Report No.: RZA1011-1835SAR01R2

TESTING
No. L2264

OET 65

TEST REPORT

Product Name	UMTS Handset Mobile Phone
Model	HUAWEI U3220
FCC ID	QISU3220
Client	Huawei Technologies Co., Ltd.

TA Technology (Shanghai) Co., Ltd.

GENERAL SUMMARY

Product Name	UMTS Handset Mobile Phone	**Model**	HUAWEI U3220
FCC ID	QISU3220		
Report No.	RZA1011-1835SAR01R2		
Client	Huawei Technologies Co., Ltd.		
Manufacturer	Huawei Technologies Co., Ltd.		
Reference Standard(s)	**IEEE Std C95.1, 1999:** IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency 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 Radio frequency Electromagnetic Fields Additional Information for Evaluation Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radio frequency Emissions. **RSS-102 Issue 4 March 2010:**Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)		
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: March 1st, 2011**		
Comment	The test result only responds to the measured sample.		

Approved by Yang Weizhong **Revised by** Ling Minbao **Performed by** Liu Jun

TABLE OF CONTENT

1. General Information

1.1. Notes of the Test Report

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

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

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

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

1.2. Testing Laboratory

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1.3. Applicant Information

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City:	Shenzhen
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1.4. Manufacturer Information

Company:	Huawei Technologies Co., Ltd.
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Country:	P.R.China
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1.5. Information of EUT

General Information

Device Type:	Portable Device		
Exposure Category:	Uncontrolled Environment / General Population		
Product Name:	UMTS Handset Mobile Phone		
IMEI:	353856040002576		
Hardware Version:	Ver.A		
Software Version:	U3220CBTB105		
Antenna Type:	Internal Antenna		
Device Operating Configurations :			
Supporting Mode(s):	GSM 850/GSM 1900; (tested)		
	WCDMA Band II/ WCDMA Band IV; (tested)		
	Bluetooth;		
Test Modulation:	(GSM)GMSK; (WCDMA)QPSK		
Device Class:	B		
HSDPA UE Category:	10		
HSUPA UE Category:	6		
GPRS Multislot Class(10):	Max Number of Timeslots in Uplink		2
	Max Number of Timeslots in Downlink		4
	Max Total Timeslot		5
EGPRS Multislot Class(10):	Max Number of Timeslots in Uplink		2
	Max Number of Timeslots in Downlink		4
	Max Total Timeslot		5
Operating Frequency Range(s):	Band	Tx (MHz)	Rx (MHz)
	GSM 850	824.2 ~ 848.8	869.2 ~ 893.8
	GSM 1900	1850.2 ~ 1909.8	1930.2 ~ 1989.8
	WCDMA Band II	1852.4 ~ 1907.6	1932.4 ~ 1987.6
	WCDMA Band IV	1712.4 ~ 1752.6	2112.4 ~ 2152.2
Power Class:	GSM 850: 4, tested with power level 5		
	GSM 1900: 1, tested with power level 0		
	WCDMA Band II: 3, tested with power control all up bits		
	WCDMA Band IV: 3, tested with power control all up bits		
Test Channel: (Low - Middle - High)	128 - 190 - 251 (GSM 850) (tested) 512 - 661 - 810 (GSM 1900) (tested) 9262 - 9400 - 9538 (WCDMA Band II) (tested) 1312 - 1413 - 1513 (WCDMA Band IV) (tested)		

Auxiliary Equipment Details

AE1:Battery

Model:	HB5A2H
Manufacturer:	Huawei Technologies Co., Ltd.
SN:	YACA501HI1826017

Equipment Under Test (EUT) is a model of UMTS Handset Mobile Phone. The device has an internal antenna for GSM Tx/Rx, and the other is BT antenna that can be used for Tx/Rx. The detail about Mobile phone and Lithium Battery is in chapter 1.5 in this report. SAR is tested for GSM 850, GSM 1900, WCDMA Band II and WCDMA Band IV.

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 and Conducted Power of each tested band

Head Configuration

Mode	Channel	Position	SAR_{1g} (W/kg)
GSM 850	Middle/190	Right, Cheek, Open	**0.298**
GSM 1900	High/810	Right, Cheek, Open	**0.505**
WCDMA Band II	High/9538	Right, Cheek, Open	**1.290**
WCDMA Band IV	Low/1312	Right, Cheek, Open	**0.440**

Body Worn Configuration

Mode	Channel	Separation distance	SAR_{1g} (W/kg)
EGPRS,2-slots GSM 850	Low/128	15mm	**1.030**
GPRS,2-slots GSM 1900	High/810	15mm	**0.412**
WCDMA Band II	High/9538	15mm	**0.611**
WCDMA Band IV	Low/1312	15mm	**0.344**

Maximum Power

Band		Max Conducted Power (dBm)	Max Average Power (dBm)
GSM 850	GSM	**33.12**	**24.09**
	GPRS,2 -slots	**31.11**	**25.09**
	EGPRS,2 -slots	**31.38**	**25.36**
GSM 1900	GSM	**30.21**	**21.18**
	GPRS,2 -slots	**28.13**	**22.11**
	EGPRS,2 -slots	**28.35**	**22.33**
WCDMA Band II		**23.13**	**/**
WCDMA Band IV		**23.07**	**/**

Note: The detail Power refer to Table 5 (Power Measurement Results).

1.7. Test Date

The test is performed from November 22, 2010 to November 23, 2010 and February 28, 2011.

2. Operational Conditions during Test

2.1. 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 Radio Frequency Channel Number (ARFCN) is allocated to 128, 190 and 251 in the case of GSM 850, to 512, 661 and 810 in the case of GSM 1900, to 9262, 9400 and 9538 in the case of WCDMA Band II, to 1312, 1413 and 1513 in the case of WCDMA Band IV. 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.

2.2. 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” in SAR of GSM 850, set to “0” in SAR of GSM 1900. Since the GPRS class is 10 for this EUT, it has at most 2 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslots is 5. Since the EGPRS class is 10 for this EUT, it has at most 2 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslots is 5.

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

According to specification 3GPP TS 51.010, the maximum power of the GSM can do the power reduction for the multi-slot.

Table 1: The allowed power reduction in the multi-slot configuration
GSM850

GPRS（GMSK）:

Number of timeslots in uplink assignment	**reduction of maximum output power, (dB)**
1	0
2	3

EGPRS(8PSK):

Number of timeslots in uplink assignment	reduction of maximum output power, (dB)
1	0
2	3

EGPRS(GMSK):

Number of timeslots in uplink assignment	reduction of maximum output power, (dB)
1	0
2	3

GSM1900

GPRS（GMSK）:

Number of timeslots in uplink assignment	reduction of maximum output power, (dB)
1	0
2	3

EGPRS(8PSK):

Number of timeslots in uplink assignment	reduction of maximum output power, (dB)
1	0
2	3

EGPRS(GMSK):

Number of timeslots in uplink assignment	reduction of maximum output power, (dB)
1	0
2	3

2.3. WCDMA Test Configuration

2.3.1. 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 “1’s” for WCDMA. Results for all applicable physical channel configuration (DPCCH, $DPDCH_n$ and spreading codes) 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.

2.3.2. Head SAR Measurements

SAR for head exposure configurations in voice mode is measured using a 12.2kbps RMC with TPC bits configured to all “1’s”. 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.

2.3.3. 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 “1’s”. 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.

2.4. Test Positions

2.4.1. 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".

2.4.2. Body Worn Configuration

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations. Devices with a headset output should be tested with a headset connected to the device. The distance between the device and the phantom was kept 15mm.

3. SAR Measurements System Configuration

3.1. SAR Measurement Set-up

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

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

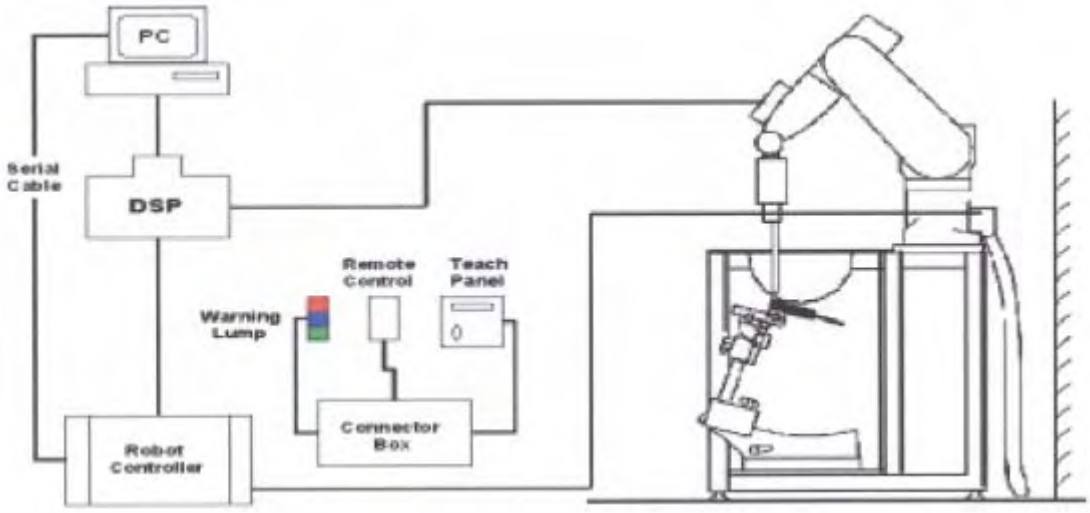

Figure 1 SAR Lab Test Measurement Set-up

3.2. DASY4 E-field Probe System

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

3.2.1. 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

3.2.2. E-field Probe Calibration

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

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

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

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

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

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

3.3. Other Test Equipment

3.3.1. Device Holder for Transmitters

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

Figure 4 Device Holder

3.3.2. Phantom

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

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

Figure 5 Generic Twin Phantom

3.4. Scanning Procedure

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

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

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

- Area Scan

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

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

- Zoom Scan
  Zoom Scans are used to estimate the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The default Zoom Scan is done by 7x7x7 points within a cube whose base is centered around the maxima found in the preceding area scan.

- Spatial Peak Detection
  The procedure for spatial peak SAR evaluation has been implemented and can determine values of masses of 1g and 10g, as well as for user-specific masses.The DASY4 system allows evaluations that combine measured data and robot positions, such as:
  • maximum search
  • extrapolation
  • boundary correction
  • peak search for averaged SAR
  During a maximum search, global and local maxima searches are automatically performed in 2-D after each Area Scan measurement with at least 6 measurement points. It is based on the evaluation of the local SAR gradient calculated by the Quadratic Shepard's method. The algorithm will find the global maximum and all local maxima within -2 dB of the global maxima for all SAR distributions.
  Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. Several measurements at different distances are necessary for the extrapolation. Extrapolation routines require at least 10 measurement points in 3-D space. They are used in the Zoom Scan to obtain SAR values between the lowest measurement points and the inner phantom surface. The routine uses the modified Quadratic Shepard's method for extrapolation. For a grid using 7x7x7 measurement points with 5mm resolution amounting to 343 measurement points, the uncertainty of the extrapolation routines is less than 1% for 1g and 10g cubes.
- A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube 7x7x7 scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 5mm steps.

3.5. Data Storage and Evaluation

3.5.1. Data Storage

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

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

3.5.2. 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, ai_0, a_{i1}, a_{i2}
	- Conversion factor	$ConvF_i$
	- Diode compression point	Dcp_i
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	
	- Density	

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

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

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

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

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

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

cf = crest factor of exciting field (DASY parameter)

dcp_i = diode compression point (DASY parameter)

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

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

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

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

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

$ConvF$ = sensitivity enhancement in solution

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

f = carrier frequency [GHz]

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

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

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

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

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

$$SAR = (E_{tot}^2 \cdot \ .) / (\quad \cdot 1000)$$

with ***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

3.6. 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 8 and table 9.

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

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

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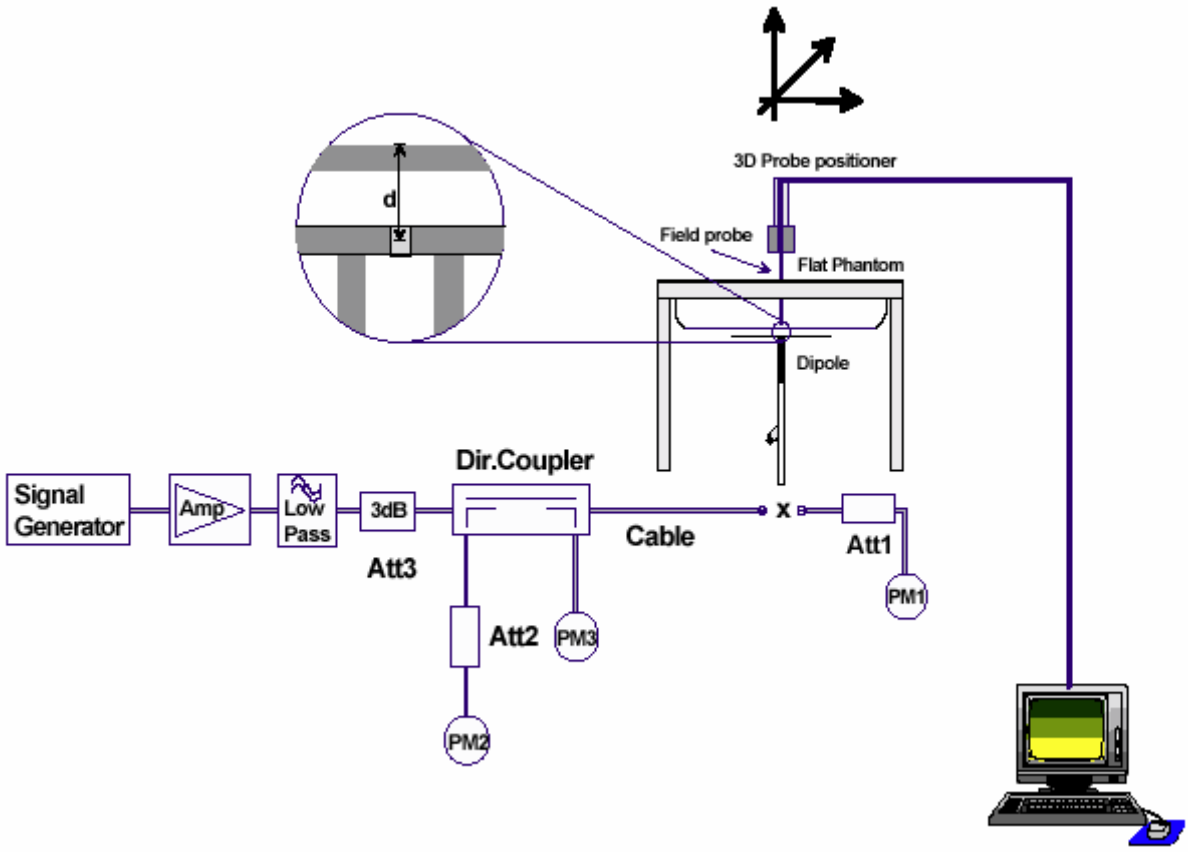


Figure 6 System Check Set-up

3.7. Equivalent Tissues

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

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**

4. Laboratory Environment

Table 4: The Ambient Conditions during Test

Temperature	Min. = 20°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.	

5. Characteristics of the Test

5.1. Applicable Limit Regulations

IEEE Std C95.1, 1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

5.2. Applicable Measurement Standards

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 Radio frequency Electromagnetic Fields Additional Information for Evaluation Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radio frequency Emissions.

RSS-102 Issue 4 March 2010: Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)

6. Conducted Output Power Measurement

6.1. Summary

The DUT is tested using an E5515C communications tester as controller unit to set test channels and maximum output power to the DUT, as well as for measuring the conducted power. Conducted output power was measured using an integrated RF connector and attached RF cable. This result contains conducted output power for the EUT.

6.2. Conducted Power Results

Table 5: Conducted Power Measurement Results

WCDMA Band II		**Conducted Power (dBm)**		
		Channel 9262	Channel 9400	Channel 9538
12.2kbps RMC	Before	23.07	23.13	23.04
	After	23.06	23.12	23.03
64kbps RMC	Before	23.05	23.11	23.02
144kbps RMC	Before	23.04	23.12	23.01
384kbps RMC	Before	23.05	23.10	23.03
WCDMA Band II+HSDPA		**Conducted Power (dBm)**		
		Channel 9262	Channel 9400	Channel 9538
Sub Test - 1	Before	22.89	23.12	23.07
	After	22.88	23.11	23.06
Sub Test - 2	Before	22.47	22.58	22.37
Sub Test - 3	Before	21.94	22.14	22.21
Sub Test - 4	Before	21.62	21.45	21.68
WCDMA Band II+HSUPA		**Conducted Power (dBm)**		
		Channel 9262	Channel 9400	Channel 9538
Sub Test - 1	Before	22.66	21.87	22.93
Sub Test - 2	Before	21.37	21.42	21.71
Sub Test - 3	Before	21.91	22.19	22.23
Sub Test - 4	Before	21.55	21.32	21.47
Sub Test - 5	Before	22.43	22.81	22.19
	After	22.42	22.80	22.18
WCDMA Band IV		**Conducted Power (dBm)**		
		Channel 1312	Channel 1413	Channel 1513
12.2kbps RMC	Before	23.06	23.04	23.07
	After	23.05	23.02	23.06
64kbps RMC	Before	23.04	23.02	23.05

144kbps RMC	Before	23.05	23.01	23.06
384kbps RMC	Before	23.03	23.03	23.04
WCDMA Band IV+HSDPA		**Conducted Power (dBm)**		
		Channel 1312	Channel 1413	Channel 1513
Sub Test - 1	Before	23.17	23.04	23.11
	After	23.16	23.03	23.10
Sub Test - 2	Before	22.41	22.82	22.71
Sub Test - 3	Before	22.04	21.89	21.95
Sub Test - 4	Before	21.38	21.52	21.61
WCDMA Band IV+HSUPA		**Conducted Power (dBm)**		
		Channel 1312	Channel 1413	Channel 1513
Sub Test - 1	Before	22.77	21.65	22.83
Sub Test - 2	Before	21.49	21.36	21.67
Sub Test - 3	Before	22.08	22.27	22.13
Sub Test - 4	Before	21.58	21.46	21.62
Sub Test - 5	Before	22.59	22.74	22.41
	After	22.58	22.73	22.40

GSM 850			**Conducted Power(dBm)**				**Average power(dBm)**		
			Channel 128	Channel 192	Channel 251		Channel 128	Channel 192	Channel 251
GSM	Before		33.12	33.04	33.09	-9.03dB	24.09	24.01	24.06
	After		33.10	33.03	33.08	-9.03dB	24.07	24	24.05
GPRS (GMSK)	1TXslot	Before	33.14	33.09	33.04	-9.03dB	24.11	24.06	24.01
		After	33.13	33.07	33.02	-9.03dB	24.10	24.04	23.99
	2TXslots	Before	31.11	31.07	31.02	-6.02dB	**25.09**	**25.05**	**25.00**
		After	31.10	31.05	31.01	-6.02dB	25.08	25.03	24.99
EGPRS (GMSK)	1TXslot	Before	33.28	33.21	33.13	-9.03dB	24.25	24.18	24.1
	2TXslots	Before	31.38	31.27	31.22	-6.02dB	**25.36**	**25.25**	**25.2**
		After	31.25	31.19	31.26	-6.02dB	25.23	25.17	25.24
EGPRS (8PSK)	1TXslot	Before	27.17	27.14	27.23	-9.03dB	18.14	18.11	18.2
	2TXslots	Before	26.26	26.36	26.27	-6.02dB	20.24	20.34	20.25
GSM 1900			**Conducted Power(dBm)**				**Average power(dBm)**		
			Channel 512	Channel 661	Channel 810		Channel 512	Channel 661	Channel 810
GSM	Before		30.21	30.15	30.18	-9.03dB	21.18	21.12	21.15
	After		30.20	30.14	30.17	-9.03dB	21.17	21.11	21.14
GPRS (GMSK)	1TXslot	Before	30.03	30.14	30.23	-9.03dB	21.00	21.11	21.2
		After	30.02	30.13	30.21	-9.03dB	20.99	21.1	21.18

	2TXslots	Before	28.05	28.08	28.13	-6.02dB	**22.03**	**22.06**	**22.11**
		After	28.04	28.07	28.11	-6.02dB	22.02	22.05	22.09
EGPRS (GMSK)	1TXslot	Before	30.25	30.33	30.17	-9.03dB	21.22	21.3	21.14
	2TXslots	Before	28.35	28.18	28.24	-6.02dB	**22.33**	**22.16**	**22.22**
		After	28.27	28.36	28.15	-6.02dB	22.25	22.34	22.13
EGPRS (8PSK)	1TXslot	Before	26.12	26.09	26.21	-9.03dB	17.09	17.06	17.18
	2TXslots	Before	25.32	25.23	25.14	-6.02dB	19.3	19.21	19.12

Note:

1) Division Factors

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

1 TX- slot = 1 transmit time slot out of 8 time slots

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

2 TX- slot = 2 transmit time slots out of 8 time slots

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

2) Average power numbers

The maximum power numbers are marks in bold.

7. Test Results

7.1. Dielectric Performance

Table 6: 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	/
	Measurement value 2010-11-22	42.96	0.91	21.8
1750MHz (head)	Target value ±5% window	40.1 38.10 — 42.11	1.37 1.30 — 1.44	/
	Measurement value 2010-11-22	40.87	1.34	21.9
1900MHz (head)	Target value ±5% window	40.00 38.00 — 42.00	1.40 1.33 — 1.47	/
	Measurement value 2010-11-22	40.39	1.40	21.9

Table 7: 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	/
	Measurement value 2010-11-23	56.62	0.96	21.9
	Measurement value 2011-2-28	53.84	0.95	21.8
1750MHz (body)	Target value ±5% window	53.4 50.73 — 56.07	1.49 1.42 — 1.56	/
	Measurement value 2010-11-23	52.12	1.47	21.8
1900MHz (body)	Target value ±5% window	53.30 50.64 — 55.97	1.52 1.44 — 1.60	/
	Measurement value 2010-11-22	51.92	1.53	21.7
	Measurement value 2011-2-28	53.18	1.53	21.8

7.2. System Check Results

Table 8: System Check for Head Tissue Simulating Liquid

Frequency	Description	SAR(W/kg)		Dielectric Parameters		Temp
		10g	1g	ε_r	σ(s/m)	℃
835MHz	Recommended result ±10% window	1.56 1.40 — 1.72	2.39 2.15 — 2.63	41.2	0.89	/
	Measurement value 2010-11-22	1.6	2.42	42.96	0.91	21.8
1750 MHz	Recommended result ±10% window	4.74 4.27 — 5.21	8.86 7.97 — 9.75	39.8	1.33	/
	Measurement value 2010-11-22	4.59	8.78	40.87	1.34	21.9
1900MHz	Recommended result ±10% window	5.22 4.70 — 5.74	10 9.00 — 11.00	39.5	1.44	/
	Measurement value 2010-11-22	5.34	10.3	40.39	1.40	21.9

Note: 1. The graph results see ANNEX B.

2. Recommended Values used derive from the calibration certificate and 250 mW is used as feeding power to the calibrated dipole.

Table 9: System Check for Body Tissue Simulating Liquid

Frequency	Description	SAR(W/kg)		Dielectric Parameters		Temp
		10g	1g	ε_r	σ(s/m)	℃
835MHz	Recommended result ±10% window	1.63 1.47 — 1.79	2.49 2.24 — 2.74	54.6	0.98	/
	Measurement value 2010-11-23	1.65	2.52	56.62	0.96	21.9
	Measurement value 2011-2-28	1.64	2.51	53.84	0.95	21.8
1750MHz	Recommended result ±10% window	5.11 4.60 — 5.62	9.37 8.43 — 10.31	54.1	1.43	/
	Measurement value 2010-11-23	4.98	9.31	52.12	1.47	21.8
1900 MHz	Recommended result ±10% window	5.52 4.97 — 6.07	10.3 9.27 — 11.33	53.5	1.54	/
	Measurement value 2010-11-22	5.34	10.18	51.92	1.53	21.7
	Measurement value 2011-2-28	5.33	10.17	53.18	1.53	21.8

Note: 1. The graph results see ANNEX B.

2. Target Values used derive from the calibration certificate and 250 mW is used as feeding power to the Calibrated dipole.

7.3. Summary of Measurement Results

7.3.1. GSM 850 (GPRS/EGPRS)

Table 10: 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(Open)					
Left hand, Touch cheek	Middle/190	0.217	0.294	-0.180	Figure 15
Left hand, Tilt 15 Degree	Middle/190	0.146	0.197	-0.075	Figure 16
Right hand, Touch cheek	High/251	0.220	0.297	-0.028	Figure 17
	Middle/190	0.221	0.298	-0.003	Figure 18
	Low/128	0.208	0.279	-0.186	Figure 19
Right hand, Tilt 15 Degree	Middle/190	0.146	0.197	-0.106	Figure 20
Test Position of Head(Close)					
Left hand, Touch cheek	Middle/190	0.144	0.197	0.119	Figure 21
Left hand, Tilt 15 Degree	Middle/190	0.111	0.149	0.027	Figure 22
Right hand, Touch cheek	Middle/190	0.139	0.182	-0.022	Figure 23
Right hand, Tilt 15 Degree	Middle/190	0.114	0.163	-0.067	Figure 24
Test position of Body with GPRS (Close, 2TXslots, Distance 15mm)					
Towards Ground	Middle/190	0.492	0.712	-0.099	Figure 25
Test position of Body with GPRS (Open, 2TXslots, Distance 15mm)					
Towards Ground	High/251	0.586	0.799	-0.192	Figure 26
	Middle/190	0.654	0.893	-0.087	Figure 27
	Low/128	0.734	1.000	-0.091	Figure 28
Towards Phantom	Middle/190	0.431	0.581	0.011	Figure 29
Test Position of Body (Open, GSM, Distance 15mm)					
Towards Ground	Middle/190	0.375	0.527	-0.042	Figure 30
Worst Case Position of Body with Earphone (Open, GSM, Distance 15mm)					
Towards Ground	Low /128	0.290	0.403	-0.029	Figure 31
Worst Case Position of Body with EGPRS (Open, GMSK, 2TXslots, Distance 15mm)					
Towards Ground	Low /128	0.752	1.030	-0.051	Figure 32

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

2. Upper and lower frequencies were measured at the worst position.

3. The SAR test shall be performed at the high, middle and low frequency channels of each

operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8W/kg), testing at the high and low channels is optional.

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

Table 11: Extrapolated SAR Values of highest measured SAR [GSM 850 (GPRS/EGPRS)]

Limit of SAR		Conducted Power	1g Average 1.6 W/kg	Tune-up procedures MAX Power(dBm)	1g Average 1.6 W/kg
Test Case		Measurement Result (dBm)	Measurement Result (W/kg)		Extrapolated Result (W/kg)
Test Position	Channel				
GSM					
Towards Ground	Middle/190	33.04	0.527	33.8	0.628
GPRS (2TXslots)					
Towards Ground	Low /128	31.11	1.000	31.8	1.172
EGPRS (2TXslots)					
Towards Ground	Low /128	31.38	1.030	31.8	1.135

7.3.2. GSM 1900 (GPRS/EGPRS)

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

Limit of SAR		10 g Average	1 g Average	Power Drift	Graph Results
		2.0 W/kg	1.6 W/kg	± 0.21 dB	
Different Test Position	Channel	Measurement Result(W/kg)		Power Drift (dB)	
		10 g Average	1 g Average		
Test Position of Head(Open)					
Left hand, Touch cheek	Middle/661	0.232	0.354	0.018	Figure 33
Left hand, Tilt 15 Degree	Middle/661	0.177	0.281	-0.121	Figure 34
Right hand, Touch cheek	High/810	0.308	0.505	0.001	Figure 35
	Middle/661	0.082	0.439	-0.180	Figure 36
	Low/512	0.319	0.493	0.030	Figure 37
Right hand, Tilt 15 Degree	Middle/661	0.174	0.277	-0.163	Figure 38
Test Position of Head(Close)					
Left hand, Touch cheek	Middle/661	0.120	0.182	0.043	Figure 39
Left hand, Tilt 15 Degree	Middle/661	0.052	0.086	-0.073	Figure 40
Right hand, Touch cheek	Middle/661	0.159	0.266	-0.193	Figure 41
Right hand, Tilt 15 Degree	Middle/661	0.058	0.091	-0.196	Figure 42
Test position of Body with GPRS (Open, 2TXslots, Distance 15mm)					
Towards Ground	Middle/661	0.122	0.191	-0.028	Figure 43
Test position of Body with GPRS (Close, 2TXslots, Distance 15mm)					
Towards Ground	High/810	0.219	0.412	-0.114	Figure 44
	Middle/661	0.194	0.359	-0.113	Figure 45
	Low/512	0.203	0.393	0.105	Figure 46
Towards Phantom	Middle/661	0.052	0.082	-0.028	Figure 47
Test Position of Body (Close, Distance 15mm)					
Towards Ground	Middle/661	0.112	0.212	0.039	Figure 48
Worst Case Position of Body with Earphone (Close, GSM, Distance 15mm)					
Towards Ground	High/810	0.107	0.202	0.113	Figure 49
Worst Case Position of Body with EGPRS (Open, GMSK, 2TXslots, Distance 15mm)					
Towards Ground	High/810	0.216	0.393	-0.050	Figure 50

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

2. Upper and lower frequencies were measured at the worst position.

3. The SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at

least 3.0 dB lower than the SAR limit (< 0.8W/kg), testing at the high and low channels is optional.

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

Table 13: Extrapolated SAR Values of highest measured SAR [GSM 1900 (GPRS/EGPRS)]

Limit of SAR		Conducted Power	1g Average	Tune-up procedures MAX Power(dBm)	1g Average
			1.6 W/kg		1.6 W/kg
Test Case		Measurement Result (dBm)	Measurement Result (W/kg)		Extrapolated Result (W/kg)
Test Position	Channel				
GSM					
Right hand, Touch cheek	High/810	30.18	0.505	30.8	0.582
GPRS (2TXslots)					
Towards Ground	High/810	28.13	0.412	28.8	0.481
EGPRS (2TXslots)					
Towards Ground	High/810	28.24	0.393	28.8	0.447

7.3.3. WCDMA Band II (WCDMA/HSDPA/HSUPA)

Table 14: SAR Values [WCDMA Band II (WCDMA/HSDPA/HSUPA)]

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(Open)					
Left Hand, Touch Cheek	Middle/9400	0.506	0.775	0.087	Figure 51
Left Hand, Tilt 15 Degree	Middle/9400	0.335	0.535	-0.037	Figure 52
Right Hand, Touch Cheek	High/9538	0.779	1.290	-0.052	Figure 53
	Middle/9400	0.558	0.878	-0.127	Figure 54
	Low/9262	0.560	0.875	-0.024	Figure 55
Right Hand, Tilt 15 Degree	Middle/9400	0.315	0.499	-0.074	Figure 56
Test Position of Head(Close)					
Left Hand, Touch Cheek	Middle/9400	0.308	0.465	0.045	Figure 57
Left Hand, Tilt 15 Degree	Middle/9400	0.161	0.254	0.082	Figure 58
Right Hand, Touch Cheek	Middle/9400	0.368	0.612	-0.085	Figure 59
Right Hand, Tilt 15 Degree	Middle/9400	0.254	0.406	0.076	Figure 60
Test Position of Body (Open, Distance 15mm)					
Towards Ground	Middle/9400	0.152	0.239	-0.039	Figure 61
Test Position of Body (Close, Distance 15mm)					
Towards Ground	High/9538	0.326	0.611	-0.026	Figure 62
	Middle/9400	0.312	0.593	-0.189	Figure 63
	Low/9262	0.301	0.566	0.185	Figure 64
Towards Phantom	Middle/9400	0.104	0.164	0.048	Figure 65
Worst Case Position of Body with Earphone (Close, Distance 15mm)					
Towards Ground	High/9538	0.290	0.553	-0.042	Figure 66

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

2. Upper and lower frequencies were measured at the worst position.
3. The SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8W/kg), testing at the high and low channels is optional.

Table 15: Extrapolated SAR Values of highest measured SAR [WCDMA Band II (WCDMA/HSDPA/HSUPA)]

Limit of SAR		Conducted Power	1g Average 1.6 W/kg	Tune-up procedures MAX Power(dBm)	1g Average 1.6 W/kg
Test Case		Measurement Result (dBm)	Measurement Result (W/kg)		Extrapolated Result (W/kg)
Test Position	Channel				
Right Hand, Touch Cheek	High/9538	23.04	1.290	23.80	1.537

7.3.4. WCDMA Band IV (WCDMA/HSDPA/HSUPA)

Table 16: SAR Values [WCDMA Band IV (WCDMA/HSDPA/HSUPA)]

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(Open)					
Left Hand, Touch Cheek	Middle/1413	0.196	0.298	0.036	Figure 67
Left Hand, Tilt 15 Degree	Middle/1413	0.144	0.219	-0.020	Figure 68
Right Hand, Touch Cheek	High/1513	0.227	0.356	0.048	Figure 69
	Middle/1413	0.209	0.329	0.036	Figure 70
	Low/1312	0.281	0.440	0.019	Figure 71
Right Hand, Tilt 15 Degree	Middle/1413	0.132	0.202	-0.056	Figure 72
Test Position of Head(Close)					
Left Hand, Touch Cheek	Middle/1413	0.152	0.227	-0.038	Figure 73
Left Hand, Tilt 15 Degree	Middle/1413	0.096	0.142	0.125	Figure 74
Right Hand, Touch Cheek	Middle/1413	0.186	0.309	0.029	Figure 75
Right Hand, Tilt 15 Degree	Middle/1413	0.088	0.131	-0.026	Figure 76
Test Position of Body (Close, Distance 15mm)					
Towards Ground	Middle/1413	0.122	0.224	0.043	Figure 77
Test Position of Body (Open, Distance 15mm)					
Towards Ground	High/1513	0.162	0.251	-0.090	Figure 78
	Middle/1413	0.153	0.237	0.016	Figure 79
	Low/1312	0.224	0.344	-0.078	Figure 80
Towards Phantom	Middle	0.140	0.212	0.019	Figure 81
Worst Case Position of Body with Earphone (Open, Distance 15mm)					
Towards Ground	Low/1312	0.182	0.284	-0.090	Figure 82

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

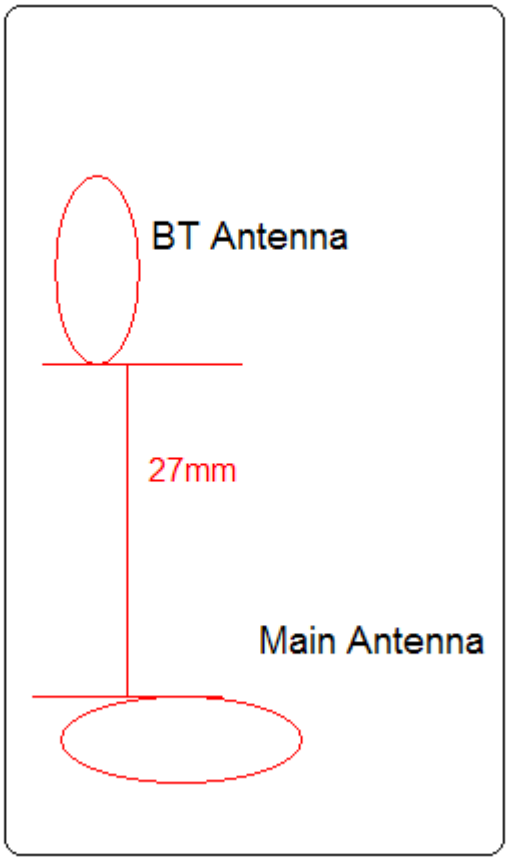
2. Upper and lower frequencies were measured at the worst position.
3. The SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit (< 0.8W/kg), testing at the high and low channels is optional.

Table 17: Extrapolated SAR Values of highest measured SAR [WCDMA Band IV(WCDMA/HSDPA/HSUPA)]

Limit of SAR		Conducted Power	1g Average 1.6 W/kg	Tune-up procedures MAX Power(dBm)	1g Average 1.6 W/kg
Test Case		Measurement Result (dBm)	Measurement Result (W/kg)		Extrapolated Result (W/kg)
Test Position	Channel				
Right Hand, Touch Cheek	Low/1312	23.06	0.440	23.80	0.522

7.3.5. Bluetooth Function

The distance between BT antenna and main antenna is <5cm and >2.5cm. The location of the antennas inside mobile phone is shown below (refer to Annex I):



The output power of BT antenna is as following:

Channel	Ch 0 2402 MHz	Ch 39 2441 Mhz	Ch 78 2480 MHz
Conducted Output Power(dBm)	7.2	7.7	7.4

Stand-alone SAR

According to the output power measurement result and the distance between BT antenna and main antenna we can draw the conclusion that:

stand-alone SAR are not required for BT, because the output power of BT transmitter is $\leqslant P_{Ref}$ and its antenna is <5cm and >2.5cm from other antenna.

Simultaneous SAR

About BT and GSM/WCDMA, its antenna is <5cm and >2.5cm from other antenna, $SAR_{MAX.GSM/WCDMA}$ + $SAR_{MAX.BT}$<1.6, so Simultaneous SAR are not required for BT and GSM/WCDMA.

