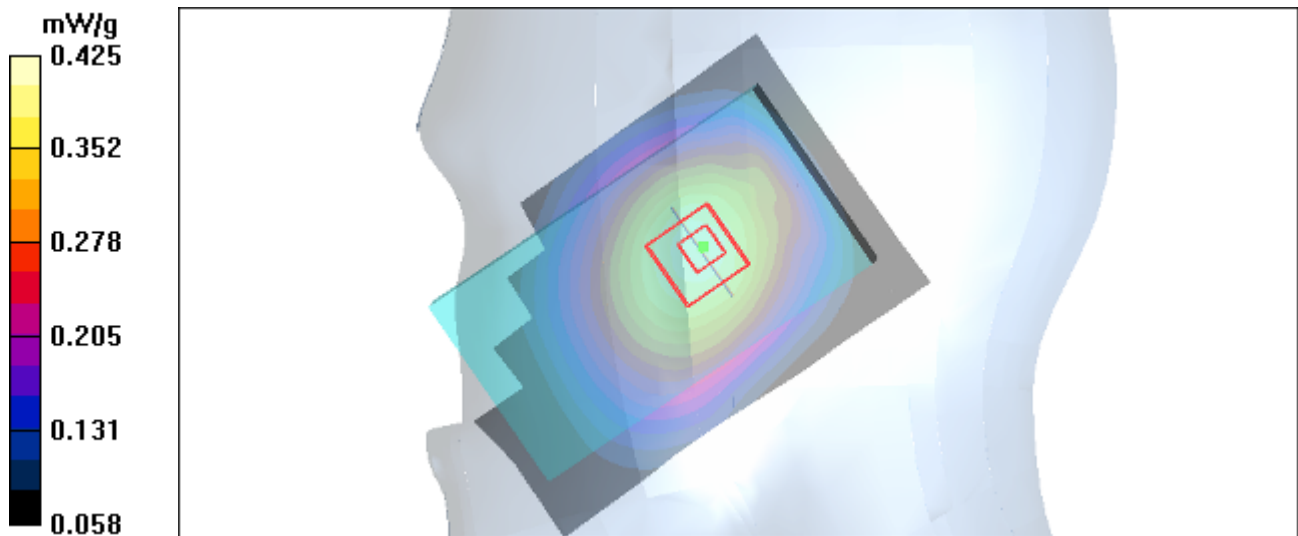


Figure 24 Right Hand Tilt 15° GSM 850 Channel 190

GSM 850 Right Tilt Low (Battery 1)

Date/Time: 4/22/2012 3:29:20 AM

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.878$ mho/m; $\epsilon_r = 42.4$; $\rho = 1000$ kg/m³

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

Phantom section: Right Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.439 mW/g

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

Reference Value = 14.9 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 0.513 W/kg

SAR(1 g) = 0.414 mW/g; SAR(10 g) = 0.318 mW/g

Maximum value of SAR (measured) = 0.435 mW/g

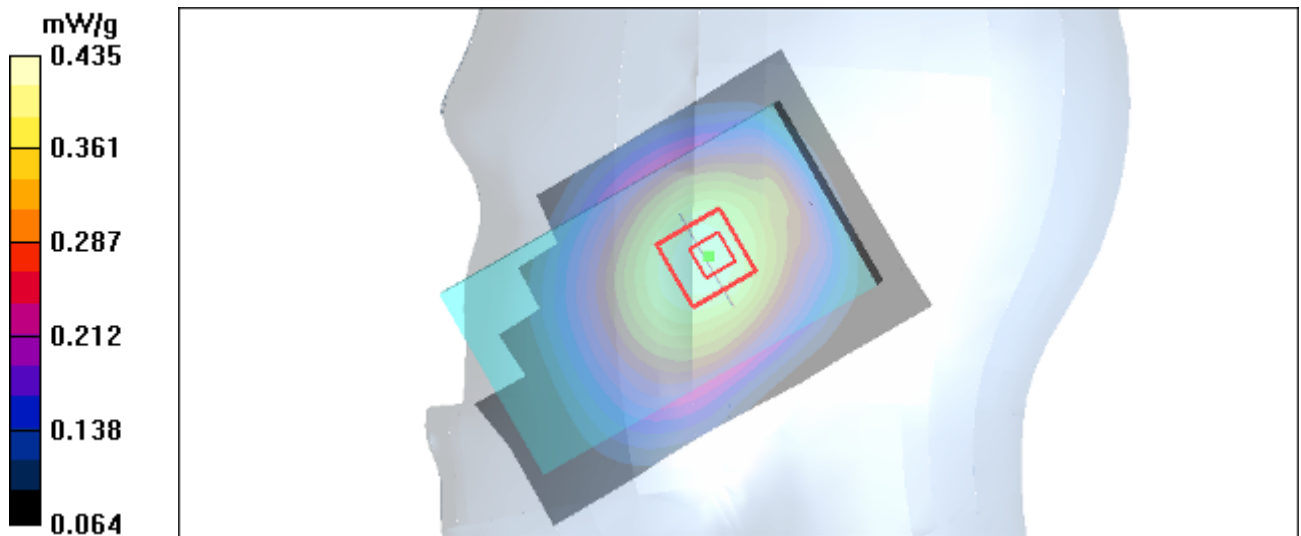


Figure 25 Right Hand Tilt 15° GSM 850 Channel 128

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GSM 850 GPRS (4Txslots) Back Side High (Battery 1)

Date/Time: 4/22/2012 2:10:37 PM

Communication System: GSM850 + GPRS(4Up); Frequency: 848.8 MHz; Duty Cycle: 1:2.075

Medium parameters used: $f = 849$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 54.1$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.582 mW/g

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

Reference Value = 22.1 V/m; Power Drift = -0.181 dB

Peak SAR (extrapolated) = 0.808 W/kg

SAR(1 g) = 0.528 mW/g; SAR(10 g) = 0.390 mW/g

Maximum value of SAR (measured) = 0.555 mW/g

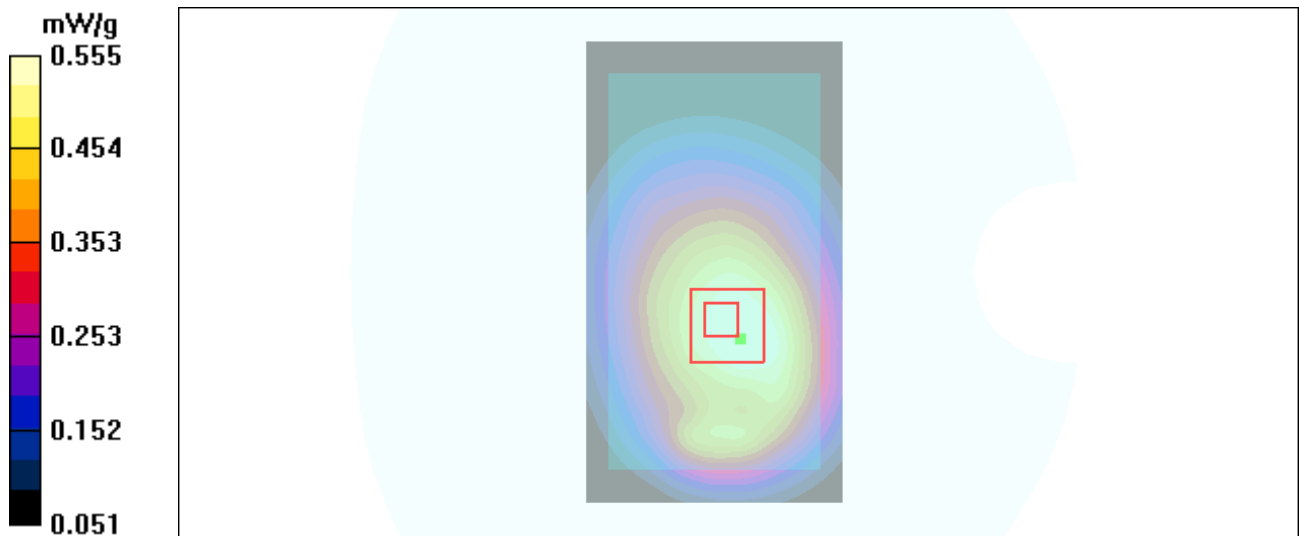


Figure 26 Body, Back Side, GSM 850 GPRS (4Txslots) Channel 251

GSM 850 GPRS (4Txslots) Back Side Middle (Battery 1)

Date/Time: 4/22/2012 1:52:29 PM

Communication System: GSM850 + GPRS(4Up); Frequency: 836.6 MHz; Duty Cycle: 1:2.075

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

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

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

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

Reference Value = 25.6 V/m; Power Drift = 0.067 dB

Peak SAR (extrapolated) = 0.845 W/kg

SAR(1 g) = 0.607 mW/g; SAR(10 g) = 0.398 mW/g

Maximum value of SAR (measured) = 0.678 mW/g

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

Reference Value = 25.6 V/m; Power Drift = 0.067 dB

Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.705 mW/g; SAR(10 g) = 0.517 mW/g

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

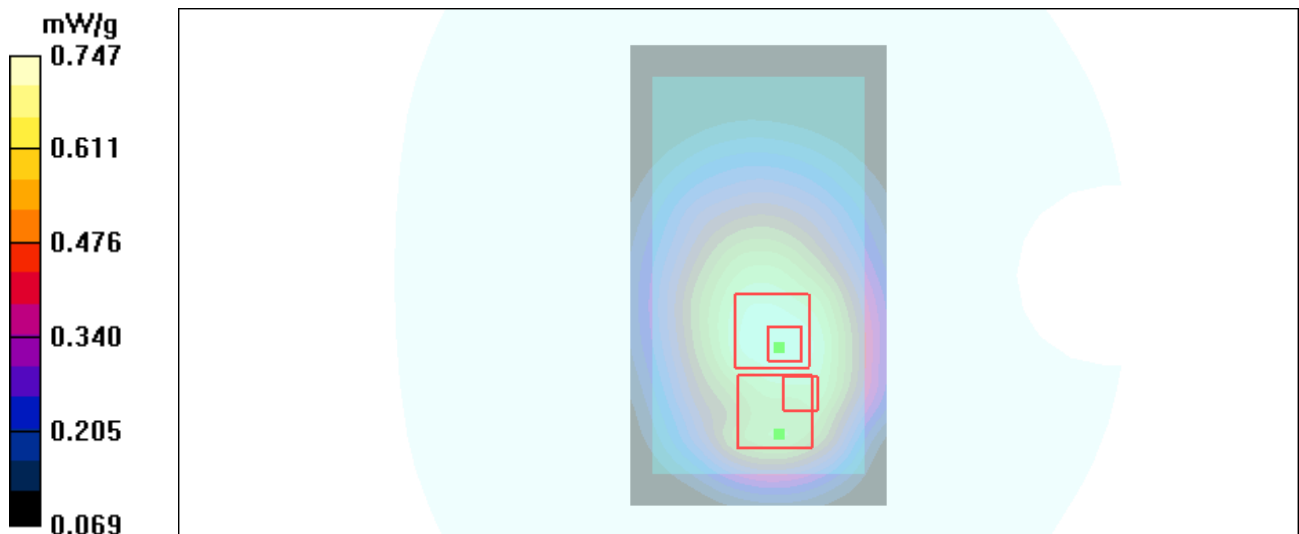


Figure 27 Body, Back Side, GSM 850 GPRS (4Txslots) Channel 190

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GSM 850 GPRS (4Txslots) Back Side Low (Battery 1)

Date/Time: 4/22/2012 1:34:08 PM

Communication System: GSM850 + GPRS(4Up); Frequency: 824.2 MHz; Duty Cycle: 1:2.075

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.972$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

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

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

Reference Value = 29.7 V/m; Power Drift = 0.042 dB

Peak SAR (extrapolated) = 1.58 W/kg

SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.762 mW/g

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

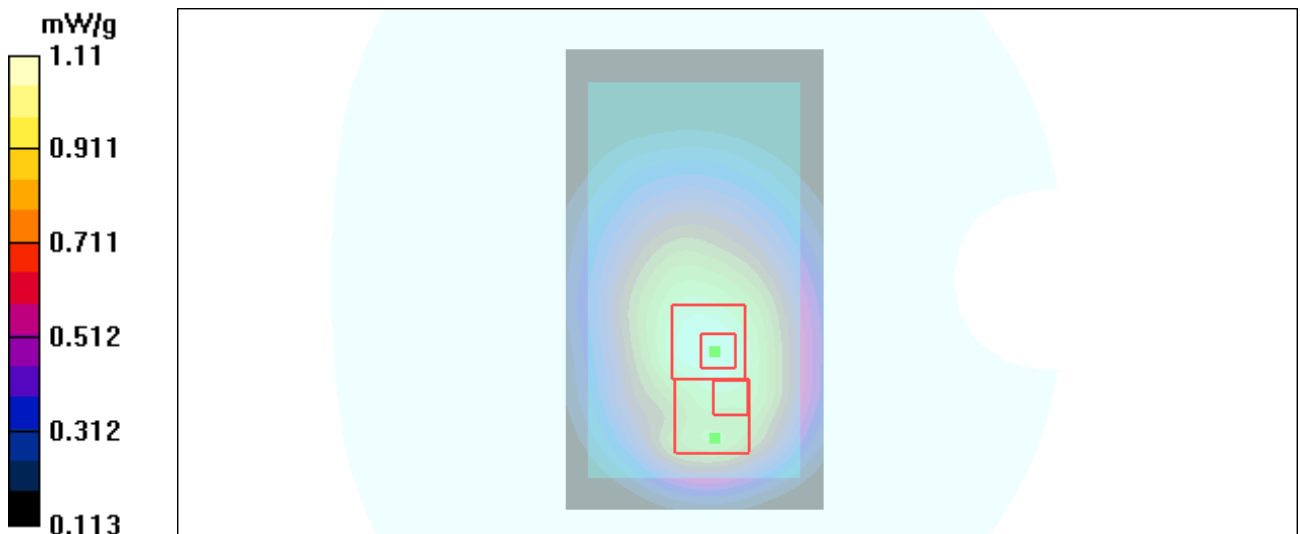
Back Side Low/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 29.7 V/m; Power Drift = 0.042 dB

Peak SAR (extrapolated) = 1.48 W/kg

SAR(1 g) = 0.925 mW/g; SAR(10 g) = 0.602 mW/g

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



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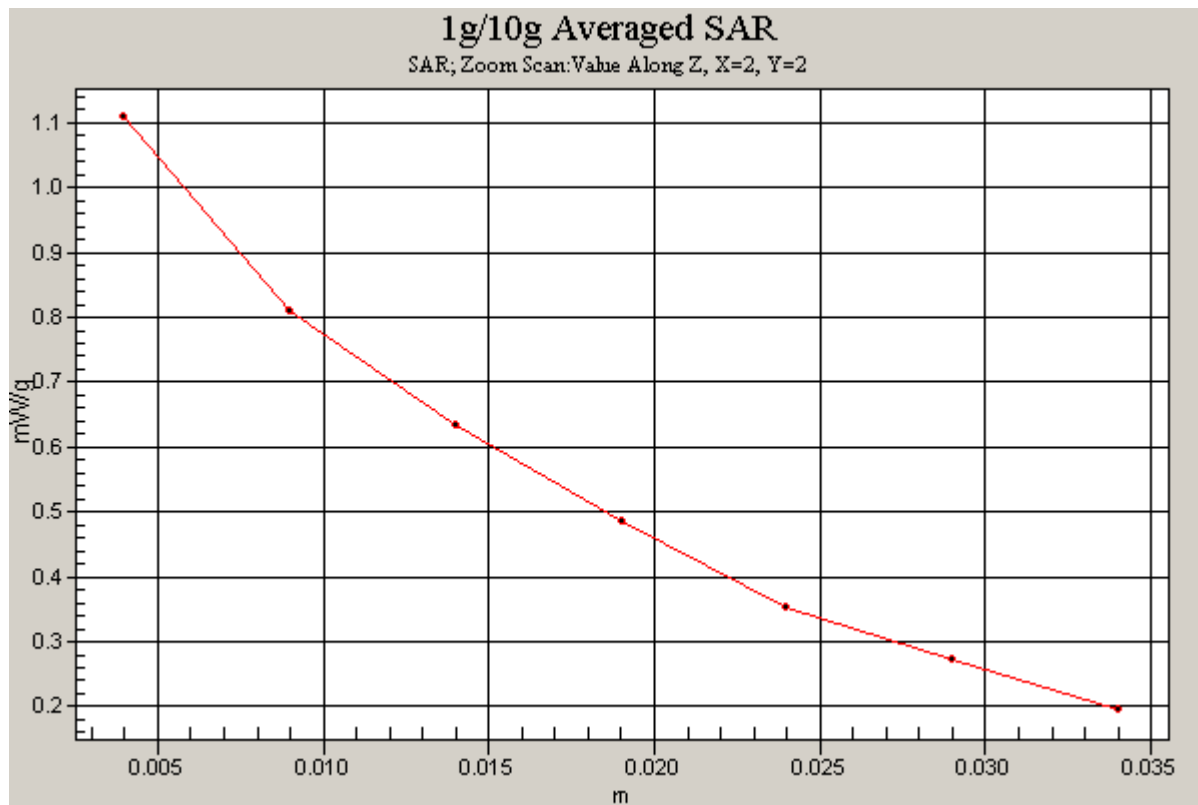


Figure 28 Body, Back Side, GSM 850 GPRS (4Txslots) Channel 128

GSM 850 GPRS (4Txslots) Front Side High (Battery 1)

Date/Time: 4/22/2012 2:49:08 PM

Communication System: GSM850 + GPRS(4Up); Frequency: 848.8 MHz; Duty Cycle: 1:2.075

Medium parameters used: $f = 849 \text{ MHz}$; $\sigma = 1.01 \text{ mho/m}$; $\epsilon_r = 54.1$; $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

Front Side High/Area Scan (51x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.454 mW/g

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

Reference Value = 19.8 V/m ; Power Drift = 0.064 dB

Peak SAR (extrapolated) = 0.630 W/kg

SAR(1 g) = 0.436 mW/g ; SAR(10 g) = 0.327 mW/g

Maximum value of SAR (measured) = 0.459 mW/g

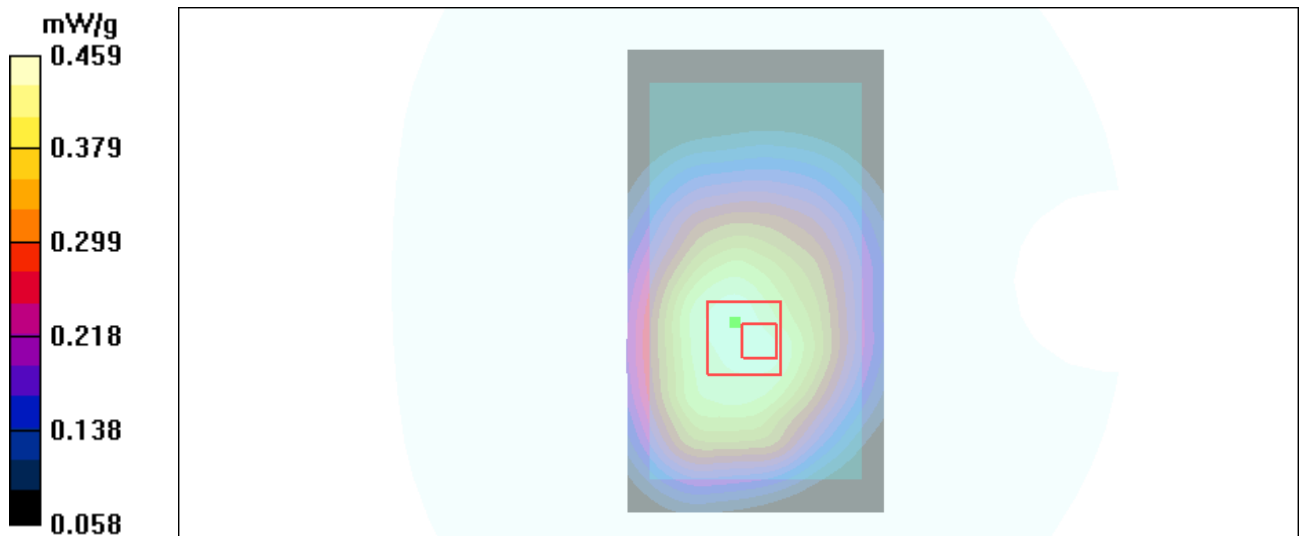


Figure 29 Body, Front Side, GSM 850 GPRS (4Txslots) Channel 251

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GSM 850 GPRS (4Txslots) Front Side Middle (Battery 1)

Date/Time: 4/22/2012 2:37:17 PM

Communication System: GSM850 + GPRS(4Up); Frequency: 836.6 MHz; Duty Cycle: 1:2.075

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

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.627 mW/g

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

Reference Value = 23.0 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 0.714 W/kg

SAR(1 g) = 0.570 mW/g; SAR(10 g) = 0.437 mW/g

Maximum value of SAR (measured) = 0.615 mW/g

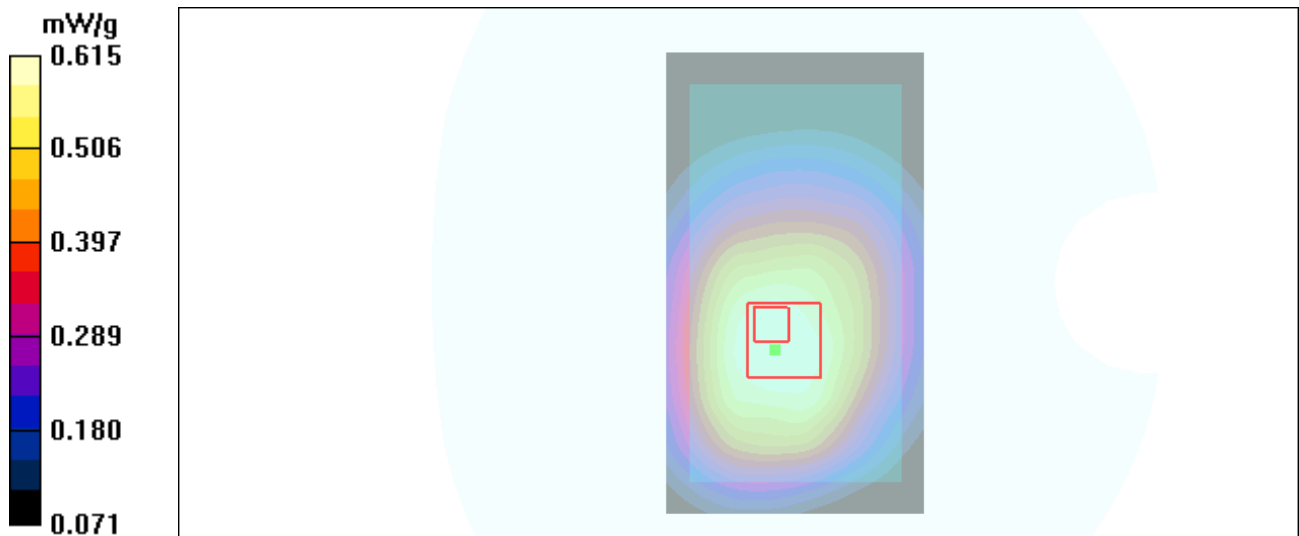


Figure 30 Body, Front Side, GSM 850 GPRS (4Txslots) Channel 190

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GSM 850 GPRS (4Txslots) Front Side Low (Battery 1)

Date/Time: 4/22/2012 2:24:37 PM

Communication System: GSM850 + GPRS(4Up); Frequency: 824.2 MHz; Duty Cycle: 1:2.075

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.972$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.900 mW/g

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

Reference Value = 28.1 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 1.10 W/kg

