TESTING
No. L2264

SAR TEST REPORT

Product Name	Smart Phone; HUAWEI Ascend G7
Model Name	HUAWEI G7-L01, G7-L01
FCC ID	QISG7-L01
Applicant	Huawei Technologies Co., Ltd.
Manufacturer	Huawei Technologies Co., Ltd.
Date of issue	September 30, 2014

TA Technology (Shanghai) Co., Ltd.

GENERAL SUMMARY

Reference Standard(s)	**FCC 47CFR §2.1093** Radiofrequency Radiation Exposure Evaluation: Portable Devices **ANSI C95.1- 1992:** Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.(IEEE Std C95.1-1991) **IEEE Std 1528™-2003:** IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques. **KDB 865664 D01 SAR measurement 100 MHz to 6 GHz v01r03:** SAR Measurement Requirements for 100 MHz to 6 GHz **KDB 447498 D01 Mobile Portable RF Exposure v05r02:** Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies **KDB 648474 D04 Handset SAR v01r02:** SAR Evaluation Considerations for Wireless Handsets. **KDB 941225 D03 Test Reduction GSM_GPRS_EDGE v01:**Recommended SAR Test Reduction Procedures for GSM/GPRS/EDGE **KDB 941225 D05 SAR for LTE Devices v02r03** SAR Test Considerations for LTE Handsets and Data Modems **KDB 941225 D06 Hotspot Mode SAR v01r01:** 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.

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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.

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

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

If the 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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1.5. Information of EUT

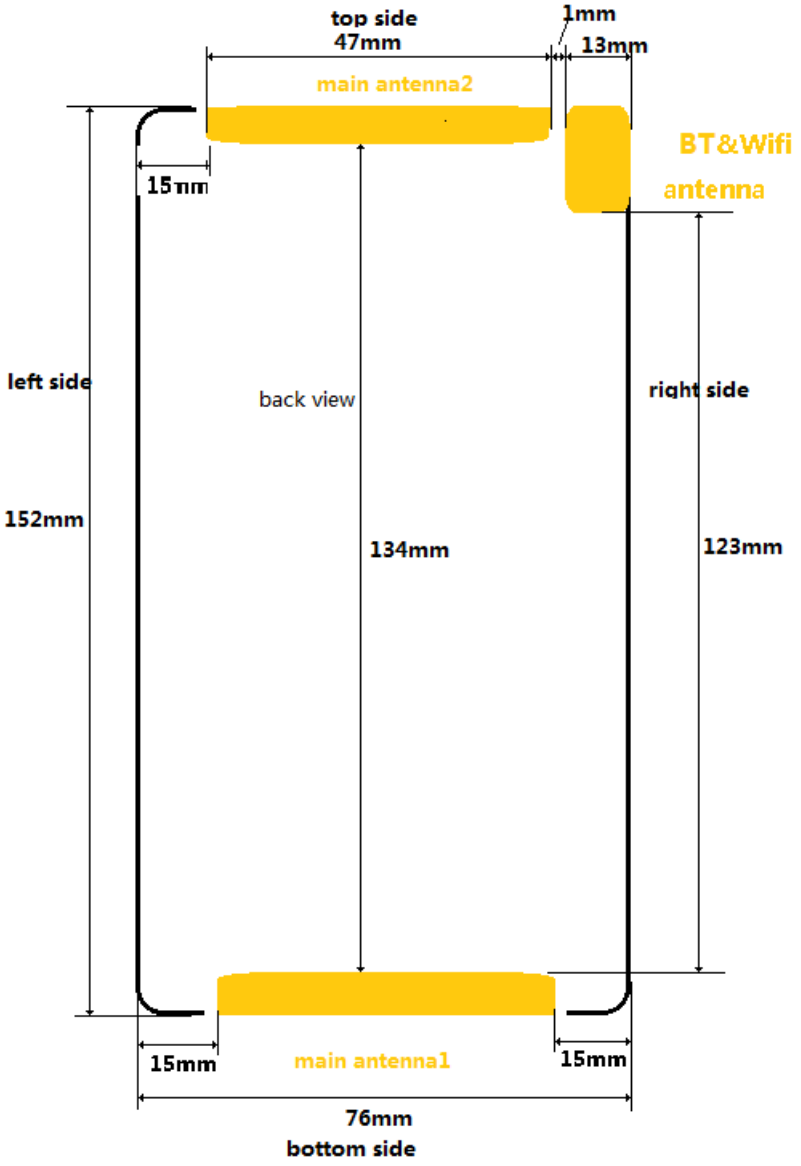
General Information

Device Type:	Portable Device	
Exposure Category:	Uncontrolled Environment / General Population	
State of Sample:	Prototype Unit	
Product IMEI:	864324020000047	
Hardware Version:	HL1G760SM	
Software Version:	G7-L01V100R001C00B245	
Antenna Type:	Internal Antenna	
Device Operating Configurations :		
Test Mode(s):	GSM 850/GSM 1900; LTE FDD Band 7; 802.11b/g/n HT20; Bluetooth;	
Test Modulation:	(GSM)GMSK; (LTE) QPSK, 16QAM;(WIFI)CCK	
Device Class:	B	
LTE UE Category:	3	
GPRS Multislot Class(12):	Max Number of Timeslots in Uplink	4
	Max Number of Timeslots in Downlink	4
	Max Total Timeslot	5
EGPRS Multislot Class(12):	Max Number of Timeslots in Uplink	4
	Max Number of Timeslots in Downlink	4
	Max Total Timeslot	5
Operating Frequency Range(s):	Mode	Tx (MHz)
	GSM 850	824.2 ~ 848.8
	GSM 1900	1850.2 ~ 1909.8
	LTE FDD 7	2502.5 ~ 2567.5
	Bluetooth	2402 ~2480
	WIFI	2412 ~2462
Power Class:	GSM 850: 4	
	GSM 1900: 1	
	LTE FDD 7: 3	
Power Level	GSM 850: level 5	
	GSM 1900: level 0	
	LTE FDD 7: max power	

Auxiliary Equipment Details

Name	Model	capacity	Manufacturer	ID
Battery 1	HB3748B8EBC	3000mAh	Huawei Technologies Co., Ltd.	748B8EBC_FMT_ATL
Battery 2	HB3748B8EBC	3000mAh	Huawei Technologies Co., Ltd.	748B8EBC_XWD_SDI

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(antenna 1)	Yes	Yes	Yes	Yes	No	Yes
GSM 1900(antenna 1)	Yes	Yes	Yes	Yes	No	Yes
LTE Band 7(antenna 1)	Yes	Yes	Yes	Yes	No	Yes
2.4GHz WLAN(antenna 1)	Yes	Yes	No	Yes	Yes	No
GSM 850(antenna 2)	Yes	Yes	Yes	Yes	Yes	No
GSM 1900(antenna 2)	Yes	Yes	Yes	Yes	Yes	No
LTE Band 7(antenna 2)	Yes	Yes	Yes	Yes	Yes	No
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	Right Cheek	190/836.6	0.551	0.716
GSM 1900	Right Cheek	661/1880	0.564	0.692
LTE Band 7	Left Cheek	21100/2535	0.513	0.742
WiFi(802.11b)	Left Cheek	11/2462	0.729	0.753

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	190/836.6	0.327	0.369
GSM 1900	Back Side	661/1880	0.159	0.191
LTE Band 7	Back Side	20850/2510	0.414	0.543
WiFi(802.11b)	Front Side	11/2462	0.122	0.126

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	Back Side	190/836.6	0.417	0.531
GPRS 1900	Bottom Edge	661/1880	0.447	0.572
LTE Band 7	Bottom Edge	21100/2535	0.646	0.865
WiFi(802.11b)	Front Side	11/2462	0.122	0.126

1.8. Test Date

The test performed from September 20, 2014 to September 30, 2014.

2. SAR Measurements System Configuration

2.1. SAR Measurement Set-up

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

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

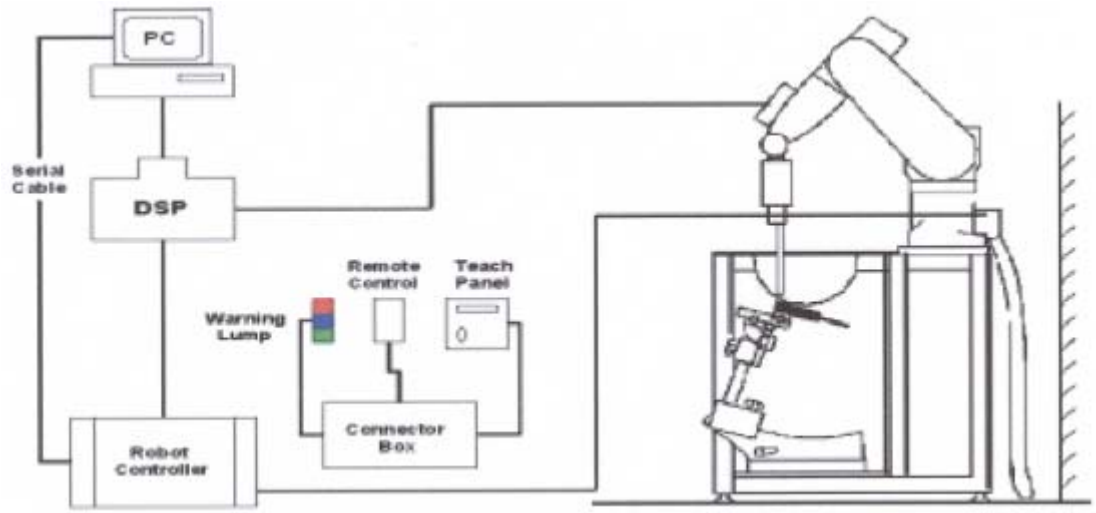


Figure 1 SAR Lab Test Measurement Set-up

2.2. DASY5 E-field Probe System

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

2.2.1. EX3DV4 Probe Specification

Construction: Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)

Calibration: ISO/IEC 17025 calibration service available

Frequency: 10 MHz to > 6 GHz
Linearity: ± 0.2 dB
(30 MHz to 6 GHz)

Figure 2.EX3DV4 E-field Probe

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 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.

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

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

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

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

2.3. Other Test Equipment

2.3.1. Device Holder for Transmitters

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

Figure 4 Device Holder

2.3.2. Phantom

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

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

Figure 5 Generic Twin Phantom

2.4. Scanning Procedure

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

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

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

- Area Scan

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

spacing is set according to FCC KDB Publication 865664. During scan the distance of the probe to the phantom remains unchanged.
After finishing area scan, the field maxima within a range of 2 dB will be ascertained.

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

- Spatial Peak Detection
  The procedure for spatial peak SAR evaluation has been implemented and can determine values of masses of 1g and 10g, as well as for user-specific masses.The DASY5 system allows evaluations that combine measured data and robot positions, such as:
  • maximum search
  • extrapolation
  • boundary correction
  • peak search for averaged SAR
  During a maximum search, global and local maxima searches are automatically performed in 2-D after each Area Scan measurement with at least 6 measurement points. It is based on the evaluation of the local SAR gradient calculated by the Quadratic Shepard's method. The algorithm will find the global maximum and all local maxima within -2 dB of the global maxima for all SAR distributions.
  Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. Several measurements at different distances are necessary for the extrapolation. Extrapolation routines require at least 10 measurement points in 3-D space. They are used in the Zoom Scan to obtain SAR values between the lowest measurement points and the inner phantom surface. The routine uses the modified Quadratic Shepard's method for extrapolation.
- A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 5mm steps.

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

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

2.5. Data Storage and Evaluation

2.5.1. Data Storage

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

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

2.5.2. Data Evaluation by SEMCAD

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

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

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

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

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

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

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

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

cf = crest factor of exciting field (DASY parameter)

dcp_i = diode compression point (DASY parameter)

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

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

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

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

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

$ConvF$ = sensitivity enhancement in solution

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

f = carrier frequency [GHz]

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

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

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

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

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

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

with SAR = local specific absorption rate in mW/g

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

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

= 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.

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

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

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

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

3. Laboratory Environment

Table 2: The Requirements of the Ambient Conditions

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

4. Tissue-equivalent Liquid

4.1. Tissue-equivalent Liquid Ingredients

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

Table 3: Composition of the Head Tissue Equivalent Matter

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

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

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

MIXTURE%	FREQUENCY(Brain) 2600MHz
Water	55.242
Glycol	44.452
Salt	0.306
Dielectric Parameters Target Value	f=2600MHz ε=39.0 σ=1.96

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=52.70 σ=1.95

MIXTURE%	FREQUENCY (Body) 2600MHz
Water	72.6
Glycol monobutyl	27.3
Salt	0.1
Dielectric Parameters Target Value	f=2600MHz ε=52.5 σ=2.16

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)	2014-9-24	21.5	41.3	0.92	41.5	0.90	-0.48%	2.22%
1900MHz (head)	2014-9-21	21.5	39.6	1.43	40.0	1.40	-1.00%	2.14%
2450MHz (head)	2014-9-28	21.5	39.1	1.80	39.2	1.80	-0.26%	0.00%
2600MHz (head)	2014-9-30	21.5	39.6	1.98	39.0	1.96	1.54%	1.02%
835MHz (body)	2014-9-25	21.5	55.8	0.98	55.2	0.97	1.09%	1.03%
1900MHz (body)	2014-9-20	21.5	53.1	1.52	53.3	1.52	-0.38%	0.00%
2450MHz (body)	2014-9-28	21.5	52.1	1.99	52.7	1.95	-1.14%	2.05%
2600MHz (body)	2014-9-29	21.5	52.3	2.2	52.5	2.16	-0.38%	1.85%

5. System Check

5.1. Description of System Check

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

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

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

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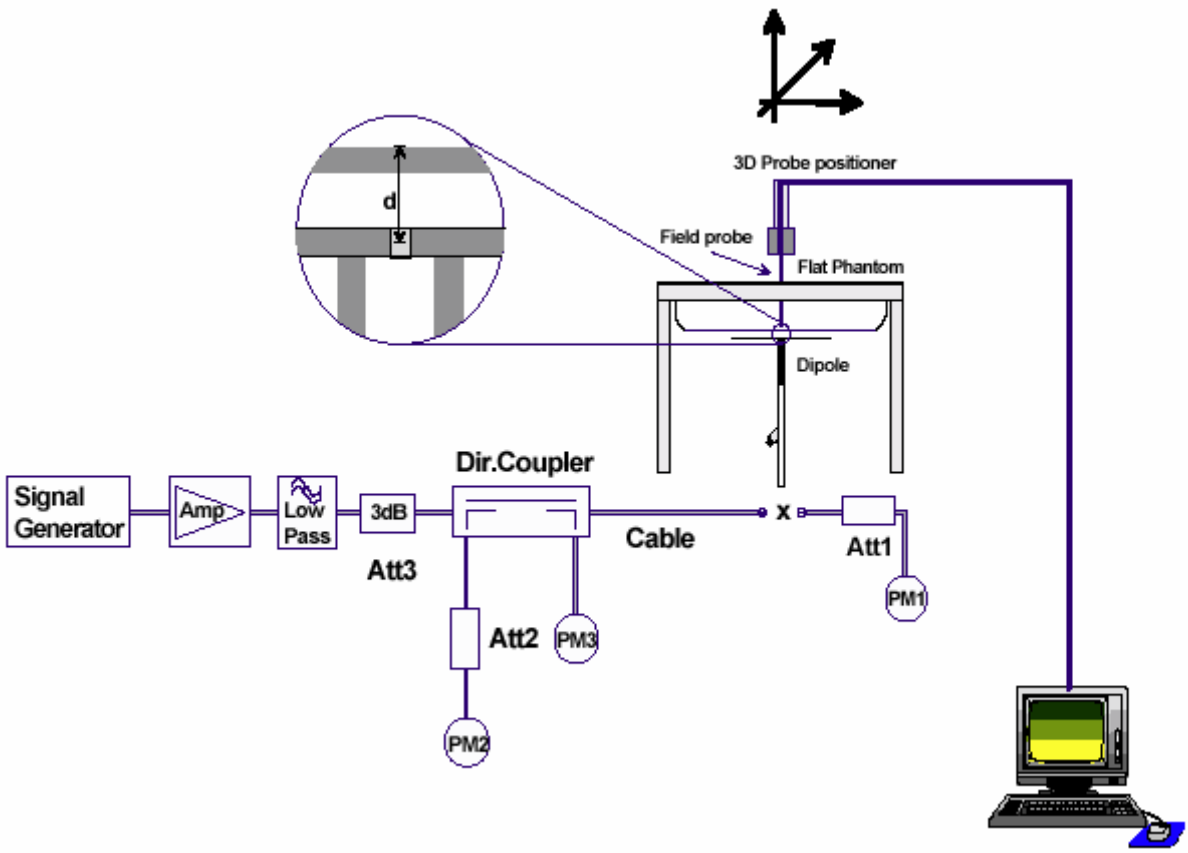


Figure 6 System Check Set-up

Justification for Extended SAR Dipole Calibrations

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

Dipole D2600V2 SN: 1012				
Head Liquid				
Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	ΔΩ
5/2/2012	-25	/	48	/
5/1/2013	-23.5	6%	46.6	1.4Ω
4/29/2014	-24.1	3.6%	47.3	0.7Ω
Body Liquid				
Date of Measurement	Return Loss(dB)	Δ %	Impedance (Ω)	ΔΩ
5/2/2012	-23.6	/	45	/
5/1/2013	-24.5	3.8%	43.2	1.8Ω
4/29/2014	-22.9	3.0%	43.6	1.4Ω

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	2014-9-24	41.3	0.92	2.44	9.76	9.54	2.31%
1900MHz	2014-9-21	39.6	1.43	9.48	37.92	39.20	-3.27%
2450MHz	2014-9-30	39.1	1.80	13.70	54.80	52.50	4.38%
2600MHz	2014-9-29	38.6	1.98	13.90	55.60	57.00	-2.46%

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	2014-9-25	55.8	0.98	2.41	9.64	9.54	1.05%
1900MHz	2014-9-20	53.1	1.52	9.93	39.72	40.00	-0.70%
2450MHz	2014-9-28	52.1	1.99	12.50	50.00	52.40	-4.58%
2600MHz	2014-9-29	52.3	2.2	13.50	54.00	54.30	-0.55%

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 CMW 500, and the EUT is set to maximum output power by CMW 500. 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. the EGPRS class is 12 for this EUT, it has at most 4 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslots is 5.

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

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

Output power of reductions:

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

GSM 850 GPRS（GMSK）:

Number of timeslots in uplink assignment	**reduction of maximum output power, (dB)**
1	1.5
2	4
3	6.5
4	6.5

GSM 850 EGPRS(8PSK):

Number of timeslots in uplink assignment	**reduction of maximum output power, (dB)**
1	0
2	0
3	2
4	3

GSM 850 EGPRS(GMSK):

Number of timeslots in uplink assignment	**reduction of maximum output power, (dB)**
1	**1.5**
2	**4**
3	**6.5**
4	**6.5**

GSM 1900 GPRS（GMSK）:

Number of timeslots in uplink assignment	reduction of maximum output power, (dB)
1	5
2	8
3	9.5
4	11

GSM 1900 EGPRS(8PSK):

Number of timeslots in uplink assignment	reduction of maximum output power, (dB)
1	1.5
2	1.5
3	2.5
4	3.5

GSM 1900 EGPRS(GMSK):

Number of timeslots in uplink assignment	reduction of maximum output power, (dB)
1	5
2	8
3	9.5
4	11

6.4.2. LTE Test Configuration

LTE modes were tested according to FCC KDB 941225 D05 publication. Please see notes after the tabulated SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 was used for LTE output power measurements and SAR testing. Max power control was used so the UE transmits with maximum output power during SAR testing. SAR must be measured with the maximum TTI (transmit time interval) supported by the device in each LTE configuration.

A)Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

B)MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

C)A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

D) Largest channel bandwidth standalone SAR test requirements

1) QPSK with 1 RB allocation

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

2) QPSK with 50% RB allocation

The procedures required for 1 RB allocation in 1) are applied to measure the SAR for QPSK with 50% RB allocation.

3) QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in 1) and 2) are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

4) Higher order modulations
For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in above sections to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

E) Other channel bandwidth standalone SAR test requirements
For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the *reported* SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

6.4.3. 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 15 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 9: Conducted Power Measurement Results
Antenna 1

GSM 850 (Hotspot Close)		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		32.87	32.97	32.93	-9.03dB	23.84	23.94	23.90
GPRS (GMSK)	1Txslot	32.82	32.84	32.69	-9.03dB	23.79	23.81	23.66
	2Txslots	31.30	31.26	30.91	-6.02dB	**25.28**	**25.24**	**24.89**
	3Txslots	28.78	28.34	28.20	-4.26dB	24.52	24.08	23.94
	4Txslots	27.34	27.28	26.94	-3.01dB	24.33	24.27	23.93
EGPRS (GMSK)	1Txslot	32.85	32.70	32.72	-9.03dB	23.82	23.67	23.69
	2Txslots	31.38	31.02	31.02	-6.02dB	**25.36**	**25.00**	**25.00**
	3Txslots	28.83	28.22	28.24	-4.26dB	24.57	23.96	23.98
	4Txslots	27.36	27.25	26.95	-3.01dB	24.35	24.24	23.94
EGPRS (8PSK)	1Txslot	27.09	26.74	26.91	-9.03dB	18.06	17.71	17.88
	2Txslots	26.91	26.51	26.72	-6.02dB	20.89	20.49	20.70
	3Txslots	25.22	24.87	25.05	-4.26dB	20.96	20.61	20.79
	4Txslots	24.06	23.79	23.86	-3.01dB	21.05	20.78	20.85
GSM 1900 (Hotspot Close)		**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		29.73	29.70	29.80	-9.03dB	20.70	20.67	20.77
GPRS (GMSK)	1Txslot	29.64	29.57	29.65	-9.03dB	**20.61**	**20.54**	**20.62**
	2Txslots	26.26	26.53	26.33	-6.02dB	20.24	20.51	20.31
	3Txslots	24.60	24.72	24.67	-4.26dB	20.34	20.46	20.41
	4Txslots	23.06	23.00	23.09	-3.01dB	20.05	19.99	20.08
EGPRS (GMSK)	1Txslot	29.40	29.43	29.62	-9.03dB	**20.37**	**20.40**	**20.59**
	2Txslots	26.06	26.13	26.36	-6.02dB	20.04	20.11	20.34

	3Txslots	24.42	24.43	24.70	-4.26dB	20.16	20.17	20.44
	4Txslots	23.00	22.76	23.06	-3.01dB	19.99	19.75	20.05
EGPRS (8PSK)	1Txslot	25.23	25.15	25.35	-9.03dB	16.20	16.12	16.32
	2Txslots	25.11	24.89	25.20	-6.02dB	19.09	18.87	19.18
	3Txslots	24.45	24.35	24.56	-4.26dB	20.19	20.09	20.30
	4Txslots	23.32	23.27	23.44	-3.01dB	20.31	20.26	20.43
GSM 850 (Hotspot Open)		**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		31.00	30.91	30.77	-9.03dB	21.97	21.88	21.74
GPRS (GMSK)	1Txslot	30.74	30.83	30.49	-9.03dB	21.71	21.80	21.46
	2Txslots	29.35	29.33	29.06	-6.02dB	23.33	23.31	23.04
	3Txslots	26.63	26.56	26.38	-4.26dB	22.37	22.30	22.12
	4Txslots	26.45	26.36	26.22	-3.01dB	**23.44**	**23.35**	**23.21**
EGPRS (GMSK)	1Txslot	30.88	30.91	30.66	-9.03dB	21.85	21.88	21.63
	2Txslots	29.50	29.45	29.21	-6.02dB	23.48	23.43	23.19
	3Txslots	26.72	26.63	26.48	-4.26dB	22.46	22.37	22.22
	4Txslots	26.54	26.45	26.33	-3.01dB	**23.53**	**23.44**	**23.32**
EGPRS (8PSK)	1Txslot	27.04	27.19	26.72	-9.03dB	18.01	18.16	17.69
	2Txslots	26.96	27.09	26.67	-6.02dB	20.94	21.07	20.65
	3Txslots	25.30	25.07	25.04	-4.26dB	21.04	20.81	20.78
	4Txslots	24.14	23.96	23.92	-3.01dB	21.13	20.95	20.91
GSM 1900 (Hotspot Open)		**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		24.56	24.60	24.52	-9.03dB	15.53	15.57	15.49
GPRS (GMSK)	1Txslot	24.40	24.55	24.43	-9.03dB	15.37	15.52	15.40
	2Txslots	21.42	21.43	21.40	-6.02dB	15.40	15.41	15.38
	3Txslots	19.89	19.86	19.90	-4.26dB	**15.63**	**15.60**	**15.64**
	4Txslots	18.29	18.26	18.30	-3.01dB	15.28	15.25	15.29

EGPRS (GMSK)	1Txslot	24.50	24.56	24.49	-9.03dB	15.47	15.53	15.46
	2Txslots	21.52	21.49	21.46	-6.02dB	15.50	15.47	15.44
	3Txslots	19.99	19.93	19.98	-4.26dB	**15.73**	**15.67**	**15.72**
	4Txslots	18.40	18.33	18.38	-3.01dB	15.39	15.32	15.37
EGPRS (8PSK)	1Txslot	25.16	25.23	25.13	-9.03dB	16.13	16.20	16.10
	2Txslots	25.21	25.14	25.16	-6.02dB	19.19	19.12	19.14
	3Txslots	24.56	24.45	24.43	-4.26dB	20.30	20.19	20.17
	4Txslots	23.39	23.52	23.41	-3.01dB	20.38	20.51	20.40

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.

Antenna 2

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		31.11	30.86	30.79	-9.03dB	22.08	21.83	21.76
GPRS (GMSK)	1Txslot	30.95	30.97	30.58	-9.03dB	21.92	21.94	21.55
	2Txslots	30.63	30.60	30.22	-6.02dB	**24.61**	**24.58**	**24.20**
	3Txslots	28.43	28.42	27.95	-4.26dB	24.17	24.16	23.69
	4Txslots	27.06	27.15	27.09	-3.01dB	24.05	24.14	24.08
EGPRS (GMSK)	1Txslot	31.19	30.84	30.67	-9.03dB	22.16	21.81	21.64
	2Txslots	30.88	30.54	30.42	-6.02dB	**24.86**	**24.52**	**24.40**
	3Txslots	28.57	28.42	27.98	-4.26dB	24.31	24.16	23.72
	4Txslots	27.43	27.30	27.27	-3.01dB	24.42	24.29	24.26

EGPRS (8PSK)	1Txslot	26.97	26.84	26.77	-9.03dB	17.94	17.81	17.74
	2Txslots	26.61	26.62	26.62	-6.02dB	20.59	20.60	20.60
	3Txslots	24.94	24.96	24.91	-4.26dB	20.68	20.70	20.65
	4Txslots	24.05	23.79	23.78	-3.01dB	21.04	20.78	20.77
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		24.73	24.61	24.86	-9.03dB	15.70	15.58	15.83
GPRS (GMSK)	1Txslot	24.54	24.32	24.67	-9.03dB	15.51	15.29	15.64
	2Txslots	21.41	21.31	21.64	-6.02dB	15.39	15.29	15.62
	3Txslots	19.83	19.62	19.88	-4.26dB	**15.57**	**15.36**	**15.62**
	4Txslots	17.81	17.35	17.95	-3.01dB	14.80	14.34	14.94
EGPRS (GMSK)	1Txslot	24.74	24.61	24.80	-9.03dB	15.71	15.58	15.77
	2Txslots	21.47	21.64	21.73	-6.02dB	15.45	15.62	15.71
	3Txslots	20.05	20.05	20.16	-4.26dB	**15.79**	**15.79**	**15.90**
	4Txslots	18.07	17.88	18.21	-3.01dB	15.06	14.87	15.20
EGPRS (8PSK)	1Txslot	24.35	24.27	24.27	-9.03dB	15.32	15.24	15.24
	2Txslots	24.23	24.17	24.18	-6.02dB	18.21	18.15	18.16
	3Txslots	24.09	24.02	24.00	-4.26dB	19.83	19.76	19.74
	4Txslots	23.56	23.59	23.61	-3.01dB	20.55	20.58	20.60

Note:

2) 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.

