TESTING
No. L2264

OET 65

TEST REPORT

Product Name	HSUPA/HSDPA/UMTS triband / GSM quadband mobile phone
Model	Medoc_AWS
Marketing Name	one touch 985S
FCC ID	RAD239
Client	TCT Mobile Limited

TA Technology (Shanghai) Co., Ltd.

GENERAL SUMMARY

Product Name	HSUPA/HSDPA/UMTS triband / GSM quadband mobile phone	**Model**	Medoc_AWS
Report No.	RXA1204-0074SAR01R2	**FCC ID**	RAD239
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 Xmiter and Ant, v01r05:** SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas.		
Conclusion	This portable wireless equipment has been measured in all cases requested by the relevant standards. Test results in Chapter 7 of this test report are below limits specified in the relevant standards. General Judgment: **Pass** (Stamp) **Date of issue: April 28h, 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.

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

1.5. Information of EUT

General Information

Device Type:	Portable Device		
Exposure Category:	Uncontrolled Environment / General Population		
State of Sample:	Prototype Unit		
Product Name:	HSUPA/HSDPA/UMTS triband / GSM quadband mobile phone		
IMEI:	013017000010610		
Hardware Version:	PIO01		
Software Version:	v517-1-band145		
Antenna Type:	Internal Antenna		
Device Operating Configurations :			
Supporting Mode(s):	GSM 850/GSM 1900; (tested) WCDMA Band IV/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 IV	1712.4 ~ 1752.6	2112.4 ~ 2152.6
	WCDMA Band V	826.4 ~ 846.6	871.4 ~ 891.6
Power Class:	GSM 850: 4, tested with power level 5		
	GSM 1900: 1, tested with power level 0		
	WCDMA Band IV: 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)
	1312 - 1413 - 1513	(WCDMA Band IV)	(tested)
	4132 - 4183 - 4233	(WCDMA Band V)	(tested)
	1-6-11	(WIFI)	(tested)

Auxiliary Equipment Details

Name	Model	Manufacturer	S/N
Battery 1	CAB31P0000C1	BYD	B31806018EA
Battery 2	CAB31P0000C2	BAK	BAK2011060100311
Stereo Headset 1	CCB3160A15C1	Juwei	/
Stereo Headset 2	CCB3160A15C4	Meihao	/
Stereo Headset 3	CCB3160A11C1	Juwei	/
Stereo Headset 4	CCB3160A11C4	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 trough 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 IV, WCDMA Band V and WIFI.

The sample under test was selected by the Client.

Components list please refer to documents of the manufacturer.

1.6. The Maximum SAR_{1g} Values

Head SAR Configuration

Mode	Channel	Position	SAR_{1g} (W/kg)
GSM 850	High/251	Left, Cheek	**0.828**
GSM 1900	Low/512	Left, Cheek	**0.565**
WCDMA Band IV	High/1513	Left, Cheek	**0.999**
WCDMA Band V	High/4233	Right, Cheek	**0.632**
WiFi(802.11b)	Low/1	Left, Cheek	**0.207**

Body Worn Configuration

Mode	Channel	Position	Separation distance	SAR_{1g} (W/kg)
4Txslots GPRS 850	Middle/190	Back Side	10mm	**1.020**
4Txslots EGPRS 1900	Low/512	Back Side	10mm	**0.791**
WCDMA Band IV	High/1513	Back Side	10mm	**0.752**
WCDMA Band V	High/4233	Back Side	10mm	**0.831**
WiFi(802.11b)	Low/1	Back Side	10mm	**0.620**

Hotspot SAR Configuration

Mode	Channel	Position	Separation distance	SAR_{1g} (W/kg)
4Txslots GPRS 850	Middle/190	Back Side	10mm	**1.020**
4Txslots EGPRS 1900	Low/512	Back Side	10mm	**0.791**
WCDMA Band IV	High/1513	Back Side	10mm	**0.752**
WCDMA Band V	High/4233	Back Side	10mm	**0.831**
WiFi(802.11b)	Low/1	Back Side	10mm	**0.620**

Simultaneous SAR

SAR_{1g}(W/kg) / Test Position	GSM 850	WIFI(802.11b)	MAX. ΣSAR_{1g}
Body, Back Side	1.020	0.620	**1.640**

1.7. Test Date

The test performed from April 23, 2012 to April 26, 2012.

2. SAR Measurements System Configuration

2.1. SAR Measurement Set-up

The DASY4/ DASY5 system for performing compliance tests consists of the following items:

- A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).
- A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
- A data acquisition electronic (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- A unit to operate the optical surface detector which is connected to the EOC.
- The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY4/ DASY5 measurement server.
- The DASY4/ DASY5 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation. A computer operating Windows 2003
- DASY4/ DASY5 software and SEMCAD data evaluation software.
- Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
- The generic twin phantom enabling the testing of left-hand and right-hand usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- System validation dipoles allowing to validate the proper functioning of the system.

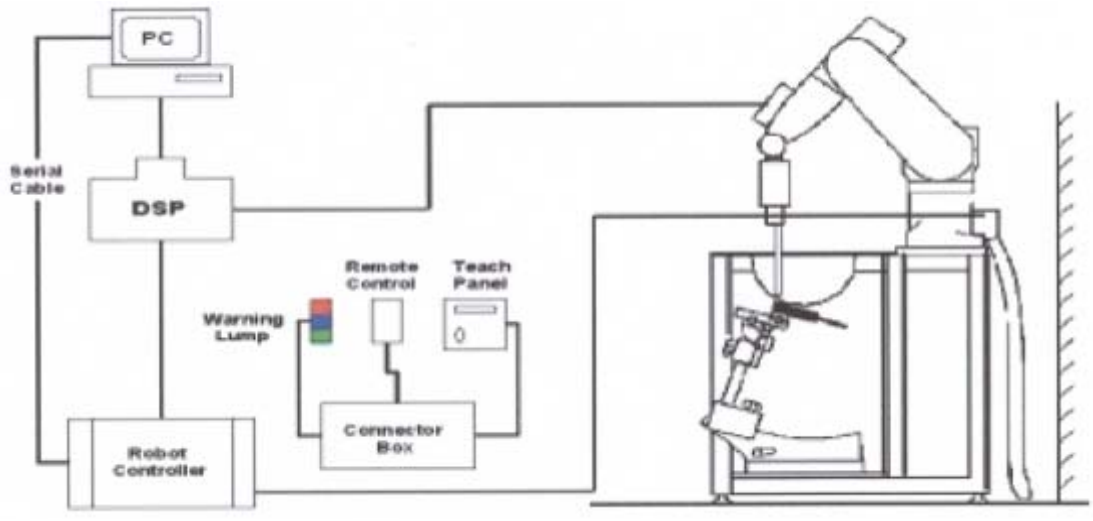

Figure 1 SAR Lab Test Measurement Set-up

2.2. DASY4/ DASY5 E-field Probe System

The SAR measurements were conducted with the dosimetric probe EX3DV4 (manufactured by SPEAG) and ES3DV3 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

2.2.1. EX3DV4 Probe Specification

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

Figure 2.EX3DV4 E-field Probe

Figure 3. EX3DV4 E-field probe

2.2.2. ES3DV3 Probe Specification

Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to 4 GHz; Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.3 dB in tissue material (rotation normal to probe axis)
Dynamic Range	5 μW/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 3.9 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.0 mm
Application	General dosimetry up to 4 GHz Dosimetry in strong gradient fields Compliance tests of mobile phones

Figure 4. ES3DV3 E-field Probe

Figure 5. ES3DV3 E-field Probe

2.2.3. E-field Probe Calibration

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

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies bellow 1 GHz, and in a wave guide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.
E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The measured free space E-field in the medium correlates to temperature rise in a dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

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

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

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

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

2.3. Other Test Equipment

2.3.1. Device Holder for Transmitters

The DASY device holder is designed to cope with the die rent positions given in the standard.
It has two scales for device rotation (with respect to the body axis) and device inclination (with respect to the line between the ear reference points). The rotation centers for both scales is the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.
The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the inference of the clamp on the test results could thus be lowered.

Figure 6 Device Holder

2.3.2. Phantom

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

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

Figure 7 Generic Twin Phantom

2.4. Scanning Procedure

The DASY4/ DASY5 installation includes predefined files with recommended procedures for measurements and validation. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.

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

- The “surface check” measurement tests the optical surface detection system of the DASY4/ DASY5 system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above ± 0.1mm). To prevent wrong results tests are only executed when the liquid is free of air bubbles. The difference between the optical surface detection and the actual surface depends on the probe and is specified with each probe. (It does not depend on the surface reflectivity or the probe angle to the surface within ± 30°.)

- Area Scan

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

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

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

- Spatial Peak Detection
  The procedure for spatial peak SAR evaluation has been implemented and can determine values of masses of 1g and 10g, as well as for user-specific masses.The DASY4/ DASY5 system allows evaluations that combine measured data and robot positions, such as:
  • maximum search
  • extrapolation
  • boundary correction
  • peak search for averaged SAR
  During a maximum search, global and local maxima searches are automatically performed in 2-D after each Area Scan measurement with at least 6 measurement points. It is based on the evaluation of the local SAR gradient calculated by the Quadratic Shepard's method. The algorithm will find the global maximum and all local maxima within -2 dB of the global maxima for all SAR distributions.
  Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. Several measurements at different distances are necessary for the extrapolation. Extrapolation routines require at least 10 measurement points in 3-D space. They are used in the Zoom Scan to obtain SAR values between the lowest measurement points and the inner phantom surface. The routine uses the modified Quadratic Shepard's method for extrapolation. For a grid using 5x5x7 measurement points with 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/ DASY5 software stores the acquired data from the data acquisition electronics as raw data (in
microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension ".DA4". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated.

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

2.5.2. Data Evaluation by SEMCAD

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

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

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY4/ DASY5 components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal,

the diode type and the DC-transmission factor from the diode to the evaluation electronics.
If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

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

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

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

cf = crest factor of exciting field (DASY parameter)

dcp_i = diode compression point (DASY parameter)

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

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

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

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

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

$ConvF$ = sensitivity enhancement in solution

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

f = carrier frequency [GHz]

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

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

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

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

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

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

with $\boldsymbol{SAR}$ = local specific absorption rate in mW/g

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

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

ρ = equivalent tissue density in g/cm^3

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

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

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

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

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

3. Laboratory Environment

Table 1: The Requirements of the Ambient Conditions

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

4. Tissue-equivalent Liquid

4.1. Tissue-equivalent Liquid Ingredients

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

Table 2: Composition of the Head Tissue Equivalent Matter

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

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

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

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

Table 3: Composition of the Body Tissue Equivalent Matter

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

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

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

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

4.2. Tissue-equivalent Liquid Properties

Table 4: Dielectric Performance of Head Tissue Simulating Liquid

Frequency	Description	Dielectric Parameters		Temp ℃
		ε_r	σ(s/m)	
835MHz (head)	Target value ± 5% window	41.50 39.43 — 43.58	0.90 0.86 — 0.95	22.0
	Measurement value 2012-4-24	41.391	0.899	21.5
1750MHz (head)	Target value ±5% window	40.1 38.10 — 42.11	1.37 1.30 — 1.44	22.0
	Measurement value 2012-4-23	39.171	1.398	21.5
1900MHz (head)	Target value ±5% window	40.00 38.00 — 42.00	1.40 1.33 — 1.47	22.0
	Measurement value 2012-4-24	40.822	1.413	21.5
2450MHz (head)	Target value ±5% window	39.20 37.24 — 41.16	1.80 1.71 — 1.89	22.0
	Measurement value 2012-4-26	38.3	1.88	21.5

Table 5: Dielectric Performance of Body Tissue Simulating Liquid

Frequency	Description	Dielectric Parameters		Temp ℃
		ε_r	σ(s/m)	
835MHz (body)	Target value ±5% window	55.20 52.44 — 57.96	0.97 0.92 — 1.02	22.0
	Measurement value 2012-4-25	54.26	0.986	21.5
1750MHz (body)	Target value ±5% window	53.40 50.73 — 56.07	1.49 1.42 — 1.56	22.0
	Measurement value 2012-4-25	52.651	1.475	21.5
1900MHz (body)	Target value ±5% window	53.30 50.64 — 55.97	1.52 1.44 — 1.60	22.0
	Measurement value 2012-4-25	52.136	1.555	21.5
2450MHz (body)	Target value ±5% window	52.70 50.07 — 55.34	1.95 1.85 — 2.05	22.0
	Measurement value 2012-4-25	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 (±10 %).

System check is performed regularly on all frequency bands where tests are performed with the DASY4/ DASY5 system.

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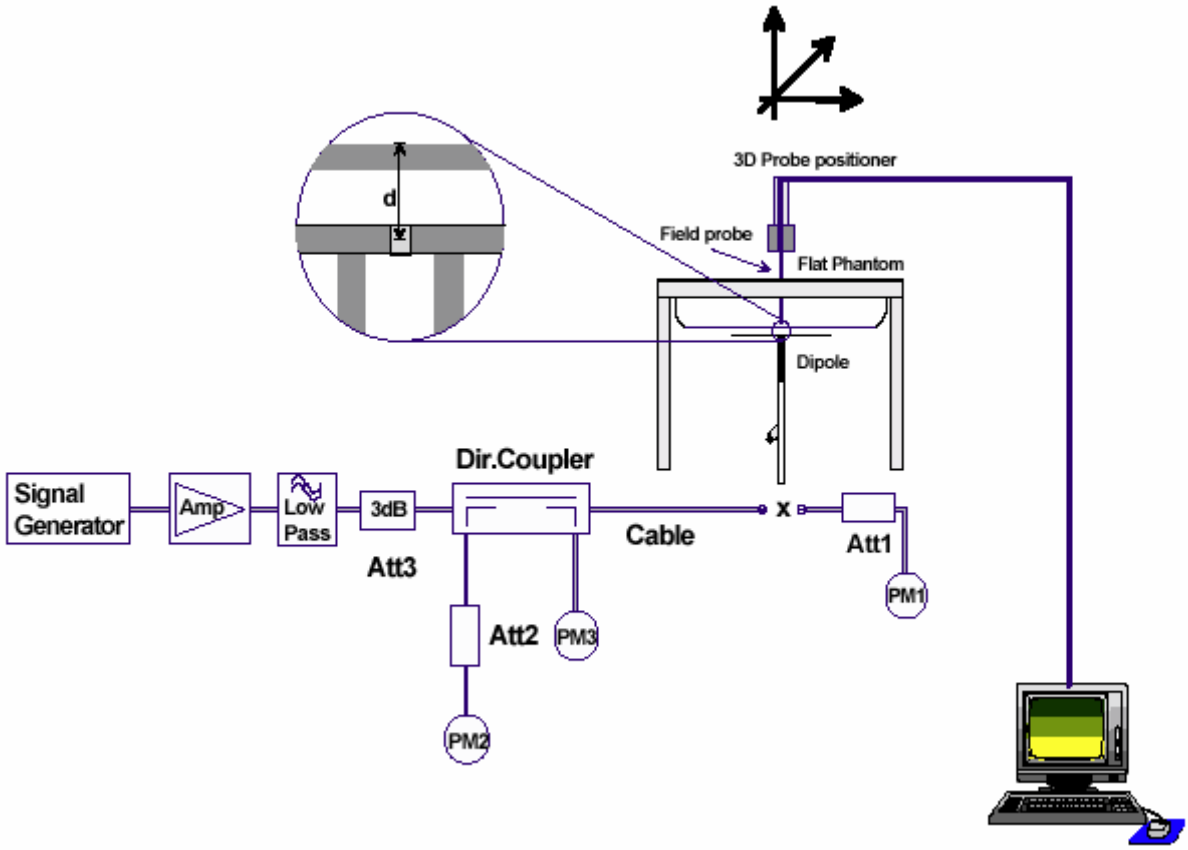


Figure 8 System Check Set-up

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

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

5.2. System Check Results

Table 6: System Check in Head Tissue Simulating Liquid

Frequency	Test Date	Dielectric Parameters		Temp	250mW Measured SAR_{1g}	1W Normalized SAR_{1g}	1W Target SAR_{1g} (±10% deviation)
		ε_r	σ(s/m)	(℃)	(W/kg)		
835MHz	2012-4-24	41.391	0.899	21.5	2.53	10.12	9.34 (8.41~10.27)
1750MHz	2012-4-23	39.171	1.398	21.5	8.76	35.04	36.1 (32.49 ~ 39.71)
1900MHz	2012-4-24	40.822	1.413	21.5	9.69	38.76	40.30 (36.27~ 44.33)
2450MHz	2012-4-26	38.3	1.88	21.5	14.6	58.4	53.80 (48.42~ 59.18)

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

Table 7: System Check in Body Tissue Simulating Liquid

Frequency	Test Date	Dielectric Parameters		Temp	250mW Measured SAR_{1g}	1W Normalized SAR_{1g}	1W Target SAR_{1g} (±10% deviation)
		ε_r	σ(s/m)	(℃)	(W/kg)		
835MHz	2012-4-25	54.26	0.986	21.5	2.54	10.16	9.46 (8.51~10.41)
1750MHz	2012-4-25	52.651	1.475	21.5	8.99	35.96	38.5 (34.65 ~ 42.35)
1900MHz	2012-4-25	52.136	1.555	21.5	10.6	42.4	41.70 (37.53~45.87)
2450MHz	2012-4-25	51.7	1.9	21.5	12.2	48.8	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 1312, 1413 and 1513 in the case of WCDMA Band IV, to 4132, 4183 and 4233 in the case of WCDMA Band V. The EUT is commanded to operate at maximum transmitting power.

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

6.2. Test Positions

6.2.1. Against Phantom Head

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

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

6.2.2. Body Worn Configuration

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

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

6.3. Test Configuration

6.3.1. GSM Test Configuration

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

6.3.2.3. Body SAR Measurements

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

6.3.3. HSDPA Test Configuration

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

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

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

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

7 ($A_{hs=}$24/15) with β_{hs}=24/15*β_c.

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

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

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

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

Table 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)

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 channels1,6,11; however, if output power reduction is necessary for channels 1 and /or 11 to meet restricted band requirements the highest output channels closest to each of these channels must be tested instead.

SAR is not required for 802.11g channels when the maximum average output power is less than 0.25dB higher than that measured on the corresponding 802.11b channels. When the maximum average output channel in each frequency band is not included in the “default test channels”, the maximum channel should be tested instead of an adjacent “default test channels”, these are referred to as the “required test channels” and are illustrated in table 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 11to meet restricted band requirements the highest out put channels closet to each of these channels should be tested.

√= “default test channels”

* =possible 802.11g channels with maximum average output 0.25dB>=the “default test channels

”

7. Test Results

7.1. Conducted Power Results

Table 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	32.89	32.96	-9.03dB	23.97	23.86	23.93
GPRS (GMSK)	1Txslot	32.96	32.84	32.9	-9.03dB	23.93	23.81	23.87
	2Txslots	32.1	31.95	32	-6.02dB	26.08	25.93	25.98
	3Txslots	30.33	30.14	30.23	-4.26dB	26.07	25.88	25.97
	4Txslots	29.53	29.37	29.4	-3.01dB	**26.52**	**26.36**	**26.39**
EGPRS (GMSK)	1Txslot	32.96	32.85	32.9	-9.03dB	23.93	23.82	23.87
	2Txslots	32.11	31.96	32	-6.02dB	26.09	25.94	25.98
	3Txslots	30.35	30.15	30.24	-4.26dB	26.09	25.89	25.98
	4Txslots	29.56	29.38	29.42	-3.01dB	**26.55**	**26.37**	**26.41**
GSM 1900		**Burst Conducted Power(dBm)**				**Average power(dBm)**		
		Channel 512	Channel 661	Channel 810		Channel 512	Channel 661	Channel 810
GSM		28.98	28.79	29.28	-9.03dB	19.95	19.76	20.25
GPRS (GMSK)	1Txslot	28.94	28.73	29.23	-9.03dB	19.91	19.7	20.2
	2Txslots	28.12	27.97	28.51	-6.02dB	22.1	21.95	22.49
	3Txslots	26.61	26.52	27.08	-4.26dB	22.35	22.26	22.82
	4Txslots	25.8	25.69	26.27	-3.01dB	**22.79**	**22.68**	**23.26**
EGPRS (GMSK)	1Txslot	28.95	28.72	29.24	-9.03dB	19.92	19.69	20.21
	2Txslots	28.12	27.98	28.53	-6.02dB	22.1	21.96	22.51
	3Txslots	26.61	26.53	27.07	-4.26dB	22.35	22.27	22.81
	4Txslots	25.81	25.7	26.28	-3.01dB	**22.8**	**22.69**	**23.27**

Note:

1) Division Factors

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

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

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

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

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

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

=> conducted power divided by (8/3) => -4.26 dB
4Txslots = 4 transmit time slots out of 8 time slots
=> conducted power divided by (8/4) => -3.01 dB
2) Average power numbers
The maximum power numbers are marks in bold.

WCDMA Band IV		Conducted Power (dBm)		
		Channel 1312	Channel 1413	Channel 1513
RMC		22.79	22.83	22.73
HSDPA	Sub - Test 1	22.89	22.86	22.75
	Sub - Test 2	21.8	21.86	21.69
	Sub - Test 3	21.29	21.42	21.21
	Sub - Test 4	21.28	21.43	21.22
HSUPA	Sub - Test 1	21.28	21.48	21.22
	Sub - Test 2	20.5	20.8	20.51
	Sub - Test 3	20.85	21.02	20.78
	Sub - Test 4	20.55	20.76	20.47
	Sub - Test 5	21.33	21.45	21.24
WCDMA Band V		Conducted Power (dBm)		
		Channel 4132	Channel 4183	Channel 4233
RMC		22.98	22.87	22.8
HSDPA	Sub - Test 1	22.8	22.74	22.3
	Sub - Test 2	21.7	21.62	21.74
	Sub - Test 3	21.25	21.16	21.27
	Sub - Test 4	21.24	21.15	21.18
HSUPA	Sub - Test 1	21.14	21.1	21.15
	Sub - Test 2	20.51	20.31	20.44
	Sub - Test 3	20.78	20.64	20.73
	Sub - Test 4	20.46	20.37	20.49
	Sub - Test 5	21.22	21.16	21.23

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	0.618	0.828	0.032	Figure 17
	Middle/190	0.525	0.700	-0.200	Figure 18
	Low/128	0.314	0.420	0.085	Figure 19
Left hand, Tilt 15 Degree	High/251	0.294	0.385	-0.011	Figure 20
	Middle/190	0.255	0.333	0.034	Figure 21
	Low/128	0.158	0.205	-0.003	Figure 22
Right hand, Touch Cheek	High/251	0.536	0.707	-0.001	Figure 23
	Middle/190	0.439	0.578	-0.082	Figure 24
	Low/128	0.304	0.399	0.097	Figure 25
Right hand, Tilt 15 Degree	High/251	0.282	0.369	0.033	Figure 26
	Middle/190	0.245	0.318	0.040	Figure 27
	Low/128	0.166	0.214	0.012	Figure 28
Test position of Body with Battery 1 (Distance 10mm)					
Back Side (4Txslots)	High/251	0.692(max.cube)	0.951(max.cube)	0.013	Figure 29
	Middle/190	0.751(max.cube)	1.020(max.cube)	-0.011	Figure 30
	Low/128	0.524(max.cube)	0.710(max.cube)	0.007	Figure 31
Front Side (4Txslots)	Low/128	0.430	0.571	0.008	Figure 32
Left Edge(4Txslots)	Low/128	0.201	0.288	0.004	Figure 33
Right Edge(4Txslots)	Low/128	0.224	0.327	0.071	Figure 34
Top Edge(4Txslots)	N/A	N/A	N/A	N/A	N/A
Bottom Edge(4Txslots)	Low/128	0.020	0.034	0.069	Figure 35
Worst Case Position of Body with EGPRS (Battery 1, GMSK, Distance 10mm)					
Back Side (4Txslots)	Middle/190	0.718	0.971	0.000	Figure 36
Worst Case Position of Body with Stereo Headset 1 and Battery 1 (Distance 10mm)					
Back Side(GSM)	Middle/190	0.585(max.cube)	0.810(max.cube)	-0.008	Figure 37

Worst Case Position of Body with Stereo Headset 2 and Battery 1 (Distance 10mm)					
Back Side(GSM)	Middle/190	0.600(max.cube)	0.813(max.cube)	-0.036	Figure 38
Worst Case Position of Body with Battery 2 (Distance 10mm)					
Back Side (4Txslots)	Middle/190	0.724(max.cube)	0.967(max.cube)	0.018	Figure 39

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 and the other channels were measured at the worst position.
4. WWAN antenna is located at bottom edge; antenna-to-top edge distance is more than 2.5 cm (see ANNEX L). 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.

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	0.247	0.440	0.014	Figure 40
	Middle/661	0.288	0.506	0.026	Figure 41
	Low/512	0.324	0.565	0.064	Figure 42
Left hand, Tilt 15 Degree	High/810	0.071	0.125	0.040	Figure 43
	Middle/661	0.076	0.134	0.042	Figure 44
	Low/512	0.089	0.152	0.034	Figure 45
Right hand, Touch Cheek	High/810	0.105	0.169	0.024	Figure 46
	Middle/661	0.129	0.204	0.071	Figure 47
	Low/512	0.141	0.223	0.018	Figure 48
Right hand, Tilt 15 Degree	High/810	0.069	0.122	0.018	Figure 49
	Middle/661	0.079	0.139	0.029	Figure 50
	Low/512	0.085	0.147	0.003	Figure 51
Test position of Body with Battery 1 (Distance 10mm)					
Back Side (4Txslots)	High/810	0.298	0.523	-0.025	Figure 52
	Middle/661	0.302(max.cube)	0.528(max.cube)	0.029	Figure 53
	Low/512	0.441	0.762	0.120	Figure 54
Front Side (4Txslots)	High/810	0.221	0.377	-0.030	Figure 55
Left Edge(4Txslots)	High/810	0.081	0.143	-0.130	Figure 56
Right Edge(4Txslots)	High/810	0.038	0.067	0.090	Figure 57
Top Edge(4Txslots)	N/A	N/A	N/A	N/A	N/A
Bottom Edge(4Txslots)	High/810	0.243	0.446	0.050	Figure 58
Worst Case Position of Body with EGPRS (Battery 1, GMSK, Distance 10mm)					
Back Side (4Txslots)	Low/512	0.450(max.cube)	0.791(max.cube)	-0.061	Figure 59
Worst Case Position of Body with Stereo Headset 1 and Battery 1 (Distance 10mm)					
Back Side (GSM)	Low/512	0.243	0.420	-0.023	Figure 60
Worst Case Position of Body with Stereo Headset 2 and Battery 1 (Distance 10mm)					

Back Side (GSM)	Low/512	0.237	0.408	-0.001	Figure 61

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

2. The Head SAR test shall be performed at the high, middle and low frequency channels of each operating mode.
3. The Body SAR test firstly shall be performed at the maximum source-based time-averaged output power channel of each operating mode and the other channels were measured at the worst position.
4. WWAN antenna is located at bottom edge; antenna-to-top edge distance is more than 2.5 cm (see ANNEX L). 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.

7.2.3. WCDMA Band IV (WCDMA)

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

Limit of SAR		10 g Average	1 g Average	Power Drift	Graph Results
		2.0 W/kg	1.6 W/kg	± 0.21 dB	
Different Test Position	Channel	Measurement Result(W/kg)		Power Drift (dB)	
		10 g Average	1 g Average		
Test Position of Head with Battery 1					
Left hand, Touch Cheek	High/1513	0.558	0.952	-0.024	Figure 62
	Middle/1413	0.534	0.910	-0.080	Figure 63
	Low/1312	0.488	0.819	0.053	Figure 64
Left hand, Tilt 15 Degree	High/1513	0.147	0.242	0.047	Figure 65
	Middle/1413	0.130	0.210	0.037	Figure 66
	Low/1312	0.111	0.175	0.040	Figure 67
Right hand, Touch Cheek	High/1513	0.334	0.543	0.003	Figure 68
	Middle/1413	0.322	0.521	0.051	Figure 69
	Low/1312	0.300	0.484	0.070	Figure 70
Right hand, Tilt 15 Degree	High/1513	0.151	0.255	0.038	Figure 71
	Middle/1413	0.132	0.221	0.024	Figure 72
	Low/1312	0.112	0.185	0.044	Figure 73
Worst Case Position of Head with Battery 2					
Left hand, Touch Cheek	High/1513	0.592	0.999	0.020	Figure 74
Test position of Body with Battery 1 (Distance 10mm)					
Back Side	High/1513	0.434	0.752	-0.020	Figure 75
	Middle/1413	0.426	0.738	-0.010	Figure 76
	Low/1312	0.326	0.561	-0.016	Figure 77
Front Side	Middle/1413	0.347(max.cube)	0.599(max.cube)	0.020	Figure 78
Left Edge	Middle/1413	0.137	0.230	0.059	Figure 79
Right Edge	Middle/1413	0.077	0.126	0.130	Figure 80
Top Edge	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Middle/1413	0.205	0.369	0.056	Figure 81
Worst Case Position of Body with Stereo Headset 1 and Battery 1 (Distance 10mm)					
Back Side	High/1513	0.377	0.652	-0.005	Figure 82
Worst Case Position of Body with Stereo Headset 2 and Battery 1 (Distance 10mm)					

Back Side	High/1513	0.407	0.705	-0.006	Figure 83

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, and the other channels were measured at the worst position.
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 L). 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.

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	0.434	0.576	0.067	Figure 84
	Middle/4183	0.393	0.520	0.019	Figure 85
	Low/4132	0.263	0.346	0.041	Figure 86
Left hand, Tilt 15 Degree	High/4233	0.261	0.342	0.022	Figure 87
	Middle/4183	0.241	0.315	0.040	Figure 88
	Low/4132	0.166	0.216	0.047	Figure 89
Right hand, Touch Cheek	High/4233	0.480	0.632	0.081	Figure 90
	Middle/4183	0.441	0.579	0.077	Figure 91
	Low/4132	0.289	0.379	0.029	Figure 92
Right hand, Tilt 15 Degree	High/4233	0.279	0.361	0.009	Figure 93
	Middle/4183	0.260	0.336	0.032	Figure 94
	Low/4132	0.177	0.227	0.047	Figure 95
Test position of Body with Battery 1 (Distance 10mm)					
Back Side	High/4233	0.608(max.cube)	0.831(max.cube)	-0.018	Figure 96
	Middle/4183	0.592	0.809	-0.006	Figure 97
	Low/4132	0.476(max.cube)	0.648(max.cube)	-0.007	Figure 98
Front Side	Low/4132	0.359	0.475	0.014	Figure 99
Left Edge	Low/4132	0.202	0.293	-0.003	Figure 100
Right Edge	Low/4132	0.196	0.282	0.006	Figure 101
Top Edge	N/A	N/A	N/A	N/A	N/A
Bottom Edge	Low/4132	0.021	0.035	0.120	Figure 102
Worst Case Position of Body with Stereo Headset 1 and Battery 1 (Distance 10mm)					
Back Side	High/4233	0.499(max.cube)	0.679(max.cube)	-0.009	Figure 103
Worst Case Position of Body with Stereo Headset 2 and Battery 1 (Distance 10mm)					
Back Side	High/4233	0.528(max.cube)	0.717(max.cube)	-0.014	Figure 104

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

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, and the other channels were measured at the worst position.

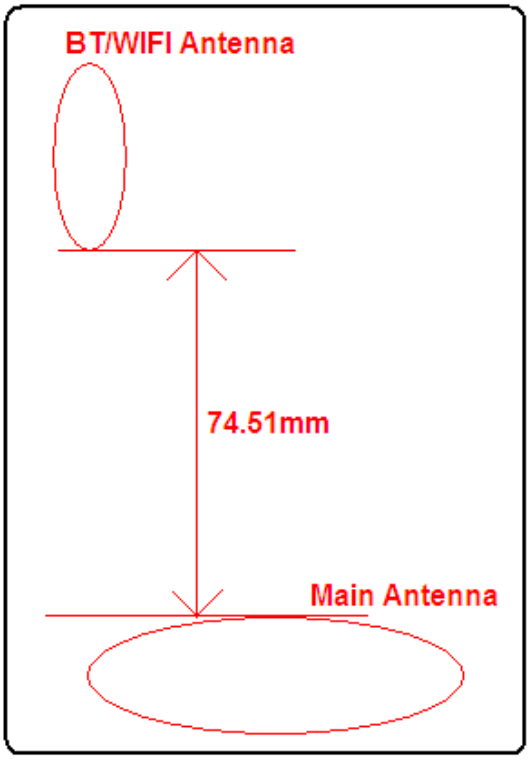
4. WCDMA mode were tested under RMC 12.2kbps with HSPA (HSDPA/HSUPA) inactive per KDB Publication 941225 D01. HSPA (HSDPA/HSUPA) SAR for body was not required since the average output power of the HSPA (HSDPA/HSUPA) subtests was not more than 0.25 dB higher than the RMC level and the maximum SAR for 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 L). 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.

7.2.5. Bluetooth/WiFi Function

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



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

	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

		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

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	0.097	0.207	0.054	Figure 105
Left hand, Tilt 15 Degree	Low/1	0.053	0.109	0.052	Figure 106
Right hand, Touch cheek	Low/1	0.058	0.112	-0.091	Figure 107
Right hand, Tilt 15 Degree	Low/1	0.037	0.071	0.052	Figure 108
Test position of Body with Battery 1 (Distance 10mm)					
Back Side	Low/1	0.277	0.620	0.132	Figure 109
Front Side	Low/1	0.024	0.045	0.063	Figure 110
Left Edge	N/A	N/A	N/A	N/A	N/A
Right Edge	Low/1	0.077	0.144	-0.093	Figure 111
Top Edge	Low/1	0.029	0.049	0.013	Figure 112
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 K). 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.

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

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

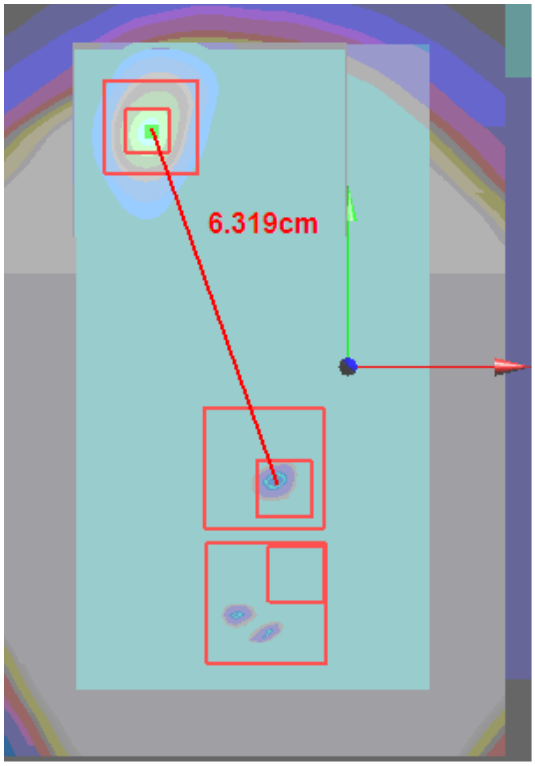
Simultaneous SAR

About WIFI and GSM/WCDMA Antenna,

SAR_{1g}(W/kg) Test Position	GSM850	GSM1900	WCDMA Band IV	WCDMA Band V	WIFI (802.11b)	MAX. ΣSAR_{1g}
Left hand, Touch cheek	0.828	0.565	**0.999**	0.576	0.207	1.206
Left hand, Tilt 15 Degree	**0.385**	0.152	0.242	0.342	0.109	0.494
Right hand, Touch cheek	**0.707**	0.223	0.543	0.632	0.112	0.819
Right hand, Tilt 15 Degree	**0.369**	0.147	0.255	0.361	0.071	0.440
Body, Back Side	**1.020**	0.791	0.752	0.831	0.620	1.640
Body, Front Side	0.571	0.377	**0.599**	0.475	0.045	0.644
Body, Left Edge	0.288	0.143	0.230	**0.293**	N/A	0.293
Body, Right Edge	**0.327**	0.067	0.126	0.282	0.144	0.471
Body, Top Edge	N/A	N/A	N/A	N/A	0.049	0.049
Body, Bottom Edge	0.034	**0.446**	0.369	0.035	N/A	0.446

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

WIFI antenna is ＞5cm from GSM/WCDMA Antenna. (GSM/WCDMA Antenna SAR) 1.020 +(WIFI Antenna SAR) 0.620 =1.640＞1.6.
addition calculate:
Ratio= (SAR1+SAR2)/Distance(cm)
The position SAR1 is (x= -14, y= -22, z= -205.2), the position SAR2 is (x= -30.49, y=39, z= -207.6), so the distance between the SAR1 and SAR2 is 6.319cm. Thus [($SAR_{GSM/WCDMA}$) 1.020W/kg + (SAR_{WiFi}) 0.620 W/kg] /Peak SAR Location Separation =1.640 /6.319 =0.260 <0.3
So the Simultaneous SAR are not required for wifi and GSM/WCDMA antenna.



About BT and GSM/WCDMA Antenna,

SAR_{1g}(W/kg) Test Position	GSM850	GSM1900	WCDMA Band IV	WCDMA Band V	BT	MAX. ΣSAR_{1g}
Left hand, Touch cheek	0.828	0.565	**0.999**	0.576	0	0.999
Left hand, Tilt 15 Degree	**0.385**	0.152	0.242	0.342	0	0.385
Right hand, Touch cheek	**0.707**	0.223	0.543	0.632	0	0.707
Right hand, Tilt 15 Degree	**0.369**	0.147	0.255	0.361	0	0.369
Body, Back Side	**1.020**	0.791	0.752	0.831	0	1.020
Body, Front Side	0.571	0.377	**0.599**	0.475	0	0.599
Body, Left Edge	0.288	0.143	0.230	**0.293**	0	0.293
Body, Right Edge	**0.327**	0.067	0.126	0.282	0	0.327
Body, Top Edge	N/A	N/A	N/A	N/A	0	0
Body, Bottom Edge	0.034	**0.446**	0.369	0.035	0	0.446

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)1.020 +(BT Antenna SAR)0 =1.020 ＜1.6. So the Simultaneous SAR are not required for BT and GSM/WCDMA antenna.

About BT and WIFI Antenna, BT antenna is <2.5cm from WIFI Antenna. (BT Antenna SAR_{MAX}) 0 +(WIFI Antenna SAR_{MAX}) 0.620 =0.620 ＜1.6, So the Simultaneous SAR are not required for WIFI and BT Antenna.

8. Measurement Uncertainty

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

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

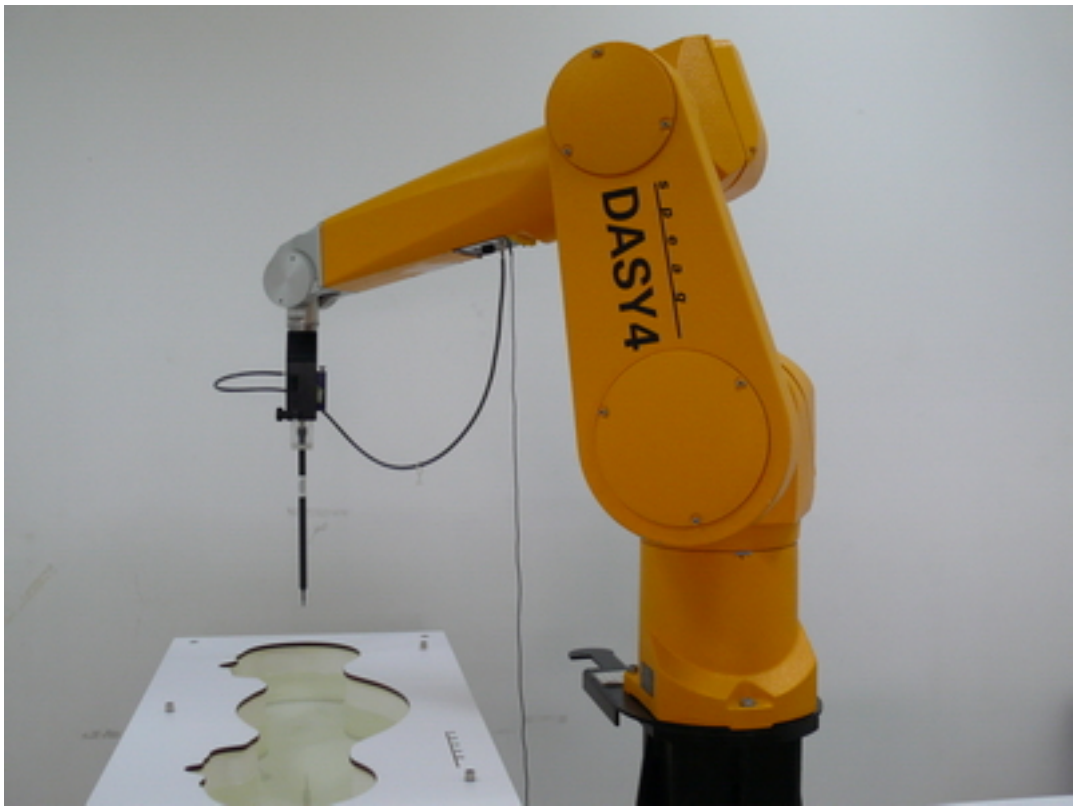
9. Main Test Instruments

Table 21: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	Agilent 8753E	US37390326	September 12, 2011	One year
02	Dielectric Probe Kit	Agilent 85070E	US44020115	No Calibration Requested	
03	Power meter	Agilent E4417A	GB41291714	March 11, 2012	One year
04	Power sensor	Agilent N8481H	MY50350004	September 25, 2011	One year
05	Power sensor	E9327A	US40441622	September 24, 2011	One year
06	Signal Generator	HP 8341B	2730A00804	September 12, 2011	One year
07	Dual directional coupler	778D-012	50519	March 26, 2012	One year
08	Dual directional coupler	777D	50146	March 26, 2012	One year
09	Amplifier	IXA-020	0401	No Calibration Requested	
10	BTS	E5515C	MY48360988	December 2, 2011	One year
11	E-field Probe	ES3DV3	3071	June 22, 2011	One year
12	E-field Probe	EX3DV4	3816	October 3, 2011	One year
13	DAE	DAE4	1291	October 10, 2011	One year
14	DAE	DAE4	1317	January 23, 2012	One year
15	Validation Kit 835MHz	D835V2	4d020	August 26, 2011	Two years
16	Validation Kit 1750MHz	D1750V2	1033	May 17, 2010	Two years
17	Validation Kit 1900MHz	D1900V2	5d060	August 31, 2011	Two years
18	Validation Kit 2450MHz	D2450V2	786	August 29, 2011	Two years
19	Temperature Probe	JM222	AA1009129	March 15, 2012	One year
20	Hygrothermograph	WS-1	64591	September 28, 2011	One year

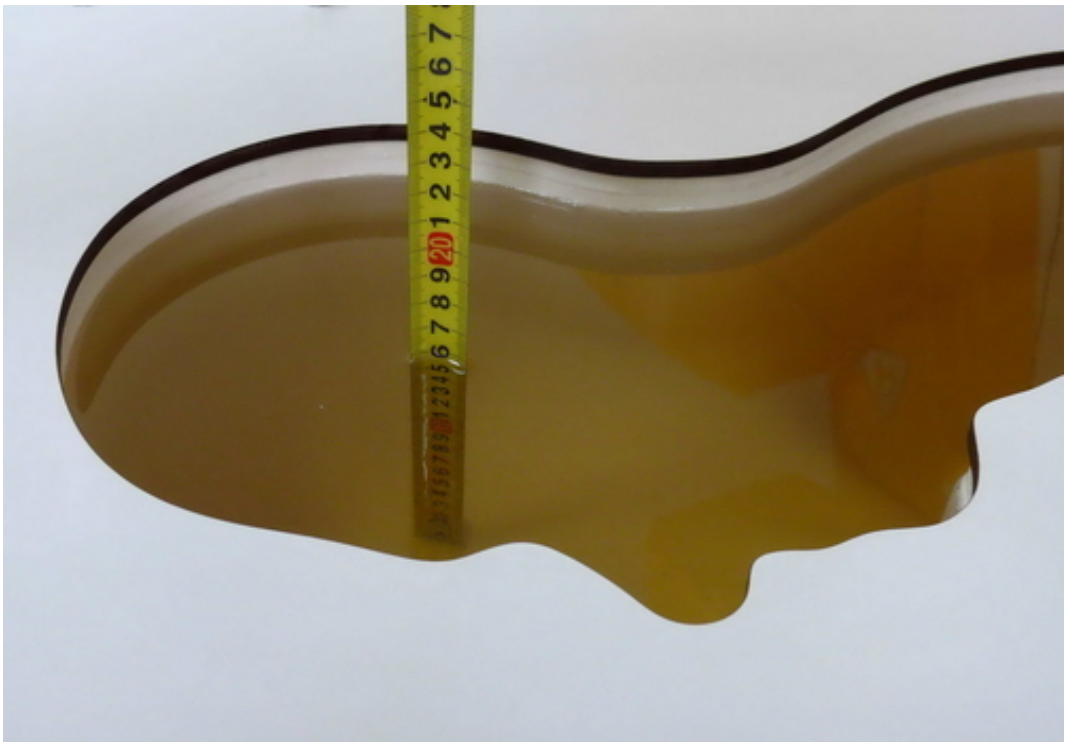
*******END OF REPORT *******

ANNEX A: Test Layout

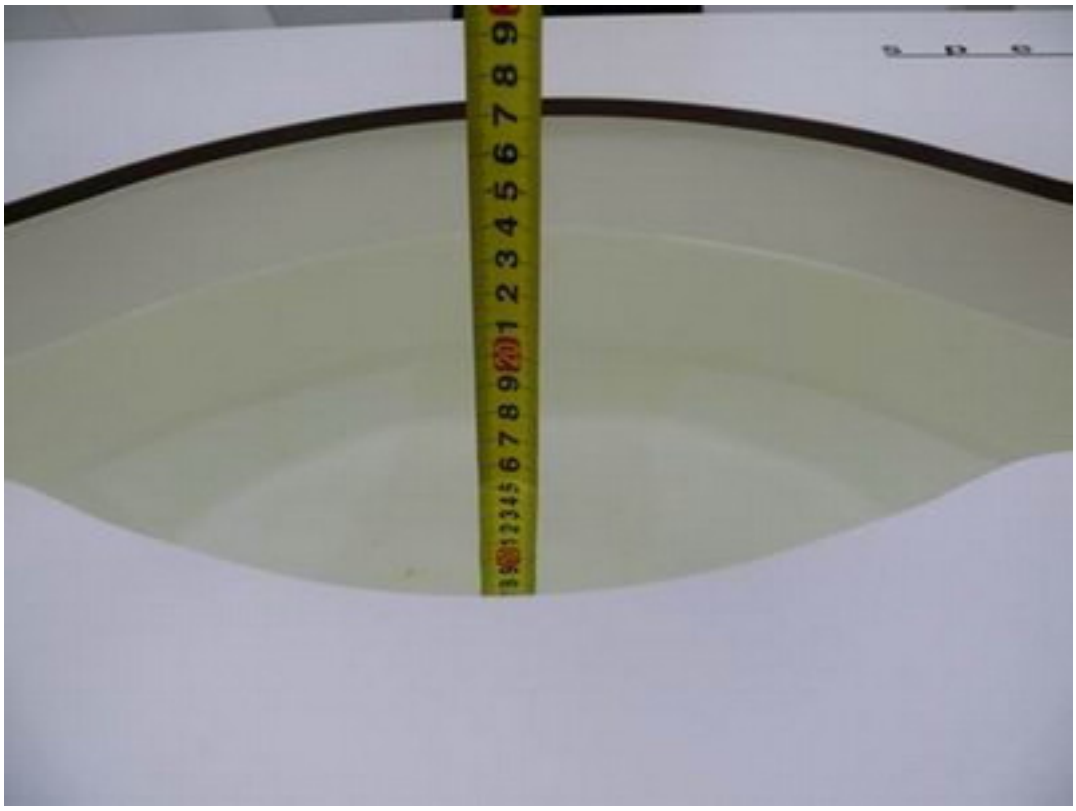


Picture 1: Specific Absorption Rate Test Layout

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

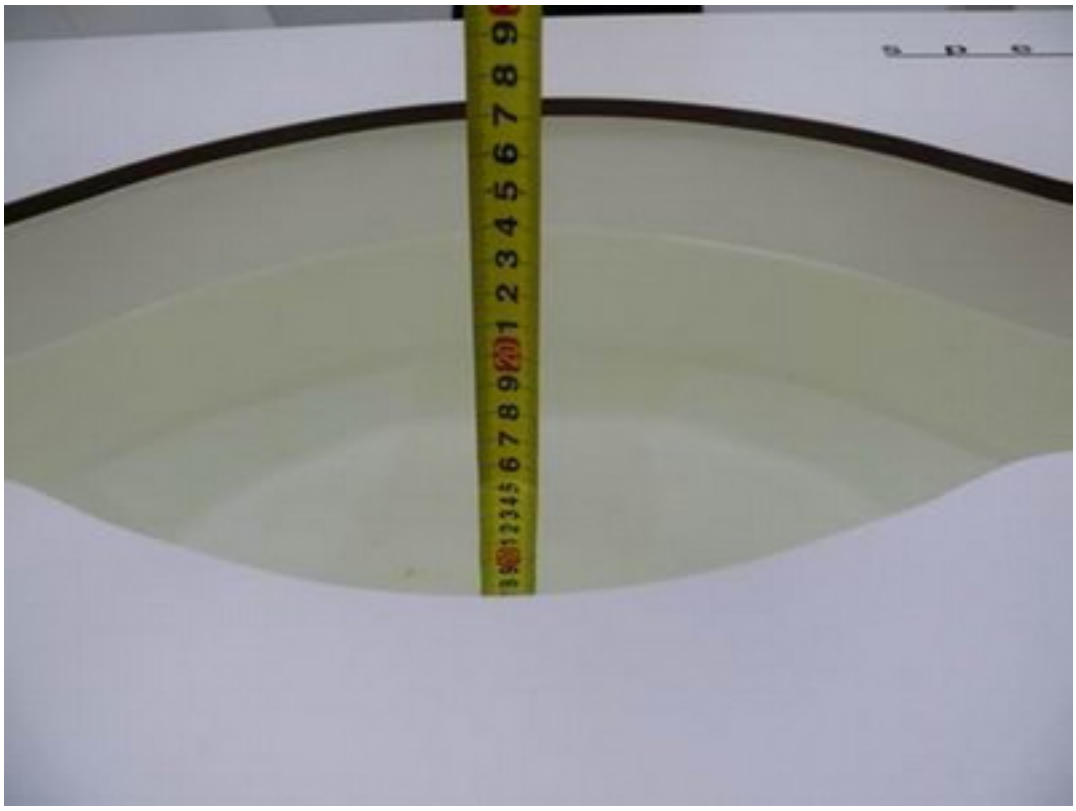


Picture 3: Liquid depth in the head Phantom (835MHz, 15.3cm depth)



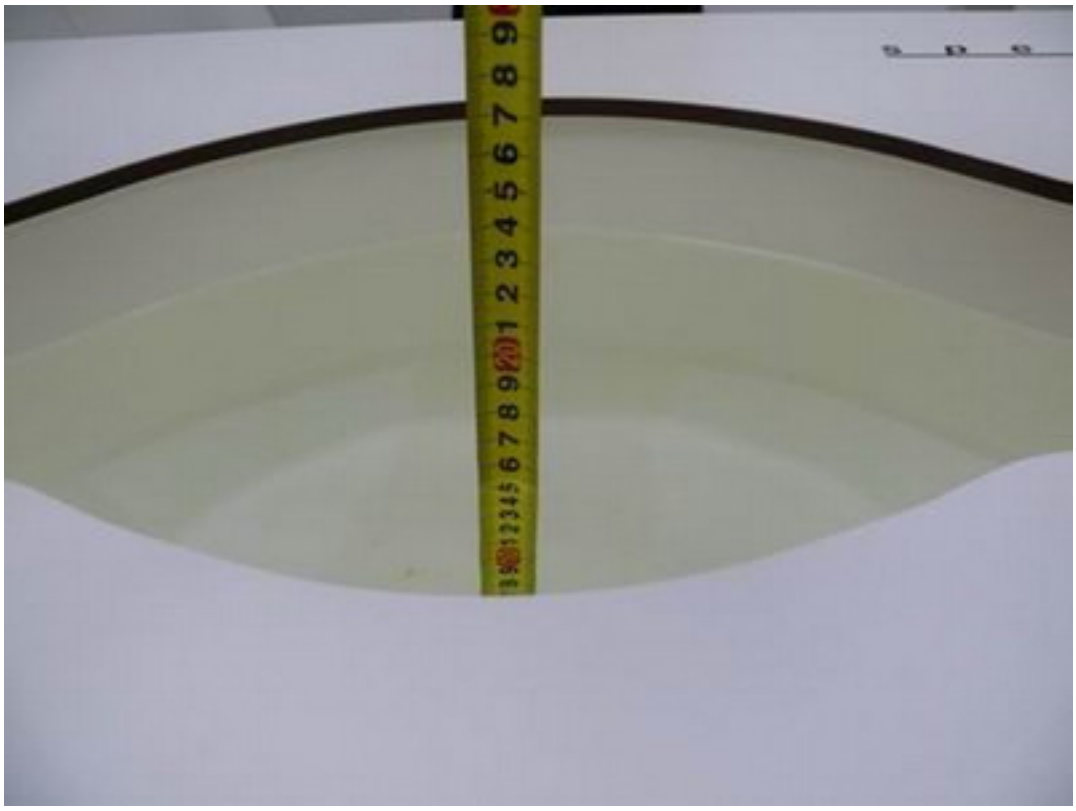
Picture 4: Liquid depth in the flat Phantom (1750 MHz, 15.3cm depth)

Picture 5: liquid depth in the head Phantom (1750 MHz, 15.1cm depth)



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

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



Picture 8: Liquid depth in the flat Phantom (2450 MHz, 15.4cm depth)

Picture 9: 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: 24.04.2012 09:26:24

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

Medium parameters used: f = 835 MHz; σ = 0.899 mho/m; ε_r = 41.391; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011