SAR(1 g) = 0.842 mW/g; SAR(10 g) = 0.633 mW/g

Maximum value of SAR (measured) = 0.900 mW/g

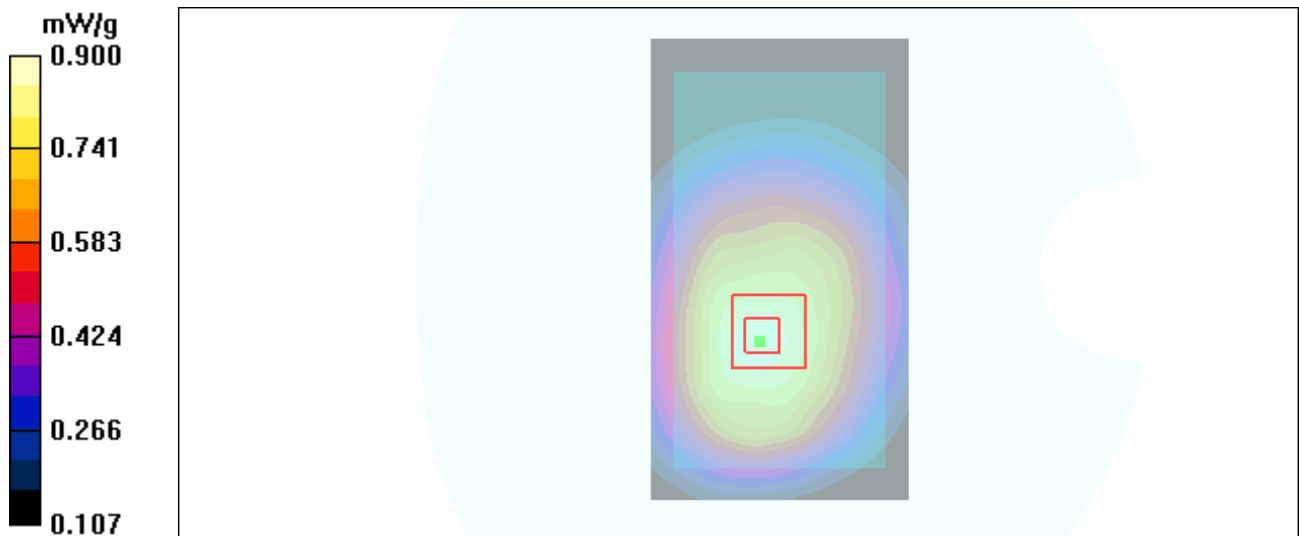


Figure 31 Body, Front Side, GSM 850 GPRS (4Txslots) Channel 128

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GSM 850 GPRS (4Txslots) Left Edge Low (Battery 1)

Date/Time: 4/22/2012 3:07:16 PM

Communication System: GSM850 + GPRS(4Up); Frequency: 824.2 MHz; Duty Cycle: 1:2.075

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.972$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.571 mW/g

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

Reference Value = 25.0 V/m; Power Drift = -0.020 dB

Peak SAR (extrapolated) = 0.801 W/kg

SAR(1 g) = 0.558 mW/g; SAR(10 g) = 0.384 mW/g

Maximum value of SAR (measured) = 0.589 mW/g

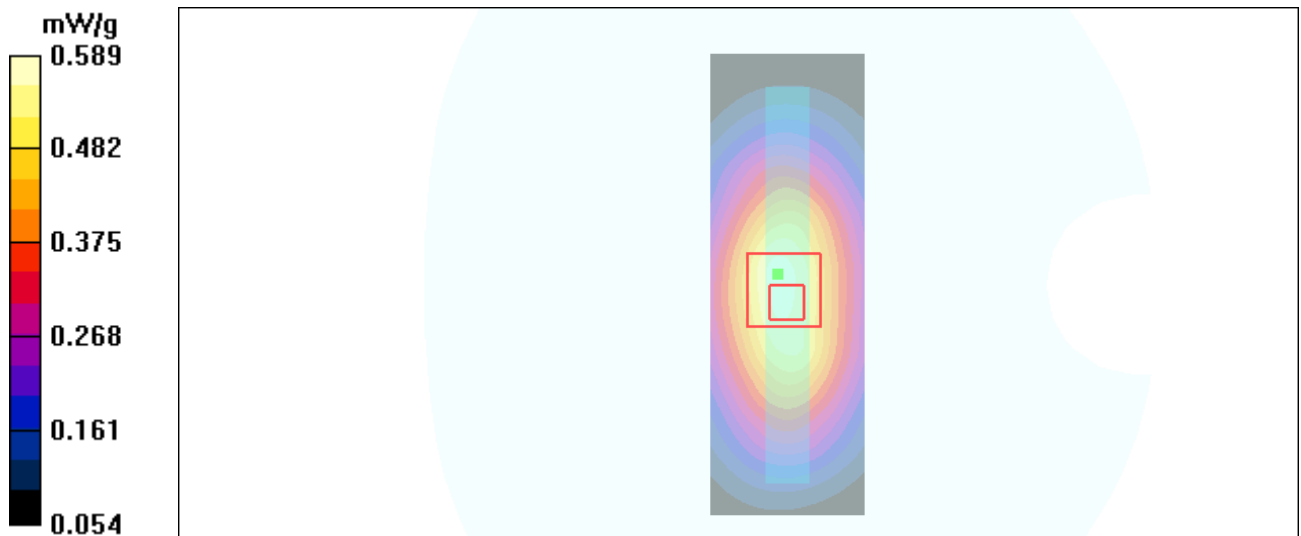


Figure 32 Body, Left Edge, GSM 850 GPRS (4Txslots) Channel 128

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GSM 850 GPRS (4Txslots) Right Edge Low (Battery 1)

Date/Time: 4/22/2012 3:21:55 PM

Communication System: GSM850 + GPRS(4Up); Frequency: 824.2 MHz; Duty Cycle: 1:2.075

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.972$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.504 mW/g

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

Reference Value = 23.5 V/m; Power Drift = 0.035 dB

Peak SAR (extrapolated) = 0.812 W/kg

SAR(1 g) = 0.505 mW/g; SAR(10 g) = 0.353 mW/g

Maximum value of SAR (measured) = 0.536 mW/g

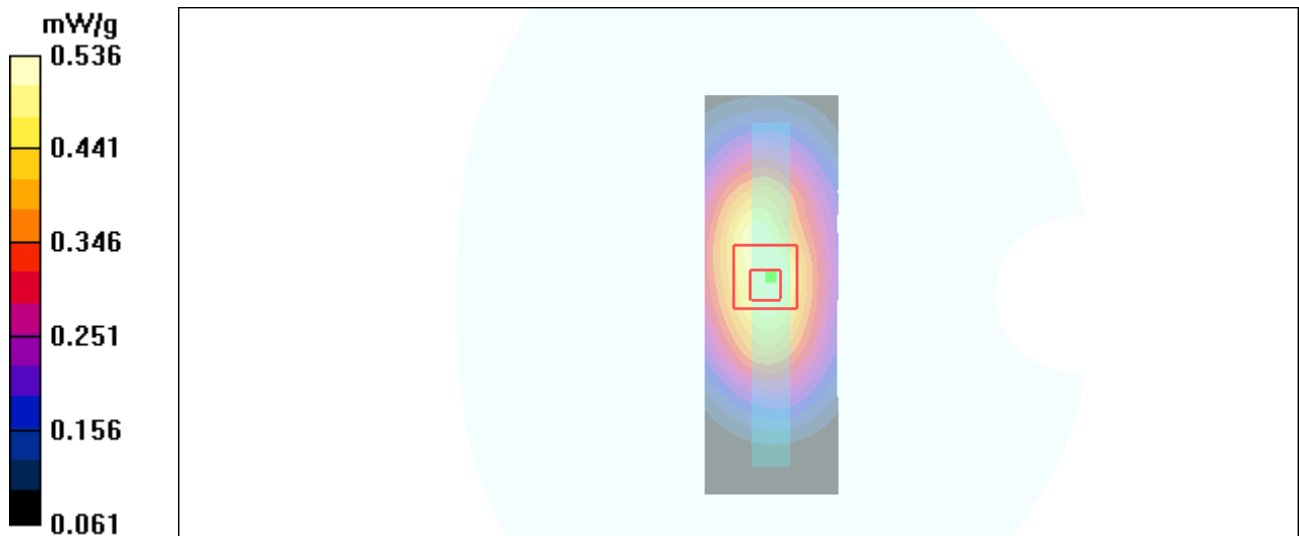


Figure 33 Body, Right Edge, GSM 850 GPRS (4Txslots) Channel 128

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GSM 850 GPRS (4Txslots) Bottom Edge Low (Battery 1)

Date/Time: 4/22/2012 3:35:41 PM

Communication System: GSM850 + GPRS(4Up); Frequency: 824.2 MHz; Duty Cycle: 1:2.075

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.972$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.071 mW/g

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

Reference Value = 7.87 V/m; Power Drift = 0.098 dB

Peak SAR (extrapolated) = 0.115 W/kg

SAR(1 g) = 0.064 mW/g; SAR(10 g) = 0.040 mW/g

Maximum value of SAR (measured) = 0.070 mW/g

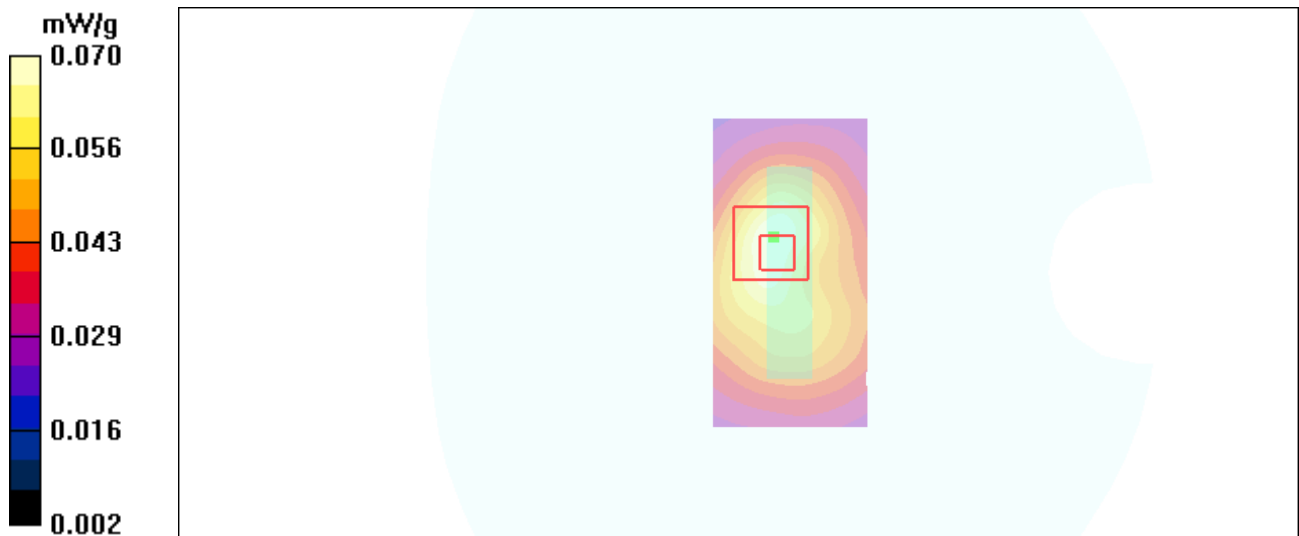


Figure 34 Body, Bottom Edge, GSM 850 GPRS (4Txslots) Channel 128

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GSM 850 EGPRS (4Txslots) Back Side Low (Battery 1)

Date/Time: 4/22/2012 4:07:14 PM

Communication System: GSM850 + GPRS(4Up); Frequency: 824.2 MHz; Duty Cycle: 1:2.075

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.972$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

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

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

Reference Value = 31.5 V/m; Power Drift = -0.160 dB

Peak SAR (extrapolated) = 1.54 W/kg

SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.751 mW/g

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

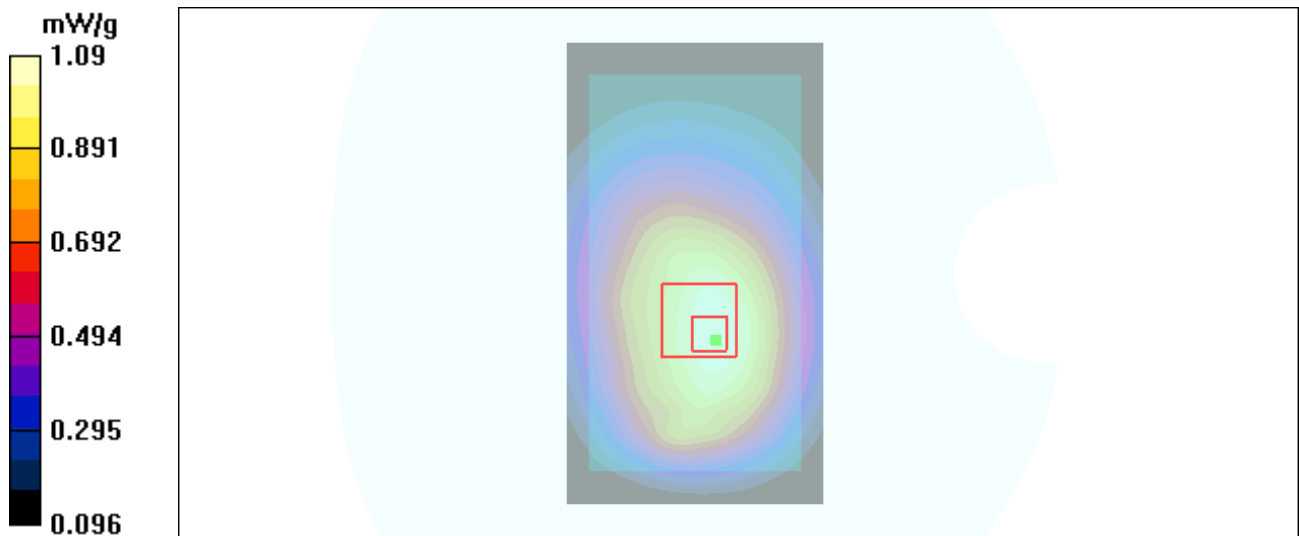


Figure 35 Body, Back Side, GSM 850 EGPRS (4Txslots) Channel 128

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GSM 850 with Stereo Headset 1 Back Side Low (Battery 1)

Date/Time: 4/22/2012 4:22:21 PM

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.972$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.725 mW/g

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

Reference Value = 24.7 V/m; Power Drift = -0.025 dB

Peak SAR (extrapolated) = 0.906 W/kg

SAR(1 g) = 0.669 mW/g; SAR(10 g) = 0.486 mW/g

Maximum value of SAR (measured) = 0.702 mW/g

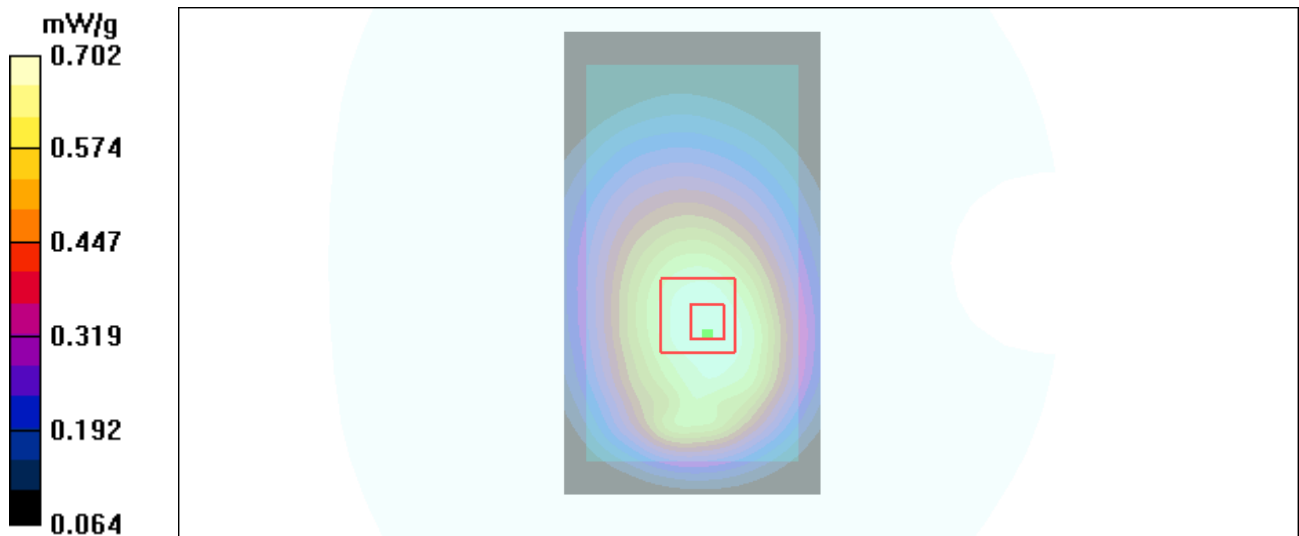


Figure 36 Body with Stereo Headset 1, Back Side, GSM 850 Channel 128

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GSM 850 with Stereo Headset 2 Back Side Low (Battery 1)

Date/Time: 4/22/2012 4:35:01 PM

Communication System: GSM 850; Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.972$ mho/m; $\epsilon_r = 54.4$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.617 mW/g

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

Reference Value = 25.0 V/m; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 0.739 W/kg

SAR(1 g) = 0.586 mW/g; SAR(10 g) = 0.444 mW/g

Maximum value of SAR (measured) = 0.614 mW/g

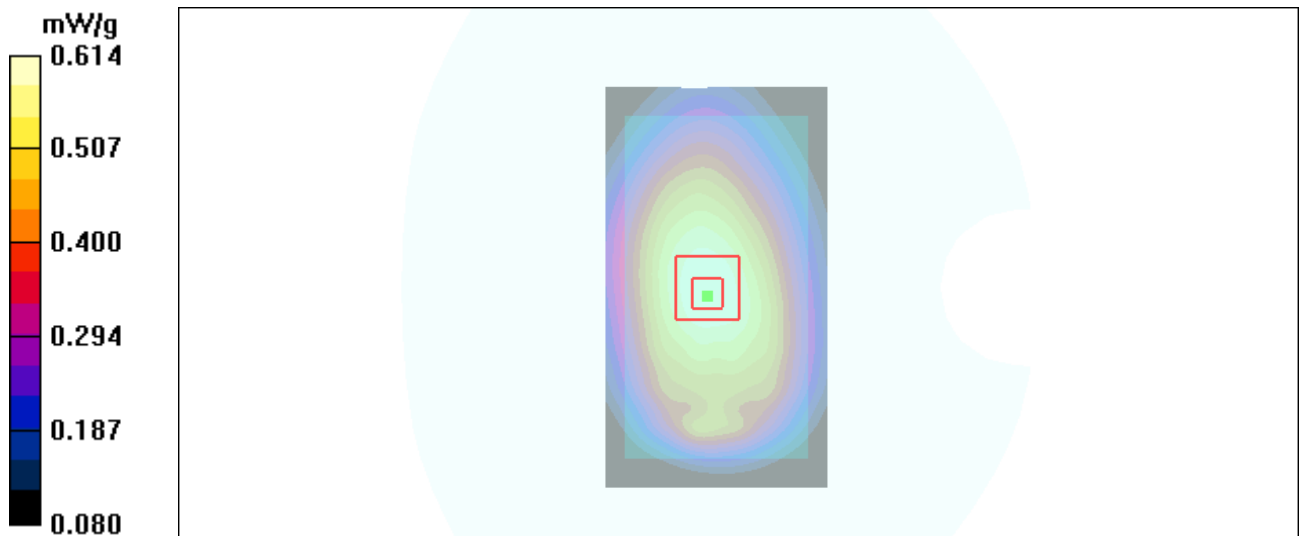


Figure 37 Body with Stereo Headset 2, Back Side, GSM 850 Channel 128

GSM 1900 Left Cheek High (Battery 1)

Date/Time: 4/22/2012 11:17:04 PM

Communication System: PCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

Phantom: 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.351 mW/g

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

Reference Value = 6.91 V/m; Power Drift = 0.119 dB

Peak SAR (extrapolated) = 0.504 W/kg

SAR(1 g) = 0.316 mW/g; SAR(10 g) = 0.182 mW/g

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

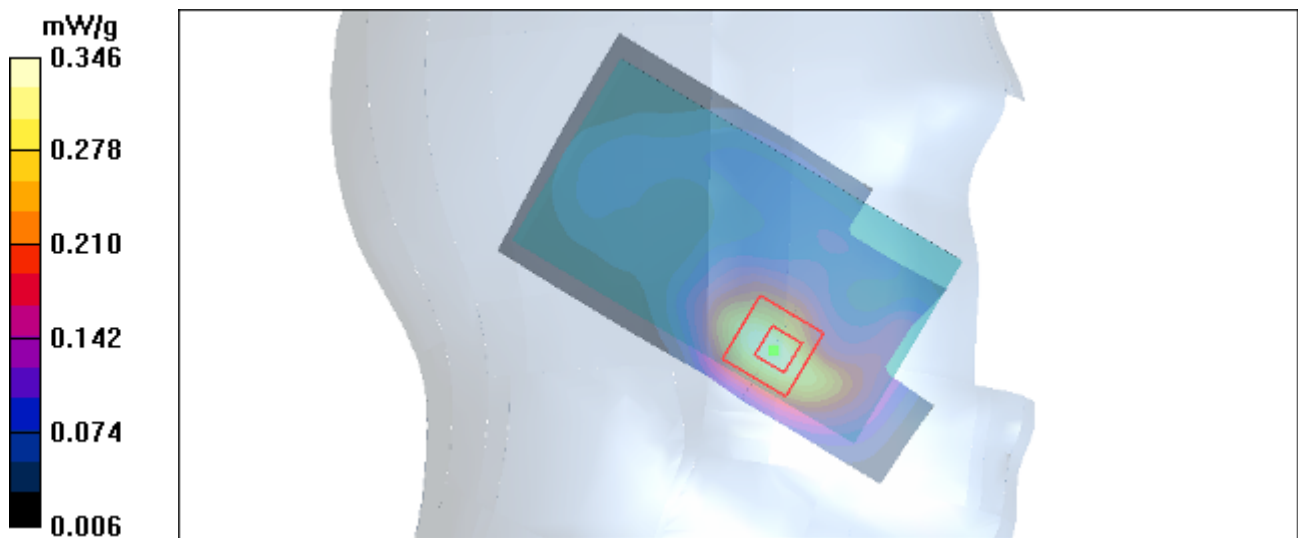


Figure 38 Left Hand Touch Cheek GSM 1900 Channel 810

GSM 1900 Left Cheek Middle (Battery 1)

Date/Time: 4/22/2012 10:50:12 PM

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

Phantom: 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.509 mW/g

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

Reference Value = 8.12 V/m; Power Drift = 0.049 dB

Peak SAR (extrapolated) = 0.713 W/kg

SAR(1 g) = 0.452 mW/g; SAR(10 g) = 0.263 mW/g

Maximum value of SAR (measured) = 0.498 mW/g

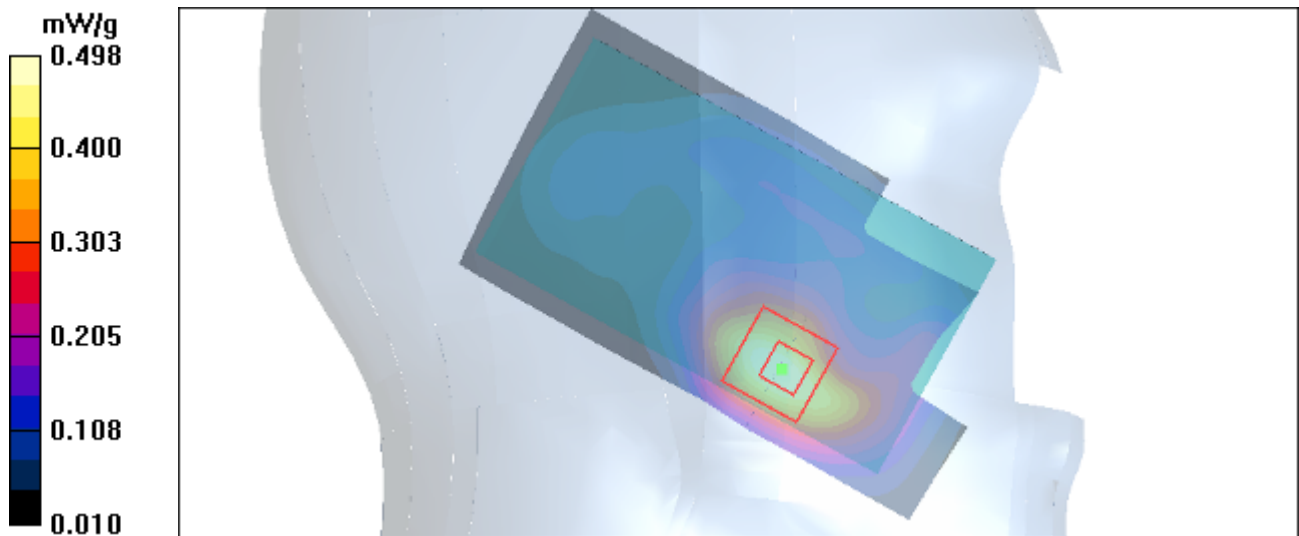


Figure 39 Left Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Left Cheek Low (Battery 1)

Date/Time: 4/22/2012 11:03:53 PM

Communication System: PCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 41$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

