TESTING
No. L2264

SAR TEST REPORT

Product Name	WCDMA Mobile Phone
Model Name	HUAWEI Y360-U03
Brand Name	HUAWEI
FCC ID	QISY360-U03
Applicant	Huawei Technologies Co., Ltd.
Manufacturer	Huawei Technologies Co., Ltd.
Date of issue	January 27, 2015

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 v01r02:** SAR Evaluation Considerations for Wireless Handsets. **KDB 941225 D01 SAR test for 3G devices v03:** SAR Measurement Procedures CDMA 20001x RTT, 1x Ev-Do, WCDMA, HSDPA/HSPA **KDB 941225 D06 Hotspot Mode SAR v02:** SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities **KDB 248227 D01 SAR meas for 802 11 a b g v01r02:** SAR Measurement Procedures for 802.11a/b/g Transmitters.
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 Kai Xu
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Director

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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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1.4. Manufacturer Information

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Address:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District Shenzhen 518129 P.R.China

1.5. Information of EUT

General Information

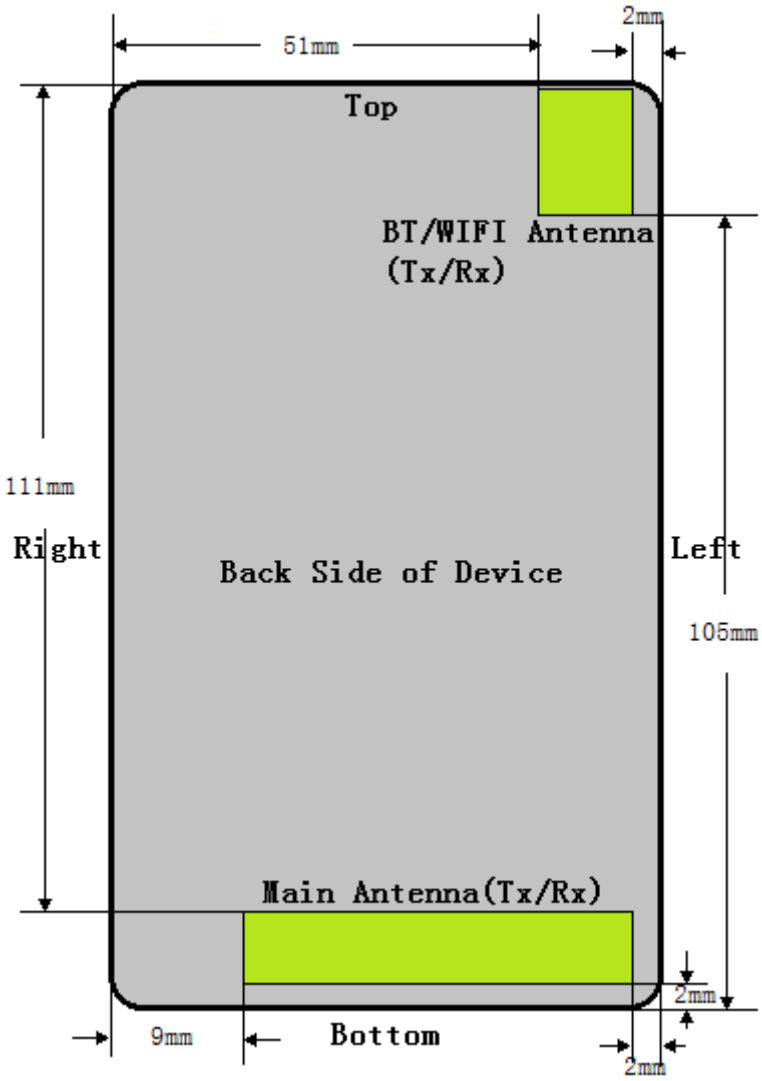
Device Type:	Portable Device	
Exposure Category:	Uncontrolled Environment / General Population	
State of Sample:	Prototype Unit	
Product IMEI:	SIM1: 866839020001958 SIM2: 866839020011155	
Hardware Version:	98360_1_12	
Software Version:	Y360-U03V100R001C01B105	
Antenna Type:	Internal Antenna	
Device Operating Configurations :		
Test Mode(s):	GSM 850/GSM 1900; UMTS Band II/UMTS Band V; 802.11b/g/n HT20/n HT40; Bluetooth 4.0;	
Test Modulation:	(GSM)GMSK; (UMTS)QPSK; (WiFi)CCK;	
Device Class:	B	
HSUPA UE Category:	6	
HSDPA UE Category:	24	
HSPA+ Category:	14	
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	
Test Frequency Range(s):	Mode	Tx (MHz)
	GSM 850	824.2 ~ 848.8
	GSM 1900	1850.2 ~ 1909.8
	UMTS Band II	1852.4 ~ 1907.6
	UMTS Band V	826.4 ~ 846.6
	WiFi	2412 ~2462
	Bluetooth 4.0	2402 ~2480
Power Class:	GSM 850: 4	
	GSM 1900: 1	
	UMTS Band II/V: 3	
Power Level:	GSM 850: level 5	
	GSM 1900: level 0	
	UMTS Band II/V: all up bits	

Auxiliary Equipment Details

Name	Model	Manufacturer	Capacity	S/N
Battery 1	HB5V1	BYD	1730mAh	BAAEA10F20013701
Battery 2	HB5V1	Lishen	1730mAh	CABEA20E20022598

Name	Model	Manufacturer
Earphone 1	HA1-3	GoerTek Inc.
Earphone 2	1293#+3283# 3.5MM-150	QUANCHENG
Earphone 3	MEMD1532B528000	Jiangxi lianchuang hongsheng ELECTRONIC CO.,LTD

1.6. EUT Antenna Locations



Mobile Hotspot Sides for SAR Testing

Mode	Back Side	Front Side	Left Edge	Right Edge	Top Edge	Bottom Edge
GSM 850	Yes	Yes	Yes	Yes	N/A	Yes
GSM 1900	Yes	Yes	Yes	Yes	N/A	Yes
UMTS Band II	Yes	Yes	Yes	Yes	N/A	Yes
UMTS Band V	Yes	Yes	Yes	Yes	N/A	Yes
2.4GHz WLAN	Yes	Yes	Yes	N/A	Yes	N/A
Note: When the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.						

1.7. 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	Left Cheek	251/848.8	0.724	0.803
GSM 1900	Left Cheek	661/1880	0.445	0.509
UMTS Band II	Left Cheek	9262/1852.4	0.844	0.978
UMTS Band V	Right Cheek	4233/846.6	0.920	1.096
WiFi(802.11b)	Right Cheek	11/2462	0.491	0.501

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)
GSM 850	Back Side	251/848.8	0.885	0.982
GSM 1900	Back Side	661/1880	0.415	0.474
UMTS Band II	Back Side	9538/1907.6	1.300	1.343
UMTS Band V	Back Side	4233/846.6	1.180	1.404
WiFi(802.11b)	Back Side	11/2462	0.255	0.260

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)
GPRS 850, 4 Txslots	Back Side	251/848.8	1.030	1.094
GPRS 1900, 4 Txslots	Back Side	810/1909.8	0.904	1.089
UMTS Band II	Back Side	9538/1907.6	1.300	1.343
UMTS Band V	Back Side	4233/846.6	1.180	1.404
WiFi(802.11b)	Back Side	11/2462	0.255	0.260

1.8. Test Date

The test performed from December 28, 2014 to January 7, 2015.

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.

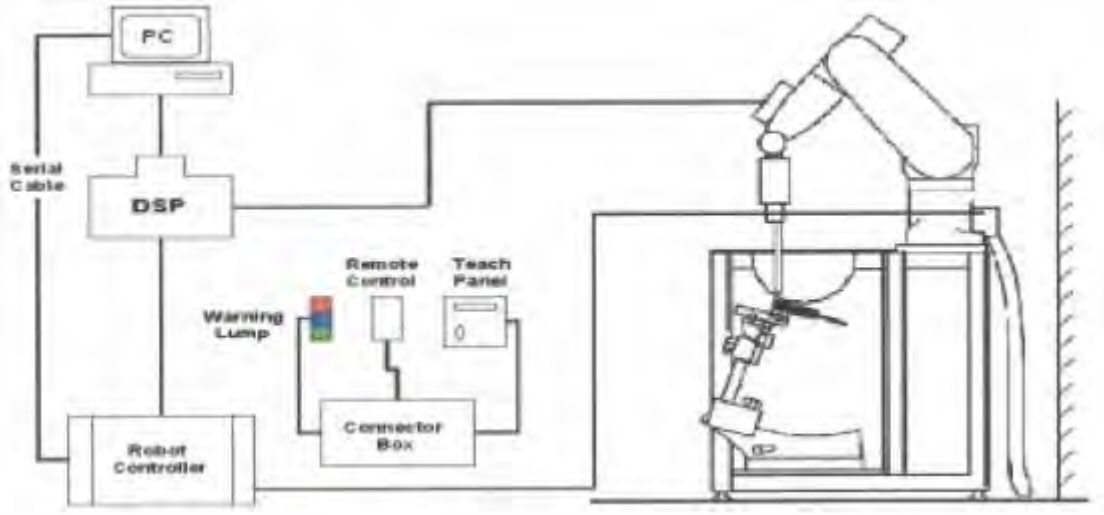


Figure 1 SAR Lab Test Measurement Set-up

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

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

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

ρ = equivalent tissue density in g/cm^3

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

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

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

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

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

3. Laboratory Environment

Table 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

MIXTURE%	FREQUENCY(Brain) 2450MHz
Water	62.7
Glycol	36.8
Salt	0.5
Dielectric Parameters Target Value	f=2450MHz ε=39.2 σ=1.80

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

MIXTURE%	FREQUENCY(Body) 2450MHz
Water	73.2
Glycol	26.7
Salt	0.1
Dielectric Parameters Target Value	f=2450MHz ε=52.7 σ=1.95

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)	2014-12-28	21.5	41.4	0.93	41.5	0.90	-0.24	3.33
1900MHz (head)	2015-01-07	21.5	39.6	1.43	40.0	1.40	-1.00	2.14
2450MHz (head)	2015-01-03	21.5	38.6	1.81	39.2	1.80	-1.53	0.56
835MHz (body)	2014-12-31	21.5	55.9	0.99	55.2	0.97	1.27	2.06
1900MHz (body)	2015-01-06	21.5	53.1	1.52	53.3	1.52	-0.38	0.00
2450MHz (body)	2015-01-04	21.5	52.1	1.99	52.7	1.95	-1.14	2.05

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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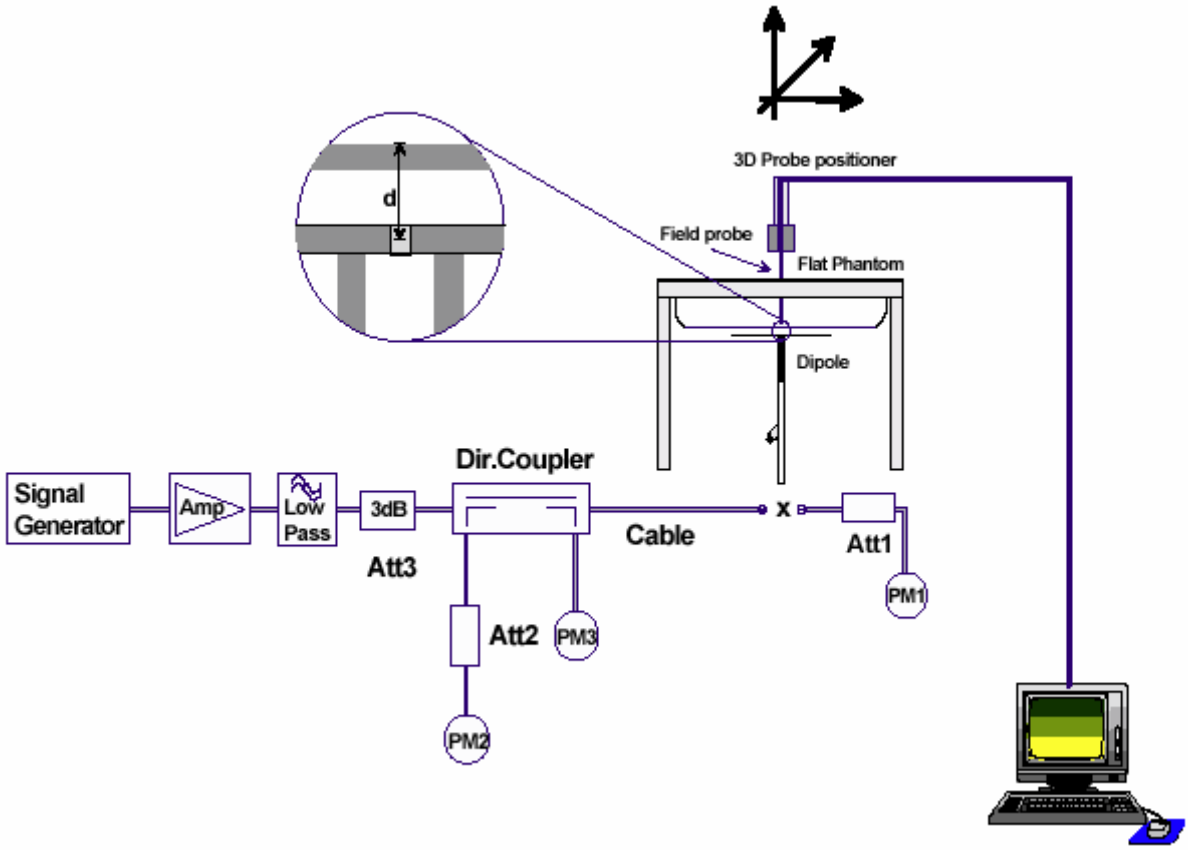


Figure 6 System Check Set-up

5.2. System Check Results

Table 6: System Check in Head Tissue Simulating Liquid

Frequency	Test Date	Dielectric Parameters		250mW Measured SAR_{1g}	1W Normalized SAR_{1g}	1W Target SAR_{1g}	Limit (±10% Deviation)
		ε_r	σ(s/m)	(W/kg)			
835MHz	2014-12-28	41.4	0.93	2.44	9.76	9.54	2.31%
1900MHz	2015-01-07	39.6	1.43	9.48	37.92	39.20	-3.27%
2450MHz	2015-01-03	38.6	1.81	13.70	54.80	52.50	4.38%
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		250mW Measured SAR_{1g}	1W Normalized SAR_{1g}	1W Target SAR_{1g}	Limit (±10% Deviation)
		ε_r	σ(s/m)	(W/kg)			
835MHz	2014-12-31	55.9	0.99	2.41	9.64	9.54	1.05%
1900MHz	2015-01-06	53.1	1.52	9.93	39.72	40.00	-0.70%
2450MHz	2015-01-04	52.1	1.99	12.50	50.00	52.40	-4.58%
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.

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 ≥ 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

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. 3G SAR Test Reduction Procedure

In the following procedures, the mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.3 This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

6.4.2.2. Output power Verification

Maximum output power is verified on the high, middle and low channels according to procedures described in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all “1’s” for WCDMA/HSDPA or by applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HSDPA, HSPA) are requied in the SAR report. All configurations that are not supported by the handset or cannot be measured due to technical or equipment limitations must be clearly identified.

6.4.2.3. Head SAR

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure.

6.4.2.4. Body-Worn Accessory SAR

SAR for body-worn accessory configurations is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreaing code or DPDCHn, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When more than 2 DPDCHn are supported by the handset, it may be necessary to configure additional DPDCHn using FTM (Factory Test Mode) or other chipset based test approaches with parameters similar to those used in 384 kbps and 768 kbps RMC.

6.4.2.5. Handsets with Release 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSDPA using the HSDPA body SAR procedures in the “Release 5 HSDPA Data Devices” section of this document, for the highest reported SAR body-worn accessory exposure configuration in 12.2 kbps RMC. Handsets with both HSDPA and HSUPA are tested according to Release 6 HSPA test procedures.

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

Note2: CM=1 for β_c/β_d =12/15, β_{hs}/β_c=24/15.

Note3: 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.

6.4.3. HSUPA Test Configuration

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSPA using the HSPA body SAR procedures in the “Release 6 HSPA Data Devices” section of this document, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When VOIP is applicable for next to the ear head exposure in HSPA, the 3G SAR test reduction procedure is applied to HSPA with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body-worn accessory measurements is tested for next to the ear head exposure.

Due to inner loop power control requirements in HSPA, a communication test set is required for output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSPA are configured according to the β values indicated in Table 2 and other applicable procedures

described in the 'WCDMA Handset' and 'Release 5 HSDPA Data Devices' sections of this document

Table 10：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 $\Leftrightarrow$ $A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$.

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 11: 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)

6.4.3.1. HSPA, HSPA+ and DC-HSDPA Test Configuration

measurement is required for HSPA, HSPA+ or DC-HSDPA, a KDB inquiry is required to confirm that the wireless mode configurations in the test setup have remained stable throughout the SAR measurements.35 Without prior KDB confirmation to determine the SAR results are acceptable, a PBA is required for TCB approval.
SAR test exclusion for HSPA, HSPA+ and DC-HSDPA is determined according to the following:
1) The HSPA procedures are applied to configure 3GPP Rel. 6 HSPA devices in the required sub-test mode(s) to determine SAR test exclusion.
2) SAR is required for Rel. 7 HSPA+ when SAR is required for Rel. 6 HSPA; otherwise, the 3G SAR test reduction procedure is applied to (uplink) HSPA+ with 12.2 kbps RMC as the primary mode.36 Power is measured for HSPA+ that supports uplink 16 QAM according to configurations in Table C.11.1.4 of 3GPP TS 34.121-1 to determine SAR test reduction.
3) SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.
4) Regardless of whether a PBA is required, the following information must be verified and included in the SAR report for devices supporting HSPA, HSPA+ or DC-HSDPA: a) The output power measurement results and applicable release version(s) of 3GPP TS 34.121.

i) Power measurement difficulties due to test equipment setup or availability must be resolved between the grantee and its test lab.

b) The power measurement results are in agreement with the individual device implementation and specifications. When Enhanced MPR (E-MPR) applies, the normal MPR targets may be modified according to the Cubic Metric (CM) measured by the device, which must be taken into consideration.
c) The UE category, operating parameters, such as the β and Δ values used to configure the device for testing, power setback procedures described in 3GGPP TS 34.121 for the power measurements, and HSPA/HSPA+ channel conditions (active and stable) for the entire duration of the measurement according to the required E-TFCI and AG index values.

5) When SAR measurement is required, the test configurations, procedures and power measurement results must be clearly described to confirm that the required test parameters are used, including E-TFCI and AG index stability and output power conditions.

Table 12: 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. WiFi Test Configuration

For WLAN SAR testing, WLAN engineering testing software installed on the DUT can provide continuous transmitting RF signal. The Tx power is set to 16 for 802.11 b mode by software. This RF signal utilized in SAR measurement has almost 100% duty cycle and its crest factor is 1.

For the 802.11b/g/n SAR tests, a communication link is set up with the test mode software for WiFi mode test. During the test, at the each test frequency channel, the EUT is operated at the RF continuous emission mode. Each channel should be tested at the lowest data rate. Testing at higher data rates is not required when the maximum average output power is less than 0.25dB higher than those measured at the lowest data rate.

802.11b/g/n operating modes are tested independently according to the service requirements in each

frequency band. 802.11b/g/n modes are tested on the maximum average output channel.

SAR is not required for 802.11g/n channels when the maximum average output power is less than 0.25dB higher than that measured on the corresponding 802.11b channels.

7. Test Results

7.1. Conducted Power Results

Table 13: Conducted Power Measurement Results

GSM 850		Burst Conducted Power(dBm)			/	Average power(dBm)		
		Channel/Frequency(MHz)				Channel/Frequency(MHz)		
		128/824.2	190/836.6	251/848.8		128/824.2	190/836.6	251/848.8
GSM		32.62	32.61	32.55	-9.03dB	23.59	23.58	23.52
GPRS (GMSK)	1Txslot	32.67	32.61	32.52	-9.03dB	23.64	23.58	23.49
	2Txslots	31.12	31.15	31.09	-6.02dB	25.10	25.13	25.07
	3Txslots	29.85	29.84	29.80	-4.26dB	25.59	25.58	25.54
	4Txslots	28.77	28.76	28.74	-3.01dB	**25.76**	**25.75**	**25.73**
GSM 1900		**Burst Conducted Power(dBm)**			**/**	**Average power(dBm)**		
		Channel/Frequency(MHz)				Channel/Frequency(MHz)		
		512/1850.2	661/1880	810/1909.8		512/1850.2	661/1880	810/1909.8
GSM		30.01	29.92	29.77	-9.03dB	20.98	20.89	20.74
GPRS (GMSK)	1Txslot	30.02	29.87	29.75	-9.03dB	20.99	20.84	20.72
	2Txslots	29.24	29.09	29.01	-6.02dB	23.22	23.07	22.99
	3Txslots	27.41	27.30	27.29	-4.26dB	23.15	23.04	23.03
	4Txslots	26.27	26.23	26.19	-3.01dB	**23.26**	**23.22**	**23.18**

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		Conducted Power (dBm)		
		Channel/Frequency(MHz)		
		9262/1852.4	9400/1880	9538/1907.6
RMC	12.2kbps RMC	23.36	23.65	23.86
	64kbps RMC	23.25	23.43	23.74
	144kbps RMC	23.36	23.50	23.75
	384kbps RMC	23.23	23.51	23.79
HSDPA	Sub - Test 1	23.47	23.64	23.86
	Sub - Test 2	23.33	23.43	23.92
	Sub - Test 3	23.36	23.65	23.86
	Sub - Test 4	23.27	23.71	23.87
HSUPA	Sub - Test 1	22.24	22.57	22.67
	Sub - Test 2	20.92	21.27	21.36
	Sub - Test 3	21.66	21.88	21.84
	Sub - Test 4	20.95	21.36	21.31
	Sub - Test 5	22.30	22.60	22.83
HSPA+	16QAM	22.08	22.26	22.71
UMTS Band V		Conducted Power (dBm)		
		Channel/Frequency(MHz)		
		4132/826.4	4183/836.6	4233/846.6
RMC	12.2kbps RMC	23.41	23.13	23.24
	64kbps RMC	23.25	23.08	23.18
	144kbps RMC	23.32	22.97	23.11
	384kbps RMC	23.37	23.05	23.11
HSDPA	Sub - Test 1	23.41	23.20	23.30
	Sub - Test 2	23.32	23.18	23.26
	Sub - Test 3	23.45	23.07	23.24
	Sub - Test 4	23.44	23.08	23.19
HSUPA	Sub - Test 1	22.30	22.01	22.25
	Sub - Test 2	20.97	20.72	20.97
	Sub - Test 3	21.54	21.18	21.46
	Sub - Test 4	21.00	20.83	21.06
	Sub - Test 5	22.36	22.06	22.28
HSPA+	16QAM	22.12	22.19	22.34

BT	AV Conducted Power (dBm)		
	Channel/Frequency(MHz)		
	Ch 0/2402 MHz	Ch 39/2441 MHz	Ch 78/2480 MHz
GFSK	6.80	7.30	7.50
π/4DQPSK	4.50	5.00	5.20
8DPSK	4.30	4.80	5.00
BT 4.0	Ch 0/2402 MHz	Ch 19/2440 MHz	Ch 39/2480 MHz
GFSK	-0.736	-0.519	-0.382

Mode	Channel/ Frequency(MHz)	Data rate (Mbps)	AV Power (dBm)
802.11b	1/2412	1	15.30
		2	15.21
		5.5	15.08
		11	14.71
	6/2437	1	15.76
		2	15.56
		5.5	15.38
		11	15.08
	11/2462	1	15.91
		2	15.85
		5.5	15.73
		11	15.36
802.11g	1/2412	6	14.07
		9	14.18
		12	14.11
		18	14.02
		24	13.56
		36	13.85
		48	12.21
		54	12.41
	6/2437	6	14.52
		9	14.23
		12	14.26
		18	14.60
		24	13.42
		36	13.54
		48	12.54
		54	12.58

	11/2462	6	14.67
		9	14.01
		12	14.50
		18	14.50
		24	13.24
		36	13.14
		48	12.24
		54	12.25
802.11n HT20	1/2412	MCS0	12.03
		MCS1	12.75
		MCS2	12.70
		MCS3	11.54
		MCS4	11.21
		MCS5	10.89
		MCS6	10.65
		MCS7	9.66
	6/2437	MCS0	12.46
		MCS1	12.54
		MCS2	12.45
		MCS3	11.51
		MCS4	11.87
		MCS5	10.55
		MCS6	10.75
		MCS7	9.44
	11/2462	MCS0	12.67
		MCS1	12.87
		MCS2	12.34
		MCS3	11.45
		MCS4	11.23
		MCS5	10.54
		MCS6	10.23
		MCS7	9.70
802.11n HT40	3/2422	MCS0	10.52
		MCS1	10.54
		MCS2	10.77
		MCS3	9.89
		MCS4	9.32
		MCS5	9.77
		MCS6	8.47
		MCS7	8.12
	6/2437	MCS0	10.7
		MCS1	10.21
		MCS2	10.78

		MCS3	9.56
		MCS4	9.63
		MCS5	9.15
		MCS6	8.27
		MCS7	8.66
	9/2452	MCS0	10.81
		MCS1	10.89
		MCS2	10.78
		MCS3	9.12
		MCS4	9.78
		MCS5	9.34
		MCS6	8.23
		MCS7	8.75

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:

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

Band	Configuration	Frequency (MHz)	Maximum Power (dBm)	Separation Distance (mm)	Calculation Result	SAR Exclusion Thresholds	Standalone SAR
Bluetooth	Head	2480	8	5	1.99	3.0	No
	Body	2480	8	10	0.99	3.0	No
Wifi 2.4GHz	Head	2462	16	5	12.49	3.0	Yes
	Body	2462	16	10	6.25	3.0	Yes

7.3. SAR Test Results

7.3.1. GSM 850

Table 14: SAR Values [GSM 850 (GSM/GPRS)]

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	32.55	0.070	0.724	1.11	0.803	Figure.13
	190/836.6	GSM	1:8.3	33	32.61	-0.100	0.714	1.09	0.781	Figure.14
	128/824.2	GSM	1:8.3	33	32.62	0.060	0.708	1.09	0.773	Figure.15
Left Tilt	190/836.6	GSM	1:8.3	33	32.61	0.070	0.456	1.09	0.499	Figure.16
Right Cheek	190/836.6	GSM	1:8.3	33	32.61	-0.140	0.691	1.09	0.756	Figure.17
Right Tilt	190/836.6	GSM	1:8.3	33	32.61	-0.071	0.518	1.09	0.567	Figure.18
Worst Case Position of Head With SIM 2										
Left Cheek	251/848.8	GSM	1:8.3	33	32.55	0.010	0.720	1.11	0.799	Figure.19
Worst Case Position of Head With Battery 2										
Left Cheek	251/848.8	GSM	1:8.3	33	32.55	-0.050	0.708	1.11	0.785	Figure.20
Test position of Body (Distance 10mm)										
Back Side	251/848.8	GSM	1:8.3	33	32.55	0.040	0.885	1.11	0.982	Figure.21
	190/836.6	GSM	1:8.3	33	32.61	0.016	0.883	1.09	0.966	Figure.22
	128/824.2	GSM	1:8.3	33	32.62	-0.034	0.885	1.09	0.966	Figure.23
Front Side	251/848.8	GSM	1:8.3	33	32.55	-0.041	0.768	1.11	0.852	Figure.24
	190/836.6	GSM	1:8.3	33	32.61	-0.018	0.757	1.09	0.828	Figure.25
	128/824.2	GSM	1:8.3	33	32.62	0.035	0.759	1.09	0.828	Figure.26
Test position of Body (Distance 10mm)										
Back Side	251/848.8	4Txslots	1:2.07	29	28.74	-0.021	0.970	1.06	1.030	Figure.27
	190/836.6	4Txslots	1:2.07	29	28.76	0.139	0.955	1.06	1.009	Figure.28
	128/824.2	4Txslots	1:2.07	29	28.77	0.010	0.953	1.05	1.005	Figure.29
Front Side	251/848.8	4Txslots	1:2.07	29	28.74	0.020	0.868	1.06	0.922	Figure.30
	190/836.6	4Txslots	1:2.07	29	28.76	-0.040	0.870	1.06	0.919	Figure.31
	128/824.2	4Txslots	1:2.07	29	28.77	-0.060	0.862	1.05	0.909	Figure.32
Left Edge	190/836.6	4Txslots	1:2.07	29	28.76	-0.069	0.495	1.06	0.523	Figure.33
Right Edge	190/836.6	4Txslots	1:2.07	29	28.76	-0.040	0.547	1.06	0.578	Figure.34

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	4Txslots	1:2.07	29	28.76	0.058	0.084	1.06	0.088	Figure.35
Worst Case Position of Body With SIM 2 (Distance 10mm)										
Back Side	251/848.8	4Txslots	1:2.07	29	28.74	-0.160	0.955	1.06	1.014	Figure.36
Worst Case Position of Body With Battery 2 (Distance 10mm)										
Back Side	251/848.8	4Txslots	1:8.3	29	28.74	0.060	1.010	1.06	1.072	Figure.37
Worst Case Position of Body (1st Repeated SAR, Distance 10mm)										
Back Side	251/848.8	4Txslots	1:2.07	29.00	28.74	-0.009	1.030	1.06	1.094	Figure.38

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 optional for such test configuration(s).

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

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 15: 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	1.010	1.030	1.02	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

Table 16: SAR Values [GSM 1900(GSM/GPRS)]

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	661/1880	GSM	1:8.3	30.5	29.92	0.041	0.439	1.14	0.502	Figure.39
Left Tilt	661/1880	GSM	1:8.3	30.5	29.92	0.100	0.159	1.14	0.182	Figure.40
Right Cheek	661/1880	GSM	1:8.3	30.5	29.92	-0.068	0.367	1.14	0.419	Figure.41
Right Tilt	661/1880	GSM	1:8.3	30.5	29.92	0.070	0.162	1.14	0.185	Figure.42
Worst Case Position of Head With SIM 2										
Left Cheek	661/1880	GSM	1:8.3	30.5	29.92	0.044	0.445	1.14	0.509	Figure.43
Worst Case Position of Head With Battery 2										
Left Cheek	661/1880	GSM	1:8.3	30.5	29.92	0.024	0.397	1.14	0.454	Figure.44
Test position of Body (Distance 10mm)										
Back Side	661/1880	GSM	1:8.3	30.5	29.92	0.130	0.415	1.14	0.474	Figure.45
Front Side	661/1880	GSM	1:8.3	30.5	29.92	0.010	0.332	1.14	0.379	Figure.46
Test position of Body (Distance 10mm)										
Back Side	810/1909.8	4Txslots	1:2.07	27	26.19	-0.027	0.872	1.21	1.051	Figure.47
	661/1880	4Txslots	1:2.07	27	26.23	-0.035	0.740	1.19	0.884	Figure.48
	512/1850.2	4Txslots	1:2.07	27	26.27	0.058	0.617	1.18	0.730	Figure.49
Front Side	661/1880	4Txslots	1:2.07	27	26.23	-0.020	0.555	1.19	0.663	Figure.50
Left Edge	661/1880	4Txslots	1:2.07	27	26.23	-0.100	0.228	1.19	0.272	Figure.51
Right Edge	661/1880	4Txslots	1:2.07	27	26.23	0.040	0.129	1.19	0.154	Figure.52
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	4Txslots	1:2.07	27	26.23	-0.030	0.406	1.19	0.485	Figure.53
Worst Case Position of Body With SIM 2 (Distance 10mm)										
Back Side	810/1909.8	4Txslots	1:2.07	27	26.19	-0.022	0.904	1.21	1.089	Figure.54
Worst Case Position of Body With Battery 2 (Distance 10mm)										
Back Side	810/1909.8	4Txslots	1:2.07	27	26.19	-0.032	0.875	1.21	1.054	Figure.55
Worst Case Position of Body (1st Repeated SAR, Distance 10mm)										
Back Side	810/1909.8	4Txslots	1:2.07	27	26.19	-0.026	0.874	1.21	1.053	Figure.56

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 optional for such test configuration(s).

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

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 17: SAR Measurement Variability Results [GSM 1900 (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	810/1909.8	0.904	0.874	1.03	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

7.3.3. UMTS Band II

Table 18: SAR Values [UMTS Band II (WCDMA/HSDPA/HSUPA)]

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	23.86	0.034	0.845	1.03	0.873	Figure.57
	9400/1880	RMC 12.2K	1:1	24	23.65	-0.043	0.825	1.08	0.894	Figure.58
	9262/1852.4	RMC 12.2K	1:1	24	23.36	0.060	0.844	1.16	0.978	Figure.59
Left Tilt	9400/1880	RMC 12.2K	1:1	24	23.65	0.020	0.313	1.08	0.339	Figure.60
Right Cheek	9400/1880	RMC 12.2K	1:1	24	23.65	0.043	0.698	1.08	0.757	Figure.61
Right Tilt	9400/1880	RMC 12.2K	1:1	24	23.65	0.170	0.335	1.08	0.363	Figure.62
Worst Case Position of Head With Battery 2										
Left Cheek	9262/1852.4	RMC 12.2K	1:1	24	23.36	0.022	0.819	1.16	0.949	Figure.63
Test position of Body (Distance 10mm)										
Back Side	9538/1907.6	RMC 12.2K	1:1	24	23.86	-0.026	1.190	1.03	1.229	Figure.64
	9400/1880	RMC 12.2K	1:1	24	23.65	-0.133	1.130	1.08	1.225	Figure.65
	9262/1852.4	RMC 12.2K	1:1	24	23.36	0.003	1.040	1.16	1.205	Figure.66
Front Side	9538/1907.6	RMC 12.2K	1:1	24	23.86	-0.110	0.918	1.03	0.948	Figure.67
	9400/1880	RMC 12.2K	1:1	24	23.65	0.020	0.794	1.08	0.861	Figure.68
	9262/1852.4	RMC 12.2K	1:1	24	23.36	-0.010	0.956	1.16	1.108	Figure.69
Left Edge	9400/1880	RMC 12.2K	1:1	24	23.65	-0.020	0.375	1.08	0.406	Figure.70
Right Edge	9400/1880	RMC 12.2K	1:1	24	23.65	0.033	0.195	1.08	0.211	Figure.71
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	23.65	-0.029	0.512	1.08	0.555	Figure.72
Worst Case Position of Body With Battery 2 (Distance 10mm)										
Back Side	9538/1907.6	RMC 12.2K	1:1	24	23.86	-0.100	1.270	1.03	1.312	Figure.73
Worst Case Position of Body With Earphone 1 (Distance 10mm)										
Back Side	9538/1907.6	RMC 12.2K	1:1	24	23.86	-0.124	1.300	1.03	1.343	Figure.74
Worst Case Position of Body With Earphone 2 (Distance 10mm)										
Back Side	9538/1907.6	RMC 12.2K	1:1	24	23.86	-0.045	1.280	1.03	1.322	Figure.75
Worst Case Position of Body With Earphone 3 (Distance 10mm)										
Back Side	9538/1907.6	RMC 12.2K	1:1	24	23.86	-0.184	1.140	1.03	1.177	Figure.76

Worst Case Position of Body With HSDPA (Distance 10mm)										
Back Side	9538/1907.6	Sub-Test 1	1:1	24	23.86	-0.102	0.907	1.03	0.937	Figure.77
Worst Case Position of SAR (1st Repeated SAR, Distance 10mm)										
Back Side	9538/1907.6	RMC 12.2K	1:1	24	23.86	-0.005	1.300	1.03	1.343	Figure.78

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 optional for such test configuration(s).

3. 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.

4. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

Table 19: 3G SAR Test Reduction Procedure [UMTS Band II (WCDMA/HSDPA/HSUPA)]

Test Position	Channel/ Frequency (MHz)	The highest reported SAR of primary mode	The maximum Allowed Power of primary mode (dBm)	The maximum Allowed Power of secondary mode (dBm)	Scaling Factor	The adjusted SAR
HSDPA						
Back Side	9538/1907.6	1.343	24	24	1	1.343
HSUPA						
Back Side	9538/1907.6	1.343	24	23	0.79	1.061

When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode

Table 20: 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)
Back Side	9538/1907.6	1.300	1.300	1.00	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

Table 21: SAR Values [UMTS Band V (WCDMA/HSDPA/HSUPA)]

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	24	23.24	0.170	0.878	1.19	1.046	Figure.79
	4183/836.6	RMC 12.2K	1:1	24	23.13	-0.080	0.730	1.22	0.892	Figure.80
	4132/826.4	RMC 12.2K	1:1	24	23.41	0.038	0.671	1.15	0.769	Figure.81
Left Tilt	4183/836.6	RMC 12.2K	1:1	24	23.13	0.033	0.446	1.22	0.545	Figure.82
Right Cheek	4233/846.6	RMC 12.2K	1:1	24	23.24	0.180	0.920	1.19	1.096	Figure.83
	4183/836.6	RMC 12.2K	1:1	24	23.13	-0.060	0.721	1.22	0.881	Figure.84
	4132/826.4	RMC 12.2K	1:1	24	23.41	-0.067	0.693	1.15	0.794	Figure.85
Right Tilt	4183/836.6	RMC 12.2K	1:1	24	23.13	0.020	0.542	1.22	0.662	Figure.86
Worst Case Position of Head With Battery 2										
Right Cheek	4233/846.6	RMC 12.2K	1:1	24	23.24	0.180	0.917	1.19	1.092	Figure.87
Test position of Body (Distance 10mm)										
Back Side	4233/846.6	RMC 12.2K	1:1	24	23.24	-0.040	1.130	1.19	1.346	Figure.88
	4183/836.6	RMC 12.2K	1:1	24	23.13	-0.019	1.100	1.22	1.344	Figure.89
	4132/826.4	RMC 12.2K	1:1	24	23.41	0.017	1.100	1.15	1.260	Figure.90
Front Side	4233/846.6	RMC 12.2K	1:1	24	23.24	0.018	1.040	1.19	1.239	Figure.91
	4183/836.6	RMC 12.2K	1:1	24	23.13	-0.010	0.924	1.22	1.129	Figure.92
	4132/826.4	RMC 12.2K	1:1	24	23.41	-0.013	0.901	1.15	1.032	Figure.93
Left Edge	4183/836.6	RMC 12.2K	1:1	24	23.13	0.011	0.457	1.22	0.558	Figure.94
Right Edge	4183/836.6	RMC 12.2K	1:1	24	23.13	-0.011	0.486	1.22	0.594	Figure.95
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	24	23.13	-0.025	0.081	1.22	0.099	Figure.96
Worst Case Position of Body With Battery 2 (Distance 10mm)										
Back Side	4233/846.6	RMC 12.2K	1:1	24	23.24	-0.014	0.996	1.19	1.186	Figure.97
Worst Case Position of Body With Earphone 1 (Distance 10mm)										
Back Side	4233/846.6	RMC 12.2K	1:1	24	23.24	0.036	0.932	1.19	1.110	Figure.98
Worst Case Position of Body With Earphone 2 (Distance 10mm)										
Back Side	4233/846.6	RMC 12.2K	1:1	24	23.24	-0.010	0.868	1.19	1.034	Figure.99

Worst Case Position of Body With Earphone 3 (Distance 10mm)										
Back Side	4233/846.6	RMC 12.2K	1:1	24	23.24	-0.009	0.976	1.19	1.163	Figure.100
Worst Case Position of Body With HSDPA (Distance 10mm)										
Back Side	4233/846.6	Sub-Test 1	1:1	24	23.30	-0.020	0.953	1.17	1.120	Figure.101
Worst Case Position of SAR (1st Repeated SAR, Distance 10mm)										
Back Side	4233/846.6	RMC 12.2K	1:1	24	23.24	0.02	1.180	1.19	1.404	Figure.102

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 optional for such test configuration(s).

3. 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 22: 3G SAR Test Reduction Procedure [UMTS Band V (WCDMA/HSDPA/HSUPA)]

Test Position	Channel/ Frequency (MHz)	The highest reported SAR of primary mode	The maximum Allowed Power of primary mode (dBm)	The maximum Allowed Power of secondary mode (dBm)	Scaling Factor	The adjusted SAR
HSDPA						
Back Side	4233/846.6	1.404	24	24	1	1.404
HSUPA						
Back Side	4233/846.6	1.404	24	23	0.79	1.109

When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode

Table 23: 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	1.130	1.180	1.04	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

7.3.5. WiFi

Table 24: SAR Values (802.11b/g/n)

Test Position	Channel/ Frequency (MHz)	Service	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit of SAR 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	11/2462	DSSS	1:1	16	15.91	-0.022	0.413	1.02	0.422	Figure.103
Left Tilt	11/2462	DSSS	1:1	16	15.91	0.026	0.384	1.02	0.392	Figure.104
Right Cheek	11/2462	DSSS	1:1	16	15.91	-0.072	0.491	1.02	0.501	Figure.105
Right Tilt	11/2462	DSSS	1:1	16	15.91	0.021	0.483	1.02	0.493	Figure.106
Worst Case Position of Head With Battery 2										
Right Cheek	11/2462	DSSS	1:1	16	15.91	-0.13	0.468	1.02	0.478	Figure.107
Test position of Body (Distance 10mm)										
Back Side	11/2462	DSSS	1:1	16	15.91	-0.129	0.255	1.02	0.260	Figure.108
Front Side	11/2462	DSSS	1:1	16	15.91	0.052	0.140	1.02	0.143	Figure.109
Left Edge	11/2462	DSSS	1:1	16	15.91	0.028	0.168	1.02	0.172	Figure.110
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	11/2462	DSSS	1:1	16	15.91	0.001	0.253	1.02	0.258	Figure.111
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)										
Back Side	11/2462	DSSS	1:1	16	15.91	0.078	0.177	1.02	0.181	Figure.112

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 optional for such test configuration(s).

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

7.4. Simultaneous Transmission Conditions

Air-Interface	Band (MHz)	Type	Simultaneous Transmissions Note: Not to be tested	Voice Over Digital Transport (Data)
GSM	850	Voice	Yes WiFi or BT	NA
	1900	Voice		NA
	GPRS	Data	Yes WiFi or BT	NA
WCDMA	Band II	Voice	Yes WiFi or BT	NA
	Band V	Voice	Yes WiFi or BT	NA
	HSDPA/HSUPA/ RMC/HSPA+	Data	Yes WiFi or BT	NA
WiFi	2450	Data	Yes GSM,GPRS, HSDPA/HSUPA/RMC/ HSPA+	Yes
Bluetooth (BT)	2450	Data	Yes GSM,GPRS, HSDPA/HSUPA/RMC/ HSPA+	NA

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.

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

Band	Configuration	Frequency (MHz)	Maximum Power (dBm)	Separation Distance (mm)	Estimated SAR (W/kg)
Bluetooth	Head	2480	8	5	0.265
	Body	2480	8	10	0.132

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.

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

Simultaneous transimition SAR For Bluetooth and GSM/UMTS

SAR_{1g}(W/kg) / Test Position	GSM 850	GSM 1900	UMTS Band II	UMTS Band V	Bluetooth	MAX. ΣSAR_{1g}	Peak location separation ratio
Left, Touch	0.803	0.509	0.978	**1.046**	**0.265**	1.311	No
Left, Tilt	0.499	0.182	0.339	**0.545**	**0.265**	0.810	No
Right, Touch	0.756	0.419	0.757	**1.096**	**0.265**	1.361	No
Right, Tilt	0.567	0.185	0.363	**0.662**	**0.265**	0.927	No
Back Side	1.094	1.089	1.343	**1.404**	**0.132**	1.536	No
Front Side	0.922	0.663	1.108	**1.239**	**0.132**	1.371	No
Left Edge	0.523	0.272	0.406	**0.558**	**0.132**	0.690	No
Right Edge	0.578	0.154	0.211	**0.594**	**0.132**	0.726	No
Top Edge	N/A	N/A	N/A	N/A	**0.132**	0.132	No
Bottom Edge	0.088	0.485	**0.555**	0.099	**0.132**	0.687	No

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

MAX. ΣSAR_{1g} = 1.536 W/kg <1.6 W/kg, So the Simultaneous transimition SAR with volum scan are not required for BT and GSM/UMTS antenna.