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	5.9	N	1	1	5.9	∞
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	5
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	5.0	N	1	0.64	3.2	∞
23	-liquid permittivity (deviation from target)	B	5.0	R	$\sqrt{3}$	0.6	1.7	∞
24	-liquid permittivity (measurement uncertainty)	B	5.0	N	1	0.6	3.0	∞
Combined standard uncertainty		$u_c^{'} = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$					12.0	
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$		N		k=2	24.0	

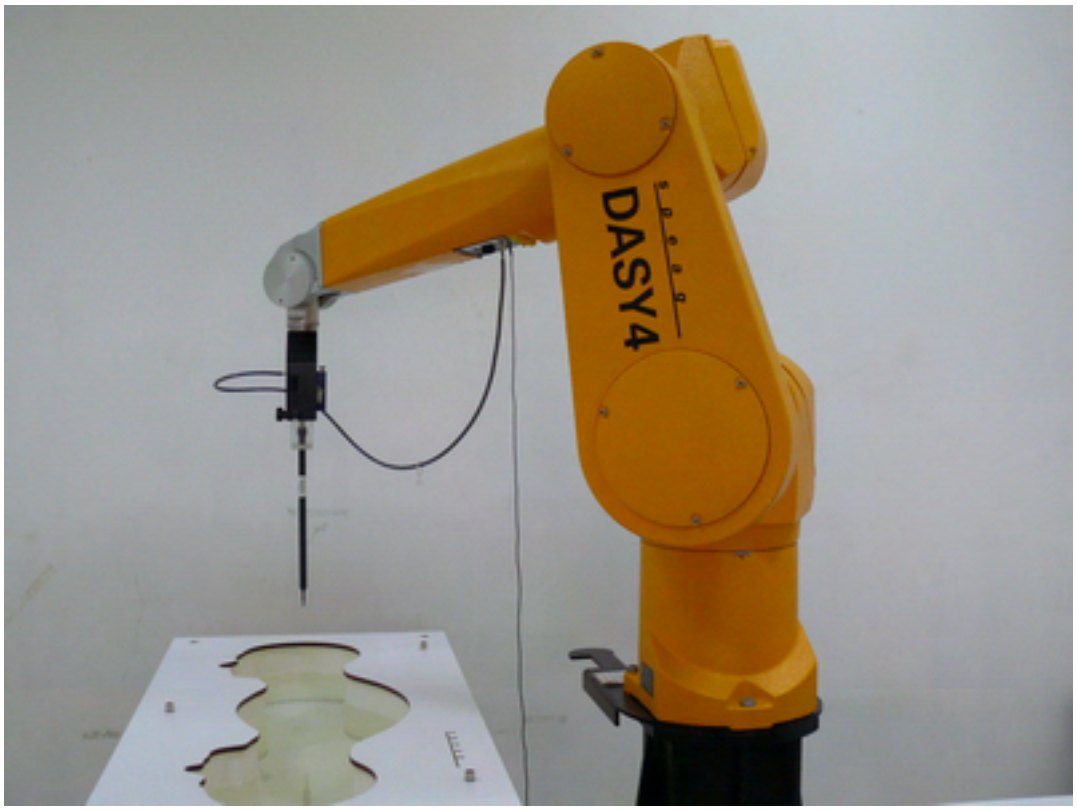
9. Main Test Instruments

Table 18: List of Main Instruments

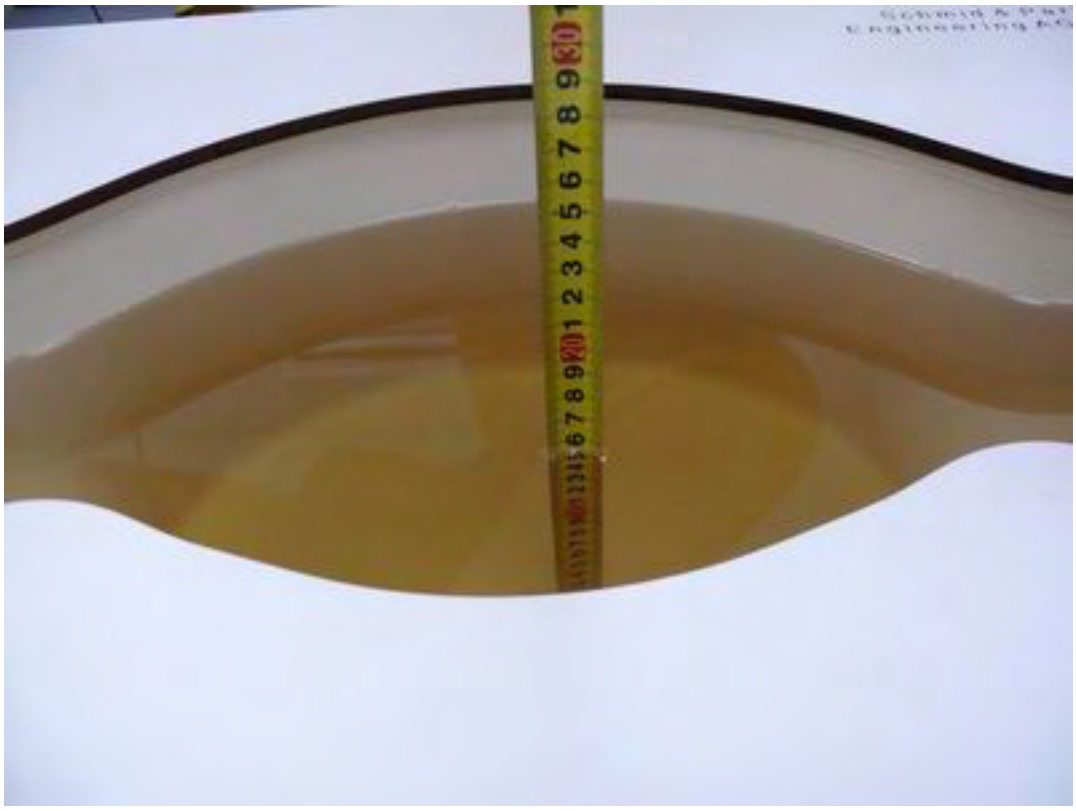
No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	Agilent 8753E	US37390326	September 13, 2010	One year
02	Dielectric Probe Kit	Agilent 85070E	US44020115	No Calibration Requested	
03	Power meter	Agilent E4417A	GB41291714	March 13, 2010	One year
04	Power sensor	Agilent N8481H	MY50350004	September 26, 2010	One year
05	Signal Generator	HP 8341B	2730A00804	September 13, 2010	One year
06	Amplifier	IXA-020	0401	No Calibration Requested	
07	BTS	E5515C	MY48360988	December 4, 2009	One year
08	BTS	E5515C	MY48360988	December 3, 2010	One year
09	E-field Probe	EX3DV4	3661	December 30, 2009	One year
10	E-field Probe	EX3DV4	3677	November 24, 2010	One year
11	DAE	DAE4	679	June 18, 2010	One year
12	Validation Kit 835MHz	D835V2	4d092	January 14, 2010	Two year
13	Validation Kit 1750MHz	D1750V2	1033	May 17, 2010	Two year
14	Validation Kit 1900MHz	D1900V2	5d018	June 15, 2010	Two year

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

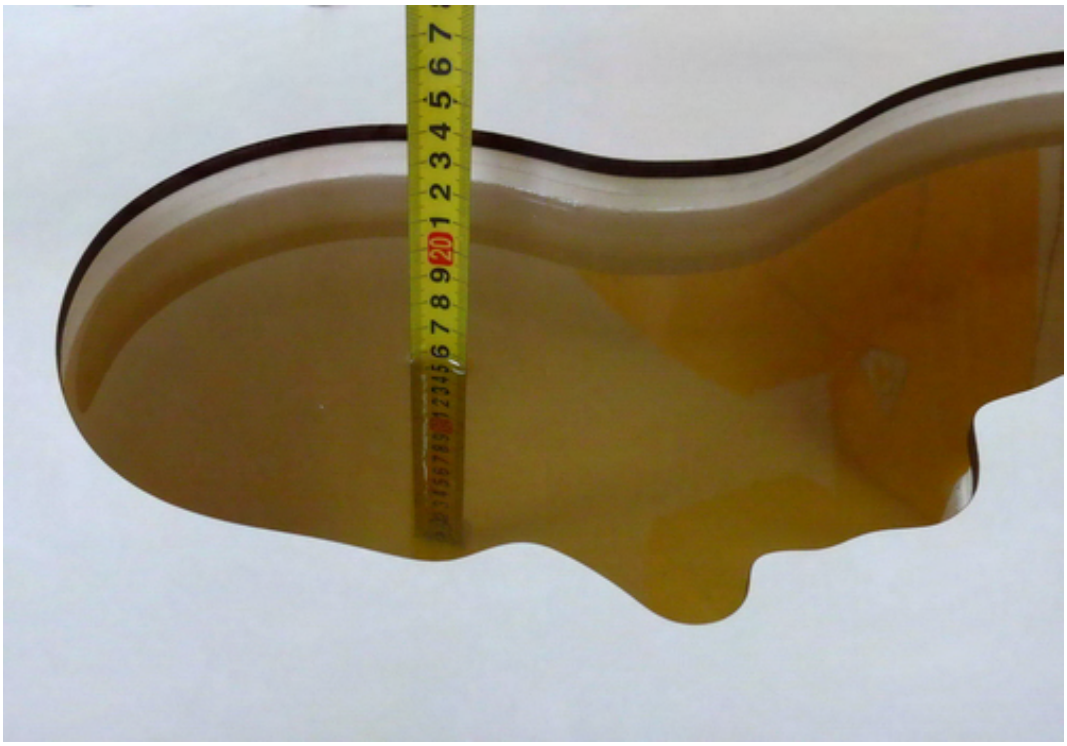
ANNEX A: Test Layout



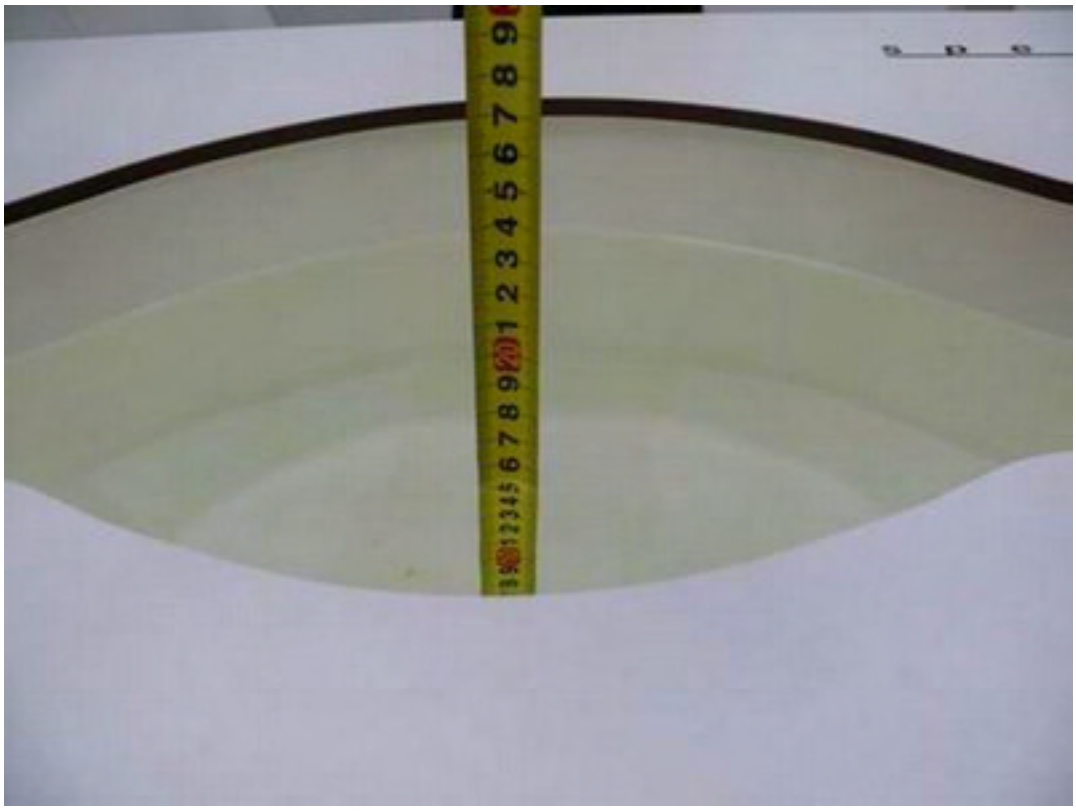
Picture 1: Specific Absorption Rate Test Layout



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

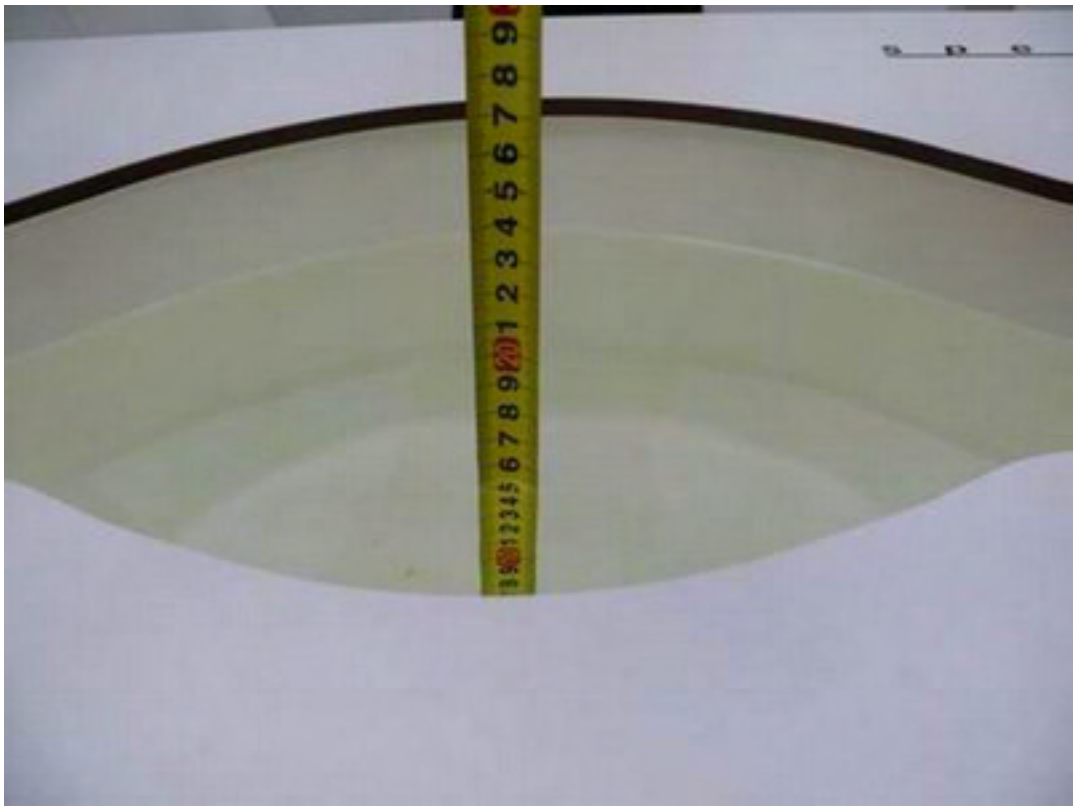


Picture 3: Liquid depth in the head Phantom (835MHz, 15.3cm depth)



Picture 4: Liquid depth in the Flat Phantom (1750 MHz, 15.2cm 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)

ANNEX B: System Check Results

System Performance Check at 835 MHz Head TSL

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d092

Date/Time: 11/22/2010 12:50:13 AM

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

Medium parameters used: f = 835 MHz; σ = 0.91 mho/m; ε_r = 42.96; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.8℃

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3661; ConvF(9.34, 9.34, 9.34); Calibrated: 12/30/2009

Electronics: DAE4 Sn679; Calibrated: 6/18/2010

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

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

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

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

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

Reference Value = 51.1 V/m; Power Drift = -0.037 dB

Peak SAR (extrapolated) = 3.54 W/kg

SAR(1 g) = 2.42 mW/g; SAR(10 g) = 1.6 mW/g

Maximum value of SAR (measured) = 2.61 mW/g

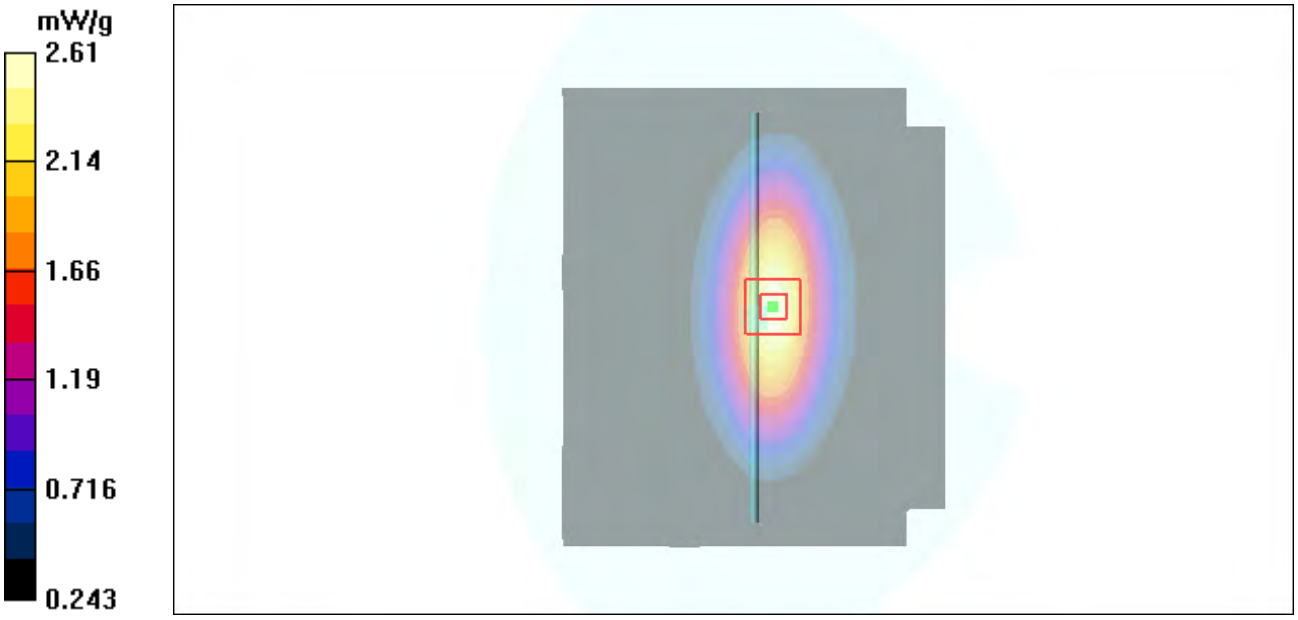


Figure 7 System Performance Check 835MHz 250mW

System Performance Check at 835 MHz Body TSL

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d092

Date/Time: 11/23/2010 1:36:20 PM

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

Medium parameters used: f = 835 MHz; σ = 0.96 mho/m; ε_r = 56.62; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.9℃

DASY4 Configuration:

Probe: EX3DV4 - SN3661; ConvF(9.24, 9.24, 9.24); Calibrated: 12/30/2009

Electronics: DAE4 Sn679; Calibrated: 6/18/2010

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

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

d=15mm, Pin=250mW/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.72 mW/g

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

Reference Value = 50.9 V/m; Power Drift = 0.023 dB

Peak SAR (extrapolated) = 3.63 W/kg

SAR(1 g) = 2.52 mW/g; SAR(10 g) = 1.65 mW/g

Maximum value of SAR (measured) = 2.73 mW/g

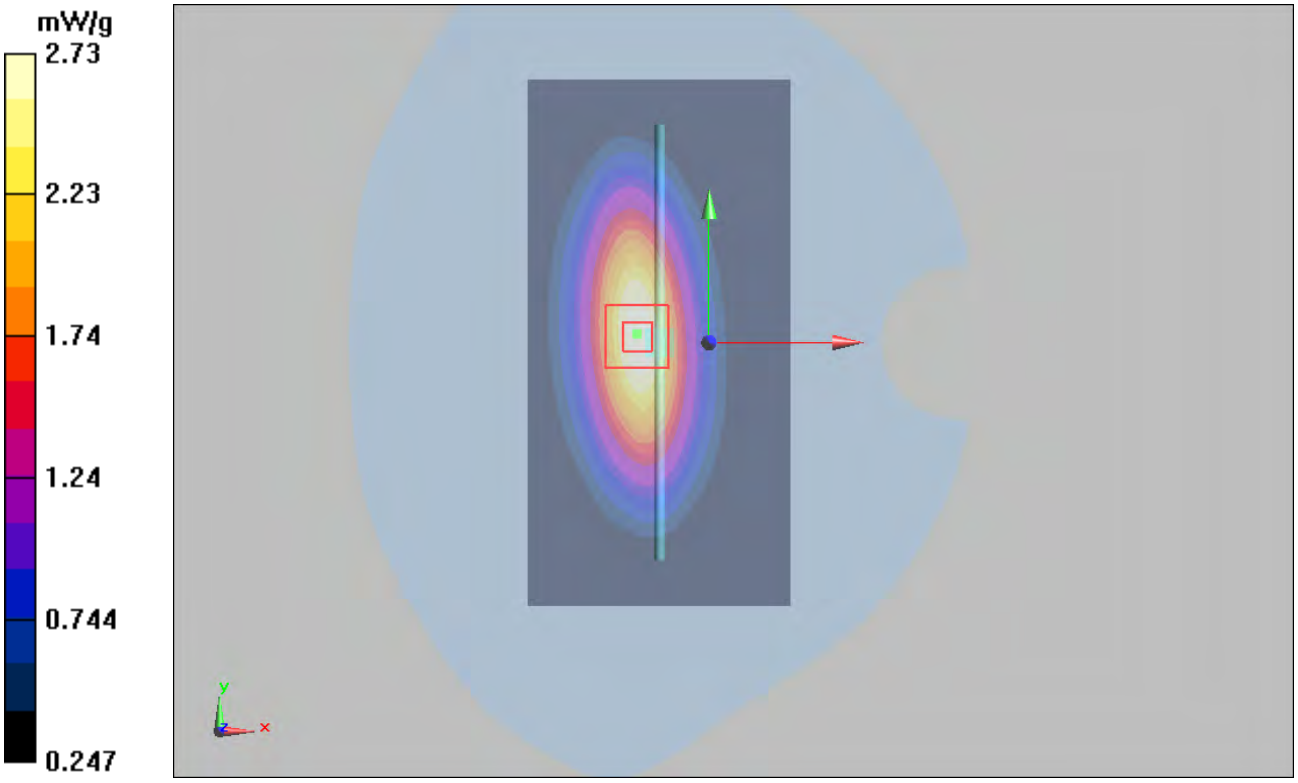


Figure 8 System Performance Check 835MHz 250mW

System Performance Check at 835 MHz Body TSL

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d092

Date/Time: 2/28/2011 9:36:20 AM

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

Medium parameters used: f = 835 MHz; σ = 0.95 mho/m; ε_r = 53.84; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.8℃

DASY4 Configuration:

Probe: EX3DV4 - SN3677; ConvF(10.33, 10.33, 10.33); Calibrated: 11/24/2010

Electronics: DAE4 Sn679; Calibrated: 6/18/2010

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

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

d=15mm, Pin=250mW/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.72 mW/g

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

Reference Value = 51.5 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 3.60 W/kg

SAR(1 g) = 2.51 mW/g; SAR(10 g) = 1.64 mW/g

Maximum value of SAR (measured) = 2.74 mW/g

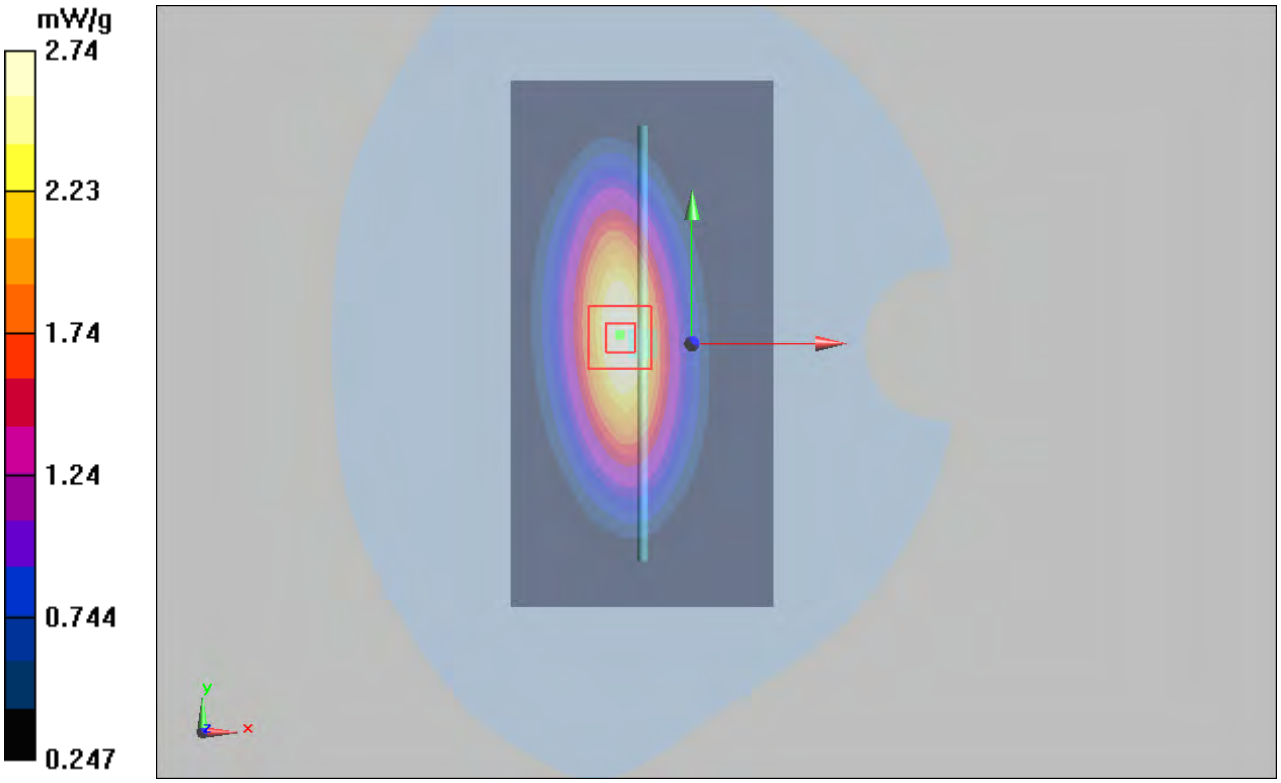


Figure 9 System Performance Check 835MHz 250mW

System Performance Check at 1750 MHz Head TSL

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

Date/Time: 11/22/2010 11:08:30 PM

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

Medium parameters used: f = 1750 MHz; σ = 1.34 mho/m; ε_r = 40.87; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.9℃

DASY4 Configuration:

Probe: EX3DV4 - SN3661; ConvF(8.19, 8.19, 8.19); Calibrated: 12/30/2009

Electronics: DAE4 Sn679; Calibrated: 6/18/2010

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 (51x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 9.96 mW/g

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

Reference Value = 78.7 V/m; Power Drift = 0.084 dB

Peak SAR (extrapolated) = 16.6 W/kg

SAR(1 g) = 8.78 mW/g; SAR(10 g) = 4.59 mW/g

Maximum value of SAR (measured) = 9.83 mW/g

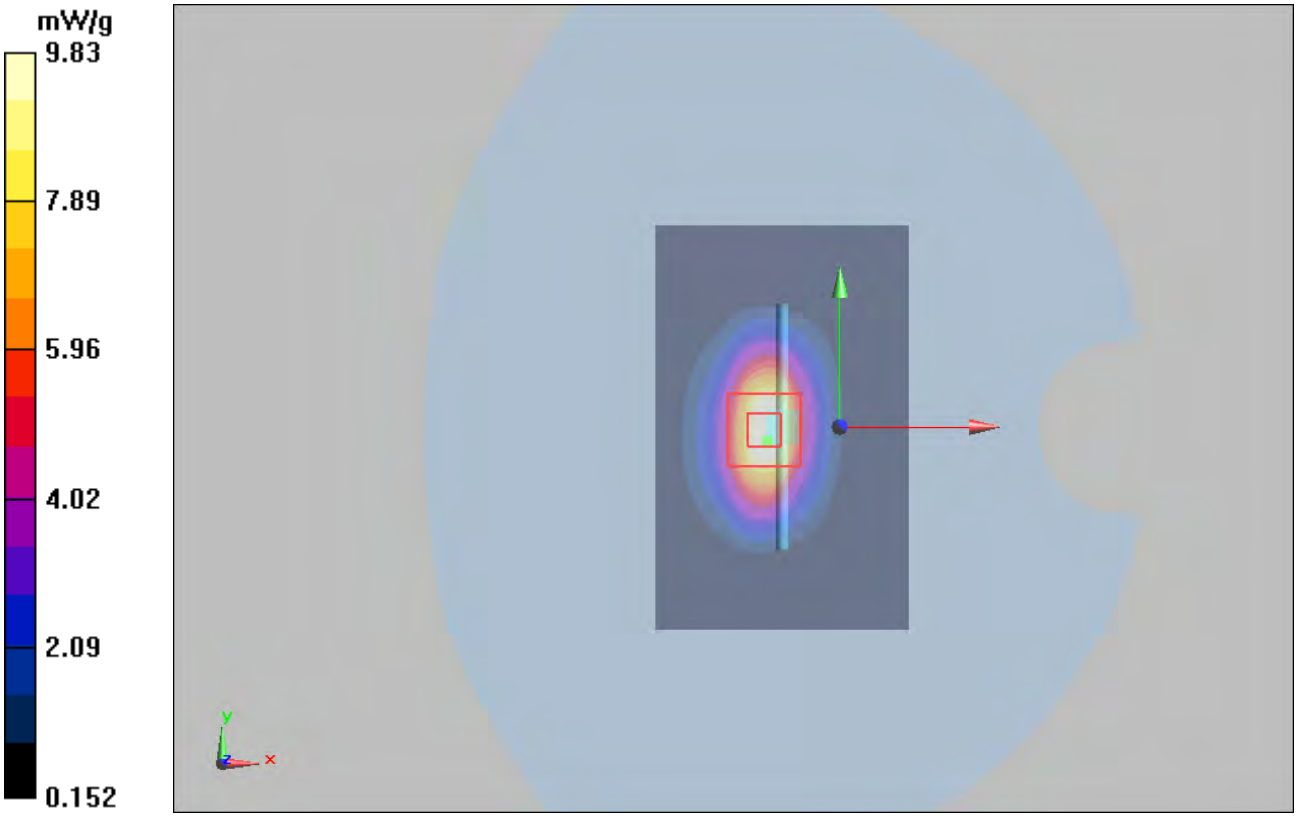


Figure 10 System Performance Check 1750MHz 250mW

System Performance Check at 1750 MHz Body TSL

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

Date/Time: 11/23/2010 12:06:41 PM

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

Medium parameters used: f = 1750 MHz; σ = 1.47 mho/m; ε_r = 52.12; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.8℃

DASY4 Configuration:

Probe: EX3DV4 - SN3661; ConvF(7.93, 7.93, 7.93); Calibrated: 12/30/2009

Electronics: DAE4 Sn679; Calibrated: 6/18/2010

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 (51x81x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 76.7 V/m; Power Drift = 0.102 dB

Peak SAR (extrapolated) = 16.7 W/kg

SAR(1 g) = 9.31 mW/g; SAR(10 g) = 4.98 mW/g

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

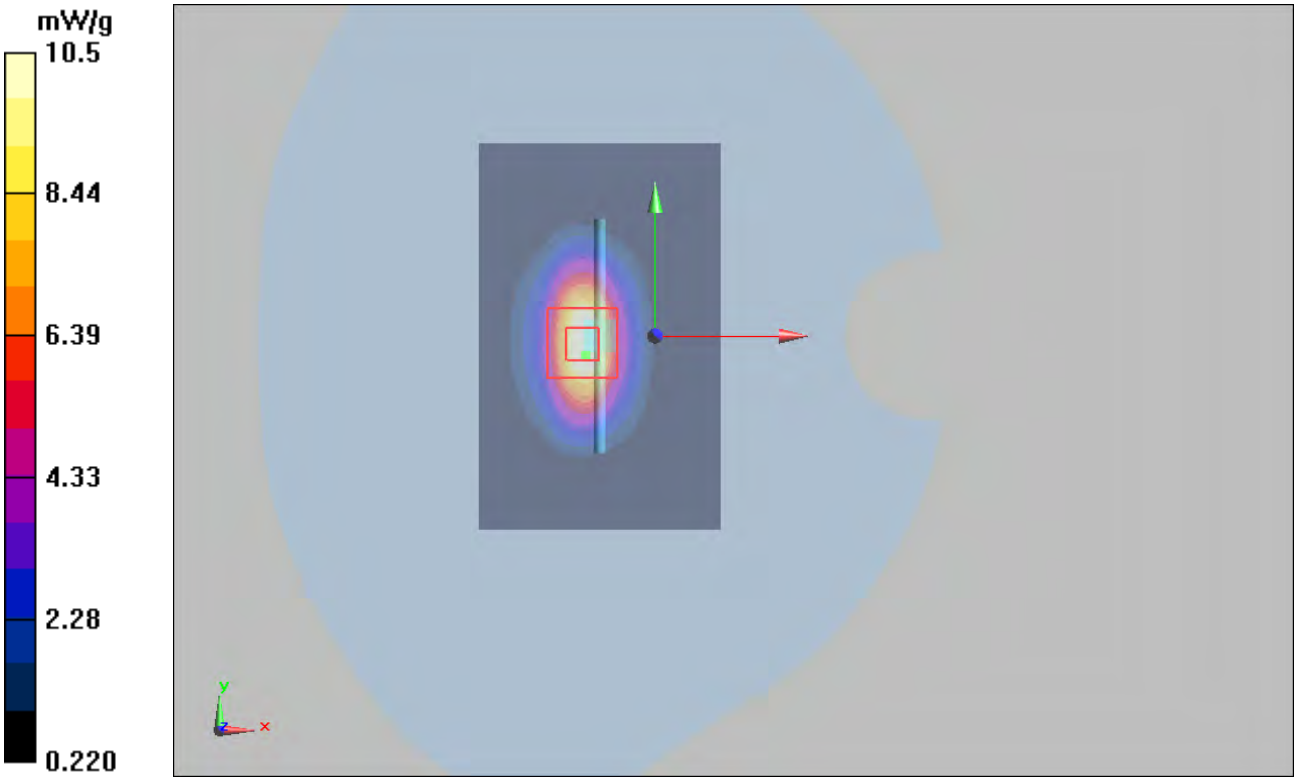


Figure 11 System Performance Check 1750MHz 250mW

System Performance Check at 1900 MHz Head TSL

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d018

Date/Time: 11/22/2010 9:20:34 AM

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

Medium parameters used: f = 1900 MHz; σ = 1.40 mho/m; ε_r = 40.39; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.9℃

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009

Electronics: DAE4 Sn679; Calibrated: 6/18/2010

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 (51x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 12.7 mW/g

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

Reference Value = 81.0 V/m; Power Drift = -0.068 dB

Peak SAR (extrapolated) = 18.9 W/kg

SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.34 mW/g

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

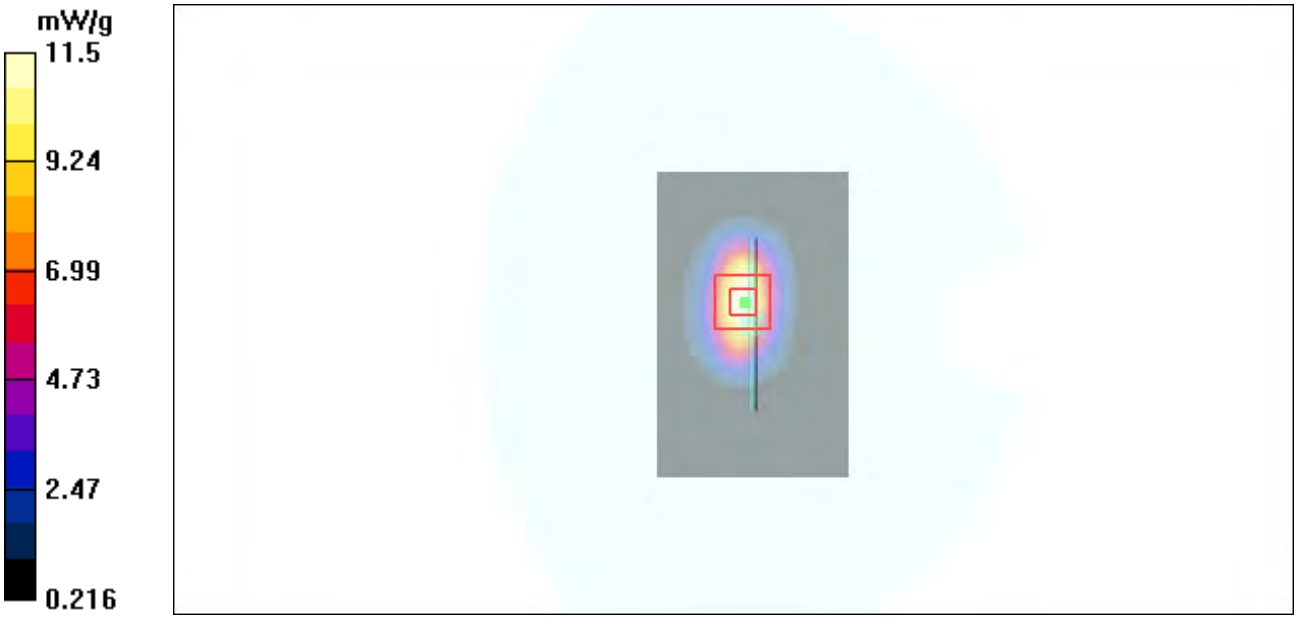


Figure 12 System Performance Check 1900MHz 250mW

System Performance Check at 1900 MHz Body TSL

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d018

Date/Time: 11/22/2010 7:50:19 AM

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

Medium parameters used: f = 1900 MHz; σ = 1.53 mho/m; ε_r = 51.92; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.7℃

DASY4 Configuration:

Probe: EX3DV4 - SN3661; ConvF(7.60, 7.60, 7.60); Calibrated: 12/30/2009

Electronics: DAE4 Sn679; Calibrated: 6/18/2010

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) = 11.9 mW/g

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

Reference Value = 80.8 V/m; Power Drift = -0.063 dB

Peak SAR (extrapolated) = 17.6 W/kg

SAR(1 g) = 10.18 mW/g; SAR(10 g) = 5.34 mW/g

Maximum value of SAR (measured) = 11 mW/g

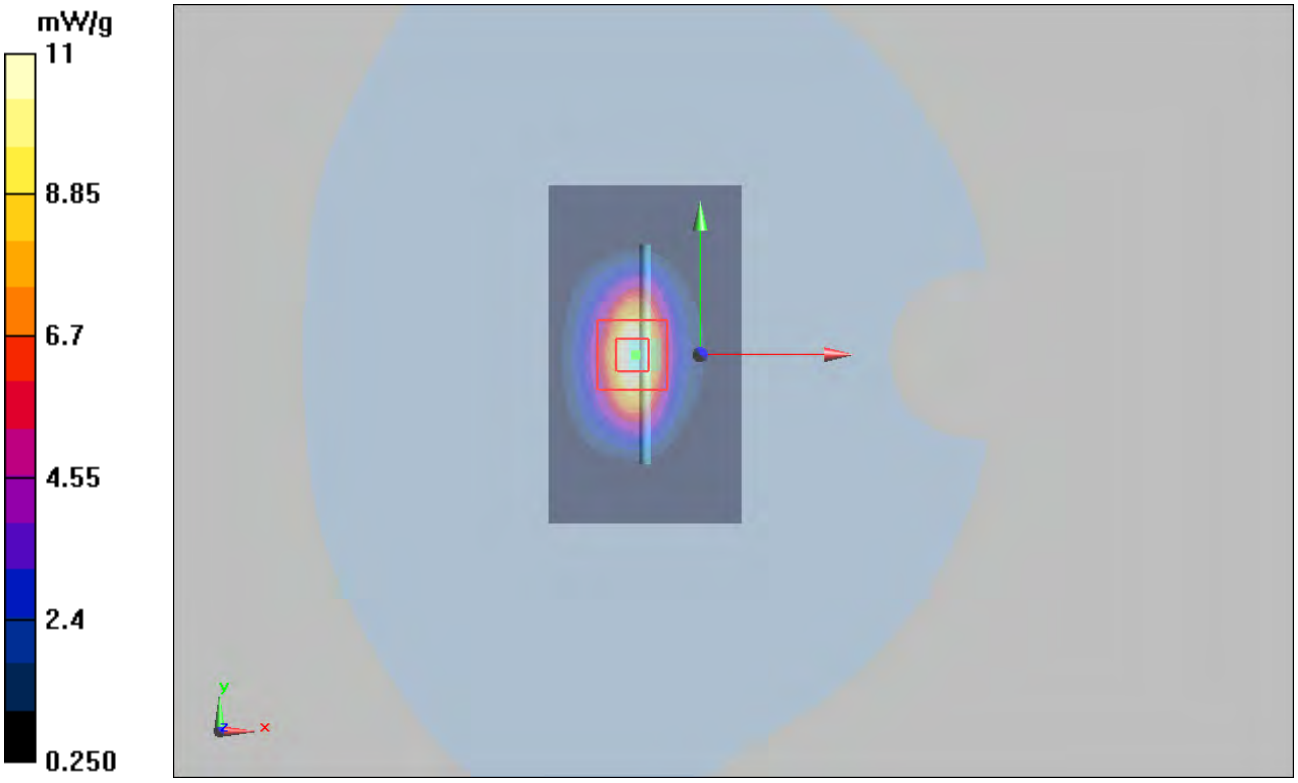


Figure 13 System Performance Check 1900MHz 250Mw

System Performance Check at 1900 MHz Body TSL

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d018

Date/Time: 2/28/2011 10:50:19 AM

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

Medium parameters used: f = 1900 MHz; σ = 1.53 mho/m; ε_r = 53.18; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.8℃

DASY4 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.70, 7.70, 7.70); Calibrated: 11/24/2010