Phantom: 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.525 mW/g

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

Reference Value = 7.88 V/m; Power Drift = 0.101 dB

Peak SAR (extrapolated) = 0.727 W/kg

SAR(1 g) = 0.470 mW/g; SAR(10 g) = 0.276 mW/g

Maximum value of SAR (measured) = 0.513 mW/g

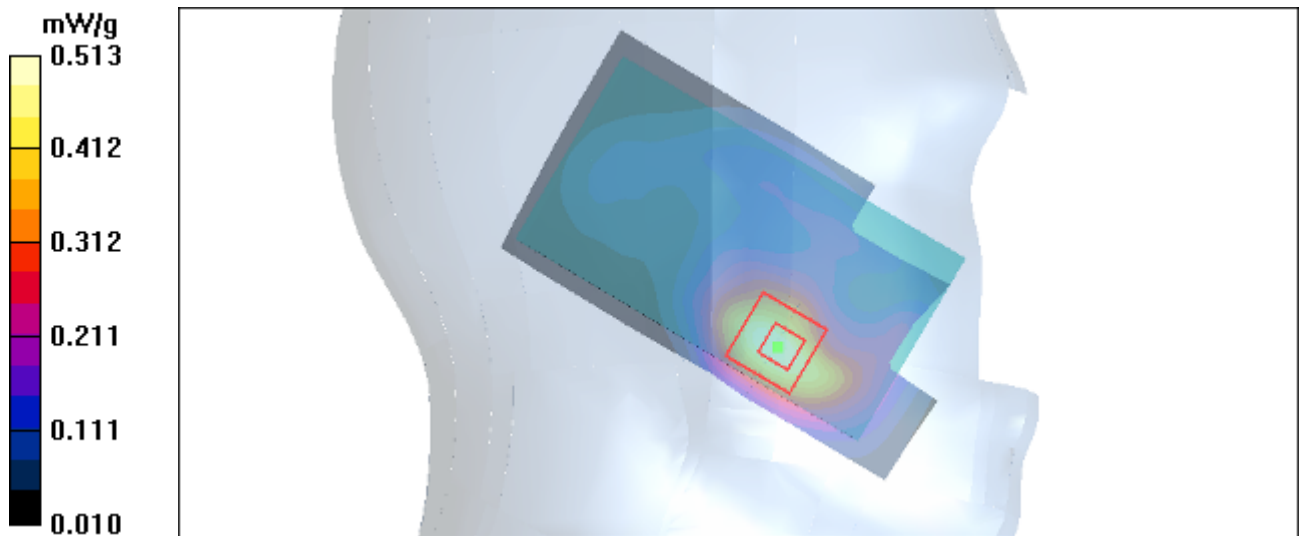


Figure 40 Left Hand Touch Cheek GSM 1900 Channel 512

GSM 1900 Left Tilt High (Battery 1)

Date/Time: 4/22/2012 11:31:41 PM

Communication System: PCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

Phantom: 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.134 mW/g

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

Reference Value = 9.53 V/m; Power Drift = 0.123 dB

Peak SAR (extrapolated) = 0.202 W/kg

SAR(1 g) = 0.120 mW/g; SAR(10 g) = 0.067 mW/g

Maximum value of SAR (measured) = 0.130 mW/g

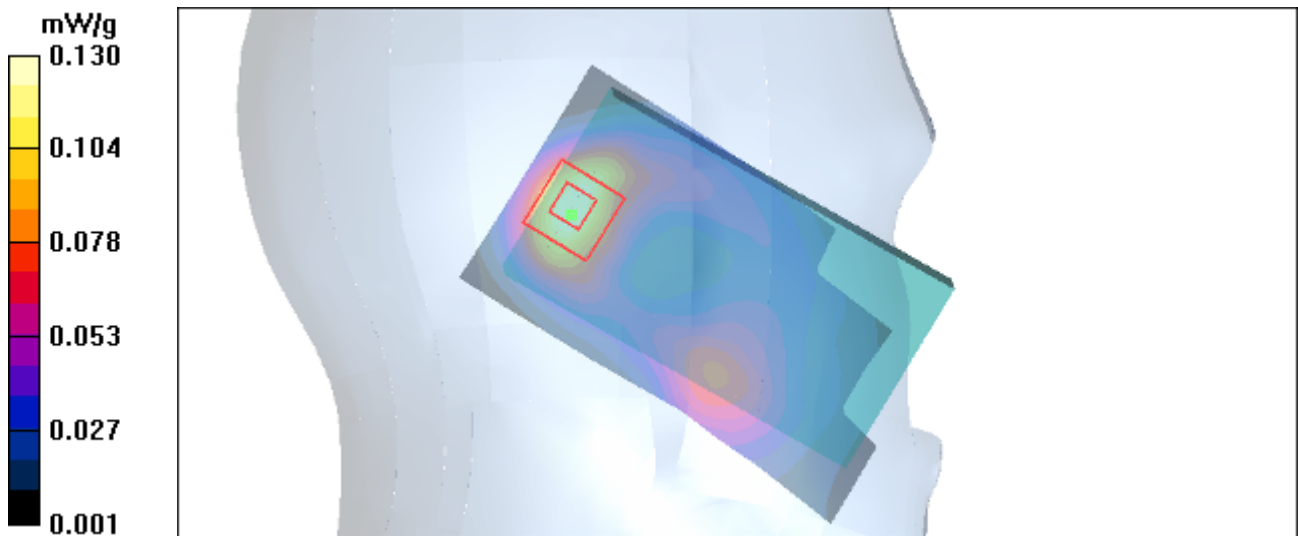


Figure 41 Left Hand Tilt 15° GSM 1900 Channel 810

GSM 1900 Left Tilt Middle (Battery 1)

Date/Time: 4/22/2012 11:58:50 PM

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

Phantom: 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.170 mW/g

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

Reference Value = 10.8 V/m; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 0.249 W/kg

SAR(1 g) = 0.150 mW/g; SAR(10 g) = 0.085 mW/g

Maximum value of SAR (measured) = 0.163 mW/g

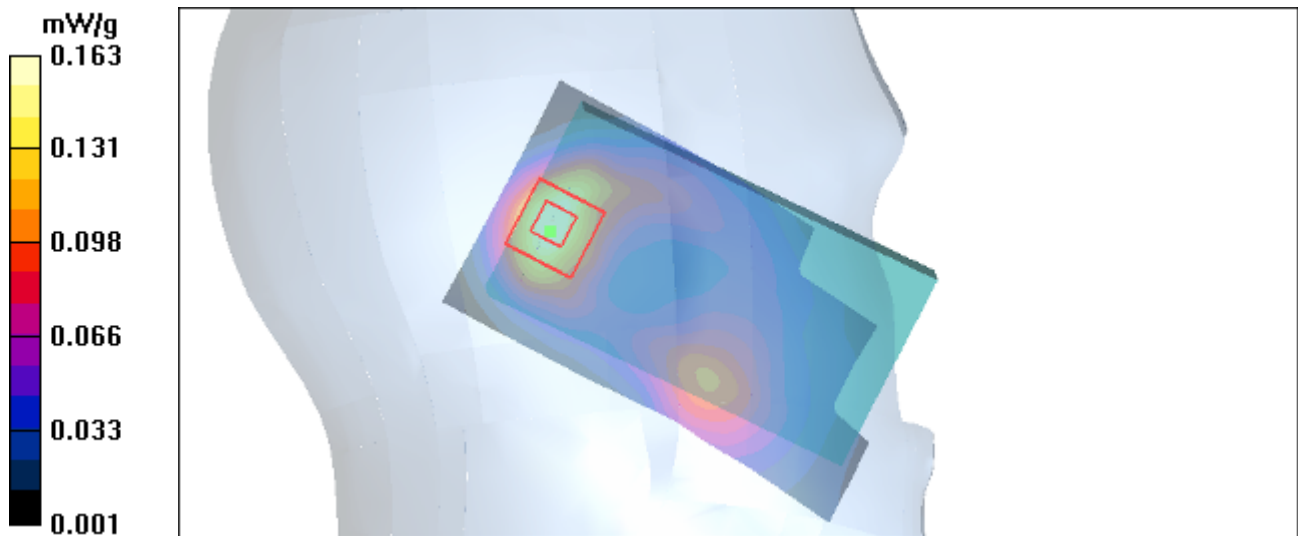


Figure 42 Left Hand Tilt 15° GSM 1900 Channel 661

GSM 1900 Left Tilt Low (Battery 1)

Date/Time: 4/22/2012 11:45:28 PM

Communication System: PCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 41$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

Phantom: 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.170 mW/g

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

Reference Value = 10.9 V/m; Power Drift = 0.015 dB

Peak SAR (extrapolated) = 0.244 W/kg

SAR(1 g) = 0.152 mW/g; SAR(10 g) = 0.088 mW/g

Maximum value of SAR (measured) = 0.167 mW/g

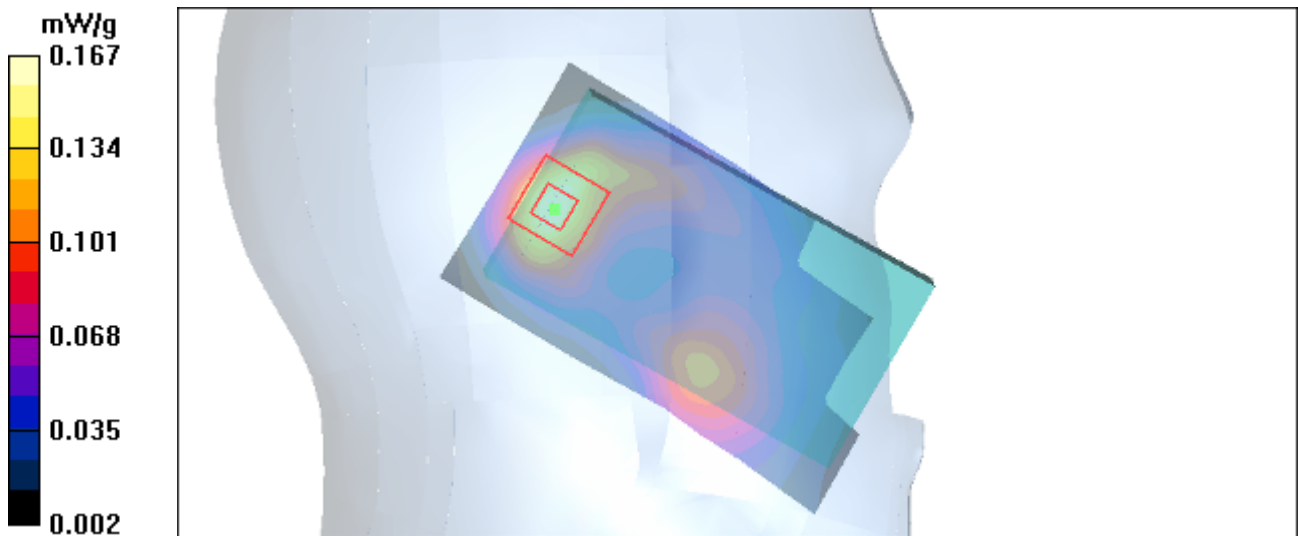


Figure 43 Left Hand Tilt 15° GSM 1900 Channel 512

GSM 1900 Right Cheek High (Battery 1)

Date/Time: 4/23/2012 12:48:35 AM

Communication System: PCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³

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

Phantom section: Right Section

DASY4 Configuration:

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

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

Phantom: 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.234 mW/g

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

Reference Value = 6.21 V/m; Power Drift = 0.076 dB

Peak SAR (extrapolated) = 0.321 W/kg

SAR(1 g) = 0.205 mW/g; SAR(10 g) = 0.126 mW/g

Maximum value of SAR (measured) = 0.220 mW/g

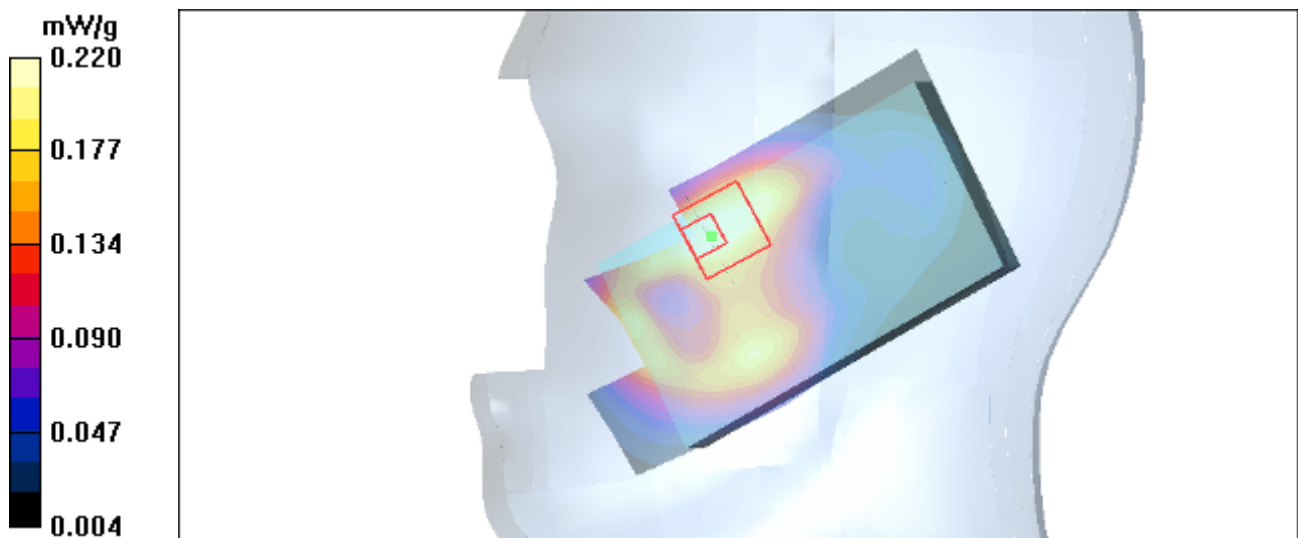


Figure 44 Right Hand Touch Cheek GSM 1900 Channel 810

GSM 1900 Right Cheek Middle (Battery 1)

Date/Time: 4/23/2012 12:18:41 AM

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

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

Phantom section: Right Section

DASY4 Configuration:

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

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

Phantom: 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.348 mW/g

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

Reference Value = 7.73 V/m; Power Drift = 0.163 dB

Peak SAR (extrapolated) = 0.470 W/kg

SAR(1 g) = 0.304 mW/g; SAR(10 g) = 0.189 mW/g

Maximum value of SAR (measured) = 0.328 mW/g

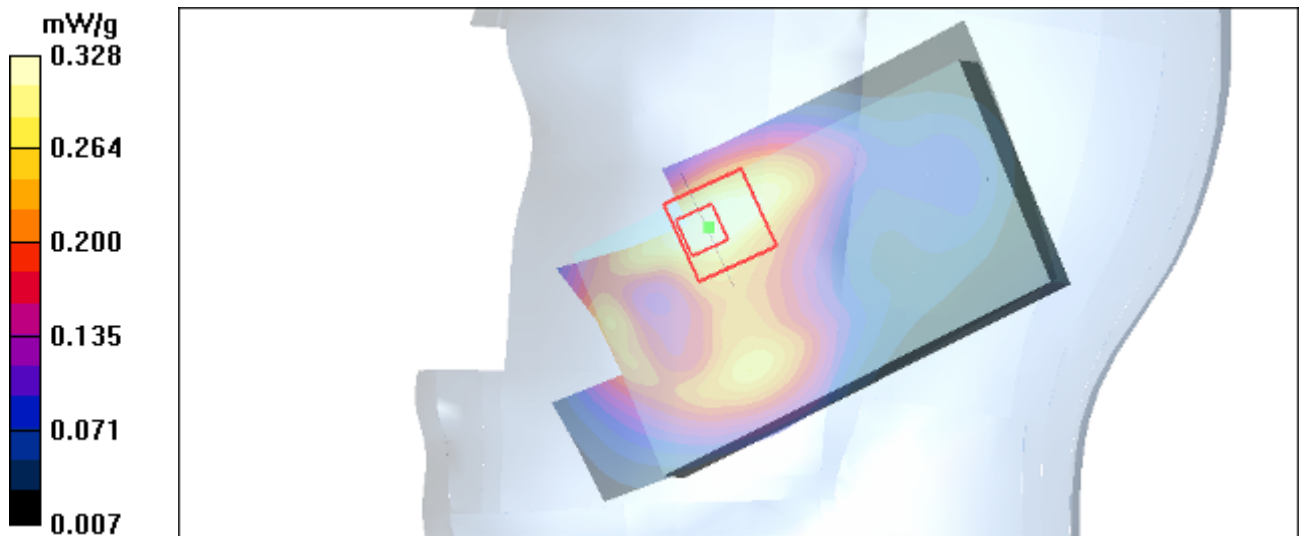


Figure 45 Right Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Right Cheek Low (Battery 1)

Date/Time: 4/23/2012 12:35:21 AM

Communication System: PCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 41$; $\rho = 1000$ kg/m³

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

Phantom section: Right Section

DASY4 Configuration:

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

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

Phantom: 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.352 mW/g

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

Reference Value = 7.32 V/m; Power Drift = 0.081 dB

Peak SAR (extrapolated) = 0.472 W/kg

SAR(1 g) = 0.306 mW/g; SAR(10 g) = 0.190 mW/g

Maximum value of SAR (measured) = 0.333 mW/g

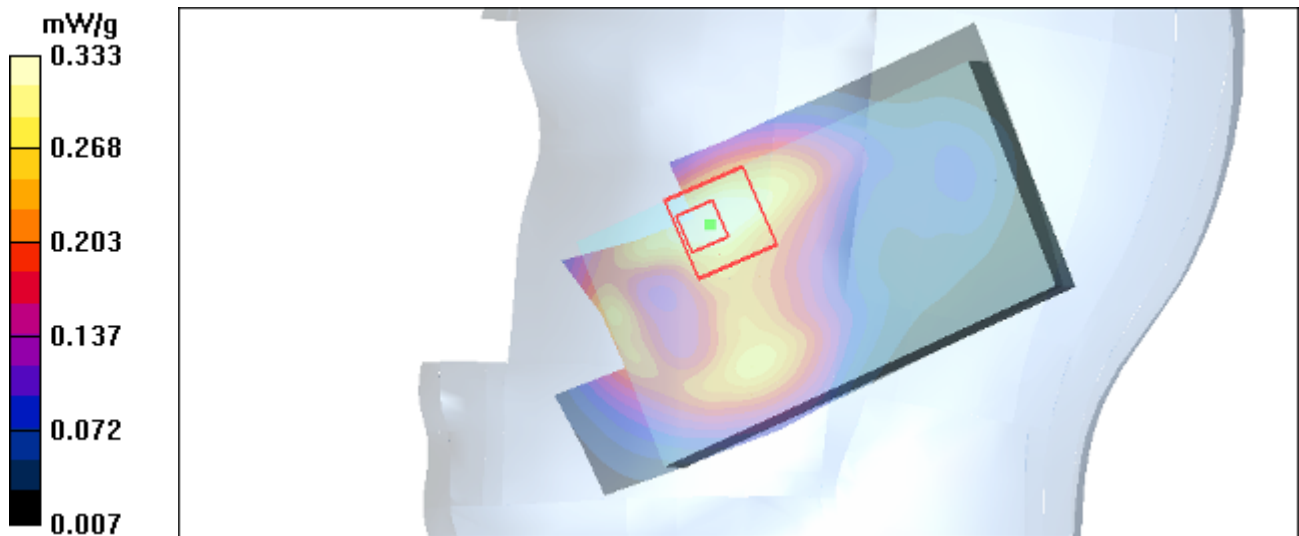


Figure 46 Right Hand Touch Cheek GSM 1900 Channel 512

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GSM 1900 Right Tilt High (Battery 1)

Date/Time: 4/23/2012 1:06:08 AM

Communication System: PCS 1900; Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³

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

Phantom section: Right Section

DASY4 Configuration:

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

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

Phantom: 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.141 mW/g

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

Reference Value = 9.40 V/m; Power Drift = -0.146 dB

Peak SAR (extrapolated) = 0.202 W/kg

SAR(1 g) = 0.121 mW/g; SAR(10 g) = 0.069 mW/g

Maximum value of SAR (measured) = 0.135 mW/g

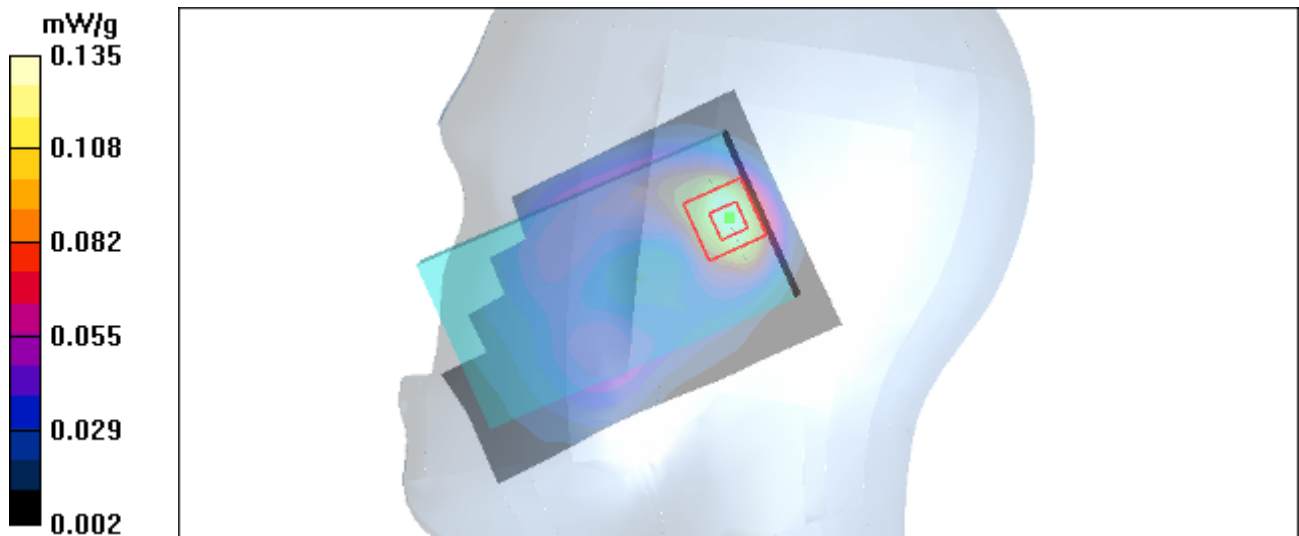


Figure 47 Right Hand Tilt 15° GSM 1900 Channel 810

GSM 1900 Right Tilt Middle (Battery 1)

Date/Time: 4/23/2012 1:36:50 AM

Communication System: PCS 1900; Frequency: 1880 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

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

Phantom section: Right Section

DASY4 Configuration:

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

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

Phantom: 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 10.6 V/m; Power Drift = 0.034 dB

Peak SAR (extrapolated) = 0.263 W/kg

SAR(1 g) = 0.160 mW/g; SAR(10 g) = 0.091 mW/g

Maximum value of SAR (measured) = 0.177 mW/g

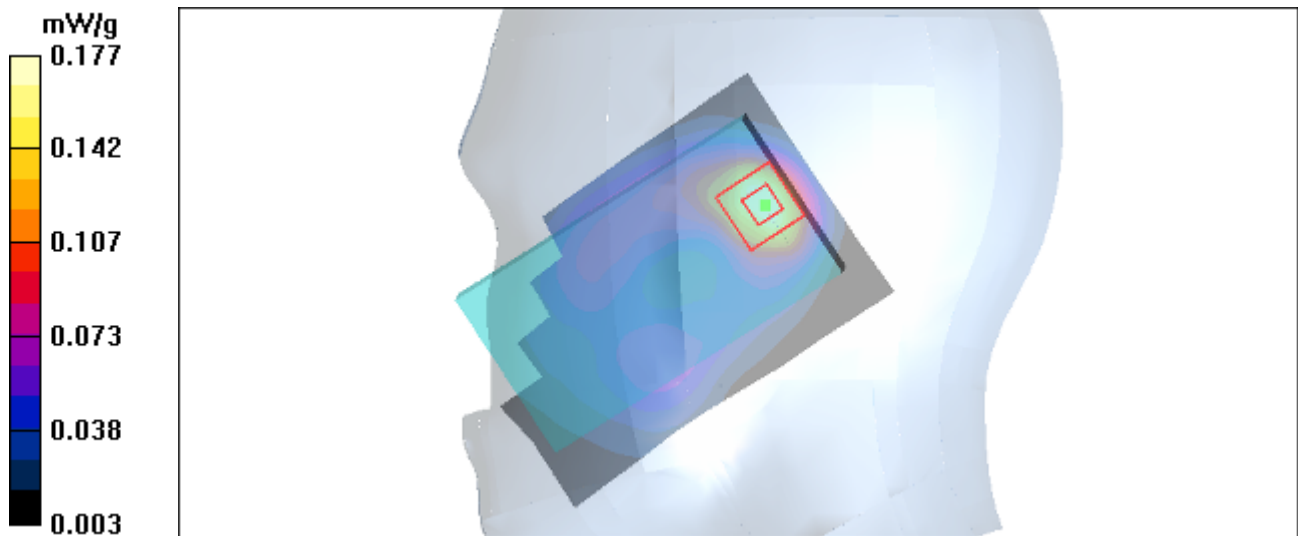


Figure 48 Right Hand Tilt 15° GSM 1900 Channel 661

GSM 1900 Right Tilt Low (Battery 1)