Simultaneous transimition SAR For WiFi and GSM/UMTS

SAR_{1g}(W/kg) / Test Position	GSM 850	GSM 1900	UMTS Band II	UMTS Band V	WiFi	MAX. ΣSAR_{1g}	Peak location separation ratio
Left, Touch	0.803	0.509	0.978	**1.046**	**0.422**	1.468	No
Left, Tilt	0.499	0.182	0.339	**0.545**	**0.392**	0.937	No
Right, Touch	0.756	0.419	0.757	**1.096**	**0.501**	1.597	No
Right, Tilt	0.567	0.185	0.363	**0.662**	**0.493**	1.155	No
Back Side	1.094	1.089	1.343	**1.404**	**0.260**	1.664	Yes
Front Side	0.922	0.663	1.108	**1.239**	**0.143**	1.382	No
Left Edge	0.523	0.272	0.406	**0.558**	**0.172**	0.730	No
Right Edge	0.578	0.154	0.211	**0.594**	N/A	0.594	No
Top Edge	N/A	N/A	N/A	N/A	**0.258**	0.258	No
Bottom Edge	0.088	0.485	**0.555**	0.099	N/A	0.555	No

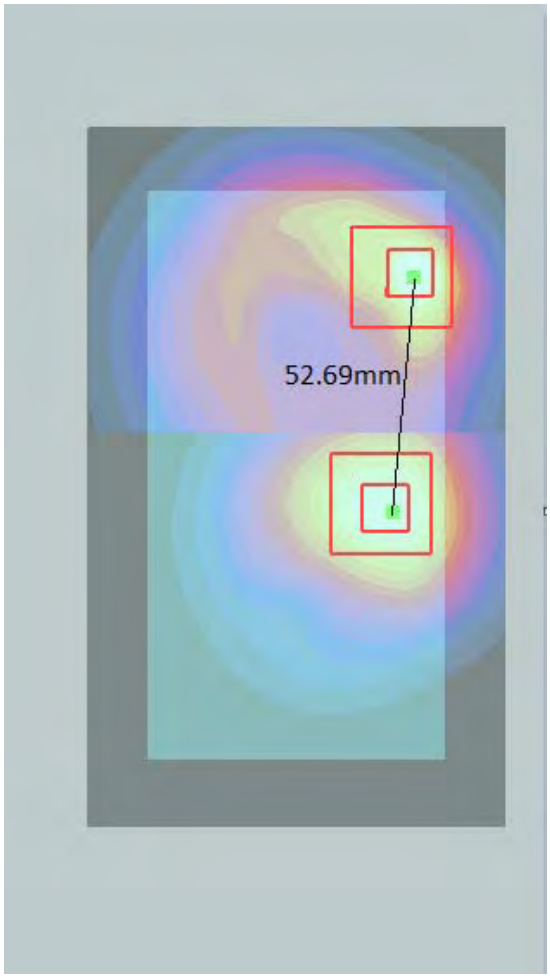
Note: 1.The value with blue color is the maximum ΣSAR_{1g} Value.
2. MAX. ΣSAR_{1g} =Unlicensed SAR_{MAX} +Licensed SAR_{MAX}

Simultaneous Transmission for test position of Back Side

SAR_{1g}(W/kg) / Test Position	GSM 850	GSM 1900	UMTS Band II	UMTS Band V	WiFi	MAX. ΣSAR_{1g}	Peak location separation ratio
Back Side	1.094	/	/	**/**	**0.260**	1.354	NA
	/	1.089	/	/	**0.260**	1.349	NA
	/	/	1.343	/	**0.260**	1.603	NA
	/	/	/	1.404	**0.260**	1.664	NA

- **Pair Simultaneous Transmission for UMTS Band II and WiFi**

The position $SAR_{WCDMA\ II}$ is (x_1=4.017, y_1=-10.5,z_1= -202.1),
The position SAR_{WiFi} is (x_2= 8.517, y_2=42, z_2= -202.3)
so the distance between the $SAR_{Max.WCDMA\ II}$ and $SAR_{Max.WiFi}$ is 52.69mm.

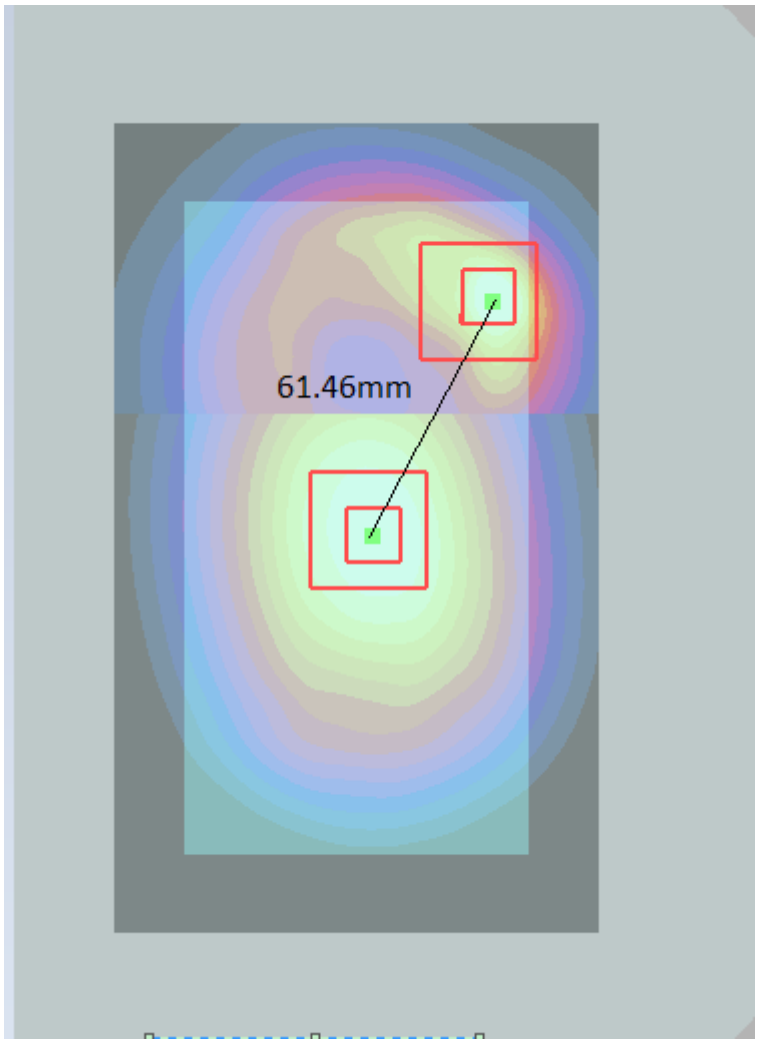


$$\textbf{Ratio} = \frac{(SAR_1 + SAR_2)^{1.5}}{\textbf{(peak location separation, mm)}}$$

The peak location separation ratio is 0.0385, so the Simultaneous transimition SAR with volum scan are not required for WiFi and UMTS Band II antenna.

- **Pair Simultaneous Transmission for UMTS Band V and WiFi**

The position $SAR_{WCDMA\ V}$ is (x_1=-9.5, y_1=-16.5,z_1= -207.8),
The position SAR_{WiFi} is (x_2= 8.517, y_2=42,z_2= -202.3)
so the distance between the $SAR_{Max.WCDMA\ V}$ and $SAR_{Max.WiFi}$ is 61.46mm.



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

The peak location separation ratio is 0.035, so the Simultaneous transimition SAR with volum scan are not required for WiFi and UMTS Band V antenna.

8. Measurement Uncertainty

The measured SAR were <1.5 W/kg for all frequency bands, therefore per KDB Publication 865664 D01v01r03, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2003 is not required in SAR reports.

9. Main Test Instruments

Table 25: List of Main Instruments

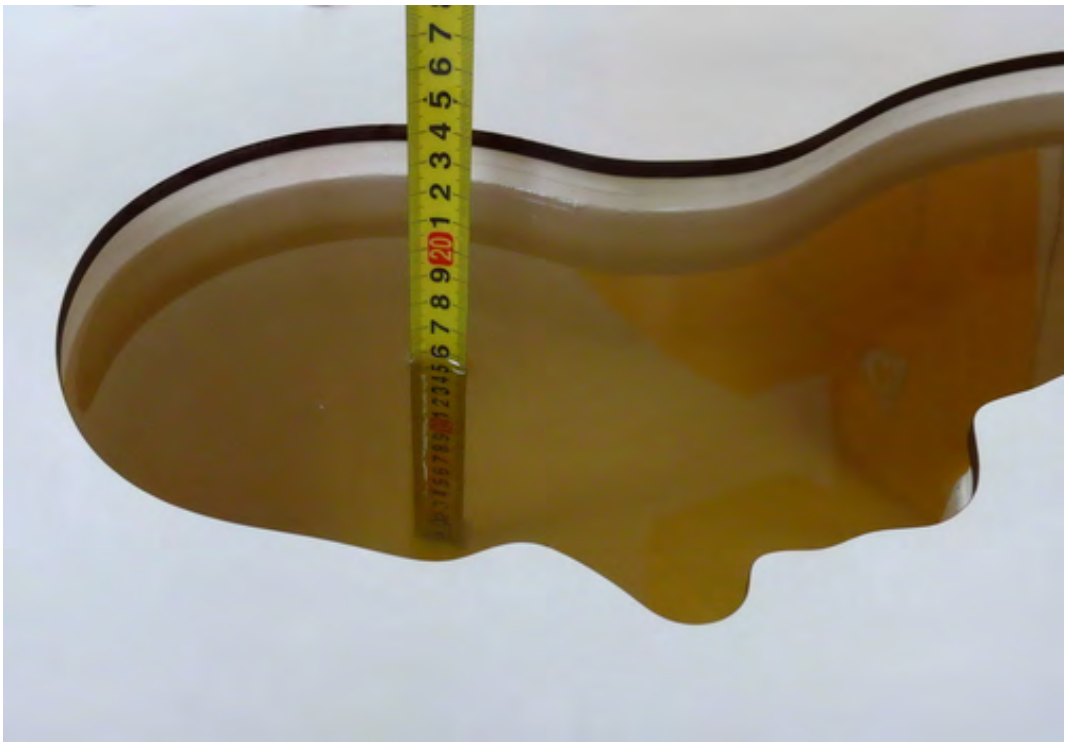
No.	Name	Type	Serial Number	Calibration Date	Expiration Time	Valid Period
01	Network analyzer	E5071B	MY42404014	2014-05-26	2015-05-25	1 year
02	Dielectric Probe Kit	Agilent 85070E	US44020115	No Calibration Requested		
03	Power meter	Agilent E4417A	GB41291714	2014-03-09	2015-03-08	1 year
04	Power sensor	Agilent N8481H	MY50350004	2014-09-24	2015-09-23	1 year
05	Power sensor	E9327A	US40441622	2014-01-20	2015-01-19	1 year
06	Signal Generator	HP 8341B	2730A00804	2014-09-02	2015-09-01	1 year
07	Dual directional coupler	778D-012	50519	2014-03-24	2015-03-23	1 year
08	Dual directional coupler	777D	50146	2014-03-24	2015-03-23	1 year
09	Amplifier	IXA-020	0401	No Calibration Requested		
10	BTS	E5515C	MY48360988	2014-12-18	2015-12-17	1 year
11	E-field Probe	EX3DV4	3977	2014-02-17	2015-02-16	1 year
12	DAE	DAE4	1291	2014-11-14	2015-11-13	1 year
13	Validation Kit 835MHz	D835V2	4d020	2014-08-28	2017-08-27	3 years
14	Validation Kit 1900MHz	D1900V2	5d060	2014-09-01	2017-08-31	3 years
15	Validation Kit 2450MHz	D2450V2	786	2014-09-01	2017-08-31	3 years
16	Temperature Probe	JM222	AA1009129	2014-03-13	2015-03-12	1 year
17	Hygrothermograph	WS-1	64591	2014-09-25	2015-09-24	1 year

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

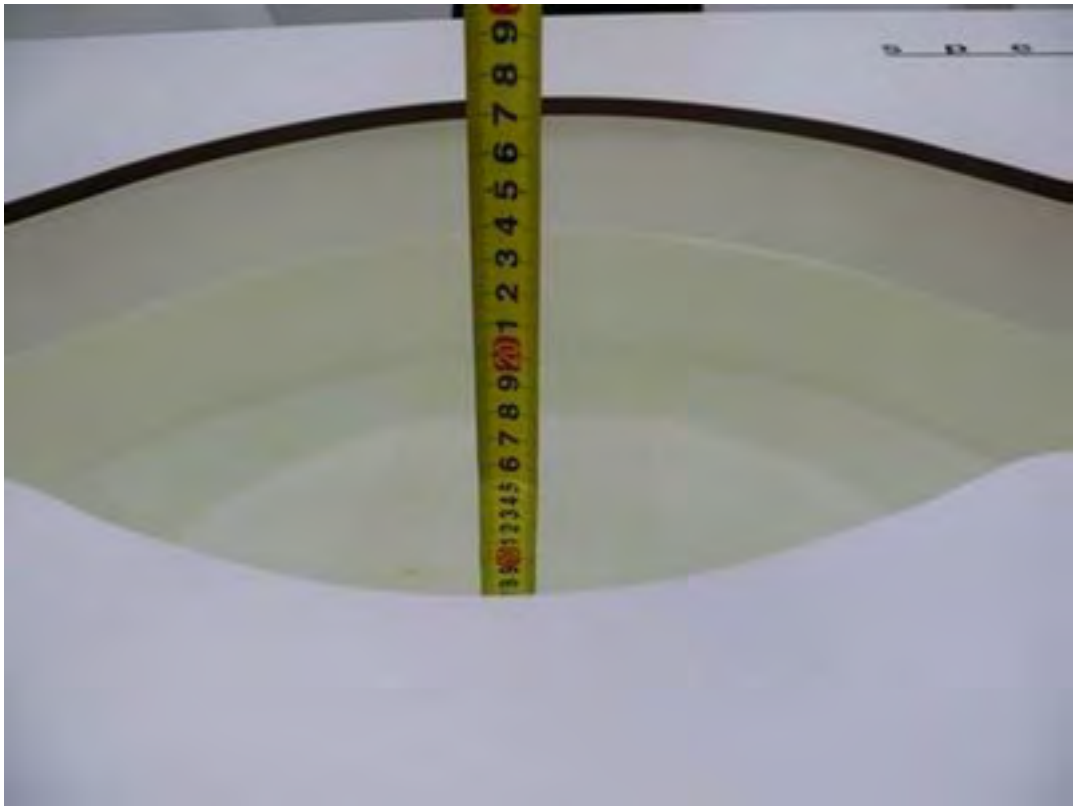
ANNEX A: Test Layout

Picture 1: Specific Absorption Rate Test Layout

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

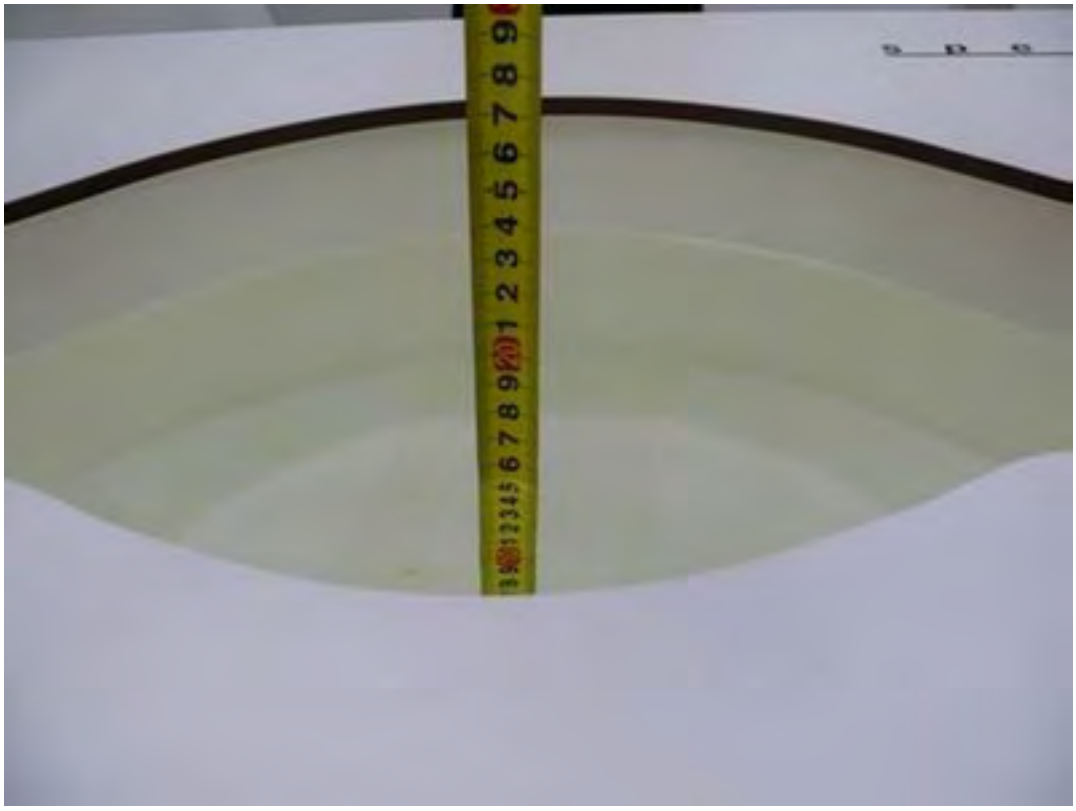


Picture 3: Liquid depth in the head Phantom (835MHz, 15.3cm depth)



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)



Picture 6: Liquid depth in the flat Phantom (2450 MHz, 15.3cm depth)

Picture 7: Liquid depth in the head Phantom (2450 MHz, 15.4cm 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: 12/28/2014

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

Medium parameters used: f = 835 MHz; σ = 0.93 mho/m; ε_r = 41.4; 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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

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

Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

d=15mm, Pin=250mW/Area Scan (41x121x1): Measurement grid: dx=1.500 mm, dy=1.500 mm

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

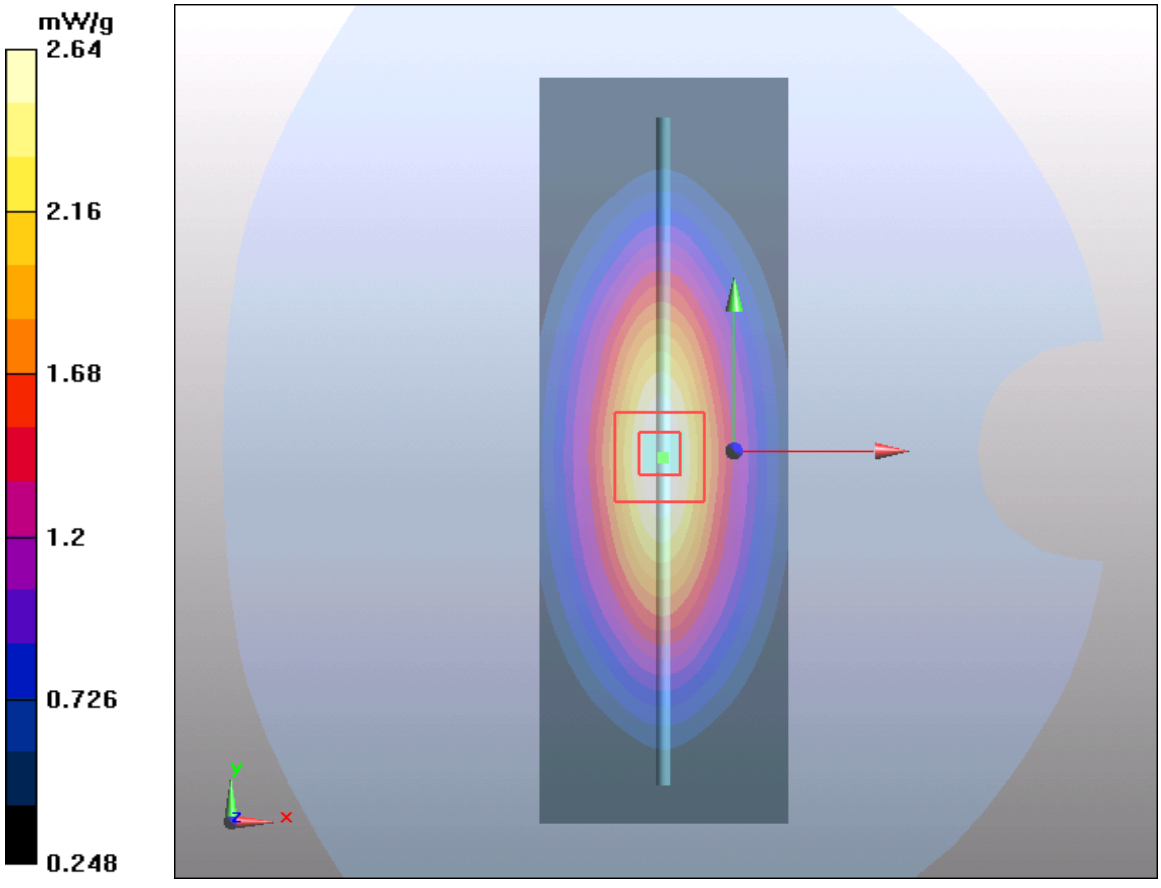


Figure 7 System Performance Check 835MHz 250mW

System Performance Check at 835 MHz Body TSL

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

Date: 12/31/2014

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

Medium parameters used: f = 835 MHz; σ = 0.99 mho/m; ε_r = 55.9; 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

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

Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

d=15mm, Pin=250mW/Area Scan (41x121x1): Measurement grid: dx=1.500 mm, dy=1.500 mm

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

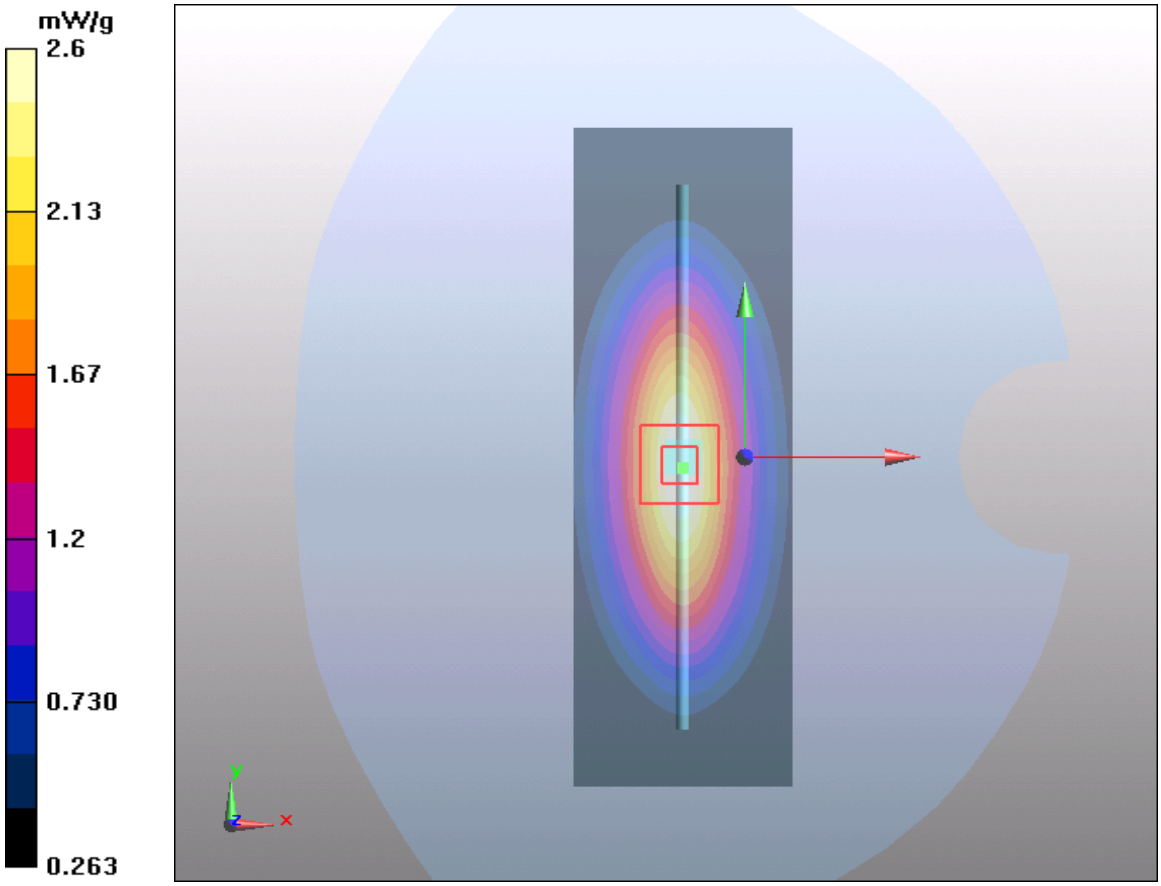


Figure 8 System Performance Check 835MHz 250Mw

System Performance Check at 1900 MHz Head TSL

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

Date: 1/7/2015

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 - SN3977; ConvF(7.97, 7.97, 7.97); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

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

Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=250mW/Area Scan (41x71x1): Measurement grid: dx=1.500 mm, dy=1.500 mm

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

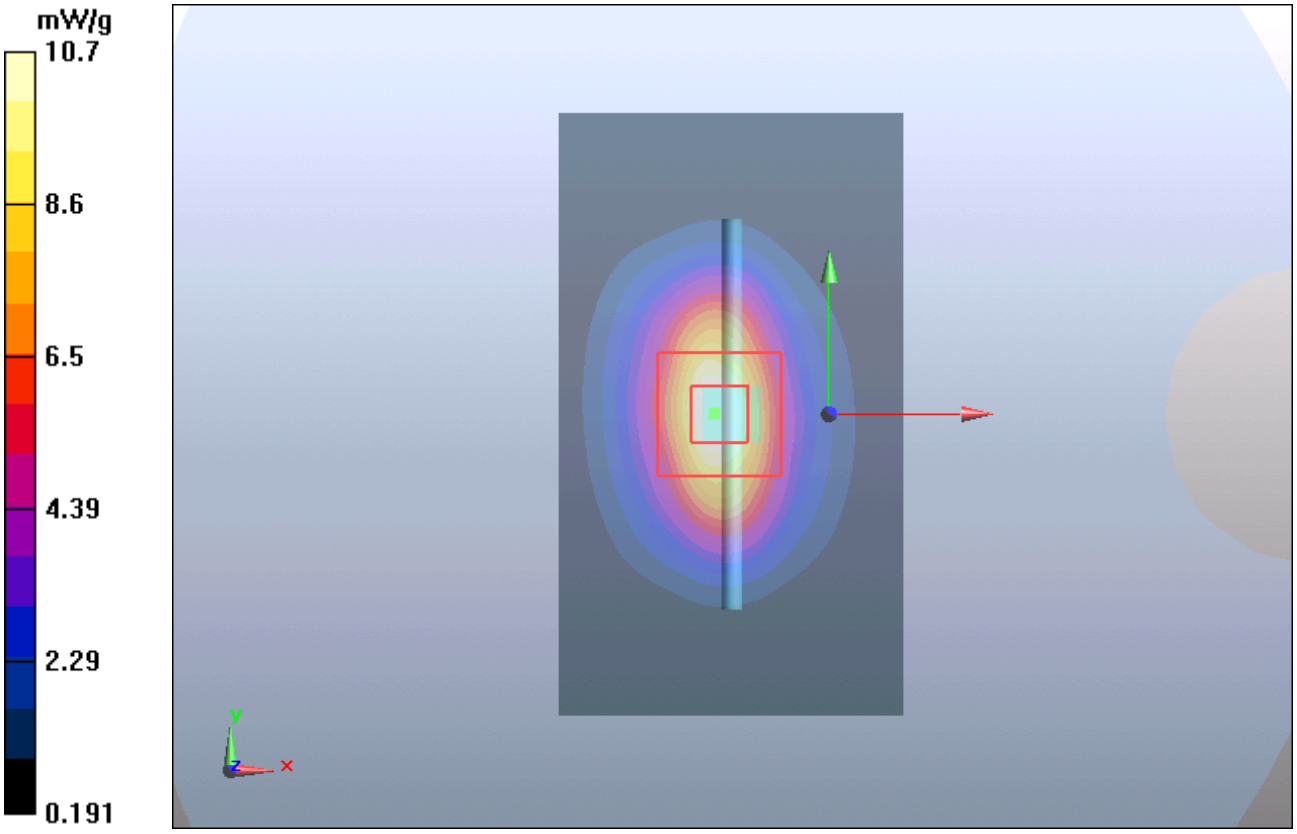


Figure 9 System Performance Check 1900MHz 250mW

System Performance Check at 1900 MHz Body TSL

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

Date: 1/6/2015

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

Medium parameters used: f = 1900 MHz; σ = 1.52 mho/m; ε_r = 53.1; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

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

Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=250mW/Area Scan (41x71x1): Measurement grid: dx=1.500 mm, dy=1.500 mm

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

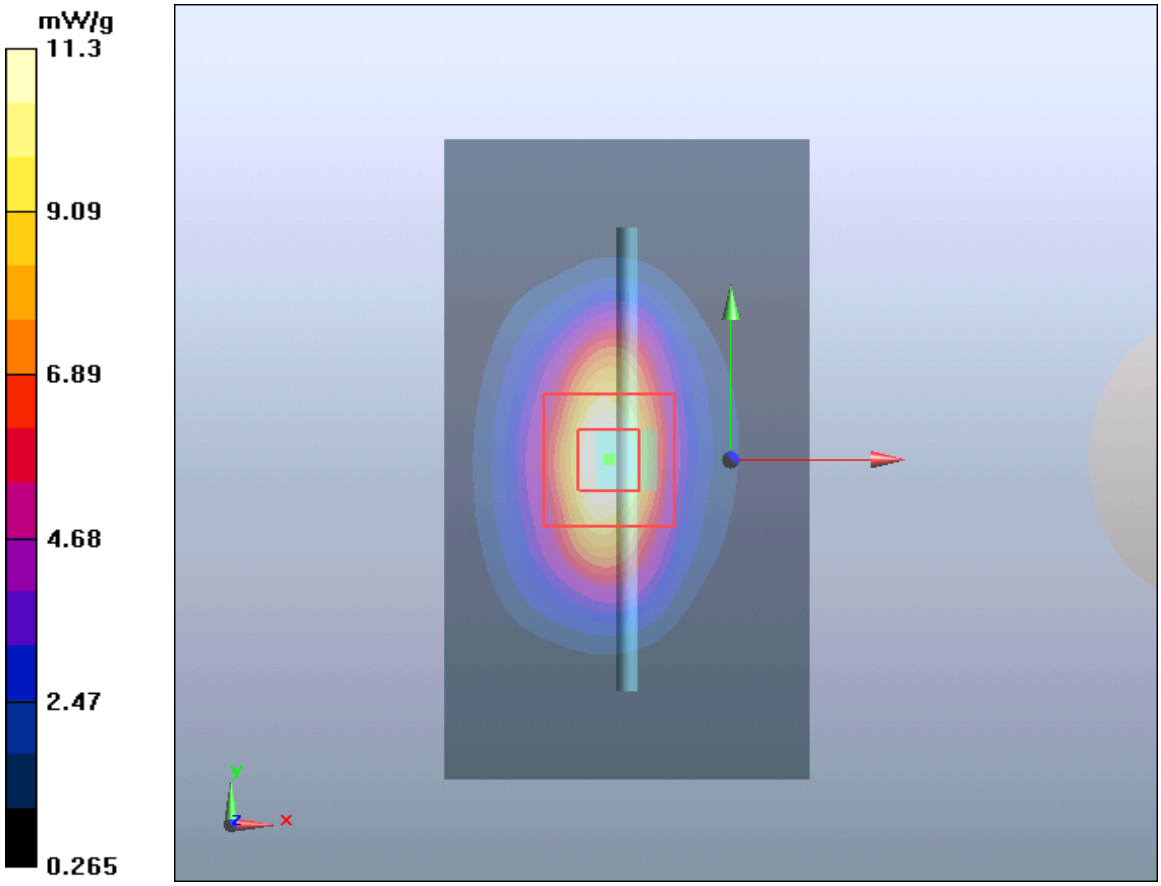


Figure 10 System Performance Check 1900MHz 250mW

System Performance Check at 2450 MHz Head TSL

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

Date: 1/3/2015

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

Medium parameters used: f = 2450 MHz; σ = 1.81 mho/m; ε_r = 38.6; 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 - SN3977; ConvF(7.24, 7.24, 7.24); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

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

Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=250mW/Area Scan (41x71x1): Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 18.2 mW/g

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

Reference Value = 88.8 V/m; Power Drift = 0.075 dB

Peak SAR (extrapolated) = 30 W/kg

SAR(1 g) = 13.7 mW/g; SAR(10 g) = 6.22 mW/g

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

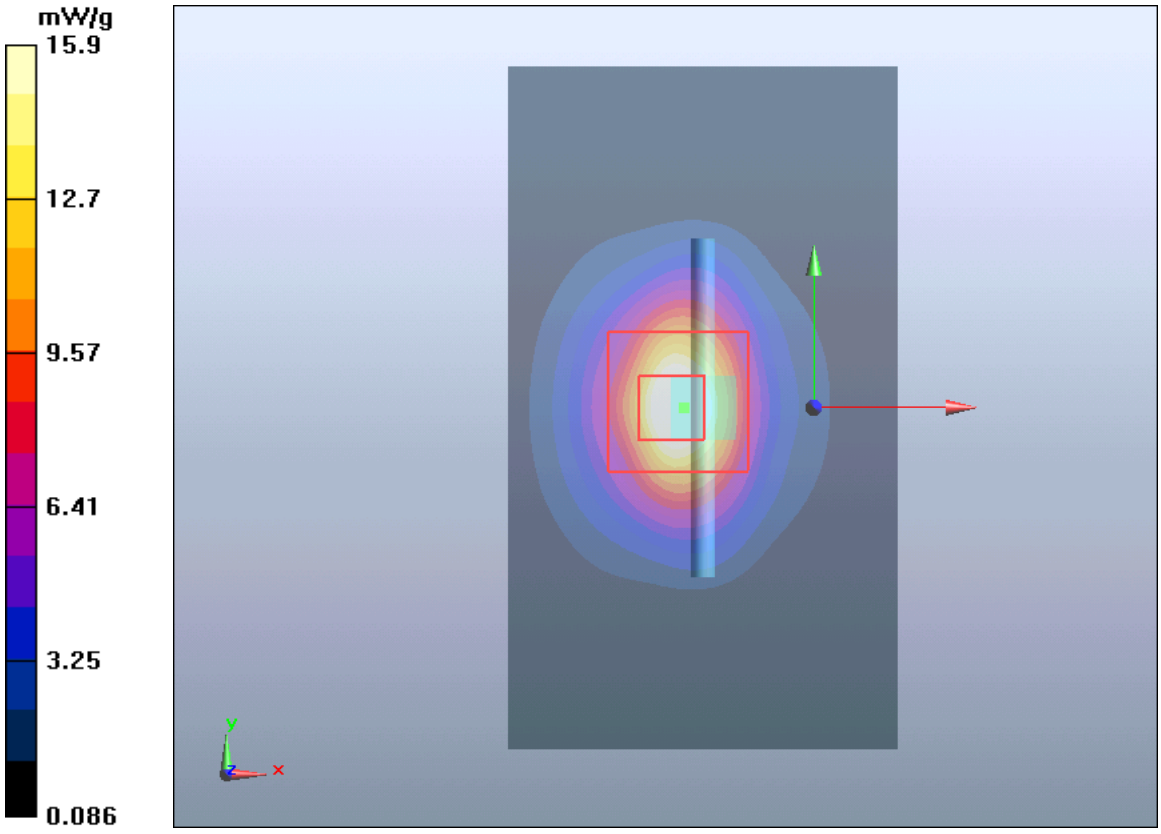


Figure 11 System Performance Check 2450MHz 250mW

System Performance Check at 2450 MHz Body TSL

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

Date: 1/4/2015

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

Medium parameters used: f = 2450 MHz; σ = 1.99 mho/m; ε_r = 52.1; 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 - SN3977; ConvF(6.97, 6.97, 6.97); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

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

Measurement SW: DASY52, Version 52.8 (5); SEMCAD X Version 14.6.8 (7028)

d=10mm, Pin=250mW/Area Scan (41x71x1): Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 16 mW/g

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

Reference Value = 81.2 V/m; Power Drift = 0.003 dB

Peak SAR (extrapolated) = 25.4 W/kg

SAR(1 g) = 12.5 mW/g; SAR(10 g) = 6.20 mW/g

Maximum value of SAR (measured) = 14.4 mW/g

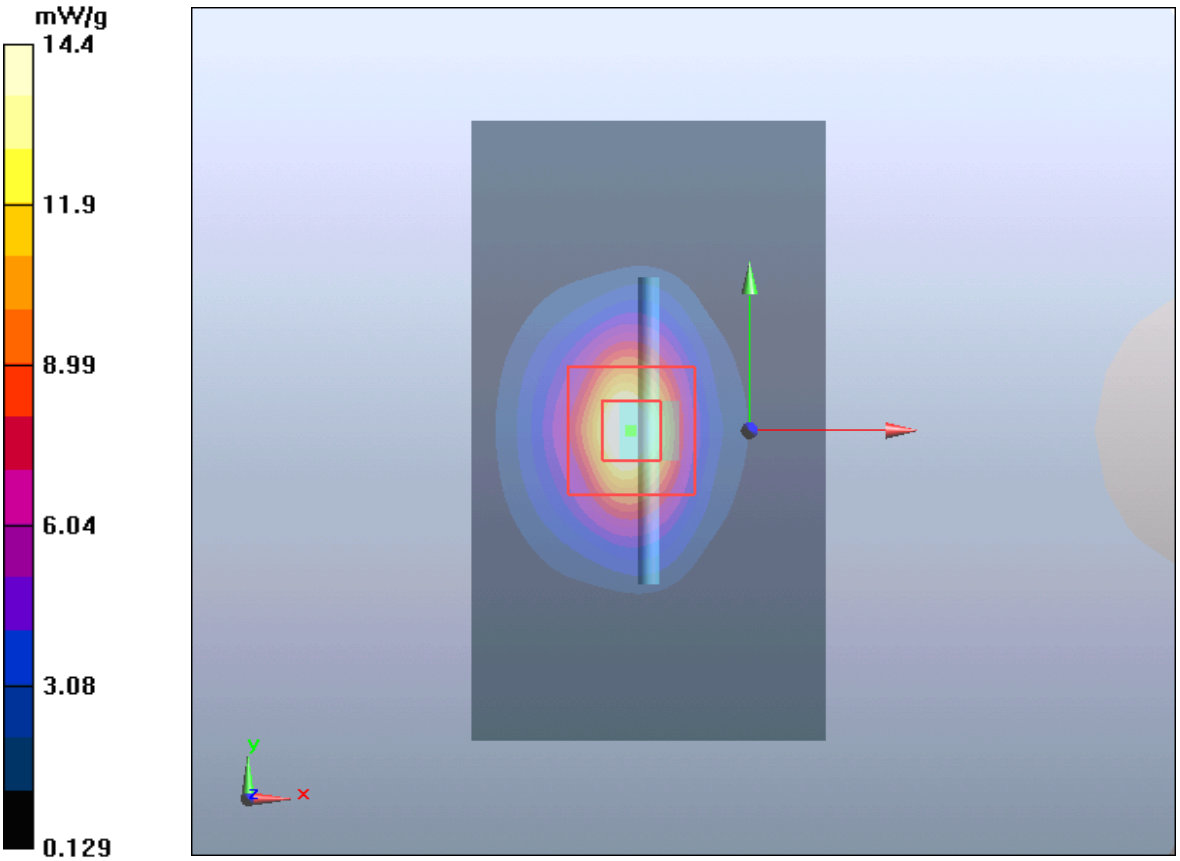


Figure 12 System Performance Check 2450MHz 250mW

ANNEX C: Plots Results

GSM 850 Left Cheek High (Battery 1)

Date: 12/28/2014

Communication System: UID 0, GSM (0); Frequency: 848.8 MHz;Duty Cycle: 1:8.30042

Medium parameters used: f = 849 MHz; σ = 0.943 S/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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

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

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Cheek High/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.751 W/kg

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

Reference Value = 7.905 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.875 W/kg

SAR(1 g) = 0.724 W/kg; SAR(10 g) = 0.548 W/kg

Maximum value of SAR (measured) = 0.747 W/kg

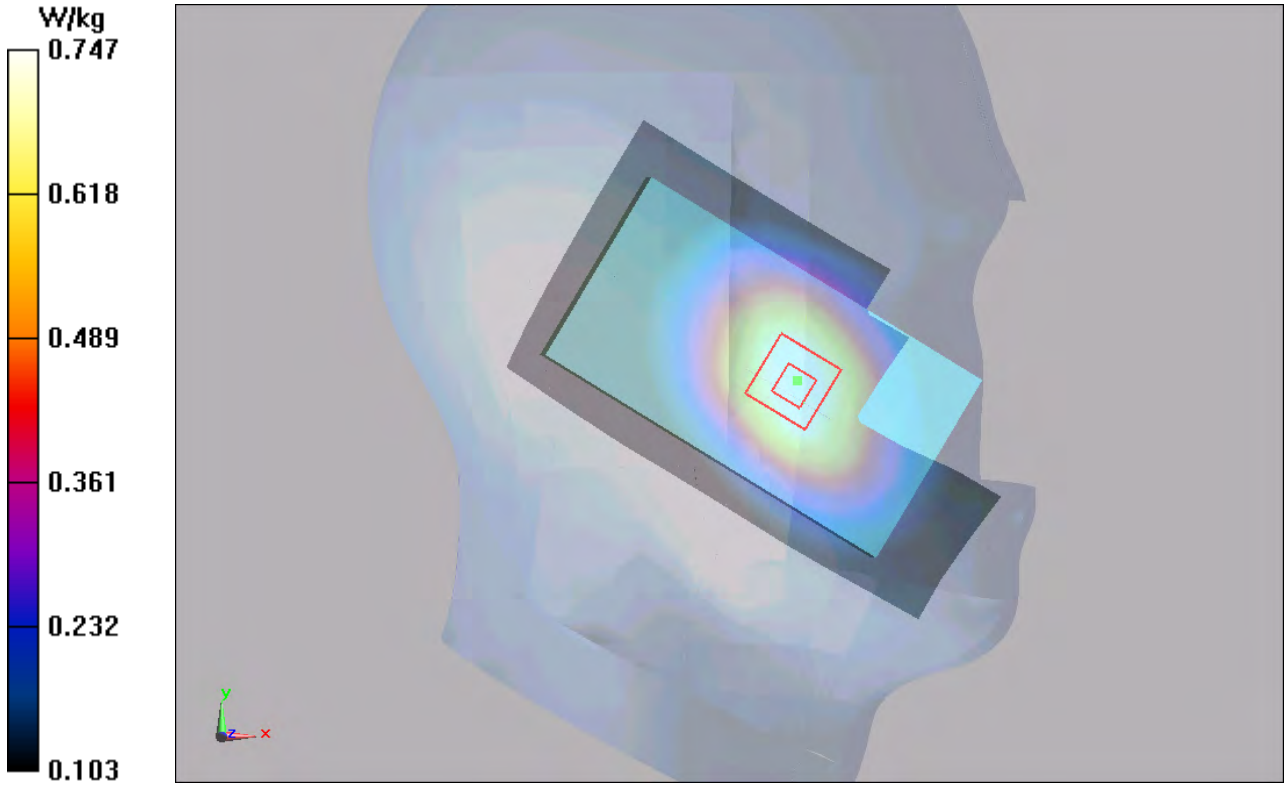


Figure 13 Left Hand Touch Cheek GSM 850 Channel 251

GSM 850 Left Cheek Middle (Battery 1)
Date: 12/28/2014
Communication System: UID 0, GSM (0); Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.932 S/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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Cheek Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.748 W/kg

Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.988 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 0.873 W/kg
SAR(1 g) = 0.714 W/kg; SAR(10 g) = 0.538 W/kg
Maximum value of SAR (measured) = 0.753 W/kg

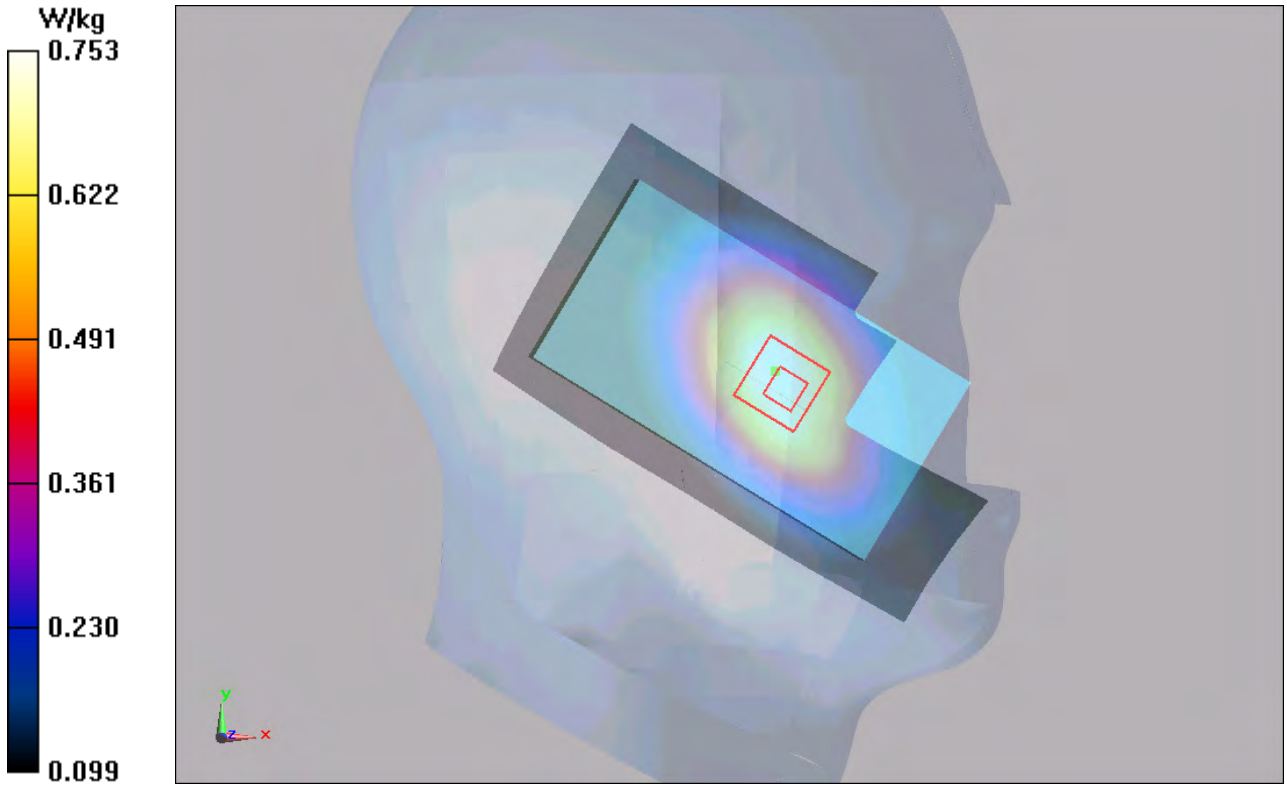


Figure 14 Left Hand Touch Cheek GSM 850 Channel 190

GSM 850 Left Cheek Low (Battery 1)
Date: 12/28/2014
Communication System: UID 0, GSM (0); Frequency: 824.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.919 S/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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Cheek Low/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.731 W/kg