Electronics: DAE4 Sn1291; Calibrated: 10.10.2011

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

Maximum value of Total (interpolated) = 17.123 mW/g m

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

Reference Value = 55.745 V/m; Power Drift = 0.0062 dB

Peak SAR (extrapolated) = 3.7910

SAR(1 g) = 2.53 mW/g; SAR(10 g) = 1.66 mW/g

Maximum value of SAR (measured) = 2.734 mW/g

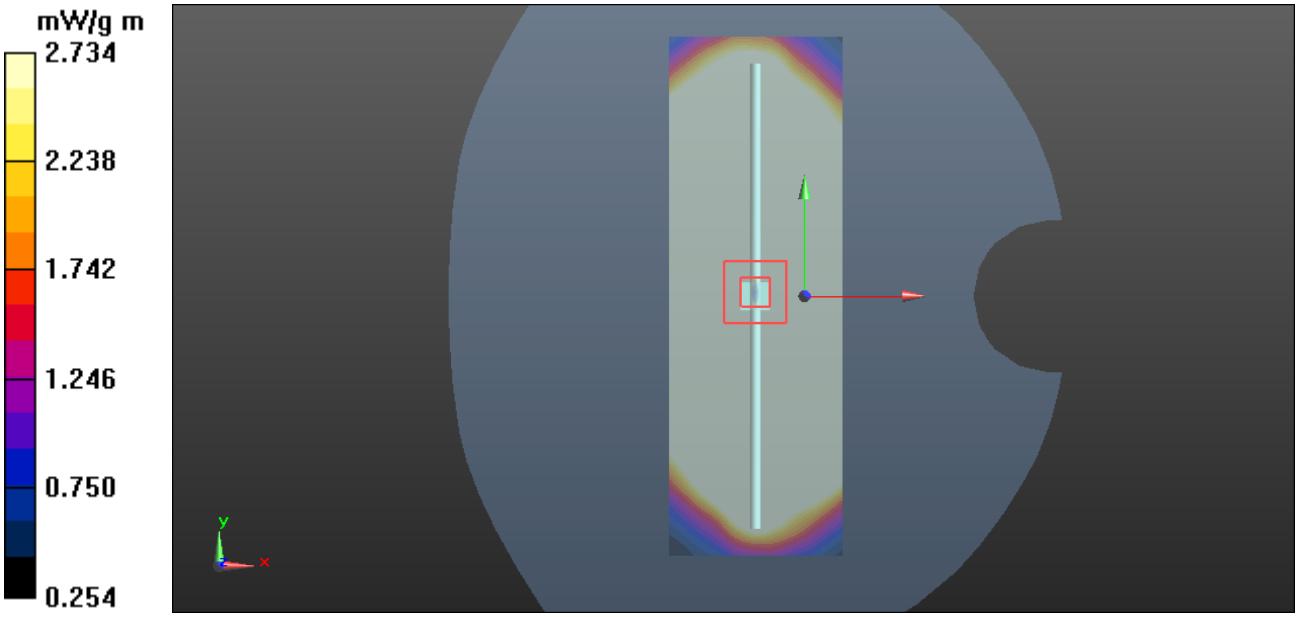


Figure 9 System Performance Check 835MHz 250mW

System Performance Check at 835 MHz Body TSL

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

Date/Time: 25.04.2012 11:24:09

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

Medium parameters used: f = 835 MHz; σ = 0.986 mho/m; ε_r = 54.26; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011

Electronics: DAE4 Sn1291; Calibrated: 10.10.2011

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

835 MHZ Dipole/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of Total (interpolated) = 21.494 mW/g m

835 MHZ Dipole/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.312 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 3.7360

SAR(1 g) = 2.54 mW/g; SAR(10 g) = 1.67 mW/g

Maximum value of SAR (measured) = 2.742 mW/g

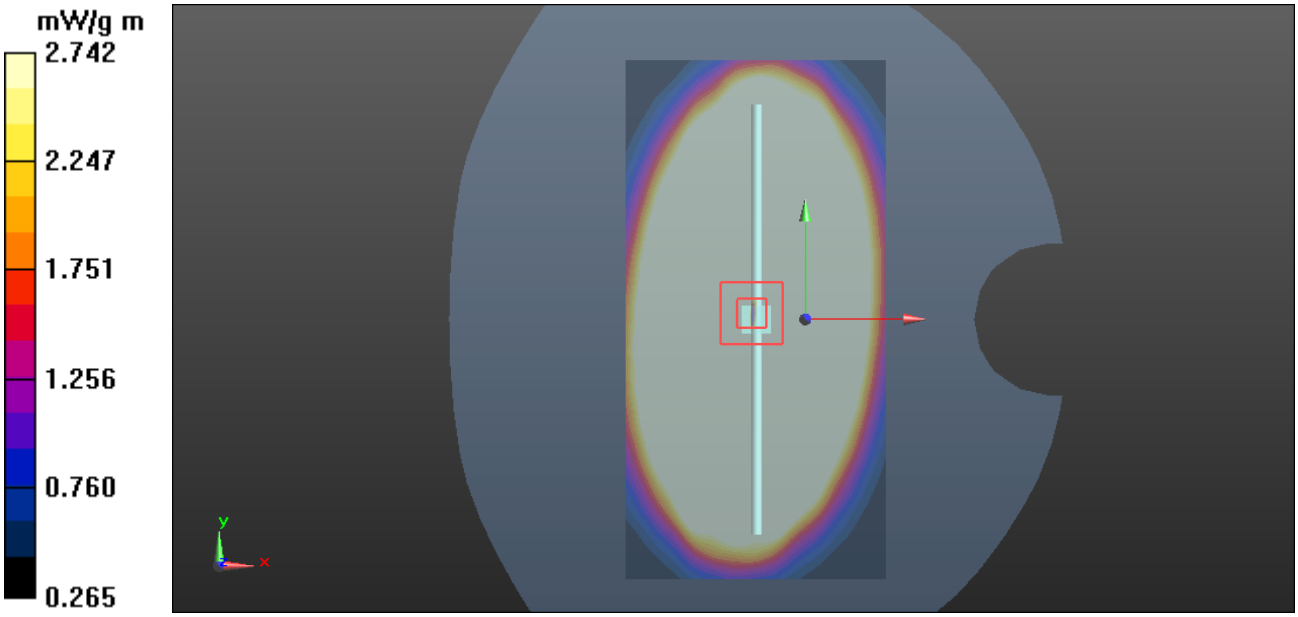


Figure 10 System Performance Check 835MHz 250mW

System Performance Check at 1750 MHz Head TSL

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

Date/Time: 23.04.2012 20:31:30

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

Medium parameters used: f = 1750 MHz; σ = 1.398 mho/m; ε_r = 39.171; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3071; ConvF(5.03, 5.03, 5.03); Calibrated: 22.06.2011

Electronics: DAE4 Sn1291; Calibrated: 10.10.2011

Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

1750 MHZ Dipole/Area Scan (41x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of Total (interpolated) = 86.184 mW/g m

1750 MHZ Dipole/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 84.470 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 15.9690

SAR(1 g) = 8.76 mW/g; SAR(10 g) = 4.65 mW/g

Maximum value of SAR (measured) = 9.821 mW/g

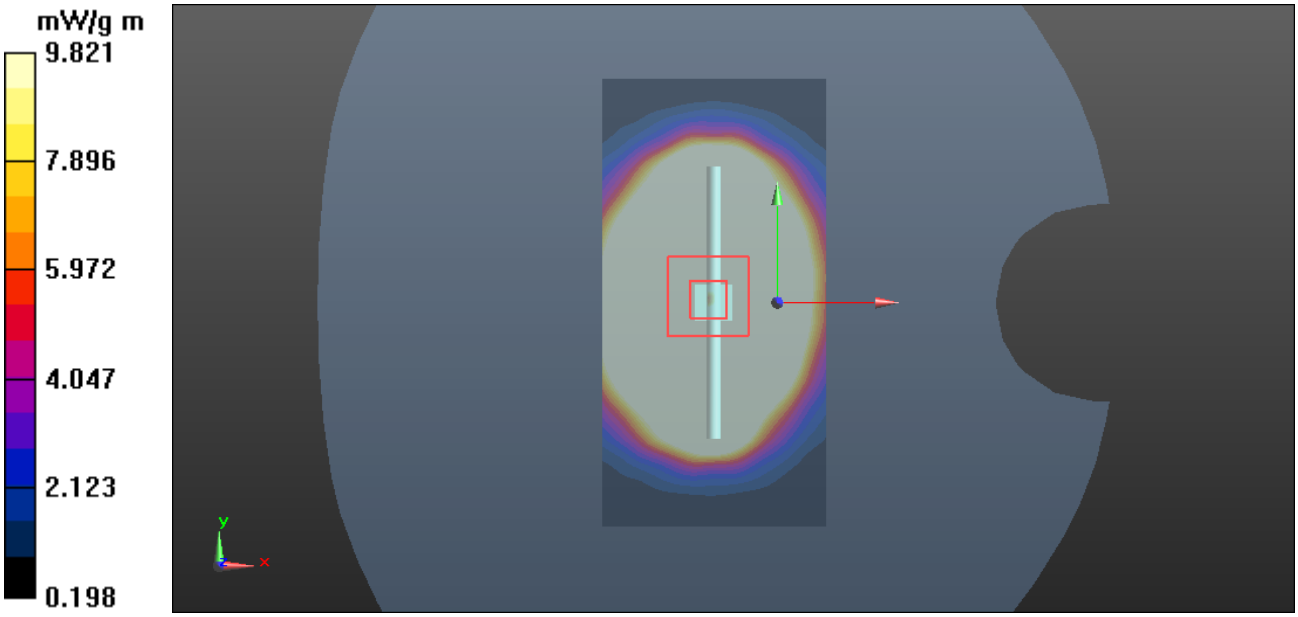


Figure 11 System Performance Check 1750MHz 250mW

System Performance Check at 1750 MHz Body TSL

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

Date/Time: 25.04.2012 02:32:59

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

Medium parameters used: f = 1750 MHz; σ = 1.475 mho/m; ε_r = 52.651; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 22.06.2011

Electronics: DAE4 Sn1291; Calibrated: 10.10.2011

Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

1750 MHZ Dipole/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of Total (interpolated) = 73.618 mW/g m

1750 MHZ Dipole/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 83.494 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 15.8190

SAR(1 g) = 8.99 mW/g; SAR(10 g) = 4.79 mW/g

Maximum value of SAR (measured) = 10.145 mW/g

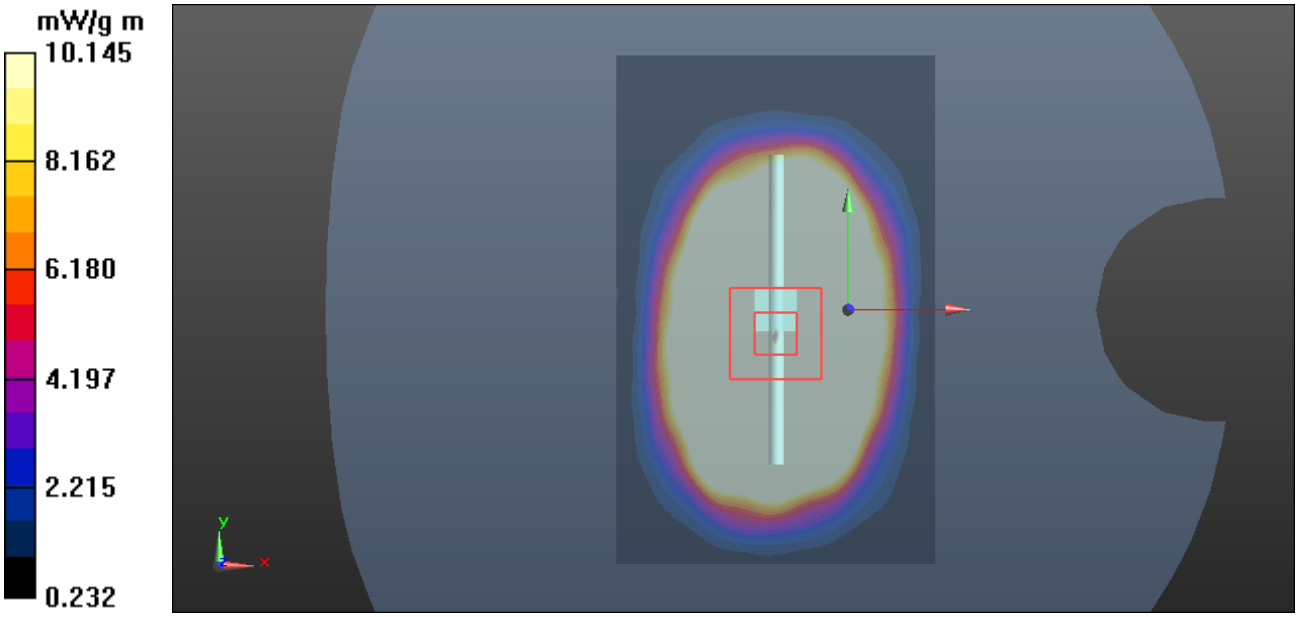


Figure 12 System Performance Check 1750MHz 250mW

System Performance Check at 1900 MHz Head TSL

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

Date/Time: 24.04.2012 21:25:01

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

Medium parameters used: f = 1900 MHz; σ = 1.413 mho/m; ε_r = 40.822; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3071; ConvF(4.83, 4.83, 4.83); Calibrated: 22.06.2011

Electronics: DAE4 Sn1291; Calibrated: 10.10.2011

Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

1900 MHZ Dipole/Area Scan (41x71x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of Total (interpolated) = 81.479 mW/g m

1900 MHZ Dipole/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 91.059 V/m; Power Drift = -0.20 dB

Peak SAR (extrapolated) = 18.0120

SAR(1 g) = 9.69 mW/g; SAR(10 g) = 5.02 mW/g

Maximum value of SAR (measured) = 10.907 mW/g

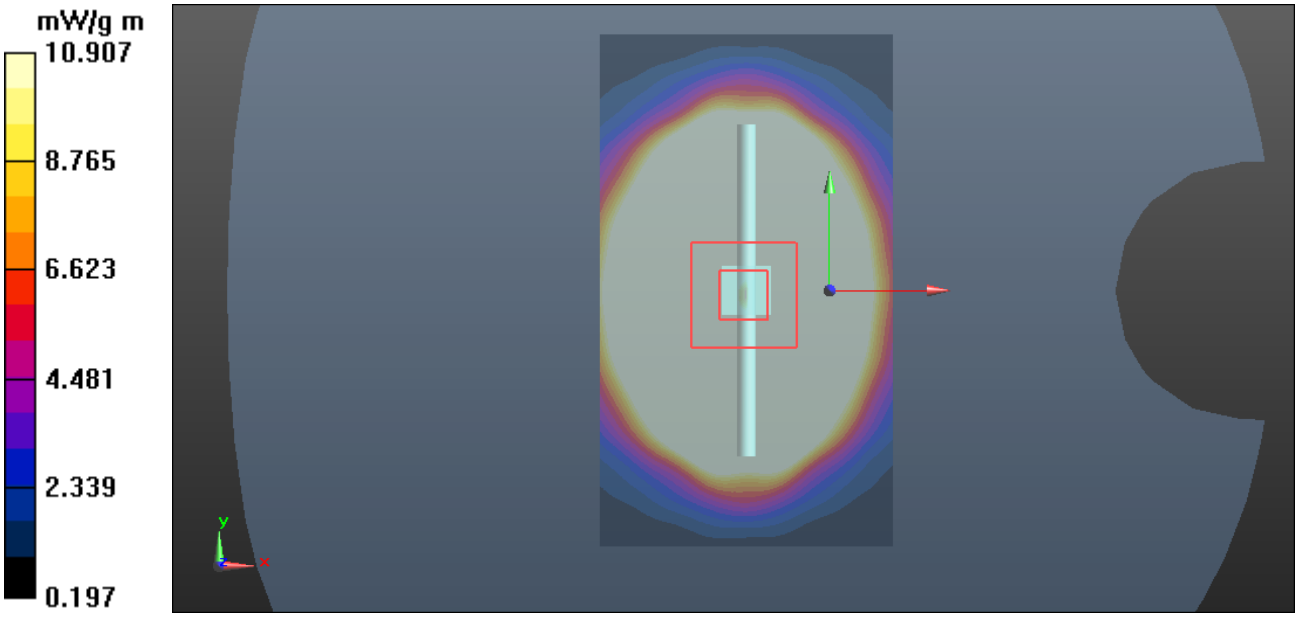


Figure 13 System Performance Check 1900MHz 250mW

System Performance Check at 1900 MHz Body TSL

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

Date/Time: 25.04.2012 06:56:23

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

Medium parameters used: f = 1900 MHz; σ = 1.555 mho/m; ε_r = 52.136; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3071; ConvF(4.32, 4.32, 4.32); Calibrated: 22.06.2011

Electronics: DAE4 Sn1291; Calibrated: 10.10.2011

Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

1900 MHZ Dipole/Area Scan (41x71x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of Total (interpolated) = 93.348 mW/g m

1900 MHZ Dipole/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 89.186 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 18.9640

SAR(1 g) = 10.6 mW/g; SAR(10 g) = 5.54 mW/g

Maximum value of SAR (measured) = 11.972 mW/g

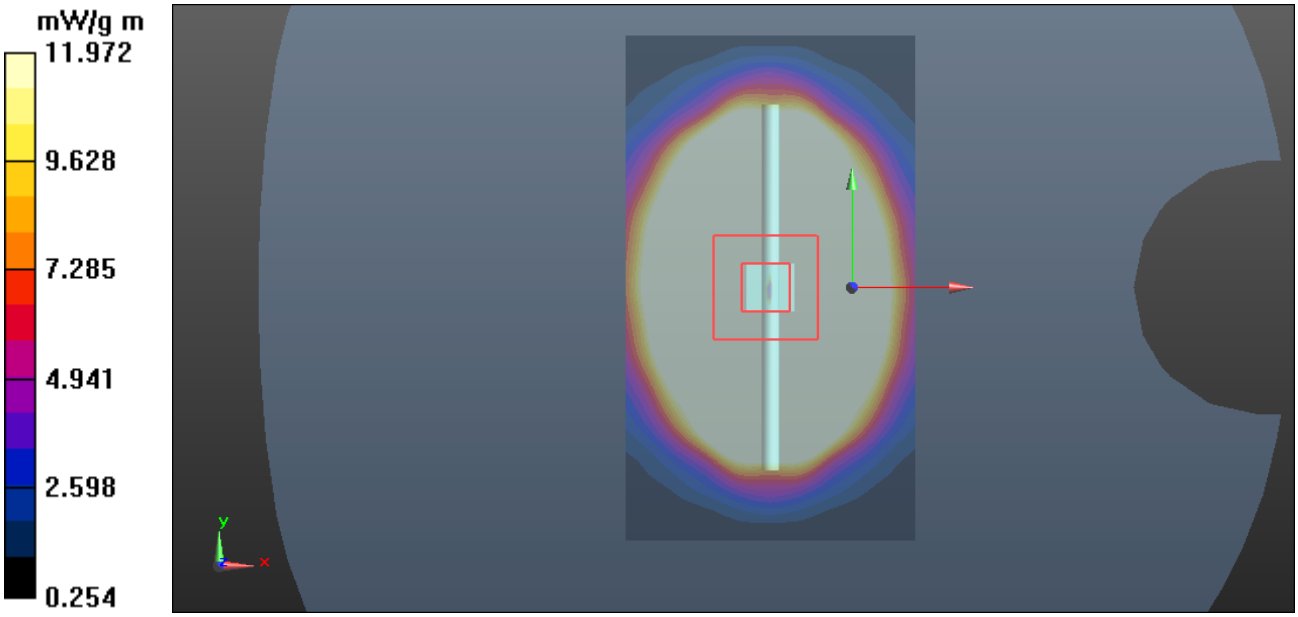


Figure 14 System Performance Check 1900MHz 250Mw

System Performance Check at 2450 MHz Head TSL

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

Date/Time: 4/26/2012 2:02:47 AM

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

Medium parameters used: f = 2450 MHz; σ = 1.88 mho/m; ε_r = 38.3; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

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) = 18.1 mW/g

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

Reference Value = 92.1 V/m; Power Drift = 0.068 dB

Peak SAR (extrapolated) = 31.0 W/kg

SAR(1 g) = 14.6 mW/g; SAR(10 g) = 6.67 mW/g

Maximum value of SAR (measured) = 16.5 mW/g

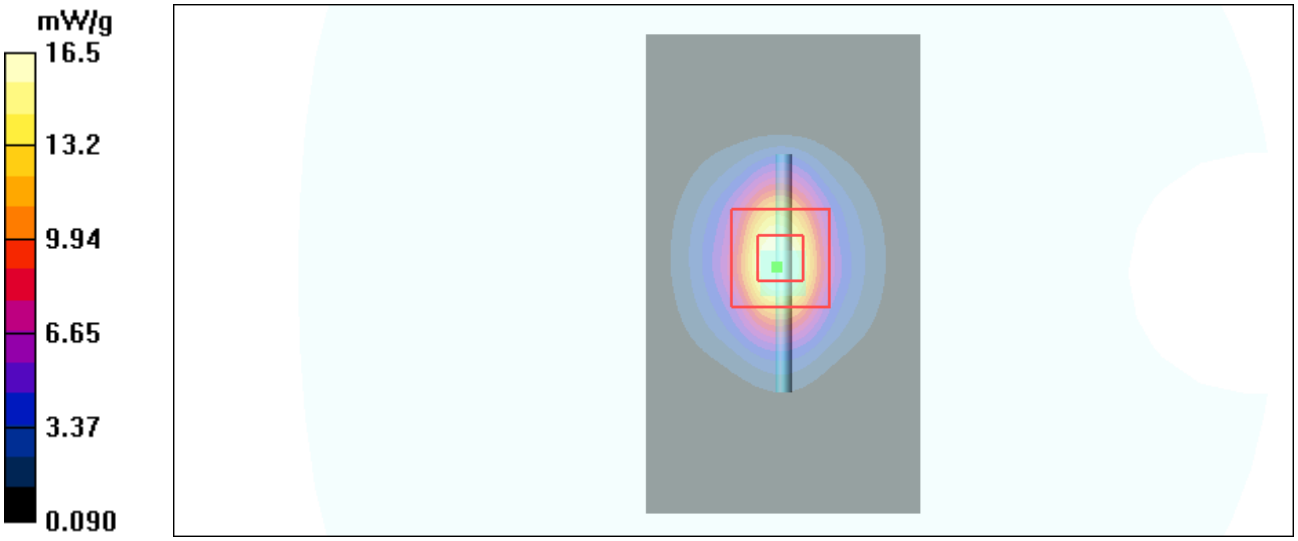


Figure 15 System Performance Check 2450MHz 250mW

System Performance Check at 2450 MHz Body TSL

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

Date/Time: 4/25/2012 10:46:59 PM

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

Medium parameters used: f = 2450 MHz; σ = 1.9 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY4 Configuration:

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

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

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

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

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

Maximum value of SAR (interpolated) = 15.4 mW/g

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

Reference Value = 87.9 V/m; Power Drift = -0.005 dB

Peak SAR (extrapolated) = 23.6 W/kg

SAR(1 g) = 12.2 mW/g; SAR(10 g) = 5.84 mW/g

Maximum value of SAR (measured) = 14.1 mW/g

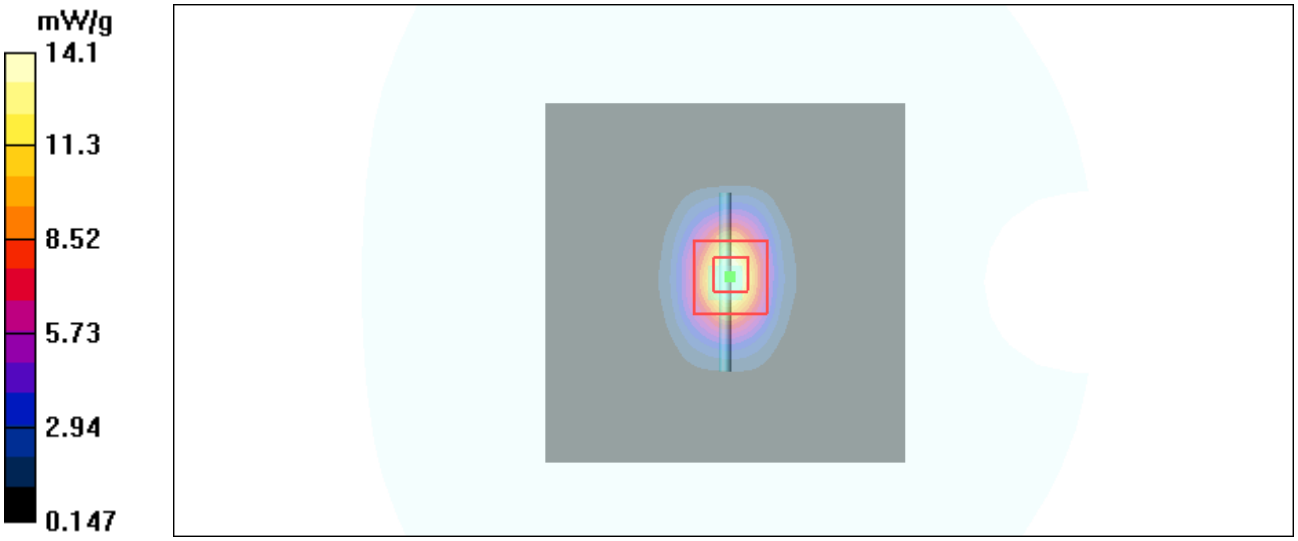


Figure 16 System Performance Check 2450MHz 250mW

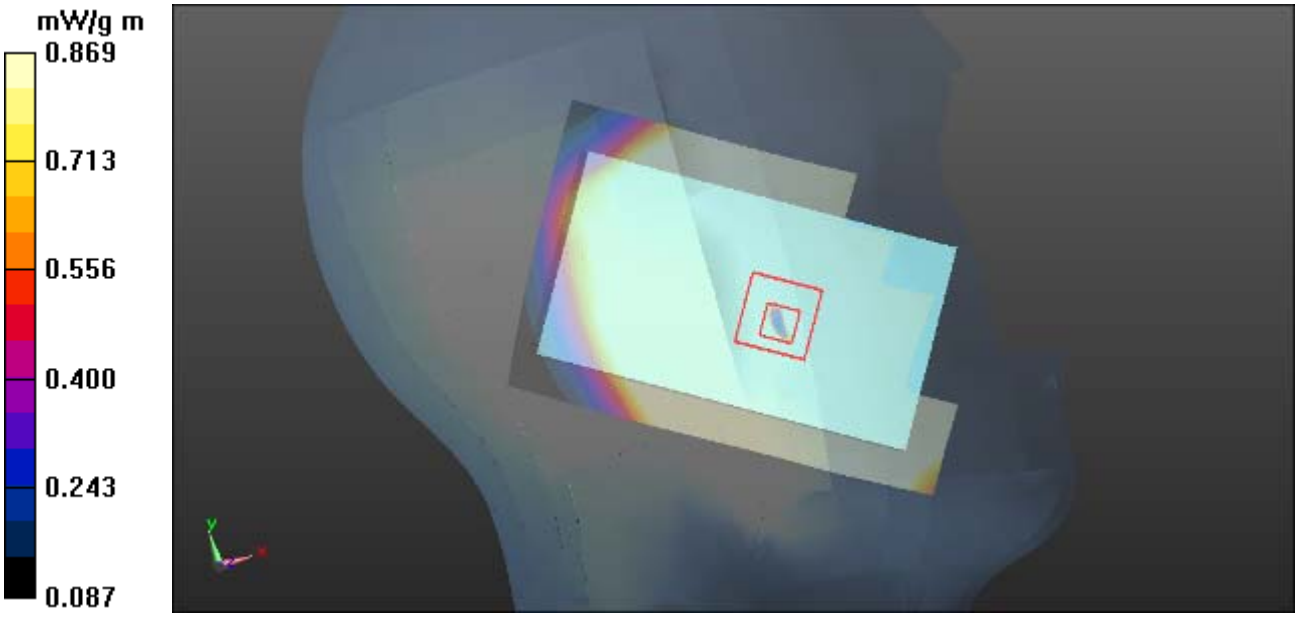
ANNEX C: Graph Results

GSM 850 Left Cheek High (Battery 1)

Date/Time: 24.04.2012 10:22:15
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.913 mho/m; ε_r = 41.161; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Left/Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 4.130 mW/g m

GSM 850 Left/Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.603 V/m; Power Drift = 0.032 dB
Peak SAR (extrapolated) = 1.0540
SAR(1 g) = 0.828 mW/g; SAR(10 g) = 0.618 mW/g
Maximum value of SAR (measured) = 0.869 mW/g



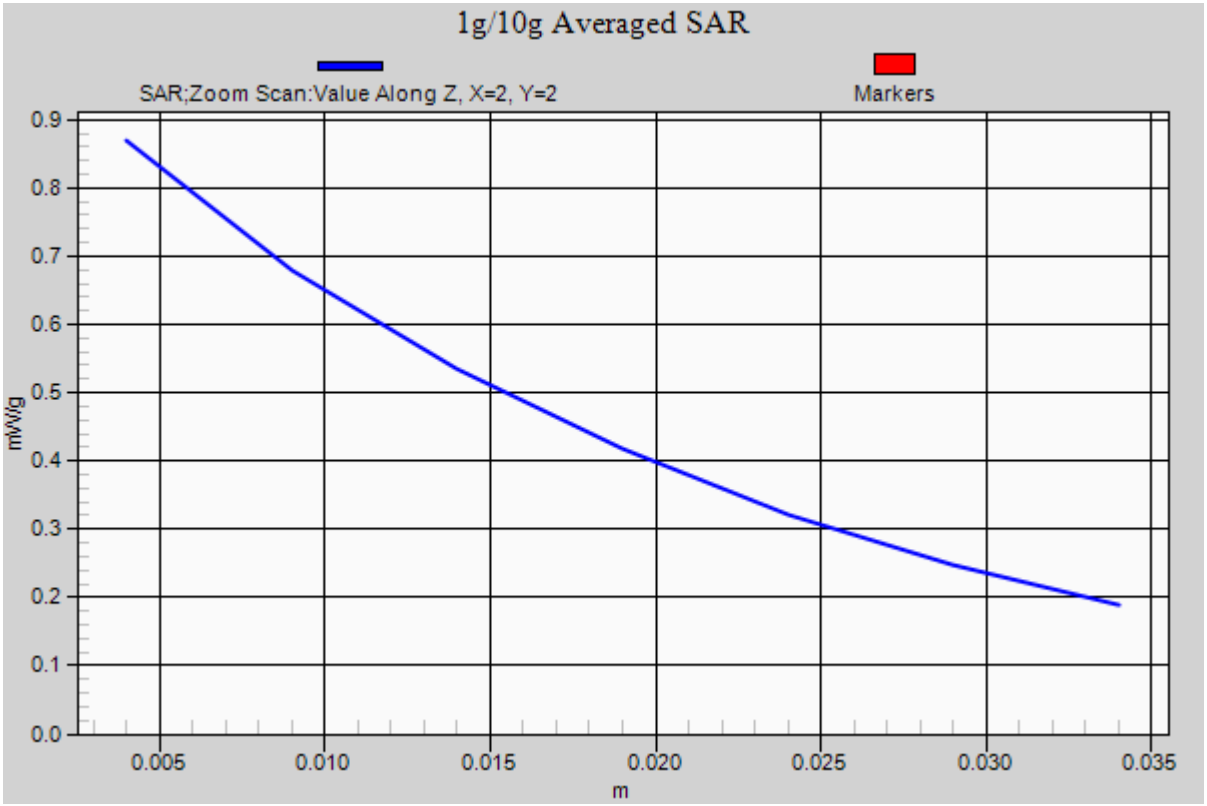


Figure 17 Left Hand Touch Cheek GSM 850 Channel 251

GSM 850 Left Cheek Middle (Battery 1)

Date/Time: 24.04.2012 10:03:34
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 41.319; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Left/Cheek Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 3.495 mW/g m

GSM 850 Left/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.242 V/m; Power Drift = -0.200 dB
Peak SAR (extrapolated) = 0.8930
SAR(1 g) = 0.700 mW/g; SAR(10 g) = 0.525 mW/g
Maximum value of SAR (measured) = 0.729 mW/g

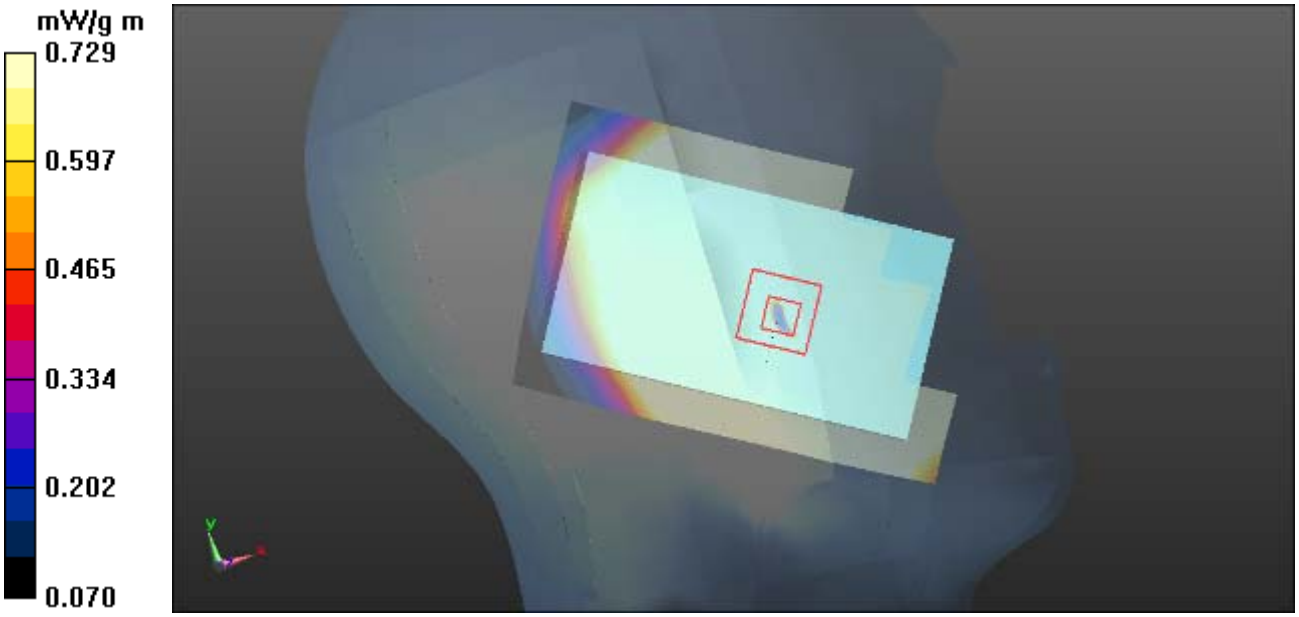


Figure 18 Left Hand Touch Cheek GSM 850 Channel 190

GSM 850 Left Cheek Low (Battery 1)

Date/Time: 24.04.2012 10:39:11
Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.887 mho/m; ε_r = 41.52; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Left/Cheek Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 2.067 mW/g m

GSM 850 Left/Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.361 V/m; Power Drift = 0.085 dB
Peak SAR (extrapolated) = 0.5390
SAR(1 g) = 0.420 mW/g; SAR(10 g) = 0.314 mW/g
Maximum value of SAR (measured) = 0.439 mW/g

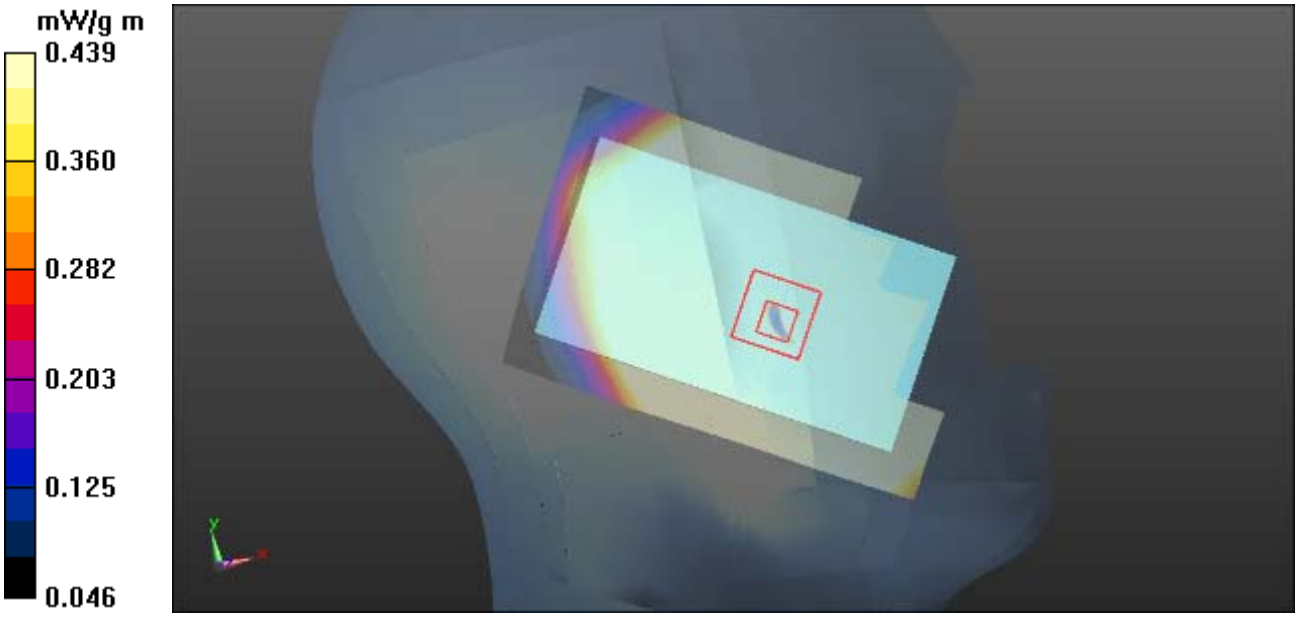


Figure 19 Left Hand Touch Cheek GSM 850 Channel 128

GSM 850 Left Tilt High (Battery 1)

Date/Time: 24.04.2012 11:14:25
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.913 mho/m; ε_r = 41.161; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Left/Tilt High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.653 mW/g m

GSM 850 Left/Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.742 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 0.4750
SAR(1 g) = 0.385 mW/g; SAR(10 g) = 0.294 mW/g
Maximum value of SAR (measured) = 0.404 mW/g

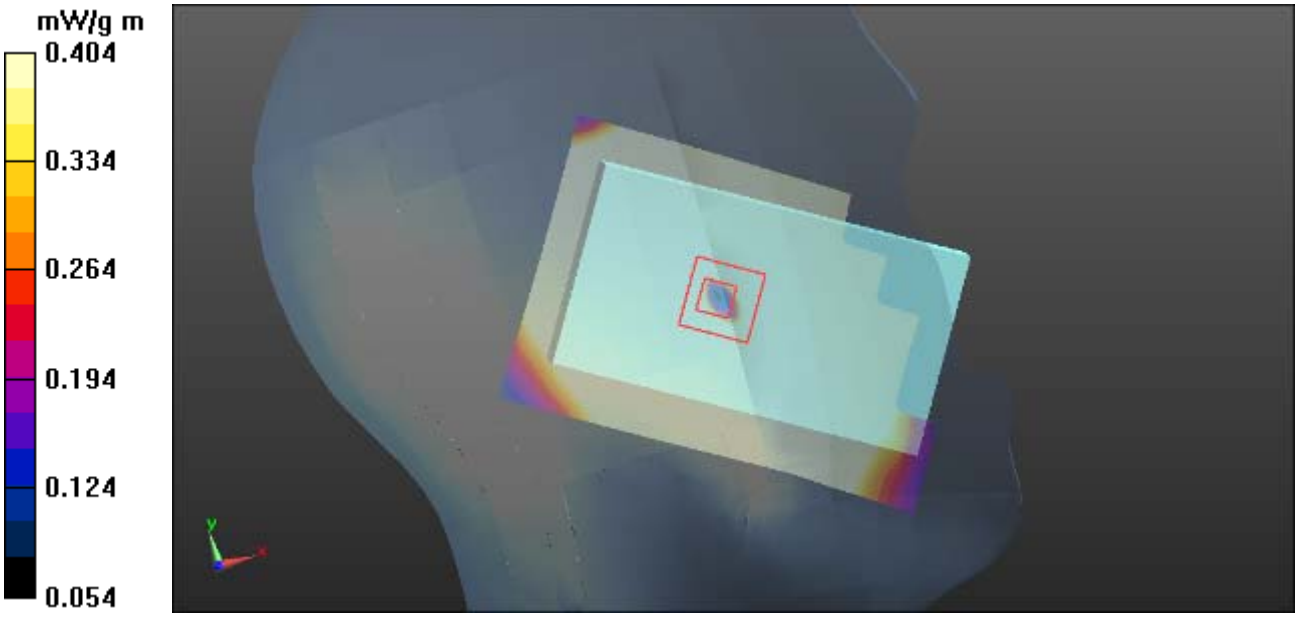


Figure 20 Left Hand Tilt 15° GSM 850 Channel 251

GSM 850 Left Tilt Middle (Battery 1)

Date/Time: 24.04.2012 10:56:48
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 41.319; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Left/Tilt Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.407 mW/g m

GSM 850 Left/Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.995 V/m; Power Drift = 0.034 dB
Peak SAR (extrapolated) = 0.4070
SAR(1 g) = 0.333 mW/g; SAR(10 g) = 0.255 mW/g
Maximum value of SAR (measured) = 0.350 mW/g

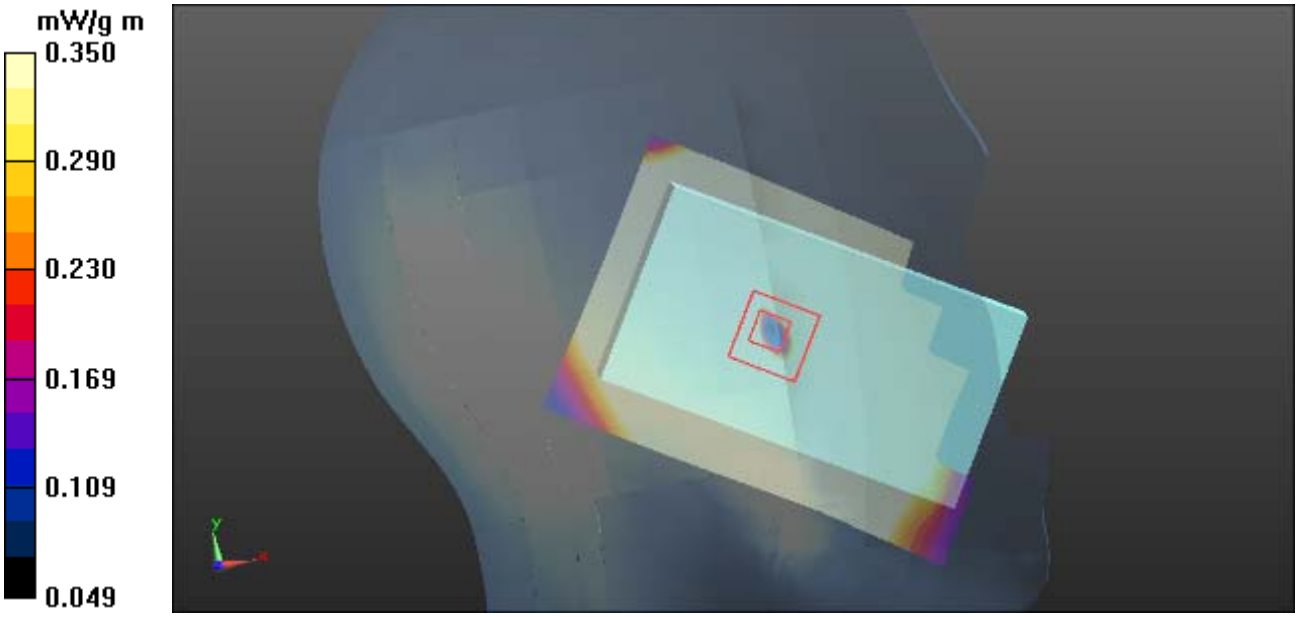


Figure 21 Left Hand Tilt 15° GSM 850 Channel 190

GSM 850 Left Tilt Low (Battery 1)

Date/Time: 24.04.2012 11:31:39
Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.887 mho/m; ε_r = 41.52; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Left/Tilt Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 0.883 mW/g m

GSM 850 Left/Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.559 V/m; Power Drift = -0.003 dB
Peak SAR (extrapolated) = 0.2490
SAR(1 g) = 0.205 mW/g; SAR(10 g) = 0.158 mW/g
Maximum value of SAR (measured) = 0.214 mW/g

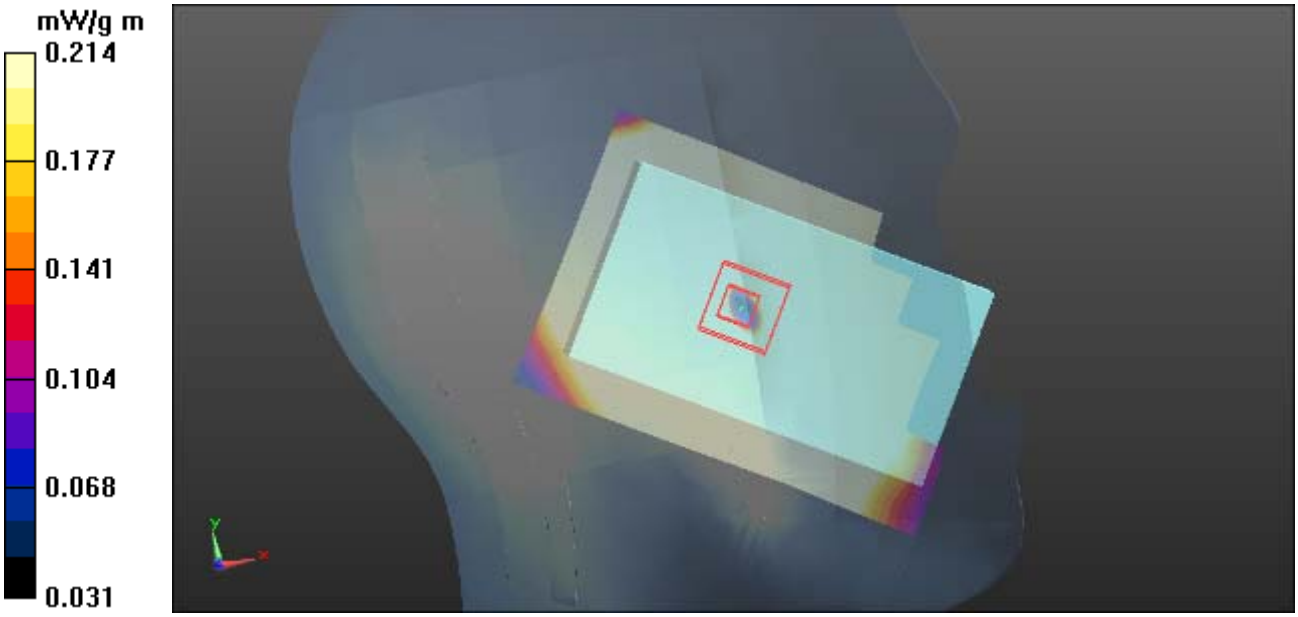


Figure 22 Left Hand Tilt 15° GSM 850 Channel 128

GSM 850 Right Cheek High (Battery 1)

Date/Time: 24.04.2012 12:12:46
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.913 mho/m; ε_r = 41.161; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Right/Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 3.266 mW/g m

GSM 850 Right/Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.471 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 0.8780
SAR(1 g) = 0.707 mW/g; SAR(10 g) = 0.536 mW/g
Maximum value of SAR (measured) = 0.747 mW/g

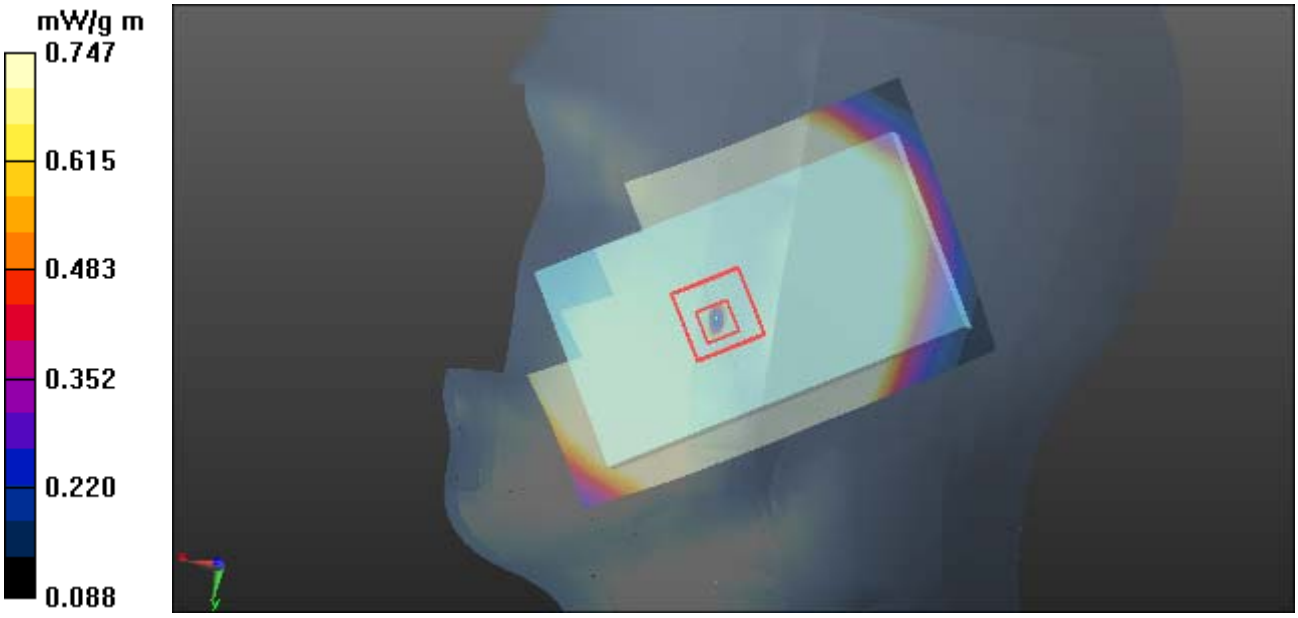


Figure 23 Right Hand Touch Cheek GSM 850 Channel 251

GSM 850 Right Cheek Middle (Battery 1)

Date/Time: 24.04.2012 11:55:44
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 41.319; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Right/Cheek Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 2.738 mW/g m

GSM 850 Right/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.816 V/m; Power Drift = -0.082 dB
Peak SAR (extrapolated) = 0.7150
SAR(1 g) = 0.578 mW/g; SAR(10 g) = 0.439 mW/g
Maximum value of SAR (measured) = 0.609 mW/g

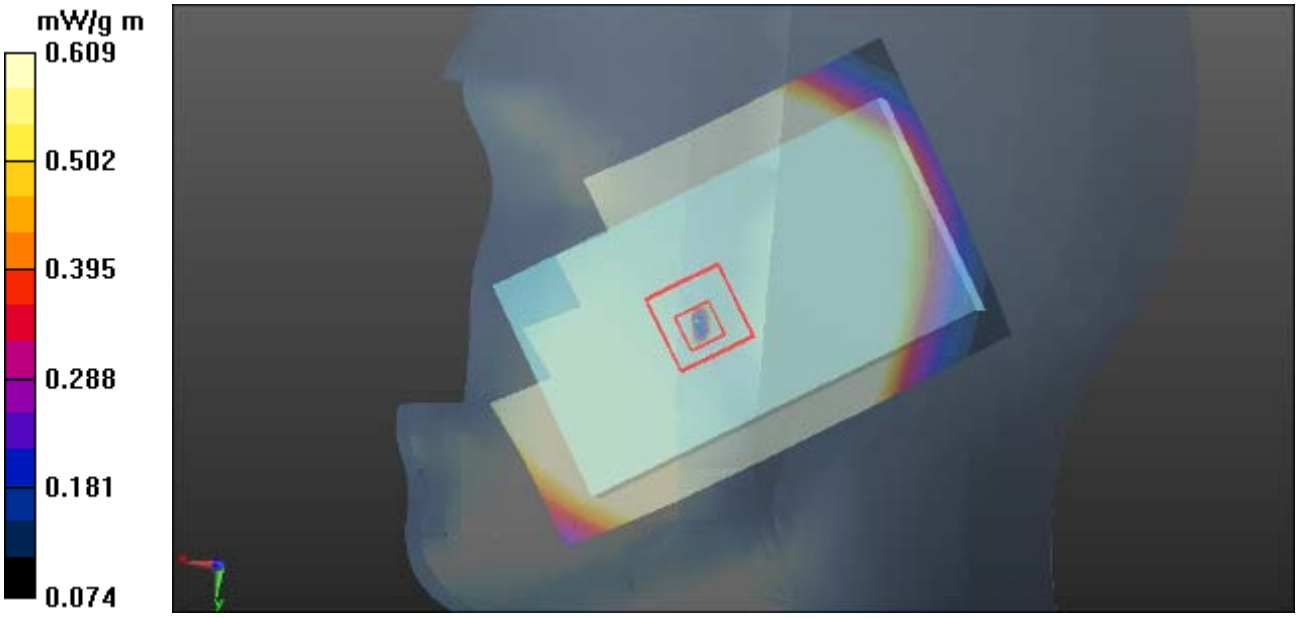


Figure 24 Right Hand Touch Cheek GSM 850 Channel 190

GSM 850 Right Cheek Low (Battery 1)

Date/Time: 24.04.2012 12:29:42
Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.887 mho/m; ε_r = 41.52; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Right/Cheek Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.844 mW/g m

GSM 850 Right/Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.394 V/m; Power Drift = 0.097 dB
Peak SAR (extrapolated) = 0.4950
SAR(1 g) = 0.399 mW/g; SAR(10 g) = 0.304 mW/g
Maximum value of SAR (measured) = 0.417 mW/g

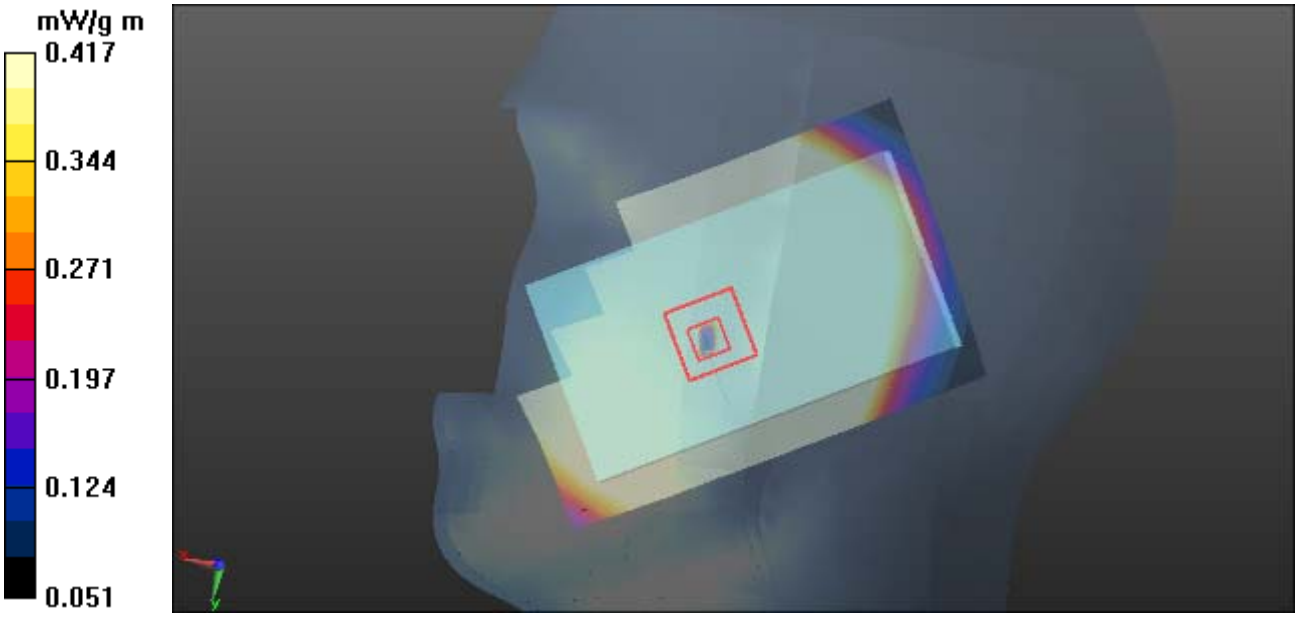


Figure 25 Right Hand Touch Cheek GSM 850 Channel 128

GSM 850 Right Tilt High (Battery 1)