Antenna 1

LTE Band 7 (Hotspot Close)				Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Channel 20775	Channel 21100	Channel 21425
5MHz	QPSK	1	0	21.90	21.83	21.82
		1	13	21.95	21.76	21.72
		1	24	21.83	21.74	21.67
		12	0	20.76	20.65	20.71
		12	6	20.73	20.67	20.65
		12	13	20.79	20.64	20.62
		25	0	20.69	20.55	20.57
	16QAM	1	0	20.87	20.91	20.82
		1	13	20.88	20.80	20.72
		1	24	20.77	20.76	20.67
		12	0	19.65	19.60	19.57
		12	6	19.59	19.56	19.53
		12	13	19.66	19.60	19.52
		25	0	19.55	19.58	19.53
Bandwidth	Modulation	RB size	RB offset	Channel 20800	Channel 21100	Channel 21400
10MHz	QPSK	1	0	21.87	21.83	21.63
		1	25	21.86	21.79	21.81
		1	49	21.69	21.77	21.70
		25	0	20.68	20.60	20.45
		25	13	20.69	20.59	20.62
		25	25	20.62	20.58	20.52
		50	0	20.54	20.46	20.34
	16QAM	1	0	20.69	20.58	20.47
		1	25	20.66	20.54	20.61
		1	49	20.52	20.59	20.47
		25	0	19.66	19.65	19.54
		25	13	19.69	19.64	19.64
		25	25	19.63	19.66	19.63
		50	0	19.45	19.41	19.39
Bandwidth	Modulation	RB size	RB offset	Channel 20825	Channel 21100	Channel 21375
15MHz	QPSK	1	0	21.87	21.72	21.83
		1	38	21.72	21.76	21.67
		1	74	21.78	21.75	21.68
		36	0	20.55	20.43	20.48

		36	18	20.50	20.45	20.39
		36	39	20.50	20.42	20.45
		75	0	20.43	20.40	20.33
	16QAM	1	0	20.65	20.53	20.61
		1	38	20.58	20.56	20.46
		1	74	20.63	20.59	20.45
		36	0	19.58	19.50	19.49
		36	18	19.51	19.51	19.36
		36	39	19.54	19.48	19.46
		75	0	19.40	19.44	19.33
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20850	21100	21350
20MHz	QPSK	1	0	21.74	21.74	21.71
		1	50	21.79	21.73	21.65
		1	99	21.82	21.67	21.64
		50	0	20.47	20.39	20.42
		50	25	20.50	20.42	20.45
		50	50	20.54	20.44	20.40
		100	0	20.56	20.42	20.44
	16QAM	1	0	20.64	20.53	20.61
		1	50	20.62	20.53	20.52
		1	99	20.66	20.54	20.45
		50	0	19.42	19.39	19.42
		50	25	19.44	19.41	19.42
		50	50	19.47	19.37	19.34
		100	0	19.50	19.40	19.37

LTE Band 7 (Hotspot Open)				**Conducted Power(dBm)**		
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20775	21100	21425
5MHz	QPSK	1	0	15.49	15.81	15.82
		1	13	15.58	15.63	15.63
		1	24	15.59	15.8	15.58
		12	0	15.55	15.89	15.72
		12	6	15.44	15.96	15.61
		12	13	15.62	15.85	15.74
		25	0	15.37	15.71	15.64
	16QAM	1	0	15.40	15.79	16.05
		1	13	15.68	15.85	15.95
		1	24	15.69	15.79	15.91

		12	0	15.44	15.83	15.56
		12	6	15.54	15.74	15.58
		12	13	15.62	15.85	15.69
		25	0	15.21	15.75	15.66
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20800	21100	21400
10MHz	QPSK	1	0	15.46	15.81	15.63
		1	25	15.49	15.66	15.72
		1	49	15.45	15.83	15.61
		25	0	15.47	15.84	15.46
		25	13	15.4	15.88	15.58
		25	25	15.45	15.79	15.64
		50	0	15.22	15.62	15.41
	16QAM	1	0	15.22	15.46	15.70
		1	25	15.46	15.59	15.84
		1	49	15.44	15.62	15.71
		25	0	15.45	15.88	15.53
		25	13	15.64	15.82	15.69
		25	25	15.59	15.91	15.80
		50	0	15.11	15.58	15.52
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20825	21100	21375
15MHz	QPSK	1	0	15.46	15.70	15.83
		1	38	15.35	15.63	15.58
		1	74	15.54	15.81	15.59
		36	0	15.34	15.67	15.49
		36	18	15.21	15.74	15.35
		36	39	15.33	15.63	15.57
		75	0	15.11	15.56	15.40
	16QAM	1	0	15.18	15.41	15.84
		1	38	15.38	15.61	15.69
		1	74	15.55	15.62	15.69
		36	0	15.37	15.73	15.48
		36	18	15.46	15.69	15.41
		36	39	15.50	15.73	15.63
		75	0	15.06	15.61	15.46
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20850	21100	21350
20MHz	QPSK	1	0	15.33	15.72	15.71
		1	50	15.42	15.60	15.56

		1	99	15.58	15.73	15.55
		50	0	15.26	15.63	15.43
		50	25	15.21	15.71	15.41
		50	50	15.37	15.65	15.52
		100	0	15.24	15.58	15.51
	16QAM	1	0	15.17	15.41	15.84
		1	50	15.42	15.58	15.75
		1	99	15.58	15.57	15.69
		50	0	15.21	15.62	15.41
		50	25	15.39	15.59	15.47
		50	50	15.43	15.62	15.51
		100	0	15.16	15.57	15.50

Antenna 2

LTE Band 7				Conducted Power(dBm)		
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20775	21100	21425
5MHz	QPSK	1	0	15.00	15.45	15.32
		1	13	15.26	15.43	15.08
		1	24	15.23	15.30	15.06
		12	0	14.20	14.52	14.21
		12	6	14.16	14.46	14.15
		12	13	14.21	14.53	14.18
		25	0	14.07	14.47	14.27
	16QAM	1	0	14.51	14.74	14.94
		1	13	15.34	14.53	14.52
		1	24	15.28	14.45	14.43
		12	0	14.05	14.40	14.23
		12	6	14.10	14.13	14.14
		12	13	14.21	14.51	14.25
		25	0	13.81	13.58	13.37
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20800	21100	21400
10MHz	QPSK	1	0	14.97	15.45	15.13
		1	25	15.17	15.46	15.17
		1	49	15.09	15.33	15.09
		25	0	14.12	14.47	13.95
		25	13	14.12	14.38	14.12
		25	25	14.04	14.47	14.08
		50	0	13.92	14.38	14.04

	16QAM	1	0	14.33	14.41	14.59
		1	25	15.12	14.27	14.41
		1	49	15.03	14.28	14.23
		25	0	14.06	14.45	14.20
		25	13	14.20	14.21	14.25
		25	25	14.18	14.57	14.36
		50	0	13.71	13.41	13.23
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20825	21100	21375
15MHz	QPSK	1	0	14.97	15.34	15.33
		1	38	15.03	15.43	15.03
		1	74	15.18	15.31	15.07
		36	0	13.99	14.30	13.98
		36	18	13.93	14.24	13.89
		36	39	13.92	14.31	14.01
		75	0	13.81	14.32	14.03
	16QAM	1	0	14.29	14.36	14.73
		1	38	15.04	14.29	14.26
		1	74	15.14	14.28	14.21
		36	0	13.98	14.30	14.15
		36	18	14.02	14.08	13.97
		36	39	14.09	14.39	14.19
		75	0	13.66	13.44	13.17
Bandwidth	Modulation	RB size	RB offset	Channel	Channel	Channel
				20850	21100	21350
20MHz	QPSK	1	0	14.84	15.36	15.21
		1	50	15.10	15.40	15.01
		1	99	15.22	15.23	15.03
		50	0	13.91	14.26	13.92
		50	25	13.93	14.21	13.95
		50	50	13.96	14.33	13.96
		100	0	13.94	14.34	14.14
	16QAM	1	0	14.28	14.36	14.73
		1	50	15.08	14.26	14.32
		1	99	15.17	14.23	14.21
		50	0	13.82	14.19	14.08
		50	25	13.95	13.98	14.03
		50	50	14.02	14.28	14.07
		100	0	13.76	13.40	13.21

BT	Conducted Power (dBm)		
	Channel/Frequency(MHz)		
	Ch 0/2402 MHz	Ch 39/2441 MHz	Ch 78/2480 MHz
GFSK	7.44	8.28	8.02
Pi/4-DQPSK	7.43	8.27	8.96
8DPSK	7.6	8.45	8.16
BT 4.0	Channel/Frequency(MHz)		
	Ch 0/2402 MHz	Ch 19/2440 MHz	Ch 39/2480 MHz
GFSK	0.29	1.67	0.68

Mode	Channel/ Frequency(MHz)	Data rate (Mbps)	AV Power (dBm)
802.11b	1/2412	1	16.96
		2	16.86
		5.5	16.85
		11	16.87
	6/2437	1	17.1
		2	17.01
		5.5	17.05
		11	17.06
	11/2462	1	17.86
		2	17.73
		5.5	17.23
		11	17.02
802.11g	1/2412	6	11.01
		9	10.89
		12	10.75
		18	10.73
		24	10.75
		36	10.69
		48	10.66
		54	10.74
	6/2437	6	11.34
		9	11.25
		12	11.23
		18	11.28
		24	11.18
		36	11.07

		48	11.09
		54	11.19
	11/2462	6	12.07
		9	12.01
		12	12.06
		18	12.04
		24	11.89
		36	11.95
		48	11.93
		54	11.87
802.11n HT20	1/2412	MCS0	8.98
		MCS1	8.75
		MCS2	8.89
		MCS3	8.87
		MCS4	8.86
		MCS5	8.94
		MCS6	8.79
		MCS7	8.86
	6/2437	MCS0	9.36
		MCS1	9.31
		MCS2	9.28
		MCS3	9.25
		MCS4	9.24
		MCS5	9.15
		MCS6	9.14
		MCS7	9.08
	11/2462	MCS0	9.96
		MCS1	9.95
		MCS2	9.89
		MCS3	9.87
		MCS4	9.91
		MCS5	9.81
		MCS6	9.79
		MCS7	9.69

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	9	5	2.5	3.0	No
	Body-worn	2480	9	15	0.8	3.0	No
Wifi 2.4GHz	Head	2472	18	5	19.8	3.0	Yes
	Hotspot	2472	18	10	9.9	3.0	Yes
	Body-worn	2472	18	15	6.6	3.0	Yes

7.3. SAR Test Results

7.3.1. GSM 850 (Antenna 1)

Table 10: SAR Values [GSM 850 (GSM/GPRS/EGPRS)]

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 with Battery 1										
Left/Cheek	190/836.6	GSM	1:8.3	33.5	32.97	0.029	0.171	1.13	0.193	Figure. 15
Left/Tilt	190/836.6	GSM	1:8.3	33.5	32.97	0.027	0.074	1.13	0.084	Figure.16
Right/Cheek	190/836.6	GSM	1:8.3	33.5	32.97	-0.040	0.131	1.13	0.148	Figure.17
Right/Tilt	190/836.6	GSM	1:8.3	33.5	32.97	0.140	0.081	1.13	0.091	Figure.18
Worst Case Position of Head with Battery 2										
Left/Cheek	190/836.6	GSM	1:8.3	33.5	32.97	0.030	0.148	1.13	0.167	Figure.19
Test position of Body with Battery 1 (Body- worn,Hotspot Colse, Distance 15mm)										
Back Side	190/836.6	GSM	1:8.3	33.5	32.97	-0.140	0.327	1.13	0.369	Figure.20
Front Side	190/836.6	GSM	1:8.3	33.5	32.97	-0.146	0.251	1.13	0.284	Figure.21
Test position of Body with Battery 1 (Hotspot Open, Distance 10mm)										
Back Side	190/836.6	4Txslots	1:2.07	27.5	26.36	-0.160	0.345	1.30	0.449	Figure.22
Front Side	190/836.6	4Txslots	1:2.07	27.5	26.36	-0.010	0.197	1.30	0.256	Figure.23
Left Edge	190/836.6	4Txslots	1:2.07	27.5	26.36	0.040	0.204	1.30	0.265	Figure.24
Right Edge	190/836.6	4Txslots	1:2.07	27.5	26.36	0.025	0.040	1.30	0.052	Figure.25
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	27.5	26.36	-0.040	0.152	1.30	0.198	Figure.26
Worst Case Position of Body with Battery 2 (Distance 10mm)										
Back Side	190/836.6	4Txslots	1:2.07	27.5	26.45	-0.045	0.318	1.27	0.405	Figure.27
Worst Case Position of Body with EGPRS (Distance 10mm)										
Back Side	190/836.6	4Txslots	1:2.07	27.5	26.45	-0.190	0.417	1.27	0.531	Figure.28

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

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

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

7.3.2. GSM 1900 (Antenna 1)

Table 11: SAR Values [GSM 1900(GSM/GPRS/EGPRS)]

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 with Battery 1										
Left/Cheek	661/1880	GSM	1:8.3	30.5	29.7	0.029	0.088	1.20	0.106	Figure.29
Left/Tilt	661/1880	GSM	1:8.3	30.5	29.7	0.030	0.055	1.20	0.066	Figure.30
Right/Cheek	661/1880	GSM	1:8.3	30.5	29.7	0.069	0.146	1.20	0.176	Figure.31
Right/Tilt	661/1880	GSM	1:8.3	30.5	29.7	0.130	0.074	1.20	0.089	Figure.32
Worst Case Position of Head with Battery 2										
Right/Cheek	661/1880	GSM	1:8.3	30.5	29.7	0.022	0.161	1.20	0.194	Figure.33
Test position of Body with Battery 1 (Body worn, Hotspot Colse, Distance 15mm)										
Back Side	661/1880	GSM	1:8.3	30.5	29.7	0.026	0.159	1.20	0.191	Figure.34
Front Side	661/1880	GSM	1:8.3	30.5	29.7	0.047	0.132	1.20	0.159	Figure.35
Test position of Body with Battery 1 (Hotspot Open, Distance 10mm)										
Back Side	661/1880	3Txslots	1:2.77	21	19.86	0.180	0.273	1.30	0.355	Figure.36
Front Side	661/1880	3Txslots	1:2.77	21	19.86	-0.160	0.178	1.30	0.231	Figure.37
Left Edge	661/1880	3Txslots	1:2.77	21	19.86	0.074	0.039	1.30	0.051	Figure.38
Right Edge	661/1880	3Txslots	1:2.77	21	19.86	0.072	0.034	1.30	0.044	Figure.39
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	3Txslots	1:2.77	21	19.86	0.021	0.427	1.30	0.555	Figure.40
Worst Case Position of Body with Battery 2 (Distance 10mm)										
Bottom Edge	661/1880	3Txslots	1:2.77	21	19.93	0.020	0.447	1.28	0.572	Figure.41
Worst Case Position of Body with EGPRS (Distance 10mm)										
Bottom Edge	661/1880	3Txslots	1:2.77	21	19.93	-0.080	0.423	1.28	0.541	Figure.42

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

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

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

7.3.3. LTE Band 7 (Antenna 1)

Table 12: SAR Values (LTE Band 7/20MHz/QPSK)

Test Position	Channel/ Frequency (MHz)	Mode	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 with 1RB (Battery 1)										
Left/Cheek	20850/2510	1RB 99 Offset	1:1	23	21.82	0.130	0.095	1.31	0.125	Figure.43
Left/Tilt	20850/2510	1RB 99 Offset	1:1	23	21.82	0.092	0.059	1.31	0.078	Figure.44
Right/Cheek	20850/2510	1RB 99 Offset	1:1	23	21.82	0.037	0.064	1.31	0.084	Figure.45
Right/Tilt	20850/2510	1RB 99 Offset	1:1	23	21.82	0.052	0.054	1.31	0.071	Figure.46
Test Position of Head with 50% RB (Battery 1)										
Left/Cheek	20850/2510	50%RB 50 Offset	1:1	22	20.54	0.066	0.069	1.40	0.097	Figure.47
Left/Tilt	20850/2510	50%RB 50 Offset	1:1	22	20.54	0.113	0.044	1.40	0.061	Figure.48
Right/Cheek	20850/2510	50%RB 50 Offset	1:1	22	20.54	0.066	0.051	1.40	0.071	Figure.49
Right/Tilt	20850/2510	50%RB 50 Offset	1:1	22	20.54	0.048	0.044	1.40	0.061	Figure.50
Worst Case Position of Head with Battery 2										
Left/Cheek	20850/2510	1RB 99 Offset	1:1	23	21.82	0.027	0.094	1.31	0.123	Figure.51
Test position of Body with 1RB (Body –worn ,Battery 1, Hotspot Close, Distance 15mm)										
Back Side	20850/2510	1RB 99 Offset	1:1	23	21.82	0.150	0.414	1.31	0.543	Figure.52
Front Side	20850/2510	1RB 99 Offset	1:1	23	21.82	0.024	0.292	1.31	0.383	Figure.53
Test position of Body with 50%RB (Battery 1, Hotspot Close, Distance 15mm)										
Back Side	20850/2510	50%RB 50 Offset	1:1	22	20.54	0.032	0.283	1.40	0.396	Figure.54
Front Side	20850/2510	50%RB 50 Offset	1:1	22	20.54	0.042	0.219	1.40	0.307	Figure.55
Test position of Body with 1RB (Battery 1, Hotspot Open, Distance 10mm)										
Back Side	21100/2535	1RB 99 Offset	1:1	17	15.73	-0.025	0.211	1.34	0.283	Figure.56
Front Side	21100/2535	1RB 99 Offset	1:1	17	15.73	0.031	0.153	1.34	0.205	Figure.57
Left Edge	21100/2535	1RB 99 Offset	1:1	17	15.73	0.060	0.058	1.34	0.077	Figure.58
Right Edge	21100/2535	1RB 99 Offset	1:1	17	15.73	0.053	0.049	1.34	0.066	Figure.59
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	21100/2535	1RB 99 Offset	1:1	17	15.73	0.050	0.586	1.34	0.785	Figure.60
Test position of Body with 50%RB (Battery 1, Hotspot Open, Distance 10mm)										
Back Side	21100/2535	50%RB 25 Offset	1:1	16	15.71	0.021	0.213	1.07	0.228	Figure.61
Front Side	21100/2535	50%RB 25 Offset	1:1	16	15.71	0.034	0.153	1.07	0.164	Figure.62
Left Edge	21100/2535	50%RB 25 Offset	1:1	16	15.71	0.056	0.059	1.07	0.063	Figure.63
Right Edge	21100/2535	50%RB 25 Offset	1:1	16	15.71	0.122	0.044	1.07	0.047	Figure.64
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	21100/2535	50%RB 25 Offset	1:1	16	15.71	0.160	0.603	1.07	0.645	Figure.65
Worst Case Position of Body with Battery 2 (Hotspot Open, Distance 10mm)										
Bottom Edge	21350/2560	1RB 99 Offset	1:1	17	15.73	0.160	0.617	1.34	0.827	Figure.66
	21100/2535	1RB 99 Offset	1:1	17	15.73	0.020	0.646	1.34	0.865	Figure.67
	20850/2510	1RB 99 Offset	1:1	17	15.73	0.160	0.591	1.34	0.792	Figure.68

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

7.3.4. GSM 850 (Antenna 2)

Table 13: SAR Values [GSM 850 (GSM/GPRS/EGPRS)]

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 with Battery 1										
Left/Cheek	190/836.6	GSM	1:8.3	32	30.86	0.028	0.396	1.30	0.515	Figure.69
Left/Tilt	190/836.6	GSM	1:8.3	32	30.86	0.020	0.392	1.30	0.510	Figure.70
Right/Cheek	190/836.6	GSM	1:8.3	32	30.86	0.110	0.510	1.30	0.663	Figure.71
Right/Tilt	190/836.6	GSM	1:8.3	32	30.86	-0.040	0.444	1.30	0.577	Figure.72
Worst Case Position of Head with Battery 2										
Right/Cheek	190/836.6	GSM	1:8.3	32	30.86	0.070	0.551	1.30	0.716	Figure.73
Test position of Body with Battery 1 (body- worn, Distance 15mm)										
Back Side	190/836.6	GSM	1:8.3	32	30.86	-0.070	0.087	1.30	0.113	Figure.74
Front Side	190/836.6	GSM	1:8.3	32	30.86	-0.090	0.071	1.30	0.092	Figure.75
Test position of Body with Battery 1 (Distance 10mm)										
Back Side	190/836.6	2Txslots	1:4.15	31	30.6	-0.100	0.236	1.10	0.259	Figure.76
Front Side	190/836.6	2Txslots	1:4.15	31	30.6	-0.100	0.162	1.10	0.178	Figure.77
Left Edge	190/836.6	2Txslots	1:4.15	31	30.6	-0.025	0.078	1.10	0.086	Figure.78
Right Edge	190/836.6	2Txslots	1:4.15	31	30.6	0.055	0.020	1.10	0.022	Figure.79
Top Edge	190/836.6	2Txslots	1:4.15	31	30.6	-0.060	0.185	1.10	0.203	Figure.80
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	190/836.6	2Txslots	1:4.15	31	30.54	0.120	0.348	1.11	0.387	Figure.81
Worst Case Position of Body with EGPRS (Distance 10mm)										
Back Side	190/836.6	2Txslots	1:4.15	31	30.54	0.032	0.346	1.11	0.385	Figure.82

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

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

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

7.3.5. GSM 1900 (Antenna 2)

Table 14: SAR Values [GSM 1900(GSM/GPRS/EGPRS)]

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 with Battery 1										
Left/Cheek	661/1880	GSM	1:8.3	25.5	24.61	0.120	0.433	1.23	0.531	Figure.83
Left/Tilt	661/1880	GSM	1:8.3	25.5	24.61	0.040	0.367	1.23	0.450	Figure.84
Right/Cheek	661/1880	GSM	1:8.3	25.5	24.61	0.020	0.564	1.23	0.692	Figure.85
Right/Tilt	661/1880	GSM	1:8.3	25.5	24.61	0.110	0.521	1.23	0.639	Figure.86
Worst Case Position of Head with Battery 2										
Right/Cheek	661/1880	GSM	1:8.3	25.5	24.61	0.130	0.514	1.23	0.631	Figure.87
Test position of Body with Battery 1 (body- worn,Distance 15mm)										
Back Side	661/1880	GSM	1:8.3	25.5	24.61	0.050	0.064	1.23	0.078	Figure.88
Front Side	661/1880	GSM	1:8.3	25.5	24.61	-0.100	0.048	1.23	0.059	Figure.89
Test position of Body with Battery 1 (Distance 10mm)										
Back Side	661/1880	3Txslots	1:2.77	21	19.62	0.161	0.123	1.37	0.169	Figure.90
Front Side	661/1880	3Txslots	1:2.77	21	19.62	0.167	0.097	1.37	0.134	Figure.91
Left Edge	661/1880	3Txslots	1:2.77	21	19.62	0.173	0.030	1.37	0.041	Figure.92
Right Edge	661/1880	3Txslots	1:2.77	21	19.62	0.033	0.008	1.37	0.011	Figure.93
Top Edge	661/1880	3Txslots	1:2.77	21	19.62	-0.010	0.095	1.37	0.131	Figure.94
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	661/1880	3Txslots	1:2.77	21	20.05	0.045	0.127	1.24	0.158	Figure.95
Worst Case Position of Body with EGPRS (Distance 10mm)										
Back Side	661/1880	3Txslots	1:2.77	21	20.05	0.026	0.128	1.24	0.159	Figure.96

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

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

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

7.3.6. LTE Band 7 (Antenna 2)

Table 15: SAR Values (LTE Band 7/20MHz/QPSK)

Test Position	Channel/ Frequency (MHz)	Mode	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 with 1RB (Battery 1)										
Left/Cheek	21100/2535	1RB 50 Offset	1:1	17	15.4	0.024	0.513	1.45	0.742	Figure.97
Left/Tilt	21100/2535	1RB 50 Offset	1:1	17	15.4	0.110	0.372	1.45	0.538	Figure.98
Right/Cheek	21100/2535	1RB 50 Offset	1:1	17	15.4	0.026	0.278	1.45	0.402	Figure.99
Right/Tilt	21100/2535	1RB 50 Offset	1:1	17	15.4	0.020	0.208	1.45	0.301	Figure.100
Test Position of Head with 50% RB (Battery 1)										
Left/Cheek	21100/2535	50%RB 50 Offset	1:1	16	14.33	0.170	0.393	1.47	0.577	Figure.101
Left/Tilt	21100/2535	50%RB 50 Offset	1:1	16	14.33	0.120	0.289	1.47	0.425	Figure.102
Right/Cheek	21100/2535	50%RB 50 Offset	1:1	16	14.33	0.040	0.229	1.47	0.336	Figure.103
Right/Tilt	21100/2535	50%RB 50 Offset	1:1	16	14.33	0.020	0.166	1.47	0.244	Figure.104
Worst Case Position of Head with Battery 2										
Left/Cheek	21100/2535	1RB 50 Offset	1:1	17	15.4	0.028	0.476	1.45	0.688	Figure.105
Test position of Body with 1RB (body-worn, Battery 1, Distance 15mm)										
Back Side	21100/2535	1RB 50 Offset	1:1	17	15.4	0.170	0.038	1.45	0.055	Figure.106
Front Side	21100/2535	1RB 50 Offset	1:1	17	15.4	0.030	0.029	1.45	0.042	Figure.107
Test position of Body with 1RB (Battery 1, Distance 10mm)										
Back Side	21100/2535	1RB 50 Offset	1:1	17	15.4	0.150	0.070	1.45	0.102	Figure.108
Front Side	21100/2535	1RB 50 Offset	1:1	17	15.4	0.081	0.084	1.45	0.121	Figure.109
Left Edge	21100/2535	1RB 50 Offset	1:1	17	15.4	0.023	0.006	1.45	0.009	Figure.110
Right Edge	21100/2535	1RB 50 Offset	1:1	17	15.4	0.024	0.005	1.45	0.008	Figure.111
Top Edge	21100/2535	1RB 50 Offset	1:1	17	15.4	0.191	0.019	1.45	0.028	Figure.112
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Test position of Body with 50%RB (Battery 1, Distance 10mm)										
Back Side	21100/2535	50%RB 50 Offset	1:1	16	14.33	0.038	0.056	1.47	0.083	Figure.113
Front Side	21100/2535	50%RB 50 Offset	1:1	16	14.33	0.036	0.063	1.47	0.093	Figure.114
Left Edge	21100/2535	50%RB 50 Offset	1:1	16	14.33	0.080	0.005	1.47	0.007	Figure.115
Right Edge	21100/2535	50%RB 50 Offset	1:1	16	14.33	-0.060	0.003	1.47	0.004	Figure.116
Top Edge	21100/2535	50%RB 50 Offset	1:1	16	14.33	-0.025	0.013	1.47	0.019	Figure.117
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)										
Front Side	21100/2535	1RB 50 Offset	1:1	17	15.4	0.137	0.084	1.45	0.122	Figure.118

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

7.3.7. WIFI

Table 16: 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 with Battery 1										
Left/Cheek	11/2462	DSSS	1:1	18	17.86	0.029	0.729	1.03	0.753	Figure.119
Left/Tilt	11/2462	DSSS	1:1	18	17.86	0.160	0.544	1.03	0.562	Figure.120
Right/Cheek	11/2462	DSSS	1:1	18	17.86	0.038	0.237	1.03	0.245	Figure.121
Right/Tilt	11/2462	DSSS	1:1	18	17.86	0.010	0.180	1.03	0.186	Figure.122
Worst Case Position of Head with Battery 2										
Left/Cheek	11/2462	DSSS	1:1	18	17.86	0.039	0.724	1.03	0.748	Figure.123
Test position of Body with Battery 1 (body- worn, Distance 15mm)										
Back Side	11/2462	DSSS	1:1	18	17.86	0.030	0.018	1.03	0.019	Figure.124
Front Side	11/2462	DSSS	1:1	18	17.86	0.045	0.045	1.03	0.047	Figure.125
Test position of Body with Battery 1 (Distance 10mm)										
Back Side	11/2462	DSSS	1:1	18	17.86	0.061	0.079	1.03	0.081	Figure.126
Front Side	11/2462	DSSS	1:1	18	17.86	0.031	0.122	1.03	0.126	Figure.127
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	11/2462	DSSS	1:1	18	17.86	0.075	0.041	1.03	0.042	Figure.128
Top Edge	11/2462	DSSS	1:1	18	17.86	0.021	0.058	1.03	0.060	Figure.129
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)										
Front Side	11/2462	DSSS	1:1	18	17.86	0.067	0.118	1.03	0.122	Figure.130

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

2. 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.

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.

7.4. Simultaneous Transmission Conditions

Air-Interface	Band (MHz)	Type	SimultaneousTransmissions	Voice Over Digital Transport (Data)
GSM (Antenna 1 or Antenna 2)	850	Voice	Yes BT or WIFI	NA
	1900	Voice		
	GPRS	Data		
	EGPRS	Data		
LTE (Antenna 1 or Antenna 2)	Band 7	Data	Yes BT or WIFI	NA
WIFI	2450	Data	Yes GSM,GPRS,EGPRS,LTE	Yes
Bluetooth (BT)	2450	Data	Yes GSM,GPRS,EGPRS,LTE	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	9	5	0.334
	Body-worn	2480	9	15	0.111

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.

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

WIFI & BT Mode

About BT and GSM/LTE antenna 1

SAR_{1g}(W/kg) / Test Position	GSM 850	GSM 1900	LTE 7	BT	MAX. ΣSAR_{1g}	Peak location separation ratio
Left, Touch	**0.193**	0.106	0.125	**0.334**	**0.527**	NA
Left, Tilt	**0.084**	0.066	0.078	**0.334**	**0.418**	NA
Right, Touch	0.148	**0.194**	0.084	**0.334**	**0.528**	NA
Right, Tilt	**0.091**	0.089	0.071	**0.334**	**0.425**	NA
Back Side(hotspot close)	0.369	0.191	**0.543**	**0.111**	**0.654**	NA
Front Side(hotspot close)	0.284	0159	**0.383**	**0.111**	**0.494**	NA

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} = 0.654 W/kg <1.6 W/kg, so the Simultaneous transimition SAR with volum scan are not required for BT and GSM/LTE antenna.

About WIFI and GSM/LTE antenna 1

SAR_{1g}(W/kg) / Test Position	GSM 850	GSM 1900	LTE 7	WIFI	MAX. ΣSAR_{1g}	Peak location separation ratio
Left, Touch	**0.193**	0.106	0.125	**0.753**	0.946	NA
Left, Tilt	**0.084**	0.066	0.078	**0.562**	0.646	NA
Right, Touch	0.148	**0.194**	0.084	**0.245**	0.439	NA
Right, Tilt	**0.091**	0.089	0.071	**0.186**	0.277	NA
Back Side(hotspot close)	0.369	0.191	**0.543**	**0.019**	0.562	NA
Front Side(hotspot close)	0.284	0159	**0.383**	**0.047**	0.430	NA
Back Side(hotspot open)	**0.531**	0.355	0.228	**0.081**	0.612	NA
Front Side(hotspot open)	**0.256**	0.231	0.164	**0.126**	0.382	NA
Left Edge(hotspot open)	**0.265**	0.051	0.063	NA	NA	NA
Right Edge(hotspot open)	**0.052**	0.044	0.047	**0.042**	0.094	NA
Top Edge(hotspot open)	NA	NA	NA	**0.060**	NA	NA
Bottom Edge(hotspot open)	0.198	0.572	**0.865**	NA	NA	NA

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} = 0.946 W/kg <1.6 W/kg, so the Simultaneous transimition SAR with volum scan are not required for WIFI and GSM/LTE antenna 1.

About BT and GSM/LTE antenna 2

SAR_{1g}(W/kg) / Test Position	GSM 850	GSM 1900	LTE 7	BT	MAX. ΣSAR_{1g}	Peak location separation ratio
Left, Touch	0.716	0.531	**0.742**	**0.334**	**1.076**	NA
Left, Tilt	0.510	0.450	**0.538**	**0.334**	**0.872**	NA

Right, Touch	0.663	**0.692**	0.402	**0.334**	**1.026**	NA
Right, Tilt	0.577	**0.639**	0.301	**0.334**	**0.973**	NA
Back Side	**0.113**	0.078	0.055	**0.111**	**0.224**	NA
Front Side	**0.092**	0.059	0.042	**0.111**	**0.203**	NA
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} = 1.076 W/kg <1.6 W/kg, so the Simultaneous transimition SAR with volum scan are not required for BT and GSM/LTE antenna.

