TESTING
No. L2264

SAR TEST REPORT

Product Name	HSUPA/HSDPA/UMTS triband / GSM quadband mobile phone
Model Name	Alpha
Marketing Name	6032A
FCC ID	RAD397
Client	TCT Mobile Limited
Manufacturer	TCT Mobile Limited
Date of issue	March 3, 2014

TA Technology (Shanghai) Co., Ltd.

GENERAL SUMMARY

Reference Standard(s)	**FCC 47CFR §2.1093** Radiofrequency Radiation Exposure Evaluation: Portable Devices **ANSI C95.1, 1992:** Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.(IEEE Std C95.1-1991) **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. **KDB 865664 D01 SAR measurement 100 MHz to 6 GHz v01r03:** SAR Measurement Requirements for 100 MHz to 6 GHz **KDB 447498 D01 Mobile Portable RF Exposure v05r02:** Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies **KDB 648474 D04 Handset SAR v01r01:** SAR Evaluation Considerations for Wireless Handsets. **KDB 941225 D01 SAR test for 3G devices v02:** SAR Measurement Procedures CDMA 20001x RTT, 1x Ev-Do, WCDMA, HSDPA/HSPA **KDB 941225 D02 HSPA and 1x Advanced v02r02** SAR Guidance for HSPA, HSPA+, DC-HSDPA and 1x-Advanced **KDB 941225 D03 Test Reduction GSM_GPRS_EDGE v01:**Recommended SAR Test Reduction Procedures for GSM/GPRS/EDGE **KDB 941225 D06 Hotspot Mode SAR v01r01:** SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities
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 for the tested bands only. General Judgment: **Pass**
Comment	The test result only responds to the measured sample.

Approved by 杨伟中 **Revised by** 逯敏宏 **Performed by** 沈辰

Director SAR Manager SAR Engineer

TABLE OF CONTENT

1. General Information

1.1. Notes of the Test Report

TA Technology (Shanghai) Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS), and accreditation number: L2264.

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

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If the electronic 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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1.4. Manufacturer Information

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

1.5. Information of EUT

General Information

Device Type:	Portable Device		
Exposure Category:	Uncontrolled Environment / General Population		
State of Sample:	Prototype Unit		
Product IMEI:	013780000050379		
Hardware Version:	PIO		
Software Version:	vA2A		
Antenna Type:	Internal Antenna		
Device Operating Configurations :			
Test Mode(s):	GSM 850/GSM 1900; UMTS Band II/UMTS Band V; 802.11b/g/n HT20/HT40; Bluetooth;		
Test Modulation:	(GSM)GMSK; (UMTS)QPSK		
Support Hotspot	Yes, when hot spots opened, WCDMA Band II power will reduced.		
Device Class:	B		
HSDPA UE Category:	14		
HSUPA UE Category:	6		
HSPA+ UE Category:	7		
DC-HSDPA UE Category:	24		
GPRS Multislot Class(12):	Max Number of Timeslots in Uplink		4
	Max Number of Timeslots in Downlink		4
	Max Total Timeslot		5
EGPRS	Downlink only		
Operating Frequency Range(s):	Mode	Tx (MHz)	Rx (MHz)
	GSM 850	824.2 ~ 848.8	869.2 ~ 893.8
	GSM 1900	1850.2 ~ 1909.8	1930.2 ~ 1989.8
	UMTS Band II	1852.4 ~ 1907.6	1932.4 ~ 1987.6
	UMTS Band V	826.4 ~ 846.6	871.4 ~ 891.6
Power Class:	GSM 850: 4		
	GSM 1900: 1		
	UMTS Band II: 3		
	UMTS Band V: 3		

Power Level	GSM 850: tested with power level 5
	GSM 1900: tested with power level 0
	UMTS Band II: tested with power control all up bits
	UMTS Band V: tested with power control all up bits
Test Channel: (Low - Middle - High)	128 - 190 - 251 (GSM 850) 512 - 661 - 810 (GSM 1900) 9262 - 9400 - 9538 (UMTS Band II) 4132 - 4183 - 4233 (UMTS Band V)

Auxiliary Equipment Details

Name	Model	Capacity	Manufacturer	S/N
Battery(main battery)	CAC2000005C2	2000mAh	SCUD	/
Battery 2	CAC2000009C1	2000mAh	BYD	/
Earphone 1	CCB3001A15C1	/	Shunda	/
Earphone 2	CCB3001A15C2	/	Juwei	/
Earphone 3	CCB3001A14C1	/	Shunda	/
Earphone 4	CCB3001A14C2	/	Juwei	/

Equipment under Test (EUT) has two antennas
Antenna 1: GSM 850/GSM 1900/UMTS Band II/ UMTS Band V
Antenna 2: GSM 850/ UMTS Band V/Bluetooth/WiFi (802.11b/g/n HT20/ n HT40);

It consists of EUT and battery and the detail about these is in chapter 1.5 in this report.

The sample under test was selected by the Client.

Components list please refer to documents of the manufacturer.

1.6. The Maximum Reported SAR_{1g}

Head SAR Configuration

Mode	Test Position	Channel /Frequency(MHz)	Limit SAR_{1g} 1.6 W/kg	
			Measured SAR_{1g} (W/kg)	Reported SAR_{1g} (W/kg)
GSM 850	Right, cheek	251/848.8	1.160	1.192
GSM 1900	Left, cheek	512/1850.2	0.340	0.397
UMTS Band II	Left, cheek	9400/1880	0.737	0.831
UMTS Band V	Right, cheek	4183/836.6	1.130	1.172

Body Worn Configuration

Mode	Test Position	Channel /Frequency(MHz)	Limit SAR_{1g} 1.6 W/kg	
			Measured SAR_{1g} (W/kg)	Reported SAR_{1g} (W/kg)
2Txslots GPRS 850	Back side	190/836.6	0.982	1.135
2Txslots GPRS 1900	Front side	661/1880	0.560	0.700
UMTS Band II	Front side	9538/1907.6	0.878	1.020
UMTS Band V	Front side	4183/836.6	0.654	0.672

Hotspot SAR Configuration

Mode	Test Position	Channel /Frequency(MHz)	Limit SAR_{1g} 1.6 W/kg	
			Measured SAR_{1g} (W/kg)	Reported SAR_{1g} (W/kg)
2Txslots GPRS 850	Back side	190/836.6	0.982	1.135
2Txslots GPRS 1900	Front side	661/1880	0.560	0.700
UMTS Band II	Front side	9538/1907.6	0.878	1.020
UMTS Band V	Right edge	4183/836.6	0.676	0.695

1.7. Test Date

The test performed from January 25, 2014 to February 12, 2014.

2. SAR Measurements System Configuration

2.1. SAR Measurement Set-up

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

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

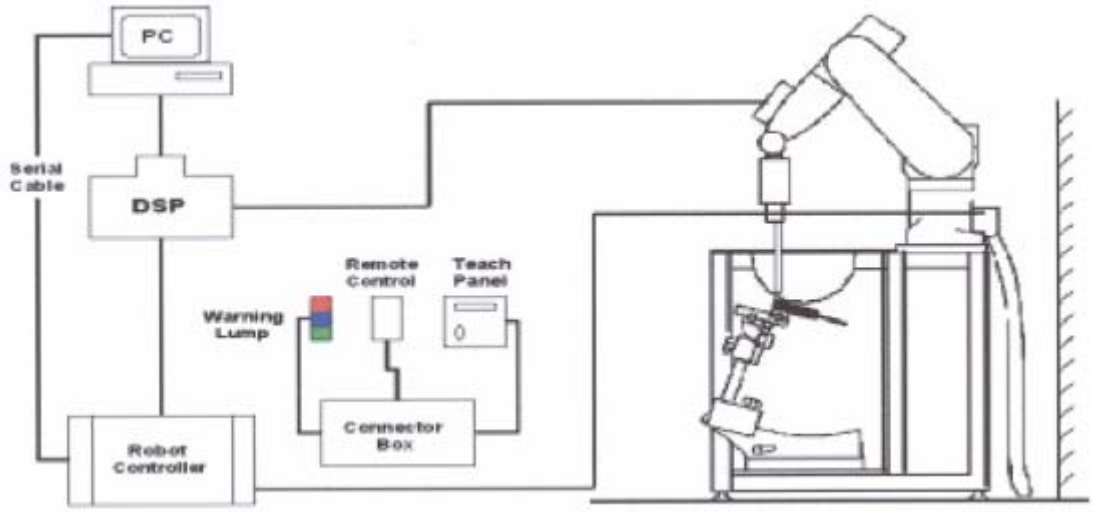

Figure 1 SAR Lab Test Measurement Set-up

2.2. DASY5 E-field Probe System

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

2.2.1. EX3DV4 Probe Specification

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

Figure 2.EX3DV4 E-field Probe

Figure 3. EX3DV4 E-field probe

2.2.2. E-field Probe Calibration

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

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

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

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

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

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

2.3. Other Test Equipment

2.3.1. Device Holder for Transmitters

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

Figure 4 Device Holder

2.3.2. Phantom

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

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

Figure 5 Generic Twin Phantom

2.4. Scanning Procedure

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

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

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

- Area Scan

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

spacing is set according to FCC KDB Publication 865664. During 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

  After the maximum interpolated values were calculated between the points in the cube, the SAR was averaged over the spatial volume (1g or 10g) using a 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the “Not a knot” condition (in x, y, and z directions). The volume was then integrated with the trapezoidal algorithm.

- Spatial Peak Detection

  The procedure for spatial peak SAR evaluation has been implemented and can determine values of masses of 1g and 10g, as well as for user-specific masses.The DASY5 system allows evaluations that combine measured data and robot positions, such as:

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

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

  Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. Several measurements at different distances are necessary for the extrapolation. Extrapolation routines require at least 10 measurement points in 3-D space. They are used in the Zoom Scan to obtain SAR values between the lowest measurement points and the inner phantom surface. The routine uses the modified Quadratic Shepard's method for extrapolation.

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

Table 1: Area and Zoom Scan Resolutions per FCC KDB Publication 865664 D01

Frequency	Maximum Area Scan Resolution (mm) (Δx_{area}, Δy_{area})	Maximum Zoom Scan Resolution (mm) (Δx_{zoom}, Δy_{zoom})	Maximum Zoom Scan Spatial Resolution (mm) $\Delta z_{zoom}(n)$	Minimum Zoom Scan Volume (mm) (x,y,z)
≤ 2 GHz	≤ 15	≤ 8	≤ 5	≥ 30
2-3 GHz	≤ 12	≤ 5	≤ 5	≥ 30
3-4 GHz	≤ 12	≤ 5	≤ 4	≥ 28
4-5 GHz	≤ 10	≤ 4	≤ 3	≥ 25
5-6 GHz	≤ 10	≤ 4	≤ 2	≥ 22

2.5. Data Storage and Evaluation

2.5.1. Data Storage

The DASY5 software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension ".DAE4". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated.

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

2.5.2. Data Evaluation by SEMCAD

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

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

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

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

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

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

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

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

cf = crest factor of exciting field (DASY parameter)

dcp_i = diode compression point (DASY parameter)

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

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

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

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

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

$ConvF$ = sensitivity enhancement in solution

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

f = carrier frequency [GHz]

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

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

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

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

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

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

with SAR = local specific absorption rate in mW/g

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

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

ρ = equivalent tissue density in g/cm^3

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

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

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

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

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

3. Laboratory Environment

Table 2: The Requirements of the Ambient Conditions

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

4. Tissue-equivalent Liquid

4.1. Tissue-equivalent Liquid Ingredients

The liquid is consisted of water, salt, Glycol, Sugar, Preventol and Cellulose. The liquid has previously been proven to be suited for worst-case. The table 3 and table 4 show the detail solution. It's satisfying the latest tissue dielectric parameters requirements proposed by the KDB 865664 D01.

Table 3: Composition of the Head Tissue Equivalent Matter

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

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

Table 4: Composition of the Body Tissue Equivalent Matter

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

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

4.2. Tissue-equivalent Liquid Properties

Table 5: Dielectric Performance of Tissue Simulating Liquid

Frequency	Test Date	Temp ℃	Measured Dielectric Parameters		Target Dielectric Parameters		Limit (Within ±5%)	
			ε_r	σ(s/m)	ε_r	σ(s/m)	Dev ε_r(%)	Dev σ(%)
835MHz (head)	2014-1-27	21.5	41.4	0.93	41.5	0.90	-0.24	3.33
835MHz (head)	2014-2-11	21.5	41.3	0.94	41.5	0.90	-0.48	4.44
1900MHz (head)	2014-1-25	21.5	39.6	1.43	40.0	1.40	-1.00	2.14
835MHz (body)	2014-1-25	21.5	55.1	0.99	55.2	0.97	-0.18	2.06
835MHz (body)	2014-2-12	21.5	55.1	1.00	55.2	0.97	-0.18	3.09
1900MHz (body)	2014-1-25	21.5	53.1	1.52	53.3	1.52	-0.38	0.00

5. System Check

5.1. Description of System Check

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

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

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

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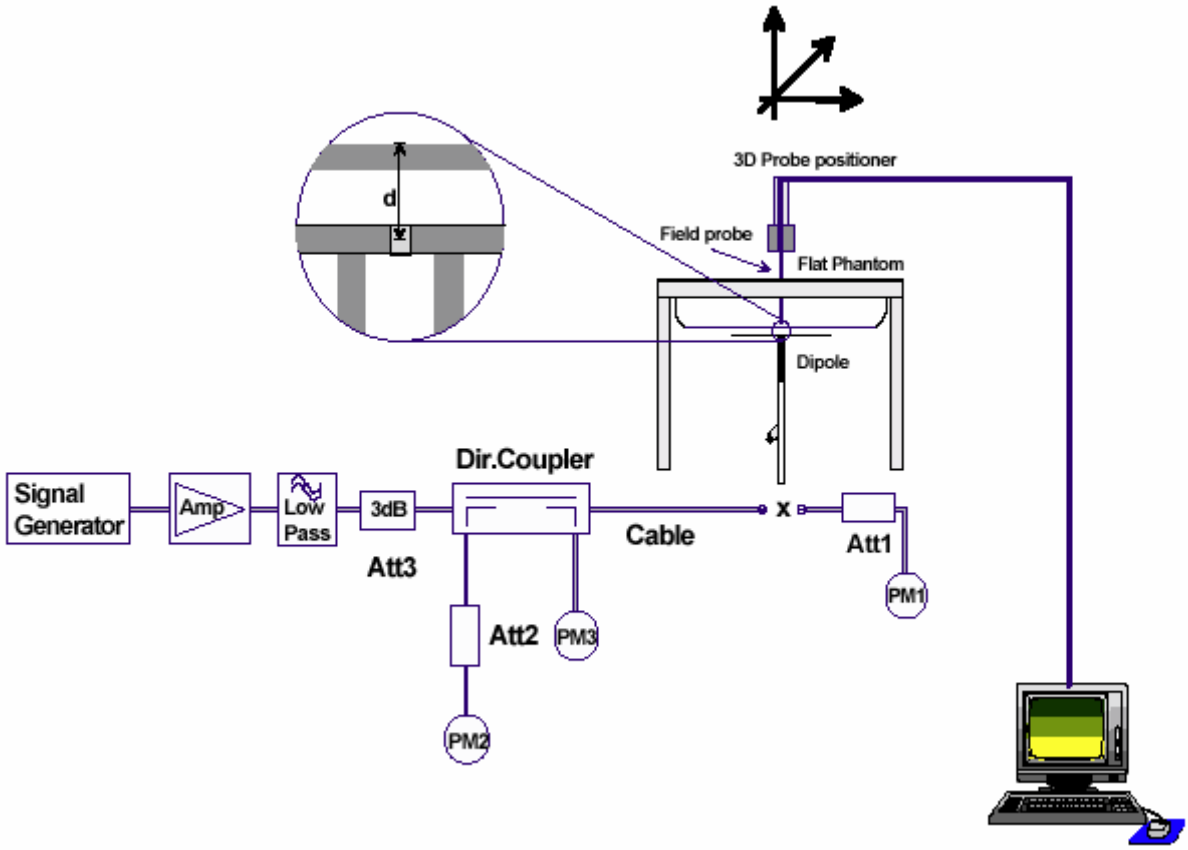


Figure 6 System Check Set-up

Justification for Extended SAR Dipole Calibrations

Usage of SAR dipoles calibrated less than 3 years ago but more than 1 year ago were confirmed in maintaining return loss (< - 20 dB, within 20% of prior calibration) and impedance (within 5 ohm from prior calibration) requirements per extended calibrations in KDB 865664 D01:

Dipole D835V2 SN: 4d020				
Head Liquid				
Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	ΔΩ
8/26/2011	-27.7	/	52.9	/
8/25/2012	-29.1	5.0%	55.0	2.1Ω
8/24/2013	-26.6	4.1%	55.3	2.4Ω
Body Liquid				
Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	ΔΩ
8/26/2011	-25.1	/	48.7	/
8/25/2012	-24.3	3.2%	50.6	1.9Ω
8/24/2013	-24.7	1.6%	51.1	2.4Ω

Dipole D1900V2 SN: 5d060				
Head Liquid				
Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	ΔΩ
8/31/2011	-22.3	/	52.6	/
8/30/2012	-21.7	2.7%	51.4	1.2Ω
8/29/2013	-21.4	4.2%	50.5	2.1Ω
Body Liquid				
Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	ΔΩ
8/31/2011	-21.3	/	47.3	/
8/30/2012	-20.9	1.9%	45.9	1.4Ω
8/29/2013	-20.4	4.4%	44.8	2.5Ω

5.2. System Check Results

Table 6: System Check in Head Tissue Simulating Liquid

Frequency	Test Date	Dielectric Parameters		Temp	250mW Measured SAR_{1g}	1W Normalized SAR_{1g}	1W Target SAR_{1g}	Limit (±10% Deviation)
		ε_r	σ(s/m)	(℃)	(W/kg)			
835MHz	2014-1-27	41.4	0.93	21.5	2.44	9.76	9.34	4.50
835MHz	2014-2-11	41.3	0.94	21.5	2.45	9.80	9.34	4.93
1900MHz	2014-1-25	39.6	1.43	21.5	9.48	37.92	40.30	-5.91

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

Table 7: System Check in Body Tissue Simulating Liquid

Frequency	Test Date	Dielectric Parameters		Temp	250mW Measured SAR_{1g}	1W Normalized SAR_{1g}	1W Target SAR_{1g}	Limit (±10% Deviation)
		ε_r	σ(s/m)	(℃)	(W/kg)			
835MHz	2014-1-25	55.1	0.99	21.5	2.41	9.64	9.46	1.90
835MHz	2014-2-12	55.1	1.00	21.5	2.37	9.48	9.46	0.21
1900MHz	2014-1-25	53.1	1.52	21.5	9.93	39.72	41.70	-4.75

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

6. Operational Conditions during Test

6.1. General Description of Test Procedures

A communication link is set up with a System Simulator (SS) by air link, and a call is established. The EUT is commanded to operate at maximum transmitting power.

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

6.2. Test Positions

6.2.1. Against Phantom Head

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

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

6.2.2. Body Worn Configuration

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

Based upon KDB941225 D06 with a form factor > 9 cm x 5 cm, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested. The distance between the device and the phantom was kept 10mm of wireless routers

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration. Per FCC KDB Publication 648474 D04, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple

accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented. Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.

6.3. Measurement Variability

Per FCC KDB Publication 865664 D01, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media were required for SAR measurements in a frequency band, the variability measurement procedures were applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. These additional measurements were repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR Measurement Variability was assessed using the following procedures for each frequency band:
1) When the original highest measured SAR is $\geqslant$ 0.80 W/kg, the measurement was repeated once.
2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was $\geqslant$ 1.45 W/kg (~ 10% from the 1-g SAR limit).
3) A third repeated measurement was performed only if the original, first or second repeated measurement was $\geqslant$ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg

The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.

6.4. Test Configuration

6.4.1. GSM Test Configuration

SAR tests for GSM 850 and GSM 1900, a communication link is set up with a System Simulator (SS) by air link. Using E5515C the power level is set to “5” for GSM 850, set to “0” for GSM 1900. Since the GPRS class is 12 for this EUT, it has at most 4 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslots is 5.

According to specification 3GPP TS 51.010, the maximum power of the GSM can do the power reduction for the multi-slot. The allowed power reduction in the multi-slot configuration is as following:

Output power of reductions:

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

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

6.4.2. UMTS Test Configuration

6.4.2.1. Output power Verification

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

6.4.2.2. Head SAR Measurements

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

6.4.2.3. Body SAR Measurements

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

6.4.3. HSDPA Test Configuration

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

HSDPA should be configured according to the UE category of a test device.The number of HSDSCH/ HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding

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

Table 9: Subtests for UMTS Release 5 HSDPA

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

Note1: $\triangle_{ACK}$, $\triangle_{NACK}$ and $\triangle_{CQI}$= 8 ⇔ $A_{hs} = \beta_{hs}/\beta_c$=30/15 ⇔ β_{hs}=30/15*β_c

Note2:For the HS-DPCCH power mask requirement test in clause 5.2C,5.7A,and the Error Vector Magnitude(EVM) with HS-DPCCH test in clause 5.13.1.A,and HSDPA EVM with phase discontinuity in clause 5.13.1AA, $\triangle_{ACK}$ and $\triangle_{NACK}$= 8 (A_{hs}=30/15) with β_{hs}=30/15*β_c,and $\triangle_{CQI}$= 7 (A_{hs}=24/15) with β_{hs}=24/15*β_c.

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

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

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

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

6.4.3.1. DC-HSDPA Test Configuration

body SAR is also measured for DC-HSDPA when the maximum average output of each RF channel with DC-HSDPA active is at least 1/4 dB higher than that measured without HSDPA using 12.2kbps RMC or the maximum SAR 12.2kbps RMC is above 75% of the SAR limit. Body SAR for DC-HSDPA is measured using the highest body SAR configuration in 12.2 kbps RMC without HSDPA.

Configure DC-HSDPA parameters for base station

a) Set up the HSDPA RB Test Mode Parameters

RB Test HS-DSCH Configuration Type = User Defined
RB Test User Defined HS-DSCH MAC entity = MAC-ehs (Note 1)
RB Test User Defined HARQ Processes = 6 (Note 2)
RB Test User Defined UE IR Buffer Allocation = Implicit
RB Test User Defined DC-HSDPA State = On
RB Test Mode DC-HSDPA DPCH Loopback State = On

b) Set up the Serving Cell Parameters

RB Test User Defined 64QAM State =On
RB Test User Defined Active HS-PDSCHs =15
RB Test User Def Transport Block Size Index =62
RB Test User Defined Modulation Type =64QAM
RB Test User Defined Inter-TTI Interval =1

c) Set up the Secondary Serving Cell Parameters

RB Test User Def Secondary Cell 64QAM State =On
RBTM User Def Sec Cell Active HS-PDSCHs = 15
RBTM User Def Sec Cell TB Size Index = 62
RBTM User Def Sec Cell Modulation Type =64QAM
RBTM User Def Sec Cell Inter-TTI Interval = 1

d) Set the HSDPA Conn DL Channel Levels

HSDPA Cell 1 Connected CPICH Level = -8
HSDPA Cell 1 Connected P-CCPCH/SCH Level = -20

HSDPA Cell 1 Connected PICH Level = off
HSDPA Cell 1 Connected DPCH Level = -30
HSDPA Cell 1 Connected HS-PDSCH Level (Sum) = -1 dBm
HSDPA Cell 1 Connected HS-SCCH 1 to 4 Level = -20,-20,off,off
Secondary Cell HSDPA Conn CPICH Level = -8
Secondary Cell HSDPA Conn PCCPCH/SCH Level = -20
Secondary Cell HSDPA Conn PICH Level = off
Secondary Cell HSDPA Conn HS-PDSCHs Lvl (Sum) = -1 dBm
Secondary Cell HSDPA Conn HS-SCCH 1 to 4 Level = -20,-20,off,off

Table 11: HS-DSCH UE category

Table 5.1a: FDD HS-DSCH physical layer categories

HS-DSCH category	Maximum number of HS-DSCH codes received	Minimum inter-TTI interval	Maximum number of bits of an HS-DSCH transport block received within an HS-DSCH TTI NOTE 1	Total number of soft channel bits	Supported modulations without MIMO operation or dual cell operation	Supported modulations with MIMO operation and without dual cell operation	Supported modulations with dual cell operation
Category 1	5	3	7298	19200	QPSK, 16QAM	Not applicable (MIMO not supported)	Not applicable (dual cell operation not supported)
Category 2	5	3	7298	28800			
Category 3	5	2	7298	28800			
Category 4	5	2	7298	38400			
Category 5	5	1	7298	57600			
Category 6	5	1	7298	67200			
Category 7	10	1	14411	115200			
Category 8	10	1	14411	134400			
Category 9	15	1	20251	172800			
Category 10	15	1	27952	172800			
Category 11	5	2	3630	14400	QPSK		
Category 12	5	1	3630	28800			
Category 13	15	1	35280	259200	QPSK, 16QAM, 64QAM		
Category 14	15	1	42192	259200			
Category 15	15	1	23370	345600	QPSK, 16QAM		
Category 16	15	1	27952	345600			
Category 17 NOTE 2	15	1	35280	259200	QPSK, 16QAM, 64QAM	–	
			23370	345600	–	QPSK, 16QAM	
Category 18 NOTE 3	15	1	42192	259200	QPSK, 16QAM, 64QAM	–	
			27952	345600	–	QPSK, 16QAM	
Category 19	15	1	35280	518400	QPSK, 16QAM, 64QAM		
Category 20	15	1	42192	518400			
Category 21	15	1	23370	345600	-	-	QPSK, 16QAM
Category 22	15	1	27952	345600			
Category 23	15	1	35280	518400			QPSK, 16QAM, 64QAM
Category 24	15	1	42192	518400			

6.4.4. HSUPA Test Configuration

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

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

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

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

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

Table 13: HSUPA UE category

UE E-DCH Category	Maximum E-DCH Codes Transmitted	Number of HARQ Processes	E-DCH TTI (ms)	Minimum Spreading Factor	Maximum E-DCH Transport Block Bits	Max Rate (Mbps)
1	1	4	10	4	7110	0.7296
2	2	8	2	4	2798	1.4592
	2	4	10	4	14484	
3	2	4	10	4	14484	1.4592
4	2	8	2	2	5772	2.9185
	2	4	10	2	20000	2.00
5	2	4	10	2	20000	2.00
6 (No DPDCH)	4	8	2	2 SF2 & 2 SF4	11484	5.76
	4	4	10		20000	2.00
7 (No DPDCH)	4	8	2	2 SF2 & 2 SF4	22996	?
	4	4	10		20000	?
NOTE: When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4. UE Categories 1 to 6 supports QPSK only. UE Category 7 supports QPSK and 16QAM. (TS25.306-7.3.0)						

6.4.5. HSPA+ Test Configuration

When the maximum average output power of each RF channel with (uplink) HSPA+ active is ≤ ¼ dB higher than that measured without HSPA+ using 12.2 kbps RMC, or the maximum *reported* SAR for 12.2 kbps RMC without HSPA+ is ≤ 75% of the SAR limit, SAR evaluation for HSPA+ is not required.

Table Sub-test1 setup for release 7 HSPA+ with 16QAM

Sub-test	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed}1: 30/15 β_{ed}2: 30/15	β_{ed}3: 24/15 β_{ed}4: 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.
Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).
Note 3: DPDCH is not configured, therefore the β_c is set to 1 and β_d = 0 by default.
Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.
Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.

7. Test Results

7.1. Conducted Power Results

Table 14: Conducted Power Measurement Results

GSM 850		Burst Conducted Power(dBm)			/	Average power(dBm)		
		Channel 128	Channel 190	Channel 251		Channel 128	Channel 190	Channel 251
GSM		33.01	33.05	33.08	-9.03dB	23.98	24.02	24.05
GPRS (GMSK)	1Txslot	32.95	33.02	33.03	-9.03dB	23.92	23.99	24.00
	2Txslots	31.17	30.67	31.25	-6.02dB	**25.15**	**24.65**	**25.23**
	3Txslots	29.15	29.20	29.25	-4.26dB	24.89	24.94	24.99
	4Txslots	27.72	27.76	27.81	-3.01dB	24.71	24.75	24.80
GSM 1900		**Burst Conducted Power(dBm)**			/	**Average power(dBm)**		
		Channel 512	Channel 661	Channel 810		Channel 512	Channel 661	Channel 810
GSM		29.83	29.91	30.05	-9.03dB	20.80	20.88	21.02
GPRS (GMSK)	1Txslot	29.81	29.91	30.03	-9.03dB	20.78	20.88	21.00
	2Txslots	28.34	28.43	28.58	-6.02dB	**22.32**	**22.41**	**22.56**
	3Txslots	26.36	26.45	26.58	-4.26dB	22.10	22.19	22.32
	4Txslots	24.92	24.99	25.13	-3.01dB	21.91	21.98	22.12

Note:

1) Division Factors

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

1Txslot = 1 transmit time slot out of 8 time slots
=> conducted power divided by (8/1) => -9.03 dB

2Txslots = 2 transmit time slots out of 8 time slots
=> conducted power divided by (8/2) => -6.02 dB

3Txslots = 3 transmit time slots out of 8 time slots
=> conducted power divided by (8/3) => -4.26 dB

4Txslots = 4 transmit time slots out of 8 time slots
=> conducted power divided by (8/4) => -3.01 dB

2) Average power numbers

The maximum power numbers are marks in bold.

UMTS Band II (Hotspot Closed)		Conducted Power (dBm)		
		Channel 9262	Channel 9400	Channel 9538
RMC	12.2kbps RMC	24.14	23.78	23.65
	64kbps RMC	24.06	23.57	23.62
	144kbps RMC	24.11	23.74	23.59
	384kbps RMC	24.21	23.81	23.67
HSDPA	Sub - Test 1	24.15	23.79	23.69
	Sub - Test 2	24.21	23.58	23.56
	Sub - Test 3	24.23	23.66	23.71
	Sub - Test 4	24.09	23.59	23.62
HSUPA	Sub - Test 1	22.72	22.32	22.27
	Sub - Test 2	21.41	21.04	20.99
	Sub - Test 3	21.95	21.56	21.49
	Sub - Test 4	21.44	21.06	21.02
	Sub - Test 5	22.75	22.35	22.24
DS-HSDPA	Sub - Test 1	24.01	23.64	23.57
	Sub - Test 2	24.13	23.45	23.43
	Sub - Test 3	24.02	23.48	23.58
	Sub - Test 4	23.89	23.39	23.49
HSPA+	16 QAM	21.98	22.02	22.11
UMTS Band II (Hotspot Open)		Conducted Power (dBm)		
		Channel 9262	Channel 9400	Channel 9538
RMC	12.2kbps RMC	21.46	21.10	21.05
	64kbps RMC	21.43	21.12	21.06
	144kbps RMC	21.47	21.21	21.09
	384kbps RMC	21.43	21.23	21.12
HSDPA	Sub - Test 1	21.48	21.13	21.05
	Sub - Test 2	21.43	21.12	21.09
	Sub - Test 3	21.43	21.19	21.09
	Sub - Test 4	21.43	21.25	21.14
HSUPA	Sub - Test 1	20.06	19.71	19.63
	Sub - Test 2	18.79	18.45	18.36
	Sub - Test 3	19.26	18.91	18.83

	Sub - Test 4	18.78	18.43	18.35
	Sub - Test 5	20.07	19.81	19.65
DC-HSDPA	Sub - Test 1	21.38	21.04	21.01
	Sub - Test 2	21.41	21.02	21.06
	Sub - Test 3	21.20	21.09	21.01
	Sub - Test 4	21.28	21.12	20.97
HSPA+	16 QAM	19.89	19.74	19.37
UMTS Band V (Hotspot Closed)		**Conducted Power (dBm)**		
		Channel 4132	Channel 4183	Channel 4233
RMC	12.2kbps RMC	23.55	23.48	23.44
	64kbps RMC	23.52	23.49	23.47
	144kbps RMC	23.51	23.42	23.41
	384kbps RMC	23.59	23.51	23.39
HSDPA	Sub - Test 1	23.57	23.46	23.47
	Sub - Test 2	23.51	23.49	23.47
	Sub - Test 3	23.51	23.46	23.39
	Sub - Test 4	23.59	23.51	23.39
HSUPA	Sub - Test 1	22.17	22.10	22.06
	Sub - Test 2	20.89	20.82	20.78
	Sub - Test 3	21.36	21.29	21.25
	Sub - Test 4	20.88	20.81	20.76
	Sub - Test 5	22.21	22.12	22.08
DC-HSDPA	Sub - Test 1	23.35	23.32	23.38
	Sub - Test 2	23.42	23.27	23.41
	Sub - Test 3	23.46	23.48	23.38
	Sub - Test 4	23.43	23.43	23.34
HSPA+	16 QAM	22.12	22.03	22.01

The average output power of BT antenna is as following:

Channel	Ch 0 2402 MHz	Ch 39 2441 MHz	Ch 78 2480 MHz
GFSK(dBm)	8.57	9.42	9.79
π/4DQPSK(dBm)	7.48	8.39	8.76
8DPSK(dBm)	7.42	8.29	8.66

The output power of WIFI antenna is as following:

Mode	Channel	Data rate (Mbps)	AV Power (dBm)
802.11b	1	1	9.78
		2	9.68
		5.5	9.66
		11	9.45
	6	1	9.54
		2	9.46
		5.5	9.39
		11	9.13
	11	1	9.28
		2	9.25
		5.5	9.18
		11	8.94
802.11g	1	6	9.75
		9	9.61
		12	9.51
		18	9.26
		24	9.00
		36	8.62
		48	8.03
		54	7.88
	6	6	9.52
		9	9.41
		12	9.30
		18	9.05
		24	8.80
		36	8.20
		48	7.85
		54	7.76
	11	6	9.15
		9	9.05
		12	8.95

		18	8.69
		24	8.43
		36	8.11
		48	7.73
		54	7.61
802.11n HT20	1	MCS0	9.74
		MCS1	9.42
		MCS2	9.20
		MCS3	8.93
		MCS4	8.58
		MCS5	8.24
		MCS6	7.87
		MCS7	7.74
	6	MCS0	9.50
		MCS1	9.28
		MCS2	9.03
		MCS3	8.79
		MCS4	8.20
		MCS5	7.87
		MCS6	7.74
		MCS7	7.62
	11	MCS0	9.37
		MCS1	8.93
		MCS2	8.65
		MCS3	8.44
		MCS4	8.13
		MCS5	7.75
		MCS6	7.62
		MCS7	7.48
802.11n HT40	3	MCS0	9.02
		MCS1	8.52
		MCS2	8.16
		MCS3	7.84
		MCS4	7.33
		MCS5	6.73
		MCS6	6.58
		MCS7	6.48
	6	MCS0	8.95
		MCS1	8.50
		MCS2	7.91
		MCS3	7.62
		MCS4	7.10
		MCS5	6.70

		MCS6	6.53
		MCS7	6.45
	9	MCS0	8.52
		MCS1	8.13
		MCS2	7.72
		MCS3	7.41
		MCS4	6.92
		MCS5	6.54
		MCS6	6.35
		MCS7	6.30

7.2. Standalone SAR Test Exclusion Considerations

Per FCC KDB 447498 D01, the SAR exclusion threshold for distances <50mm is defined by the following equation:

$$\frac{\text{(max. power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance, mm)}} * \sqrt{\text{Frequency (GHz)}} \leqslant 3.0$$

Based on the above equation, Bluetooth SAR was not required;
Head Evaluation = $[10^{(9.8/10)}/5] * (2.480^{1/2}) = 3.0 = 3.0$
Body Evaluation = $[10^{(9.8/10)}/10] * (2.480^{1/2}) = 1.5 < 3.0$

Based on the above equation, WIFI SAR was not required;
Head Evaluation = $[10^{(9.8/10)}/5]* (2.462^{1/2)} = 3.0 = 3.0$
Body Evaluation = $[10^{(9.8/10)}/10]* (2.462^{1/2)} = 1.5 < 3.0$

7.3. SAR Test Results

7.3.1. GSM 850 (GSM/GPRS)

Table 15: SAR Values [GSM 850 (GSM/GPRS) Antenna 1]

Test Position	Channel/ Frequency (MHz)	Time slot	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR_{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)	Graph Results
Test Position of Head										
Left Cheek	251/848.8	GSM	1:8.3	33.2	33.08	-0.16	0.476	1.03	0.489	Figure13
	190/836.6	GSM	1:8.3	33.2	33.05	-0.03	0.539	1.04	0.558	Figure14
	128/824.4	GSM	1:8.3	33.2	33.01	0.12	0.517	1.04	0.540	Figure15
Left Tilt	251/848.8	GSM	1:8.3	33.2	33.08	0.11	0.321	1.03	0.330	Figure16
	190/836.6	GSM	1:8.3	33.2	33.05	0.03	0.385	1.04	0.399	Figure17
	128/824.4	GSM	1:8.3	33.2	33.01	-0.04	0.353	1.04	0.369	Figure18
Right Cheek	251/848.8	GSM	1:8.3	33.2	33.08	-0.08	0.643	1.03	0.661	Figure19
	190/836.6	GSM	1:8.3	33.2	33.05	-0.01	0.689	1.04	0.713	Figure20
	128/824.4	GSM	1:8.3	33.2	33.01	0.10	0.773	1.04	0.808	Figure21
Right Tilt	251/848.8	GSM	1:8.3	33.2	33.08	0.04	0.385	1.03	0.396	Figure22
	190/836.6	GSM	1:8.3	33.2	33.05	0.04	0.470	1.04	0.487	Figure23
	128/824.4	GSM	1:8.3	33.2	33.01	0.02	0.438	1.04	0.458	Figure24
Worst Case Position of Head with Battery 2										
Right Cheek	128/824.4	GSM	1:8.3	33.2	33.01	-0.035	0.778	1.04	0.813	Figure25
Test position of Body (Distance 10mm)										
Back Side	251/848.8	2Txslots	1:4.15	31.3	31.25	0.02	0.927	1.01	0.938	Figure26
	190/836.6	2Txslots	1:4.15	31.3	30.67	0.05	0.878	1.16	1.015	Figure27
	128/824.4	2Txslots	1:4.15	31.3	31.17	-0.06	0.937	1.03	0.965	Figure28
Front Side	251/848.8	2Txslots	1:4.15	31.3	31.25	-0.06	0.896	1.01	0.906	Figure29
	190/836.6	2Txslots	1:4.15	31.3	30.67	0.03	0.82	1.16	0.948	Figure30
	128/824.4	2Txslots	1:4.15	31.3	31.17	-0.05	0.901	1.03	0.928	Figure31
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	251/848.8	2Txslots	1:4.15	31.3	31.25	-0.1	0.849	1.01	0.859	Figure32
	190/836.6	2Txslots	1:4.15	31.3	30.67	-0.1	0.878	1.16	1.015	Figure33
	128/824.4	2Txslots	1:4.15	31.3	31.17	-0.14	0.775	1.03	0.799	Figure34
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	190/836.6	2Txslots	1:4.15	31.3	30.67	-0.03	0.381	1.16	0.440	Figure35
Worst Case Position of Body with Battery 2 (Distance 10mm)										

Test Position	Channel/ Frequency (MHz)	Time slot	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR_{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)	Graph Results
Back Side	190/836.6	2Txslots	1:4.15	31.3	30.67	-0.07	0.982	1.16	1.135	Figure36
Worst Case Position of SAR(1st Repeated SAR, Distance 10mm)										
Back Side	190/836.6	2Txslots	1:4.15	31.3	30.67	-0.01	0.982	1.16	1.135	Figure37

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

2. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

3. WWAN antenna 1 is located at bottom/right edge; antenna-to-top/left edge distance is more than 2.5 cm (see ANNEX I). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

Table 16: SAR Measurement Variability Results [GSM 850(GSM/GPRS)]

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Back Side	190/836.6	0.878	0.982	1.12	N/A	N/A

Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.