Electronics: DAE4 Sn679; Calibrated: 6/18/2010

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) = 11.8 mW/g

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

Reference Value = 80.7 V/m; Power Drift = -0.062 dB

Peak SAR (extrapolated) = 17.5 W/kg

SAR(1 g) = 10.17 mW/g; SAR(10 g) = 5.33 mW/g

Maximum value of SAR (measured) = 11.4 mW/g

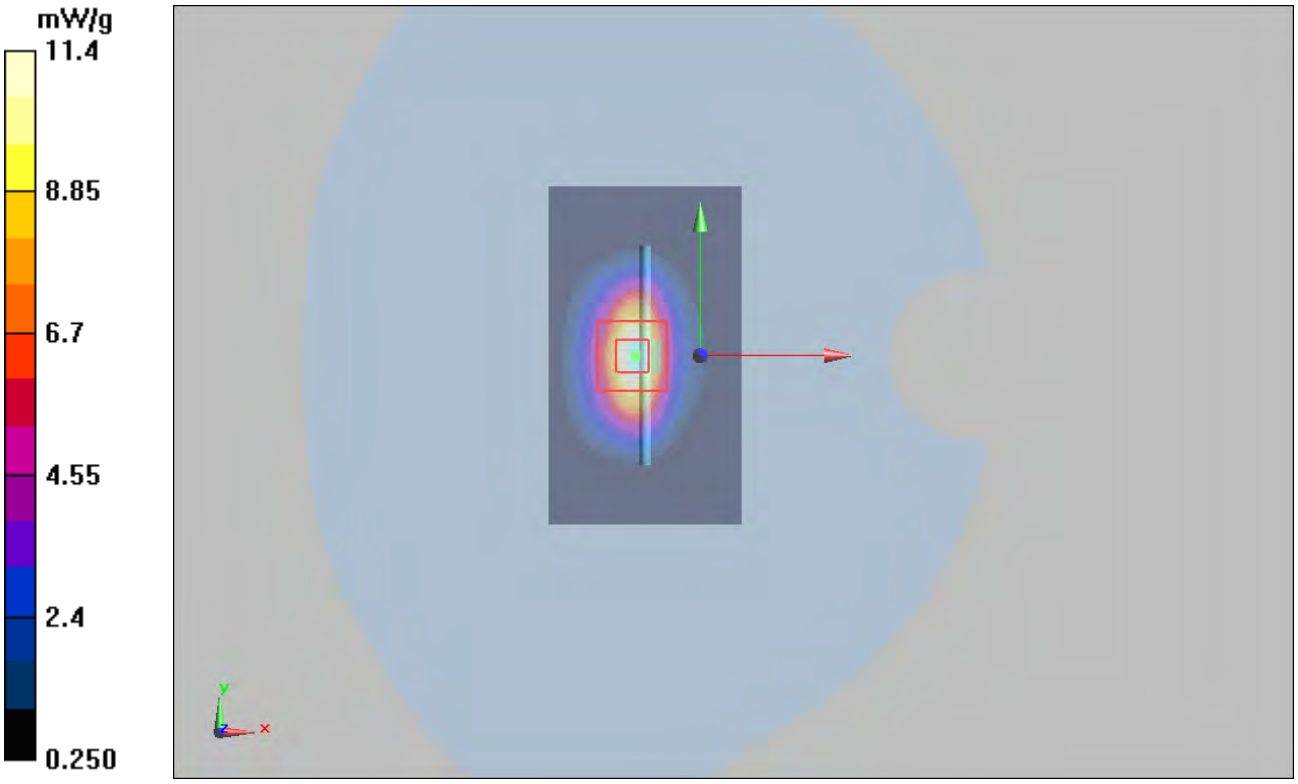


Figure 14 System Performance Check 1900MHz 250mW

ANNEX C: Graph Results

GSM 850 Left Cheek Middle Open

Date/Time: 11/22/2010 4:05:28 AM
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.909 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(9.34, 9.34, 9.34); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.320 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.29 V/m; Power Drift = -0.180 dB
Peak SAR (extrapolated) = 0.367 W/kg
SAR(1 g) = 0.294 mW/g; SAR(10 g) = 0.217 mW/g
Maximum value of SAR (measured) = 0.313 mW/g

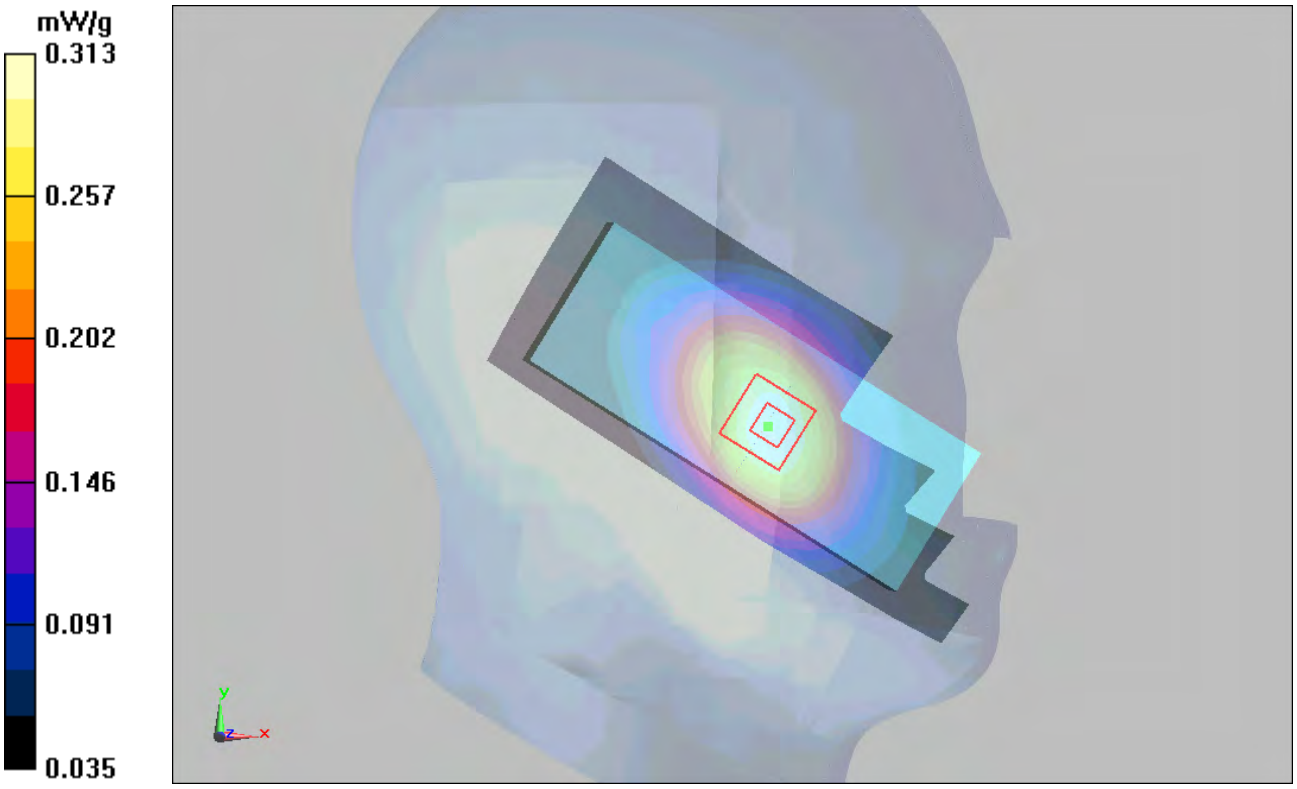


Figure 15 Left Hand Touch Cheek GSM 850 **Open** Channel 190

GSM 850 Left Tilt Middle Open

Date/Time: 11/22/2010 4:21:31 AM
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.909 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(9.34, 9.34, 9.34); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.207 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.3 V/m; Power Drift = -0.075 dB
Peak SAR (extrapolated) = 0.246 W/kg
SAR(1 g) = 0.197 mW/g; SAR(10 g) = 0.146 mW/g
Maximum value of SAR (measured) = 0.208 mW/g

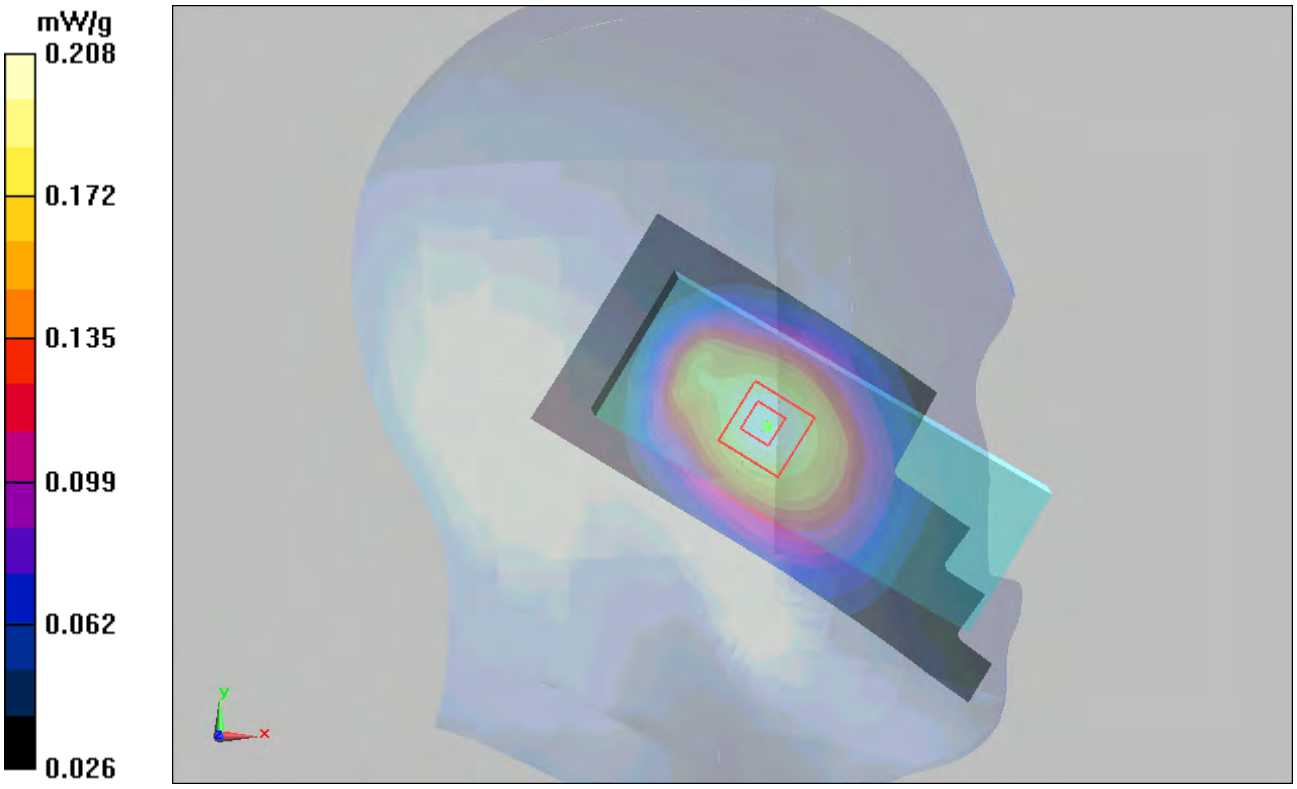


Figure 16 Left Hand Tilt 15° GSM 850 Open Channel 190

GSM 850 Right Cheek High Open

Date/Time: 11/22/2010 2:30:33 AM
Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.921 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(9.34, 9.34, 9.34); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek High/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.326 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.3 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.375 W/kg
SAR(1 g) = 0.297 mW/g; SAR(10 g) = 0.220 mW/g
Maximum value of SAR (measured) = 0.317 mW/g

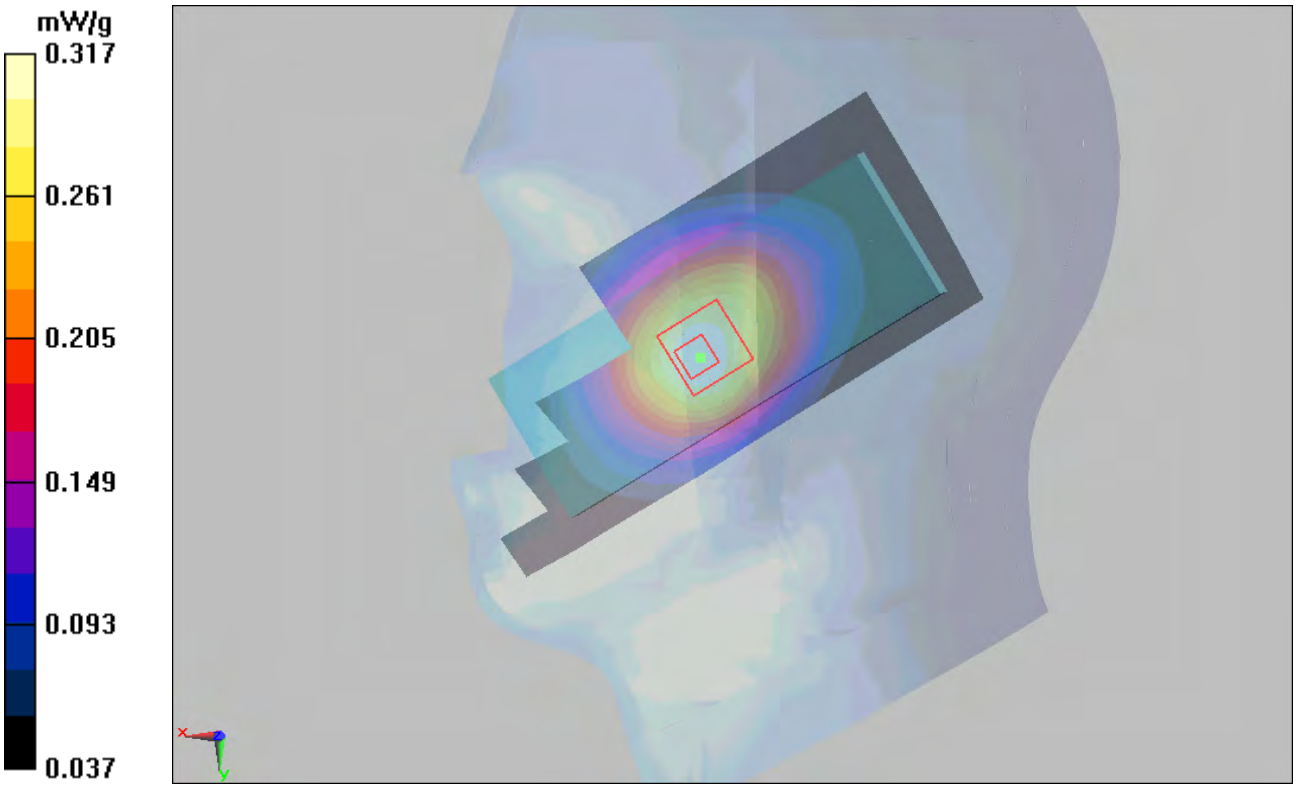


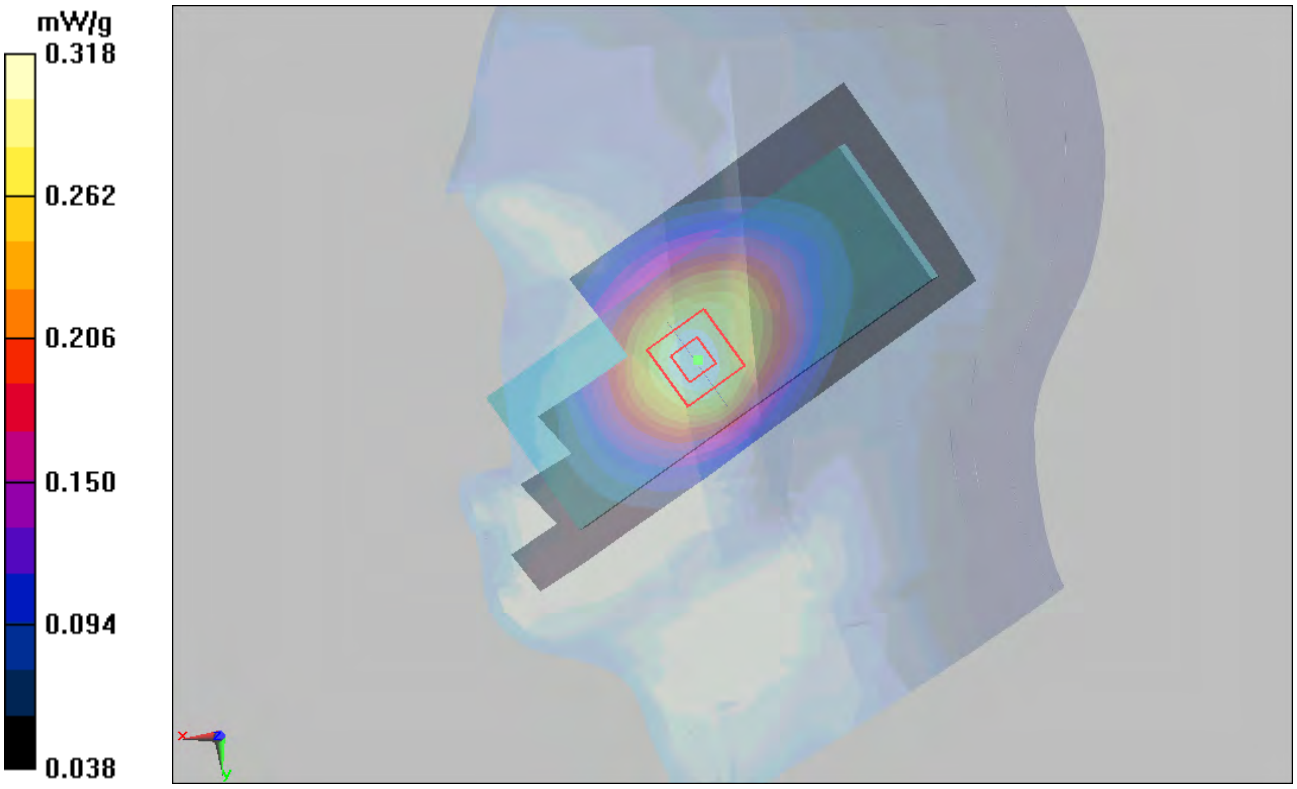
Figure 17 Right Hand Touch Cheek GSM 850 Open Channel 251

GSM 850 Right Cheek Middle Open

Date/Time: 11/22/2010 3:31:31 AM
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.909 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(9.34, 9.34, 9.34); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.325 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.46 V/m; Power Drift = -0.003 dB
Peak SAR (extrapolated) = 0.367 W/kg
SAR(1 g) = 0.298 mW/g; SAR(10 g) = 0.221 mW/g
Maximum value of SAR (measured) = 0.318 mW/g



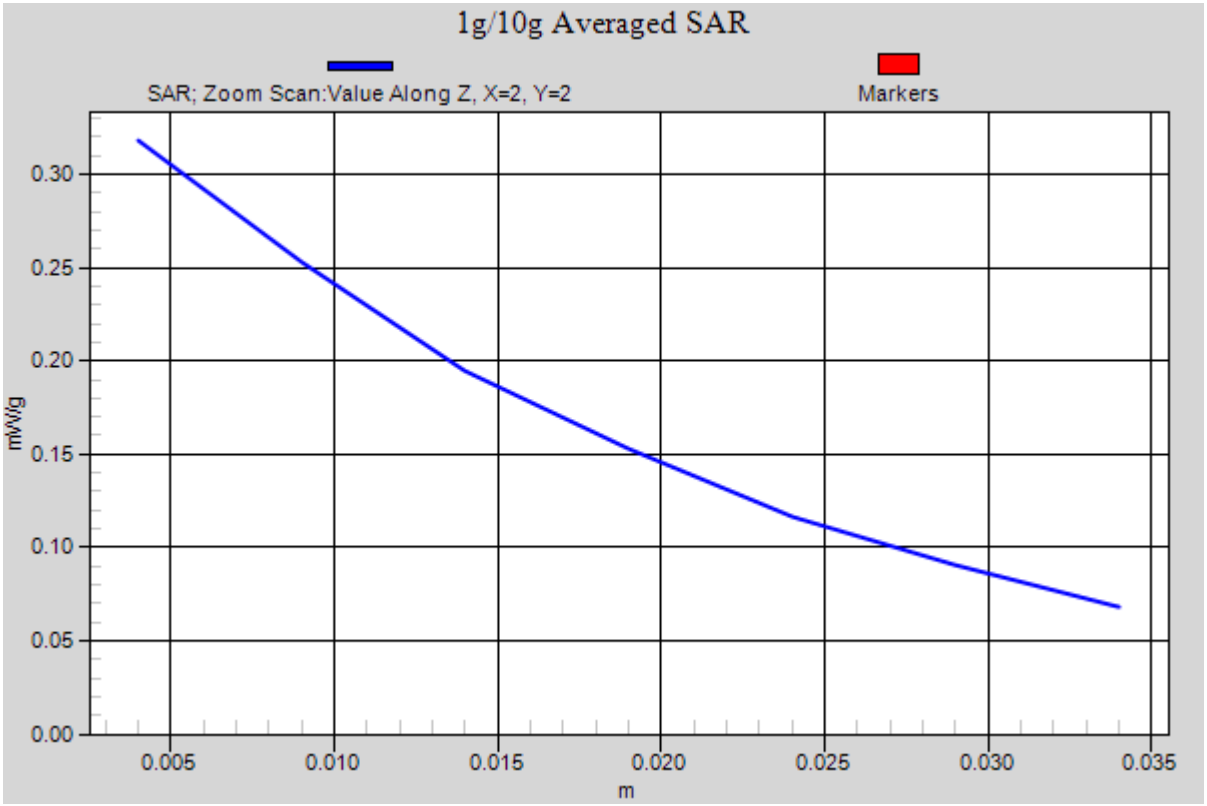


Figure 18 Right Hand Touch Cheek GSM 850 Open Channel 190

GSM 850 Right Cheek Low Open

Date/Time: 11/22/2010 2:12:42 AM
Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.898 mho/m; ε_r = 43.2; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(9.34, 9.34, 9.34); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Low/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.306 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.7 V/m; Power Drift = -0.186 dB
Peak SAR (extrapolated) = 0.354 W/kg
SAR(1 g) = 0.279 mW/g; SAR(10 g) = 0.208 mW/g
Maximum value of SAR (measured) = 0.297 mW/g

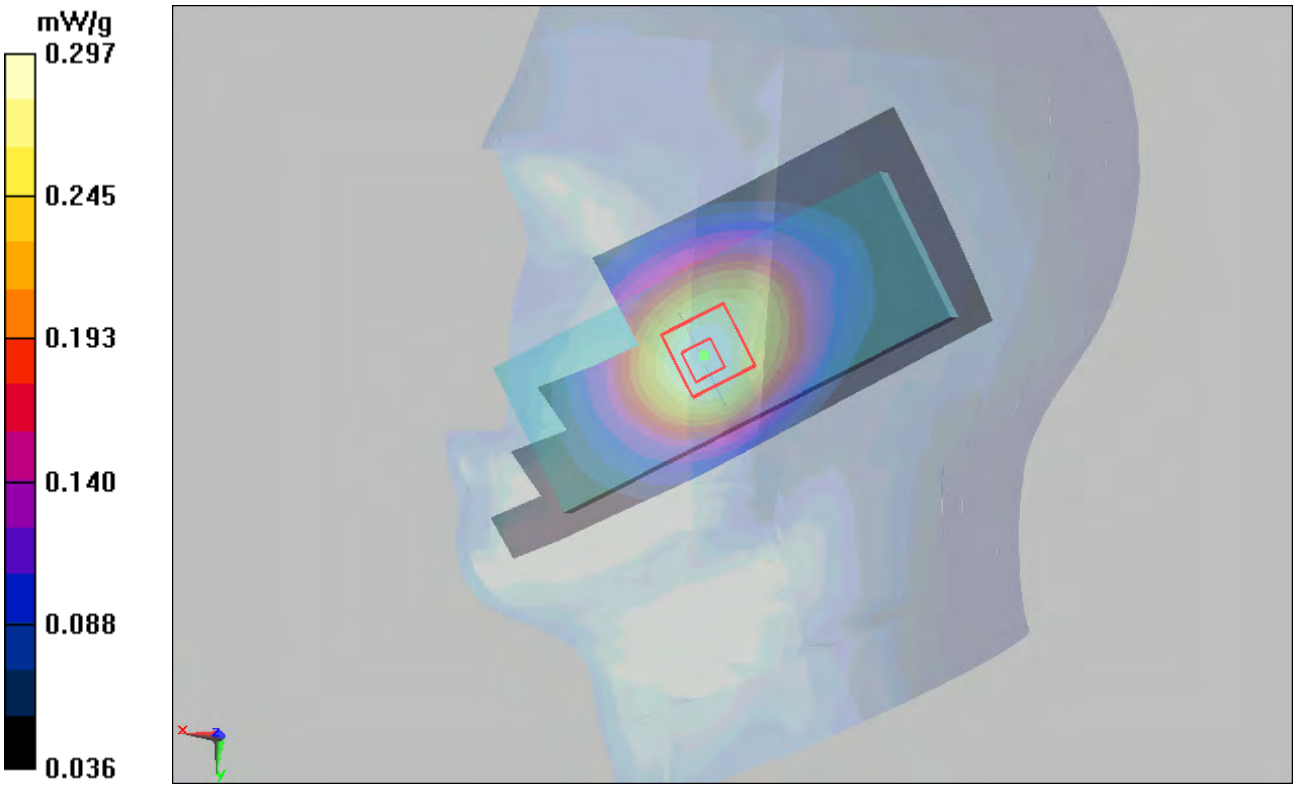


Figure 19 Right Hand Touch Cheek GSM 850 Open Channel 128

GSM 850 Right Tilt Middle Open

Date/Time: 11/22/2010 3:47:42 AM
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.909 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(9.34, 9.34, 9.34); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.211 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.9 V/m; Power Drift = -0.106 dB
Peak SAR (extrapolated) = 0.253 W/kg
SAR(1 g) = 0.197 mW/g; SAR(10 g) = 0.146 mW/g
Maximum value of SAR (measured) = 0.207 mW/g

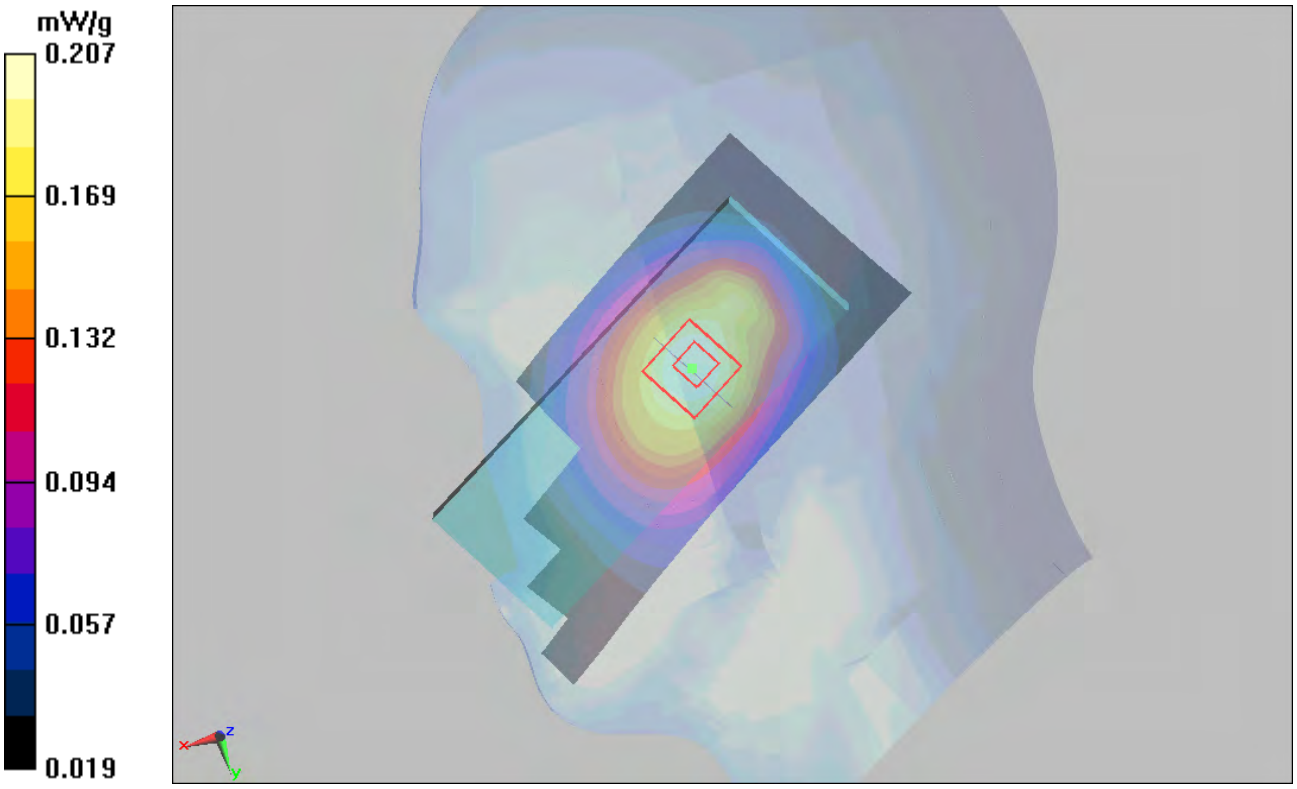


Figure 20 Right Hand Tilt 15° GSM 850 Open Channel 190

GSM 850 Left Cheek Middle Close

Date/Time: 11/22/2010 4:37:57 AM
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.909 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(9.34, 9.34, 9.34); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.214 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.8 V/m; Power Drift = 0.119 dB
Peak SAR (extrapolated) = 0.295 W/kg
SAR(1 g) = 0.197 mW/g; SAR(10 g) = 0.144 mW/g
Maximum value of SAR (measured) = 0.207 mW/g

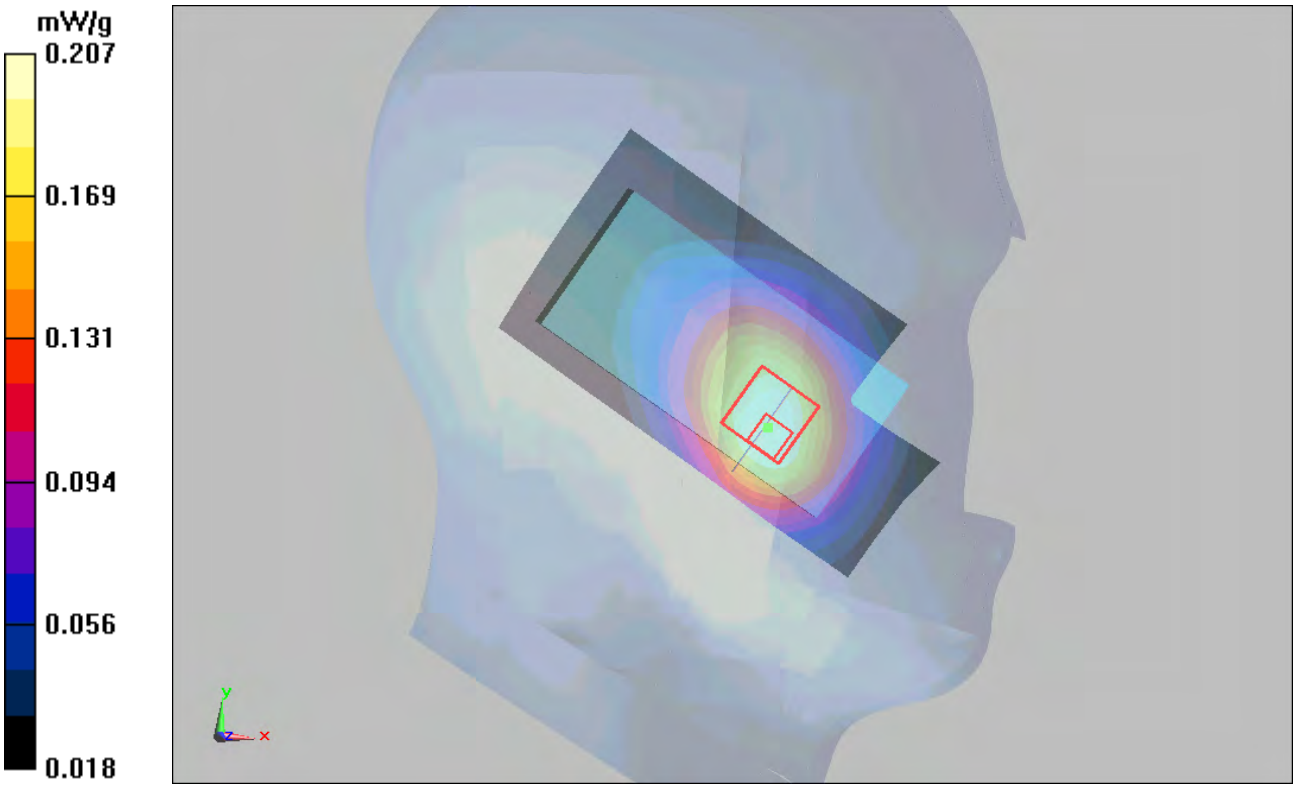


Figure 21 Left Hand Touch Cheek GSM 850 Close Channel 190

GSM 850 Left Tilt Middle Close

Date/Time: 11/22/2010 4:53:12 AM
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.909 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(9.34, 9.34, 9.34); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.157 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.2 V/m; Power Drift = 0.027 dB
Peak SAR (extrapolated) = 0.186 W/kg
SAR(1 g) = 0.149 mW/g; SAR(10 g) = 0.111 mW/g
Maximum value of SAR (measured) = 0.159 mW/g

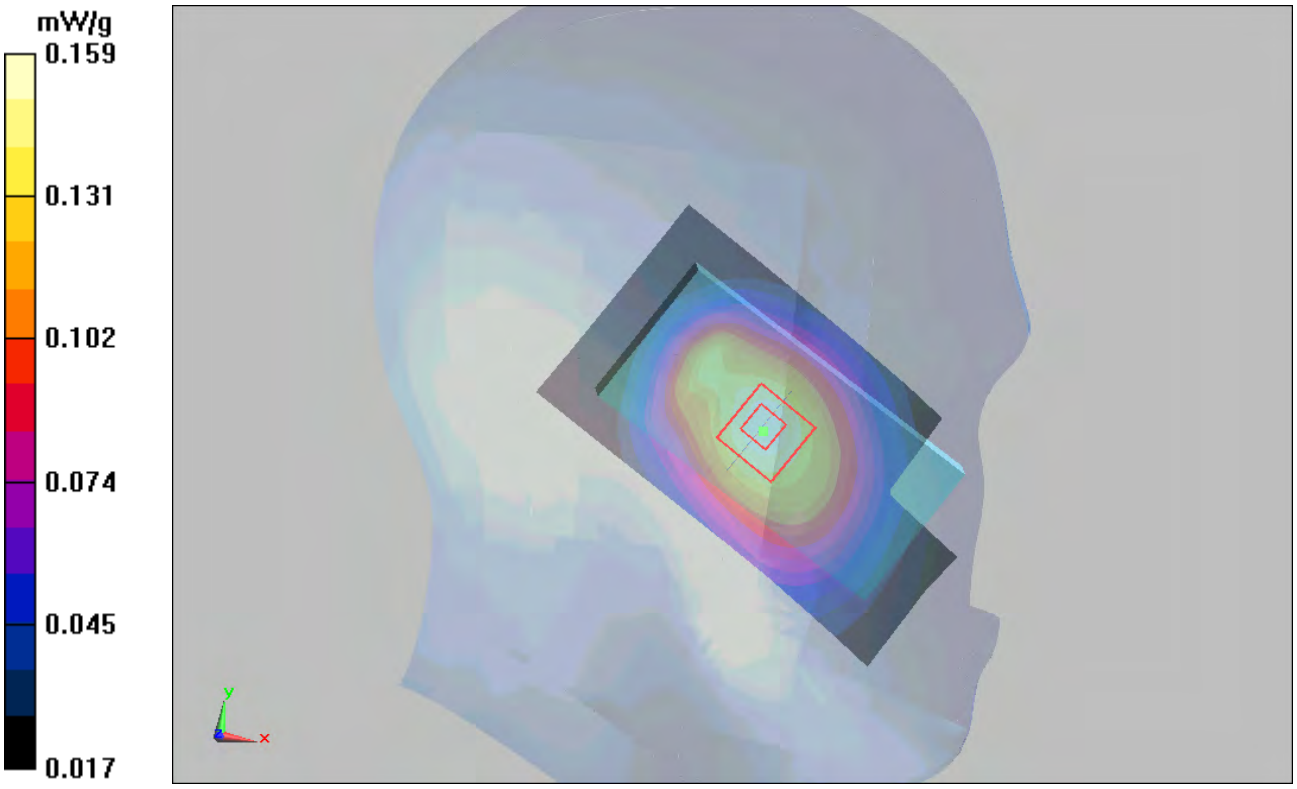


Figure 22 Left Hand Tilt 15° GSM 850 Close Channel 190

GSM 850 Right Cheek Middle Close

Date/Time: 11/22/2010 2:47:57 AM
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.909 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(9.34, 9.34, 9.34); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.195 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.96 V/m; Power Drift = -0.022 dB
Peak SAR (extrapolated) = 0.228 W/kg
SAR(1 g) = 0.182 mW/g; SAR(10 g) = 0.139 mW/g
Maximum value of SAR (measured) = 0.192 mW/g

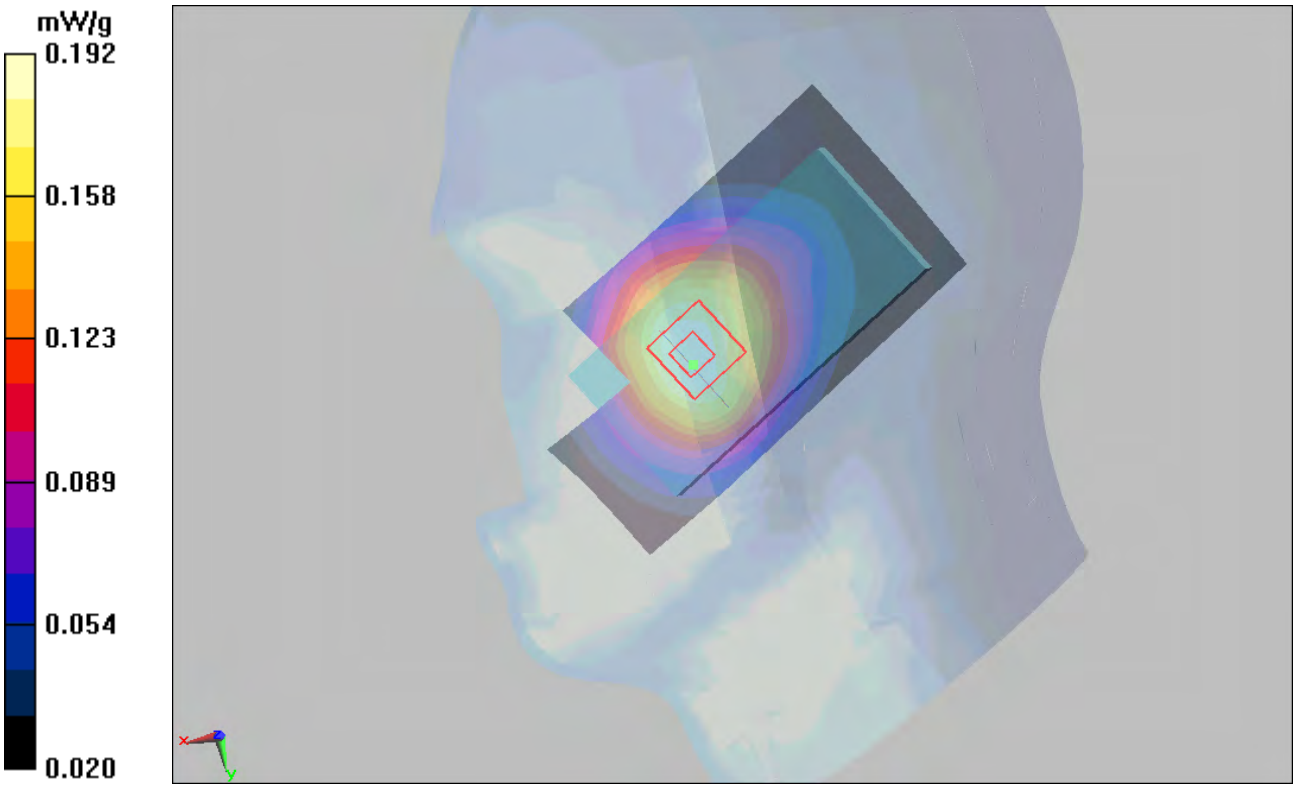


Figure 23 Right Hand Touch Cheek GSM 850 Close Channel 190

GSM 850 Right Tilt Middle Close

Date/Time: 11/22/2010 3:04:17 AM
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.909 mho/m; ε_r = 42.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(9.34, 9.34, 9.34); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Tilt Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.174 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.7 V/m; Power Drift = -0.067 dB
Peak SAR (extrapolated) = 0.221 W/kg
SAR(1 g) = 0.163 mW/g; SAR(10 g) = 0.114 mW/g
Maximum value of SAR (measured) = 0.176 mW/g