About WIFI and GSM/LTE antenna 2

SAR_{1g}(W/kg) / Test Position	GSM 850	GSM 1900	LTE 7	WIFI	MAX. ΣSAR_{1g}	Peak location separation ratio
Left, Touch	0.716	0.531	**0.742**	**0.753**	1.495	NA
Left, Tilt	0.510	0.450	**0.538**	**0.562**	1.100	NA
Right, Touch	0.663	**0.692**	0.402	**0.245**	0.937	NA
Right, Tilt	0.577	**0.639**	0.301	**0.186**	0.825	NA
Back Side(hotspot close)	**0.113**	0.078	0.055	**0.019**	0.132	NA
Front Side(hotspot close)	**0.092**	0.059	0.042	**0.047**	0.139	NA
Back Side(hotspot open)	**0.387**	0.169	0.102	**0.081**	0.468	NA
Front Side(hotspot open)	**0.178**	0.134	0.122	**0.126**	0.304	NA
Left Edge(hotspot open)	**0.086**	0.041	0.009	NA	NA	NA
Right Edge(hotspot open)	**0.022**	0.011	0.008	**0.042**	0.064	NA
Top Edge(hotspot open)	**0.203**	0.131	0.028	**0.060**	0.263	NA
Bottom Edge(hotspot open)	N/A	N/A	N/A	NA	NA	NA
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} = 1.495 W/kg <1.6 W/kg, so the Simultaneous transimition SAR with volum scan are not required for WIFI and GSM/LTE antenna.

8. 700MHz to 3GHz Measurement Uncertainty

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

19	-phantom Uncertainty	B	4.0	R	$\sqrt{3}$	1	2.3	∞
20	Algorithm for correcting SAR for deviations in permittivity and conductivity	B	1.9	N	1	0.84	0.9	∞
21	-Liquid conductivity (measurement uncertainty)	B	2.5	N	1	0.71	1.8	9
22	-Liquid permittivity (measurement uncertainty)	B	2.5	N	1	0.26	0.7	9
23	-Liquid conductivity -temperature uncertainty	B	1.7	R	$\sqrt{3}$	0.71	0.7	∞
24	-Liquid permittivity -temperature uncertainty	B	0.3	R	$\sqrt{3}$	0.26	0.05	∞
Combined standard uncertainty		$u_c^{'} = \sqrt{\sum_{i=1}^{24} c_i^2 u_i^2}$					11.34	
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$		N	k=2		22.68	

9. Main Test Instruments

Table 17: List of Main Instruments

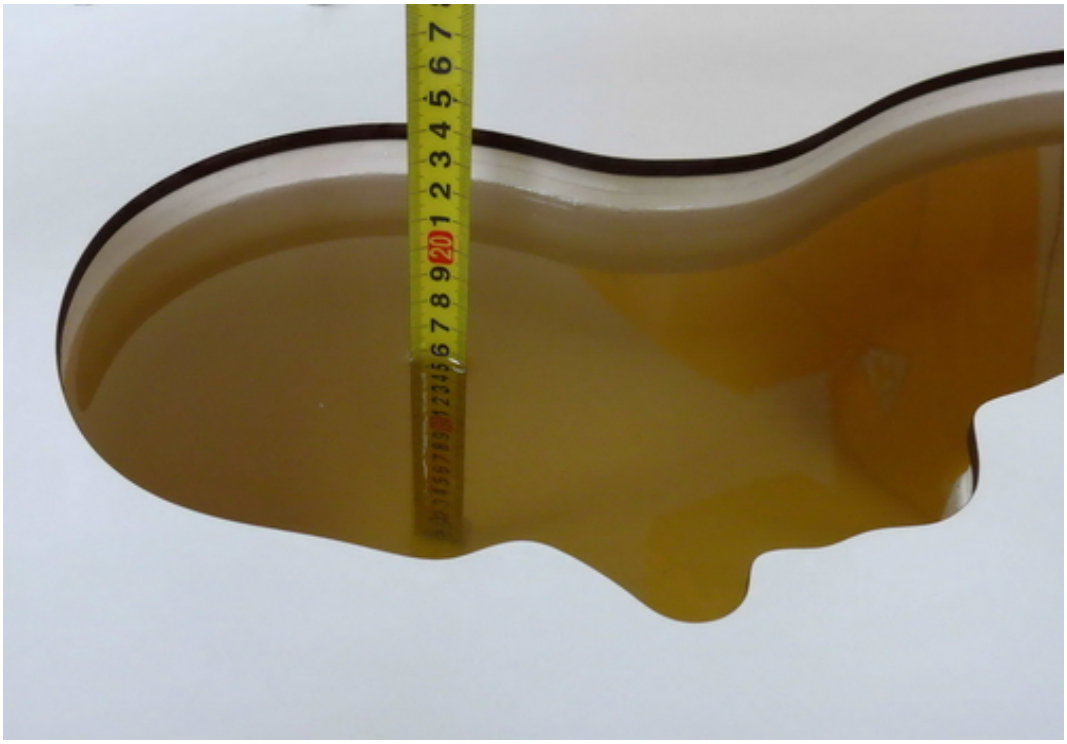
No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	Agilent 8753E	US37390326	September 1, 2014	One year
02	Dielectric Probe Kit	Agilent 85070E	US44020115	No Calibration Requested	
03	Power meter	Agilent E4417A	GB41291714	March 9, 2014	One year
04	Power sensor	Agilent N8481H	MY50350004	September 18, 2014	One year
05	Power sensor	E9327A	US40441622	January 1, 2014	One year
06	Signal Generator	HP 8341B	2730A00804	September 1, 2014	One year
07	Dual directional coupler	778D-012	50519	March 24, 2014	One year
08	Dual directional coupler	777D	50146	March 24, 2014	One year
09	Amplifier	IXA-020	0401	No Calibration Requested	
10	Wideband radio communication tester	CMW 500	113645	August 28, 2014	One year
11	E-field Probe	EX3DV4	3677	November 28, 2013	One year
12	E-field Probe	ES3DV4	3977	February 17, 2014	One year
13	DAE	DAE4	1317	January 16, 2014	One year
15	Validation Kit 835MHz	D835V2	4d020	August 28, 2014	Three years
17	Validation Kit 1900MHz	D1900V2	5d060	September 1, 2014	Three years
18	Validation Kit 2450MHz	D2450V2	786	September 1, 2014	Three years
19	Validation Kit 2600MHz	D2600V2	1012	May 02, 2012	Three years
20	Temperature Probe	JM222	AA1009129	March 13, 2014	One year
21	Hygrothermograph	WS-1	64591	September 16, 2014	One year

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

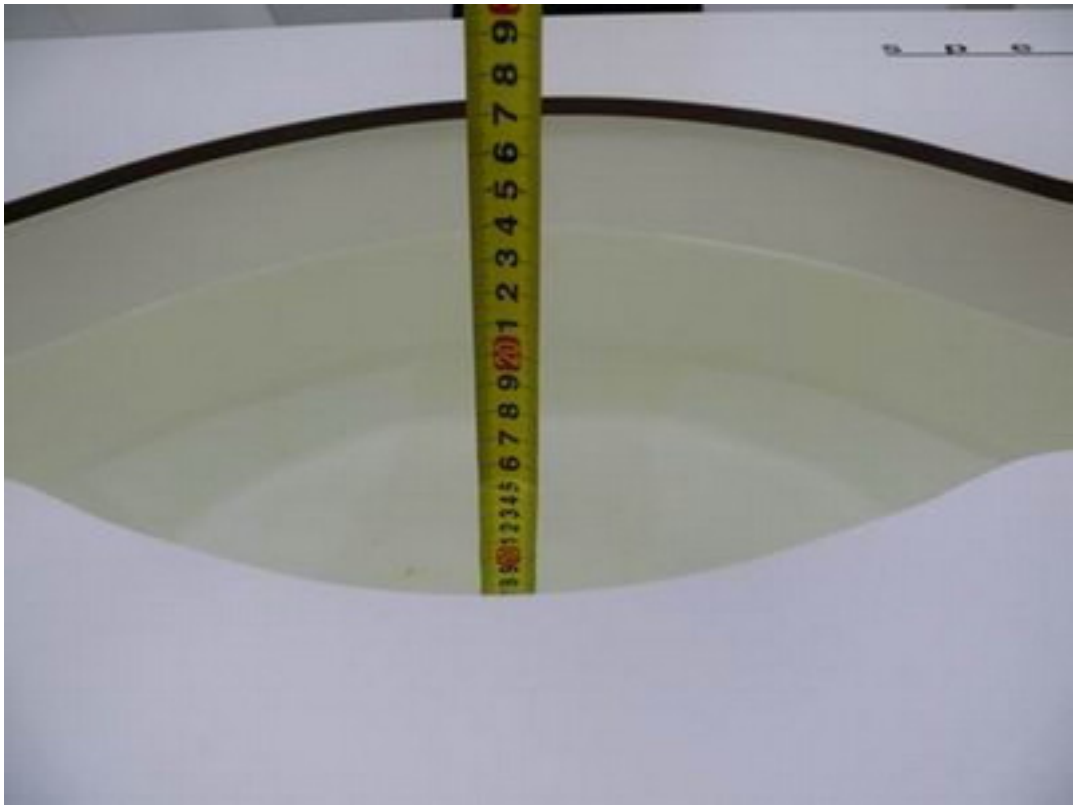
ANNEX A: Test Layout

Picture 1: Specific Absorption Rate Test Layout

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

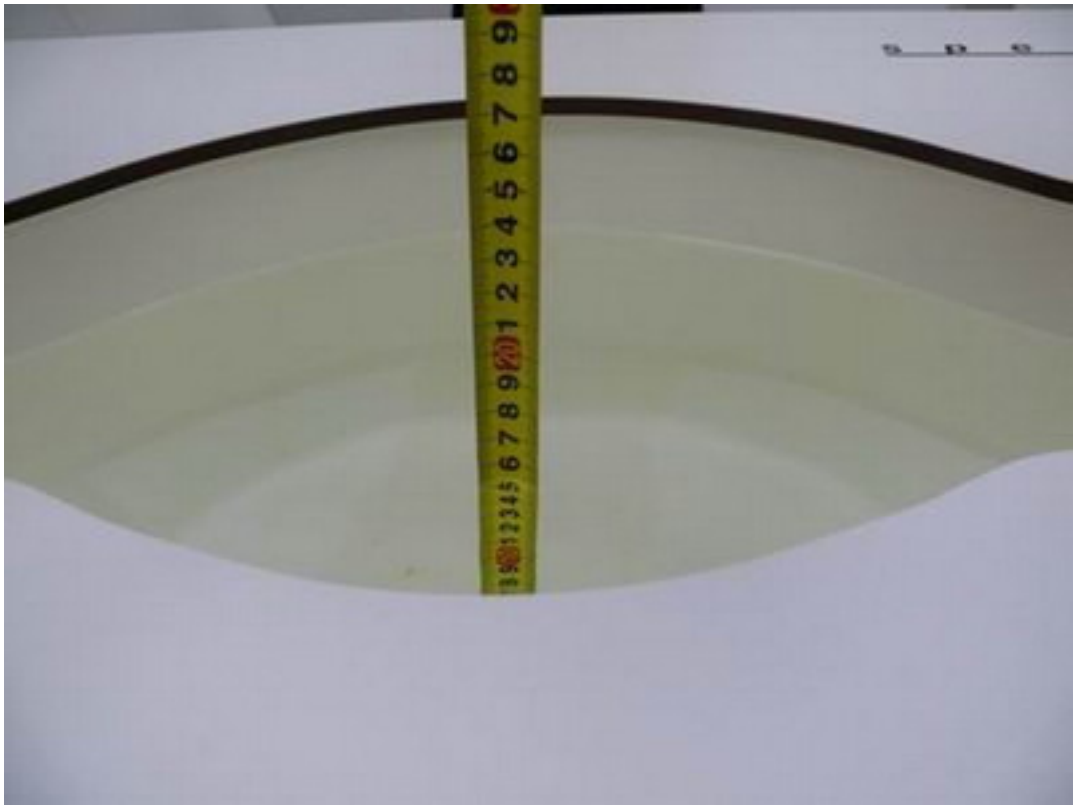


Picture 3: Liquid depth in the head Phantom (835MHz, 15.3cm depth)



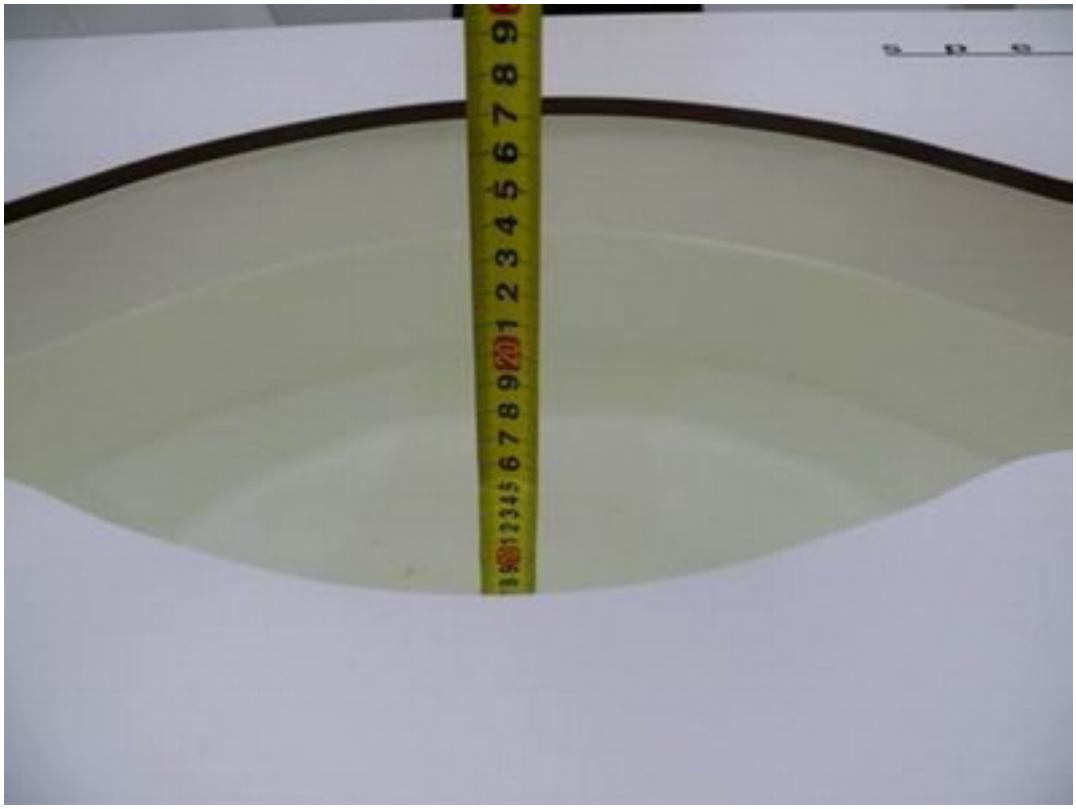
Picture 4: Liquid depth in the flat Phantom (1900 MHz, 15.2cm depth)

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



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)



Picture 8: Liquid depth in the flat Phantom (2600 MHz, 15.3cm depth)

Picture 9: Liquid depth in the head Phantom (2600 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/Time: 9/24/2014

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

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

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

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

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

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

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

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

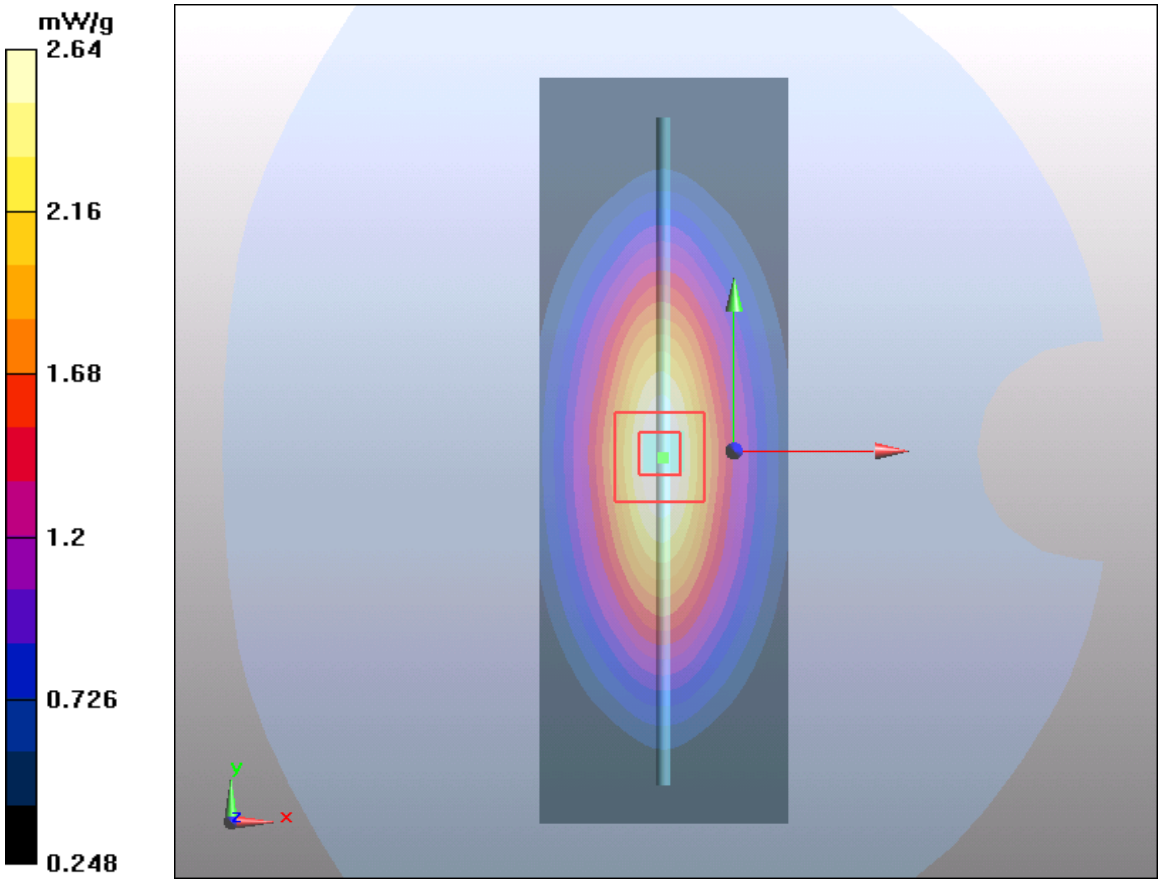


Figure 7 System Performance Check 835MHz 250mW

System Performance Check at 835 MHz Body TSL

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

Date/Time: 9/25/2014

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

Medium parameters used: f = 835 MHz; σ = 0.98 mho/m; ε_r = 55.8; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

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

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

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

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

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

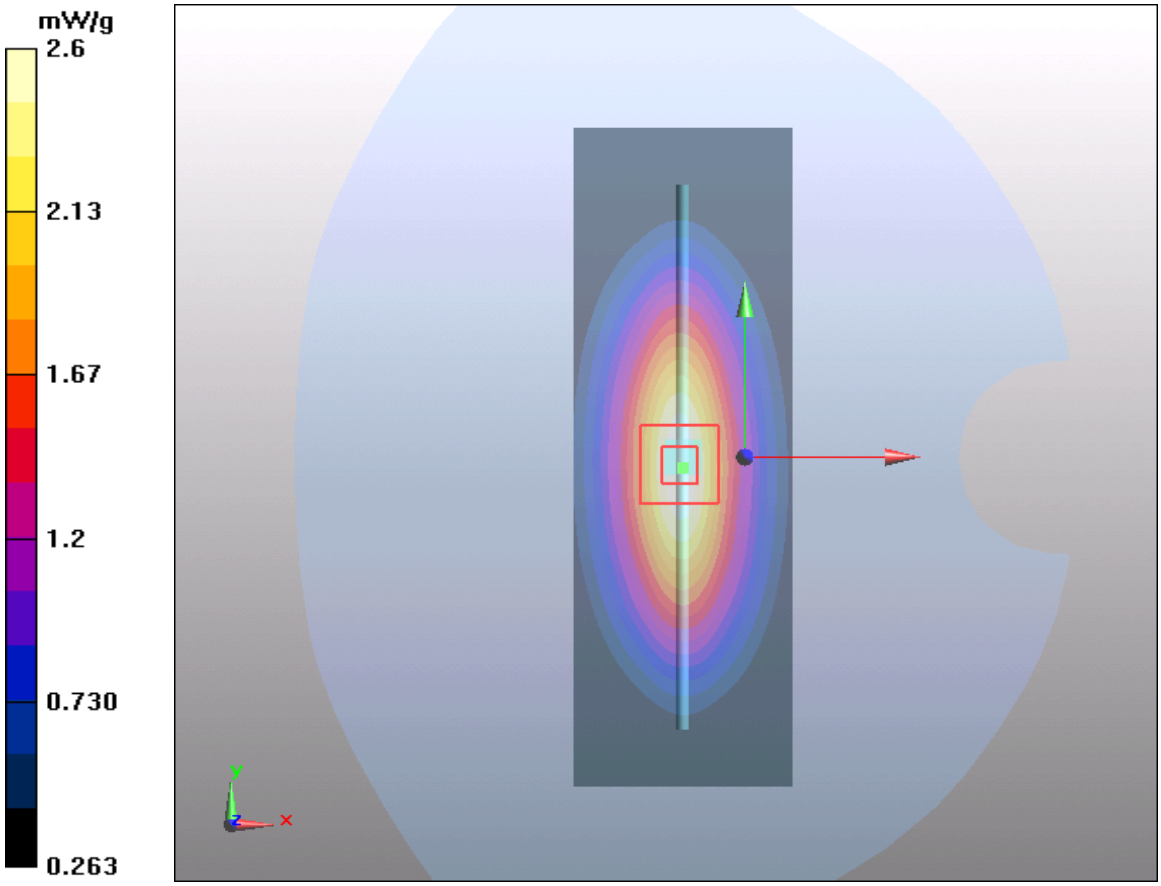


Figure 8 System Performance Check 835MHz 250Mw

System Performance Check at 1900 MHz Head TSL

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

Date/Time: 9/21/2014

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

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

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

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

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

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

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

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

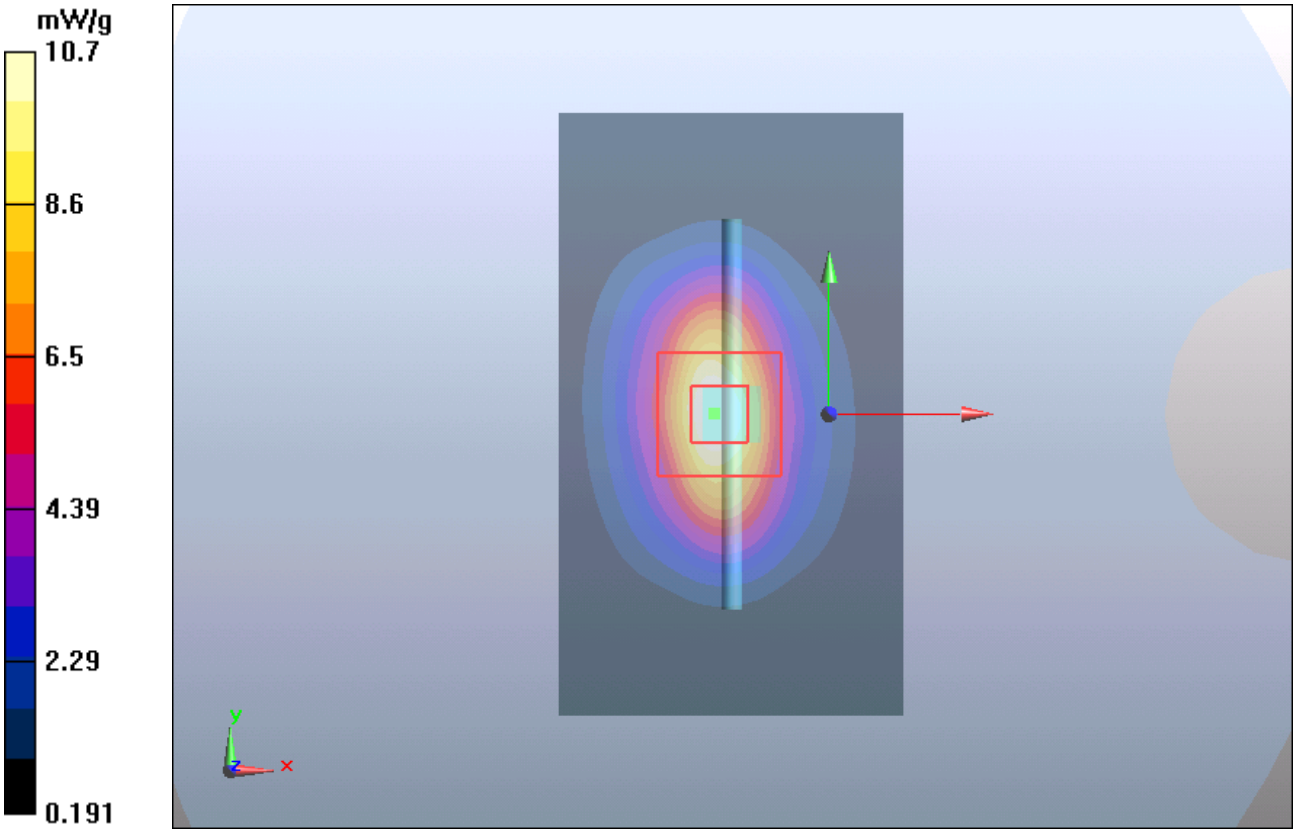


Figure 9 System Performance Check 1900MHz 250mW

System Performance Check at 1900 MHz Body TSL

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

Date/Time: 9/20/2014

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

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

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

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

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

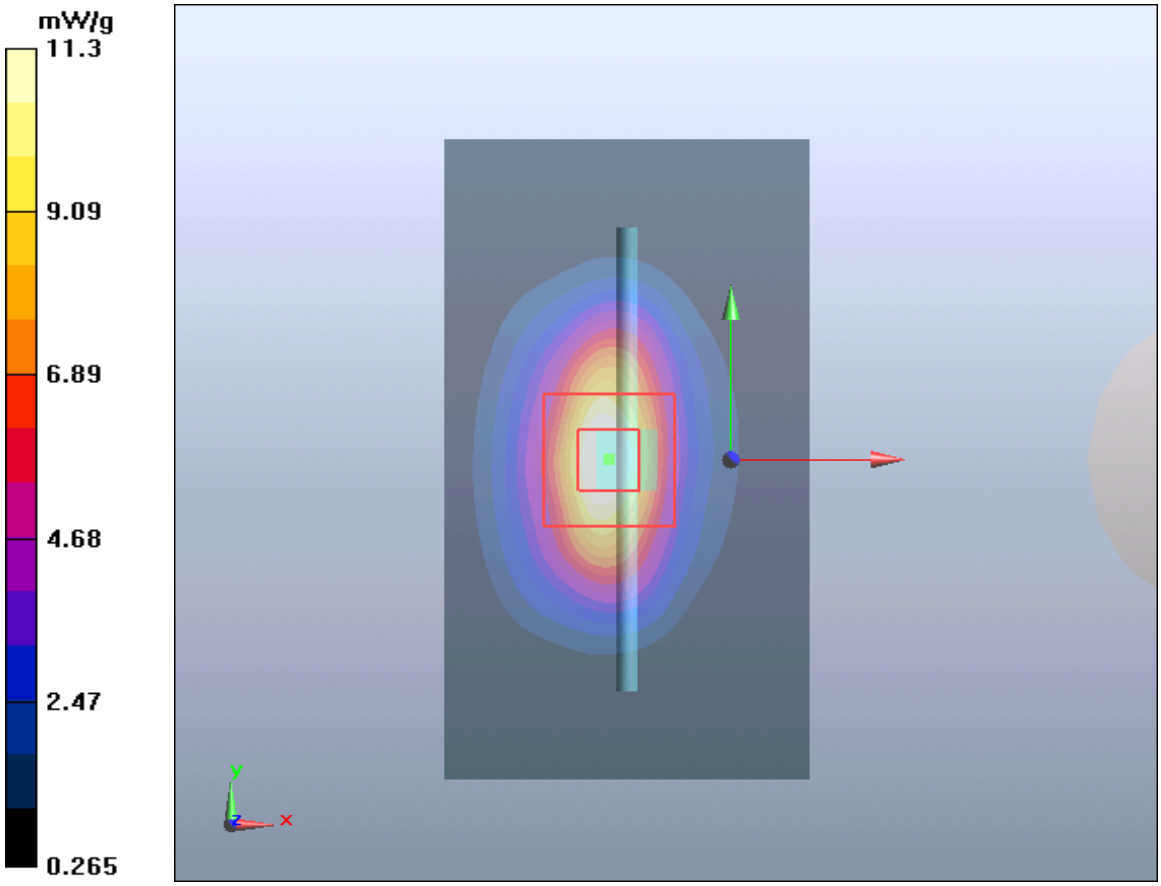


Figure 10 System Performance Check 1900MHz 250mW

System Performance Check at 2450 MHz Head TSL

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

Date/Time: 9/28/2014

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

Medium parameters used: f = 2450 MHz; σ = 1.80 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN3677; ConvF(7.64, 7.64, 7.64); Calibrated: 11/28/2013;