2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).

3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg

Table 17: SAR Values [GSM 850 (GSM/GPRS) Antenna 2]

Test Position	Channel/ Frequency (MHz)	Time slot	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR_{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)	Graph Results
Test Position of Head										
Left Cheek	251/848.8	GSM	1:8.3	33.2	33.08	-0.12	0.722	1.03	0.742	Figure38
	190/836.6	GSM	1:8.3	33.2	33.05	0.13	0.620	1.04	0.642	Figure39
	128/824.4	GSM	1:8.3	33.2	33.01	0.19	0.609	1.04	0.636	Figure40
Left Tilt	251/848.8	GSM	1:8.3	33.2	33.08	-0.04	0.542	1.03	0.557	Figure41
	190/836.6	GSM	1:8.3	33.2	33.05	-0.03	0.474	1.04	0.491	Figure42
	128/824.4	GSM	1:8.3	33.2	33.01	0.04	0.461	1.04	0.482	Figure43
Right Cheek	251/848.8	GSM	1:8.3	33.2	33.08	0.039	1.160	1.03	1.192	Figure44
	190/836.6	GSM	1:8.3	33.2	33.05	0.031	0.999	1.04	1.034	Figure45
	128/824.4	GSM	1:8.3	33.2	33.01	-0.08	0.953	1.04	0.996	Figure46
Right Tilt	251/848.8	GSM	1:8.3	33.2	33.08	-0.01	1.020	1.03	1.049	Figure47
	190/836.6	GSM	1:8.3	33.2	33.05	-0.04	0.890	1.04	0.921	Figure48
	128/824.4	GSM	1:8.3	33.2	33.01	-0.04	0.855	1.04	0.893	Figure49
Worst Case Position of Head with Battery 2										
Right Cheek	251/848.8	GSM	1:8.3	33.2	33.08	-0.08	1.160	1.03	1.192	Figure50
Test position of Body (Distance 10mm)										
Back Side	190/836.6	2Txslots	1:4.15	31.3	30.67	-0.07	0.138	1.16	0.160	Figure51
Front Side	190/836.6	2Txslots	1:4.15	31.3	30.67	0.04	0.144	1.16	0.166	Figure52
Left Edge	190/836.6	2Txslots	1:4.15	31.3	30.67	0.07	0.187	1.16	0.216	Figure53
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	190/836.6	2Txslots	1:4.15	31.3	30.67	0.07	0.099	1.16	0.114	Figure54
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Worst Case Position of Body with Battery 2 (Distance 10mm)										
Left Edge	251/848.8	2Txslots	1:4.15	31.3	30.67	0.11	0.189	1.16	0.219	Figure55
Worst Case Position of SAR(1st Repeated SAR, Distance 10mm)										
Right Cheek	251/848.8	GSM	1:8.3	33.2	33.08	-0.10	1.150	1.03	1.182	Figure56

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

2. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

3. WWAN antenna 2 is located at top/left edge; antenna-to-bottom/right edge edge distance is more than 2.5 cm (see ANNEX I). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

Table 18: SAR Measurement Variability Results [GSM 850(GSM/GPRS)]

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Back Side	251/848.8	1.16	1.15	1.01	N/A	N/A

Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.

2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).

3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg

7.3.2. GSM 1900 (GSM/GPRS)

Table 19: SAR Values [GSM 1900(GSM/GPRS) Antenna 1]

Test Position	Channel/ Frequency (MHz)	Time slot	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR_{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)	Graph Results
Test Position of Head										
Left Cheek	810/1909.8	GSM	1:8.3	30.5	30.05	0.101	0.355	1.11	0.394	Figure57
	661/1880	GSM	1:8.3	30.5	29.91	0.079	0.340	1.15	0.389	Figure58
	512/1850.2	GSM	1:8.3	30.5	29.83	0.045	0.340	1.17	0.397	Figure59
Left Tilt	810/1909.8	GSM	1:8.3	30.5	30.05	0.048	0.130	1.11	0.144	Figure60
	661/1880	GSM	1:8.3	30.5	29.91	0.028	0.123	1.15	0.141	Figure61
	512/1850.2	GSM	1:8.3	30.5	29.83	0.043	0.102	1.17	0.119	Figure62
Right Cheek	810/1909.8	GSM	1:8.3	30.5	30.05	0.041	0.276	1.11	0.306	Figure63
	661/1880	GSM	1:8.3	30.5	29.91	0.047	0.308	1.15	0.353	Figure64
	512/1850.2	GSM	1:8.3	30.5	29.83	0.13	0.308	1.17	0.359	Figure65
Right Tilt	810/1909.8	GSM	1:8.3	30.5	30.05	0.11	0.084	1.11	0.093	Figure66
	661/1880	GSM	1:8.3	30.5	29.91	0.12	0.096	1.15	0.110	Figure67
	512/1850.2	GSM	1:8.3	30.5	29.83	0.047	0.111	1.17	0.130	Figure68
Worst Case Position of Head with Battery 2										
Left Cheek	512/1850.2	GSM	1:8.3	30.5	29.83	0.038	0.354	1.17	0.390	Figure69
Test position of Body (Distance 10mm)										
Back Side	661/1880	2Txslots	1:4.15	29.4	28.43	0.17	0.493	1.25	0.616	Figure70
Front Side	661/1880	2Txslots	1:4.15	29.4	28.43	0.07	0.539	1.25	0.674	Figure71
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	661/1880	2Txslots	1:4.15	29.4	28.43	0.16	0.091	1.25	0.113	Figure72
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	661/1880	2Txslots	1:4.15	29.4	28.43	0.1	0.268	1.25	0.335	Figure73
Worst Case Position of Body with Battery 2 (Distance 10mm)										
Front Side	661/1880	2Txslots	1:4.15	29.4	28.43	0.18	0.560	1.25	0.700	Figure74

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

2. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

3. WWAN antenna 1 is located at bottom/right edge; antenna-to-top/left edge edge distance is more than 2.5 cm (see ANNEX I). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.

4. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

5. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required..

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

Table 20: SAR Values [UMTS Band II (WCDMA/HSDPA/HSUPA) Antenna 1]

Test Position	Channel/ Frequency (MHz)	Channel Type	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ±0.21dB	Limit SAR_{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)	Graph Results
Test Position of Head										
Left Cheek	9538/1907.6	RMC 12.2K	1:1	24.3	23.65	0.055	0.647	1.16	0.751	Figure75
	9400/1880	RMC 12.2K	1:1	24.3	23.78	-0.191	0.737	1.13	0.831	Figure76
	9262/1852.4	RMC 12.2K	1:1	24.3	24.12	0.180	0.673	1.04	0.701	Figure77
Left Tilt	9538/1907.6	RMC 12.2K	1:1	24.3	23.65	0.110	0.262	1.16	0.304	Figure78
	9400/1880	RMC 12.2K	1:1	24.3	23.78	-0.030	0.270	1.13	0.304	Figure79
	9262/1852.4	RMC 12.2K	1:1	24.3	24.12	0.100	0.222	1.04	0.231	Figure80
Right Cheek	9538/1907.6	RMC 12.2K	1:1	24.3	23.65	0.039	0.480	1.16	0.557	Figure81
	9400/1880	RMC 12.2K	1:1	24.3	23.78	0.028	0.686	1.13	0.773	Figure82
	9262/1852.4	RMC 12.2K	1:1	24.3	24.12	0.030	0.576	1.04	0.600	Figure83
Right Tilt	9538/1907.6	RMC 12.2K	1:1	24.3	23.65	0.057	0.126	1.16	0.146	Figure84
	9400/1880	RMC 12.2K	1:1	24.3	23.78	0.110	0.166	1.13	0.187	Figure85
	9262/1852.4	RMC 12.2K	1:1	24.3	24.12	0.056	0.200	1.04	0.208	Figure86
Worst Case Position of Head with Battery 2										
Right Cheek	9538/1907.6	RMC 12.2K	1:1	24.3	23.78	-0.075	0.678	1.13	0.764	Figure87
Test position of Body (Hotspot Closed, Distance 10mm)										
Back Side	9538/1907.6	RMC 12.2K	1:1	24.3	23.65	0.170	0.826	1.16	0.959	Figure88
	9400/1880	RMC 12.2K	1:1	24.3	23.78	-0.020	0.798	1.13	0.900	Figure89
	9262/1852.4	RMC 12.2K	1:1	24.3	24.14	0.070	0.857	1.04	0.889	Figure90
Front Side	9538/1907.6	RMC 12.2K	1:1	24.3	23.65	0.080	0.878	1.16	1.020	Figure91
	9400/1880	RMC 12.2K	1:1	24.3	23.78	-0.060	0.842	1.13	0.949	Figure92
	9262/1852.4	RMC 12.2K	1:1	24.3	24.14	0.100	0.892	1.04	0.925	Figure93
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	9400/1880	RMC 12.2K	1:1	24.3	23.78	0.030	0.152	1.13	0.172	Figure94
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	9400/1880	RMC 12.2K	1:1	24.3	23.78	-0.010	0.540	1.13	0.610	Figure95
Worst Case Position of Body with Battery 2 (Distance 10mm)										
Front Side	9538/1907.6	RMC 12.2K	1:1	24.3	23.65	0.070	0.763	1.16	0.886	Figure96
Worst Case Position of SAR (1st Repeated SAR, Distance 10mm)										
Front Side	9262/1852.4	RMC 12.2K	1:1	24.3	24.14	0.030	0.843	1.04	0.875	Figure97

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

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test

Test Position	Channel/ Frequency (MHz)	Channel Type	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR_{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)	Graph Results
configuration(s).										
3. WWAN antenna 1 is located at bottom/right edge; antenna-to-top/left edge edge distance is more than 2.5 cm (see ANNEX I). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.										
4. WCDMA mode were tested under RMC 12.2kbps without HSPA (HSDPA/HSUPA) inactive per KDB Publication 941225 D01. HSPA (HSDPA/HSUPA) SAR for body was not required since the average output power of the HSPA (HSDPA/HSUPA) subtests was not more than 0.25 dB higher than the RMC level and the maximum SAR for 12.2kbps RMC was less than 75% SAR limit.										
5. When hotspot open, there are power reduction in UMTS Band II, so SAR testing at hotspot open mode is not required.										
6. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.										

Table 21: SAR Measurement Variability Results [UMTS Band II (WCDMA/HSDPA/HSUPA)]

Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Front Side	9262/1852.4	0.892	0.843	1.06	N/A	N/A
Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.						
2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).						
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.						
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg						

7.3.4. UMTS Band V (WCDMA/HSDPA/HSUPA)

Table 22: SAR Values [UMTS Band V (WCDMA/HSDPA/HSUPA) Antenna 1]

Test Position	Channel/ Frequency (MHz)	Channel Type	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ±0.21dB	Limit SAR_{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)	Graph Results
Test Position of Head										
Left Cheek	4233/846.6	RMC 12.2K	1:1	23.6	23.44	-0.05	0.330	1.04	0.342	Figure98
	4183/836.6	RMC 12.2K	1:1	23.6	23.48	-0.12	0.478	1.03	0.491	Figure99
	4132/826.4	RMC 12.2K	1:1	23.6	23.55	0.03	0.399	1.01	0.404	Figure100
Left Tilt	4233/846.6	RMC 12.2K	1:1	23.6	23.44	0.18	0.220	1.04	0.228	Figure101
	4183/836.6	RMC 12.2K	1:1	23.6	23.48	0.032	0.290	1.03	0.298	Figure102
	4132/826.4	RMC 12.2K	1:1	23.6	23.55	0.025	0.278	1.01	0.281	Figure103
Right Cheek	4233/846.6	RMC 12.2K	1:1	23.6	23.44	-0.087	0.397	1.04	0.412	Figure104
	4183/836.6	RMC 12.2K	1:1	23.6	23.48	0.06	0.667	1.03	0.686	Figure105
	4132/826.4	RMC 12.2K	1:1	23.6	23.55	0.19	0.480	1.01	0.486	Figure106
Right Tilt	4233/846.6	RMC 12.2K	1:1	23.6	23.44	0.03	0.234	1.04	0.243	Figure107
	4183/836.6	RMC 12.2K	1:1	23.6	23.48	0.08	0.316	1.03	0.325	Figure108
	4132/826.4	RMC 12.2K	1:1	23.6	23.55	0.12	0.311	1.01	0.315	Figure109
Worst Case Position of Head with Battery 2										
Right Cheek	4183/836.6	RMC 12.2K	1:1	23.6	23.48	0.07	0.521	1.03	0.536	Figure110
Test position of Body (Distance 10mm)										
Back Side	4183/836.6	RMC 12.2K	1:1	23.6	23.48	0.07	0.646	1.03	0.664	Figure111
Front Side	4183/836.6	RMC 12.2K	1:1	23.6	23.48	0.01	0.654	1.03	0.672	Figure112
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	4183/836.6	RMC 12.2K	1:1	23.6	23.48	0.02	0.676	1.03	0.695	Figure113
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	4183/836.6	RMC 12.2K	1:1	23.6	23.48	-0.04	0.274	1.03	0.282	Figure114
Worst Case Position of Body with Battery 2 (Distance 10mm)										
Right Edge	4183/836.6	RMC 12.2K	1:1	23.6	23.48	0.04	0.668	1.03	0.687	Figure115

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

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

3. WWAN antenna 1 is located at bottom/right edge; antenna-to-top/left edge distance is more than 2.5 cm (see ANNEX I). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.

4. WCDMA mode were tested under RMC 12.2kbps without HSPA (HSDPA/HSUPA) inactive per KDB Publication 941225 D01. HSPA (HSDPA/HSUPA) SAR for body was not required since the average output power of the HSPA (HSDPA/HSUPA) subtests was not more than 0.25 dB higher than the RMC level and the maximum SAR for 12.2kbps RMC was less than 75% SAR limit.

5. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

Table 23: SAR Values [UMTS Band V (WCDMA/HSDPA/HSUPA) Antenna 2]

Test Position	Channel/ Frequency (MHz)	Channel Type	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ±0.21dB	Limit SAR_{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)	Graph Results
Test Position of Head										
Left Cheek	4233/846.6	RMC 12.2K	1:1	23.6	23.44	-0.11	0.686	1.04	0.712	Figure116
	4183/836.6	RMC 12.2K	1:1	23.6	23.48	-0.11	0.550	1.03	0.565	Figure117
	4132/826.4	RMC 12.2K	1:1	23.6	23.55	-0.01	0.469	1.01	0.474	Figure118
Left Tilt	4233/846.6	RMC 12.2K	1:1	23.6	23.44	0.08	0.416	1.04	0.432	Figure119
	4183/836.6	RMC 12.2K	1:1	23.6	23.48	0.06	0.334	1.03	0.343	Figure120
	4132/826.4	RMC 12.2K	1:1	23.6	23.55	0.12	0.279	1.01	0.282	Figure121
Right Cheek	4233/846.6	RMC 12.2K	1:1	23.6	23.44	0.12	1.130	1.04	1.172	Figure122
	4183/836.6	RMC 12.2K	1:1	23.6	23.48	0.14	0.923	1.03	0.949	Figure123
	4132/826.4	RMC 12.2K	1:1	23.6	23.55	0.08	0.800	1.01	0.809	Figure124
Right Tilt	4233/846.6	RMC 12.2K	1:1	23.6	23.44	0.12	0.902	1.04	0.936	Figure125
	4183/836.6	RMC 12.2K	1:1	23.6	23.48	0.14	0.737	1.03	0.758	Figure126
	4132/826.4	RMC 12.2K	1:1	23.6	23.55	0.13	0.638	1.01	0.645	Figure127
Worst Case Position of Head with Battery 2										
Right Cheek	4233/846.6	RMC 12.2K	1:1	23.6	23.44	0.01	1.030	1.04	1.069	Figure128
Test position of Body (Distance 10mm)										
Back Side	4183/836.6	RMC 12.2K	1:1	23.6	23.48	0.08	0.109	1.03	0.112	Figure129
Front Side	4183/836.6	RMC 12.2K	1:1	23.6	23.48	0.04	0.115	1.03	0.118	Figure130
Left Edge	4183/836.6	RMC 12.2K	1:1	23.6	23.48	-0.03	0.129	1.03	0.133	Figure131
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	4183/836.6	RMC 12.2K	1:1	23.6	23.48	0.12	0.072	1.03	0.074	Figure132
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Worst Case Position of Body with Battery 2 (Distance 10mm)										
Left Edge	4183/836.6	RMC 12.2K	1:1	23.6	23.48	-0.03	0.149	1.03	0.153	Figure133
Worst Case Position of SAR (1st Repeated SAR, Distance 10mm)										
Right Cheek	4233/846.6	RMC 12.2K	1:1	23.6	23.44	0.08	1.04	1.04	1.079	Figure134

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

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is not required for such test configuration(s).

3. WWAN antenna 2 is located at top/left edge; antenna-to-bottom/right edge distance is more than 2.5 cm (see ANNEX I). Based upon KDB941225 D06, when the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.

4. WCDMA mode were tested under RMC 12.2kbps without HSPA (HSDPA/HSUPA) inactive per KDB Publication 941225 D01. HSPA (HSDPA/HSUPA) SAR for body was not required since the average output power of the HSPA (HSDPA/HSUPA) subtests was not more than 0.25 dB higher than the RMC level and the maximum SAR for 12.2kbps RMC was less than 75% SAR limit.

5. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

Table 24: SAR Measurement Variability Results [UMTS Band V (WCDMA/HSDPA/HSUPA)]

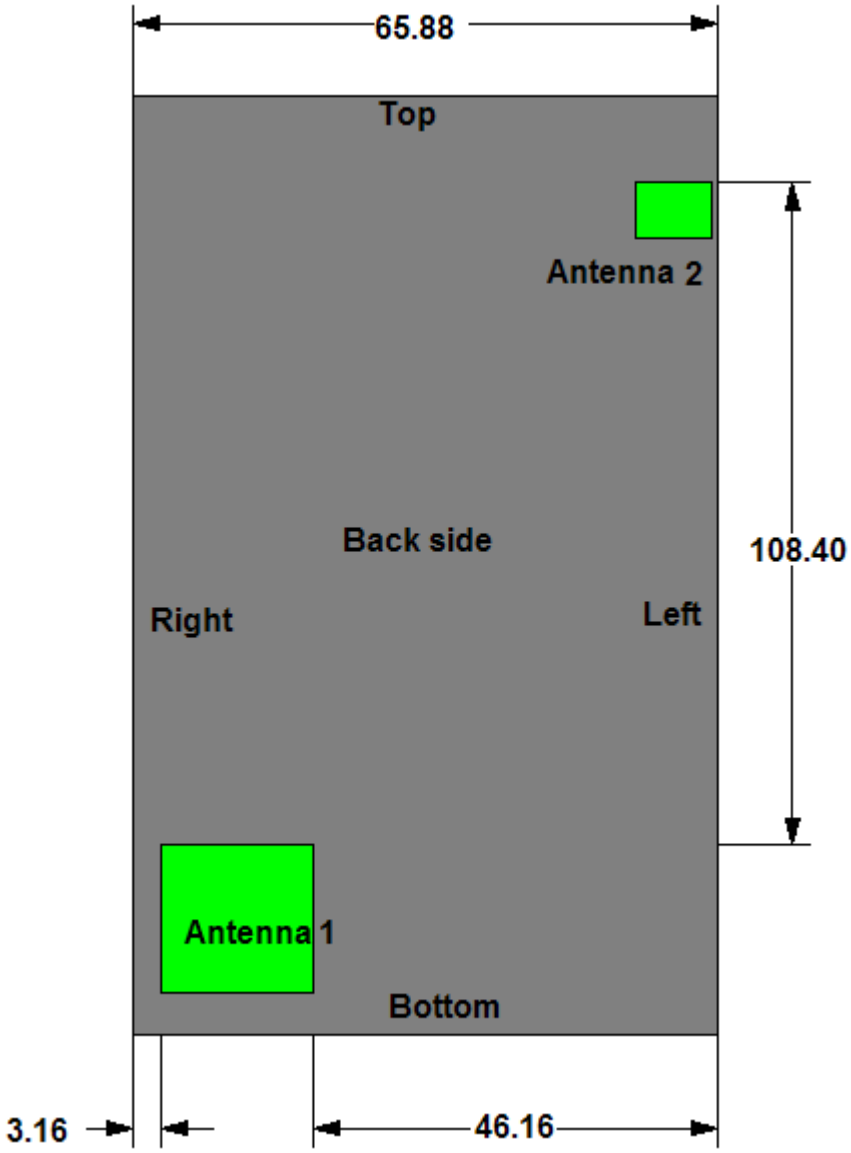
Test Position	Channel/ Frequency (MHz)	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	3rd Repeated SAR (1g)
Back Side	4233/846.6	1.13	1.04	1.09	N/A	N/A

Note: 1) When the original highest measured SAR is ≥ 0.80 W/kg, the measurement was repeated once.
2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20 or when the original or repeated measurement was ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
3) A third repeated measurement was performed only if the original, first or second repeated measurement was ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.
4) Repeated measurements are not required when the original highest measured SAR is < 0.80 W/kg

7.4. Simultaneous Transmission Conditions

Air-Interface	Band (MHz)	Type	Simultaneous Transmissions Note: Not to be tested	Reduced power 20.19(c)(1)	Voice Over Digital Transport (Data)
GSM	850	VO	Yes WIFI or BT	NA	NA
	1900	VO		NA	NA
	GPRS	DT	Yes WIFI or BT	NA	NA
	EGPRS	DT		NA	NA
WCDMA	Band II	VO	Yes WIFI or BT	NA	NA
	Band V	VO	Yes WIFI or BT	NA	NA
	HSDPA	DT	Yes WIFI or BT	NA	NA
	HSUPA	DT	Yes WIFI or BT	NA	NA
	HSPA+	DT	Yes WIFI or BT	NA	NA
	DC-HSDPA	DT	Yes WIFI or BT	NA	NA
	RMC	DT	Yes WIFI or BT	NA	NA
WIFI	2450	DT	Yes GSM, GPRS, EGPRS, WCDMA	NA	Yes
Bluetooth (BT)	2400	DT	Yes GSM, GPRS, EGPRS, WCDMA	NA	NA

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



When standalone SAR is not required to be measured per FCC KDB 447498 D01, the following equation must be used to estimate the standalone 1g SAR for simultaneous transmission assessment involving that transmitter.

$$\text{Estimated SAR} = \frac{\text{(max. power of channel, including tune-up tolerance, mW)}}{\text{(min. test separation distance, mm)}} * \frac{\sqrt{f\ (GHz)}}{7.5}$$

So， Head Estimated $SAR_{Max.BT}$ = $[10^{(9.8/10)}/5]$ * $(2.480^{1/2}/7.5)$= 0.4W/kg
Body Estimated $SAR_{Max.BT}$ = $[10^{(9.8/10)}/10]$ * $(2.480^{1/2}/7.5)$= 0.2 W/kg

Head Estimated $SAR_{Max.WIFI}$ = $[10^{(9.8/10)}/5]$ * $(2.462^{1/2}/7.5)$= 0.4W/kg
Body Estimated $SAR_{Max.WIFI}$ = $[10^{(9.8/10)}/10]$ * $(2.462^{1/2}/7.5)$= 0.2 W/kg

Per FCC KDB 447498 D01, simultaneous transmission SAR test exclusion may be applied when the sum of the 1-g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is ≤1.6 W/kg. When the sum is greater than the SAR limit, SAR test exclusion is determined by the SAR to peak location separation ratio.

$$\text{Ratio} = \frac{(SAR_1 + SAR_2)^{1.5}}{\text{(peak location separation, mm)}} < 0.04$$

GSM/UMTS &BT Mode

Reported SAR_{1g}(W/kg) / Test Position	GSM 850	GSM 1900	UMTS Band II	UMTS Band V	BT	MAX. Σ SAR_{1g}
Left hand, Touch cheek	0.742	0.397	**0.831**	0.712	**0.4**	1.231
Left hand, Tilt 15 Degree	**0.557**	0.144	0.304	0.432	**0.4**	0.957
Right hand, Touch cheek	**1.192**	0.359	0.773	1.172	**0.4**	1.592
Right hand, Tilt 15 Degree	**1.049**	0.130	0.208	0.936	**0.4**	1.449
Body, Back Side	**1.135**	0.616	0.959	0.664	**0.2**	1.335
Body, Front Side	0.948	0.700	**1.020**	0.672	**0.2**	1.220
Body, Left Edge	**0.216**	N/A	N/A	0.153	**0.2**	0.416
Body, Right Edge	**1.015**	0.113	0.152	0.695	**0.2**	1.215
Body, Top Edge	**0.114**	N/A	N/A	0.074	**0.2**	0.314
Body, Bottom Edge	0.440	0.335	**0.540**	0.282	**0.2**	0.740

Note: 1.The value with blue color is the maximum ΣSAR_{1g} Value.
2. MAX. ΣSAR_{1g} = Estimated $SAR_{Max.BT}$ + Reported $SAR_{Max.GSM/UMTS}$

MAX. ΣSAR_{1g} = 1.592 W/kg ＜1.6 W/kg, So the Simultaneous SAR are not required for BT and GSM/UMTS antenna.

GSM/UMTS &WIFI Mode

Reported SAR_{1g}(W/kg) / Test Position	GSM 850	GSM 1900	UMTS Band II	UMTS Band V	WIFI	MAX. Σ SAR_{1g}
Left hand, Touch cheek	0.742	0.397	**0.831**	0.712	**0.4**	1.231
Left hand, Tilt 15 Degree	**0.557**	0.144	0.304	0.432	**0.4**	0.957
Right hand, Touch cheek	**1.192**	0.359	0.773	1.172	**0.4**	1.592
Right hand, Tilt 15 Degree	**1.049**	0.130	0.208	0.936	**0.4**	1.449
Body, Back Side	**1.135**	0.616	0.959	0.664	**0.2**	1.335
Body, Front Side	0.948	0.700	**1.020**	0.672	**0.2**	1.220
Body, Left Edge	**0.216**	N/A	N/A	0.153	**0.2**	0.416
Body, Right Edge	**1.015**	0.113	0.152	0.695	**0.2**	1.215
Body, Top Edge	**0.114**	N/A	N/A	0.074	**0.2**	0.314
Body, Bottom Edge	0.440	0.335	**0.540**	0.282	**0.2**	0.740

Note: 1.The value with blue color is the maximum ΣSAR_{1g} Value.
2. MAX. ΣSAR_{1g} = Estimated $SAR_{Max.WIFI}$ + Reported $SAR_{Max.GSM/UMTS}$

MAX. ΣSAR_{1g} = 1.592 W/kg ＜1.6 W/kg, So the Simultaneous SAR are not required for WIFI and GSM/UMTS antenna.

WIFI & BT Mode

BT and WIFI antenna cannot transmit simultaneously.

8. 700MHz to 3GHz Measurement Uncertainty

No.	source	Type	Uncertainty Value (%)	Probability Distribution	k	c_i	Standard ncertainty u_i' (%)	Degree of freedom V_{eff} or v_i
1	System repetivity	A	0.5	N	1	1	0.5	9
Measurement system								
2	-probe calibration	B	6.0	N	1	1	6.0	∞
3	-axial isotropy of the probe	B	4.7	R	$\sqrt{3}$	$\sqrt{0.5}$	1.9	∞
4	- Hemispherical isotropy of the probe	B	9.4	R	$\sqrt{3}$	$\sqrt{0.5}$	3.9	∞
5	-boundary effect	B	1.9	R	$\sqrt{3}$	1	1.1	∞
6	-probe linearity	B	4.7	R	$\sqrt{3}$	1	2.7	∞
7	- System detection limits	B	1.0	R	$\sqrt{3}$	1	0.6	∞
8	-readout Electronics	B	1.0	N	1	1	1.0	∞
9	-response time	B	0.8	R	$\sqrt{3}$	1	0.5	∞
10	-integration time	B	4.3	R	$\sqrt{3}$	1	2.5	∞
11	-RF Ambient noise	B	3.0	R	$\sqrt{3}$	1	1.7	∞
12	-RF Ambient Conditions	B	3.0	R	$\sqrt{3}$	1	1.7	∞
13	-Probe Positioner Mechanical Tolerance	B	0.4	R	$\sqrt{3}$	1	0.2	∞
14	-Probe Positioning with respect to Phantom Shell	B	2.9	R	$\sqrt{3}$	1	1.7	∞
15	-Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	B	3.9	R	$\sqrt{3}$	1	2.3	∞
Test sample Related								
16	-Test Sample Positioning	A	2.9	N	1	1	2.9	71
17	-Device Holder Uncertainty	A	4.1	N	1	1	4.1	5
18	- Power drift	B	5.0	R	$\sqrt{3}$	1	2.9	∞
Physical parameter								
19	-phantom Uncertainty	B	4.0	R	$\sqrt{3}$	1	2.3	∞

20	Algorithm for correcting SAR for deviations in permittivity and conductivity	B	1.9	N	1	0.84	0.9	∞
21	-Liquid conductivity (measurement uncertainty)	B	2.5	N	1	0.71	1.8	9
22	-Liquid permittivity (measurement uncertainty)	B	2.5	N	1	0.26	0.7	9
23	-Liquid conductivity -temperature uncertainty	B	1.7	R	$\sqrt{3}$	0.71	0.7	∞
24	-Liquid permittivity -temperature uncertainty	B	0.3	R	$\sqrt{3}$	0.26	0.05	∞
Combined standard uncertainty		$u_c^{'} = \sqrt{\sum_{i=1}^{24} c_i^2 u_i^2}$					11.34	
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$		N		k=2	22.68	

9. Main Test Instruments

Table 25: List of Main Instruments

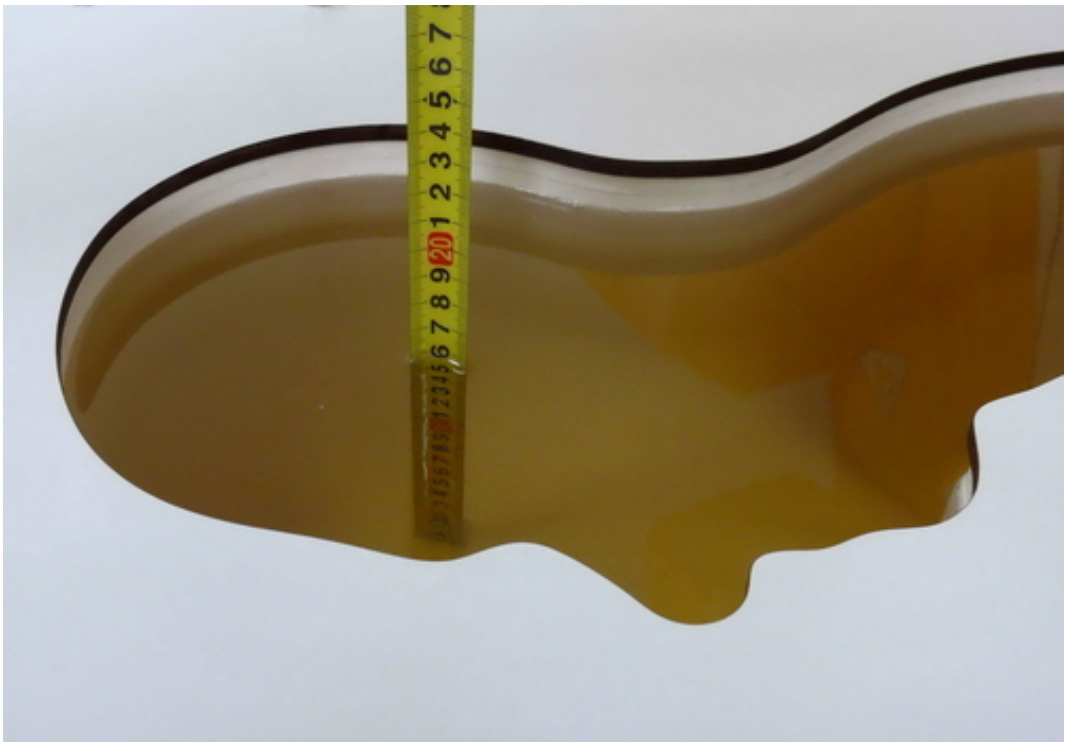
No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	Agilent 8753E	US37390326	September 10, 2013	One year
02	Dielectric Probe Kit	Agilent 85070E	US44020115	No Calibration Requested	
03	Power meter	Agilent E4417A	GB41291714	March 10, 2013	One year
04	Power sensor	Agilent N8481H	MY50350004	September 23, 2013	One year
05	Power sensor	E9327A	US40441622	January 1, 2014	One year
06	Signal Generator	HP 8341B	2730A00804	September 9,2013	One year
07	Dual directional coupler	778D-012	50519	March 25, 2013	One year
08	Dual directional coupler	777D	50146	March 25, 2013	One year
09	Amplifier	IXA-020	0401	No Calibration Requested	
10	BTS	E5515C	MY48360988	November 30, 2013	One year
11	E-field Probe	EX3DV4	3677	November 28, 2013	One year
12	DAE	DAE4	1317	January 16, 2014	One year
13	Validation Kit 835MHz	D835V2	4d020	August 26, 2011	Three years
14	Validation Kit 1900MHz	D1900V2	5d060	August 31, 2011	Three years
15	Temperature Probe	JM222	AA1009129	March 14, 2013	One year
16	Hygrothermograph	WS-1	64591	September 26, 2013	One year