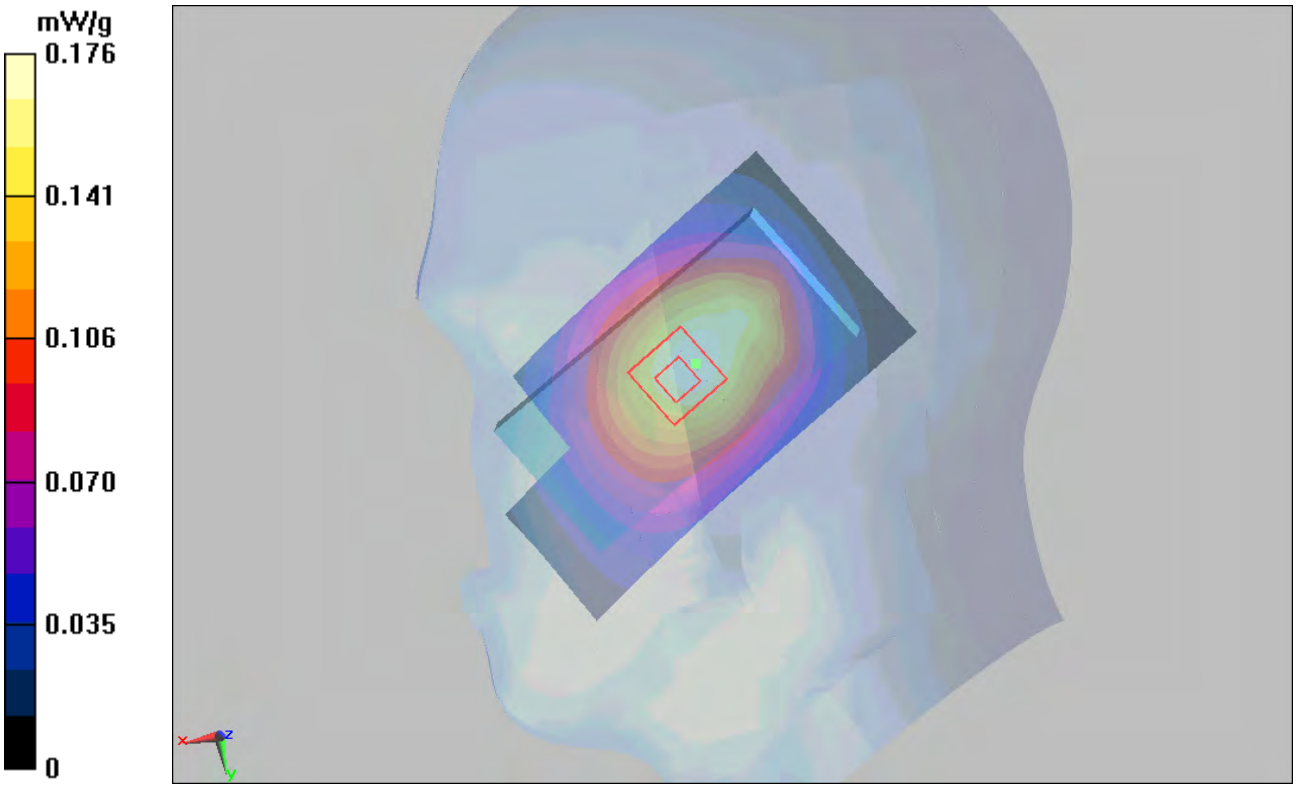


Figure 24 Right Hand Tilt 15° GSM 850 Close Channel 190

GSM 850 GPRS (2TXslots) Towards Ground Middle Close

Date/Time: 11/23/2010 5:35:45 PM

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4.15

Medium parameters used: f = 837 MHz; σ = 0.965 mho/m; ε_r = 56.6; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY4 Configuration:

Probe: EX3DV4 - SN3661; ConvF(9.24, 9.24, 9.24); Calibrated: 12/30/2009

Electronics: DAE4 Sn679; Calibrated: 6/18/2010

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

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

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

Maximum value of SAR (interpolated) = 0.846 mW/g

Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.7 V/m; Power Drift = -0.099 dB

Peak SAR (extrapolated) = 0.984 W/kg

SAR(1 g) = 0.712 mW/g; SAR(10 g) = 0.492 mW/g

Maximum value of SAR (measured) = 0.764 mW/g

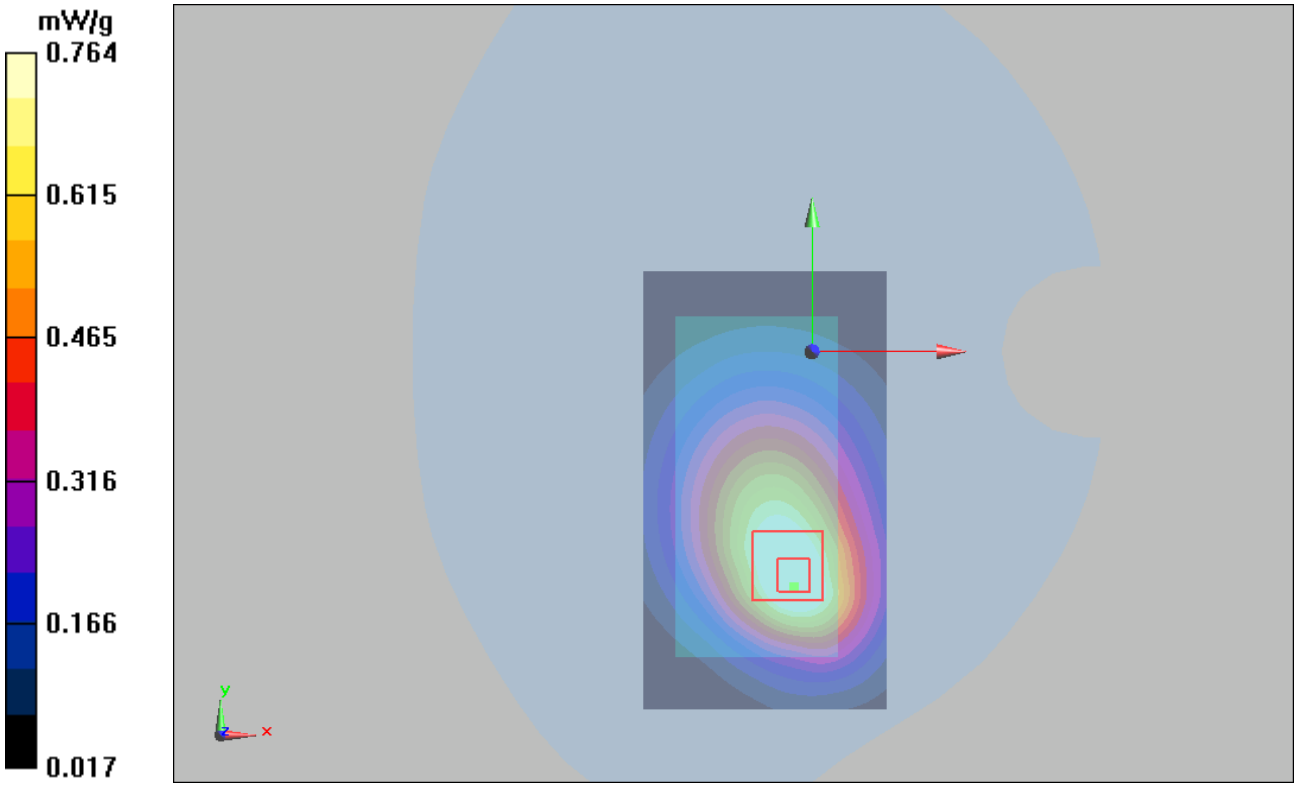


Figure 25 Body, Towards Ground, GSM 850 GPRS (2TXslots) Close Channel 190

GSM 850 GPRS (2TXslots) Towards Ground High Open

Date/Time: 11/23/2010 3:53:12 PM

Communication System: GSM850 + GPRS(2Up); Frequency: 848.8 MHz;Duty Cycle: 1:4.15

Medium parameters used: f = 849 MHz; σ = 0.975 mho/m; ε_r = 56.4; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY4 Configuration:

Probe: EX3DV4 - SN3661; ConvF(9.24, 9.24, 9.24); Calibrated: 12/30/2009

Electronics: DAE4 Sn679; Calibrated: 6/18/2010

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

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

Towards Ground High/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.854 mW/g

Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 29.8 V/m; Power Drift = -0.192 dB

Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.799 mW/g; SAR(10 g) = 0.586 mW/g

Maximum value of SAR (measured) = 0.842 mW/g

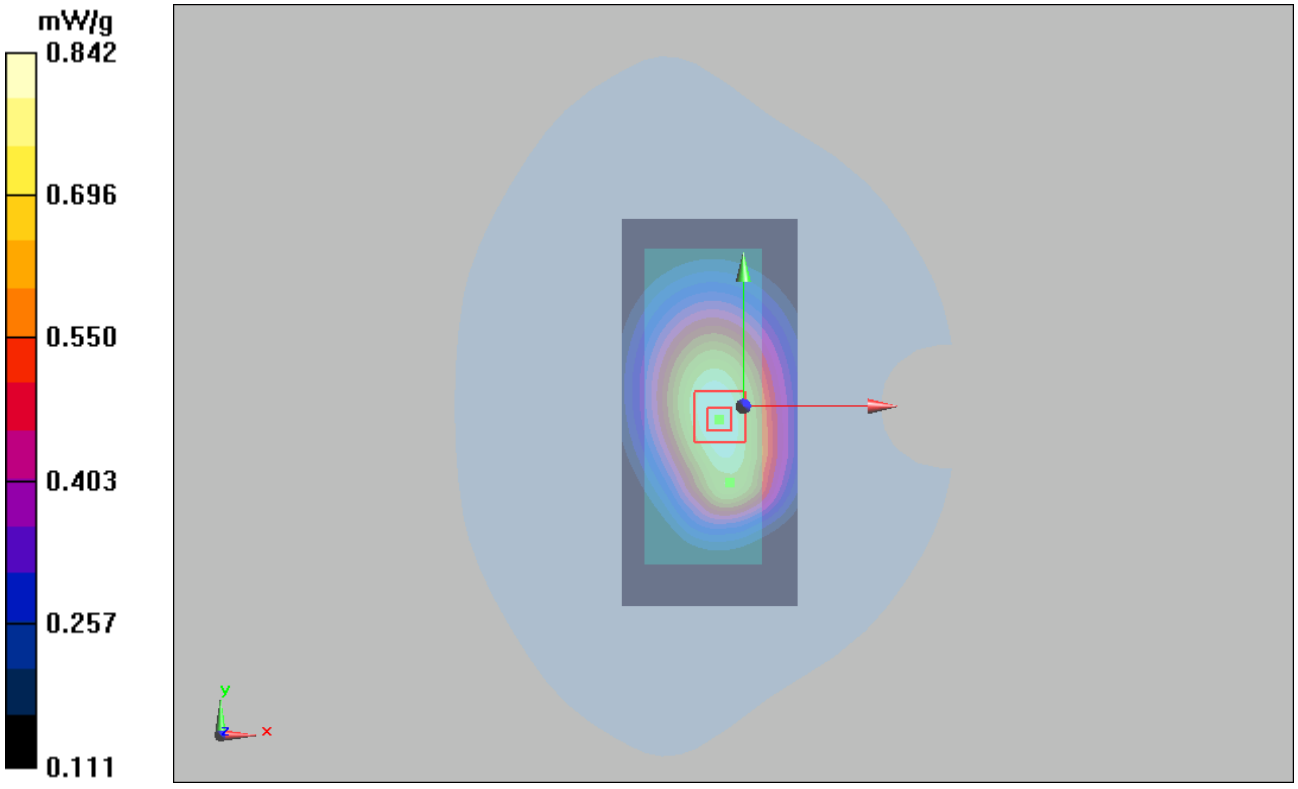


Figure 26 Body, Towards Ground, GSM 850 GPRS (2TXslots) Open Channel 251

GSM 850 GPRS (2TXslots) Towards Ground Middle Open

Date/Time: 11/23/2010 3:00:10 PM

Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4.15

Medium parameters used: f = 837 MHz; σ = 0.965 mho/m; ε_r = 56.6; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY4 Configuration:

Probe: EX3DV4 - SN3661; ConvF(9.24, 9.24, 9.24); Calibrated: 12/30/2009

Electronics: DAE4 Sn679; Calibrated: 6/18/2010

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

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

Towards Ground Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.964 mW/g

Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 28.6 V/m; Power Drift = -0.087 dB

Peak SAR (extrapolated) = 1.17 W/kg

SAR(1 g) = 0.893 mW/g; SAR(10 g) = 0.654 mW/g

Maximum value of SAR (measured) = 0.945 mW/g

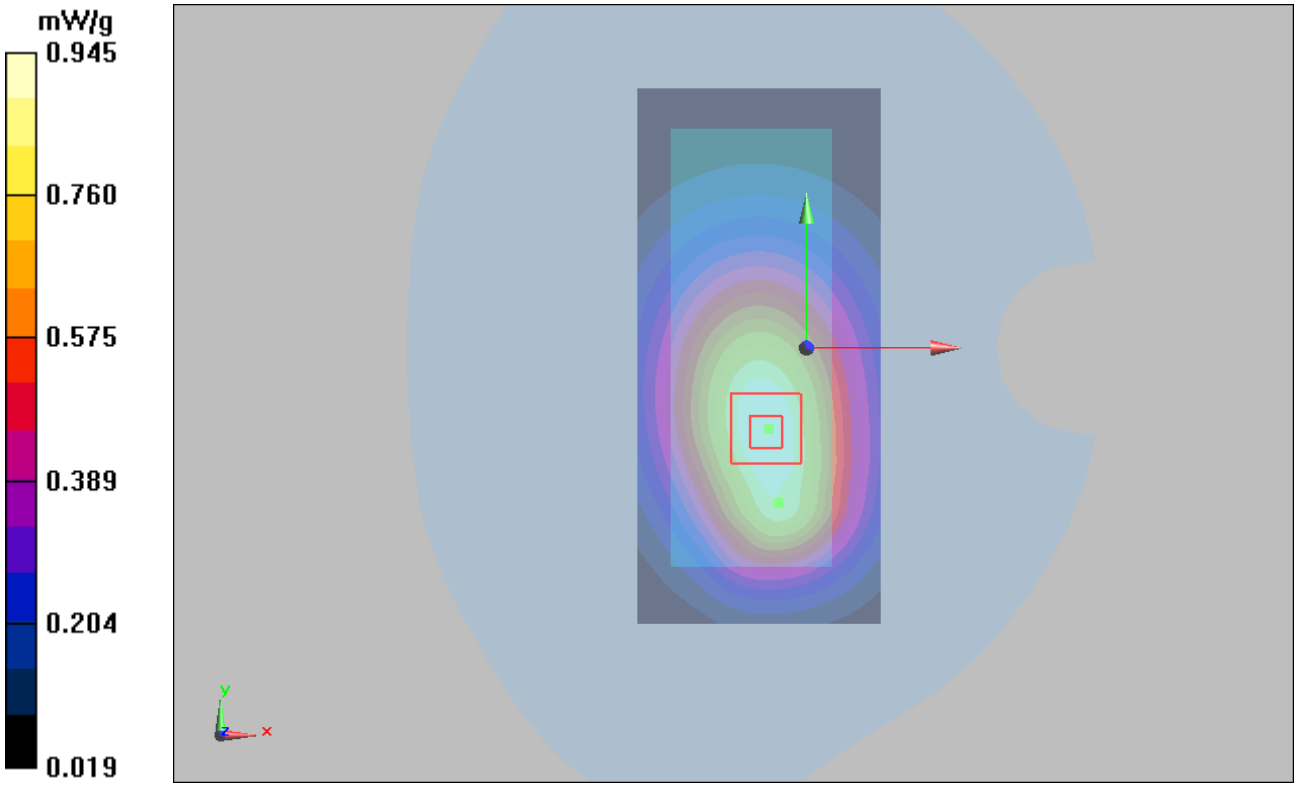


Figure 27 Body, Towards Ground, GSM 850 GPRS (2TXslots) Open Channel 190

GSM 850 GPRS (2TXslots) Towards Ground Low Open

Date/Time: 11/23/2010 3:36:45 PM

Communication System: GSM850 + GPRS(2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4.15

Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.963 mho/m; ε_r = 56.7; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY4 Configuration:

Probe: EX3DV4 - SN3661; ConvF(9.24, 9.24, 9.24); Calibrated: 12/30/2009

Electronics: DAE4 Sn679; Calibrated: 6/18/2010

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

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

Towards Ground Low/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm

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

Towards Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 35.5 V/m; Power Drift = -0.091 dB

Peak SAR (extrapolated) = 1.31 W/kg

SAR(1 g) = 1 mW/g; SAR(10 g) = 0.734 mW/g

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

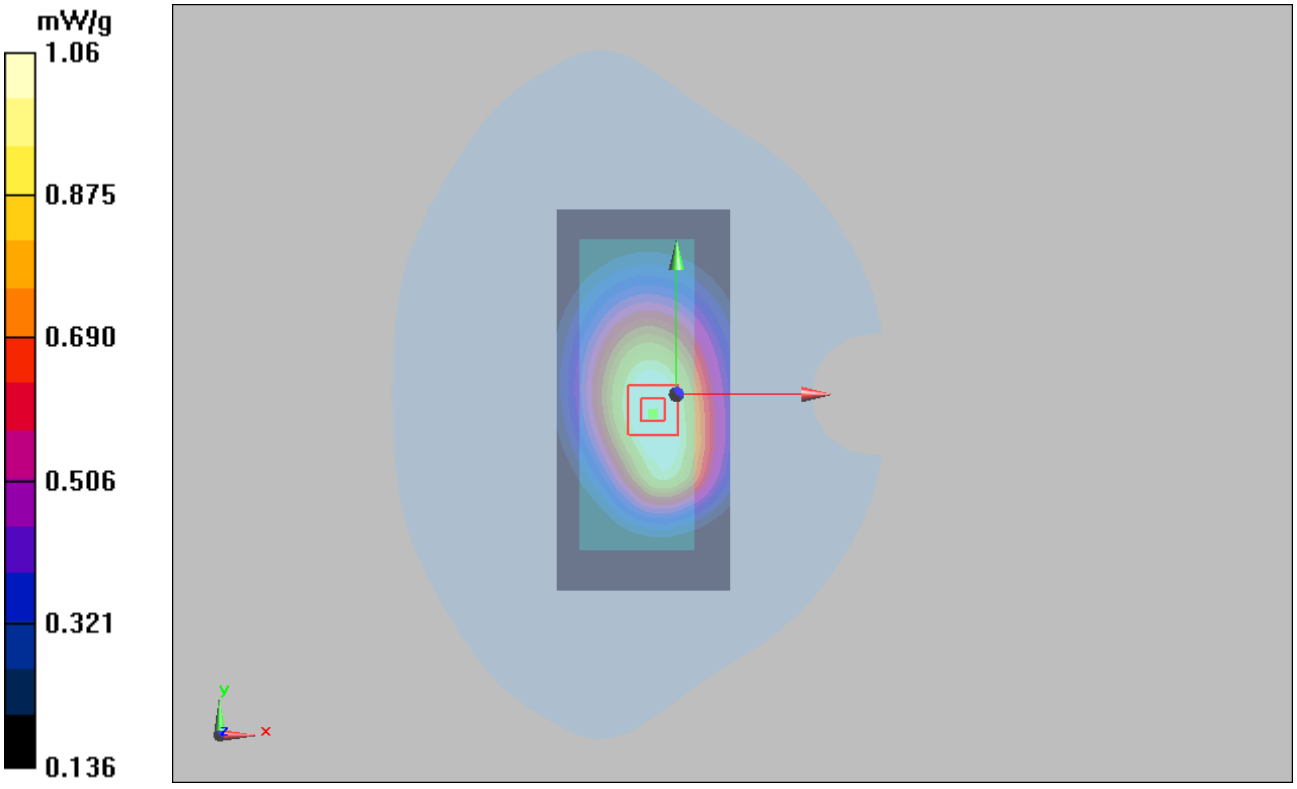


Figure 28 Body, Towards Ground, GSM 850 GPRS (2TXslots) Open Channel 128

GSM 850 GPRS (2TXslots) Towards Phantom Middle Open

Date/Time: 11/23/2010 4:11:21 PM
Communication System: GSM850 + GPRS(2Up); Frequency: 836.6 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 837 MHz; σ = 0.965 mho/m; ε_r = 56.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(9.24, 9.24, 9.24); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Phantom Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.612 mW/g

Towards Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.4 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 0.745 W/kg
SAR(1 g) = 0.581 mW/g; SAR(10 g) = 0.431 mW/g
Maximum value of SAR (measured) = 0.610 mW/g

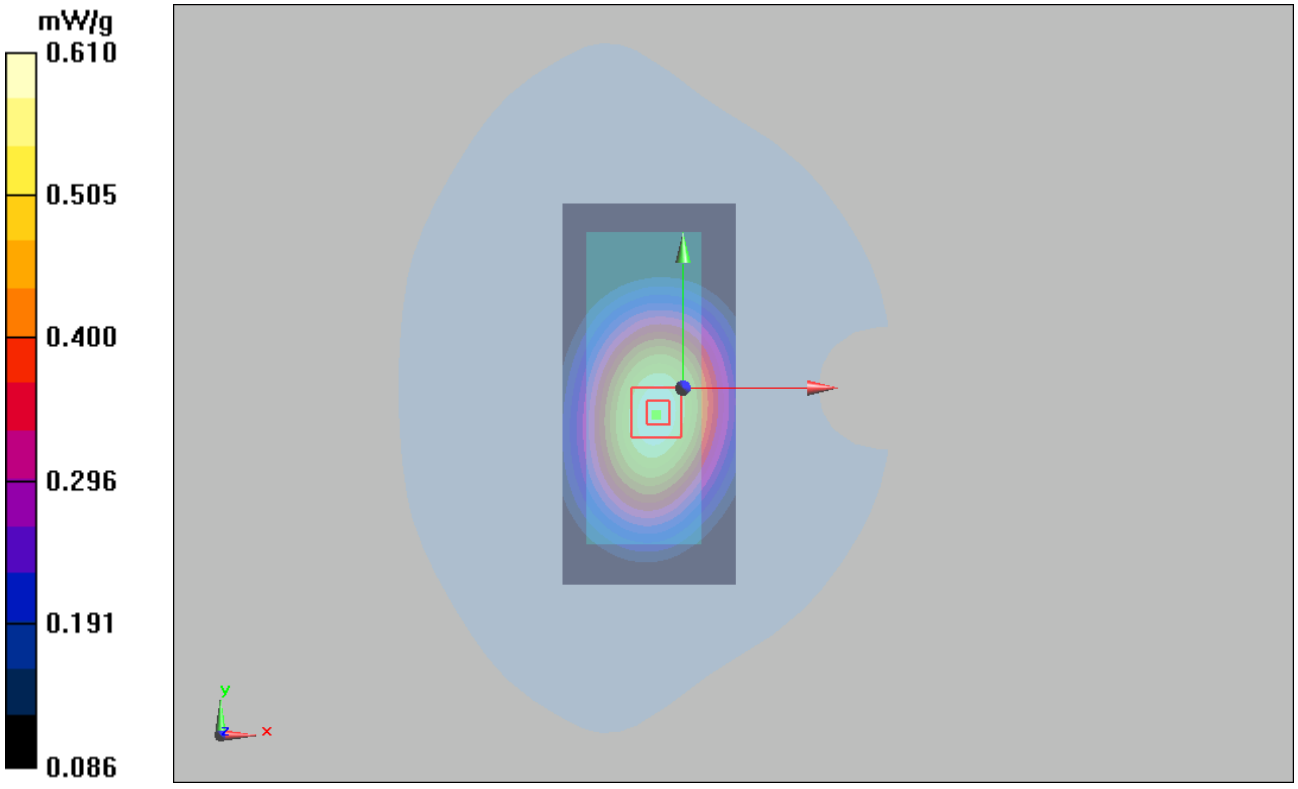


Figure 29 Body, Towards Phantom, GSM 850 GPRS (2TXslots) Open Channel 190

GSM 850 Towards Ground Middle Open

Date/Time: 11/23/2010 4:48:15 PM
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.965 mho/m; ε_r = 56.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(9.24, 9.24, 9.24); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Ground Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.550 mW/g

Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.7 V/m; Power Drift = -0.042 dB
Peak SAR (extrapolated) = 1.2 W/kg
SAR(1 g) = 0.527 mW/g; SAR(10 g) = 0.375 mW/g
Maximum value of SAR (measured) = 0.540 mW/g

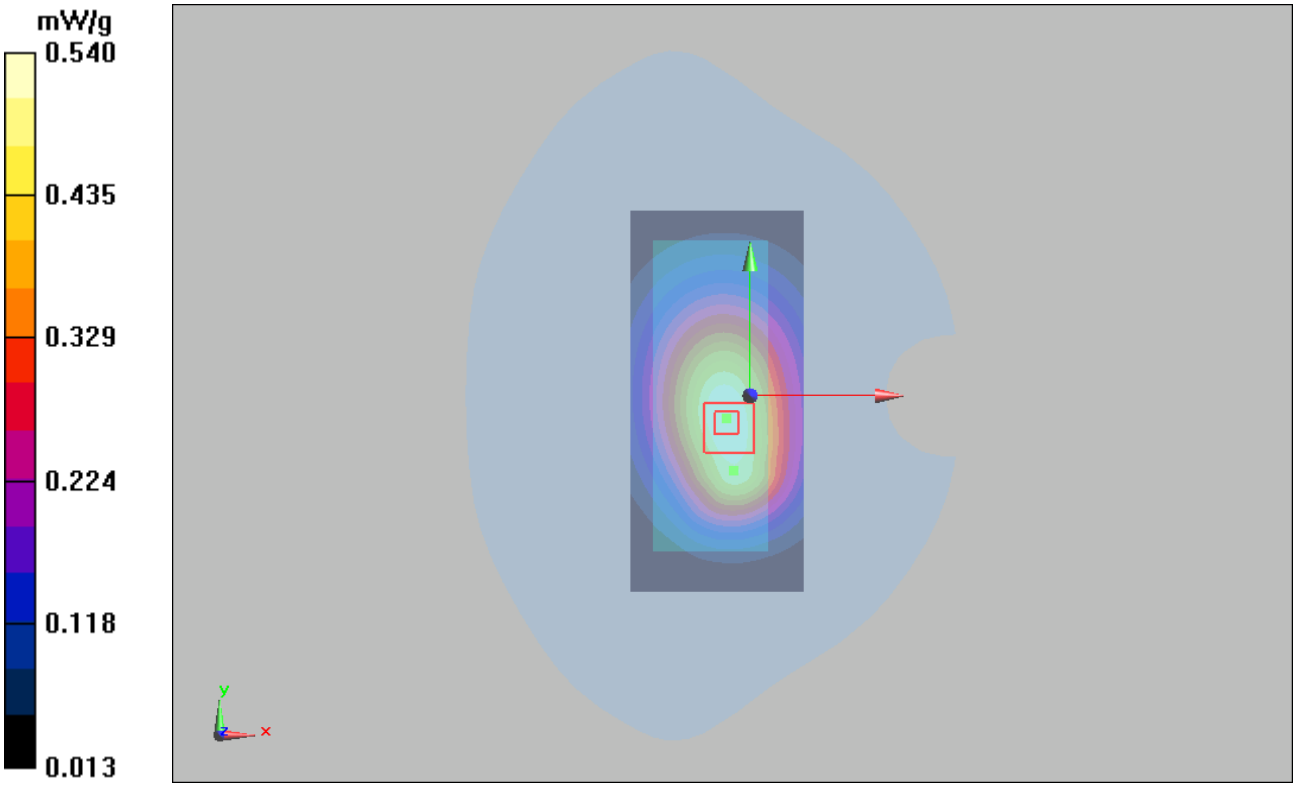


Figure 30 Body, Towards Ground, GSM 850 Open Channel 190

GSM 850 with Earphone Towards Ground Low Open

Date/Time: 11/23/2010 5:06:39 PM

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

Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.963 mho/m; ε_r = 56.7; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY4 Configuration:

Probe: EX3DV4 - SN3661; ConvF(9.24, 9.24, 9.24); Calibrated: 12/30/2009

Electronics: DAE4 Sn679; Calibrated: 6/18/2010

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

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

Towards Ground Low/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.447 mW/g

Towards Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 19 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 0.545 W/kg

SAR(1 g) = 0.403 mW/g; SAR(10 g) = 0.290 mW/g

Maximum value of SAR (measured) = 0.427 mW/g

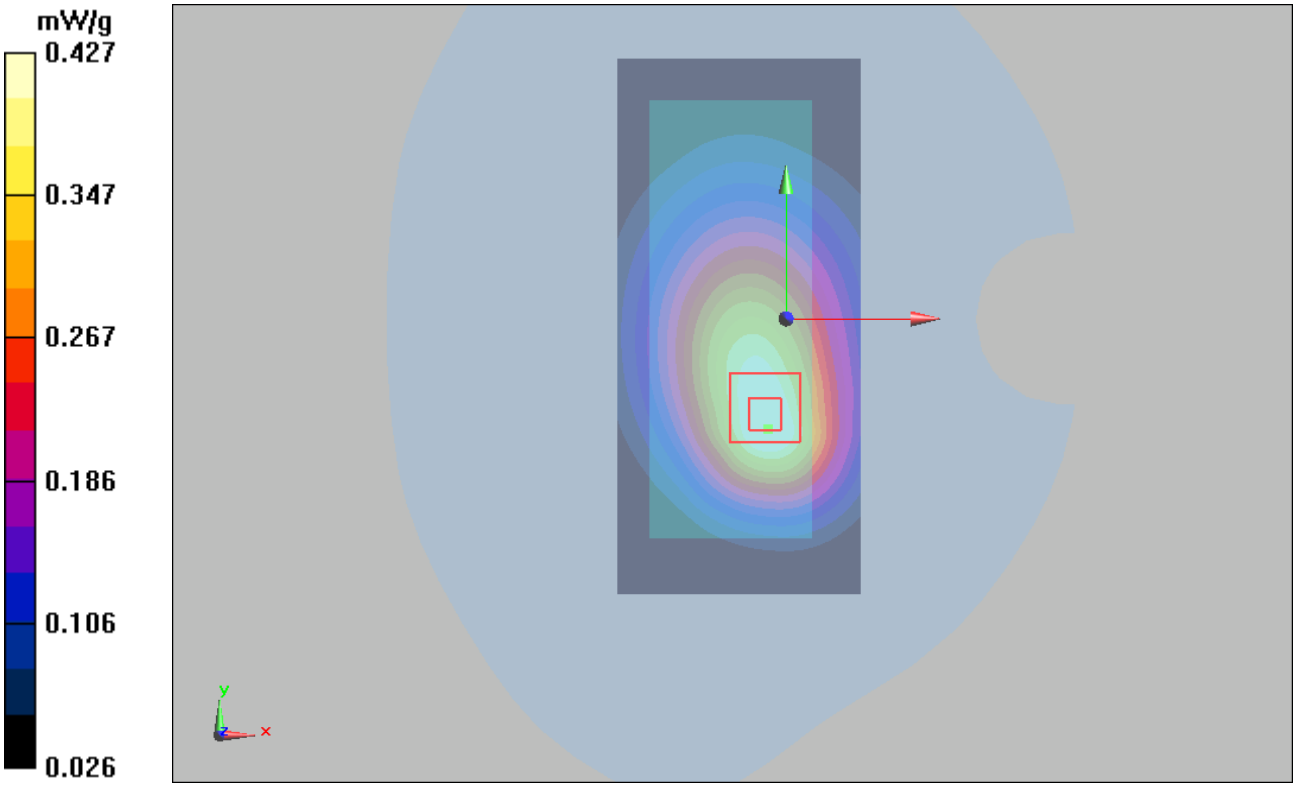


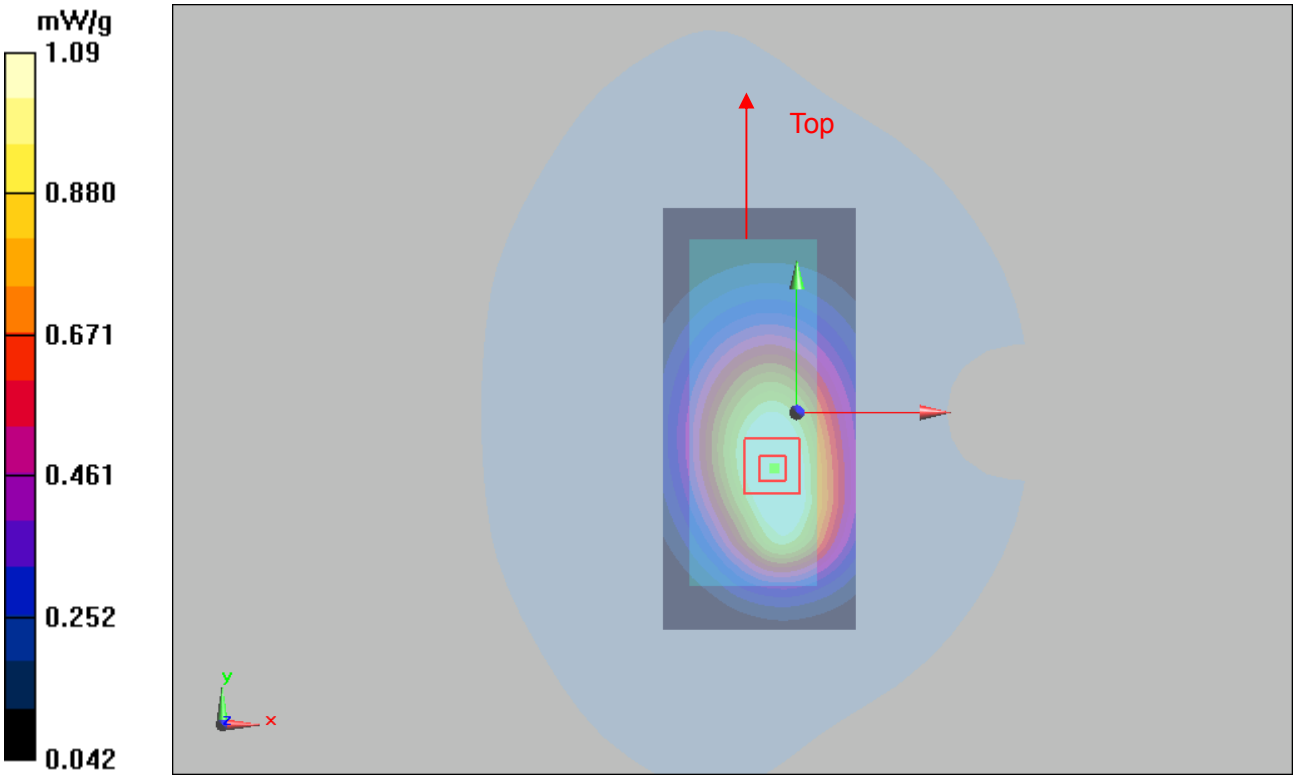
Figure 31 Body with Earphone, Towards Ground, GSM 850 Open Channel 128

GSM 850 EGPRS (2TXslots) Towards Ground Low Open

Date/Time: 2/28/2011 12:42:24 PM
Communication System: GSM850 + EGPRS(2Up); Frequency: 824.2 MHz;Duty Cycle: 1:4.15
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.942 mho/m; ε_r = 54; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3677; ConvF(10.33, 10.33, 10.33); Calibrated: 11/24/2010
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Ground Low/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.2 mW/g

Towards Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 33.8 V/m; Power Drift = -0.051 dB
Peak SAR (extrapolated) = 1.35 W/kg
SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.752 mW/g
Maximum value of SAR (measured) = 1.09 mW/g



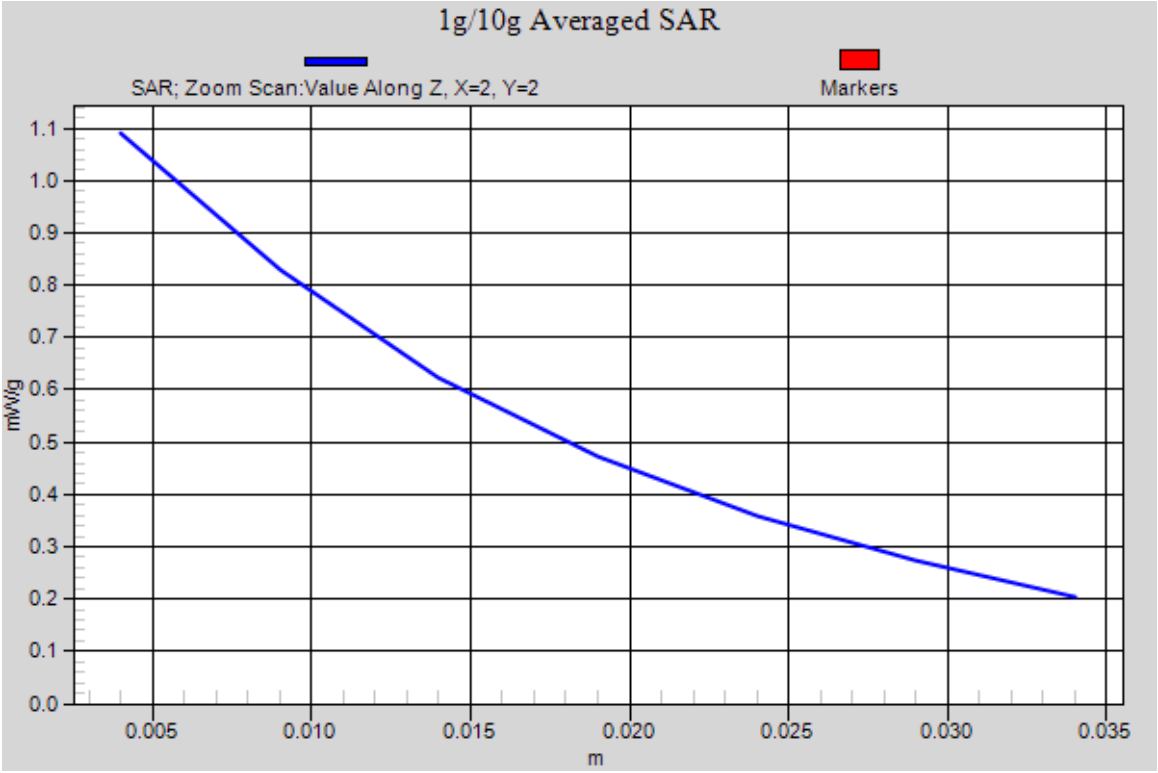


Figure 32 Body, Towards Ground, GSM 850 EGPRS (2TXslots) Open Channel 128

GSM 1900 Left Cheek Middle Open

Date/Time: 11/22/2010 10:35:28 AM
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.399 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.94 V/m; Power Drift = 0.018 dB
Peak SAR (extrapolated) = 0.459 W/kg
SAR(1 g) = 0.354 mW/g; SAR(10 g) = 0.232 mW/g
Maximum value of SAR (measured) = 0.378 mW/g