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

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

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

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

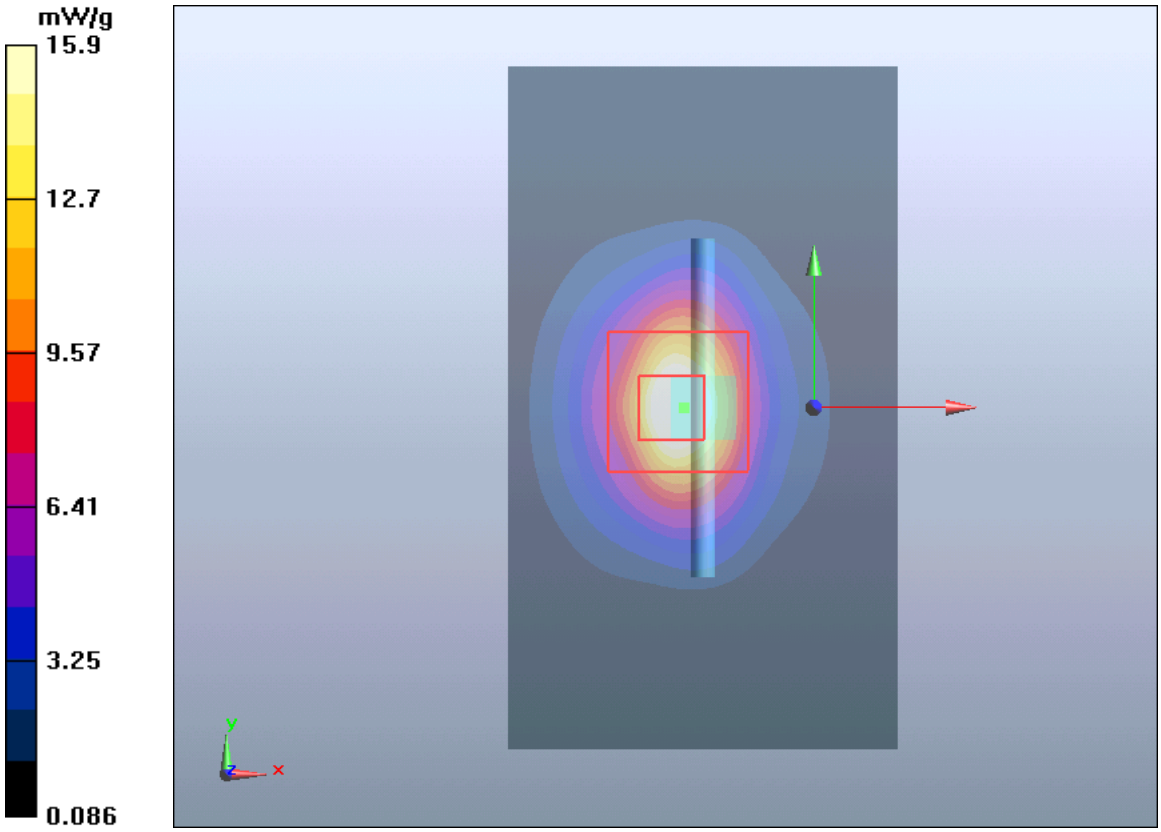


Figure 11 System Performance Check 2450MHz 250mW

System Performance Check at 2450 MHz Body TSL

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

Date/Time: 9/28/2014

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 – SN3677; ConvF(7.61, 7.61, 7.61); Calibrated: 11/28/2013;

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

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

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

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

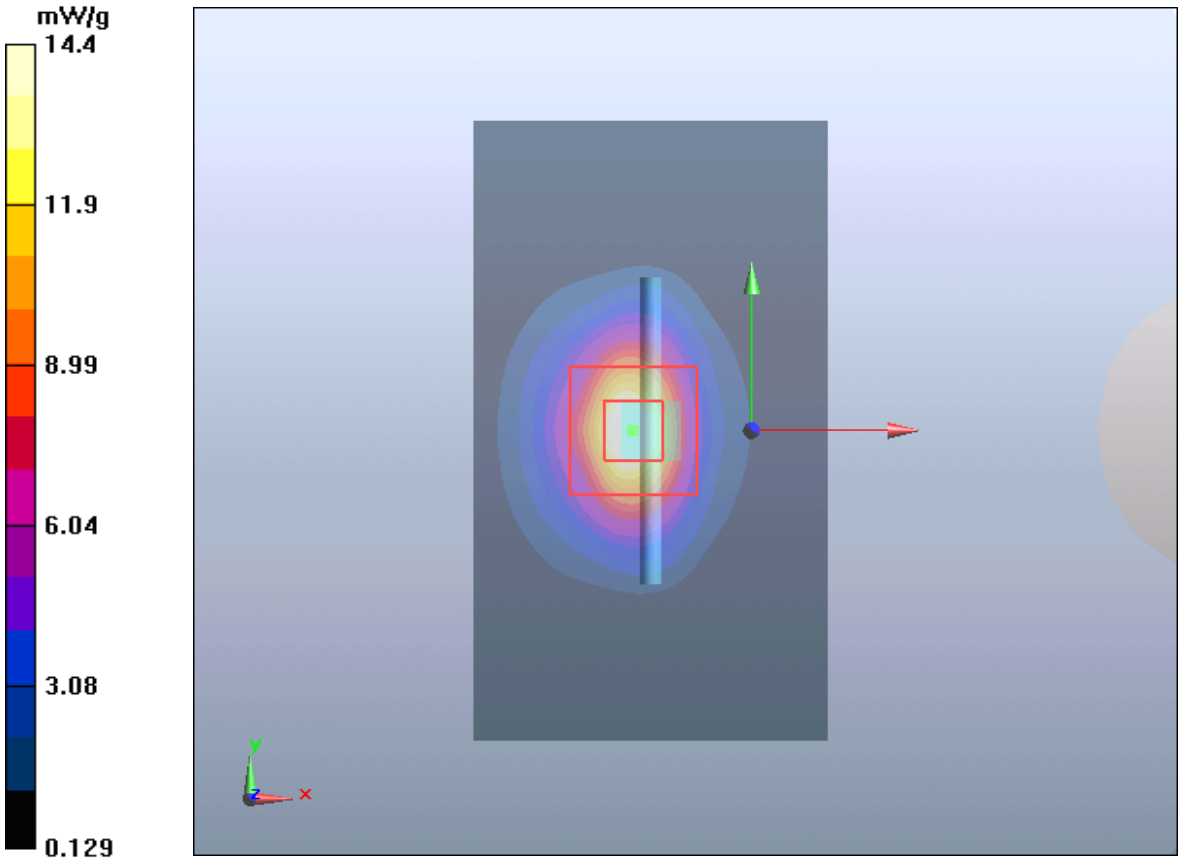


Figure 12 System Performance Check 2450MHz 250mW

System Performance Check at 2600 MHz Head TSL

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1012

Date/Time: 9/30/2014

Communication System: CW; Frequency: 2600 MHz

Medium parameters used: f = 2600 MHz; σ = 1.98 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 – SN3977; ConvF(7.07, 7.07, 7.07); Calibrated: 2/17/2014;

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

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

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

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

Maximum value of SAR (interpolated) = 17.439 mW/g

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

Reference Value = 87.998 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 31.858 W/kg

SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.07 mW/g

Maximum value of SAR (measured) = 15.617 mW/g

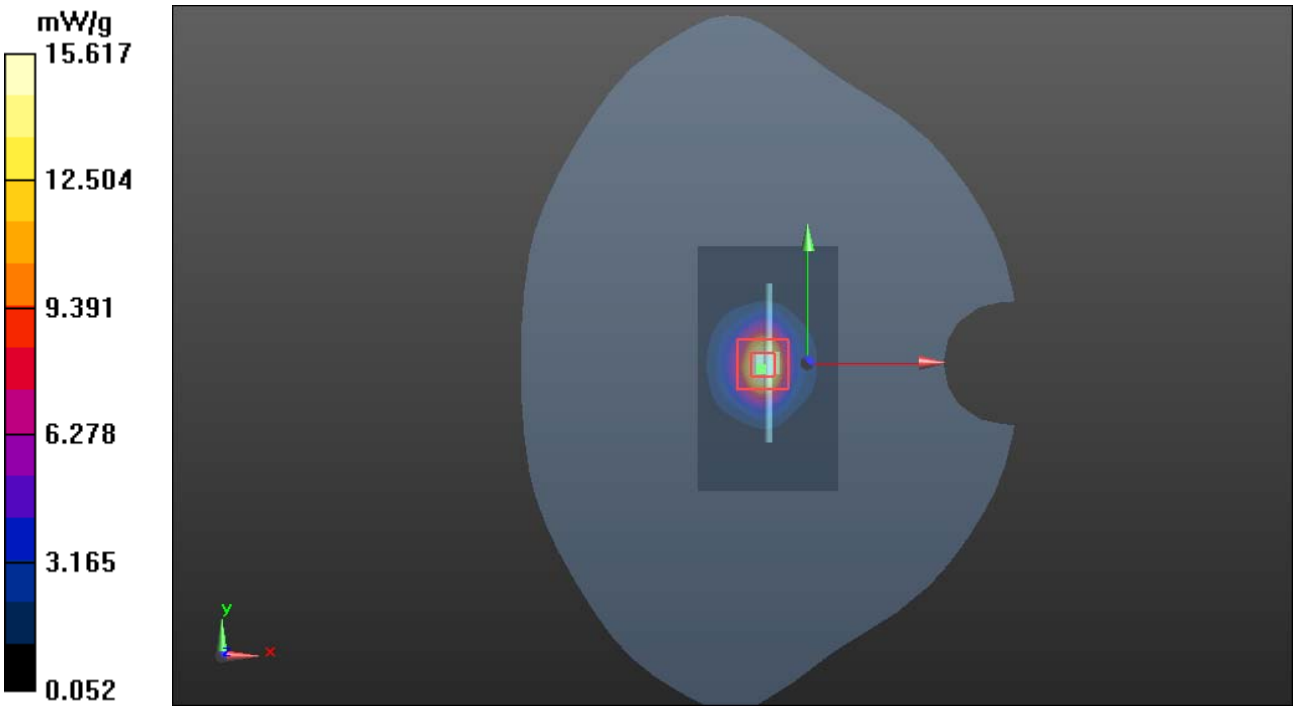


Figure 13 System Performance Check 2600MHz 250mW

System Performance Check at 2600 MHz Body TSL

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1012

Date/Time: 9/29/2014

Communication System: CW; Frequency: 2600 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2600 MHz; σ = 2.20 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liquid Temperature: 21.5℃

Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 – SN3977; ConvF(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

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

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

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

Maximum value of SAR (interpolated) = 17.7 mW/g

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

Reference Value = 74 V/m; Power Drift = -0.0027 dB

Peak SAR (extrapolated) = 28.5 W/kg

SAR(1 g) = 13.5 mW/g; SAR(10 g) = 5.99 mW/g

Maximum value of SAR (measured) = 15.7 mW/g

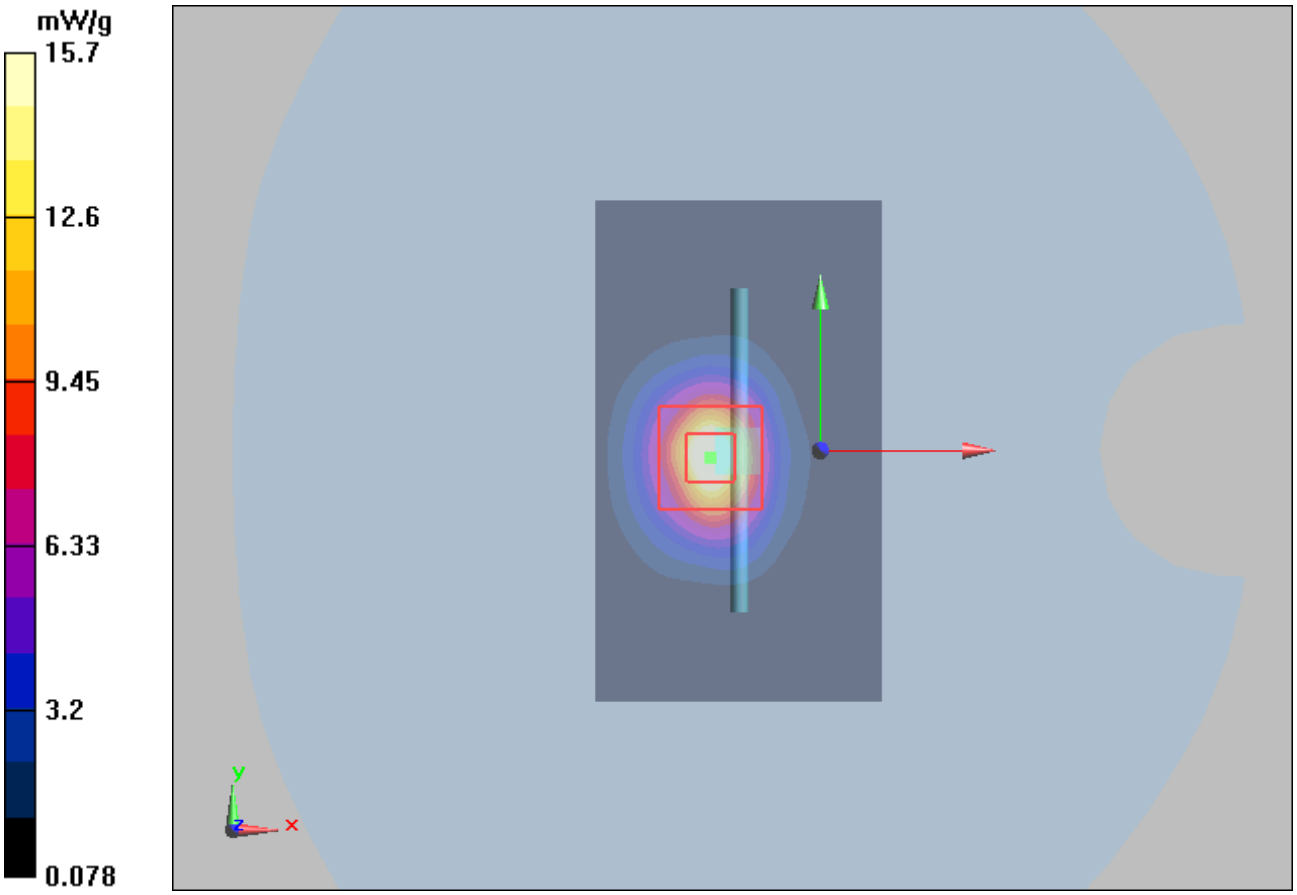


Figure 14 System Performance Check 1900MHz 250mW

ANNEX C: Graph Results

Antenna 1

GSM 850 Left Cheek Middle (Battery 1)

Date: 9/24/2014

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 - SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

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

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

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

Left Cheek Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.179 W/kg

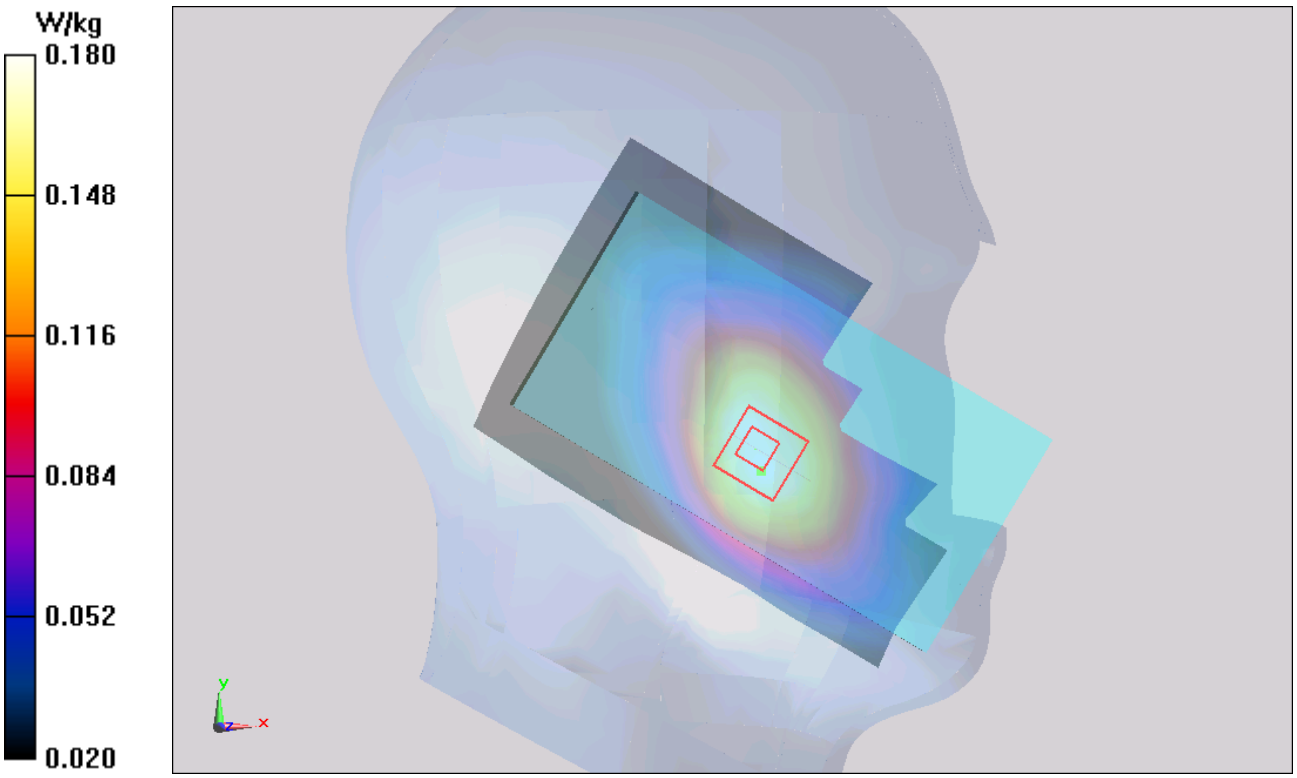
Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.024 V/m; Power Drift = 0.029 dB

Peak SAR (extrapolated) = 0.213 W/kg

SAR(1 g) = 0.171 W/kg; SAR(10 g) = 0.129 W/kg

Maximum value of SAR (measured) = 0.180 W/kg



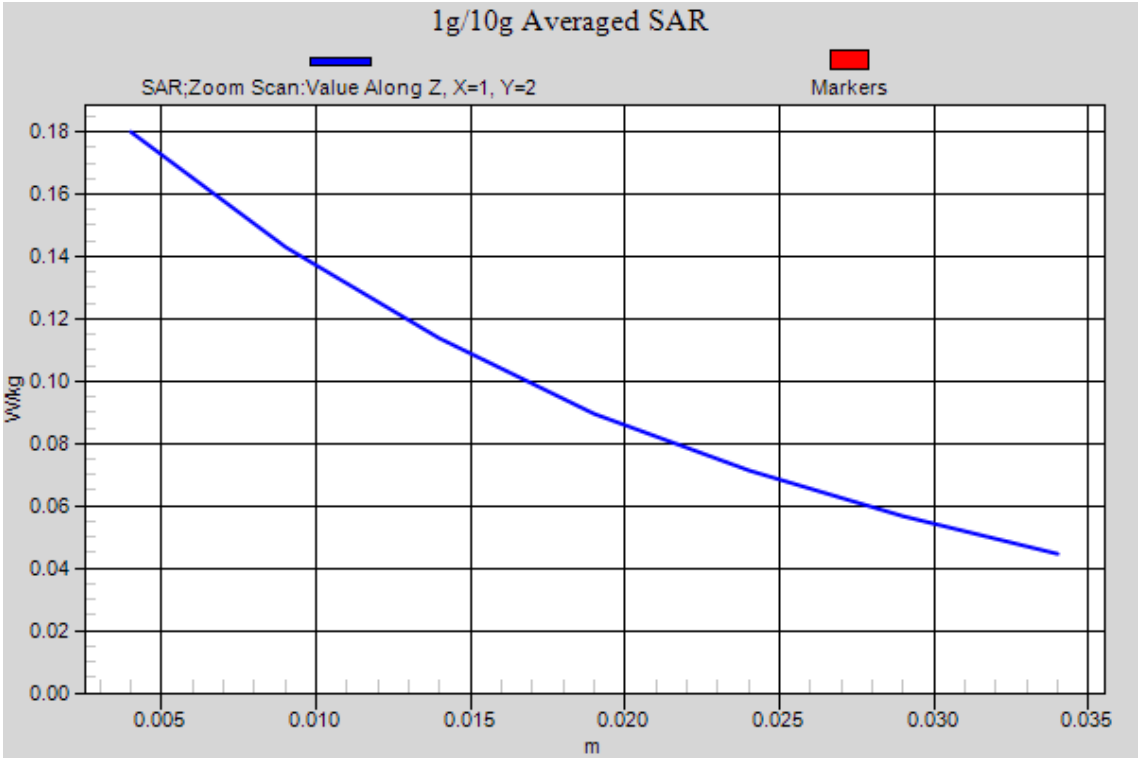


Figure 15 Left Hand Touch Cheek GSM 850 Channel 190

GSM 850 Left Tilt Middle (Battery 1)

Date: 9/24/2014

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 - SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

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

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

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

Left Tilt Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0767 W/kg

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

Reference Value = 6.944 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 0.0940 W/kg

SAR(1 g) = 0.074 W/kg; SAR(10 g) = 0.056 W/kg

Maximum value of SAR (measured) = 0.0775 W/kg

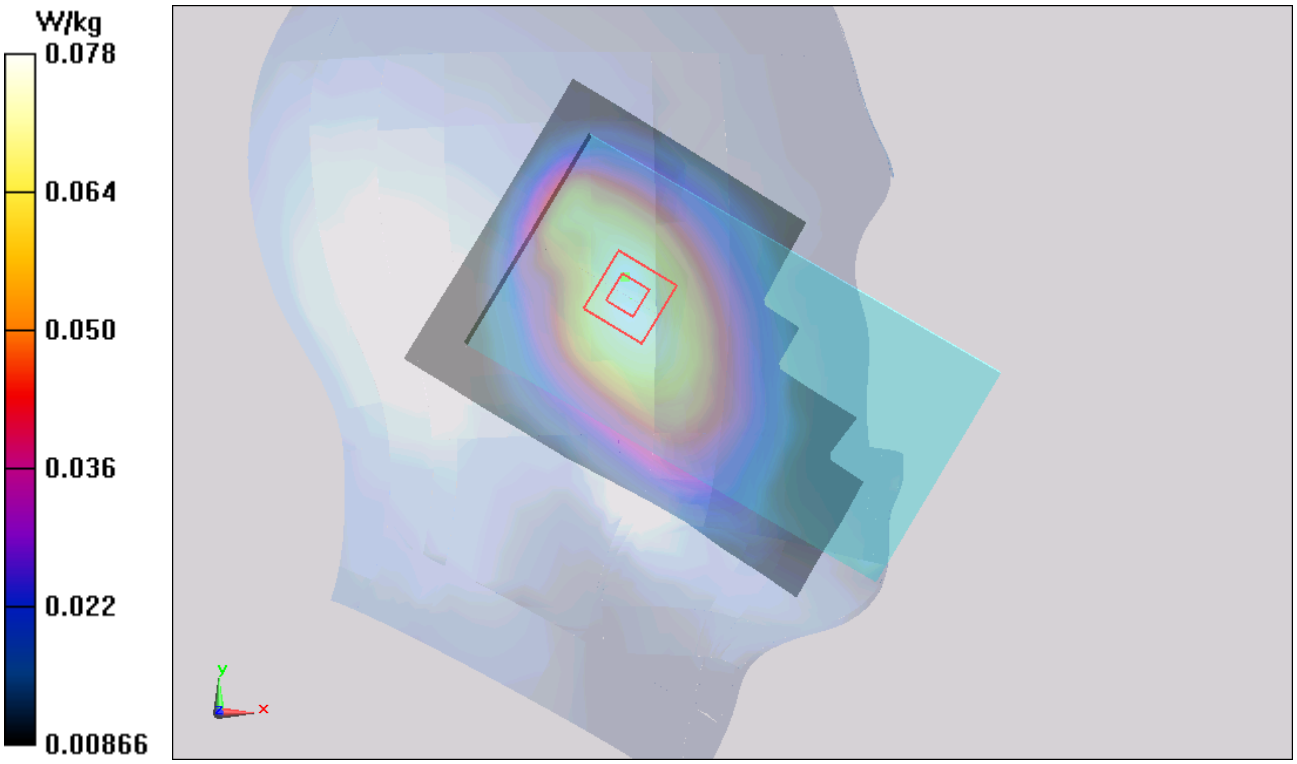


Figure 16 Left Hand Tilt 15° GSM 850 Channel 190

GSM 850 Right Cheek Middle (Battery 1)

Date: 9/24/2014

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 - SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

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

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

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

Right Cheek Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.139 W/kg

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

Reference Value = 4.998 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.164 W/kg

SAR(1 g) = 0.131 W/kg; SAR(10 g) = 0.100 W/kg

Maximum value of SAR (measured) = 0.137 W/kg

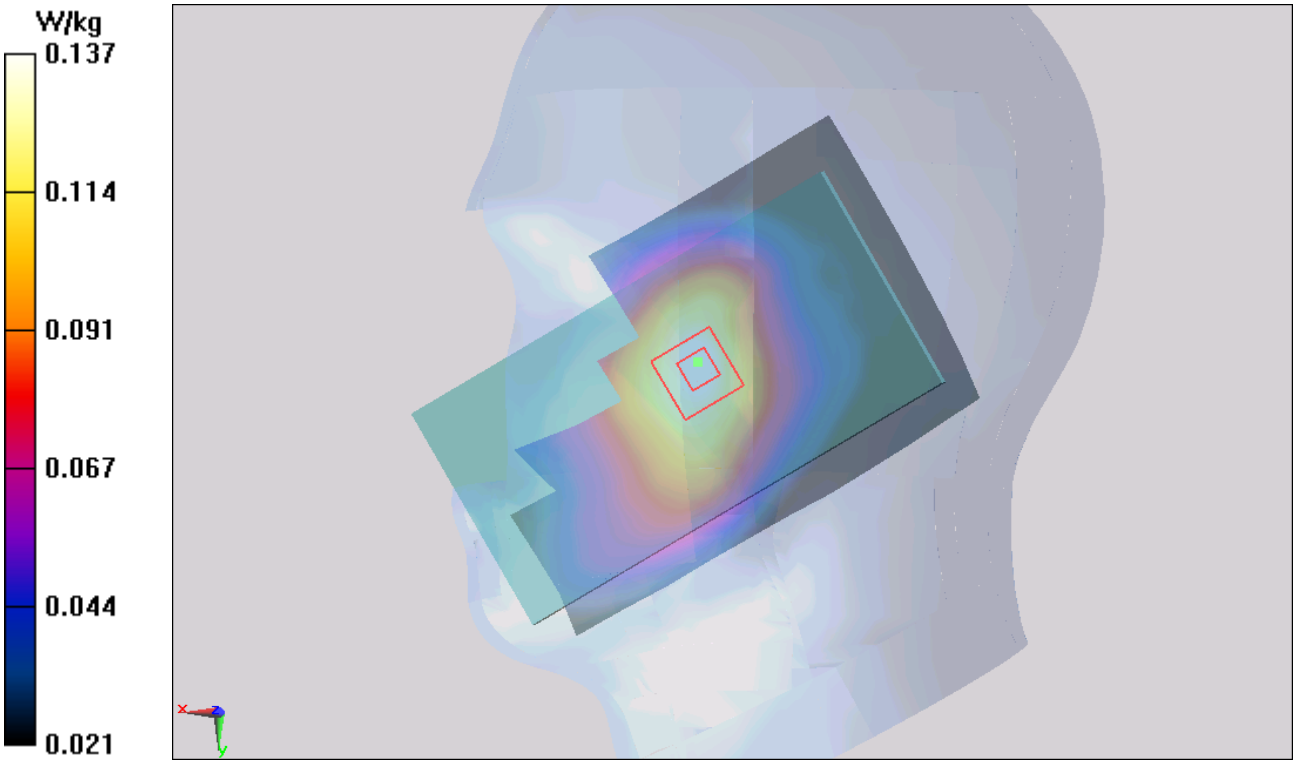


Figure 17 Right Hand Touch Cheek GSM 850 Channel 190

GSM 850 Right Tilt Middle (Battery 1)

Date: 9/24/2014

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 - SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

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

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

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

Right Tilt Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0848 W/kg

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

Reference Value = 7.707 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.100 W/kg

SAR(1 g) = 0.080 W/kg; SAR(10 g) = 0.062 W/kg

Maximum value of SAR (measured) = 0.0831 W/kg

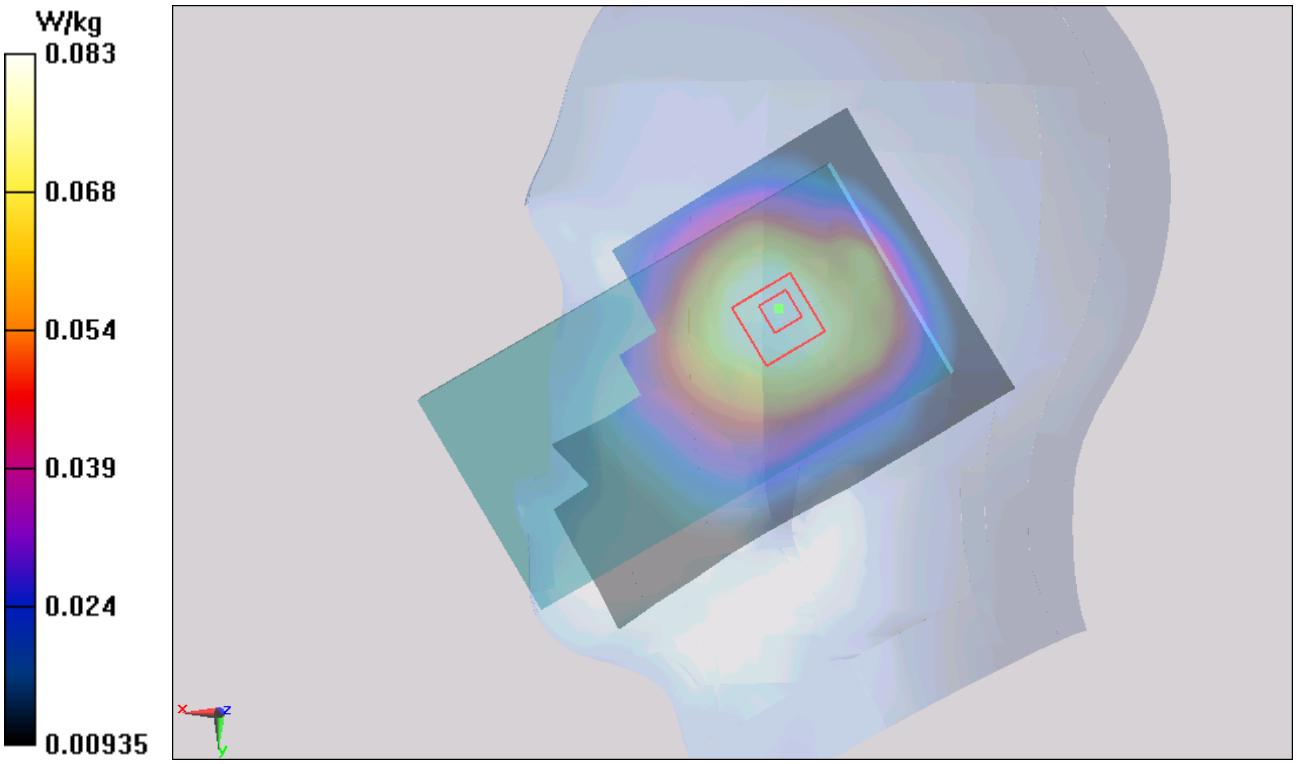


Figure 18 Right Hand Tilt 15° GSM 850 Channel 190

GSM 850 Left Cheek Middle (Battery 2)