Left Cheek Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.754 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.853 W/kg
SAR(1 g) = 0.708 W/kg; SAR(10 g) = 0.537 W/kg
Maximum value of SAR (measured) = 0.725 W/kg

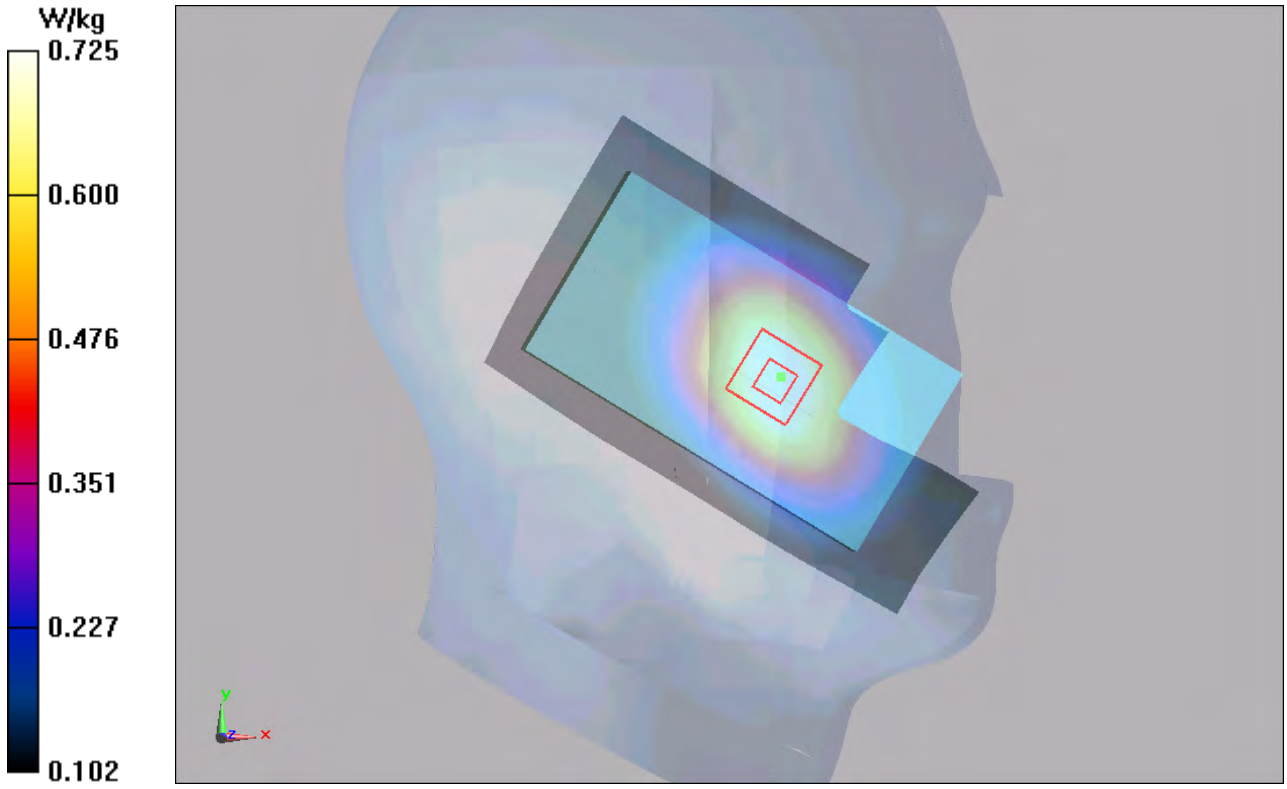


Figure 15 Left Hand Touch Cheek GSM 850 Channel 128

GSM 850 Left Tilt Middle (Battery 1)
Date: 12/28/2014
Communication System: UID 0, GSM (0); Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.932 S/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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Tilt Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.489 W/kg

Left Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 11.907 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.551 W/kg
SAR(1 g) = 0.456 W/kg; SAR(10 g) = 0.350 W/kg
Maximum value of SAR (measured) = 0.465 W/kg

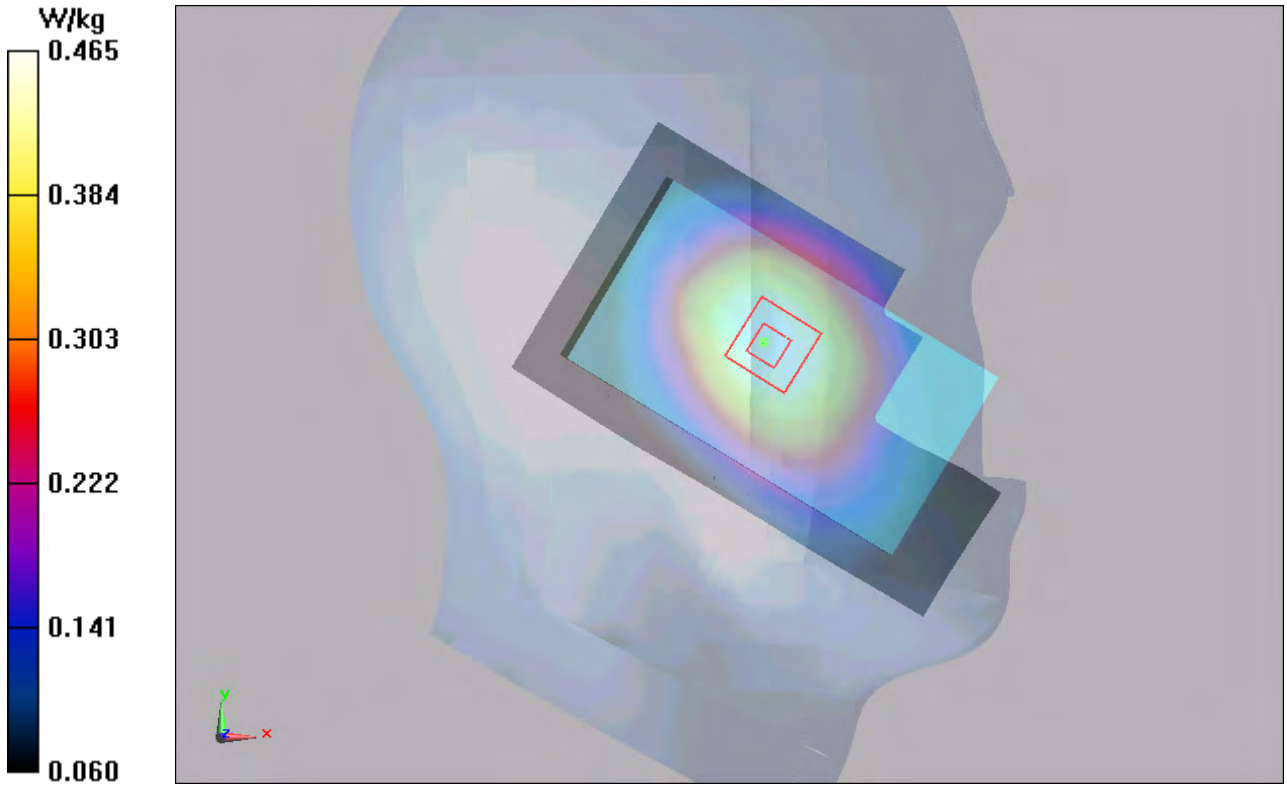


Figure 16 Left Hand Tilt 15° GSM 850 Channel 190

GSM 850 Right Cheek Middle (Battery 1)
Date: 12/28/2014
Communication System: UID 0, GSM (0); Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.932 S/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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Cheek Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.725 W/kg

Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.241 V/m; Power Drift = -0.14 dB
Peak SAR (extrapolated) = 0.829 W/kg
SAR(1 g) = 0.691 W/kg; SAR(10 g) = 0.528 W/kg
Maximum value of SAR (measured) = 0.705 W/kg

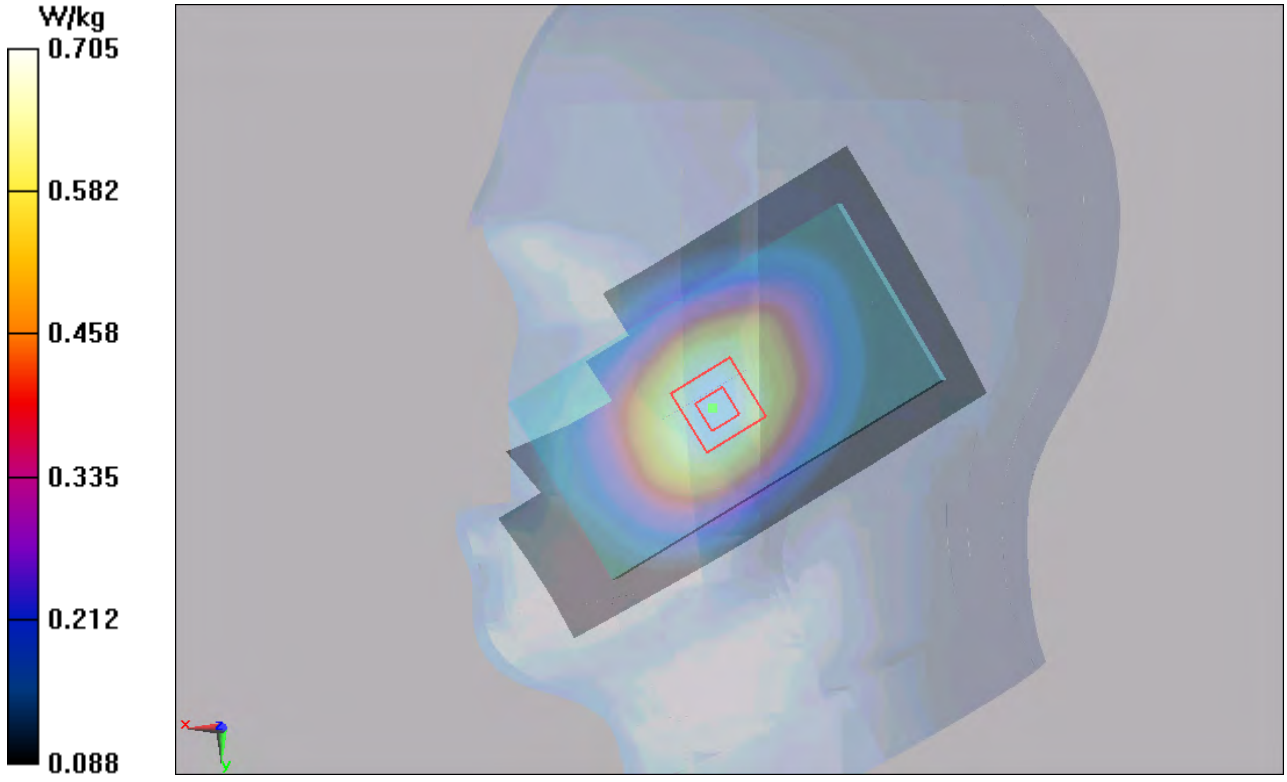


Figure 17 Right Hand Touch Cheek GSM 850 Channel 190

GSM 850 Right Tilt Middle (Battery 1)
Date: 12/28/2014
Communication System: UID 0, GSM (0); Frequency: 836.6 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 837 MHz; σ = 0.932 S/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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Tilt Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.537 W/kg

Right Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 16.265 V/m; Power Drift = -0.071 dB
Peak SAR (extrapolated) = 0.629 W/kg
SAR(1 g) = 0.518 W/kg; SAR(10 g) = 0.396 W/kg
Maximum value of SAR (measured) = 0.533 W/kg

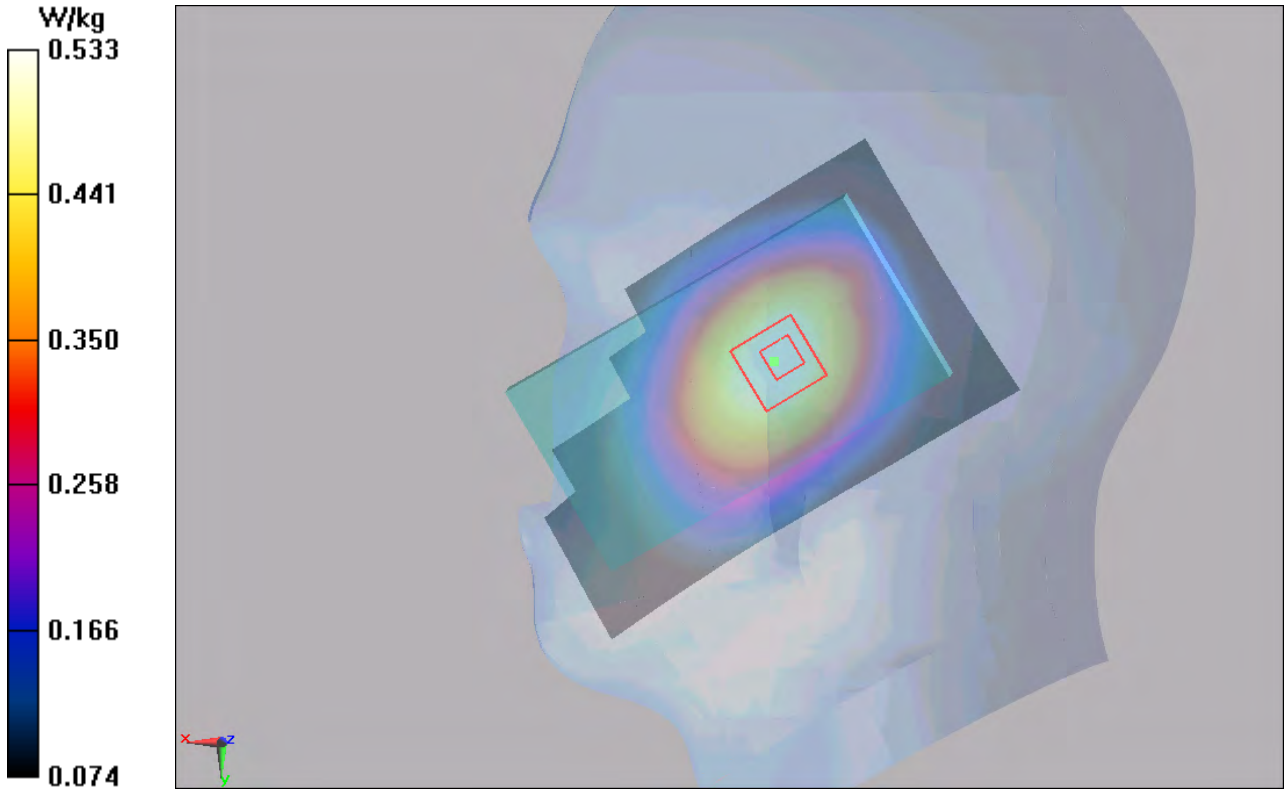


Figure 18 Right Hand Tilt 15° GSM 850 Channel 190

GSM 850 Left Cheek High (SIM 2)
Date: 12/28/2014
Communication System: UID 0, GSM (0); Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.943 S/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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Left Cheek High/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.747 W/kg

Left Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.896 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.873 W/kg
SAR(1 g) = 0.720 W/kg; SAR(10 g) = 0.545 W/kg
Maximum value of SAR (measured) = 0.743 W/kg

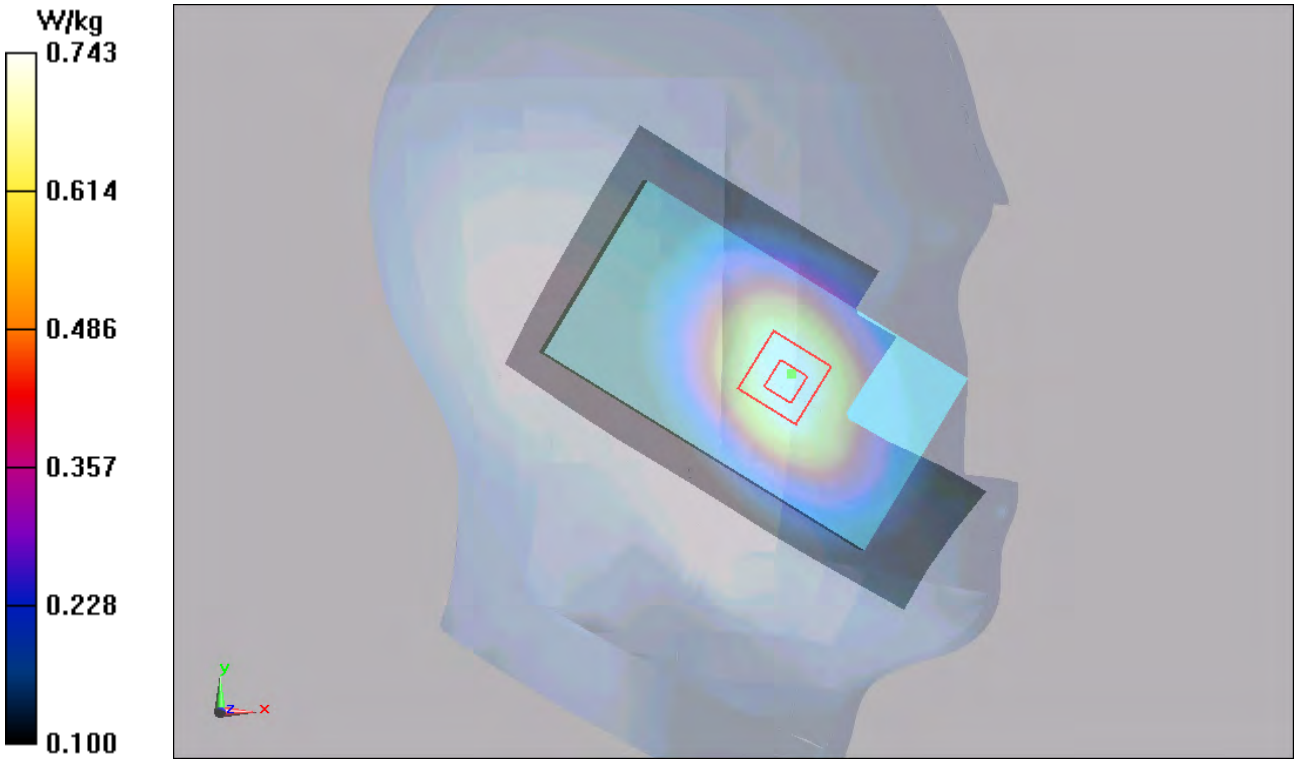


Figure 19 Left Hand Touch Cheek GSM 850 Channel 251

GSM 850 Left Cheek High (Battery 2)
Date: 12/28/2014
Communication System: UID 0, GSM (0); Frequency: 848.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 849 MHz; σ = 0.943 S/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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Cheek High/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.740 W/kg

Left Cheek High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.110 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 0.845 W/kg
SAR(1 g) = 0.708 W/kg; SAR(10 g) = 0.540 W/kg
Maximum value of SAR (measured) = 0.723 W/kg

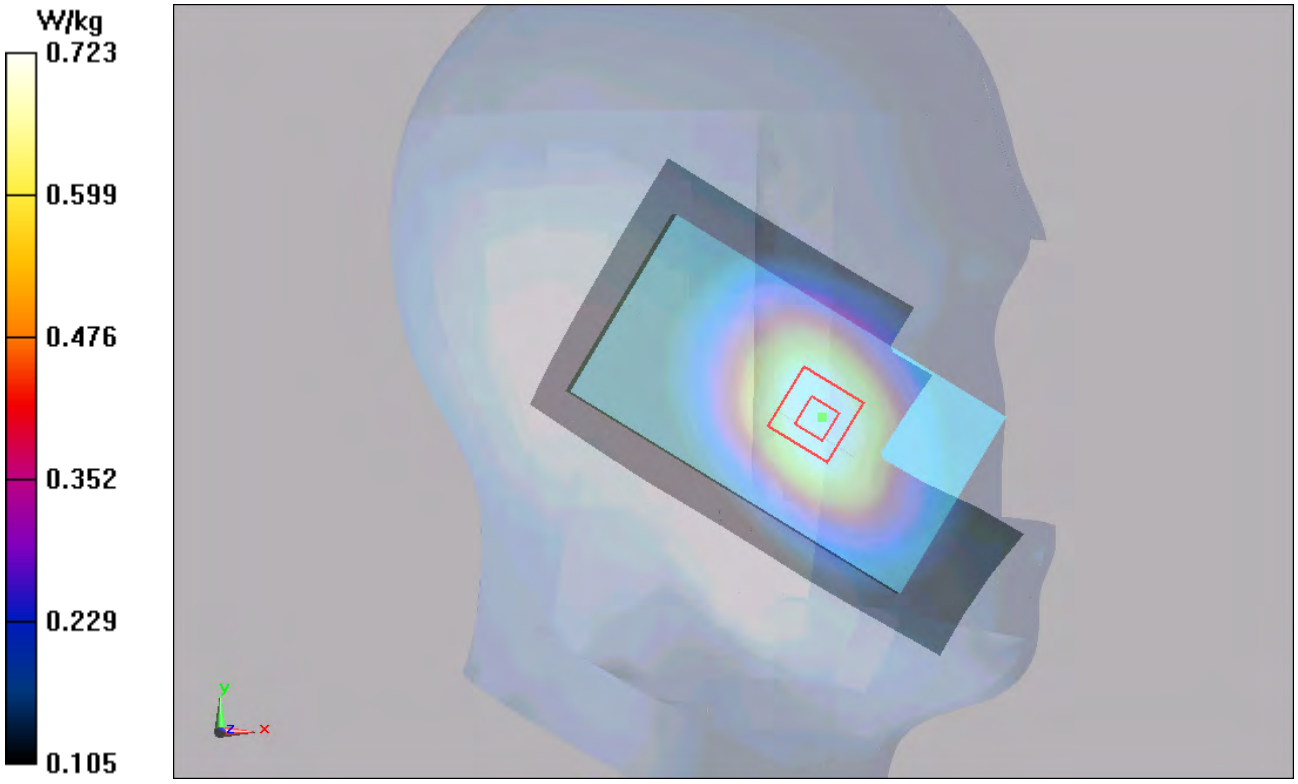


Figure 20 Left Hand Touch Cheek GSM 850 Channel 251

GSM 850 Back Side High (Battery 1)
Date: 12/31/2014
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 1.01 mho/m; ε_r = 54.9; 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 11; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side High/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm
Maximum value of SAR (interpolated) = 0.936 mW/g

Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.1 V/m; Power Drift = 0.040 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.885 mW/g; SAR(10 g) = 0.657 mW/g
Maximum value of SAR (measured) = 0.940 mW/g

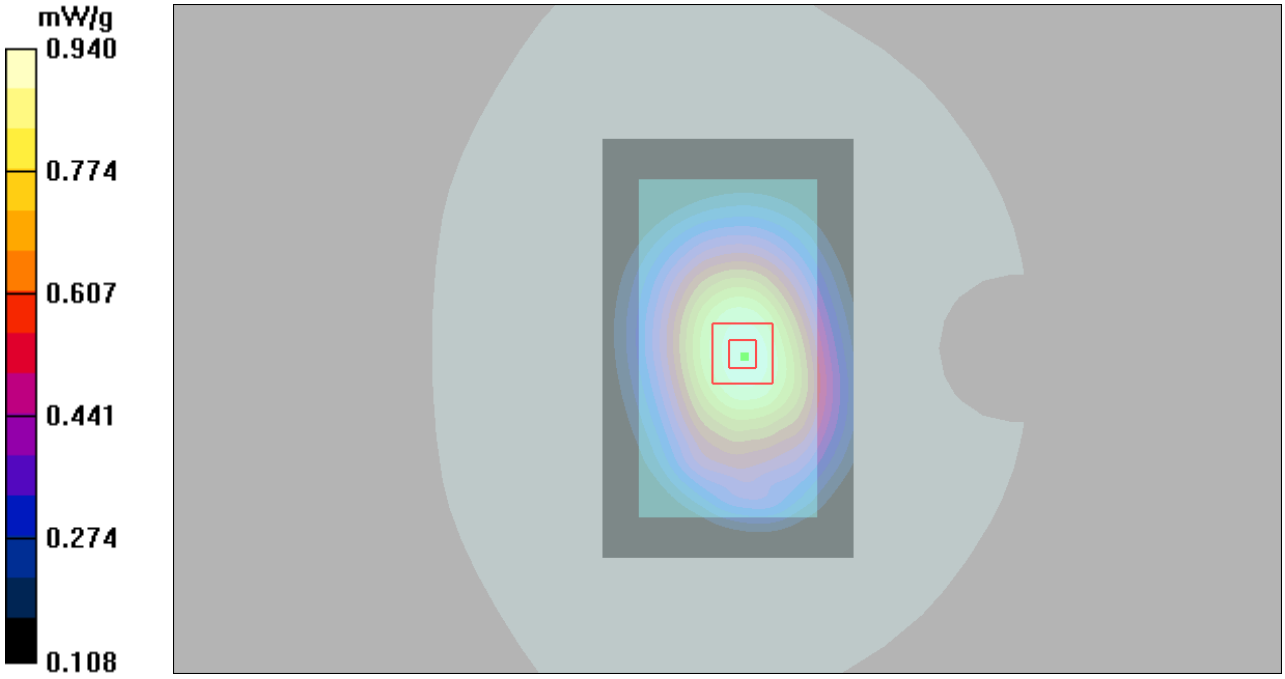


Figure 21 Body, Back Side, GSM 850 Channel 251

GSM 850 Back Side Middle (Battery 1)
Date: 12/31/2014
Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 1 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 11; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side Middle/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm
Maximum value of SAR (interpolated) = 0.932 mW/g

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.2 V/m; Power Drift = 0.016 dB
Peak SAR (extrapolated) = 1.08 W/kg
SAR(1 g) = 0.883 mW/g; SAR(10 g) = 0.656 mW/g
Maximum value of SAR (measured) = 0.934 mW/g

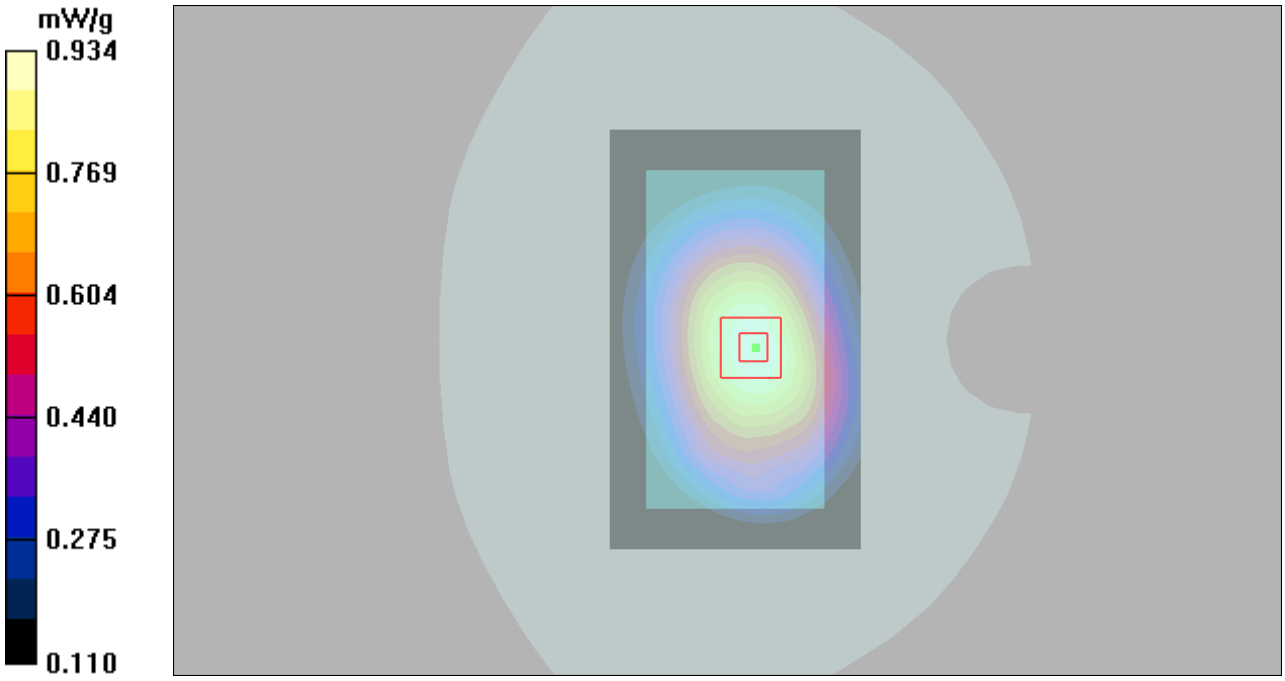


Figure 22 Body, Back Side, GSM 850 Channel 190

GSM 850 Back Side Low (Battery 1)
Date: 12/31/2014
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.991 mho/m; ε_r = 55.2; 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 11; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side Low/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm
Maximum value of SAR (interpolated) = 0.938 mW/g

Back Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.7 V/m; Power Drift = -0.034 dB
Peak SAR (extrapolated) = 1.07 W/kg
SAR(1 g) = 0.885 mW/g; SAR(10 g) = 0.662 mW/g
Maximum value of SAR (measured) = 0.936 mW/g

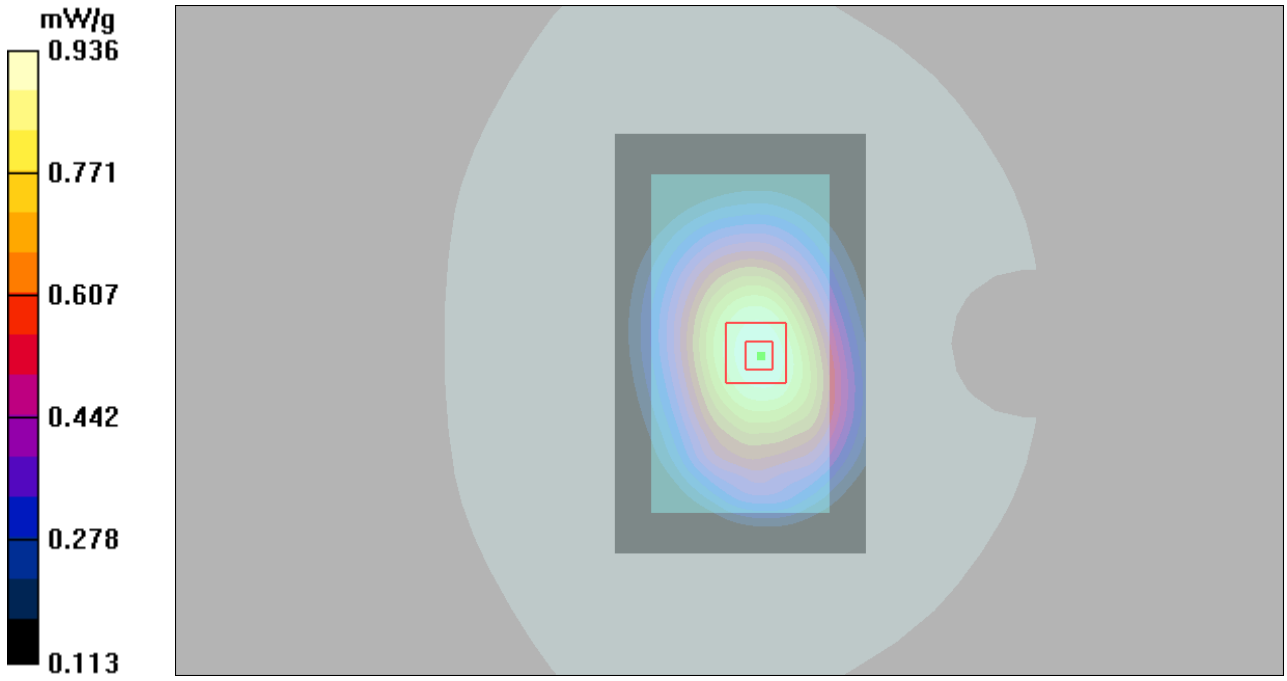


Figure 23 Body, Back Side, GSM 850 Channel 128

GSM 850 Front Side High (Battery 1)
Date: 12/31/2014
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 1.01 mho/m; ε_r = 54.9; 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 11; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Front Side High/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm
Maximum value of SAR (interpolated) = 0.816 mW/g

Front Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.1 V/m; Power Drift = -0.041 dB
Peak SAR (extrapolated) = 0.909 W/kg
SAR(1 g) = 0.768 mW/g; SAR(10 g) = 0.581 mW/g
Maximum value of SAR (measured) = 0.813 mW/g

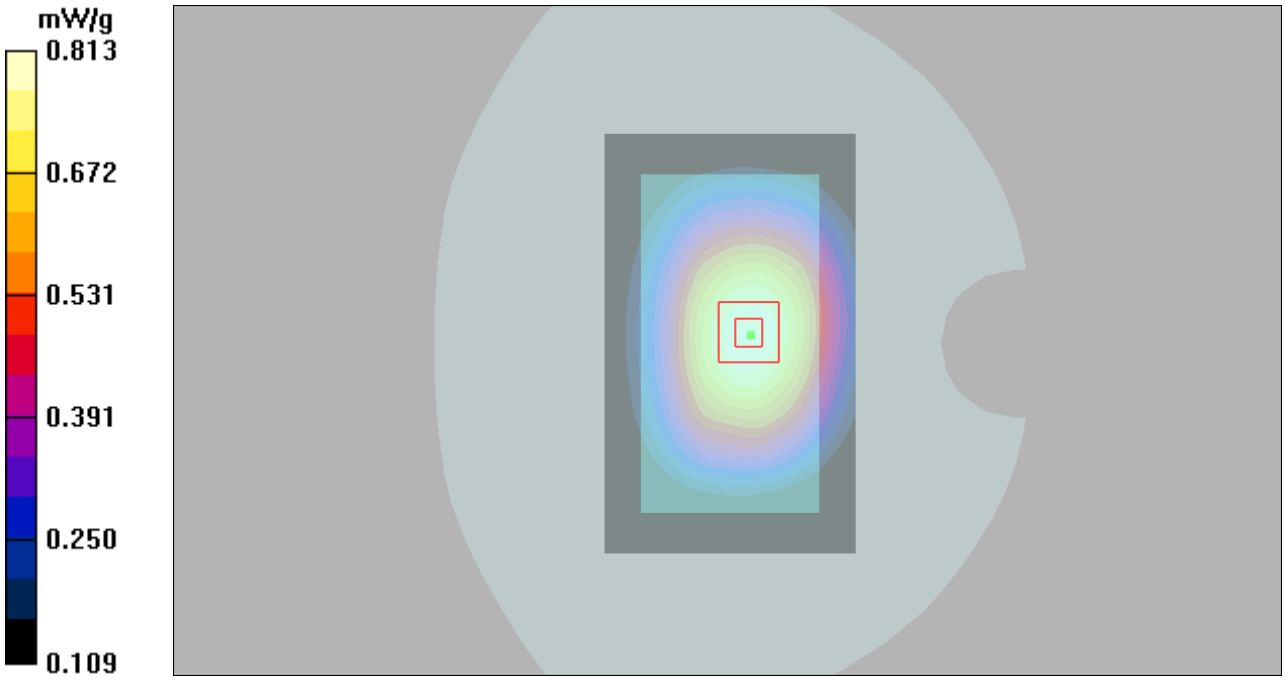


Figure 24 Body, Front Side, GSM 850 Channel 251

GSM 850 Front Side Middle (Battery 1)
Date: 12/31/2014
Communication System: GSM850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 1 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 11; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Front Side Middle/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm
Maximum value of SAR (interpolated) = 0.800 mW/g

Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.0 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 0.907 W/kg
SAR(1 g) = 0.757 mW/g; SAR(10 g) = 0.573 mW/g
Maximum value of SAR (measured) = 0.799 mW/g

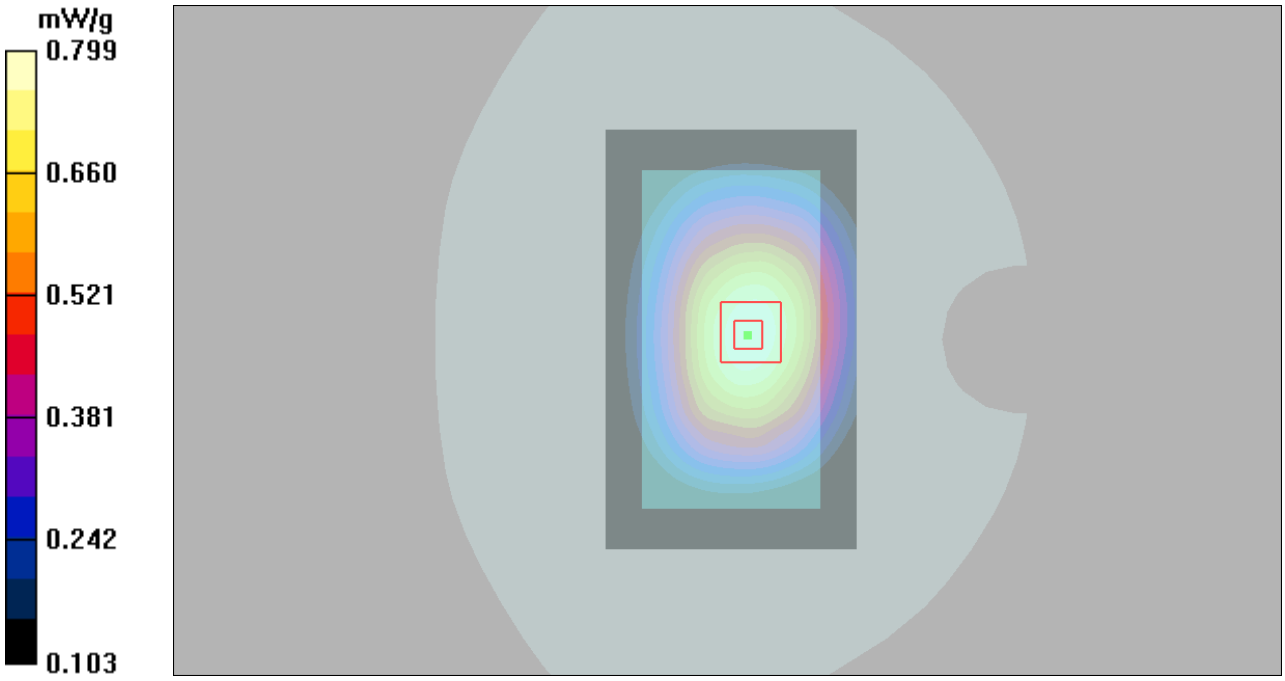


Figure 25 Body, Front Side, GSM 850 Channel 190

GSM 850 Front Side Low (Battery 1)
Date: 12/31/2014
Communication System: GSM850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.991 mho/m; ε_r = 55.2; 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 11; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Front Side Low/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm
Maximum value of SAR (interpolated) = 0.808 mW/g

Front Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 29.2 V/m; Power Drift = 0.035 dB
Peak SAR (extrapolated) = 0.910 W/kg
SAR(1 g) = 0.759 mW/g; SAR(10 g) = 0.576 mW/g
Maximum value of SAR (measured) = 0.800 mW/g

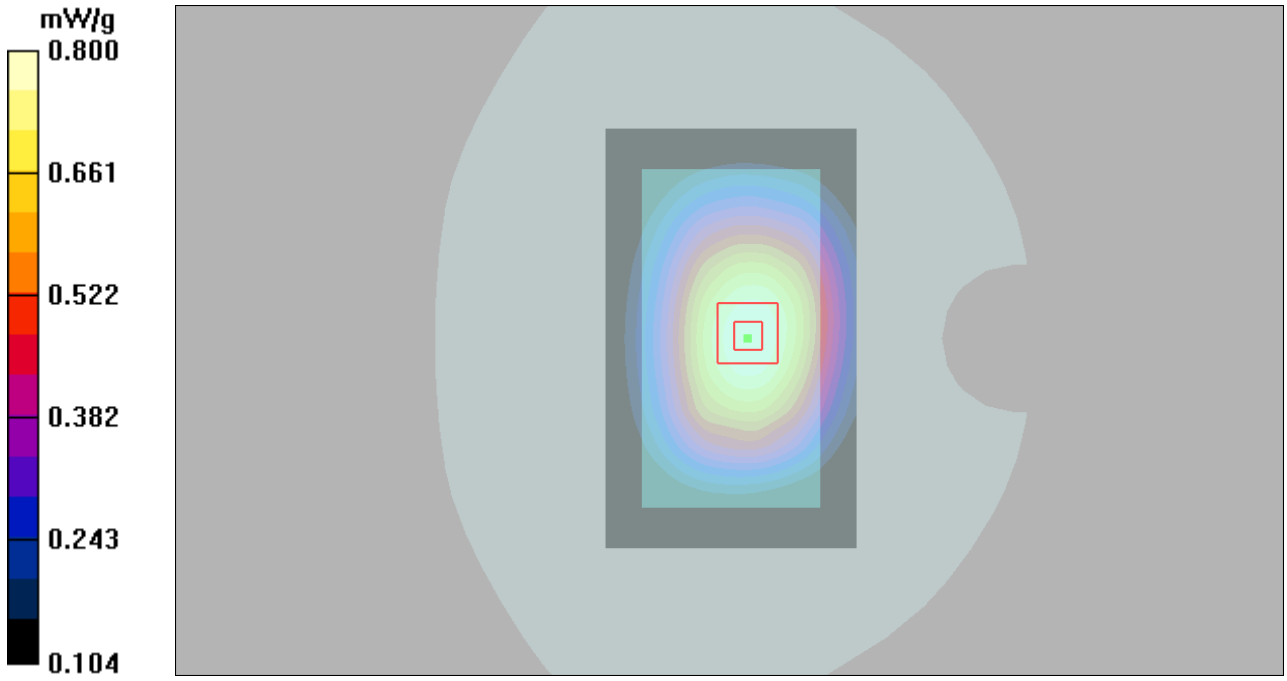


Figure 26 Body, Front Side, GSM 850 Channel 128

GSM 850 GPRS (4Txslots) Back Side High (Battery 1)
Date: 12/31/2014
Communication System: UID 0, GPRS 4TX (0); Frequency: 848.8 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 849 MHz; σ = 1.006 S/m; ε_r = 55.736; 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7331)

Back Side High/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.03 W/kg

Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.87 V/m; Power Drift = -0.021 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.970 W/kg; SAR(10 g) = 0.720 W/kg
Maximum value of SAR (measured) = 1.00 W/kg