Date/Time: 24.04.2012 13:04:47
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.913 mho/m; ε_r = 41.161; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Right/Tilt High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.504 mW/g m

GSM 850 Right/Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.982 V/m; Power Drift = 0.033 dB
Peak SAR (extrapolated) = 0.4550
SAR(1 g) = 0.369 mW/g; SAR(10 g) = 0.282 mW/g
Maximum value of SAR (measured) = 0.388 mW/g

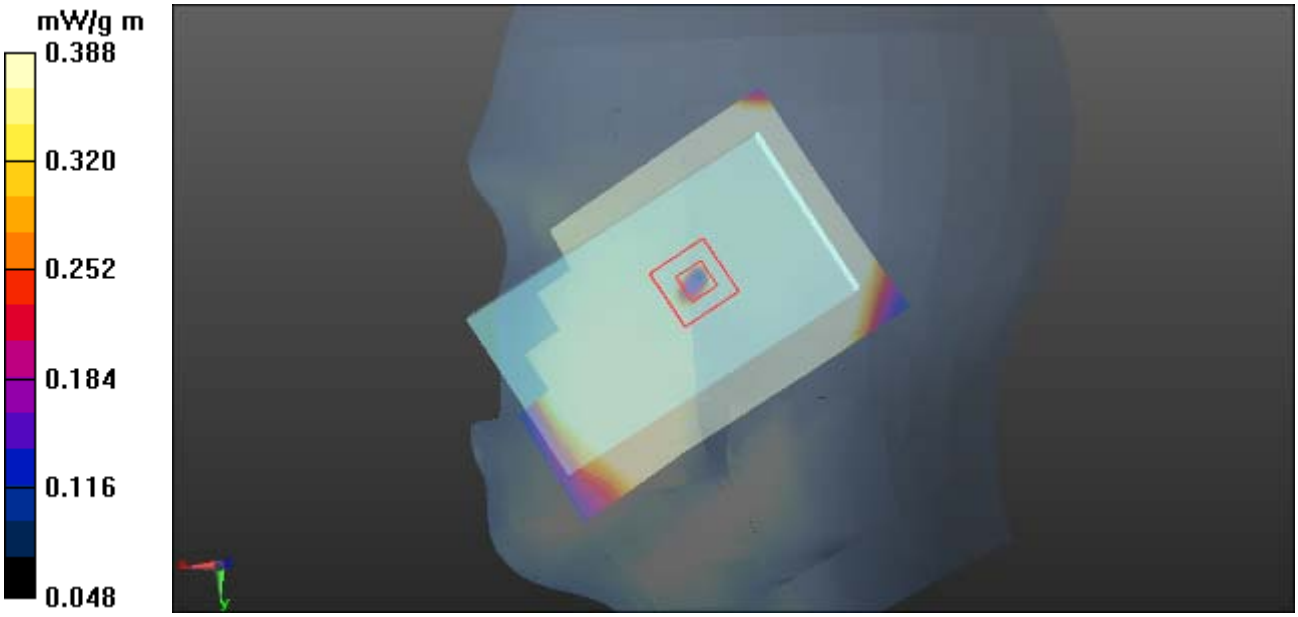


Figure 26 Right Hand Tilt 15° GSM 850 Channel 251

GSM 850 Right Tilt Middle (Battery 1)

Date/Time: 24.04.2012 12:46:55
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 41.319; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Right/Tilt Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.300 mW/g m

GSM 850 Right/Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.133 V/m; Power Drift = 0.040 dB
Peak SAR (extrapolated) = 0.3910
SAR(1 g) = 0.318 mW/g; SAR(10 g) = 0.245 mW/g
Maximum value of SAR (measured) = 0.333 mW/g

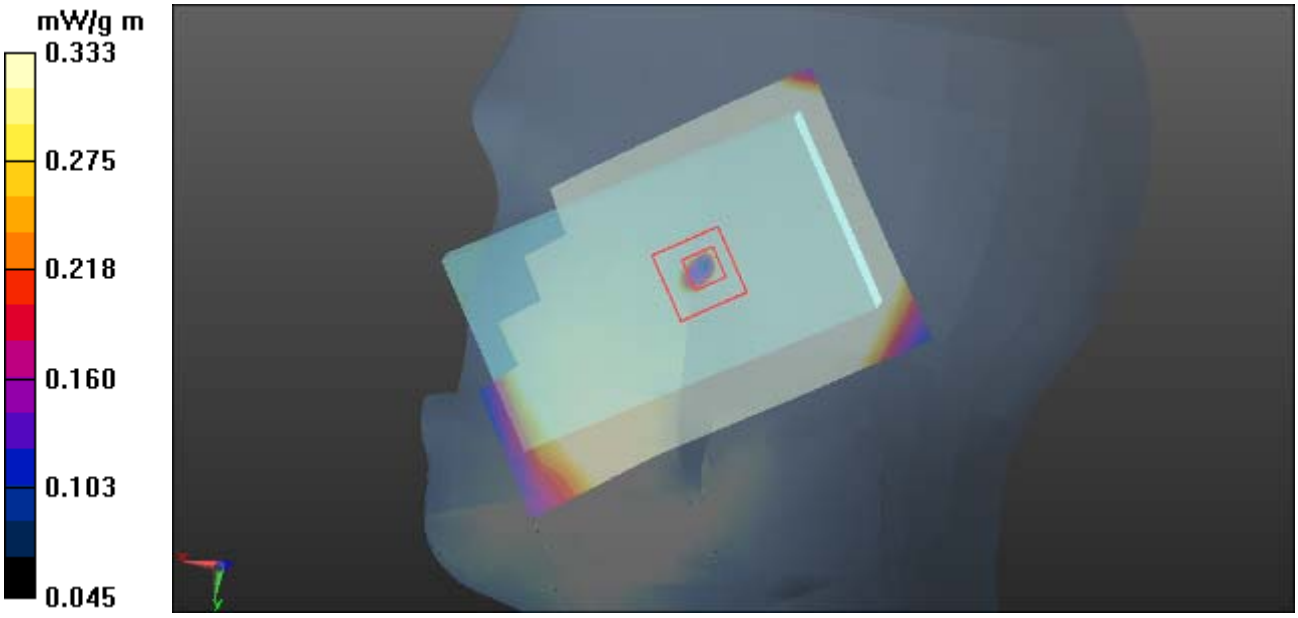


Figure 27 Right Hand Tilt 15° GSM 850 Channel 190

GSM 850 Right Tilt Low (Battery 1)

Date/Time: 24.04.2012 13:21:48
Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.887 mho/m; ε_r = 41.52; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Right/Tilt Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 0.859 mW/g m

GSM 850 Right/Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.985 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 0.2630
SAR(1 g) = 0.214 mW/g; SAR(10 g) = 0.166 mW/g
Maximum value of SAR (measured) = 0.223 mW/g

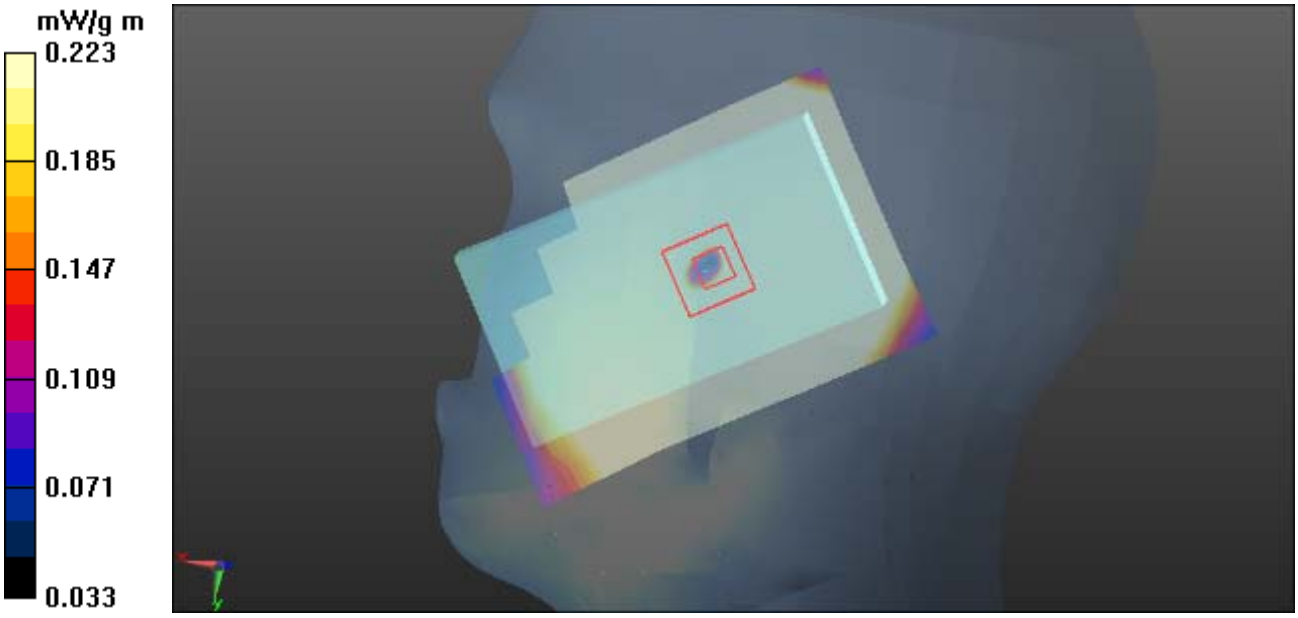


Figure 28 Right Hand Tilt 15° GSM 850 Channel 128

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

Date/Time: 25.04.2012 13:53:07
Communication System: GPRS(4UP); Frequency: 848.8 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 849 MHz; σ = 1.006 mho/m; ε_r = 54.109; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 4.984 mW/g m

Back Side High/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.931 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 1.3080
SAR(1 g) = 0.778 mW/g; SAR(10 g) = 0.493 mW/g

Maximum value of SAR (measured) = 0.904 mW/g

Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.931 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 1.3250
SAR(1 g) = 0.951 mW/g; SAR(10 g) = 0.692 mW/g
Maximum value of SAR (measured) = 1.009 mW/g

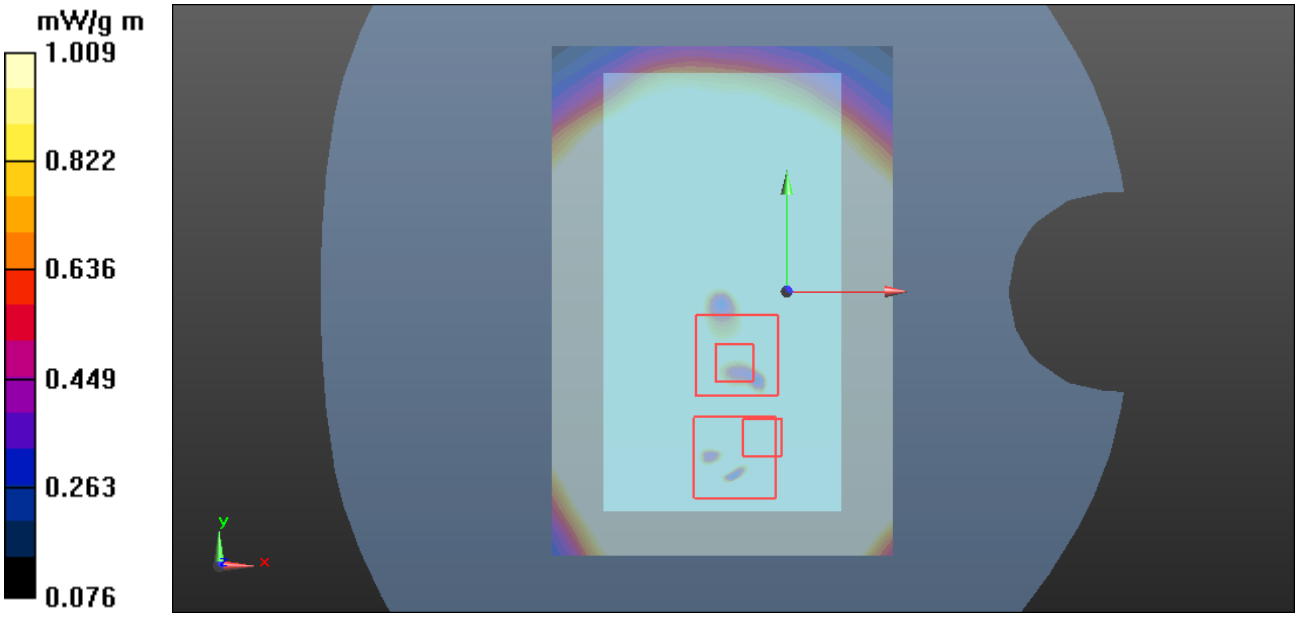


Figure 29 Body, Back Side, GSM 850 GPRS (4Txslots) Channel 251

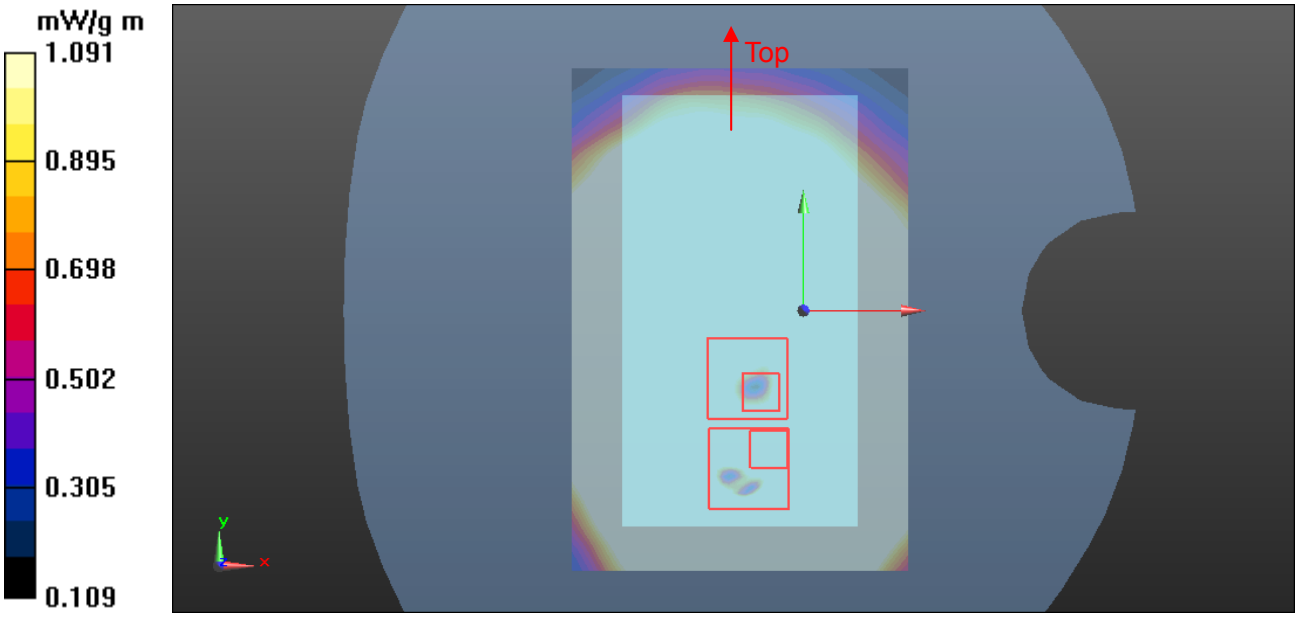
GSM 850 GPRS (4Txslots) Back Side Middle (Battery 1)

Date/Time: 25.04.2012 13:27:51
Communication System: GPRS(4UP); Frequency: 836.6 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 837 MHz; σ = 0.988 mho/m; ε_r = 54.216; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 5.193 mW/g m

Back Side Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.148 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 1.3540
SAR(1 g) = 0.845 mW/g; SAR(10 g) = 0.557 mW/g
Maximum value of SAR (measured) = 1.016 mW/g

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.148 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 1.3590
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.751 mW/g
Maximum value of SAR (measured) = 1.091 mW/g



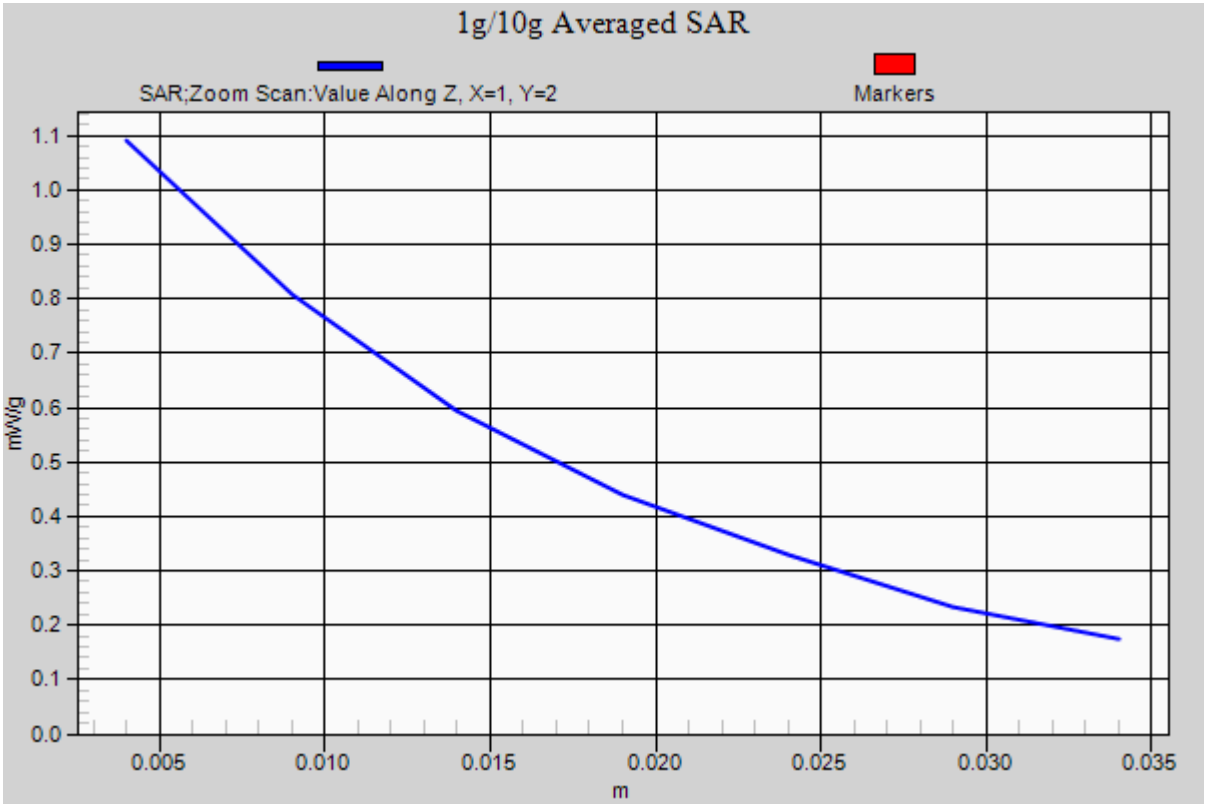


Figure 30 Body, Back Side, GSM 850 GPRS (4Txslots) Channel 190

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

Date/Time: 25.04.2012 13:01:47
Communication System: GPRS(4UP); Frequency: 824.2 MHz;Duty Cycle: 1:2.07491
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.972 mho/m; ε_r = 54.354; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 3.430 mW/g m

Back Side Low/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.067 V/m; Power Drift = 0.007 dB
Peak SAR (extrapolated) = 0.9870
SAR(1 g) = 0.625 mW/g; SAR(10 g) = 0.411 mW/g
Maximum value of SAR (measured) = 0.733 mW/g

Back Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.067 V/m; Power Drift = 0.007 dB
Peak SAR (extrapolated) = 0.9280
SAR(1 g) = 0.710 mW/g; SAR(10 g) = 0.524 mW/g
Maximum value of SAR (measured) = 0.750 mW/g

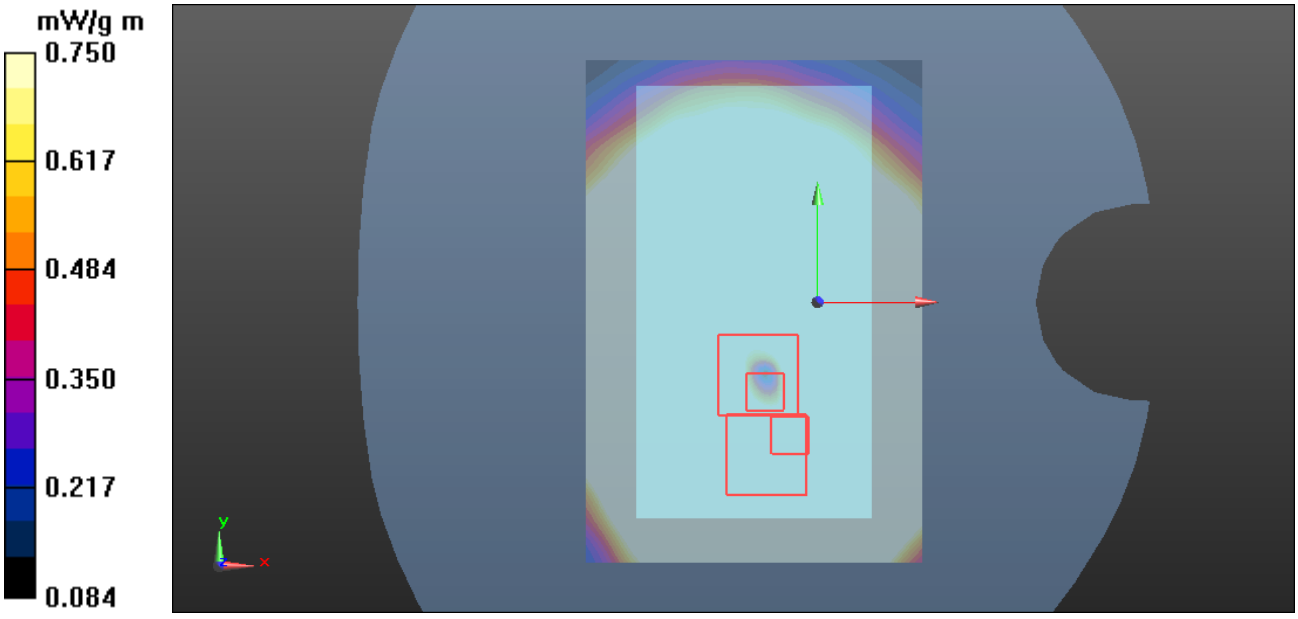


Figure 31 Body, Back Side, GSM 850 GPRS (4Txslots) Channel 128

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

Date/Time: 25.04.2012 12:43:28
Communication System: GPRS(4UP); Frequency: 824.2 MHz;Duty Cycle: 1:2.07491
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.972 mho/m; ε_r = 54.354; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Front Side Low /Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 2.670 mW/g m

Front Side Low /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.084 V/m; Power Drift = 0.008 dB
Peak SAR (extrapolated) = 0.7880
SAR(1 g) = 0.571 mW/g; SAR(10 g) = 0.430 mW/g
Maximum value of SAR (measured) = 0.599 mW/g

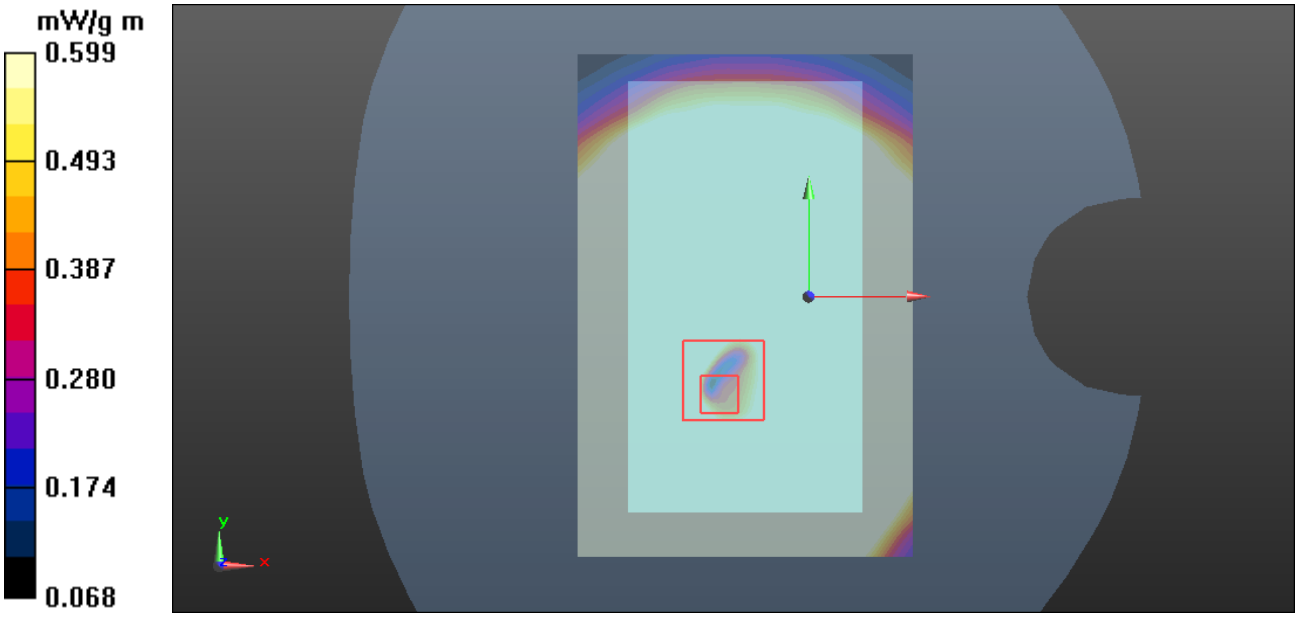


Figure 32 Body, Front Side, GSM 850 GPRS (4Txslots) Channel 128

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

Date/Time: 25.04.2012 14:28:55
Communication System: GPRS(4UP); Frequency: 824.2 MHz;Duty Cycle: 1:2.07491
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.972 mho/m; ε_r = 54.354; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Left Side Low/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.430 mW/g m

Left Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.617 V/m; Power Drift = 0.004 dB
Peak SAR (extrapolated) = 0.4090
SAR(1 g) = 0.288 mW/g; SAR(10 g) = 0.201 mW/g
Maximum value of SAR (measured) = 0.300 mW/g

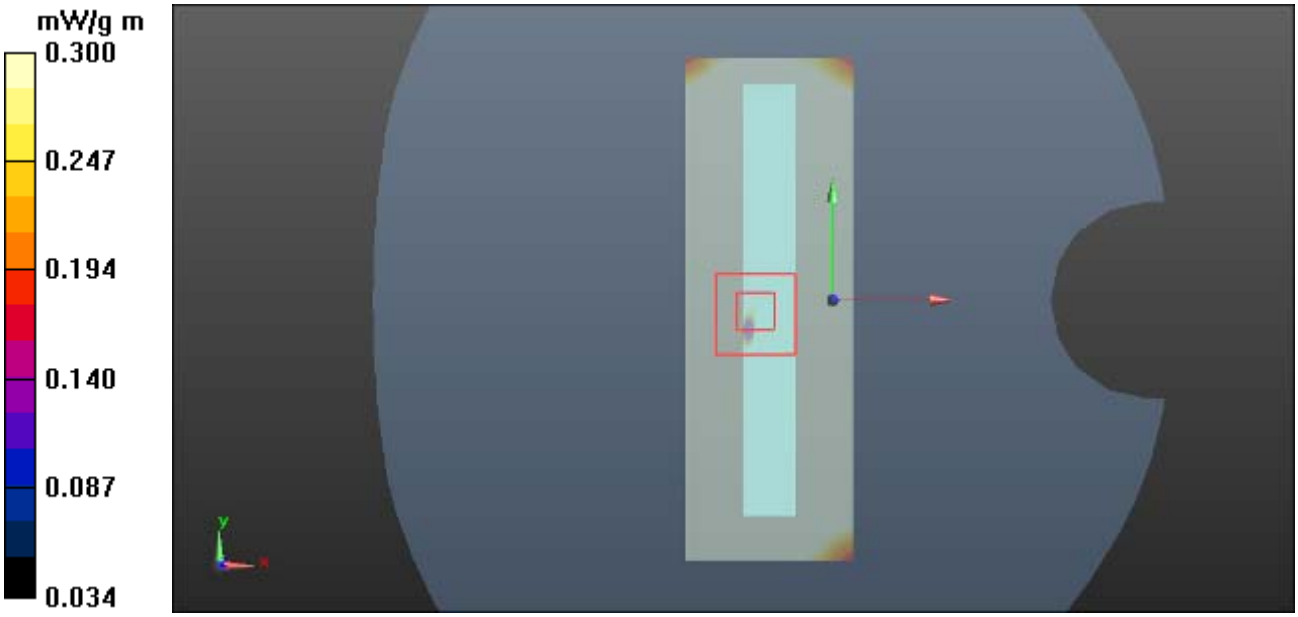


Figure 33 Body, Left Edge, GSM 850 GPRS (4Txslots) Channel 128

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

Date/Time: 25.04.2012 14:43:58
Communication System: GPRS(4UP); Frequency: 824.2 MHz;Duty Cycle: 1:2.07491
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.972 mho/m; ε_r = 54.354; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Right Side Low/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.573 mW/g m

Right Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 18.500 V/m; Power Drift = 0.071 dB
Peak SAR (extrapolated) = 0.4950
SAR(1 g) = 0.327 mW/g; SAR(10 g) = 0.224 mW/g
Maximum value of SAR (measured) = 0.352 mW/g

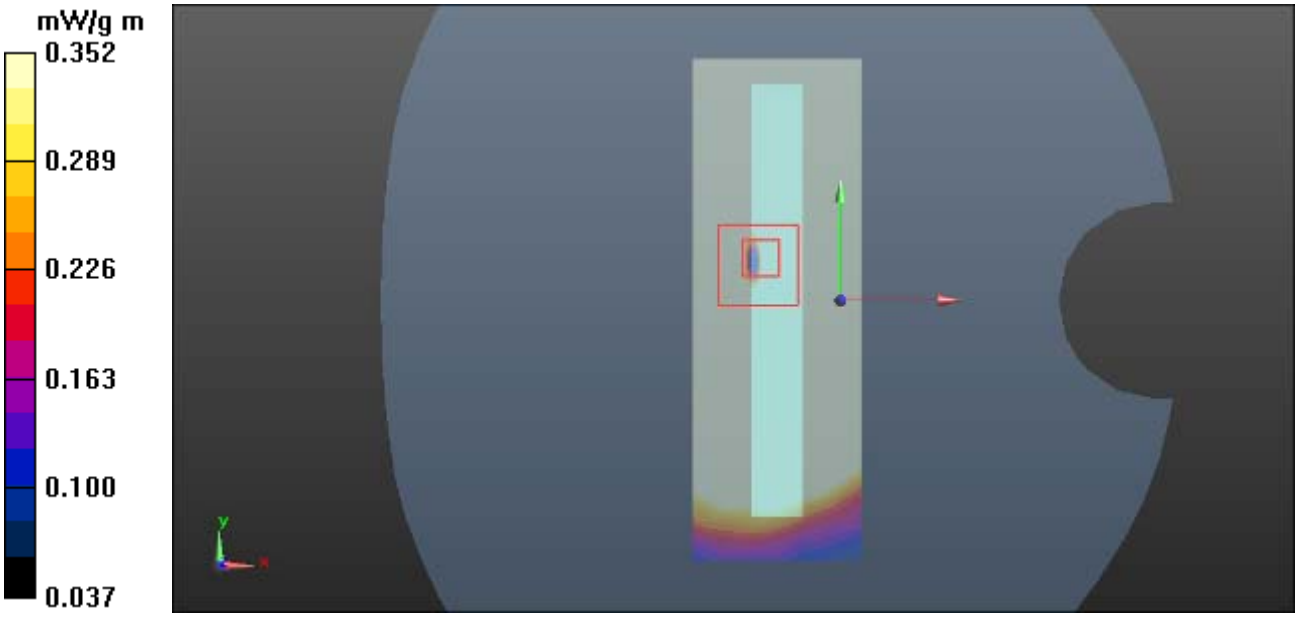


Figure 34 Body, Right Edge, GSM 850 GPRS (4Txslots) Channel 128

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

Date/Time: 25.04.2012 15:00:04
Communication System: GPRS(4UP); Frequency: 824.2 MHz;Duty Cycle: 1:2.07491
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.972 mho/m; ε_r = 54.354; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Bottom Side Low/Area Scan (31x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 0.089 mW/g m

Bottom Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.873 V/m; Power Drift = 0.069 dB
Peak SAR (extrapolated) = 0.0630
SAR(1 g) = 0.034 mW/g; SAR(10 g) = 0.020 mW/g
Maximum value of SAR (measured) = 0.038 mW/g

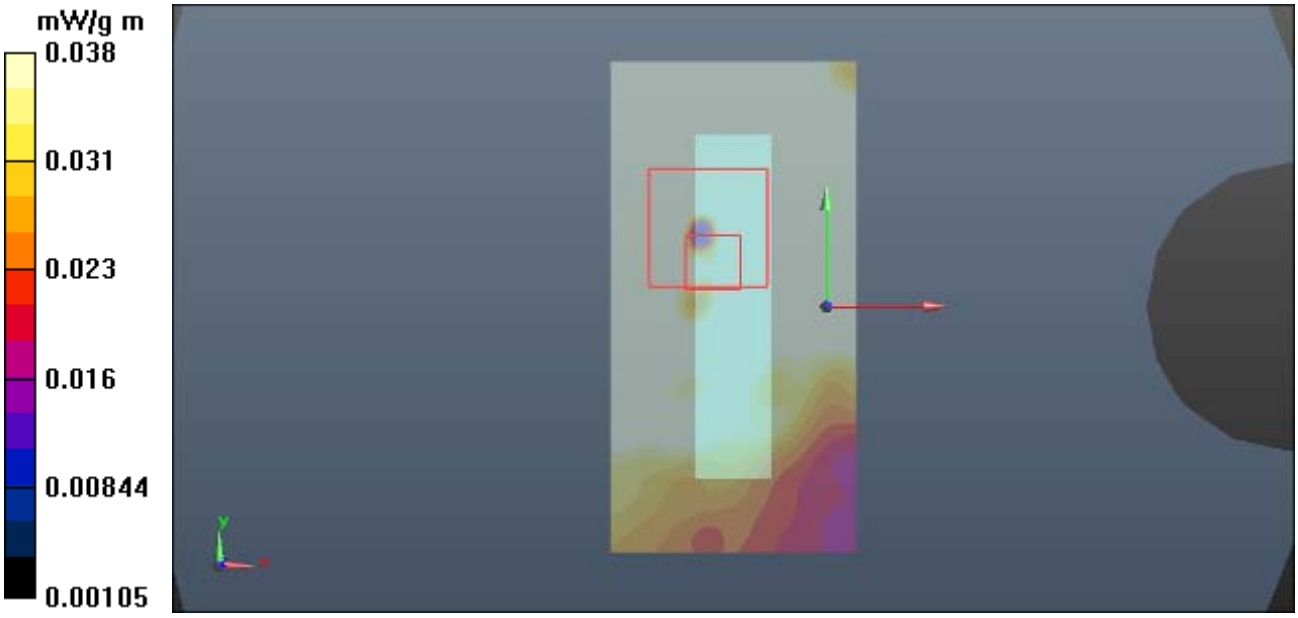


Figure 35 Body, Bottom Edge, GSM 850 GPRS (4Txslots) Channel 128

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

Date/Time: 25.04.2012 15:55:22
Communication System: EGPRS(4UP); Frequency: 836.6 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 837 MHz; σ = 0.988 mho/m; ε_r = 54.216; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 4.790 mW/g m

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.658 V/m; Power Drift = 0.000 dB
Peak SAR (extrapolated) = 1.2990
SAR(1 g) = 0.971 mW/g; SAR(10 g) = 0.718 mW/g
Maximum value of SAR (measured) = 1.022 mW/g

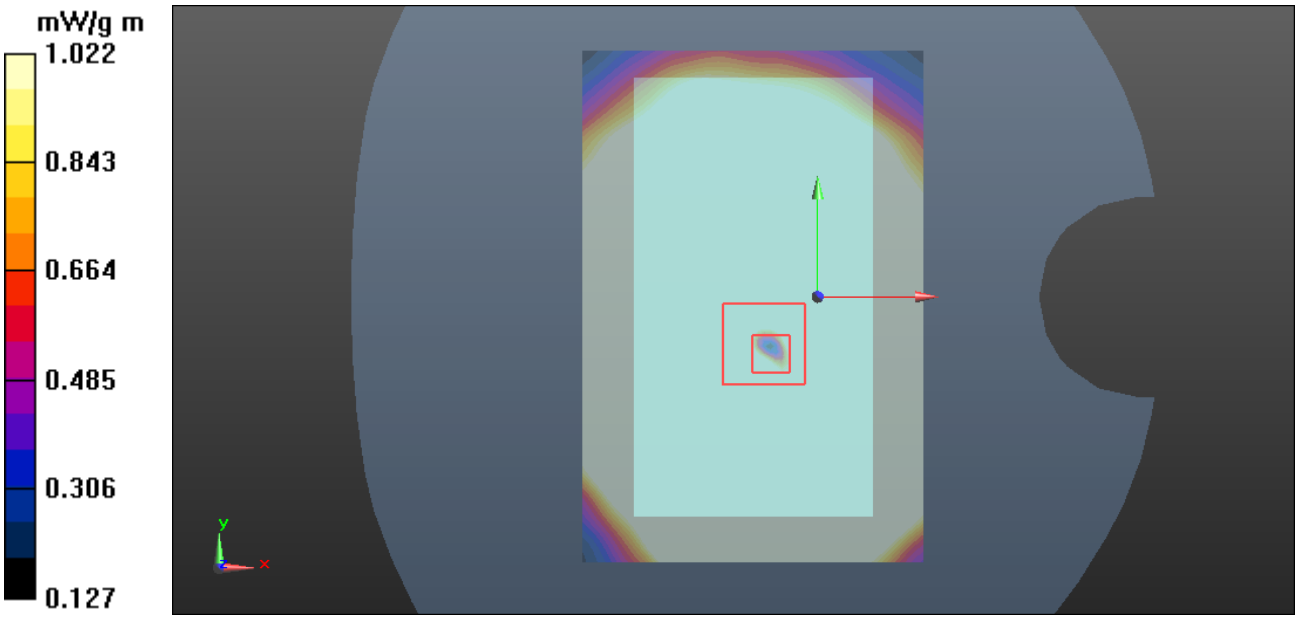


Figure 36 Body, Back Side, GSM 850 EGPRS (4Txslots) Channel 190

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

Date/Time: 25.04.2012 16:13:58
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.988 mho/m; ε_r = 54.216; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 4.402 mW/g m

Back Side Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.644 V/m; Power Drift = -0.008 dB
Peak SAR (extrapolated) = 1.0950
SAR(1 g) = 0.710 mW/g; SAR(10 g) = 0.460 mW/g
Maximum value of SAR (measured) = 0.808 mW/g

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.644 V/m; Power Drift = -0.008 dB
Peak SAR (extrapolated) = 1.1110
SAR(1 g) = 0.810 mW/g; SAR(10 g) = 0.585 mW/g
Maximum value of SAR (measured) = 0.859 mW/g

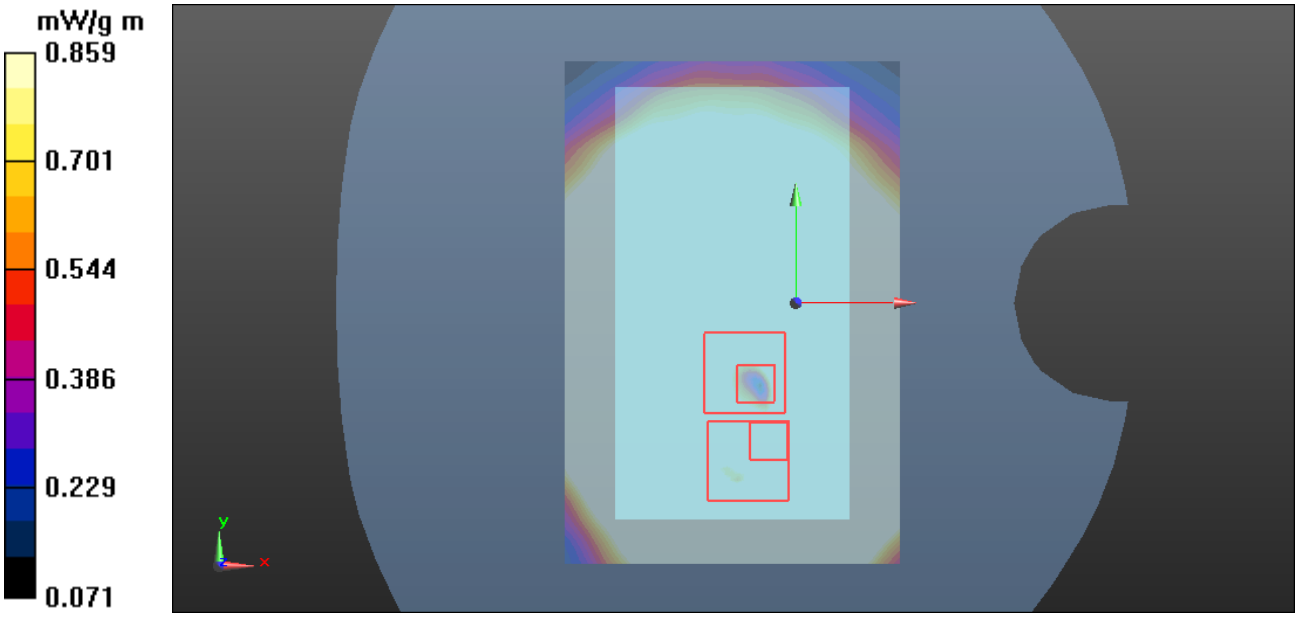


Figure 37 Body with Stereo Headset 1, Back Side, GSM 850 Channel 190

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

Date/Time: 25.04.2012 16:44:52
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.988 mho/m; ε_r = 54.216; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 4.056 mW/g m

Back Side Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.574 V/m; Power Drift = -0.036 dB
Peak SAR (extrapolated) = 1.0110
SAR(1 g) = 0.660 mW/g; SAR(10 g) = 0.436 mW/g
Maximum value of SAR (measured) = 0.764 mW/g

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.574 V/m; Power Drift = -0.036 dB
Peak SAR (extrapolated) = 1.0480
SAR(1 g) = 0.813 mW/g; SAR(10 g) = 0.600 mW/g
Maximum value of SAR (measured) = 0.855 mW/g

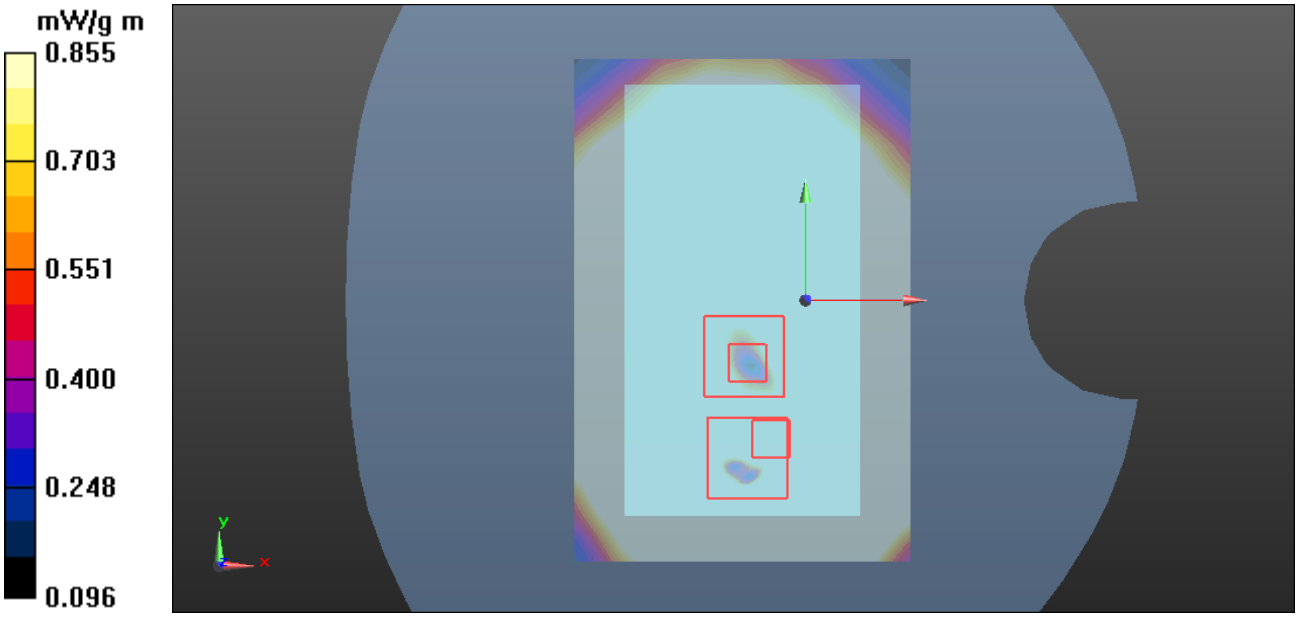


Figure 38 Body with Stereo Headset 2, Back Side, GSM 850 Channel 190

GSM 850 GPRS (4Txslots) Back Side Middle (Battery 2)

Date/Time: 25.04.2012 15:28:33
Communication System: GPRS(4UP); Frequency: 836.6 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 837 MHz; σ = 0.988 mho/m; ε_r = 54.216; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 4.832 mW/g m

Back Side Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.659 V/m; Power Drift = 0.018 dB
Peak SAR (extrapolated) = 1.1130
SAR(1 g) = 0.781 mW/g; SAR(10 g) = 0.505 mW/g
Maximum value of SAR (measured) = 0.907 mW/g

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.659 V/m; Power Drift = 0.018 dB
Peak SAR (extrapolated) = 1.3140
SAR(1 g) = 0.967 mW/g; SAR(10 g) = 0.724 mW/g
Maximum value of SAR (measured) = 1.026 mW/g

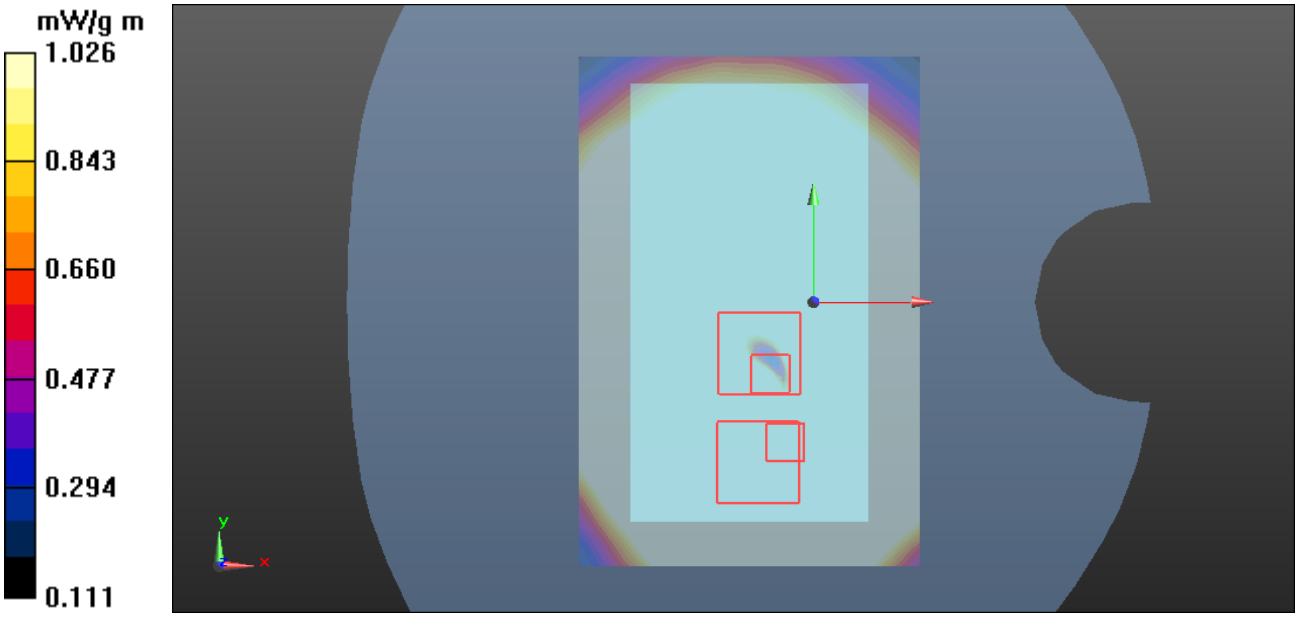


Figure 39 Body, Back Side, GSM 850 GPRS (4Txslots) Channel 190

GSM 1900 Left Cheek High (Battery 1)

Date/Time: 24.04.2012 22:10:38
Communication System: GSM; Frequency: 1909.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1910 MHz; σ = 1.425 mho/m; ε_r = 40.801; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.83, 4.83, 4.83); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 1900 Left/Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 3.712 mW/g m

GSM 1900 Left/Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.851 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 0.7400
SAR(1 g) = 0.440 mW/g; SAR(10 g) = 0.247 mW/g
Maximum value of SAR (measured) = 0.475 mW/g

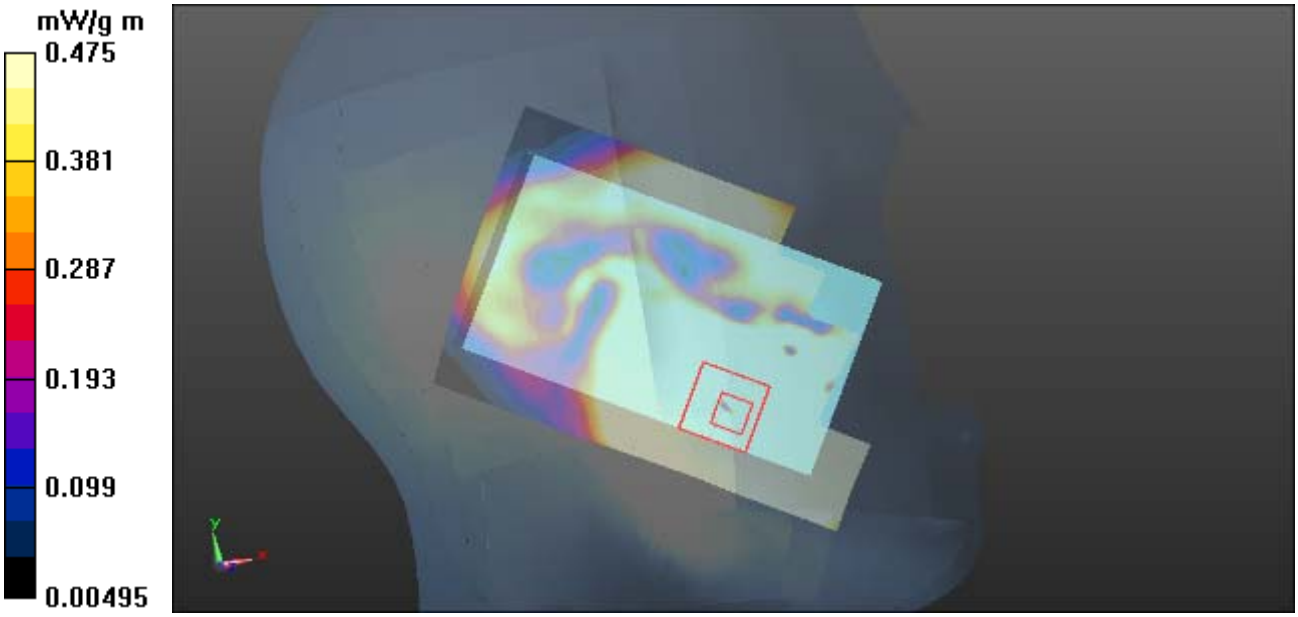


Figure 40 Left Hand Touch Cheek GSM 1900 Channel 810

GSM 1900 Left Cheek Middle (Battery 1)

Date/Time: 24.04.2012 21:53:32
Communication System: GSM; Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.395 mho/m; ε_r = 40.905; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.83, 4.83, 4.83); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 1900 Left/Cheek Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 4.266 mW/g m

GSM 1900 Left/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.217 V/m; Power Drift = 0.026 dB
Peak SAR (extrapolated) = 0.8330
SAR(1 g) = 0.506 mW/g; SAR(10 g) = 0.288 mW/g
Maximum value of SAR (measured) = 0.547 mW/g