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

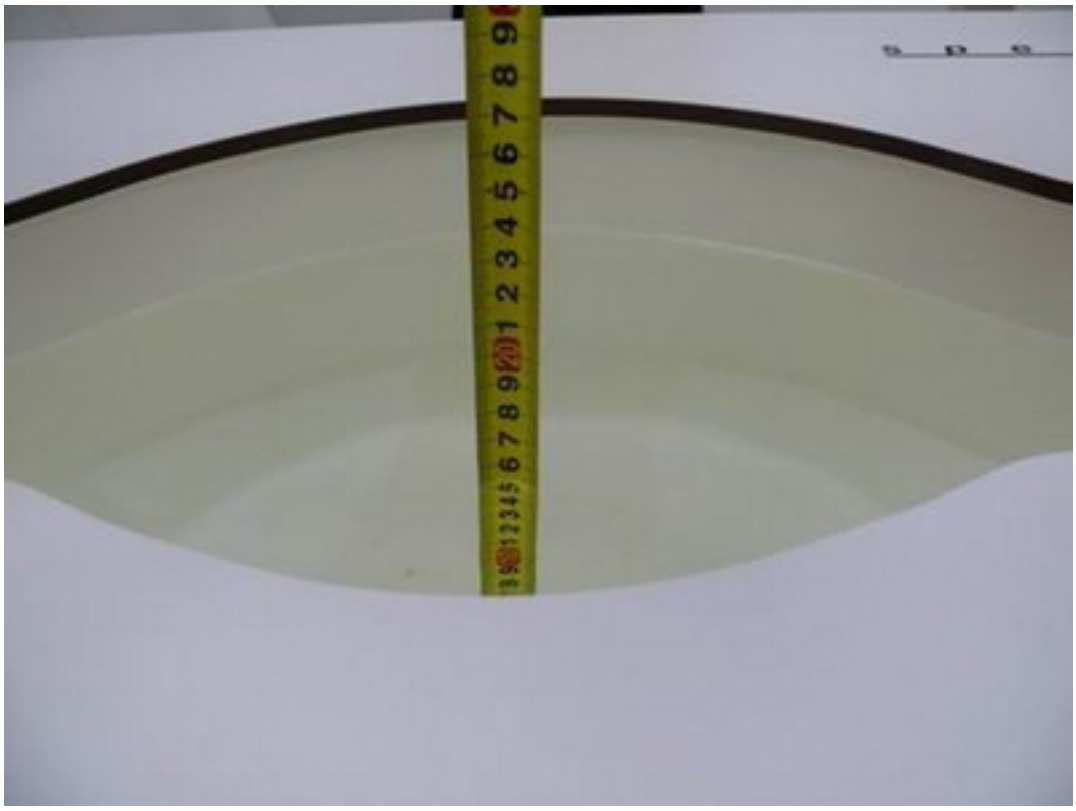
ANNEX A: Test Layout

Picture 1: Specific Absorption Rate Test Layout

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



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



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

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

ANNEX B: System Check Results

System Performance Check at 835 MHz Head TSL

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

Date/Time: 1/27/2014 8:15:38 AM

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

Medium parameters used: f = 835 MHz; σ = 0.92 mho/m; ε_r = 41.3; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

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

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

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

Maximum value of SAR (interpolated) = 2.64 mW/g

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

Reference Value = 54.4 V/m; Power Drift = -0.076 dB

Peak SAR (extrapolated) = 3.67 W/kg

SAR(1 g) = 2.44 mW/g; SAR(10 g) = 1.6 mW/g

Maximum value of SAR (measured) = 2.64 mW/g

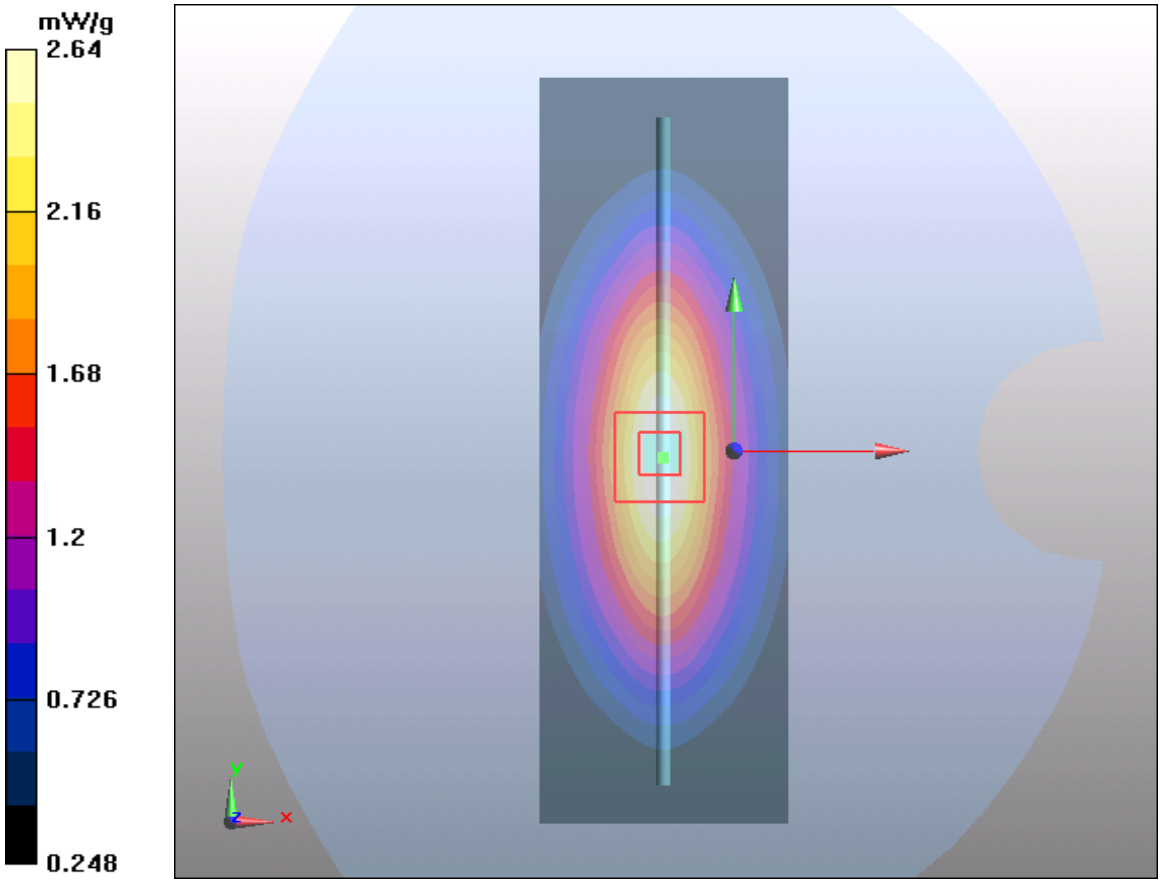


Figure 7 System Performance Check 835MHz 250mW

System Performance Check at 835 MHz Body TSL

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

Date/Time: 1/25/2014 11:10:37 PM

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

Medium parameters used: f = 835 MHz; σ = 0.99 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

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

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

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

Maximum value of SAR (interpolated) = 2.58 mW/g

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

Reference Value = 51.9 V/m; Power Drift = -0.058 dB

Peak SAR (extrapolated) = 3.5 W/kg

SAR(1 g) = 2.41 mW/g; SAR(10 g) = 1.6 mW/g

Maximum value of SAR (measured) = 2.6 mW/g

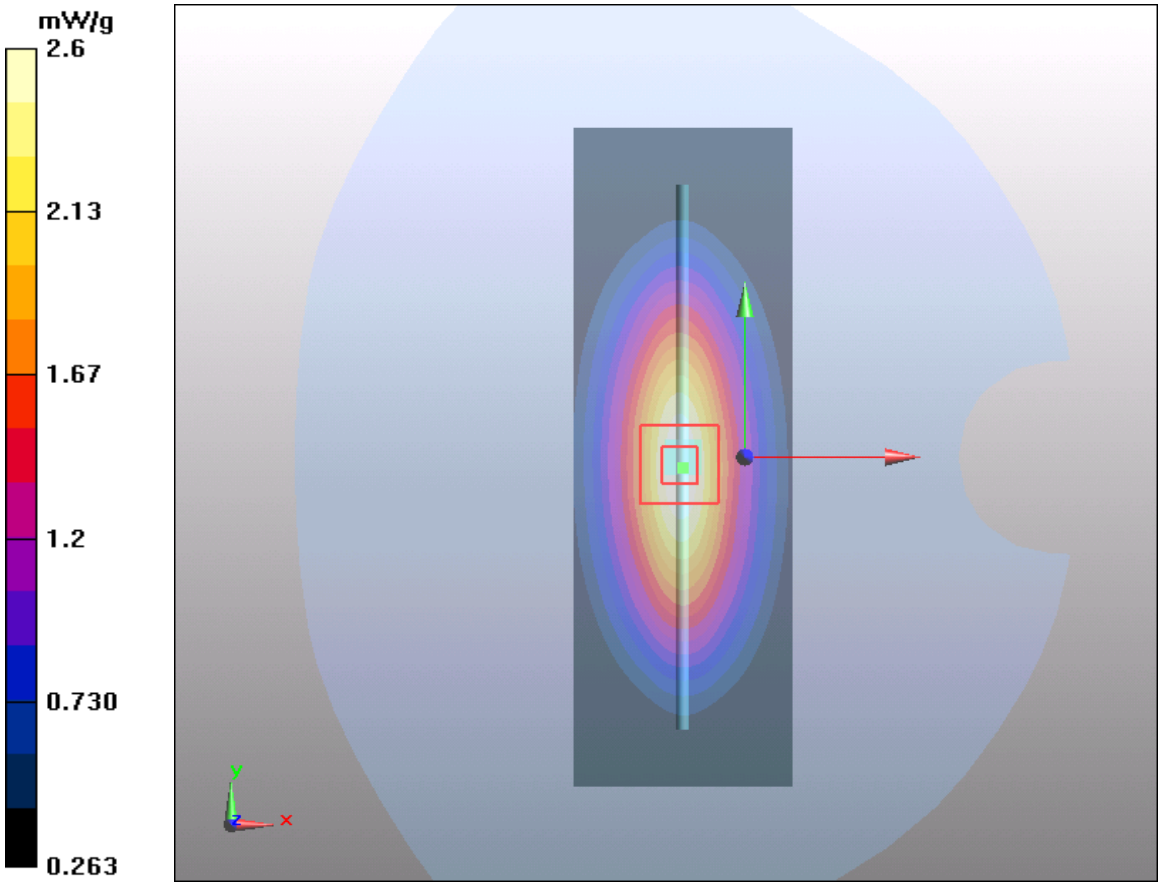


Figure 8 System Performance Check 835MHz 250Mw

System Performance Check at 835 MHz Head TSL

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

Date/Time: 2/11/2014 8:35:38 AM

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

Medium parameters used: f = 835 MHz; σ = 0.92 mho/m; ε_r = 41.3; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

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

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

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

Maximum value of SAR (interpolated) = 2.64 mW/g

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

Reference Value = 54.4 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 3.67 W/kg

SAR(1 g) = 2.45 mW/g; SAR(10 g) = 1.63 mW/g

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

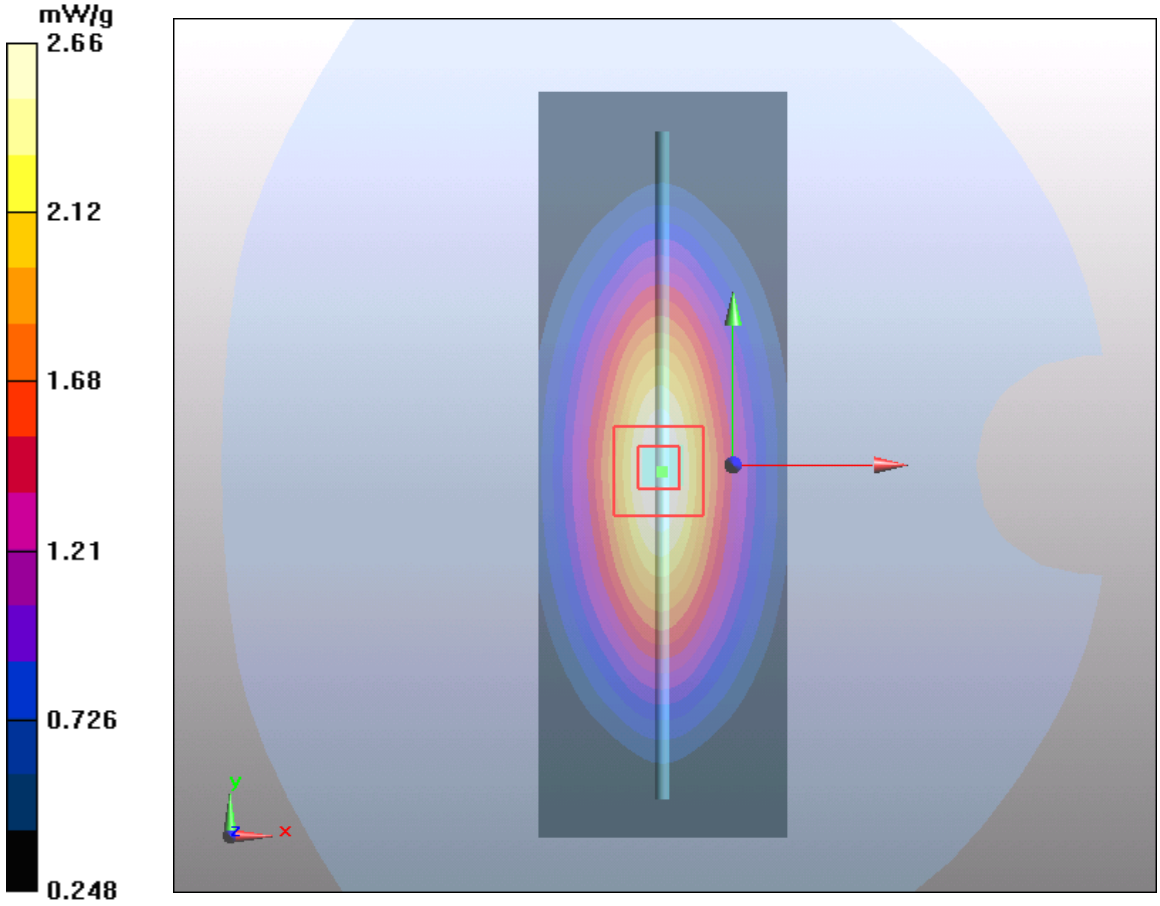


Figure 9 System Performance Check 835MHz 250mW

System Performance Check at 835 MHz Body TSL

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

Date/Time: 2/12/2014 8:40:37 AM

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

Medium parameters used: f = 835 MHz; σ = 0.99 mho/m; ε_r = 55.1; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

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

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

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

Maximum value of SAR (interpolated) = 2.58 mW/g

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

Reference Value = 51.9 V/m; Power Drift = -0.058 dB

Peak SAR (extrapolated) = 3.5 W/kg

SAR(1 g) = 2.37 mW/g; SAR(10 g) = 1.6 mW/g

Maximum value of SAR (measured) = 2.63 mW/g

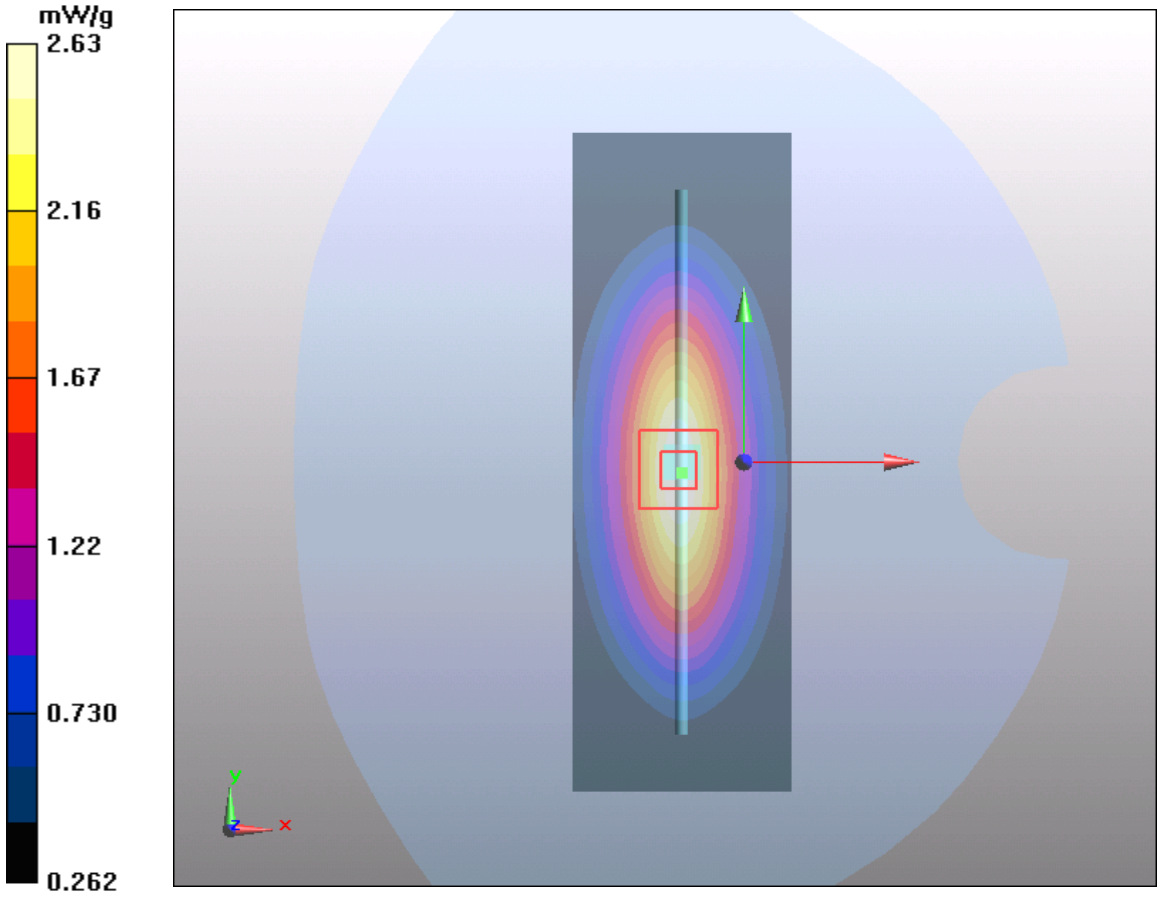


Figure 10 System Performance Check 835MHz 250mW

System Performance Check at 1900 MHz Head TSL

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

Date/Time: 1/25/2014 12:03:44 PM

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

Medium parameters used: f = 1900 MHz; σ = 1.43 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

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

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

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

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

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

Reference Value = 85.5 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 17.8 W/kg

SAR(1 g) = 9.48 mW/g; SAR(10 g) = 4.9 mW/g

Maximum value of SAR (measured) = 10.7 mW/g

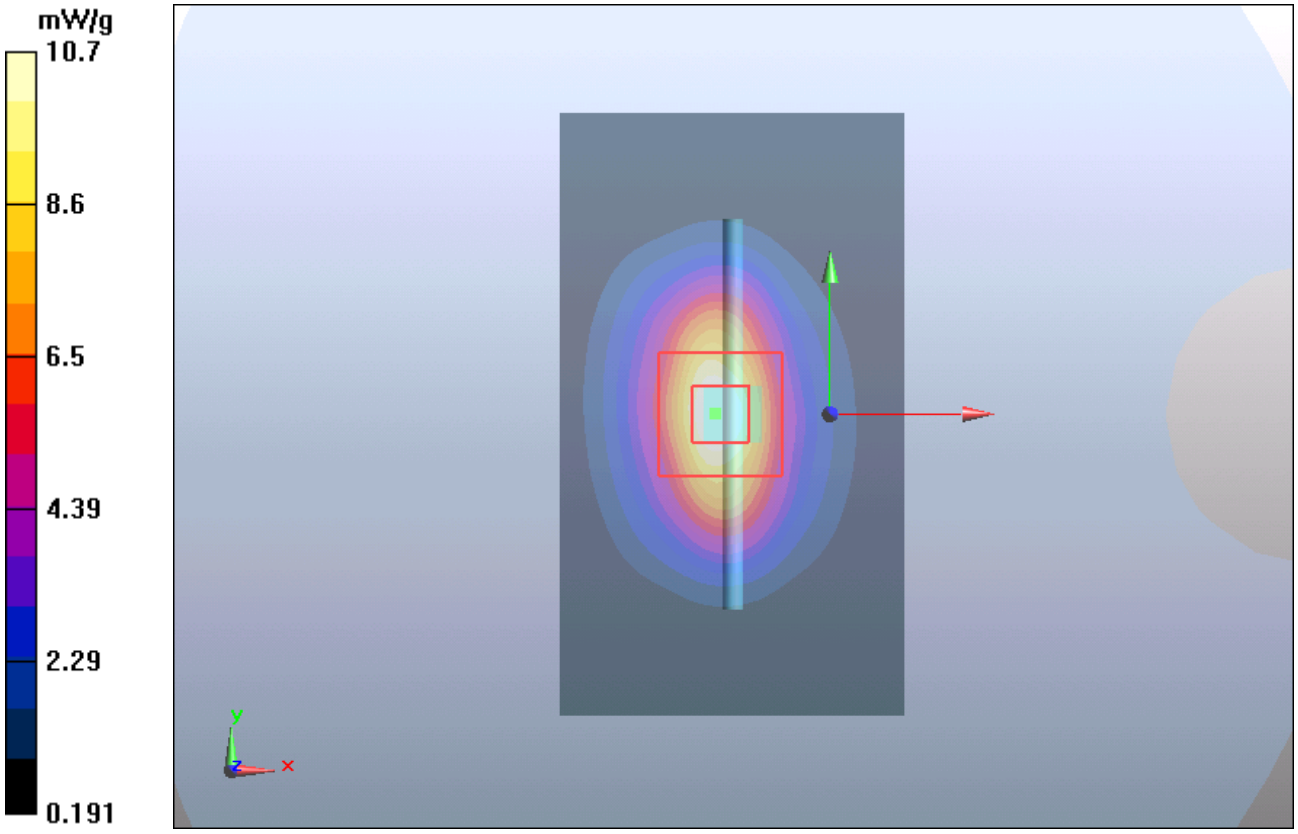


Figure 11 System Performance Check 1900MHz 250mW

System Performance Check at 1900 MHz Body TSL

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

Date/Time: 1/25/2014 4:03:55 AM

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

Medium parameters used: f = 1900 MHz; σ = 1.52 mho/m; ε_r = 53.0; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

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

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

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

Maximum value of SAR (interpolated) = 12.2 mW/g

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

Reference Value = 82.3 V/m; Power Drift = 0.068 dB

Peak SAR (extrapolated) = 17.8 W/kg

SAR(1 g) = 9.93 mW/g; SAR(10 g) = 5.25 mW/g

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

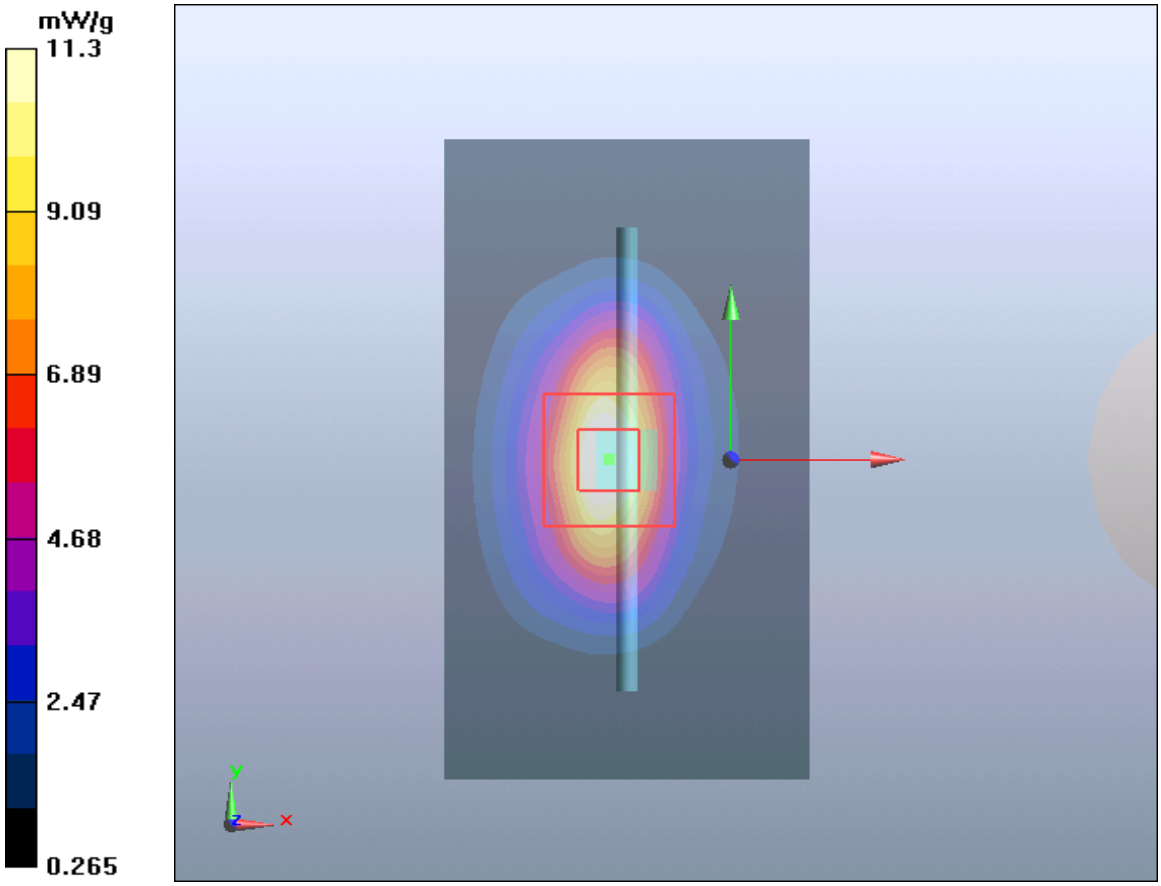


Figure 12System Performance Check 1900MHz 250mW

ANNEX C: Graph Results

GSM 850 Left Cheek High (Antenna 1)

Date/Time: 1/27/2014 6:37:25 PM
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.943 mho/m; ε_r = 41.271; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Cheek High/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.498 W/kg

Left Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.631 V/m; Power Drift = -0.16 dB
Peak SAR (extrapolated) = 0.619 mW/g
SAR(1 g) = 0.476 mW/g; SAR(10 g) = 0.358 mW/g
Maximum value of SAR (measured) = 0.501 W/kg

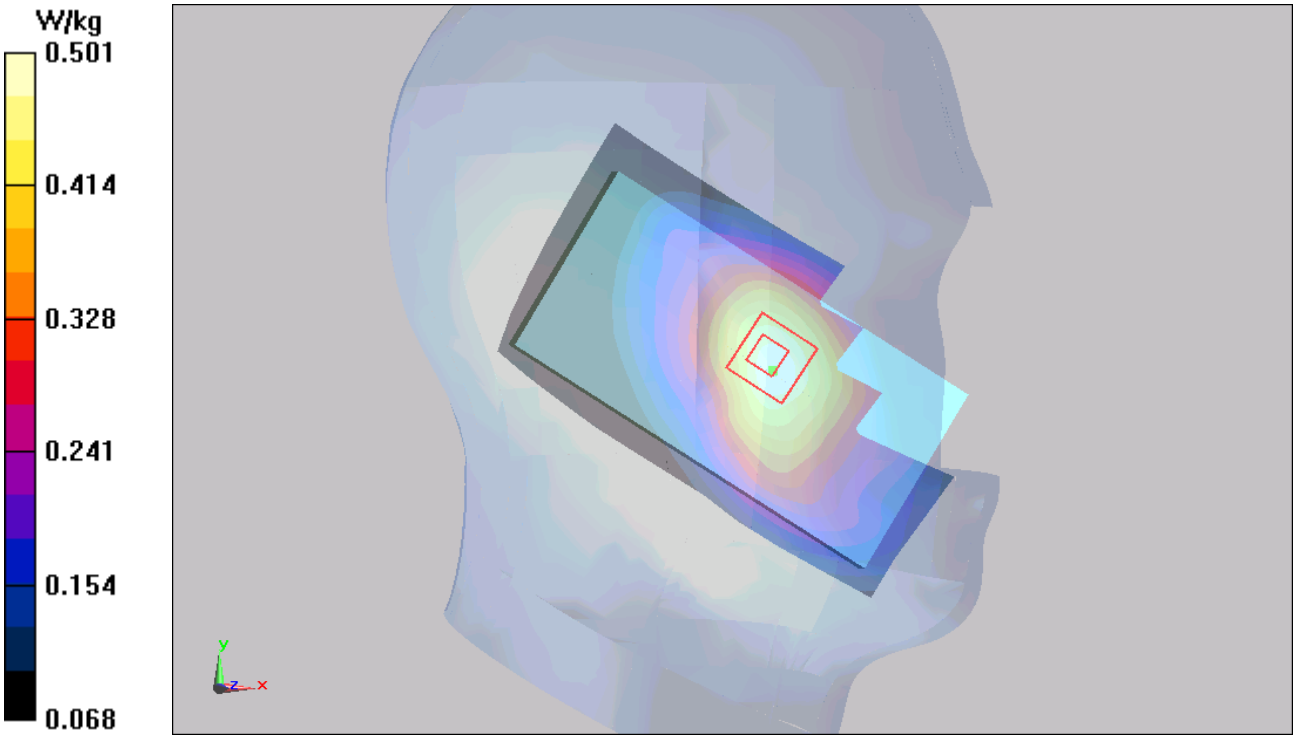


Figure 13 Left Hand Touch Cheek GSM 850 Channel 251

GSM 850 Left Cheek Middle (Antenna 1)

Date/Time: 1/27/2014 9:45:58 AM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.932 mho/m; ε_r = 41.357; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Cheek Middle/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.559 W/kg

Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.505 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 0.689 mW/g
SAR(1 g) = 0.539 mW/g; SAR(10 g) = 0.401 mW/g
Maximum value of SAR (measured) = 0.566 W/kg

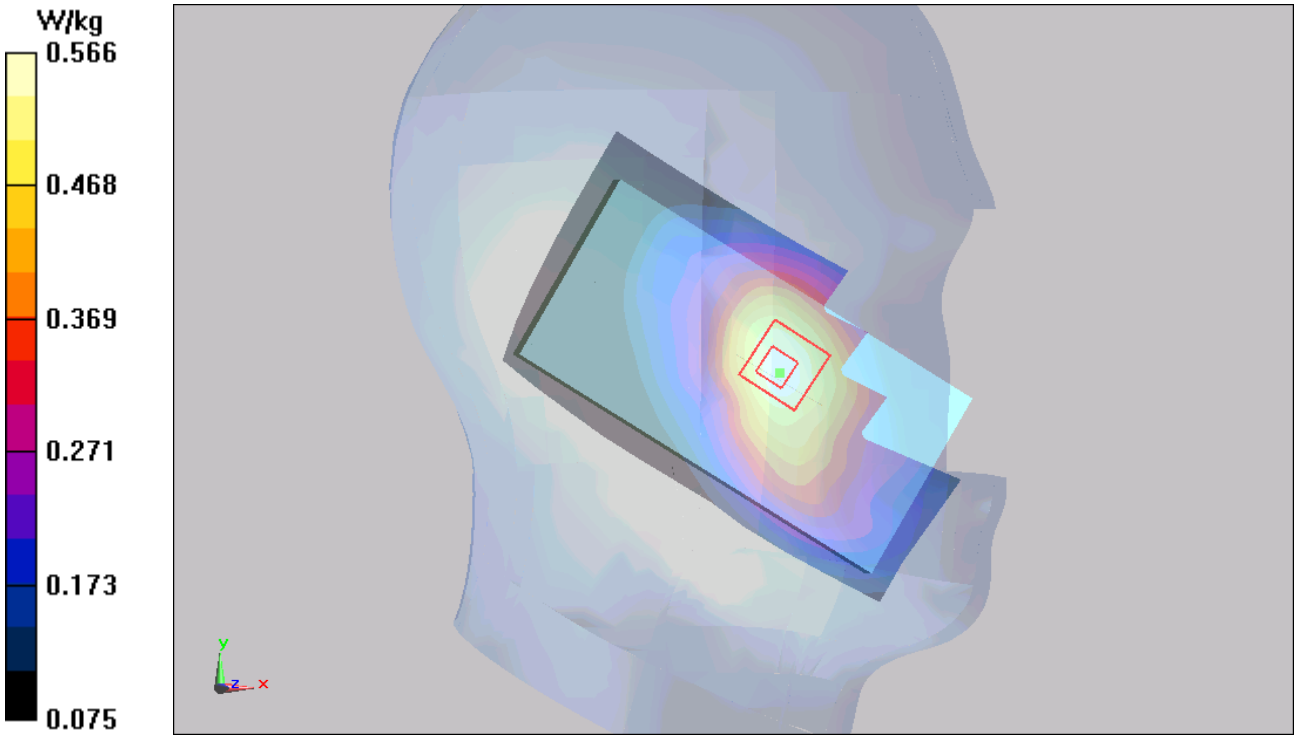


Figure 14 Left Hand Touch Cheek GSM 850 Channel 190

GSM 850 Left Cheek Low (Antenna 1)

Date/Time: 1/27/2014 6:56:52 PM
Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.919 mho/m; ε_r = 41.459; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Cheek Low/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.544 W/kg

Left Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.236 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 0.664 mW/g
SAR(1 g) = 0.517 mW/g; SAR(10 g) = 0.394 mW/g
Maximum value of SAR (measured) = 0.552 W/kg

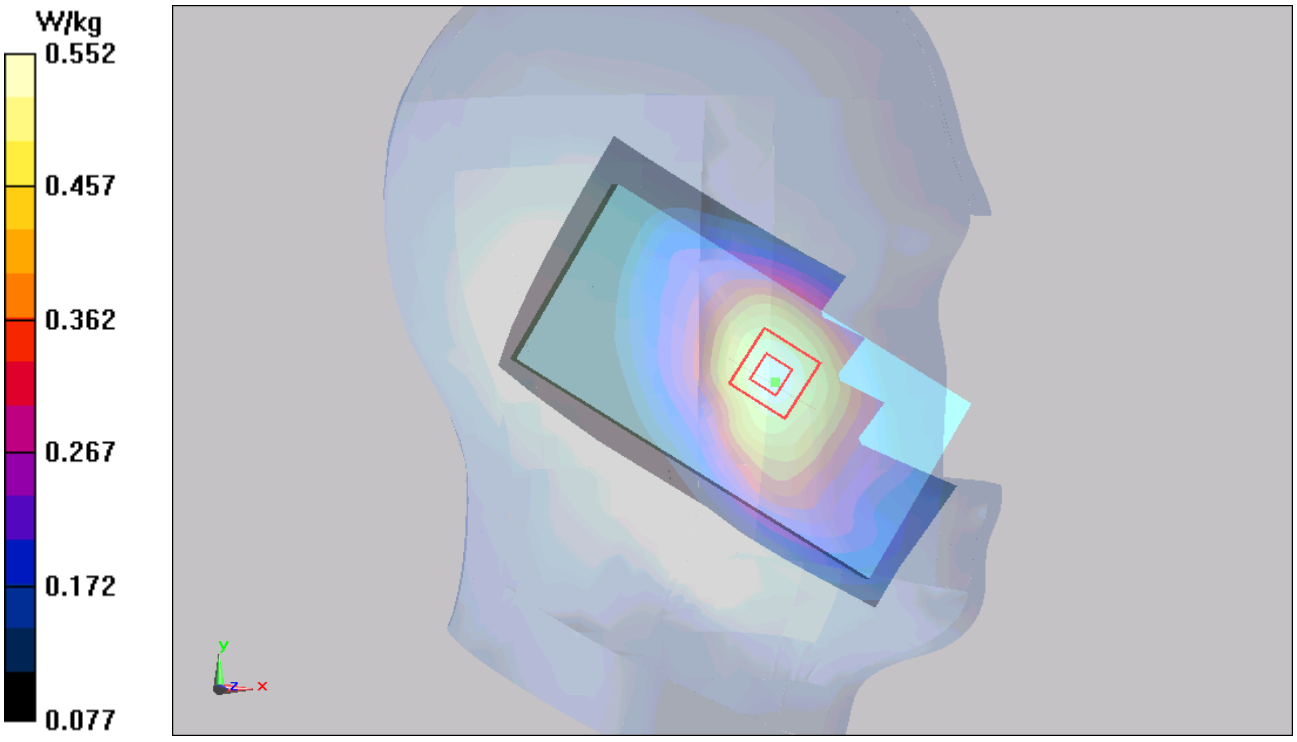


Figure 15 Left Hand Touch Cheek GSM 850 Channel 128

GSM 850 Left Tilt High (Antenna 1)