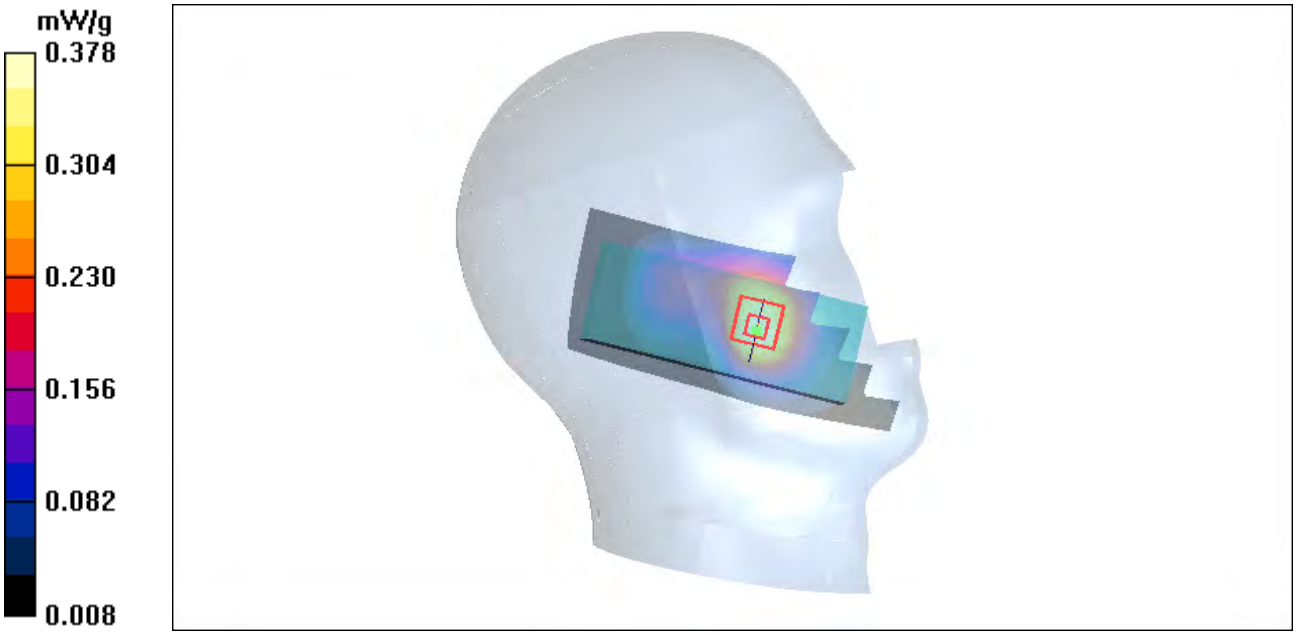


Figure 33 Left Hand Touch Cheek GSM 1900 Open Channel 661

GSM 1900 Left Tilt Middle Open

Date/Time: 11/22/2010 10:50:00 AM
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
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 Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.358 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.1 V/m; Power Drift = -0.121 dB
Peak SAR (extrapolated) = 0.391 W/kg
SAR(1 g) = 0.281 mW/g; SAR(10 g) = 0.177 mW/g
Maximum value of SAR (measured) = 0.307 mW/g

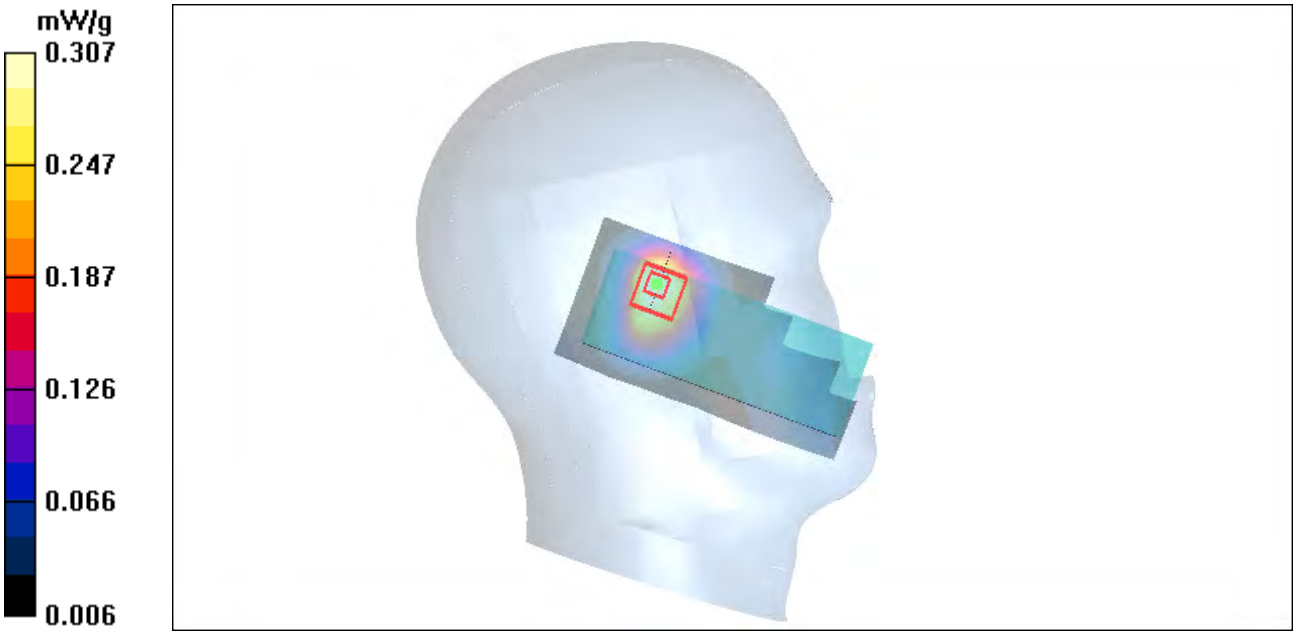


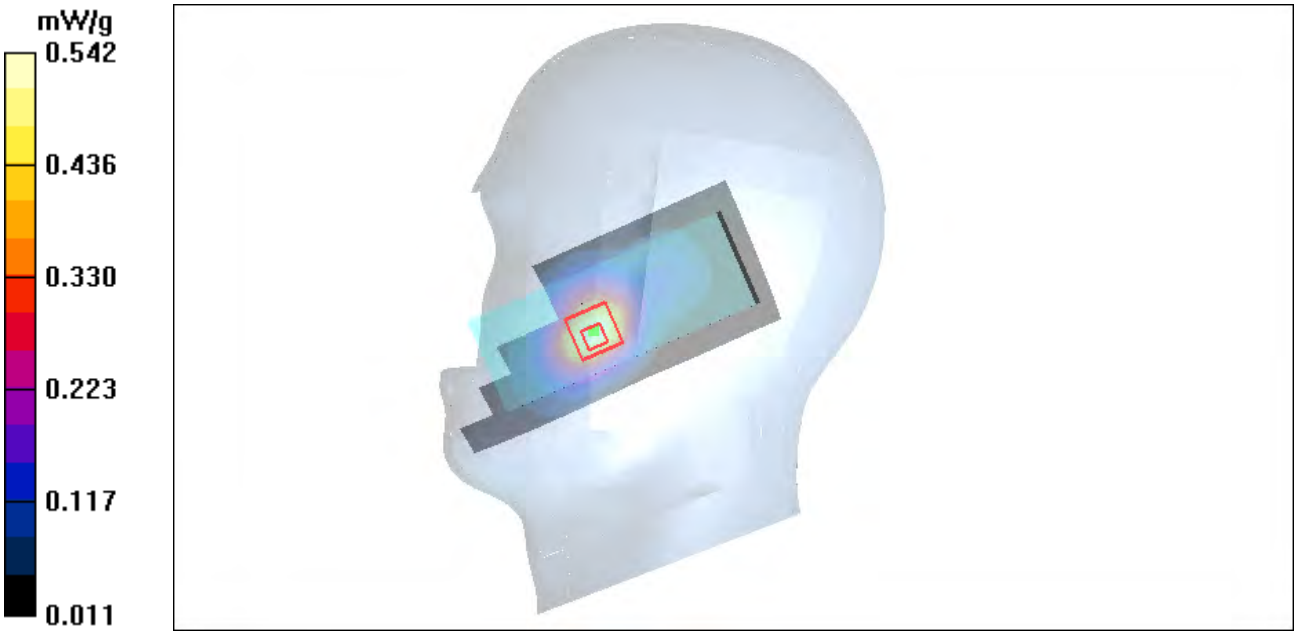
Figure 34 Left Hand Tilt 15° GSM 1900 Open Channel 661

GSM 1900 Right Cheek High Open

Date/Time: 11/22/2010 9:09:48 PM
Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.42 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek High/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.557 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.51 V/m; Power Drift = 0.001 dB
Peak SAR (extrapolated) = 0.717 W/kg
SAR(1 g) = 0.505 mW/g; SAR(10 g) = 0.308 mW/g
Maximum value of SAR (measured) = 0.542 mW/g



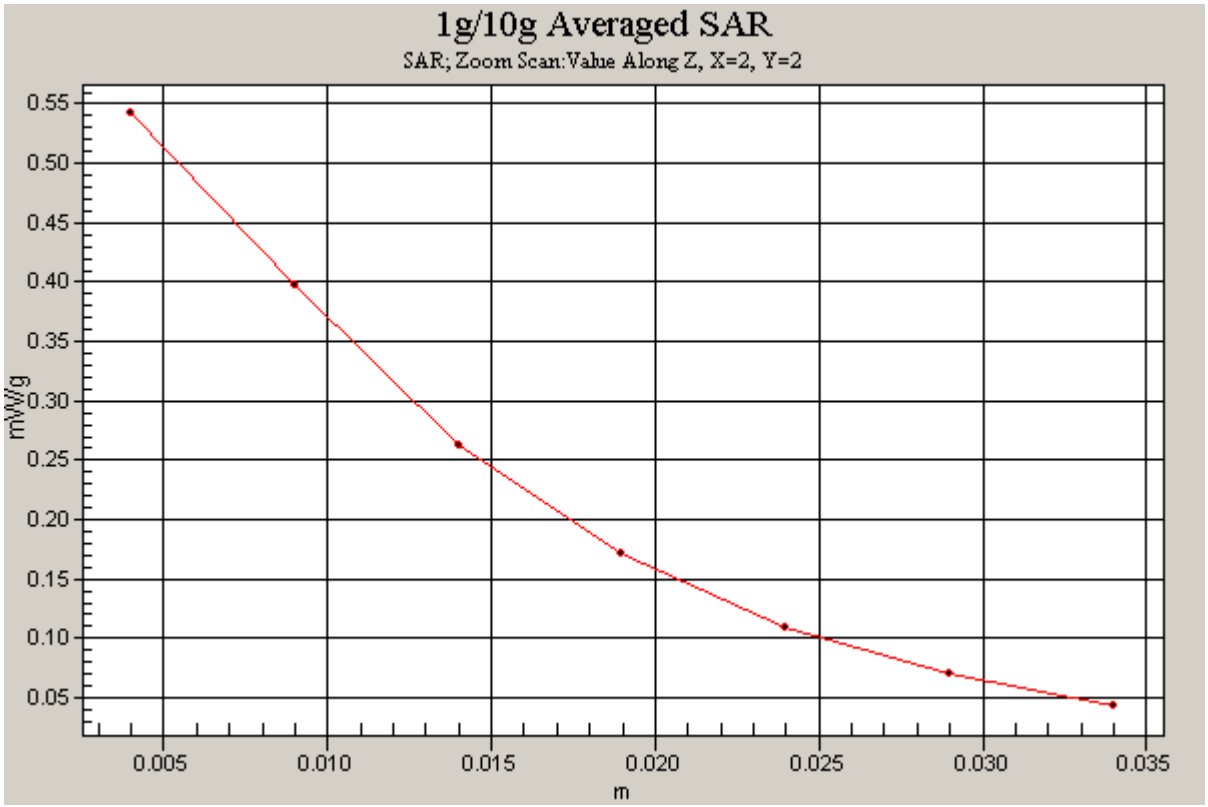


Figure 35 Right Hand Touch Cheek GSM 1900 Open Channel 810

GSM 1900 Right Cheek Middle Open

Date/Time: 11/22/2010 11:04:24 AM
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.496 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.59 V/m; Power Drift = -0.180 dB
Peak SAR (extrapolated) = 0.593 W/kg
SAR(1 g) = 0.439 mW/g; SAR(10 g) = 0.082 mW/g
Maximum value of SAR (measured) = 0.477 mW/g

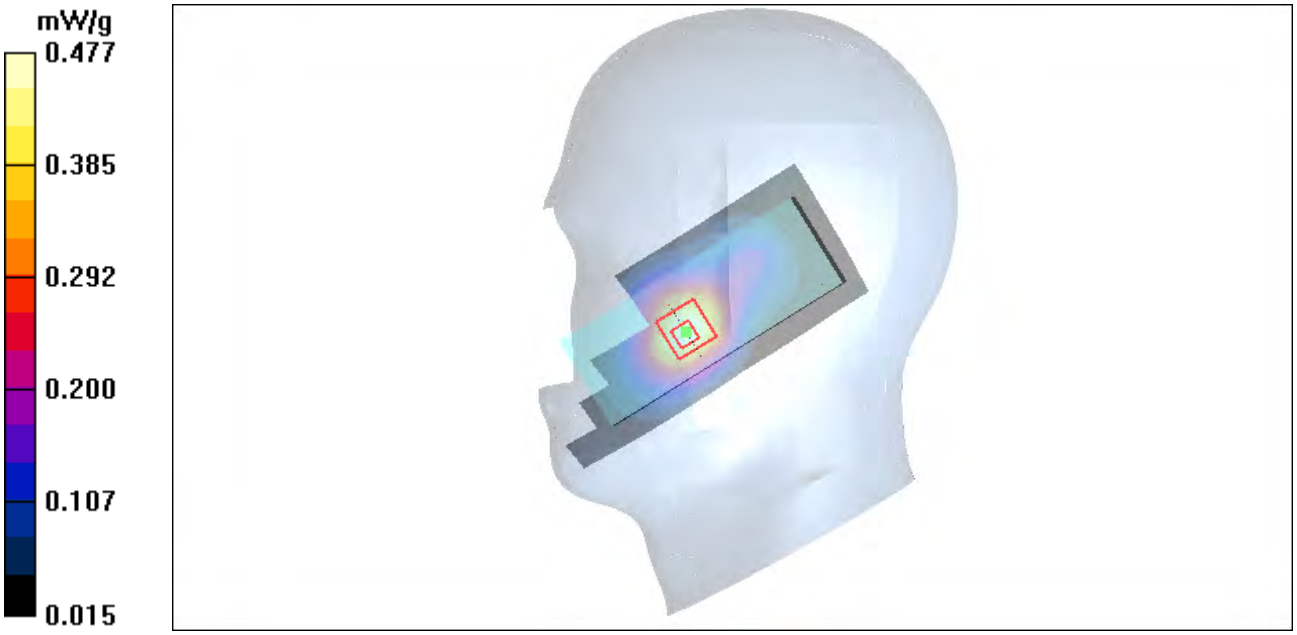


Figure 36 Right Hand Touch Cheek GSM 1900 Open Channel 661

GSM 1900 Right Cheek Low Open

Date/Time: 11/22/2010 9:23:09 PM
Communication System: PCS 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.36 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
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 (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.545 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.21 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 0.658 W/kg
SAR(1 g) = 0.493 mW/g; SAR(10 g) = 0.319 mW/g
Maximum value of SAR (measured) = 0.535 mW/g

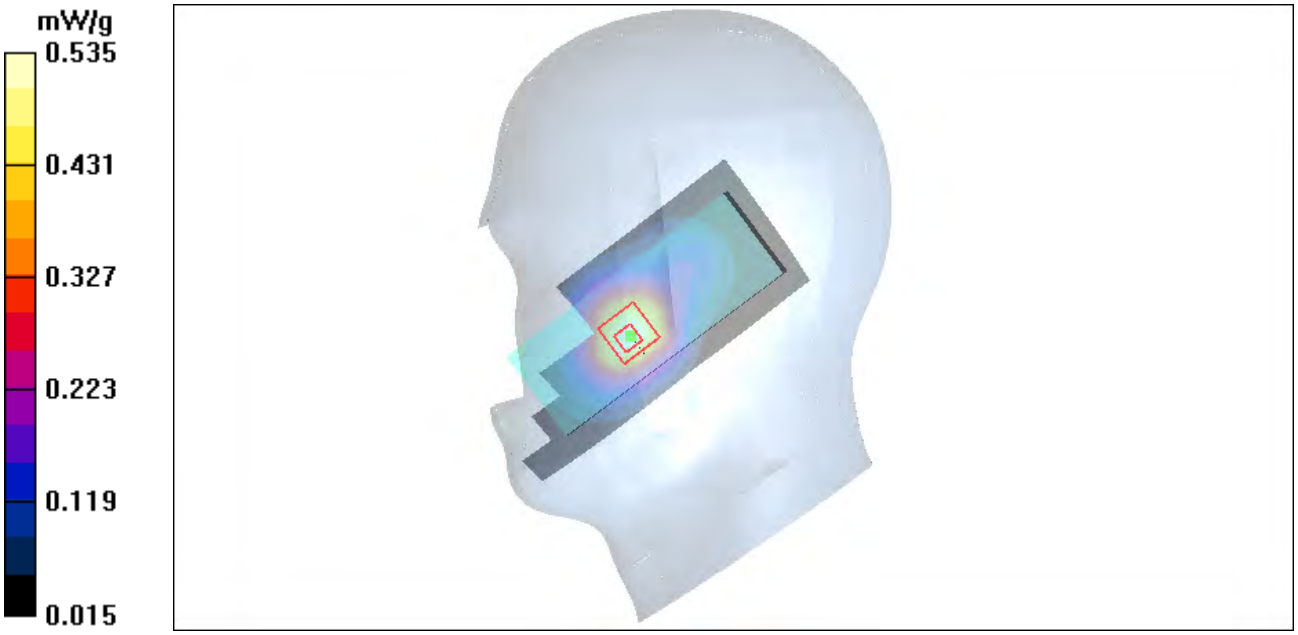


Figure 37 Right Hand Touch Cheek GSM 1900 Open Channel 512

GSM 1900 Right Tilt Middle Open

Date/Time: 11/22/2010 11:17:44 AM
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
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 Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.319 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = -0.163 dB
Peak SAR (extrapolated) = 0.379 W/kg
SAR(1 g) = 0.277 mW/g; SAR(10 g) = 0.174 mW/g
Maximum value of SAR (measured) = 0.296 mW/g

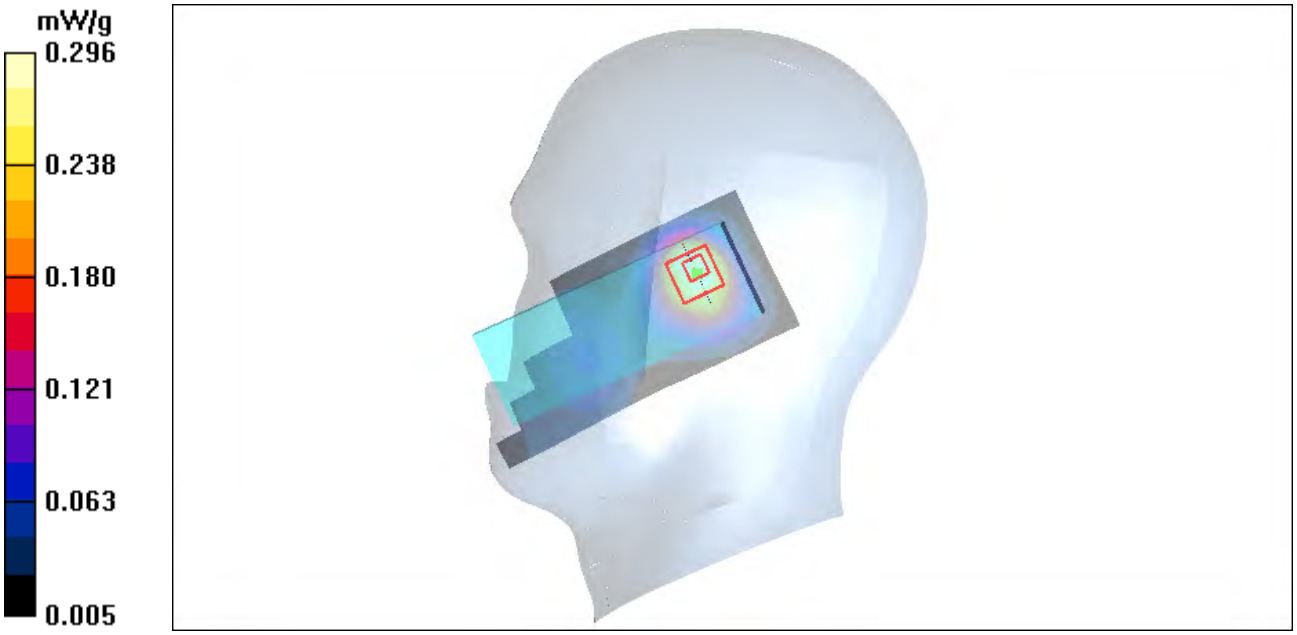


Figure 38 Right Hand Tilt 15° GSM 1900 Open Channel 661

GSM 1900 Left Cheek Middle Close

Date/Time: 11/22/2010 12:16:43 PM
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.206 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.72 V/m; Power Drift = 0.043 dB
Peak SAR (extrapolated) = 0.240 W/kg
SAR(1 g) = 0.182 mW/g; SAR(10 g) = 0.120 mW/g
Maximum value of SAR (measured) = 0.199 mW/g

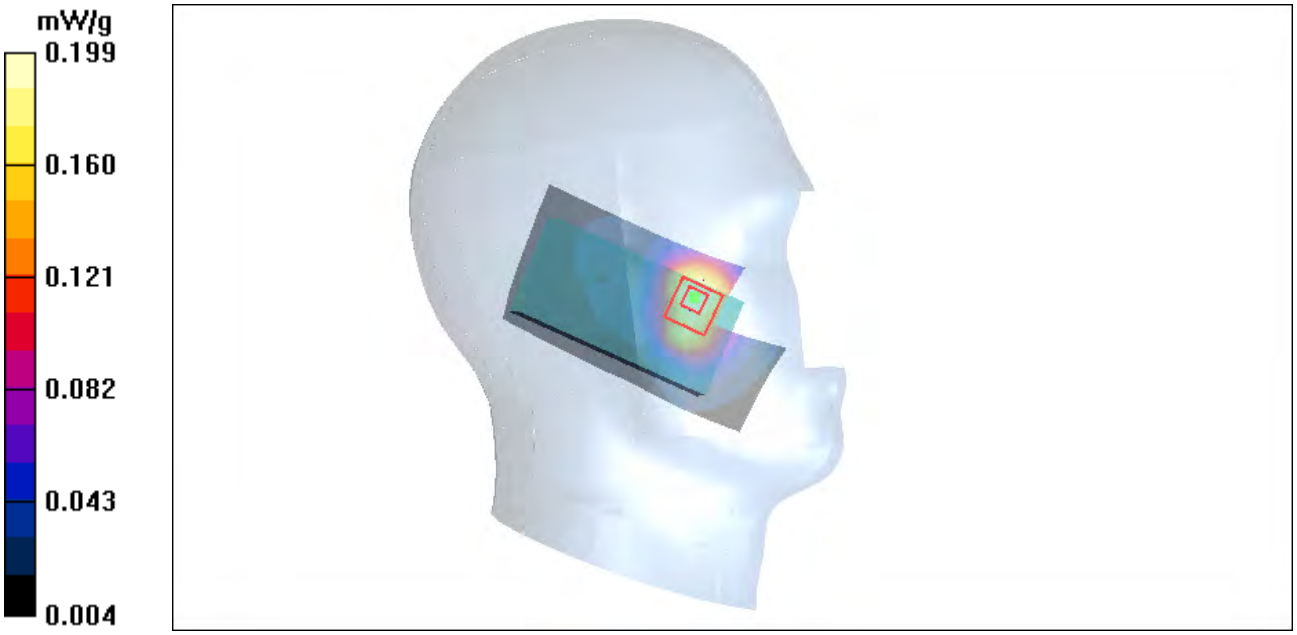


Figure 39 Left Hand Touch Cheek GSM 1900 Close Channel 661

GSM 1900 Left Tilt Middle Close

Date/Time: 11/22/2010 12:31:24 PM
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
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 Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.105 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.31 V/m; Power Drift = -0.073 dB
Peak SAR (extrapolated) = 0.125 W/kg
SAR(1 g) = 0.086 mW/g; SAR(10 g) = 0.052 mW/g
Maximum value of SAR (measured) = 0.093 mW/g

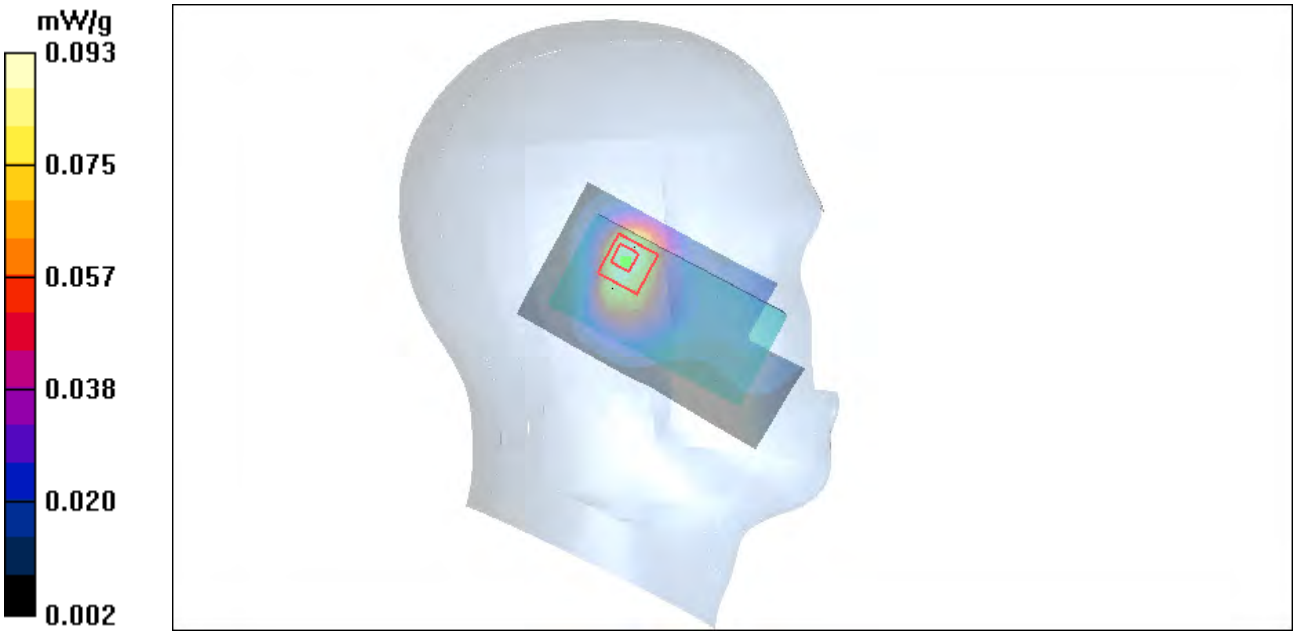


Figure 40 Left Hand Tilt 15° GSM 1900 Close Channel 661

GSM 1900 Right Cheek Middle Close

Date/Time: 11/22/2010 11:40:44 AM
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.299 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.97 V/m; Power Drift = -0.193 dB
Peak SAR (extrapolated) = 0.379 W/kg
SAR(1 g) = 0.266 mW/g; SAR(10 g) = 0.159 mW/g
Maximum value of SAR (measured) = 0.303 mW/g

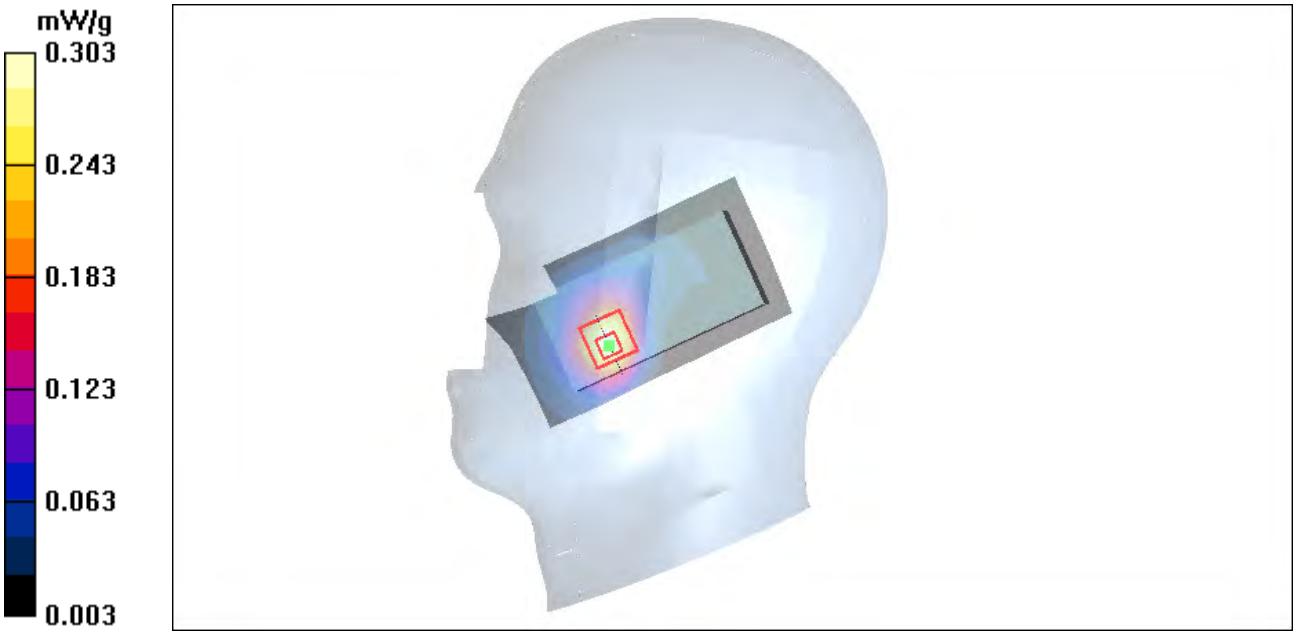


Figure 41 Right Hand Touch Cheek GSM 1900 Close Channel 661

GSM 1900 Right Tilt Middle Close

Date/Time: 11/22/2010 11:54:00 AM
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
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 Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.110 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.98 V/m; Power Drift = -0.196 dB
Peak SAR (extrapolated) = 0.125 W/kg
SAR(1 g) = 0.091 mW/g; SAR(10 g) = 0.058 mW/g
Maximum value of SAR (measured) = 0.099 mW/g

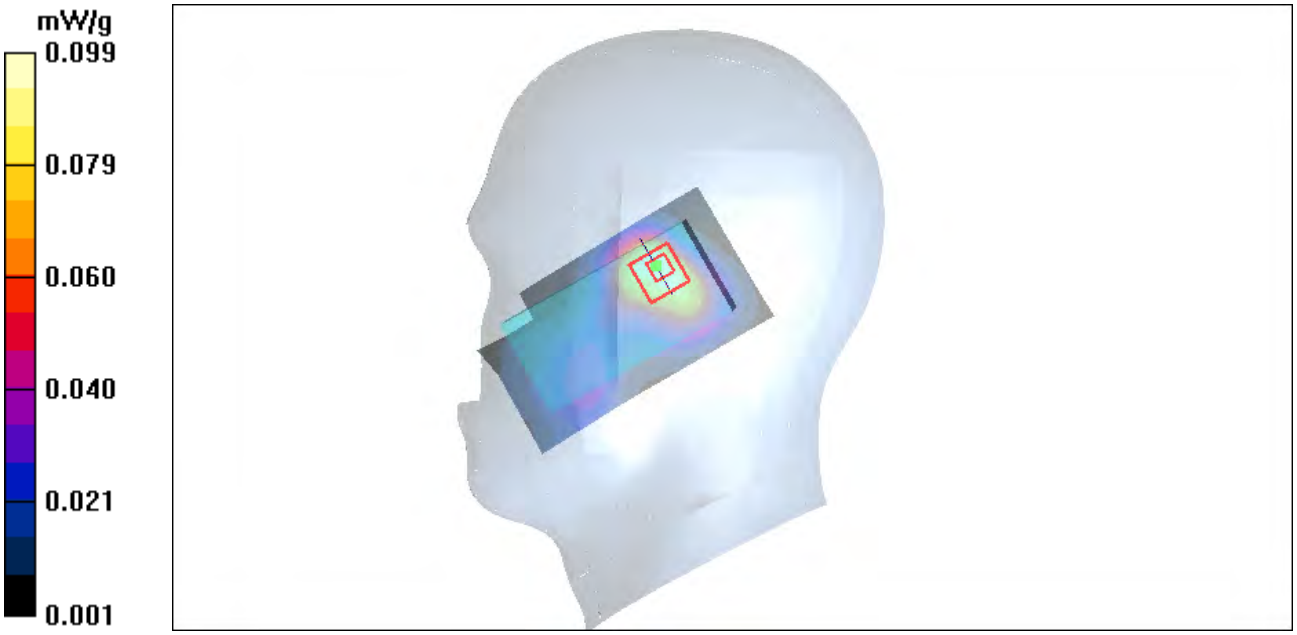


Figure 42 Right Hand Tilt 15° GSM 1900 Close Channel 661

GSM 1900 GPRS (2TXslots) Towards Ground Middle Open

Date/Time: 11/22/2010 4:50:11 PM
Communication System: PCS 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.60, 7.60, 7.60); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Ground Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.205 mW/g

Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.71 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.325 W/kg
SAR(1 g) = 0.191 mW/g; SAR(10 g) = 0.122 mW/g
Maximum value of SAR (measured) = 0.202 mW/g

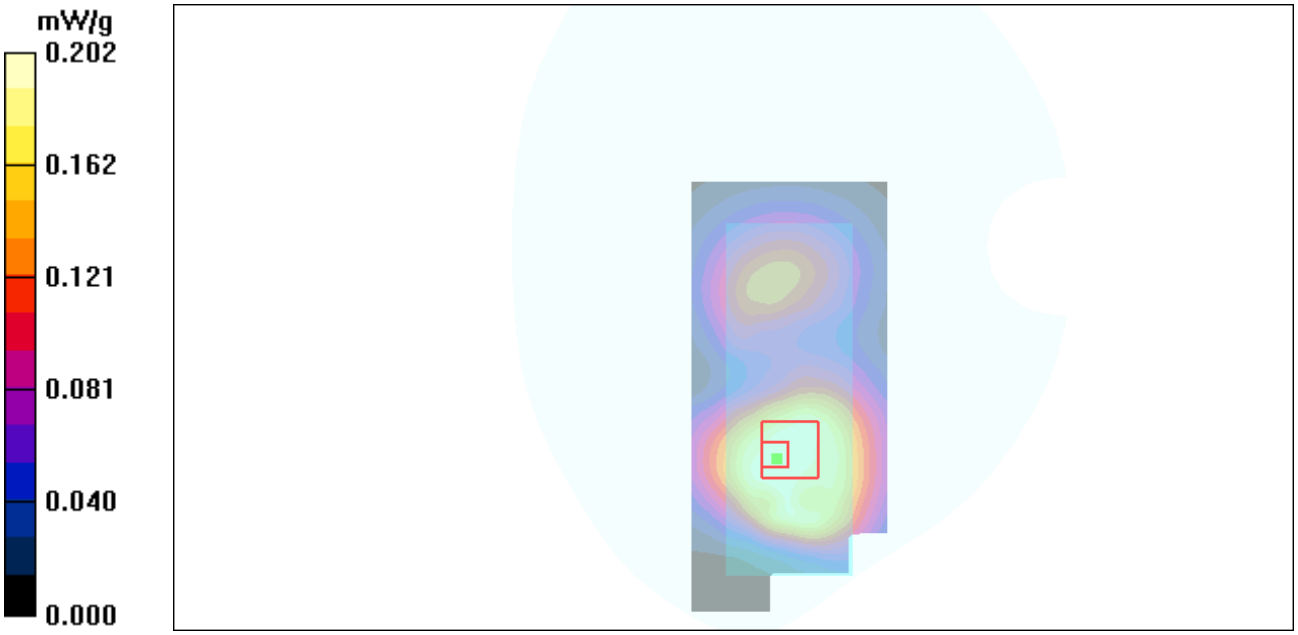


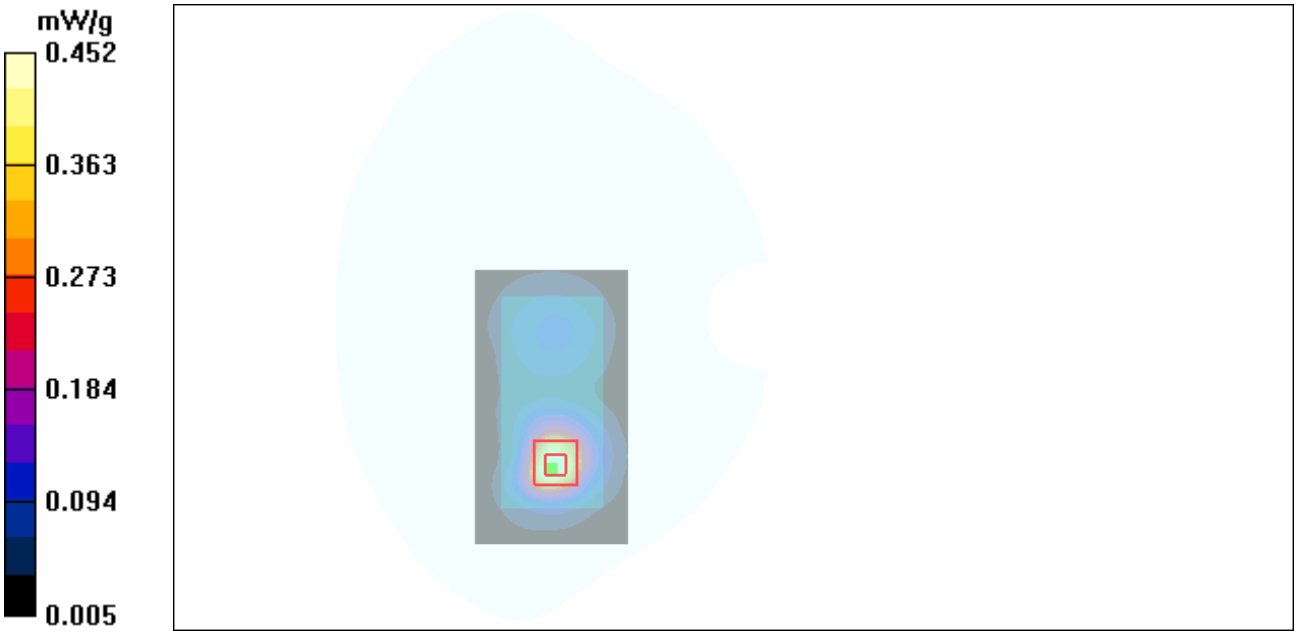
Figure 43 Body, Towards Ground, GSM 1900 GPRS (2TXslots) Open Channel 661

GSM 1900 GPRS (2TXslots) Towards Ground High Close

Date/Time: 11/22/2010 5:18:01 PM
Communication System: PCS 1900+GPRS(2Up); Frequency: 1909.8 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 1910 MHz; σ = 1.54 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.60, 7.60, 7.60); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Ground High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.530 mW/g

Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.19 V/m; Power Drift = -0.114 dB
Peak SAR (extrapolated) = 0.796 W/kg
SAR(1 g) = 0.412 mW/g; SAR(10 g) = 0.219 mW/g
Maximum value of SAR (measured) = 0.452 mW/g