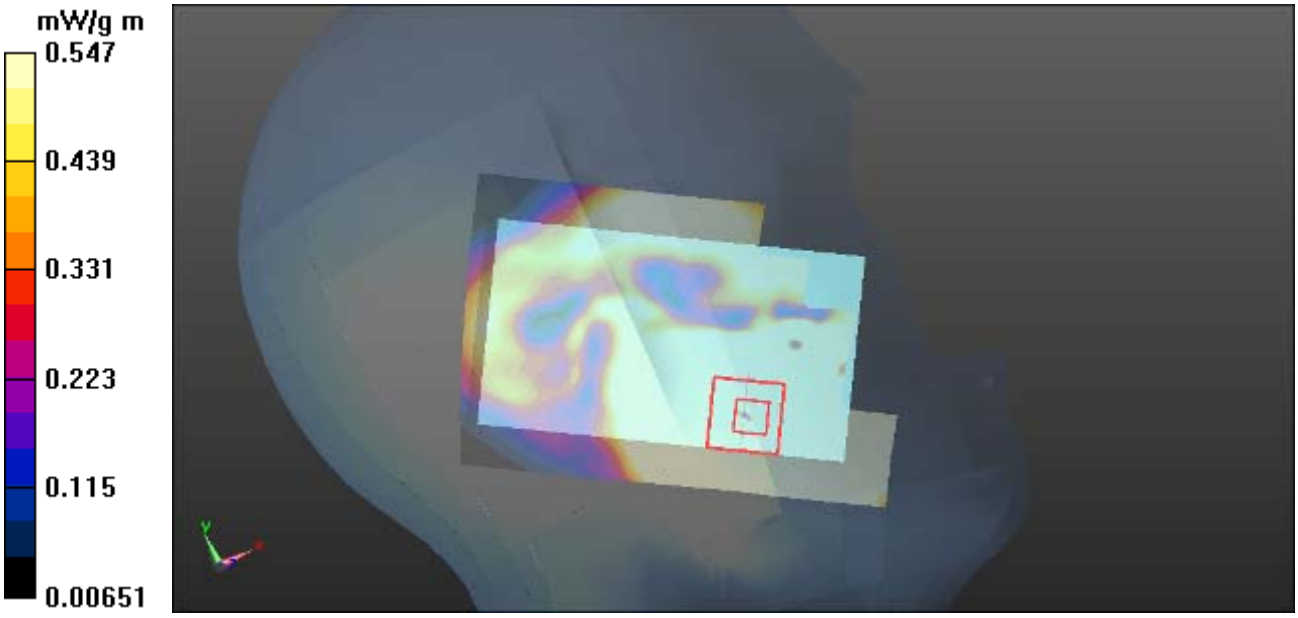


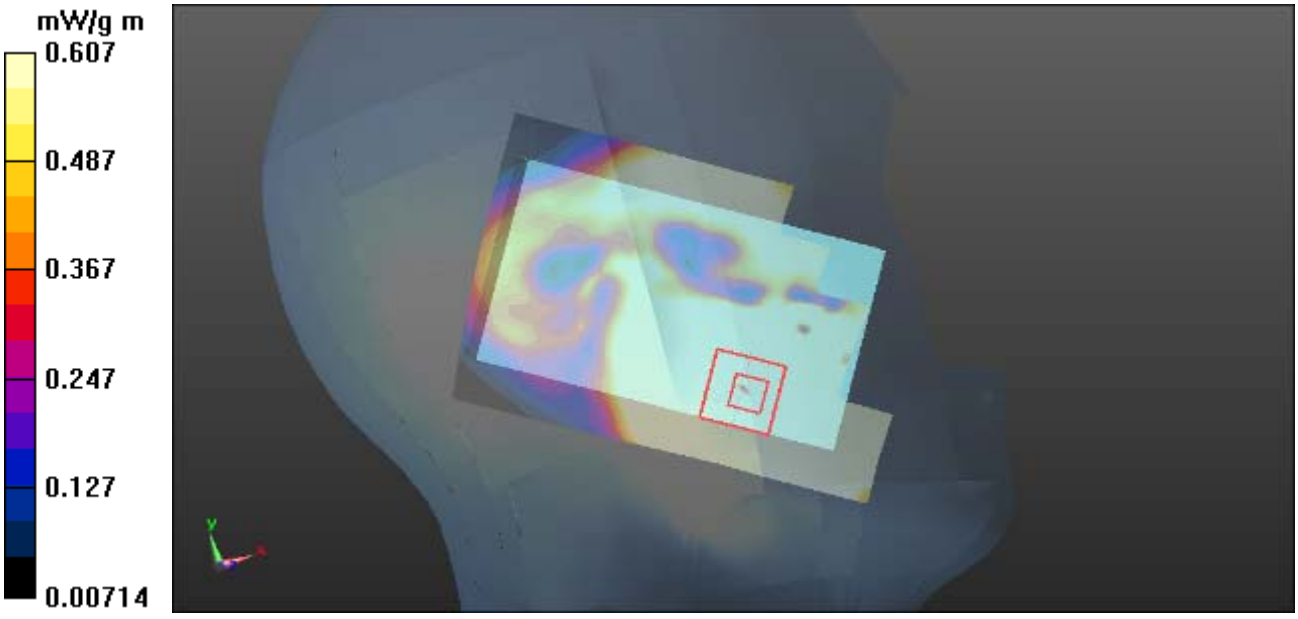
Figure 41 Left Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Left Cheek Low (Battery 1)

Date/Time: 24.04.2012 22:27:43
Communication System: GSM; Frequency: 1850.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.368 mho/m; ε_r = 41.019; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.83, 4.83, 4.83); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 1900 Left/Cheek Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 4.957 mW/g m

GSM 1900 Left/Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.359 V/m; Power Drift = 0.064 dB
Peak SAR (extrapolated) = 0.9100
SAR(1 g) = 0.565 mW/g; SAR(10 g) = 0.324 mW/g
Maximum value of SAR (measured) = 0.607 mW/g



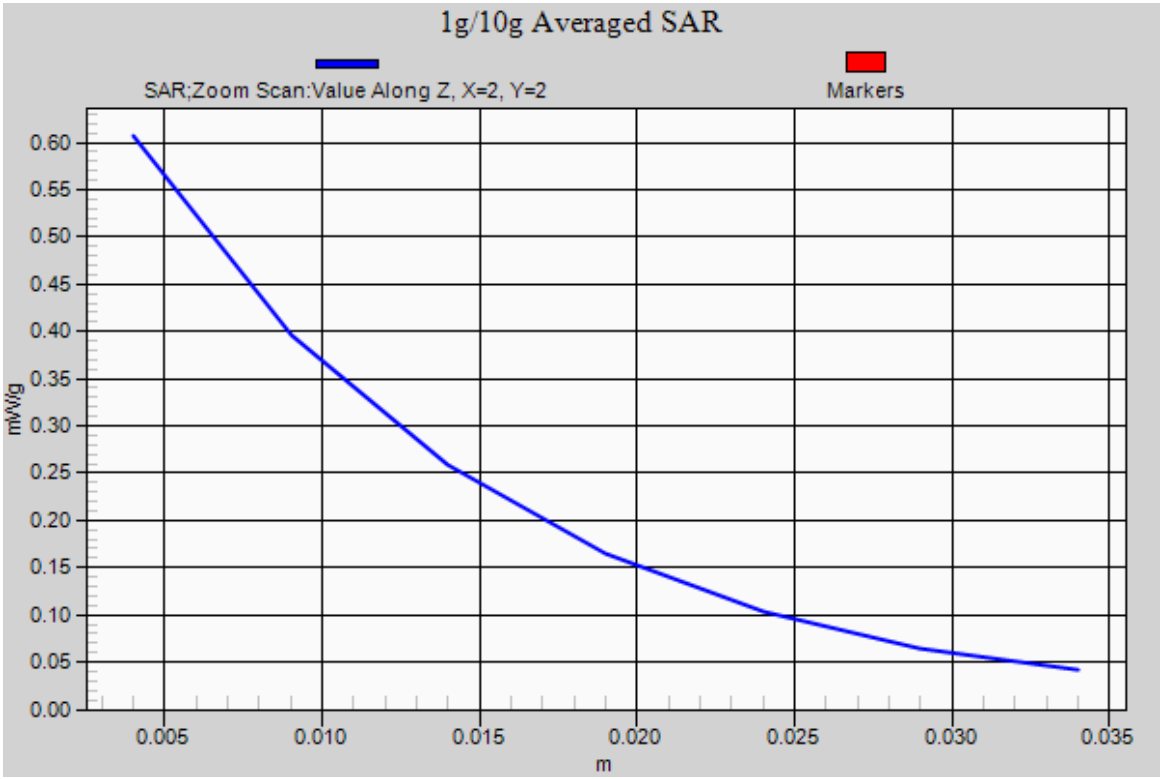


Figure 42 Left Hand Touch Cheek GSM 1900 Channel 512

GSM 1900 Left Tilt High (Battery 1)

Date/Time: 24.04.2012 23:02:04
Communication System: GSM; Frequency: 1909.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1910 MHz; σ = 1.425 mho/m; ε_r = 40.801; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.83, 4.83, 4.83); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 1900 Left/Tilt High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.207 mW/g m

GSM 1900 Left/Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.565 V/m; Power Drift = 0.040 dB
Peak SAR (extrapolated) = 0.2090
SAR(1 g) = 0.125 mW/g; SAR(10 g) = 0.071 mW/g
Maximum value of SAR (measured) = 0.136 mW/g

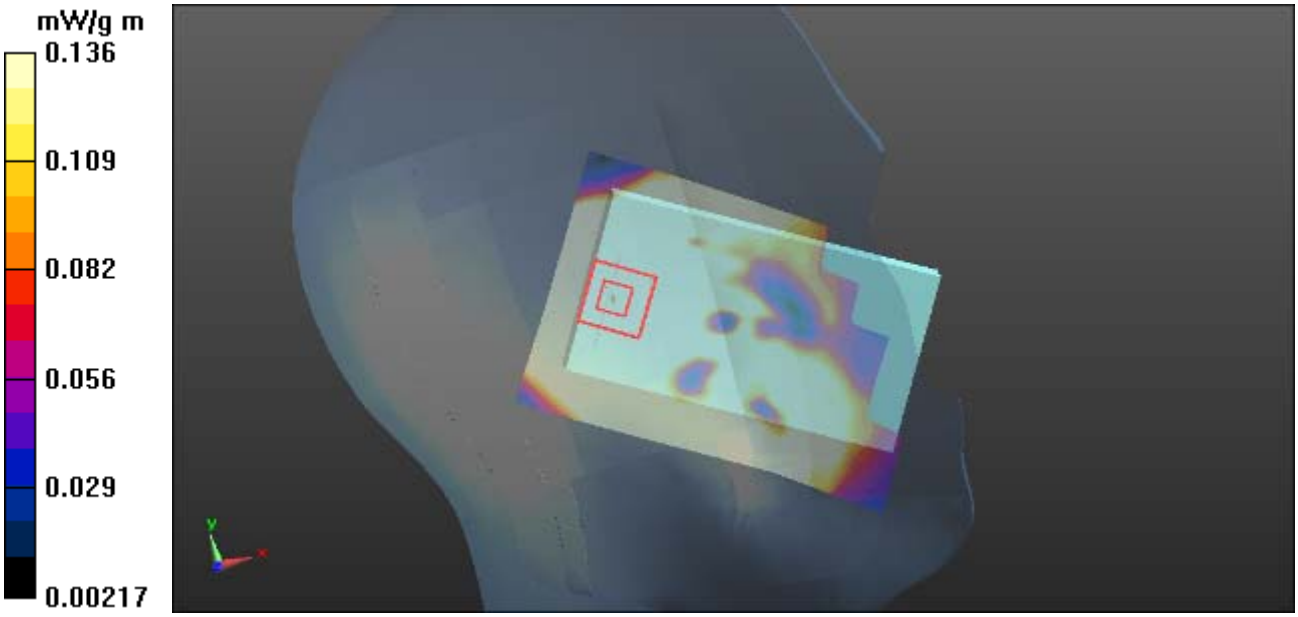


Figure 43 Left Hand Tilt 15° GSM 1900 Channel 810

GSM 1900 Left Tilt Middle (Battery 1)

Date/Time: 24.04.2012 23:20:10
Communication System: GSM; Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.395 mho/m; ε_r = 40.905; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.83, 4.83, 4.83); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 1900 Left/Tilt Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.243 mW/g m

GSM 1900 Left/Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.917 V/m; Power Drift = 0.042 dB
Peak SAR (extrapolated) = 0.2200
SAR(1 g) = 0.134 mW/g; SAR(10 g) = 0.076 mW/g
Maximum value of SAR (measured) = 0.145 mW/g

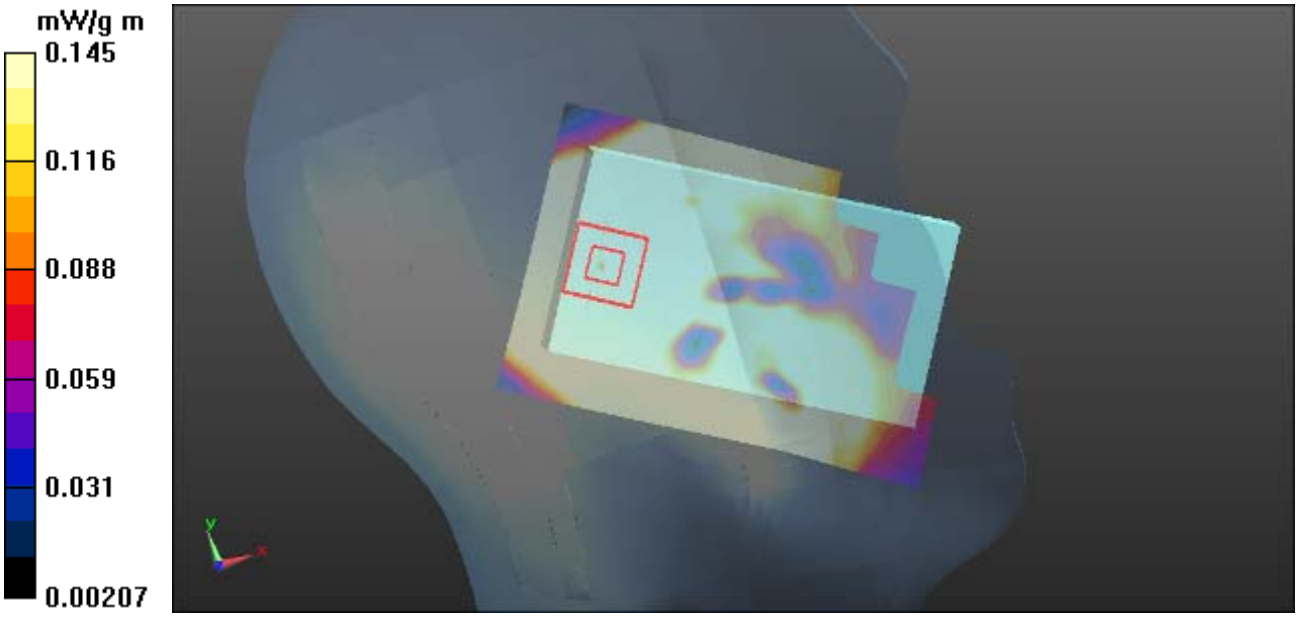


Figure 44 Left Hand Tilt 15° GSM 1900 Channel 661

GSM 1900 Left Tilt Low (Battery 1)

Date/Time: 24.04.2012 22:45:04
Communication System: GSM; Frequency: 1850.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.368 mho/m; ε_r = 41.019; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.83, 4.83, 4.83); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 1900 Left/Tilt Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.352 mW/g m

GSM 1900 Left/Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.725 V/m; Power Drift = 0.034 dB
Peak SAR (extrapolated) = 0.2460
SAR(1 g) = 0.152 mW/g; SAR(10 g) = 0.089 mW/g
Maximum value of SAR (measured) = 0.164 mW/g

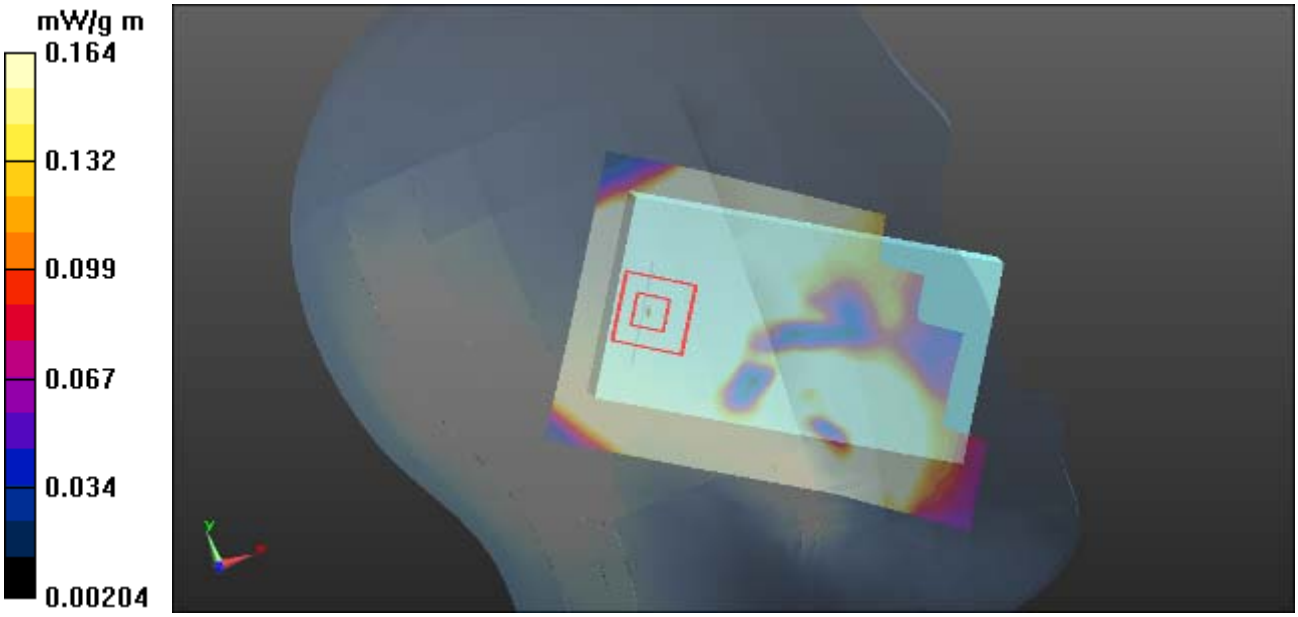


Figure 45 Left Hand Tilt 15° GSM 1900 Channel 512

GSM 1900 Right Cheek High (Battery 1)

Date/Time: 25.04.2012 00:07:49
Communication System: GSM; Frequency: 1909.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1910 MHz; σ = 1.425 mho/m; ε_r = 40.801; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.83, 4.83, 4.83); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 1900 Right/Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.274 mW/g m

GSM 1900 Right/Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.316 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 0.2600
SAR(1 g) = 0.169 mW/g; SAR(10 g) = 0.105 mW/g
Maximum value of SAR (measured) = 0.184 mW/g

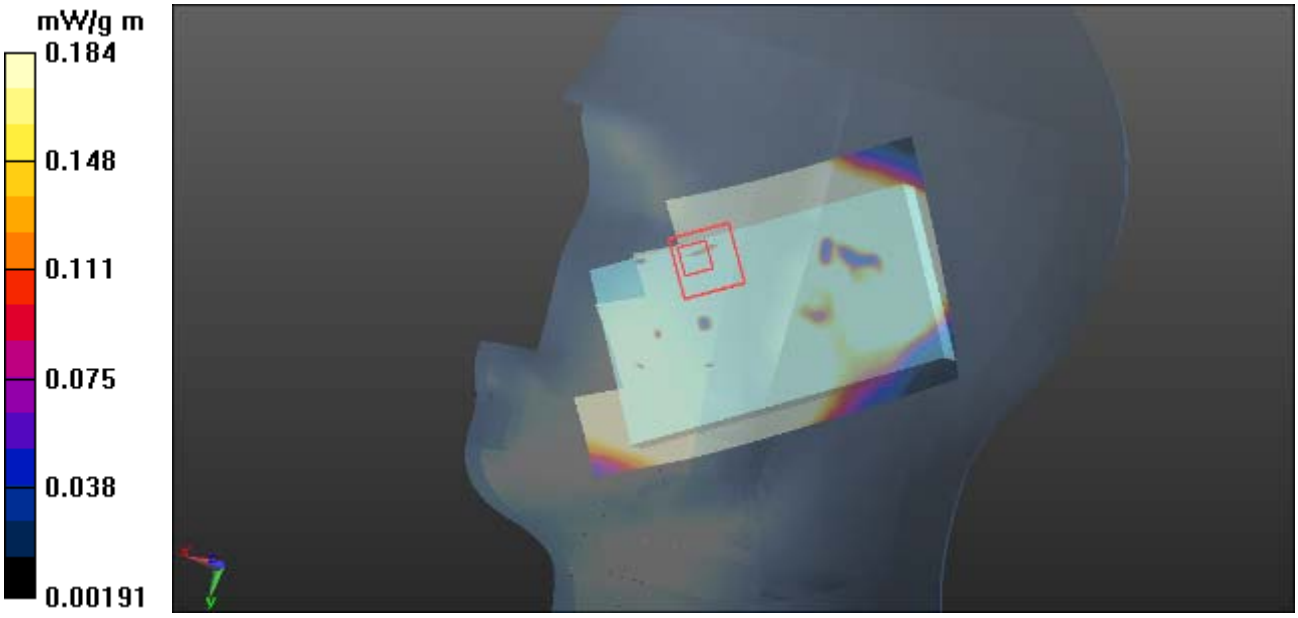


Figure 46 Right Hand Touch Cheek GSM 1900 Channel 810

GSM 1900 Right Cheek Middle (Battery 1)

Date/Time: 24.04.2012 23:50:33
Communication System: GSM; Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.395 mho/m; ε_r = 40.905; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.83, 4.83, 4.83); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 1900 Right/Cheek Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.478 mW/g m

GSM 1900 Right/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.777 V/m; Power Drift = 0.071 dB
Peak SAR (extrapolated) = 0.3100
SAR(1 g) = 0.204 mW/g; SAR(10 g) = 0.129 mW/g
Maximum value of SAR (measured) = 0.222 mW/g

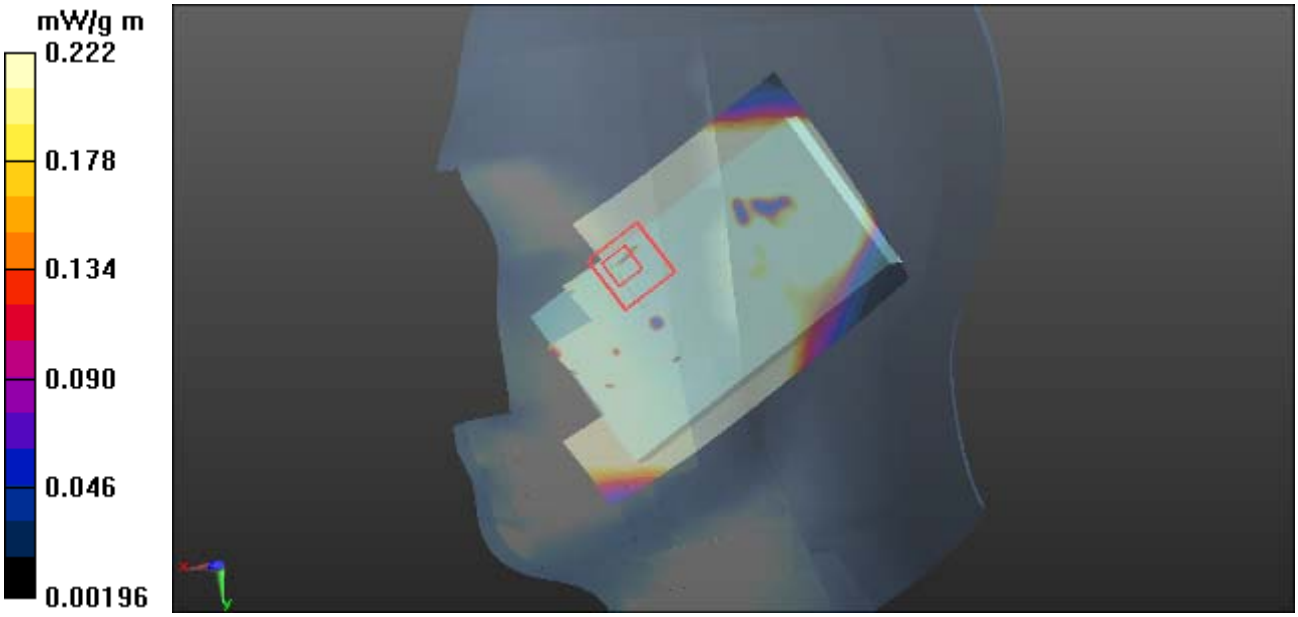


Figure 47 Right Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Right Cheek Low (Battery 1)

Date/Time: 25.04.2012 00:25:01
Communication System: GSM; Frequency: 1850.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.368 mho/m; ε_r = 41.019; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.83, 4.83, 4.83); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 1900 Right/Cheek Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.591 mW/g m

GSM 1900 Right/Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.909 V/m; Power Drift = 0.018 dB
Peak SAR (extrapolated) = 0.3400
SAR(1 g) = 0.223 mW/g; SAR(10 g) = 0.141 mW/g
Maximum value of SAR (measured) = 0.241 mW/g

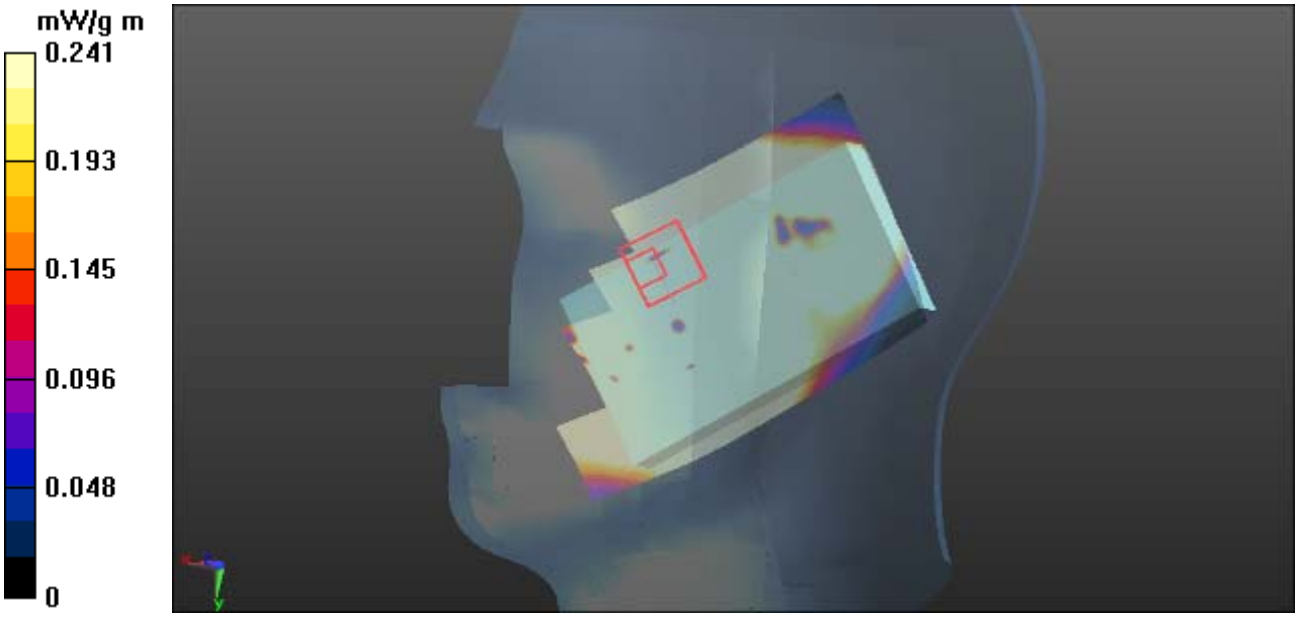


Figure 48 Right Hand Touch Cheek GSM 1900 Channel 512

GSM 1900 Right Tilt High (Battery 1)

Date/Time: 25.04.2012 00:58:51
Communication System: GSM; Frequency: 1909.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1910 MHz; σ = 1.425 mho/m; ε_r = 40.801; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.83, 4.83, 4.83); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 1900 Right/Tilt High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.019 mW/g m

GSM 1900 Right/Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.086 V/m; Power Drift = 0.018 dB
Peak SAR (extrapolated) = 0.2010
SAR(1 g) = 0.122 mW/g; SAR(10 g) = 0.069 mW/g
Maximum value of SAR (measured) = 0.136 mW/g

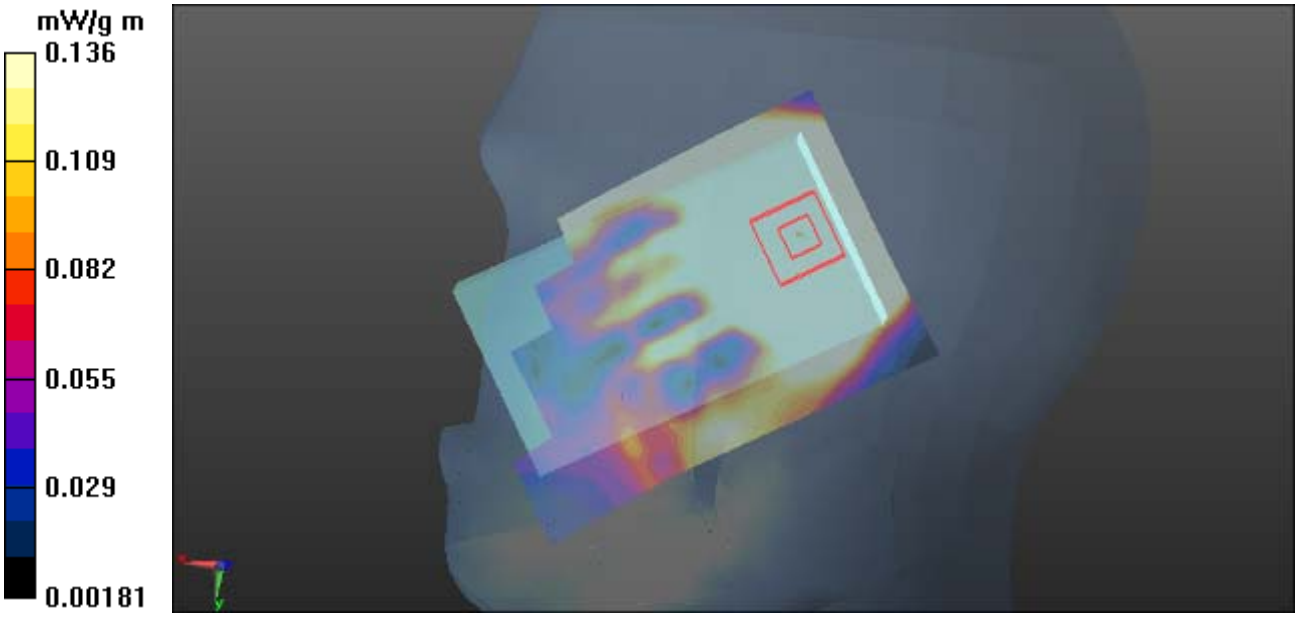


Figure 49 Right Hand Tilt 15° GSM 1900 Channel 810

GSM 1900 Right Tilt Middle (Battery 1)

Date/Time: 25.04.2012 01:15:57
Communication System: GSM; Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.395 mho/m; ε_r = 40.905; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.83, 4.83, 4.83); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 1900 Right/Tilt Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.144 mW/g m

GSM 1900 Right/Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.732 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 0.2270
SAR(1 g) = 0.139 mW/g; SAR(10 g) = 0.079 mW/g
Maximum value of SAR (measured) = 0.155 mW/g

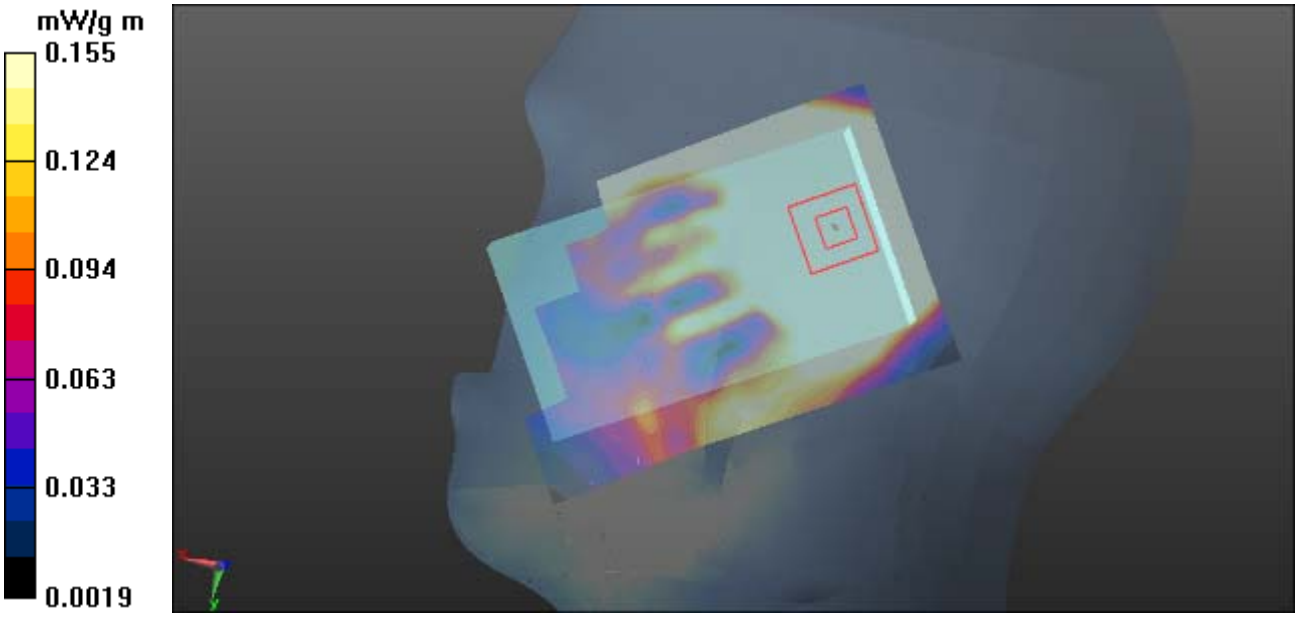


Figure 50 Right Hand Tilt 15° GSM 1900 Channel 661

GSM 1900 Right Tilt Low (Battery 1)

Date/Time: 25.04.2012 00:41:53
Communication System: GSM; Frequency: 1850.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.368 mho/m; ε_r = 41.019; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.83, 4.83, 4.83); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 1900 Right/Tilt Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.155 mW/g m

GSM 1900 Right/Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.063 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 0.2360
SAR(1 g) = 0.147 mW/g; SAR(10 g) = 0.085 mW/g
Maximum value of SAR (measured) = 0.164 mW/g

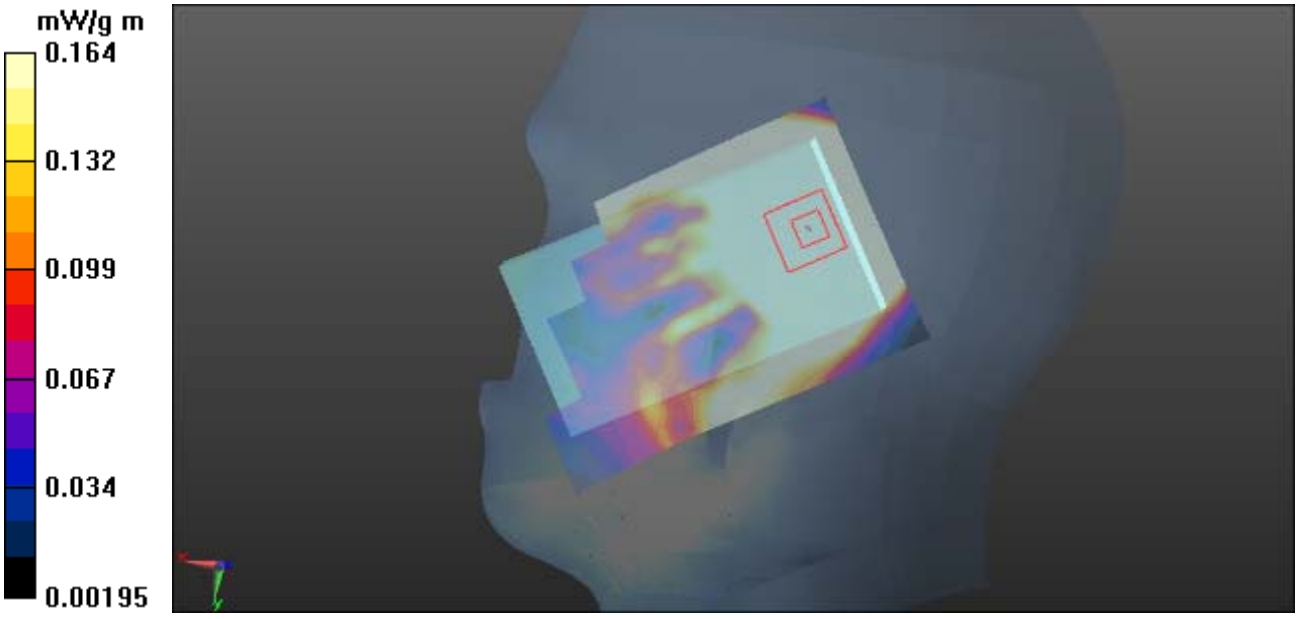


Figure 51 Right Hand Tilt 15° GSM 1900 Channel 512

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

Date/Time: 25.04.2012 07:24:37
Communication System: GPRS(4UP); Frequency: 1909.8 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1910 MHz; σ = 1.565 mho/m; ε_r = 52.115; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.32, 4.32, 4.32); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 4.491 mW/g m

Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.502 V/m; Power Drift = -0.025 dB
Peak SAR (extrapolated) = 0.8740
SAR(1 g) = 0.523 mW/g; SAR(10 g) = 0.298 mW/g
Maximum value of SAR (measured) = 0.590 mW/g

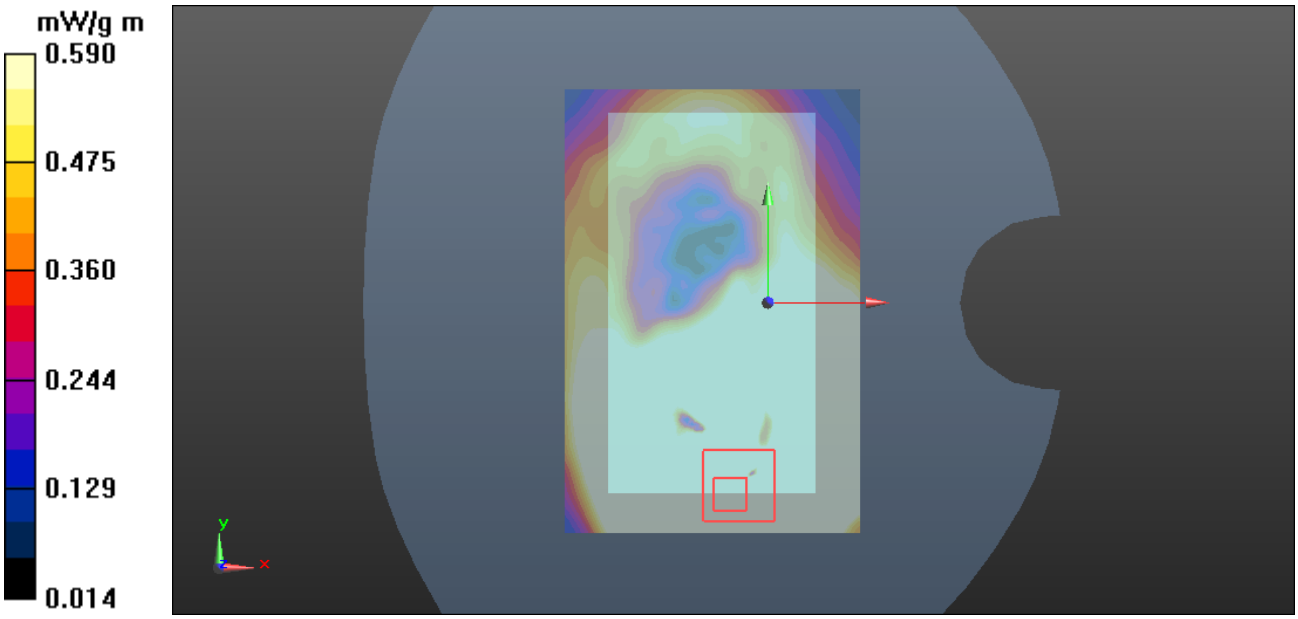


Figure 52 Body, Back Side, GSM 1900 GPRS (4Txslots) Channel 810

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

Date/Time: 25.04.2012 09:09:18
Communication System: GPRS(4UP); Frequency: 1880 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1880 MHz; σ = 1.535 mho/m; ε_r = 52.207; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.32, 4.32, 4.32); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 5.112 mW/g m

Back Side Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.901 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 0.8630
SAR(1 g) = 0.528 mW/g; SAR(10 g) = 0.302 mW/g
Maximum value of SAR (measured) = 0.560 mW/g

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.901 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 0.9100
SAR(1 g) = 0.480 mW/g; SAR(10 g) = 0.281 mW/g
Maximum value of SAR (measured) = 0.561 mW/g

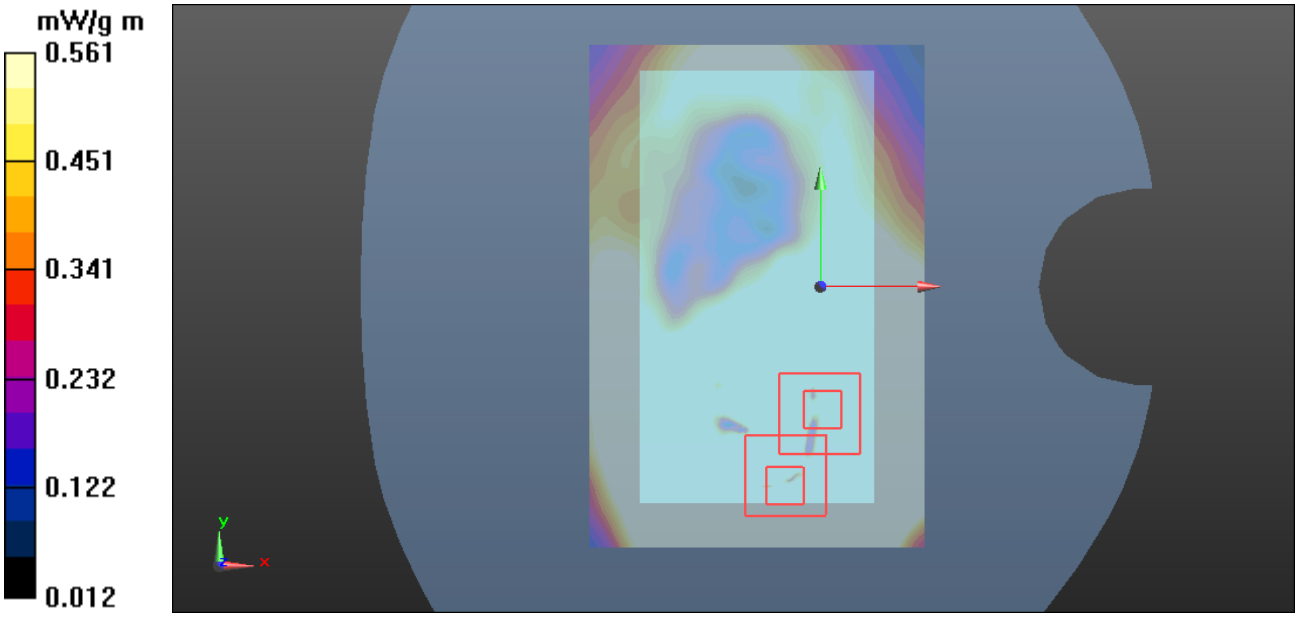


Figure 53 Body, Back Side, GSM 1900 GPRS (4Txslots) Channel 661

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

Date/Time: 25.04.2012 09:34:54
Communication System: GPRS(4UP); Frequency: 1850.2 MHz;Duty Cycle: 1:2.07491
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.508 mho/m; ε_r = 52.285; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.32, 4.32, 4.32); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 7.014 mW/g m

Back Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.999 V/m; Power Drift = 0.120 dB
Peak SAR (extrapolated) = 1.1780
SAR(1 g) = 0.762 mW/g; SAR(10 g) = 0.441 mW/g
Maximum value of SAR (measured) = 0.865 mW/g

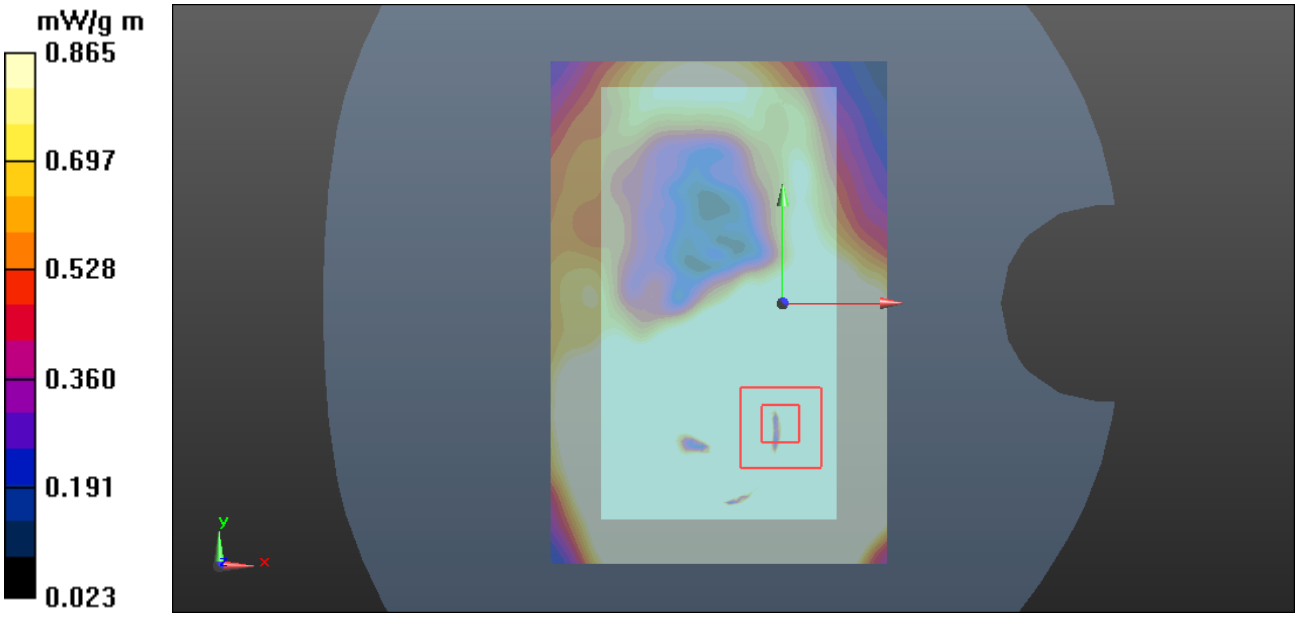


Figure 54 Body, Back Side, GSM 1900 GPRS (4Txslots) Channel 512

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

Date/Time: 25.04.2012 07:42:29
Communication System: GPRS(4UP); Frequency: 1909.8 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1910 MHz; σ = 1.565 mho/m; ε_r = 52.115; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.32, 4.32, 4.32); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Front Side High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 2.342 mW/g m

Front Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.678 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 0.6480
SAR(1 g) = 0.377 mW/g; SAR(10 g) = 0.221 mW/g
Maximum value of SAR (measured) = 0.424 mW/g

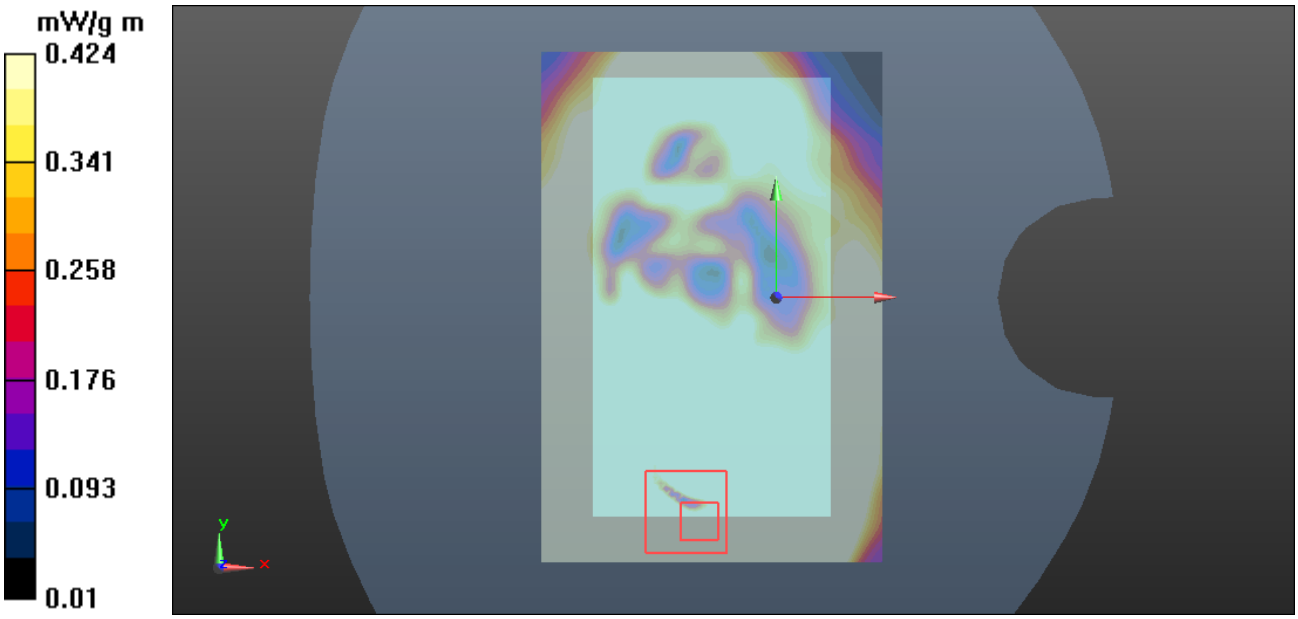


Figure 55 Body, Front Side, GSM 1900 GPRS (4Txslots) Channel 810

GSM 1900 GPRS (4Txslots) Left Edge High (Battery 1)

Date/Time: 25.04.2012 08:18:10
Communication System: GPRS(4UP); Frequency: 1909.8 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1910 MHz; σ = 1.565 mho/m; ε_r = 52.115; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.32, 4.32, 4.32); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Left Side High/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.030 mW/g m

Left Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.519 V/m; Power Drift = -0.130 dB
Peak SAR (extrapolated) = 0.2420
SAR(1 g) = 0.143 mW/g; SAR(10 g) = 0.081 mW/g
Maximum value of SAR (measured) = 0.153 mW/g

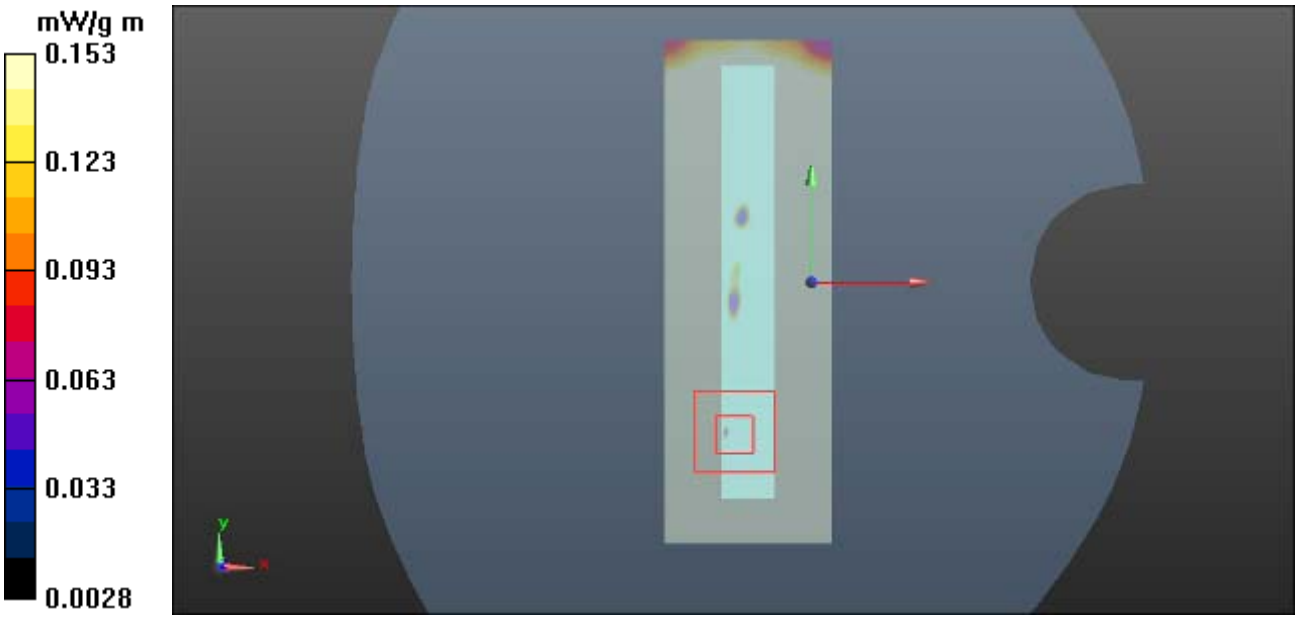


Figure 56 Body, Left Edge, GSM 1900 GPRS (4Txslots) Channel 810

GSM 1900 GPRS (4Txslots) Right Edge High (Battery 1)

Date/Time: 25.04.2012 08:54:06
Communication System: GPRS(4UP); Frequency: 1909.8 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1910 MHz; σ = 1.565 mho/m; ε_r = 52.115; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.32, 4.32, 4.32); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Right Side High/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 0.475 mW/g m

Right Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.925 V/m; Power Drift = 0.090 dB
Peak SAR (extrapolated) = 0.1080
SAR(1 g) = 0.067 mW/g; SAR(10 g) = 0.038 mW/g
Maximum value of SAR (measured) = 0.074 mW/g

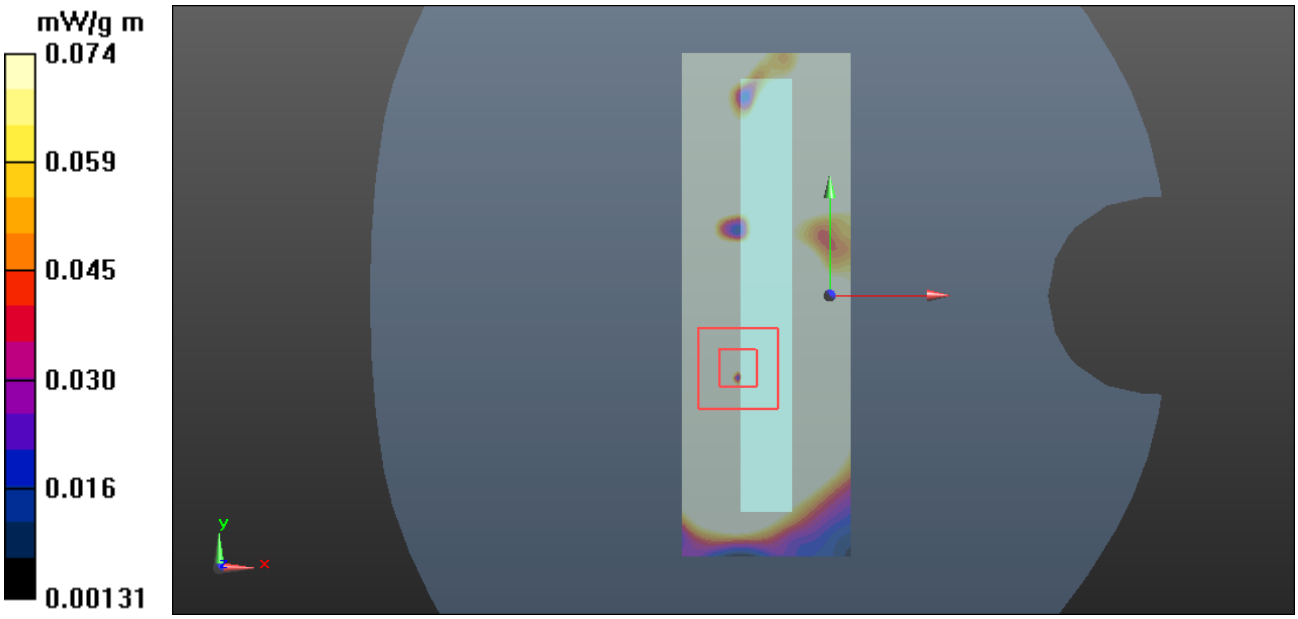


Figure 57 Body, Right Edge, GSM 1900 GPRS (4Txslots) Channel 810

GSM 1900 GPRS (4Txslots) Bottom Edge High (Battery 1)