Date/Time: 4/23/2012 1:23:00 AM

Communication System: PCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 41$; $\rho = 1000$ kg/m³

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

Phantom section: Right Section

DASY4 Configuration:

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

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

Phantom: 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.193 mW/g

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

Reference Value = 11.1 V/m; Power Drift = -0.072 dB

Peak SAR (extrapolated) = 0.272 W/kg

SAR(1 g) = 0.167 mW/g; SAR(10 g) = 0.097 mW/g

Maximum value of SAR (measured) = 0.183 mW/g

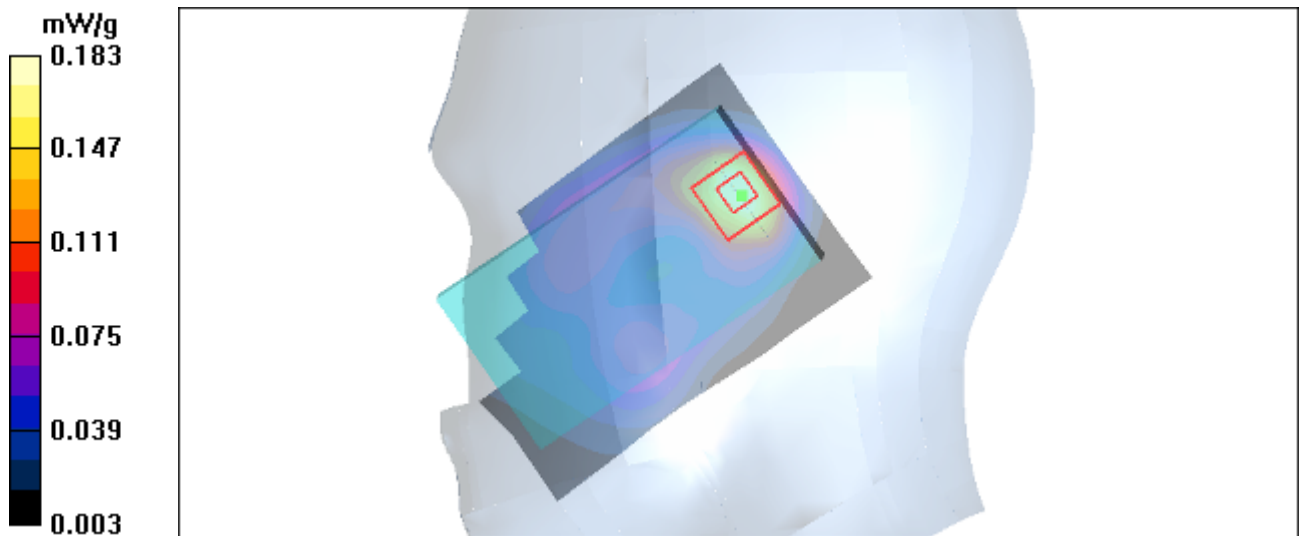


Figure 49 Right Hand Tilt 15° GSM 1900 Channel 512

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GSM 1900 GPRS (4Txslots) Back Side High (Battery 1)

Date/Time: 4/21/2012 12:47:30 PM

Communication System: PCS 1900+GPRS(4Up); Frequency: 1909.8 MHz; Duty Cycle: 1:2.075

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.392 mW/g

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

Reference Value = 7.56 V/m; Power Drift = -0.004 dB

Peak SAR (extrapolated) = 0.546 W/kg

SAR(1 g) = 0.333 mW/g; SAR(10 g) = 0.197 mW/g

Maximum value of SAR (measured) = 0.351 mW/g

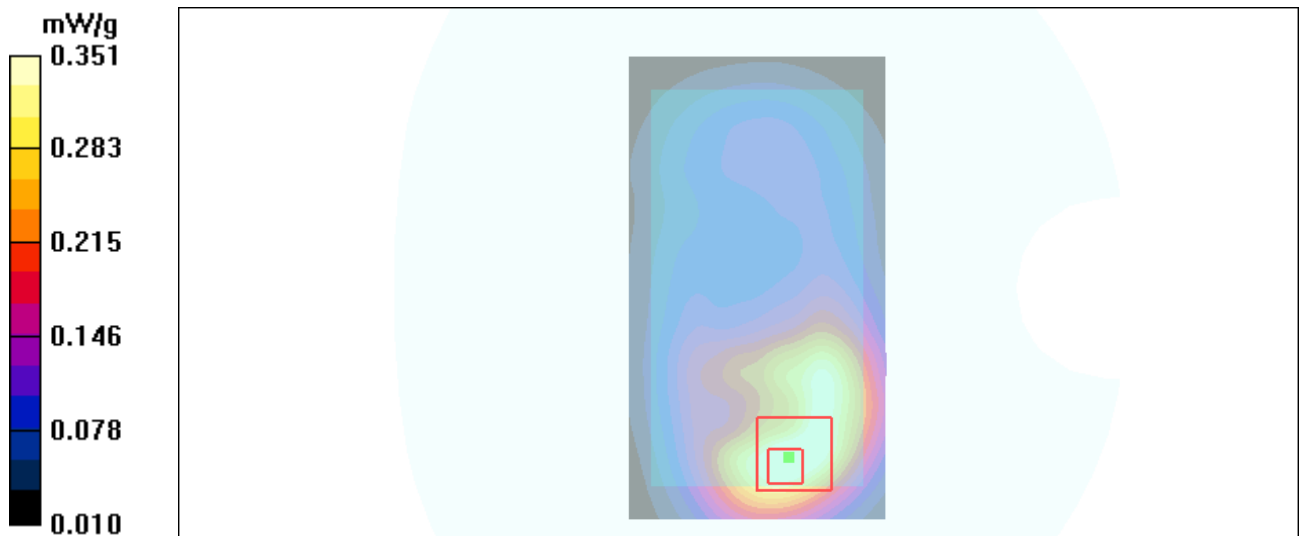


Figure 50 Body, Back Side, GSM 1900 GPRS (4Txslots) Channel 810

GSM 1900 GPRS (4Txslots) Back Side Middle (Battery 1)

Date/Time: 4/22/2012 11:34:54 AM

Communication System: PCS 1900+GPRS(4Up); Frequency: 1880 MHz; Duty Cycle: 1:2.075

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

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

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

Reference Value = 9.32 V/m; Power Drift = 0.010 dB

Peak SAR (extrapolated) = 0.835 W/kg

SAR(1 g) = 0.489 mW/g; SAR(10 g) = 0.289 mW/g

Maximum value of SAR (measured) = 0.555 mW/g

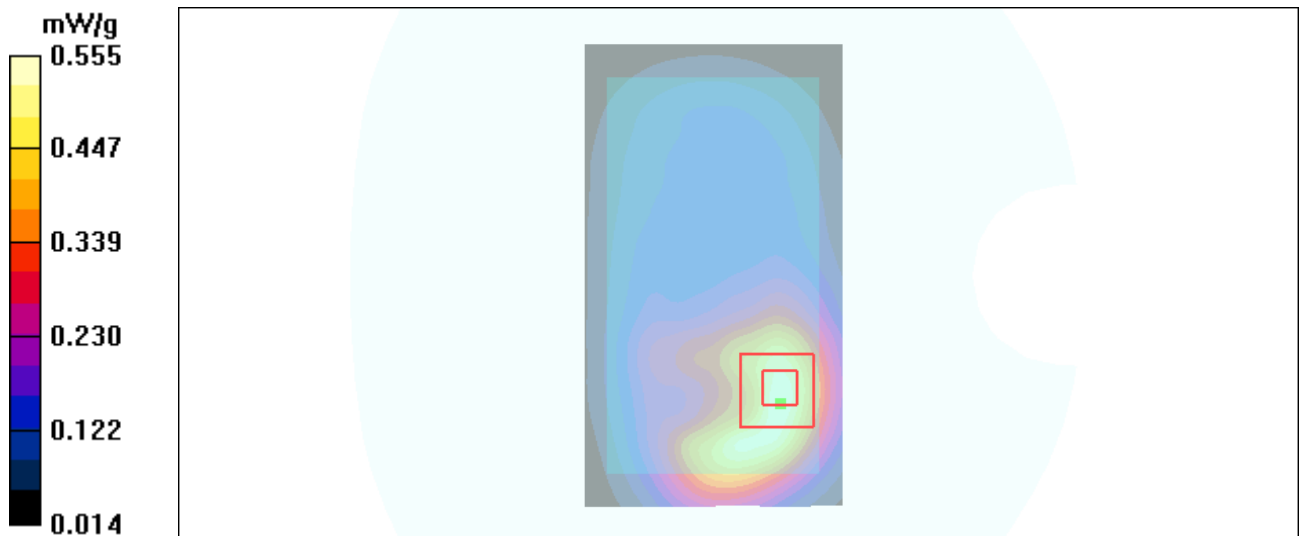


Figure 51 Body, Back Side, GSM 1900 GPRS (4Txslots) Channel 661

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GSM 1900 GPRS (4Txslots) Back Side Low (Battery 1)

Date/Time: 4/22/2012 11:14:49 AM

Communication System: PCS 1900+GPRS(4Up); Frequency: 1850.2 MHz; Duty Cycle: 1:2.075

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 1.08 mW/g

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

Reference Value = 14.7 V/m; Power Drift = 0.030 dB

Peak SAR (extrapolated) = 1.48 W/kg

SAR(1 g) = 0.910 mW/g; SAR(10 g) = 0.542 mW/g

Maximum value of SAR (measured) = 0.977 mW/g

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

Reference Value = 14.7 V/m; Power Drift = 0.030 dB

Peak SAR (extrapolated) = 1.57 W/kg

SAR(1 g) = 0.953 mW/g; SAR(10 g) = 0.550 mW/g

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

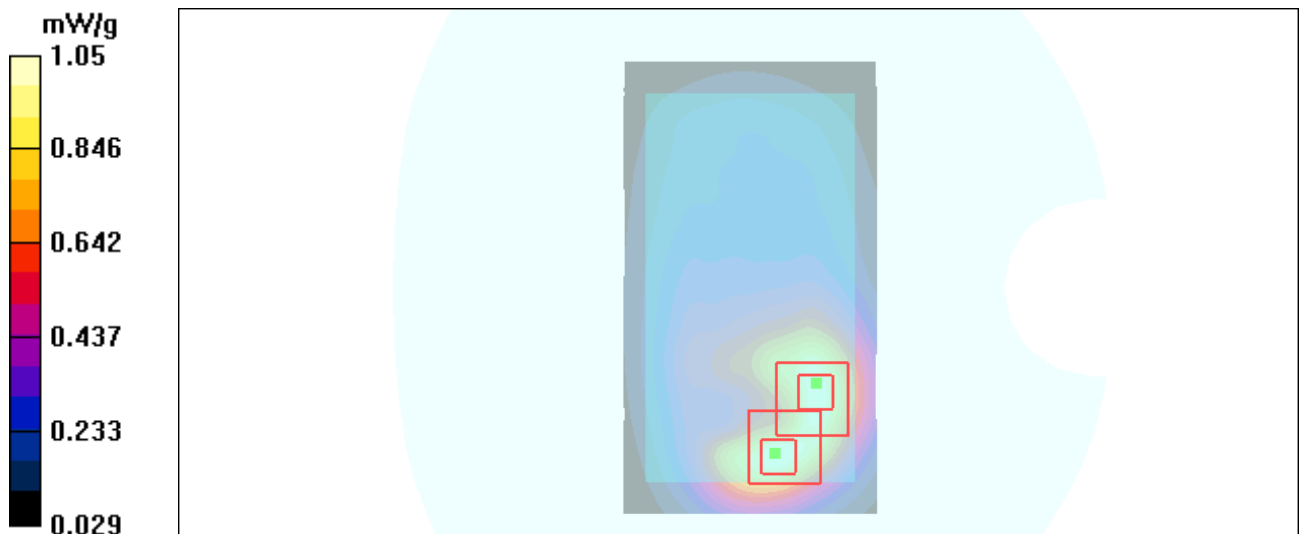


Figure 52 Body, Back Side, GSM 1900 GPRS (4Txslots) Channel 512

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GSM 1900 GPRS (4Txslots) Front Side High (Battery 1)

Date/Time: 4/21/2012 1:02:19 PM

Communication System: PCS 1900+GPRS(4Up); Frequency: 1909.8 MHz; Duty Cycle: 1:2.075

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.337 mW/g

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

Reference Value = 6.37 V/m; Power Drift = 0.159 dB

Peak SAR (extrapolated) = 0.450 W/kg

SAR(1 g) = 0.285 mW/g; SAR(10 g) = 0.169 mW/g

Maximum value of SAR (measured) = 0.306 mW/g

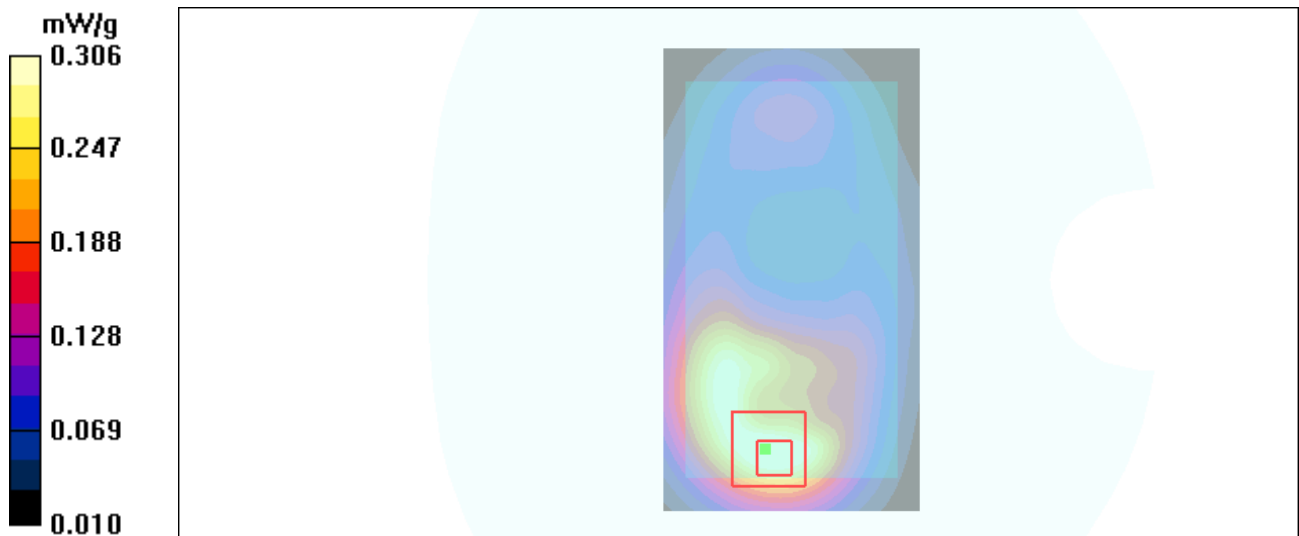


Figure 53 Body, Front Side, GSM 1900 GPRS (4Txslots) Channel 810

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GSM 1900 GPRS (4Txslots) Front Side Middle (Battery 1)

Date/Time: 4/22/2012 10:39:47 AM

Communication System: PCS 1900+GPRS(4Up); Frequency: 1880 MHz; Duty Cycle: 1:2.075

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.555 mW/g

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

Reference Value = 8.33 V/m; Power Drift = -0.129 dB

Peak SAR (extrapolated) = 0.854 W/kg

SAR(1 g) = 0.492 mW/g; SAR(10 g) = 0.288 mW/g

Maximum value of SAR (measured) = 0.549 mW/g

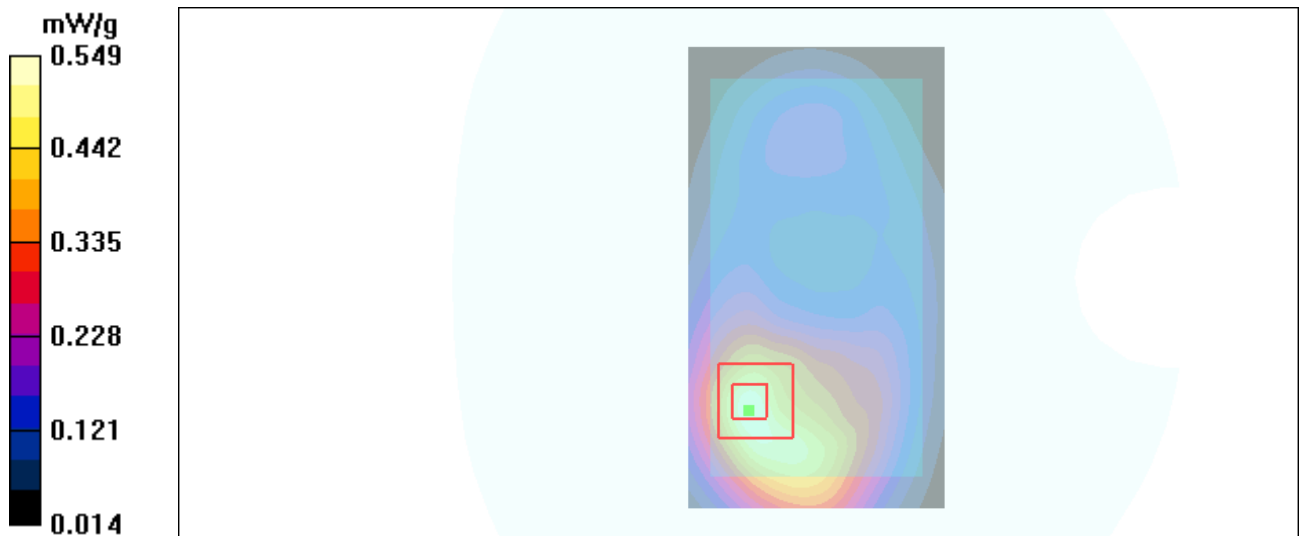


Figure 54 Body, Front Side, GSM 1900 GPRS (4Txslots) Channel 661

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GSM 1900 GPRS (4Txslots) Front Side Low (Battery 1)

Date/Time: 4/22/2012 10:26:08 AM

Communication System: PCS 1900+GPRS(4Up); Frequency: 1850.2 MHz; Duty Cycle: 1:2.075

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

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

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

Reference Value = 11.8 V/m; Power Drift = -0.038 dB

Peak SAR (extrapolated) = 1.51 W/kg

SAR(1 g) = 0.917 mW/g; SAR(10 g) = 0.532 mW/g

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

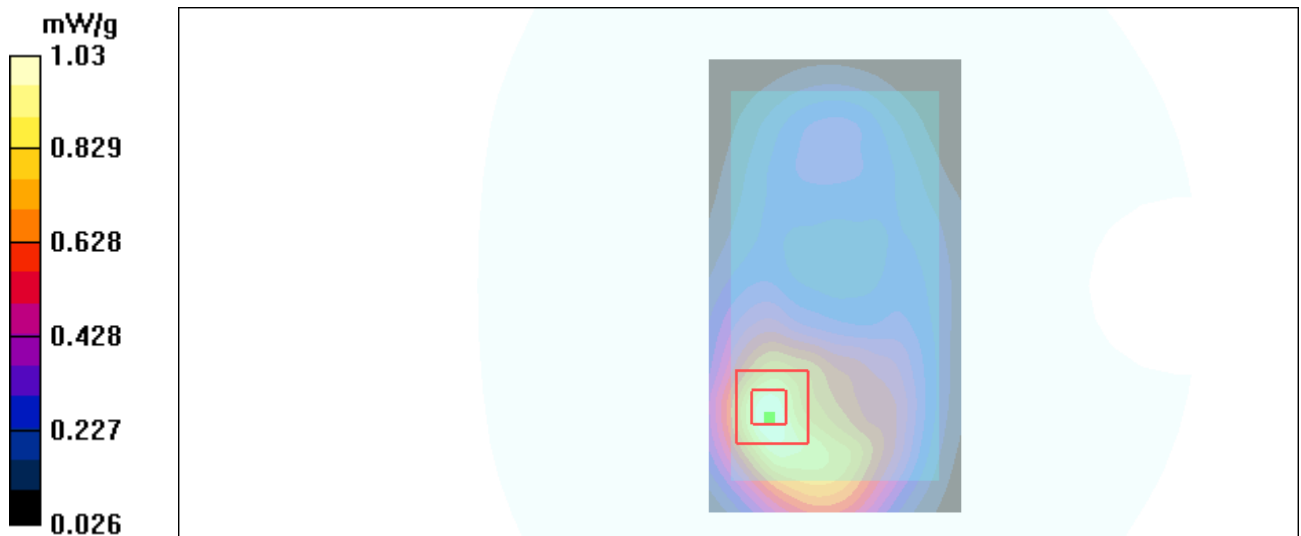


Figure 55 Body, Front Side, GSM 1900 GPRS (4Txslots) Channel 512

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GSM 1900 GPRS (4Txslots) Left Edge Low (Battery 1)

Date/Time: 4/22/2012 10:07:10 AM

Communication System: PCS 1900+GPRS(4Up); Frequency: 1850.2 MHz; Duty Cycle: 1:2.075

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.359 mW/g

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

Reference Value = 13.6 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 0.554 W/kg

SAR(1 g) = 0.338 mW/g; SAR(10 g) = 0.196 mW/g

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

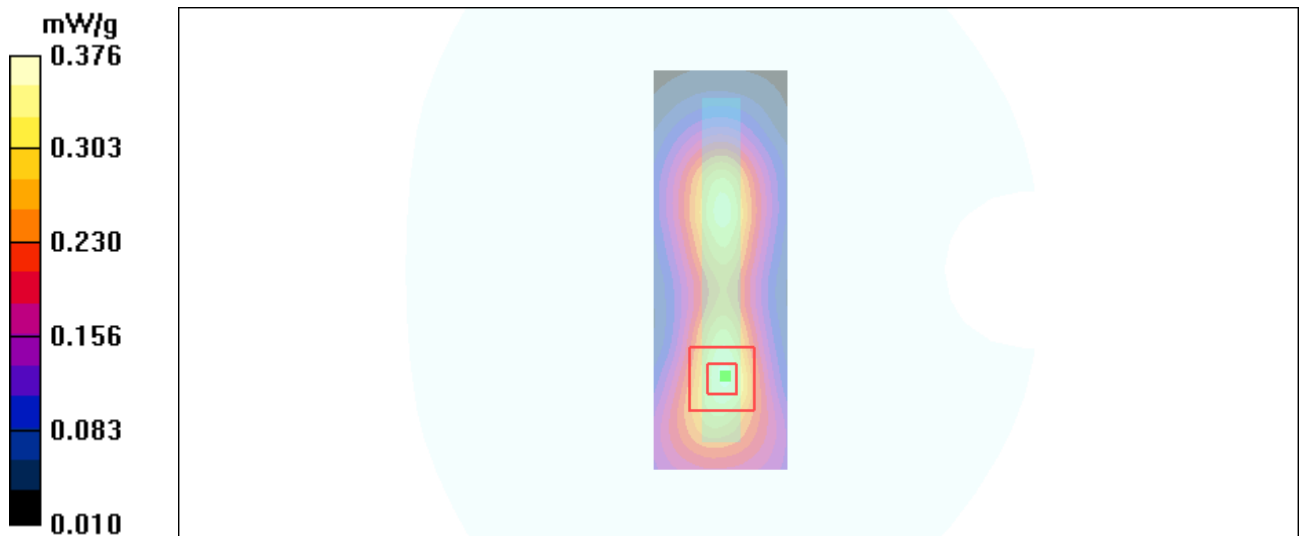


Figure 56 Body, Left Edge, GSM 1900 GPRS (4Txslots) Channel 512

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GSM 1900 GPRS (4Txslots) Right Edge Low (Battery 1)

Date/Time: 4/22/2012 9:54:11 AM

Communication System: PCS 1900+GPRS(4Up); Frequency: 1850.2 MHz; Duty Cycle: 1:2.075