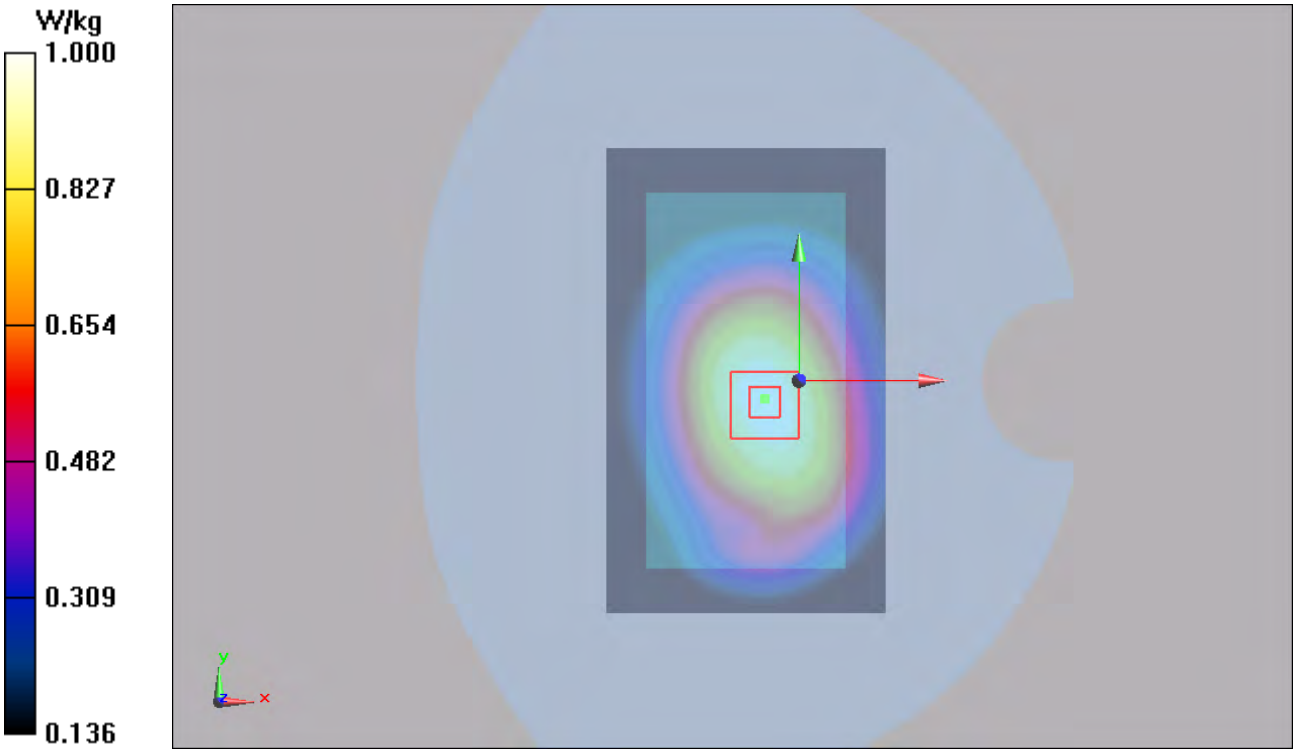


Figure 27 Body, Back Side, GSM 850 GPRS (4Txslots) Channel 251

GSM 850 GPRS (4Txslots) Back Side Middle (Battery 1)
Date: 12/31/2014
Communication System: UID 0, GPRS 4TX (0); Frequency: 836.6 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 837 MHz; σ = 0.992 S/m; ε_r = 55.882; 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7331)

Back Side Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.01 W/kg

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.461 V/m; Power Drift = 0.139 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.955 W/kg; SAR(10 g) = 0.716 W/kg
Maximum value of SAR (measured) = 0.995 W/kg

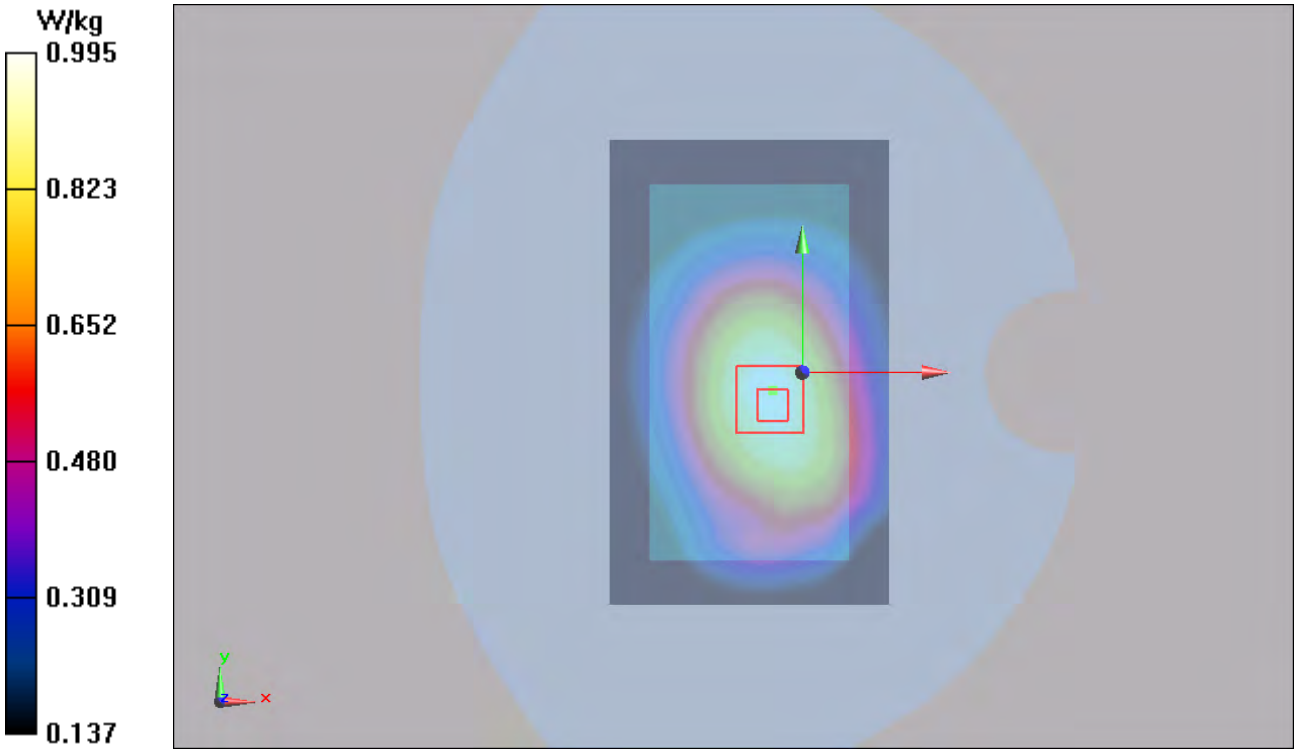


Figure 28 Body, Back Side, GSM 850 GPRS (4Txslots) Channel 190

GSM 850 GPRS (4Txslots) Back Side Low (Battery 1)
Date: 12/31/2014
Communication System: UID 0, GPRS 4TX (0); Frequency: 824.2 MHz;Duty Cycle: 1:2.07491
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.978 S/m; ε_r = 55.938; 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7331)

Back Side Low/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.995 W/kg

Back Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 31.91 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.953 W/kg; SAR(10 g) = 0.710 W/kg
Maximum value of SAR (measured) = 0.985 W/kg

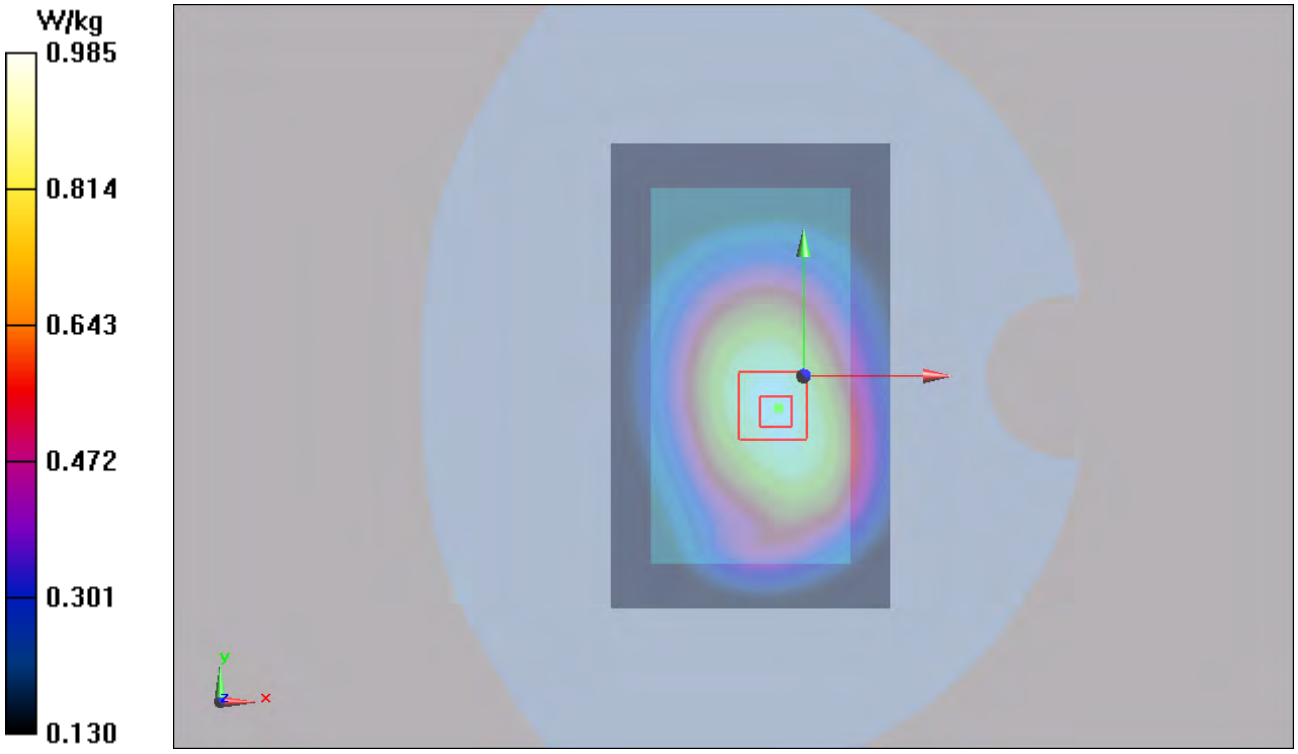


Figure 29 Body, Back Side, GSM 850 GPRS (4Txslots) Channel 128

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

Date: 12/31/2014

Communication System: UID 0, GPRS 4TX (0); Frequency: 848.8 MHz;Duty Cycle: 1:2.07491

Medium parameters used: f = 849 MHz; σ = 1.006 S/m; ε_r = 55.736; 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

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

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7331)

Front Side High/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.920 W/kg

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

Reference Value = 30.52 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.02 W/kg

SAR(1 g) = 0.868 W/kg; SAR(10 g) = 0.660 W/kg

Maximum value of SAR (measured) = 0.904 W/kg

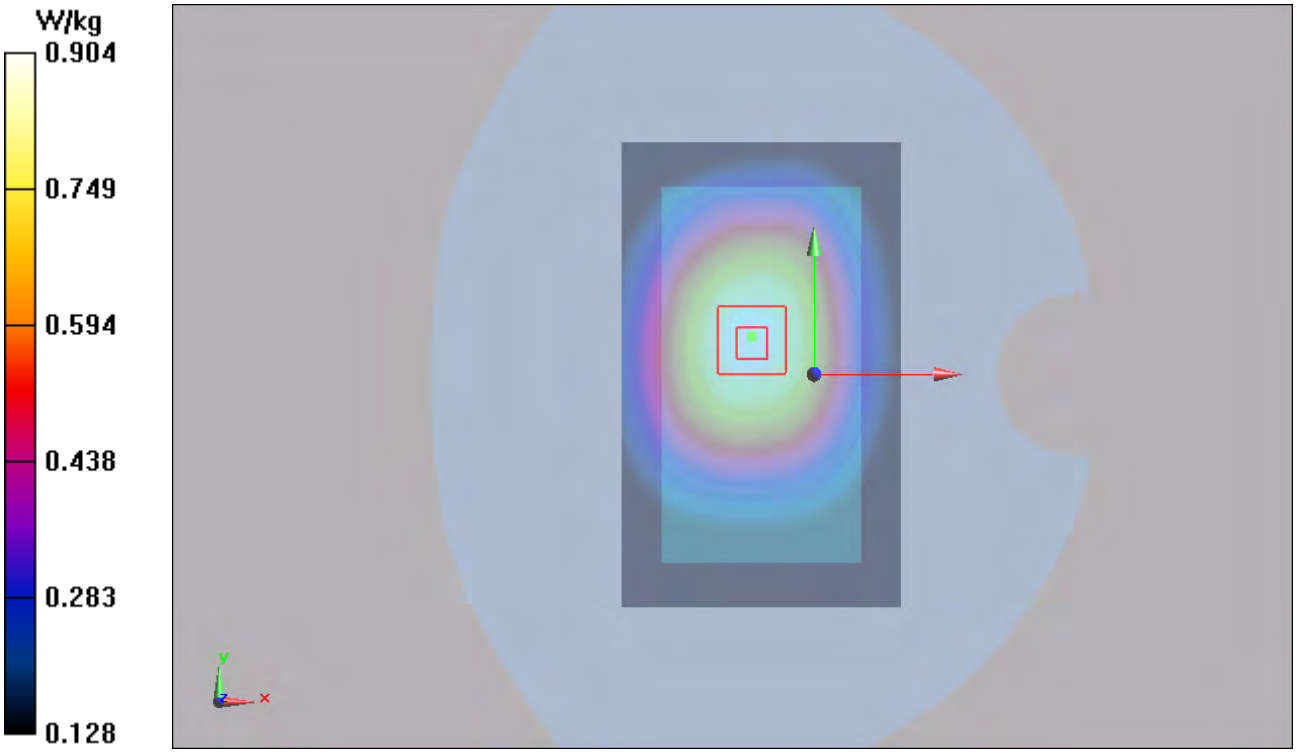


Figure 30 Body, Front Side, GSM 850 GPRS (4Txslots)Channel 251

GSM 850 GPRS (4Txslots) Front Side Middle (Battery 1)
Date: 12/31/2014
Communication System: UID 0, GPRS 4TX (0); Frequency: 836.6 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 837 MHz; σ = 0.992 S/m; ε_r = 55.882; 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7331)

Front Side Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.905 W/kg

Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 30.89 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.870 W/kg; SAR(10 g) = 0.663 W/kg
Maximum value of SAR (measured) = 0.906 W/kg

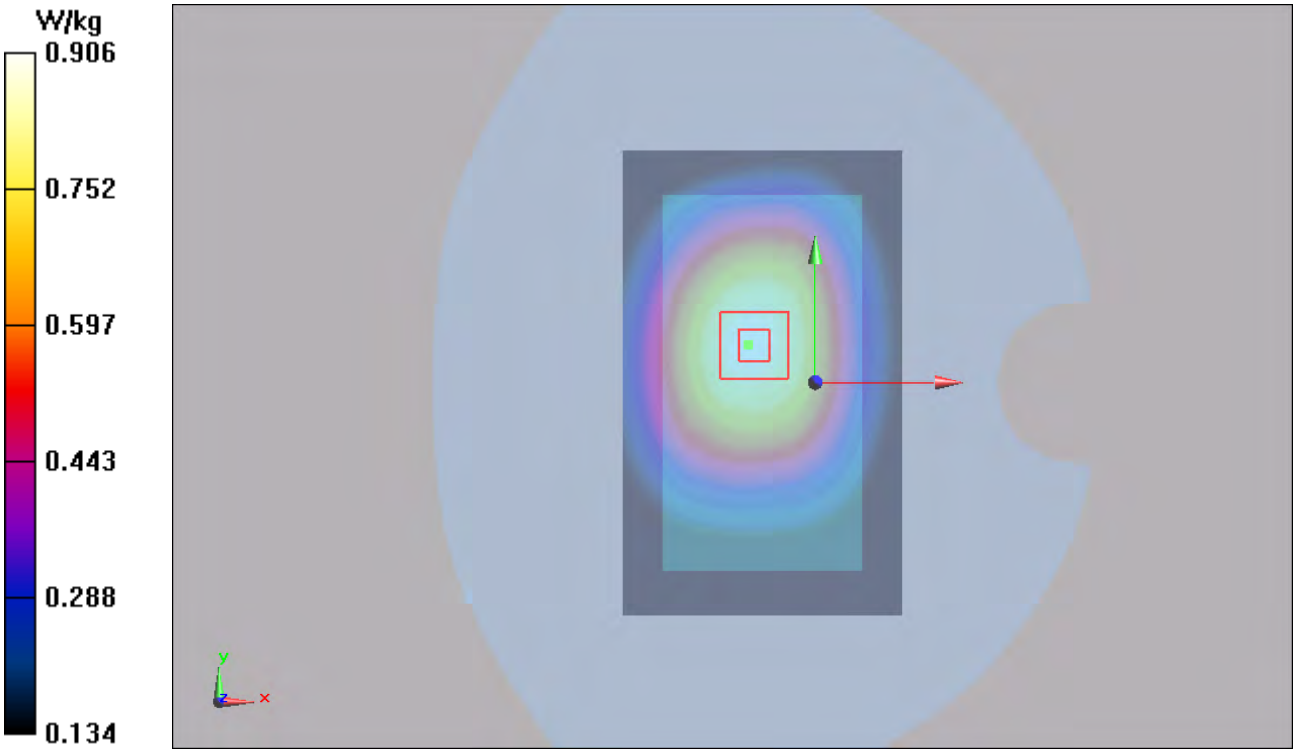


Figure 31 Body, Front Side, GSM 850 GPRS (4Txslots)Channel 190

GSM 850 GPRS (4Txslots) Front Side Low (Battery 1)
Date: 12/31/2014
Date/Time: 1/6/2015 10:56:54 PM
Communication System: UID 0, GPRS 4TX (0); Frequency: 824.2 MHz;Duty Cycle: 1:2.07491
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.978 S/m; ε_r = 55.938; 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7331)

Front Side Low/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.922 W/kg

Front Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 30.98 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.862 W/kg; SAR(10 g) = 0.656 W/kg
Maximum value of SAR (measured) = 0.889 W/kg

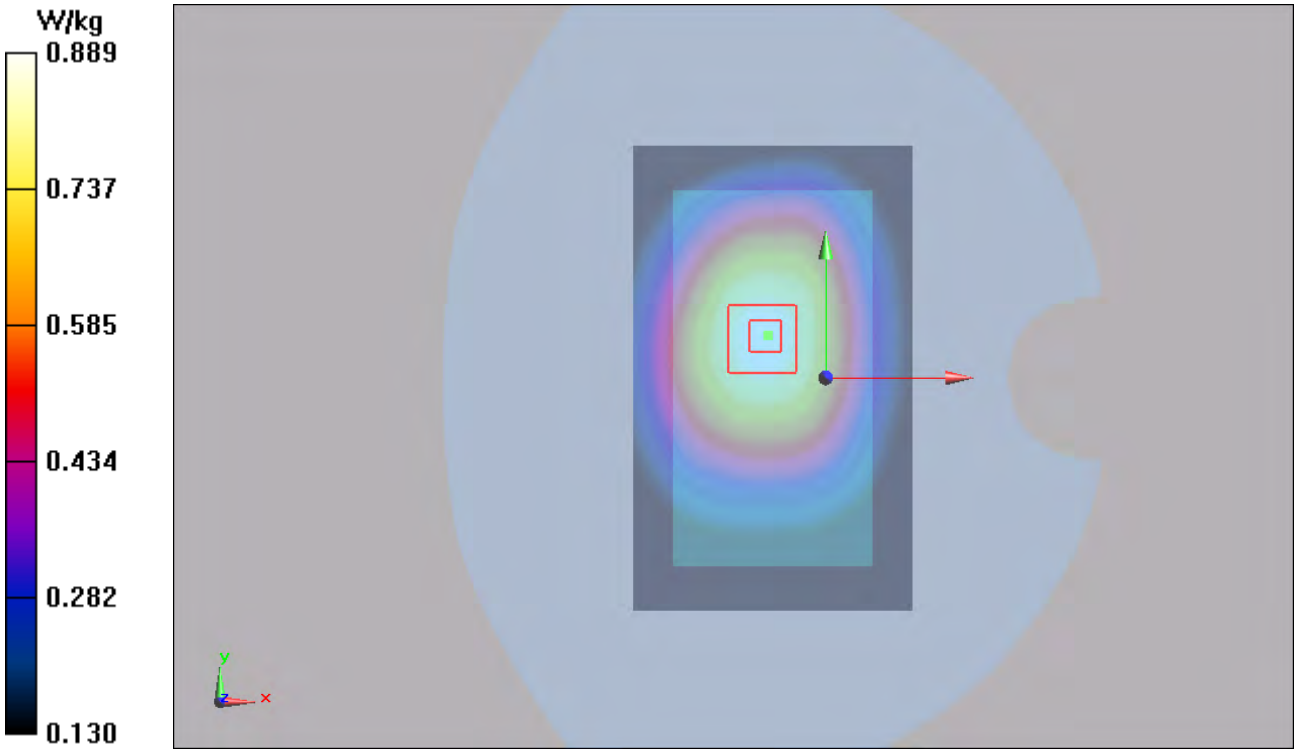


Figure 32 Body, Front Side, GSM 850 GPRS (4Txslots)Channel 128

GSM 850 GPRS (4Txslots) Left Edge Middle (Battery 1)
Date: 12/31/2014
Communication System: GSM850 + GPRS(4Up); Frequency: 836.6 MHz;Duty Cycle: 1:2.075
Medium parameters used: f = 837 MHz; σ = 1 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 11; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Edge Middle/Area Scan (51x151x1): Measurement grid: dx=1.000mm, dy=1.000mm
Maximum value of SAR (interpolated) = 0.793 mW/g

Left Edge Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.3 V/m; Power Drift = -0.069 dB
Peak SAR (extrapolated) = 0.711 W/kg
SAR(1 g) = 0.495 mW/g; SAR(10 g) = 0.341 mW/g
Maximum value of SAR (measured) = 0.526 mW/g

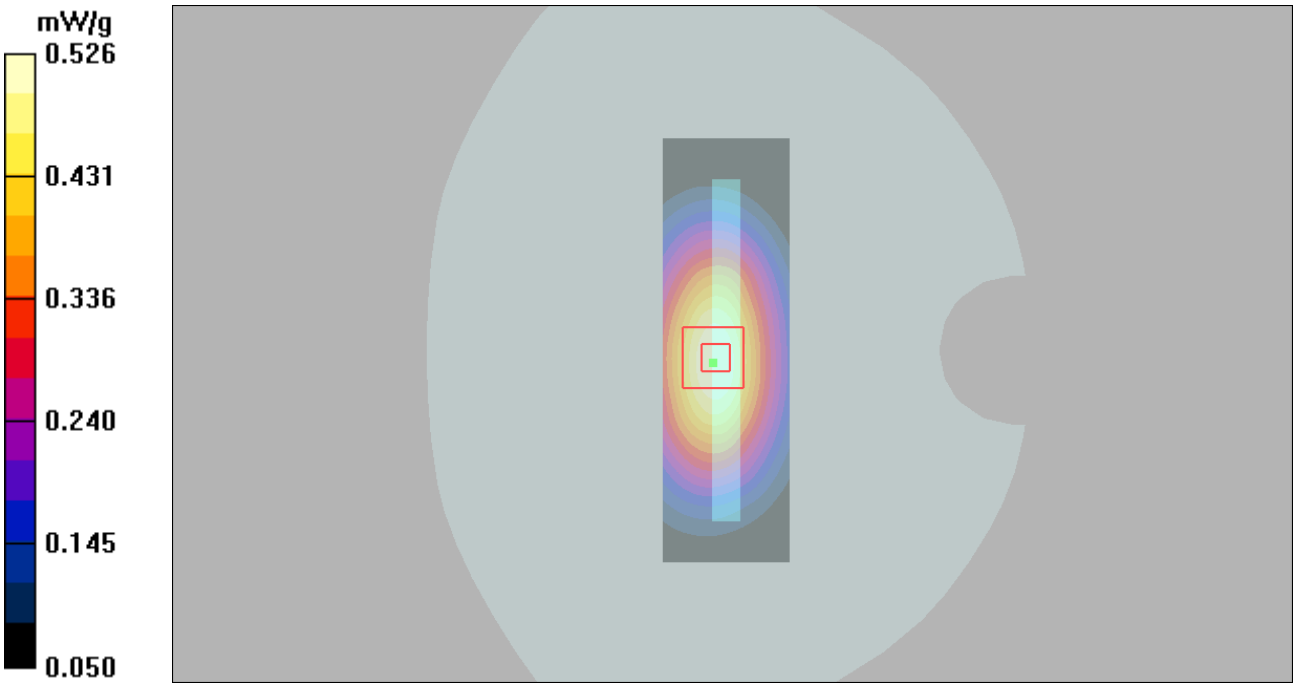


Figure 33 Body, Left Edge, GSM 850 GPRS (4Txslots)Channel 190

GSM 850 GPRS (4Txslots) Right Edge Middle (Battery 1)
Date: 12/31/2014
Communication System: GSM850 + GPRS(4Up); Frequency: 836.6 MHz;Duty Cycle: 1:2.075
Medium parameters used: f = 837 MHz; σ = 1 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 11; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Edge Middle/Area Scan (51x151x1): Measurement grid: dx=1.000mm, dy=1.000mm
Maximum value of SAR (interpolated) = 0.579 mW/g

Right Edge Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.1 V/m; Power Drift = -0.040 dB
Peak SAR (extrapolated) = 0.776 W/kg
SAR(1 g) = 0.547 mW/g; SAR(10 g) = 0.378 mW/g
Maximum value of SAR (measured) = 0.584 mW/g

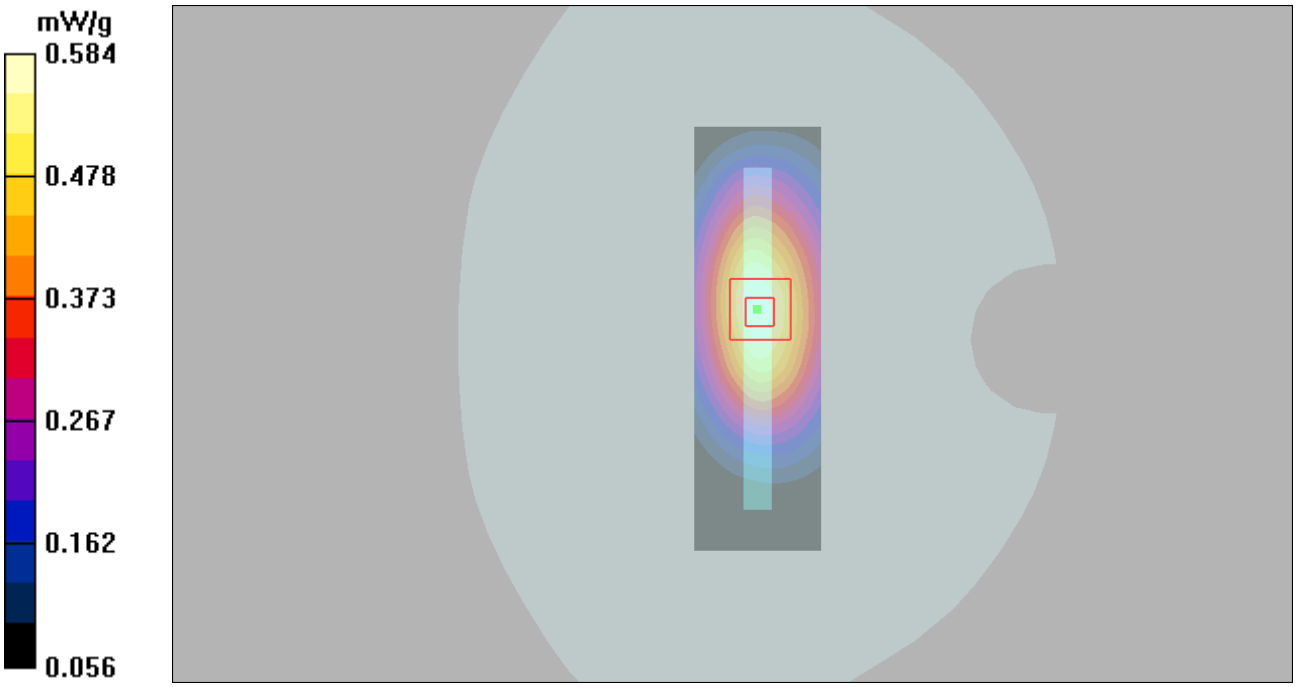


Figure 34 Body, Right Edge, GSM 850 GPRS (4Txslots)Channel 190

GSM 850 GPRS (4Txslots) Bottom Edge Middle (Battery 1)
Date: 12/31/2014
Communication System: GSM850 + GPRS(4Up); Frequency: 836.6 MHz;Duty Cycle: 1:2.075
Medium parameters used: f = 837 MHz; σ = 1 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 11; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Bottom Edge Middle/Area Scan (51x91x1): Measurement grid: dx=1.000mm, dy=1.000mm
Maximum value of SAR (interpolated) = 0.087 mW/g

Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.49 V/m; Power Drift = 0.058 dB
Peak SAR (extrapolated) = 0.158 W/kg
SAR(1 g) = 0.084 mW/g; SAR(10 g) = 0.049 mW/g
Maximum value of SAR (measured) = 0.090 mW/g

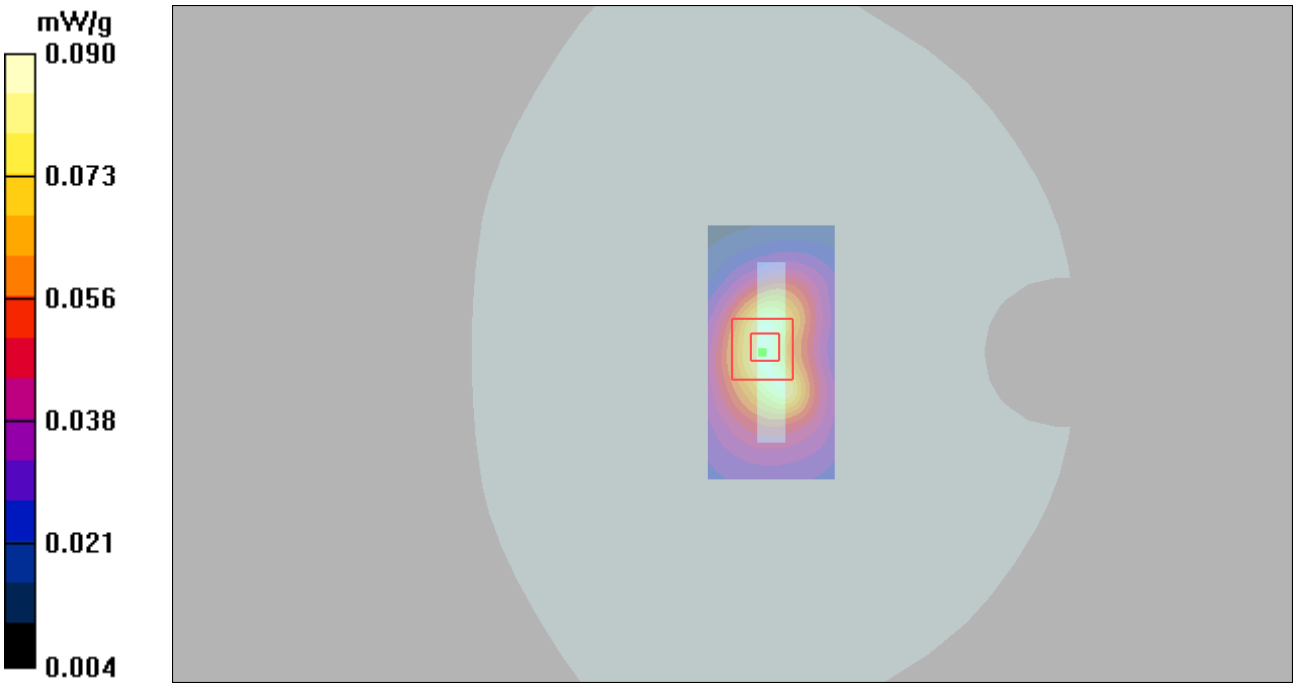


Figure 35 Body, Bottom Edge, GSM 850 GPRS (4Txslots)annel 190

GSM 850 GPRS (4Txslots) Back Side High (SIM 2)
Date: 12/31/2014
Communication System: GSM850 + GPRS(4Up); Frequency: 848.8 MHz;Duty Cycle: 1:2.075
Medium parameters used: f = 849 MHz; σ = 1.01 mho/m; ε_r = 54.9; 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 11; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side High/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm
Maximum value of SAR (interpolated) = 1.01 mW/g

Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 30.9 V/m; Power Drift = -0.160 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.955 mW/g; SAR(10 g) = 0.703 mW/g
Maximum value of SAR (measured) = 1.000 mW/g

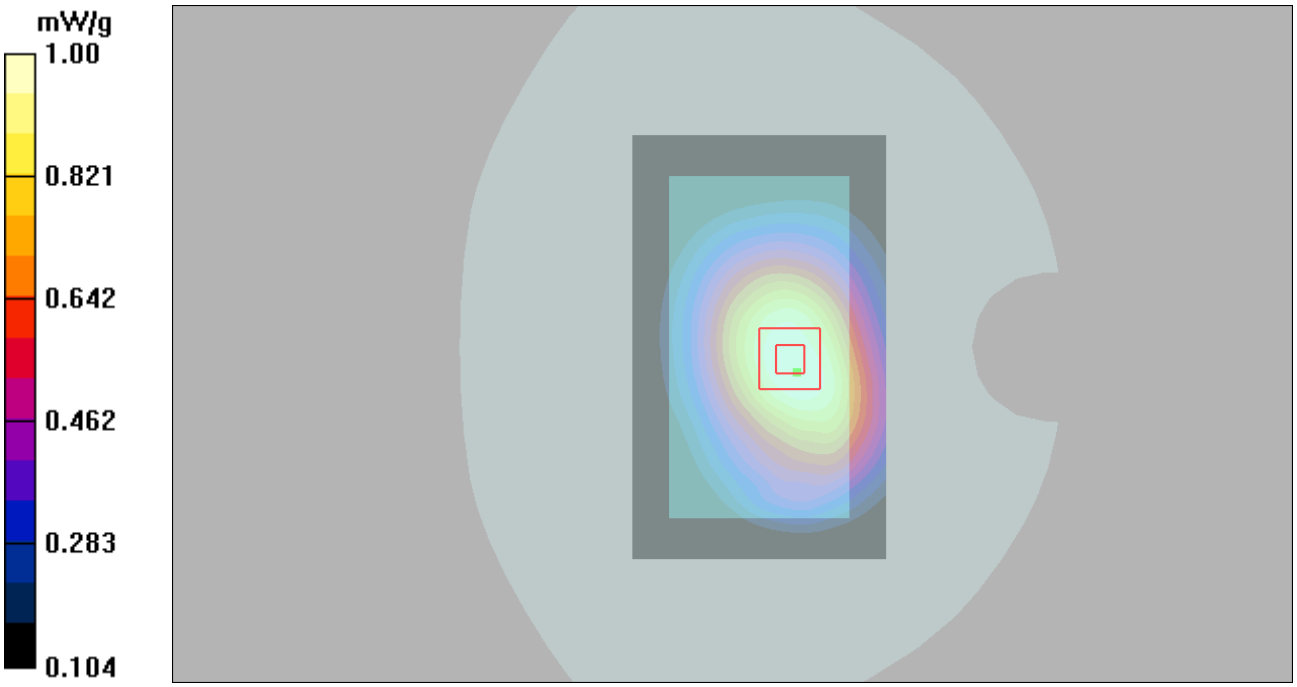


Figure 36 Body, Back Side, GSM 850 GPRS (4Txslots) Channel 251

GSM 850 GPRS (4Txslots) Back Side High (Battery 2)
Date: 12/31/2014
Communication System: GSM850 + GPRS(4Up); Frequency: 848.8 MHz;Duty Cycle: 1:2.075
Medium parameters used: f = 849 MHz; σ = 1.01 mho/m; ε_r = 54.9; 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 11; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side High/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm
Maximum value of SAR (interpolated) = 1.08 mW/g

Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.2 V/m; Power Drift = 0.060 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.754 mW/g
Maximum value of SAR (measured) = 1.06 mW/g

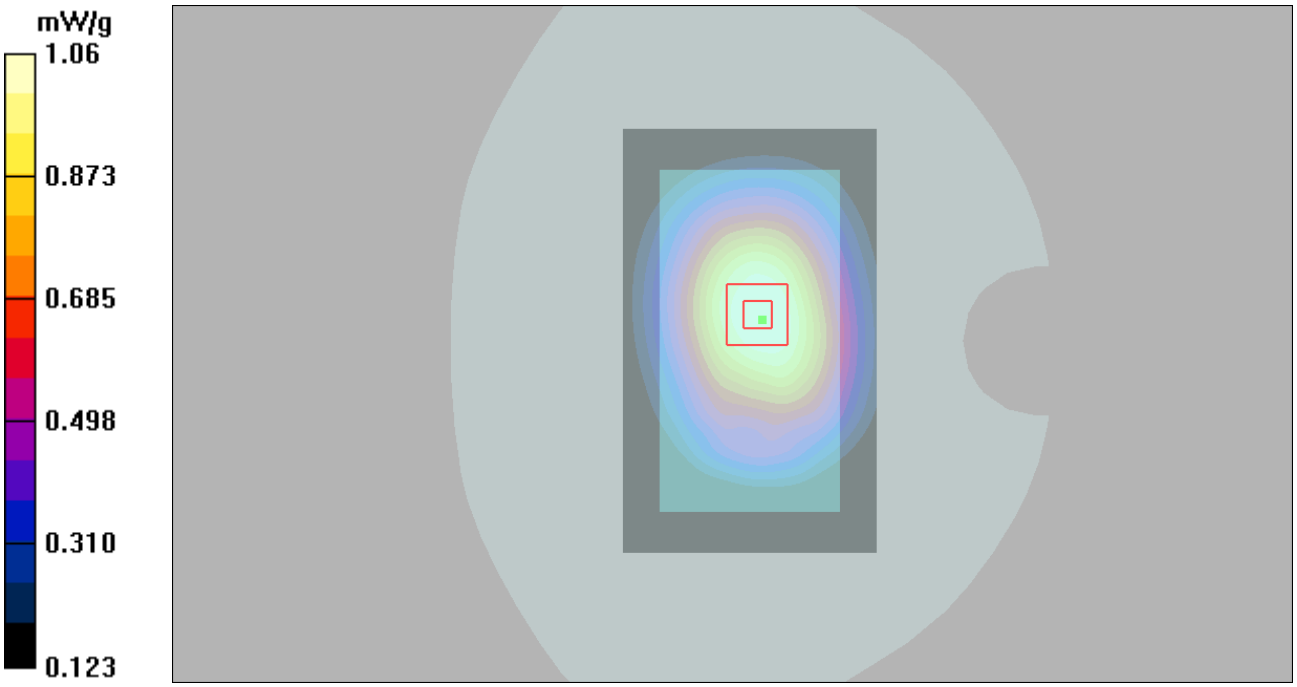


Figure 37 Body, Back Side, GSM 850 GPRS (4Txslots) Channel 251

GSM 850 GPRS (4Txslots) Back Side High (1st repeated SAR)
Date: 12/31/2014
Communication System: GSM850; Frequency: 848.8 MHz;Duty Cycle: 1:2.075
Medium parameters used: f = 849 MHz; σ = 1.01 mho/m; ε_r = 54.9; 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 11; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side High/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm
Maximum value of SAR (interpolated) = 1.09 mW/g

Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 32.0 V/m; Power Drift = -0.009 dB
Peak SAR (extrapolated) = 1.36 W/kg
SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.760 mW/g
Maximum value of SAR (measured) = 1.09 mW/g

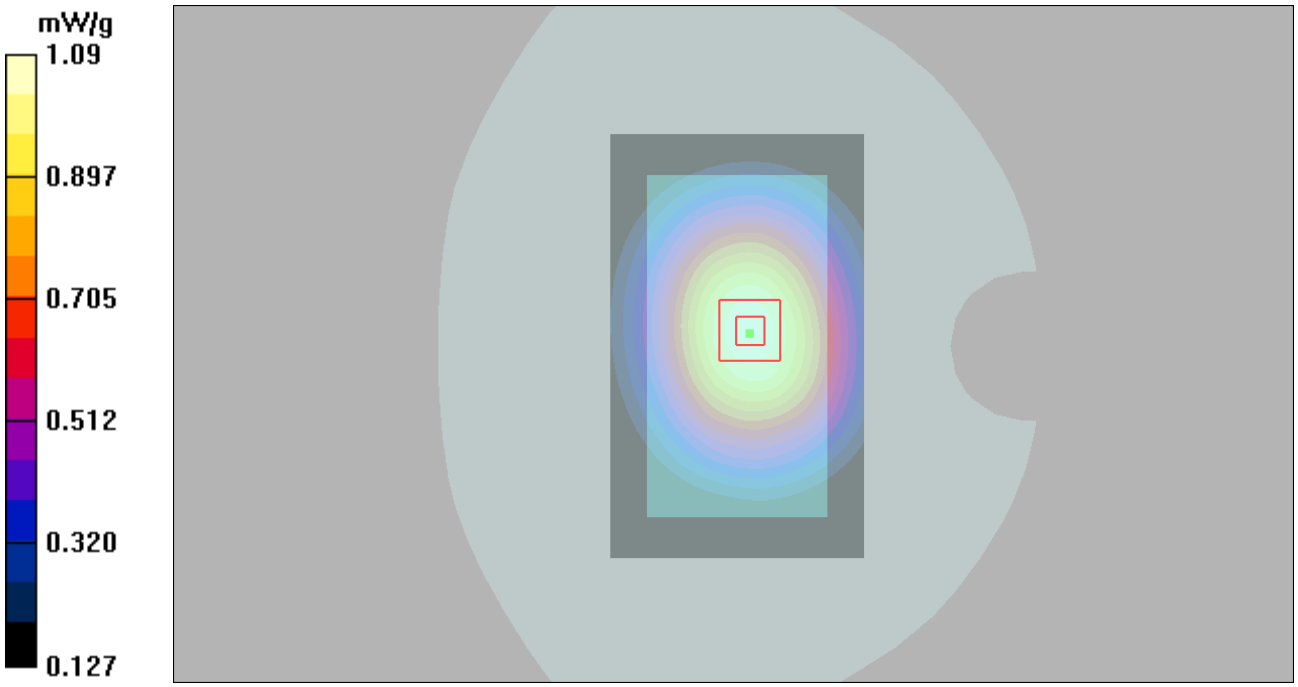


Figure 38 Body, Back Side, GSM 850 GPRS (4Txslots) Channel 251

GSM 1900 Left Cheek Middle (Battery 1)

Date: 1/7/2015

Communication System: UID 0, GSM (0); Frequency: 1880 MHz;Duty Cycle: 1:8.30042

Medium parameters used: f = 1880 MHz; σ = 1.413 S/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 - SN3977; ConvF(7.97, 7.97, 7.97); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Cheek Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.481 W/kg

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

Reference Value = 5.736 V/m; Power Drift = 0.041 dB

Peak SAR (extrapolated) = 0.692 W/kg

SAR(1 g) = 0.439 W/kg; SAR(10 g) = 0.265 W/kg

Maximum value of SAR (measured) = 0.455 W/kg

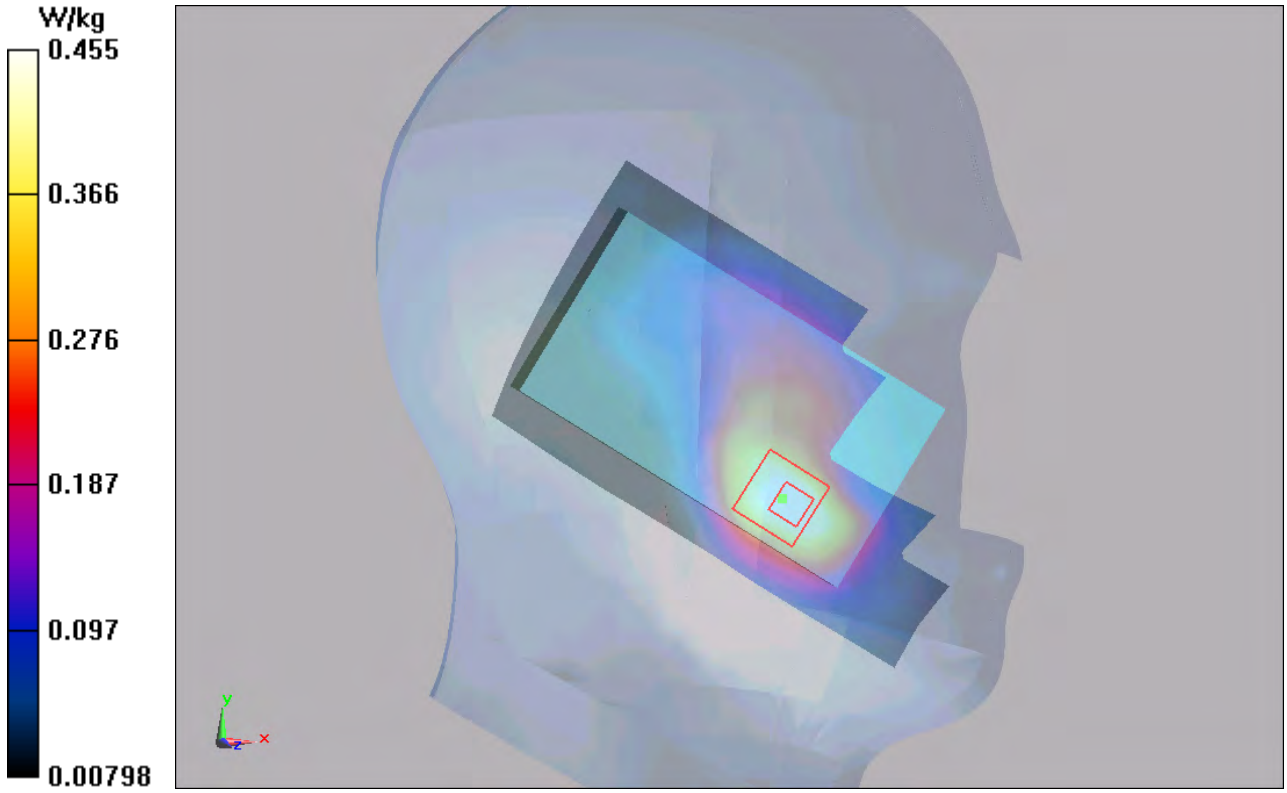


Figure 39 Left Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Left Tilt Middle (Battery 1)
Date: 1/7/2015
Communication System: UID 0, GSM (0); Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.413 S/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 - SN3977; ConvF(7.97, 7.97, 7.97); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Tilt Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.189 W/kg