Date/Time: 25.04.2012 08:01:28
Communication System: GPRS(4UP); Frequency: 1909.8 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1910 MHz; σ = 1.565 mho/m; ε_r = 52.115; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.32, 4.32, 4.32); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Bottom Side High/Area Scan (31x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 2.129 mW/g m

Bottom Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.462 V/m; Power Drift = 0.050 dB
Peak SAR (extrapolated) = 0.7540
SAR(1 g) = 0.446 mW/g; SAR(10 g) = 0.243 mW/g
Maximum value of SAR (measured) = 0.496 mW/g

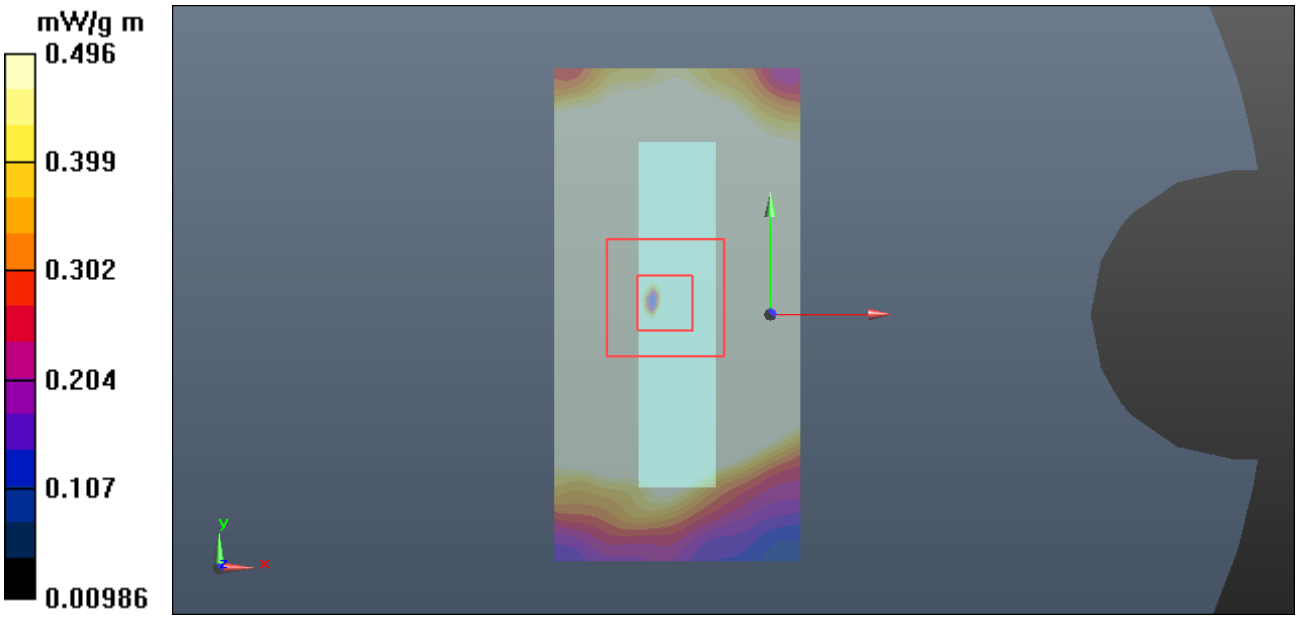


Figure 58 Body, Bottom Edge, GSM 1900 GPRS (4Txslots) Channel 810

GSM 1900 EGPRS (4Txslots) Back Side Low (Battery 1)

Date/Time: 25.04.2012 09:52:56
Communication System: EGPRS(4UP); Frequency: 1850.2 MHz;Duty Cycle: 1:2.07491
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.508 mho/m; ε_r = 52.285; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.32, 4.32, 4.32); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 7.119 mW/g m

Back Side Low/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.214 V/m; Power Drift = -0.061 dB
Peak SAR (extrapolated) = 1.2530
SAR(1 g) = 0.698 mW/g; SAR(10 g) = 0.400 mW/g

Back Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.214 V/m; Power Drift = -0.061 dB
Peak SAR (extrapolated) = 1.3510
SAR(1 g) = 0.791 mW/g; SAR(10 g) = 0.450 mW/g
Maximum value of SAR (measured) = 0.875 mW/g

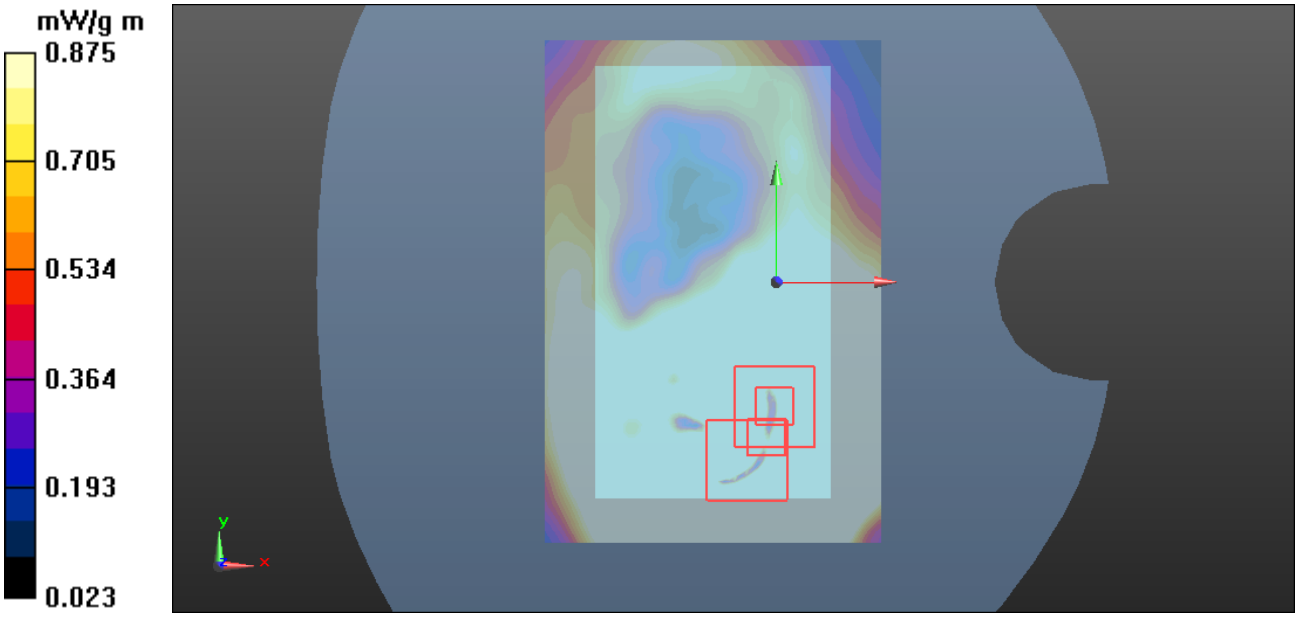


Figure 59 Body, Back Side, GSM 1900 EGPRS (4Txslots) Channel 512

GSM 1900 with Stereo Headset 1 Back Side Low (Battery 1)

Date/Time: 25.04.2012 10:56:55
Communication System: GSM; Frequency: 1850.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.508 mho/m; ε_r = 52.285; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.32, 4.32, 4.32); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 3.626 mW/g m

Back Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.818 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 0.7020
SAR(1 g) = 0.420 mW/g; SAR(10 g) = 0.243 mW/g
Maximum value of SAR (measured) = 0.463 mW/g

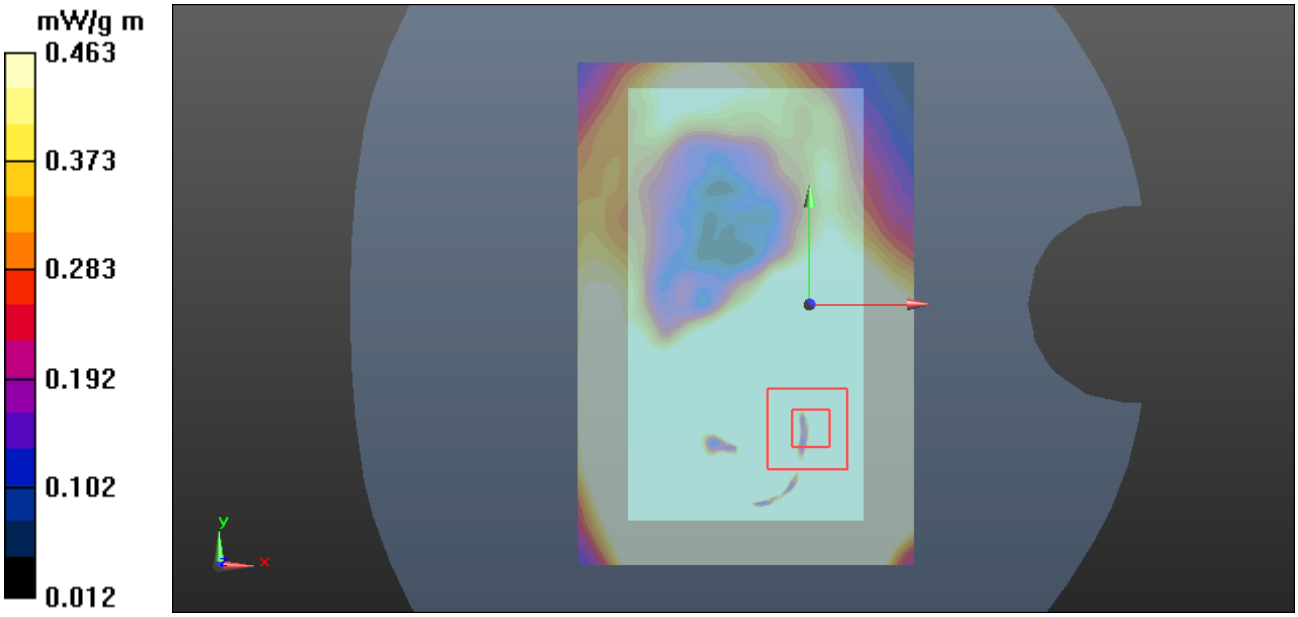


Figure 60 Body with Stereo Headset 1, Back Side, GSM 1900 Channel 512

GSM 1900 with Stereo Headset 2 Back Side Low (Battery 1)

Date/Time: 25.04.2012 10:38:42
Communication System: GSM; Frequency: 1850.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.508 mho/m; ε_r = 52.285; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.32, 4.32, 4.32); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 3.766 mW/g m

Back Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.875 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 0.7150
SAR(1 g) = 0.408 mW/g; SAR(10 g) = 0.237 mW/g
Maximum value of SAR (measured) = 0.461 mW/g

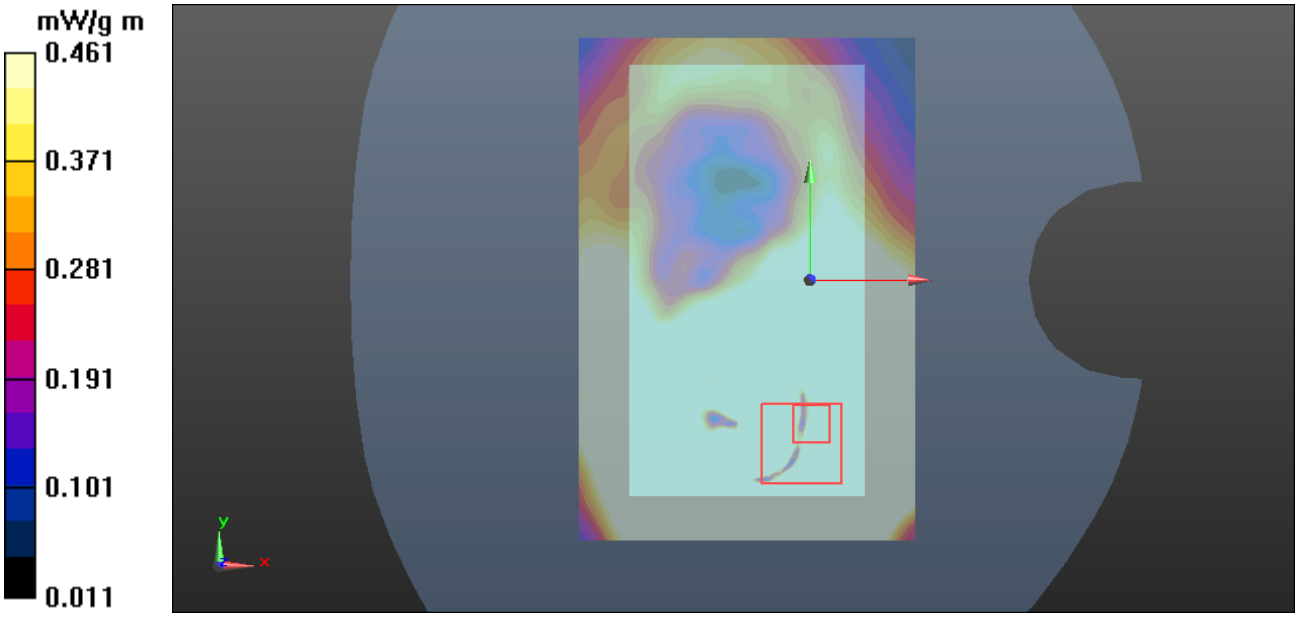


Figure 61 Body with Stereo Headset 2, Back Side, GSM 1900 Channel 512

WCDMA Band IV Left Cheek High (Battery 1)

Date/Time: 23.04.2012 21:23:25
Communication System: WCDMA; Frequency: 1752.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1752.6 MHz; σ = 1.401 mho/m; ε_r = 39.169; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.03, 5.03, 5.03); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

WCDMA IV Left/Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 9.064 mW/g m

WCDMA IV Left/Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.451 V/m; Power Drift = -0.024 dB
Peak SAR (extrapolated) = 1.4860
SAR(1 g) = 0.952 mW/g; SAR(10 g) = 0.558 mW/g
Maximum value of SAR (measured) = 1.033 mW/g

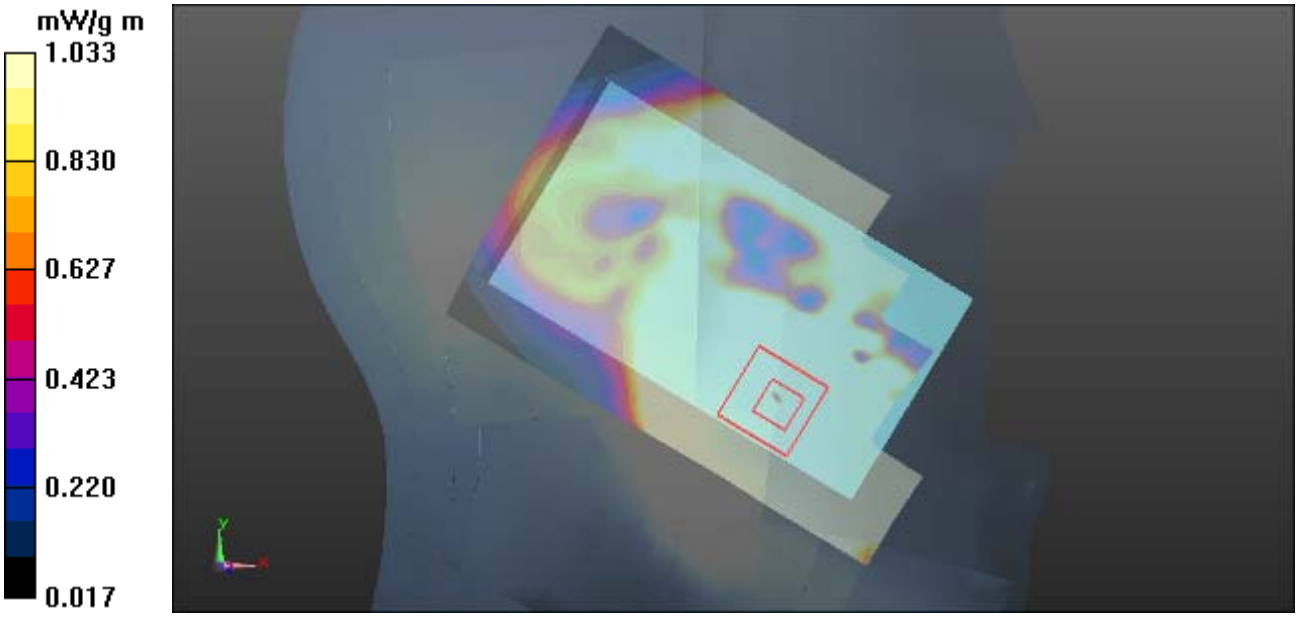


Figure 62 Left Hand Touch Cheek WCDMA Band IV Channel 1513

WCDMA Band IV Left Cheek Middle (Battery 1)

Date/Time: 23.04.2012 21:06:11
Communication System: WCDMA; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.381 mho/m; ε_r = 39.221; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.03, 5.03, 5.03); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

WCDMA IV Left/Cheek Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 8.840 mW/g m

WCDMA IV Left/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.084 V/m; Power Drift = -0.080 dB
Peak SAR (extrapolated) = 1.4140
SAR(1 g) = 0.910 mW/g; SAR(10 g) = 0.534 mW/g
Maximum value of SAR (measured) = 0.985 mW/g

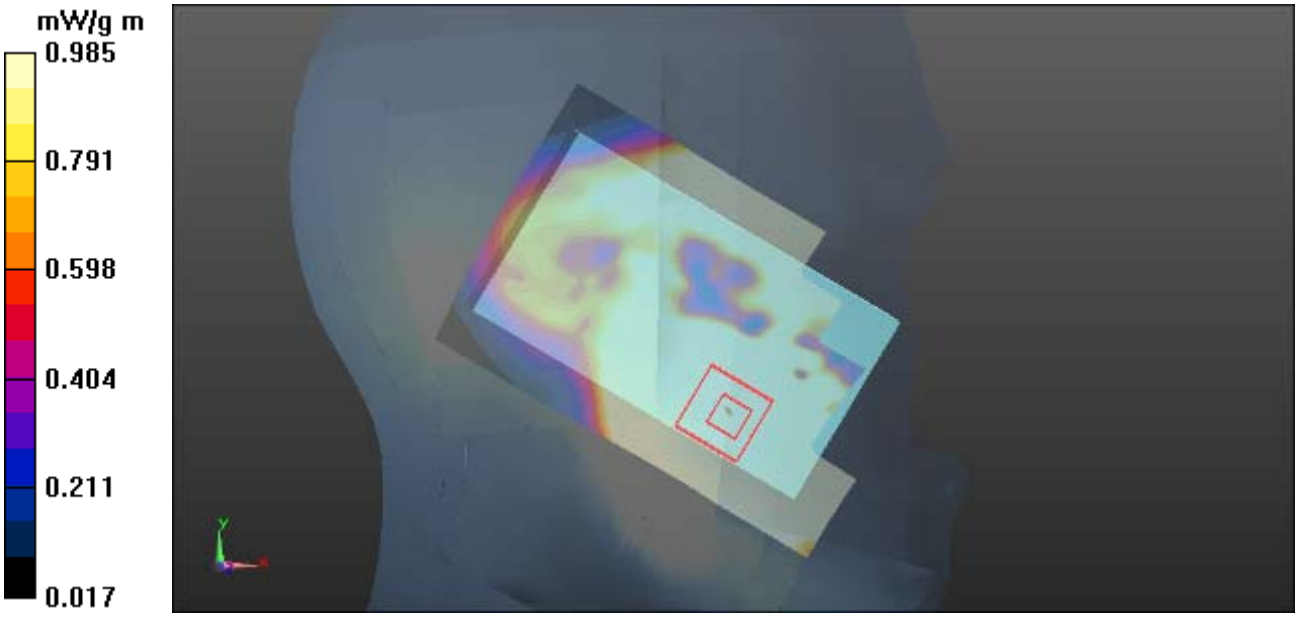


Figure 63 Left Hand Touch Cheek WCDMA Band IV Channel 1413

WCDMA Band IV Left Cheek Low (Battery 1)

Date/Time: 23.04.2012 21:41:06

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

Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.363 mho/m; ε_r = 39.268; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Left Section

DASY5 Configuration:

Probe: ES3DV3 - SN3071; ConvF(5.03, 5.03, 5.03); Calibrated: 22.06.2011

Electronics: DAE4 Sn1291; Calibrated: 10.10.2011

Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

Maximum value of Total (interpolated) = 8.312 mW/g m

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

Reference Value = 8.192 V/m; Power Drift = 0.053 dB

Peak SAR (extrapolated) = 1.2620

SAR(1 g) = 0.819 mW/g; SAR(10 g) = 0.488 mW/g

Maximum value of SAR (measured) = 0.892 mW/g

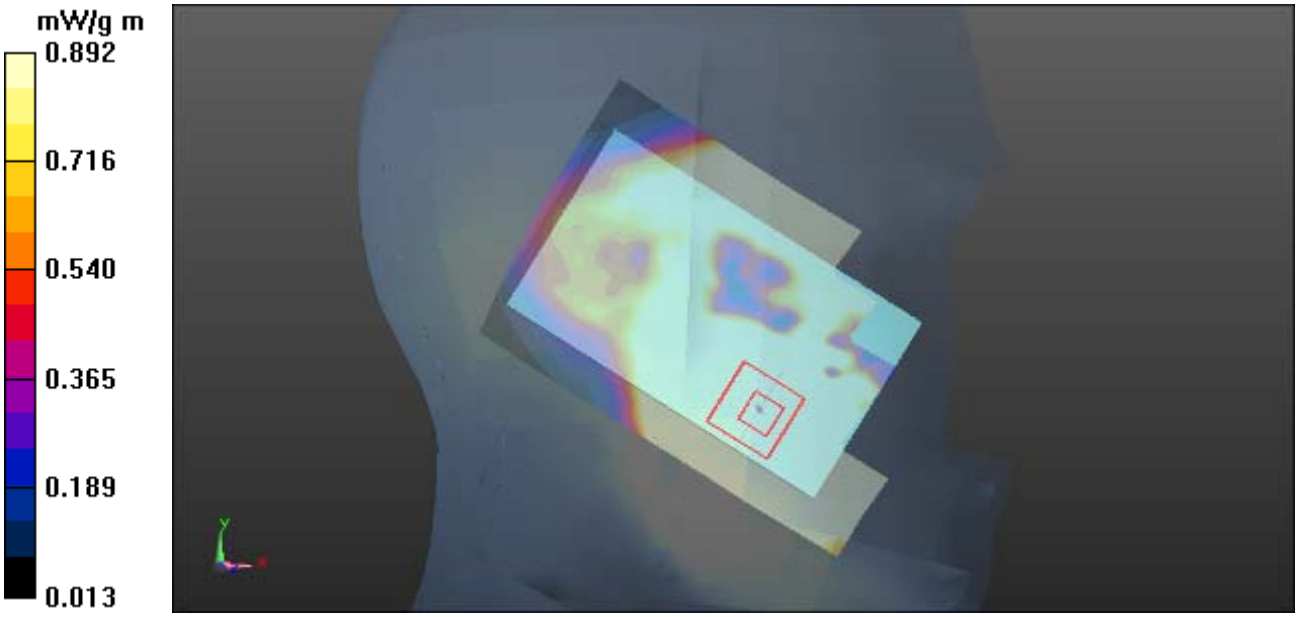


Figure 64 Left Hand Touch Cheek WCDMA Band IV Channel 1312

WCDMA Band IV Left Tilt High (Battery 1)

Date/Time: 23.04.2012 22:39:19

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

Medium parameters used (interpolated): f = 1752.6 MHz; σ = 1.401 mho/m; ε_r = 39.169; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Left Section

DASY5 Configuration:

Probe: ES3DV3 - SN3071; ConvF(5.03, 5.03, 5.03); Calibrated: 22.06.2011

Electronics: DAE4 Sn1291; Calibrated: 10.10.2011

Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

Maximum value of Total (interpolated) = 1.771 mW/g m

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

Reference Value = 13.066 V/m; Power Drift = 0.047 dB

Peak SAR (extrapolated) = 0.3790

SAR(1 g) = 0.242 mW/g; SAR(10 g) = 0.147 mW/g

Maximum value of SAR (measured) = 0.256 mW/g

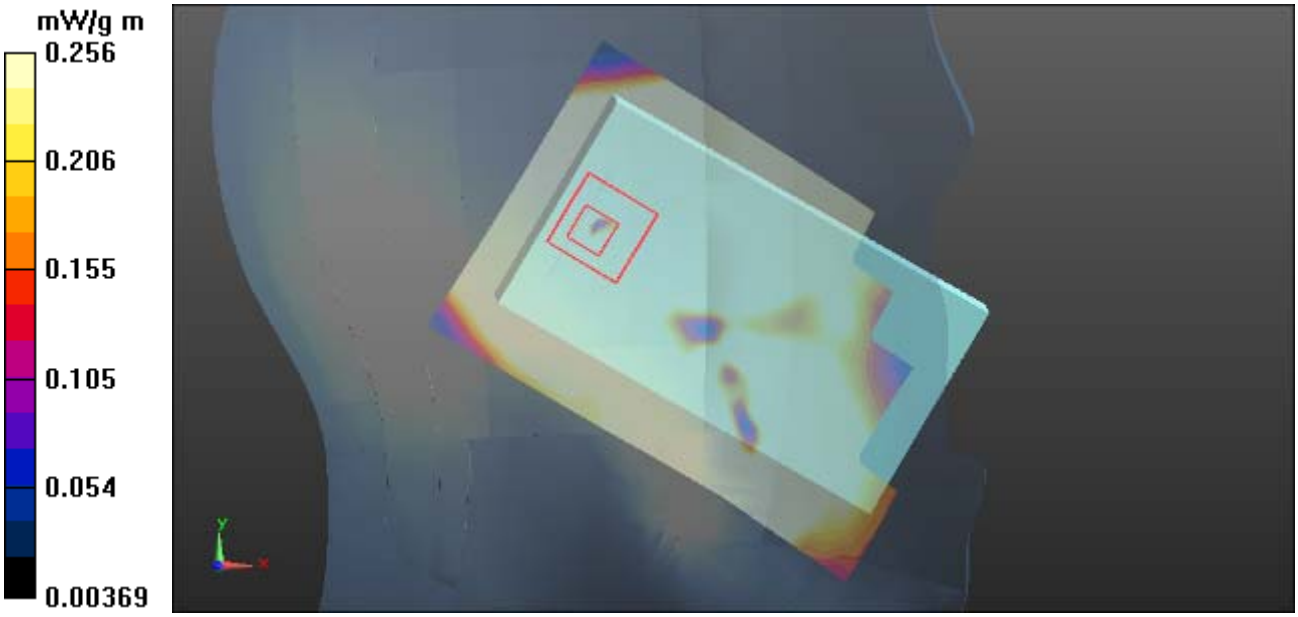


Figure 65 Left Hand Tilt 15° WCDMA Band IV Channel 1513

WCDMA Band IV Left Tilt Middle (Battery 1)

Date/Time: 23.04.2012 22:20:23

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

Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.381 mho/m; ε_r = 39.221; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Left Section

DASY5 Configuration:

Probe: ES3DV3 - SN3071; ConvF(5.03, 5.03, 5.03); Calibrated: 22.06.2011

Electronics: DAE4 Sn1291; Calibrated: 10.10.2011

Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

Maximum value of Total (interpolated) = 1.477 mW/g m

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

Reference Value = 12.142 V/m; Power Drift = 0.037 dB

Peak SAR (extrapolated) = 0.3260

SAR(1 g) = 0.210 mW/g; SAR(10 g) = 0.130 mW/g

Maximum value of SAR (measured) = 0.226 mW/g

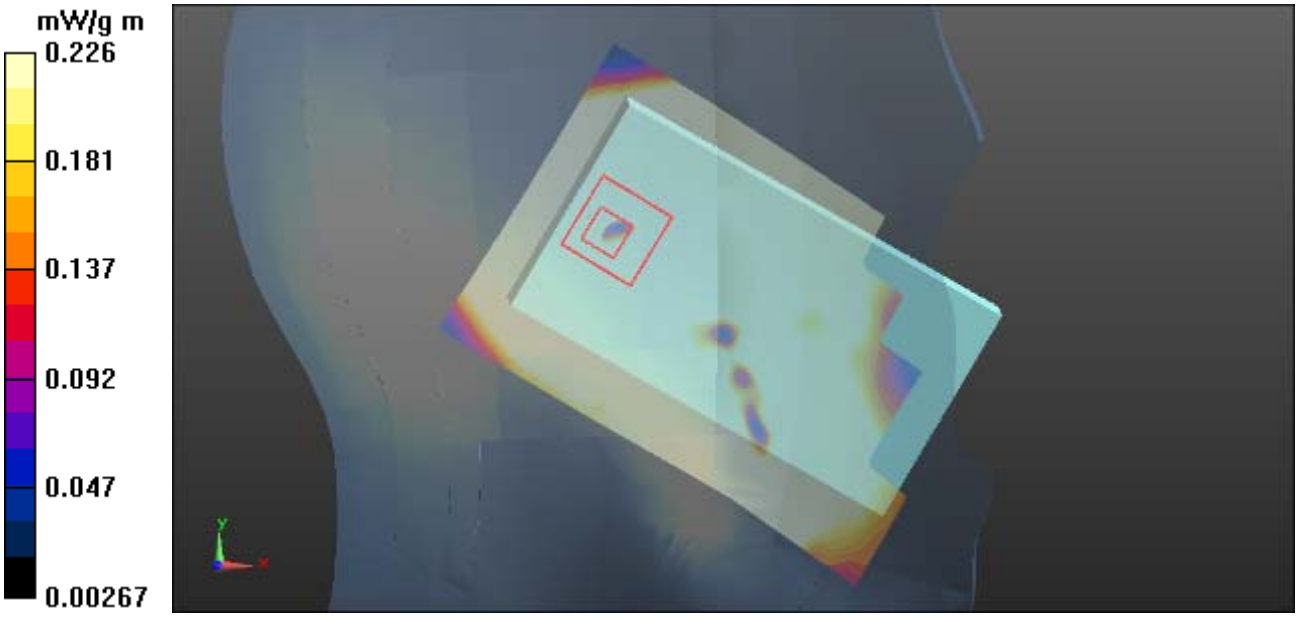


Figure 66 Left Hand Tilt 15° WCDMA Band IV Channel 1413

WCDMA Band IV Left Tilt Low (Battery 1)

Date/Time: 23.04.2012 22:01:06
Communication System: WCDMA; Frequency: 1712.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.363 mho/m; ε_r = 39.268; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.03, 5.03, 5.03); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

WCDMA IV Left/Tilt Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.193 mW/g m

WCDMA IV Left/Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.061 V/m; Power Drift = 0.040 dB
Peak SAR (extrapolated) = 0.2680
SAR(1 g) = 0.175 mW/g; SAR(10 g) = 0.111 mW/g
Maximum value of SAR (measured) = 0.186 mW/g

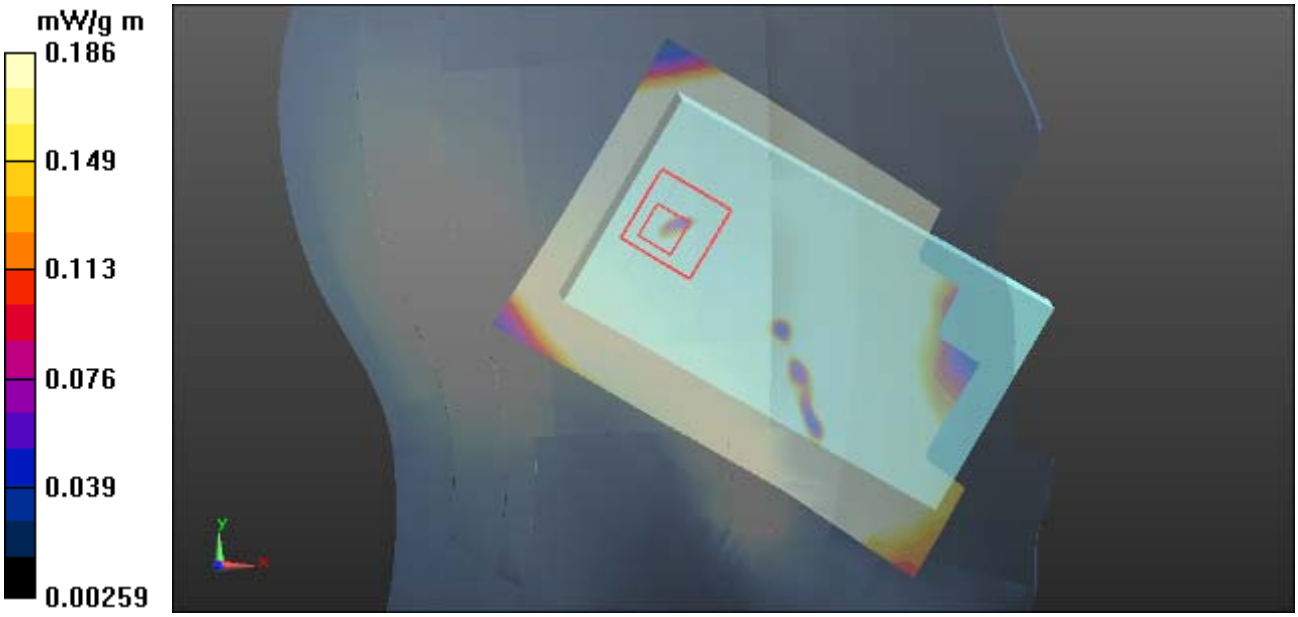


Figure 67 Left Hand Tilt 15° WCDMA Band IV Channel 1312

WCDMA Band IV Right Cheek High (Battery 1)

Date/Time: 23.04.2012 23:01:40
Communication System: WCDMA; Frequency: 1752.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1752.6 MHz; σ = 1.401 mho/m; ε_r = 39.169; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.03, 5.03, 5.03); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

WCDMA IV Right/Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 4.643 mW/g m

WCDMA IV Right/Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.607 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 0.8060
SAR(1 g) = 0.543 mW/g; SAR(10 g) = 0.334 mW/g
Maximum value of SAR (measured) = 0.592 mW/g

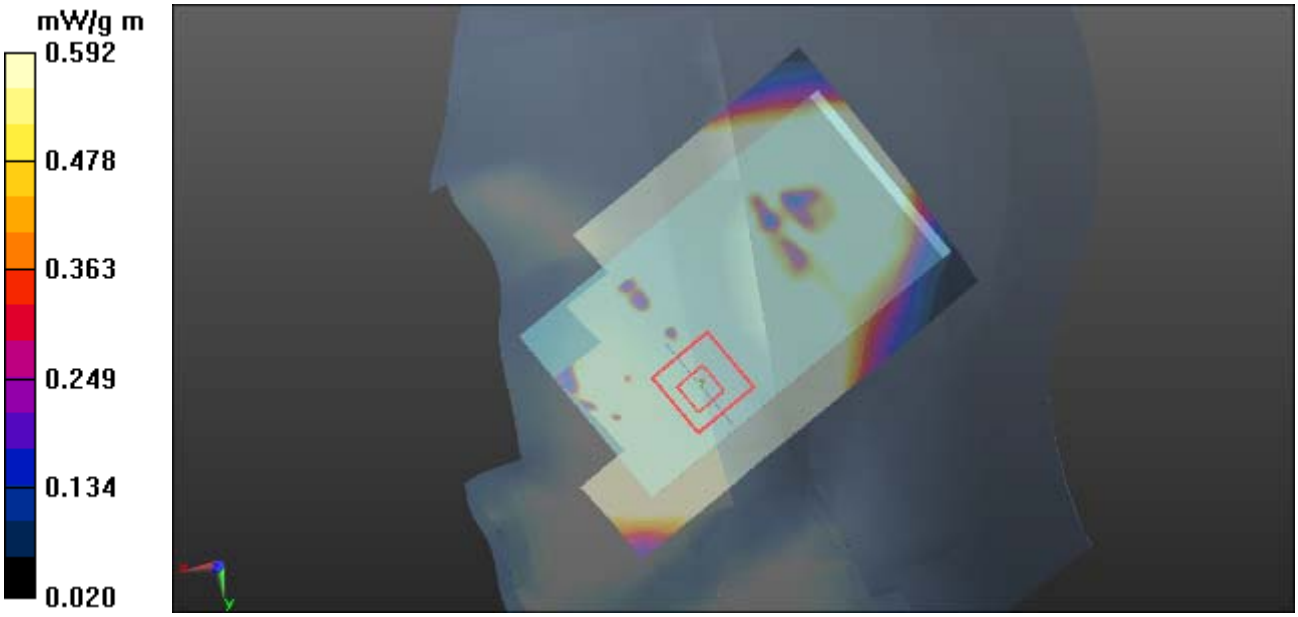


Figure 68 Right Hand Touch Cheek WCDMA Band IV Channel 1513

WCDMA Band IV Right Cheek Middle (Battery 1)

Date/Time: 23.04.2012 23:18:53
Communication System: WCDMA; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.381 mho/m; ε_r = 39.221; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.03, 5.03, 5.03); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

WCDMA IV Right/Cheek Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 4.424 mW/g m

WCDMA IV Right/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.182 V/m; Power Drift = 0.051 dB
Peak SAR (extrapolated) = 0.7670
SAR(1 g) = 0.521 mW/g; SAR(10 g) = 0.322 mW/g
Maximum value of SAR (measured) = 0.568 mW/g

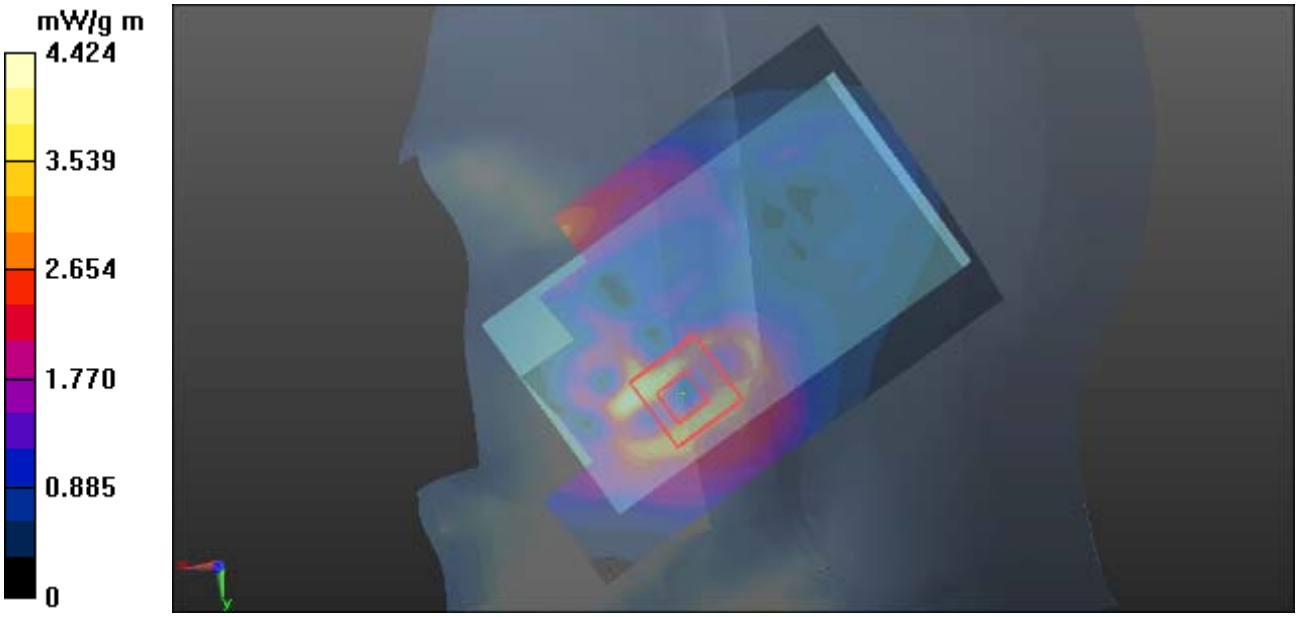


Figure 69 Right Hand Touch Cheek WCDMA Band IV Channel 1413

WCDMA Band IV Right Cheek Low (Battery 1)

Date/Time: 23.04.2012 23:36:25
Communication System: WCDMA; Frequency: 1712.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.363 mho/m; ε_r = 39.268; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.03, 5.03, 5.03); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

WCDMA IV Right/Cheek Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 4.218 mW/g m

WCDMA IV Right/Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.438 V/m; Power Drift = 0.070 dB
Peak SAR (extrapolated) = 0.7090
SAR(1 g) = 0.484 mW/g; SAR(10 g) = 0.300 mW/g
Maximum value of SAR (measured) = 0.525 mW/g

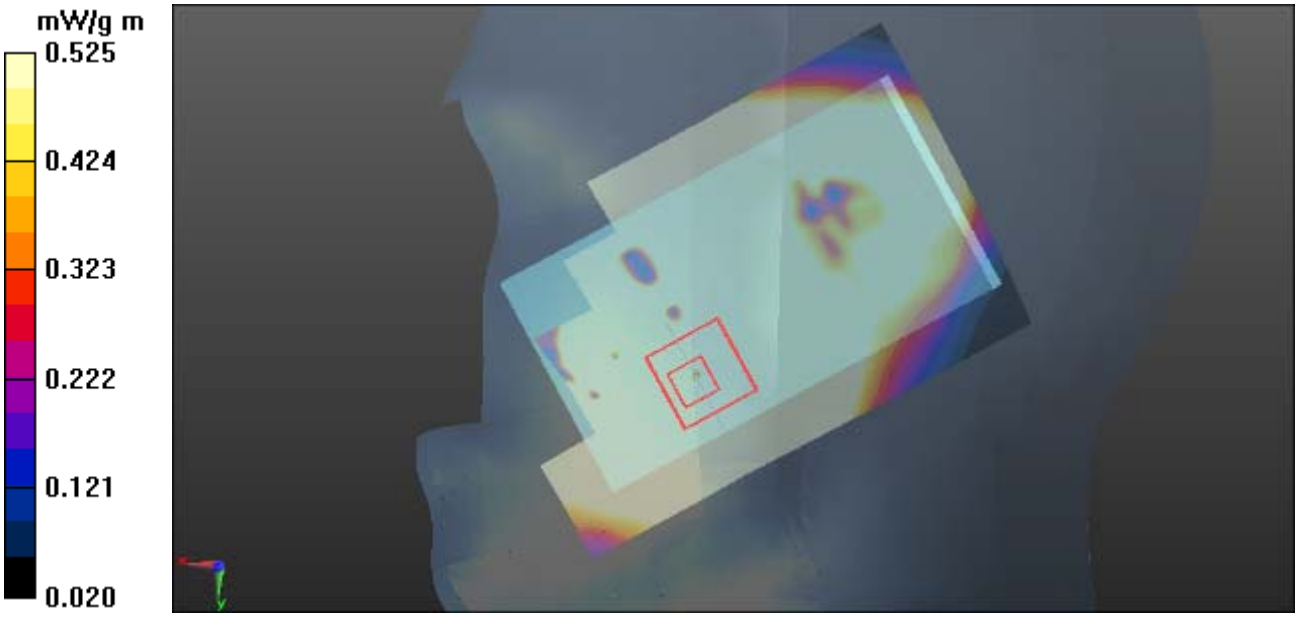


Figure 70 Right Hand Touch Cheek WCDMA Band IV Channel 1312

WCDMA Band IV Right Tilt High (Battery 1)

Date/Time: 24.04.2012 00:40:11
Communication System: WCDMA; Frequency: 1752.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1752.6 MHz; σ = 1.401 mho/m; ε_r = 39.169; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.03, 5.03, 5.03); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

WCDMA IV Right/Tilt High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.830 mW/g m

WCDMA IV Right/Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.068 V/m; Power Drift = 0.038 dB
Peak SAR (extrapolated) = 0.4040
SAR(1 g) = 0.255 mW/g; SAR(10 g) = 0.151 mW/g
Maximum value of SAR (measured) = 0.283 mW/g

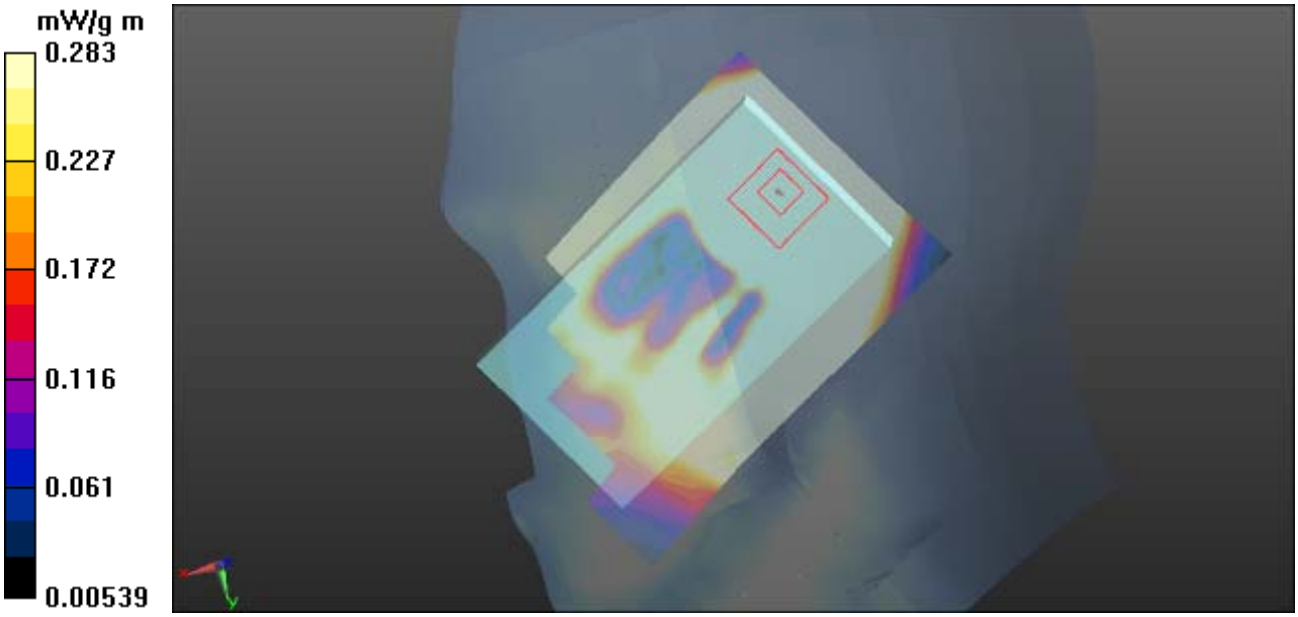


Figure 71 Right Hand Tilt 15° WCDMA Band IV Channel 1513

WCDMA Band IV Right Tilt Middle (Battery 1)

Date/Time: 24.04.2012 00:22:36
Communication System: WCDMA; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.381 mho/m; ε_r = 39.221; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.03, 5.03, 5.03); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

WCDMA IV Right/Tilt Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.581 mW/g m

WCDMA IV Right/Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.247 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 0.3500
SAR(1 g) = 0.221 mW/g; SAR(10 g) = 0.132 mW/g
Maximum value of SAR (measured) = 0.245 mW/g

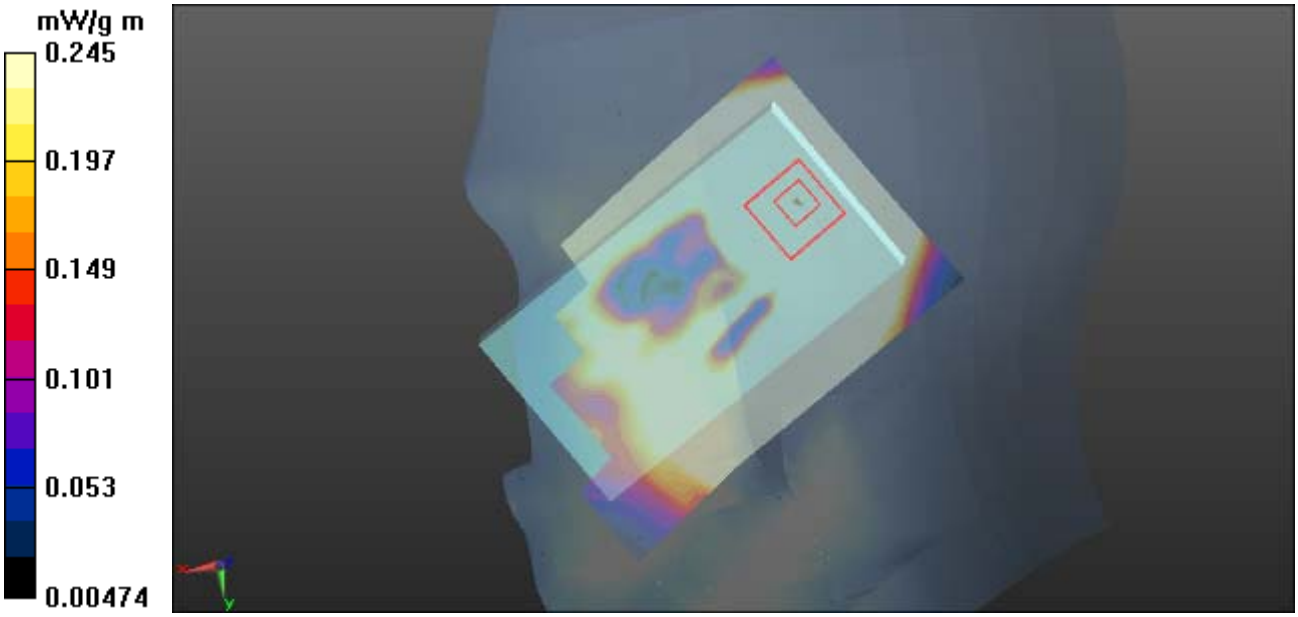


Figure 72 Right Hand Tilt 15° WCDMA Band IV Channel 1413

WCDMA Band IV Right Tilt Low (Battery 1)

Date/Time: 23.04.2012 23:56:42

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

Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.363 mho/m; ε_r = 39.268; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Right Section

DASY5 Configuration:

Probe: ES3DV3 - SN3071; ConvF(5.03, 5.03, 5.03); Calibrated: 22.06.2011

Electronics: DAE4 Sn1291; Calibrated: 10.10.2011

Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

Maximum value of Total (interpolated) = 1.306 mW/g m

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

Reference Value = 11.172 V/m; Power Drift = 0.044 dB

Peak SAR (extrapolated) = 0.2900

SAR(1 g) = 0.185 mW/g; SAR(10 g) = 0.112 mW/g

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

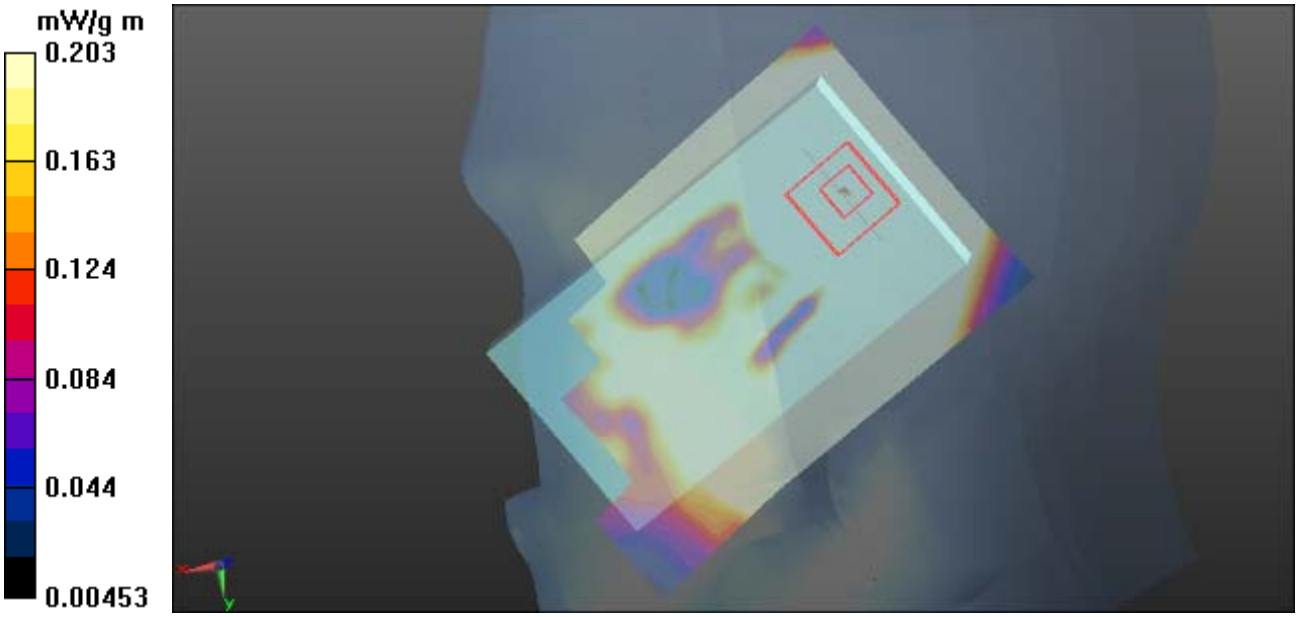


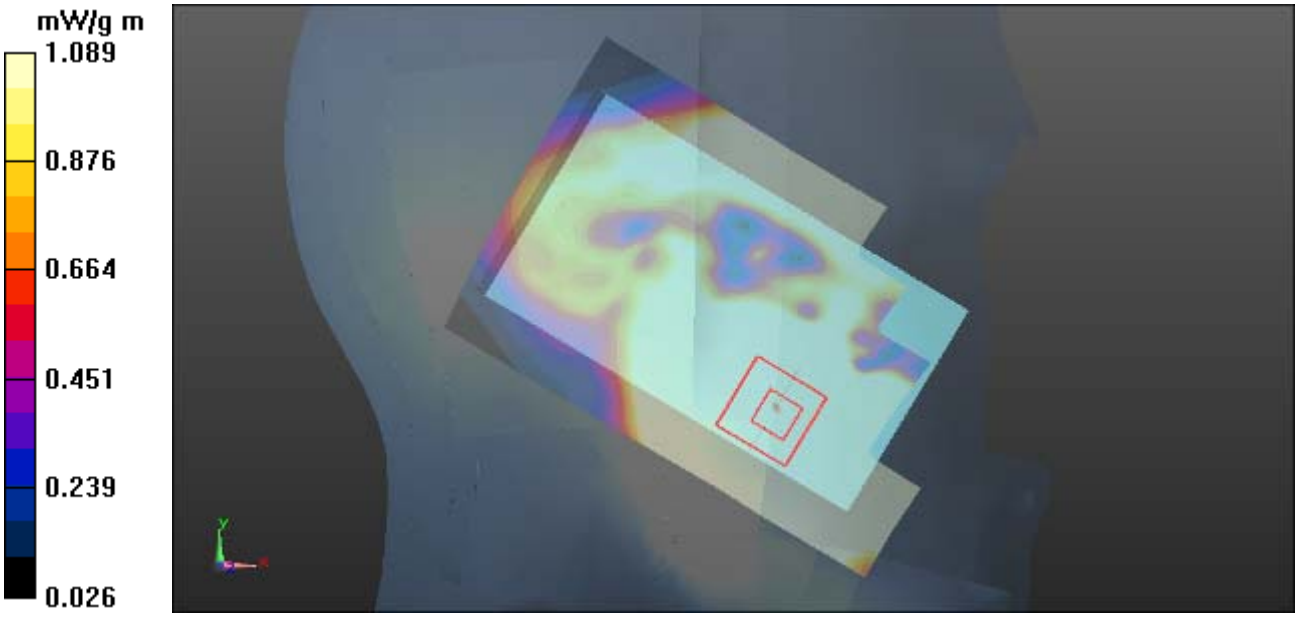
Figure 73 Right Hand Tilt 15° WCDMA Band IV Channel 1312