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.166 mW/g

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

Reference Value = 9.87 V/m; Power Drift = -0.117 dB

Peak SAR (extrapolated) = 0.222 W/kg

SAR(1 g) = 0.144 mW/g; SAR(10 g) = 0.086 mW/g

Maximum value of SAR (measured) = 0.160 mW/g

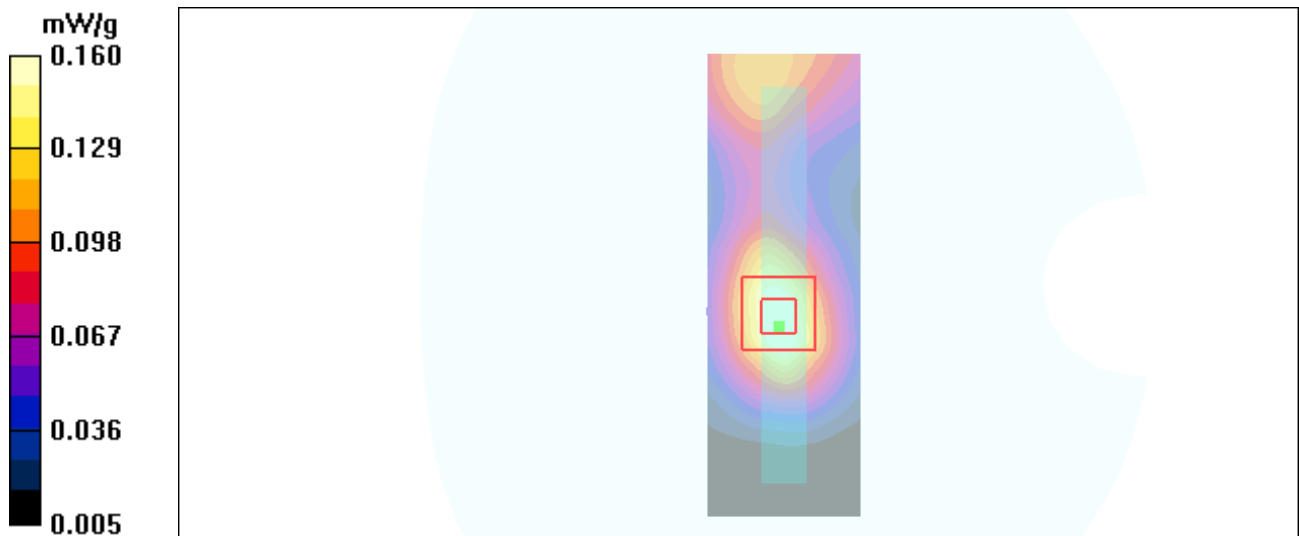


Figure 57 Body, Right Edge, GSM 1900 GPRS (4Txslots) Channel 512

GSM 1900 GPRS (4Txslots) Bottom Edge High (Battery 1)

Date/Time: 4/22/2012 9:06:29 AM

Communication System: PCS 1900+GPRS(4Up); Frequency: 1909.8 MHz; Duty Cycle: 1:2.075

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.524 mW/g

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

Reference Value = 13.6 V/m; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 0.767 W/kg

SAR(1 g) = 0.439 mW/g; SAR(10 g) = 0.246 mW/g

Maximum value of SAR (measured) = 0.451 mW/g

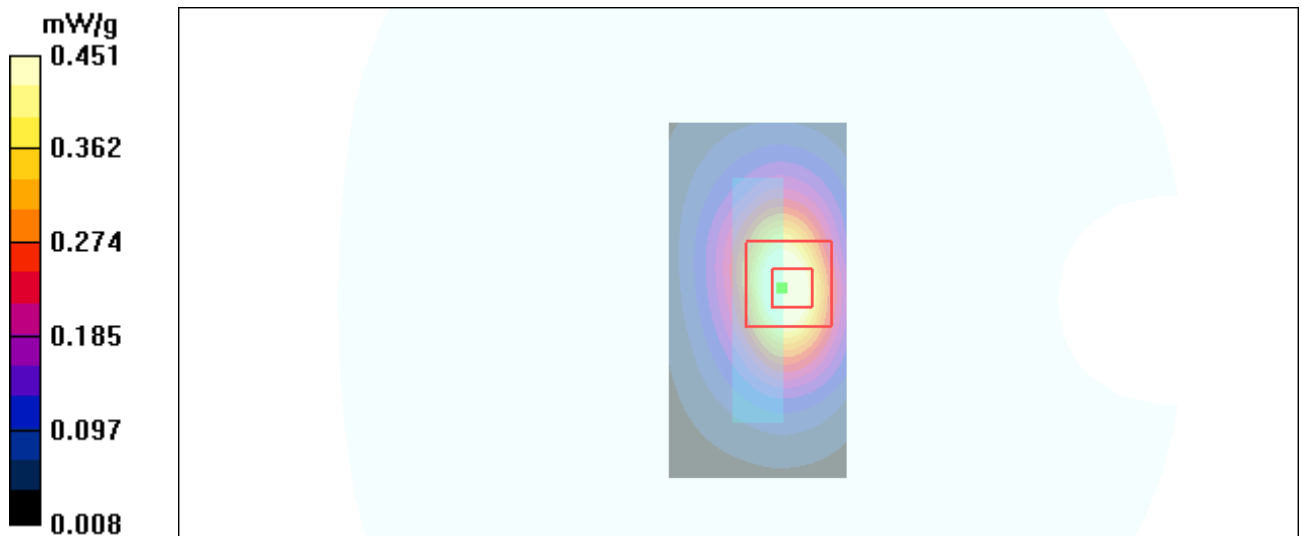


Figure 58 Body, Bottom Edge, GSM 1900 GPRS (4Txslots) Channel 810

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GSM 1900 GPRS (4Txslots) Bottom Edge Middle (Battery 1)

Date/Time: 4/22/2012 9:31:00 AM

Communication System: PCS 1900+GPRS(4Up); Frequency: 1880 MHz; Duty Cycle: 1:2.075

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.741 mW/g

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

Reference Value = 21.5 V/m; Power Drift = 0.036 dB

Peak SAR (extrapolated) = 1.13 W/kg

SAR(1 g) = 0.667 mW/g; SAR(10 g) = 0.364 mW/g

Maximum value of SAR (measured) = 0.748 mW/g

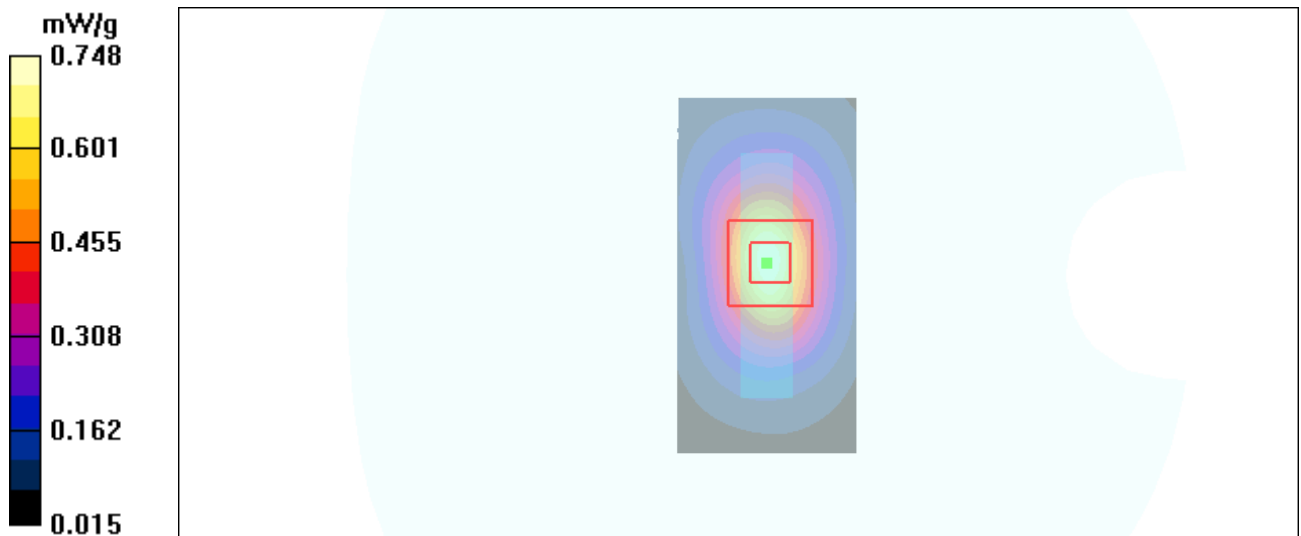


Figure 59 Body, Bottom Edge, GSM 1900 GPRS (4Txslots) Channel 661

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GSM 1900 GPRS (4Txslots) Bottom Edge Low (Battery 1)

Date/Time: 4/22/2012 9:41:45 AM

Communication System: PCS 1900+GPRS(4Up); Frequency: 1850.2 MHz; Duty Cycle: 1:2.075

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 1.25 mW/g

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

Reference Value = 28.5 V/m; Power Drift = -0.043 dB

Peak SAR (extrapolated) = 1.90 W/kg

SAR(1 g) = 1.1 mW/g; SAR(10 g) = 0.605 mW/g

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

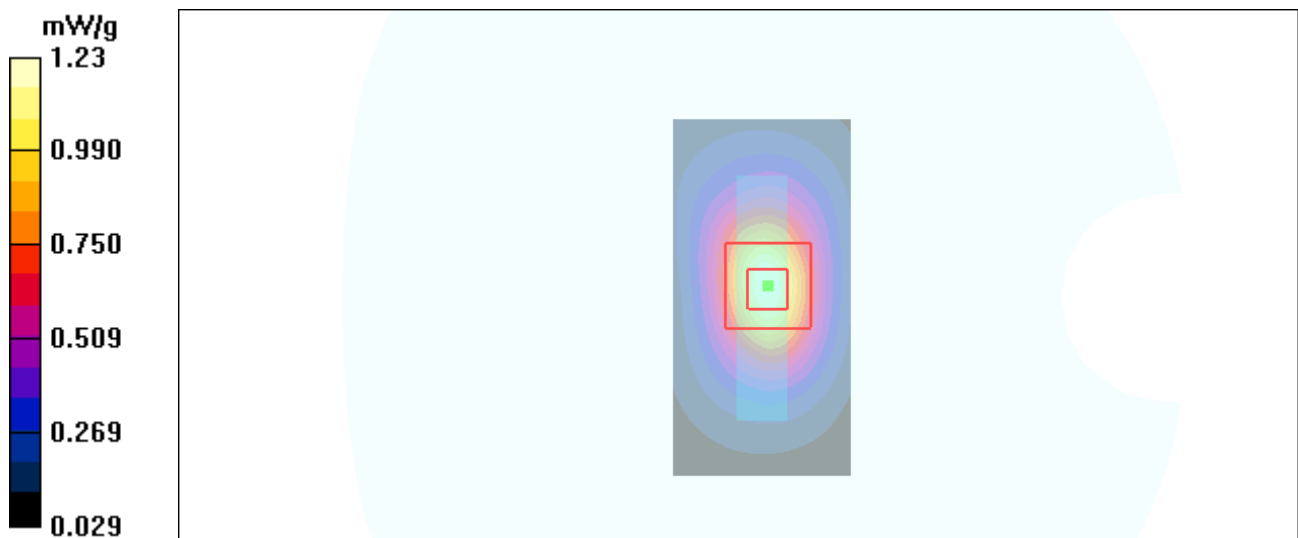


Figure 60 Body, Bottom Edge, GSM 1900 GPRS (4Txslots) Channel 512

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GSM 1900 EGPRS (4Txslots) Bottom Edge Low (Battery 1)

Date/Time: 4/22/2012 11:53:02 AM

Communication System: PCS 1900+EGPRS(4Up); Frequency: 1850.2 MHz; Duty Cycle: 1:2.075

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 1.26 mW/g

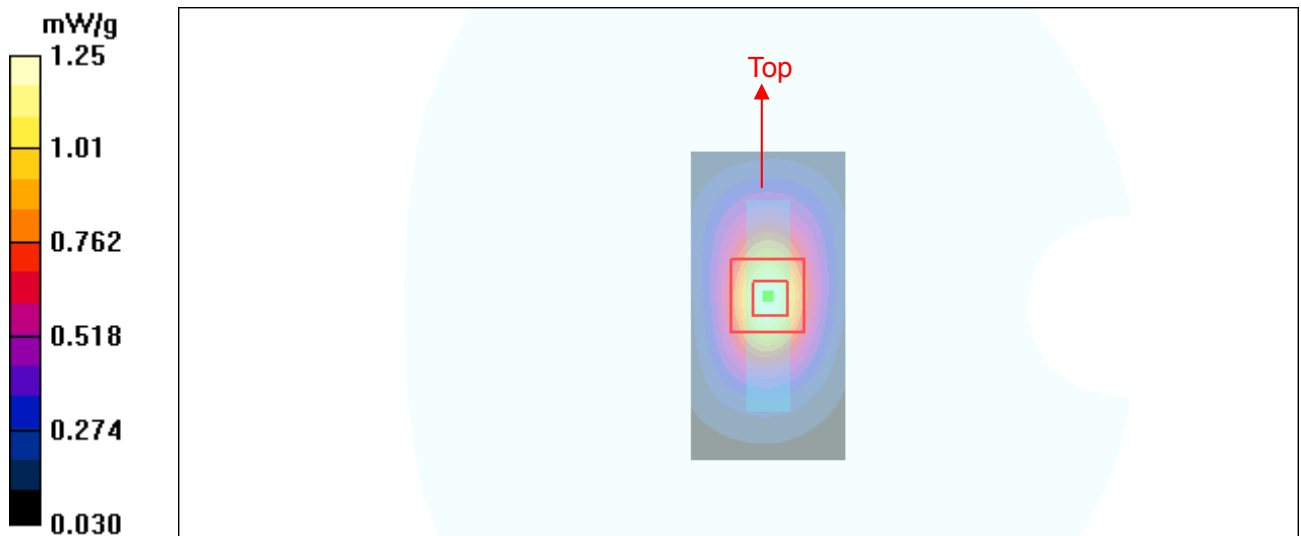
Bottom Edge Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.4 V/m; Power Drift = 0.113 dB

Peak SAR (extrapolated) = 1.95 W/kg

SAR(1 g) = 1.16 mW/g; SAR(10 g) = 0.649 mW/g

Maximum value of SAR (measured) = 1.25 mW/g



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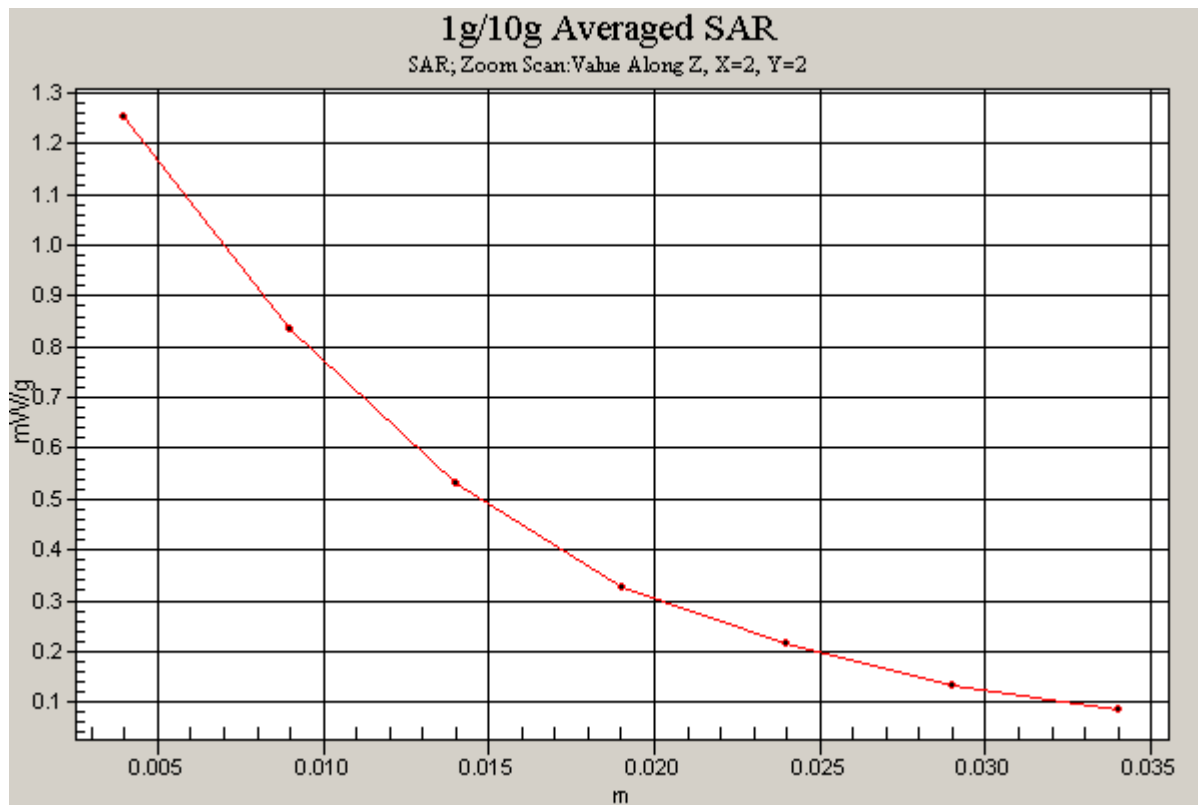


Figure 61 Body, Bottom Edge, GSM 1900 EGPRS (4Txslots) Channel 512

GSM 1900 with Stereo Headset 1 Bottom Edge Low (Battery 1)

Date/Time: 4/22/2012 12:09:17 PM

Communication System: PCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.613 mW/g

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

Reference Value = 20.1 V/m; Power Drift = -0.045 dB

Peak SAR (extrapolated) = 0.915 W/kg

SAR(1 g) = 0.559 mW/g; SAR(10 g) = 0.312 mW/g

Maximum value of SAR (measured) = 0.616 mW/g

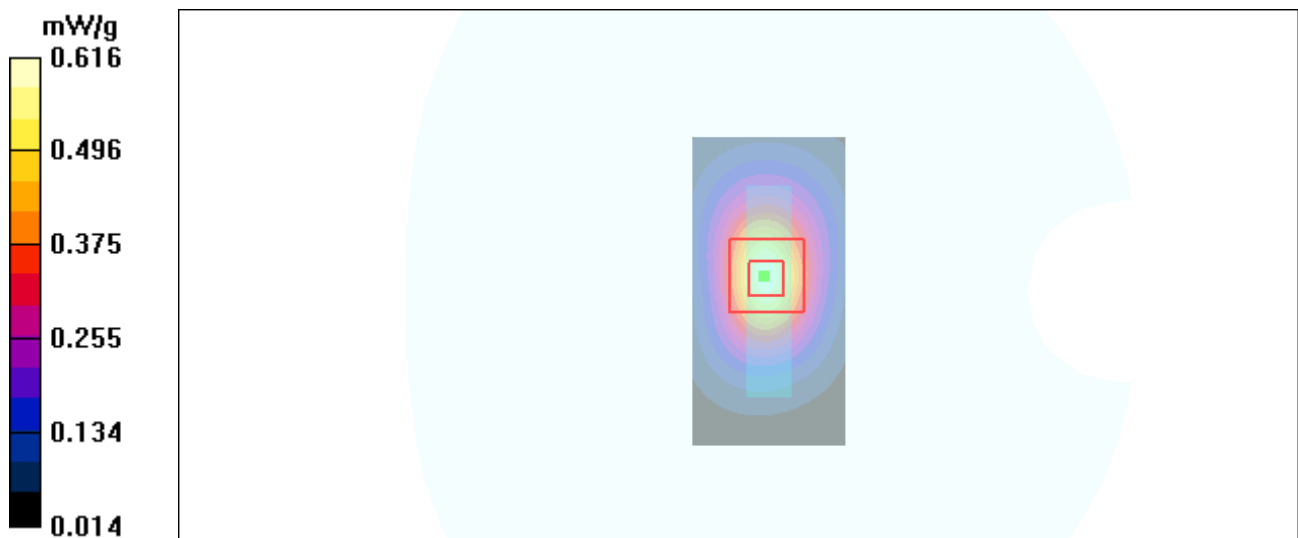


Figure 62 Body with Stereo Headset 1, Bottom Edge, GSM 1900 Channel 512

GSM 1900 with Stereo Headset 2 Bottom Edge Low (Battery 1)

Date/Time: 4/22/2012 12:23:08 PM

Communication System: PCS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

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

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

Reference Value = 19.2 V/m; Power Drift = -0.023 dB

Peak SAR (extrapolated) = 0.843 W/kg

SAR(1 g) = 0.517 mW/g; SAR(10 g) = 0.291 mW/g

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

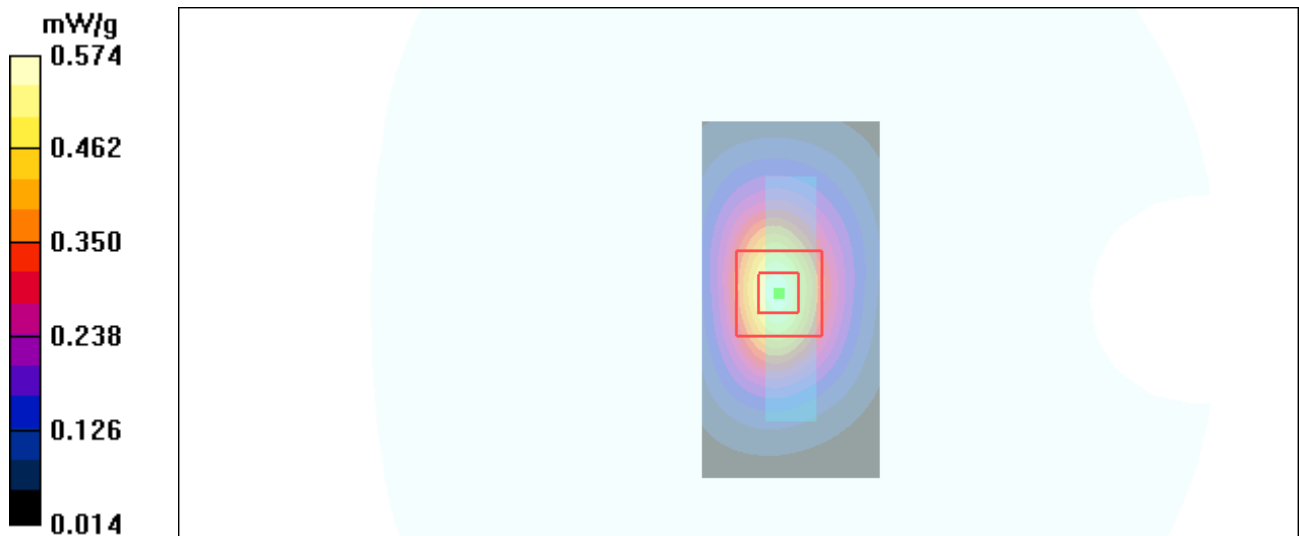


Figure 63 Body with Stereo Headset 2, Bottom Edge, GSM 1900 Channel 512

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GSM 1900 EGPRS (4Txslots) Bottom Edge Low (Battery 2)

Date/Time: 4/22/2012 12:40:35 PM

Communication System: PCS 1900+EGPRS(4Up); Frequency: 1850.2 MHz; Duty Cycle: 1:2.075

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 1.10 mW/g

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

Reference Value = 28.0 V/m; Power Drift = -0.002 dB

Peak SAR (extrapolated) = 1.59 W/kg

SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.584 mW/g

Maximum value of SAR (measured) = 1.17 mW/g

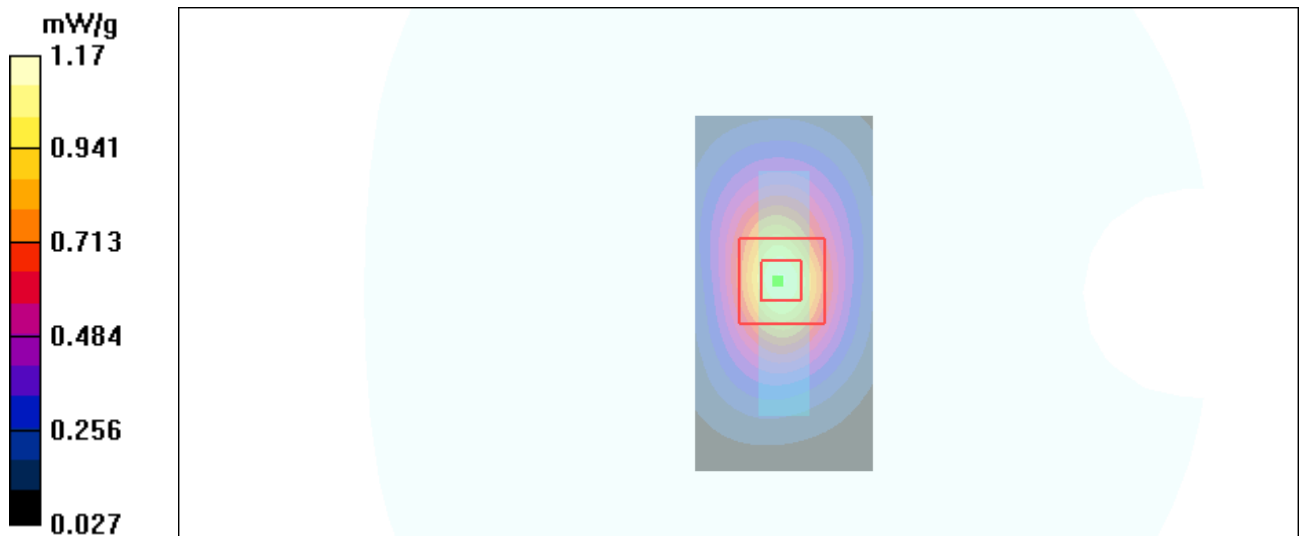


Figure 64 Body, Bottom Edge, GSM 1900 EGPRS (4Txslots) Channel 512

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WCDMA Band II Left Cheek High (Battery 1)