Date/Time: 1/27/2014 7:33:56 PM
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.943 mho/m; ε_r = 41.271; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Tilt High/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.333 W/kg

Left Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.644 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.388 mW/g
SAR(1 g) = 0.321 mW/g; SAR(10 g) = 0.255 mW/g
Maximum value of SAR (measured) = 0.335 W/kg

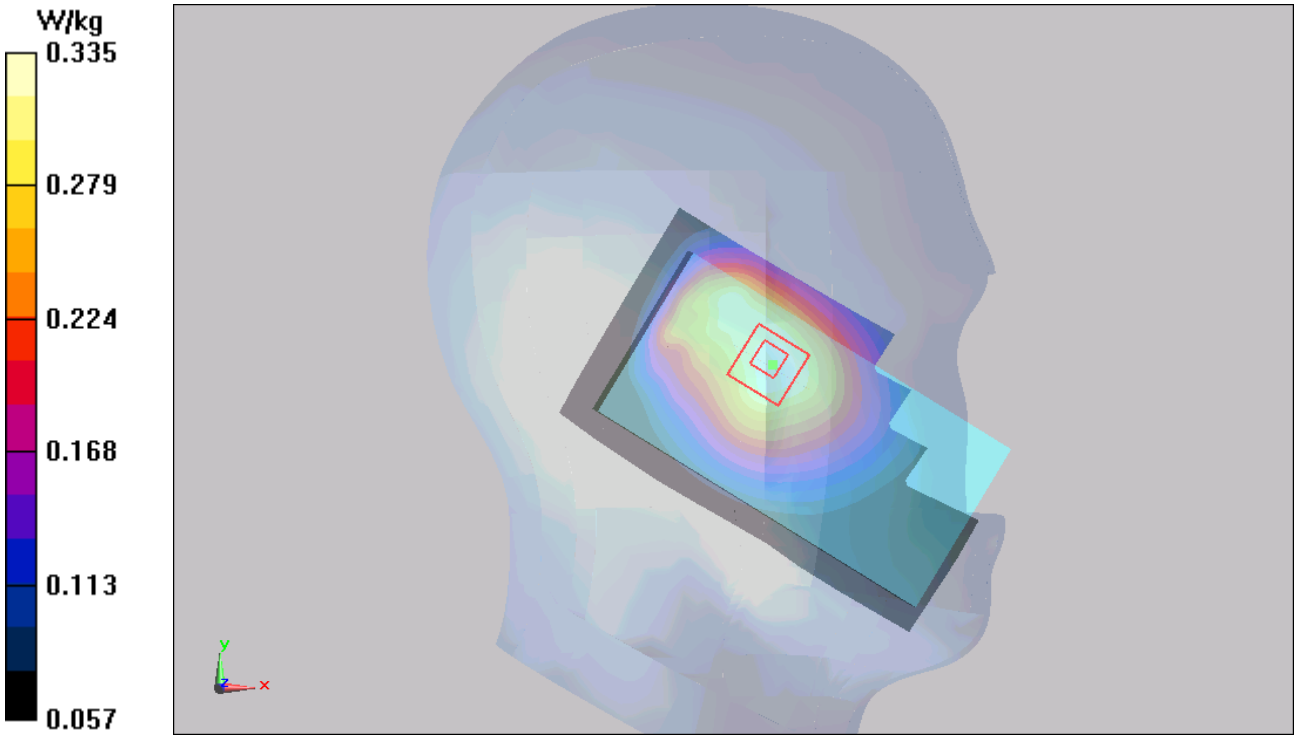


Figure 16 Left Hand Tilt 15° GSM 850 Channel 251

GSM 850 Left Tilt Middle (Antenna 1)

Date/Time: 1/27/2014 7:51:00 PM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.932 mho/m; ε_r = 41.357; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Tilt Middle/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.402 W/kg

Left Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 17.348 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.459 mW/g
SAR(1 g) = 0.385 mW/g; SAR(10 g) = 0.306 mW/g
Maximum value of SAR (measured) = 0.400 W/kg

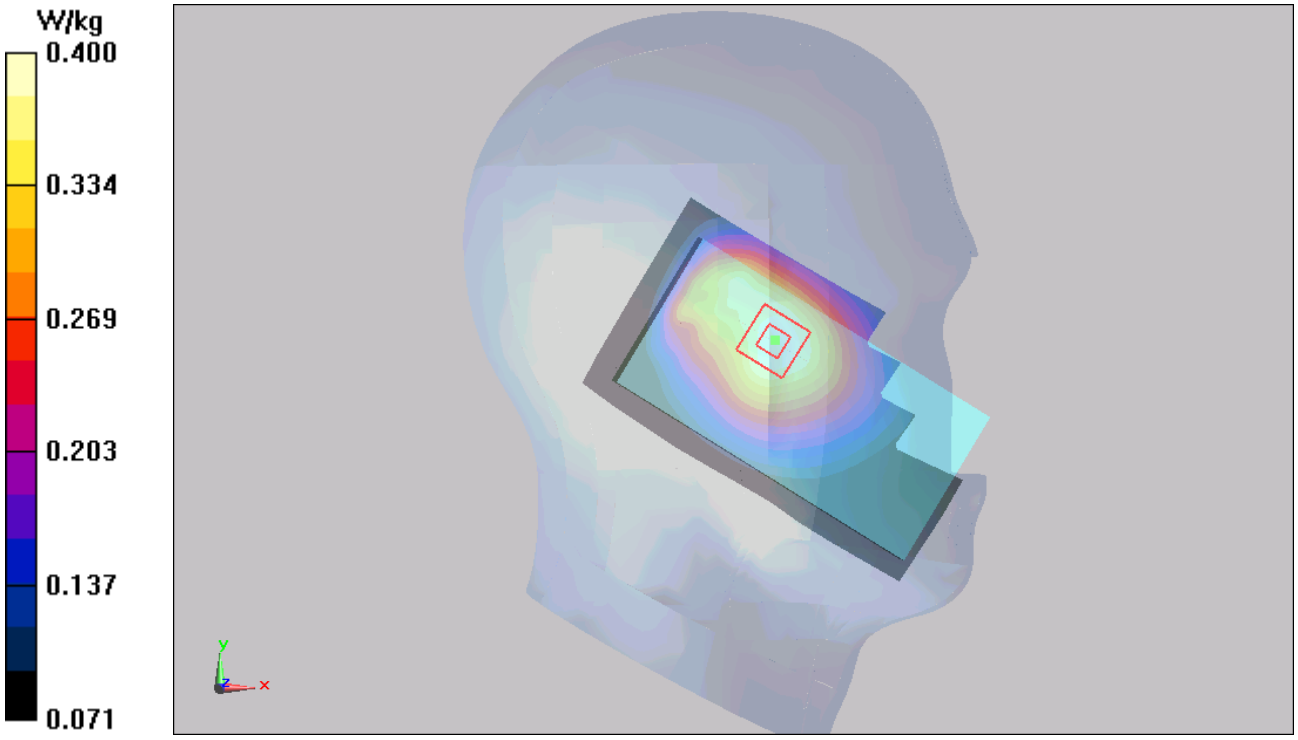


Figure 17 Left Hand Tilt 15° GSM 850 Channel 190

GSM 850 Left Tilt Low (Antenna 1)

Date/Time: 1/27/2014 7:16:57 PM

Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042

Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.919 mho/m; ε_r = 41.459; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

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

Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Tilt Low/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.358 W/kg

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

Reference Value = 16.422 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.433 mW/g

SAR(1 g) = 0.353 mW/g; SAR(10 g) = 0.280 mW/g

Maximum value of SAR (measured) = 0.368 W/kg

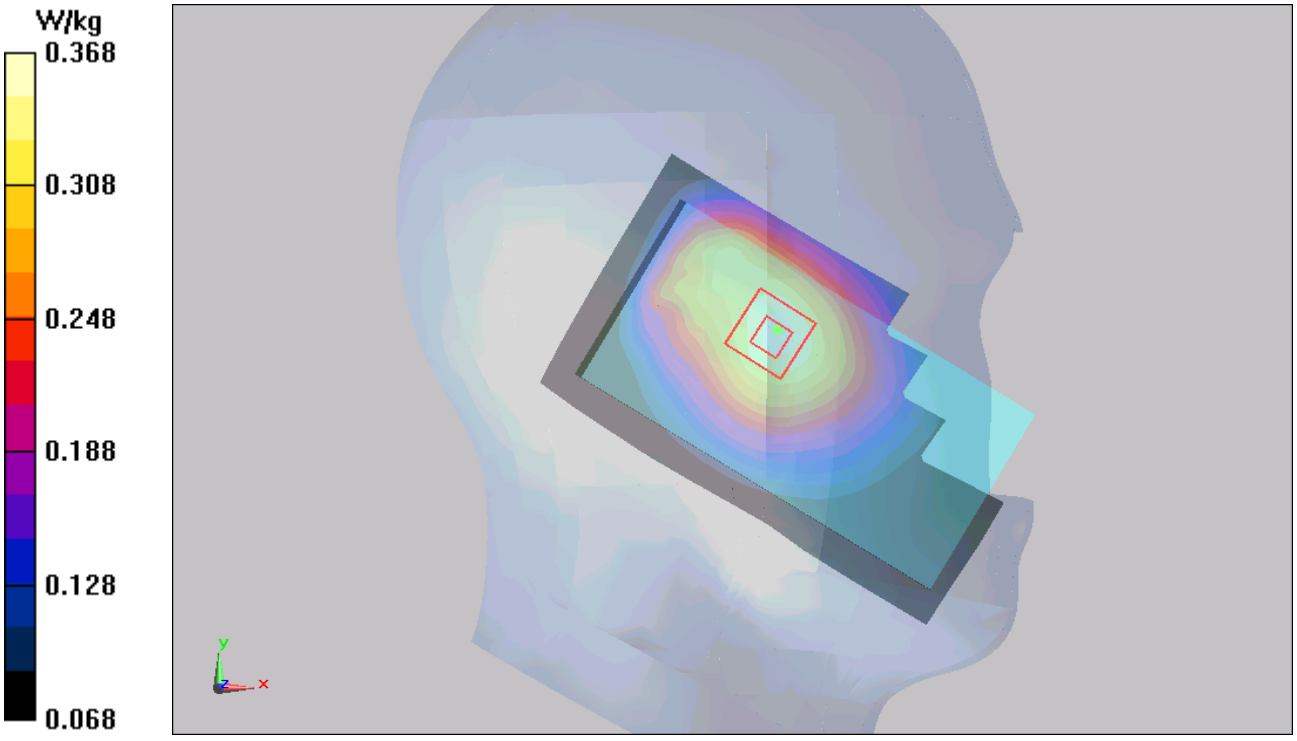


Figure 18 Left Hand Tilt 15° GSM 850 Channel 128

GSM 850 Right Cheek High (Antenna 1)

Date/Time: 1/27/2014 8:26:05 PM
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.943 mho/m; ε_r = 41.271; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Cheek High/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.644 W/kg

Right Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.385 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.878 mW/g
SAR(1 g) = 0.643 mW/g; SAR(10 g) = 0.467 mW/g
Maximum value of SAR (measured) = 0.715 W/kg

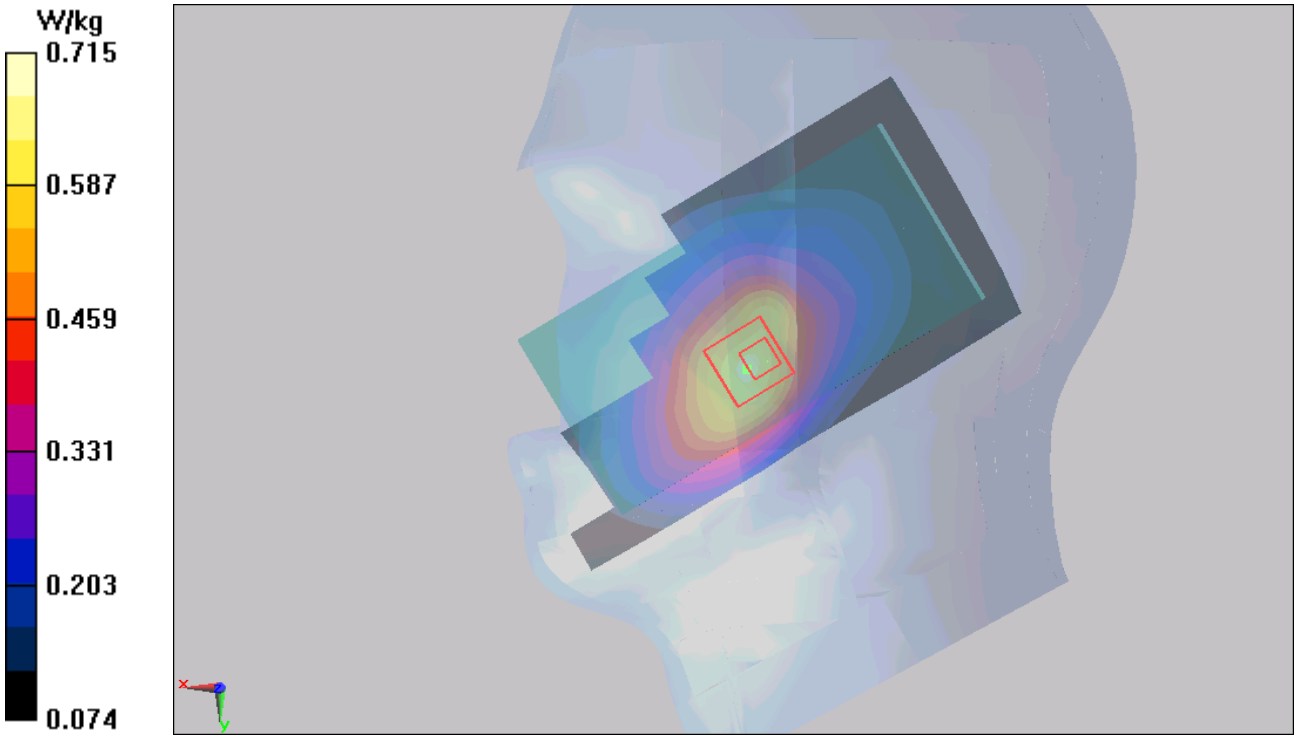


Figure 19 Right Hand Touch Cheek GSM 850 Channel 251

GSM 850 Right Cheek Middle (Antenna 1)

Date/Time: 1/27/2014 10:07:24 AM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.932 mho/m; ε_r = 41.357; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Cheek Middle/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.752 W/kg

Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.999 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.878 mW/g
SAR(1 g) = 0.689 mW/g; SAR(10 g) = 0.529 mW/g
Maximum value of SAR (measured) = 0.711 W/kg

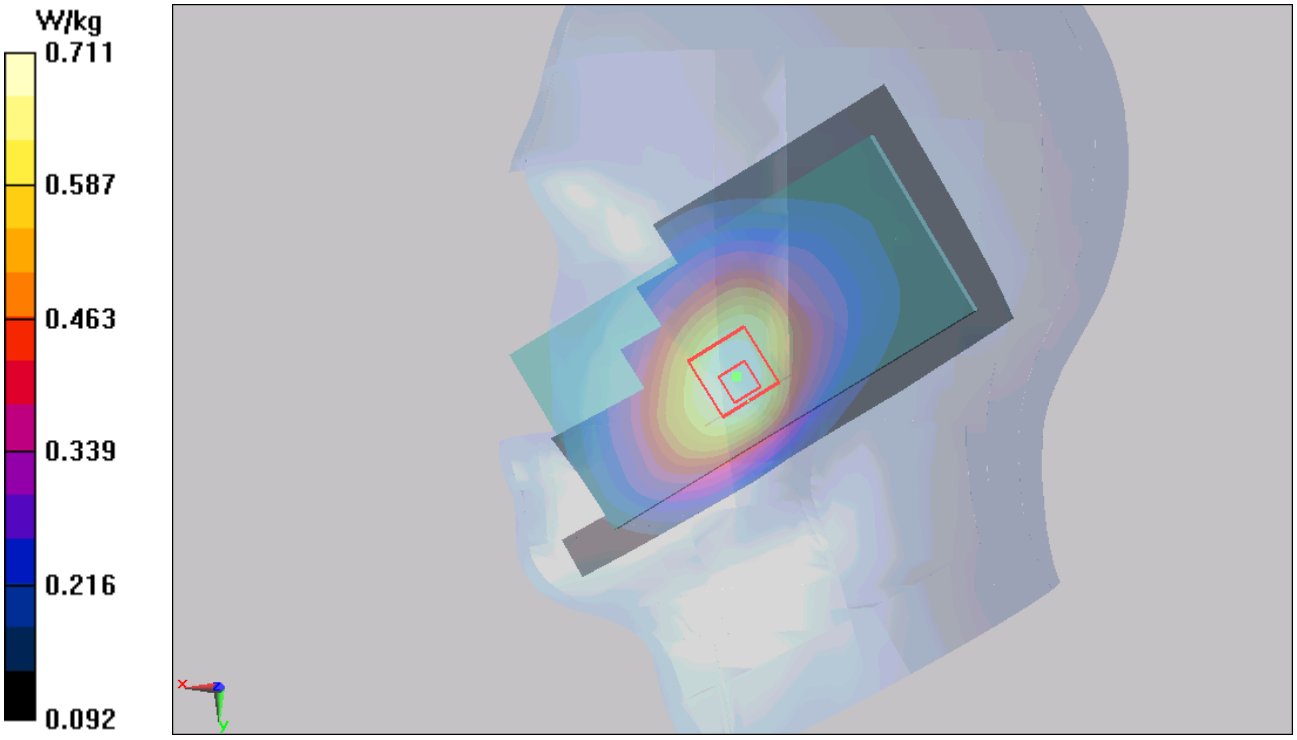


Figure 20 Right Hand Touch Cheek GSM 850 Channel 190

GSM 850 Right Cheek Low (Antenna 1)

Date/Time: 1/27/2014 8:42:53 PM

Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042

Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.919 mho/m; ε_r = 41.459; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

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

Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Cheek Low/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.816 W/kg

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

Reference Value = 12.446 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 1.023 mW/g

SAR(1 g) = 0.773 mW/g; SAR(10 g) = 0.574 mW/g

Maximum value of SAR (measured) = 0.815 W/kg

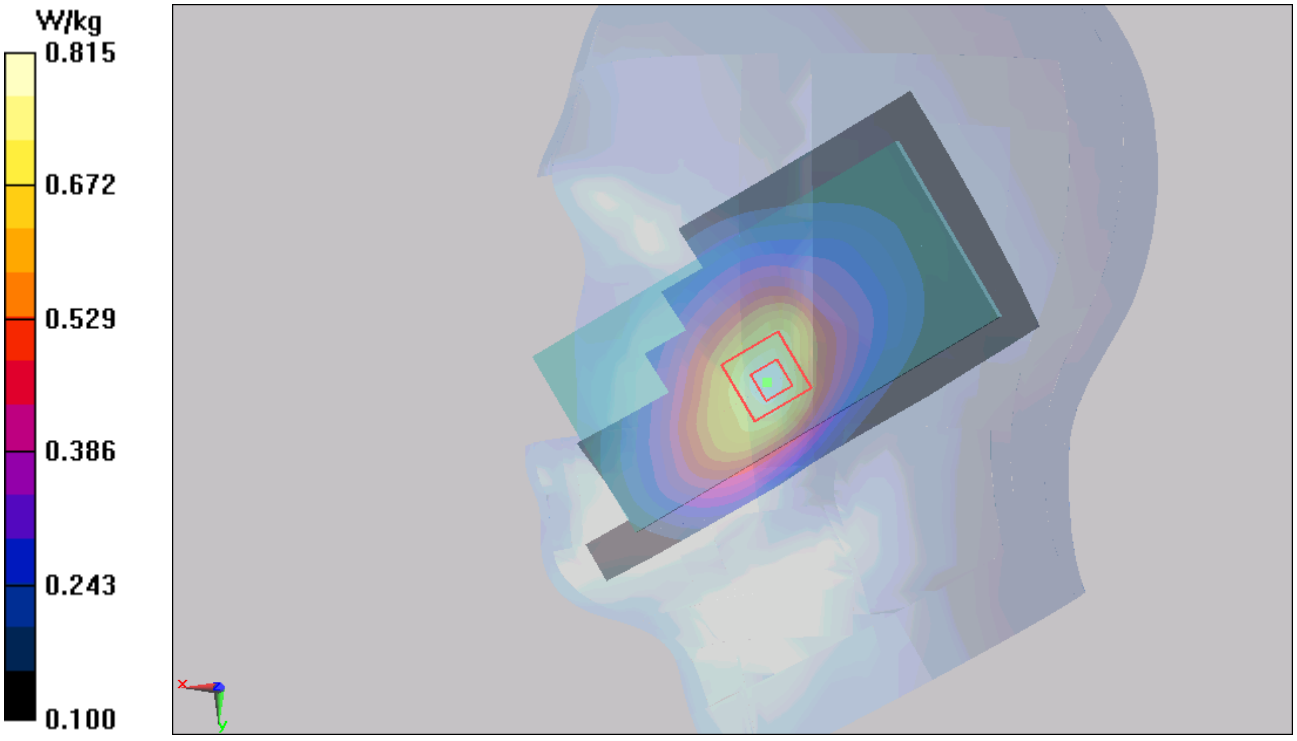


Figure 21 Right Hand Touch Cheek GSM 850 Channel 128

GSM 850 Right Tilt High (Antenna 1)

Date/Time: 1/27/2014 9:35:47 PM
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.943 mho/m; ε_r = 41.271; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Tilt High/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.389 W/kg

Right Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.976 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.457 mW/g
SAR(1 g) = 0.385 mW/g; SAR(10 g) = 0.302 mW/g
Maximum value of SAR (measured) = 0.403 W/kg

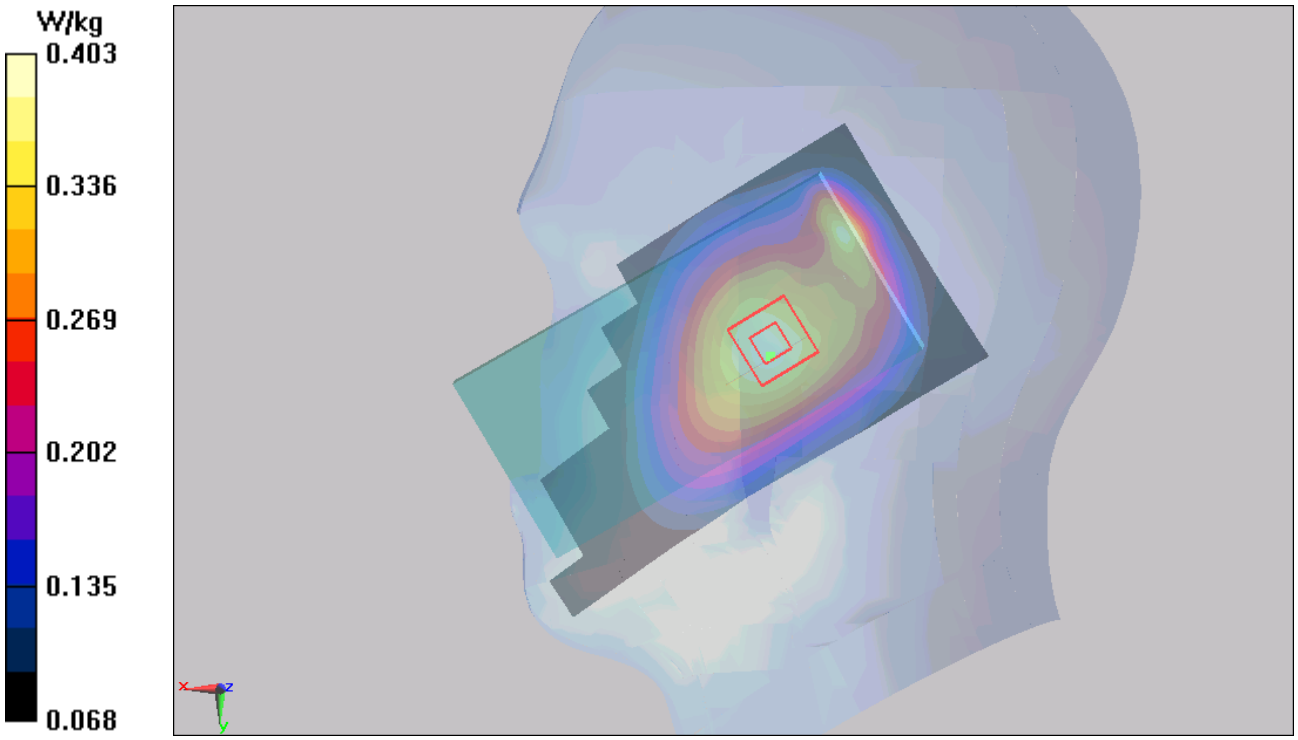


Figure 22 Right Hand Tilt 15° GSM 850 Channel 251

GSM 850 Right Tilt Middle (Antenna 1)

Date/Time: 1/27/2014 9:52:45 PM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.932 mho/m; ε_r = 41.357; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Tilt Middle/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.502 W/kg

Right Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 19.022 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.547 mW/g
SAR(1 g) = 0.470 mW/g; SAR(10 g) = 0.375 mW/g
Maximum value of SAR (measured) = 0.490 W/kg

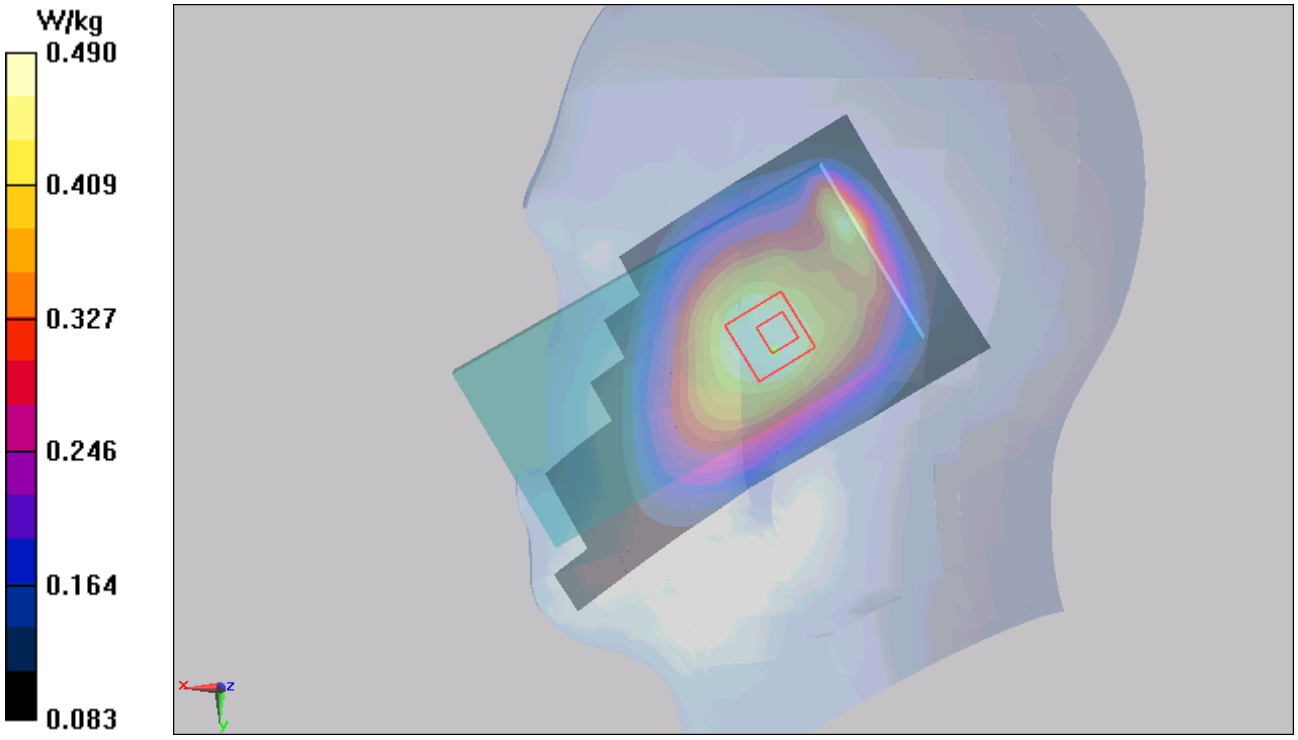


Figure 23 Right Hand Tilt 15° GSM 850 Channel 190

GSM 850 Right Tilt Low (Antenna 1)

Date/Time: 1/27/2014 9:18:55 PM

Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042

Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.919 mho/m; ε_r = 41.459; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

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

Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Tilt Low/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.447 W/kg

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

Reference Value = 18.258 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.523 mW/g

SAR(1 g) = 0.438 mW/g; SAR(10 g) = 0.347 mW/g

Maximum value of SAR (measured) = 0.460 W/kg

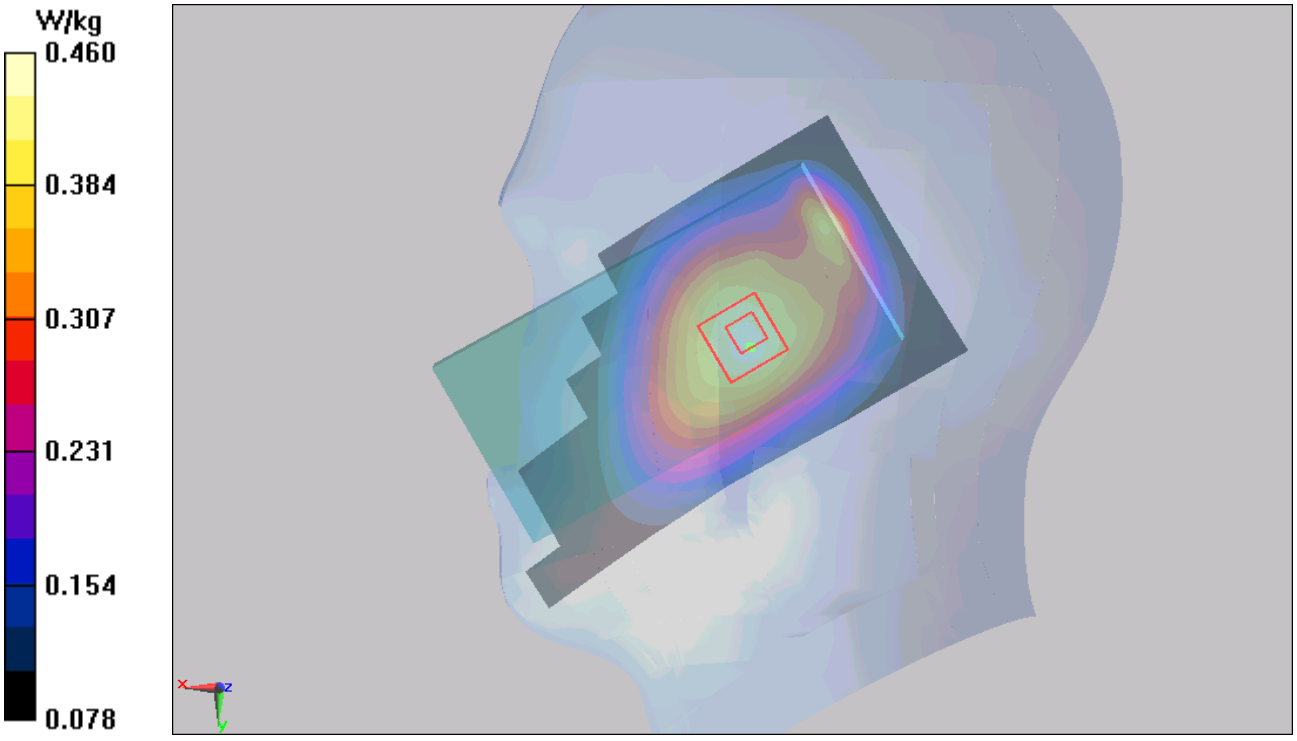


Figure 24 Right Hand Tilt 15° GSM 850 Channel 128

GSM 850 Right Cheek Low (Battery 2, Antenna 1)

Date/Time: 1/27/2014 9:01:46 PM

Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042

Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.919 mho/m; ε_r = 41.459; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

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

Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Cheek Low/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.827 W/kg

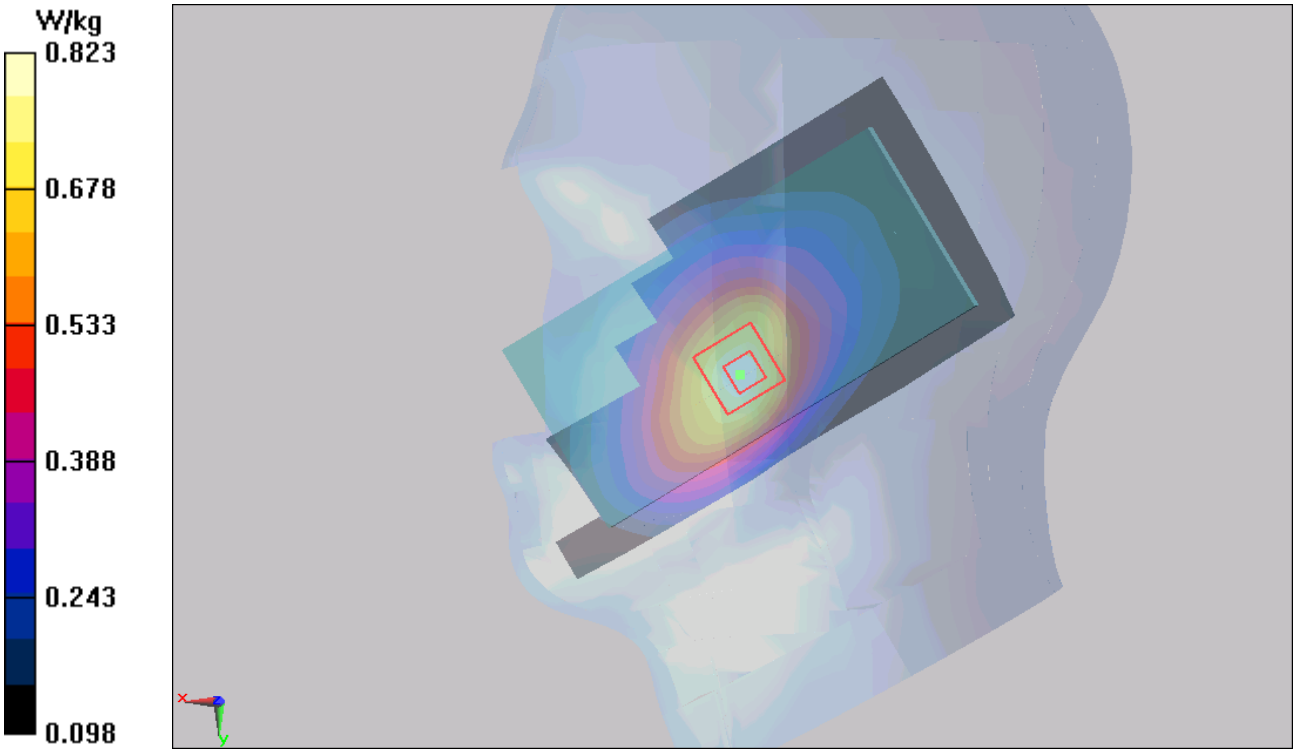
Right Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.182 V/m; Power Drift = -0.035 dB