Left Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 8.792 V/m; Power Drift = 0.10 dB
Peak SAR (extrapolated) = 0.233 W/kg
SAR(1 g) = 0.159 W/kg; SAR(10 g) = 0.098 W/kg
Maximum value of SAR (measured) = 0.164 W/kg

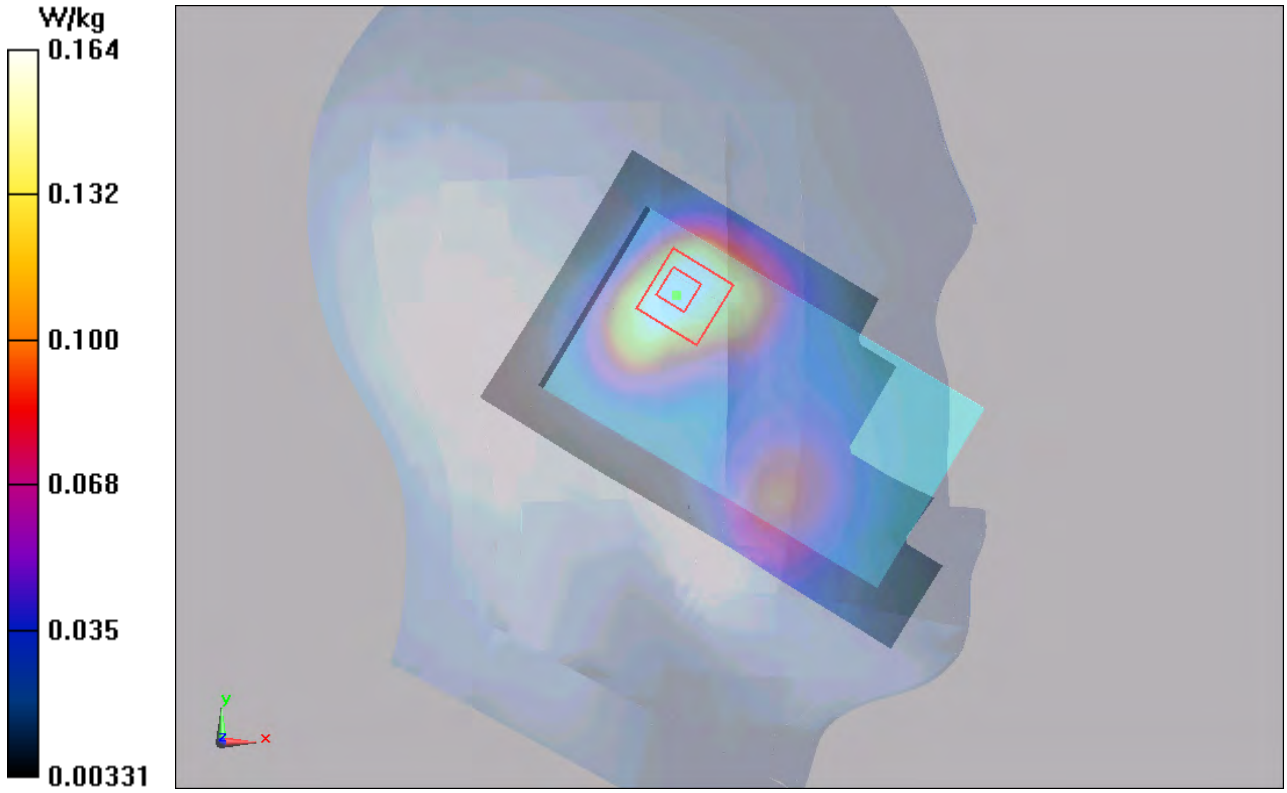


Figure 40 Left Hand Tilt 15° GSM 1900 Channel 661

GSM 1900 Right Cheek Middle (Battery 1)
Date: 1/7/2015
Communication System: UID 0, GSM (0); Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.413 S/m; ε_r = 39.689; 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 - SN3977; ConvF(7.97, 7.97, 7.97); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Cheek Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.406 W/kg

Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.970 V/m; Power Drift = -0.068 dB
Peak SAR (extrapolated) = 0.539 W/kg
SAR(1 g) = 0.367 W/kg; SAR(10 g) = 0.226 W/kg
Maximum value of SAR (measured) = 0.387 W/kg

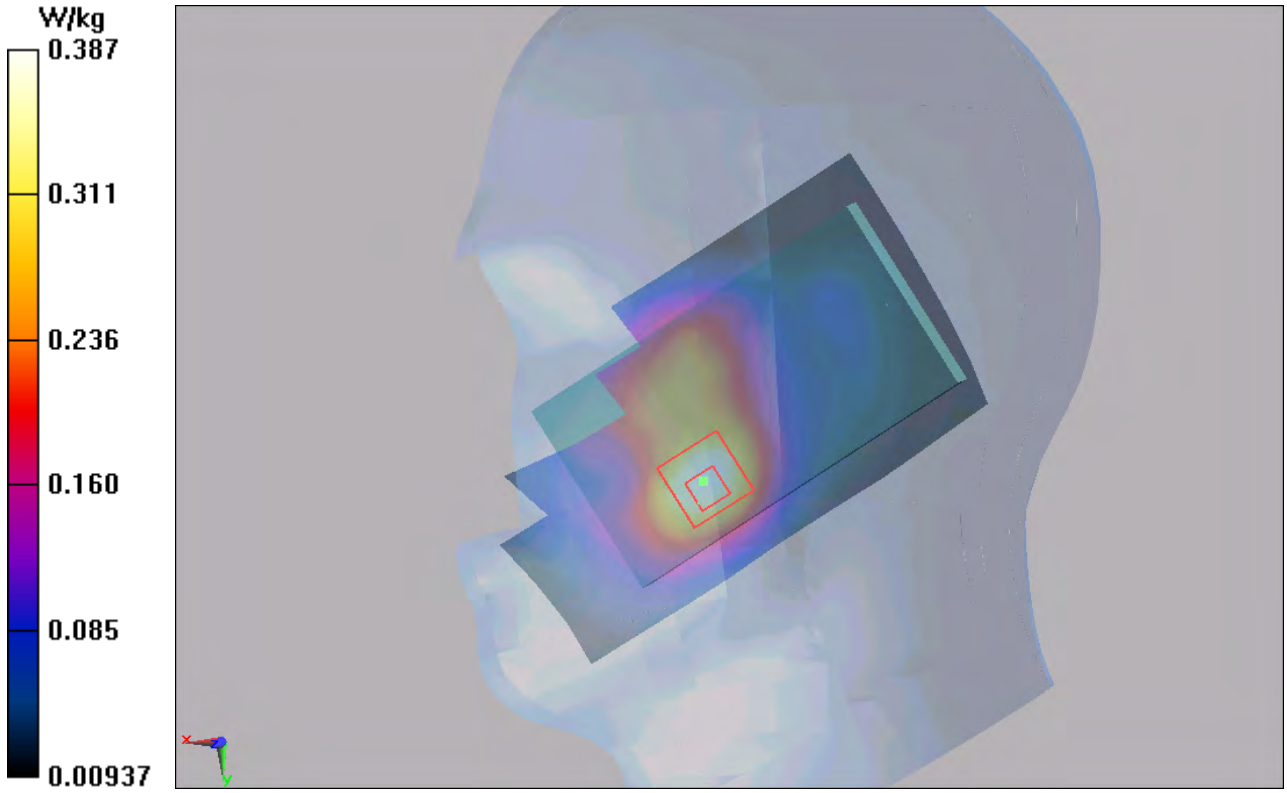


Figure 41 Right Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Right Tilt Middle (Battery 1)
Date: 1/7/2015
Communication System: UID 0, GSM (0); Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.413 S/m; ε_r = 39.689; 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 - SN3977; ConvF(7.97, 7.97, 7.97); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Tilt Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.180 W/kg

Right Tilt Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.077 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 0.253 W/kg
SAR(1 g) = 0.162 W/kg; SAR(10 g) = 0.094 W/kg
Maximum value of SAR (measured) = 0.182 W/kg

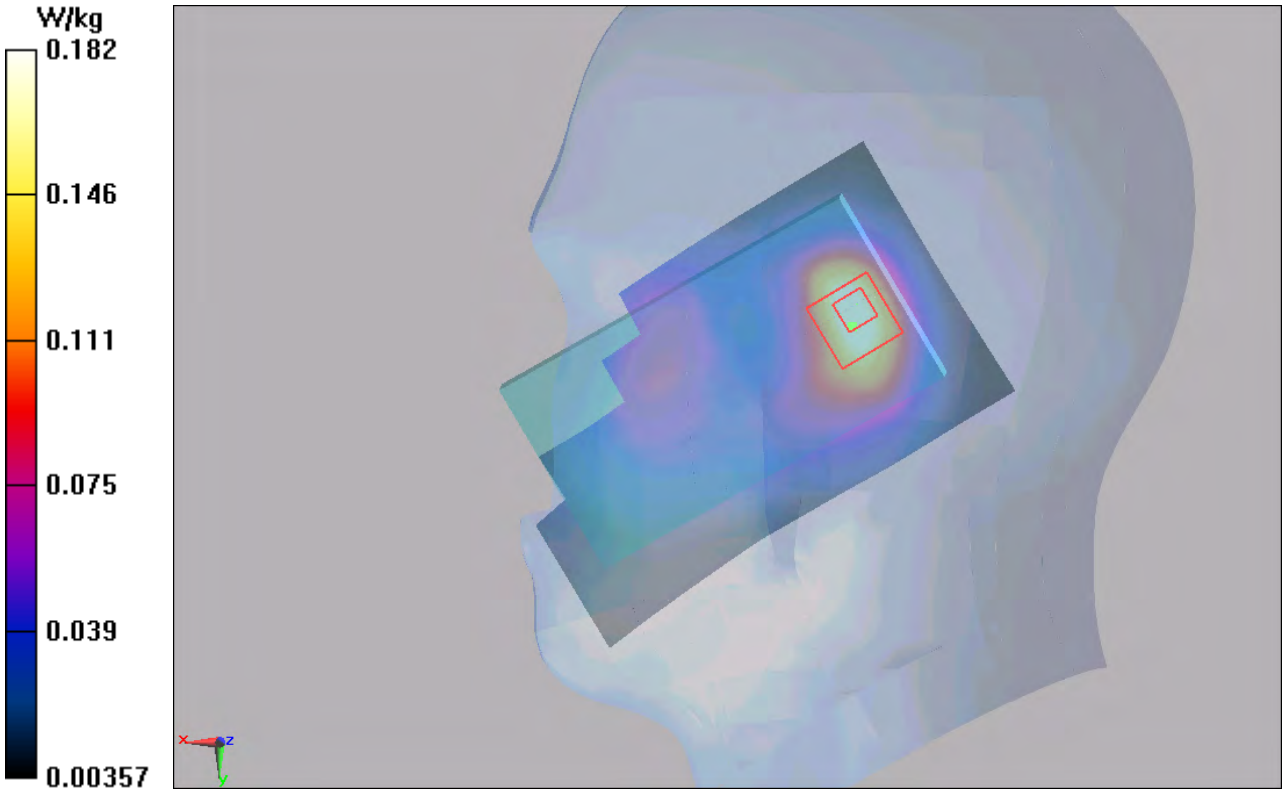


Figure 42 Right Hand Tilt 15° GSM 1900 Channel 661

GSM 1900 Left Cheek Middle (SIM 2)
Date: 1/7/2015
Communication System: UID 0, GSM (0); Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.413 S/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 - SN3977; ConvF(7.97, 7.97, 7.97); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Cheek Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.490 W/kg

Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.171 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 0.686 W/kg
SAR(1 g) = 0.445 W/kg; SAR(10 g) = 0.272 W/kg
Maximum value of SAR (measured) = 0.451 W/kg

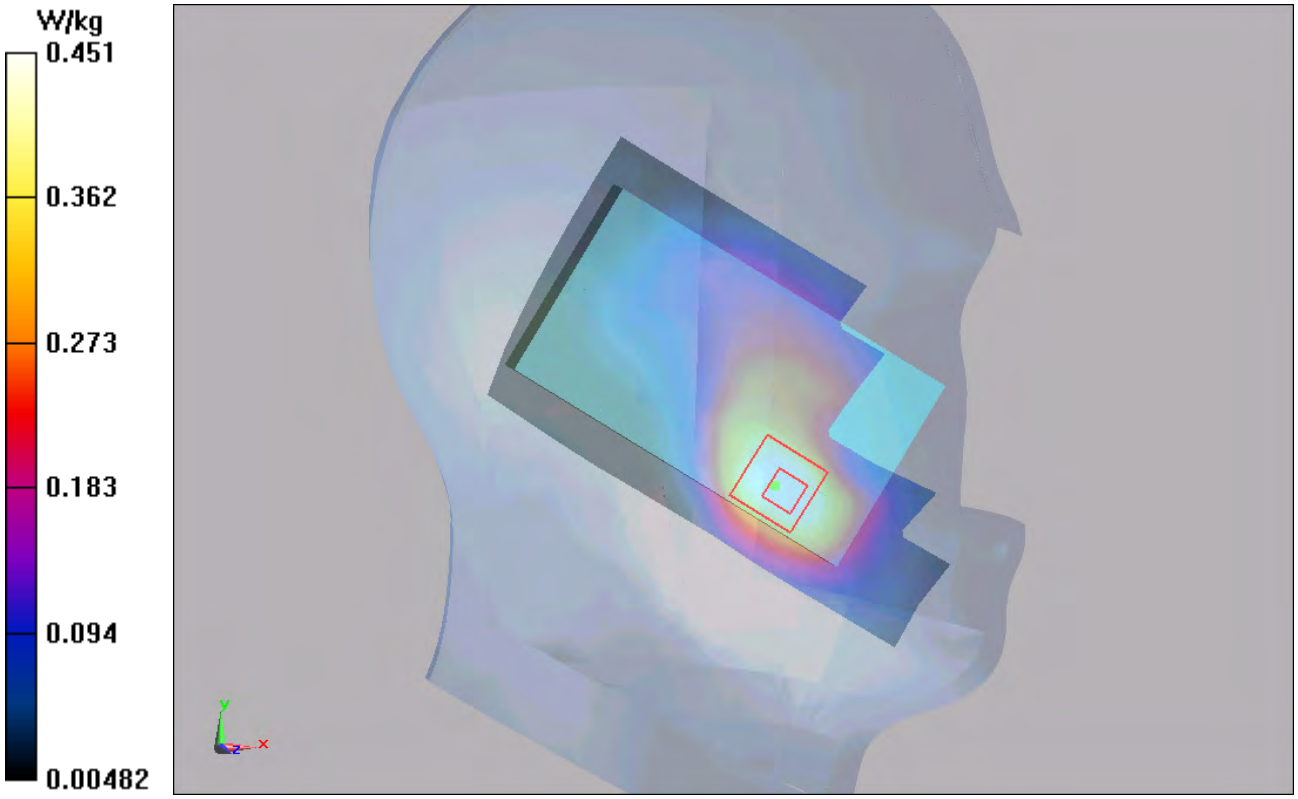


Figure 43 Left Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Left Cheek Middle (Battery 2)
Date: 1/7/2015
Communication System: UID 0, GSM (0); Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.413 S/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 - SN3977; ConvF(7.97, 7.97, 7.97); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Cheek Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.439 W/kg

Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 5.957 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 0.603 W/kg
SAR(1 g) = 0.397 W/kg; SAR(10 g) = 0.246 W/kg
Maximum value of SAR (measured) = 0.419 W/kg

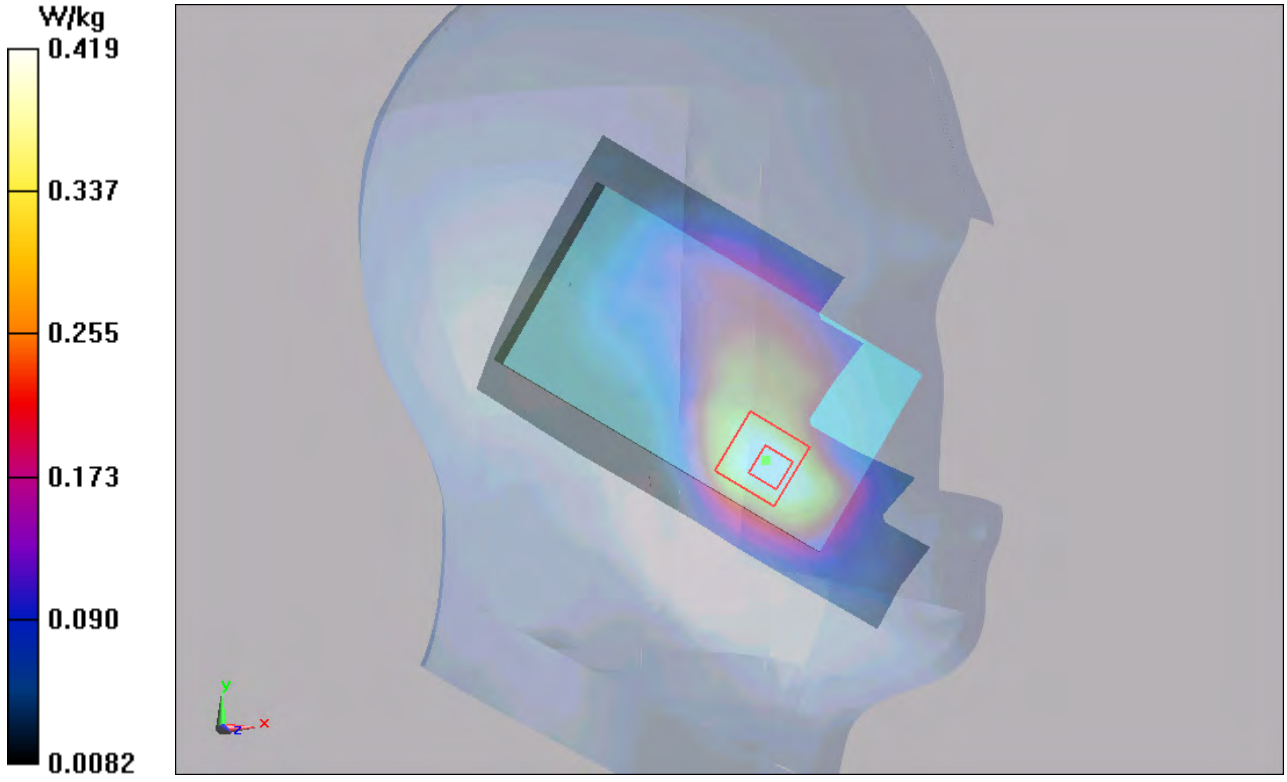


Figure 44 Left Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Back Side Middle (Battery 1)
Date: 1/6/2015
Communication System: UID 0, GSM (0); Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.465 W/kg

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.005 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.643 W/kg
SAR(1 g) = 0.415 W/kg; SAR(10 g) = 0.244 W/kg
Maximum value of SAR (measured) = 0.425 W/kg

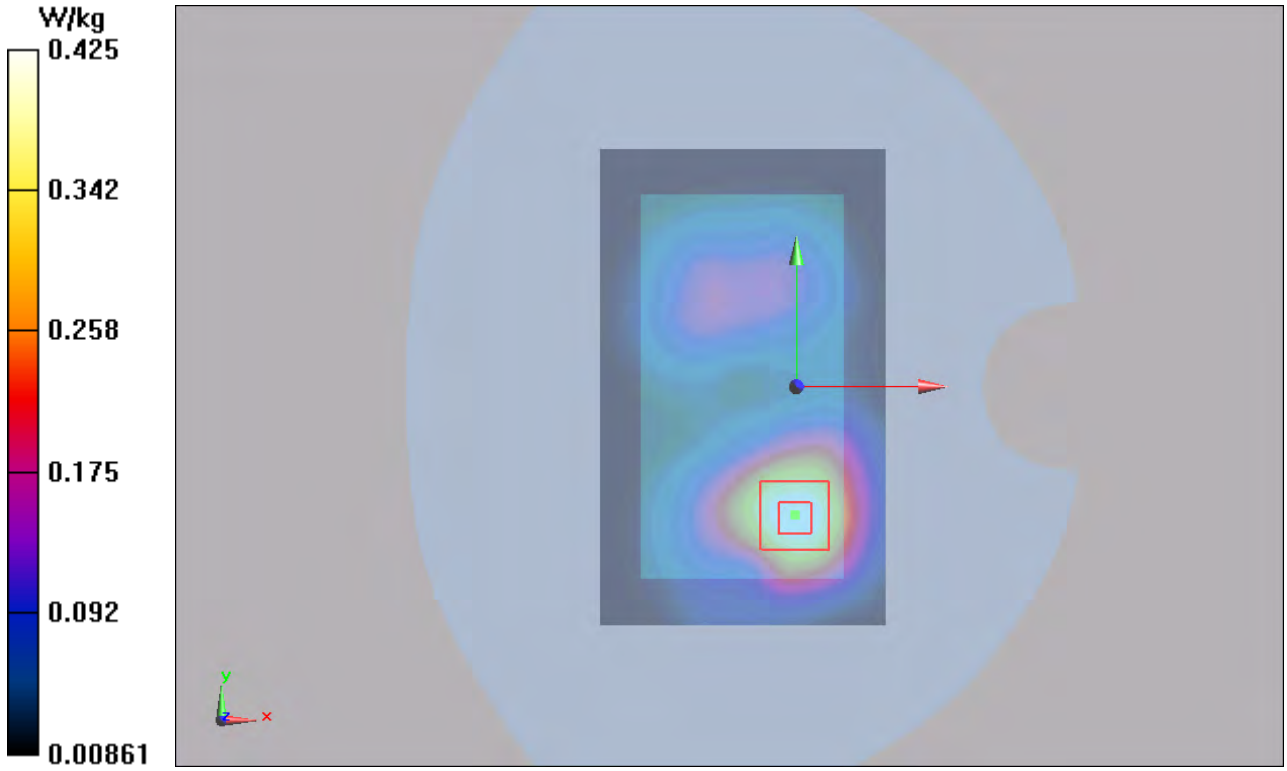


Figure 45 Body, Back Side, GSM 1900 Channel 661

GSM 1900 Front Side Middle (Battery 1)
Date: 1/6/2015
Communication System: UID 0, GSM (0); Frequency: 1880 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Front Side Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.354 W/kg

Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 9.671 V/m; Power Drift = 0.01 dB
Peak SAR (extrapolated) = 0.515 W/kg
SAR(1 g) = 0.332 W/kg; SAR(10 g) = 0.199 W/kg
Maximum value of SAR (measured) = 0.341 W/kg

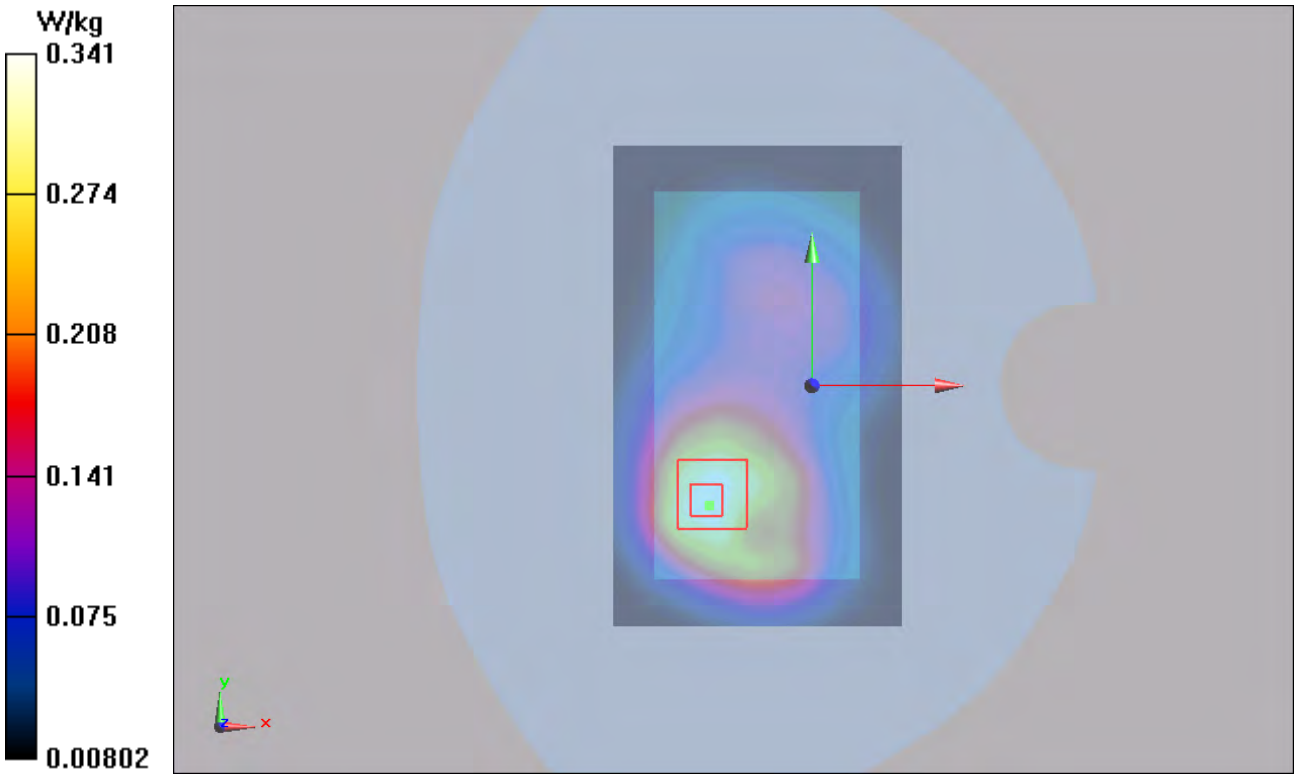


Figure 46 Body, Front Side, GSM 1900 Channel 661

GSM 1900 GPRS (4Txslots) Back Side High (Battery 1)
Date: 1/6/2015
Communication System: UID 0, GSM (0); Frequency: 1909.8 MHz;Duty Cycle: 1:8.30042
Medium parameters used: f = 1910 MHz; σ = 1.535 S/m; ε_r = 52.981; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side High/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
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 = 5.183 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 1.38 W/kg
SAR(1 g) = 0.872 W/kg; SAR(10 g) = 0.510 W/kg
Maximum value of SAR (measured) = 0.896 W/kg

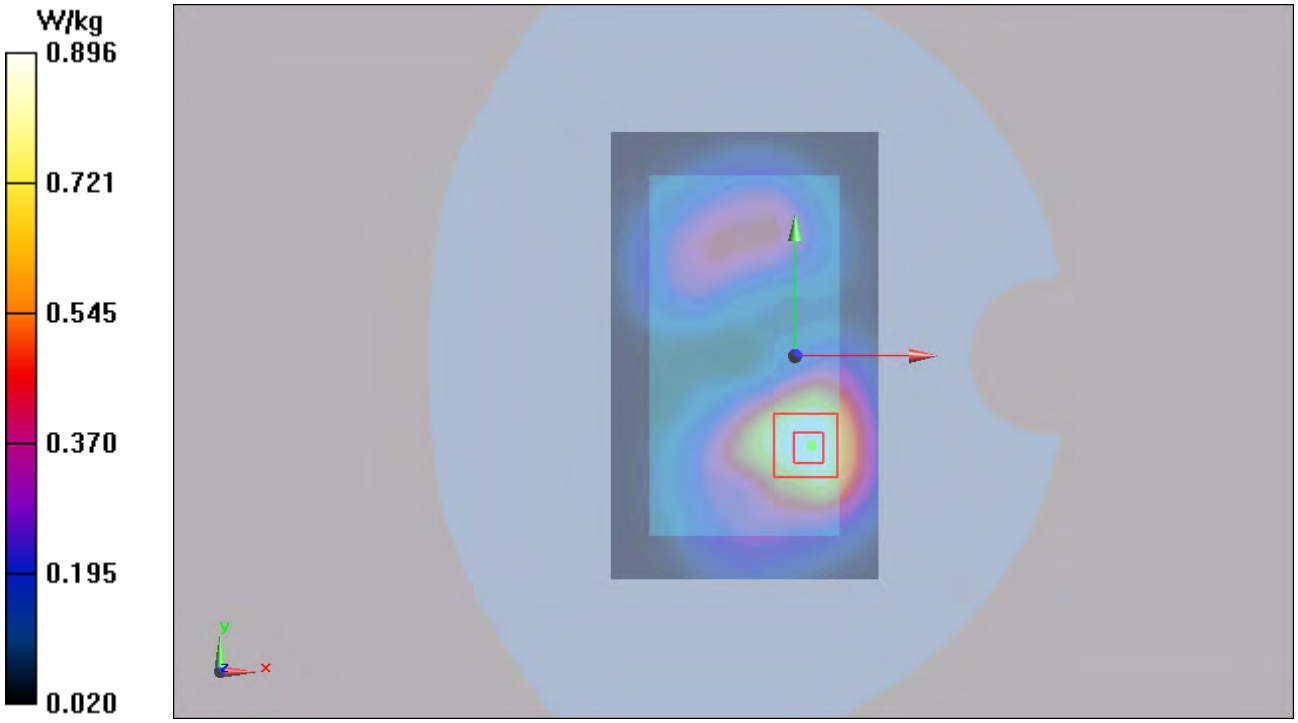


Figure 47 Body, Back Side, GSM 1900 GPRS (4Txslots) Channel 810

GSM 1900 GPRS (4Txslots) Back Side Middle (Battery 1)
Date: 1/6/2015
Communication System: UID 0, GPRS 4TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.841 W/kg

Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 3.188 V/m; Power Drift = -0.035 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.740 W/kg; SAR(10 g) = 0.436 W/kg
Maximum value of SAR (measured) = 0.754 W/kg

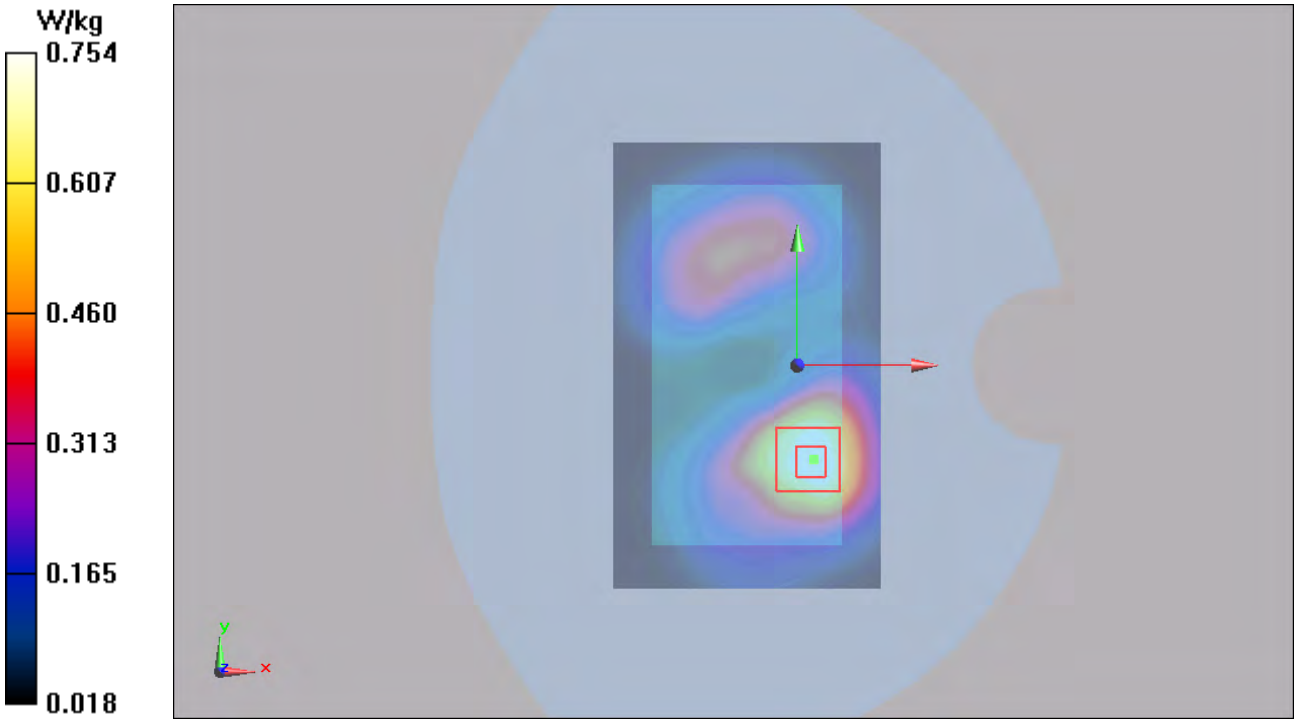


Figure 48 Body, Back Side, GSM 1900 GPRS (4Txslots) Channel 661

GSM 1900 GPRS (4Txslots) Back Side Low (Battery 1)
Date: 1/6/2015
Communication System: UID 0, GSM (0); Frequency: 1850.2 MHz;Duty Cycle: 1:8.30042
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.476 S/m; ε_r = 53.266; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side Low/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.707 W/kg

Back Side Low/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 4.965 V/m; Power Drift = 0.058 dB
Peak SAR (extrapolated) = 0.973 W/kg
SAR(1 g) = 0.617 W/kg; SAR(10 g) = 0.357 W/kg
Maximum value of SAR (measured) = 0.618 W/kg

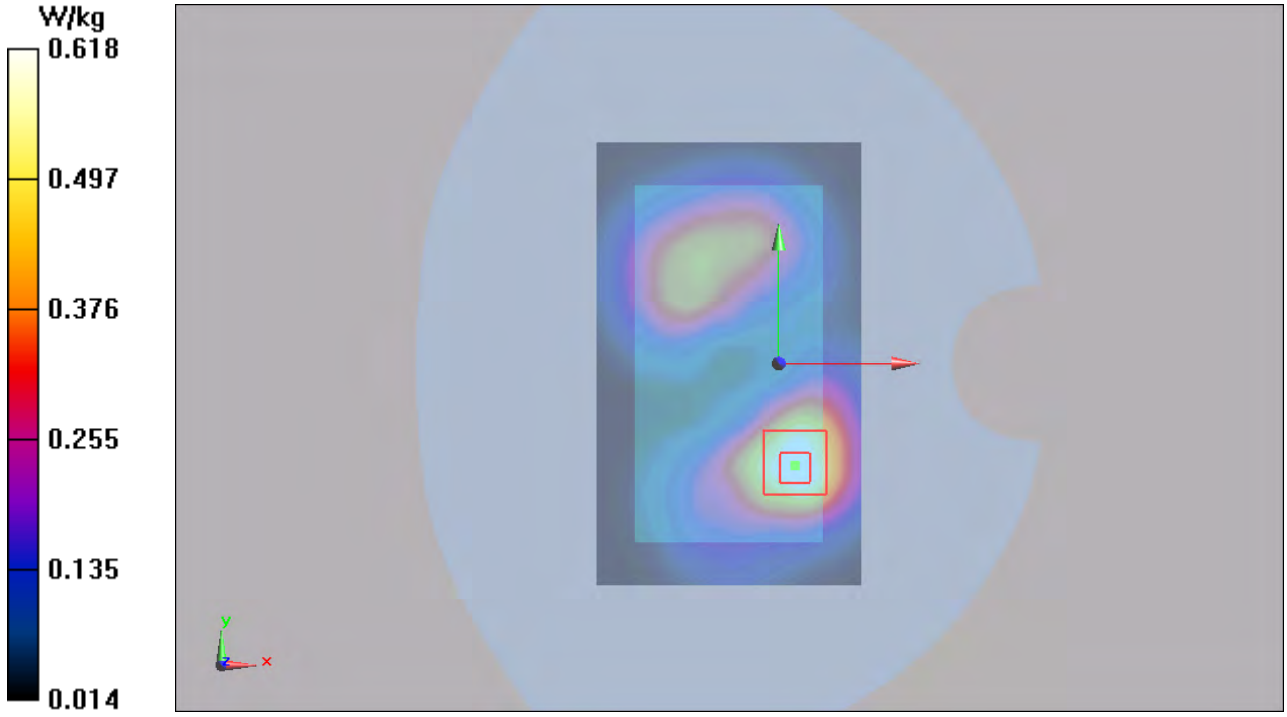


Figure 49 Body, Back Side, GSM 1900 GPRS (4Txslots) Channel 512

GSM 1900 GPRS (4Txslots) Front Side Middle (Battery 1)
Date: 1/6/2015
Communication System: UID 0, GPRS 4TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Front Side Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.602 W/kg

Front Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 10.448 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.866 W/kg
SAR(1 g) = 0.555 W/kg; SAR(10 g) = 0.335 W/kg
Maximum value of SAR (measured) = 0.579 W/kg

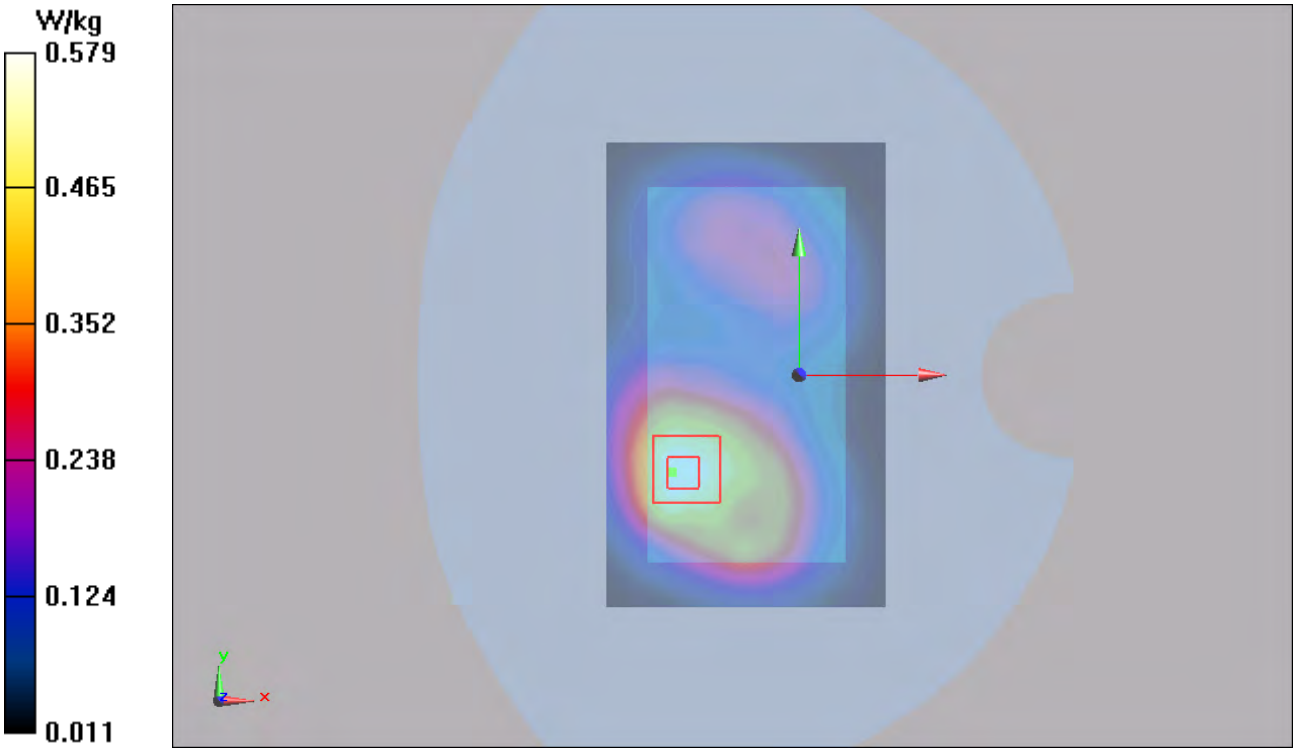


Figure 50 Body, Front Side, GSM 1900 GPRS (4Txslots) Channel 661

GSM 1900 GPRS (4Txslots) Left Edge Middle (Battery 1)
Date: 1/6/2015
Communication System: UID 0, GPRS 4TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Edge Middle/Area Scan (51x151x1): Interpolated grid: dx=1.000mm, dy=1.000mm
Maximum value of SAR (interpolated) = 0.262 W/kg

Left Edge Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.219 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 0.358 W/kg
SAR(1 g) = 0.228 W/kg; SAR(10 g) = 0.134 W/kg
Maximum value of SAR (measured) = 0.230 W/kg

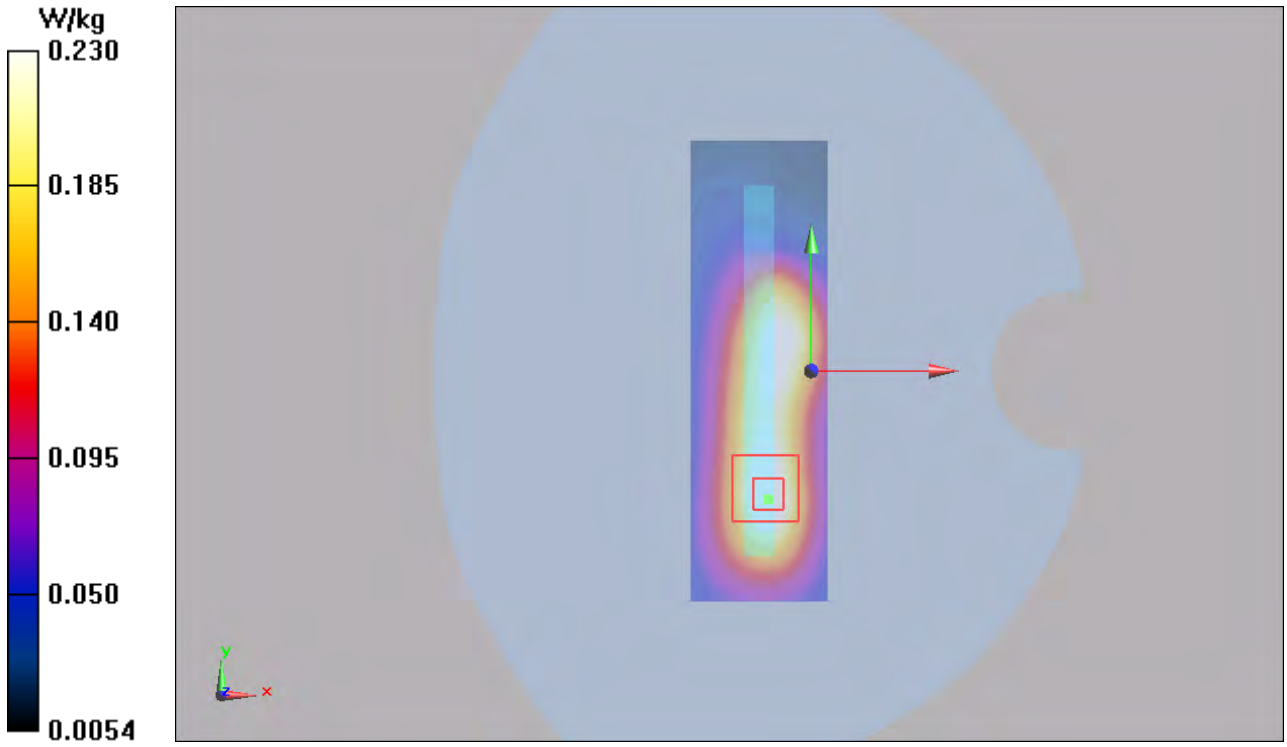


Figure 51 Body, Left Edge, GSM 1900 GPRS (4Txslots) Channel 661

GSM 1900 GPRS (4Txslots) Right Edge Middle (Battery 1)
Date: 1/6/2015
Communication System: UID 0, GPRS 4TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Edge Middle/Area Scan (51x151x1): Interpolated grid: dx=1.000mm, dy=1.000mm
Maximum value of SAR (interpolated) = 0.153 W/kg

Right Edge Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.534 V/m; Power Drift = 0.040 dB
Peak SAR (extrapolated) = 0.201 W/kg
SAR(1 g) = 0.129 W/kg; SAR(10 g) = 0.075 W/kg
Maximum value of SAR (measured) = 0.129 W/kg