Date/Time: 4/23/2012 4:20:18 AM

Communication System: WCDMA Band II; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1908 \text{ MHz}$; $\sigma = 1.42 \text{ mho/m}$; $\epsilon_r = 40.8$; $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Left Section

DASY4 Configuration:

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

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

Phantom: 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 (51x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

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

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

Reference Value = 9.78 V/m ; Power Drift = 0.089 dB

Peak SAR (extrapolated) = 1.40 W/kg

SAR(1 g) = 0.820 mW/g ; SAR(10 g) = 0.458 mW/g

Maximum value of SAR (measured) = 0.899 mW/g

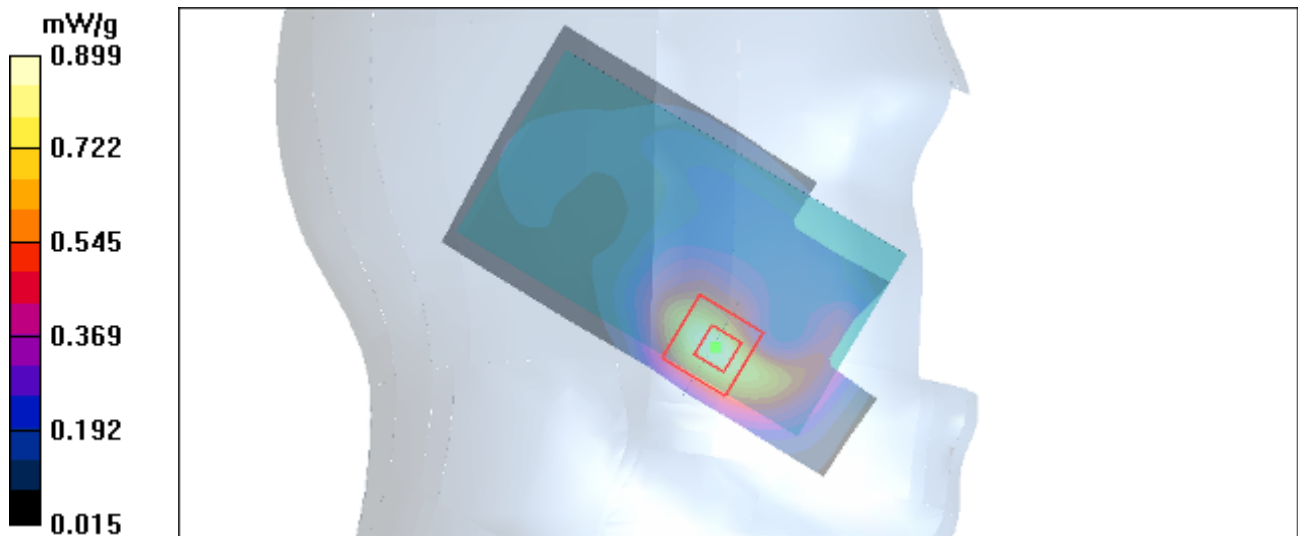


Figure 65 Left Hand Touch Cheek WCDMA Band II Channel 9538

WCDMA Band II Left Cheek Middle (Battery 1)

Date/Time: 4/23/2012 3:51:24 AM

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

Phantom: 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 (51x91x1): 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 = 10.8 V/m; Power Drift = -0.042 dB

Peak SAR (extrapolated) = 1.64 W/kg

SAR(1 g) = 0.991 mW/g; SAR(10 g) = 0.559 mW/g

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

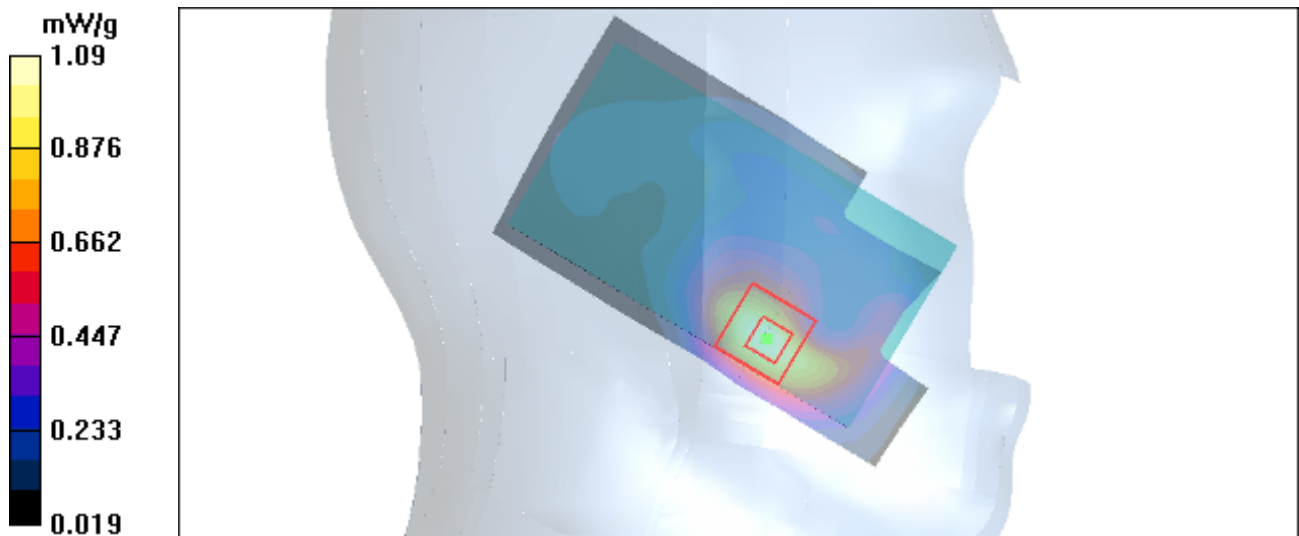


Figure 66 Left Hand Touch Cheek WCDMA Band II Channel 9400

WCDMA Band II Left Cheek Low (Battery 1)

Date/Time: 4/23/2012 4:04:35 AM

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

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 41$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

Phantom: 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.02 mW/g

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

Reference Value = 9.93 V/m; Power Drift = 0.113 dB

Peak SAR (extrapolated) = 1.50 W/kg

SAR(1 g) = 0.905 mW/g; SAR(10 g) = 0.514 mW/g

Maximum value of SAR (measured) = 0.989 mW/g

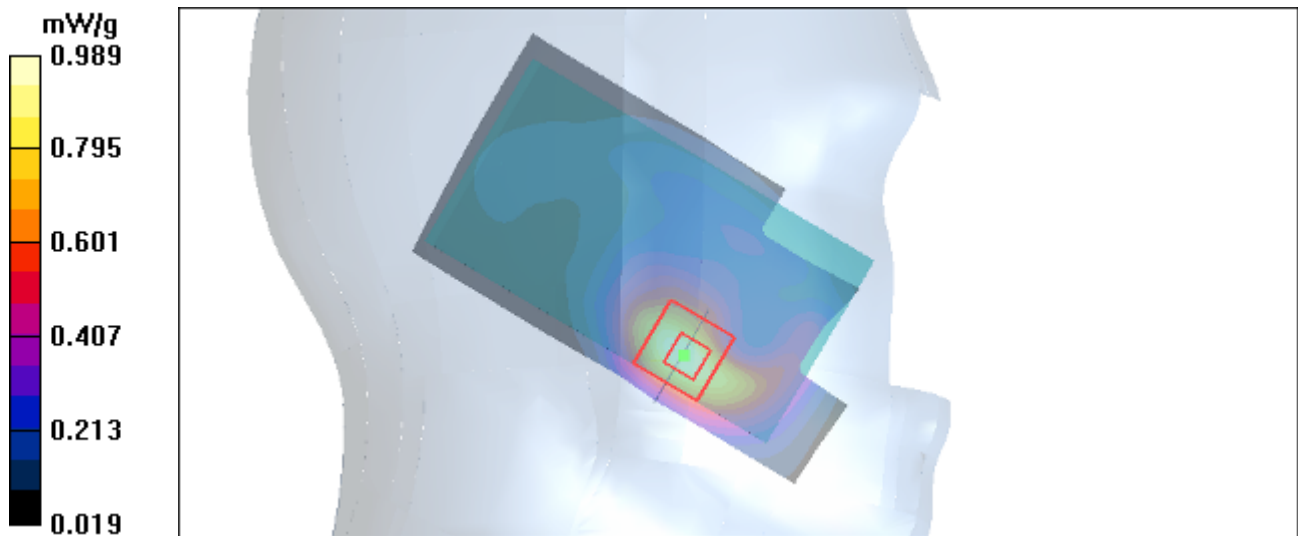


Figure 67 Left Hand Touch Cheek WCDMA Band II Channel 9262

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WCDMA Band II Left Tilt High (Battery 1)

Date/Time: 4/23/2012 5:17:06 AM

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

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 41$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

Phantom: 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.263 mW/g

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

Reference Value = 13.7 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 0.382 W/kg

SAR(1 g) = 0.234 mW/g; SAR(10 g) = 0.134 mW/g

Maximum value of SAR (measured) = 0.257 mW/g

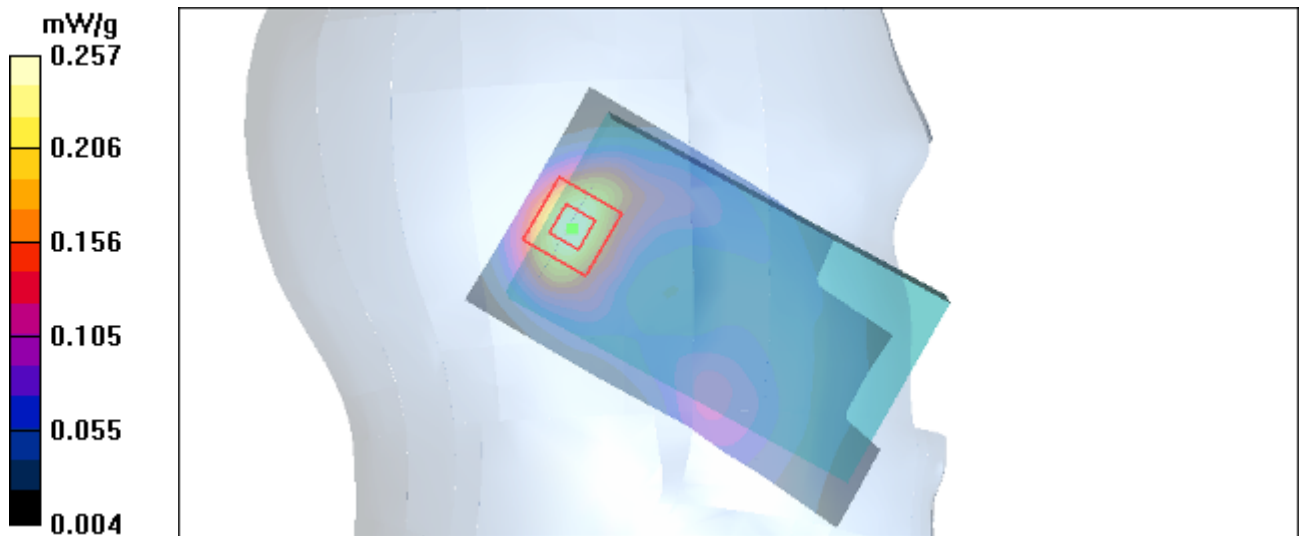


Figure 68 Left Hand Tilt 15° WCDMA Band II Channel 9538

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WCDMA Band II Left Tilt Middle (Battery 1)

Date/Time: 4/23/2012 5:04:36 AM

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

Phantom: 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.296 mW/g

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

Reference Value = 14.4 V/m; Power Drift = 0.044 dB

Peak SAR (extrapolated) = 0.433 W/kg

SAR(1 g) = 0.264 mW/g; SAR(10 g) = 0.149 mW/g

Maximum value of SAR (measured) = 0.291 mW/g

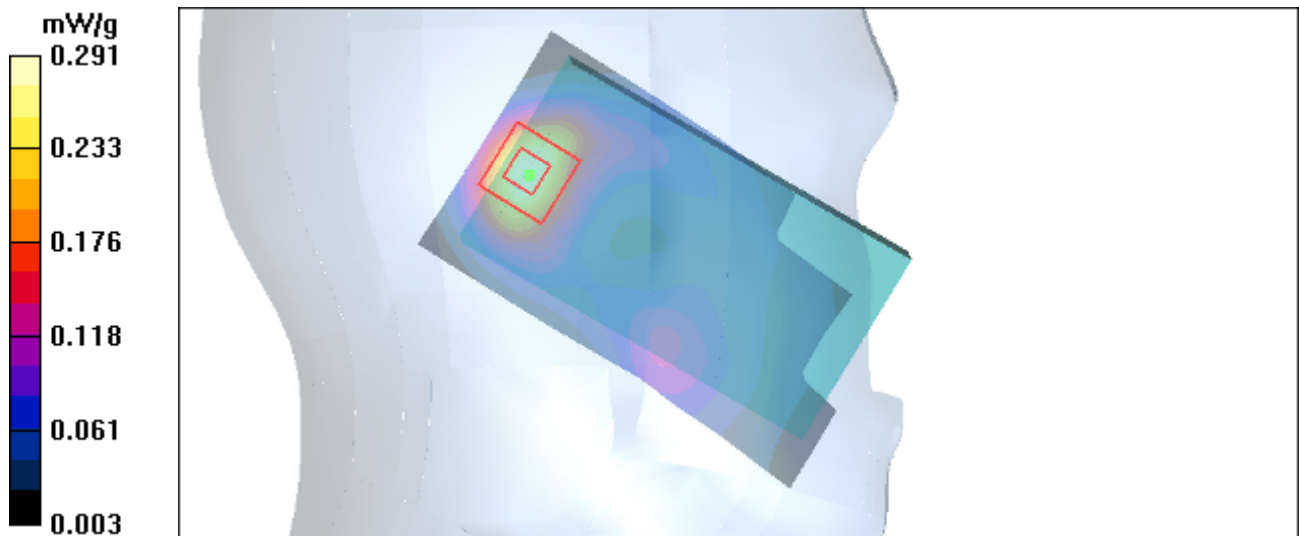


Figure 69 Left Hand Tilt 15° WCDMA Band II Channel 9400

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WCDMA Band II Left Tilt Low (Battery 1)

Date/Time: 4/23/2012 4:52:16 AM

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

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 41$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

Phantom: 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.262 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 = 0.059 dB

Peak SAR (extrapolated) = 0.380 W/kg

SAR(1 g) = 0.233 mW/g; SAR(10 g) = 0.134 mW/g

Maximum value of SAR (measured) = 0.253 mW/g

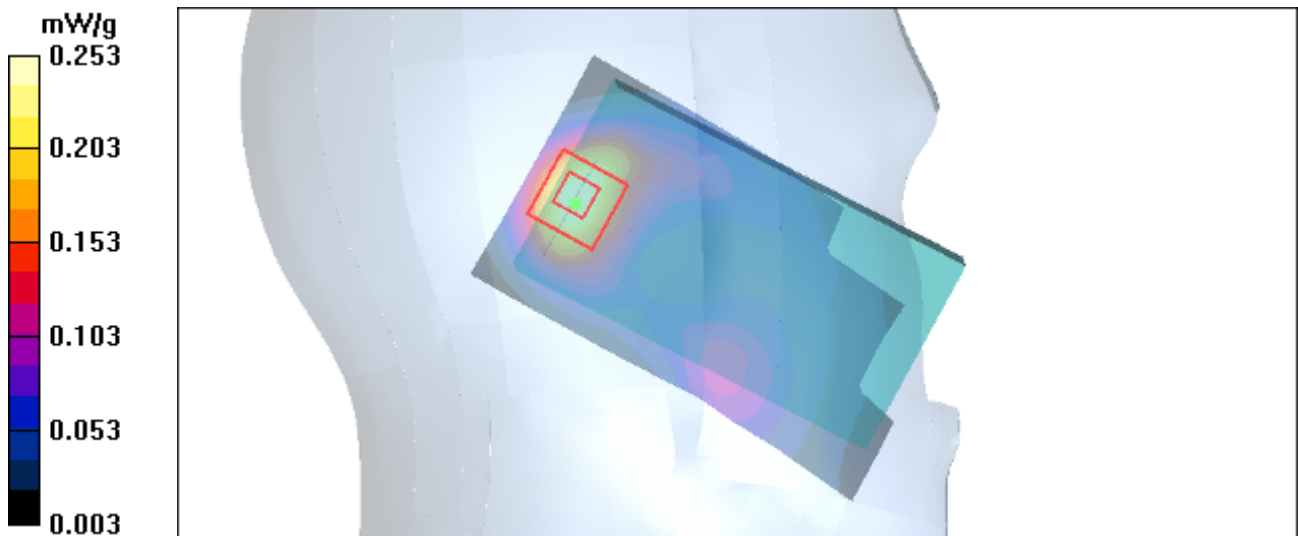


Figure 70 Left Hand Tilt 15° WCDMA Band II Channel 9262

WCDMA Band II Right Cheek High (Battery 1)

Date/Time: 4/23/2012 2:16:41 AM

Communication System: WCDMA Band II; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1908 \text{ MHz}$; $\sigma = 1.42 \text{ mho/m}$; $\epsilon_r = 40.8$; $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Right Section

DASY4 Configuration:

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

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

Phantom: 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 (61x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.404 mW/g

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

Reference Value = 9.41 V/m ; Power Drift = 0.094 dB

Peak SAR (extrapolated) = 0.583 W/kg

SAR(1 g) = 0.386 mW/g ; SAR(10 g) = 0.242 mW/g

Maximum value of SAR (measured) = 0.418 mW/g

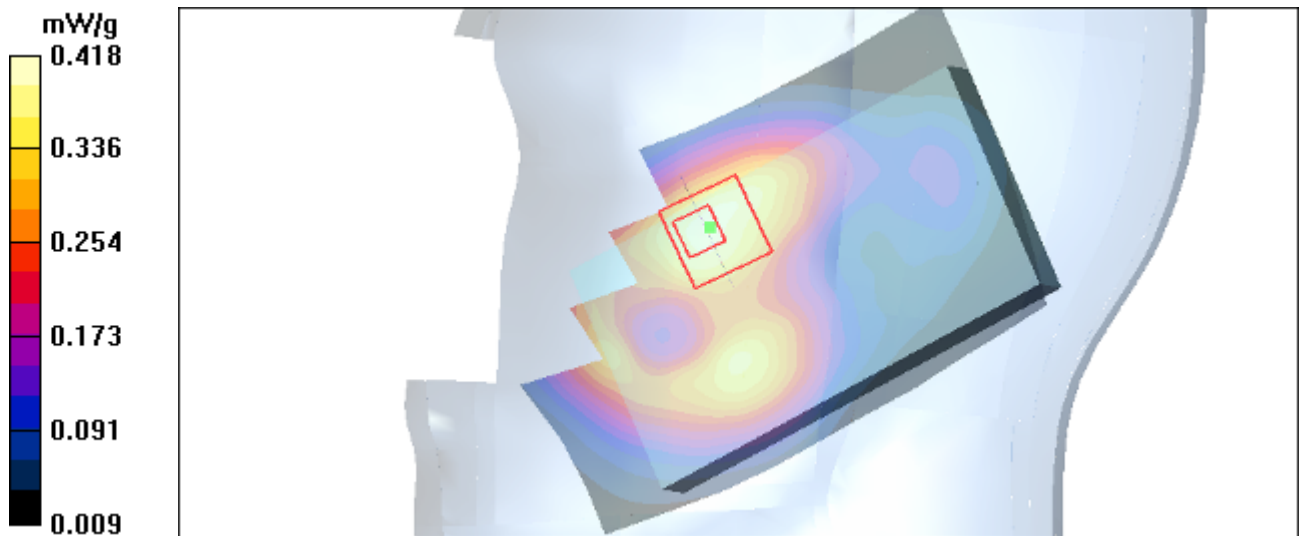


Figure 71 Right Hand Touch Cheek WCDMA Band II Channel 9538

WCDMA Band II Right Cheek Middle (Battery 1)

Date/Time: 4/23/2012 2:01:56 AM

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

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

Phantom section: Right Section

DASY4 Configuration:

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

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

Phantom: 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.496 mW/g

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

Reference Value = 10.6 V/m; Power Drift = 0.004 dB

Peak SAR (extrapolated) = 0.725 W/kg

SAR(1 g) = 0.473 mW/g; SAR(10 g) = 0.297 mW/g

Maximum value of SAR (measured) = 0.511 mW/g

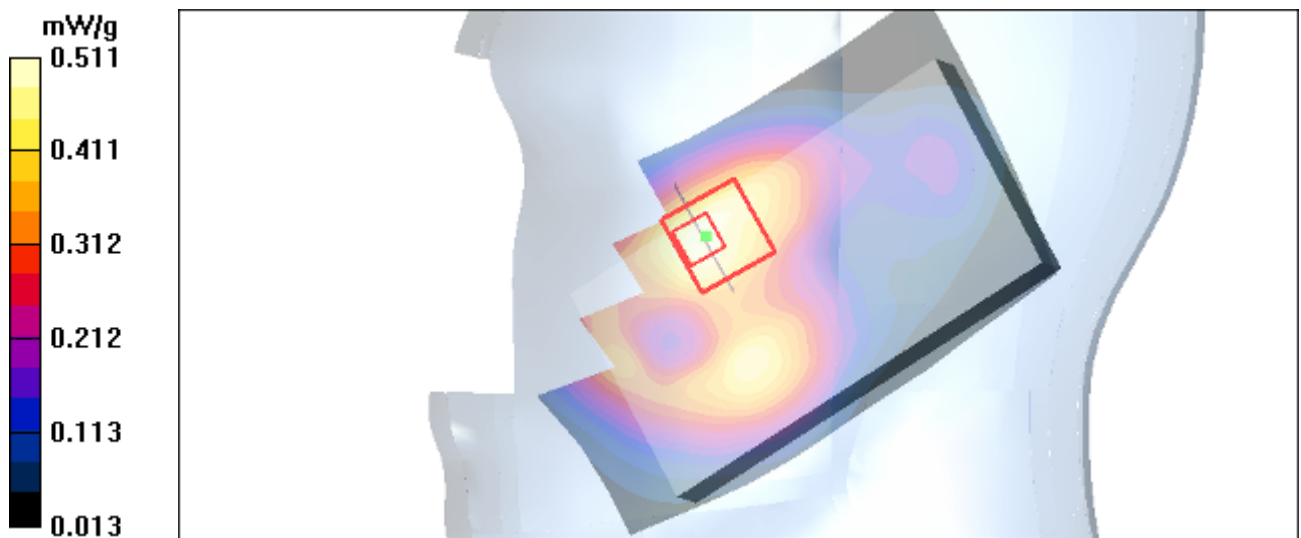


Figure 72 Right Hand Touch Cheek WCDMA Band II Channel 9400

WCDMA Band II Right Cheek Low (Battery 1)

Date/Time: 4/23/2012 2:30:35 AM

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

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 41$; $\rho = 1000$ kg/m³

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

Phantom section: Right Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.460 mW/g

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

Reference Value = 9.81 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 0.675 W/kg