Peak SAR (extrapolated) = 1.024 mW/g

SAR(1 g) = 0.778 mW/g; SAR(10 g) = 0.575 mW/g

Maximum value of SAR (measured) = 0.823 W/kg



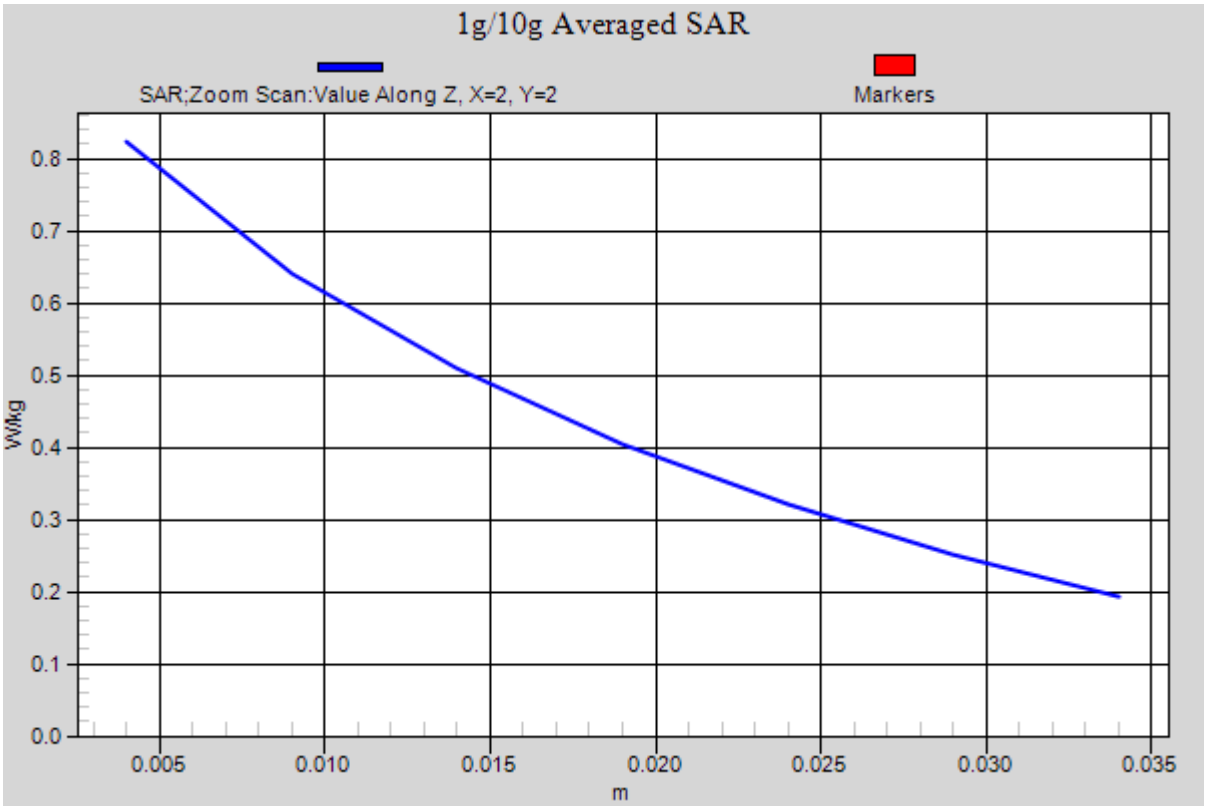


Figure 25 Right Hand Touch Cheek GSM 850 Channel 128

GSM 850 GPRS (2Txslots) Back Side High (Antenna 1)

Date/Time: 1/26/2014 3:43:56 AM
Communication System: GPRS 2TX; Frequency: 848.8 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 849 MHz; σ = 1.007 mho/m; ε_r = 54.952; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Back Side High/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.977 W/kg

Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 30.236 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.155 mW/g
SAR(1 g) = 0.927 mW/g; SAR(10 g) = 0.708 mW/g
Maximum value of SAR (measured) = 0.970 W/kg

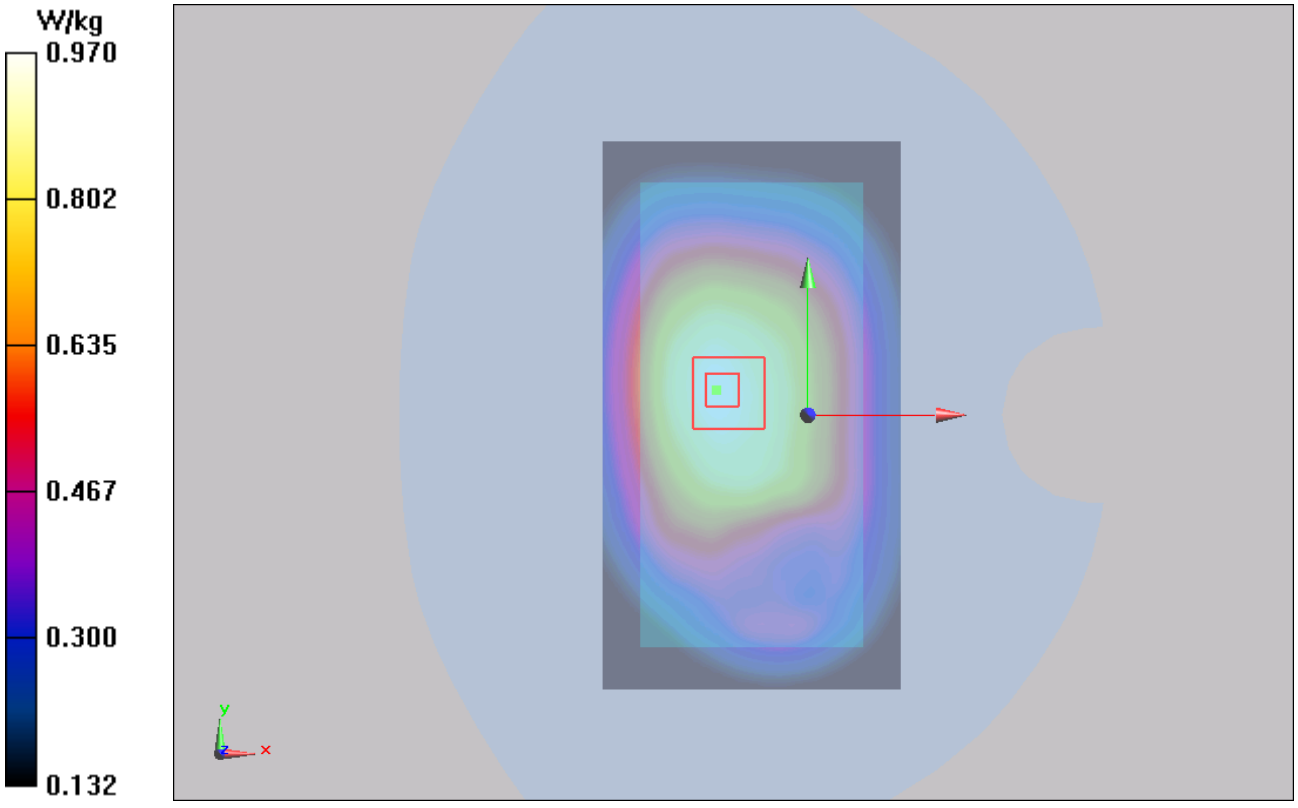


Figure 26 Body, Back Side, GSM 850 GPRS (2Txslots) Channel 251

GSM 850 GPRS (2Txslots) Back Side Middle (Antenna 1)

Date/Time: 1/26/2014 5:17:12 AM
Communication System: GPRS 2TX; Frequency: 836.6 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 837 MHz; σ = 0.995 mho/m; ε_r = 55.073; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1291; Calibrated: 2/18/2013
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Back Side Middle/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.907 W/kg

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.859 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.123 mW/g
SAR(1 g) = 0.878 mW/g; SAR(10 g) = 0.674 mW/g
Maximum value of SAR (measured) = 0.914 W/kg

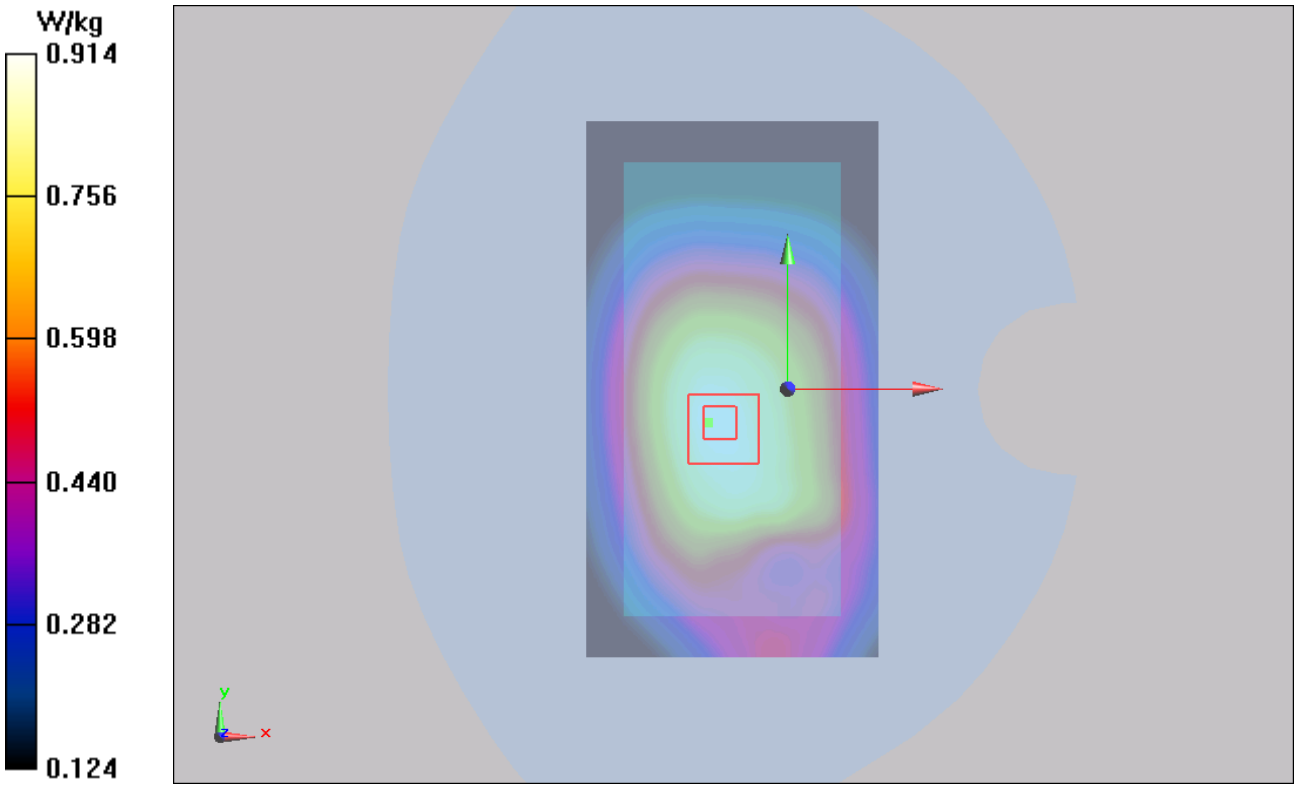


Figure 27 Body, Back Side, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 GPRS (2Txslots) Back Side Low (Antenna 1)

Date/Time: 1/26/2014 4:02:20 AM
Communication System: GPRS 2TX; Frequency: 824.2 MHz;Duty Cycle: 1:4.14954
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.982 mho/m; ε_r = 55.199; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Back Side Low/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.990 W/kg

Back Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.518 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.137 mW/g
SAR(1 g) = 0.937 mW/g; SAR(10 g) = 0.728 mW/g
Maximum value of SAR (measured) = 0.975 W/kg

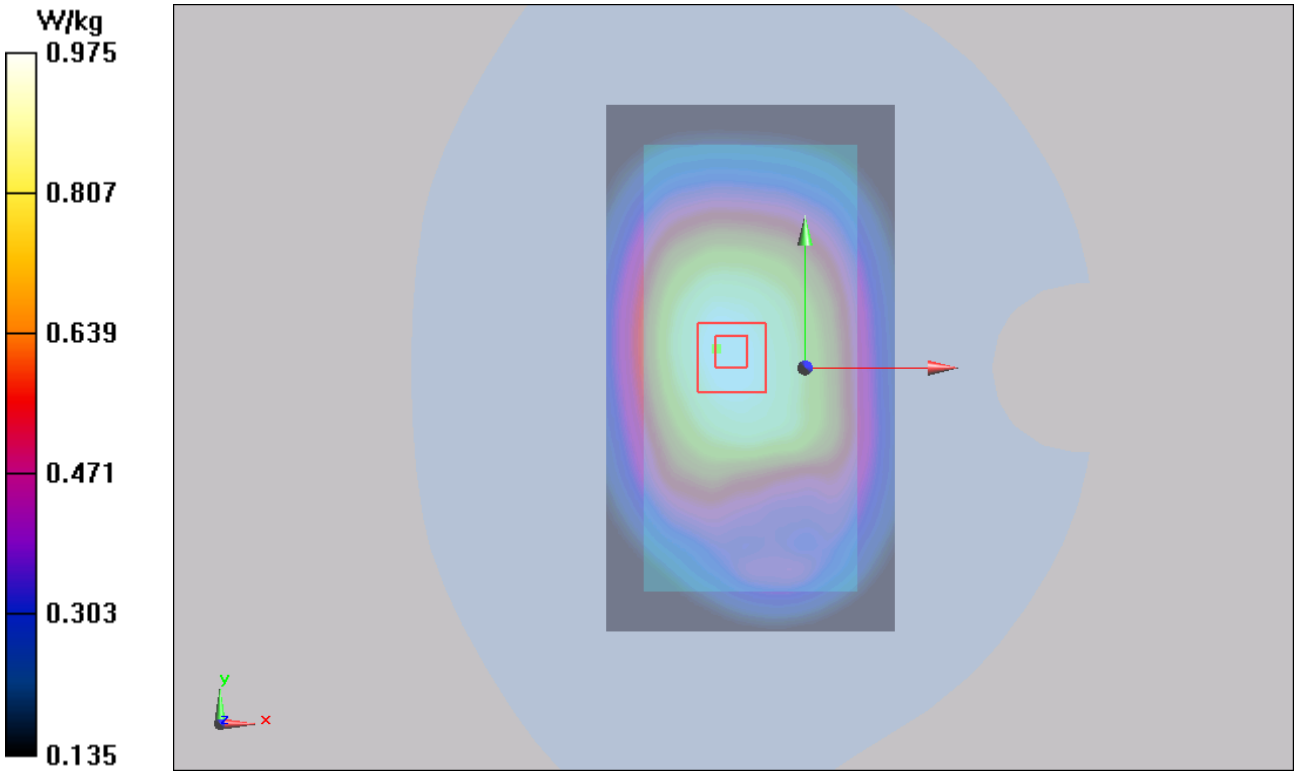


Figure 28 Body, Back Side, GSM 850 GPRS (2Txslots) Channel 128

GSM 850 GPRS (2Txslots) Front Side High (Antenna 1)

Date/Time: 1/26/2014 3:24:31 AM
Communication System: GPRS 2TX; Frequency: 848.8 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 849 MHz; σ = 1.007 mho/m; ε_r = 54.952; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Front Side High/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.935 W/kg

Front Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.894 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.119 mW/g
SAR(1 g) = 0.896 mW/g; SAR(10 g) = 0.694 mW/g
Maximum value of SAR (measured) = 0.938 W/kg

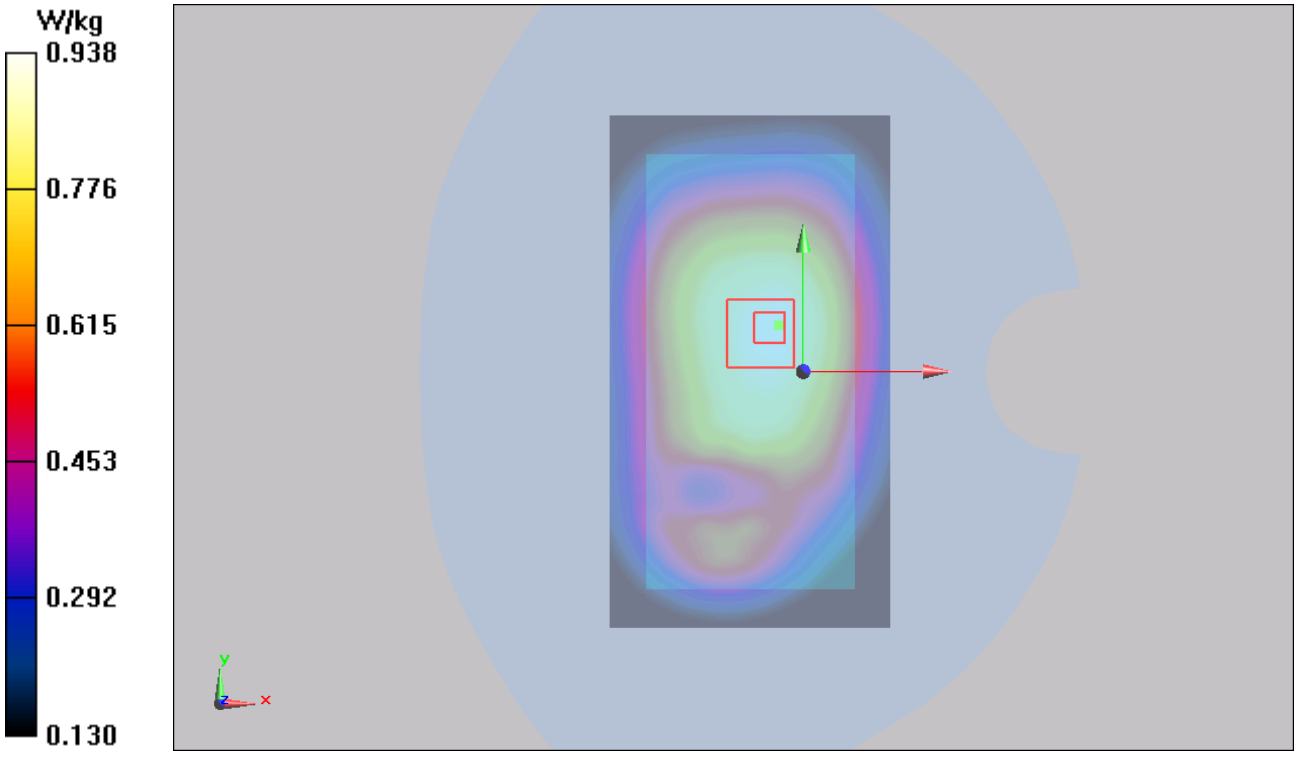


Figure 29 Body, Front Side, GSM 850 GPRS (2Txslots) Channel 251

GSM 850 GPRS (2Txslots) Front Side Middle (Antenna 1)

Date/Time: 1/26/2014 4:56:59 AM
Communication System: GPRS 2TX; Frequency: 836.6 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 837 MHz; σ = 0.995 mho/m; ε_r = 55.073; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1291; Calibrated: 2/18/2013
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Front Side Middle/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.853 W/kg

Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.748 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.037 mW/g
SAR(1 g) = 0.820 mW/g; SAR(10 g) = 0.640 mW/g
Maximum value of SAR (measured) = 0.857 W/kg

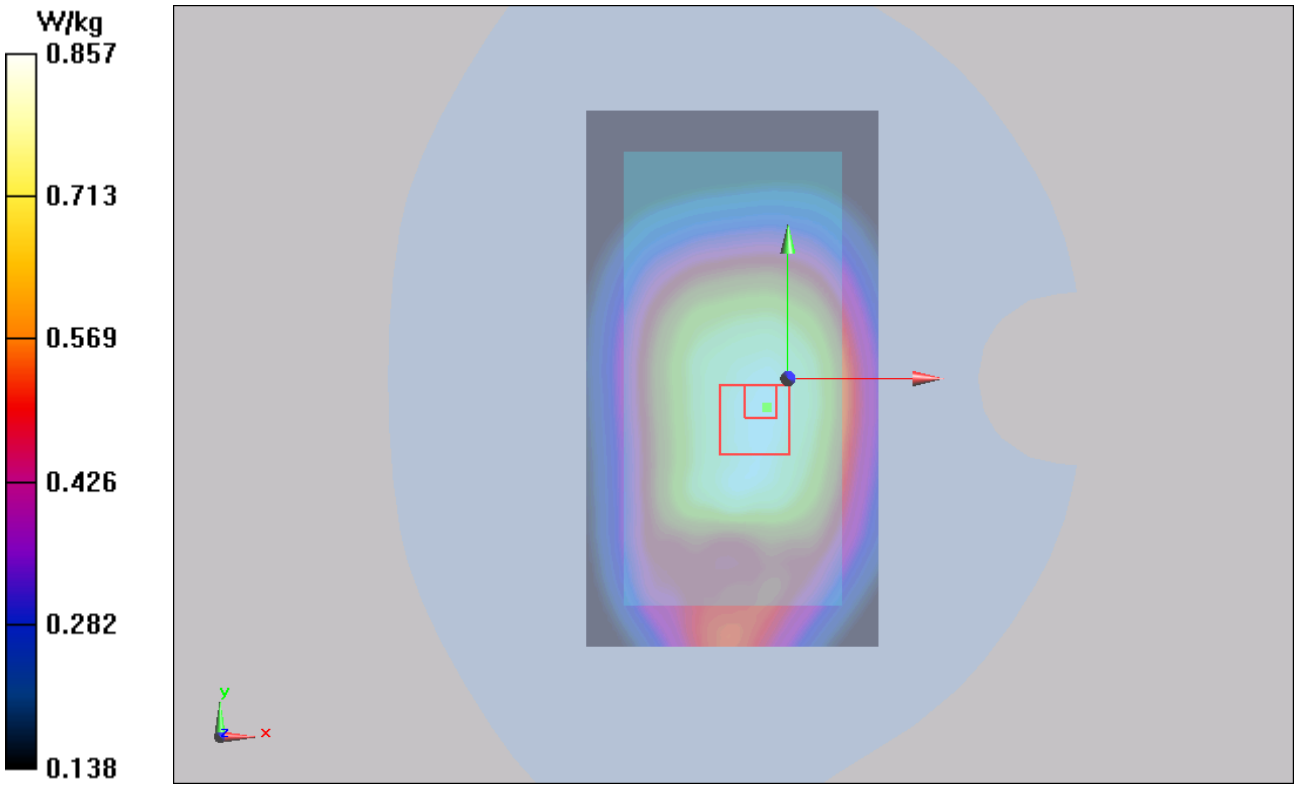


Figure 30 Body, Front Side, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 GPRS (2Txslots) Front Side Low (Antenna 1)

Date/Time: 1/26/2014 3:06:18 AM

Communication System: GPRS 2TX; Frequency: 824.2 MHz;Duty Cycle: 1:4.14954

Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.982 mho/m; ε_r = 55.199; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

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

Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Front Side Low/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.944 W/kg

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

Reference Value = 30.685 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 1.099 mW/g

SAR(1 g) = 0.901 mW/g; SAR(10 g) = 0.706 mW/g

Maximum value of SAR (measured) = 0.939 W/kg

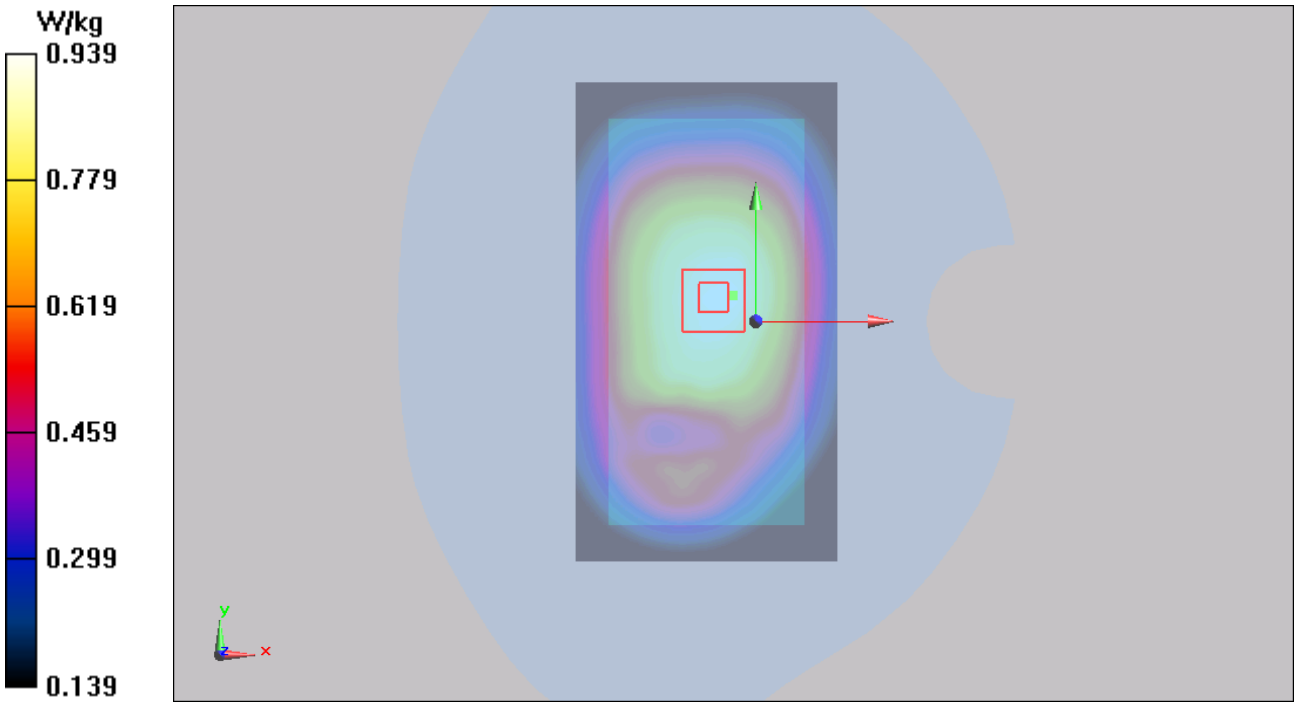


Figure 31 Body, Front Side, GSM 850 GPRS (2Txslots) Channel 128

GSM 850 GPRS (2Txslots) Right Edge High (Antenna 1)

Date/Time: 1/26/2014 1:17:36 AM
Communication System: GPRS 2TX; Frequency: 848.8 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 849 MHz; σ = 1.007 mho/m; ε_r = 54.952; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Edge High/Area Scan (31x111x1): Interpolated grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.902 W/kg

Right Edge High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.822 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 1.189 mW/g
SAR(1 g) = 0.849 mW/g; SAR(10 g) = 0.581 mW/g
Maximum value of SAR (measured) = 0.908 W/kg

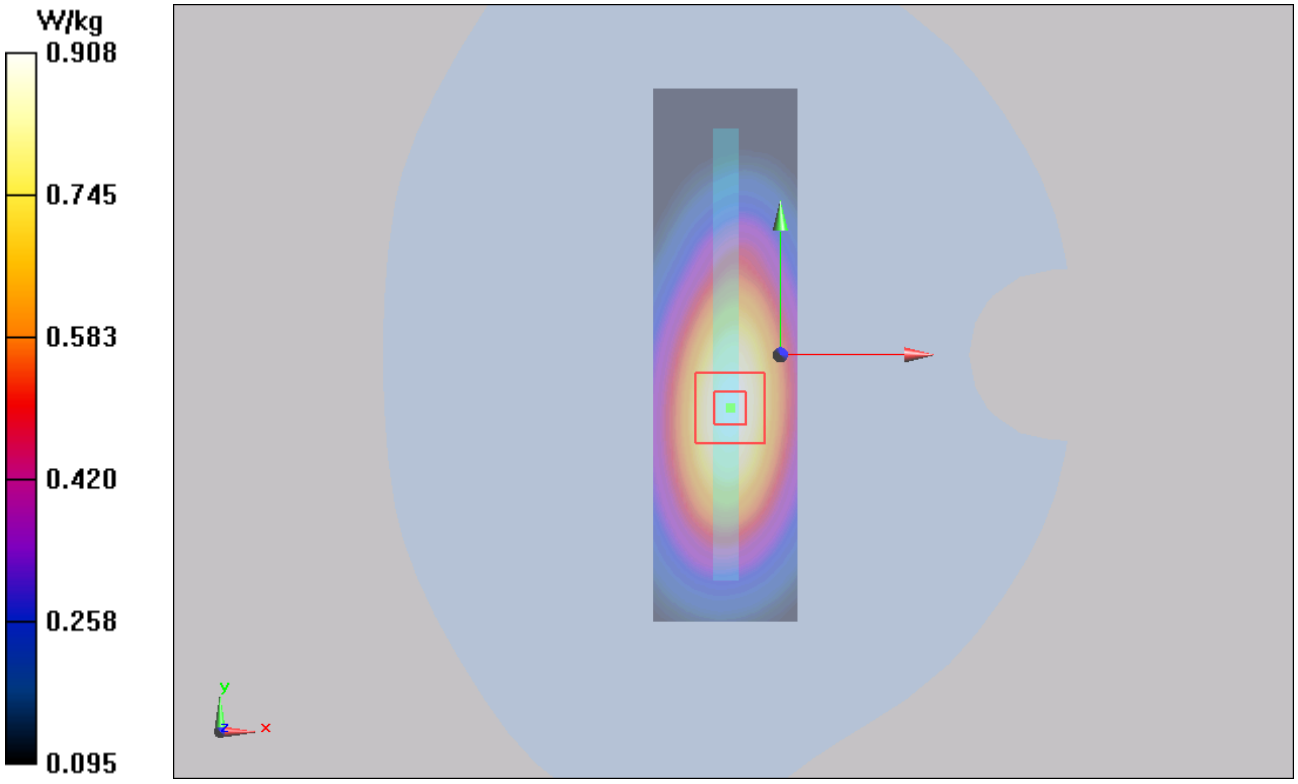


Figure 32 Body, Right Edge, GSM 850 GPRS (2Txslots) Channel 251

GSM 850 GPRS (2Txslots) Right Edge Middle (Antenna 1)

Date/Time: 1/26/2014 12:30:08 AM
Communication System: GPRS 2TX; Frequency: 836.6 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 837 MHz; σ = 0.995 mho/m; ε_r = 55.073; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Edge Middle/Area Scan (31x111x1): Interpolated grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.934 W/kg

Right Edge Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.482 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 1.226 mW/g
SAR(1 g) = 0.878 mW/g; SAR(10 g) = 0.601 mW/g
Maximum value of SAR (measured) = 0.943 W/kg

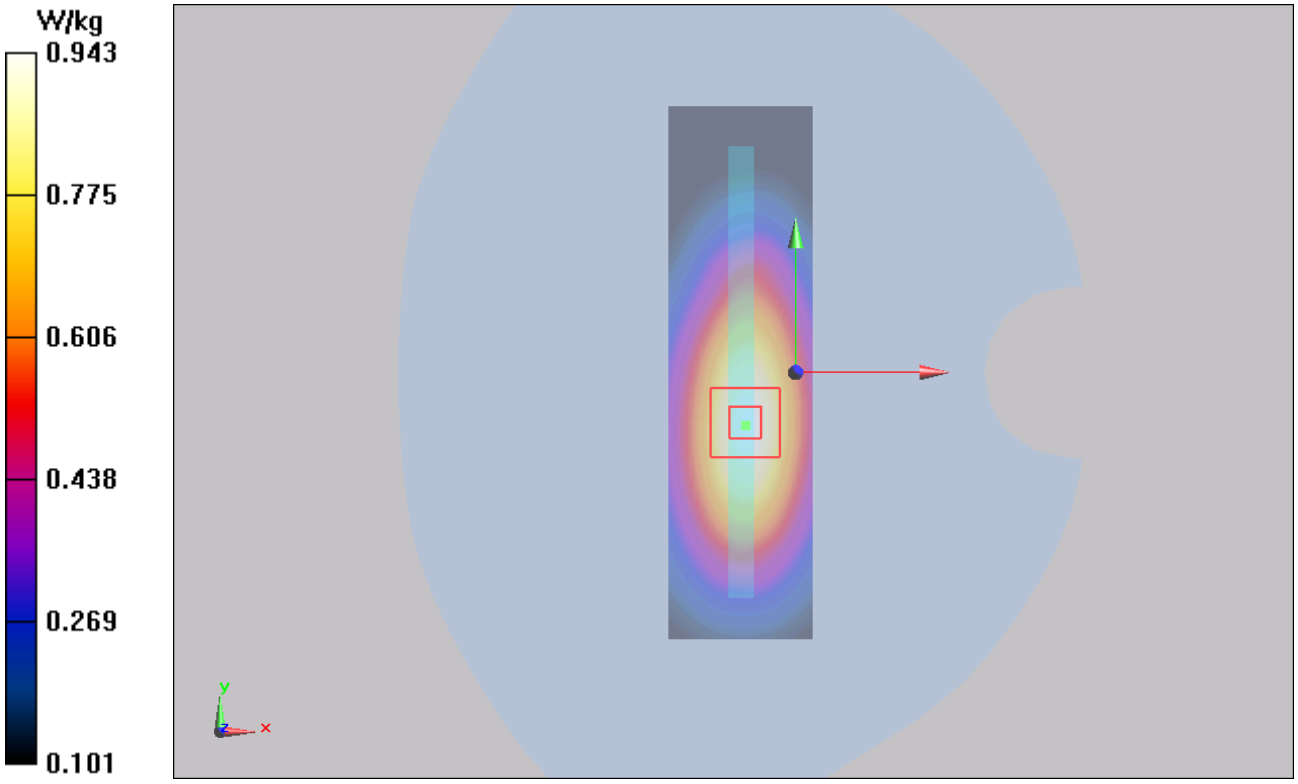


Figure 33 Body, Right Edge, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 GPRS (2Txslots) Right Edge Low (Antenna 1)

Date/Time: 1/26/2014 1:31:59 AM

Communication System: GPRS 2TX; Frequency: 824.2 MHz;Duty Cycle: 1:4.14954

Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.982 mho/m; ε_r = 55.199; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

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

Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Edge Low/Area Scan (31x111x1): Interpolated grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.824 W/kg

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

Reference Value = 28.268 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 1.074 mW/g

SAR(1 g) = 0.775 mW/g; SAR(10 g) = 0.534 mW/g

Maximum value of SAR (measured) = 0.827 W/kg

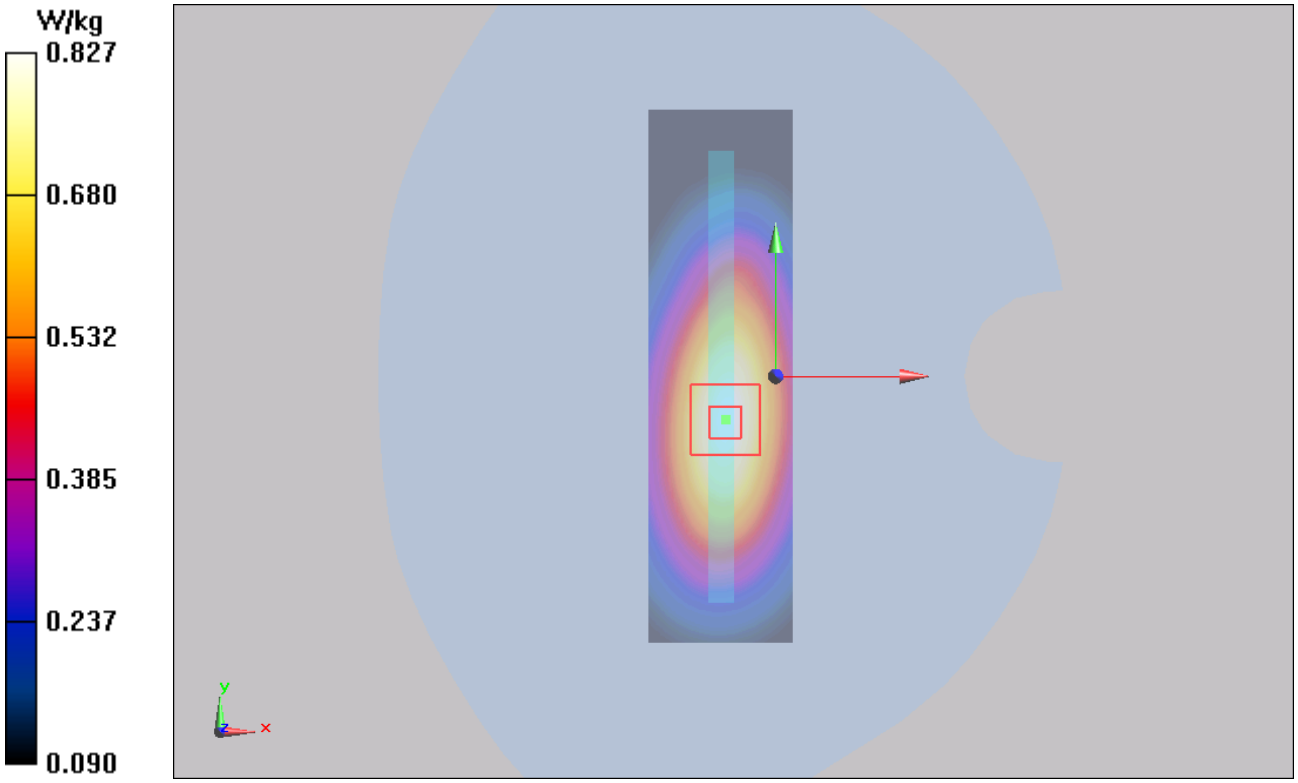


Figure 34 Body, Right Edge, GSM 850 GPRS (2Txslots) Channel 128

GSM 850 GPRS (2Txslots) Bottom Edge Middle (Antenna 1)

Date/Time: 1/26/2014 1:01:02 AM
Communication System: GPRS 2TX; Frequency: 836.6 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 837 MHz; σ = 0.995 mho/m; ε_r = 55.073; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Edge Middle/Area Scan (31x71x1): Interpolated grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.434 W/kg