WCDMA Band IV Left Cheek High (Battery 2)

Date/Time: 24.04.2012 02:56:27
Communication System: WCDMA; Frequency: 1752.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1752.6 MHz; σ = 1.401 mho/m; ε_r = 39.169; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.03, 5.03, 5.03); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

WCDMA IV Left/Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 10.212 mW/g m

WCDMA IV Left/Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.866 V/m; Power Drift = 0.020 dB
Peak SAR (extrapolated) = 1.5460
SAR(1 g) = 0.999 mW/g; SAR(10 g) = 0.592 mW/g
Maximum value of SAR (measured) = 1.089 mW/g



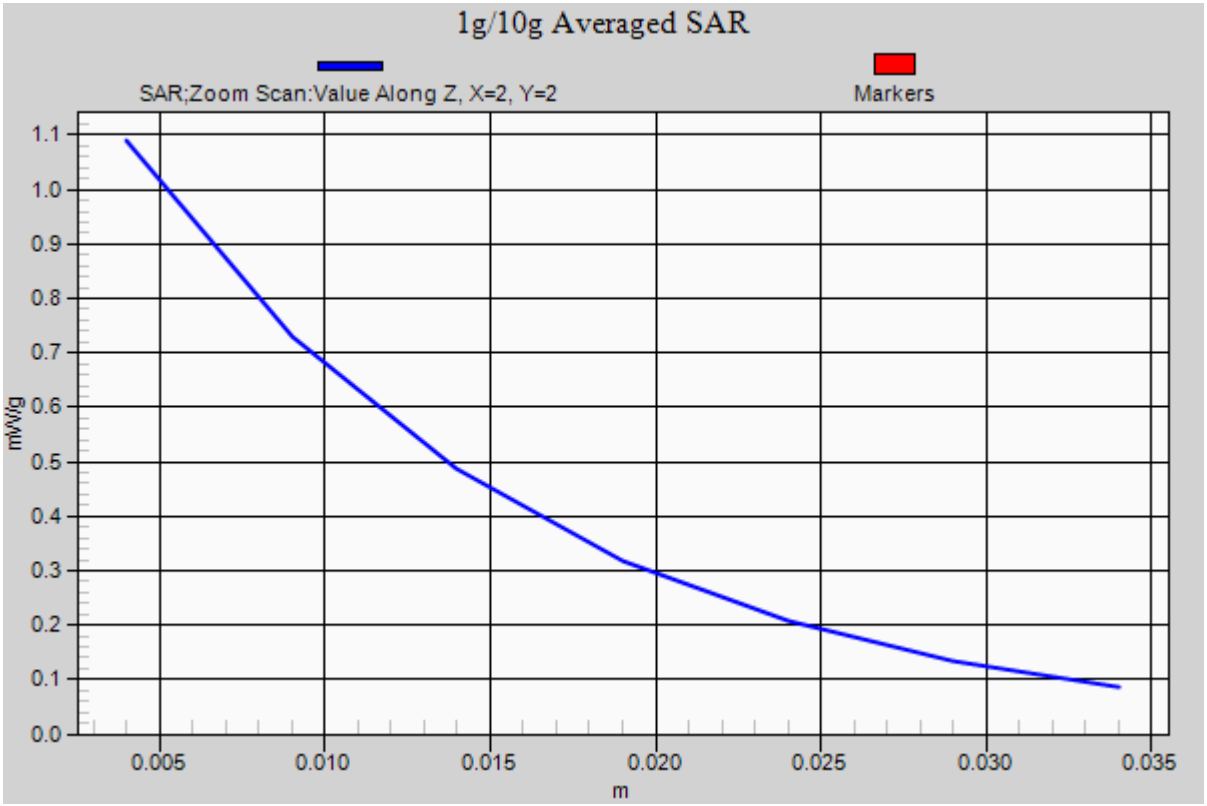


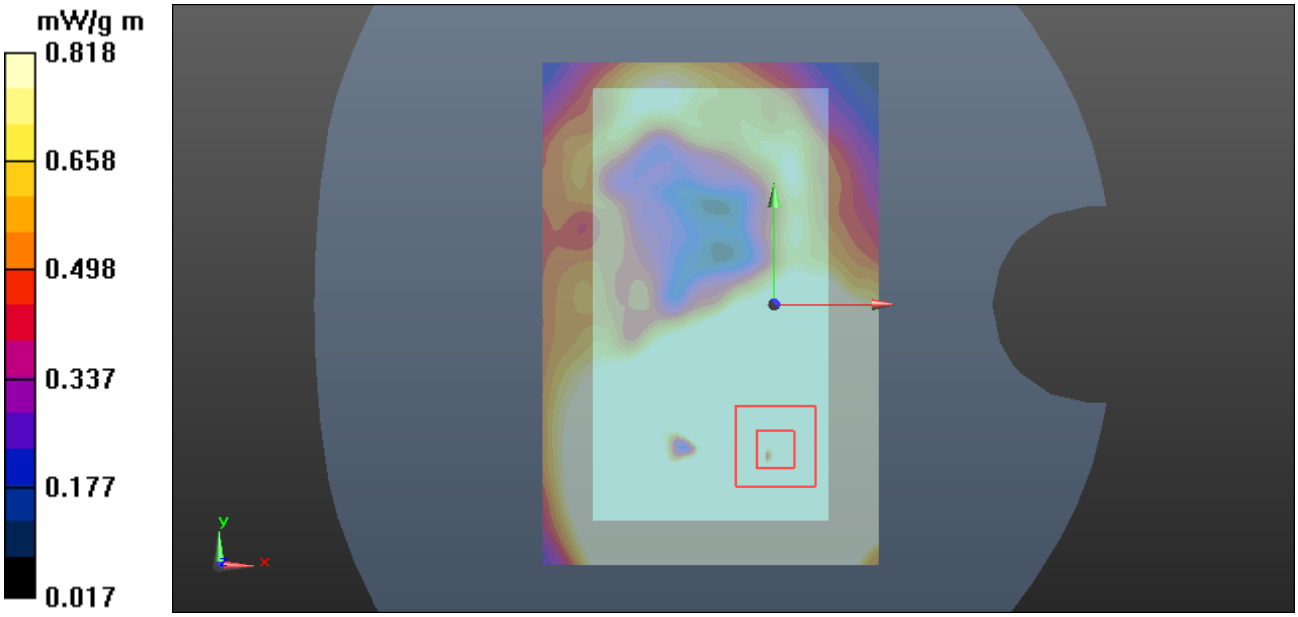
Figure 74 Left Hand Touch Cheek WCDMA Band IV Channel 1513

WCDMA Band IV Back Side High (Battery 1)

Date/Time: 25.04.2012 05:04:18
Communication System: WCDMA; Frequency: 1752.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1752.6 MHz; σ = 1.477 mho/m; ε_r = 52.643; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 7.469 mW/g m

Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.956 V/m; Power Drift = -0.020 dB
Peak SAR (extrapolated) = 1.2410
SAR(1 g) = 0.752 mW/g; SAR(10 g) = 0.434 mW/g
Maximum value of SAR (measured) = 0.818 mW/g



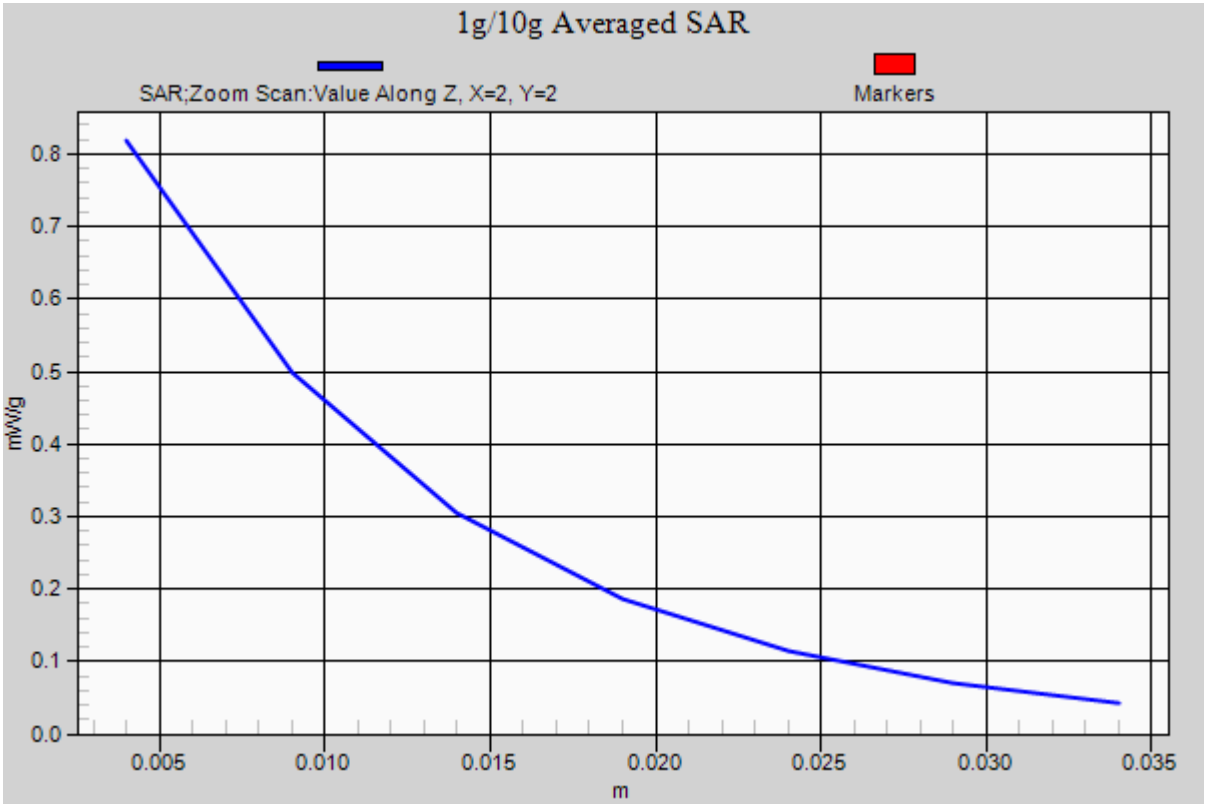


Figure 75 Body, Back Side, WCDMA Band IV Channel 1513

WCDMA Band IV Back Side Middle (Battery 1)

Date/Time: 25.04.2012 03:31:03
Communication System: WCDMA; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.46 mho/m; ε_r = 52.704; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 7.215 mW/g m

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 13.705 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 1.2230
SAR(1 g) = 0.738 mW/g; SAR(10 g) = 0.426 mW/g
Maximum value of SAR (measured) = 0.800 mW/g

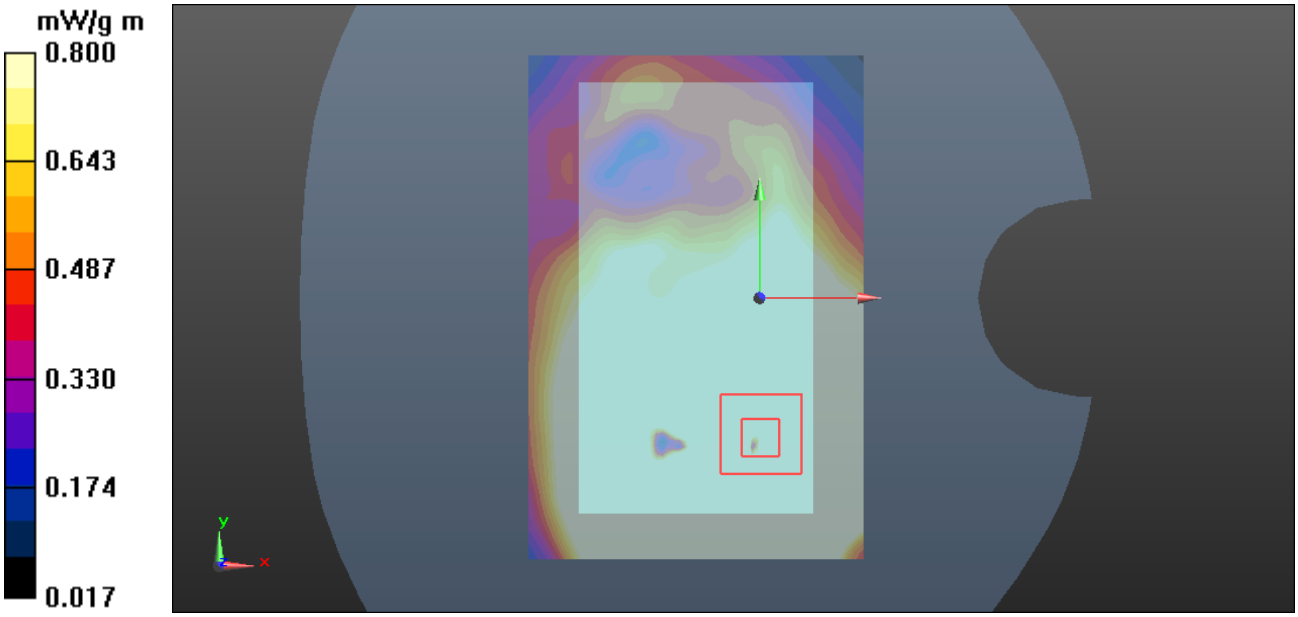


Figure 76 Body, Back Side, WCDMA Band IV Channel 1413

WCDMA Band IV Back Side Low (Battery 1)

Date/Time: 25.04.2012 05:23:32

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

Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.438 mho/m; ε_r = 52.747; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 22.06.2011

Electronics: DAE4 Sn1291; Calibrated: 10.10.2011

Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

Maximum value of Total (interpolated) = 5.462 mW/g m

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

Reference Value = 11.077 V/m; Power Drift = -0.016 dB

Peak SAR (extrapolated) = 0.9210

SAR(1 g) = 0.561 mW/g; SAR(10 g) = 0.326 mW/g

Maximum value of SAR (measured) = 0.599 mW/g

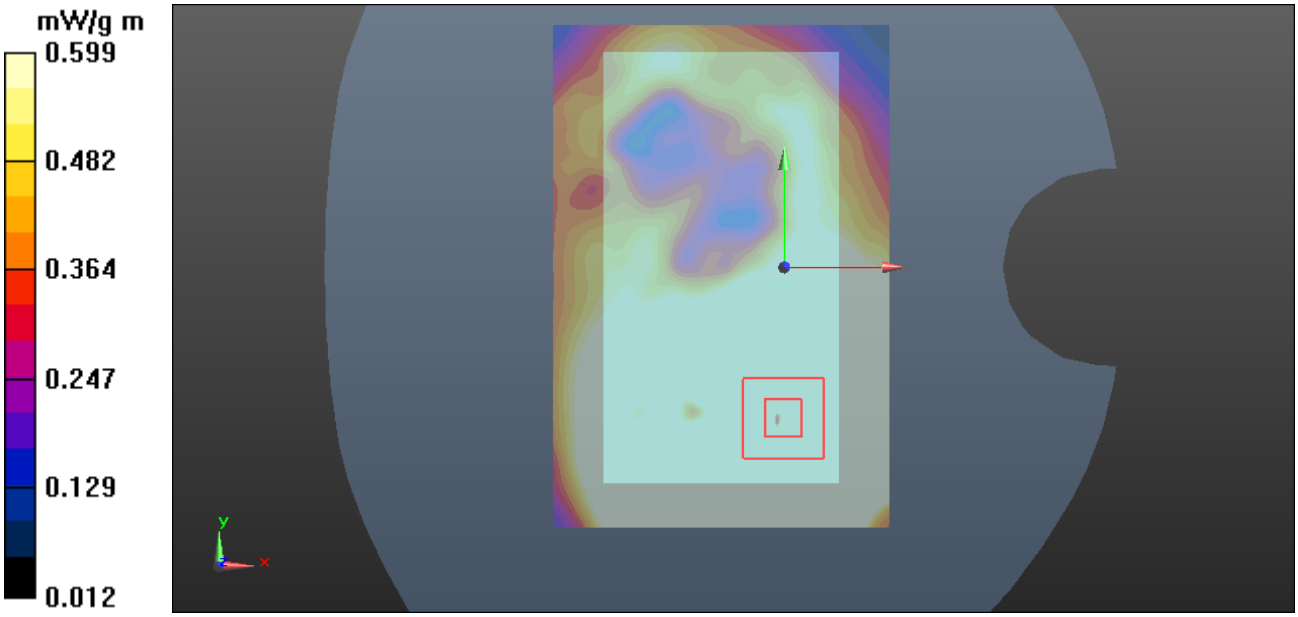


Figure 77 Body, Back Side, WCDMA Band IV Channel 1312

WCDMA Band IV Front Side Middle (Battery 1)

Date/Time: 25.04.2012 03:48:33
Communication System: WCDMA; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.46 mho/m; ε_r = 52.704; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Front Side Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 5.558 mW/g m

Front Side Middle/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.378 V/m; Power Drift = 0.020 dB
Peak SAR (extrapolated) = 1.0210
SAR(1 g) = 0.550 mW/g; SAR(10 g) = 0.310 mW/g
Maximum value of SAR (measured) = 0.662 mW/g

Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.378 V/m; Power Drift = 0.020 dB
Peak SAR (extrapolated) = 0.9920
SAR(1 g) = 0.599 mW/g; SAR(10 g) = 0.347 mW/g
Maximum value of SAR (measured) = 0.654 mW/g

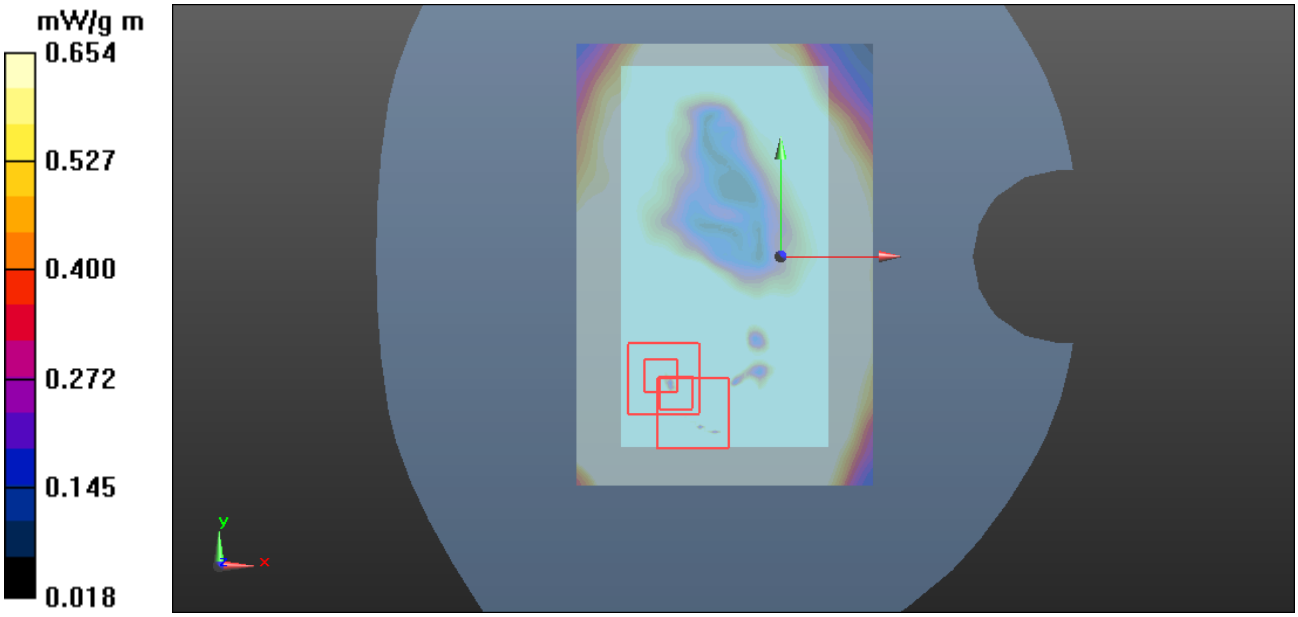


Figure 78 Body, Front Side, WCDMA Band IV Channel 1413

WCDMA Band IV Left Edge Middle (Battery 1)

Date/Time: 25.04.2012 04:17:07
Communication System: WCDMA; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.46 mho/m; ε_r = 52.704; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Left Side Middle/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.353 mW/g m

Left Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 12.005 V/m; Power Drift = 0.059 dB
Peak SAR (extrapolated) = 0.3650
SAR(1 g) = 0.230 mW/g; SAR(10 g) = 0.137 mW/g
Maximum value of SAR (measured) = 0.251 mW/g

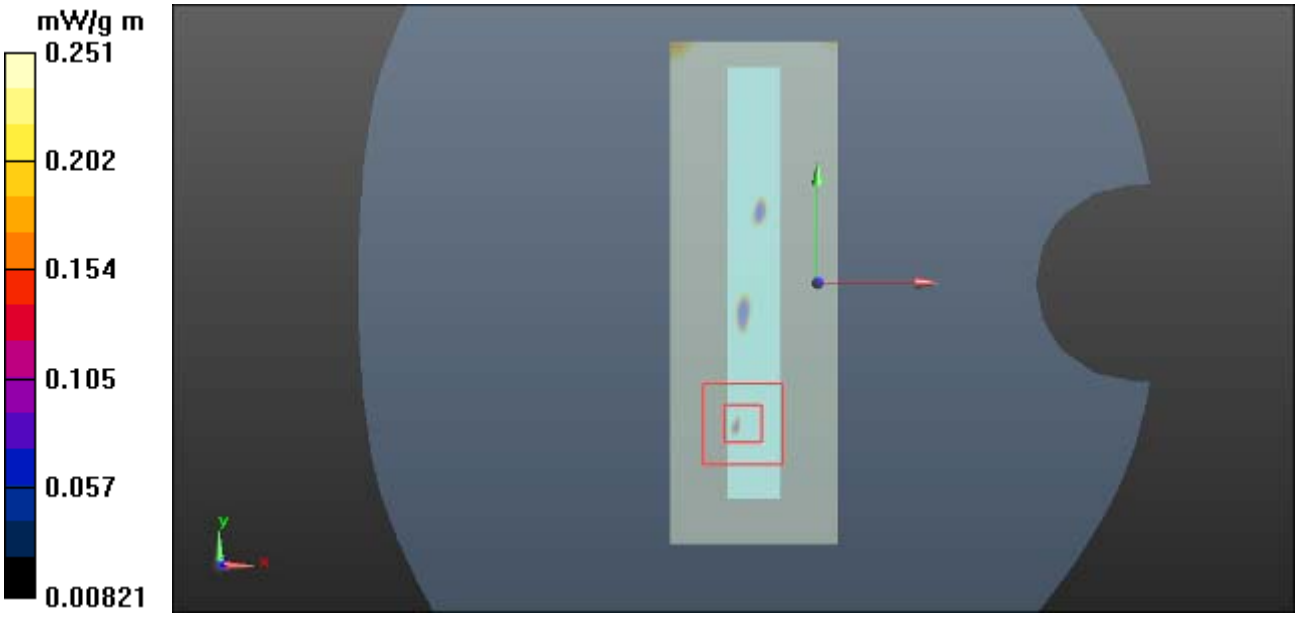


Figure 79 Body, Left Edge, WCDMA Band IV Channel 1413

WCDMA Band IV Right Edge Middle (Battery 1)

Date/Time: 25.04.2012 04:32:03
Communication System: WCDMA; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.46 mho/m; ε_r = 52.704; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Right Side Middle/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 0.754 mW/g m

Right Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.552 V/m; Power Drift = 0.130 dB
Peak SAR (extrapolated) = 0.1960
SAR(1 g) = 0.126 mW/g; SAR(10 g) = 0.077 mW/g
Maximum value of SAR (measured) = 0.137 mW/g

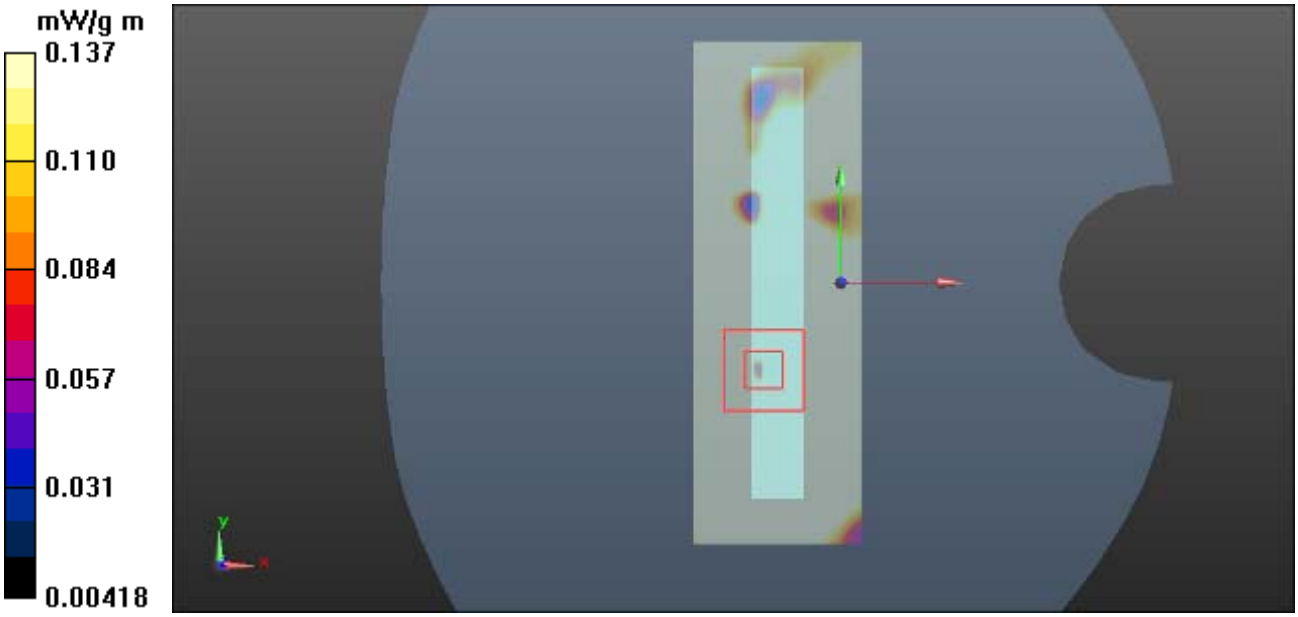


Figure 80 Body, Right Edge, WCDMA Band IV Channel 1413

WCDMA Band IV Bottom Edge Middle (Battery 1)

Date/Time: 25.04.2012 04:48:42

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

Medium parameters used (interpolated): f = 1732.6 MHz; σ = 1.46 mho/m; ε_r = 52.704; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 22.06.2011

Electronics: DAE4 Sn1291; Calibrated: 10.10.2011

Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

Maximum value of Total (interpolated) = 2.093 mW/g m

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

Reference Value = 16.419 V/m; Power Drift = 0.056 dB

Peak SAR (extrapolated) = 0.5970

SAR(1 g) = 0.369 mW/g; SAR(10 g) = 0.205 mW/g

Maximum value of SAR (measured) = 0.415 mW/g

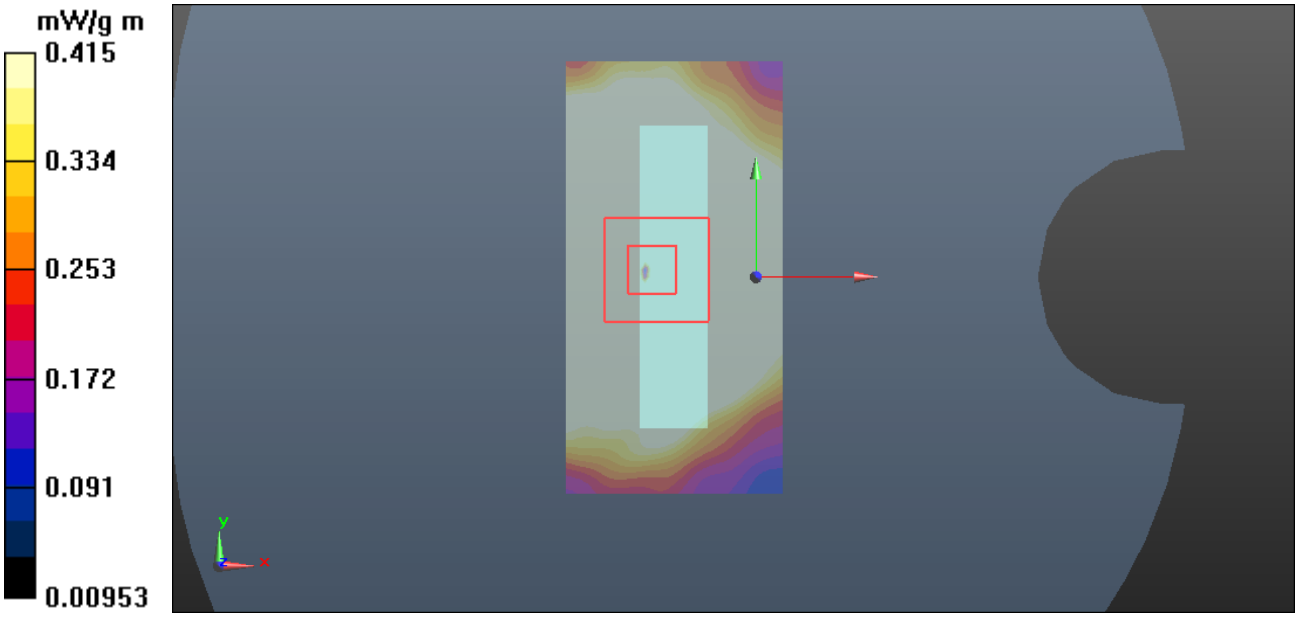


Figure 81 Body, Bottom Edge, WCDMA Band IV Channel 1413

WCDMA Band IV with Stereo Headset 1 Back Side High (Battery 1)

Date/Time: 25.04.2012 06:00:23

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

Medium parameters used (interpolated): f = 1752.6 MHz; σ = 1.477 mho/m; ε_r = 52.643; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 22.06.2011

Electronics: DAE4 Sn1291; Calibrated: 10.10.2011

Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

Maximum value of Total (interpolated) = 6.415 mW/g m

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

Reference Value = 11.498 V/m; Power Drift = -0.005 dB

Peak SAR (extrapolated) = 1.0840

SAR(1 g) = 0.652 mW/g; SAR(10 g) = 0.377 mW/g

Maximum value of SAR (measured) = 0.686 mW/g

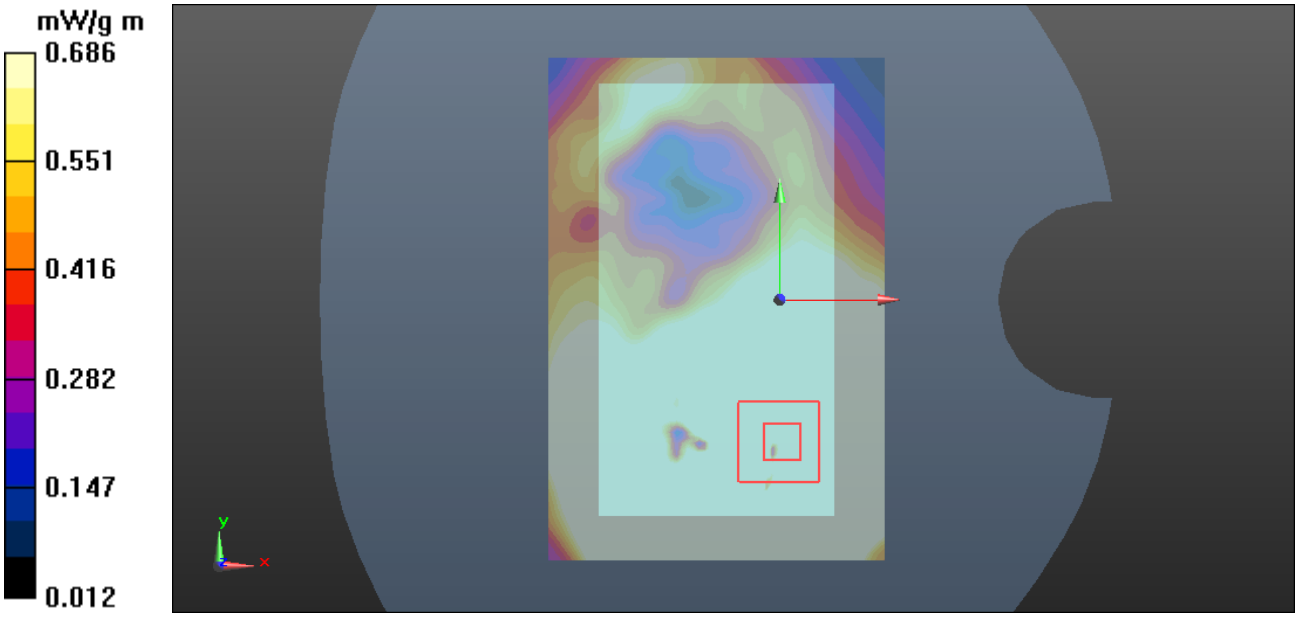


Figure 82 Body with Stereo Headset 1, Back Side, WCDMA Band IV Channel 1513

WCDMA Band IV with Stereo Headset 2 Back Side High (Battery 1)

Date/Time: 25.04.2012 06:18:57

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

Medium parameters used (interpolated): f = 1752.6 MHz; σ = 1.477 mho/m; ε_r = 52.643; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3071; ConvF(4.66, 4.66, 4.66); Calibrated: 22.06.2011

Electronics: DAE4 Sn1291; Calibrated: 10.10.2011

Phantom: SAM 2; Type: QD000P40CD; Serial: TP1667

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

Maximum value of Total (interpolated) = 6.732 mW/g m

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

Reference Value = 11.457 V/m; Power Drift = -0.006 dB

Peak SAR (extrapolated) = 1.1670

SAR(1 g) = 0.705 mW/g; SAR(10 g) = 0.407 mW/g

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

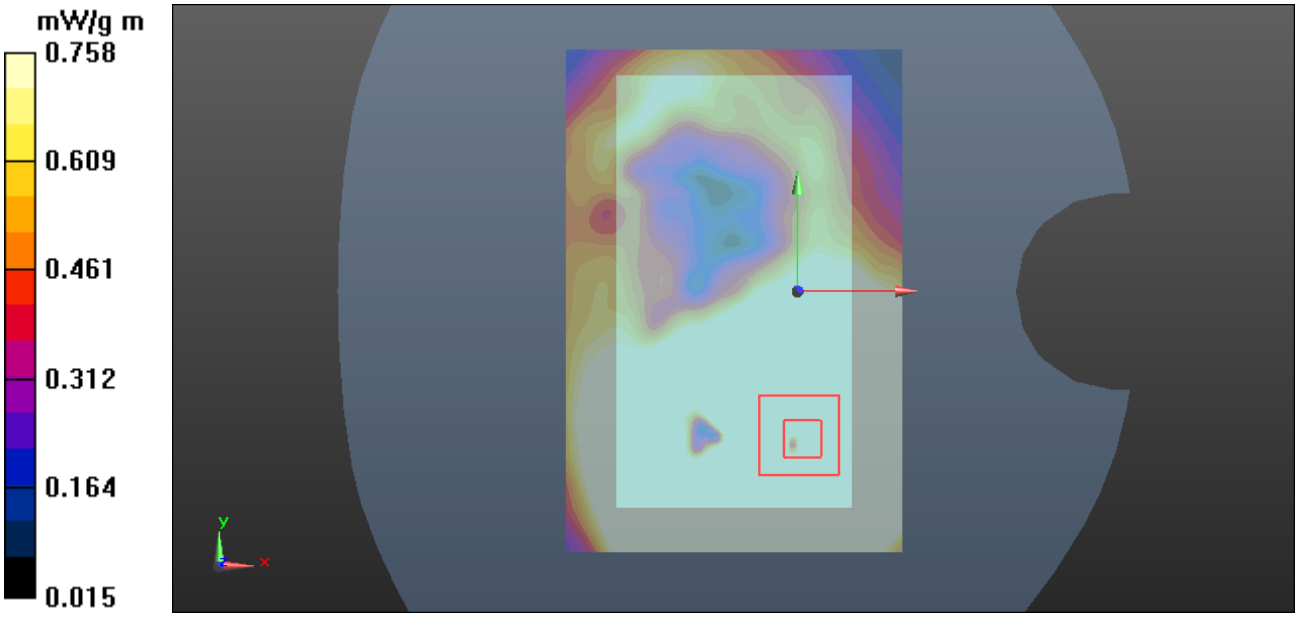


Figure 83 Body with Stereo Headset 2, Back Side, WCDMA Band IV Channel 1513

WCDMA Band V Left Cheek High (Battery 1)

Date/Time: 24.04.2012 14:21:24
Communication System: WCDMA; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.911 mho/m; ε_r = 41.213; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Left/Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 2.818 mW/g m

GSM 850 Left/Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.048 V/m; Power Drift = 0.067 dB
Peak SAR (extrapolated) = 0.7360
SAR(1 g) = 0.576 mW/g; SAR(10 g) = 0.434 mW/g
Maximum value of SAR (measured) = 0.603 mW/g

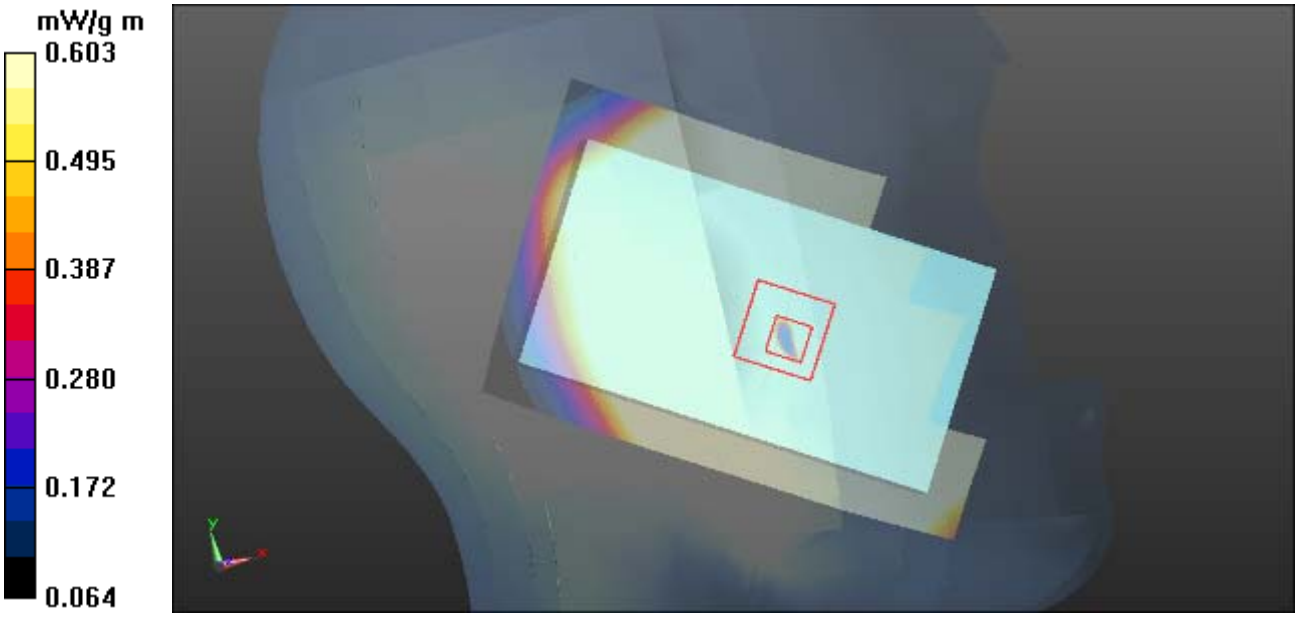


Figure 84 Left Hand Touch Cheek WCDMA Band V Channel 4233

WCDMA Band V Left Cheek Middle (Battery 1)

Date/Time: 24.04.2012 14:04:12
Communication System: WCDMA; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 41.319; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Left/Cheek Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 2.495 mW/g m

GSM 850 Left/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.799 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 0.6650
SAR(1 g) = 0.520 mW/g; SAR(10 g) = 0.393 mW/g
Maximum value of SAR (measured) = 0.545 mW/g

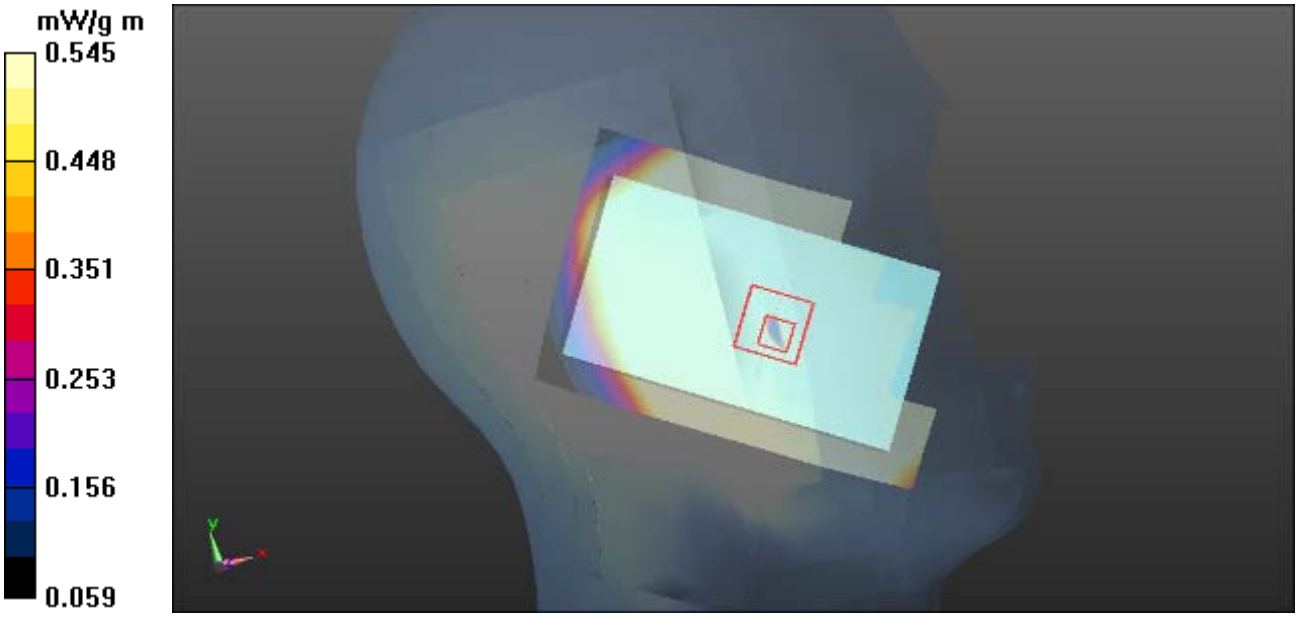


Figure 85 Left Hand Touch Cheek WCDMA Band V Channel 4183

WCDMA Band V Left Cheek Low (Battery 1)

Date/Time: 24.04.2012 14:40:24
Communication System: WCDMA; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.888 mho/m; ε_r = 41.481; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Left/Cheek Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.667 mW/g m

GSM 850 Left/Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.426 V/m; Power Drift = 0.041 dB
Peak SAR (extrapolated) = 0.4390
SAR(1 g) = 0.346 mW/g; SAR(10 g) = 0.263 mW/g
Maximum value of SAR (measured) = 0.360 mW/g

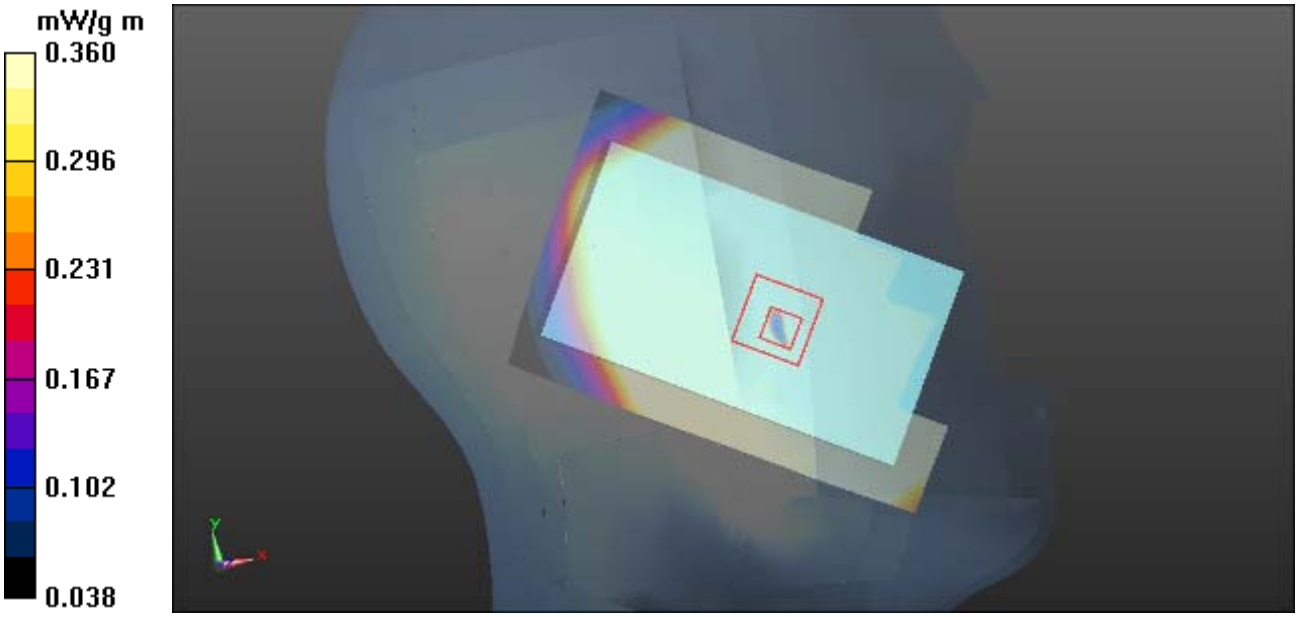


Figure 86 Left Hand Touch Cheek WCDMA Band V Channel 4132

WCDMA Band V Left Tilt High (Battery 1)

Date/Time: 24.04.2012 15:15:29
Communication System: WCDMA; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.911 mho/m; ε_r = 41.213; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Left/Tilt High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.462 mW/g m

GSM 850 Left/Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.939 V/m; Power Drift = 0.022 dB
Peak SAR (extrapolated) = 0.4210
SAR(1 g) = 0.342 mW/g; SAR(10 g) = 0.261 mW/g
Maximum value of SAR (measured) = 0.358 mW/g

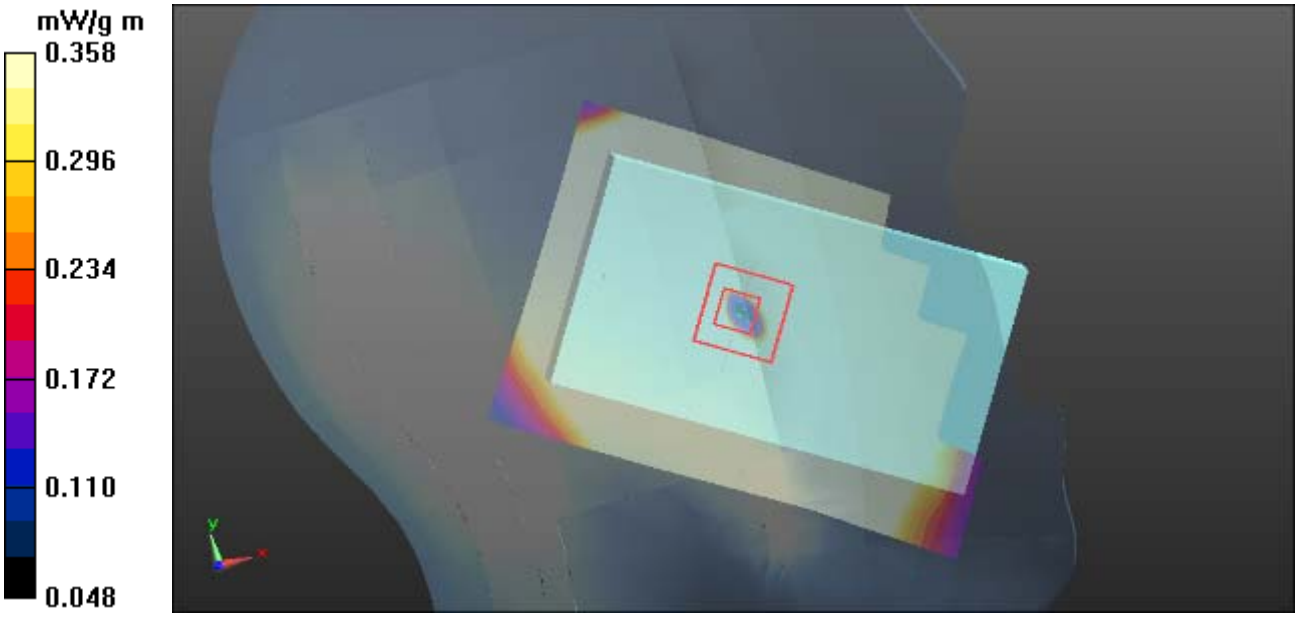


Figure 87 Left Hand Tilt 15° WCDMA Band V Channel 4233

WCDMA Band V Left Tilt Middle (Battery 1)

Date/Time: 24.04.2012 15:32:30
Communication System: WCDMA; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 41.319; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Left/Tilt Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.359 mW/g m

GSM 850 Left/Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.581 V/m; Power Drift = 0.040 dB
Peak SAR (extrapolated) = 0.3890
SAR(1 g) = 0.315 mW/g; SAR(10 g) = 0.241 mW/g
Maximum value of SAR (measured) = 0.331 mW/g

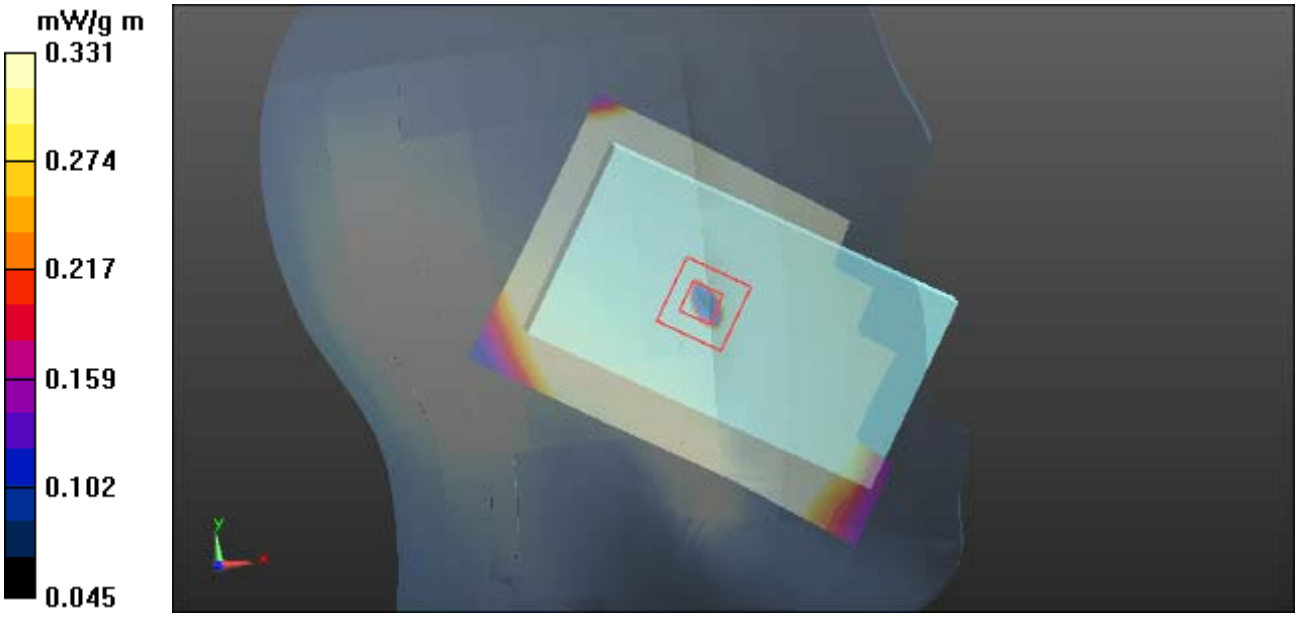


Figure 88 Left Hand Tilt 15° WCDMA Band V Channel 4183

WCDMA Band V Left Tilt Low (Battery 1)

Date/Time: 24.04.2012 14:57:25
Communication System: WCDMA; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.888 mho/m; ε_r = 41.481; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

GSM 850 Left/Tilt Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 0.934 mW/g m

GSM 850 Left/Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.720 V/m; Power Drift = 0.047 dB
Peak SAR (extrapolated) = 0.2650
SAR(1 g) = 0.216 mW/g; SAR(10 g) = 0.166 mW/g
Maximum value of SAR (measured) = 0.227 mW/g