Date: 9/24/2014

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 - SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

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

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

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

Left Cheek Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.158 W/kg

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

Reference Value = 5.127 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.185 W/kg

SAR(1 g) = 0.148 W/kg; SAR(10 g) = 0.114 W/kg

Maximum value of SAR (measured) = 0.154 W/kg

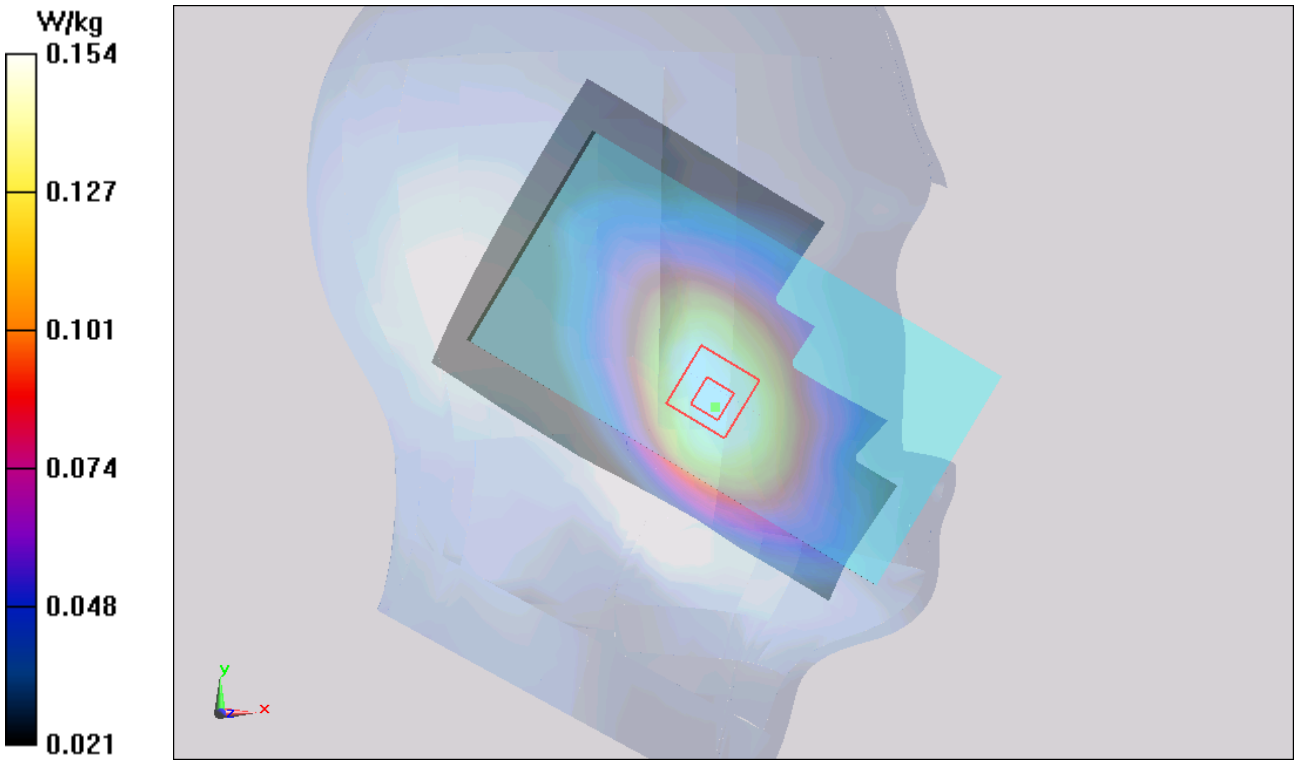


Figure 19 Left Hand Touch Cheek GSM 850 Channel 190

GSM 850 Back Side Middle (Battery 1, Distance 15mm)

Date: 9/25/2014

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz;Duty Cycle: 1:8.30042

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Back Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.383 W/kg

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

Reference Value = 18.840 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.402 W/kg

SAR(1 g) = 0.327 W/kg; SAR(10 g) = 0.250 W/kg

Maximum value of SAR (measured) = 0.343 W/kg

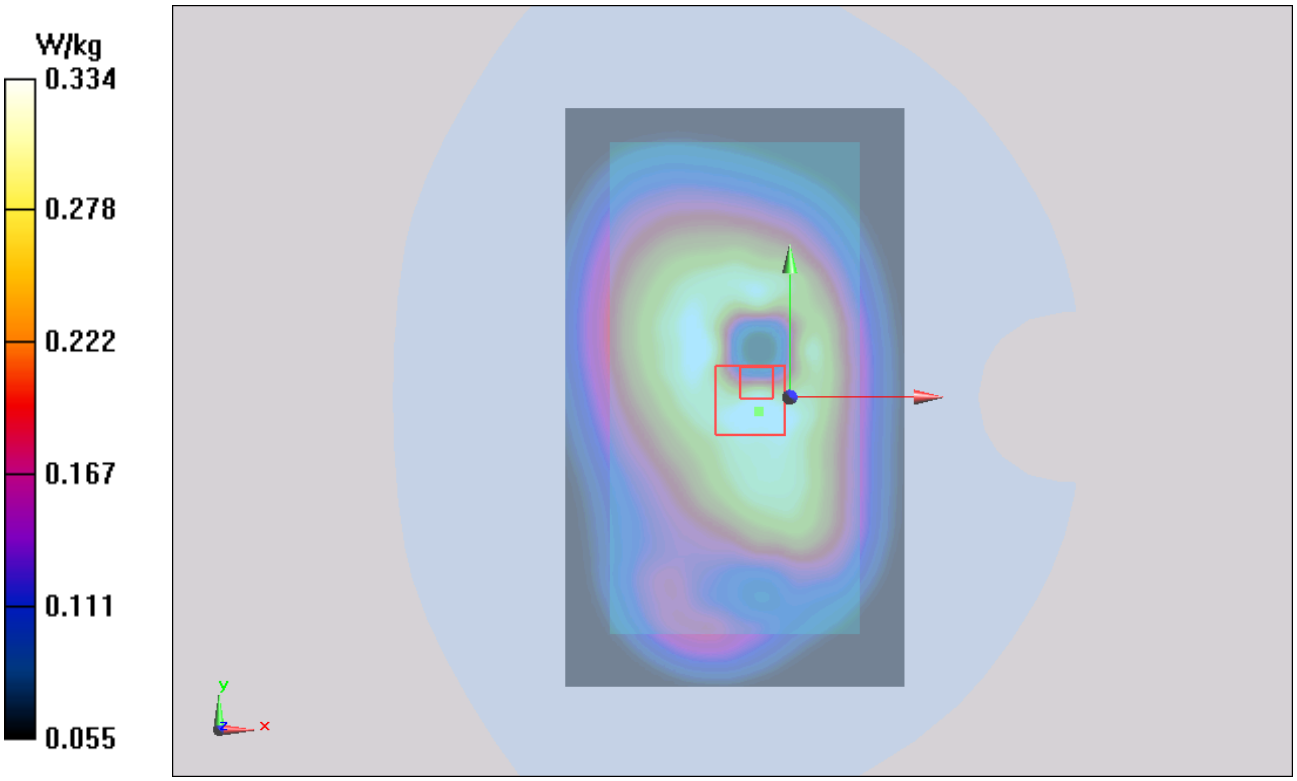


Figure 20 Body, Back Side, GSM 850 Channel 190

GSM 850 Front Side Middle (Battery 1, Distance 15mm)

Date: 9/25/2014

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz;Duty Cycle: 1:8.30042

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Front Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.261 W/kg

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

Reference Value = 18.840 V/m; Power Drift = -0.146 dB

Peak SAR (extrapolated) = 0.309 W/kg

SAR(1 g) = 0.251 W/kg; SAR(10 g) = 0.195 W/kg

Maximum value of SAR (measured) = 0.260 W/kg

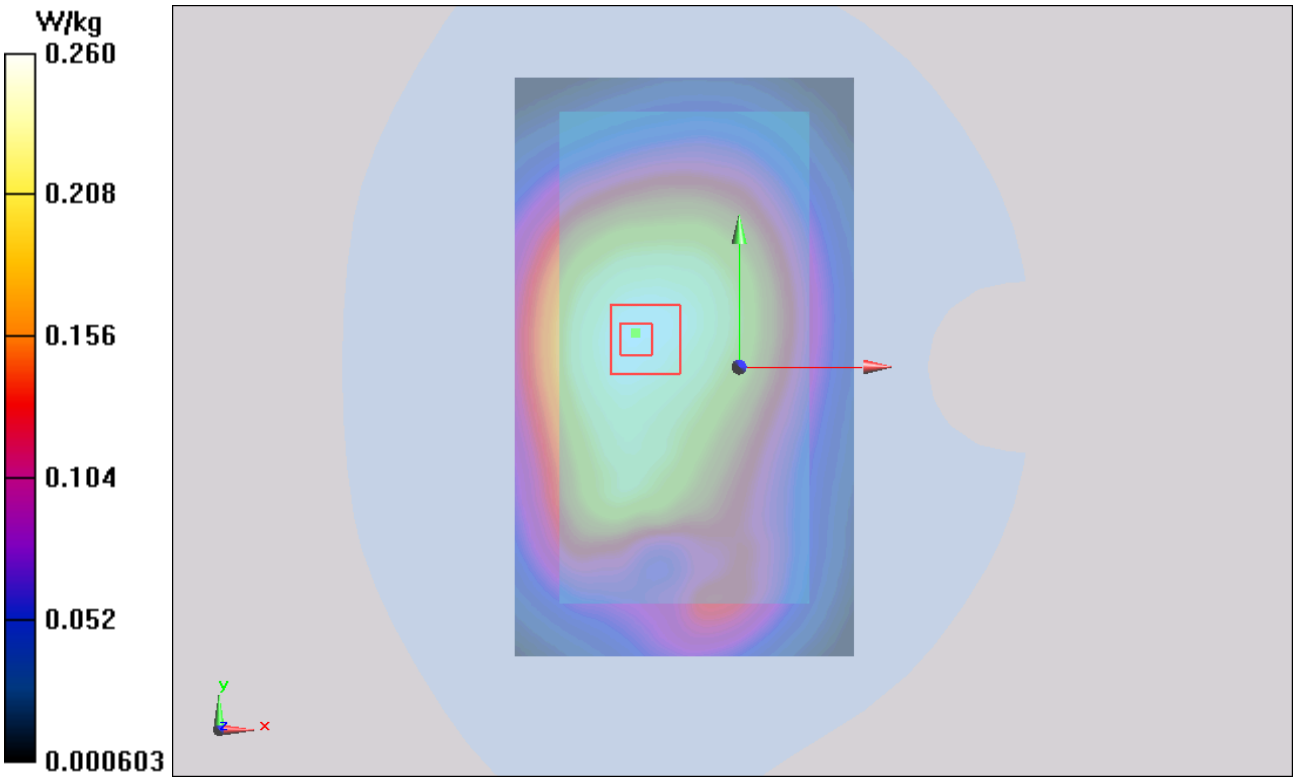


Figure 21 Body, Front Side, GSM 850 Channel 190

GSM 850 GPRS (4Txslots) Back Side Middle (Battery 1, Distance 10mm)

Date: 9/25/2014

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Back Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

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

Reference Value = 16.305 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.567 W/kg

SAR(1 g) = 0.345 W/kg; SAR(10 g) = 0.203 W/kg

Maximum value of SAR (measured) = 0.380 W/kg

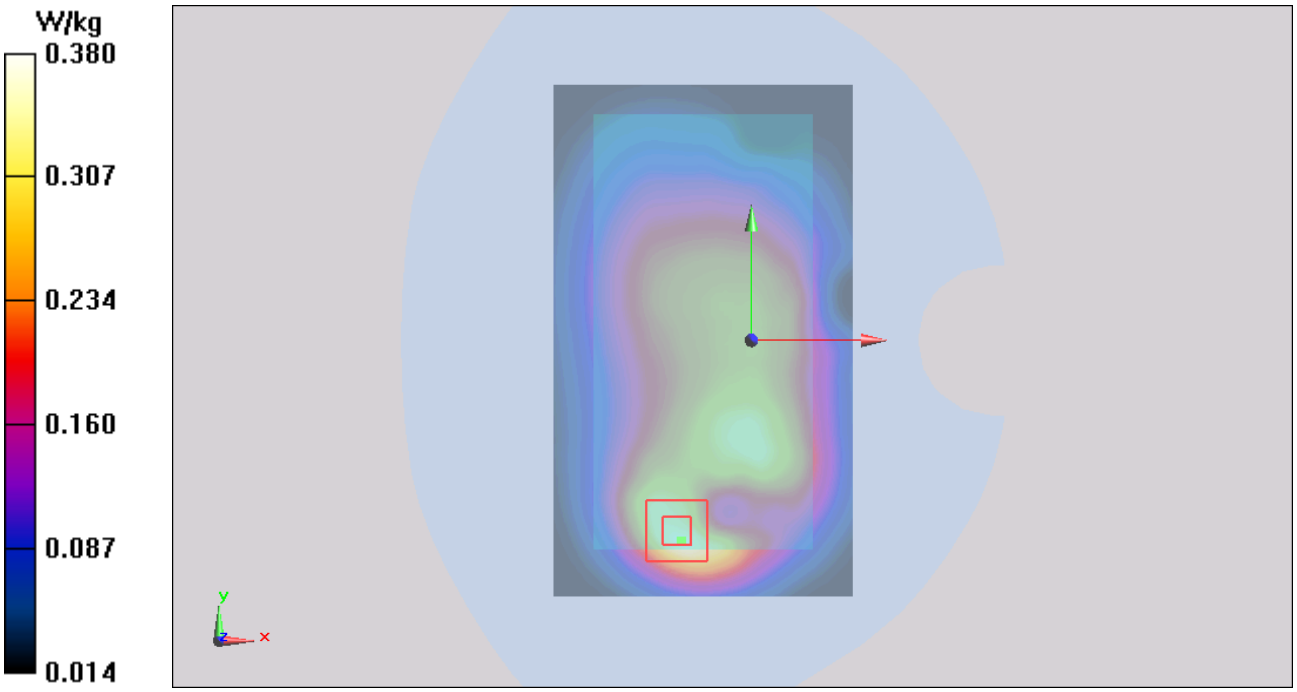


Figure 22 Body, Back Side, GSM 850 GPRS (4Txslots) Channel 190

GSM 850 GPRS (4Txslots)Front Side Middle (Battery 1, Distance 10mm)

Date: 9/25/2014

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Front Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.216 W/kg

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

Reference Value = 13.054 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.241 W/kg

SAR(1 g) = 0.197 W/kg; SAR(10 g) = 0.148 W/kg

Maximum value of SAR (measured) = 0.210 W/kg

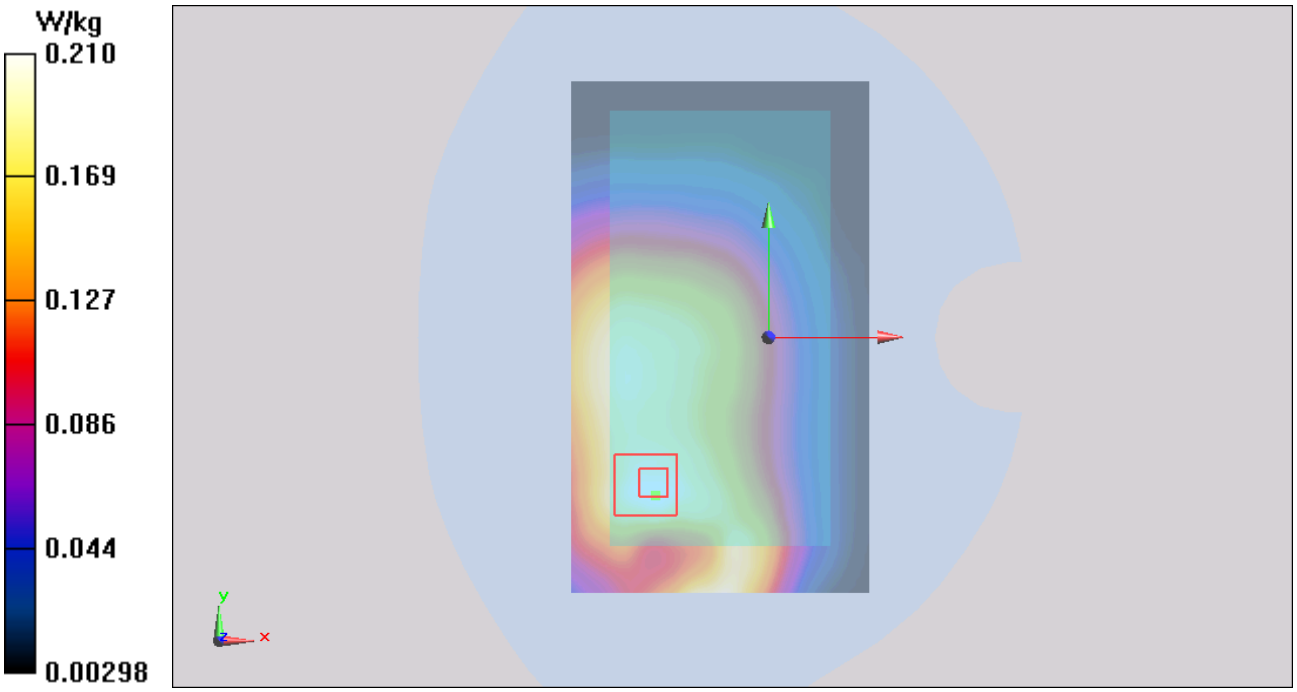


Figure 23 Body, Front Side, GSM 850 GPRS (4Txslots)Channel 190

GSM 850 GPRS (4Txslots)Left Edge Middle (Battery 1, Distance 10mm)

Date: 9/25/2014

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Left Edge Middle/Area Scan (51x181x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.219 W/kg

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

Reference Value = 14.903 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.275 W/kg

SAR(1 g) = 0.204 W/kg; SAR(10 g) = 0.140 W/kg

Maximum value of SAR (measured) = 0.220 W/kg

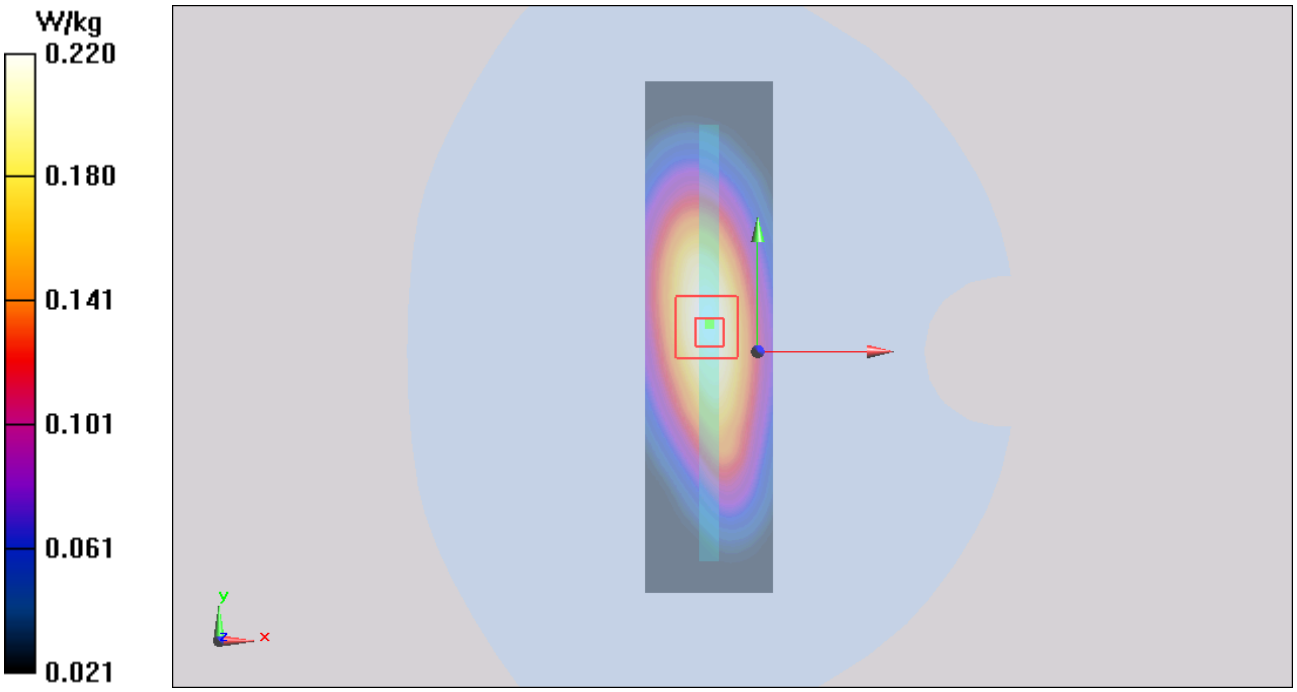


Figure 24 Body, Left Edge, GSM 850 GPRS (4Txslots)Channel 190

GSM 850 GPRS (4Txslots)Right Edge Middle (Battery 1, Distance 10mm)

Date: 9/25/2014

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Right Edge Middle/Area Scan (51x181x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0541 W/kg

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

Reference Value = 6.342 V/m; Power Drift = 0.025 dB

Peak SAR (extrapolated) = 0.0540 W/kg

SAR(1 g) = 0.040 W/kg; SAR(10 g) = 0.027 W/kg

Maximum value of SAR (measured) = 0.0437 W/kg

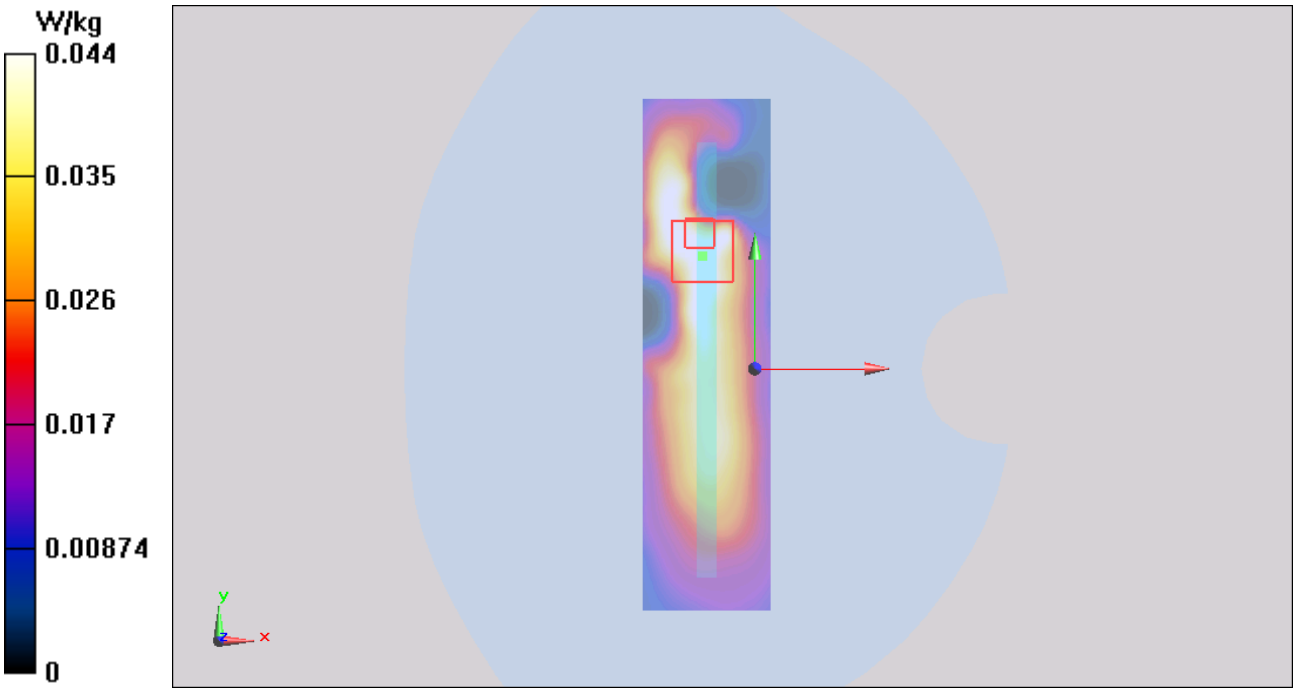


Figure 25 Body, Right Edge, GSM 850 GPRS (4Txslots)Channel 190

GSM 850 GPRS (4Txslots)Bottom Edge Middle (Battery 1, Distance 10mm)

Date: 9/25/2014

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Bottom Edge Middle/Area Scan (51x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.144 W/kg

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

Reference Value = 13.391 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.228 W/kg

SAR(1 g) = 0.152 W/kg; SAR(10 g) = 0.082 W/kg

Maximum value of SAR (measured) = 0.180 W/kg

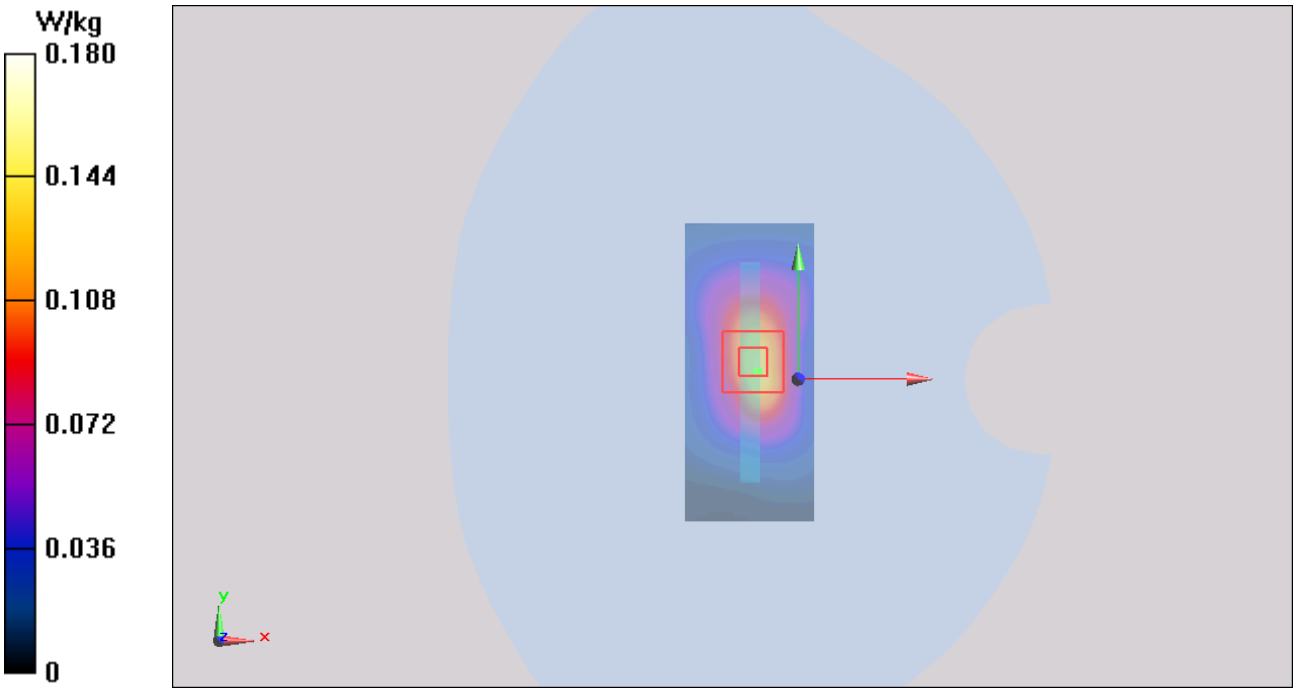


Figure 26 Body, Bottom Edge, GSM 850 GPRS (4Txslots)annel 190

GSM 850 GPRS (4Txslots) Back Side Middle (Battery 2, Distance 10mm)

Date: 9/25/2014

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Back Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.356 W/kg