Right Edge Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.555 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.706 mW/g
SAR(1 g) = 0.381 mW/g; SAR(10 g) = 0.200 mW/g
Maximum value of SAR (measured) = 0.424 W/kg

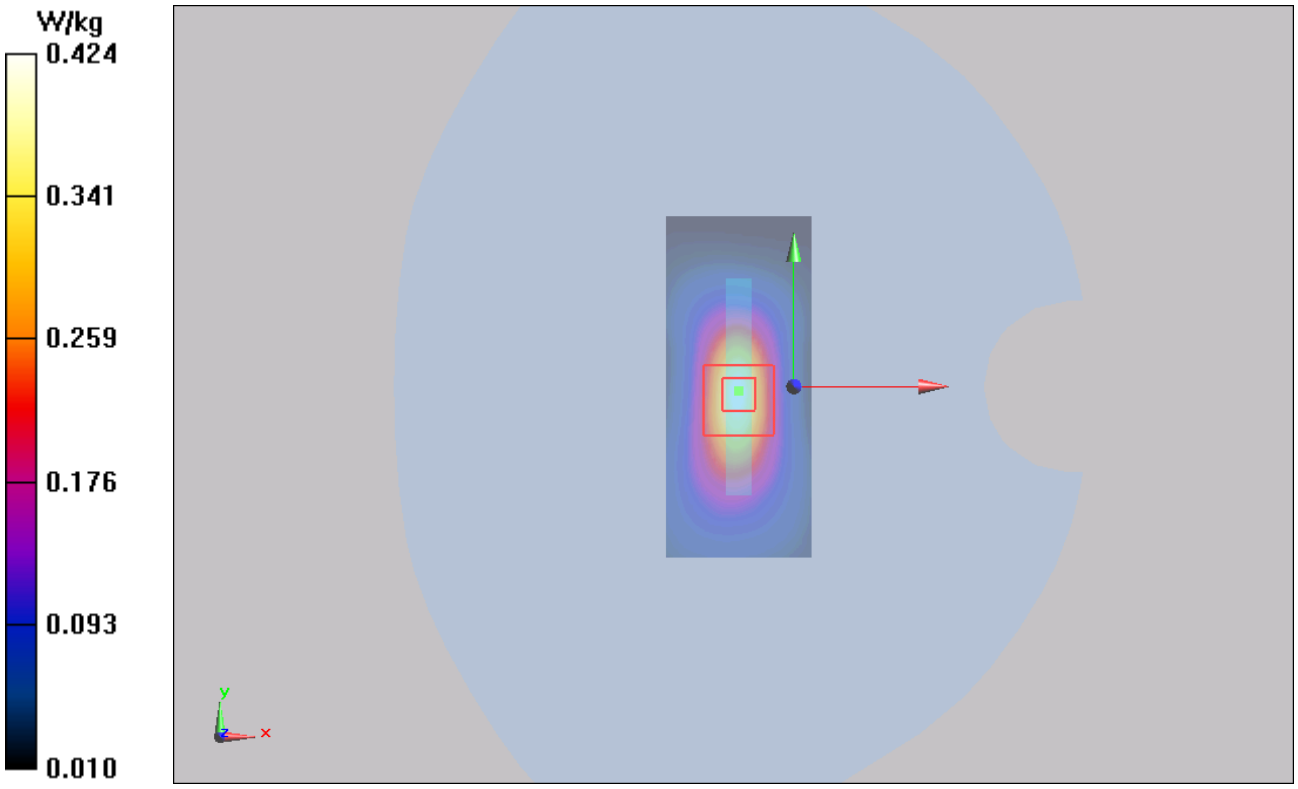


Figure 35 Body, Bottom Edge, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 GPRS (2Txslots) Back Side Middle (Battery 2, Antenna 1)

Date/Time: 1/26/2014 4:20:38 AM
Communication System: GPRS 2TX; Frequency: 836.6 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 837 MHz; σ = 0.995 mho/m; ε_r = 55.073; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Back Side Middle/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.03 W/kg

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.693 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 1.221 mW/g
SAR(1 g) = 0.982 mW/g; SAR(10 g) = 0.756 mW/g
Maximum value of SAR (measured) = 1.03 W/kg

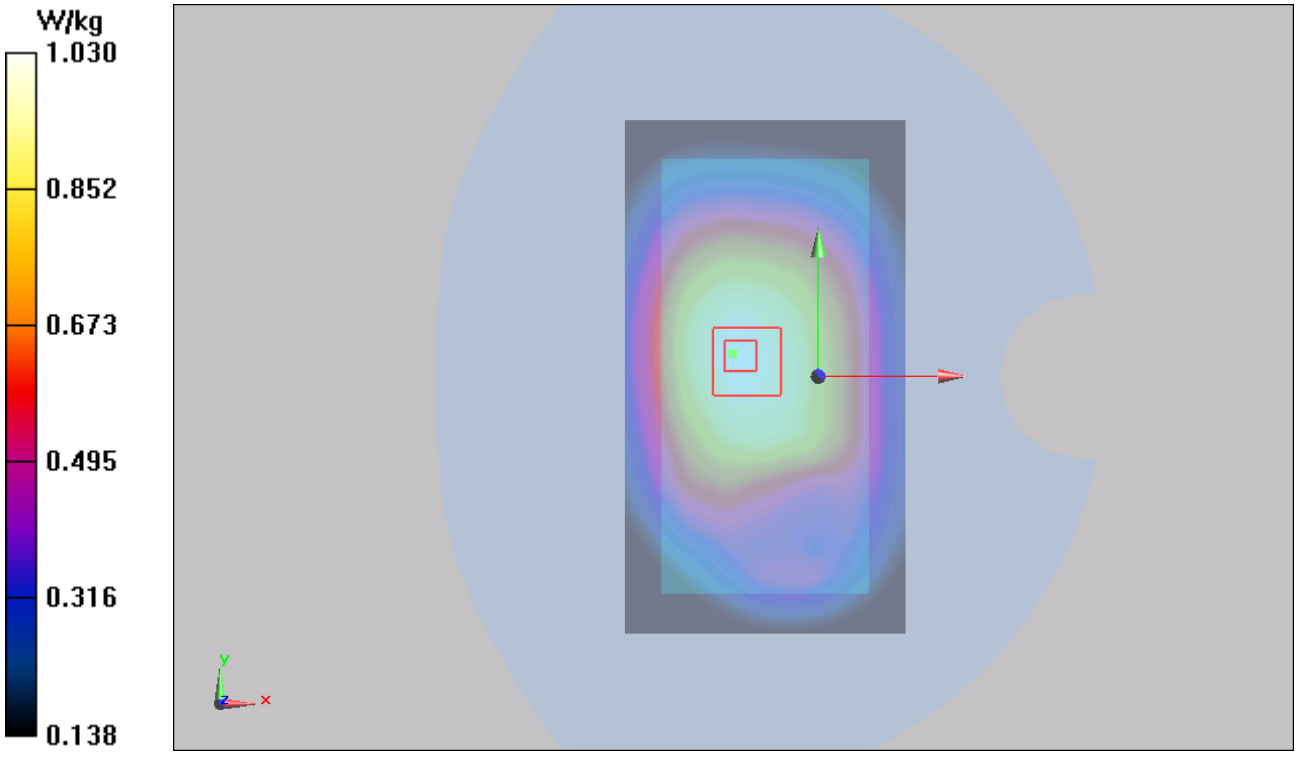


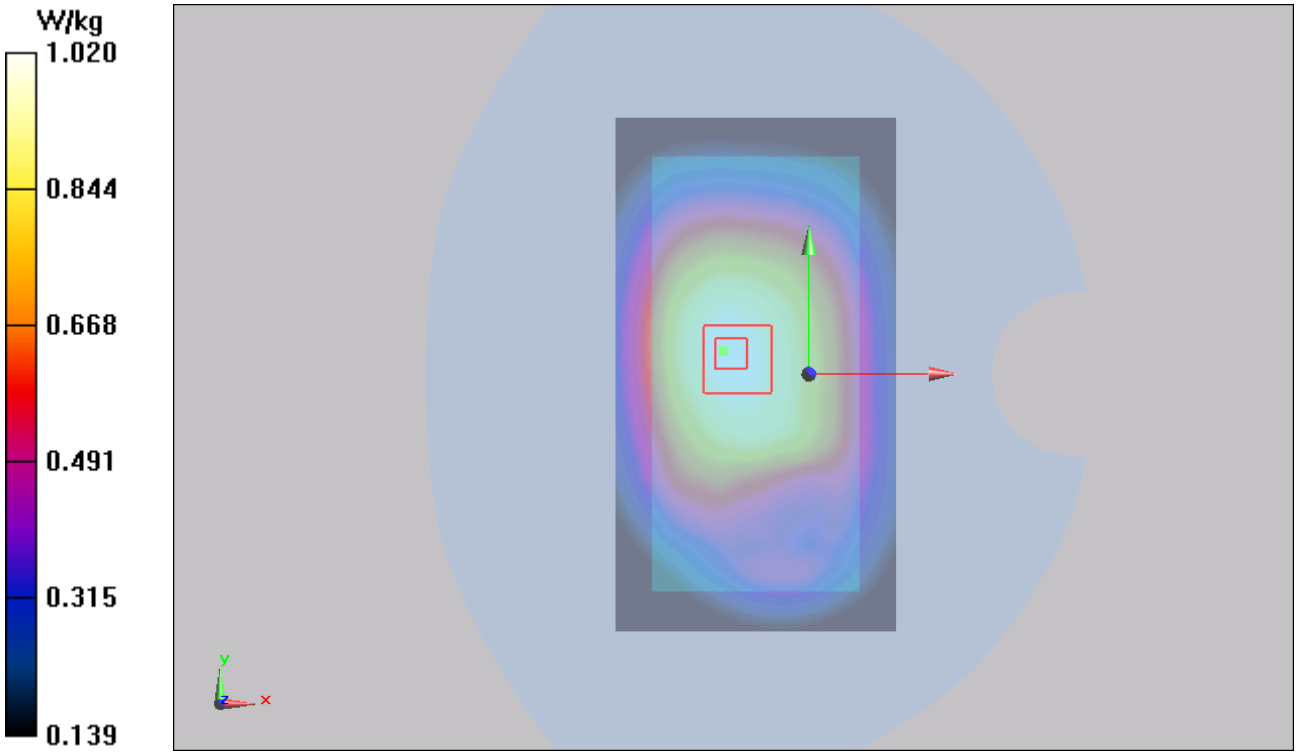
Figure 36 Body, Back Side, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 GPRS (2Txslots) Back Side Middle (1st Repeated SAR, Battery 2, Antenna 1)

Date/Time: 1/26/2014 4:40:38 AM
Communication System: GPRS 2TX; Frequency: 836.6 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 837 MHz; σ = 0.995 mho/m; ε_r = 55.073; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Back Side Middle/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.03 W/kg

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.693 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 1.223 mW/g
SAR(1 g) = 0.982 mW/g; SAR(10 g) = 0.757 mW/g
Maximum value of SAR (measured) = 1.02 W/kg



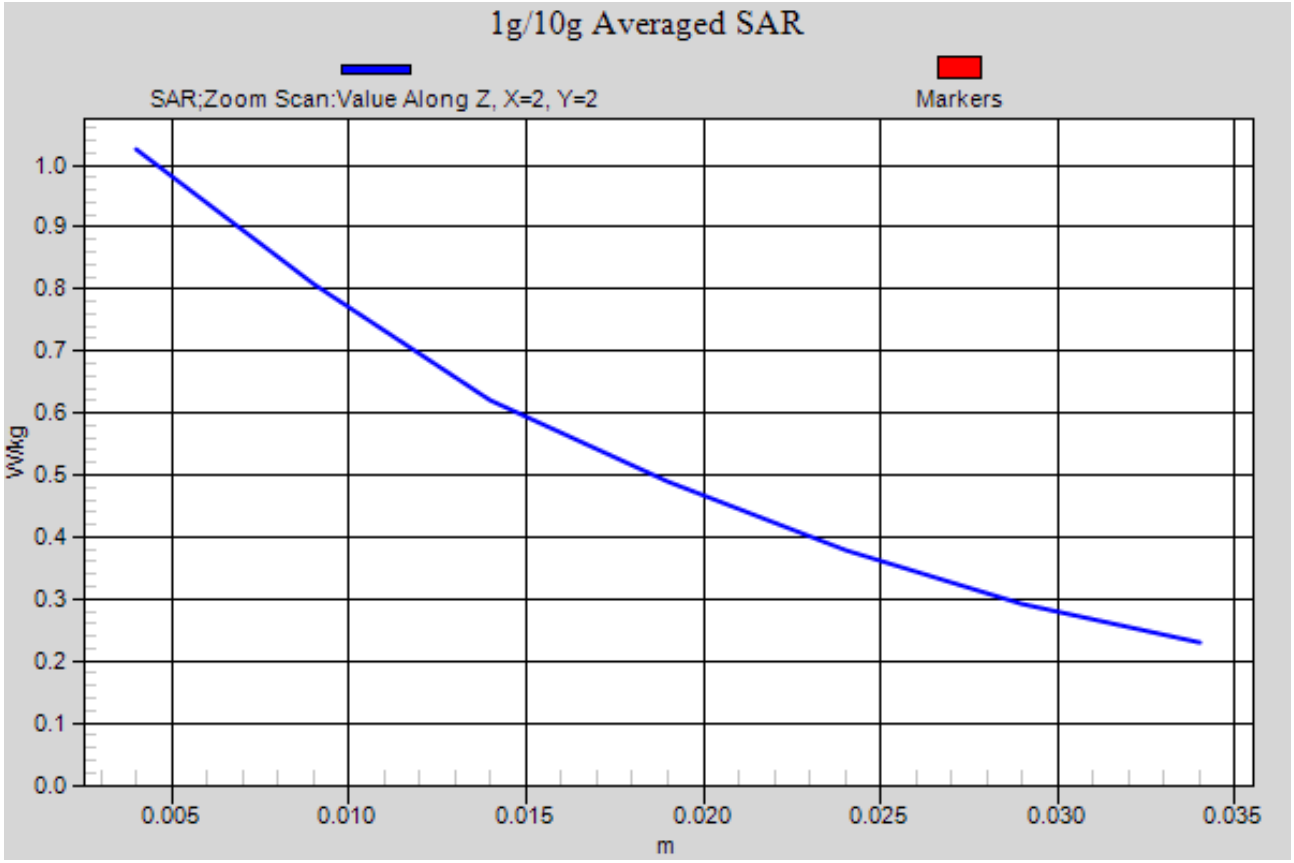


Figure 37 Body, Back Side, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 Left Cheek High (Antenna 2)

Date/Time: 2/11/2014 7:33:36 PM
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.943 mho/m; ε_r = 41.271; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Cheek High/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.725 W/kg

Left Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.189 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 1.282 mW/g
SAR(1 g) = 0.722 mW/g; SAR(10 g) = 0.458 mW/g
Maximum value of SAR (measured) = 0.786 W/kg

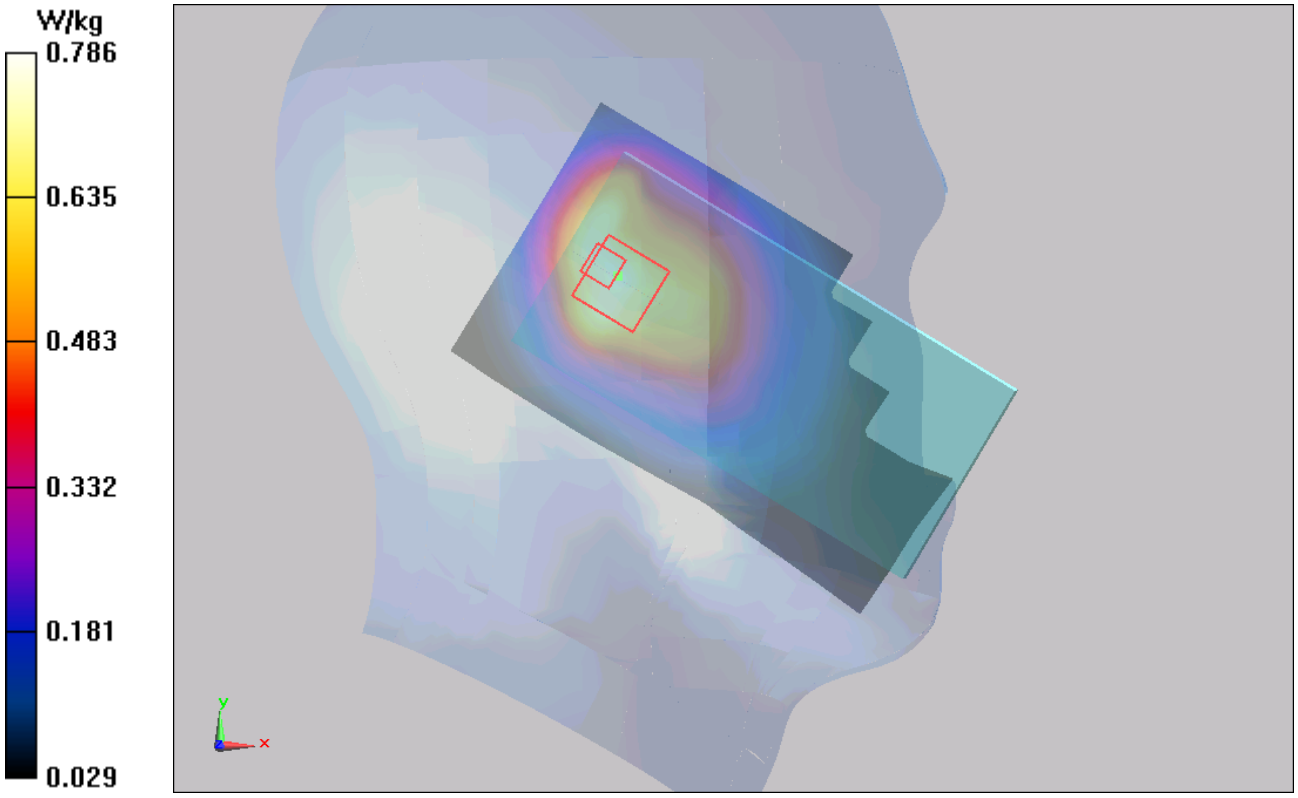


Figure 38 Left Hand Touch Cheek GSM 850 Channel 251

GSM 850 Left Cheek Middle (Antenna 2)

Date/Time: 2/11/2014 7:16:01 PM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.932 mho/m; ε_r = 41.357; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Cheek Middle/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.637 W/kg

Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.803 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 1.099 mW/g
SAR(1 g) = 0.620 mW/g; SAR(10 g) = 0.378 mW/g
Maximum value of SAR (measured) = 0.657 W/kg

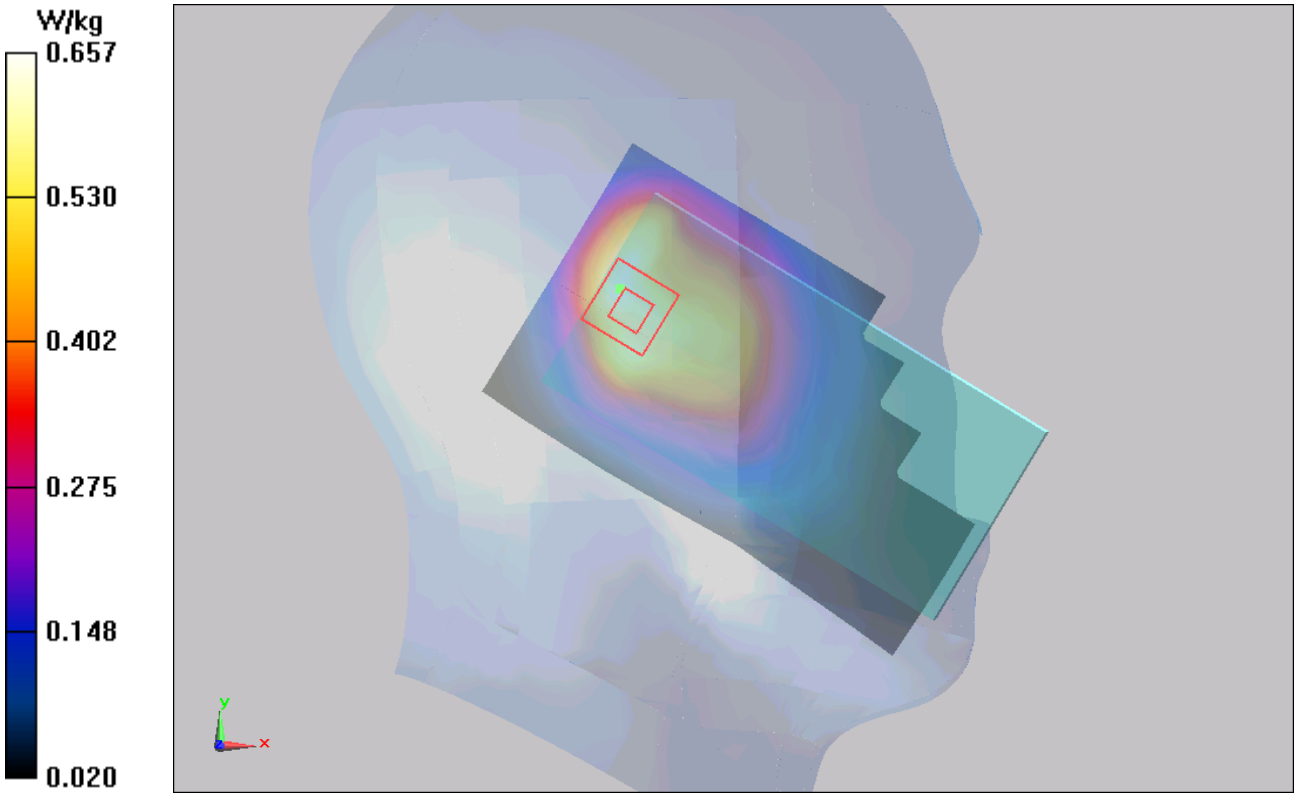


Figure 39 Left Hand Touch Cheek GSM 850 Channel 190

GSM 850 Left Cheek Low (Antenna 2)

Date/Time: 2/11/2014 7:50:58 PM

Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042

Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.919 mho/m; ε_r = 41.459; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

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

Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Cheek Low/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.602 W/kg

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

Reference Value = 25.741 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 1.084 mW/g

SAR(1 g) = 0.609 mW/g; SAR(10 g) = 0.381 mW/g

Maximum value of SAR (measured) = 0.672 W/kg

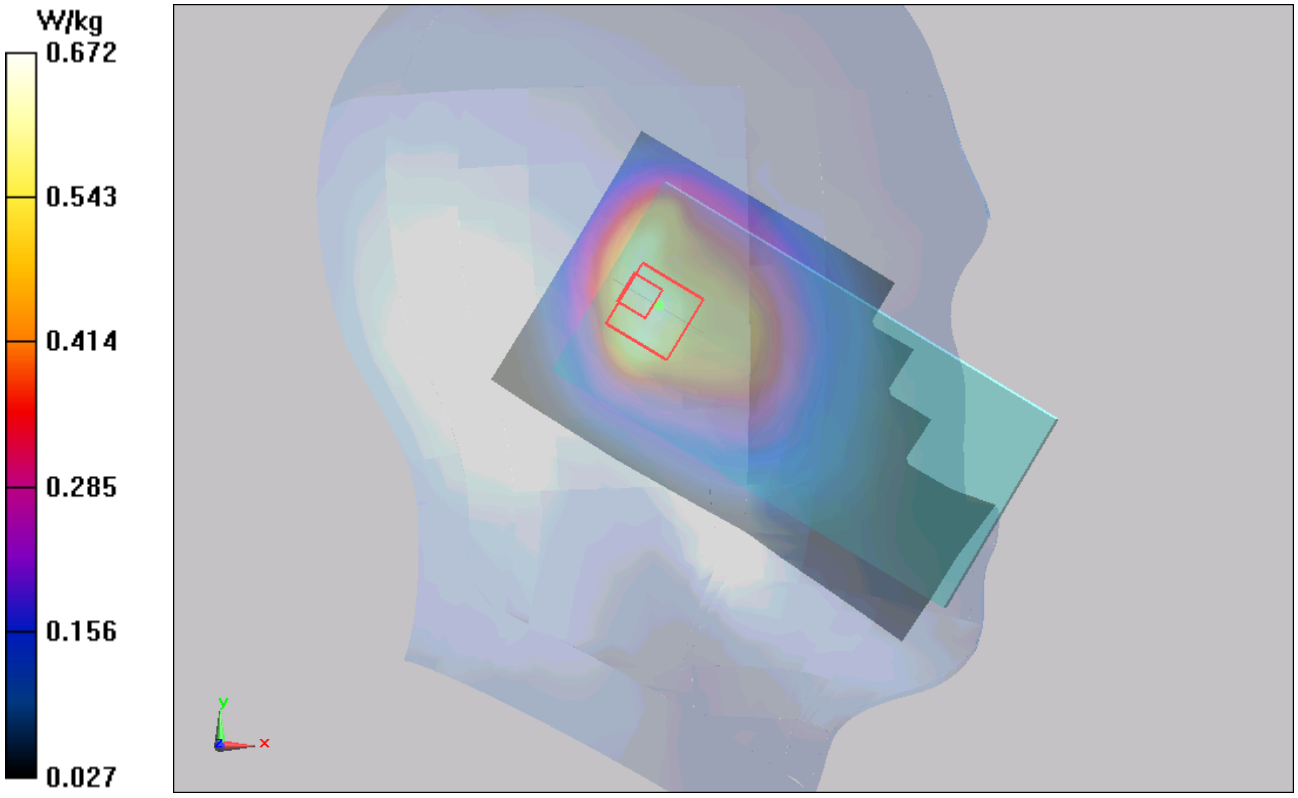


Figure 40 Left Hand Touch Cheek GSM 850 Channel 128

GSM 850 Left Tilt High (Antenna 2)

Date/Time: 2/11/2014 8:47:54 PM
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.943 mho/m; ε_r = 41.271; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Tilt High/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.525 W/kg

Left Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 24.760 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.059 mW/g
SAR(1 g) = 0.542 mW/g; SAR(10 g) = 0.315 mW/g
Maximum value of SAR (measured) = 0.584 W/kg

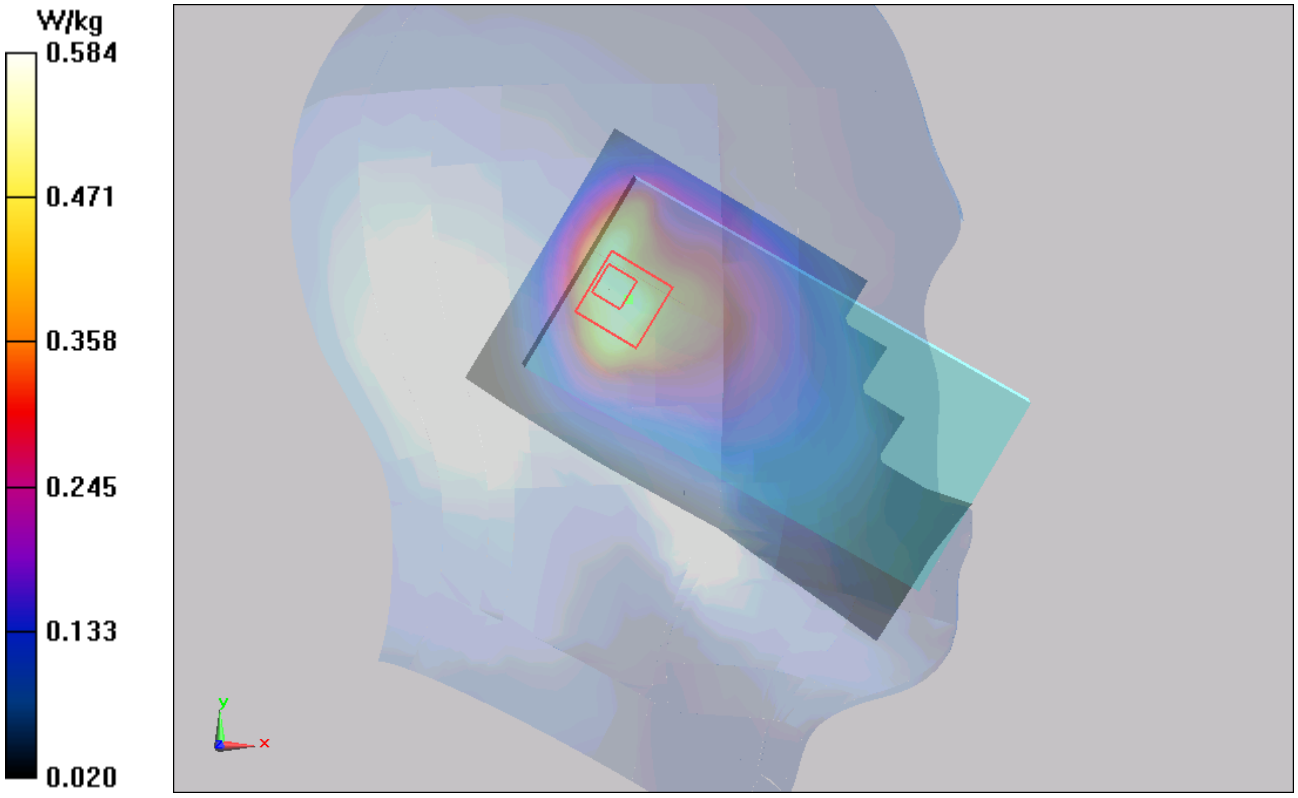


Figure 41 Left Hand Tilt 15° GSM 850 Channel 251

GSM 850 Left Tilt Middle (Antenna 2)

Date/Time: 2/11/2014 8:26:09 PM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.932 mho/m; ε_r = 41.357; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Tilt Middle/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.460 W/kg

Left Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 23.605 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.942 mW/g
SAR(1 g) = 0.474 mW/g; SAR(10 g) = 0.272 mW/g
Maximum value of SAR (measured) = 0.516 W/kg

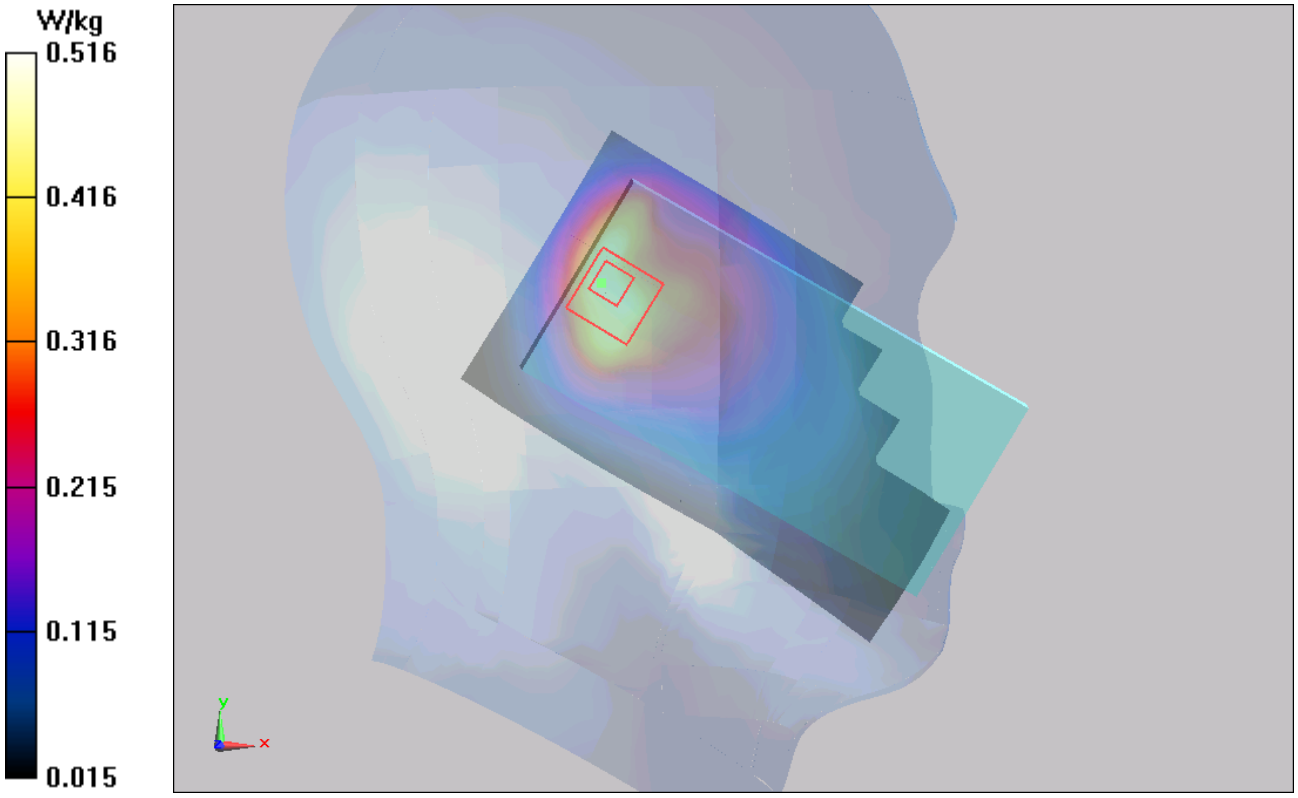


Figure 42 Left Hand Tilt 15° GSM 850 Channel 190

GSM 850 Left Tilt Low (Antenna 2)

Date/Time: 2/11/2014 8:08:44 PM

Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042

Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.919 mho/m; ε_r = 41.459; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

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

Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Tilt Low/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.445 W/kg

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

Reference Value = 23.035 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.922 mW/g