SAR(1 g) = 0.443 mW/g; SAR(10 g) = 0.277 mW/g

Maximum value of SAR (measured) = 0.466 mW/g

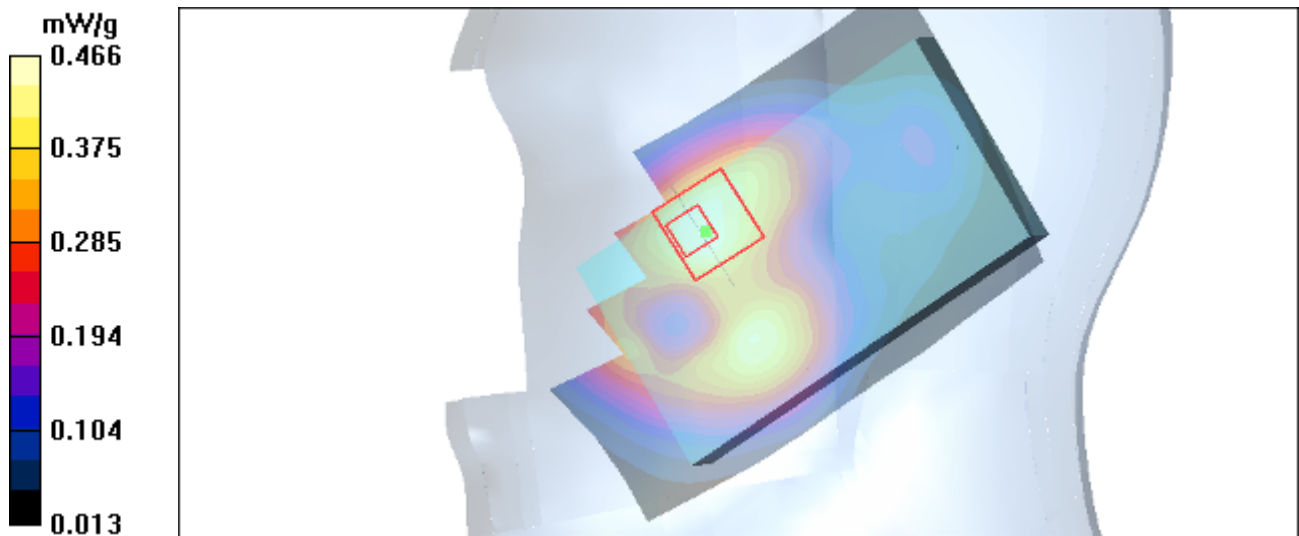


Figure 73 Right Hand Touch Cheek WCDMA Band II Channel 9262

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WCDMA Band II Right Tilt High (Battery 1)

Date/Time: 4/23/2012 2:59:23 AM

Communication System: WCDMA Band II; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1908 \text{ MHz}$; $\sigma = 1.42 \text{ mho/m}$; $\epsilon_r = 40.8$; $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Right Section

DASY4 Configuration:

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

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

Phantom: 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 (61x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.267 mW/g

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

Reference Value = 13.3 V/m ; Power Drift = -0.013 dB

Peak SAR (extrapolated) = 0.380 W/kg

SAR(1 g) = 0.230 mW/g ; SAR(10 g) = 0.131 mW/g

Maximum value of SAR (measured) = 0.252 mW/g

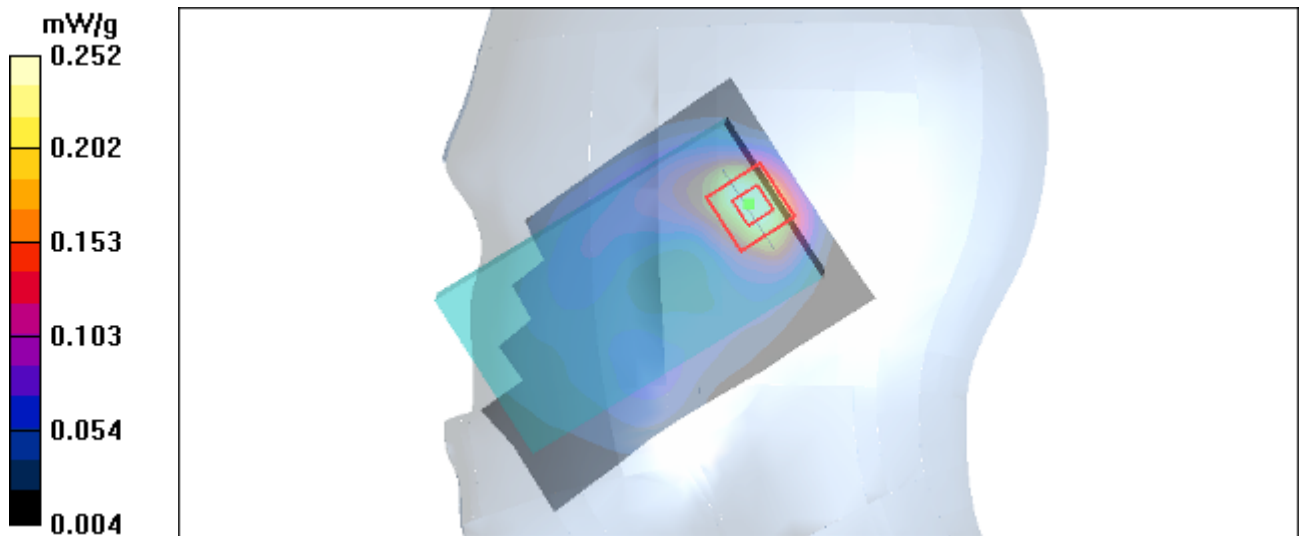


Figure 74 Right Hand Tilt 15° WCDMA Band II Channel 9538

WCDMA Band II Right Tilt Middle (Battery 1)

Date/Time: 4/23/2012 3:14:08 AM

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

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

Phantom section: Right Section

DASY4 Configuration:

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

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

Phantom: 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.296 mW/g

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

Reference Value = 14.2 V/m; Power Drift = 0.083 dB

Peak SAR (extrapolated) = 0.419 W/kg

SAR(1 g) = 0.259 mW/g; SAR(10 g) = 0.148 mW/g

Maximum value of SAR (measured) = 0.282 mW/g

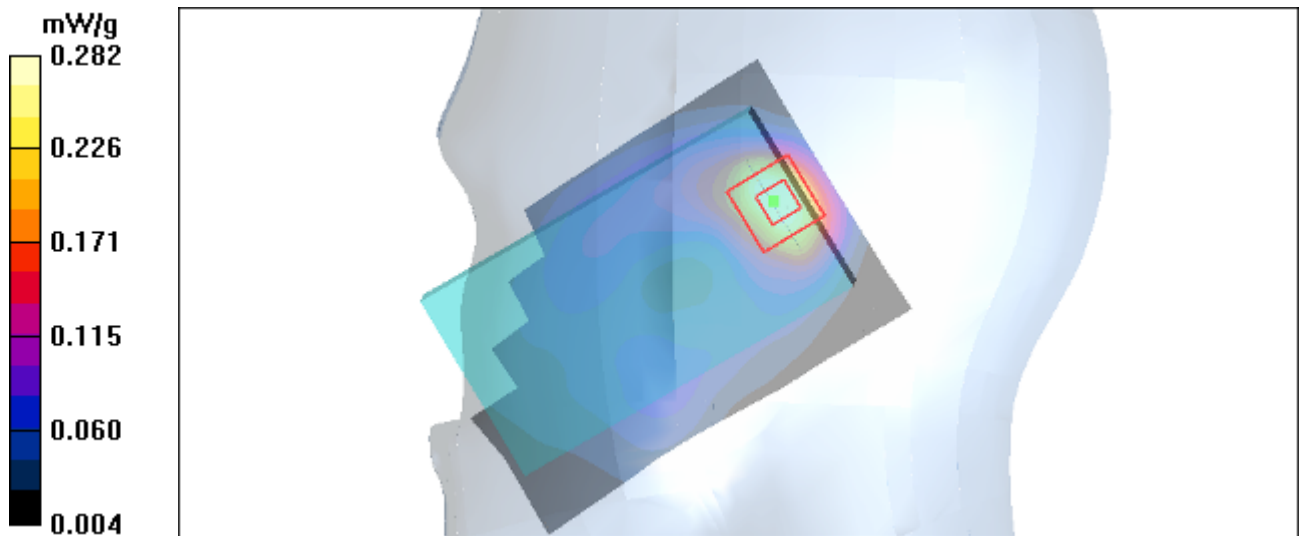


Figure 75 Right Hand Tilt 15° WCDMA Band II Channel 9400

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WCDMA Band II Right Tilt Low (Battery 1)

Date/Time: 4/23/2012 2:45:38 AM

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

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 41$; $\rho = 1000$ kg/m³

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

Phantom section: Right Section

DASY4 Configuration:

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

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

Phantom: 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 (61x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.257 mW/g

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

Reference Value = 13.3 V/m; Power Drift = 0.127 dB

Peak SAR (extrapolated) = 0.362 W/kg

SAR(1 g) = 0.225 mW/g; SAR(10 g) = 0.129 mW/g

Maximum value of SAR (measured) = 0.243 mW/g

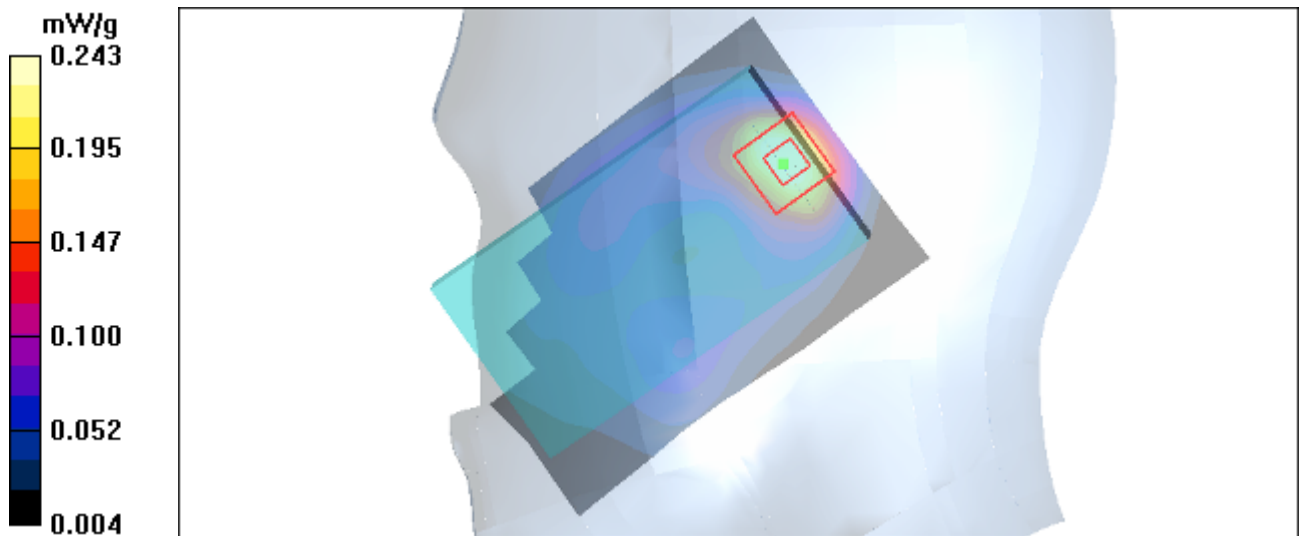


Figure 76 Right Hand Tilt 15° WCDMA Band II Channel 9262

WCDMA Band II Left Cheek Middle (Battery 2)

Date/Time: 4/23/2012 5:41:37 AM

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.4$ mho/m; $\epsilon_r = 40.9$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

Phantom: 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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 10.8 V/m; Power Drift = 0.054 dB

Peak SAR (extrapolated) = 1.48 W/kg

SAR(1 g) = 0.907 mW/g; SAR(10 g) = 0.521 mW/g

Maximum value of SAR (measured) = 0.991 mW/g

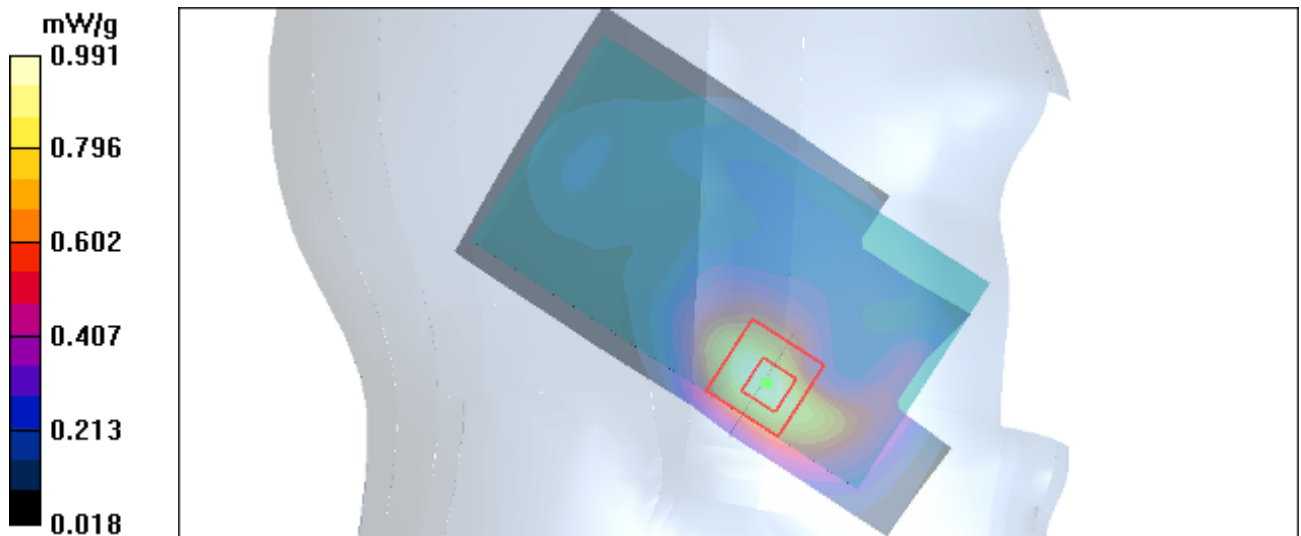


Figure 77 Left Hand Touch Cheek WCDMA Band II Channel 9400

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WCDMA Band II Back Side High (Battery 1)

Date/Time: 4/21/2012 8:08:23 PM

Communication System: WCDMA Band II; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1908$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.632 mW/g

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

Reference Value = 10.2 V/m; Power Drift = -0.007 dB

Peak SAR (extrapolated) = 0.879 W/kg

SAR(1 g) = 0.546 mW/g; SAR(10 g) = 0.322 mW/g

Maximum value of SAR (measured) = 0.568 mW/g

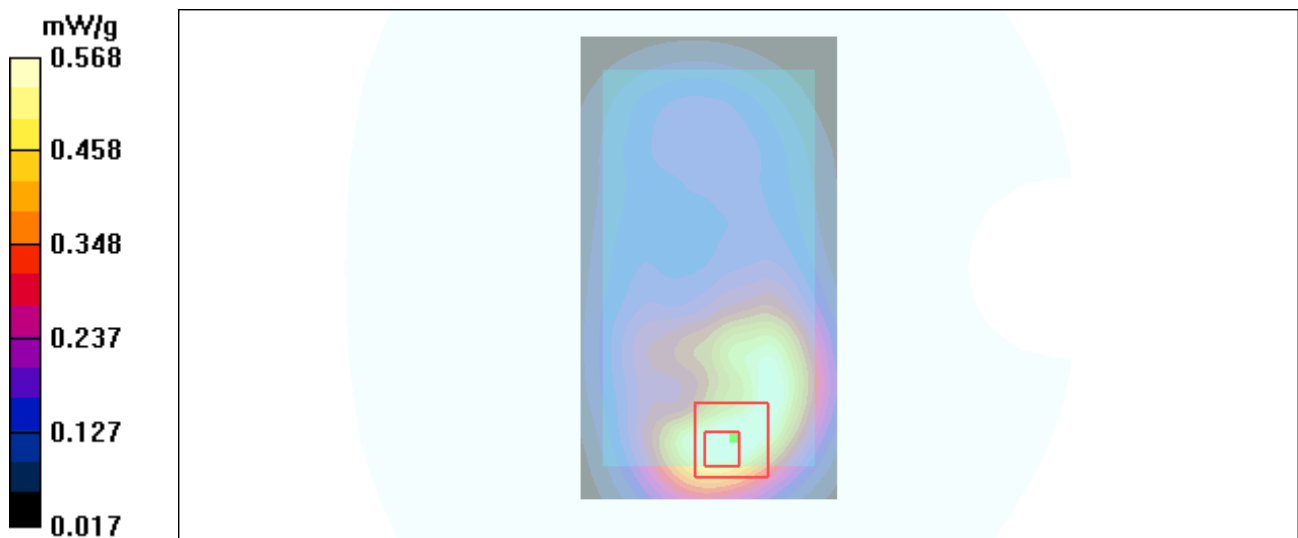


Figure 78 Body, Back Side, WCDMA Band II Channel 9538

WCDMA Band II Front Side High (Battery 1)

Date/Time: 4/21/2012 8:22:43 PM

Communication System: WCDMA Band II; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1908$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.618 mW/g

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

Reference Value = 8.66 V/m; Power Drift = 0.009 dB

Peak SAR (extrapolated) = 0.873 W/kg

SAR(1 g) = 0.536 mW/g; SAR(10 g) = 0.312 mW/g

Maximum value of SAR (measured) = 0.551 mW/g

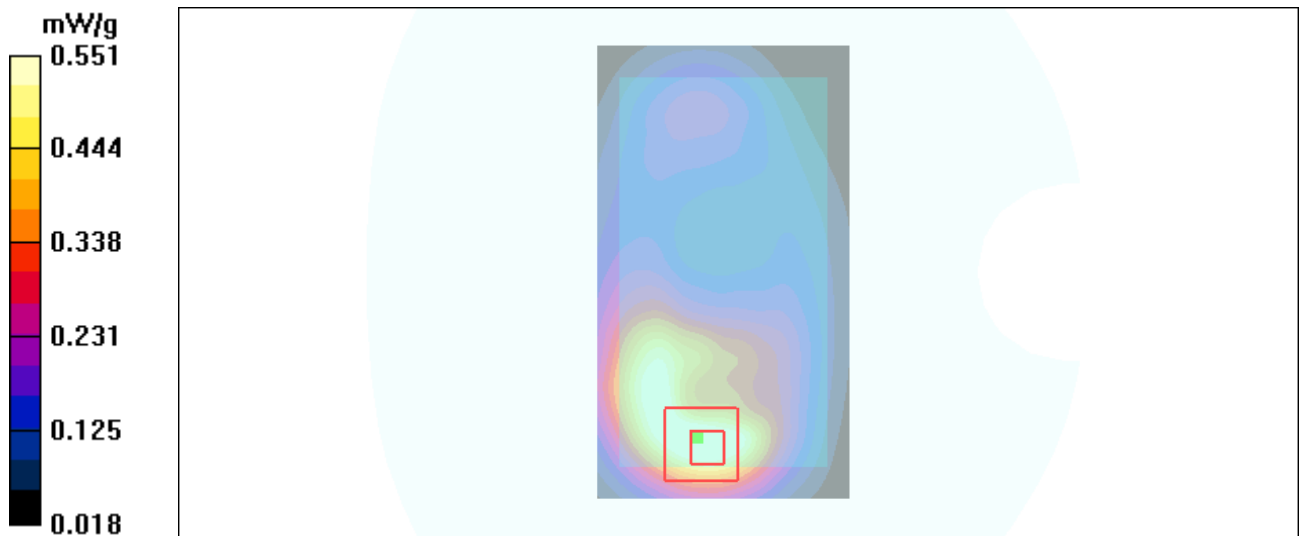


Figure 79 Body, Front Side, WCDMA Band II Channel 9538

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WCDMA Band II Left Edge High (Battery 1)

Date/Time: 4/21/2012 9:16:53 PM

Communication System: WCDMA Band II; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1908$ MHz; $\sigma = 1.56$ mho/m; $\epsilon_r = 52.1$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.241 mW/g

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

Reference Value = 10.2 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 0.380 W/kg

SAR(1 g) = 0.227 mW/g; SAR(10 g) = 0.129 mW/g

Maximum value of SAR (measured) = 0.249 mW/g

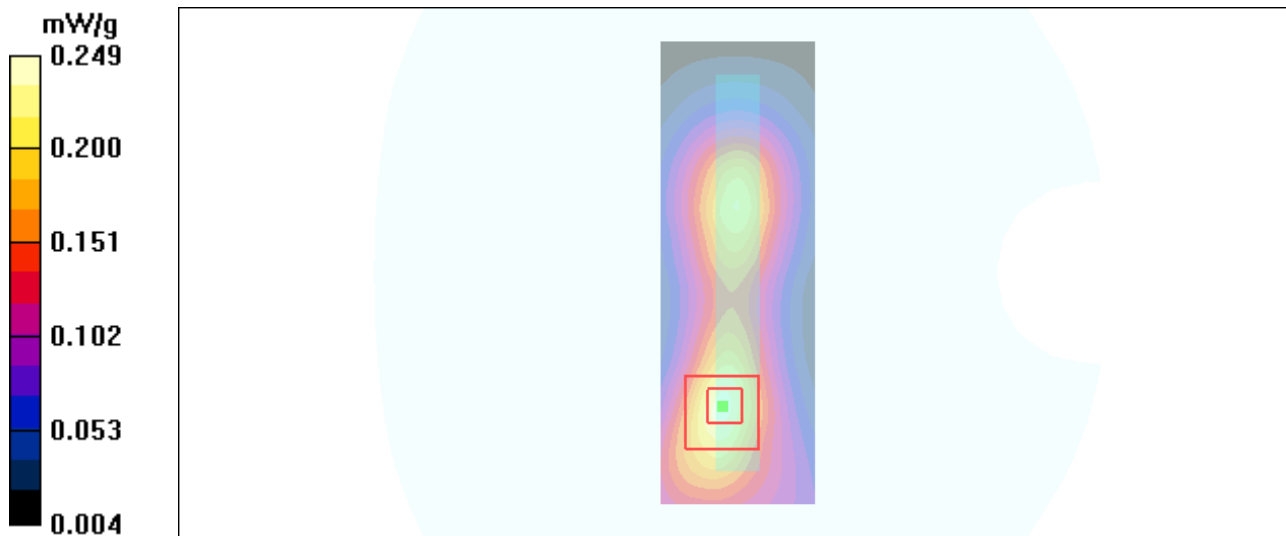


Figure 80 Body, Left Edge, WCDMA Band II Channel 9538

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WCDMA Band II Right Edge High (Battery 1)

Date/Time: 4/21/2012 10:31:34 PM

Communication System: WCDMA Band II; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1908 \text{ MHz}$; $\sigma = 1.56 \text{ mho/m}$; $\epsilon_r = 52.1$; $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

Right Edge High/Area Scan (31x91x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.111 mW/g

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

Reference Value = 8.24 V/m ; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 0.156 W/kg

SAR(1 g) = 0.097 mW/g ; SAR(10 g) = 0.057 mW/g

Maximum value of SAR (measured) = 0.106 mW/g

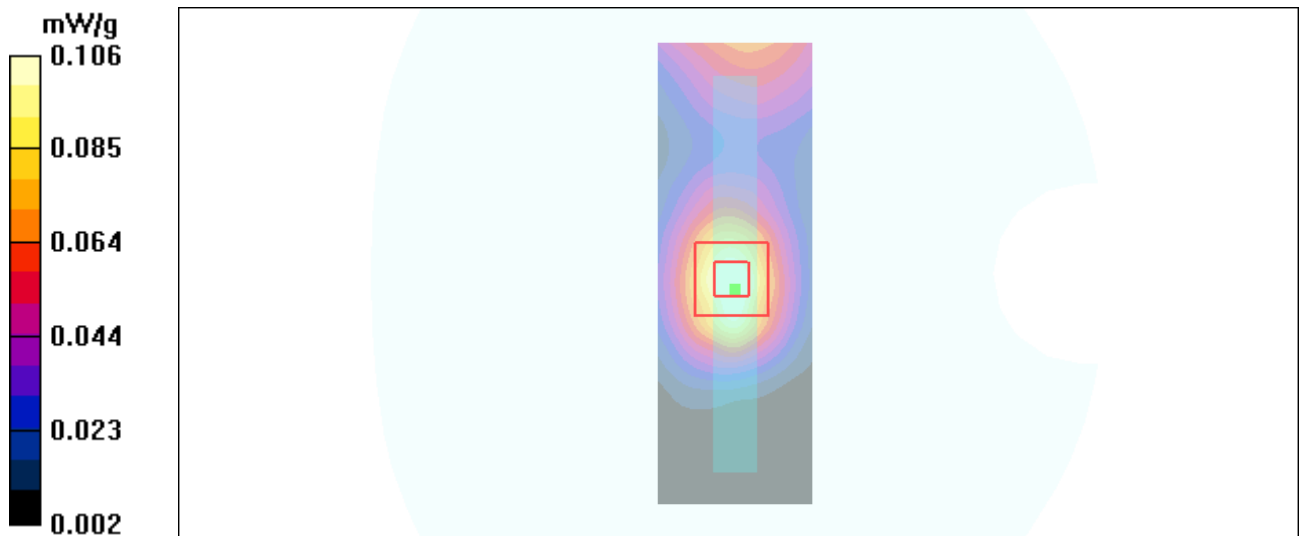


Figure 81 Body, Right Edge, WCDMA Band II Channel 9538

WCDMA Band II Bottom Edge High (Battery 1)