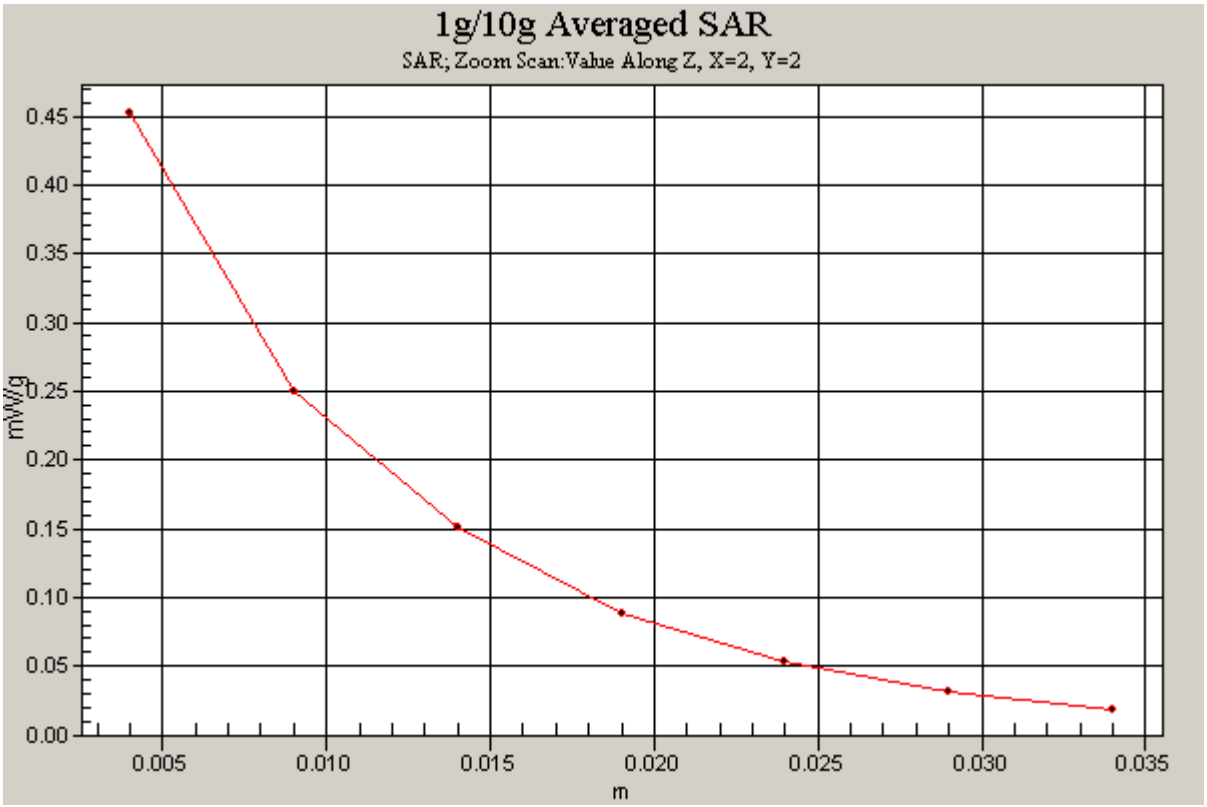


Figure 44 Body, Towards Ground, GSM 1900 GPRS (2TXslots) Close Channel 810

GSM 1900 GPRS (2TXslots) Towards Ground Middle Close

Date/Time: 11/22/2010 5:04:48 PM
Communication System: PCS 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.60, 7.60, 7.60); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Ground Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.473 mW/g

Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.28 V/m; Power Drift = -0.113 dB
Peak SAR (extrapolated) = 0.621 W/kg
SAR(1 g) = 0.359 mW/g; SAR(10 g) = 0.194 mW/g
Maximum value of SAR (measured) = 0.411 mW/g

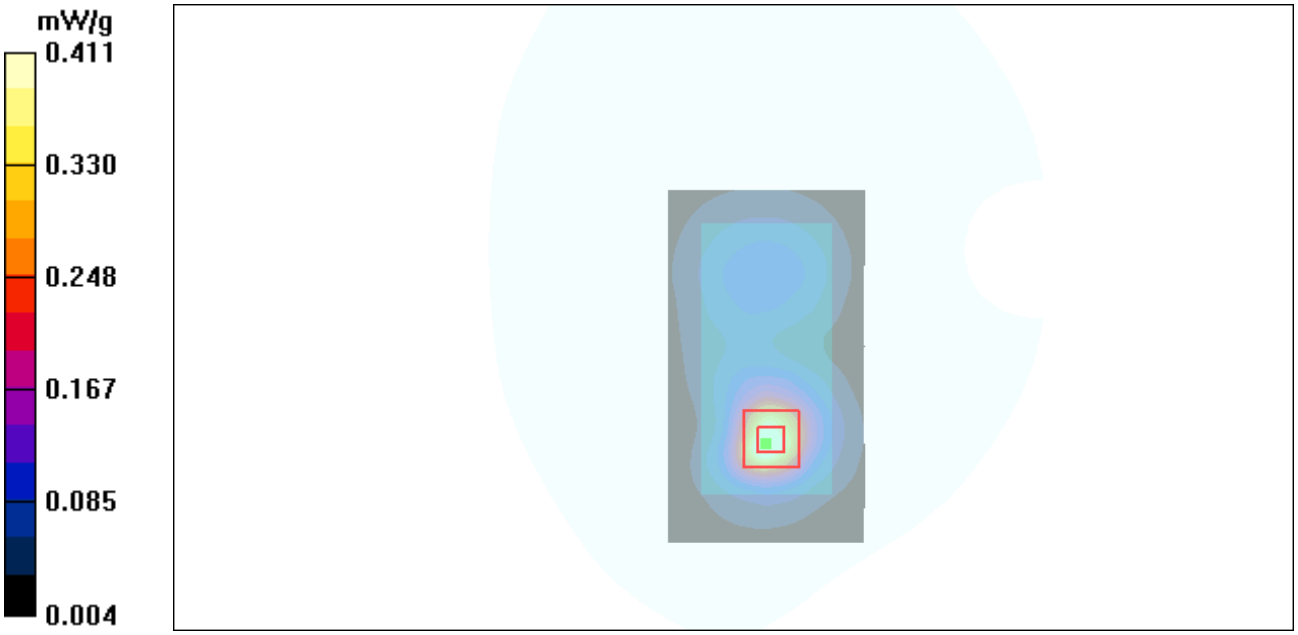


Figure 45 Body, Towards Ground, GSM 1900 GPRS (2TXslots) Close Channel 661

GSM 1900 GPRS (2TXslots) Towards Ground Low Close

Date/Time: 11/22/2010 5:35:43 PM
Communication System: PCS 1900+GPRS(2Up); Frequency: 1850.2 MHz;Duty Cycle: 1:4.15
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.47 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.60, 7.60, 7.60); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Ground Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.552 mW/g

Towards Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.31 V/m; Power Drift = 0.105 dB
Peak SAR (extrapolated) = 0.750 W/kg
SAR(1 g) = 0.393 mW/g; SAR(10 g) = 0.203 mW/g
Maximum value of SAR (measured) = 0.437 mW/g

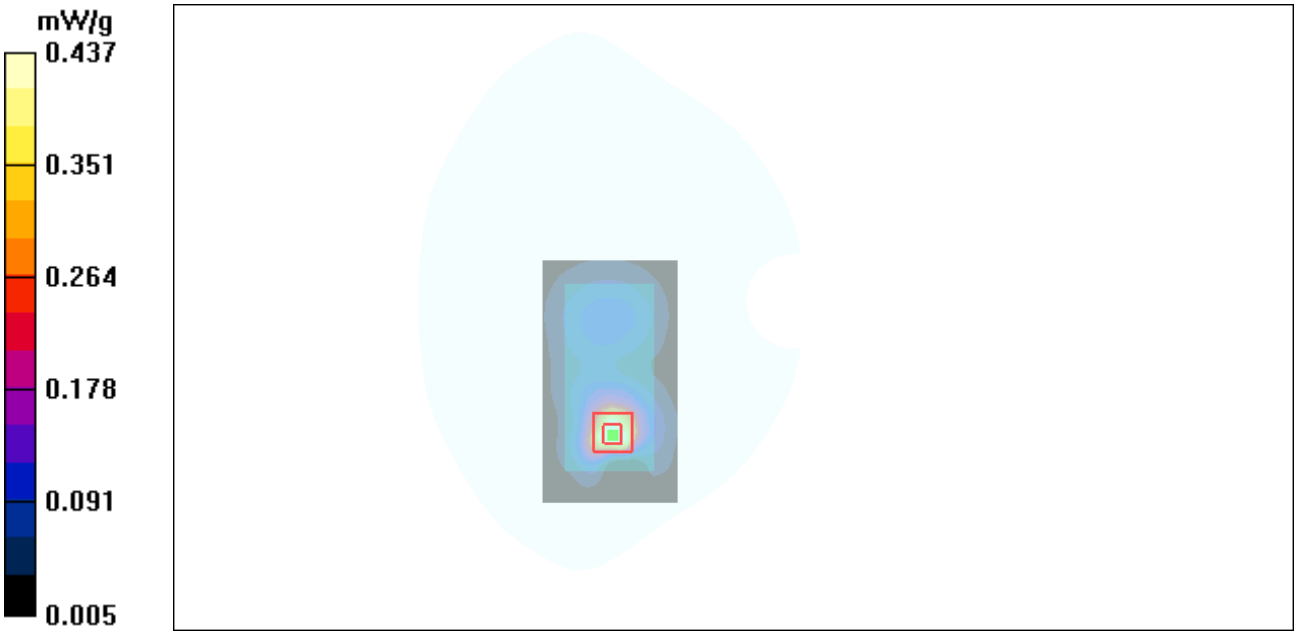


Figure 46 Body, Towards Ground, GSM 1900 GPRS (2TXslots) Close Channel 512

GSM 1900 GPRS (2TXslots) Towards Phantom Middle Close

Date/Time: 11/22/2010 6:28:51 PM
Communication System: PCS 1900+GPRS(2Up); Frequency: 1880 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.60, 7.60, 7.60); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Phantom Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.093 mW/g

Towards Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.83 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.133 W/kg
SAR(1 g) = 0.082 mW/g; SAR(10 g) = 0.052 mW/g
Maximum value of SAR (measured) = 0.088 mW/g

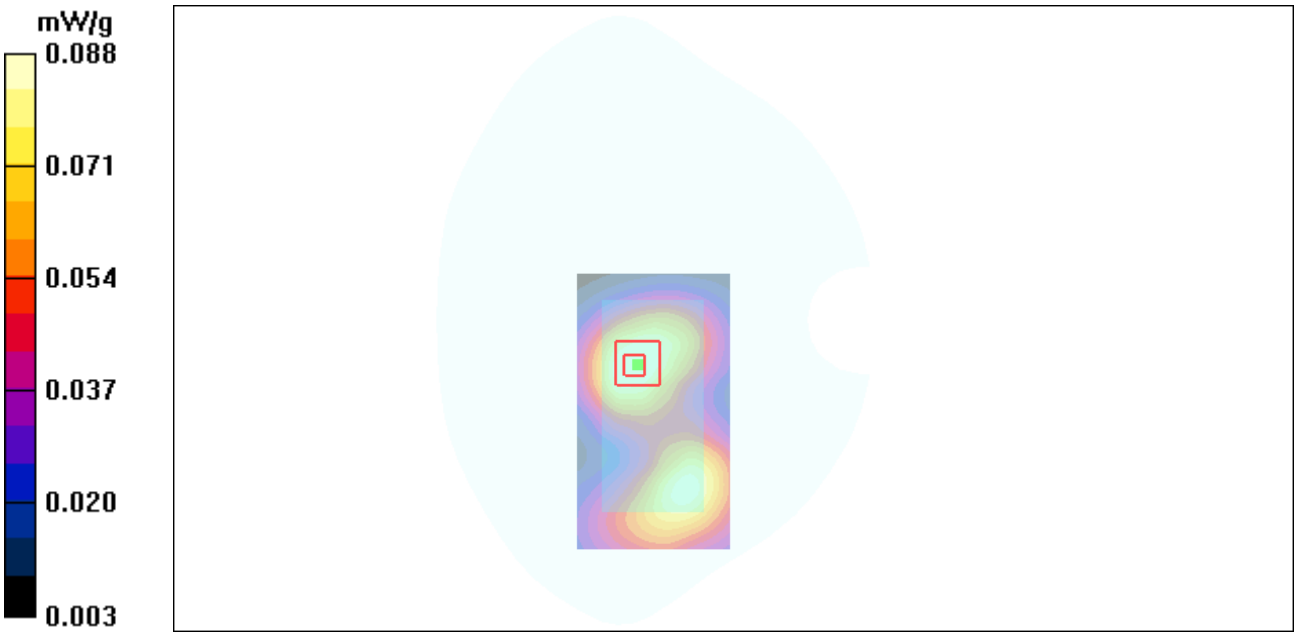


Figure 47 Body, Towards Phantom, GSM 1900 GPRS (2TXslots) Close Channel 661

GSM 1900 Towards Ground Middle Close

Date/Time: 11/22/2010 6:43:36 PM
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.60, 7.60, 7.60); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Ground Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.269 mW/g

Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.27 V/m; Power Drift = 0.039 dB
Peak SAR (extrapolated) = 0.407 W/kg
SAR(1 g) = 0.212 mW/g; SAR(10 g) = 0.112 mW/g
Maximum value of SAR (measured) = 0.234 mW/g

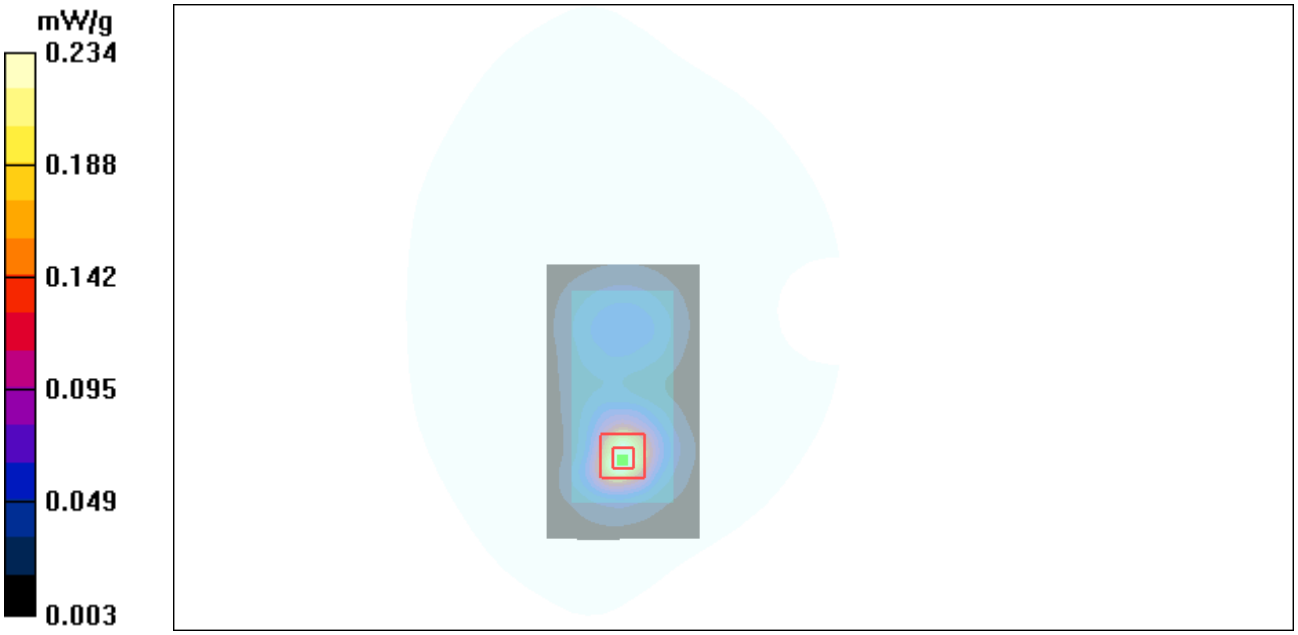


Figure 48 Body, Towards Ground, GSM 1900 Close Channel 661

GSM 1900 with Earphone Towards Ground High Close

Date/Time: 11/22/2010 6:57:12 PM
Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.54 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.60, 7.60, 7.60); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Ground High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.251 mW/g

Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.62 V/m; Power Drift = 0.113 dB
Peak SAR (extrapolated) = 0.394 W/kg
SAR(1 g) = 0.202 mW/g; SAR(10 g) = 0.107 mW/g
Maximum value of SAR (measured) = 0.223 mW/g

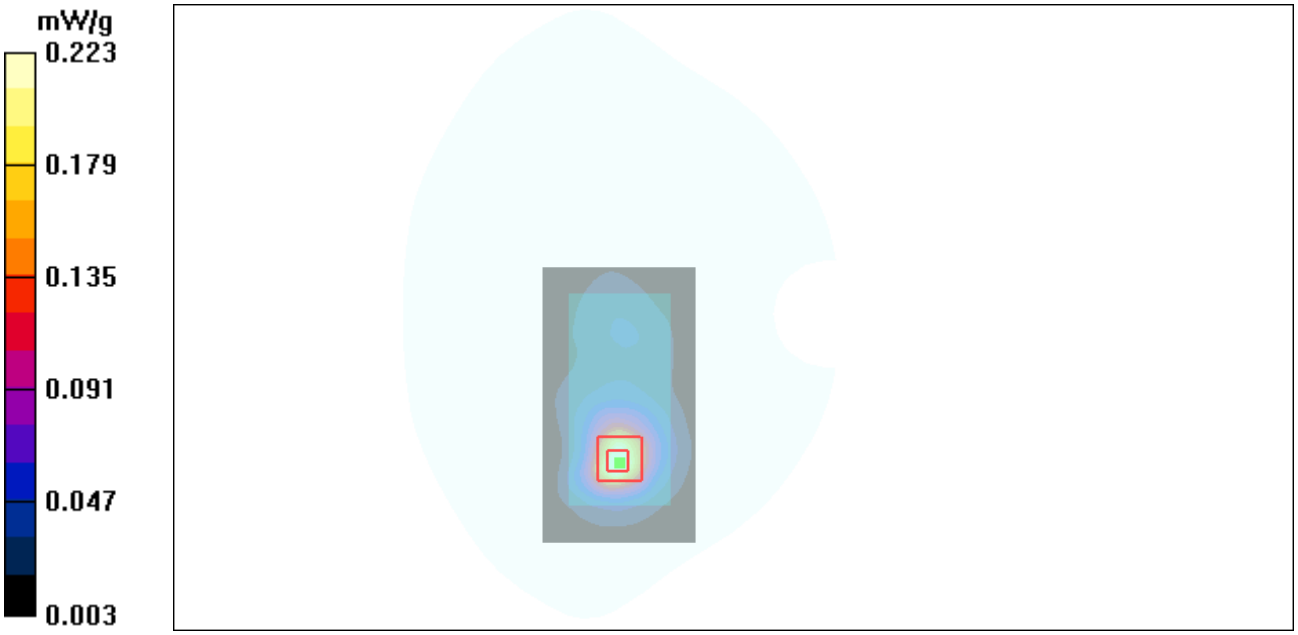


Figure 49 Body with Earphone, Towards Ground, GSM 1900 Close Channel 810

GSM 1900 EGPRS(2TXslots) Towards Ground High Close

Date/Time: 2/28/2011 11:08:26 AM
Communication System: PCS 1900+EGPRS(2Up); Frequency: 1909.8 MHz;Duty Cycle: 1:4.15
Medium parameters used: f = 1910 MHz; σ = 1.54 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3677; ConvF(7.70, 7.70, 7.70); Calibrated: 11/24/2010
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Ground High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.514 mW/g

Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.63 V/m; Power Drift = -0.050 dB
Peak SAR (extrapolated) = 0.746 W/kg
SAR(1 g) = 0.393 mW/g; SAR(10 g) = 0.216 mW/g
Maximum value of SAR (measured) = 0.430 mW/g

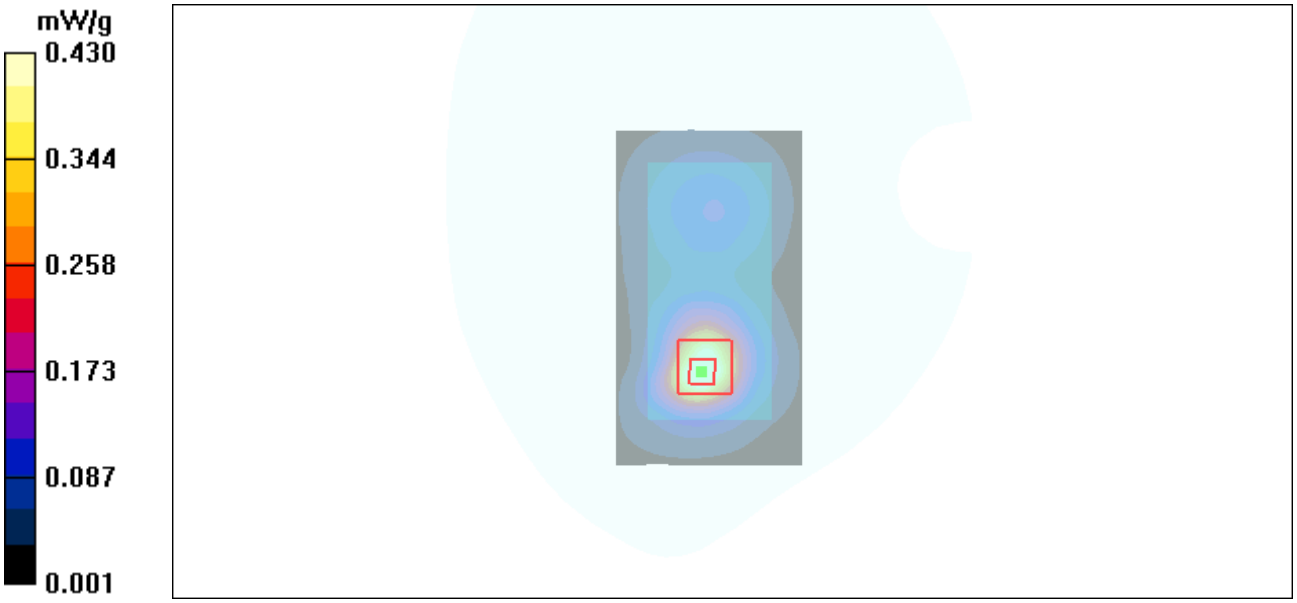


Figure 50 Body, Towards Ground, GSM 1900 EGPRS(2TXslots) Close Channel 810

WCDMA Band II Left Cheek Middle Open

Date/Time: 11/22/2010 3:07:26 PM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.874 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.79 V/m; Power Drift = 0.087 dB
Peak SAR (extrapolated) = 0.987 W/kg
SAR(1 g) = 0.775 mW/g; SAR(10 g) = 0.506 mW/g
Maximum value of SAR (measured) = 0.825 mW/g

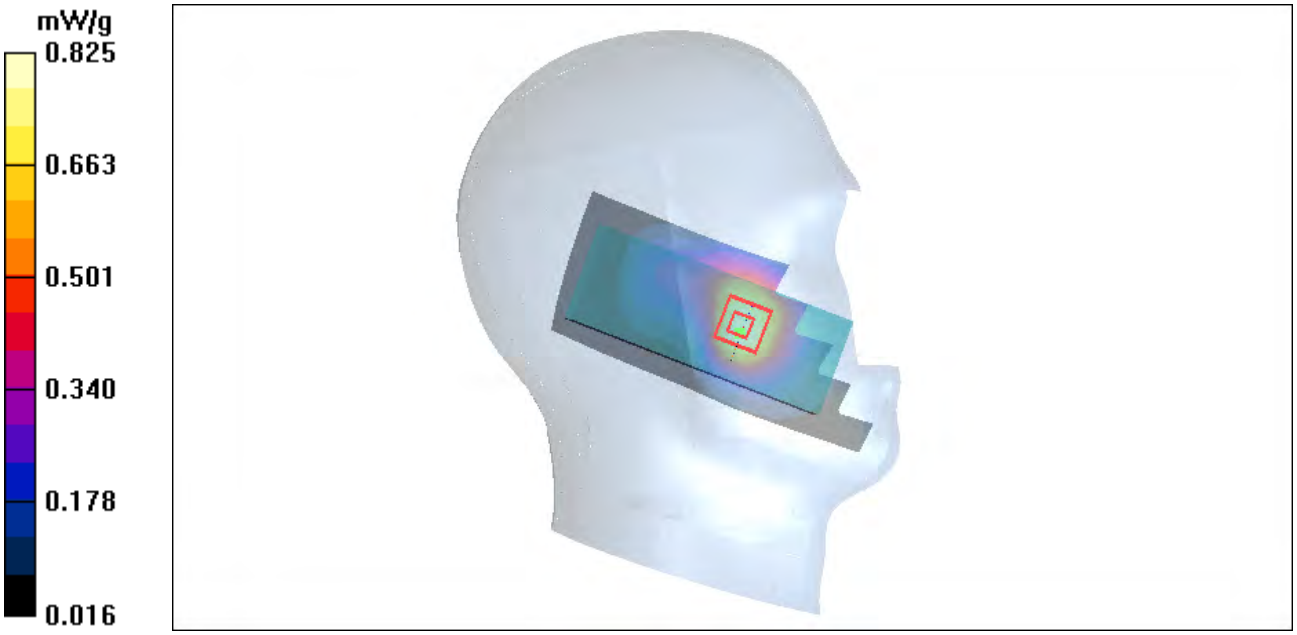


Figure 51 Left Hand Touch Cheek WCDMA Band II Open Channel 9400

WCDMA Band II Left Tilt Middle Open

Date/Time: 11/22/2010 3:26:52 PM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
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 Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.675 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.1 V/m; Power Drift = -0.037 dB
Peak SAR (extrapolated) = 0.749 W/kg
SAR(1 g) = 0.535 mW/g; SAR(10 g) = 0.335 mW/g
Maximum value of SAR (measured) = 0.584 mW/g

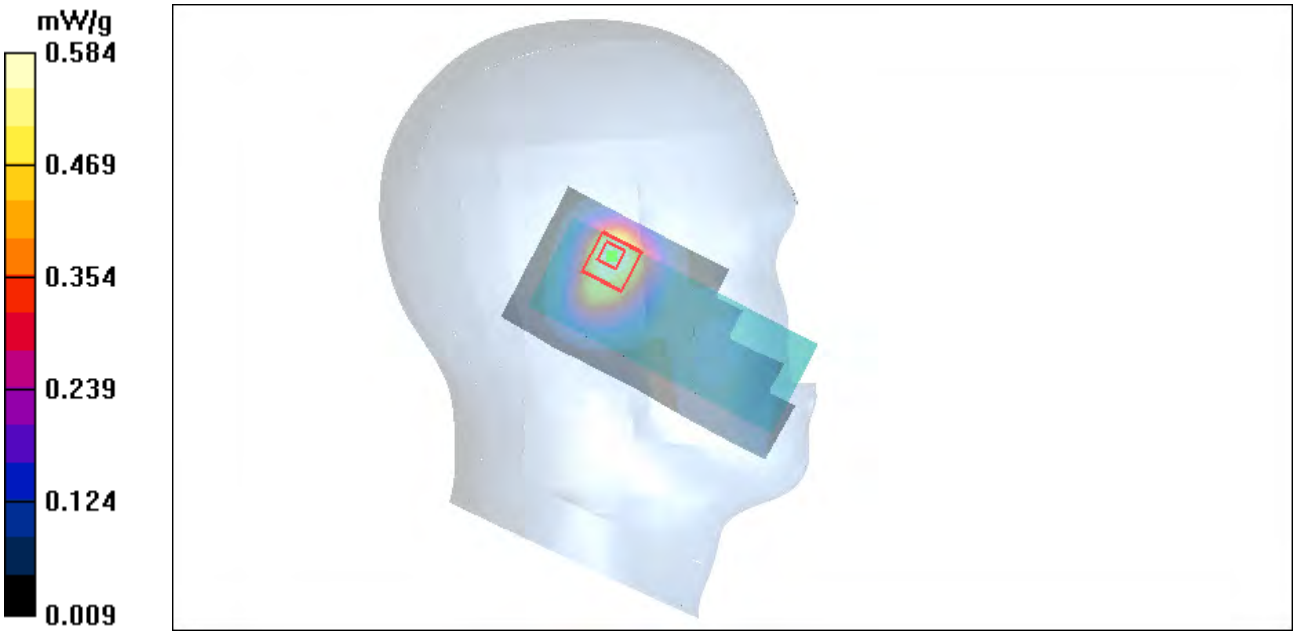


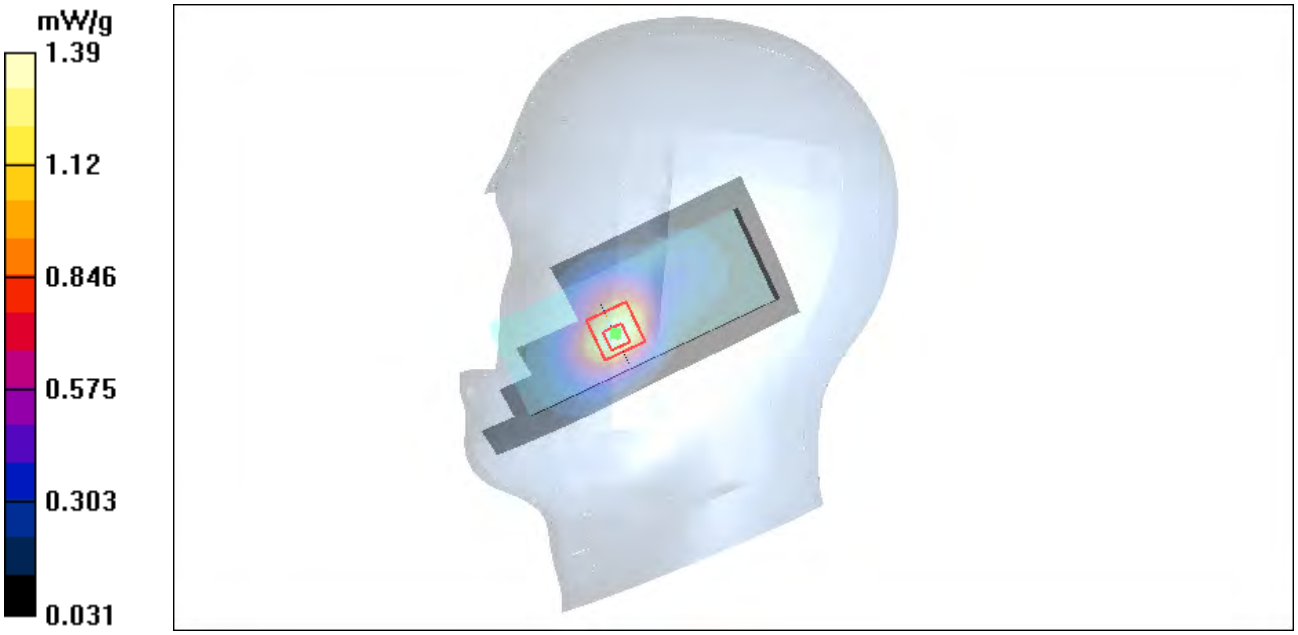
Figure 52 Left Hand Tilt 15° WCDMA Band II Open Channel 9400

WCDMA Band II Right Cheek High Open

Date/Time: 11/22/2010 8:38:28 PM
Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.41 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek High/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.49 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.20 V/m; Power Drift = -0.052 dB
Peak SAR (extrapolated) = 1.82 W/kg
SAR(1 g) = 1.29 mW/g; SAR(10 g) = 0.779 mW/g
Maximum value of SAR (measured) = 1.39 mW/g



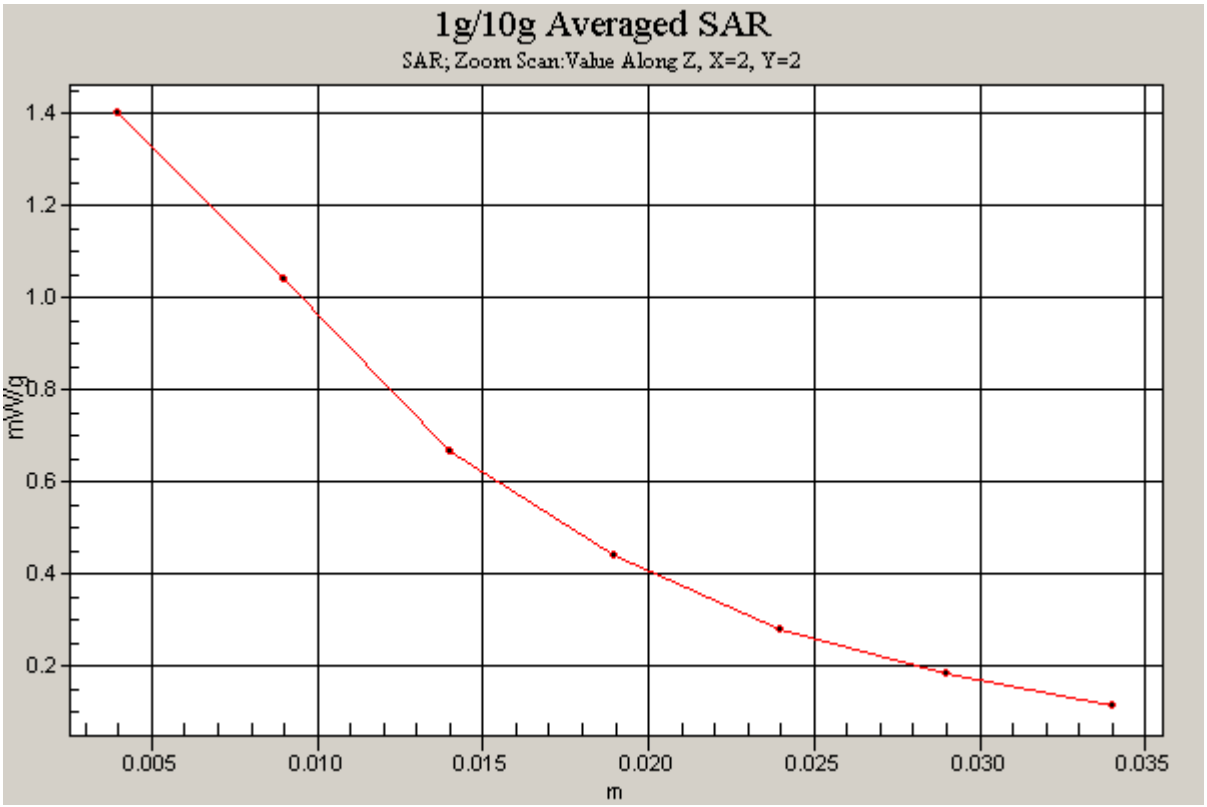


Figure 53 Right Hand Touch Cheek WCDMA Band II Open Channel 9538

WCDMA Band II Right Cheek Middle Open

Date/Time: 11/22/2010 2:39:49 PM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.992 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.66 V/m; Power Drift = -0.127 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.878 mW/g; SAR(10 g) = 0.558 mW/g
Maximum value of SAR (measured) = 0.937 mW/g

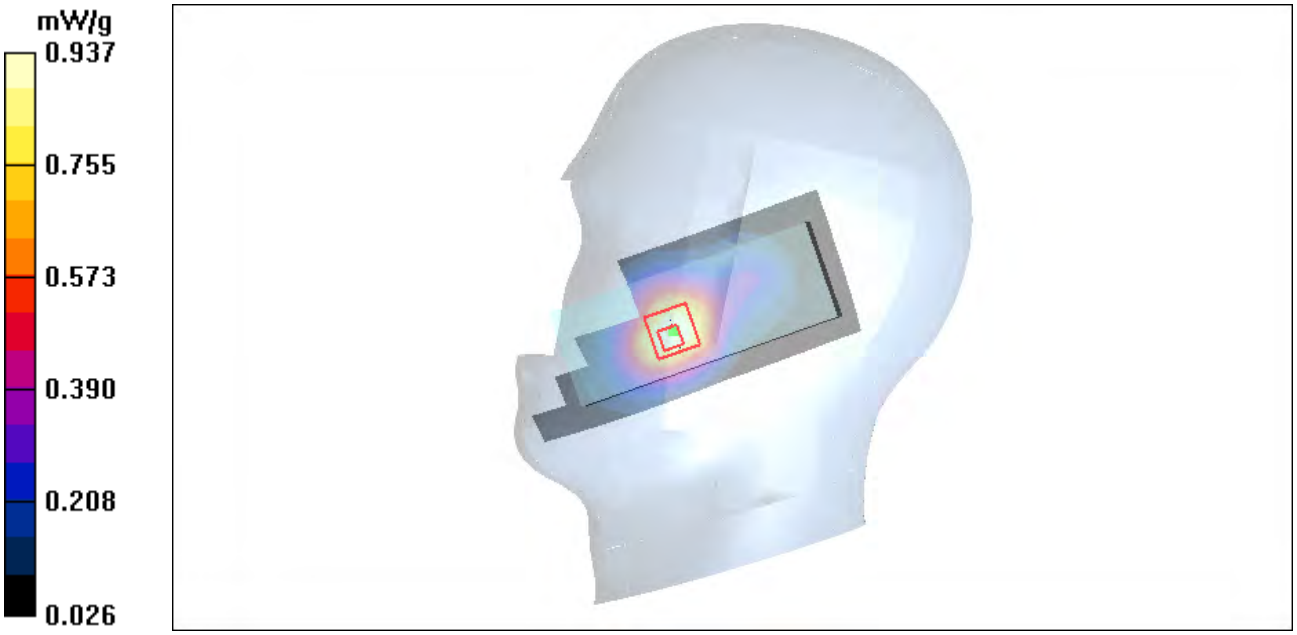


Figure 54 Right Hand Touch Cheek WCDMA Band II Open Channel 9400

WCDMA Band II Right Cheek Low Open

Date/Time: 11/22/2010 8:51:38 PM
Communication System: WCDMA Band II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.36 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
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 (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.980 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.24 V/m; Power Drift = -0.024 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.875 mW/g; SAR(10 g) = 0.560 mW/g
Maximum value of SAR (measured) = 0.955 mW/g

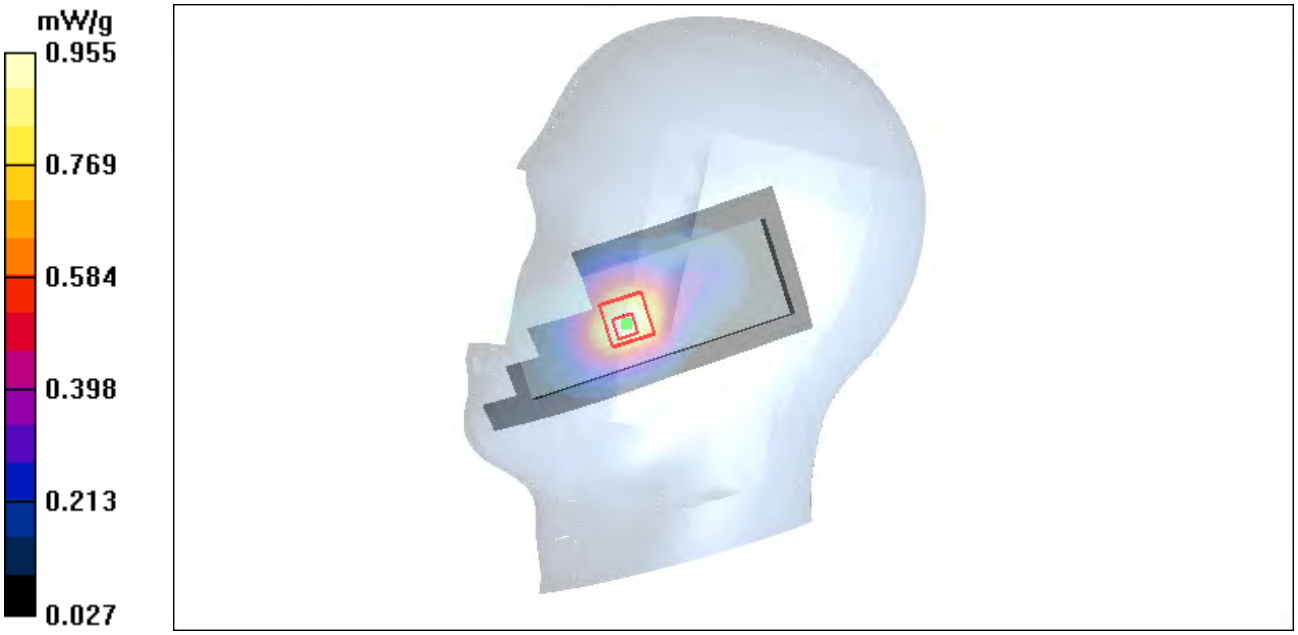


Figure 55 Right Hand Touch Cheek WCDMA Band II Open Channel 9262

WCDMA Band II Right Tilt Middle Open

Date/Time: 11/22/2010 2:53:07 PM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
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 Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.598 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.9 V/m; Power Drift = -0.074 dB
Peak SAR (extrapolated) = 0.677 W/kg
SAR(1 g) = 0.499 mW/g; SAR(10 g) = 0.315 mW/g
Maximum value of SAR (measured) = 0.530 mW/g