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

Reference Value = 17.578 V/m; Power Drift = -0.045 dB

Peak SAR (extrapolated) = 0.512 W/kg

SAR(1 g) = 0.318 W/kg; SAR(10 g) = 0.191 W/kg

Maximum value of SAR (measured) = 0.342 W/kg

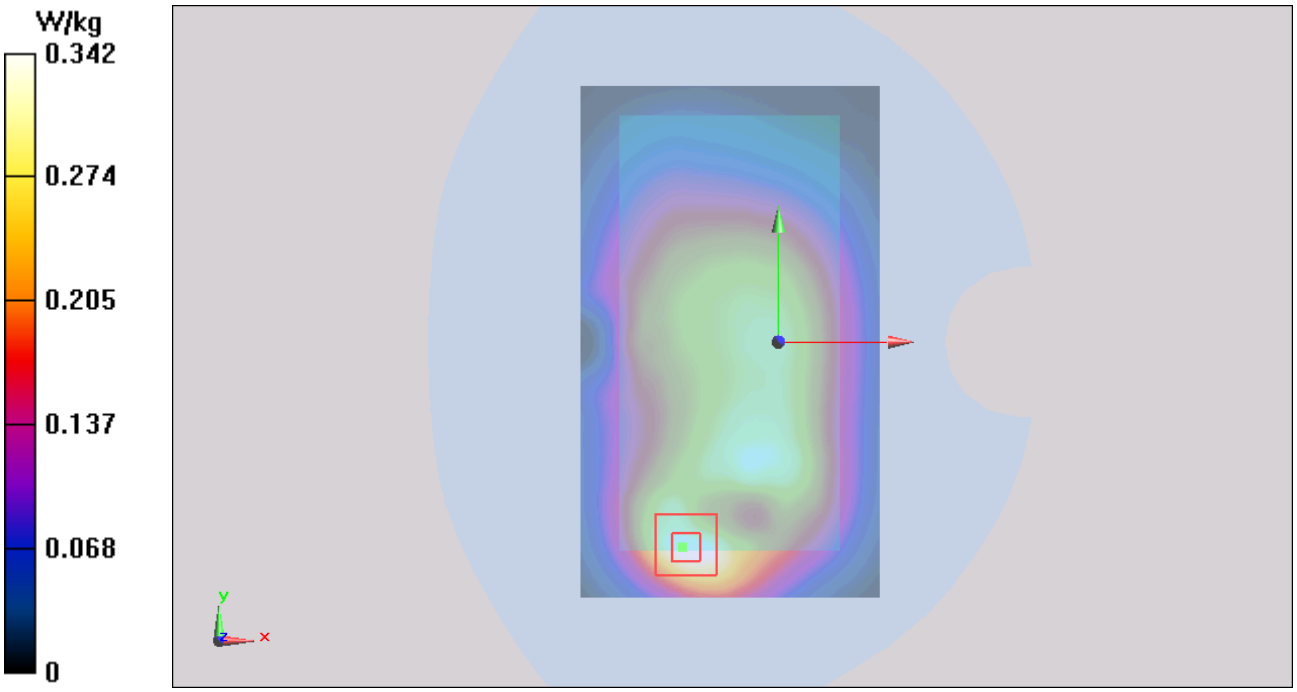


Figure 27 Body, Back Side, GSM 850 GPRS (4Txslots) Channel 190

GSM 850 EGPRS (4Txslots) Back Side Middle (Battery 1, Distance 10mm)

Date: 9/25/2014

Communication System: UID 0, EGPRS 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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Back Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.472 W/kg

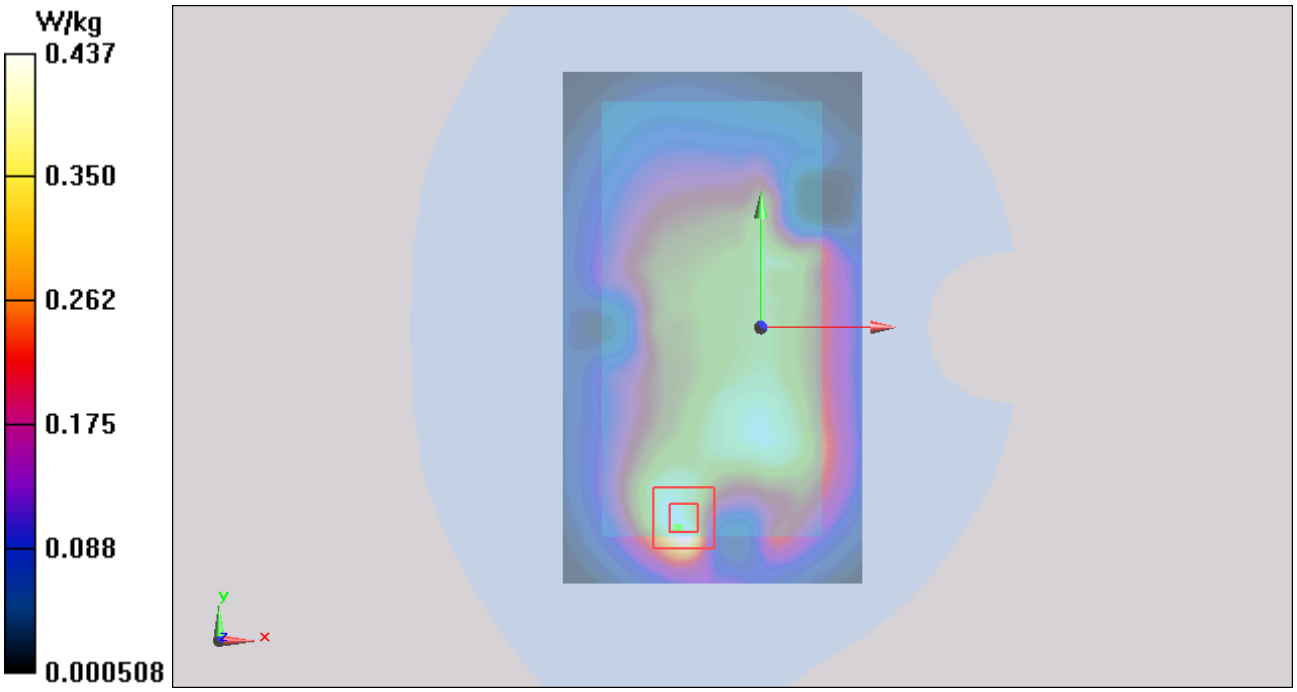
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.376 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 0.674 W/kg

SAR(1 g) = 0.417 W/kg; SAR(10 g) = 0.249 W/kg

Maximum value of SAR (measured) = 0.437 W/kg



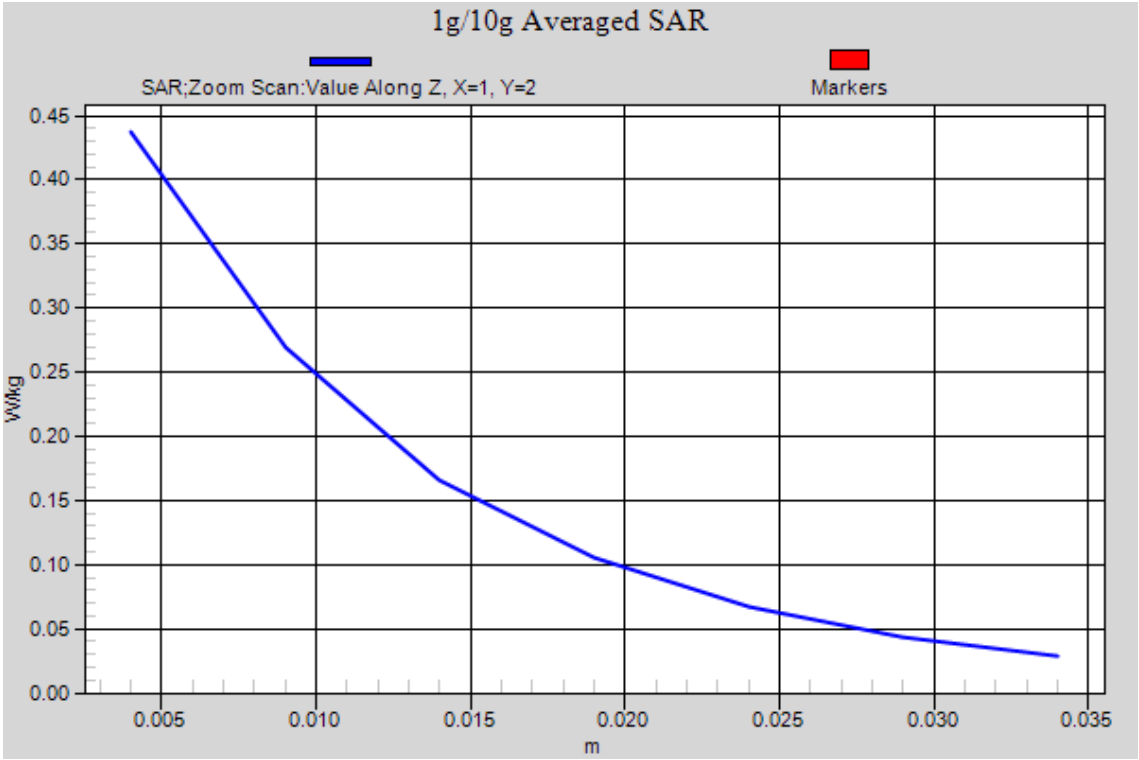


Figure 28 Body, Back Side, GSM 850 EGPRS (4Txslots) Channel 190

GSM 1900 Left Cheek Middle (Battery 1)

Date: 9/21/2014

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 - SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Left Cheek Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.104 W/kg

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

Reference Value = 4.542 V/m; Power Drift = 0.029 dB

Peak SAR (extrapolated) = 0.131 W/kg

SAR(1 g) = 0.088 W/kg; SAR(10 g) = 0.056 W/kg

Maximum value of SAR (measured) = 0.0902 W/kg

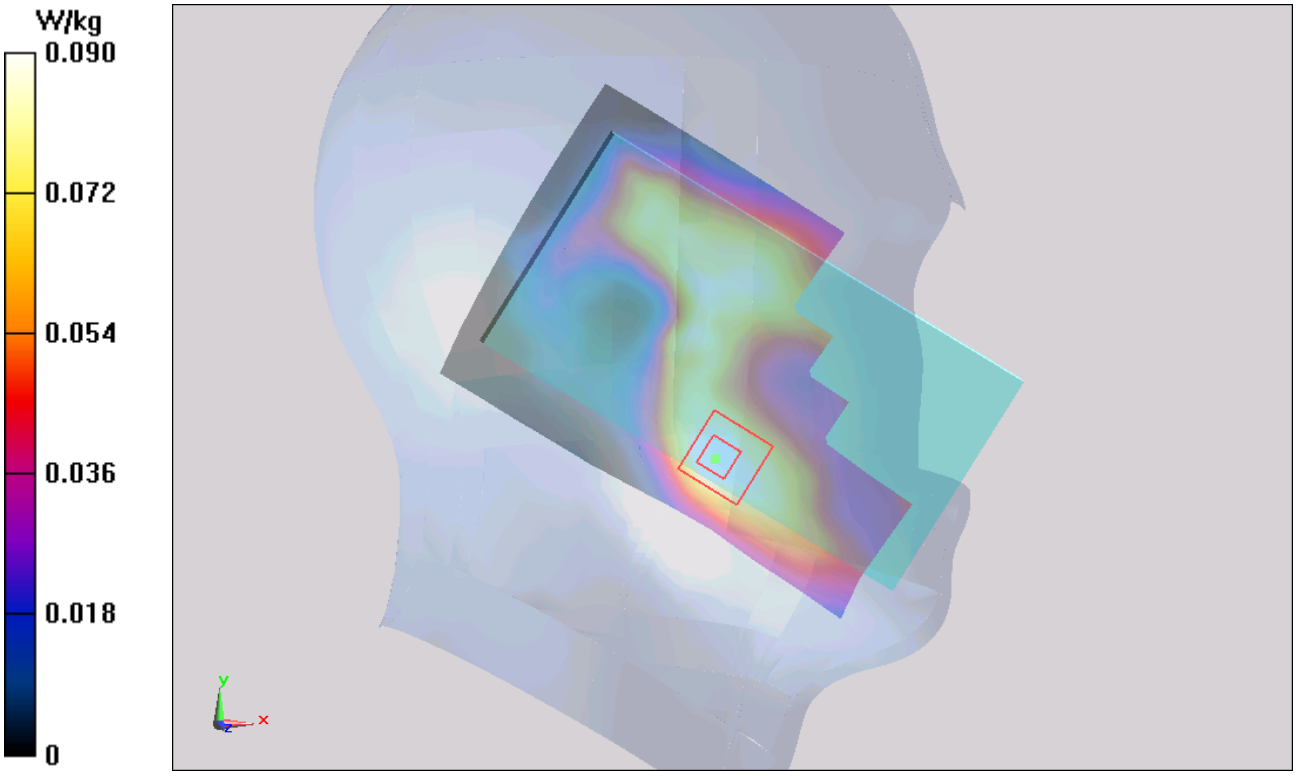


Figure 29 Left Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Left Tilt Middle (Battery 1)

Date: 9/21/2014

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 - SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Left Tilt Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0609 W/kg

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

Reference Value = 5.618 V/m; Power Drift = 0.030 dB

Peak SAR (extrapolated) = 0.0790 W/kg

SAR(1 g) = 0.055 W/kg; SAR(10 g) = 0.035 W/kg

Maximum value of SAR (measured) = 0.0609 W/kg

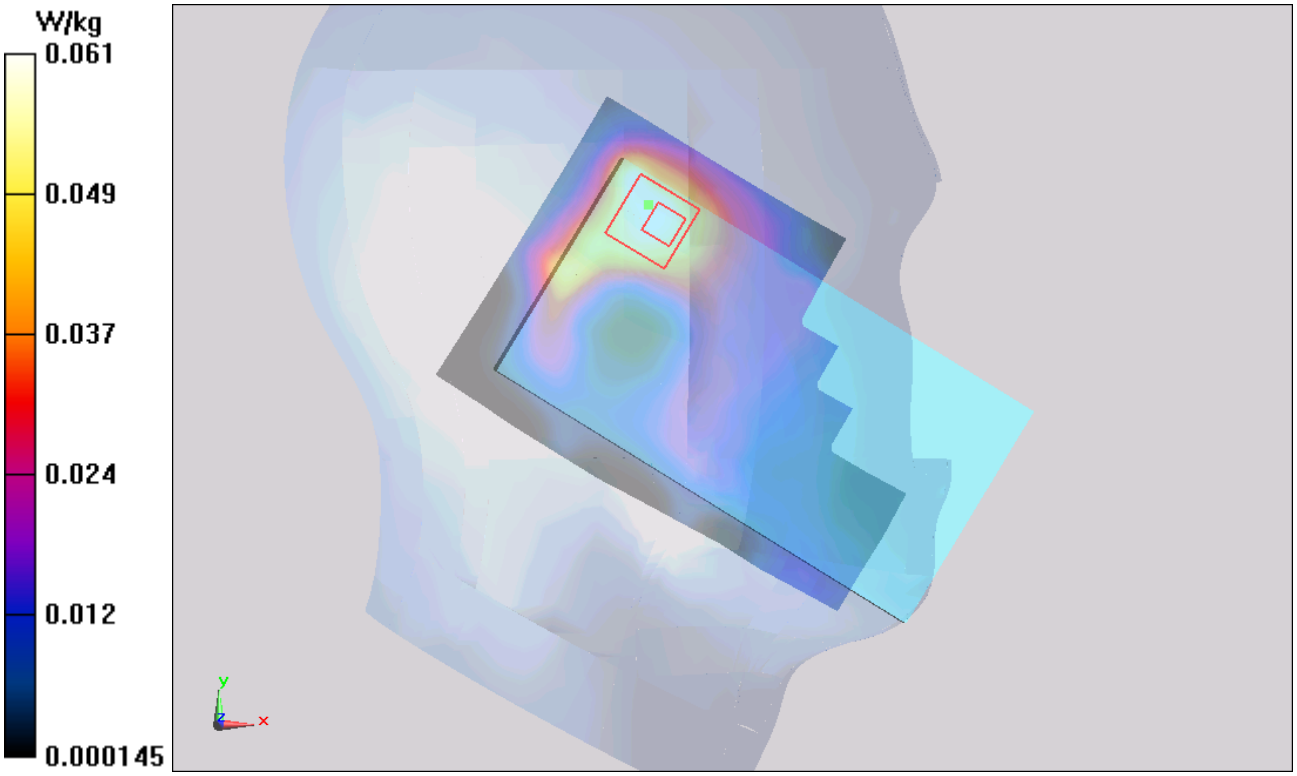


Figure 30 Left Hand Tilt 15° GSM 1900 Channel 661

GSM 1900 Right Cheek Middle (Battery 1)

Date: 9/21/2014

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 - SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Right Cheek Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.167 W/kg

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

Reference Value = 4.808 V/m; Power Drift = 0.069 dB

Peak SAR (extrapolated) = 0.221 W/kg

SAR(1 g) = 0.146 W/kg; SAR(10 g) = 0.091 W/kg

Maximum value of SAR (measured) = 0.150 W/kg

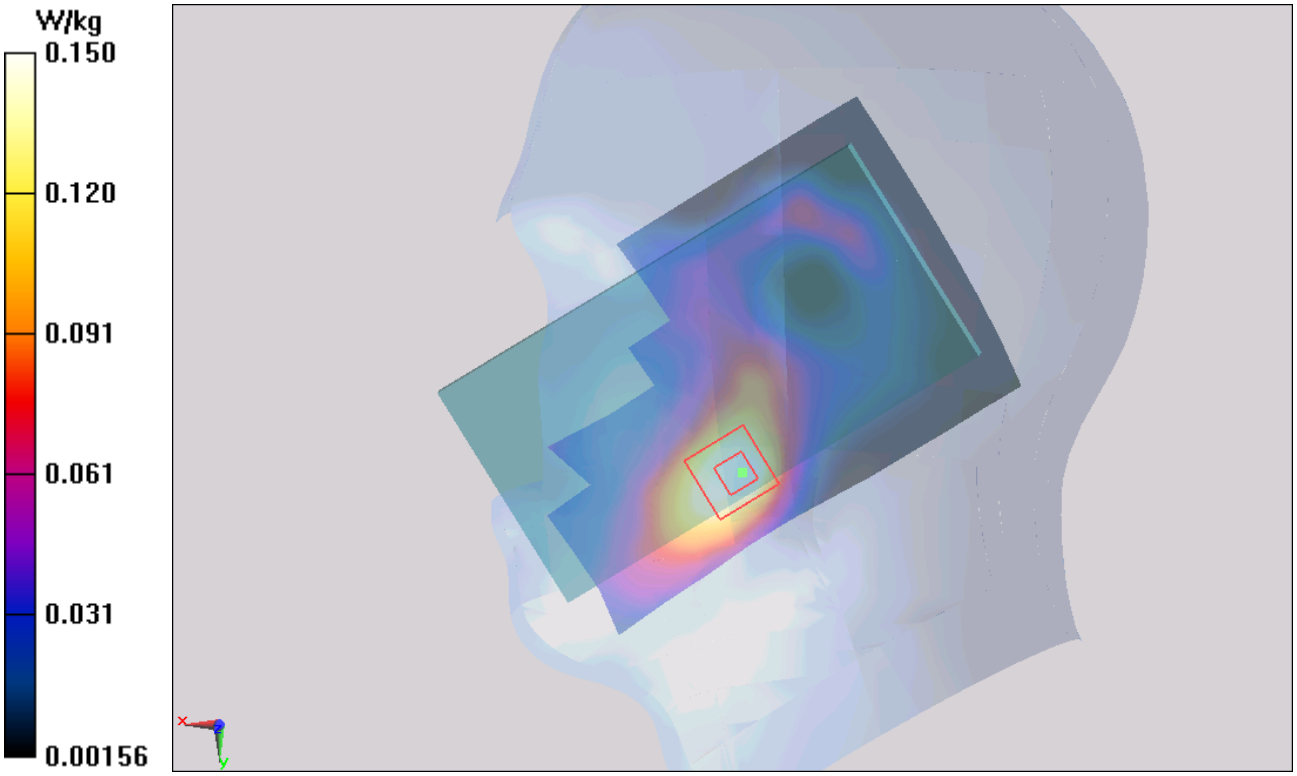


Figure 31 Right Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Right Tilt Middle (Battery 1)

Date: 9/21/2014

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 - SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Right Tilt Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0802 W/kg

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

Reference Value = 5.983 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.142 W/kg

SAR(1 g) = 0.074 W/kg; SAR(10 g) = 0.035 W/kg

Maximum value of SAR (measured) = 0.0755 W/kg

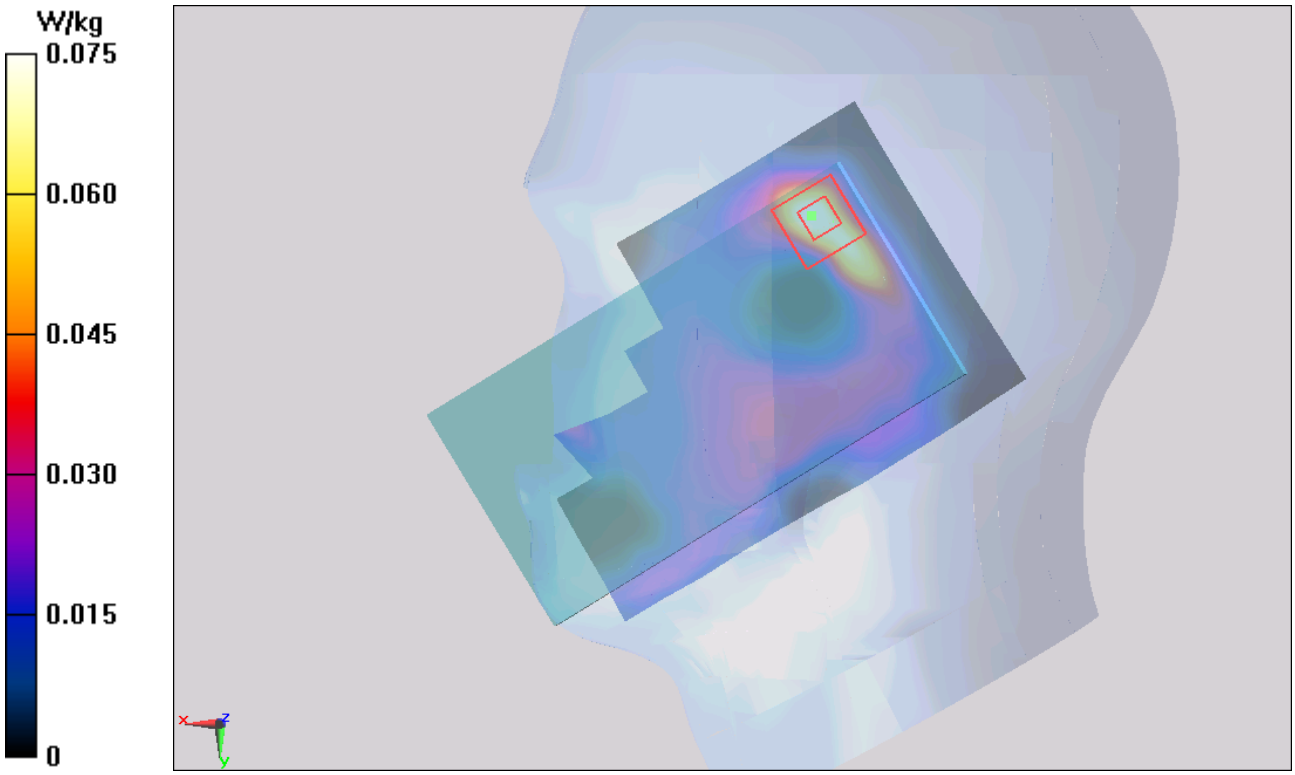


Figure 32 Right Hand Tilt 15° GSM 1900 Channel 661

GSM 1900 Right Cheek Middle (Battery 2)

Date: 9/21/2014

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 - SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Right Cheek Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.184 W/kg

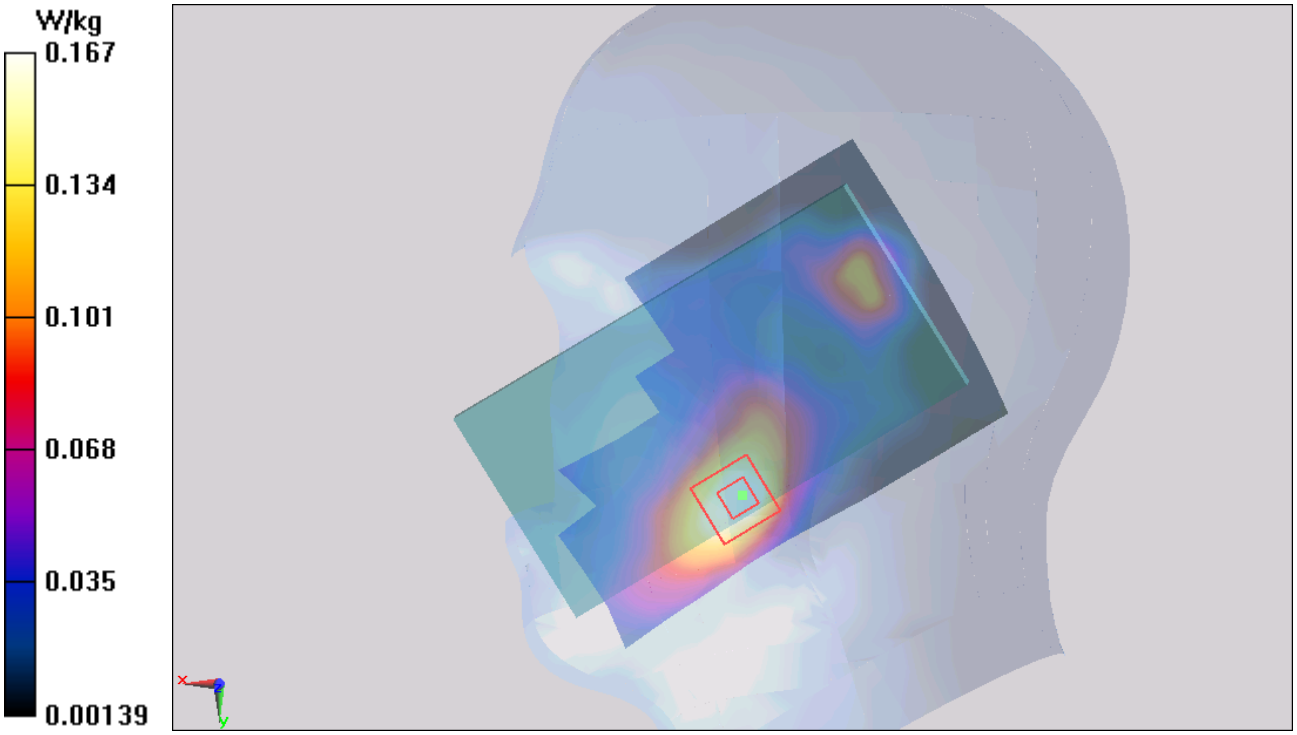
Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.704 V/m; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 0.244 W/kg

SAR(1 g) = 0.161 W/kg; SAR(10 g) = 0.099 W/kg

Maximum value of SAR (measured) = 0.167 W/kg



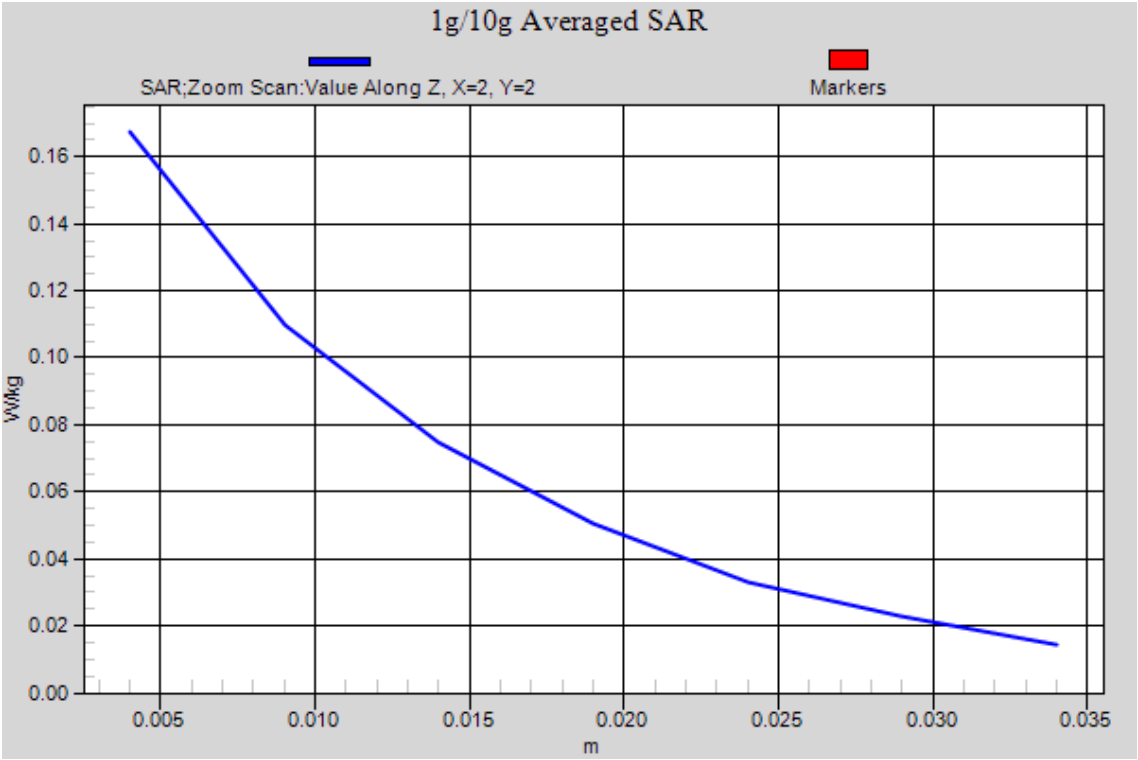


Figure 33 Right Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Back Side Middle (Battery 1, Distance 15mm)

Date: 9/20/2014

Communication System: UID 0, GPRS 1TX (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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Back Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.169 W/kg