Date/Time: 4/21/2012 9:44:06 PM

Communication System: WCDMA Band II; Frequency: 1907.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1908 \text{ MHz}$; $\sigma = 1.56 \text{ mho/m}$; $\epsilon_r = 52.1$; $\rho = 1000 \text{ kg/m}^3$

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

Bottom Edge High/Area Scan (31x61x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.824 mW/g

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

Reference Value = 22.3 V/m ; Power Drift = 0.013 dB

Peak SAR (extrapolated) = 1.20 W/kg

SAR(1 g) = 0.724 mW/g ; SAR(10 g) = 0.398 mW/g

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

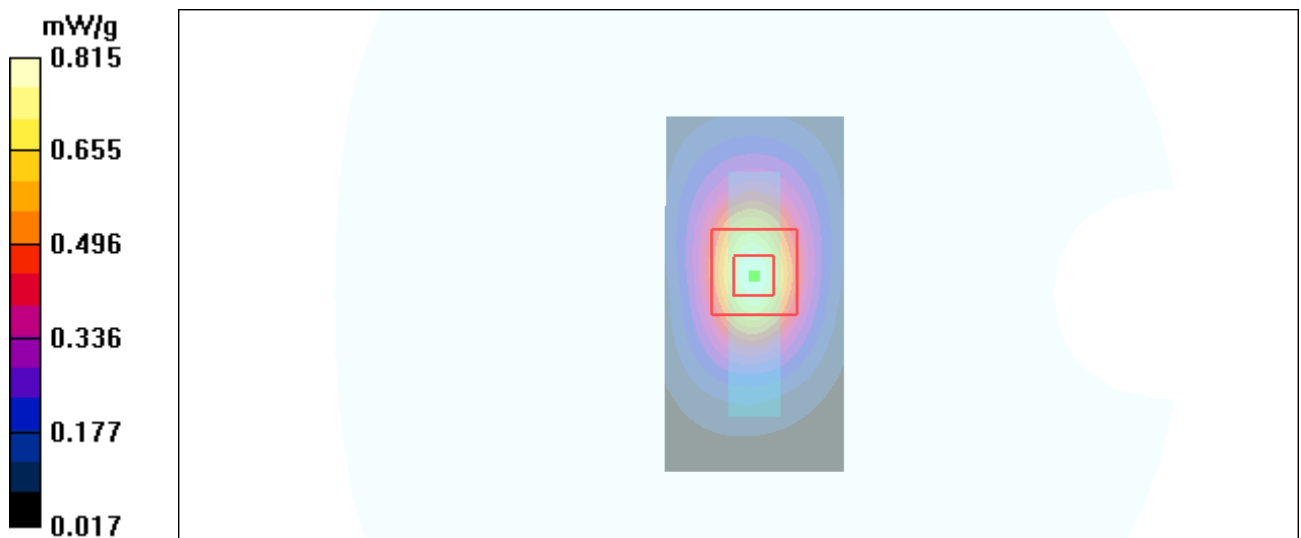


Figure 82 Body, Bottom Edge, WCDMA Band II Channel 9538

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WCDMA Band II Bottom Edge Middle (Battery 1)

Date/Time: 4/21/2012 9:56:51 PM

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

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.814 mW/g

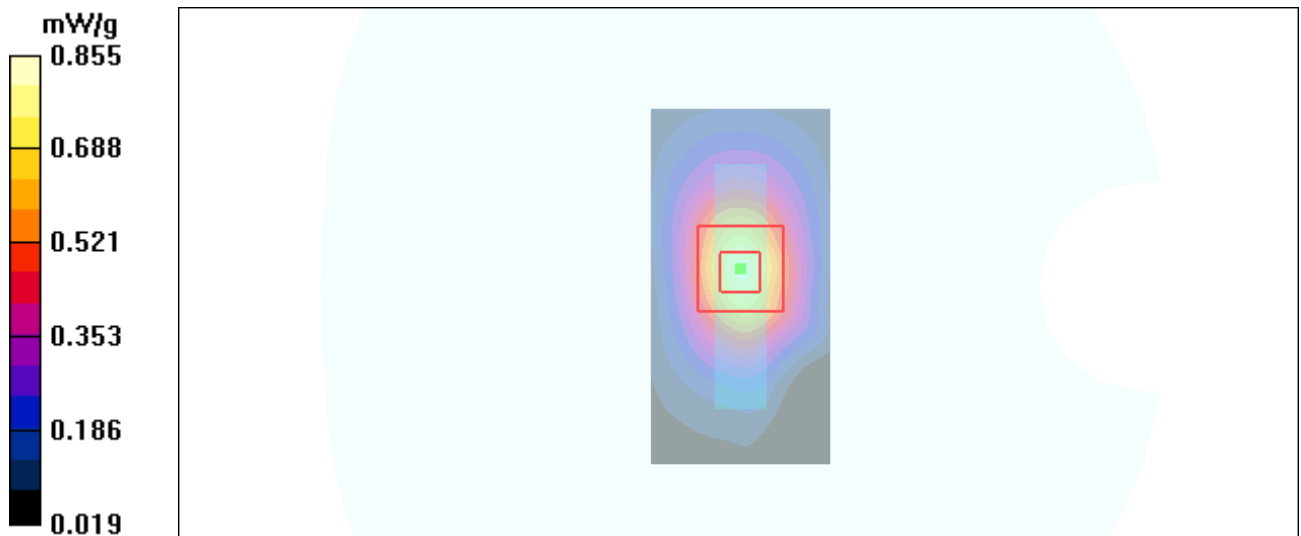
Bottom Edge Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.4 V/m; Power Drift = -0.021 dB

Peak SAR (extrapolated) = 1.27 W/kg

SAR(1 g) = 0.766 mW/g; SAR(10 g) = 0.422 mW/g

Maximum value of SAR (measured) = 0.855 mW/g



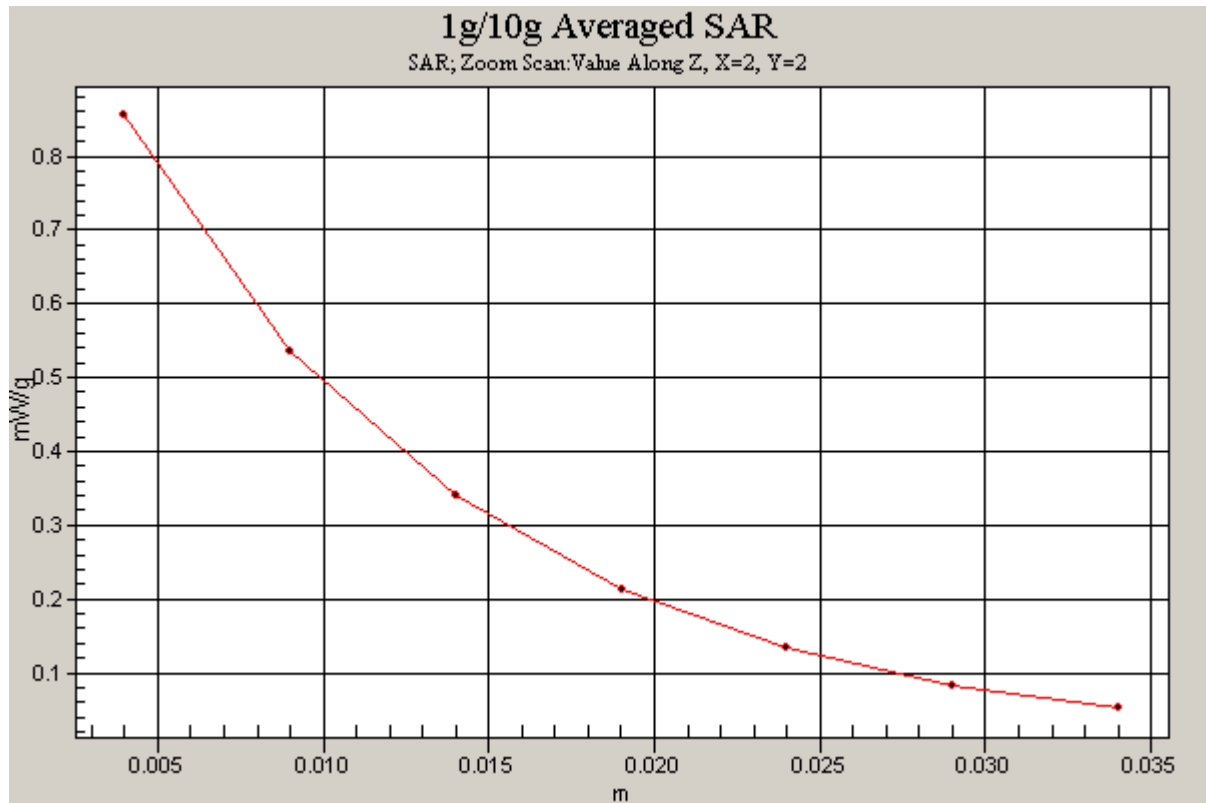


Figure 83 Body, Bottom Edge, WCDMA Band II Channel 9400

WCDMA Band II Bottom Edge Low (Battery 1)

Date/Time: 4/21/2012 10:19:49 PM

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

Medium parameters used (interpolated): $f = 1852.4$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 52.3$; $\rho = 1000$ kg/m³

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.764 mW/g

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

Reference Value = 21.8 V/m; Power Drift = -0.013 dB

Peak SAR (extrapolated) = 1.12 W/kg

SAR(1 g) = 0.681 mW/g; SAR(10 g) = 0.377 mW/g

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

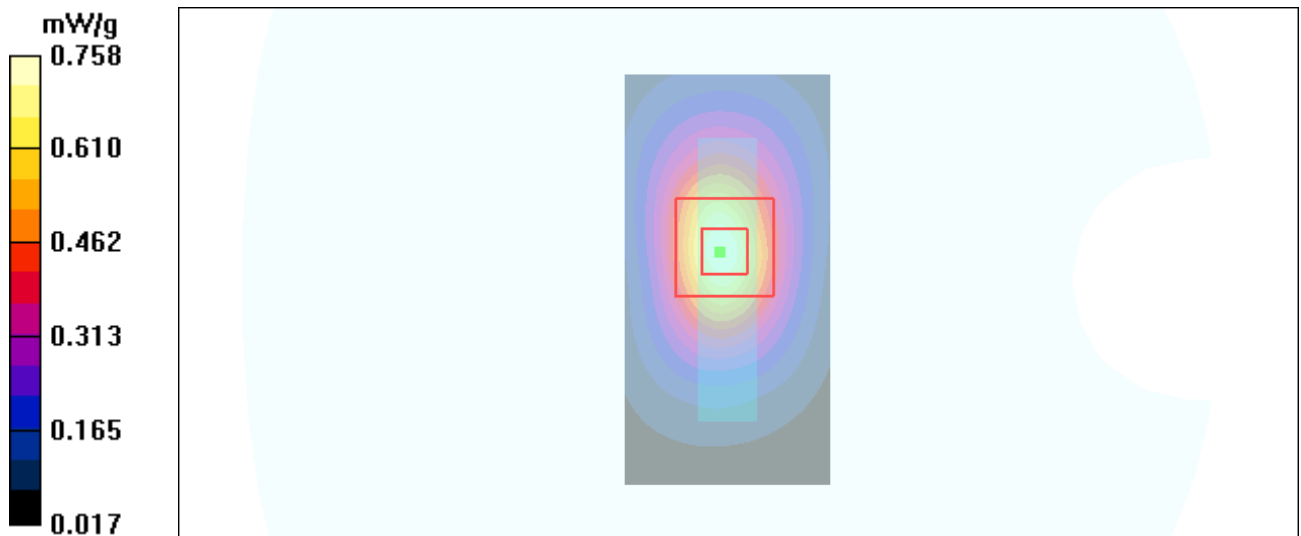


Figure 84 Body, Bottom Edge, WCDMA Band II Channel 9262

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WCDMA Band II with Stereo Headset 1 Bottom Edge Middle (Battery 1)

Date/Time: 4/24/2012 11:35:45 AM

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

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

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.808 mW/g

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

Reference Value = 23.0 V/m; Power Drift = -0.004 dB

Peak SAR (extrapolated) = 1.20 W/kg

SAR(1 g) = 0.736 mW/g; SAR(10 g) = 0.413 mW/g

Maximum value of SAR (measured) = 0.803 mW/g

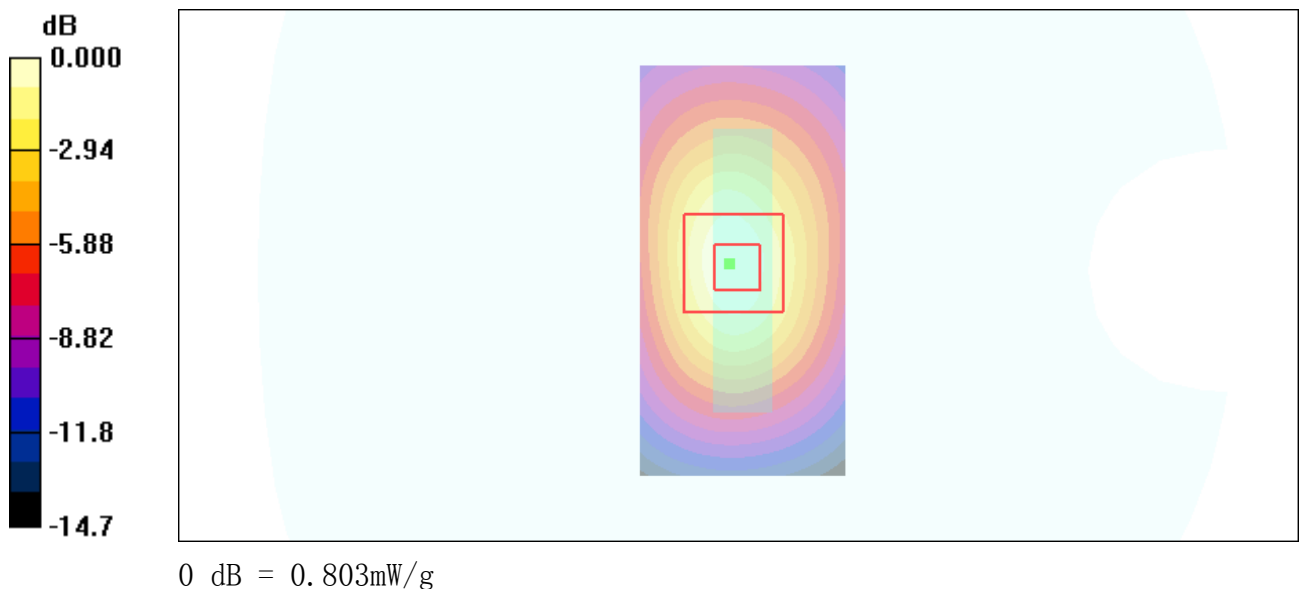


Figure 85 Body with Stereo Headset 1, Bottom Edge, WCDMA Band II Channel 9400

WCDMA Band II with Stereo Headset 2 Bottom Edge Middle (Battery 1)

Date/Time: 4/24/2012 11:47:50 AM

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

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

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

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.808 mW/g

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

Reference Value = 23.3 V/m; Power Drift = -0.064 dB

Peak SAR (extrapolated) = 1.21 W/kg

SAR(1 g) = 0.736 mW/g; SAR(10 g) = 0.411 mW/g

Maximum value of SAR (measured) = 0.819 mW/g

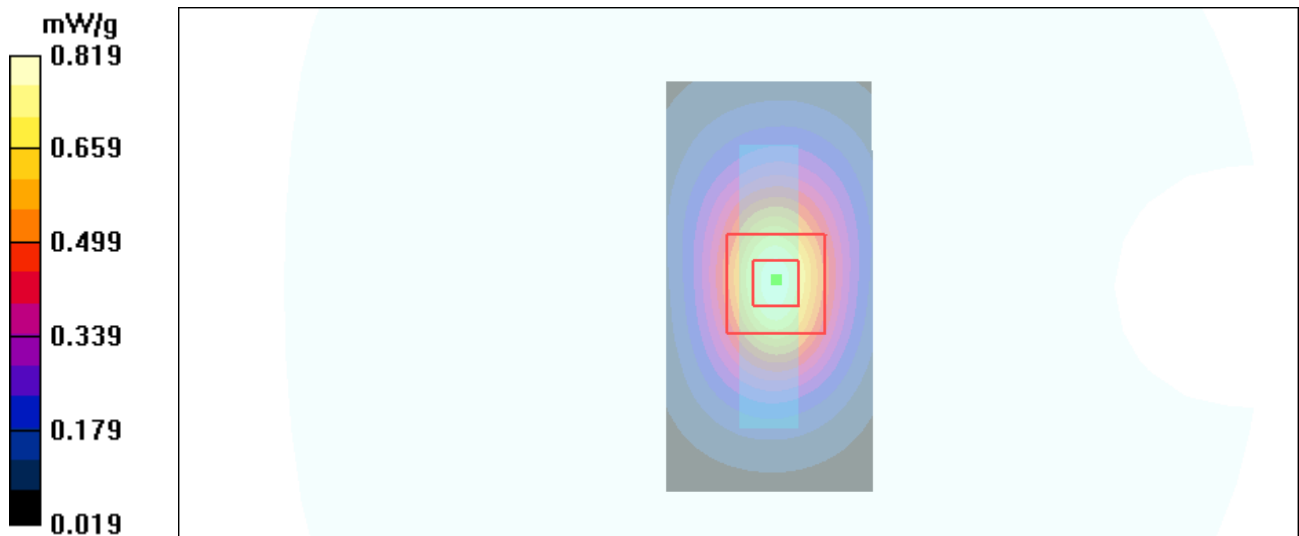


Figure 86 Body with Stereo Headset 2, Bottom Edge, WCDMA Band II Channel 9400

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WCDMA Band V Left Cheek High (Battery 1)

Date/Time: 4/22/2012 5:52:47 AM

Communication System: WCDMA Band V; Frequency: 846.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 847$ MHz; $\sigma = 0.899$ mho/m; $\epsilon_r = 42.1$; $\rho = 1000$ kg/m³

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

Phantom section: Left Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 0.689 mW/g

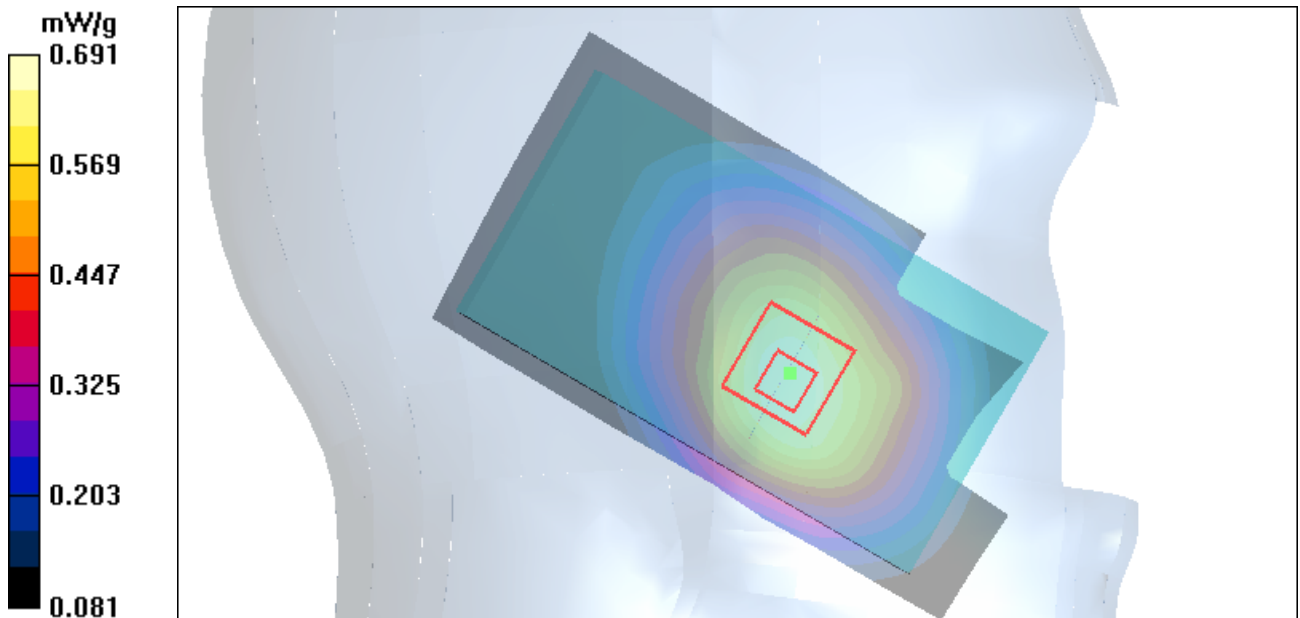
Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.88 V/m; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 0.847 W/kg

SAR(1 g) = 0.655 mW/g; SAR(10 g) = 0.489 mW/g

Maximum value of SAR (measured) = 0.691 mW/g



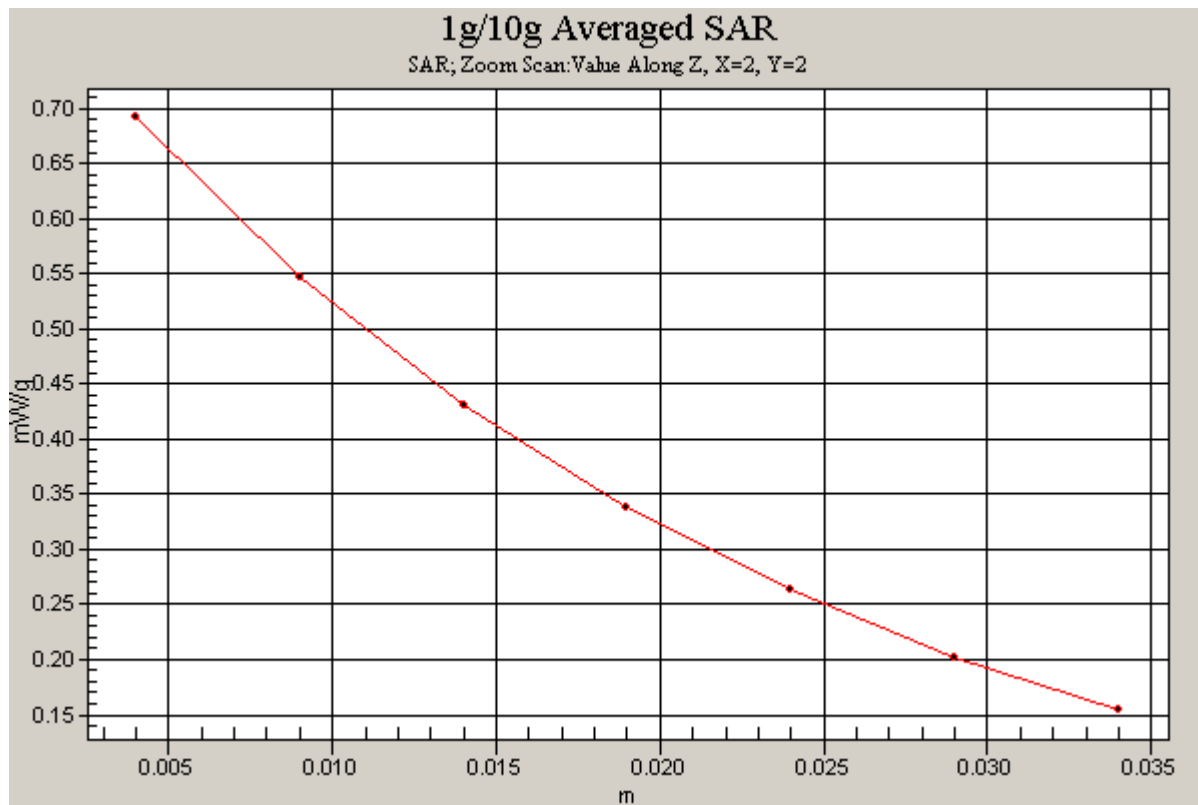


Figure 87 Left Hand Touch Cheek WCDMA Band V Channel 4233