SAR(1 g) = 0.461 mW/g; SAR(10 g) = 0.249 mW/g

Maximum value of SAR (measured) = 0.491 W/kg

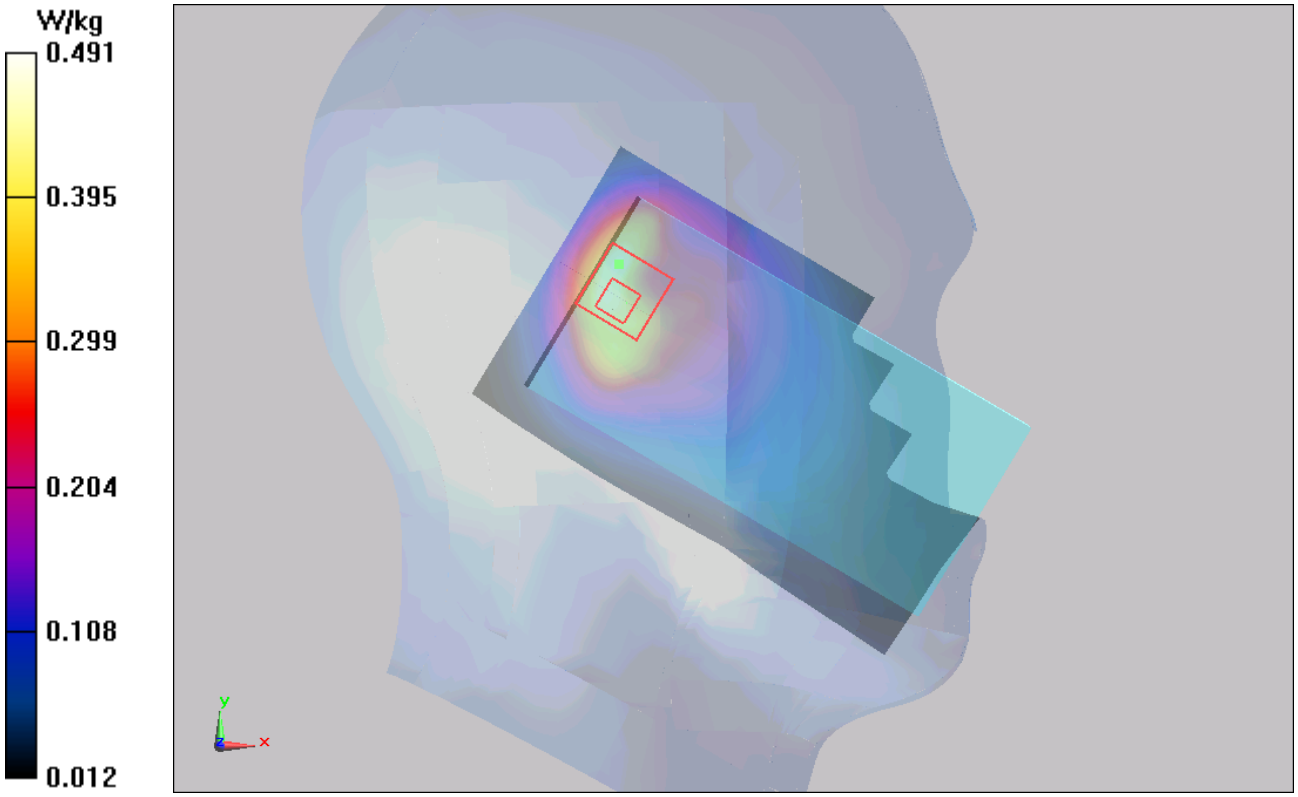


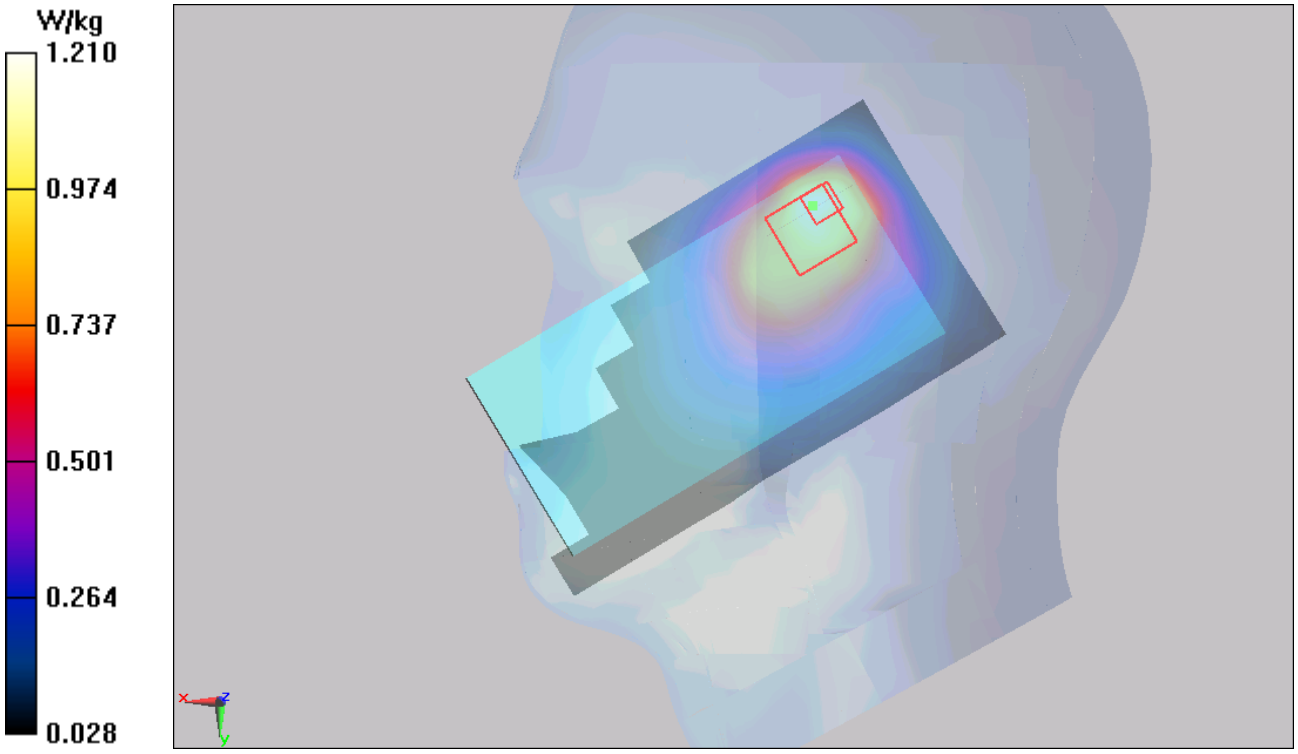
Figure 43 Left Hand Tilt 15° GSM 850 Channel 128

GSM 850 Right Cheek High (Antenna 2)

Date/Time: 2/11/2014 9:26:00 PM
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.943 mho/m; ε_r = 41.271; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Cheek High/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.16 W/kg

Right Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.707 V/m; Power Drift = 0.039 dB
Peak SAR (extrapolated) = 2.883 mW/g
SAR(1 g) = 1.16 mW/g; SAR(10 g) = 0.674 mW/g
Maximum value of SAR (measured) = 1.21 W/kg



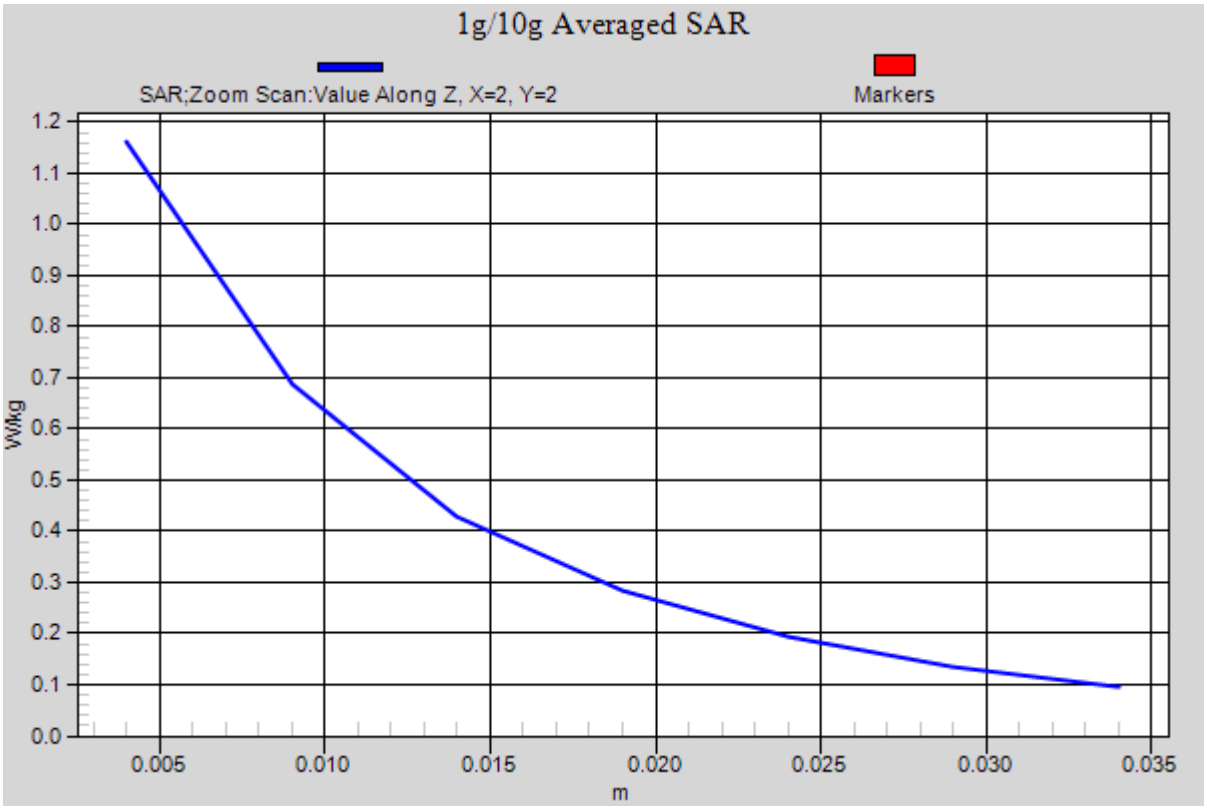


Figure 44 Right Hand Touch Cheek GSM 850 Channel 251

GSM 850 Right Cheek Middle (Antenna 2)

Date/Time: 2/11/2014 9:08:46 PM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.932 mho/m; ε_r = 41.357; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Cheek Middle/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.964 W/kg

Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 25.443 V/m; Power Drift = 0.031 dB
Peak SAR (extrapolated) = 2.460 mW/g
SAR(1 g) = 0.999 mW/g; SAR(10 g) = 0.579 mW/g
Maximum value of SAR (measured) = 1.02 W/kg

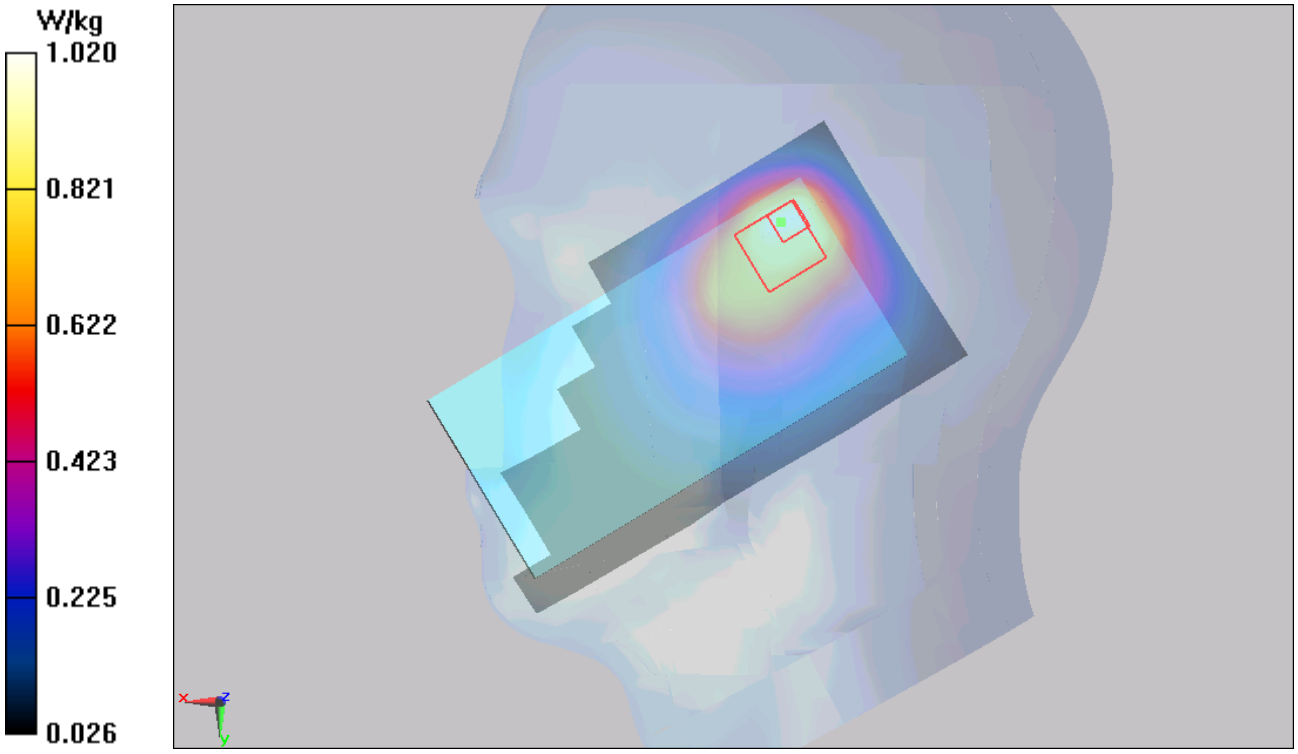


Figure 45 Right Hand Touch Cheek GSM 850 Channel 190

GSM 850 Right Cheek Low (Antenna 2)

Date/Time: 2/11/2014 9:46:22 PM

Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042

Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.919 mho/m; ε_r = 41.459; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

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

Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Cheek Low/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 1.02 W/kg

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

Reference Value = 27.455 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 2.453 mW/g

SAR(1 g) = 0.953 mW/g; SAR(10 g) = 0.535 mW/g

Maximum value of SAR (measured) = 1.01 W/kg

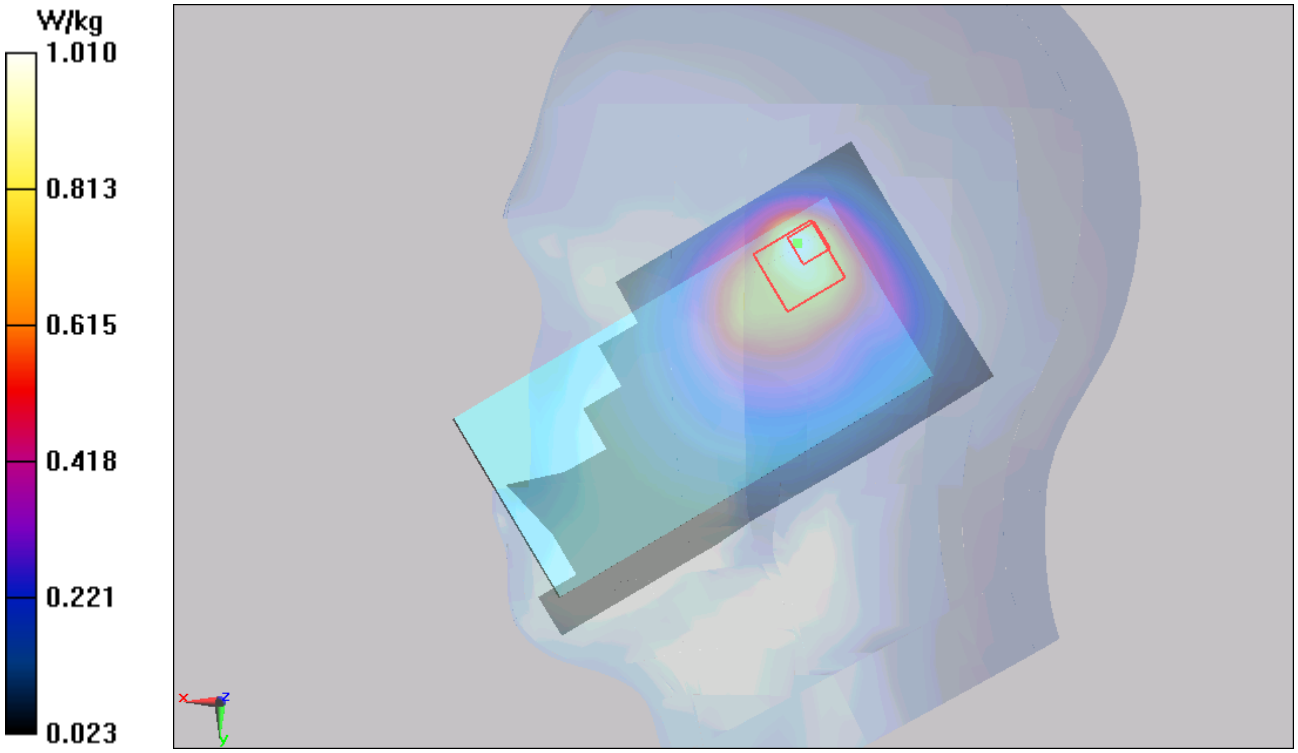


Figure 46 Right Hand Touch Cheek GSM 850 Channel 128

GSM 850 Right Tilt High (Antenna 2)

Date/Time: 2/11/2014 10:38:18 PM
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.943 mho/m; ε_r = 41.271; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Tilt High/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.970 W/kg

Right Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 28.550 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 2.834 mW/g
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.521 mW/g
Maximum value of SAR (measured) = 1.06 W/kg

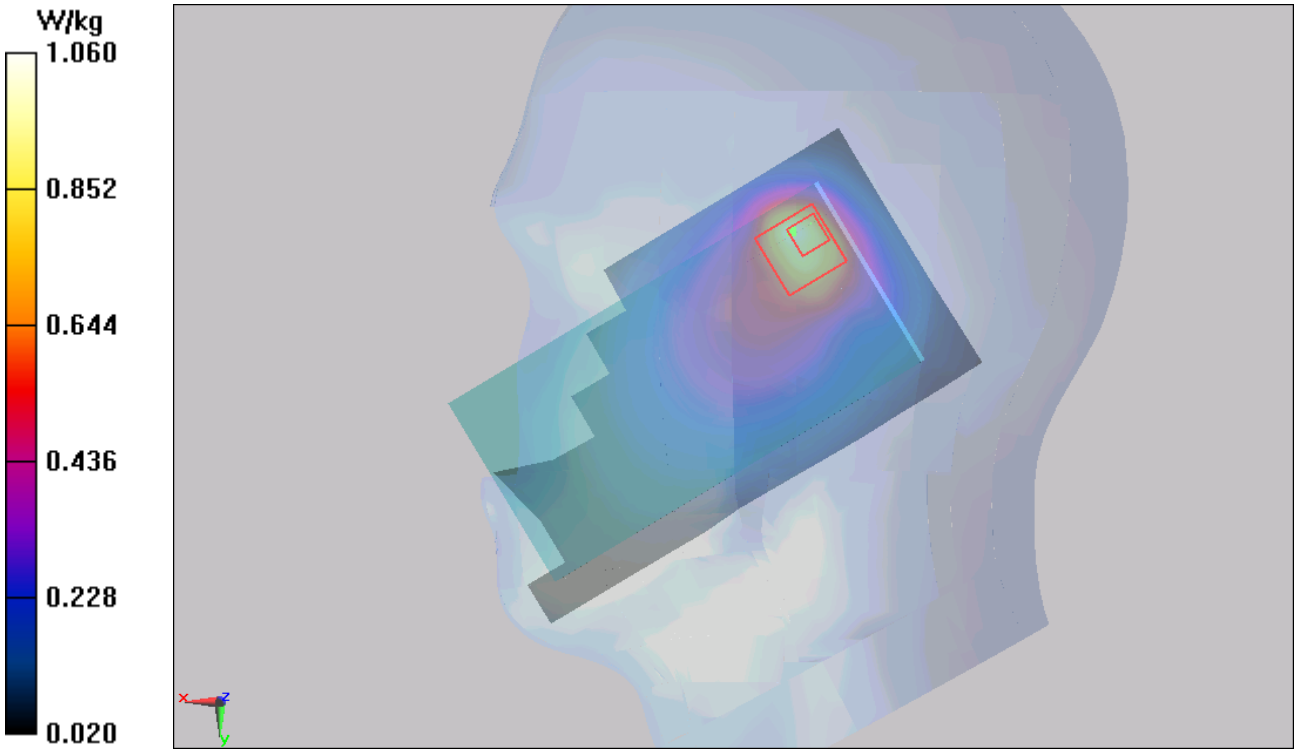


Figure 47 Right Hand Tilt 15° GSM 850 Channel 251

GSM 850 Right Tilt Middle (Antenna 2)

Date/Time: 2/11/2014 10:20:57 PM
Communication System: GSM; Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.932 mho/m; ε_r = 41.357; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Tilt Middle/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.826 W/kg

Right Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 26.536 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 2.558 mW/g
SAR(1 g) = 0.890 mW/g; SAR(10 g) = 0.447 mW/g
Maximum value of SAR (measured) = 0.943 W/kg

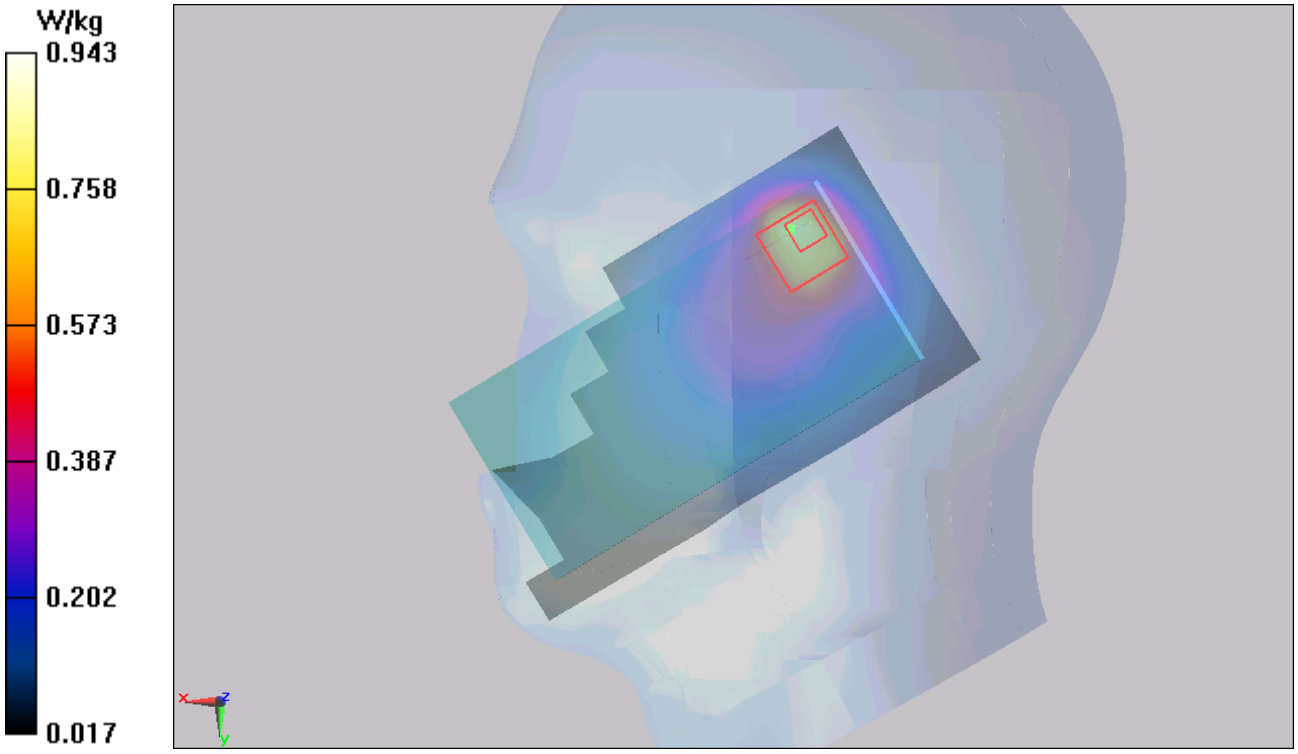


Figure 48 Right Hand Tilt 15° GSM 850 Channel 190

GSM 850 Right Tilt Low (Antenna 2)

Date/Time: 2/11/2014 10:03:57 PM

Communication System: GSM; Frequency: 824.2 MHz;Duty Cycle: 1:8.30042

Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.919 mho/m; ε_r = 41.459; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

Electronics: DAE4 Sn1317; Calibrated: 1/16/2014

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

Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Tilt Low/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.766 W/kg

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

Reference Value = 25.295 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 2.570 mW/g

SAR(1 g) = 0.855 mW/g; SAR(10 g) = 0.413 mW/g

Maximum value of SAR (measured) = 0.878 W/kg

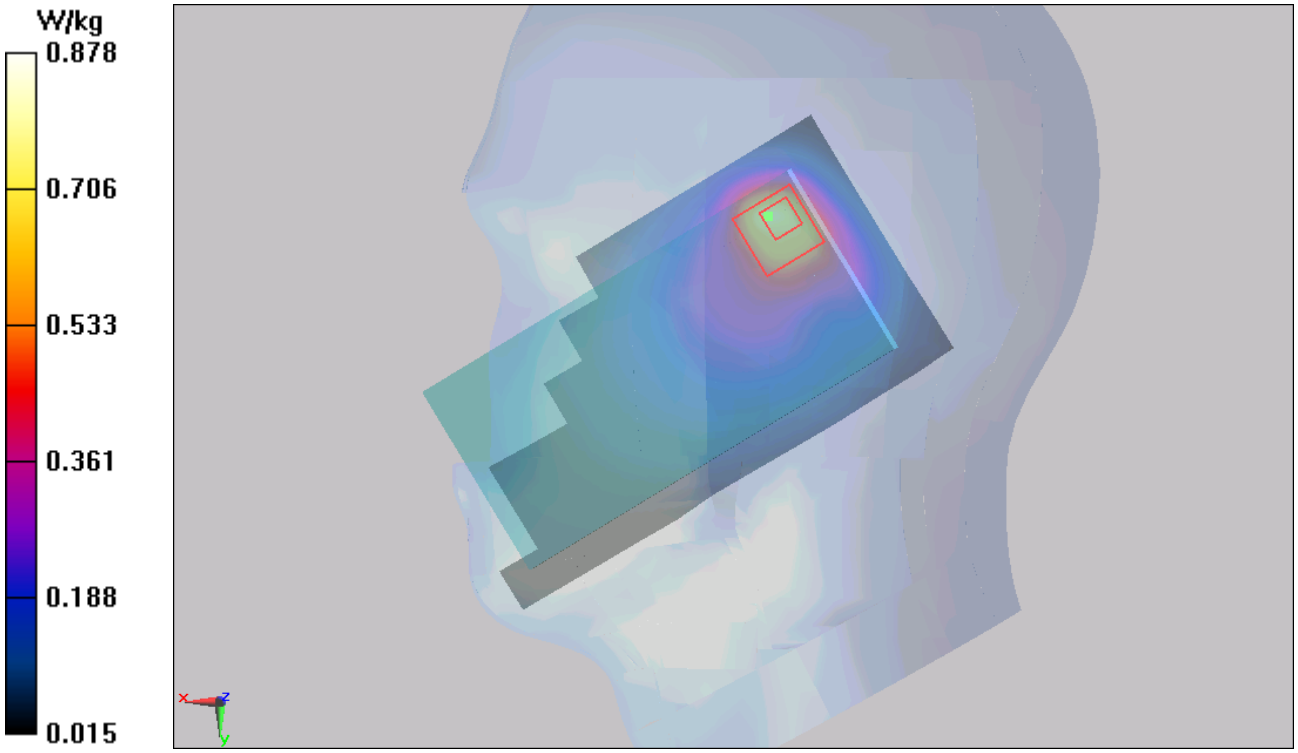


Figure 49 Right Hand Tilt 15° GSM 850 Channel 128

GSM 850 Right Cheek High (Battery 2, Antenna 2)

Date/Time: 2/11/2014 10:57:16 PM
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.943 mho/m; ε_r = 41.271; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Cheek High/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.31 W/kg

Right Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 30.848 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 2.945 mW/g
SAR(1 g) = 1.16 mW/g; SAR(10 g) = 0.670 mW/g
Maximum value of SAR (measured) = 1.23 W/kg

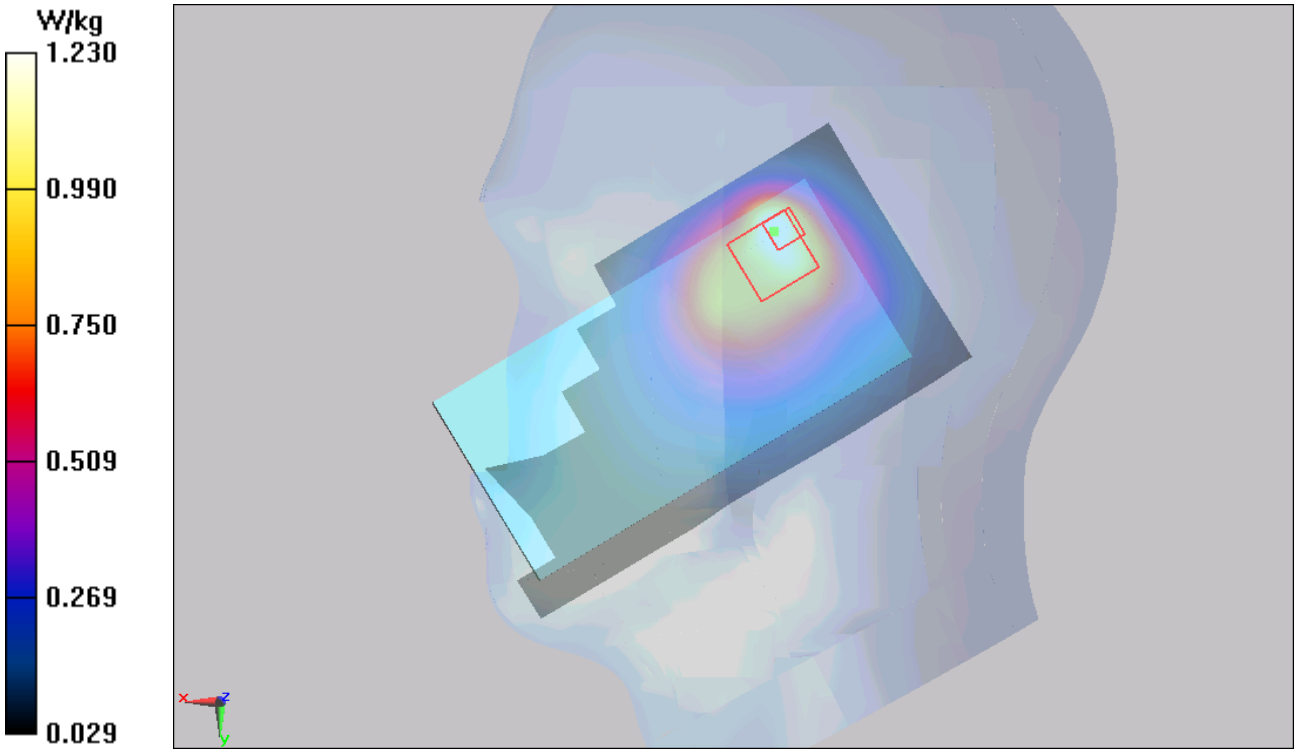


Figure 50 Right Hand Touch Cheek GSM 850 Channel 251

GSM 850 GPRS (2Txslots) Back Side Middle (Antenna 2)

Date/Time: 2/12/2014 10:06:15 AM
Communication System: GPRS 2TX; Frequency: 836.6 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 837 MHz; σ = 0.995 mho/m; ε_r = 55.073; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Back Side Middle/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.146 W/kg

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.657 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 0.194 mW/g
SAR(1 g) = 0.138 mW/g; SAR(10 g) = 0.100 mW/g
Maximum value of SAR (measured) = 0.146 W/kg

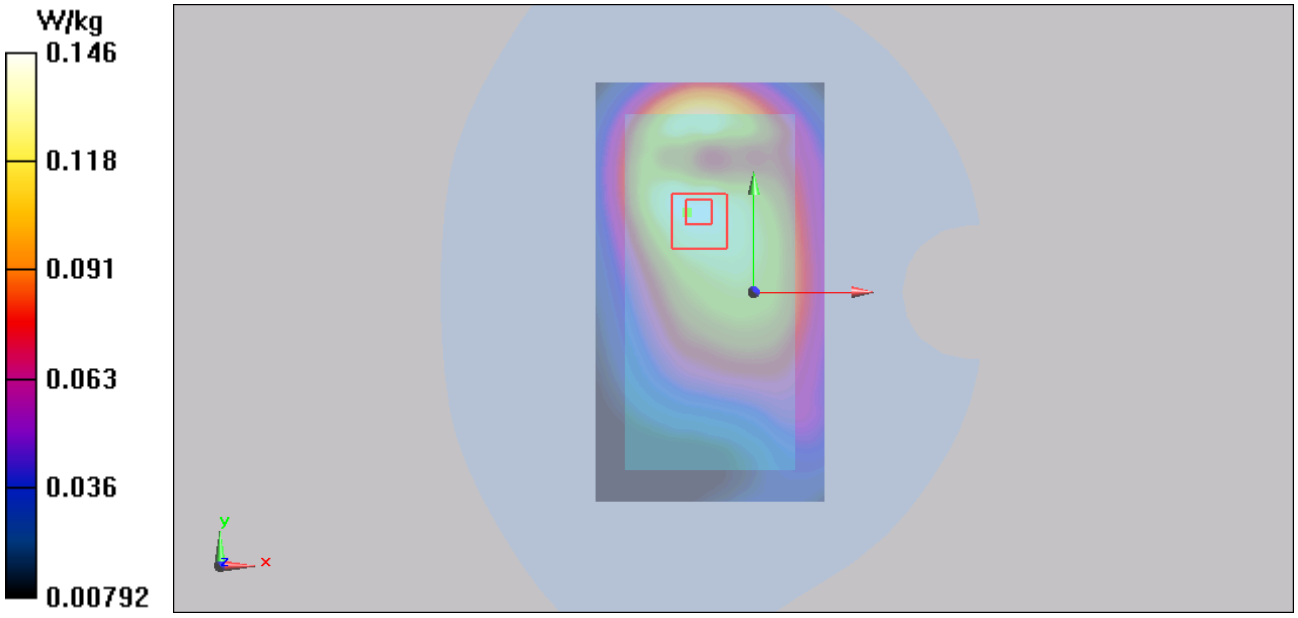


Figure 51 Body, Back Side, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 GPRS (2Txslots) Front Side Middle (Antenna 2)

Date/Time: 2/12/2014 10:28:39 AM
Communication System: GPRS 2TX; Frequency: 836.6 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 837 MHz; σ = 0.995 mho/m; ε_r = 55.073; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Front Side Middle/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.152 W/kg

Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.695 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.201 mW/g
SAR(1 g) = 0.144 mW/g; SAR(10 g) = 0.105 mW/g
Maximum value of SAR (measured) = 0.153 W/kg

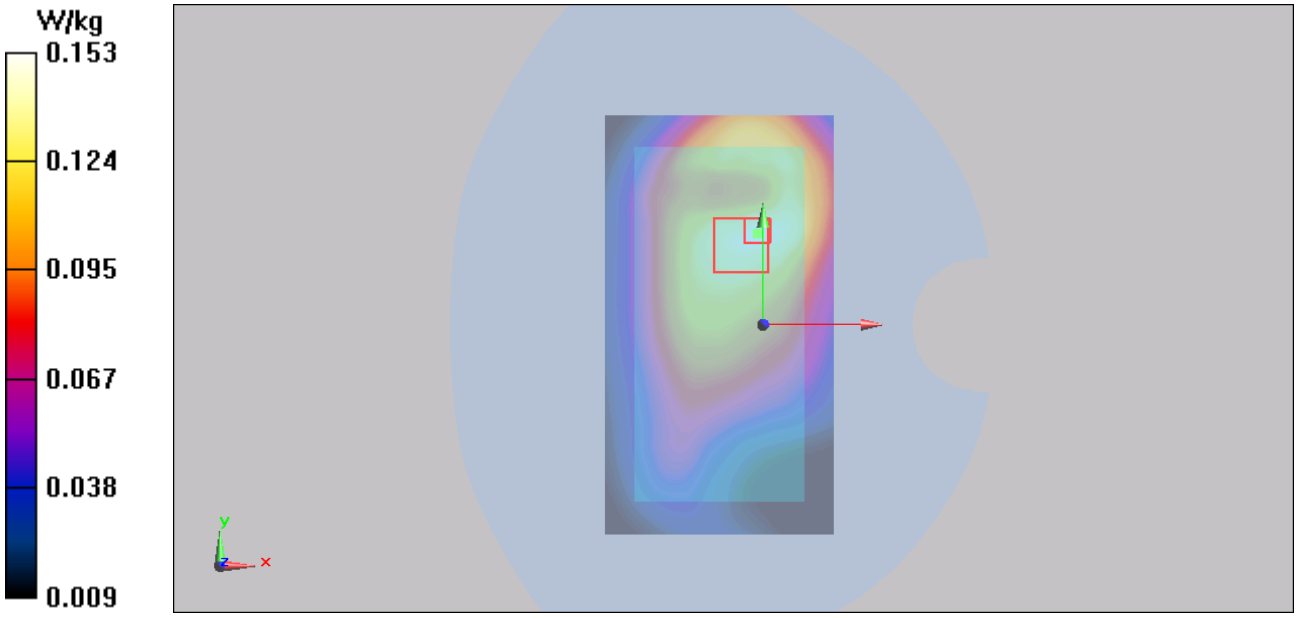


Figure 52 Body, Front Side, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 GPRS (2Txslots) Left Edge Middle (Antenna 2)

Date/Time: 2/12/2014 1:13:50 PM
Communication System: GPRS 2TX; Frequency: 836.6 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 837 MHz; σ = 0.995 mho/m; ε_r = 55.073; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Edge Middle/Area Scan (31x111x1): Interpolated grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.194 W/kg

Left Edge Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.792 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.288 mW/g
SAR(1 g) = 0.187 mW/g; SAR(10 g) = 0.121 mW/g
Maximum value of SAR (measured) = 0.202 W/kg