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

Reference Value = 3.925 V/m; Power Drift = 0.026 dB

Peak SAR (extrapolated) = 0.255 W/kg

SAR(1 g) = 0.159 W/kg; SAR(10 g) = 0.092 W/kg

Maximum value of SAR (measured) = 0.164 W/kg

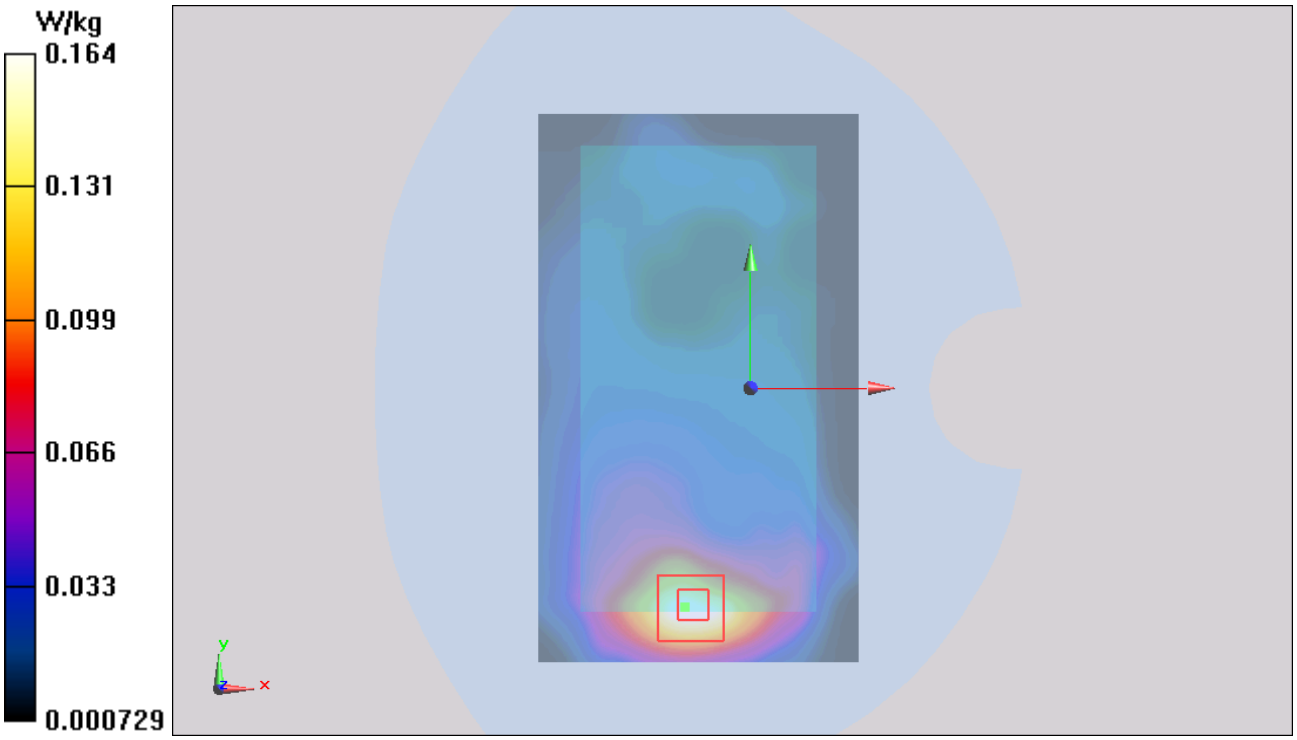


Figure 34 Body, Back Side, GSM 1900 Channel 661

GSM 1900 Front Side Middle (Battery 1, Distance 15mm)

Date: 9/20/2014

Communication System: UID 0, GPRS 1TX (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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Front Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.142 W/kg

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

Reference Value = 3.340 V/m; Power Drift = 0.047 dB

Peak SAR (extrapolated) = 0.194 W/kg

SAR(1 g) = 0.132 W/kg; SAR(10 g) = 0.074 W/kg

Maximum value of SAR (measured) = 0.139 W/kg

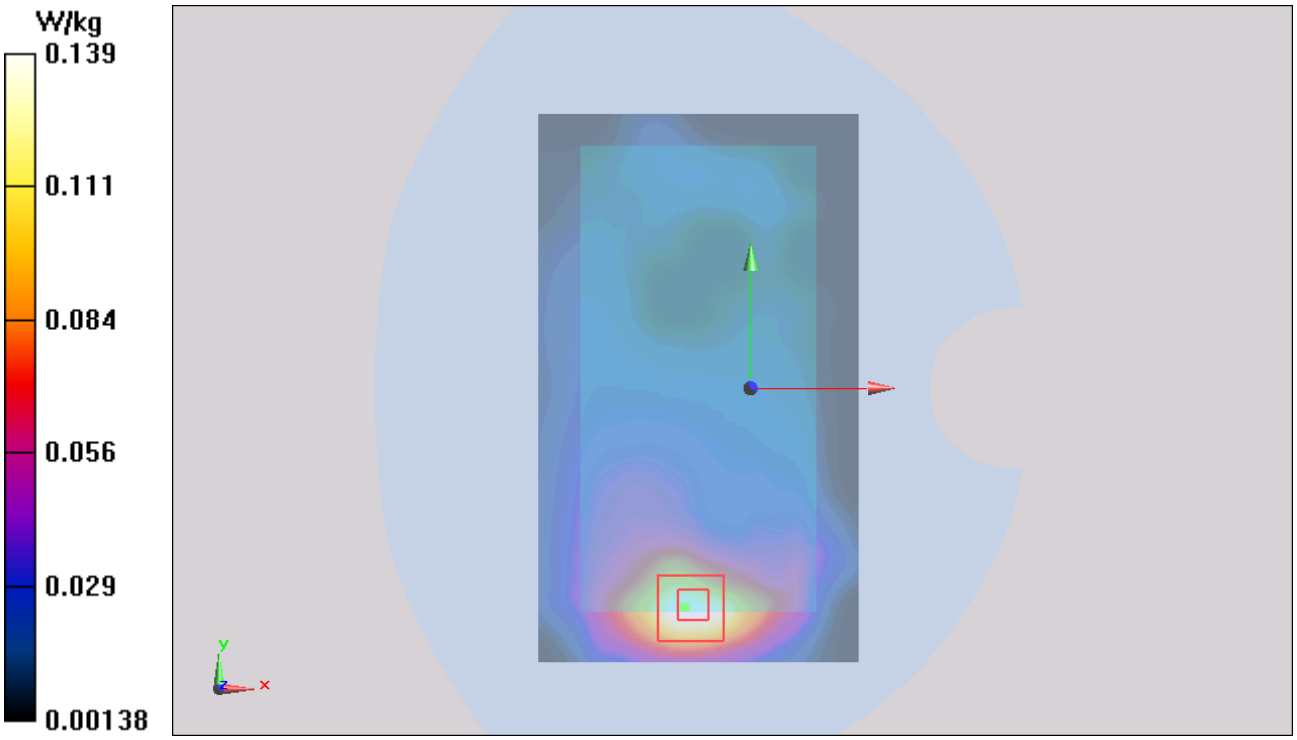


Figure 35 Body, Front Side, GSM 1900 Channel 661

GSM 1900 GPRS (3Txslots) Back Side Middle (Battery 1, Distance 10mm)

Date: 9/20/2014

Communication System: UID 0, GPRS 3TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.76694

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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Back Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.291 W/kg

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

Reference Value = 4.706 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.482 W/kg

SAR(1 g) = 0.273 W/kg; SAR(10 g) = 0.145 W/kg

Maximum value of SAR (measured) = 0.284 W/kg

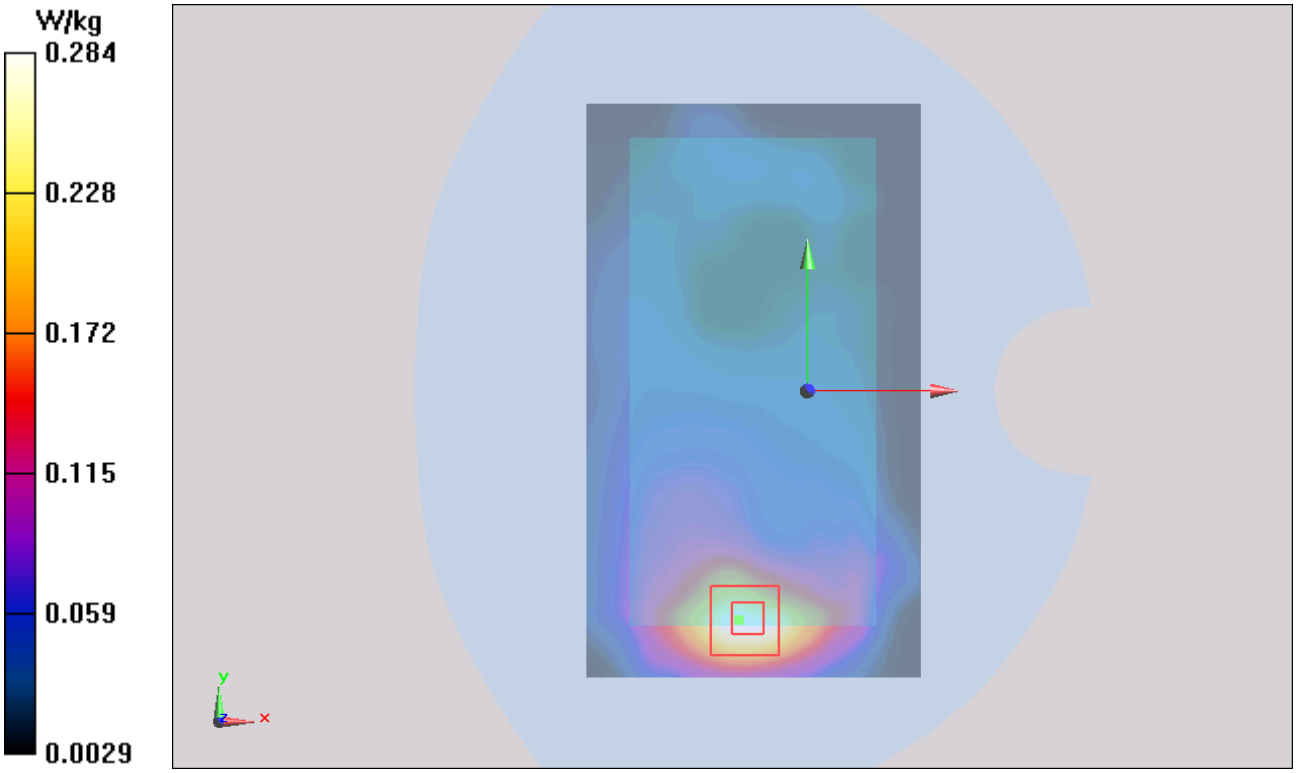


Figure 36 Body, Back Side, GSM 1900 GPRS (3Txslots) Channel 661

GSM 1900 GPRS (3Txslots) Front Side Middle (Battery 1, Distance 10mm)

Date: 9/20/2014

Communication System: UID 0, GPRS 3TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.76694

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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Front Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.181 W/kg

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

Reference Value = 4.435 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 0.301 W/kg

SAR(1 g) = 0.178 W/kg; SAR(10 g) = 0.097 W/kg

Maximum value of SAR (measured) = 0.181 W/kg

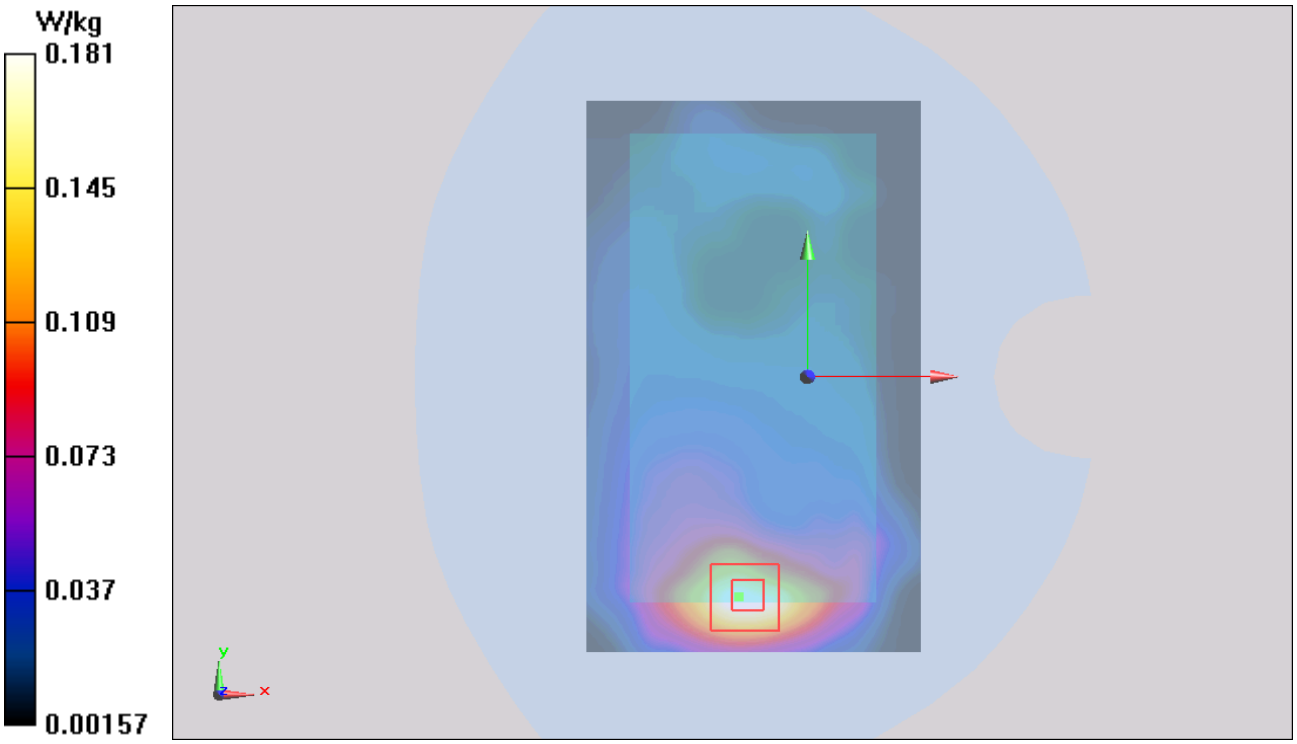


Figure 37 Body, Front Side, GSM 1900 GPRS (3Txslots) Channel 661

GSM 1900 GPRS (3Txslots) Left Edge Middle (Battery 1, Distance 10mm)

Date: 9/20/2014

Communication System: UID 0, GPRS 3TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.76694

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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Left Edge Middle/Area Scan (51x181x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0622 W/kg

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

Reference Value = 2.295 V/m; Power Drift = 0.074 dB

Peak SAR (extrapolated) = 0.0660 W/kg

SAR(1 g) = 0.039 W/kg; SAR(10 g) = 0.021 W/kg

Maximum value of SAR (measured) = 0.0432 W/kg

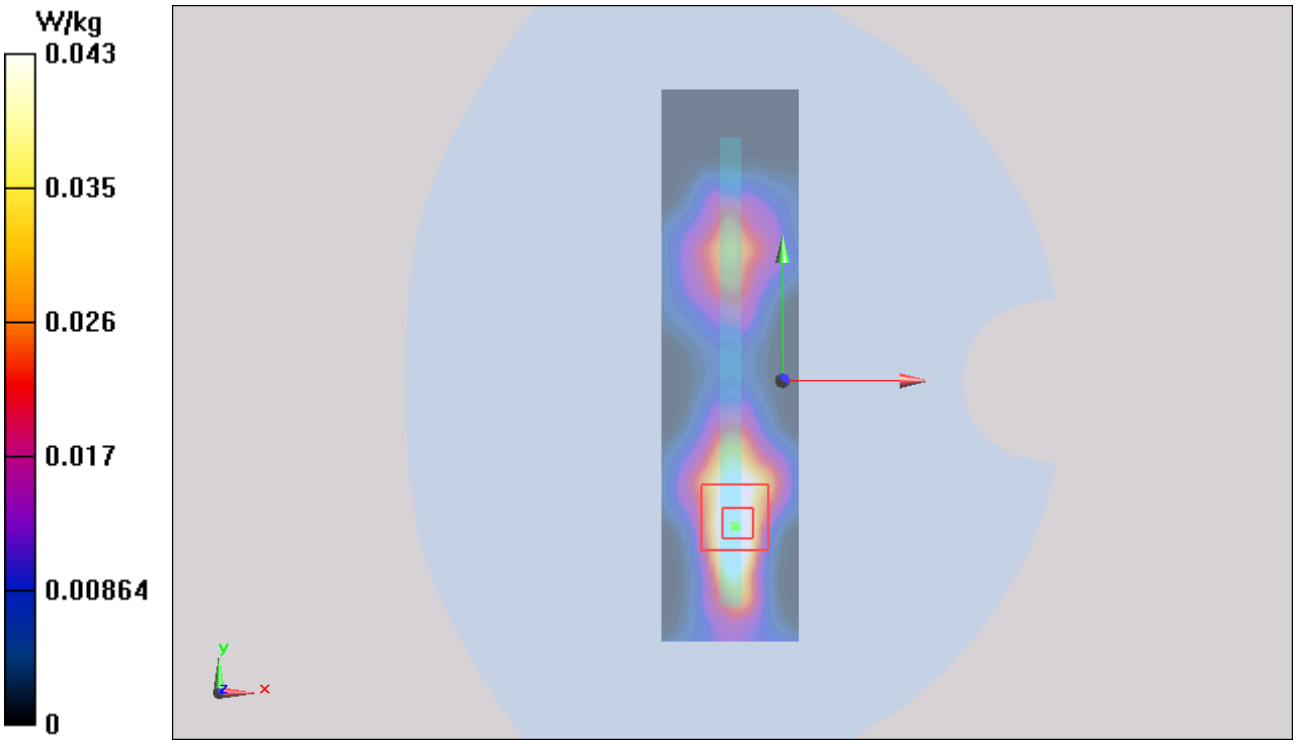


Figure 38 Body, Left Edge, GSM 1900 GPRS (3Txslots) Channel 661

GSM 1900 GPRS (3Txslots) Right Edge Middle (Battery 1, Distance 10mm)

Date: 9/20/2014

Communication System: UID 0, GPRS 3TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.76694

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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Right Edge Middle/Area Scan (51x181x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0373 W/kg

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

Reference Value = 3.103 V/m; Power Drift = 0.072 dB

Peak SAR (extrapolated) = 0.0540 W/kg

SAR(1 g) = 0.034 W/kg; SAR(10 g) = 0.020 W/kg

Maximum value of SAR (measured) = 0.0379 W/kg

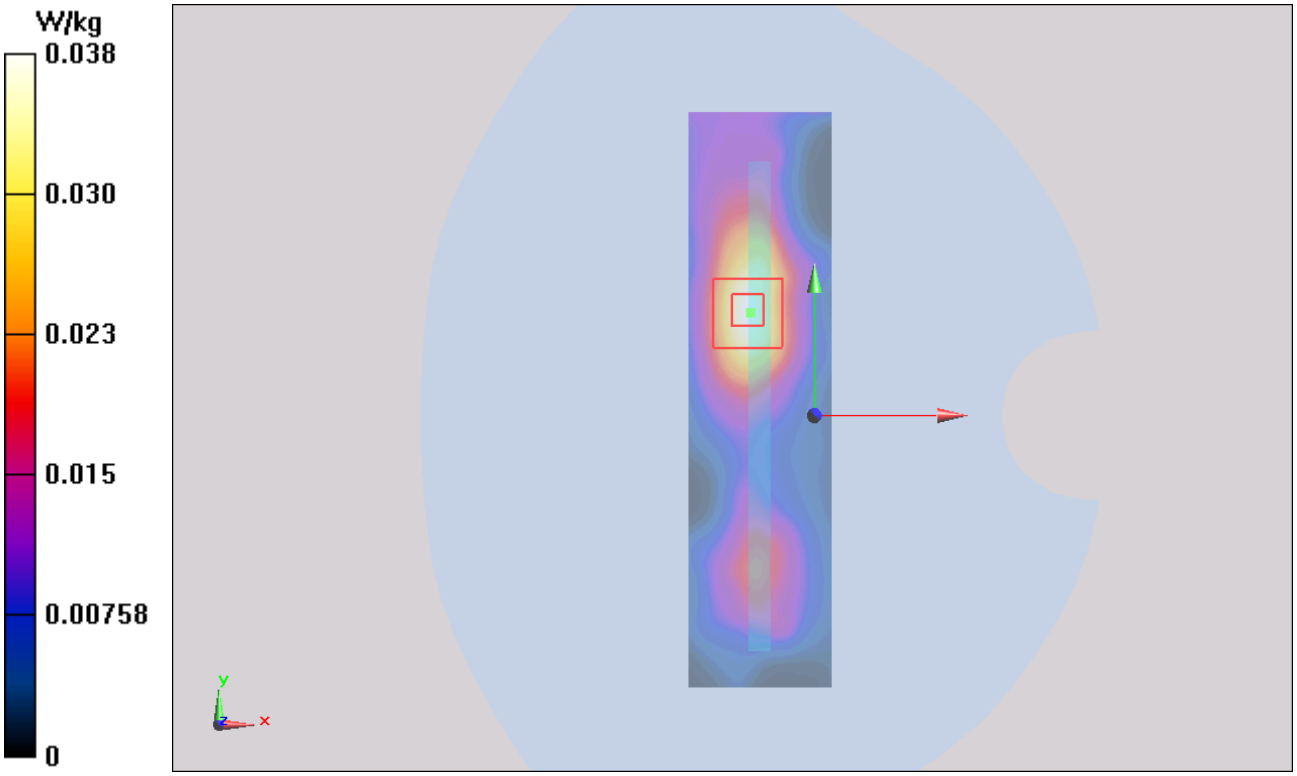


Figure 39 Body, Right Edge, GSM 1900 GPRS (3Txslots) Channel 661

GSM 1900 GPRS (3Txslots) Bottom Edge Middle (Battery 1, Distance 10mm)

Date: 9/20/2014

Communication System: UID 0, GPRS 3TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.76694

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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Bottom Edge Middle/Area Scan (51x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.496 W/kg

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

Reference Value = 16.801 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 0.766 W/kg

SAR(1 g) = 0.427 W/kg; SAR(10 g) = 0.219 W/kg

Maximum value of SAR (measured) = 0.409 W/kg

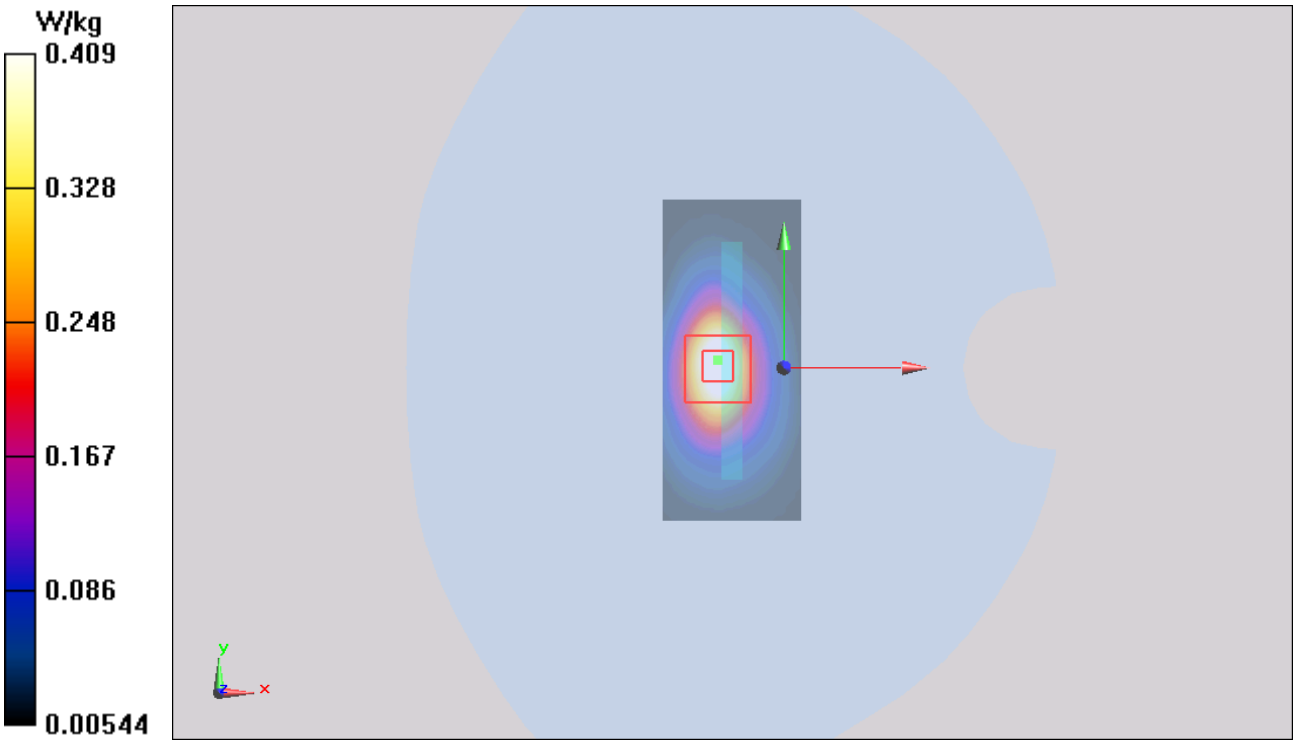


Figure 40 Body, Bottom Edge, GSM 1900 GPRS (3Txslots) Channel 661

GSM 1900 GPRS (3Txslots) Bottom Edge Middle (Battery 2, Distance 10mm)

Date: 9/20/2014

Communication System: UID 0, EGPRS 3TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.76694

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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Bottom Edge Middle/Area Scan (51x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.482 W/kg

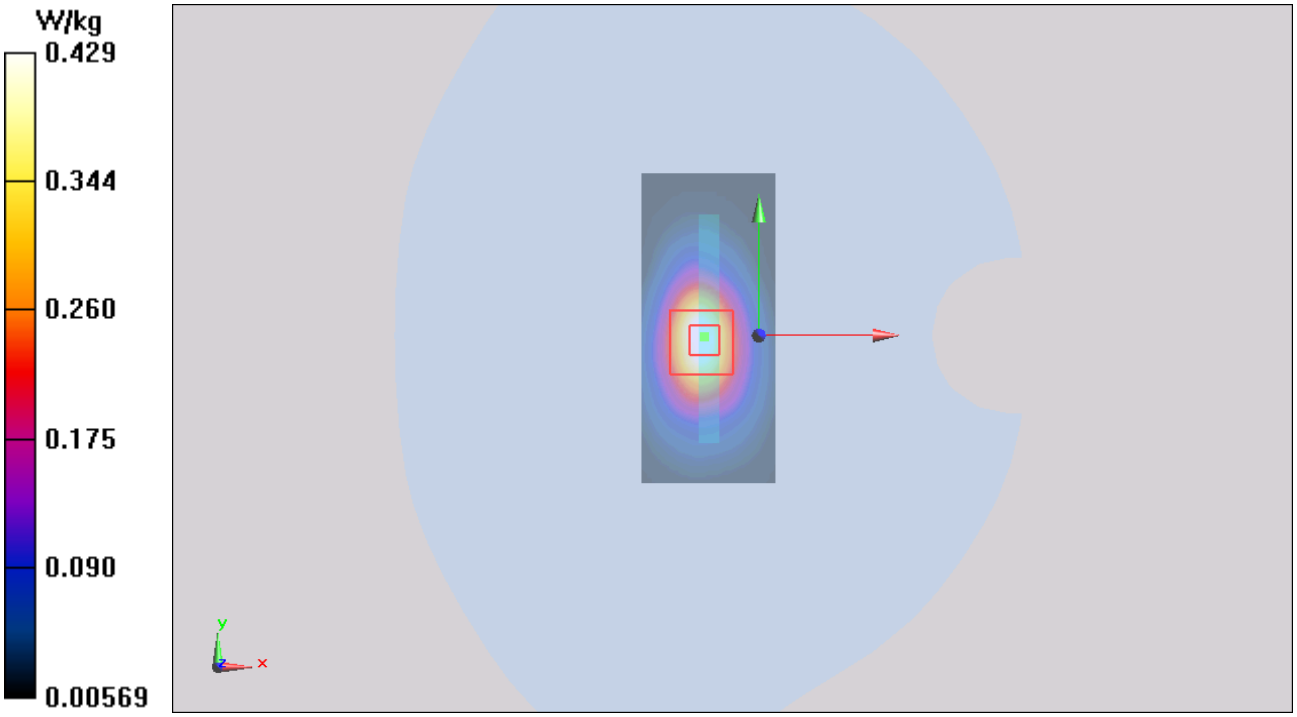
Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.780 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.884 W/kg

SAR(1 g) = 0.447 W/kg; SAR(10 g) = 0.225 W/kg

Maximum value of SAR (measured) = 0.429 W/kg



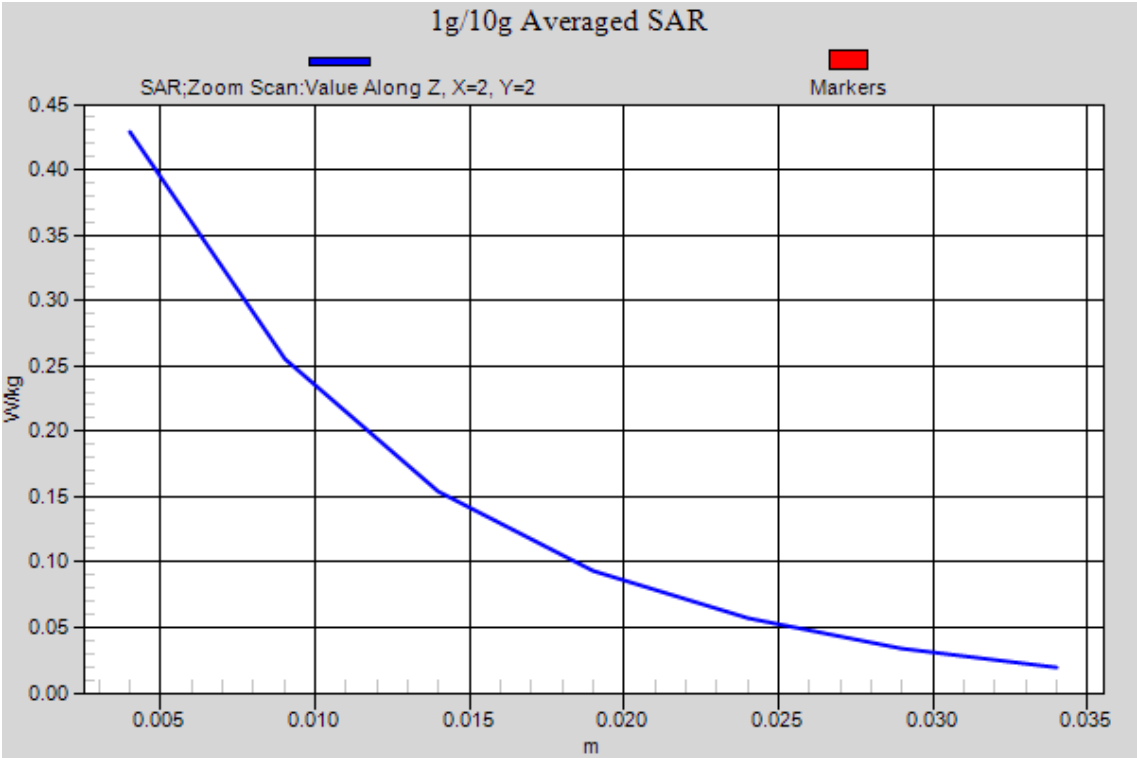


Figure 41 Body, Bottom Edge, GSM 1900 GPRS (3Txslots) Channel 661

GSM 1900 EGPRS (3Txslots) Bottom Edge Middle (Battery 1, Distance 10mm)