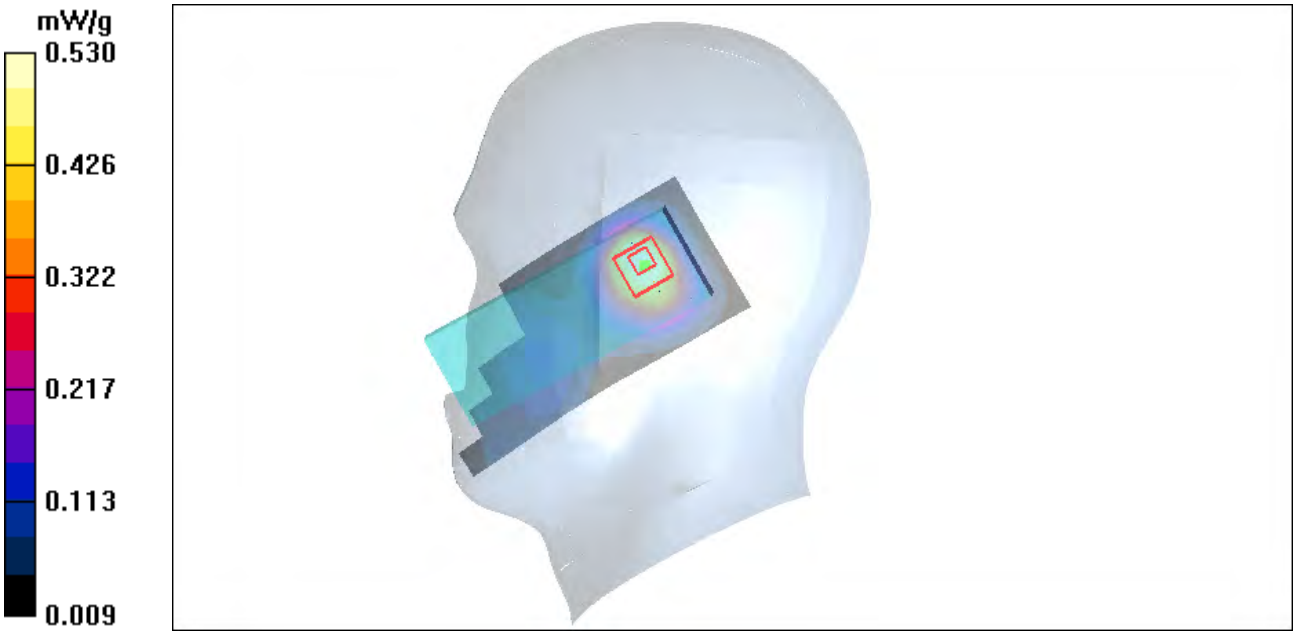


Figure 56 Right Hand Tilt 15° WCDMA Band II Open Channel 9400

WCDMA Band II Left Cheek Middle Close

Date/Time: 11/22/2010 12:57:03 PM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.556 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.81 V/m; Power Drift = 0.045 dB
Peak SAR (extrapolated) = 0.606 W/kg
SAR(1 g) = 0.465 mW/g; SAR(10 g) = 0.308 mW/g
Maximum value of SAR (measured) = 0.505 mW/g

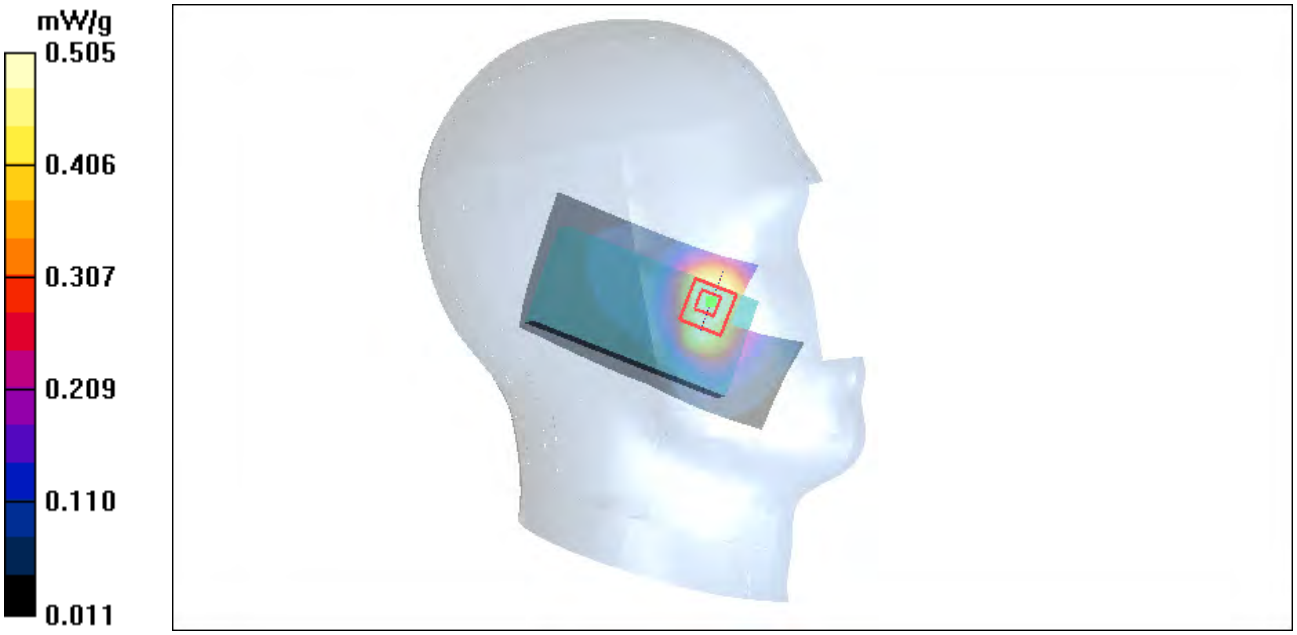


Figure 57 Left Hand Touch Cheek WCDMA Band II Close Channel 9400

WCDMA Band II Left Tilt Middle Close

Date/Time: 11/22/2010 1:54:17 PM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
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 Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.289 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.6 V/m; Power Drift = 0.082 dB
Peak SAR (extrapolated) = 0.364 W/kg
SAR(1 g) = 0.254 mW/g; SAR(10 g) = 0.161 mW/g
Maximum value of SAR (measured) = 0.275 mW/g

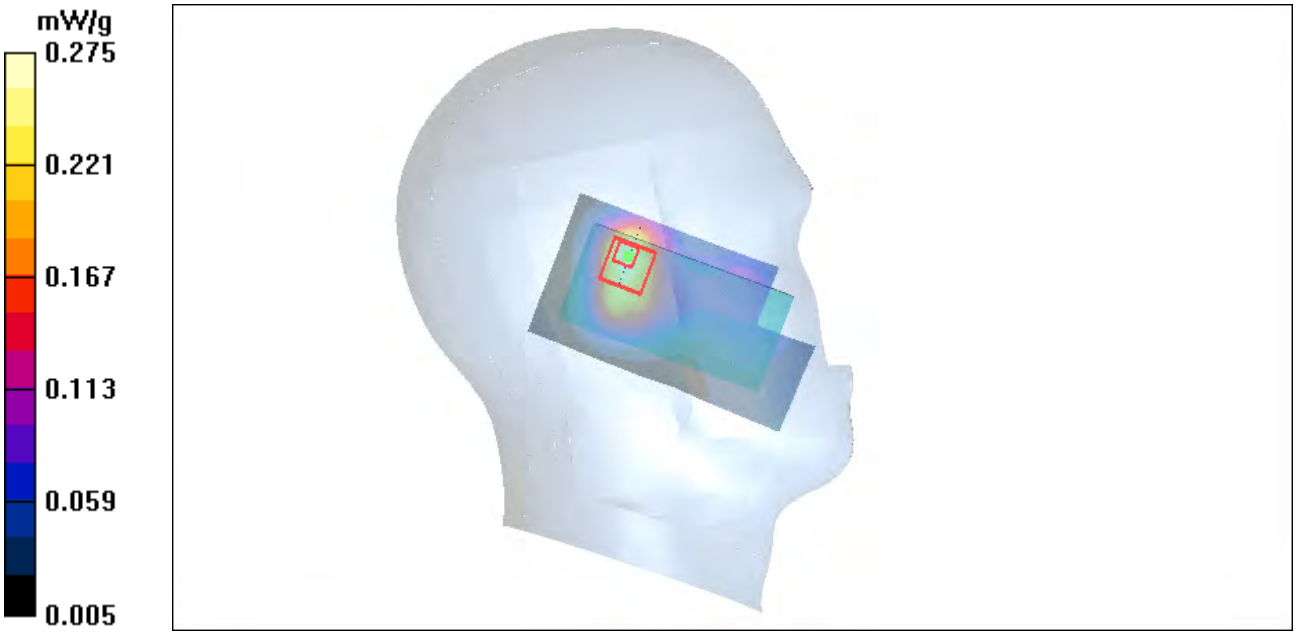


Figure 58 Left Hand Tilt 15° WCDMA Band II Close Channel 9400

WCDMA Band II Right Cheek Middle Close

Date/Time: 11/22/2010 2:08:38 PM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.675 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.52 V/m; Power Drift = -0.085 dB
Peak SAR (extrapolated) = 0.874 W/kg
SAR(1 g) = 0.612 mW/g; SAR(10 g) = 0.368 mW/g
Maximum value of SAR (measured) = 0.693 mW/g

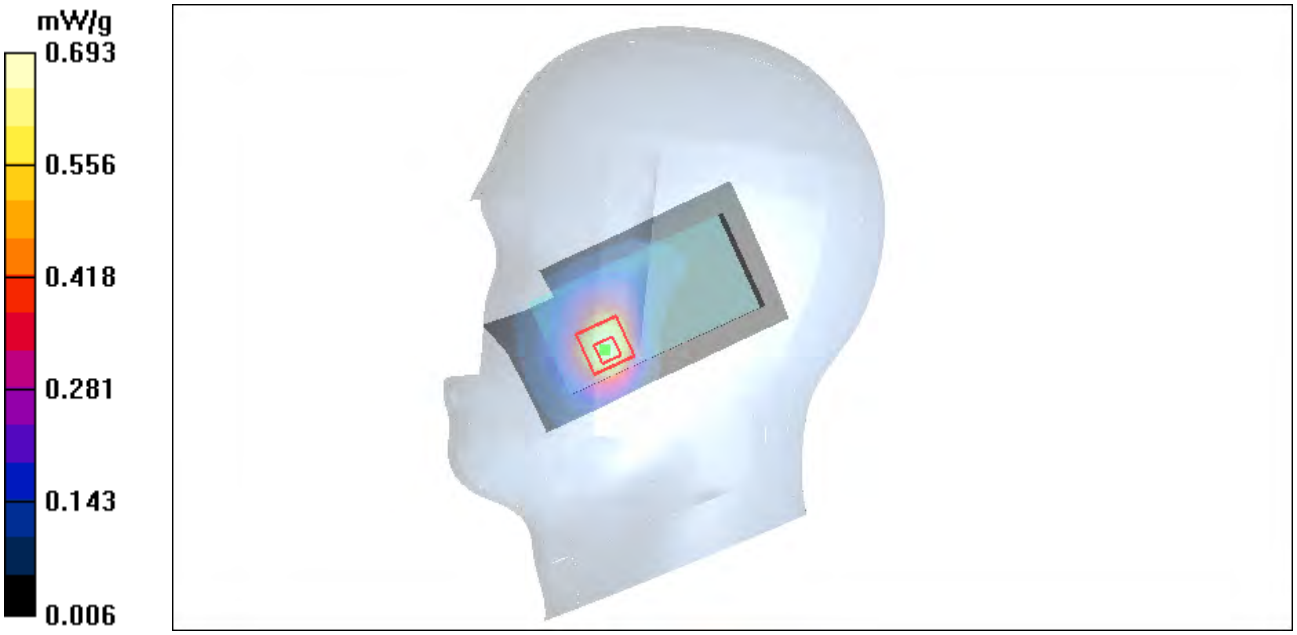


Figure 59 Right Hand Touch Cheek WCDMA Band II Close Channel 9400

WCDMA Band II Right Tilt Middle Close

Date/Time: 11/22/2010 2:24:55 PM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.77, 7.77, 7.77); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
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 Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.485 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.5 V/m; Power Drift = 0.076 dB
Peak SAR (extrapolated) = 0.554 W/kg
SAR(1 g) = 0.406 mW/g; SAR(10 g) = 0.254 mW/g
Maximum value of SAR (measured) = 0.445 mW/g

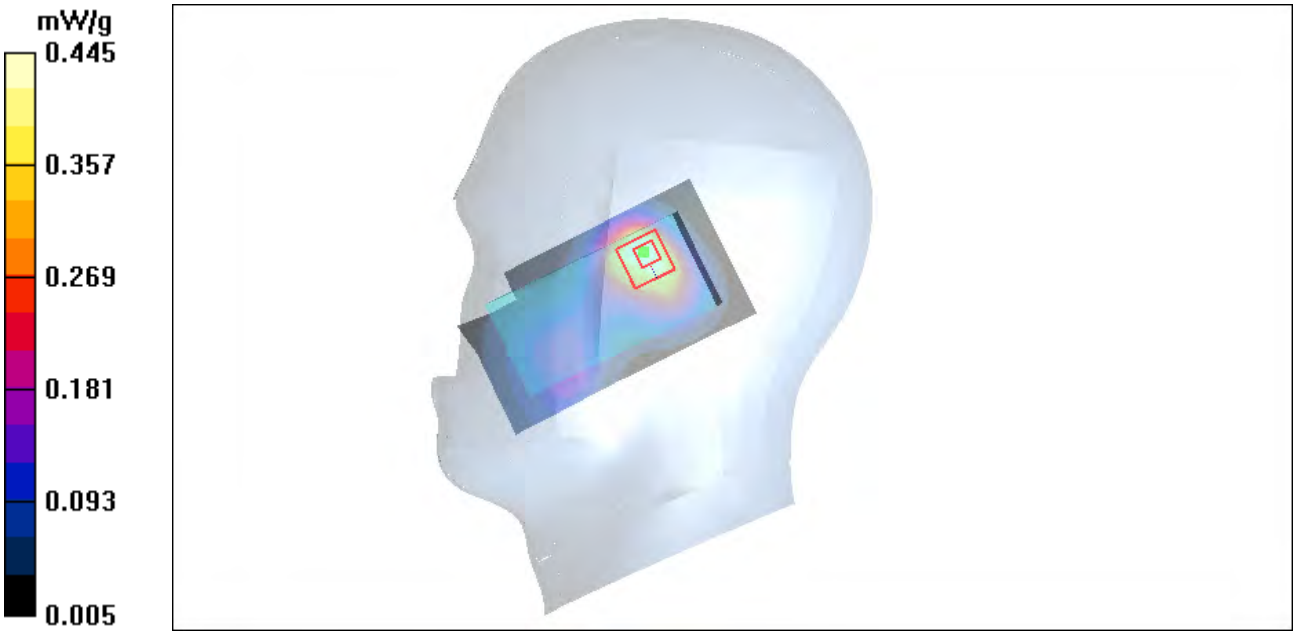


Figure 60 Right Hand Tilt 15° WCDMA Band II Close Channel 9400

WCDMA Band II Towards Ground Middle Open

Date/Time: 11/22/2010 4:17:03 PM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.60, 7.60, 7.60); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Ground Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.260 mW/g

Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.90 V/m; Power Drift = -0.039 dB
Peak SAR (extrapolated) = 0.392 W/kg
SAR(1 g) = 0.239 mW/g; SAR(10 g) = 0.152 mW/g
Maximum value of SAR (measured) = 0.251 mW/g

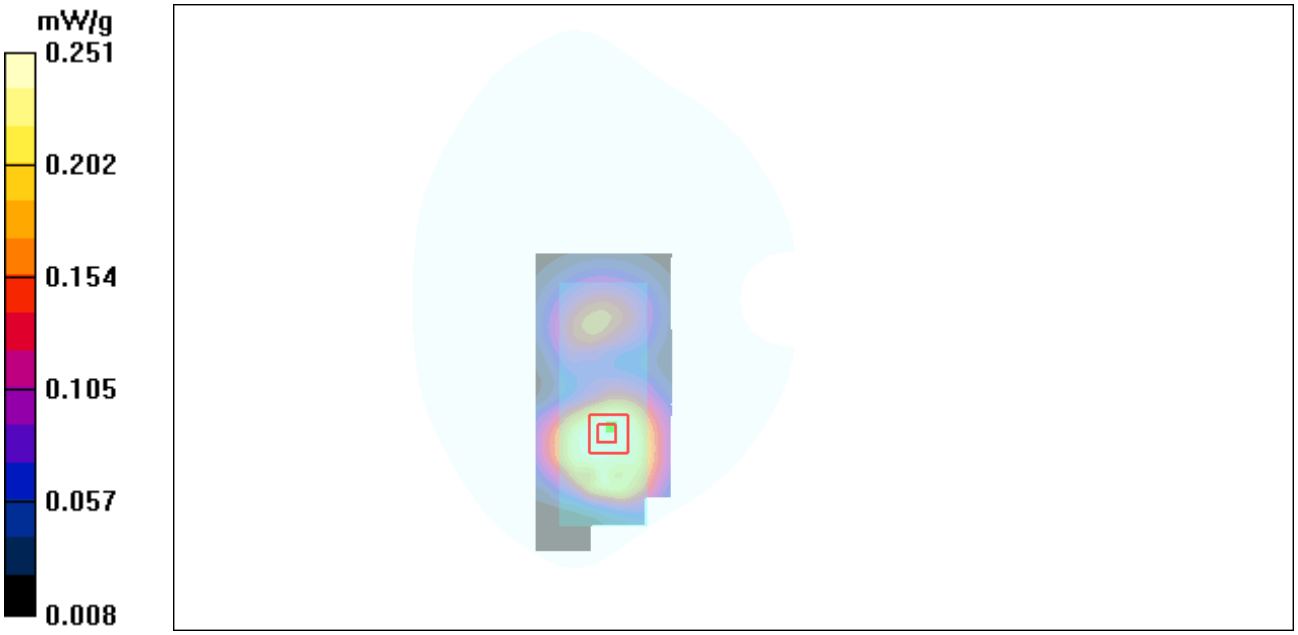


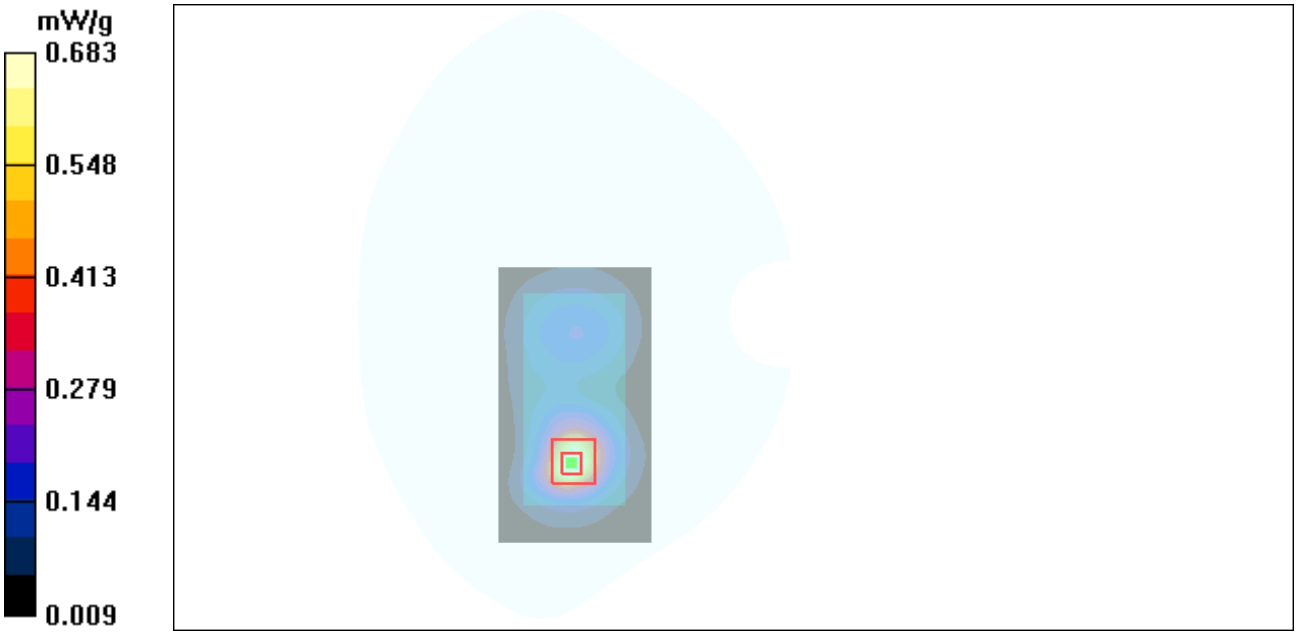
Figure 61 Body, Towards Ground, WCDMA Band II Open Channel 9400

WCDMA Band II Towards Ground High Close

Date/Time: 11/22/2010 7:19:10 PM
Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.54 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.60, 7.60, 7.60); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Ground High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.772 mW/g

Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.9 V/m; Power Drift = -0.026 dB
Peak SAR (extrapolated) = 1.14 W/kg
SAR(1 g) = 0.611 mW/g; SAR(10 g) = 0.326 mW/g
Maximum value of SAR (measured) = 0.683 mW/g



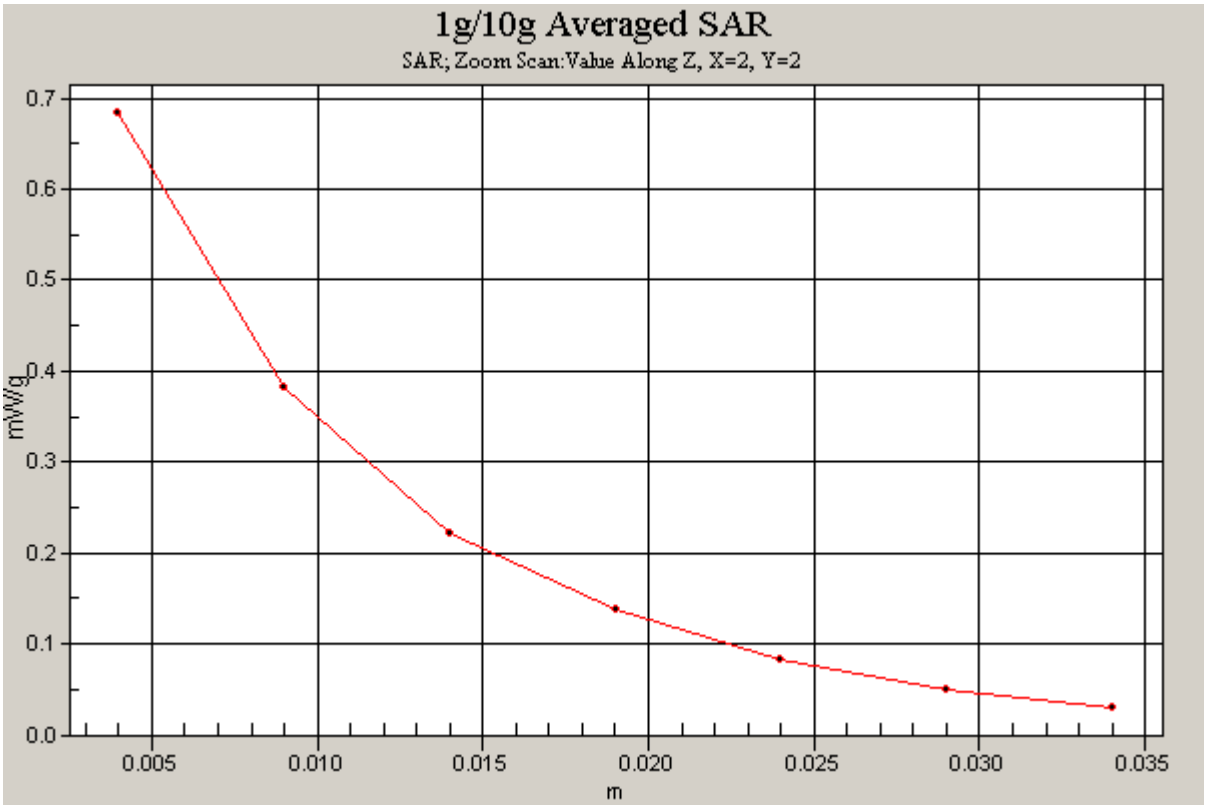


Figure 62 Body, Towards Ground, WCDMA Band II Close Channel 9538

WCDMA Band II Towards Ground Middle Close

Date/Time: 11/22/2010 4:31:21 PM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.60, 7.60, 7.60); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Ground Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.722 mW/g

Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = -0.189 dB
Peak SAR (extrapolated) = 1.14 W/kg
SAR(1 g) = 0.593 mW/g; SAR(10 g) = 0.312 mW/g
Maximum value of SAR (measured) = 0.654 mW/g

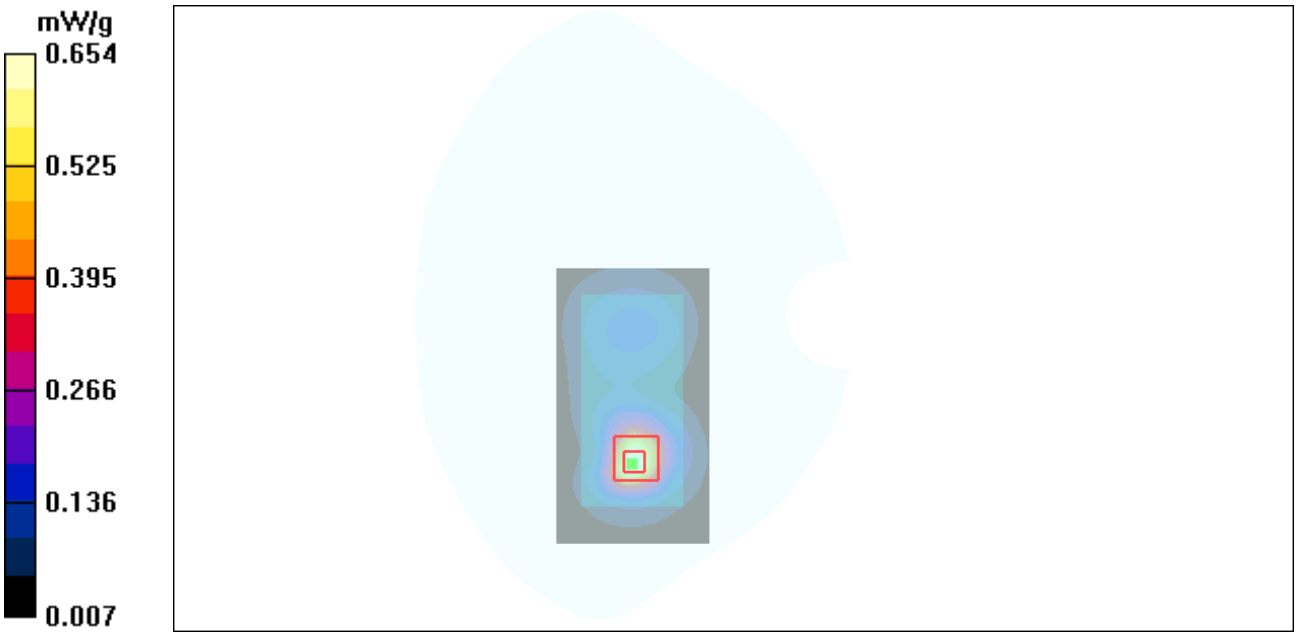


Figure 63 Body, Towards Ground, WCDMA Band II Close Channel 9400

WCDMA Band II Towards Ground Low Close

Date/Time: 11/22/2010 7:32:38 PM
Communication System: WCDMA Band II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.47 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.60, 7.60, 7.60); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Ground Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.718 mW/g

Towards Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.3 V/m; Power Drift = 0.185 dB
Peak SAR (extrapolated) = 1.07 W/kg
SAR(1 g) = 0.566 mW/g; SAR(10 g) = 0.301 mW/g
Maximum value of SAR (measured) = 0.620 mW/g

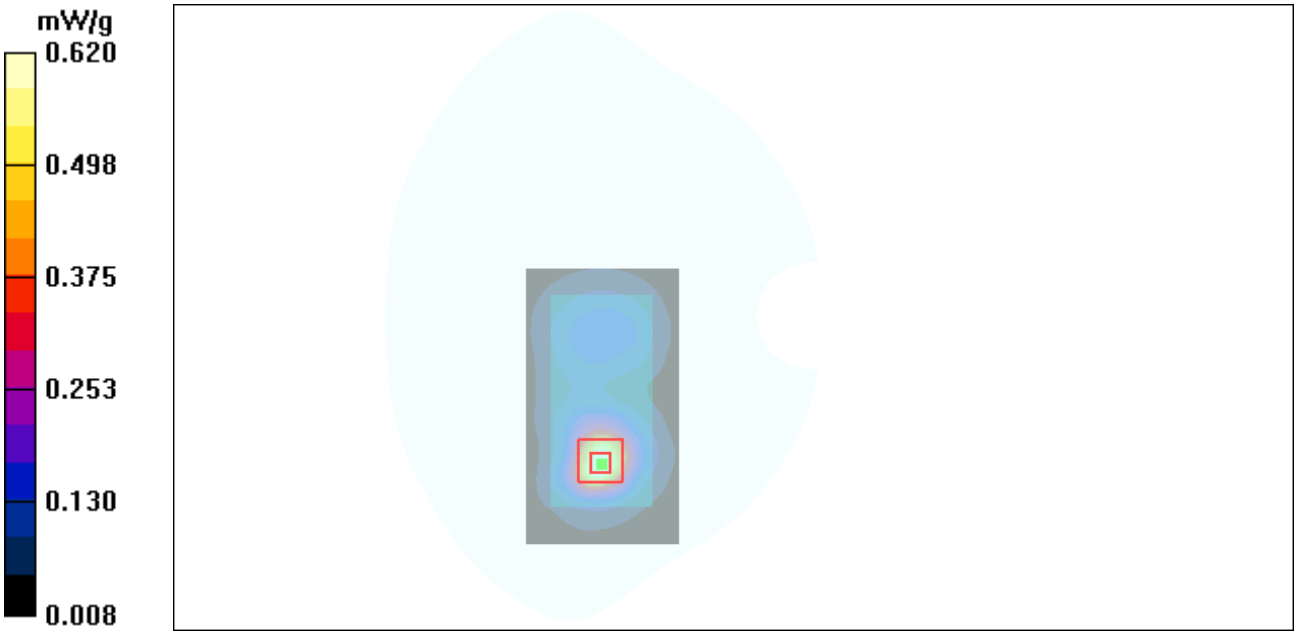


Figure 64 Body, Towards Ground, WCDMA Band II Close Channel 9262

WCDMA Band II Towards Phantom Middle Close

Date/Time: 11/22/2010 8:04:25 PM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 52.1; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.60, 7.60, 7.60); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Phantom Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.172 mW/g

Towards Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.82 V/m; Power Drift = 0.048 dB
Peak SAR (extrapolated) = 0.270 W/kg
SAR(1 g) = 0.164 mW/g; SAR(10 g) = 0.104 mW/g
Maximum value of SAR (measured) = 0.172 mW/g

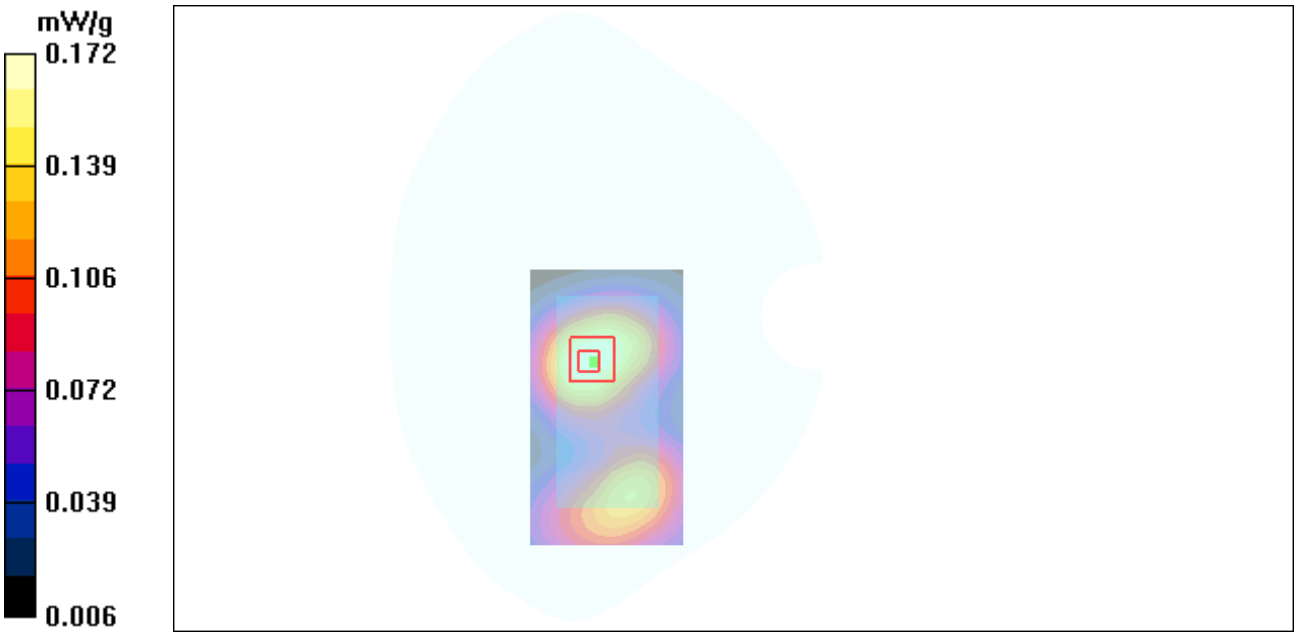


Figure 65 Body, Towards Phantom, WCDMA Band II Close Channel 9400

WCDMA Band II with Earphone Towards Ground High Close

Date/Time: 11/22/2010 7:48:24 PM
Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.54 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(7.60, 7.60, 7.60); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Towards Ground High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.667 mW/g

Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.53 V/m; Power Drift = -0.042 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.553 mW/g; SAR(10 g) = 0.290 mW/g
Maximum value of SAR (measured) = 0.609 mW/g

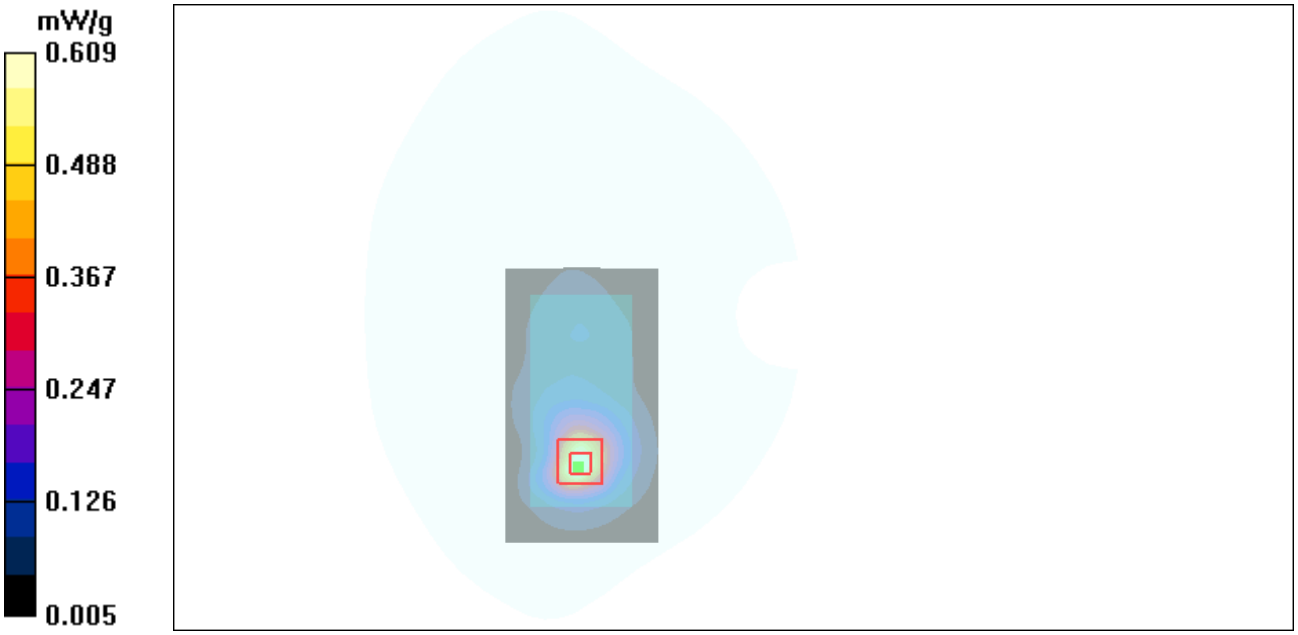


Figure 66 Body with Earphone, Towards Ground, WCDMA Band II Close Channel 9538

WCDMA Band IV Left Cheek Middle Open

Date/Time: 11/23/2010 1:13:28 AM
Communication System: WCDMA Band IV; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1733 MHz; σ = 1.31 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(8.19, 8.19, 8.19); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.323 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.04 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 0.411 W/kg
SAR(1 g) = 0.298 mW/g; SAR(10 g) = 0.196 mW/g
Maximum value of SAR (measured) = 0.320 mW/g