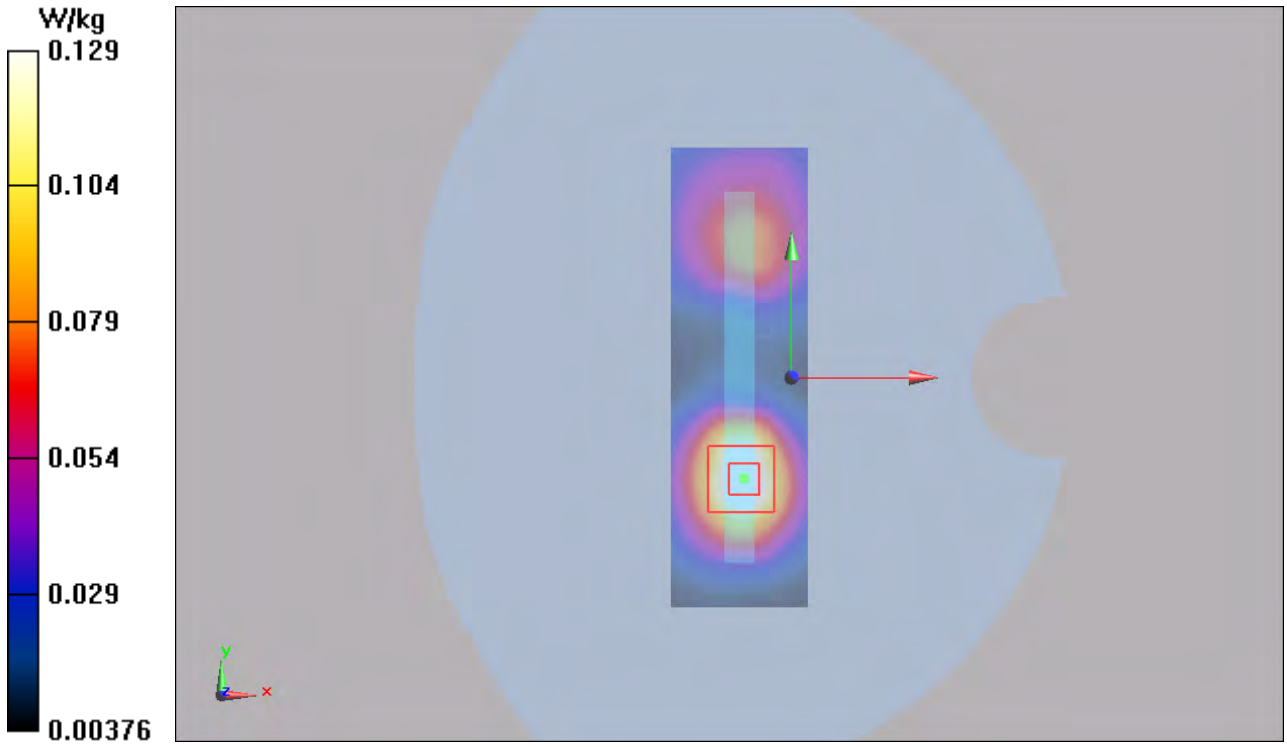


Figure 52 Body, Right Edge, GSM 1900 GPRS (4Txslots) Channel 661

GSM 1900 GPRS (4Txslots) Bottom Edge Middle (Battery 1)
Date: 1/6/2015
Communication System: UID 0, GPRS 4TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Bottom Edge Middle/Area Scan (51x91x1): Interpolated grid: dx=1.000mm, dy=1.000mm
Maximum value of SAR (interpolated) = 0.435 W/kg

Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.745 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 0.671 W/kg
SAR(1 g) = 0.406 W/kg; SAR(10 g) = 0.211 W/kg
Maximum value of SAR (measured) = 0.438 W/kg

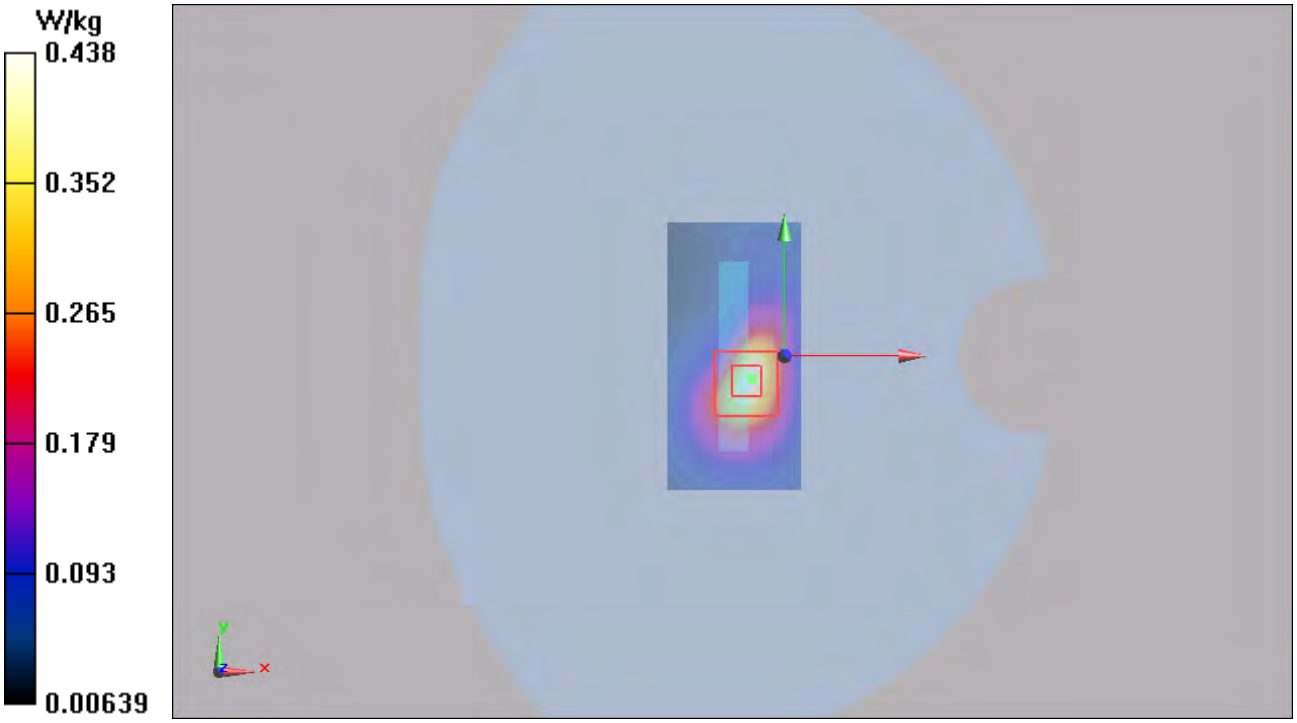


Figure 53 Body, Bottom Edge, GSM 1900 GPRS (4Txslots) Channel 661

GSM 1900 GPRS (4Txslots) Back Side High (SIM 2)
Date: 1/6/2015
Communication System: UID 0, GPRS 4TX (0); Frequency: 1909.8 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1910 MHz; σ = 1.535 S/m; ε_r = 52.981; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side High/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.02 W/kg

Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 6.983 V/m; Power Drift = -0.022 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 0.904 W/kg; SAR(10 g) = 0.534 W/kg
Maximum value of SAR (measured) = 0.931 W/kg

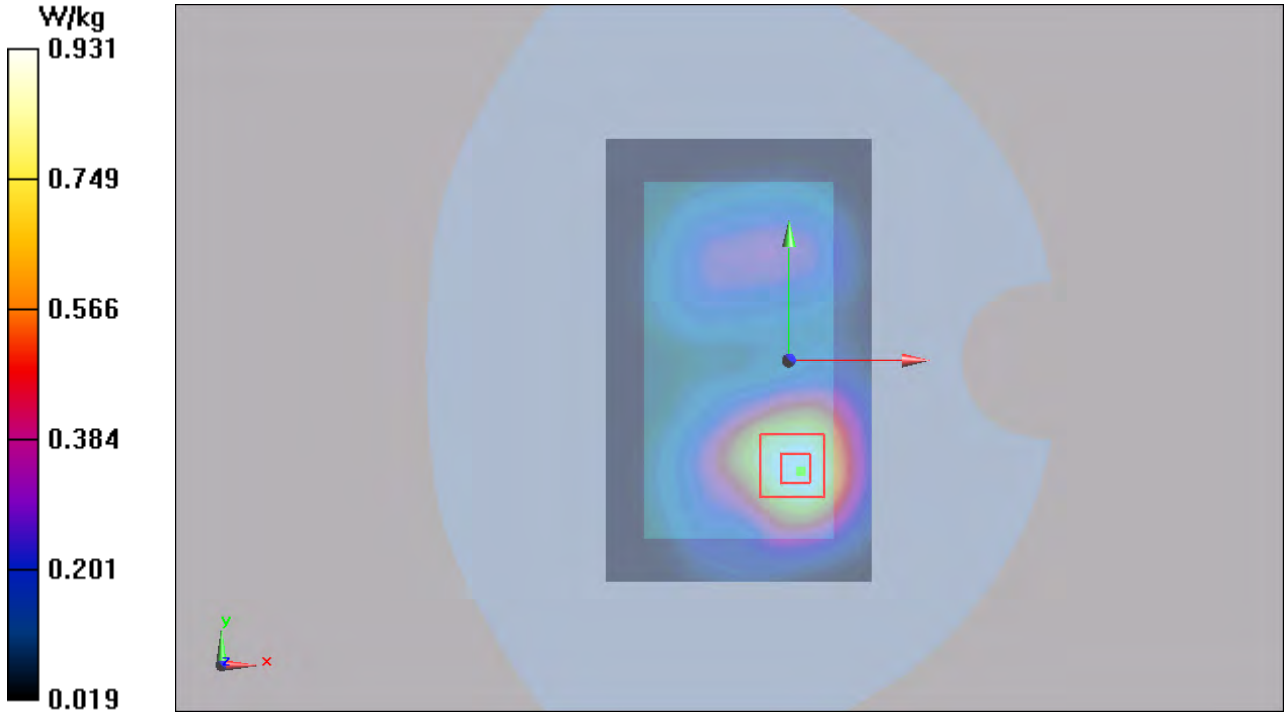


Figure 54 Body, Back Side, GSM 1900 GPRS (4Txslots) Channel 810

GSM 1900 GPRS (4Txslots) Back Side High (Battery 2)
Date: 1/6/2015
Communication System: UID 0, GPRS 4TX (0); Frequency: 1909.8 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1910 MHz; σ = 1.535 S/m; ε_r = 52.981; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side High/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.971 W/kg

Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.469 V/m; Power Drift = -0.032 dB
Peak SAR (extrapolated) = 1.36 W/kg
SAR(1 g) = 0.875 W/kg; SAR(10 g) = 0.517 W/kg
Maximum value of SAR (measured) = 0.900 W/kg

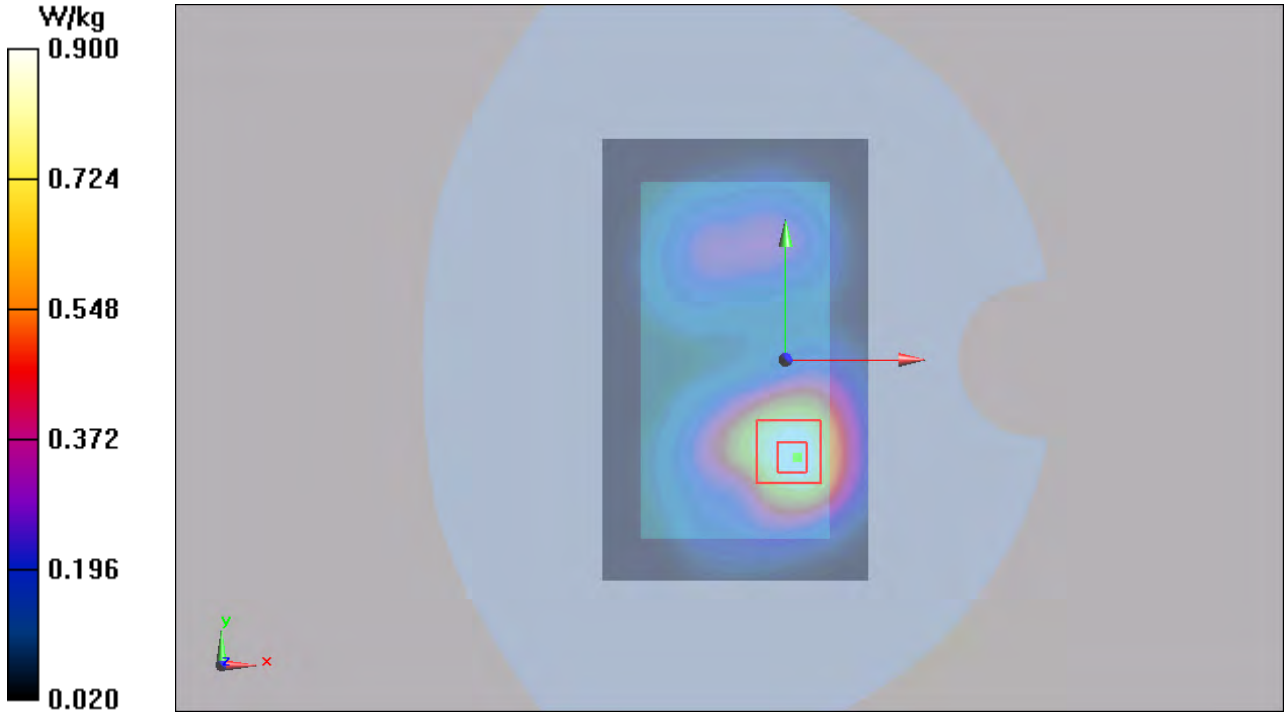


Figure 55 Body, Back Side, GSM 1900 GPRS (4Txslots) Channel 810

GSM 1900 GPRS (4Txslots) Back Side High (1st repeated SAR)
Date: 1/6/2015
Communication System: UID 0, GPRS 4TX (0); Frequency: 1909.8 MHz;Duty Cycle: 1:2.07491
Medium parameters used: f = 1910 MHz; σ = 1.535 S/m; ε_r = 52.981; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side High/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.966 W/kg

Back Side High/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 7.294 V/m; Power Drift = -0.026 dB
Peak SAR (extrapolated) = 1.36 W/kg
SAR(1 g) = 0.874 W/kg; SAR(10 g) = 0.516 W/kg
Maximum value of SAR (measured) = 0.900 W/kg

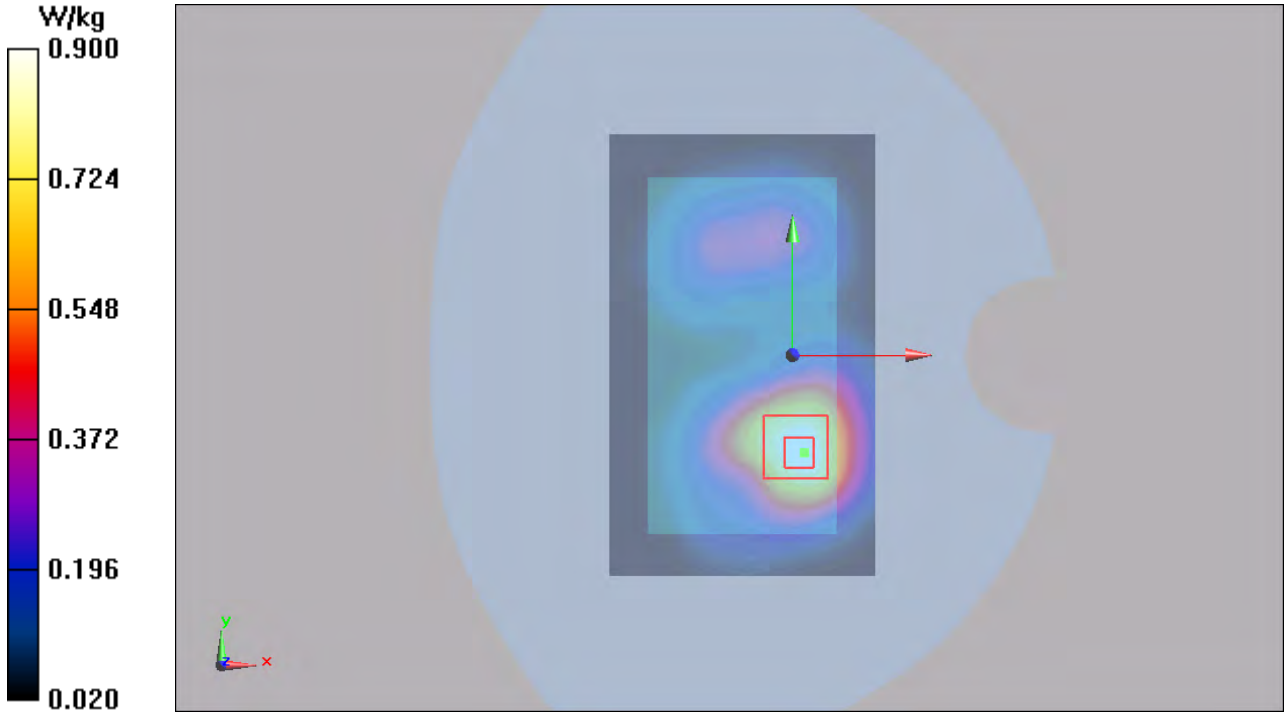


Figure 56 Body, Back Side, GSM 1900 GPRS (4Txslots) Channel 810

UMTS Band II Left Cheek High (Battery 1)
Date: 1/7/2015
Communication System: UID 0, WCDMA (0); Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.438 S/m; ε_r = 39.572; 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 - SN3977; ConvF(7.97, 7.97, 7.97); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Cheek High/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.943 W/kg

Left Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.467 V/m; Power Drift = 0.034 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.845 W/kg; SAR(10 g) = 0.515 W/kg
Maximum value of SAR (measured) = 0.862 W/kg

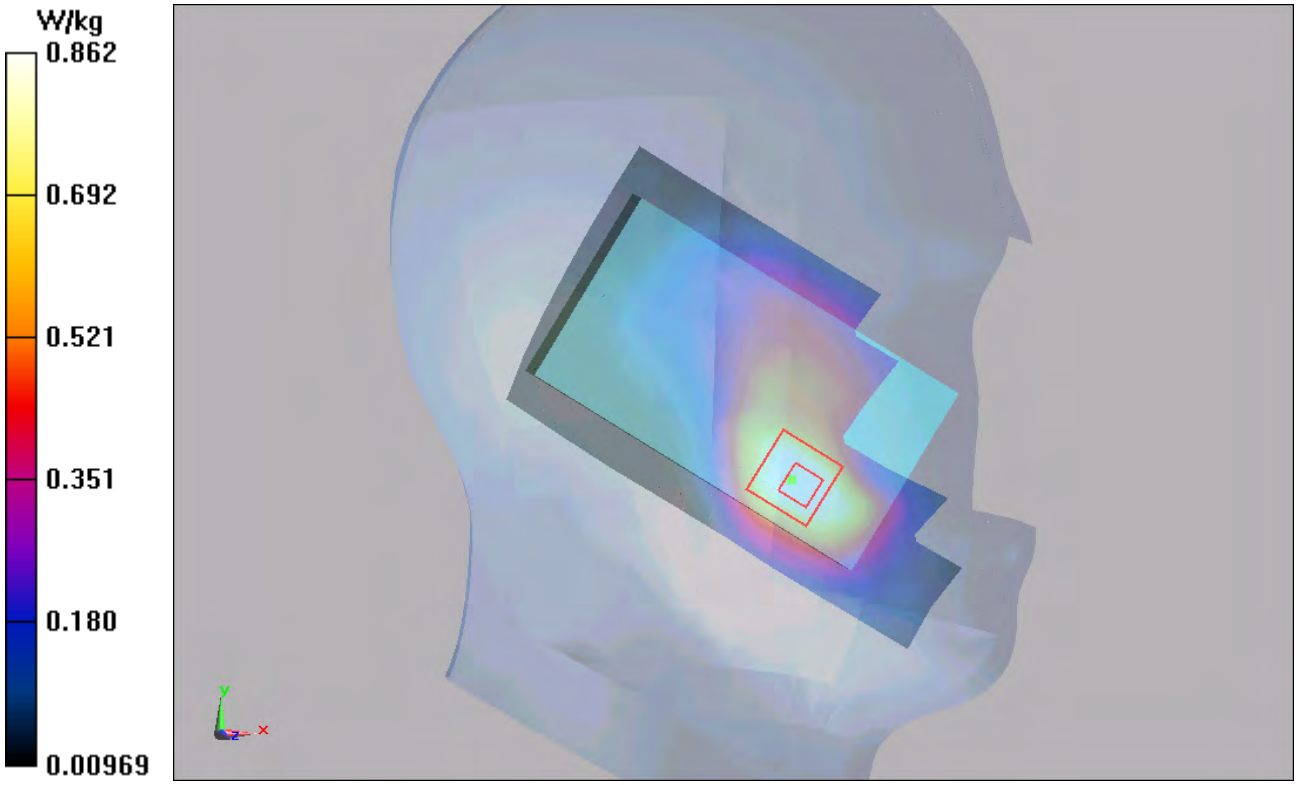


Figure 57 Left Hand Touch Cheek UMTS Band II Channel 9538

UMTS Band II Left Cheek Middle (Battery 1)
Date: 1/7/2015
Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.413 S/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 - SN3977; ConvF(7.97, 7.97, 7.97); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Cheek Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.911 W/kg

Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.493 V/m; Power Drift = -0.043 dB
Peak SAR (extrapolated) = 1.28 W/kg
SAR(1 g) = 0.825 W/kg; SAR(10 g) = 0.503 W/kg
Maximum value of SAR (measured) = 0.867 W/kg

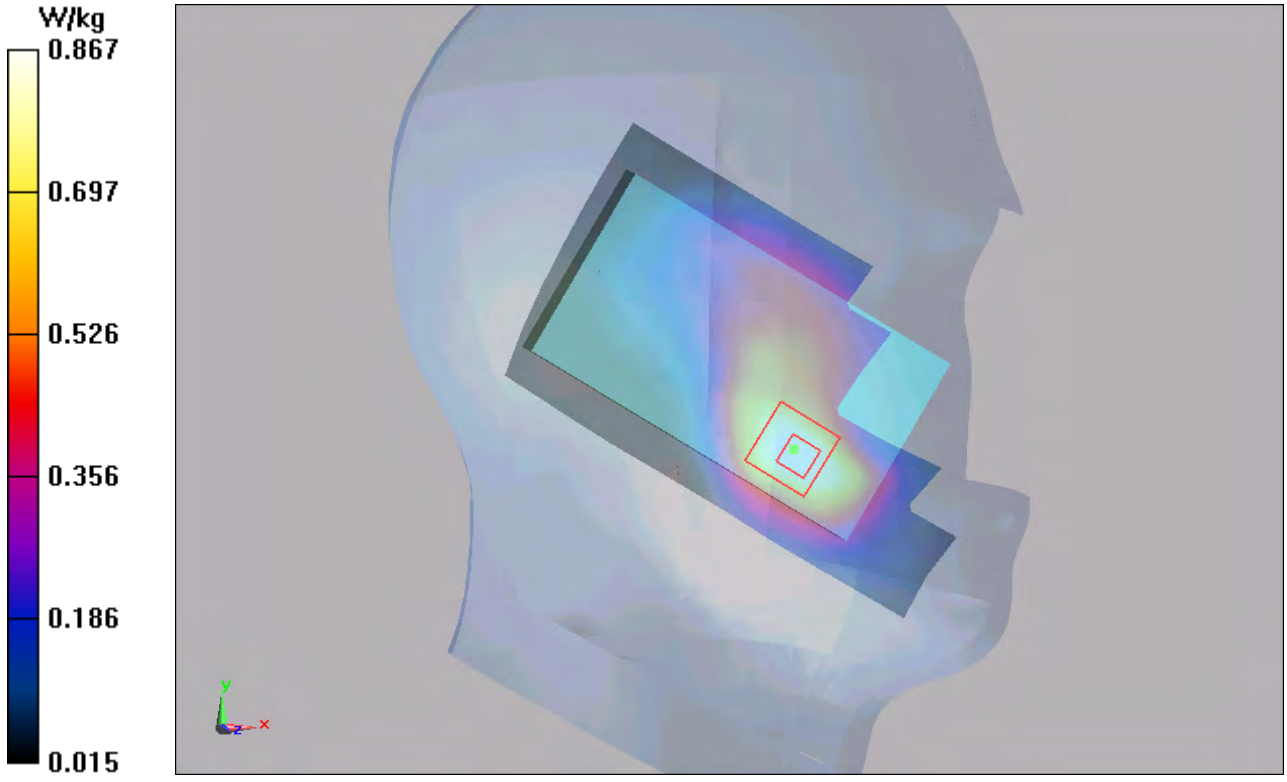


Figure 58 Left Hand Touch Cheek UMTS Band II Channel 9400

UMTS Band II Left Cheek Low (Battery 1)

Date: 1/7/2015

Communication System: UID 0, WCDMA (0); Frequency: 1852.4 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.389 S/m; ε_r = 39.803; 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 - SN3977; ConvF(7.97, 7.97, 7.97); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Cheek Low/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.914 W/kg

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

Reference Value = 7.465 V/m; Power Drift = 0.060 dB

Peak SAR (extrapolated) = 1.30 W/kg

SAR(1 g) = 0.844 W/kg; SAR(10 g) = 0.516 W/kg

Maximum value of SAR (measured) = 0.895 W/kg

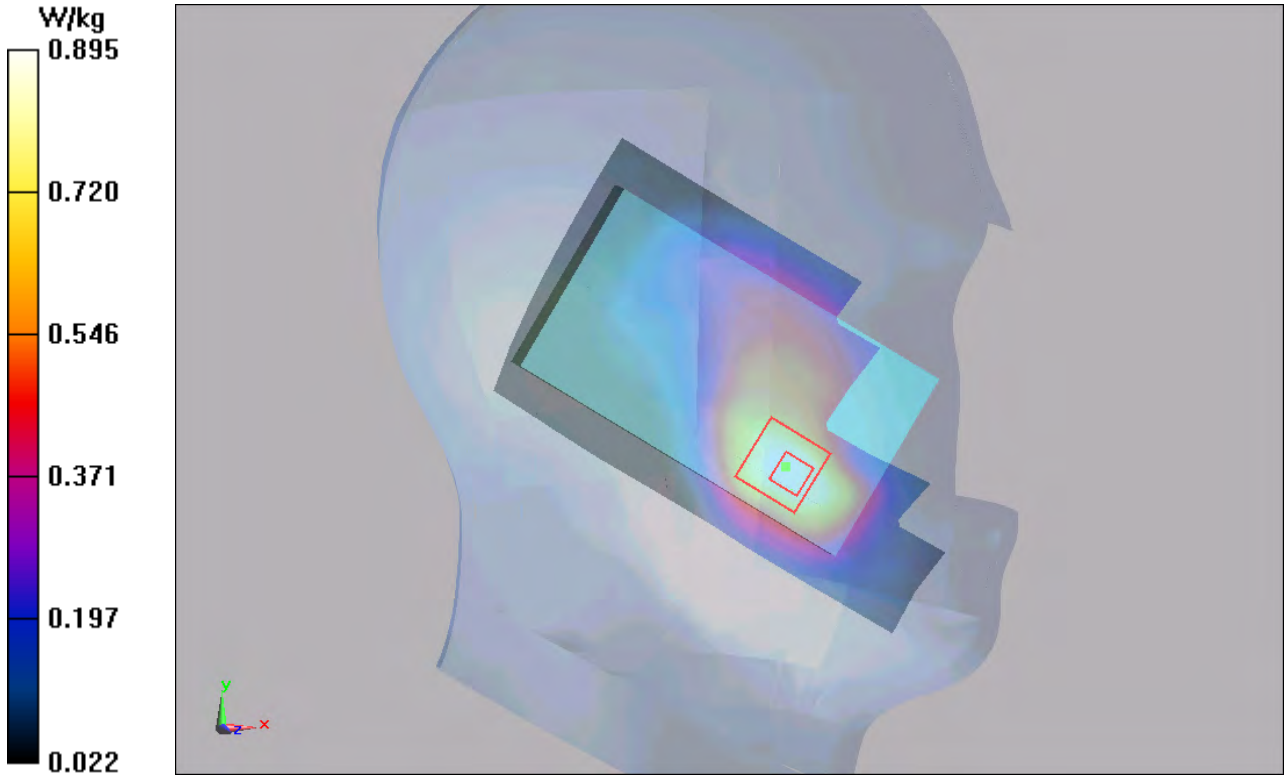


Figure 59 Left Hand Touch Cheek UMTS Band II Channel 9262

UMTS Band II Left Tilt Middle (Battery 1)
Date: 1/7/2015
Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.413 S/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 - SN3977; ConvF(7.97, 7.97, 7.97); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Tilt Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.381 W/kg

Left Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.456 V/m; Power Drift = 0.020 dB
Peak SAR (extrapolated) = 0.464 W/kg
SAR(1 g) = 0.313 W/kg; SAR(10 g) = 0.194 W/kg
Maximum value of SAR (measured) = 0.325 W/kg

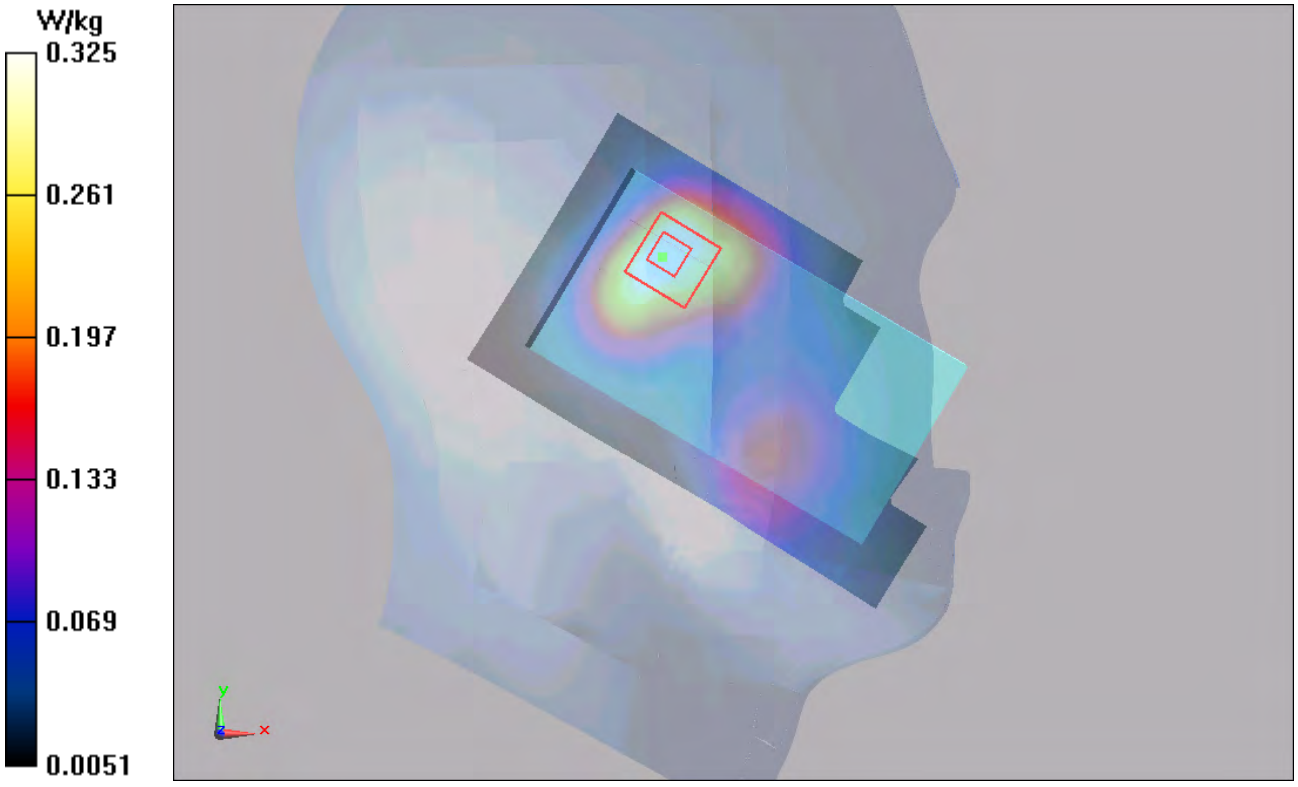


Figure 60 Left Hand Tilt 15° UMTS Band II Channel 9400

UMTS Band II Right Cheek Middle (Battery 1)
Date: 1/7/2015
Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.413 S/m; ε_r = 39.689; 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 - SN3977; ConvF(7.97, 7.97, 7.97); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Cheek Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.784 W/kg

Right Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.705 V/m; Power Drift = 0.043 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.698 W/kg; SAR(10 g) = 0.428 W/kg
Maximum value of SAR (measured) = 0.736 W/kg

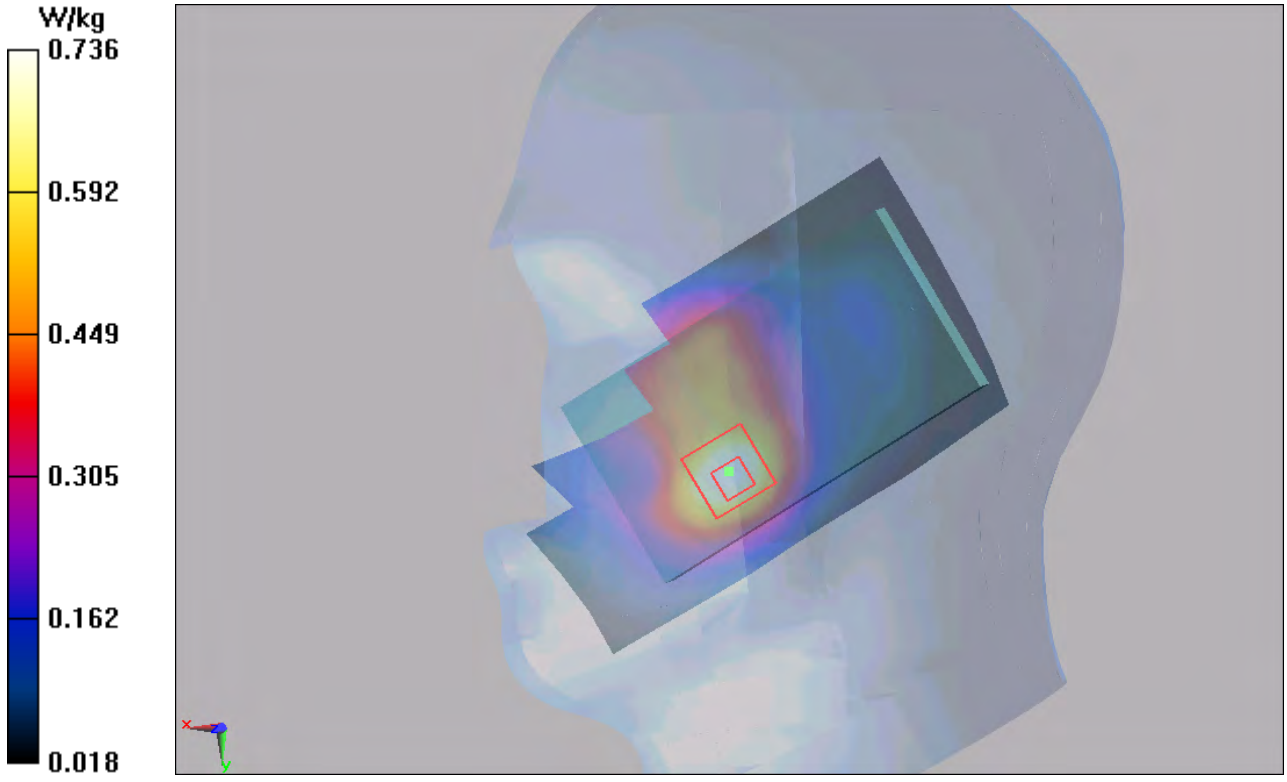


Figure 61 Right Hand Touch Cheek UMTS Band II Channel 9400

UMTS Band II Right Tilt Middle (Battery 1)

Date: 1/7/2015

Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1880 MHz; σ = 1.413 S/m; ε_r = 39.689; 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 - SN3977; ConvF(7.97, 7.97, 7.97); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Tilt Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.369 W/kg

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

Reference Value = 14.049 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.522 W/kg

SAR(1 g) = 0.335 W/kg; SAR(10 g) = 0.195 W/kg

Maximum value of SAR (measured) = 0.372 W/kg

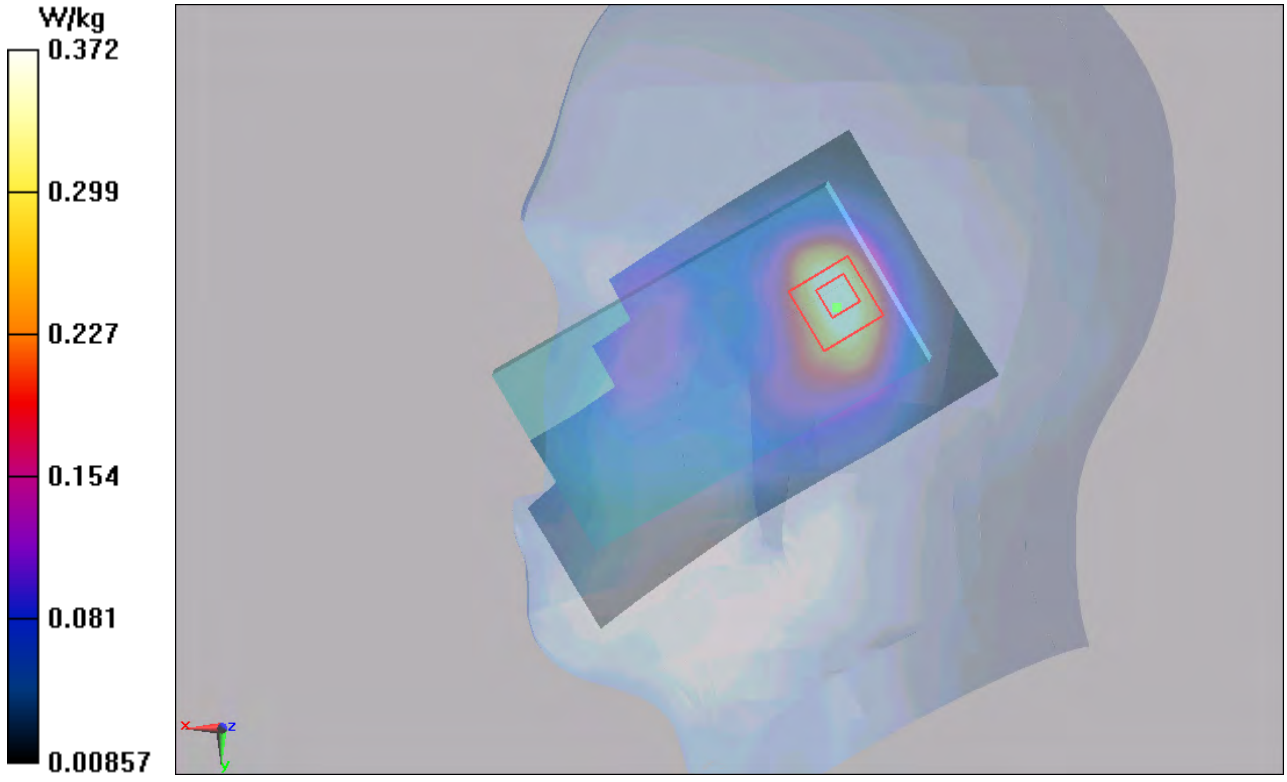


Figure 62 Right Hand Tilt 15° UMTS Band II Channel 9400

UMTS Band II Left Cheek Low (Battery 2)
Date: 1/7/2015
Communication System: UID 0, WCDMA (0); Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.389 S/m; ε_r = 39.803; 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 - SN3977; ConvF(7.97, 7.97, 7.97); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Left Cheek Low/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.893 W/kg

Left Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.747 V/m; Power Drift = 0.022 dB
Peak SAR (extrapolated) = 1.26 W/kg
SAR(1 g) = 0.819 W/kg; SAR(10 g) = 0.500 W/kg
Maximum value of SAR (measured) = 0.867 W/kg

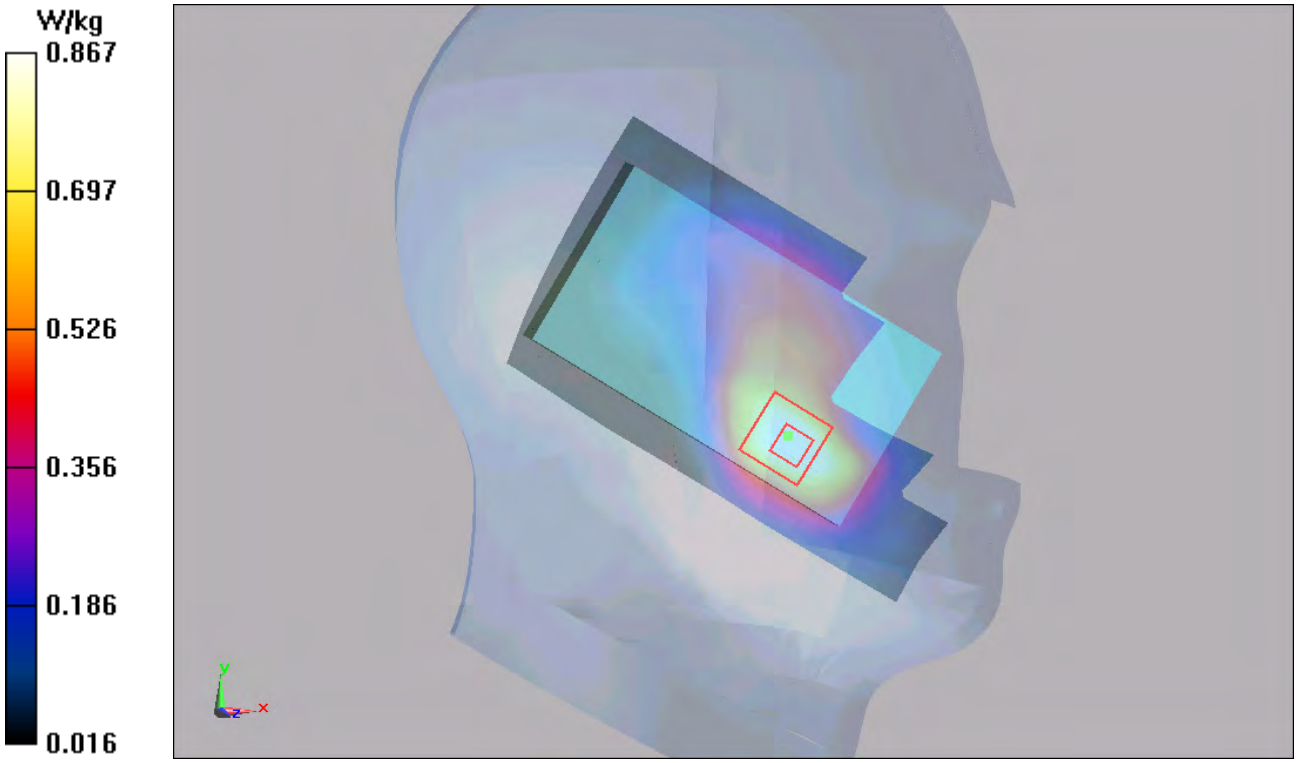


Figure 63 Left Hand Touch Cheek UMTS Band II Channel 9262

UMTS Band II Back Side High (Battery 1)
Date: 1/6/2015
Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.53 mho/m; ε_r = 52.5; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side High/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm
Maximum value of SAR (interpolated) = 1.28 mW/g

Back Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.8 V/m; Power Drift = -0.026 dB
Peak SAR (extrapolated) = 2.05 W/kg
SAR(1 g) = 1.19 mW/g; SAR(10 g) = 0.699 mW/g
Maximum value of SAR (measured) = 1.28 mW/g

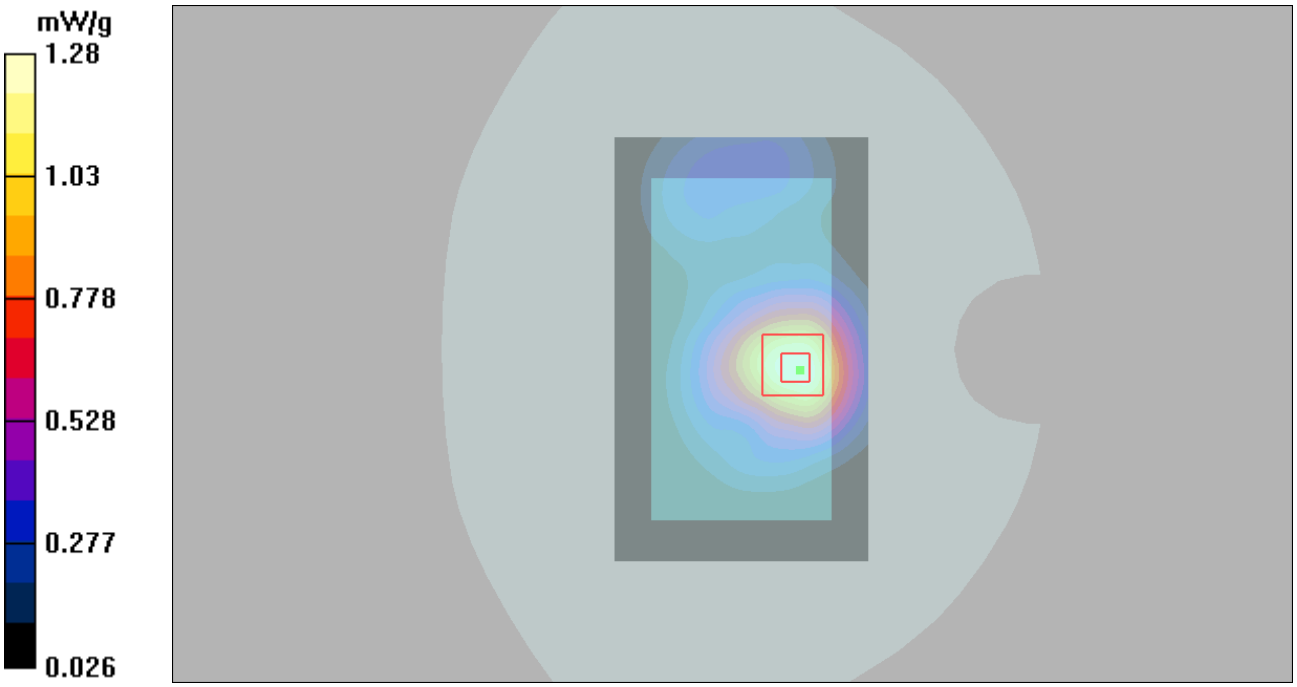


Figure 64 Body, Back Side, UMTS Band II Channel 9538

UMTS Band II Back Side Middle (Battery 1)
Date: 1/6/2015
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.5 mho/m; ε_r = 52.5; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side Middle/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm
Maximum value of SAR (interpolated) = 1.23 mW/g