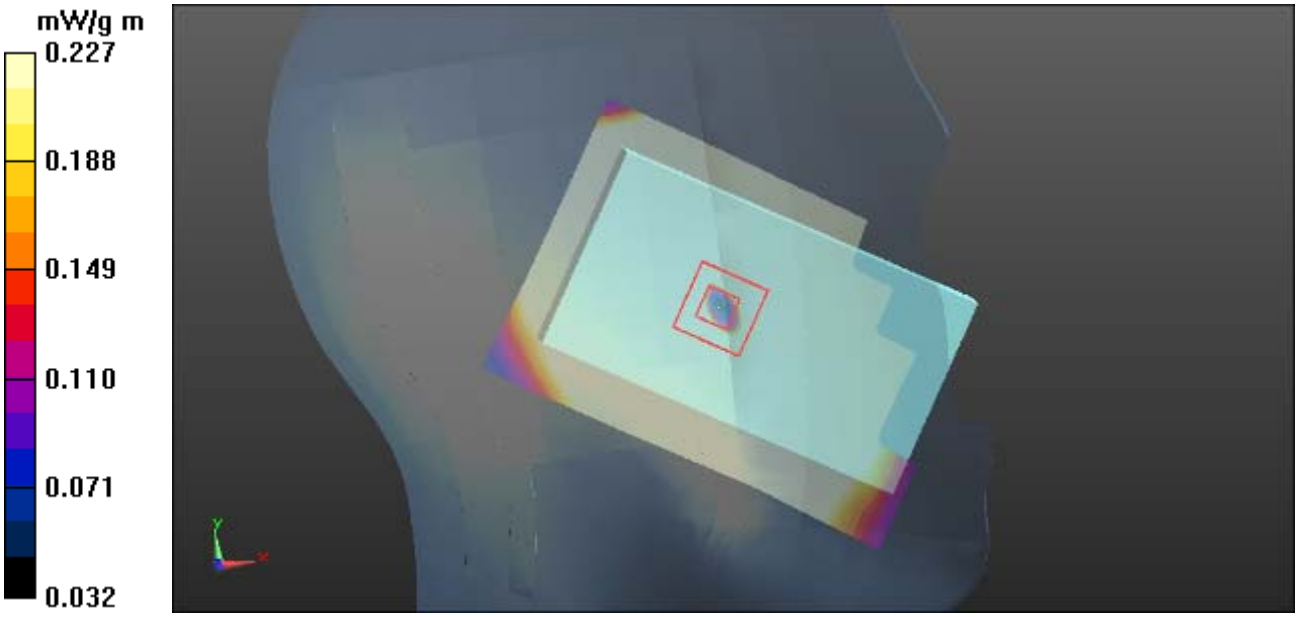


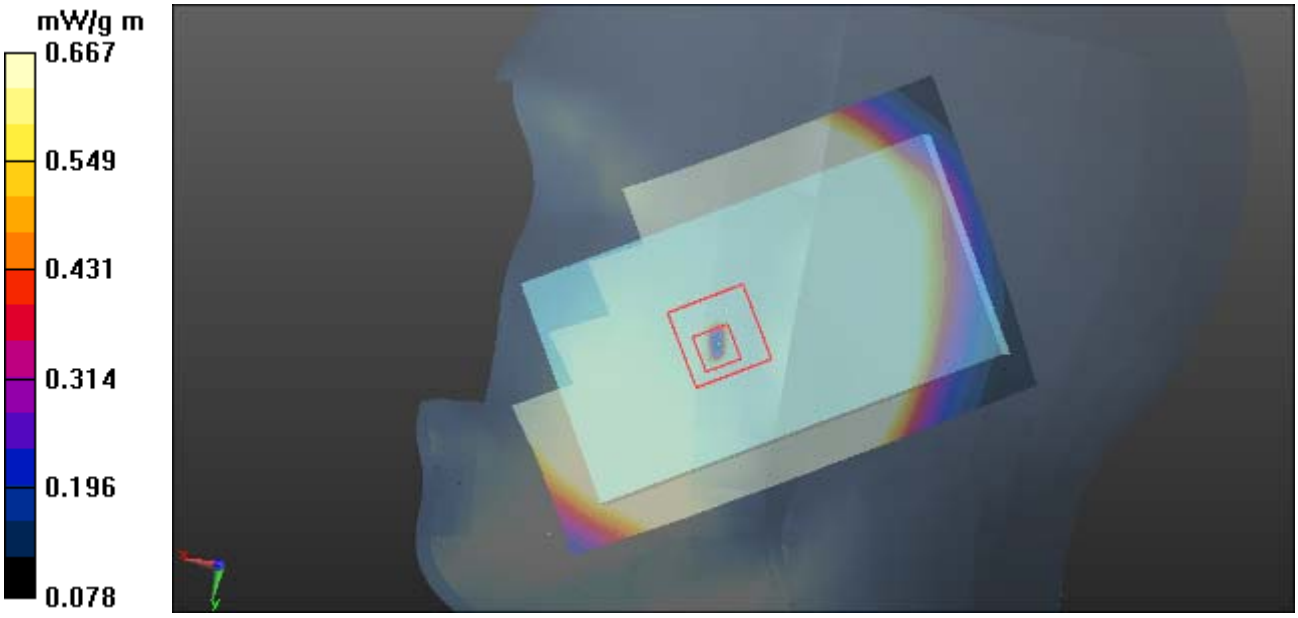
Figure 89 Left Hand Tilt 15° WCDMA Band V Channel 4132

WCDMA Band V Right Cheek High (Battery 1)

Date/Time: 24.04.2012 16:33:15
Communication System: WCDMA; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.911 mho/m; ε_r = 41.213; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

WCDMA V Right/Cheek High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 3.080 mW/g m

WCDMA V Right/Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.981 V/m; Power Drift = 0.081 dB
Peak SAR (extrapolated) = 0.7870
SAR(1 g) = 0.632 mW/g; SAR(10 g) = 0.480 mW/g
Maximum value of SAR (measured) = 0.667 mW/g



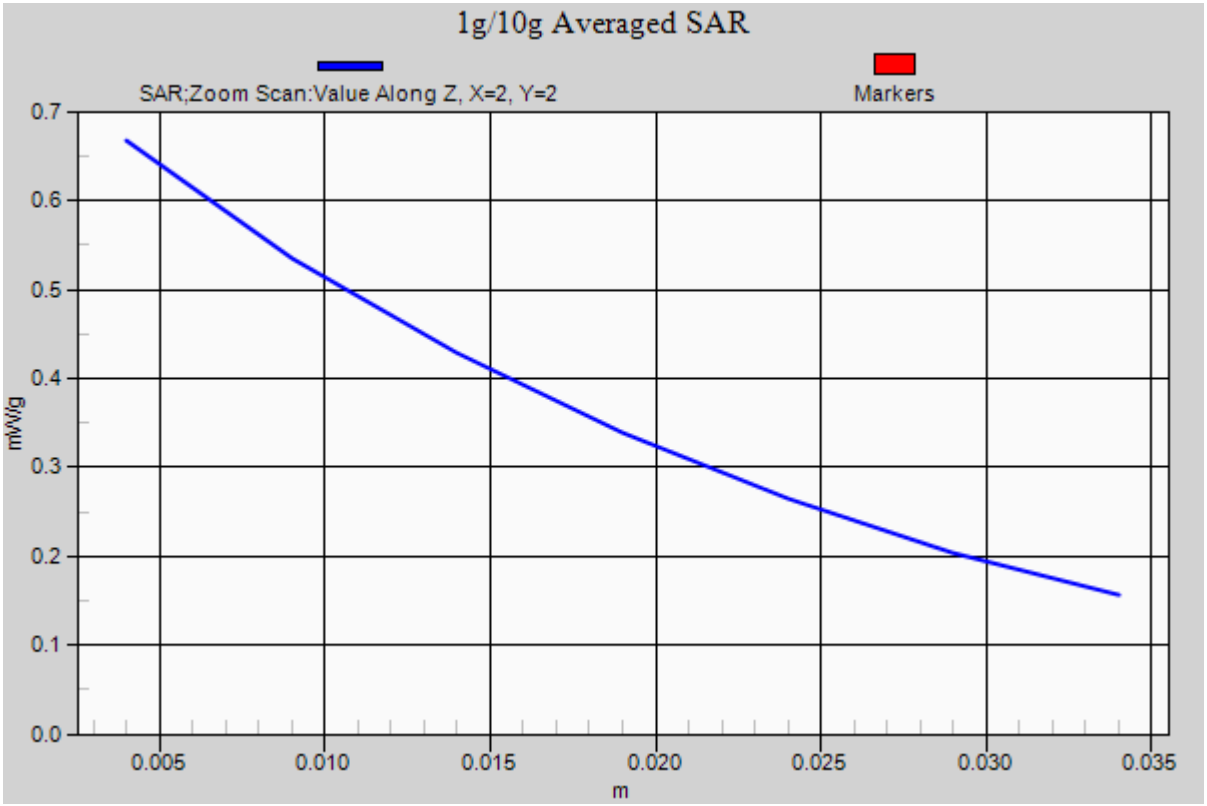


Figure 90 Right Hand Touch Cheek WCDMA Band V Channel 4233

WCDMA Band V Right Cheek Middle (Battery 1)

Date/Time: 24.04.2012 15:57:20
Communication System: WCDMA; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 41.319; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

WCDMA V Right/Cheek Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 2.853 mW/g m

WCDMA V Right/Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.618 V/m; Power Drift = 0.077 dB
Peak SAR (extrapolated) = 0.7170
SAR(1 g) = 0.579 mW/g; SAR(10 g) = 0.441 mW/g
Maximum value of SAR (measured) = 0.609 mW/g

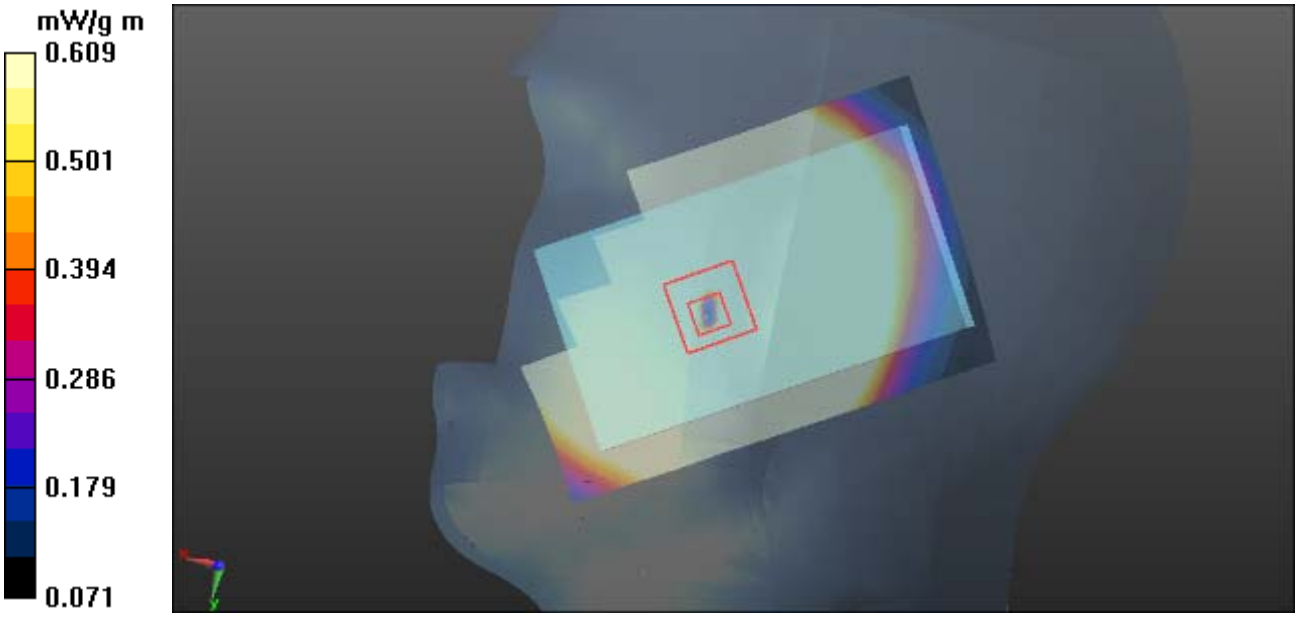


Figure 91 Right Hand Touch Cheek WCDMA Band V Channel 4183

WCDMA Band V Right Cheek Low (Battery 1)

Date/Time: 24.04.2012 16:16:15
Communication System: WCDMA; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.888 mho/m; ε_r = 41.481; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

WCDMA V Right/Cheek Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.845 mW/g m

WCDMA V Right/Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.307 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 0.4710
SAR(1 g) = 0.379 mW/g; SAR(10 g) = 0.289 mW/g
Maximum value of SAR (measured) = 0.398 mW/g

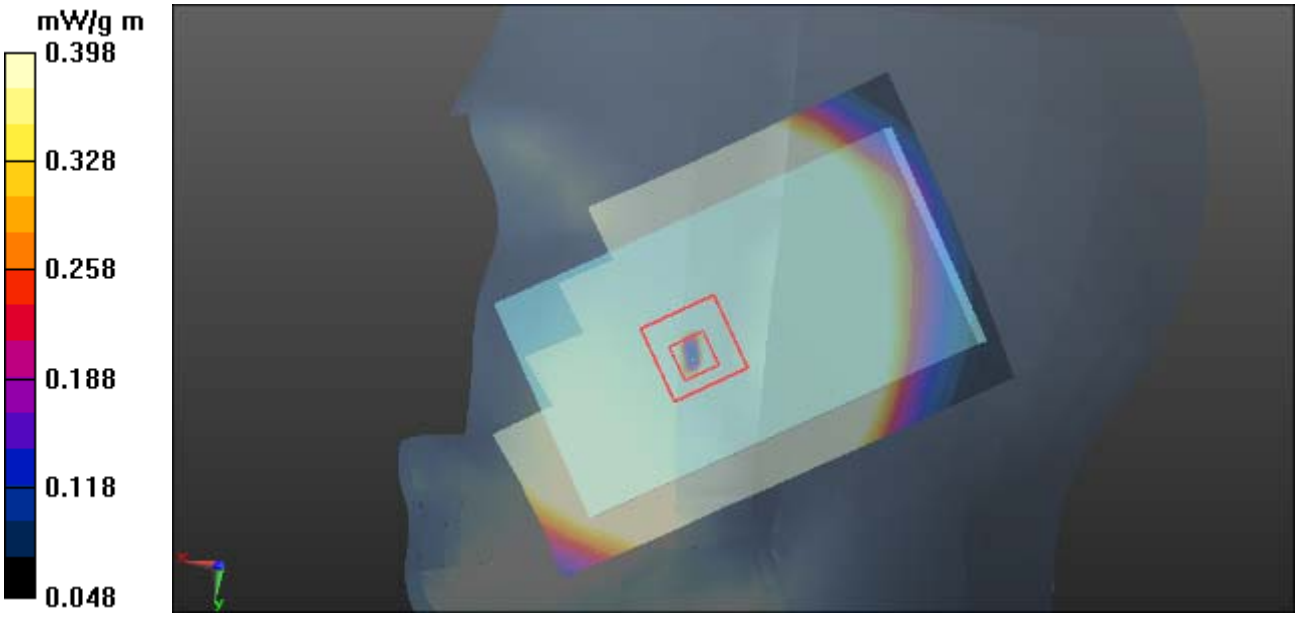


Figure 92 Right Hand Touch Cheek WCDMA Band V Channel 4132

WCDMA Band V Right Tilt High (Battery 1)

Date/Time: 24.04.2012 17:07:50
Communication System: WCDMA; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.911 mho/m; ε_r = 41.213; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

WCDMA V Right/Tilt High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.499 mW/g m

WCDMA V Right/Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.818 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 0.4410
SAR(1 g) = 0.361 mW/g; SAR(10 g) = 0.279 mW/g
Maximum value of SAR (measured) = 0.375 mW/g

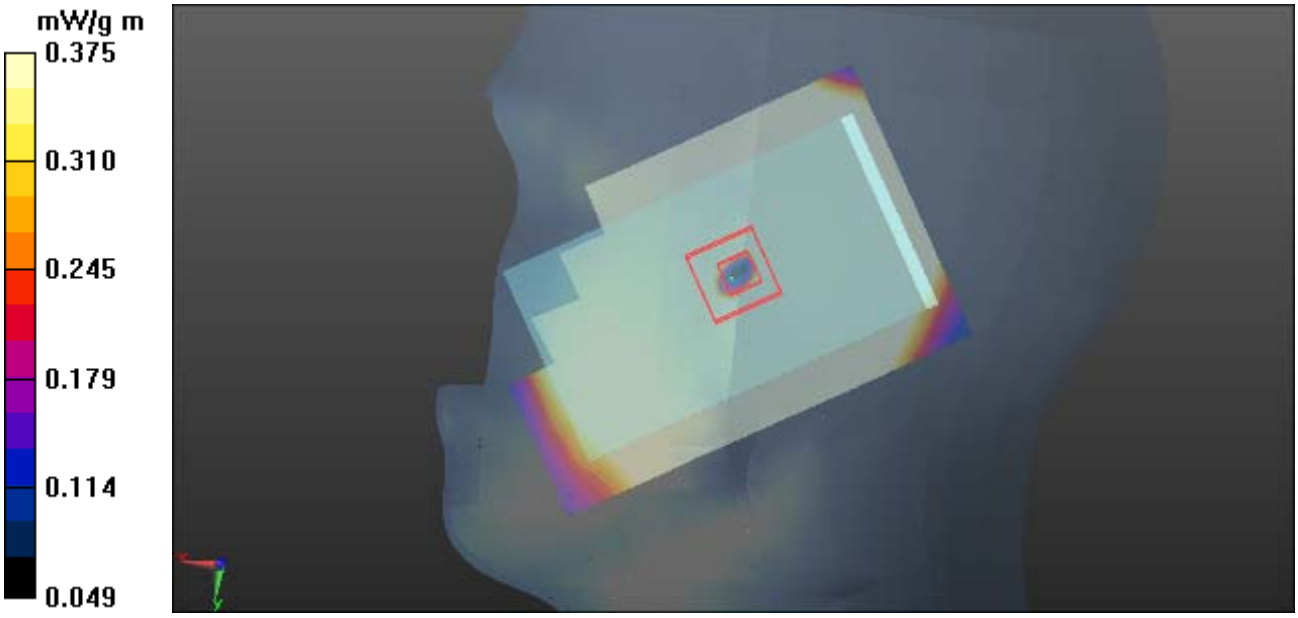


Figure 93 Right Hand Tilt 15° WCDMA Band V Channel 4233

WCDMA Band V Right Tilt Middle (Battery 1)

Date/Time: 24.04.2012 17:33:48
Communication System: WCDMA; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.9 mho/m; ε_r = 41.319; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

WCDMA V Right/Tilt Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.385 mW/g m

WCDMA V Right/Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.424 V/m; Power Drift = 0.032 dB
Peak SAR (extrapolated) = 0.4100
SAR(1 g) = 0.336 mW/g; SAR(10 g) = 0.260 mW/g
Maximum value of SAR (measured) = 0.349 mW/g

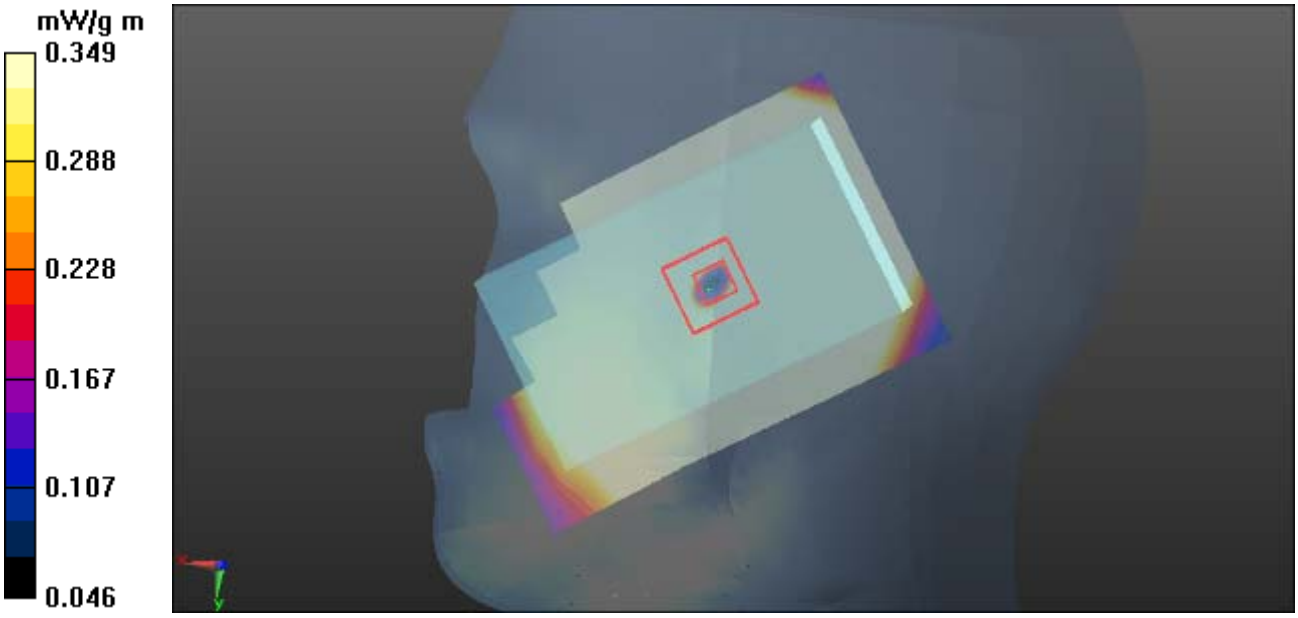


Figure 94 Right Hand Tilt 15° WCDMA Band V Channel 4183

WCDMA Band V Right Tilt Low (Battery 1)

Date/Time: 24.04.2012 17:51:23
Communication System: WCDMA; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.888 mho/m; ε_r = 41.481; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.78, 5.78, 5.78); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

WCDMA V Right/Tilt Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 0.948 mW/g m

WCDMA V Right/Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.420 V/m; Power Drift = 0.047 dB
Peak SAR (extrapolated) = 0.2750
SAR(1 g) = 0.227 mW/g; SAR(10 g) = 0.177 mW/g
Maximum value of SAR (measured) = 0.236 mW/g

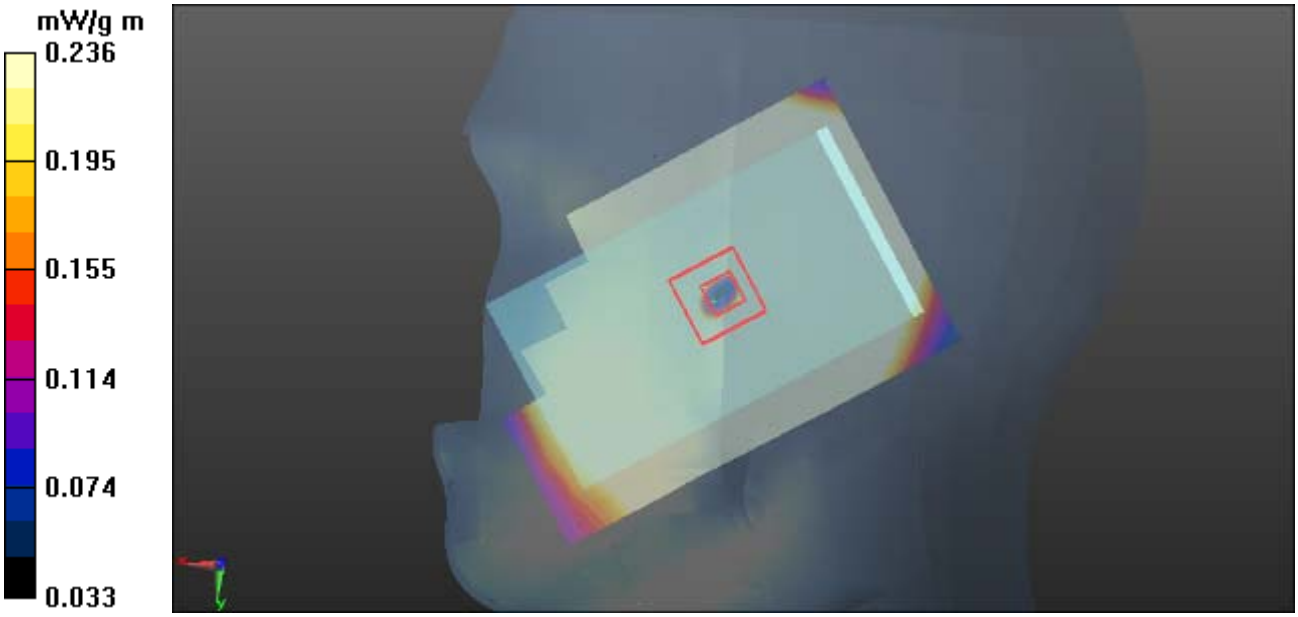


Figure 95 Right Hand Tilt 15° WCDMA Band V Channel 4132

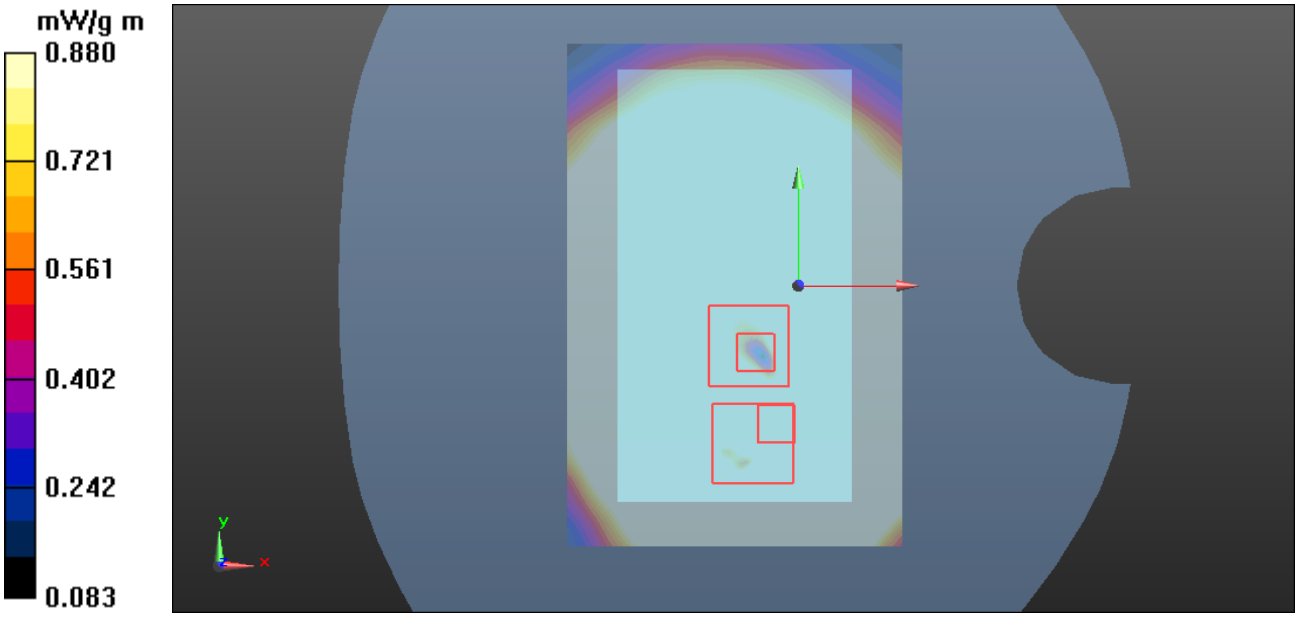
WCDMA Band V Back Side High (Battery 1)

Date/Time: 25.04.2012 20:26:32
Communication System: WCDMA; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 1.002 mho/m; ε_r = 54.101; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 3.971 mW/g m

Back Side High/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.733 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 1.0460
SAR(1 g) = 0.673 mW/g; SAR(10 g) = 0.437 mW/g
Maximum value of SAR (measured) = 0.785 mW/g

Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.733 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 1.1000
SAR(1 g) = 0.831 mW/g; SAR(10 g) = 0.608 mW/g
Maximum value of SAR (measured) = 0.880 mW/g



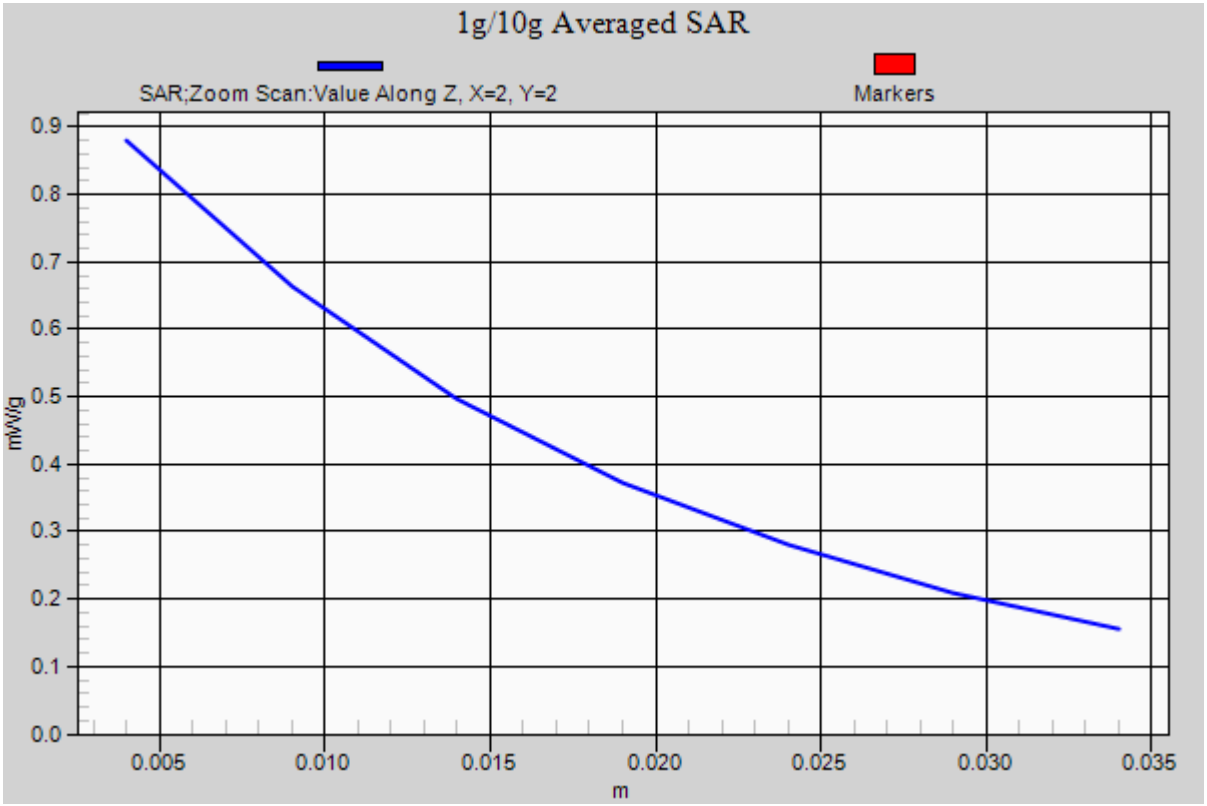


Figure 96 Body, Back Side, WCDMA Band V Channel 4233

WCDMA Band V Back Side Middle (Battery 1)

Date/Time: 25.04.2012 20:51:40
Communication System: WCDMA; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.988 mho/m; ε_r = 54.216; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side Middle/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 3.833 mW/g m

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 27.339 V/m; Power Drift = -0.006 dB
Peak SAR (extrapolated) = 1.0710
SAR(1 g) = 0.809 mW/g; SAR(10 g) = 0.592 mW/g
Maximum value of SAR (measured) = 0.853 mW/g

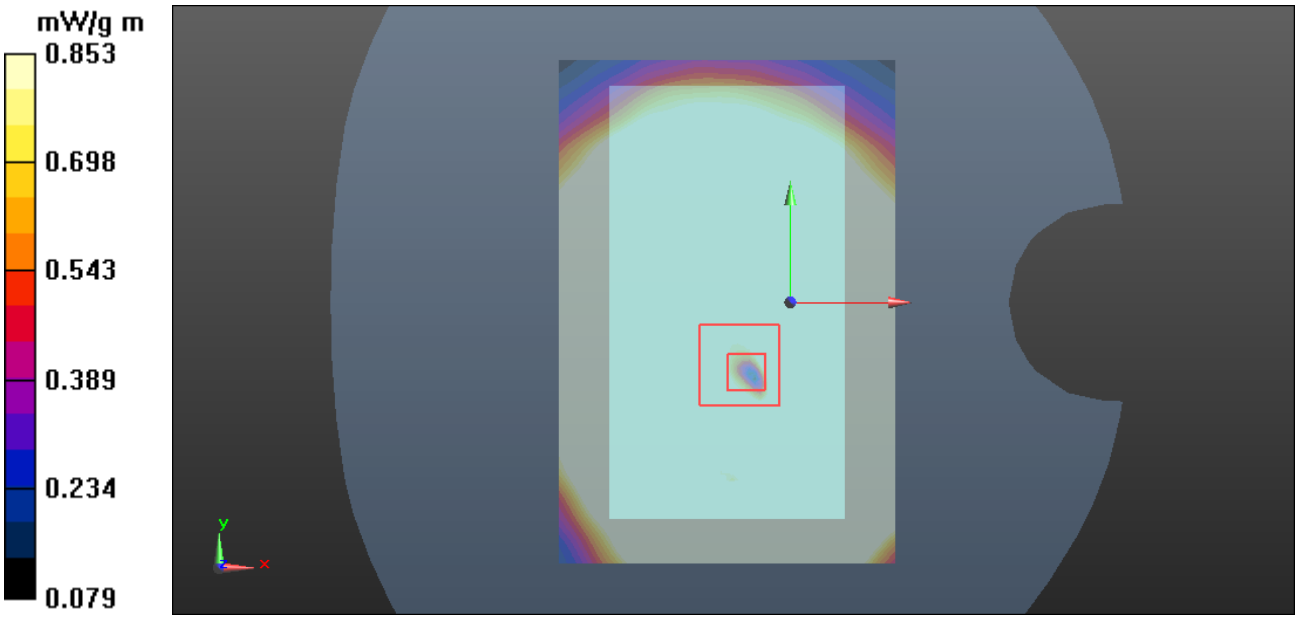


Figure 97 Body, Back Side, WCDMA Band V Channel 4183

WCDMA Band V Back Side Low (Battery 1)

Date/Time: 25.04.2012 17:13:11
Communication System: WCDMA; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.974 mho/m; ε_r = 54.339; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 3.164 mW/g m

Back Side Low/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.421 V/m; Power Drift = -0.007 dB
Peak SAR (extrapolated) = 0.8440
SAR(1 g) = 0.569 mW/g; SAR(10 g) = 0.374 mW/g
Maximum value of SAR (measured) = 0.642 mW/g

Back Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.421 V/m; Power Drift = -0.007 dB
Peak SAR (extrapolated) = 0.8530
SAR(1 g) = 0.648 mW/g; SAR(10 g) = 0.476 mW/g
Maximum value of SAR (measured) = 0.684 mW/g

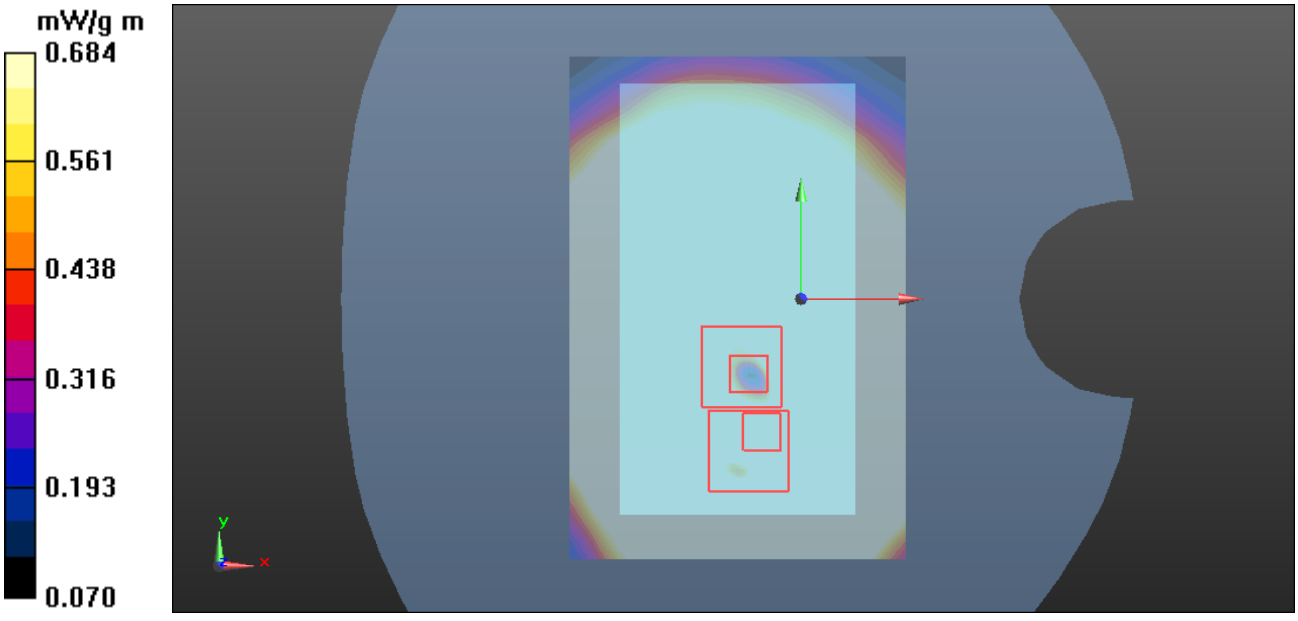


Figure 98 Body, Back Side, WCDMA Band V Channel 4132

WCDMA Band V Front Side Low (Battery 1)

Date/Time: 25.04.2012 17:42:33
Communication System: WCDMA; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.974 mho/m; ε_r = 54.339; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Front Side Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.855 mW/g m

Front Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 21.699 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 0.5990
SAR(1 g) = 0.475 mW/g; SAR(10 g) = 0.359 mW/g
Maximum value of SAR (measured) = 0.497 mW/g

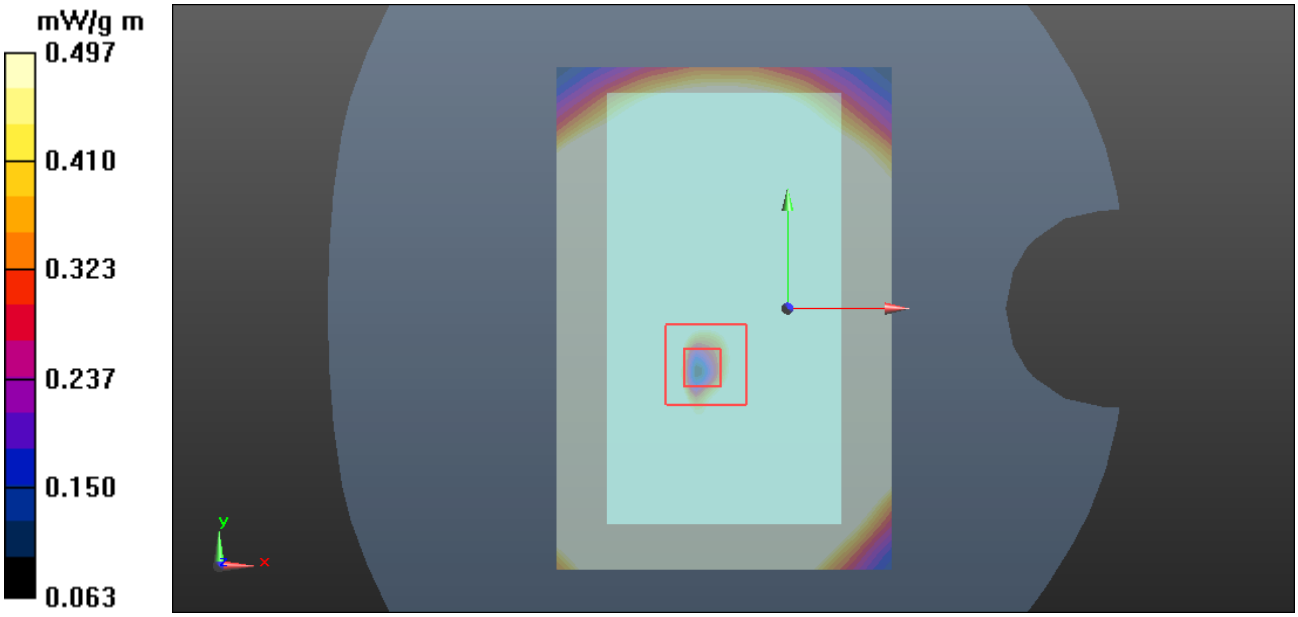


Figure 99 Body, Front Side, WCDMA Band V Channel 4132

WCDMA Band V Left Edge Low (Battery 1)

Date/Time: 25.04.2012 18:10:41
Communication System: WCDMA; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.974 mho/m; ε_r = 54.339; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Left Side Low /Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 1.301 mW/g m

Left Side Low /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.922 V/m; Power Drift = -0.003 dB
Peak SAR (extrapolated) = 0.4110
SAR(1 g) = 0.293 mW/g; SAR(10 g) = 0.202 mW/g
Maximum value of SAR (measured) = 0.313 mW/g

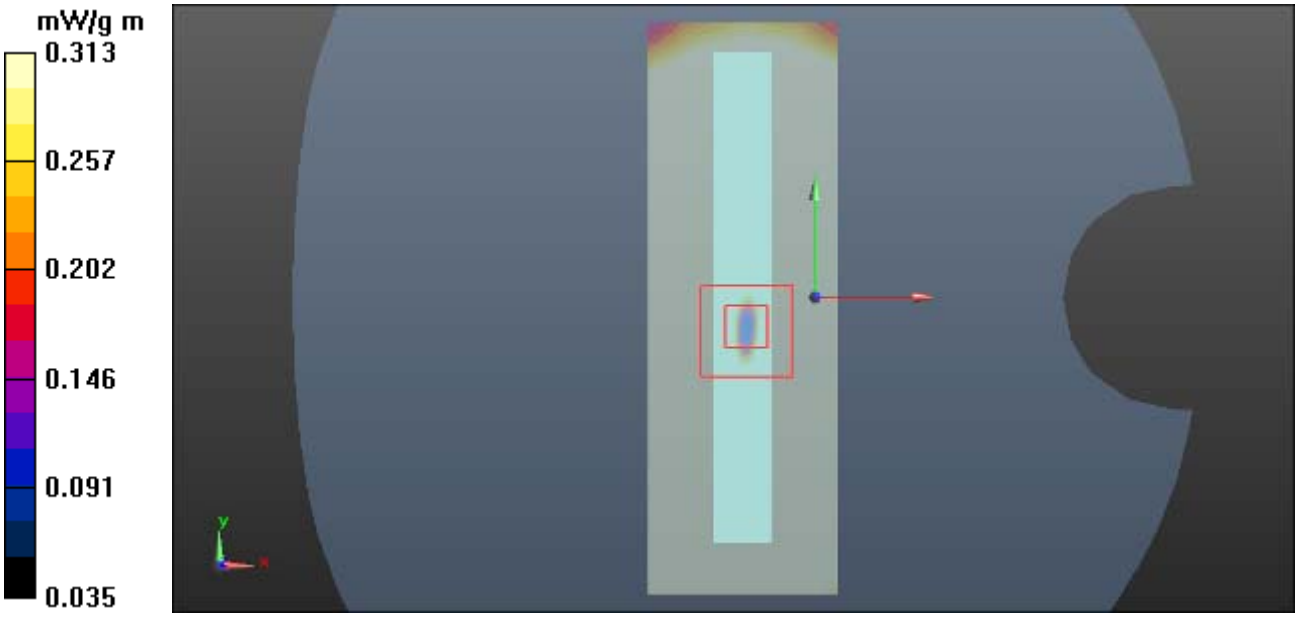


Figure 100 Body, Left Edge, WCDMA Band V Channel 4132

WCDMA Band V Right Edge Low (Battery 1)

Date/Time: 25.04.2012 18:25:19

Communication System: WCDMA; Frequency: 826.4 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.974 mho/m; ε_r = 54.339; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011

Electronics: DAE4 Sn1291; Calibrated: 10.10.2011

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

Maximum value of Total (interpolated) = 1.228 mW/g m

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

Reference Value = 17.521 V/m; Power Drift = 0.006 dB

Peak SAR (extrapolated) = 0.3900

SAR(1 g) = 0.282 mW/g; SAR(10 g) = 0.196 mW/g

Maximum value of SAR (measured) = 0.301 mW/g

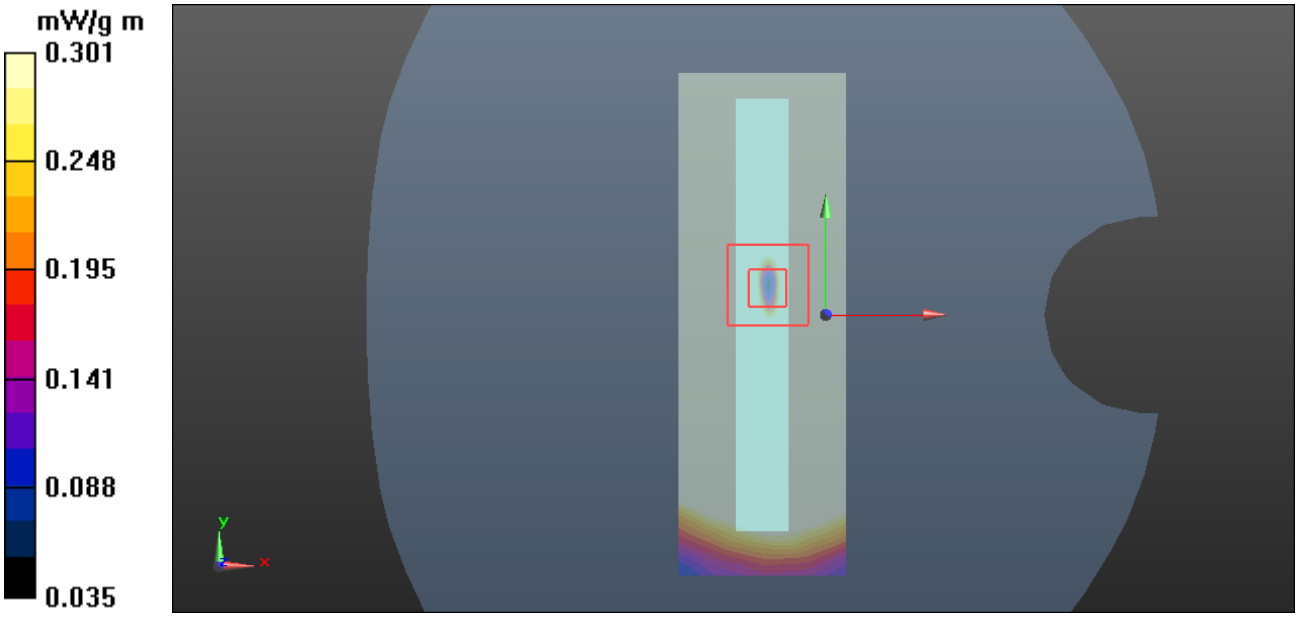


Figure 101 Body, Right Edge, WCDMA Band V Channel 4132

WCDMA Band V Bottom Edge Low (Battery 1)

Date/Time: 25.04.2012 18:46:25

Communication System: WCDMA; Frequency: 826.4 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.974 mho/m; ε_r = 54.339; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011

Electronics: DAE4 Sn1291; Calibrated: 10.10.2011

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

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

Maximum value of Total (interpolated) = 0.102 mW/g m

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

Reference Value = 6.029 V/m; Power Drift = 0.120 dB

Peak SAR (extrapolated) = 0.0640

SAR(1 g) = 0.035 mW/g; SAR(10 g) = 0.021 mW/g

Maximum value of SAR (measured) = 0.038 mW/g

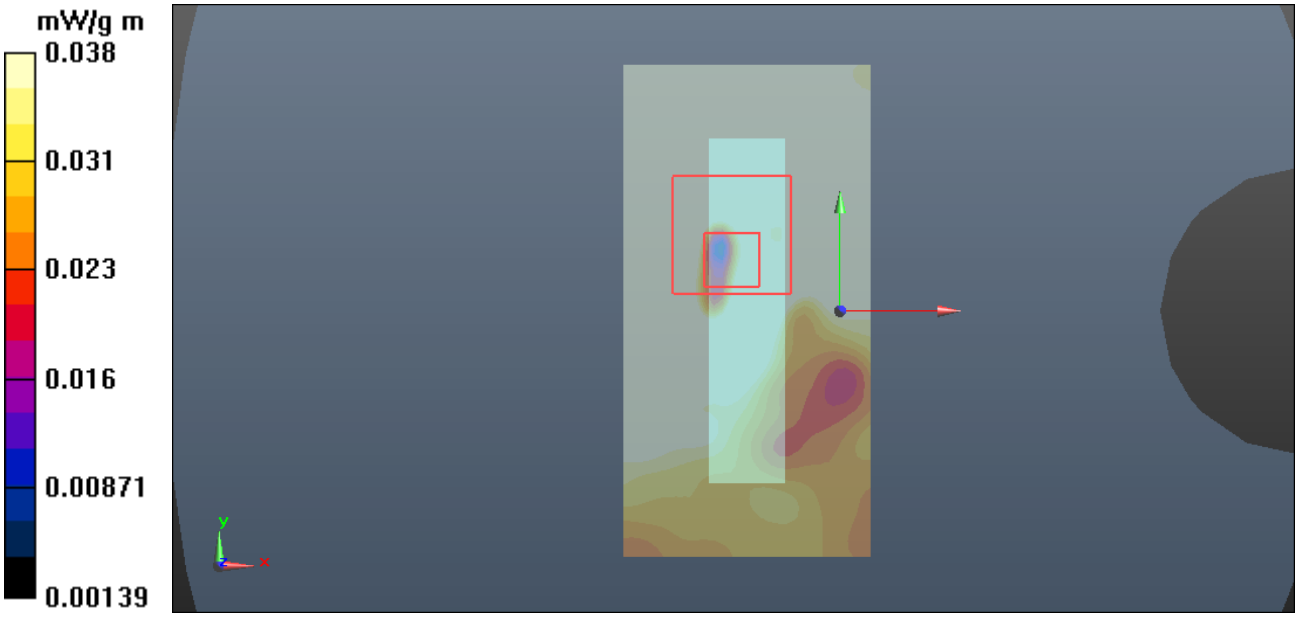


Figure 102 Body, Bottom Edge, WCDMA Band V Channel 4132

WCDMA Band V with Stereo Headset 1 Back Side High (Battery 1)

Date/Time: 25.04.2012 21:26:22
Communication System: WCDMA; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 1.002 mho/m; ε_r = 54.101; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 3.439 mW/g m

Back Side High/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.990 V/m; Power Drift = -0.009 dB
Peak SAR (extrapolated) = 0.8730
SAR(1 g) = 0.565 mW/g; SAR(10 g) = 0.371 mW/g
Maximum value of SAR (measured) = 0.652 mW/g

Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.990 V/m; Power Drift = -0.009 dB
Peak SAR (extrapolated) = 0.8990
SAR(1 g) = 0.679 mW/g; SAR(10 g) = 0.499 mW/g
Maximum value of SAR (measured) = 0.716 mW/g

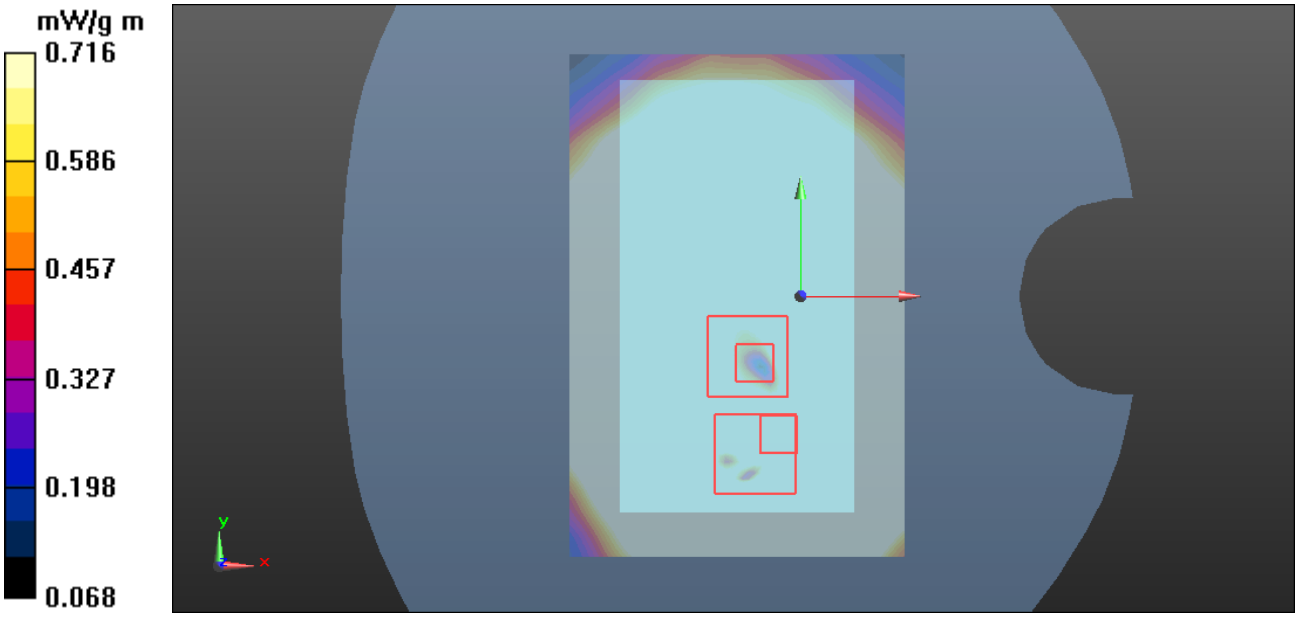


Figure 103 Body with Stereo Headset 1, Back Side, WCDMA Band V Channel 4233

WCDMA Band V with Stereo Headset 2 Back Side High (Battery 1)

Date/Time: 25.04.2012 21:54:02
Communication System: WCDMA; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 1.002 mho/m; ε_r = 54.101; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Probe: ES3DV3 - SN3071; ConvF(5.68, 5.68, 5.68); Calibrated: 22.06.2011
Electronics: DAE4 Sn1291; Calibrated: 10.10.2011
Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666
Measurement SW: DASY52, Version 52.8 (0); SEMCAD X Version 14.6.4 (4989)

Back Side High/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of Total (interpolated) = 3.432 mW/g m

Back Side High/Zoom Scan (5x5x7)/Cube 1: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.379 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 0.8810
SAR(1 g) = 0.566 mW/g; SAR(10 g) = 0.371 mW/g
Maximum value of SAR (measured) = 0.661 mW/g

Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.379 V/m; Power Drift = -0.014 dB
Peak SAR (extrapolated) = 0.9360
SAR(1 g) = 0.717 mW/g; SAR(10 g) = 0.528 mW/g
Maximum value of SAR (measured) = 0.754 mW/g