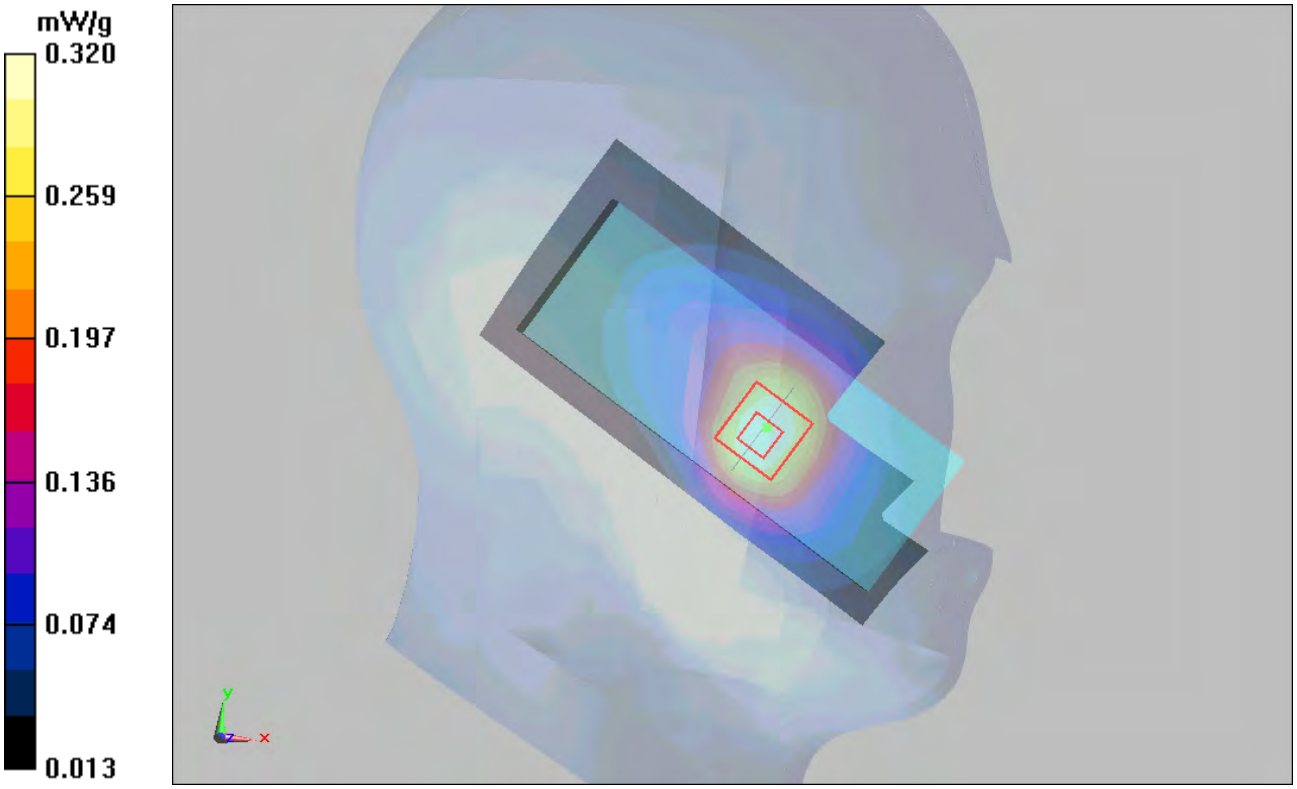


Figure 67 Left Hand Touch Cheek WCDMA Band IV Open Channel 1413

WCDMA Band IV Left Tilt Middle Open

Date/Time: 11/23/2010 1:29:20 AM
Communication System: WCDMA Band IV; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1733 MHz; σ = 1.31 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(8.19, 8.19, 8.19); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
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 Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.279 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10 V/m; Power Drift = -0.020 dB
Peak SAR (extrapolated) = 0.311 W/kg
SAR(1 g) = 0.219 mW/g; SAR(10 g) = 0.144 mW/g.
Maximum value of SAR (measured) = 0.230 mW/g

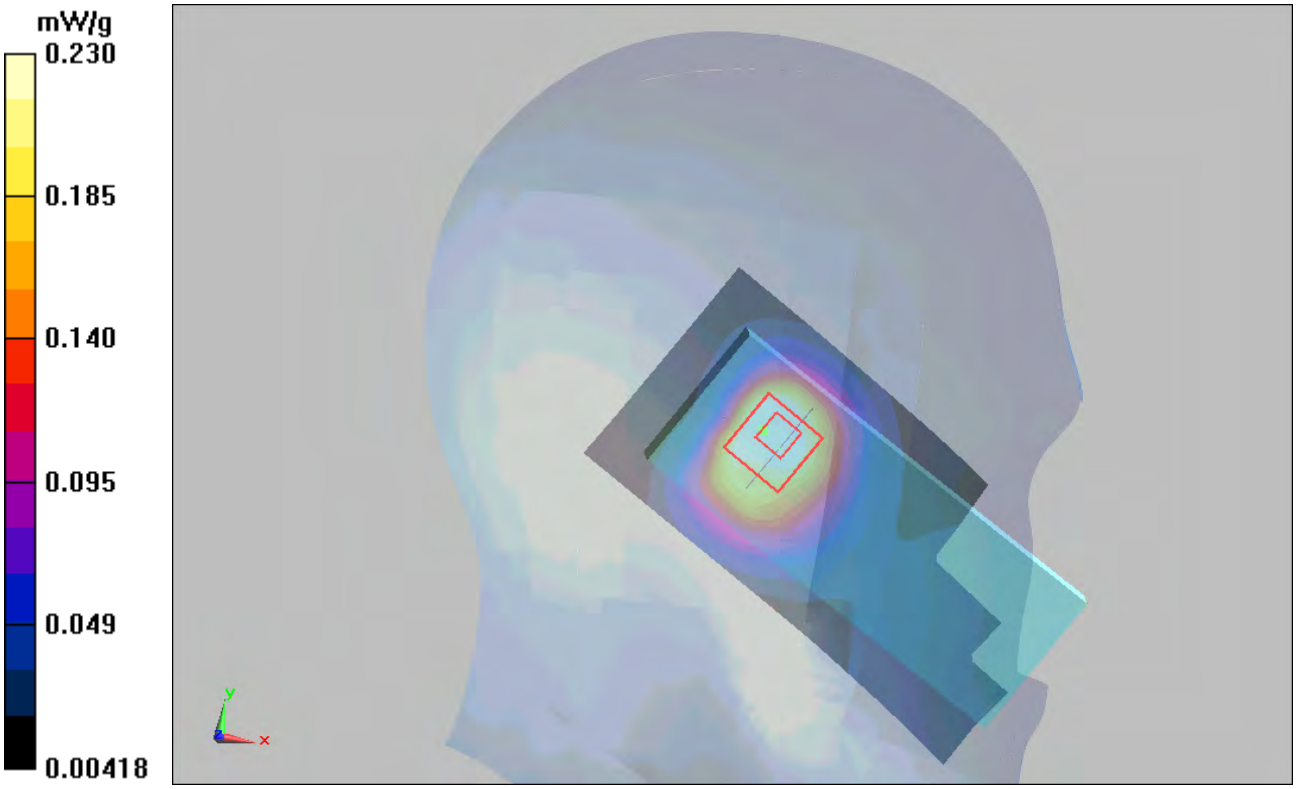


Figure 68 Left Hand Tilt 15° WCDMA Band IV Open Channel 1413

WCDMA Band IV Right Cheek High Open

Date/Time: 11/23/2010 6:15:00 AM
Communication System: WCDMA Band IV; Frequency: 1752.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1753 MHz; σ = 1.32 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(8.19, 8.19, 8.19); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek High/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.395 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.64 V/m; Power Drift = 0.048 dB
Peak SAR (extrapolated) = 0.516 W/kg
SAR(1 g) = 0.356 mW/g; SAR(10 g) = 0.227 mW/g
Maximum value of SAR (measured) = 0.381 mW/g

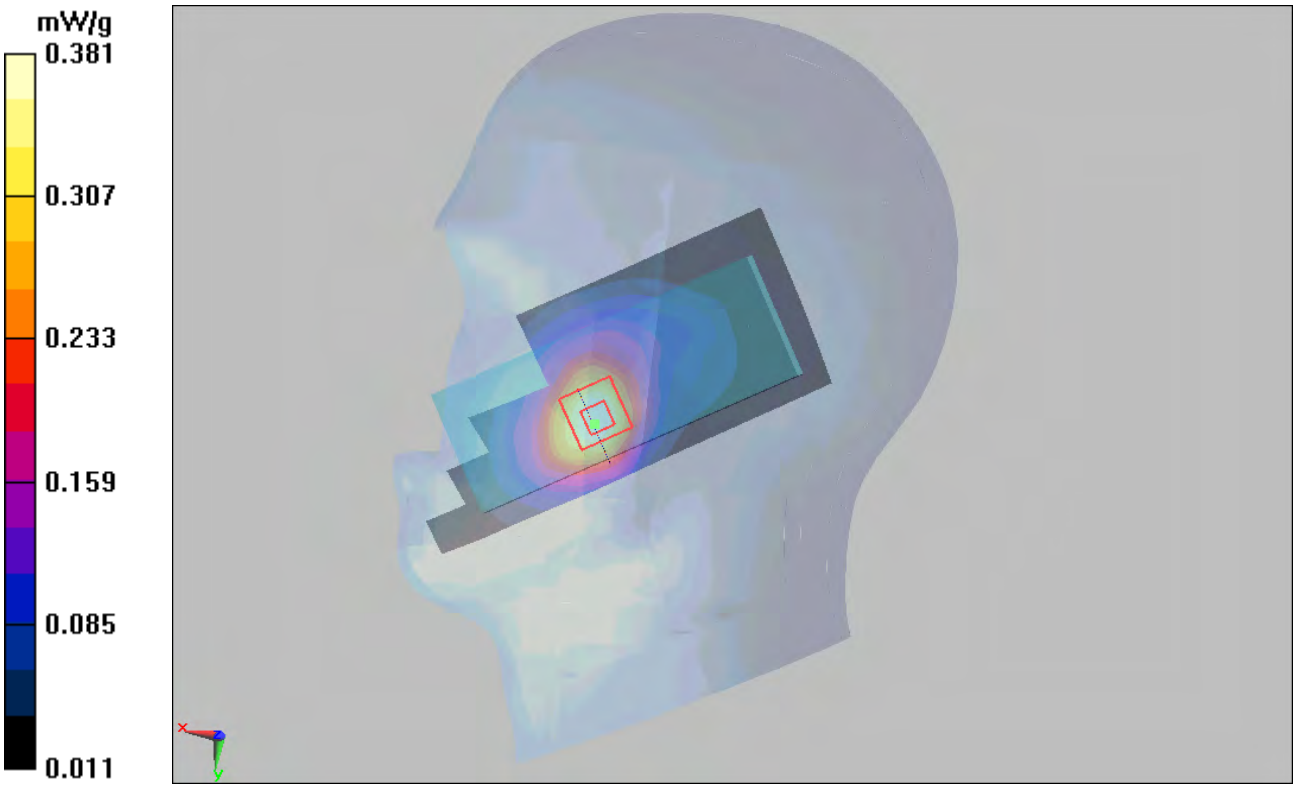


Figure 69 Right Hand Touch Cheek WCDMA Band IV Open Channel 1513

WCDMA Band IV Right Cheek Middle Open

Date/Time: 11/23/2010 12:38:57 AM
Communication System: WCDMA Band IV; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1733 MHz; σ = 1.31 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(8.19, 8.19, 8.19); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.359 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.5 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 0.477 W/kg
SAR(1 g) = 0.329 mW/g; SAR(10 g) = 0.209 mW/g
Maximum value of SAR (measured) = 0.351 mW/g

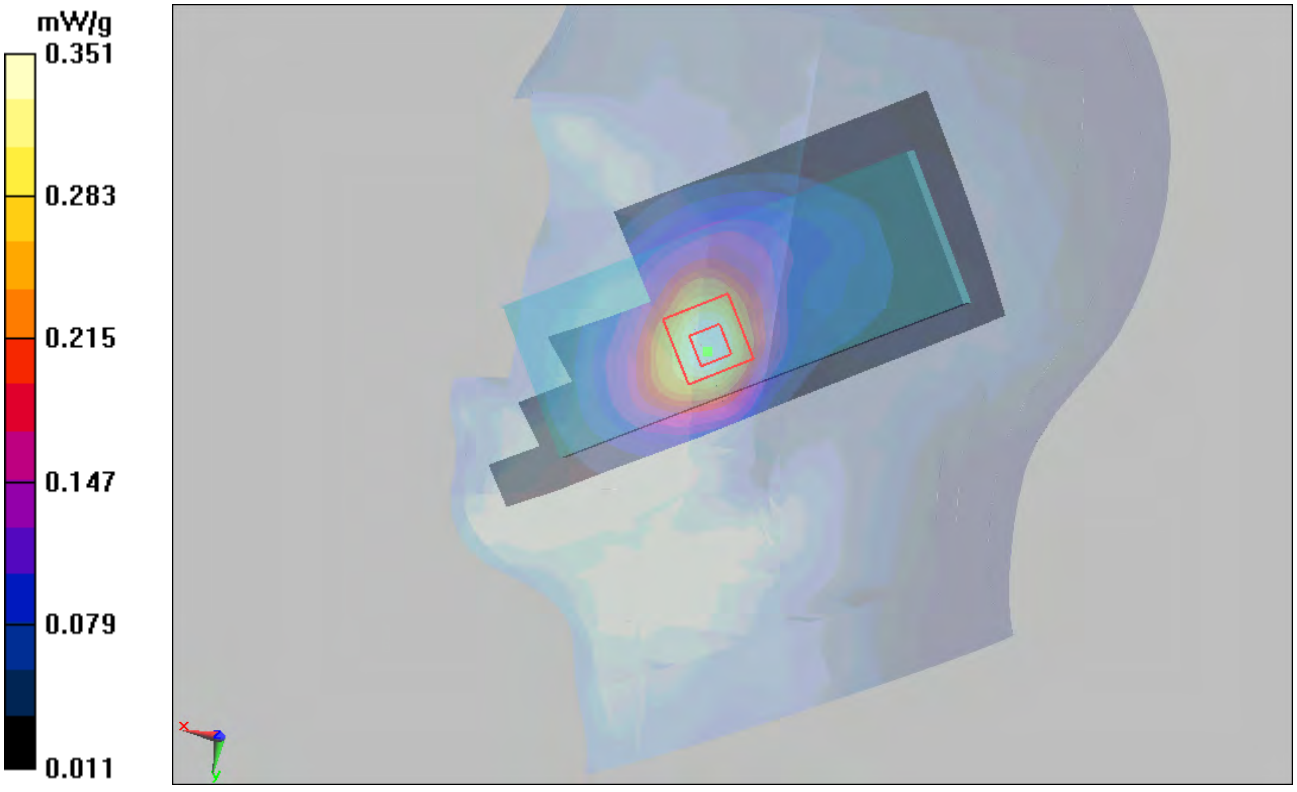


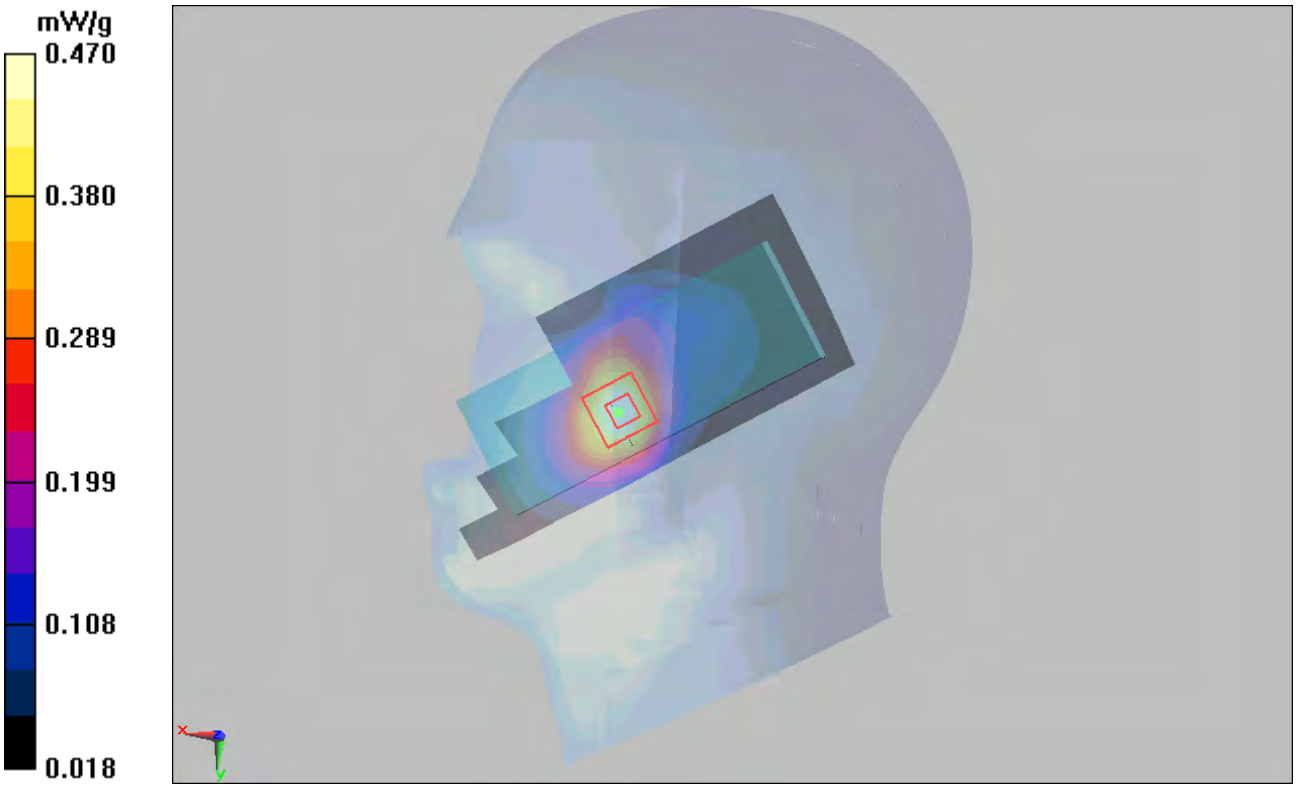
Figure 70 Right Hand Touch Cheek WCDMA Band IV Open Channel 1413

WCDMA Band IV Right Cheek Low Open

Date/Time: 11/23/2010 6:30:48 AM
Communication System: WCDMA Band IV; Frequency: 1712.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1712.4 MHz; σ = 1.3 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(8.19, 8.19, 8.19); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
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 (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.479 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.32 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 0.629 W/kg
SAR(1 g) = 0.440 mW/g; SAR(10 g) = 0.281 mW/g
Maximum value of SAR (measured) = 0.470 mW/g



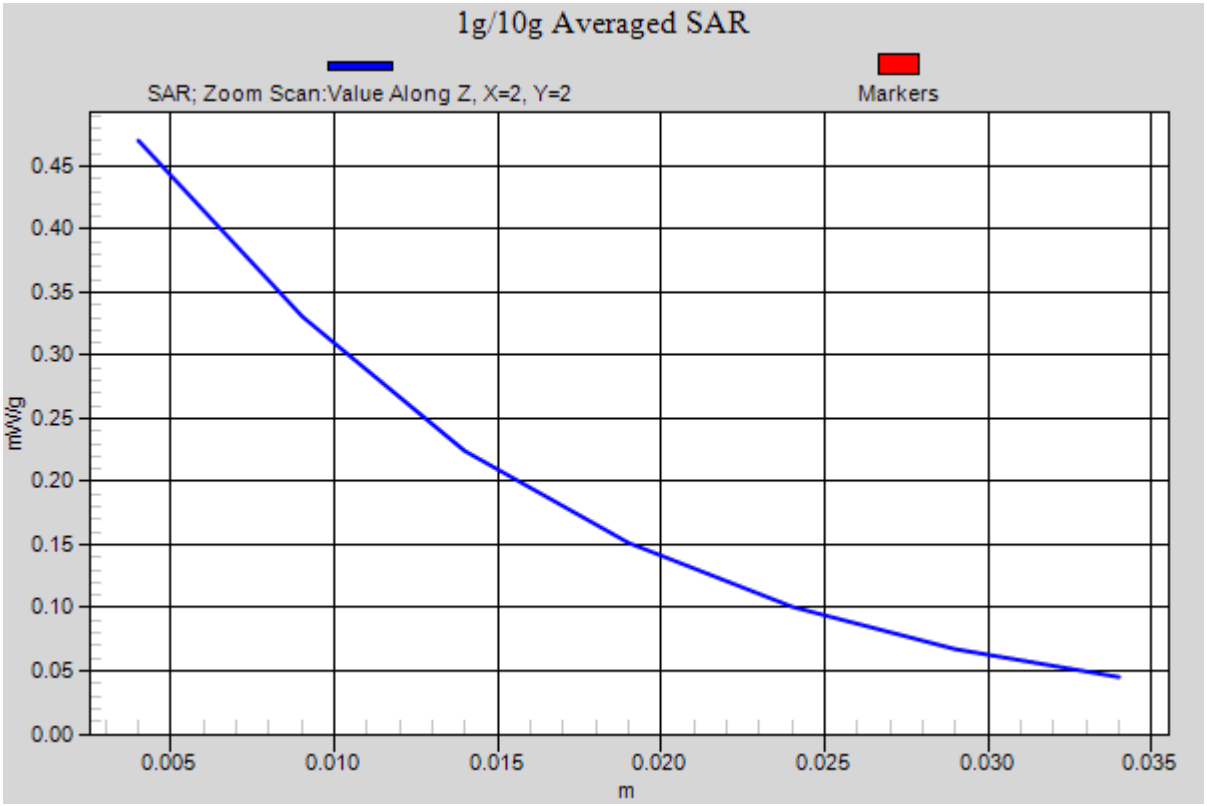


Figure 71 Right Hand Touch Cheek WCDMA Band IV Open Channel 1312

WCDMA Band IV Right Tilt Middle Open

Date/Time: 11/23/2010 12:47:06 AM
Communication System: WCDMA Band IV; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1733 MHz; σ = 1.31 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(8.19, 8.19, 8.19); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
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 Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.254 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = -0.056 dB
Peak SAR (extrapolated) = 0.283 W/kg
SAR(1 g) = 0.202 mW/g; SAR(10 g) = 0.132 mW/g
Maximum value of SAR (measured) = 0.216 mW/g

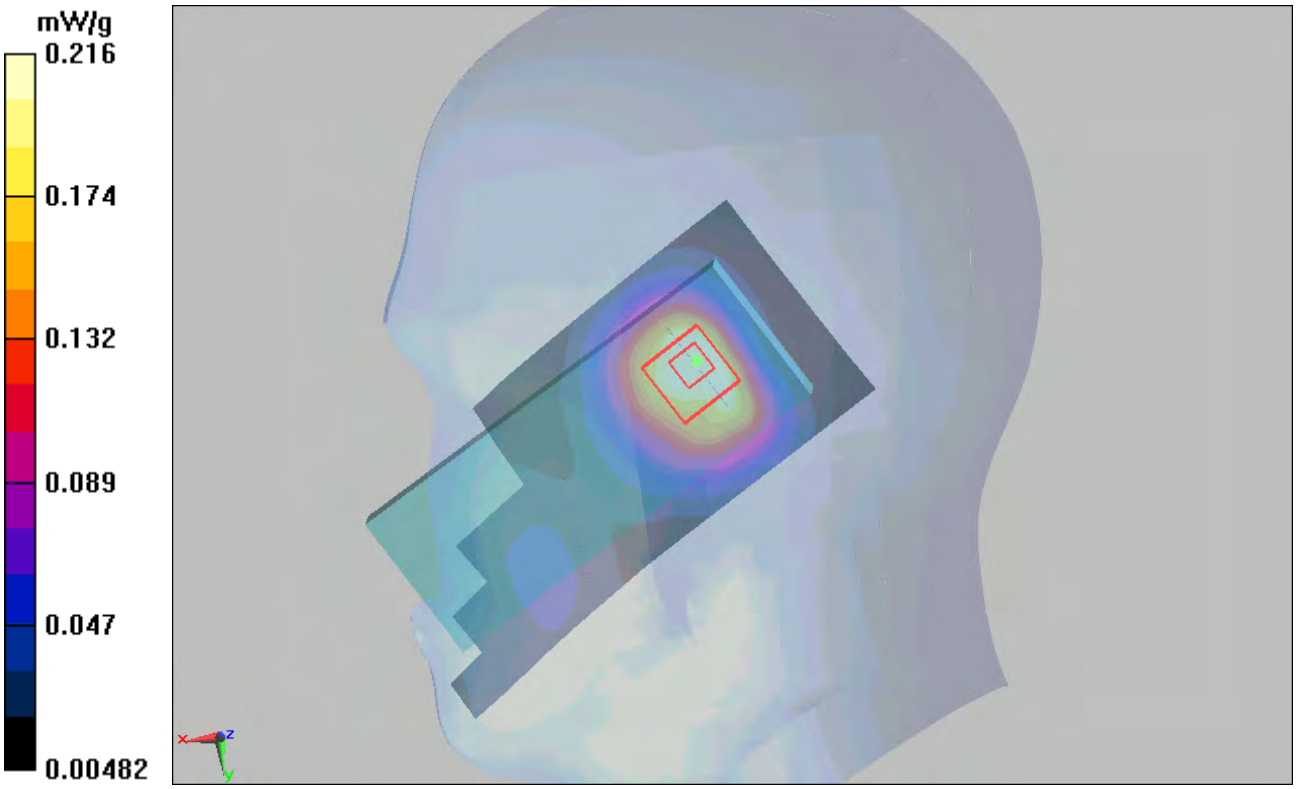


Figure 72 Right Hand Tilt 15° WCDMA Band IV Open Channel 1413

WCDMA Band IV Left Cheek Middle Close

Date/Time: 11/23/2010 1:45:25 AM
Communication System: WCDMA Band IV; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1733 MHz; σ = 1.31 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(8.19, 8.19, 8.19); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.249 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.7 V/m; Power Drift = -0.038 dB
Peak SAR (extrapolated) = 0.315 W/kg
SAR(1 g) = 0.227 mW/g; SAR(10 g) = 0.152 mW/g
Maximum value of SAR (measured) = 0.243 mW/g

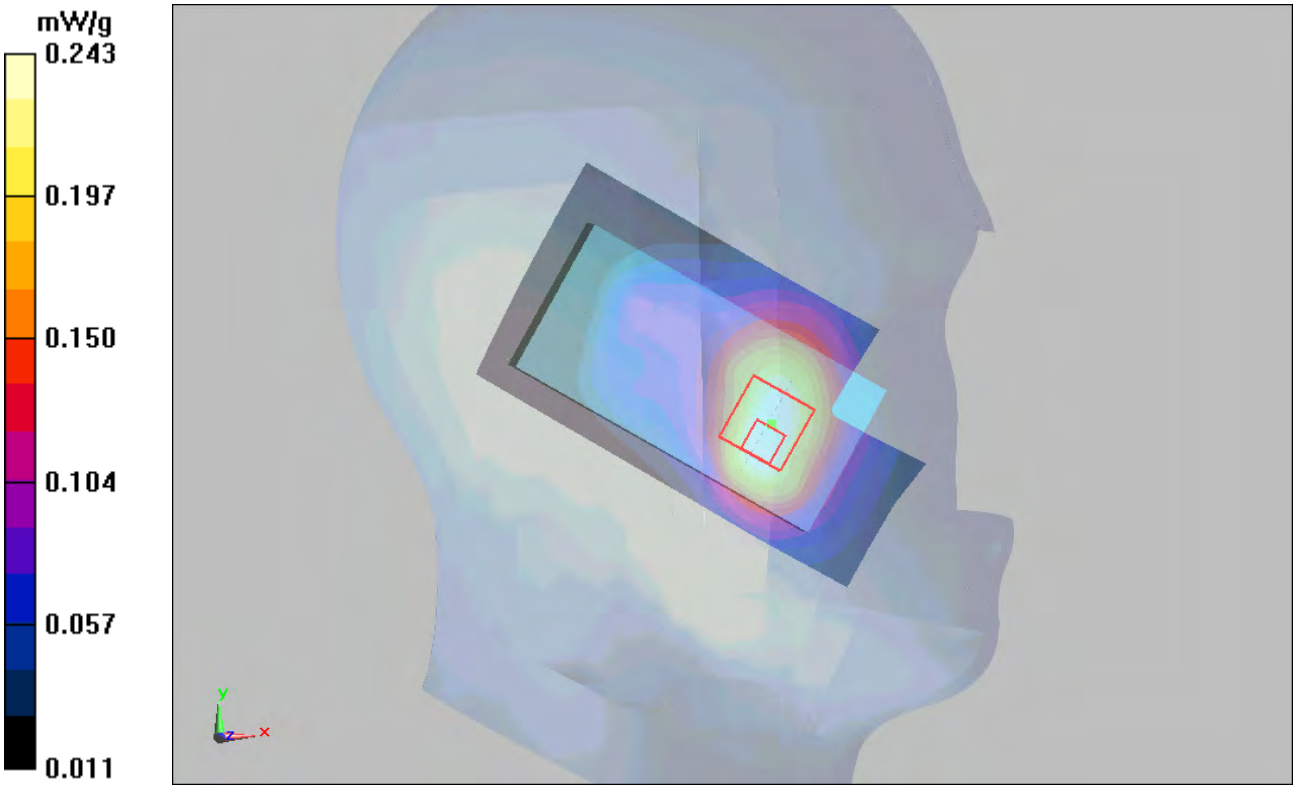


Figure 73 Left Hand Touch Cheek WCDMA Band IV Close Channel 1413

WCDMA Band IV Left Tilt Middle Close

Date/Time: 11/23/2010 2:00:34 AM

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

Medium parameters used: f = 1733 MHz; σ = 1.31 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY4 Configuration:

Probe: EX3DV4 - SN3661; ConvF(8.19, 8.19, 8.19); Calibrated: 12/30/2009

Electronics: DAE4 Sn679; Calibrated: 6/18/2010

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

Maximum value of SAR (interpolated) = 0.180 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.37 V/m; Power Drift = 0.125 dB

Peak SAR (extrapolated) = 0.198 W/kg

SAR(1 g) = 0.142 mW/g; SAR(10 g) = 0.096 mW/g

Maximum value of SAR (measured) = 0.147 mW/g

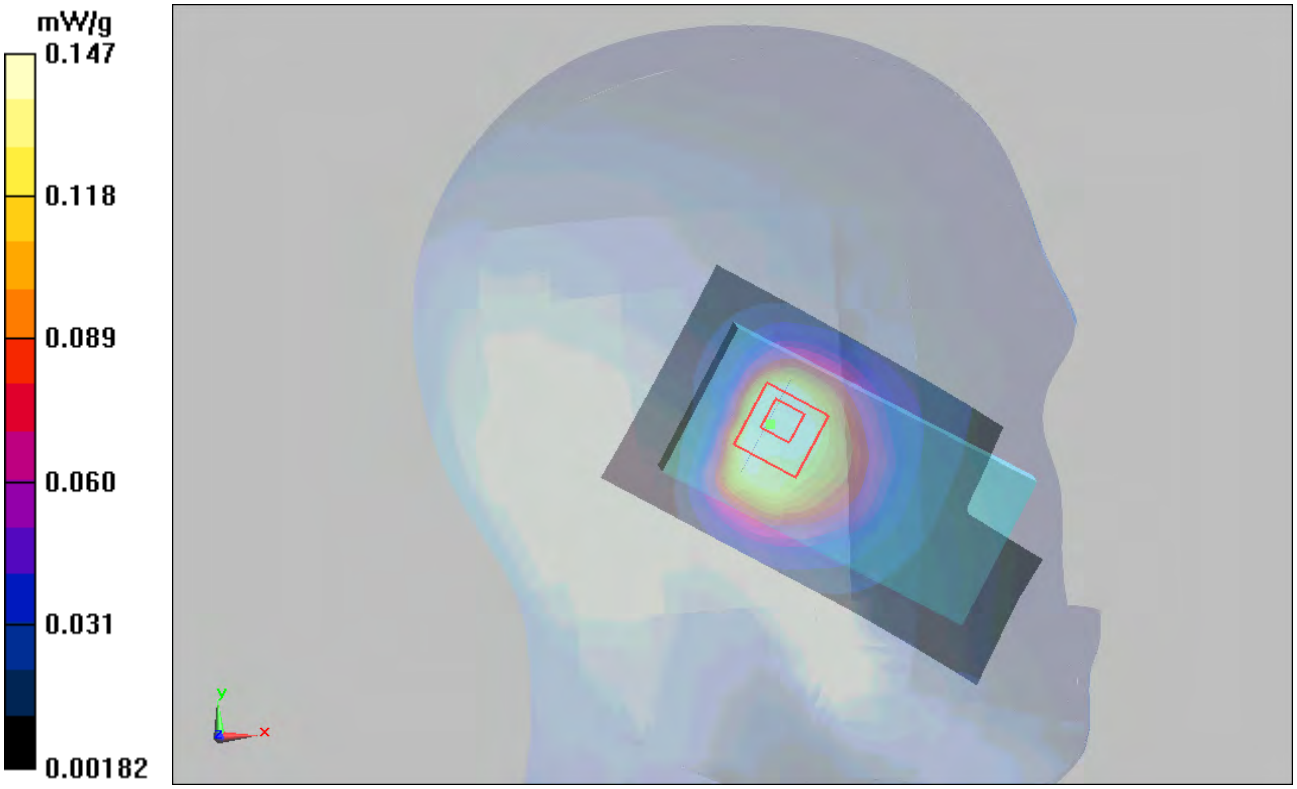


Figure 74 Left Hand Tilt 15° WCDMA Band IV Close Channel 1413

WCDMA Band IV Right Cheek Middle Close

Date/Time: 11/23/2010 11:36:09 AM
Communication System: WCDMA Band IV; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1733 MHz; σ = 1.31 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(8.19, 8.19, 8.19); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
Phantom: SAM000 T01; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY4, V4.7 Build 80; Postprocessing SW: SEMCAD, V1.8 Build 186

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.300 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.23 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 0.498 W/kg
SAR(1 g) = 0.309 mW/g; SAR(10 g) = 0.186 mW/g
Maximum value of SAR (measured) = 0.317 mW/g

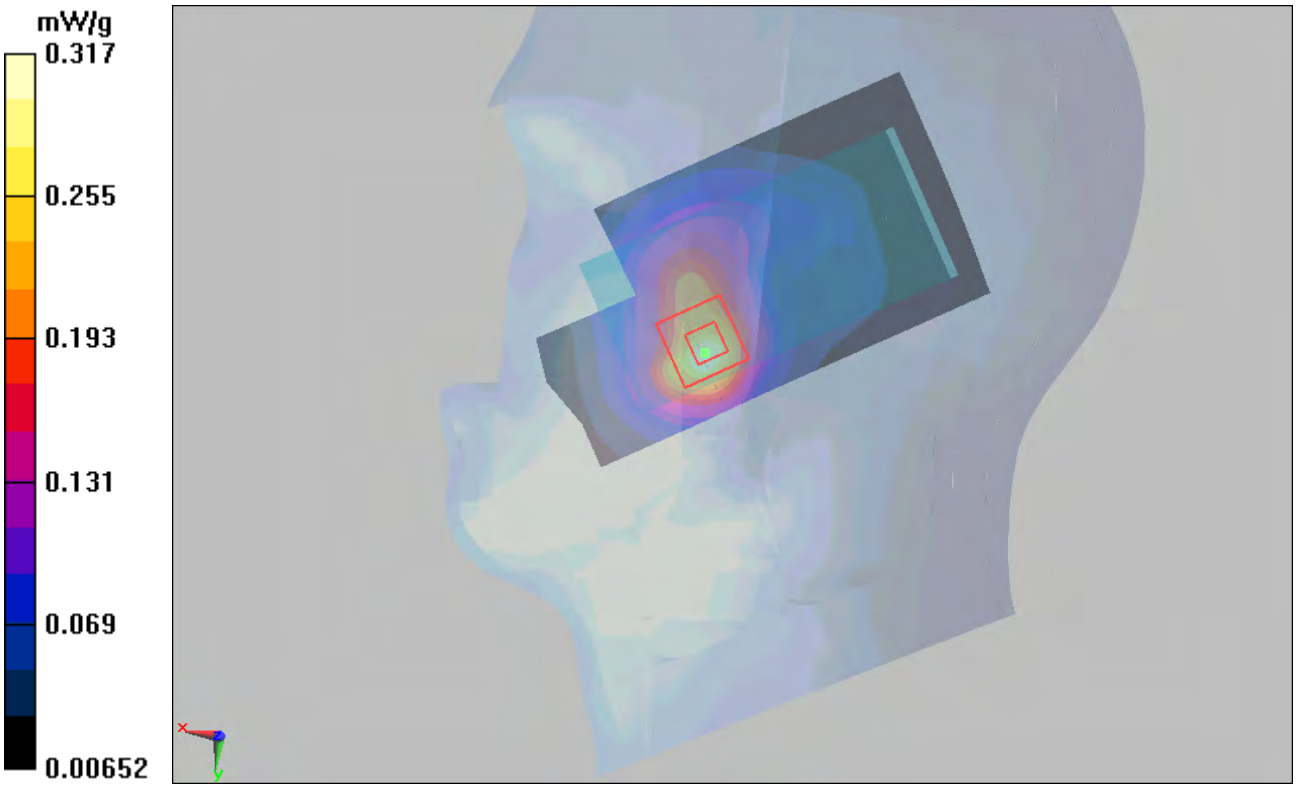


Figure 75 Right Hand Touch Cheek WCDMA Band IV Close Channel 1413

WCDMA Band IV Right Tilt Middle Close

Date/Time: 11/23/2010 11:56:16 AM
Communication System: WCDMA Band IV; Frequency: 1732.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1733 MHz; σ = 1.31 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: EX3DV4 - SN3661; ConvF(8.19, 8.19, 8.19); Calibrated: 12/30/2009
Electronics: DAE4 Sn679; Calibrated: 6/18/2010
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 Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.174 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.61 V/m; Power Drift = -0.026 dB
Peak SAR (extrapolated) = 0.178 W/kg
SAR(1 g) = 0.131 mW/g; SAR(10 g) = 0.088 mW/g
Maximum value of SAR (measured) = 0.140 mW/g

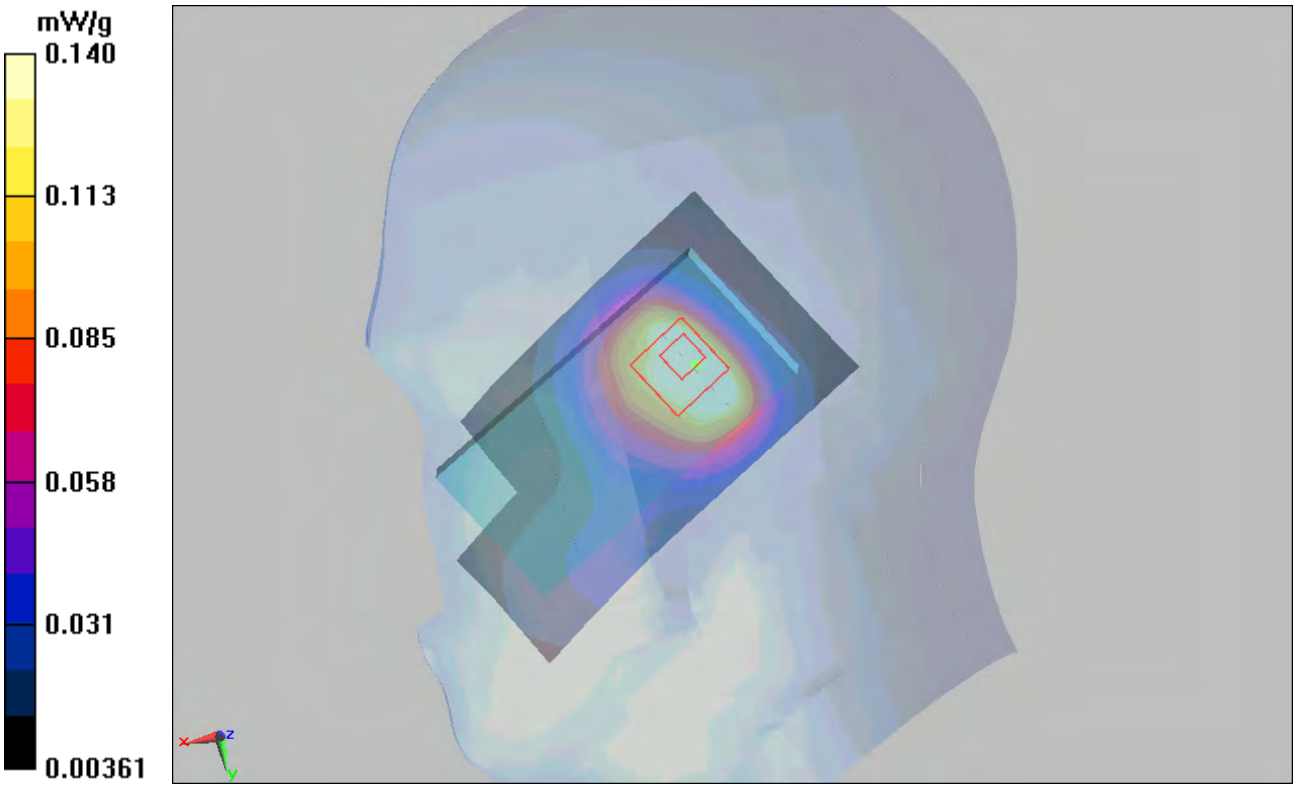


Figure 76 Right Hand Tilt 15° WCDMA Band IV Close Channel 1413