Back Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.8 V/m; Power Drift = -0.133 dB
Peak SAR (extrapolated) = 1.93 W/kg
SAR(1 g) = 1.13 mW/g; SAR(10 g) = 0.664 mW/g
Maximum value of SAR (measured) = 1.23 mW/g

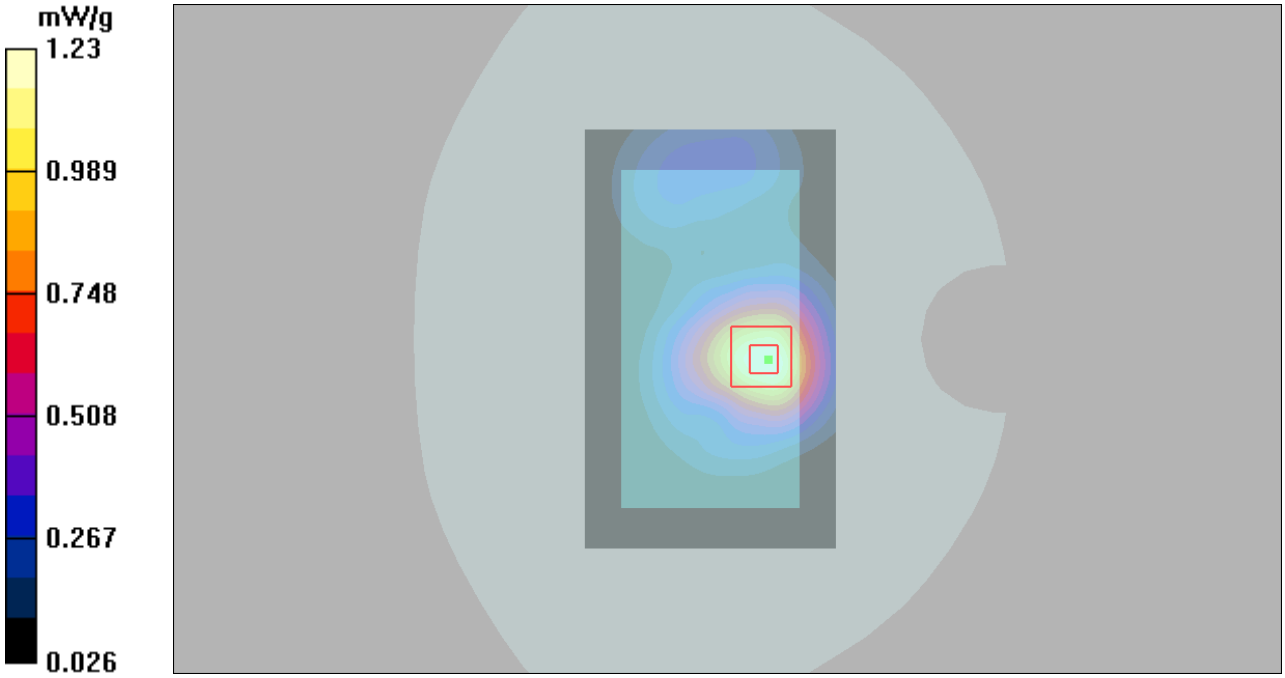


Figure 65 Body, Back Side, UMTS Band II Channel 9400

UMTS Band II Back Side Low (Battery 1)
Date: 1/6/2015
Communication System: WCDMA Band II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.48 mho/m; ε_r = 52.5; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side Low/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm
Maximum value of SAR (interpolated) = 1.15 mW/g

Back Side Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.3 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 1.76 W/kg
SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.612 mW/g
Maximum value of SAR (measured) = 1.12 mW/g

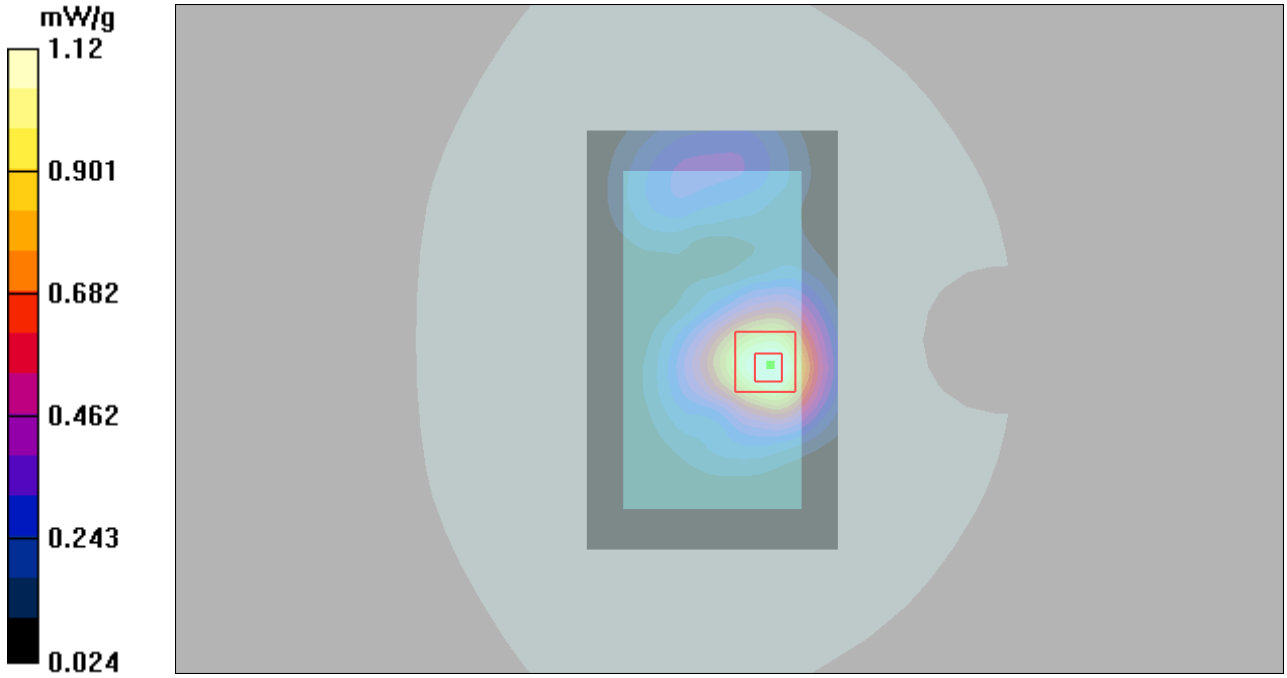


Figure 66 Body, Back Side, UMTS Band II Channel 9262

UMTS Band II Front Side High (Battery 1)

Date: 1/6/2015

Communication System: UID 0, WCDMA (0); Frequency: 1907.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1908 MHz; σ = 1.532 S/m; ε_r = 53.111; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Front Side High/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.06 W/kg

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

Reference Value = 14.357 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 1.44 W/kg

SAR(1 g) = 0.918 W/kg; SAR(10 g) = 0.549 W/kg

Maximum value of SAR (measured) = 0.963 W/kg

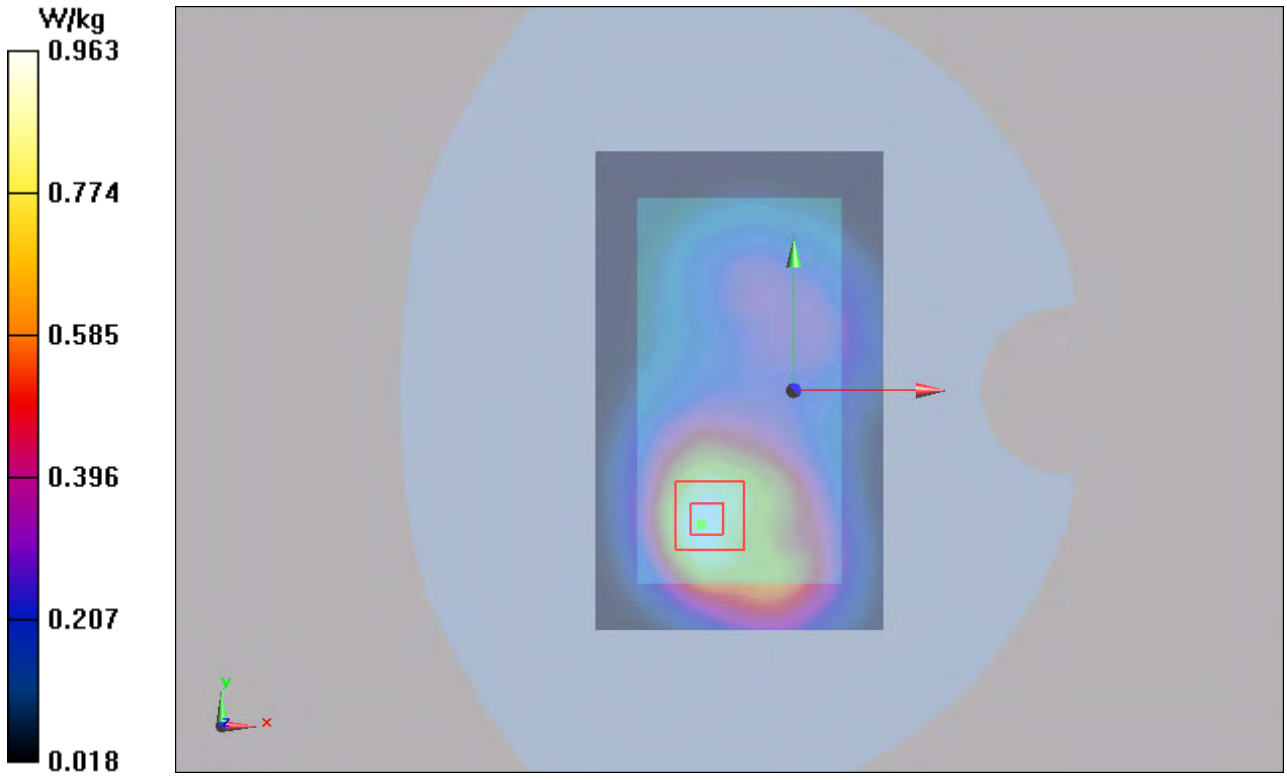


Figure 67 Body, Front Side, UMTS Band II Channel 9538

UMTS Band II Front Side Middle (Battery 1)
Date: 1/6/2015
Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Front Side Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.875 W/kg

Front Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.939 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.794 W/kg; SAR(10 g) = 0.480 W/kg
Maximum value of SAR (measured) = 0.853 W/kg

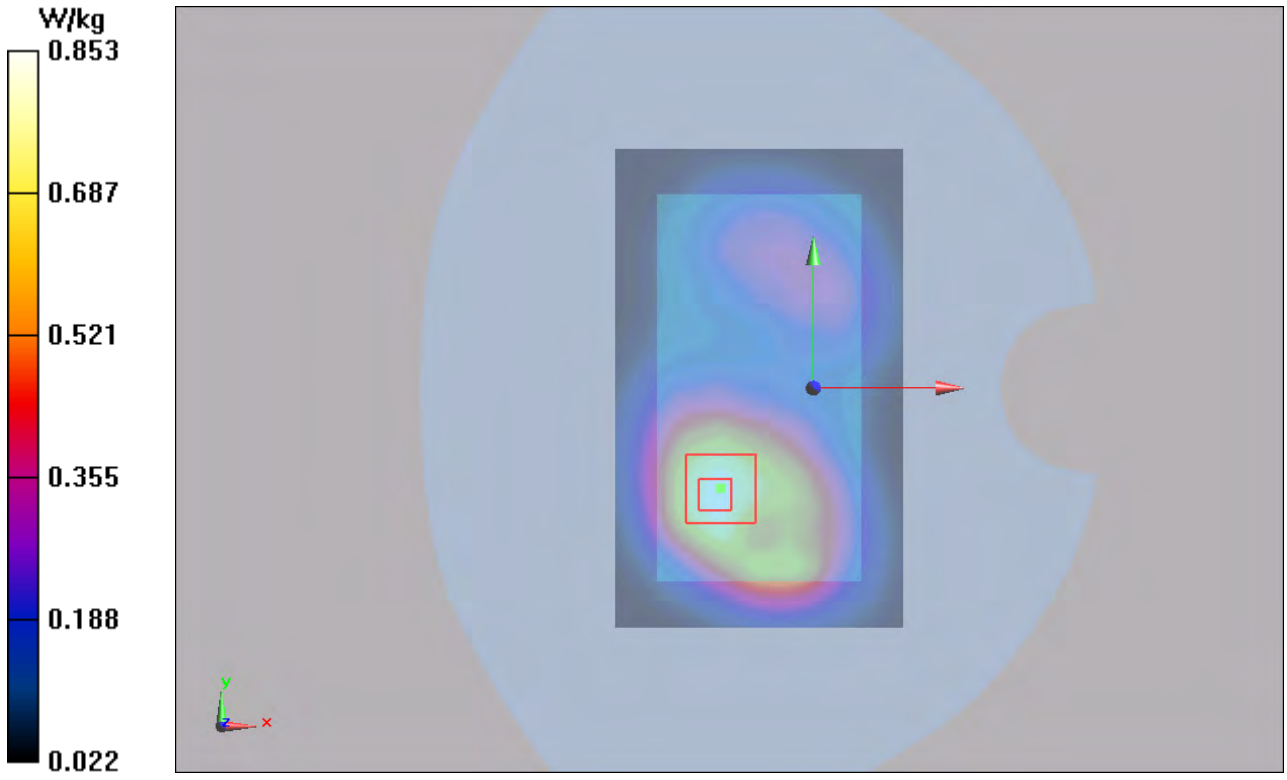


Figure 68 Body, Front Side, UMTS Band II Channel 9400

UMTS Band II Front Side Low (Battery 1)

Date: 1/6/2015

Communication System: UID 0, WCDMA (0); Frequency: 1852.4 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.477 S/m; ε_r = 53.168; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Front Side Low/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.11 W/kg

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

Reference Value = 14.708 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.48 W/kg

SAR(1 g) = 0.956 W/kg; SAR(10 g) = 0.574 W/kg

Maximum value of SAR (measured) = 0.993 W/kg

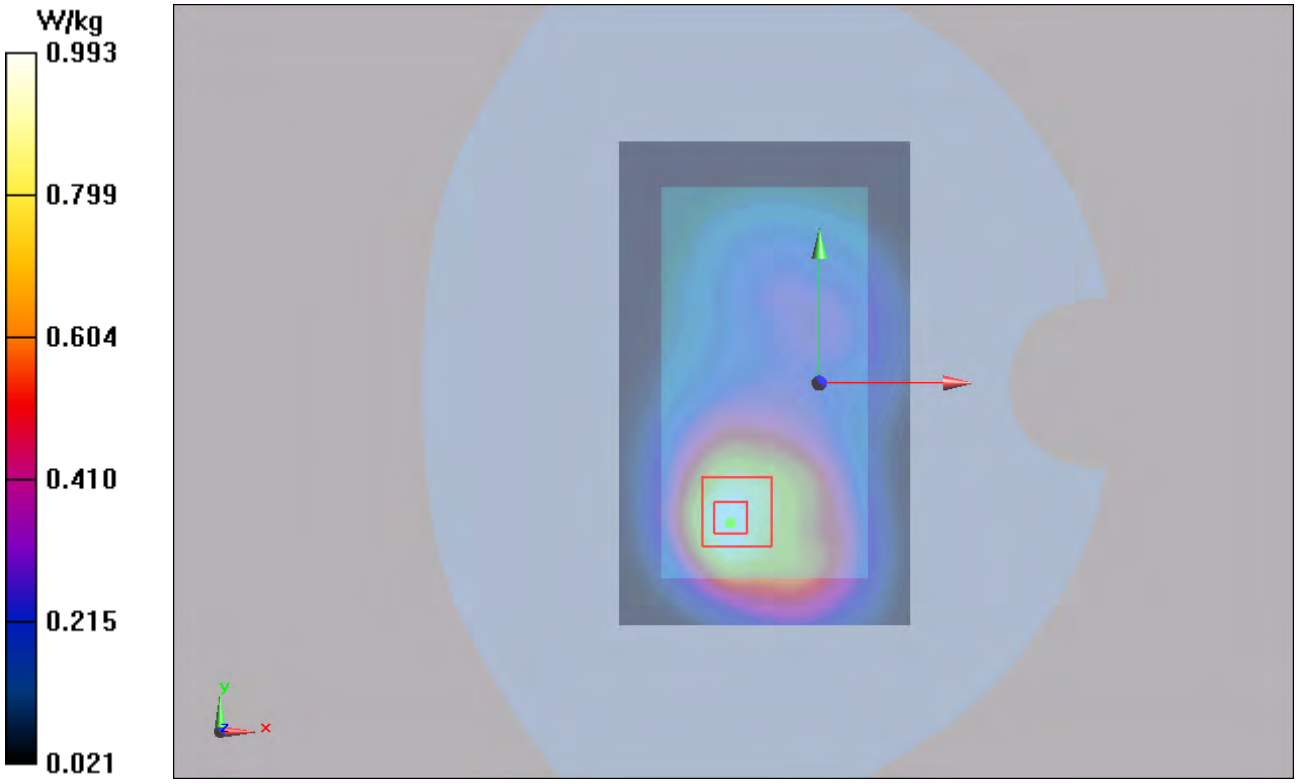


Figure 69 Body, Front Side, UMTS Band II Channel 9262

UMTS Band II Left Edge Middle (Battery 1)
Date: 1/6/2015
Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Edge Middle/Area Scan (51x151x1): Interpolated grid: dx=1.000mm, dy=1.000mm
Maximum value of SAR (interpolated) = 0.424 W/kg

Left Edge Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.656 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 0.586 W/kg
SAR(1 g) = 0.375 W/kg; SAR(10 g) = 0.221 W/kg
Maximum value of SAR (measured) = 0.377 W/kg

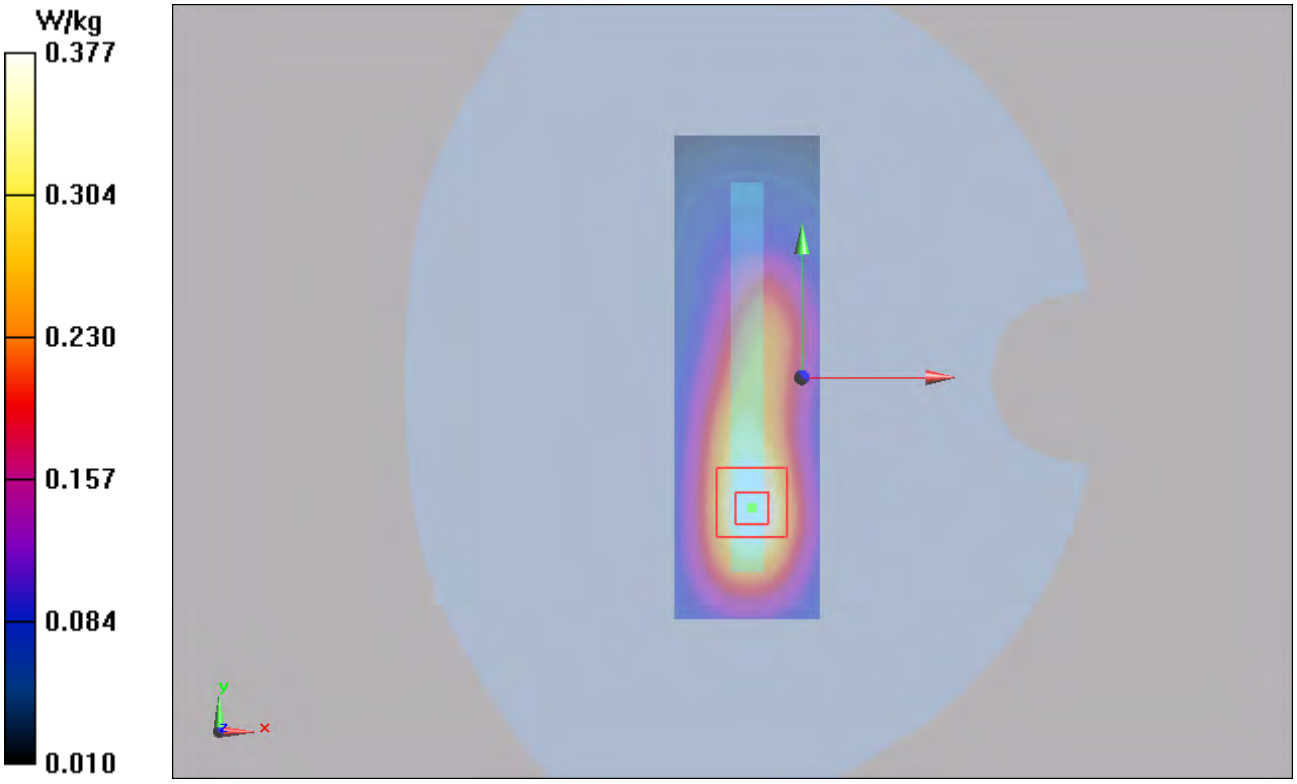


Figure 70 Body, Left Edge, UMTS Band II Channel 9400

UMTS Band II Right Edge Middle (Battery 1)
Date: 1/6/2015
Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Edge Middle/Area Scan (51x151x1): Interpolated grid: dx=1.000mm, dy=1.000mm
Maximum value of SAR (interpolated) = 0.214 W/kg

Right Edge Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.909 V/m; Power Drift = 0.033 dB
Peak SAR (extrapolated) = 0.299 W/kg
SAR(1 g) = 0.195 W/kg; SAR(10 g) = 0.114 W/kg
Maximum value of SAR (measured) = 0.196 W/kg

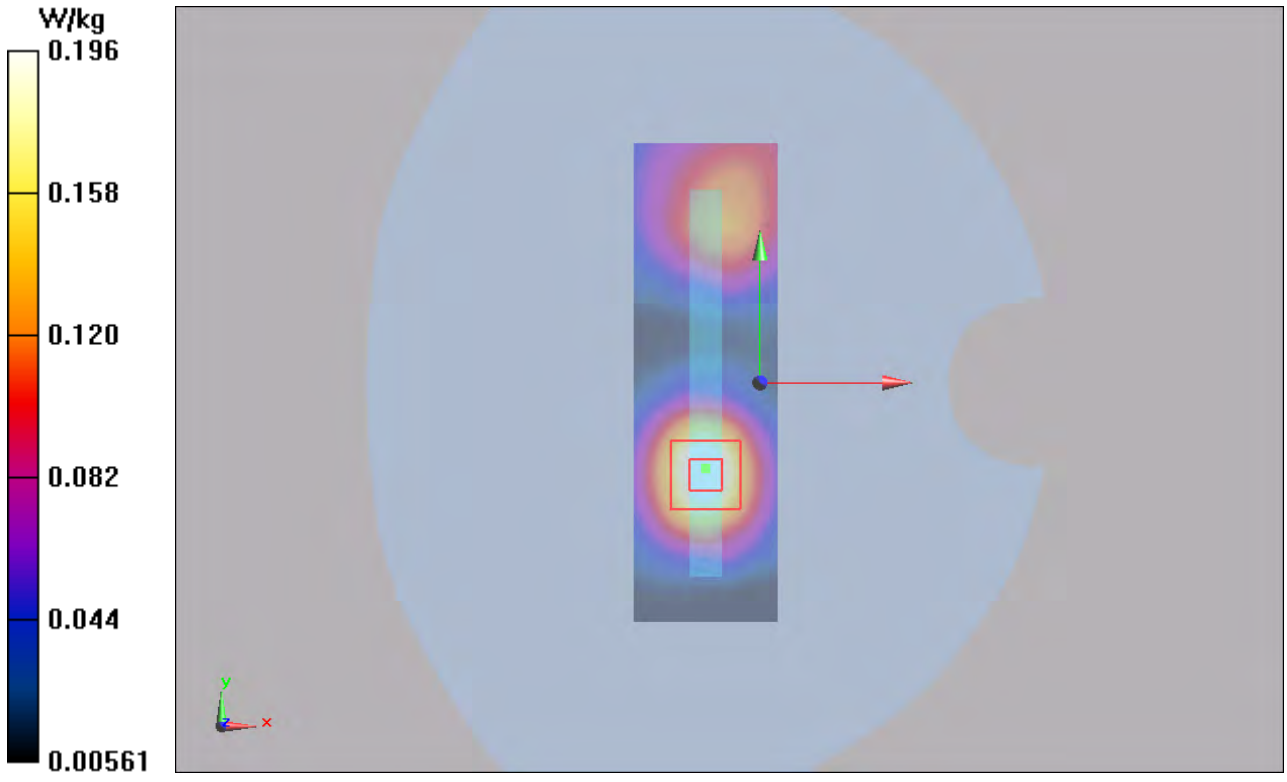


Figure 71 Body, Right Edge, UMTS Band II Channel 9400

UMTS Band II Bottom Edge Middle (Battery 1)
Date: 1/6/2015
Communication System: UID 0, WCDMA (0); Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.504 S/m; ε_r = 53.137; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Bottom Edge Middle/Area Scan (51x91x1): Interpolated grid: dx=1.000mm, dy=1.000mm
Maximum value of SAR (interpolated) = 0.532 W/kg

Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.621 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 0.841 W/kg
SAR(1 g) = 0.512 W/kg; SAR(10 g) = 0.265 W/kg
Maximum value of SAR (measured) = 0.534 W/kg

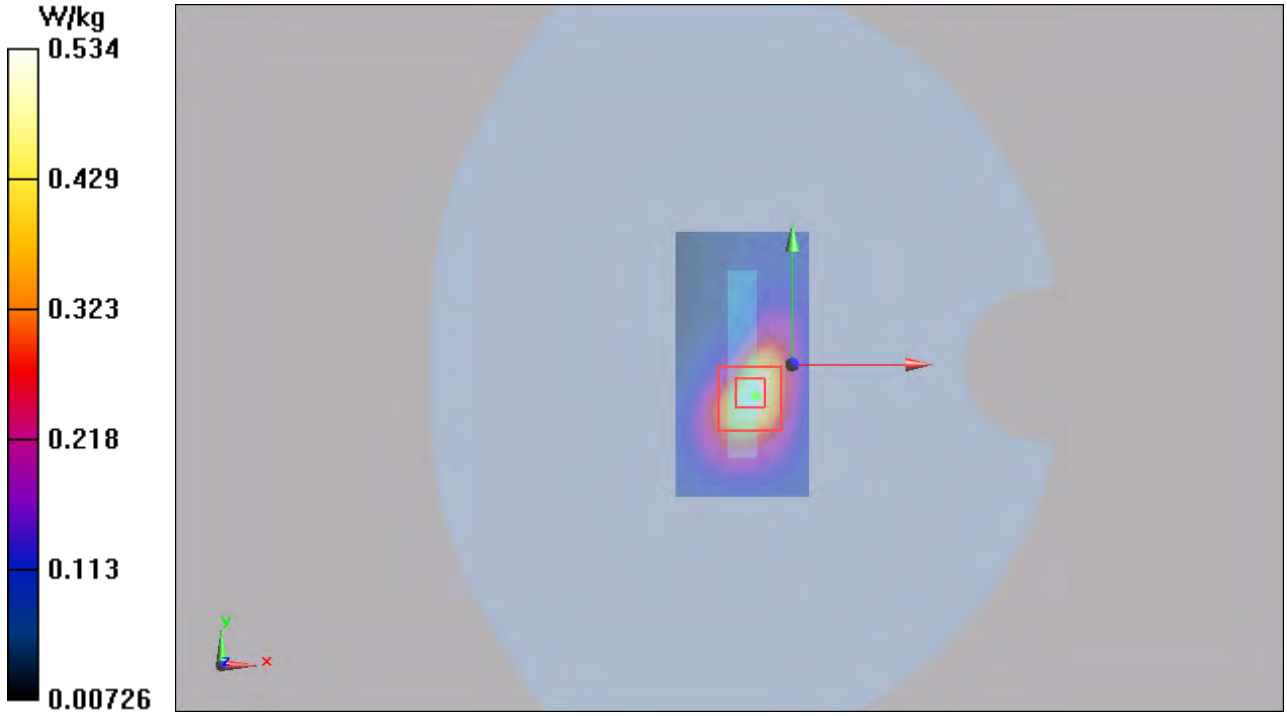


Figure 72 Body, Bottom Edge, UMTS Band II Channel 9400

UMTS Band II Back Side High (Battery 2)
Date: 1/6/2015
Communication System: UID 0, WCDMA (0); Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.532 S/m; ε_r = 53.111; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side High/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.39 W/kg

Back Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.195 V/m; Power Drift = -0.10 dB
Peak SAR (extrapolated) = 1.95 W/kg
SAR(1 g) = 1.27 W/kg; SAR(10 g) = 0.761 W/kg
Maximum value of SAR (measured) = 1.35 W/kg

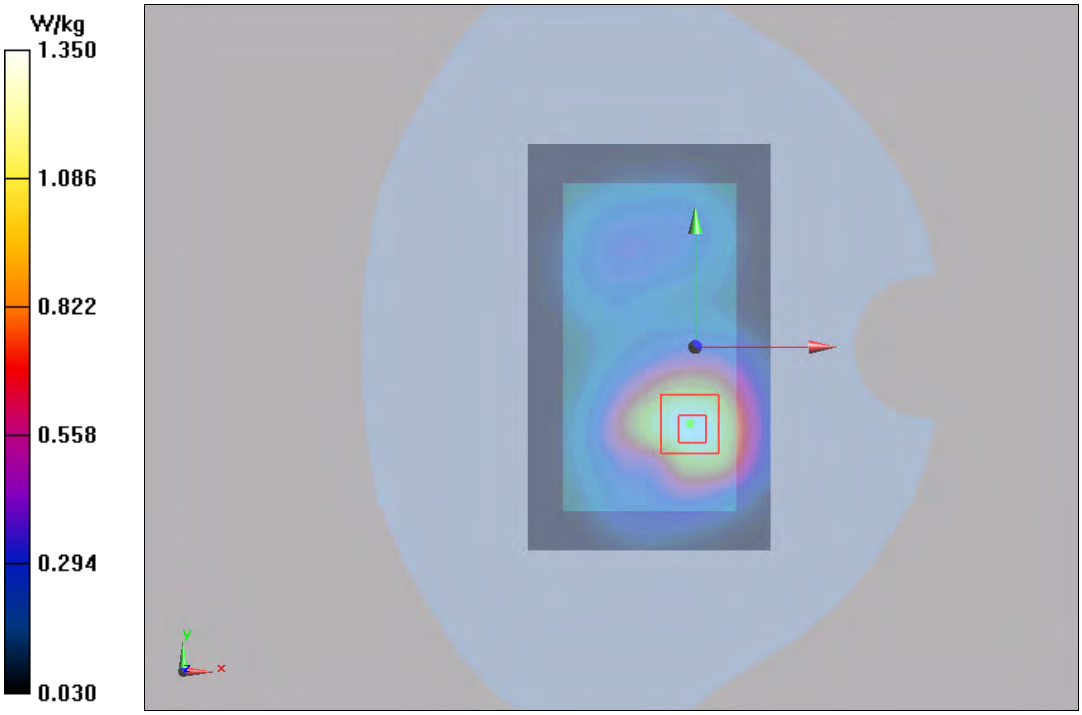


Figure 73 Body, Back Side, UMTS Band II Channel 9538

UMTS Band II Back Side High (Earphone 1)

Date: 1/6/2015

Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1908 MHz; σ = 1.53 mho/m; ε_r = 52.5; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

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

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side High/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm

Maximum value of SAR (interpolated) = 1.42 mW/g

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

Reference Value = 24.7 V/m; Power Drift = -0.124 dB

Peak SAR (extrapolated) = 2.11 W/kg

SAR(1 g) = 1.3 mW/g; SAR(10 g) = 0.772 mW/g

Maximum value of SAR (measured) = 1.39 mW/g

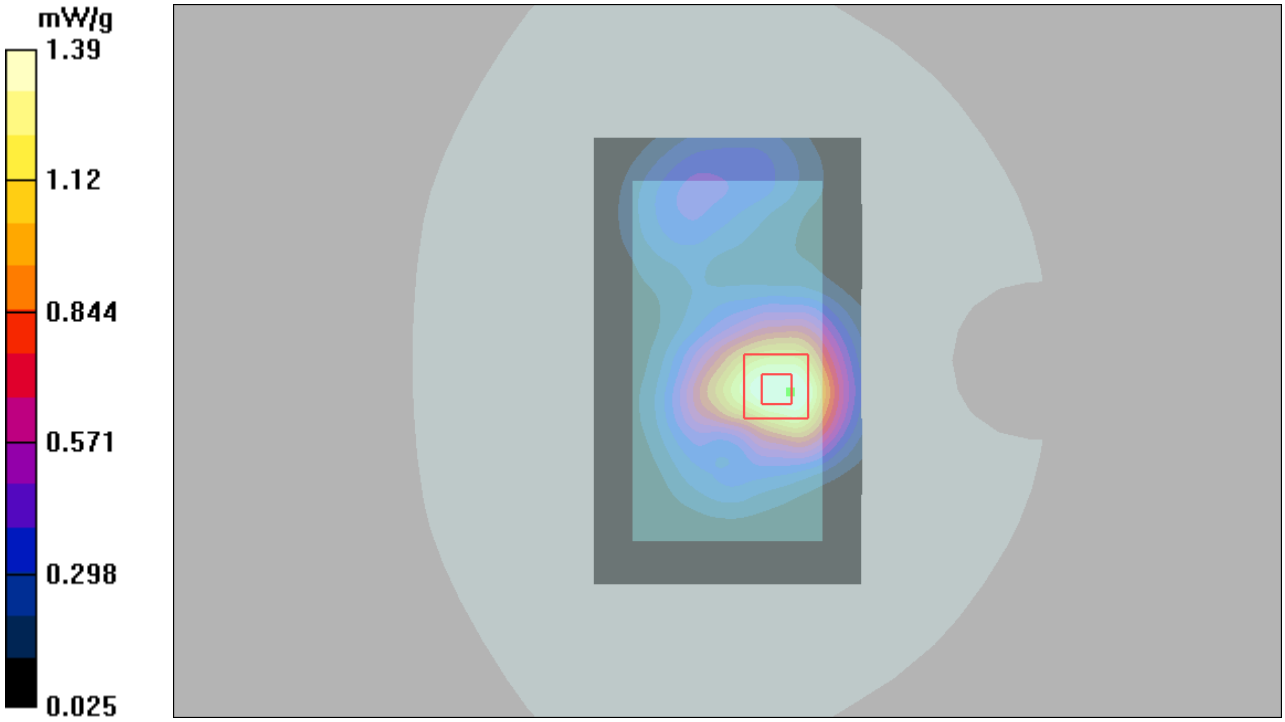


Figure 74 Body, Back Side, UMTS Band II Channel 9538

UMTS Band II Back Side High (Earphone 2)

Date: 1/6/2015

Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1908 MHz; σ = 1.53 mho/m; ε_r = 52.5; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

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

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side High/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm

Maximum value of SAR (interpolated) = 1.41 mW/g

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

Reference Value = 24.2 V/m; Power Drift = -0.045 dB

Peak SAR (extrapolated) = 2.10 W/kg

SAR(1 g) = 1.28 mW/g; SAR(10 g) = 0.762 mW/g

Maximum value of SAR (measured) = 1.39 mW/g

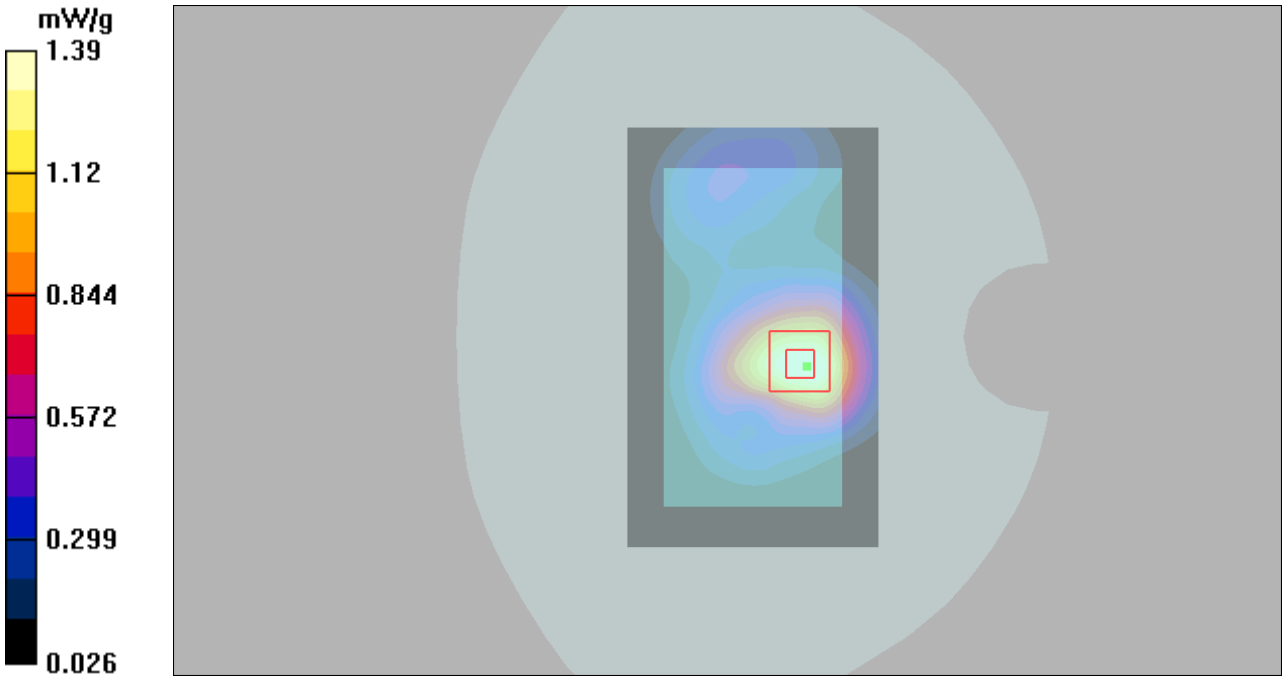


Figure 75 Body, Back Side, UMTS Band II Channel 9538

UMTS Band II Back Side Middle (Earphone 3)

Date: 1/6/2015

Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1908 MHz; σ = 1.53 mho/m; ε_r = 52.5; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

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

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side High/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm

Maximum value of SAR (interpolated) = 1.24 mW/g

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

Reference Value = 24.3 V/m; Power Drift = -0.184 dB

Peak SAR (extrapolated) = 1.86 W/kg

SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.675 mW/g

Maximum value of SAR (measured) = 1.21 mW/g

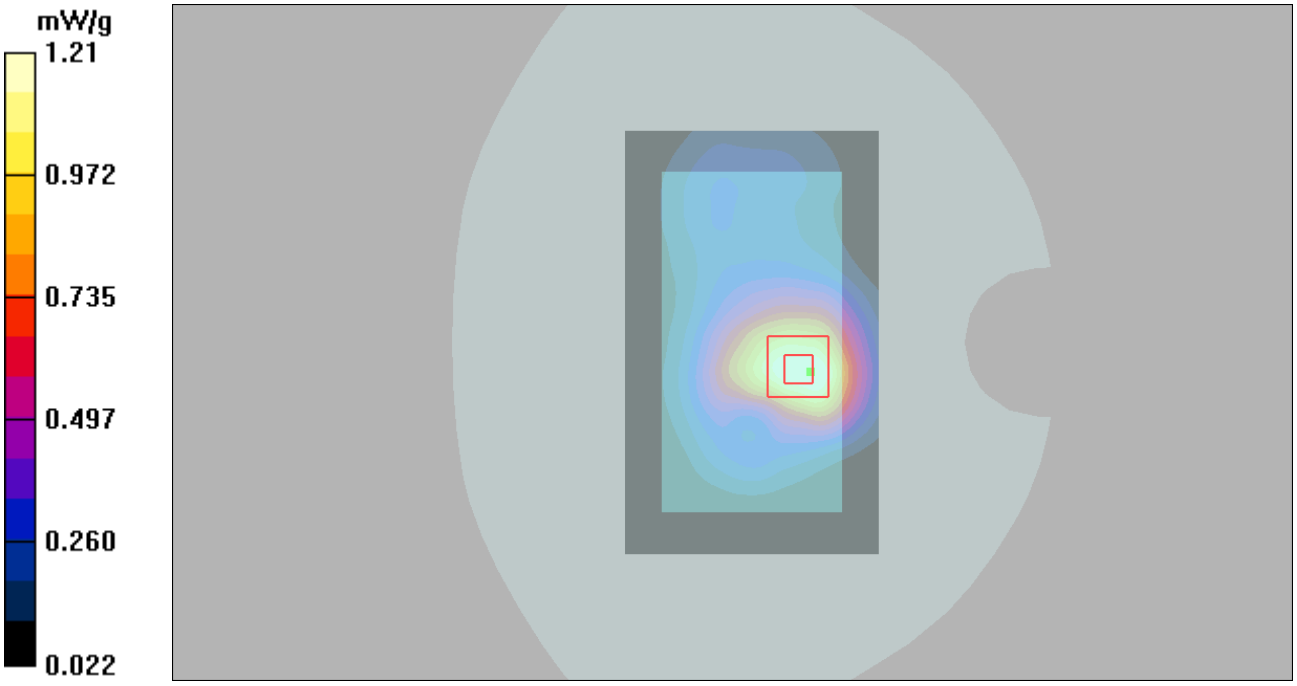


Figure 76 Body, Back Side, UMTS Band II Channel 9538

UMTS Band II Back Side Middle (HSDPA)

Date: 1/6/2015

Communication System: UID 0, WCDMA (0); Frequency: 1907.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1908 MHz; σ = 1.532 S/m; ε_r = 53.111; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Back Side High/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

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

Reference Value = 10.29 V/m; Power Drift = -0.102 dB

Peak SAR (extrapolated) = 1.56 W/kg

SAR(1 g) = 0.907 W/kg; SAR(10 g) = 0.534 W/kg

Maximum value of SAR (measured) = 0.930 W/kg

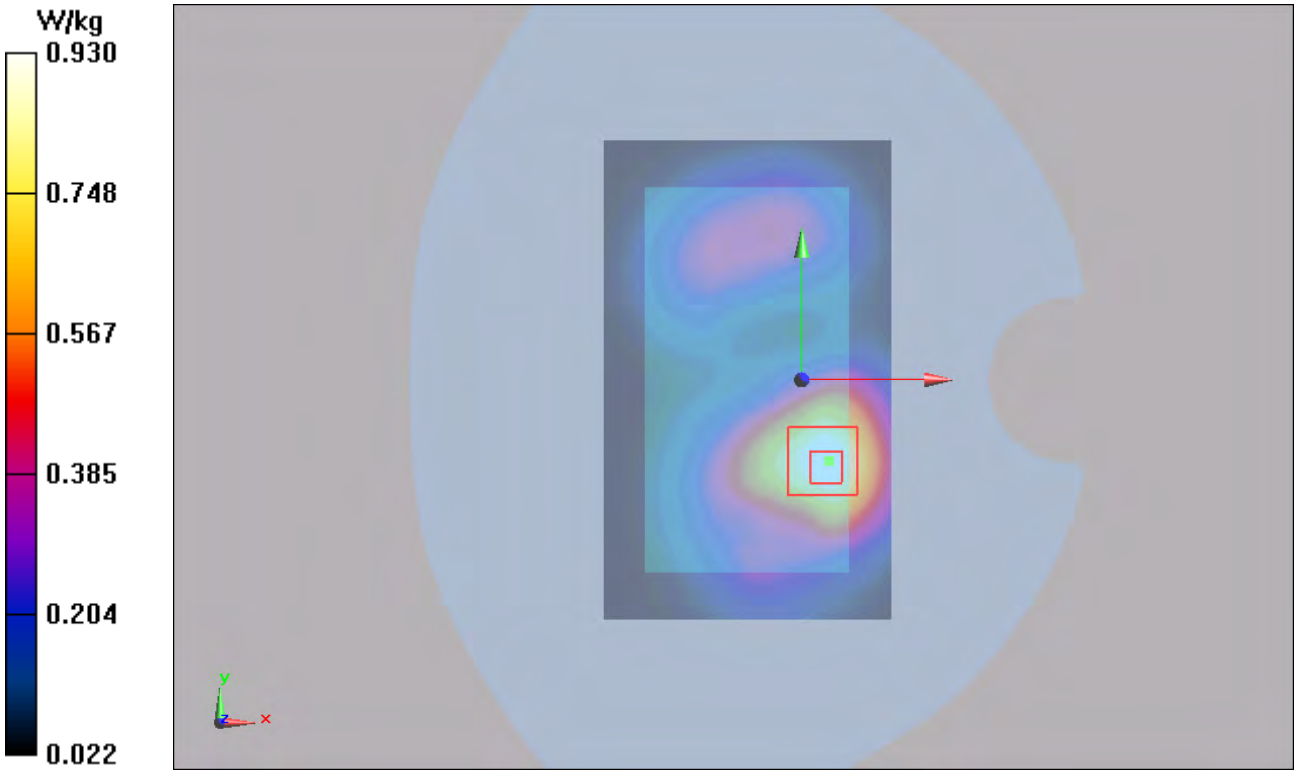


Figure 77 Body, Back Side, UMTS Band II Channel 9538

UMTS Band II Back Side Middle (1st Repeated SAR)
Date: 1/6/2015
Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.53 mho/m; ε_r = 52.5; 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 - SN3977; ConvF(7.37, 7.37, 7.37); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 12; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side High/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm
Maximum value of SAR (interpolated) = 1.42 mW/g