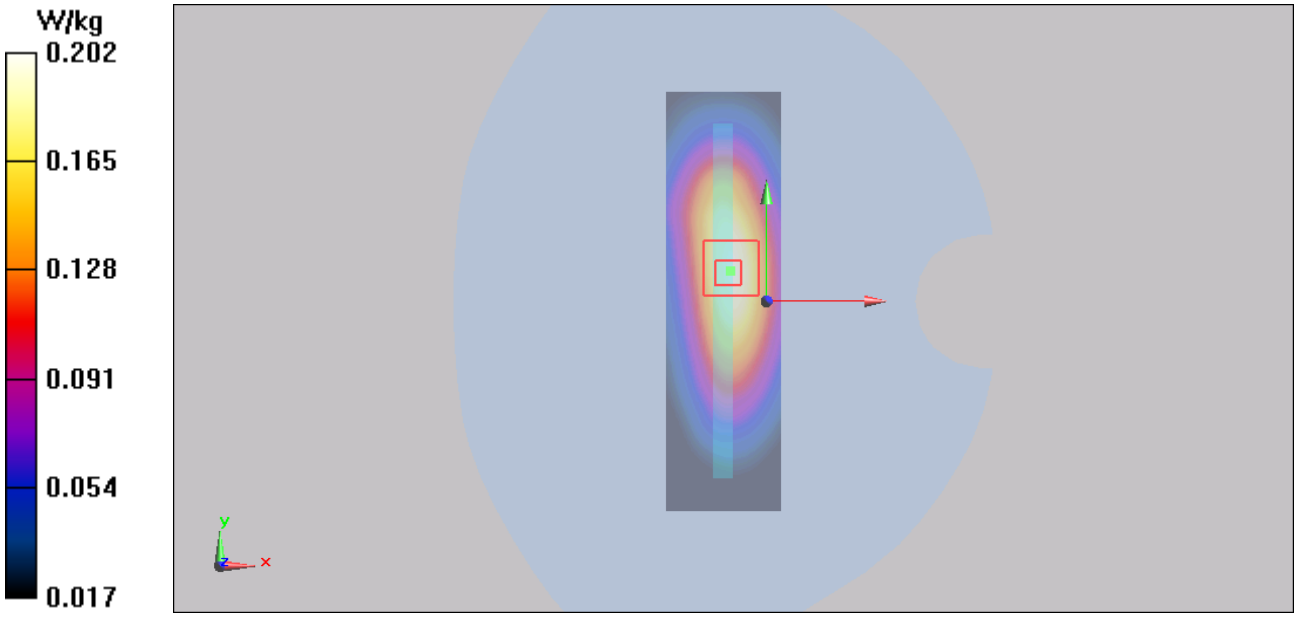


Figure 53 Body, Left Edge, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 GPRS (2Txslots) Top Edge Middle (Antenna 2)

Date/Time: 2/12/2014 11:25:05 AM
Communication System: GPRS 2TX; Frequency: 836.6 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 837 MHz; σ = 0.995 mho/m; ε_r = 55.073; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Top Edge Middle/Area Scan (31x61x1): Interpolated grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.110 W/kg

Top Edge Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.399 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.192 mW/g
SAR(1 g) = 0.099 mW/g; SAR(10 g) = 0.050 mW/g
Maximum value of SAR (measured) = 0.109 W/kg

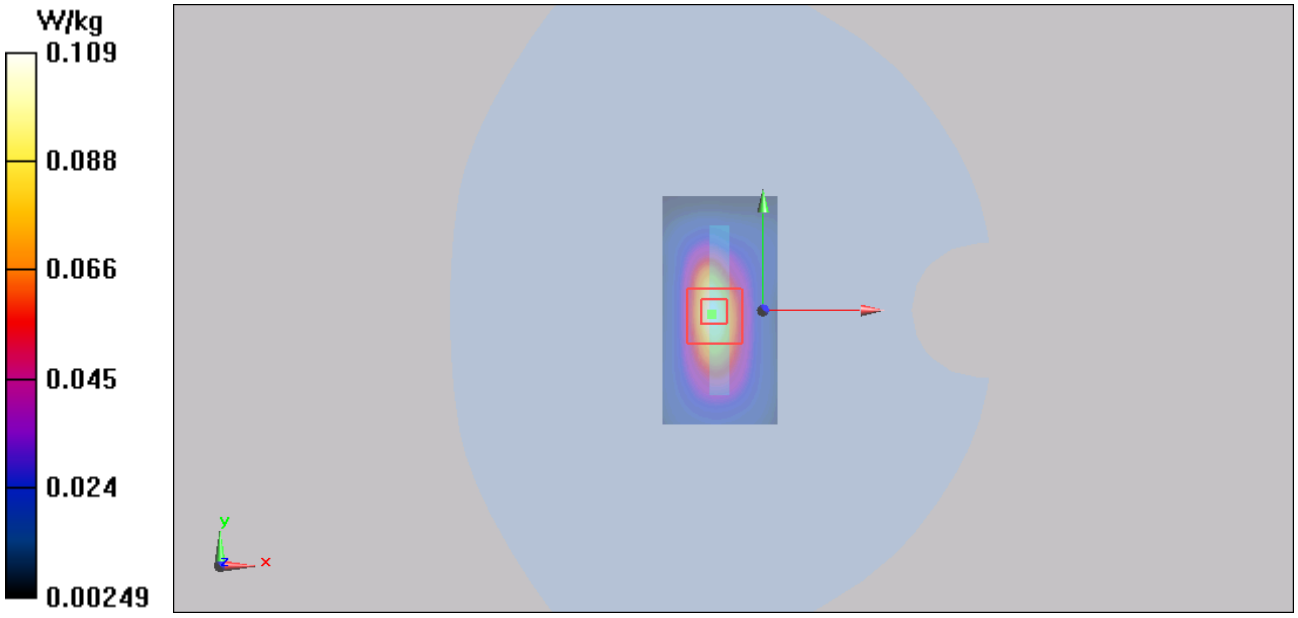


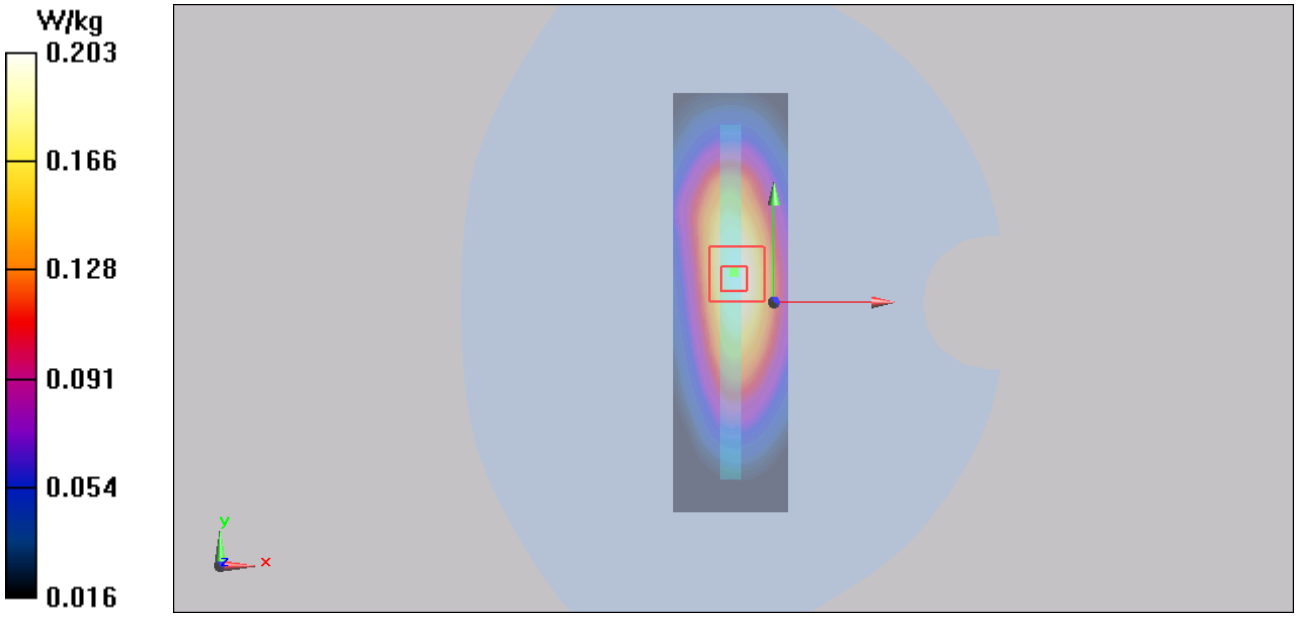
Figure 54 Body, Top Edge, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 GPRS (2Txslots) Left Edge Middle (Battery 2, Antenna 2)

Date/Time: 2/12/2014 1:31:44 PM
Communication System: GPRS 2TX; Frequency: 836.6 MHz;Duty Cycle: 1:4.14954
Medium parameters used: f = 837 MHz; σ = 0.995 mho/m; ε_r = 55.073; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Flat Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Edge Middle/Area Scan (31x111x1): Interpolated grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.198 W/kg

Left Edge Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.014 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.290 mW/g
SAR(1 g) = 0.189 mW/g; SAR(10 g) = 0.123 mW/g
Maximum value of SAR (measured) = 0.203 W/kg



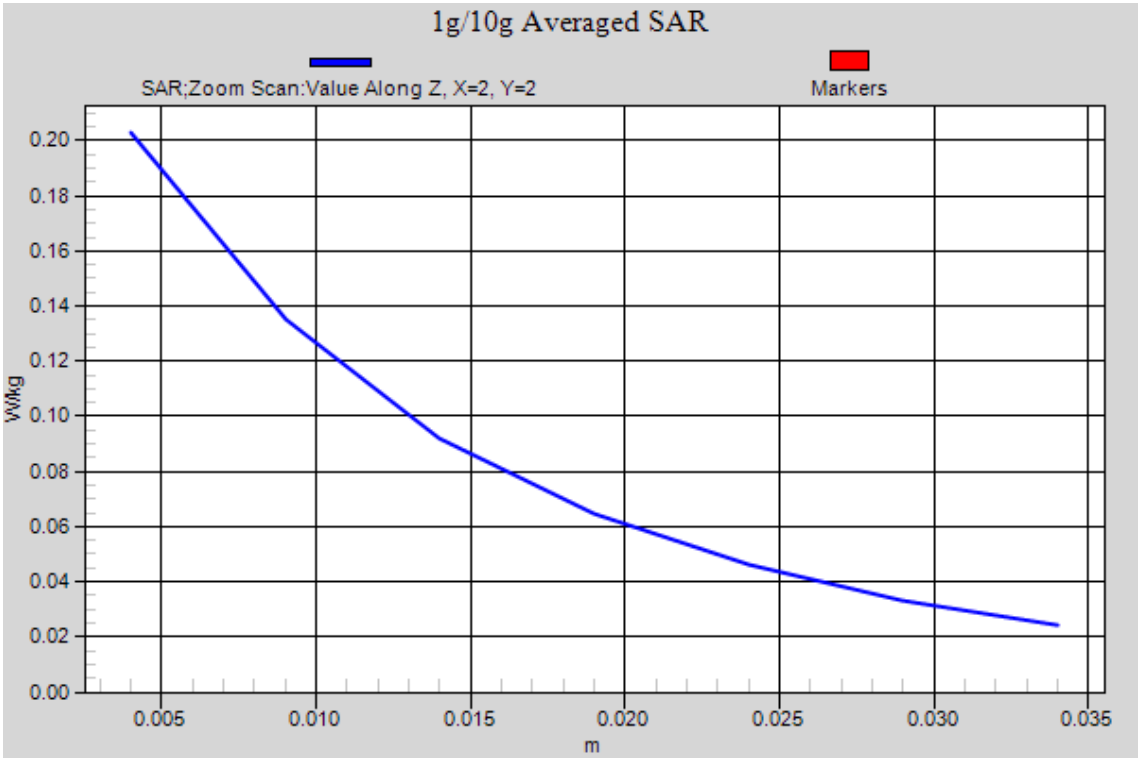


Figure 55 Body, Left Edge, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 Right Cheek High (1st Repeated SAR, Antenna 2)

Date/Time: 2/11/2014 11:18:18 PM
Communication System: GSM; Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.943 mho/m; ε_r = 41.271; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Right Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Right Cheek High/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.32 W/kg

Right Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.032 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 2.890 mW/g
SAR(1 g) = 1.15 mW/g; SAR(10 g) = 0.665 mW/g
Maximum value of SAR (measured) = 1.23 W/kg

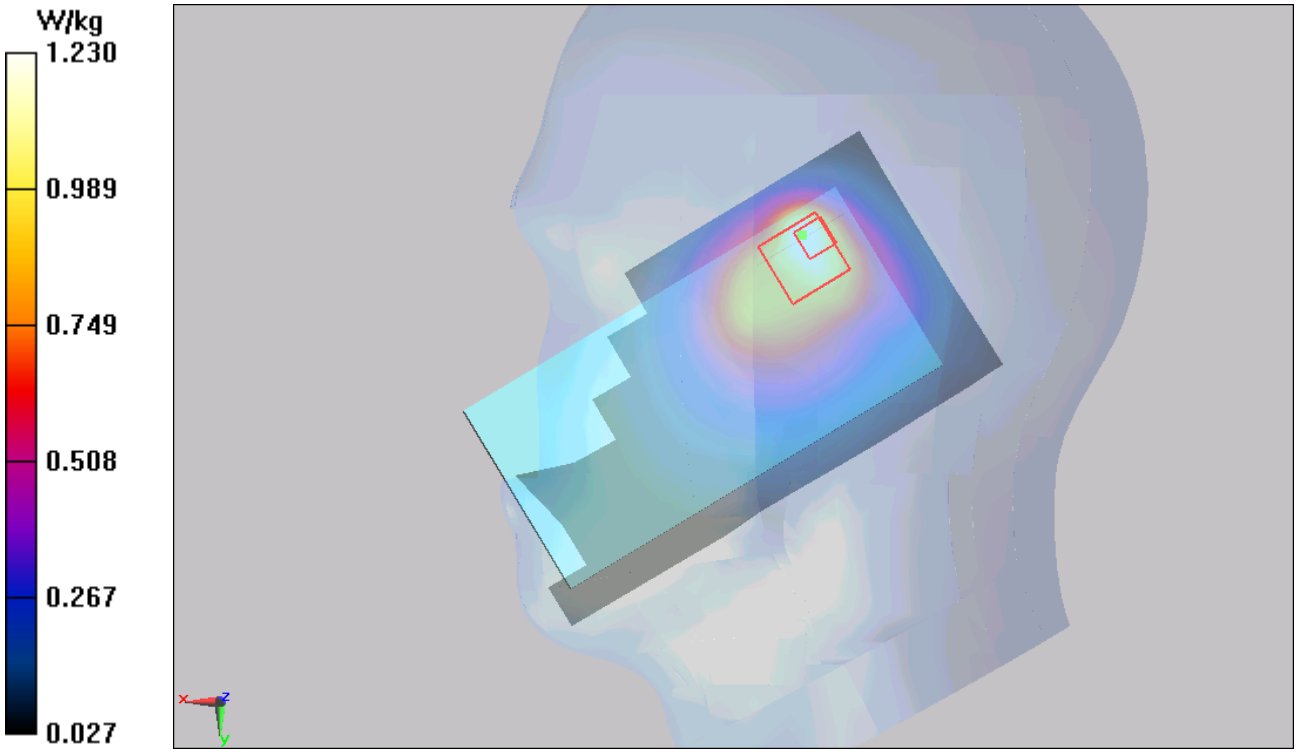


Figure 56 Right Hand Touch Cheek GSM 850 Channel 251

GSM 1900 Left Cheek High (Antenna 1)

Date/Time: 1/25/2014 6:02:54 PM
Communication System: GSM; Frequency: 1909.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1910 MHz; σ = 1.44 mho/m; ε_r = 39.607; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Cheek High/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.408 W/kg

Left Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.134 V/m; Power Drift = 0.101 dB
Peak SAR (extrapolated) = 0.518 mW/g
SAR(1 g) = 0.355 mW/g; SAR(10 g) = 0.226 mW/g
Maximum value of SAR (measured) = 0.381 W/kg

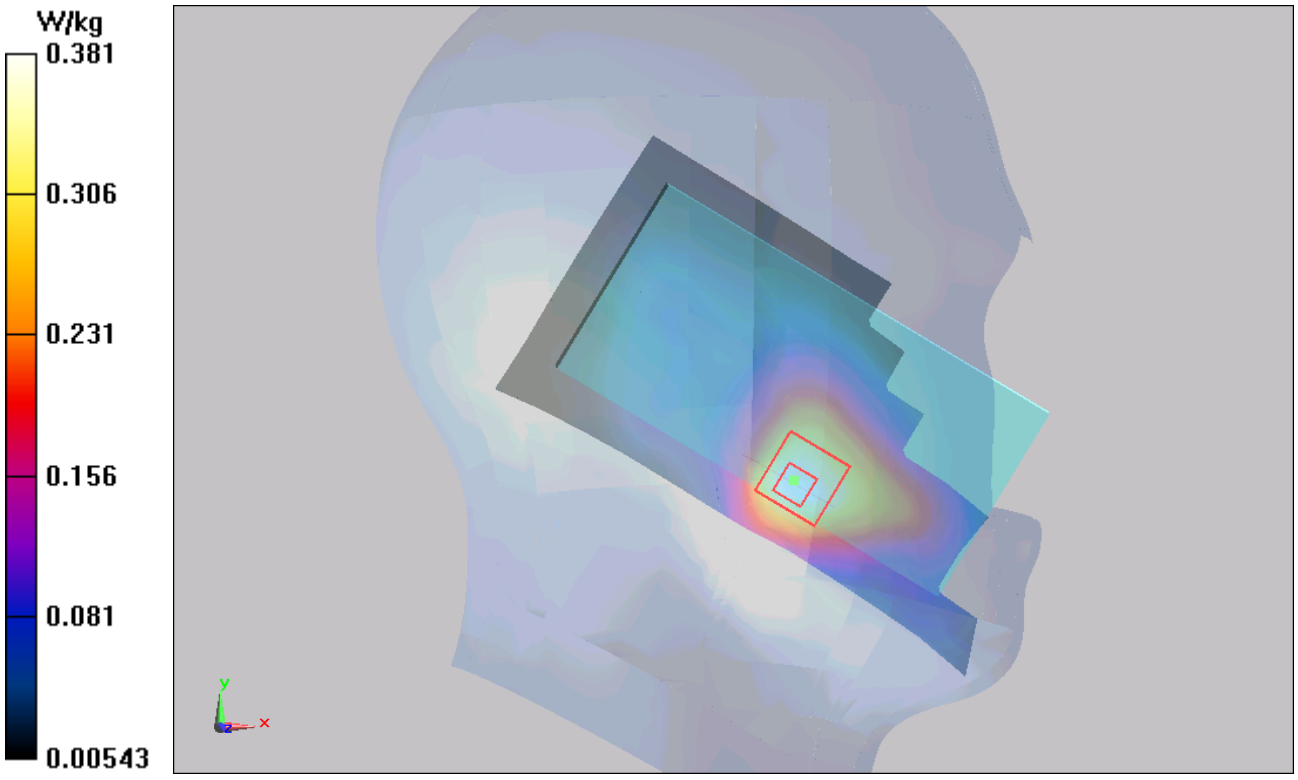


Figure 57 Left Hand Touch Cheek GSM 1900 Channel 810

GSM 1900 Left Cheek Middle (Antenna 1)

Date/Time: 1/25/2014 2:16:16 PM
Communication System: GSM; Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.413 mho/m; ε_r = 39.689; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Cheek Middle/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.383 W/kg

Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.334 V/m; Power Drift = 0.079 dB
Peak SAR (extrapolated) = 0.487 mW/g
SAR(1 g) = 0.340 mW/g; SAR(10 g) = 0.221 mW/g
Maximum value of SAR (measured) = 0.365 W/kg

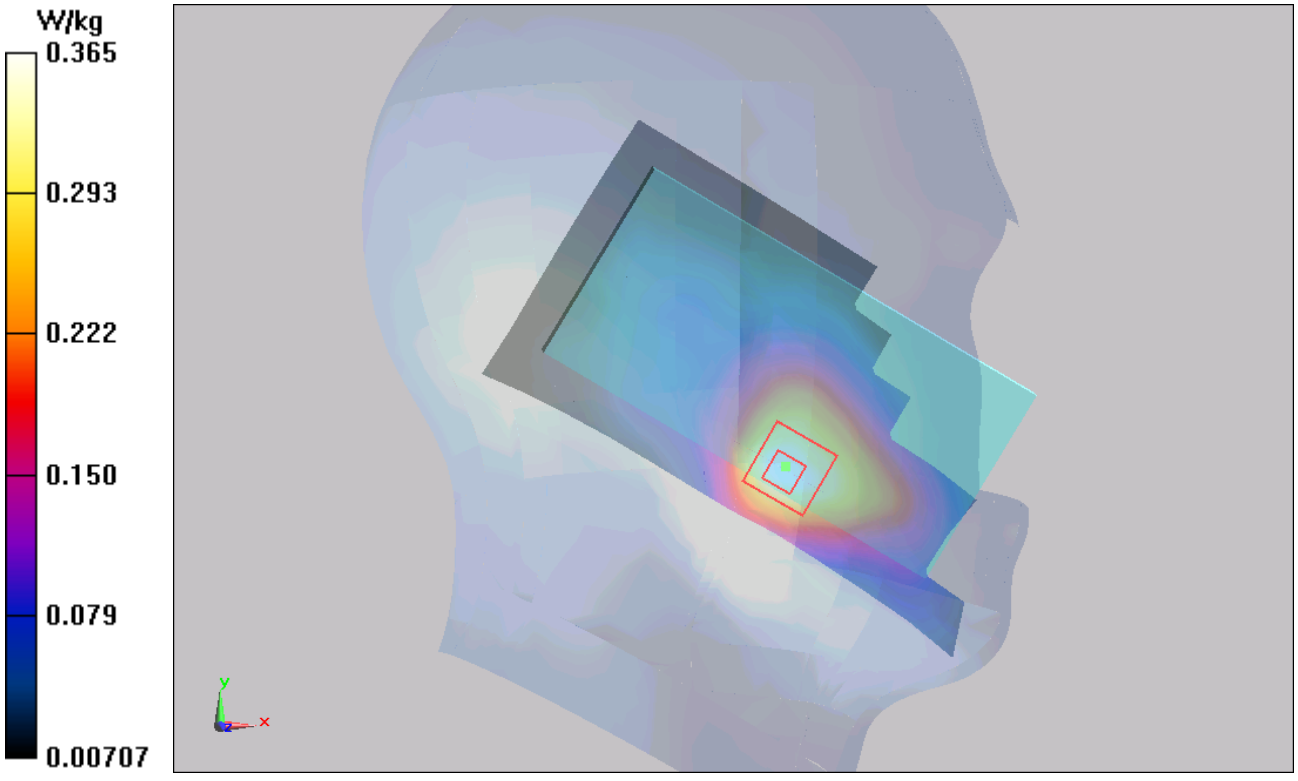


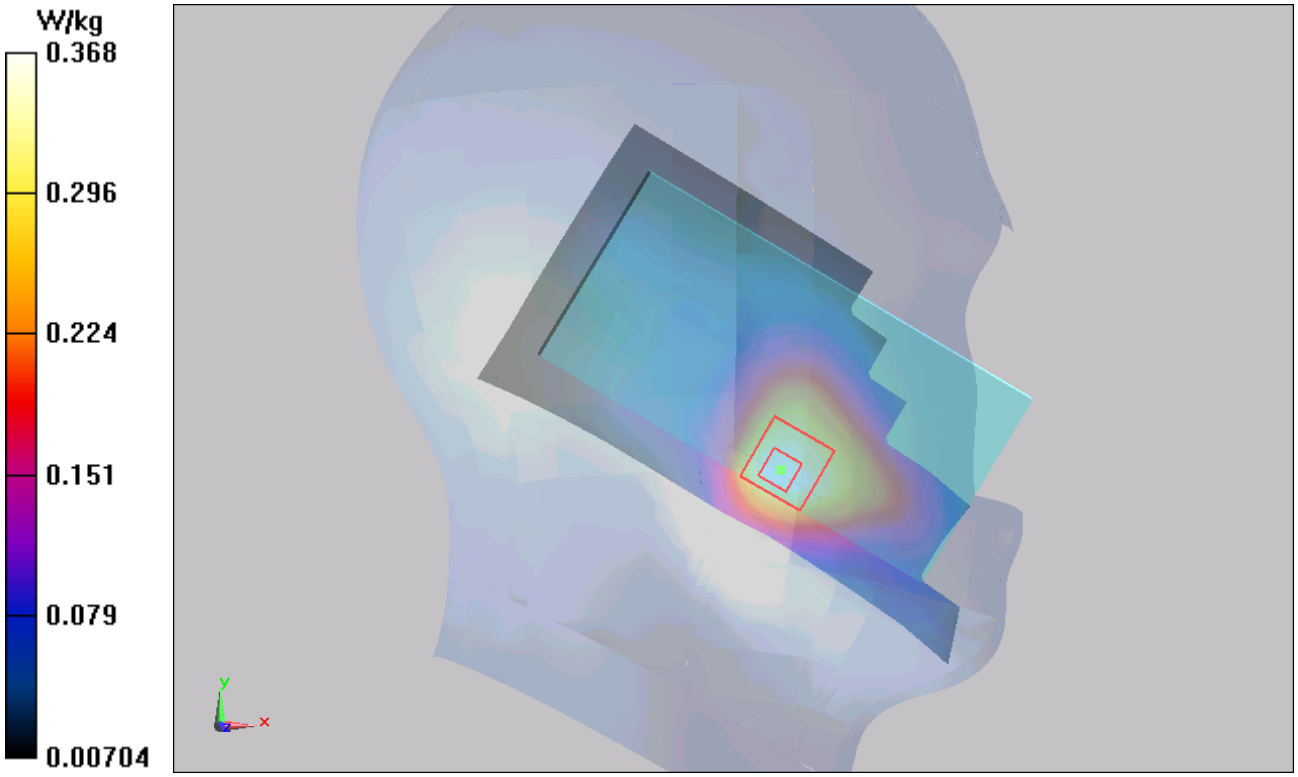
Figure 58 Left Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Left Cheek Low (Antenna 1)

Date/Time: 1/25/2014 6:20:22 PM
Communication System: GSM; Frequency: 1850.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.386 mho/m; ε_r = 39.813; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Cheek Low/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.387 W/kg

Left Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.556 V/m; Power Drift = 0.045 dB
Peak SAR (extrapolated) = 0.490 mW/g
SAR(1 g) = 0.340 mW/g; SAR(10 g) = 0.220 mW/g
Maximum value of SAR (measured) = 0.368 W/kg



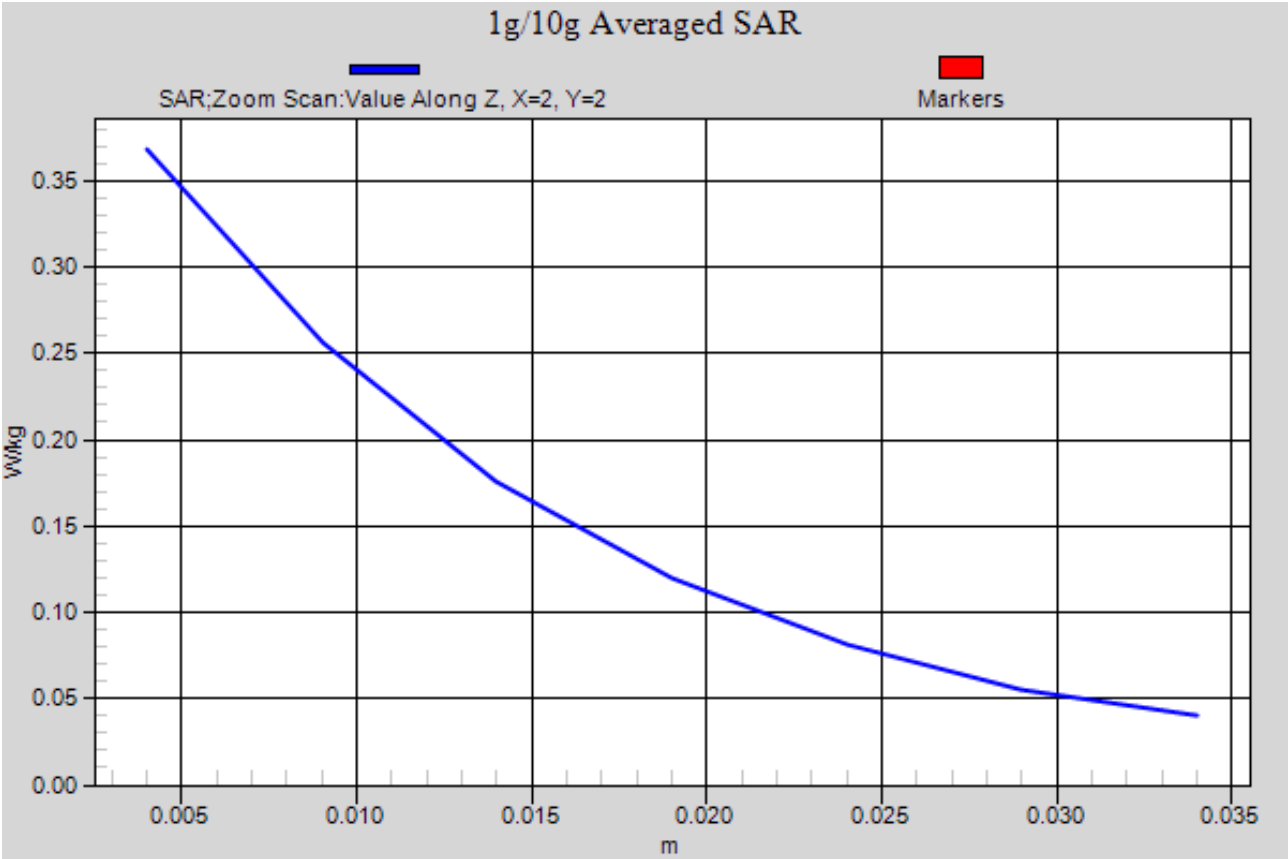


Figure 59 Left Hand Touch Cheek GSM 1900 Channel 512

GSM 1900 Left Tilt High (Antenna 1)

Date/Time: 1/25/2014 6:57:31 PM
Communication System: GSM; Frequency: 1909.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1910 MHz; σ = 1.44 mho/m; ε_r = 39.607; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Tilt High/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.131 W/kg

Left Tilt High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.203 V/m; Power Drift = 0.048 dB
Peak SAR (extrapolated) = 0.220 mW/g
SAR(1 g) = 0.130 mW/g; SAR(10 g) = 0.079 mW/g
Maximum value of SAR (measured) = 0.137 W/kg

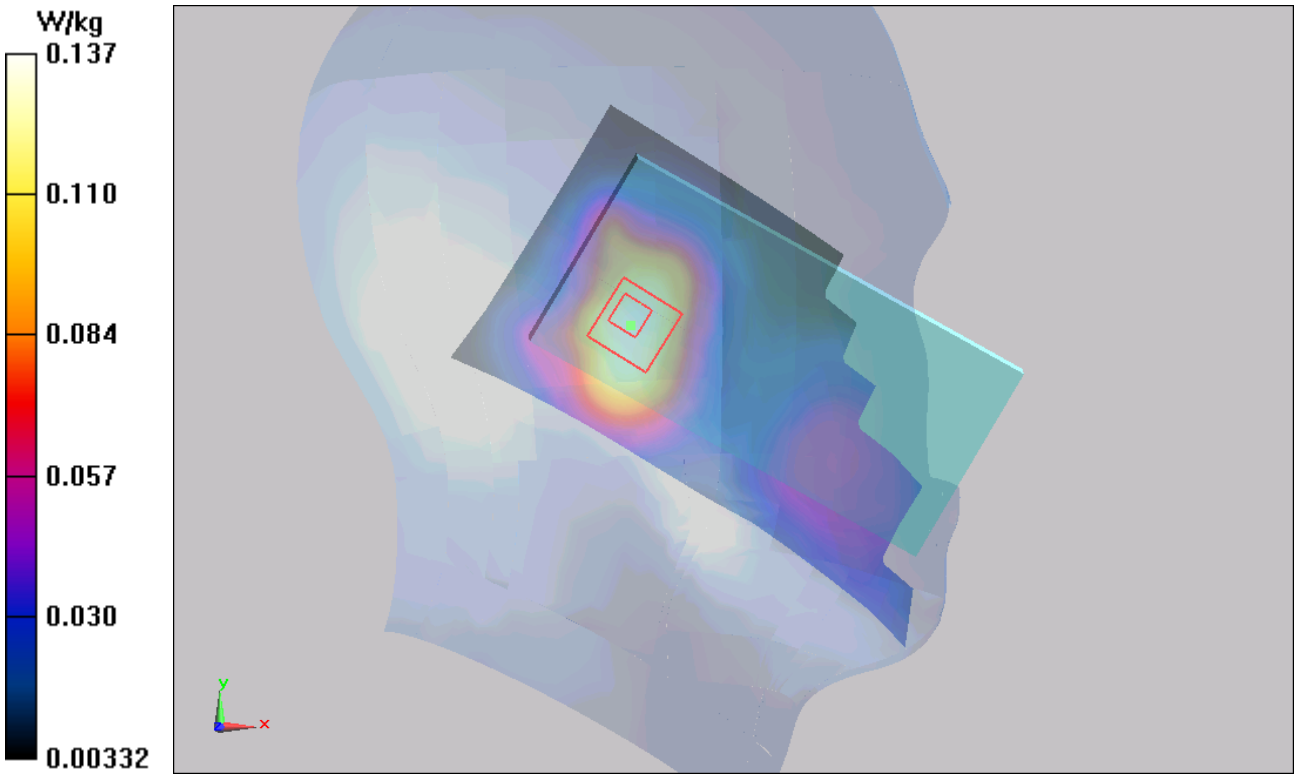


Figure 60 Left Hand Tilt 15° GSM 1900 Channel 810

GSM 1900 Left Tilt Middle (Antenna 1)

Date/Time: 1/25/2014 7:28:08 PM
Communication System: GSM; Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.413 mho/m; ε_r = 39.689; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃
Phantom section: Left Section
DASY5 Configuration:
Sensor-Surface: 4mm (Mechanical Surface Detection)
Probe: EX3DV4 – SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Left Tilt Middle/Area Scan (61x111x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.125 W/kg

Left Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.499 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 0.215 mW/g
SAR(1 g) = 0.123 mW/g; SAR(10 g) = 0.075 mW/g
Maximum value of SAR (measured) = 0.126 W/kg

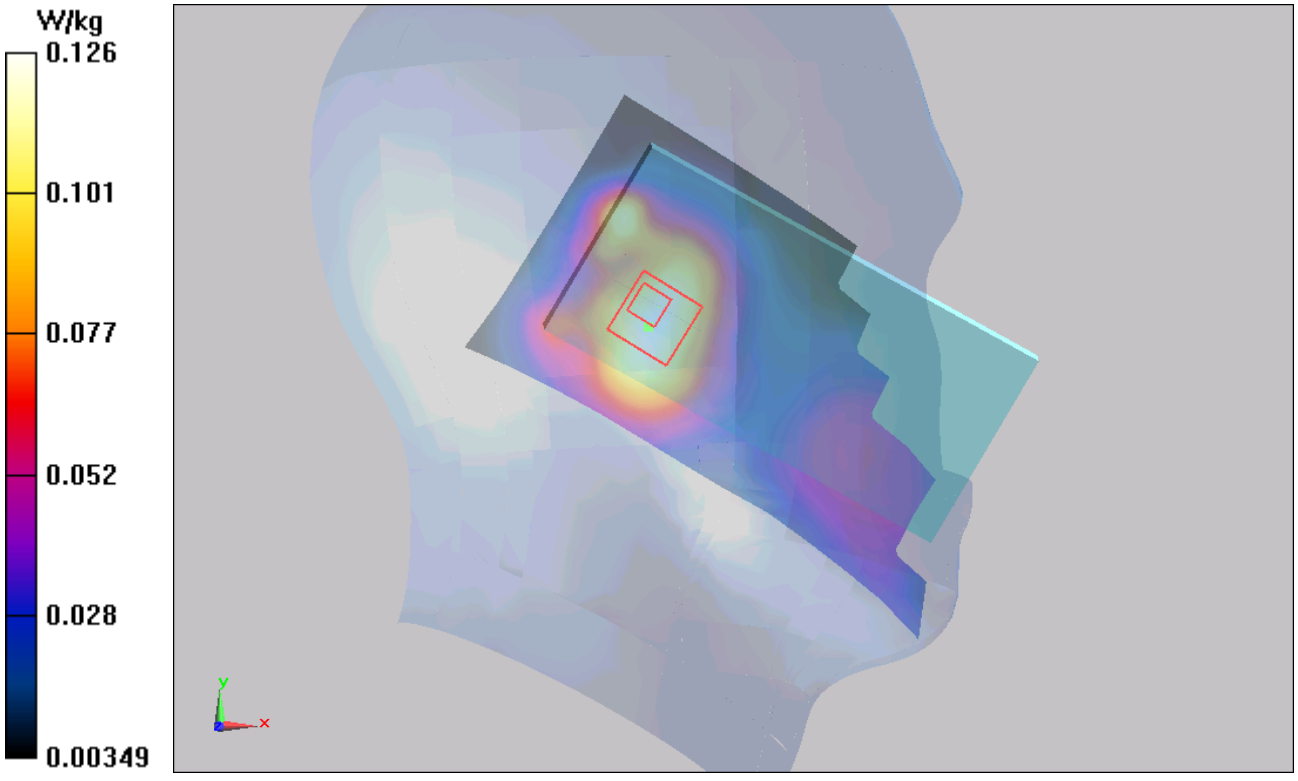


Figure 61 Left Hand Tilt 15° GSM 1900 Channel 661