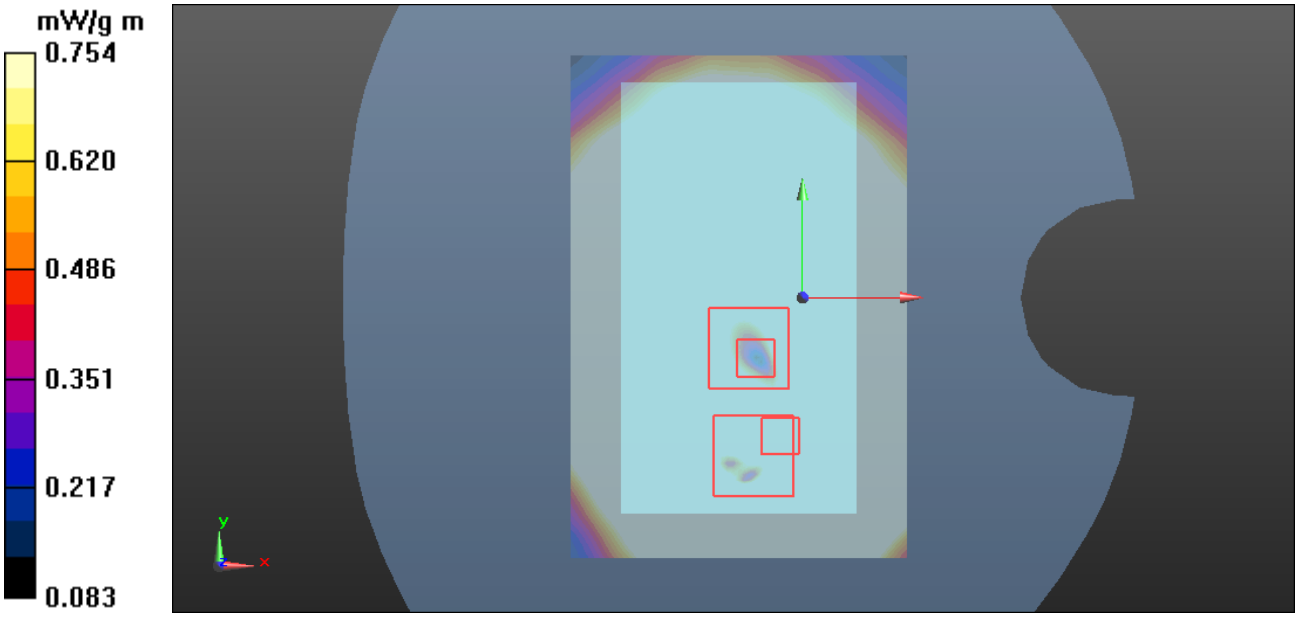


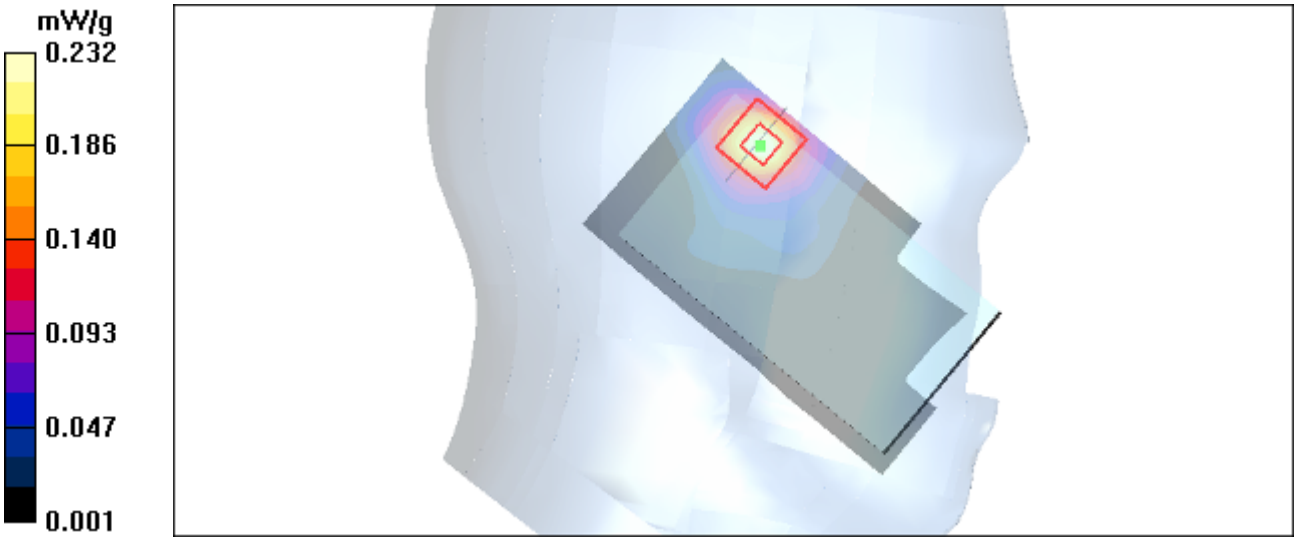
Figure 104 Body with Stereo Headset 2, Back Side, WCDMA Band V Channel 4233

802.11b Left Cheek Low (Battery 1)

Date/Time: 4/26/2012 9:55:51 PM
Communication System: 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.84 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left 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

Cheek Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.235 mW/g

Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.88 V/m; Power Drift = 0.054 dB
Peak SAR (extrapolated) = 0.450 W/kg
SAR(1 g) = 0.207 mW/g; SAR(10 g) = 0.097 mW/g
Maximum value of SAR (measured) = 0.232 mW/g



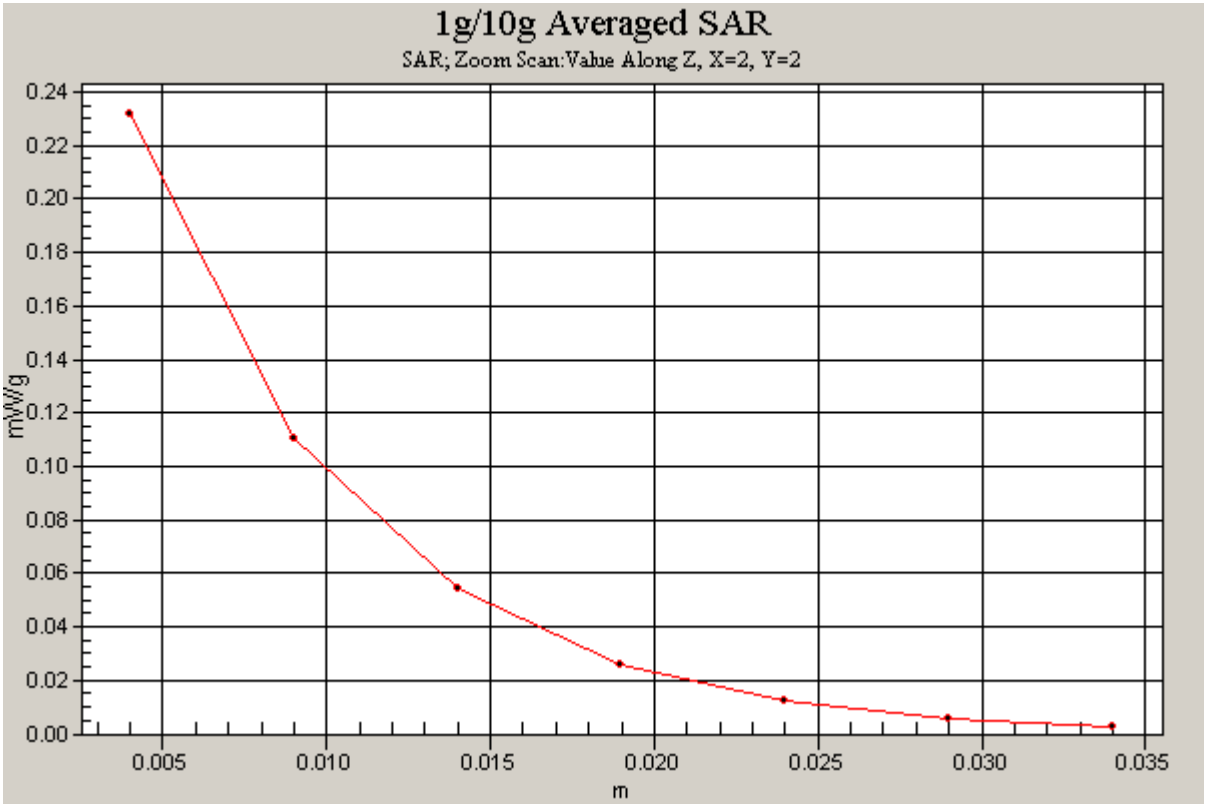


Figure 105 Left Hand Touch Cheek 802.11b Channel 1

802.11b Left Tilt Low (Battery 1)

Date/Time: 4/26/2012 10:10:07 PM
Communication System: 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.84 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left 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

Tilt Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.122 mW/g

Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.01 V/m; Power Drift = 0.052 dB
Peak SAR (extrapolated) = 0.219 W/kg
SAR(1 g) = 0.109 mW/g; SAR(10 g) = 0.053 mW/g
Maximum value of SAR (measured) = 0.121 mW/g

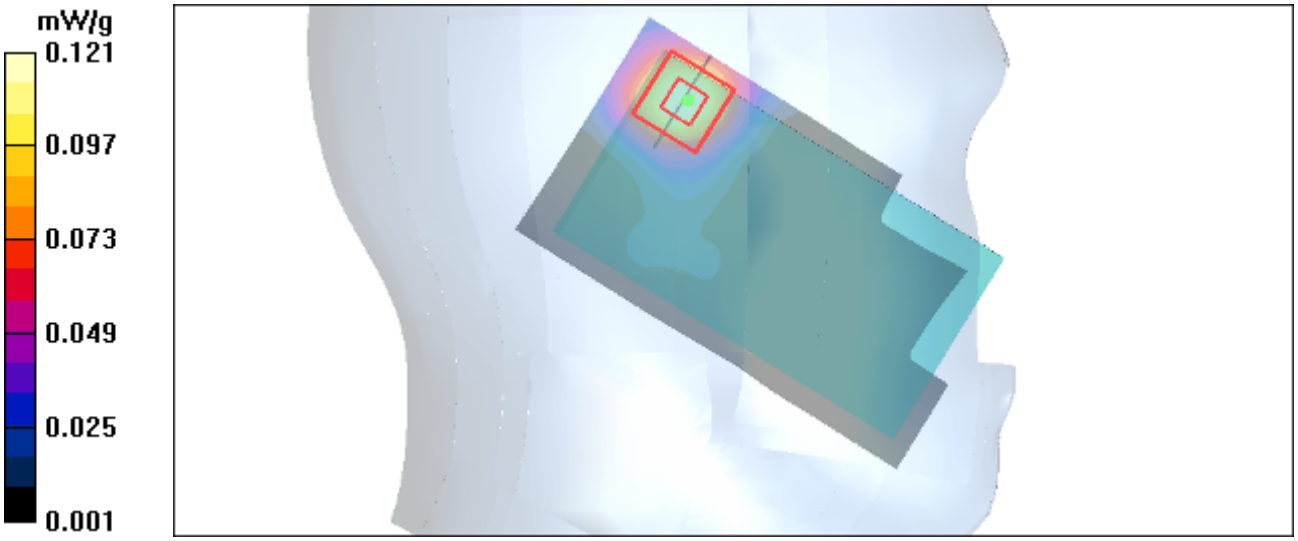


Figure 106 Left Hand Tilt 15° 802.11b Channel 1

802.11b Right Cheek Low (Battery 1)

Date/Time: 4/26/2012 9:25:07 PM
Communication System: 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.84 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right 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

Cheek Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.120 mW/g

Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.59 V/m; Power Drift = -0.091 dB
Peak SAR (extrapolated) = 0.221 W/kg
SAR(1 g) = 0.112 mW/g; SAR(10 g) = 0.058 mW/g
Maximum value of SAR (measured) = 0.122 mW/g

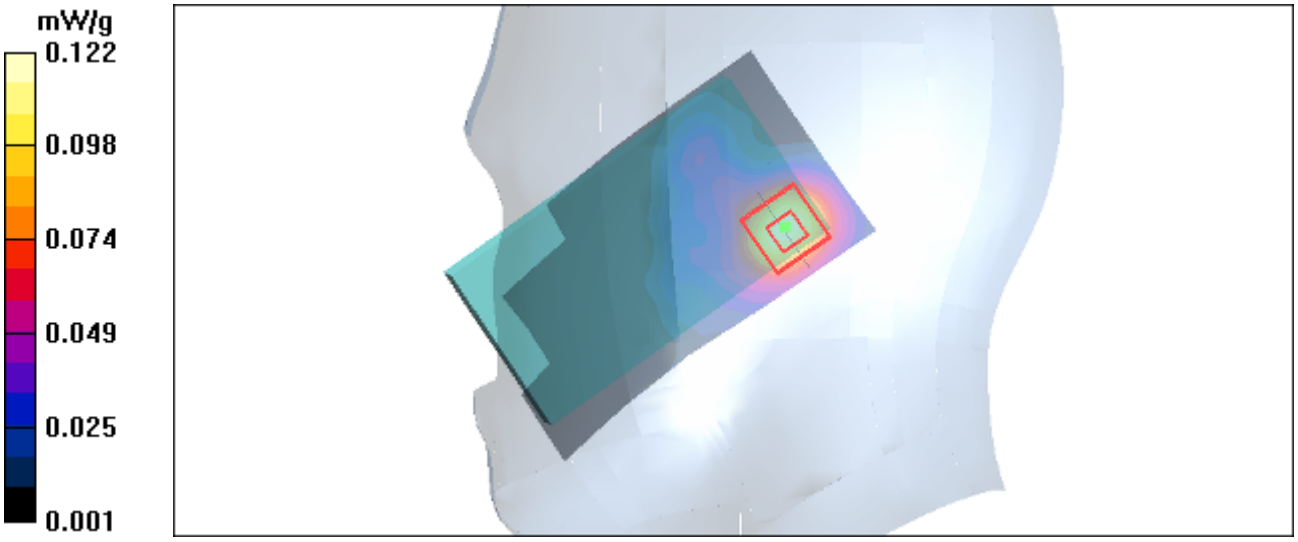


Figure 107 Right Hand Touch Cheek 802.11b Channel 1

802.11b Right Tilt Low (Battery 1)

Date/Time: 4/26/2012 9:38:11 PM
Communication System: 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.84 mho/m; ε_r = 38.4; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right 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

Tilt Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.080 mW/g

Tilt Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.48 V/m; Power Drift = 0.052 dB
Peak SAR (extrapolated) = 0.134 W/kg
SAR(1 g) = 0.071 mW/g; SAR(10 g) = 0.037 mW/g
Maximum value of SAR (measured) = 0.077 mW/g

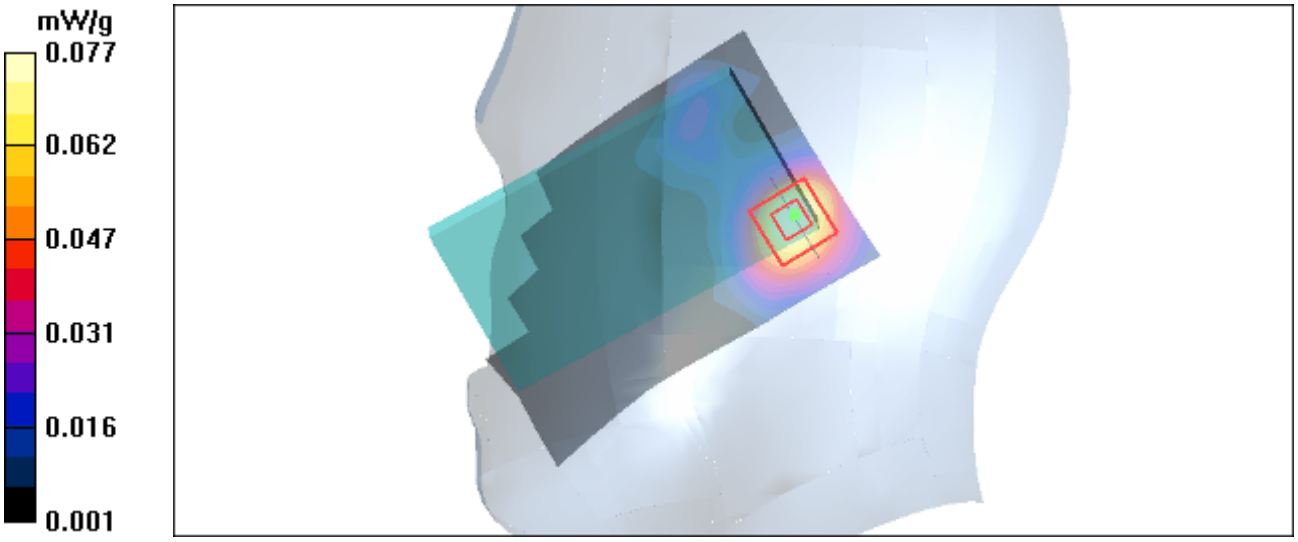


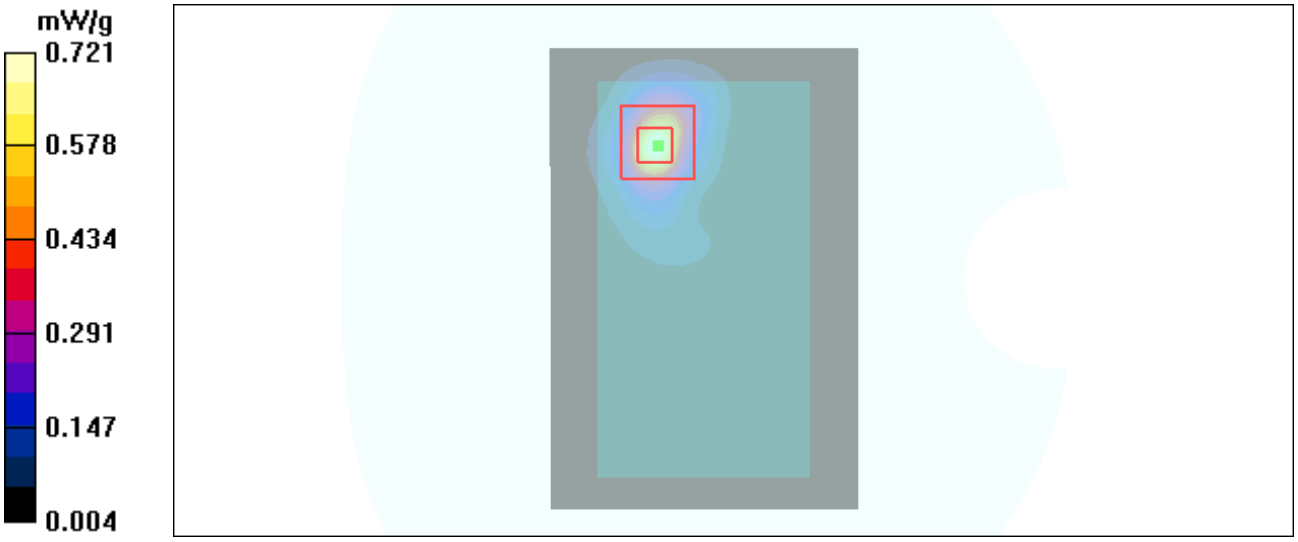
Figure 108 Right Hand Tilt 15° 802.11b Channel 1

802.11b Back Side Low (Battery 1)

Date/Time: 4/26/2012 8:00:05 PM
Communication System: 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.85 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
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

Back Side Low /Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.724 mW/g

Back Side Low /Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.63 V/m; Power Drift = 0.132 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.620 mW/g; SAR(10 g) = 0.277 mW/g
Maximum value of SAR (measured) = 0.721 mW/g



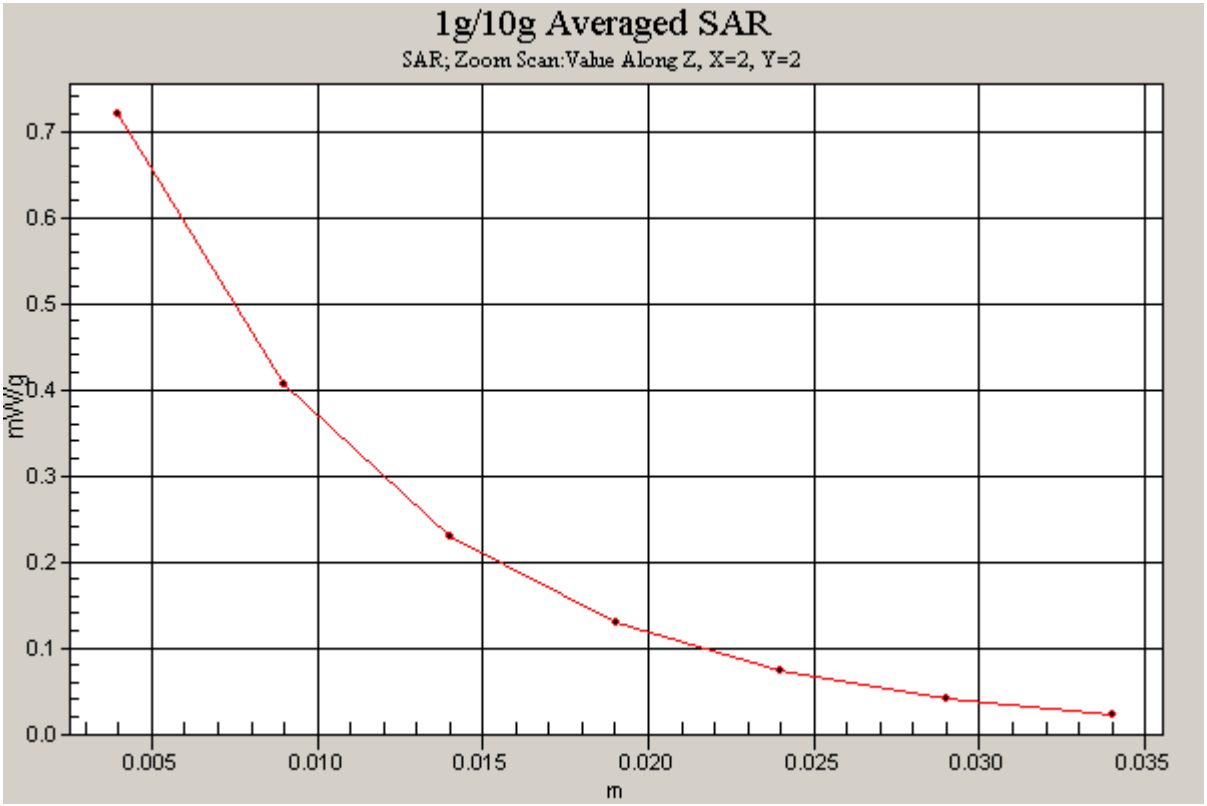


Figure 109 Body, Back Side, 802.11b Channel 1

802.11b Front Side Low (Battery 1)

Date/Time: 4/26/2012 7:33:17 PM
Communication System: 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.85 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
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

Front Side Low/Area Scan (61x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.047 mW/g

Front Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 2.56 V/m; Power Drift = 0.063 dB
Peak SAR (extrapolated) = 0.080 W/kg
SAR(1 g) = 0.045 mW/g; SAR(10 g) = 0.024 mW/g
Maximum value of SAR (measured) = 0.048 mW/g

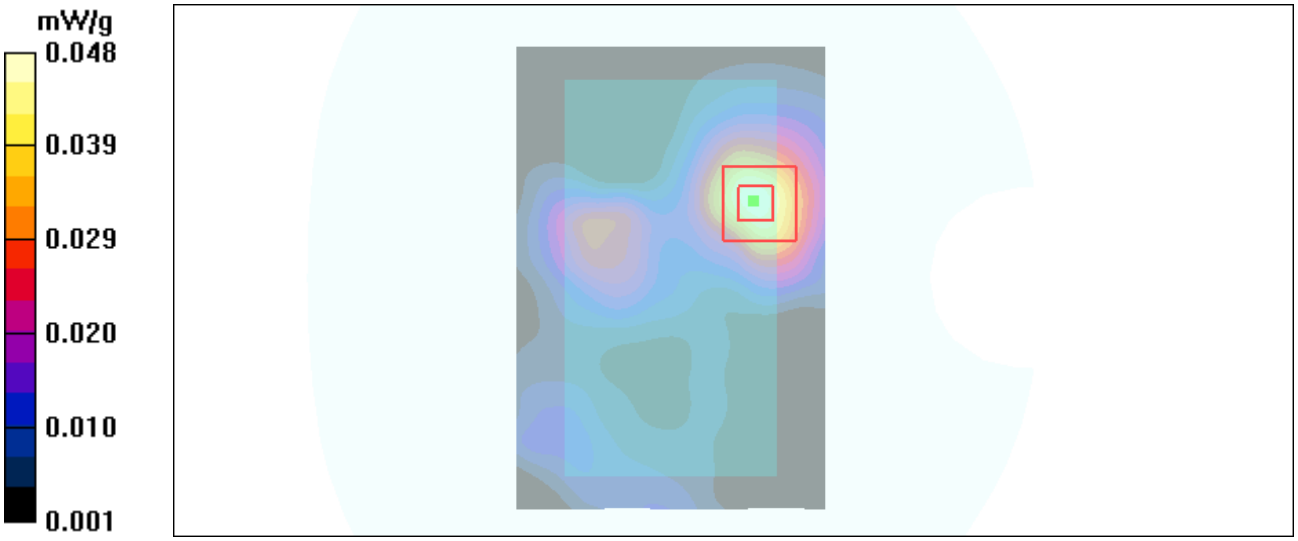


Figure 110 Body, Front Side, 802.11b Channel 1

802.11b Right Edge Low (Battery 1)

Date/Time: 4/26/2012 8:25:05 PM
Communication System: 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.85 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
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

Right Edge Low/Area Scan (31x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.155 mW/g

Right Edge Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.25 V/m; Power Drift = -0.093 dB
Peak SAR (extrapolated) = 0.252 W/kg
SAR(1 g) = 0.144 mW/g; SAR(10 g) = 0.077 mW/g
Maximum value of SAR (measured) = 0.162 mW/g

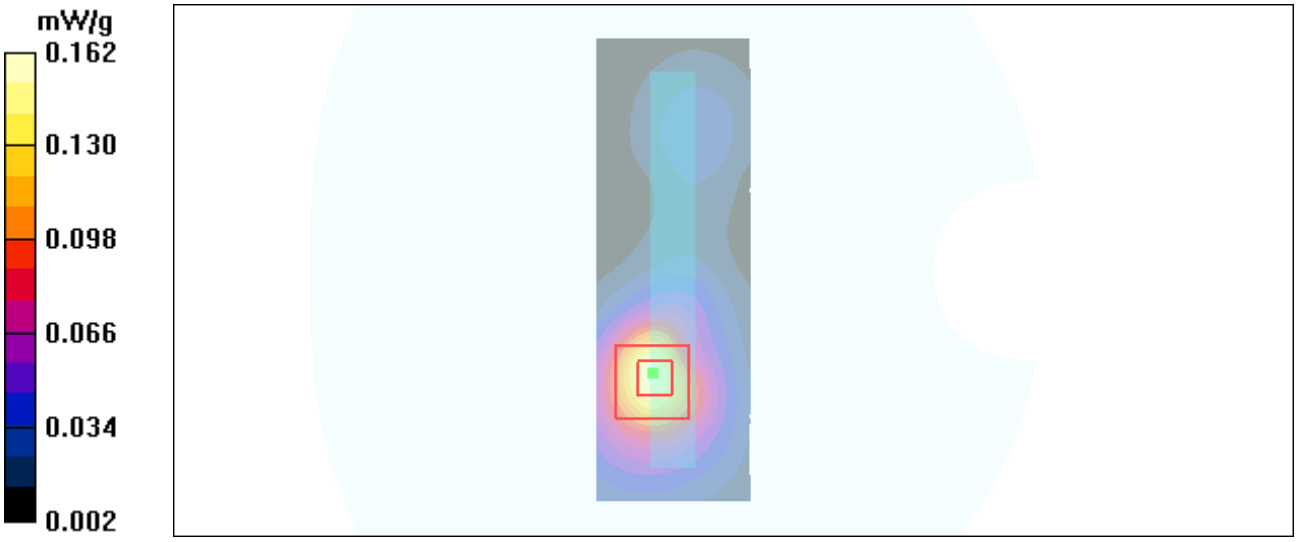


Figure 111 Body, Right Edge, 802.11b Channel 1

802.11b Top Edge Low (Battery 1)

Date/Time: 4/26/2012 8:55:57 PM
Communication System: 802.11b; Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2412 MHz; σ = 1.85 mho/m; ε_r = 51.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
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

Top Edge Low/Area Scan (31x61x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.053 mW/g

Top Edge Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.09 V/m; Power Drift = 0.013 dB
Peak SAR (extrapolated) = 0.081 W/kg
SAR(1 g) = 0.049 mW/g; SAR(10 g) = 0.029 mW/g
Maximum value of SAR (measured) = 0.053 mW/g

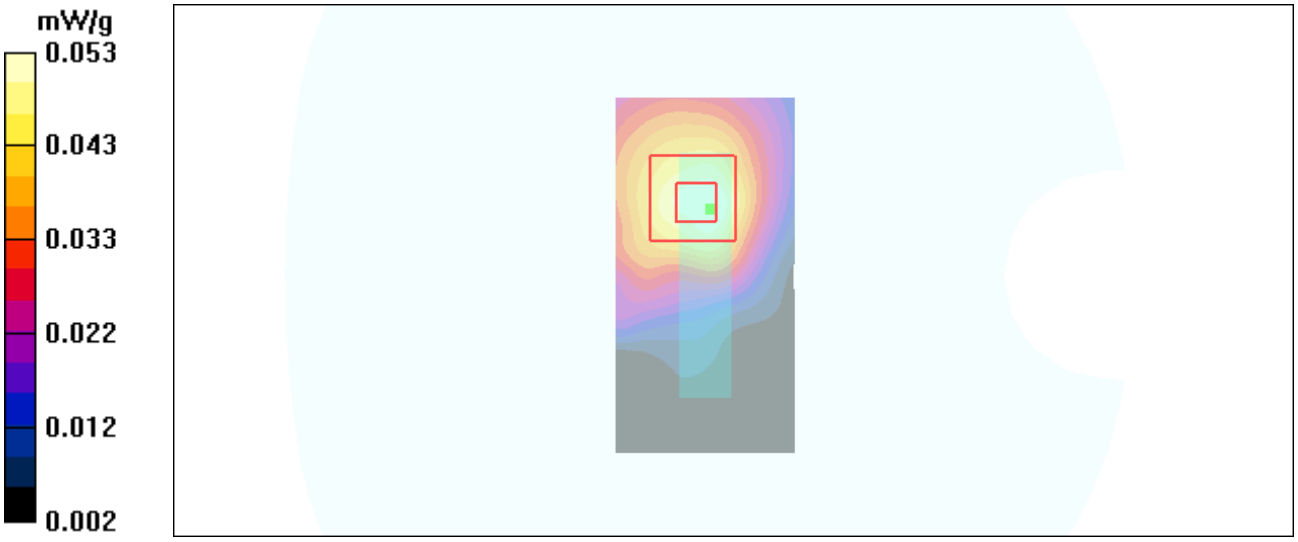


Figure 112 Body, Top Edge, 802.11b Channel 1

ANNEX D: Probe Calibration Certificate(ES3DV3)

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Client: Auden

Certificate No: ES3-3071_Jun11

CALIBRATION CERTIFICATE

Object: ES3DV3 - SN:3071

Calibration procedure(s): QA CAL-01.v8, QA CAL-23.v4, QA CAL-25.v4
Calibration procedure for dosimetric E-field probes

Calibration date: June 22, 2011

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	31-Mar-11 (No. 217-01372)	Apr-12
Power sensor E4412A	MY41498087	31-Mar-11 (No. 217-01372)	Apr-12
Reference 3 dB Attenuator	SN: S5054 (3c)	29-Mar-11 (No. 217-01369)	Apr-12
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Reference 30 dB Attenuator	SN: S5129 (30b)	29-Mar-11 (No. 217-01370)	Apr-12
Reference Probe ES3DV2	SN: 3013	29-Dec-10 (No. ES3-3013_Dec10)	Dec-11
DAE4	SN: 654	3-May-11 (No. DAE4-654_May11)	May-12
Secondary Standards	**ID**	**Check Date (in house)**	**Scheduled Check**
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: June 23, 2011

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS) Accreditation No.: **SCS 108**
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., ϑ = 0 is normal to probe axis

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- *PAR:* PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- *Ax,y,z; Bx,y,z; Cx,y,z, VRx,y,z: A, B, C* are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. *VR* is the maximum calibration range expressed in RMS voltage across the diode.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset*: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe ES3DV3

SN:3071

Manufactured: December 14, 2004
Calibrated: June 22, 2011

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3071

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	1.12	1.21	0.96	± 10.1 %
DCP (mV)[B]	101.2	101.2	97.4	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dB	C dB	VR mV	Unc[E] (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	102.4	±3.0 %
			Y	0.00	0.00	1.00	110.9	
			Z	0.00	0.00	1.00	130.0	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

[A] The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3071

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	41.9	0.89	6.00	6.00	6.00	0.90	1.10	± 12.0 %
835	41.5	0.90	5.78	5.78	5.78	0.90	1.10	± 12.0 %
900	41.5	0.97	5.67	5.67	5.67	0.90	1.10	± 12.0 %
1450	40.5	1.20	5.22	5.22	5.22	0.83	1.23	± 12.0 %
1750	40.1	1.37	5.03	5.03	5.03	0.90	1.15	± 12.0 %
1900	40.0	1.40	4.83	4.83	4.83	0.86	1.19	± 12.0 %
2000	40.0	1.40	4.80	4.80	4.80	0.89	1.14	± 12.0 %
2450	39.2	1.80	4.19	4.19	4.19	0.74	1.29	± 12.0 %

[C] Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

ES3DV3– SN:3071 June 22, 2011

DASY/EASY - Parameters of Probe: ES3DV3- SN:3071

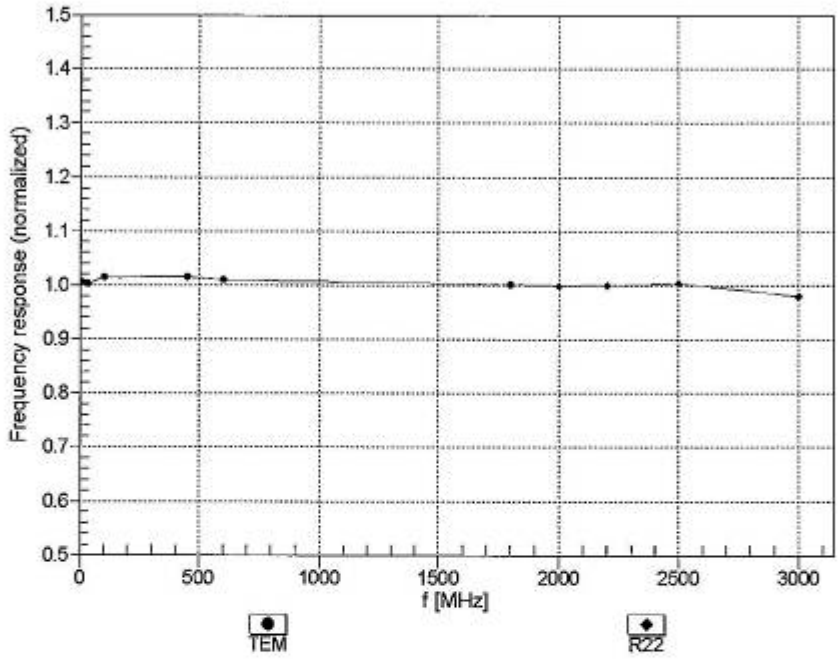
Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
750	55.5	0.96	5.78	5.78	5.78	0.80	1.20	± 12.0 %
835	55.2	0.97	5.68	5.68	5.68	0.80	1.20	± 12.0 %
900	55.0	1.05	5.63	5.63	5.63	0.90	1.10	± 12.0 %
1450	54.0	1.30	5.22	5.22	5.22	1.00	1.21	± 12.0 %
1750	53.4	1.49	4.66	4.66	4.66	0.72	1.43	± 12.0 %
1900	53.3	1.52	4.32	4.32	4.32	0.72	1.37	± 12.0 %
2000	53.3	1.52	4.29	4.29	4.29	0.74	1.30	± 12.0 %
2450	52.7	1.95	3.89	3.89	3.89	0.75	1.22	± 12.0 %

[C] Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

ES3DV3– SN:3071 June 22, 2011

Frequency Response of E-Field
(TEM-Cell:ifi110 EXX, Waveguide: R22)

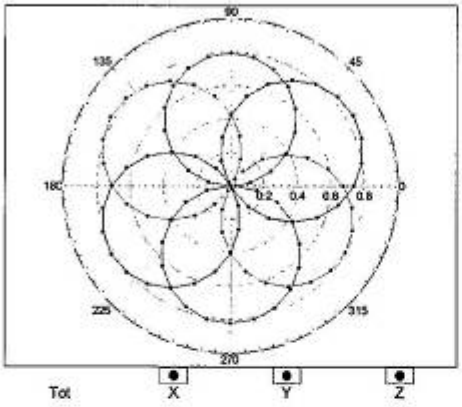


Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

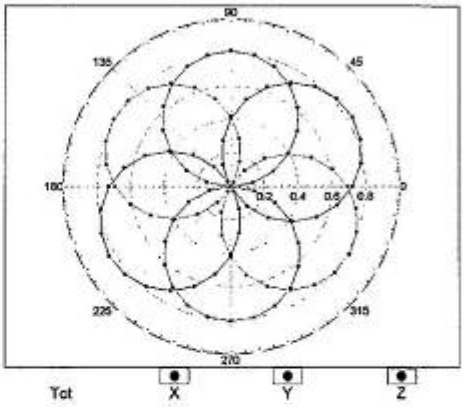
ES3DV3– SN:3071 June 22, 2011

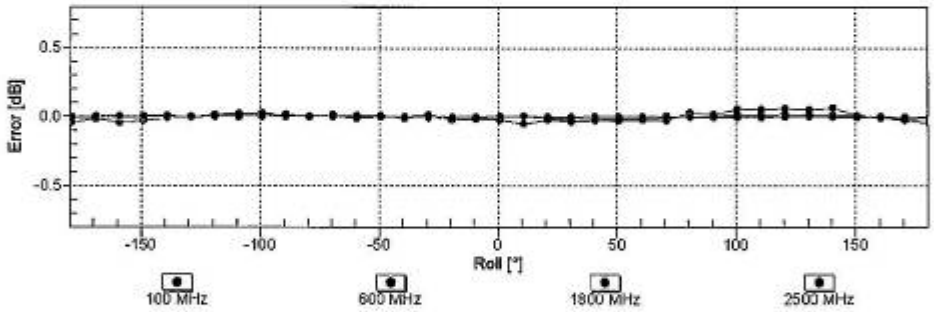
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



f=1800 MHz,R22

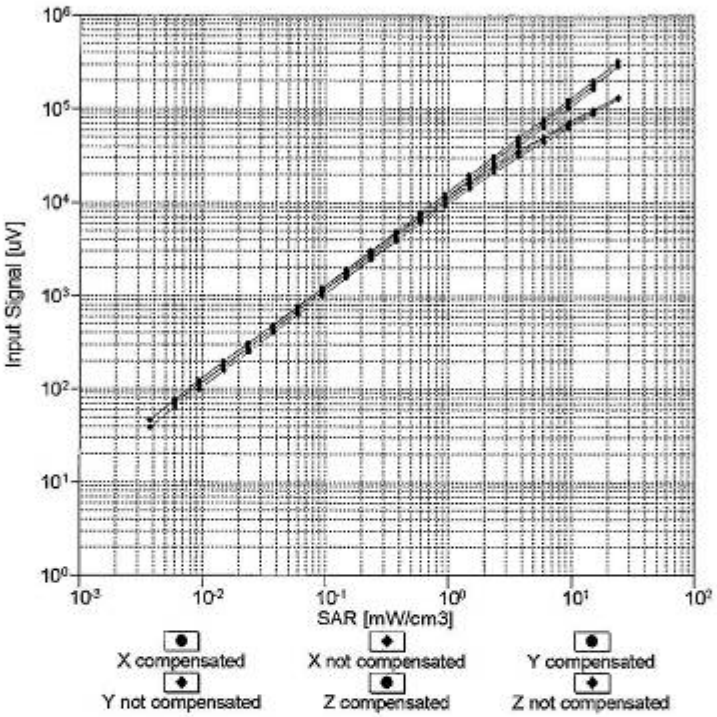


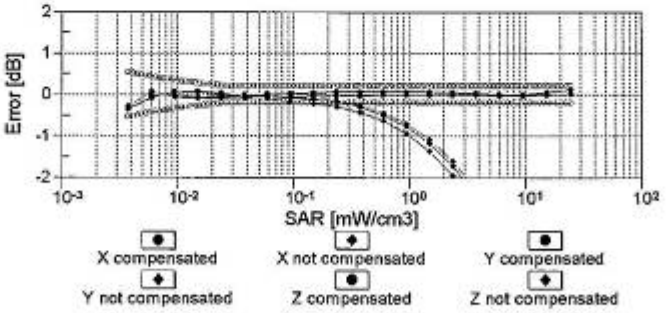


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

ES3DV3– SN:3071 June 22, 2011

Dynamic Range f(SAR_{head})
(TEM cell , f = 900 MHz)



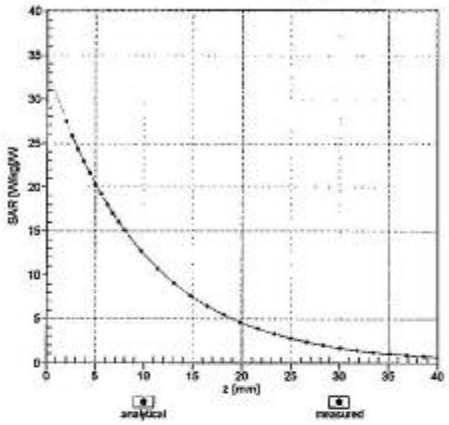


Uncertainty of Linearity Assessment: ± 0.6% (k=2)

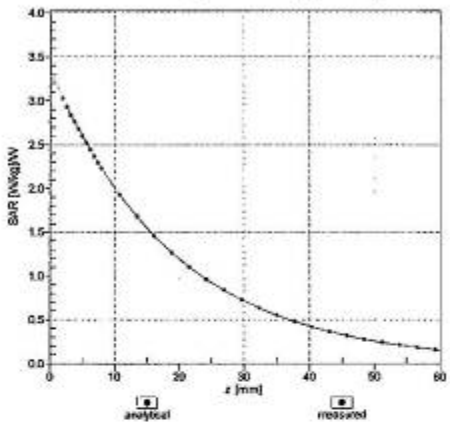
ES3DV3– SN:3071 June 22, 2011

Conversion Factor Assessment

f = 2450 MHz,WGLS R22 (H_convF)

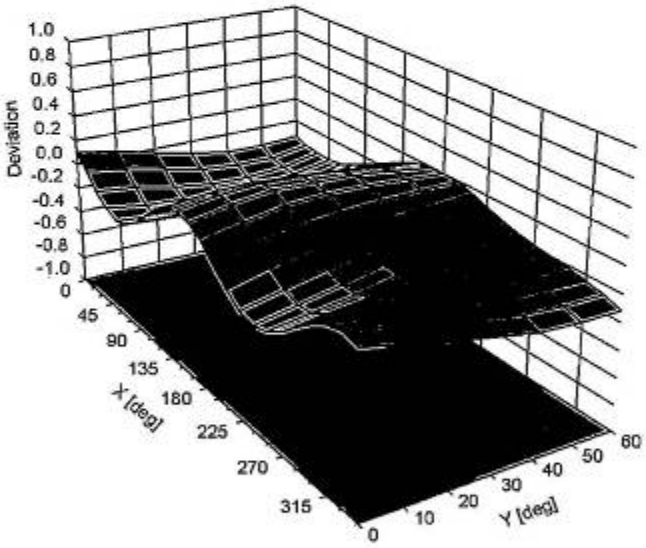


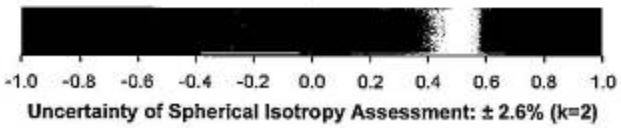
f = 835 MHz,WGLS R9 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz





Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

DASY/EASY - Parameters of Probe: ES3DV3 - SN:3071

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	Not applicable
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	10 mm
Tip Diameter	4 mm
Probe Tip to Sensor X Calibration Point	2 mm
Probe Tip to Sensor Y Calibration Point	2 mm
Probe Tip to Sensor Z Calibration Point	2 mm
Recommended Measurement Distance from Surface	3 mm

ANNEX E: Probe Calibration Certificate(EX3DV4)

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S C S **Schweizerischer Kalibrierdienst**
Service suisse d'étalonnage
Servizio svizzero di taratura
Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Client TMC Shanghai (Auden) **Certificate No: EX3-3816_Oct11**

CALIBRATION CERTIFICATE

Object EX3DV4 - SN:3816

Calibration procedure(s) QA CAL-01.v8, QA CAL-12.v7, QA CAL-23.v4, QA CAL-25.v4
Calibration procedure for dosimetric E-field probes

Calibration date: October 3, 2011

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	31-Mar-11 (No. 217-01372)	Apr-12
Power sensor E4412A	MY41498087	31-Mar-11 (No. 217-01372)	Apr-12
Reference 3 dB Attenuator	SN: S5054 (3c)	29-Mar-11 (No. 217-01369)	Apr-12
Reference 20 dB Attenuator	SN: S5086 (20b)	29-Mar-11 (No. 217-01367)	Apr-12
Reference 30 dB Attenuator	SN: S5129 (30b)	29-Mar-11 (No. 217-01370)	Apr-12
Reference Probe ES3DV2	SN: 3013	29-Dec-10 (No. ES3-3013_Dec10)	Dec-11
DAE4	SN: 654	3-May-11 (No. DAE4-654_May11)	May-12
Secondary Standards	ID	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-09)	In house check: Oct-11
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-10)	In house check: Oct-11

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: October 3, 2011

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., ϑ = 0 is normal to probe axis

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- *PAR:* PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- *Ax,y,z; Bx,y,z; Cx,y,z, VRx,y,z: A, B, C* are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. *VR* is the maximum calibration range expressed in RMS voltage across the diode.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset*: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe EX3DV4

SN:3816

Manufactured: September 2, 2011
Calibrated: October 3, 2011

Calibrated for DASY/EASY Systems
(Note: non-compatible with DASY2 system!)

EX3DV4– SN:3816 October 3, 2011

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3816

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.48	0.56	0.61	± 10.1 %
DCP (mV)[B]	99.8	102.2	102.1	

Modulation Calibration Parameters

UID	Communication System Name	PAR		A dB	B dB	C dB	VR mV	Unc[E] (k=2)
10000	CW	0.00	X	0.00	0.00	1.00	111.3	±2.7 %
			Y	0.00	0.00	1.00	127.3	
			Z	0.00	0.00	1.00	127.7	

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

[A] The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Pages 5 and 6).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3816

Calibration Parameter Determined in Head Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
450	43.5	0.87	9.97	9.97	9.97	0.11	1.00	± 13.4 %
750	41.9	0.89	9.47	9.47	9.47	0.62	0.78	± 12.0 %
835	41.5	0.90	9.22	9.22	9.22	0.76	0.66	± 12.0 %
1450	40.5	1.20	8.58	8.58	8.58	0.65	0.77	± 12.0 %
1750	40.1	1.37	8.23	8.23	8.23	0.80	0.58	± 12.0 %
1900	40.0	1.40	7.90	7.90	7.90	0.80	0.57	± 12.0 %
2450	39.2	1.80	7.17	7.17	7.17	0.66	0.64	± 12.0 %
2600	39.0	1.96	7.06	7.06	7.06	0.64	0.67	± 12.0 %

[C] Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3816

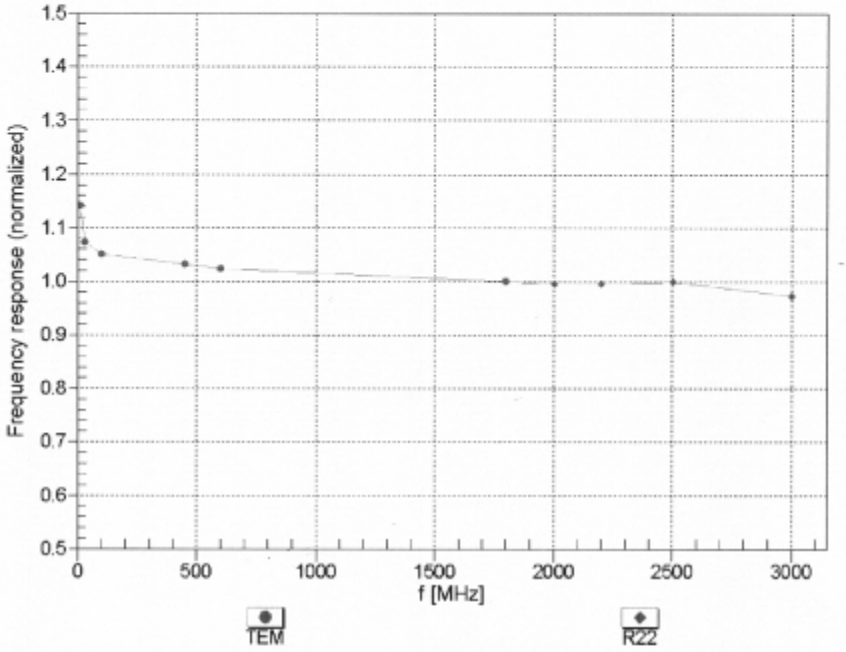
Calibration Parameter Determined in Body Tissue Simulating Media

f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha	Depth (mm)	Unct. (k=2)
450	56.7	0.94	10.83	10.83	10.83	0.02	1.00	± 13.4 %
750	55.5	0.96	9.50	9.50	9.50	0.80	0.70	± 12.0 %
835	55.2	0.97	9.38	9.38	9.38	0.68	0.69	± 12.0 %
1750	53.4	1.49	7.80	7.80	7.80	0.80	0.65	± 12.0 %
1900	53.3	1.52	7.51	7.51	7.51	0.80	0.65	± 12.0 %
2450	52.7	1.95	7.19	7.19	7.19	0.80	0.60	± 12.0 %
2600	52.5	2.16	7.14	7.14	7.14	0.80	0.59	± 12.0 %

[C] Frequency validity of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band.
[F] At frequencies below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

EX3DV4– SN:3816 October 3, 2011

Frequency Response of E-Field
(TEM-Cell:ifi110 EXX, Waveguide: R22)

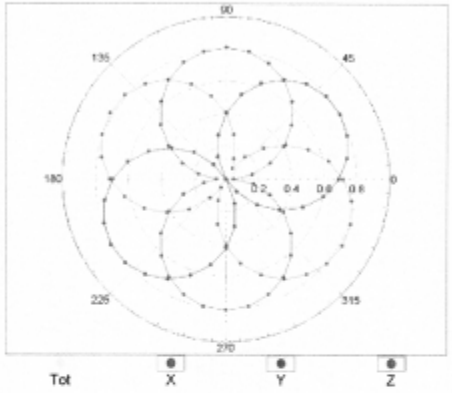


Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

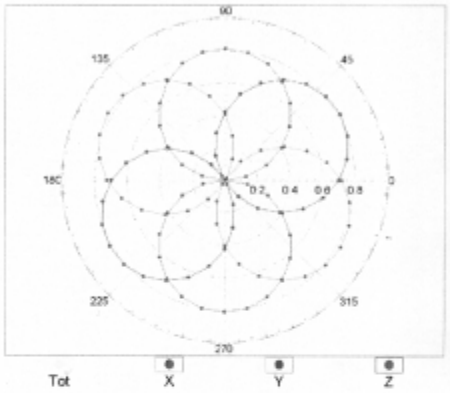
EX3DV4– SN:3816 October 3, 2011

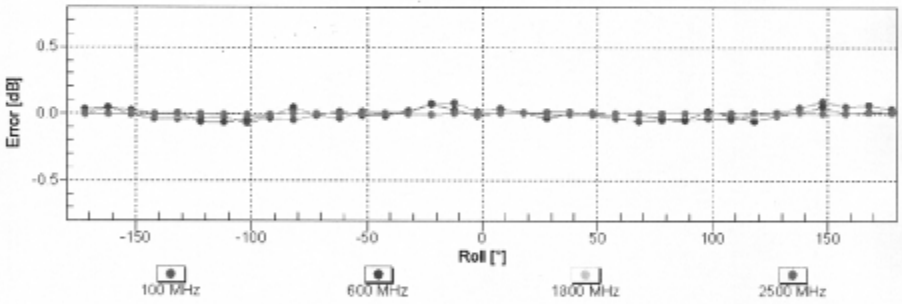
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



f=1800 MHz,R22

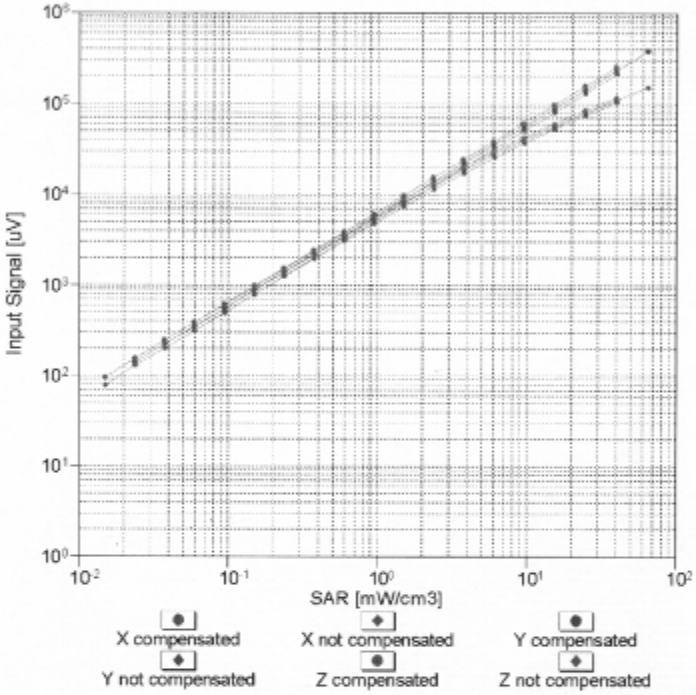


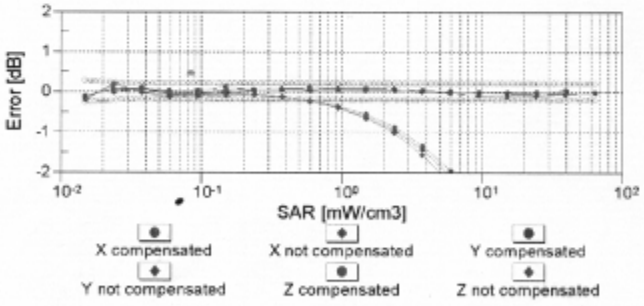


Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

EX3DV4– SN:3816 October 3, 2011

Dynamic Range f(SAR_{head})
(TEM cell , f = 900 MHz)





Uncertainty of Linearity Assessment: ± 0.6% (k=2)