Back Side High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.7 V/m; Power Drift = -0.005 dB
Peak SAR (extrapolated) = 2.12 W/kg
SAR(1 g) = 1.3 mW/g; SAR(10 g) = 0.771 mW/g
Maximum value of SAR (measured) = 1.39 mW/g

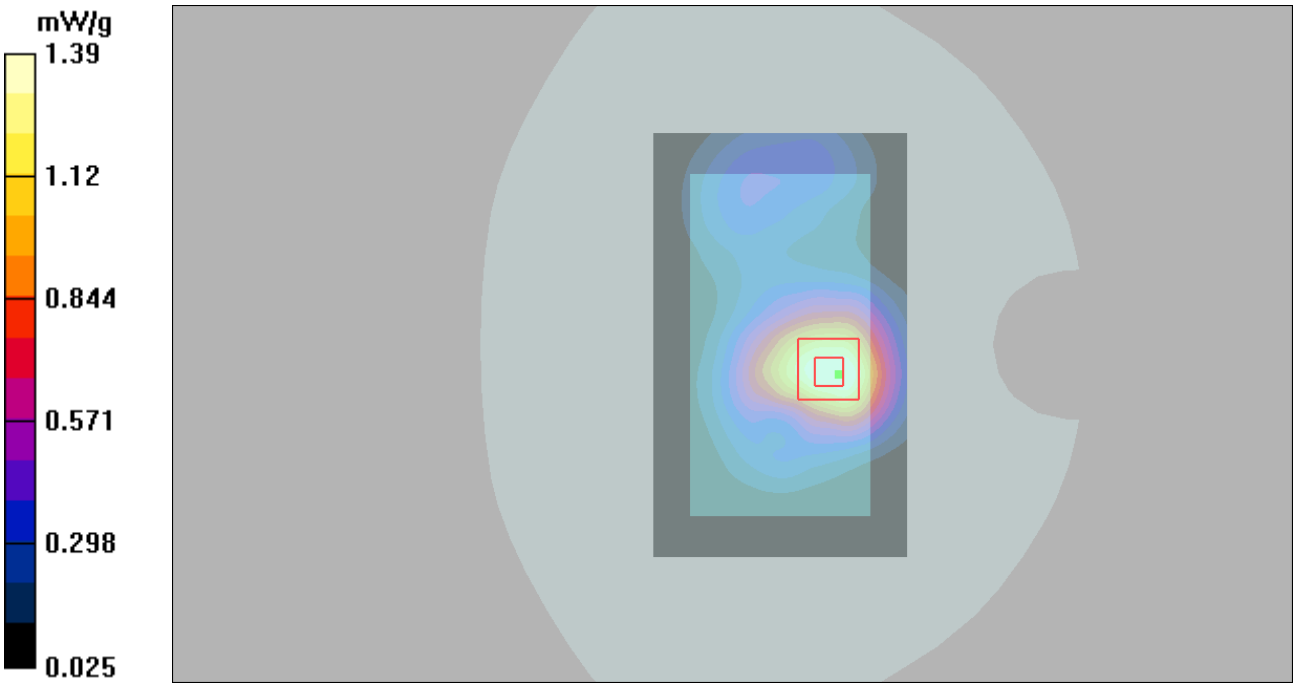


Figure 78 Body, Back Side, UMTS Band II Channel 9538

UMTS Band V Left Cheek High (Battery 1)
Date: 12/28/2014
Communication System: UID 0, WCDMA (0); Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.943 S/m; ε_r = 41.323; 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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7331)

Left Cheek High/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.904 W/kg

Left Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.186 V/m; Power Drift = 0.17 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.878 W/kg; SAR(10 g) = 0.663 W/kg
Maximum value of SAR (measured) = 0.904 W/kg

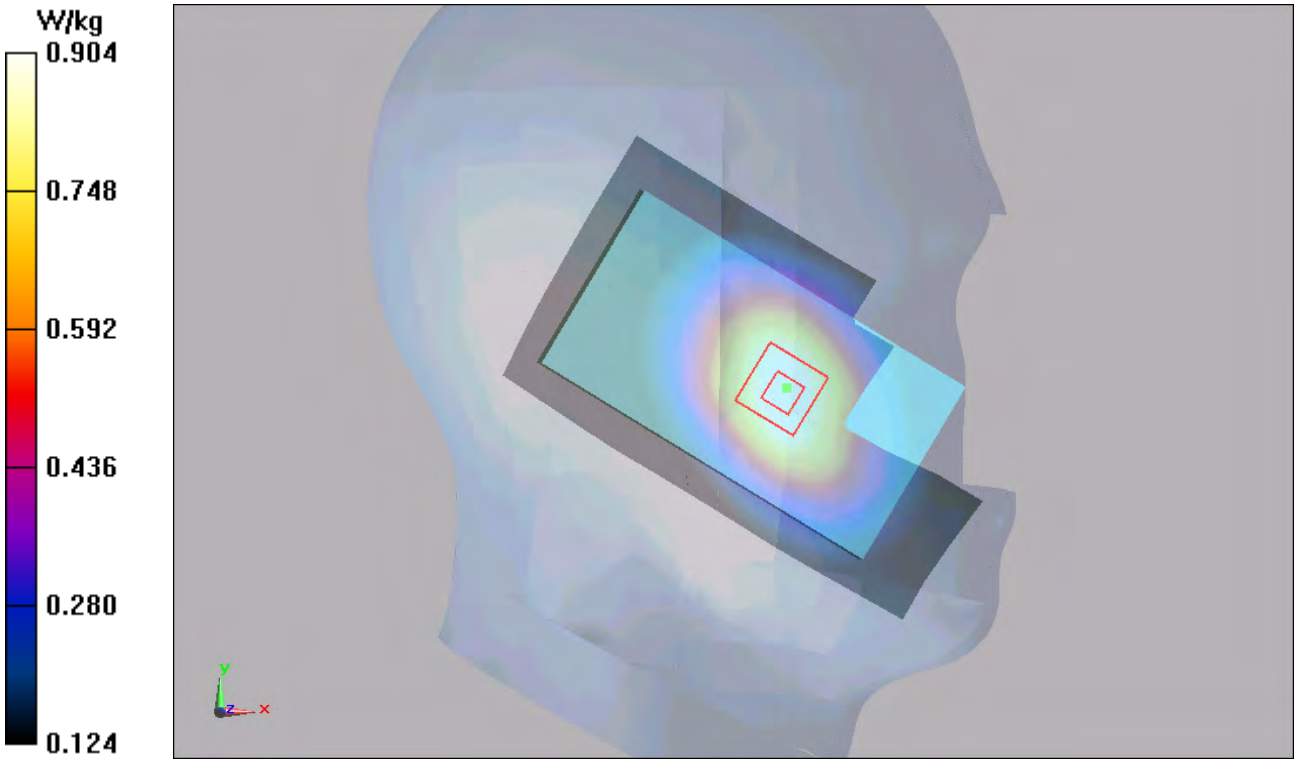


Figure 79 Left Hand Touch Cheek UMTS Band V Channel 4233

UMTS Band V Left Cheek Middle (Battery 1)
Date: 12/28/2014
Communication System: UID 0, WCDMA (0); Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.932 S/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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7331)

Left Cheek Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.754 W/kg

Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.649 V/m; Power Drift = -0.08 dB
Peak SAR (extrapolated) = 0.884 W/kg
SAR(1 g) = 0.730 W/kg; SAR(10 g) = 0.552 W/kg
Maximum value of SAR (measured) = 0.754 W/kg

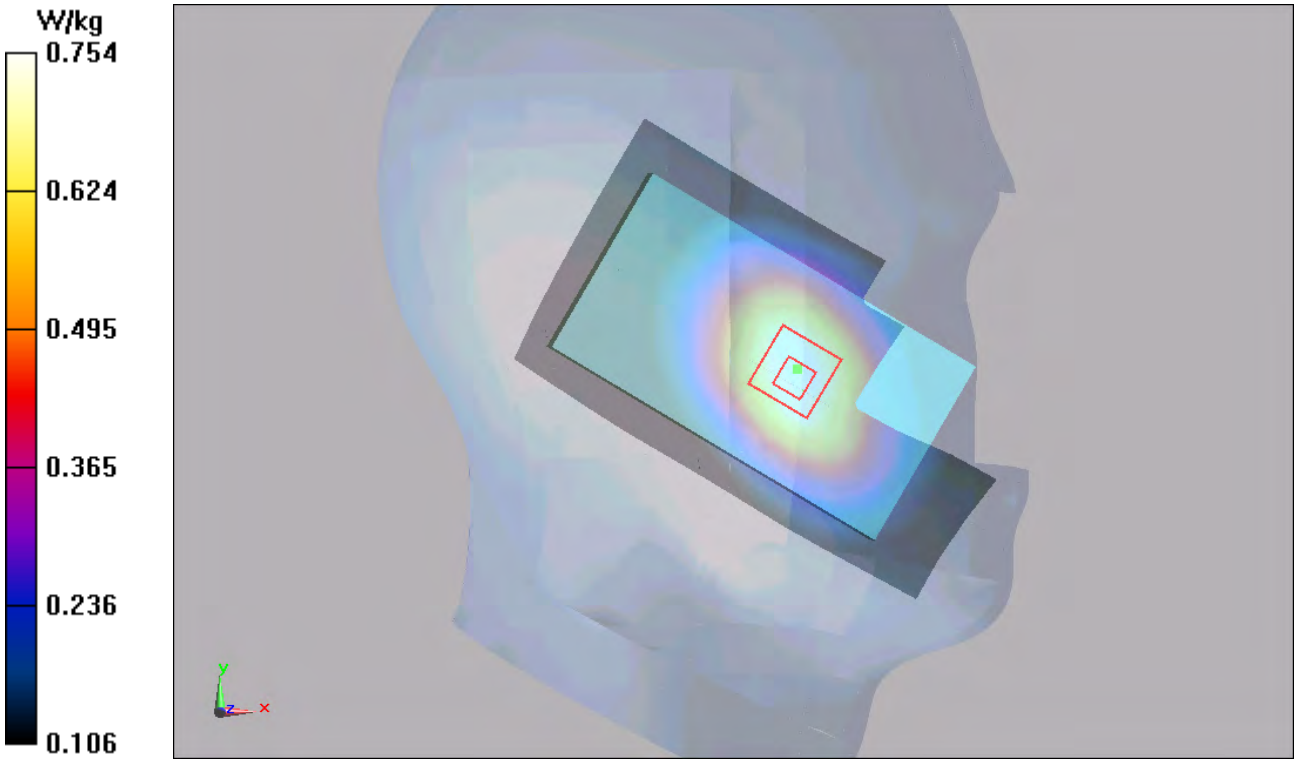


Figure 80 Left Hand Touch Cheek UMTS Band V Channel 4183

UMTS Band V Left Cheek Low (Battery 1)
Date: 12/28/2014
Communication System: UID 0, WCDMA (0); Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.921 S/m; ε_r = 41.437; 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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7331)

Left Cheek Low/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.693 W/kg

Left Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.920 V/m; Power Drift = 0.038 dB
Peak SAR (extrapolated) = 0.812 W/kg
SAR(1 g) = 0.671 W/kg; SAR(10 g) = 0.508 W/kg
Maximum value of SAR (measured) = 0.693 W/kg

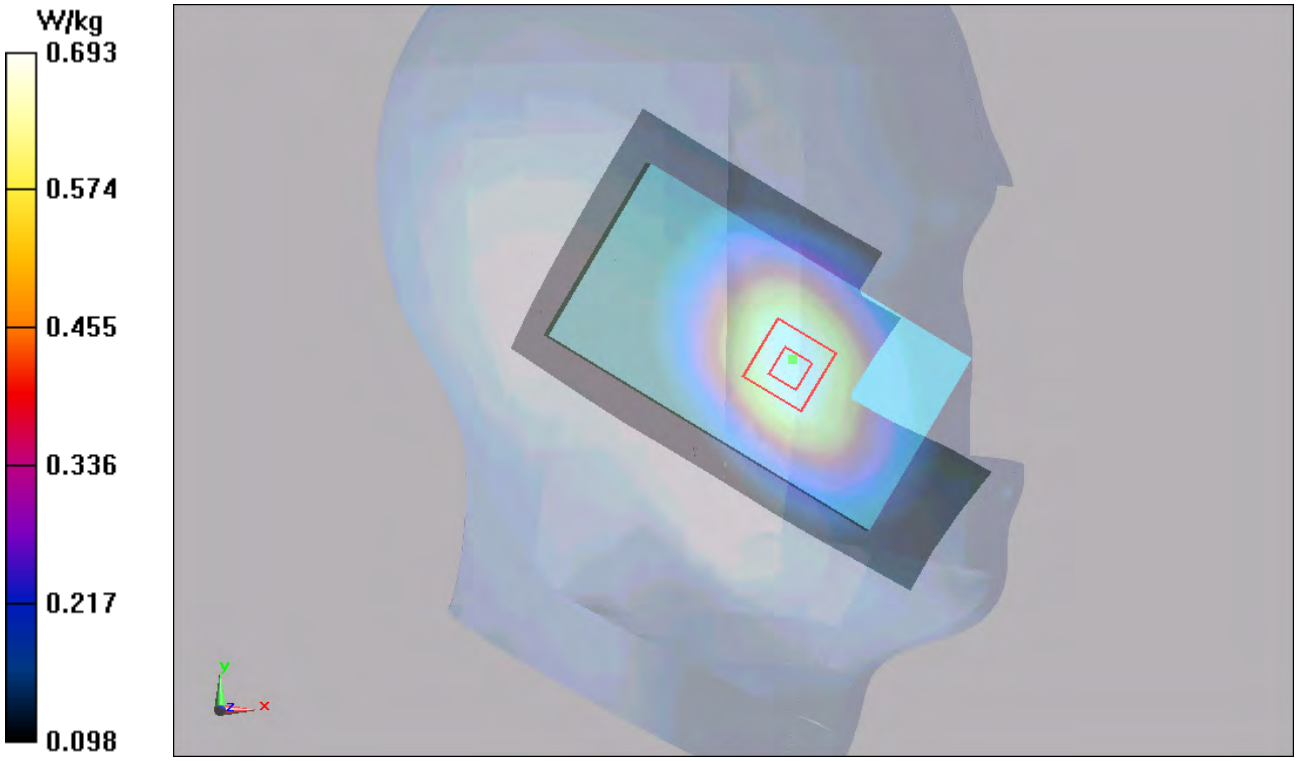


Figure 81 Left Hand Touch Cheek UMTS Band V Channel 4132

UMTS Band V Left Tilt Middle (Battery 1)
Date: 12/28/2014
Communication System: UID 0, WCDMA (0); Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.932 S/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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7331)

Left Tilt Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.478 W/kg

Left Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.07 V/m; Power Drift = 0.033 dB
Peak SAR (extrapolated) = 0.536 W/kg
SAR(1 g) = 0.446 W/kg; SAR(10 g) = 0.343 W/kg
Maximum value of SAR (measured) = 0.454 W/kg

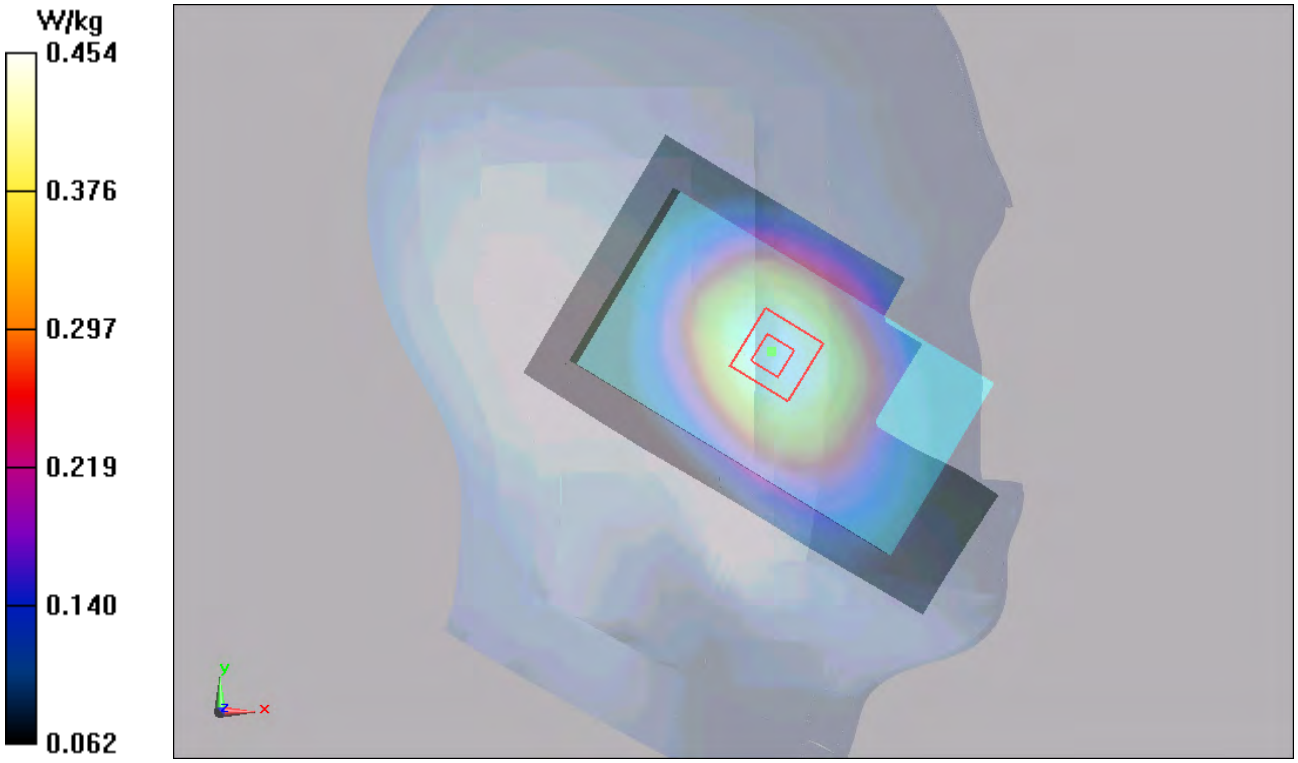


Figure 82 Left Hand Tilt 15° UMTS Band V Channel 4183

UMTS Band V Right Cheek High (Battery 1)
Date: 12/28/2014
Communication System: UID 0, WCDMA (0); Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.943 S/m; ε_r = 41.323; 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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7331)

Right Cheek High/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.964 W/kg

Right Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.47 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 1.11 W/kg
SAR(1 g) = 0.920 W/kg; SAR(10 g) = 0.700 W/kg
Maximum value of SAR (measured) = 0.942 W/kg

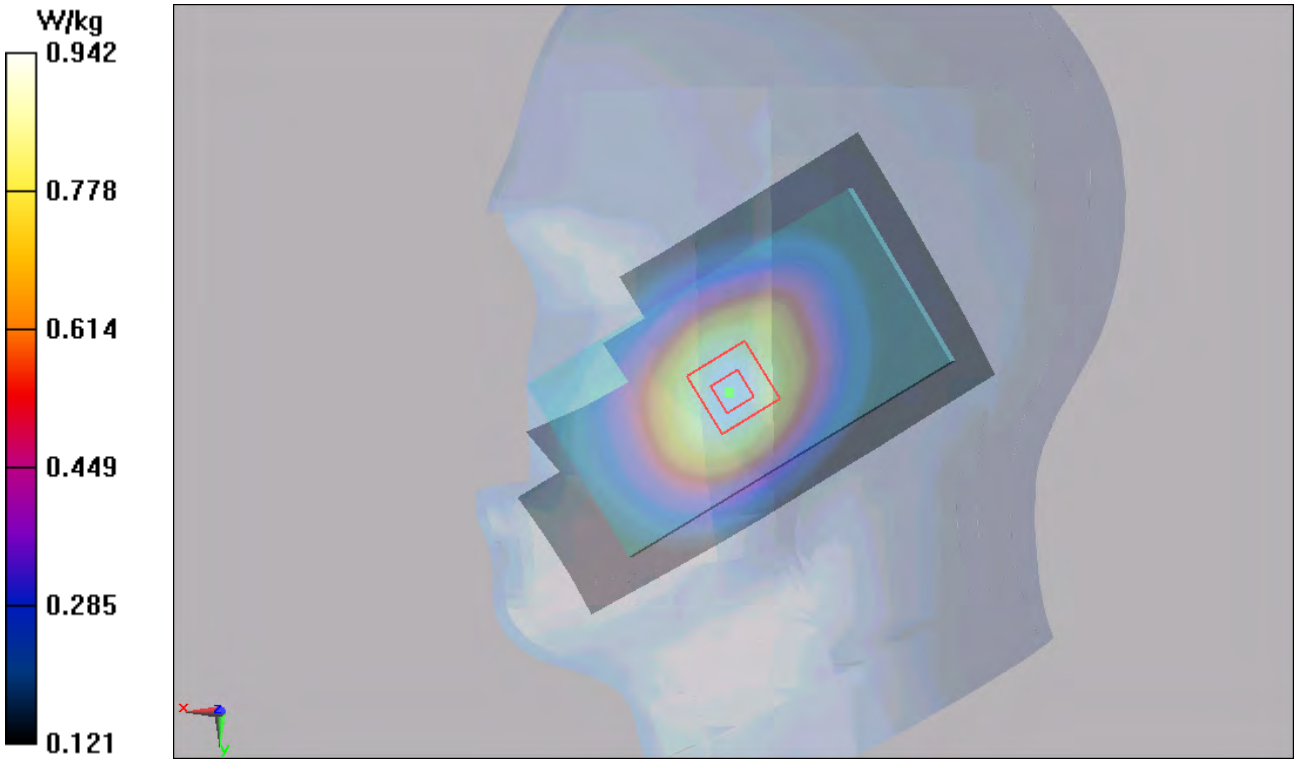


Figure 83 Right Hand Touch Cheek UMTS Band V Channel 4233

UMTS Band V Right Cheek Middle (Battery 1)
Date: 12/28/2014
Communication System: UID 0, WCDMA (0); Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.932 S/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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Cheek Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.766 W/kg

Right Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.409 V/m; Power Drift = -0.060 dB
Peak SAR (extrapolated) = 0.867 W/kg
SAR(1 g) = 0.721 W/kg; SAR(10 g) = 0.550 W/kg
Maximum value of SAR (measured) = 0.739 W/kg

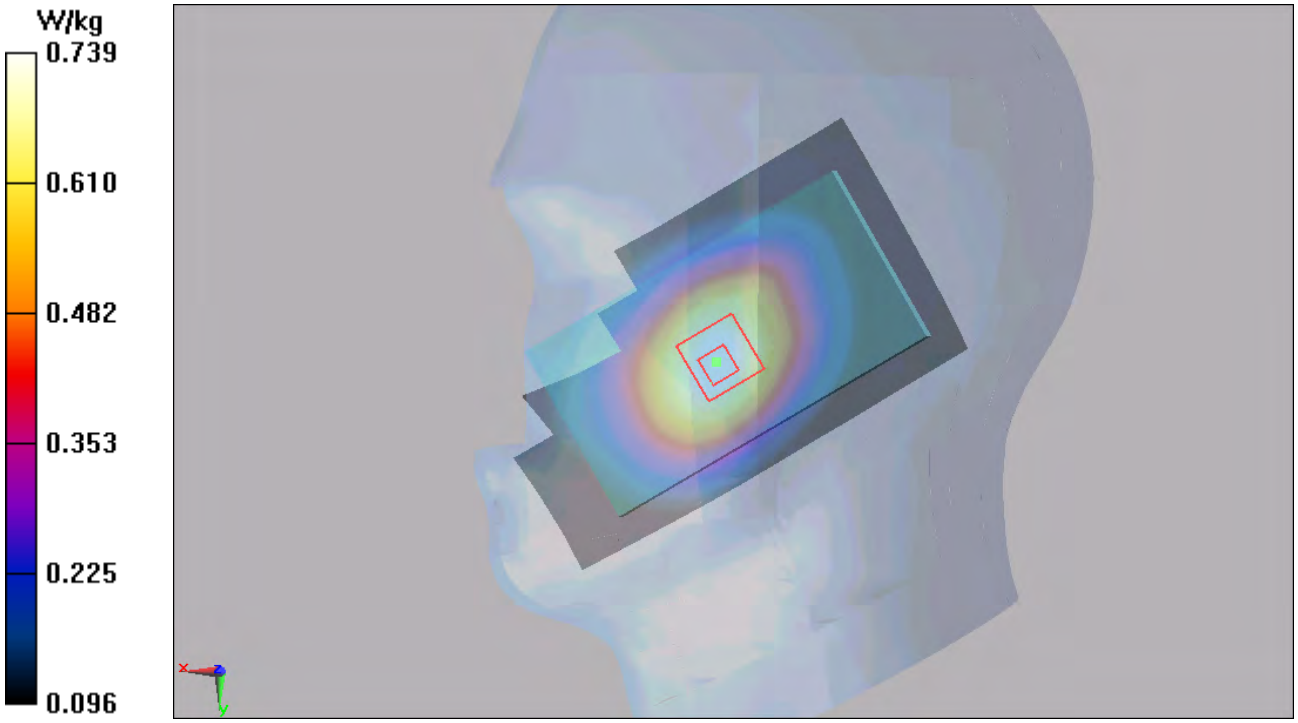


Figure 84 Right Hand Touch Cheek UMTS Band V Channel 4183

UMTS Band V Right Cheek Low (Battery 1)
Date: 12/28/2014
Communication System: UID 0, WCDMA (0); Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.921 S/m; ε_r = 41.437; 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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7331)

Right Cheek Low/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.728 W/kg

Right Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.996 V/m; Power Drift = -0.067 dB
Peak SAR (extrapolated) = 0.829 W/kg
SAR(1 g) = 0.693 W/kg; SAR(10 g) = 0.530 W/kg
Maximum value of SAR (measured) = 0.708 W/kg

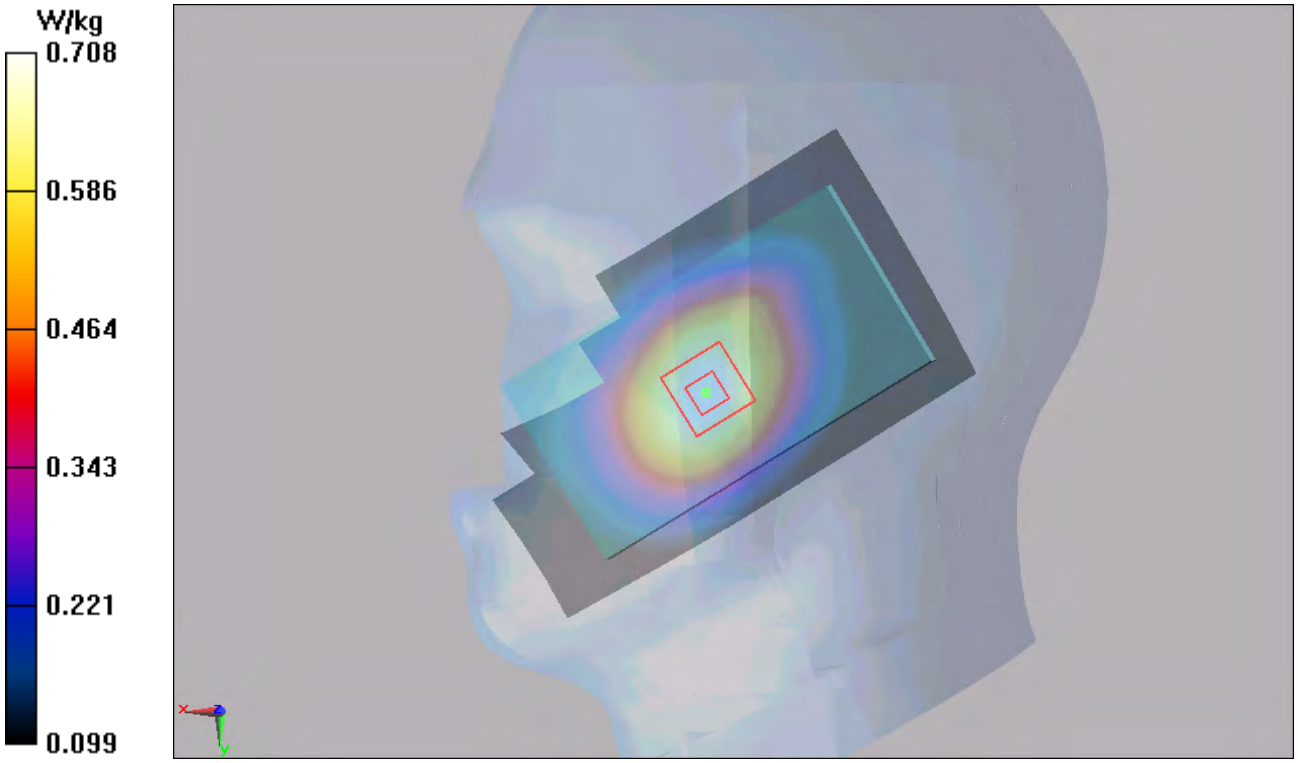


Figure 85 Right Hand Touch Cheek UMTS Band V Channel 4132

UMTS Band V Right Tilt Middle (Battery 1)
Date: 12/28/2014
Communication System: UID 0, WCDMA (0); Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.932 S/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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7331)

Right Tilt Middle/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.566 W/kg

Right Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.75 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.661 W/kg
SAR(1 g) = 0.542 W/kg; SAR(10 g) = 0.413 W/kg
Maximum value of SAR (measured) = 0.556 W/kg

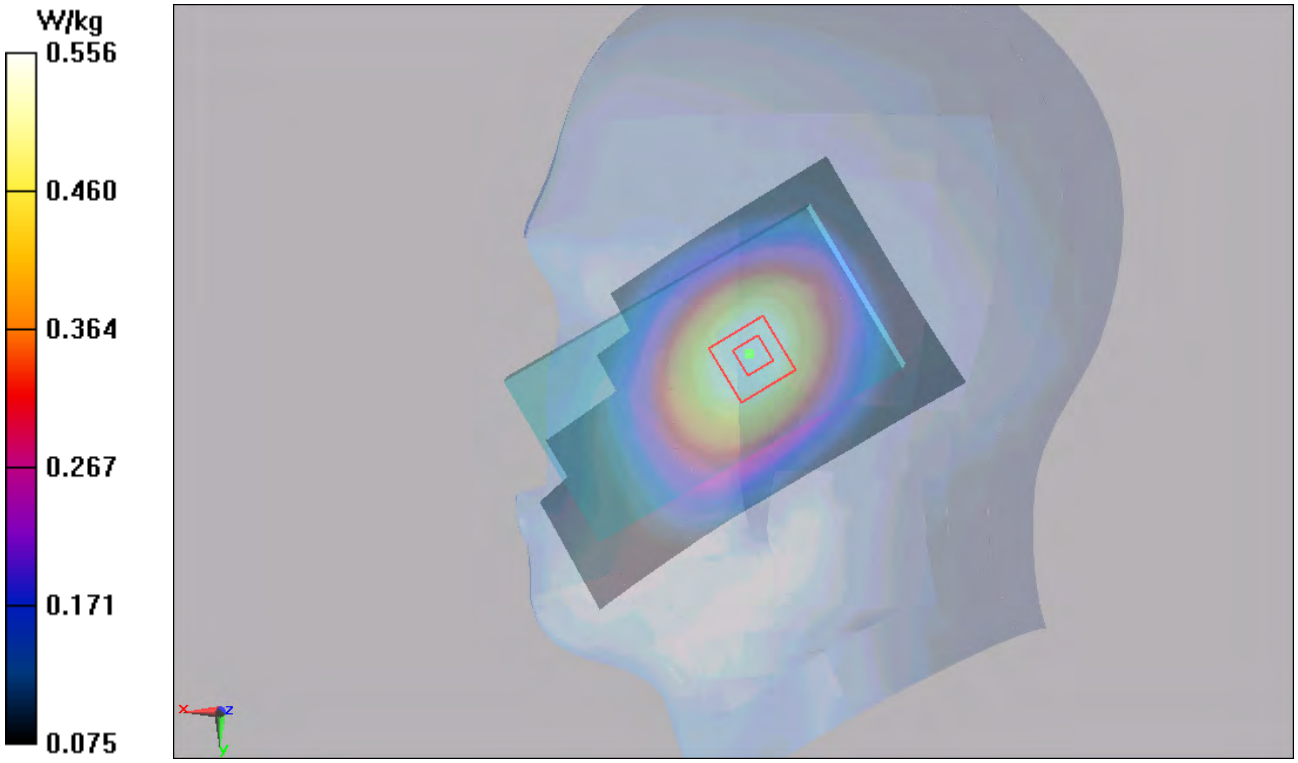


Figure 86 Right Hand Tilt 15° UMTS Band V Channel 4183

UMTS Band V Right Cheek High (Battery 2)
Date: 12/28/2014
Communication System: UID 0, WCDMA (0); Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.943 S/m; ε_r = 41.323; 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 - SN3977; ConvF(9.62, 9.62, 9.62); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7331)

Right Cheek High/Area Scan (61x101x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.965 W/kg

Right Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.36 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.917 W/kg; SAR(10 g) = 0.699 W/kg
Maximum value of SAR (measured) = 0.938 W/kg

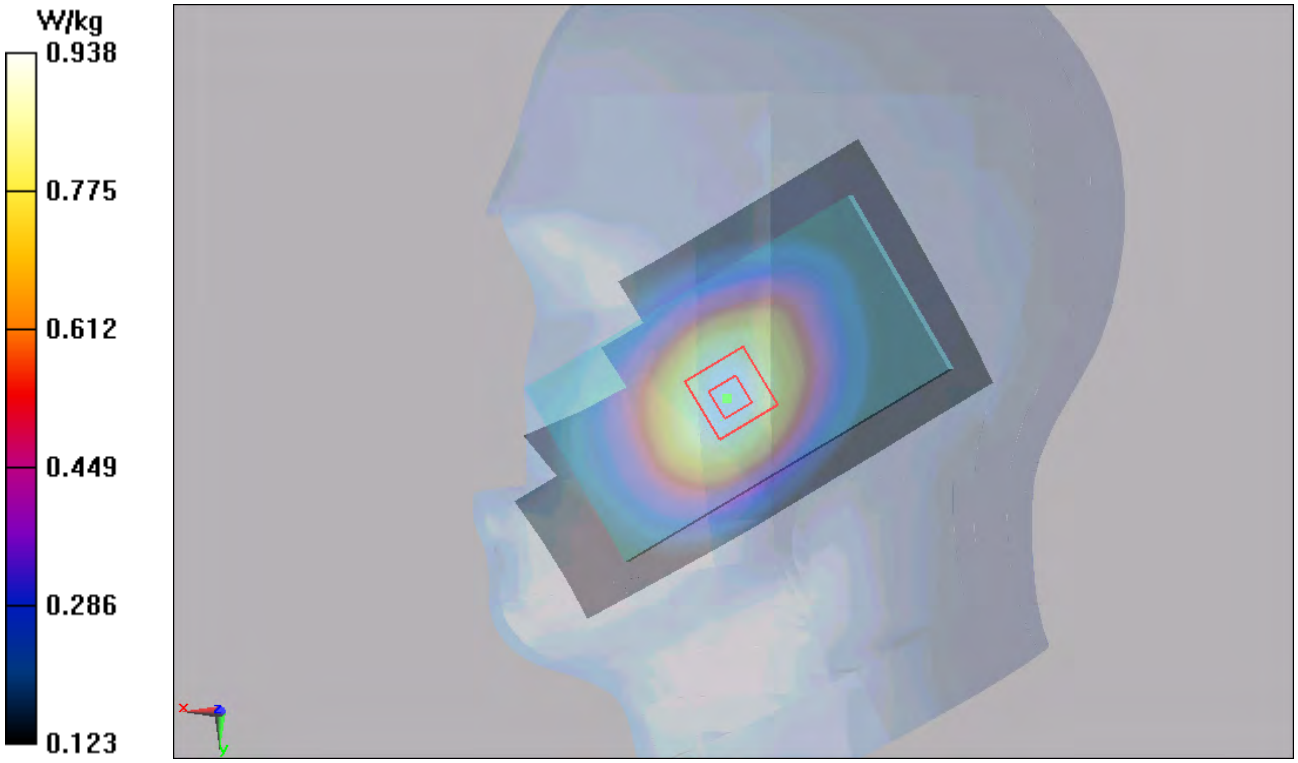


Figure 87 Right Touch Cheek UMTS Band V Channel 4233

UMTS Band V Back Side High (Battery 1)

Date: 12/31/2014

Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1

Medium parameters used: f = 847 MHz; σ = 1.011 S/m; ε_r = 54.962; 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;

Electronics: DAE4 Sn1291; Calibrated: 11/14/2014

Phantom: SAM 11; Type: SAM V4.0; Serial: TP-1246

Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side High/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm

Maximum value of SAR (interpolated) = 1.30 W/kg

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

Reference Value = 35.15 V/m; Power Drift = -0.040 dB

Peak SAR (extrapolated) = 1.37 W/kg

SAR(1 g) = 1.13 W/kg; SAR(10 g) = 0.849 W/kg

Maximum value of SAR (measured) = 1.20 W/kg

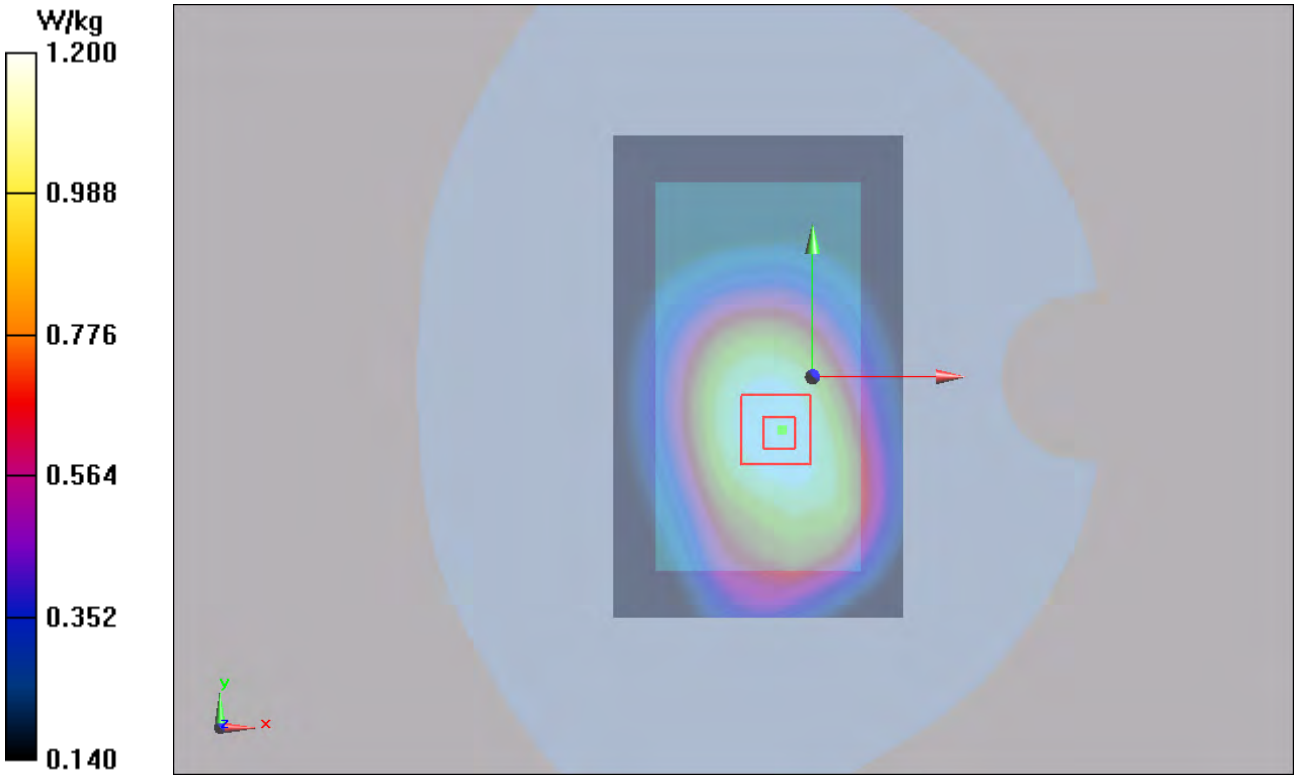


Figure 88 Body, Back Side, UMTS Band V Channel 4233

UMTS Band V Back Side Middle (Battery 1)
Date: 12/31/2014
Communication System: WCDMA Band V; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 1 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 - SN3977; ConvF(9.74, 9.74, 9.74); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1291; Calibrated: 11/14/2014
Phantom: SAM 11; Type: SAM V4.0; Serial: TP-1246
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side Middle/Area Scan (61x101x1): Measurement grid: dx=1.500mm, dy=1.500mm
Maximum value of SAR (interpolated) = 1.15 mW/g

Back Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 34.2 V/m; Power Drift = -0.019 dB
Peak SAR (extrapolated) = 1.38 W/kg
SAR(1 g) = 1.1 mW/g; SAR(10 g) = 0.816 mW/g
Maximum value of SAR (measured) = 1.16 mW/g

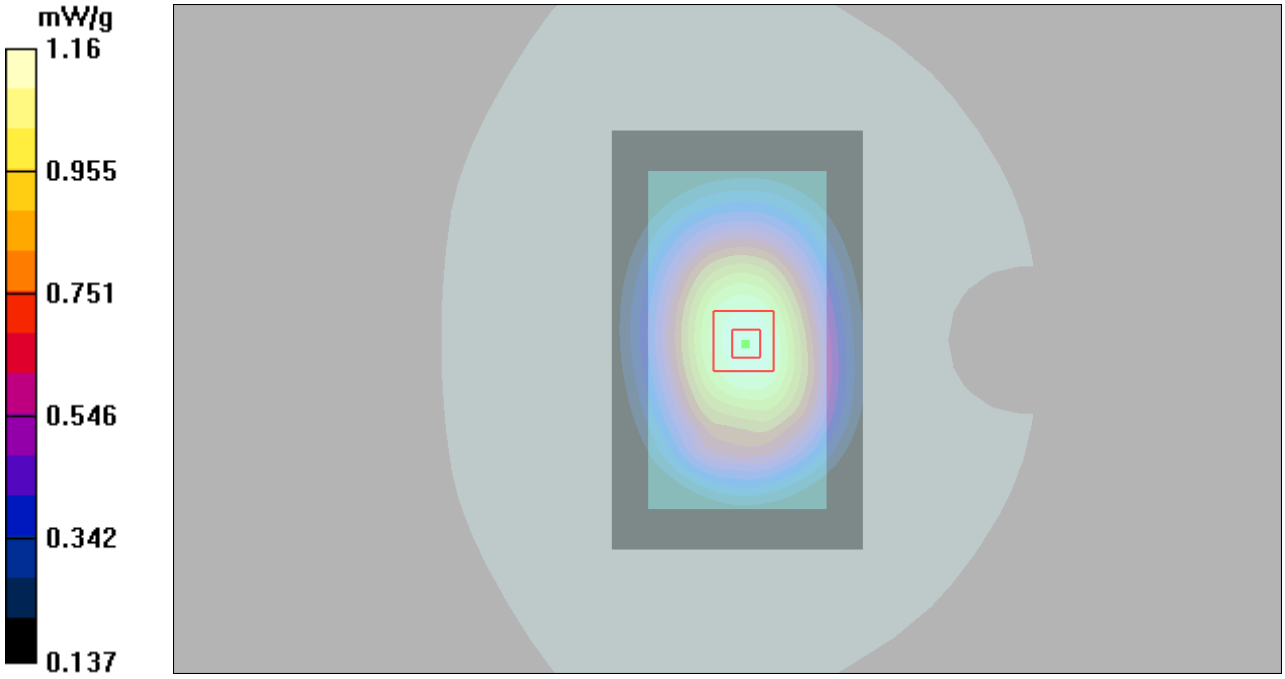


Figure 89 Body, Back Side, UMTS Band V Channel 4183