Date: 9/20/2014

Communication System: UID 0, EGPRS 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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Bottom Side Middle/Area Scan (51x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.477 W/kg

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

Reference Value = 17.412 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.754 W/kg

SAR(1 g) = 0.423 W/kg; SAR(10 g) = 0.217 W/kg

Maximum value of SAR (measured) = 0.423 W/kg

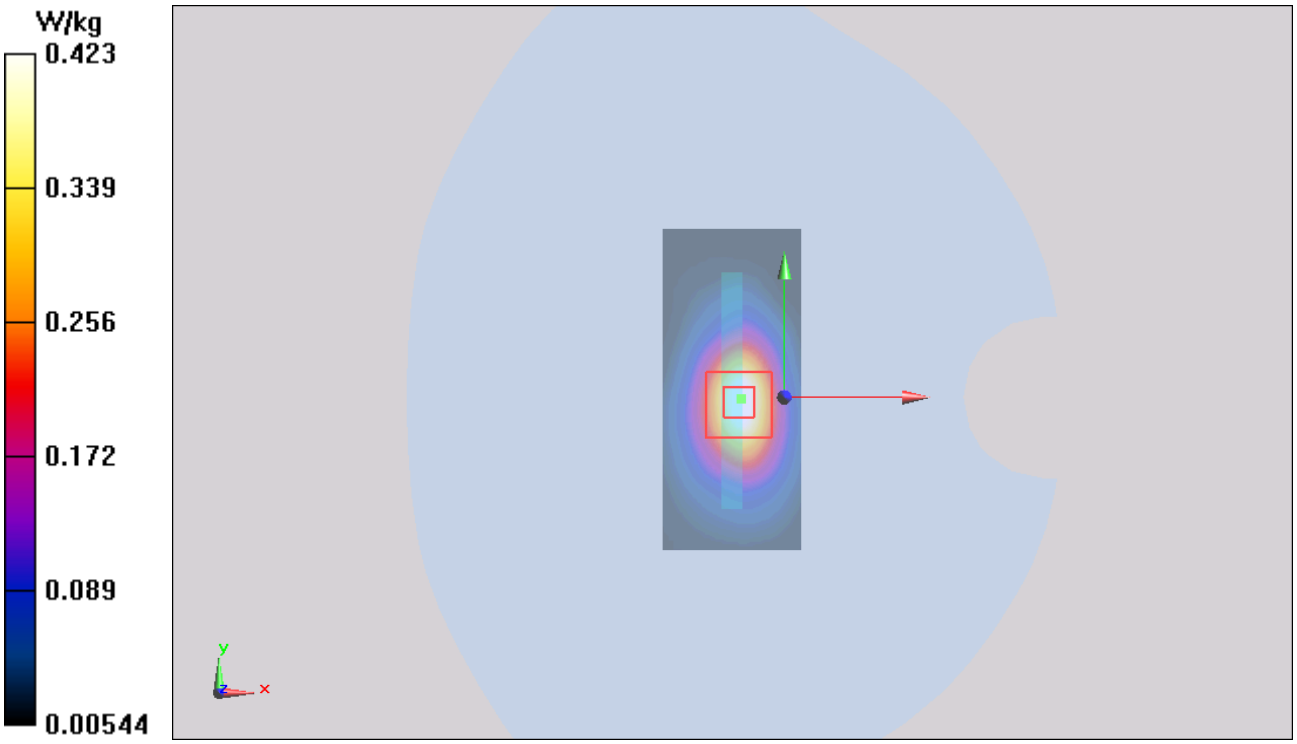


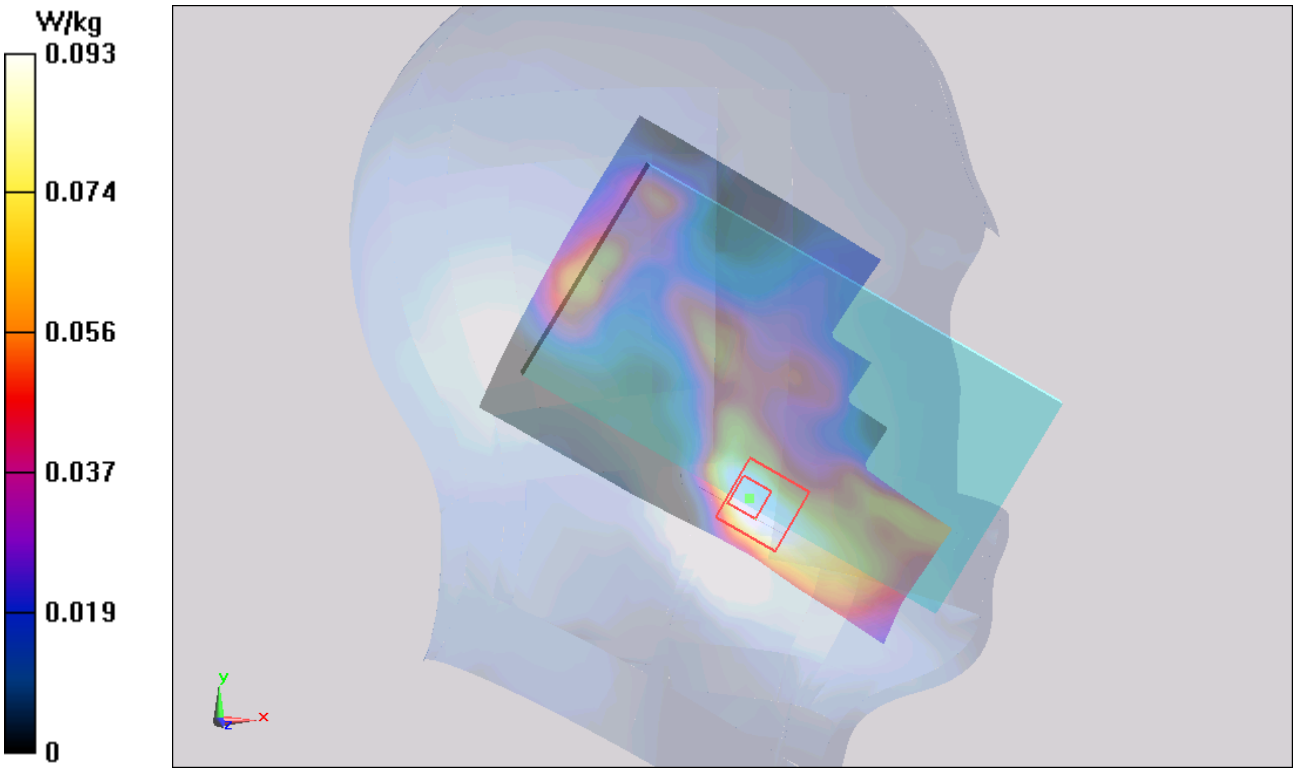
Figure 42 Body, Bottom Edge, GSM 1900 EGPRS (3Txslots) Channel 661

LTE Band 7 1RB Left Cheek Low(Battery 1)

Date: 9/30/2014
Communication System: UID 0, LTE (0); Frequency: 2510 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2510 MHz; σ = 1.889 S/m; ε_r = 38.958; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Cheek Low/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.122 W/kg

Left Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.528 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 0.157 W/kg
SAR(1 g) = 0.095 W/kg; SAR(10 g) = 0.051 W/kg
Maximum value of SAR (measured) = 0.0925 W/kg



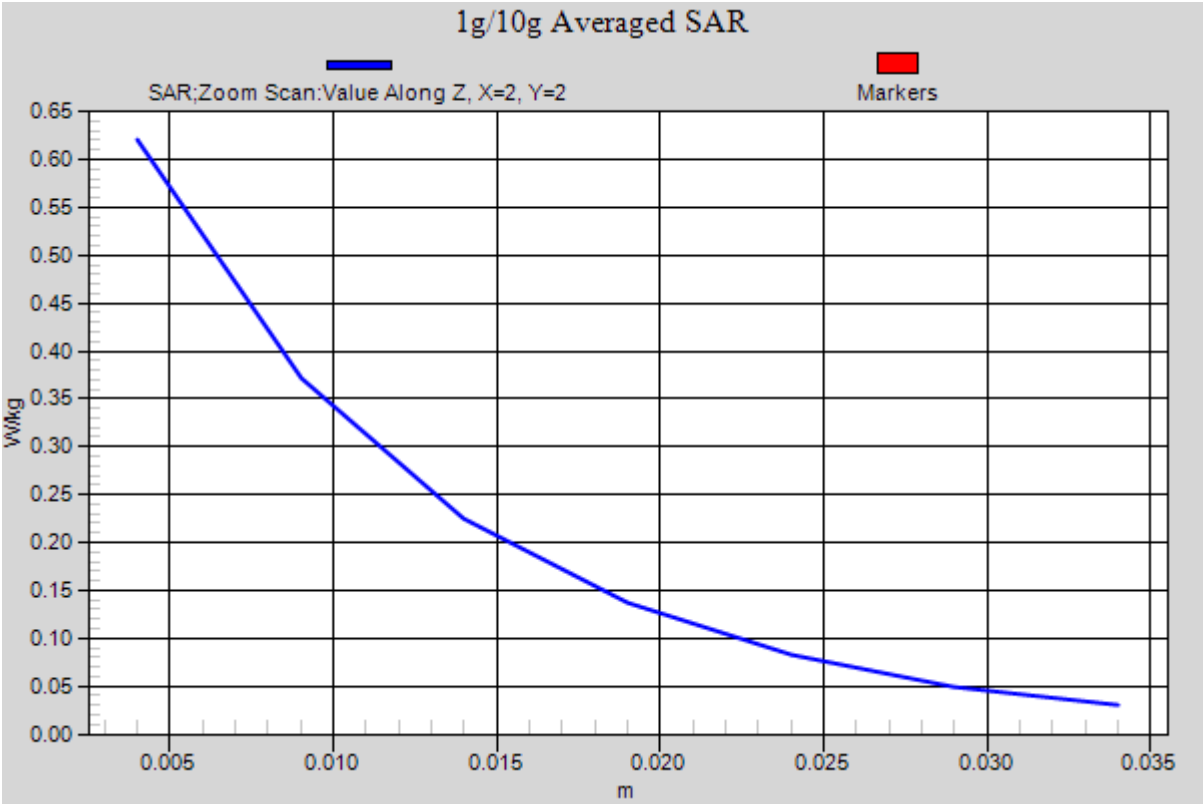


Figure 43 Left Hand Touch Cheek LTE Band 7 1RB Channel 20850

LTE Band 7 1RB Left Tilt Low(Battery 1)

Date: 9/30/2014
Communication System: UID 0, LTE (0); Frequency: 2510 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2510 MHz; σ = 1.889 S/m; ε_r = 38.958; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Tilt Low/Area Scan(91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.0712 W/kg

Left Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.979 V/m; Power Drift = 0.092 dB
Peak SAR (extrapolated) = 0.109 W/kg
SAR(1 g) = 0.059 W/kg; SAR(10 g) = 0.031 W/kg
Maximum value of SAR (measured) = 0.0669 W/kg

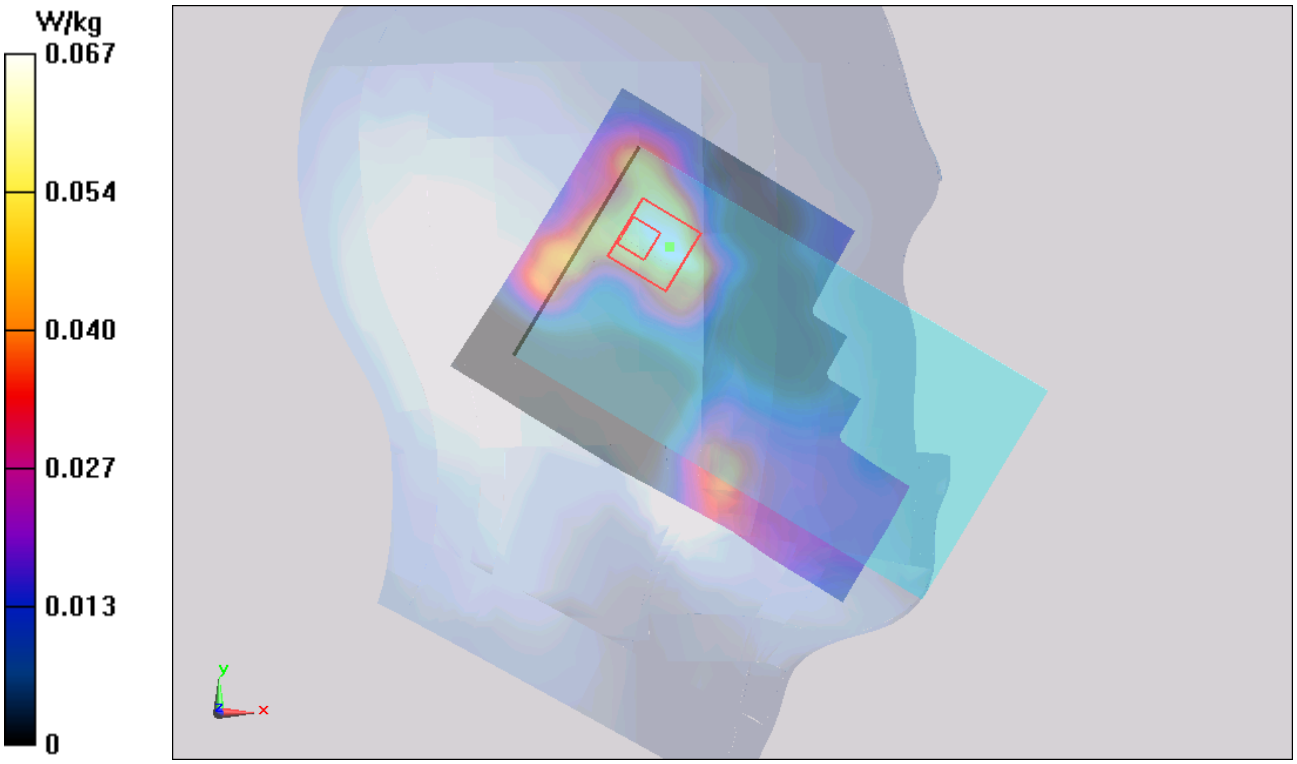


Figure 44 Left Hand Tilt 15° LTE Band 7 1RB Channel 20850

LTE Band 7 1RB Right Cheek Low (Battery 1)

Date: 9/30/2014
Communication System: UID 0, LTE (0); Frequency: 2510 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2510 MHz; σ = 1.889 S/m; ε_r = 38.958; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Cheek Low/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.110 W/kg

Right Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.482 V/m; Power Drift = 0.037 dB
Peak SAR (extrapolated) = 0.130 W/kg
SAR(1 g) = 0.064 W/kg; SAR(10 g) = 0.029 W/kg
Maximum value of SAR (measured) = 0.0703 W/kg

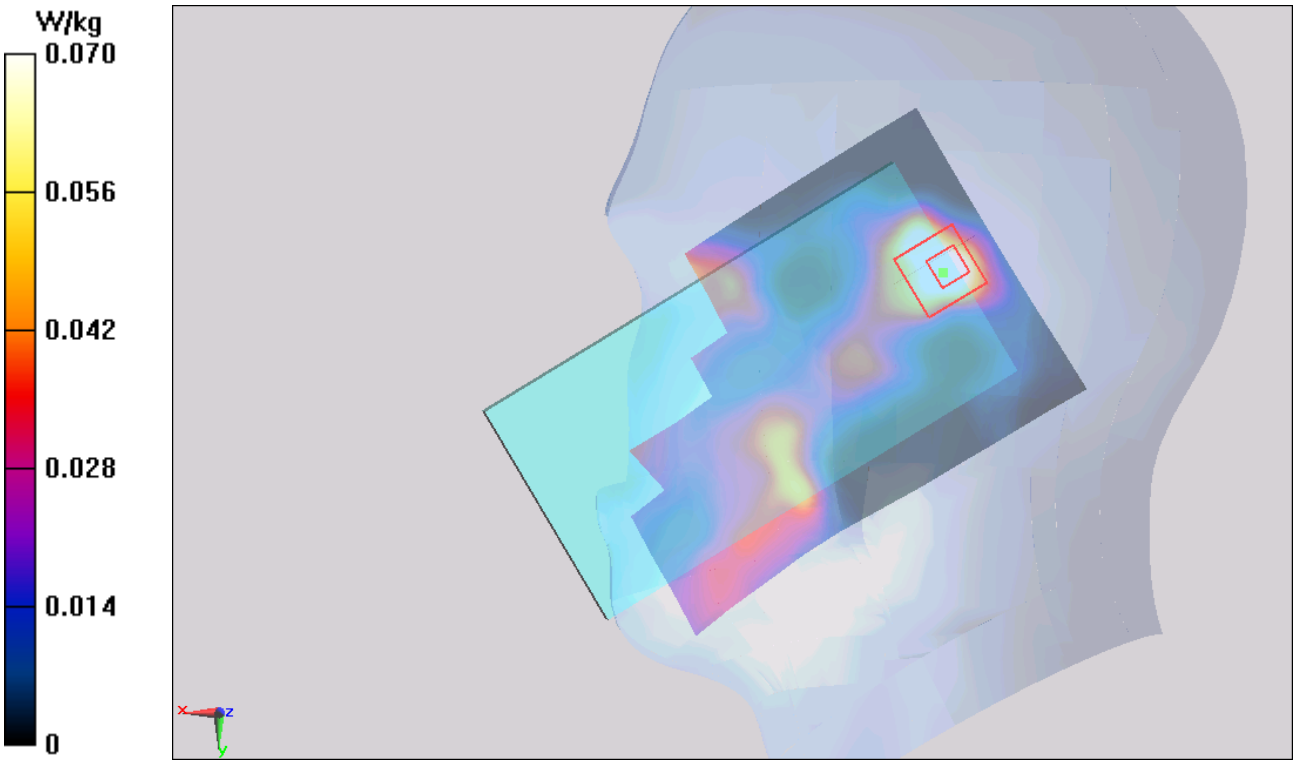


Figure 45 Right Hand Touch Cheek LTE Band 7 1RB Channel 20850

LTE Band 7 1RB Right Tilt Low (Battery 1)

Date: 9/30/2014
Communication System: UID 0, LTE (0); Frequency: 2510 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2510 MHz; σ = 1.889 S/m; ε_r = 38.958; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Tilt Low/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.0994 W/kg

Right Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.579 V/m; Power Drift = 0.052 dB
Peak SAR (extrapolated) = 0.111 W/kg
SAR(1 g) = 0.054 W/kg; SAR(10 g) = 0.022 W/kg
Maximum value of SAR (measured) = 0.0640 W/kg

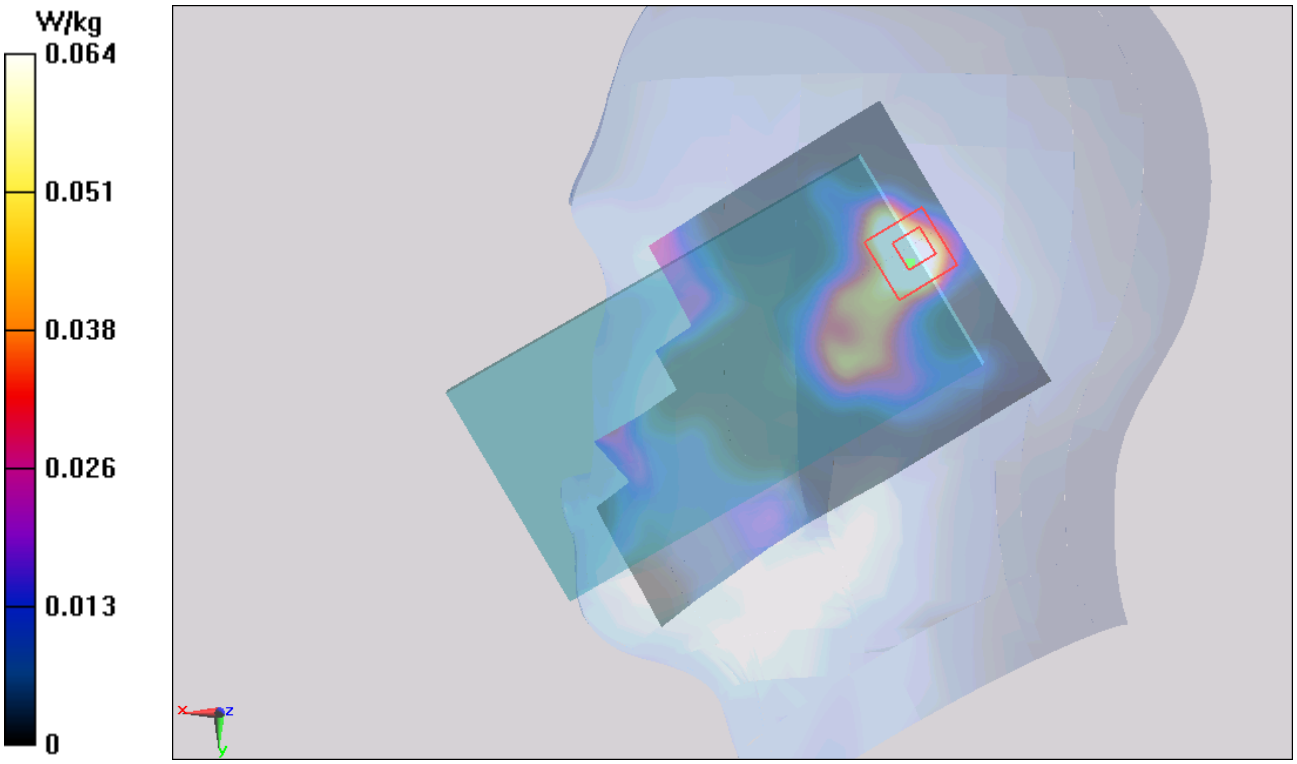


Figure 46 Right Hand Tilt 15° LTE Band 7 1RB Channel 20850

LTE Band 7 50%RB Left Cheek Low (Battery 1)

Date: 9/30/2014

Communication System: UID 0, LTE (0); Frequency: 2510 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2510 MHz; σ = 1.889 S/m; ε_r = 38.958; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Left Cheek Low/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0871 W/kg

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

Reference Value = 3.574 V/m; Power Drift = 0.066 dB

Peak SAR (extrapolated) = 0.116 W/kg

SAR(1 g) = 0.069 W/kg; SAR(10 g) = 0.037 W/kg

Maximum value of SAR (measured) = 0.0713 W/kg

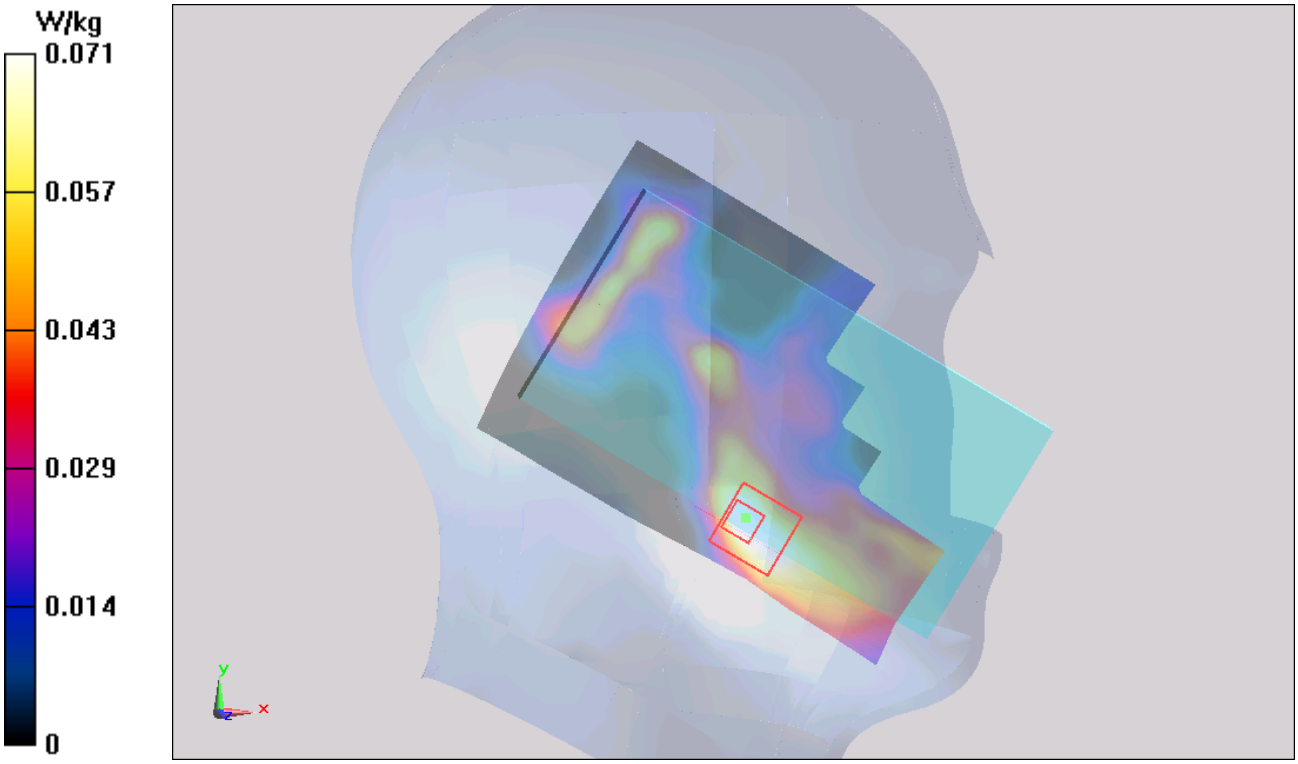


Figure 47 Left Hand Touch Cheek LTE Band 7 50%RB Channel 20850

LTE Band 7 50%RB Left Tilt Low(Battery 1)

Date: 9/30/2014

Communication System: UID 0, LTE (0); Frequency: 2510 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2510 MHz; σ = 1.889 S/m; ε_r = 38.958; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Left Tilt Low/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0659 W/kg

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

Reference Value = 3.131 V/m; Power Drift = 0.113 dB

Peak SAR (extrapolated) = 0.0750 W/kg

SAR(1 g) = 0.044 W/kg; SAR(10 g) = 0.022 W/kg

Maximum value of SAR (measured) = 0.0497 W/kg

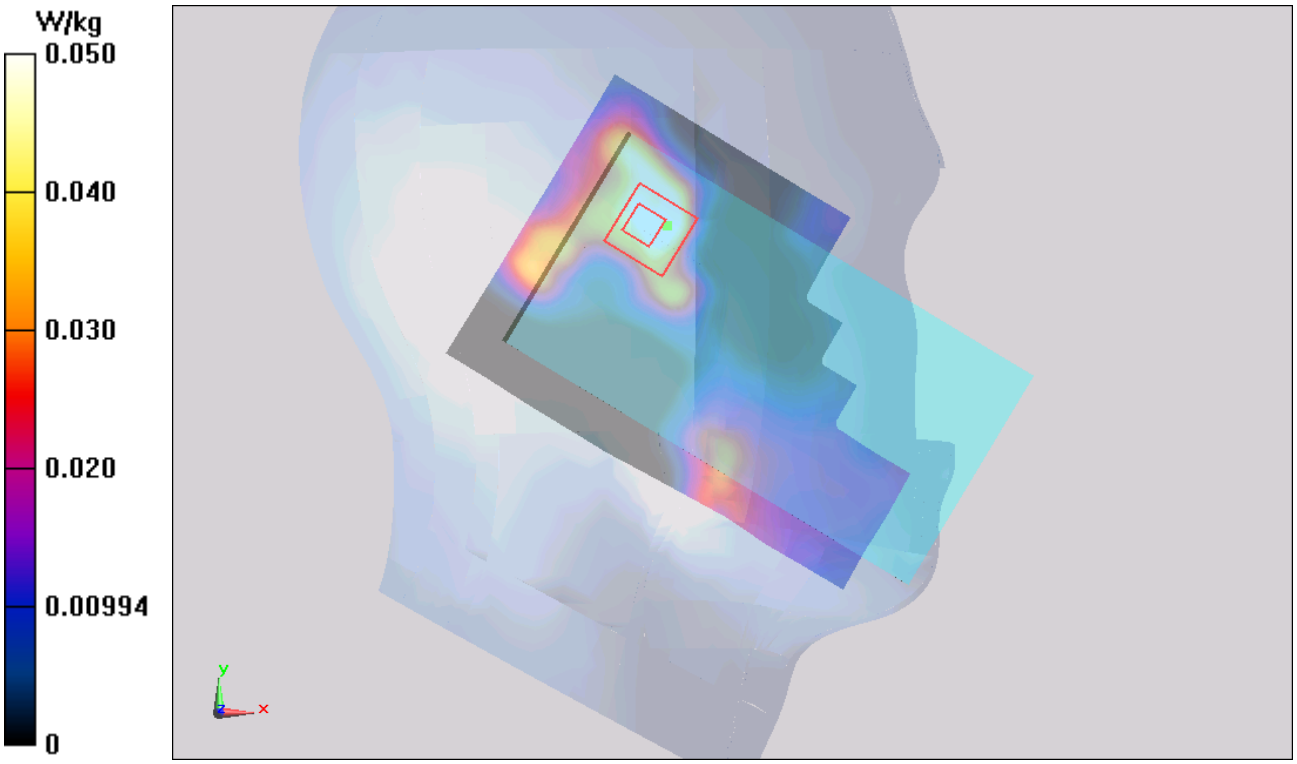


Figure 48 Left Hand Tilt 15° LTE Band 7 50%RB Channel 20850

LTE Band 7 50%RB Right Cheek Low (Battery 1)

Date: 9/30/2014
Communication System: UID 0, LTE (0); Frequency: 2510 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2510 MHz; σ = 1.889 S/m; ε_r = 38.958; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Cheek Low/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.0939 W/kg

Right Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.725 V/m; Power Drift = 0.066 dB
Peak SAR (extrapolated) = 0.0930 W/kg
SAR(1 g) = 0.051 W/kg; SAR(10 g) = 0.021 W/kg
Maximum value of SAR (measured) = 0.0583 W/kg

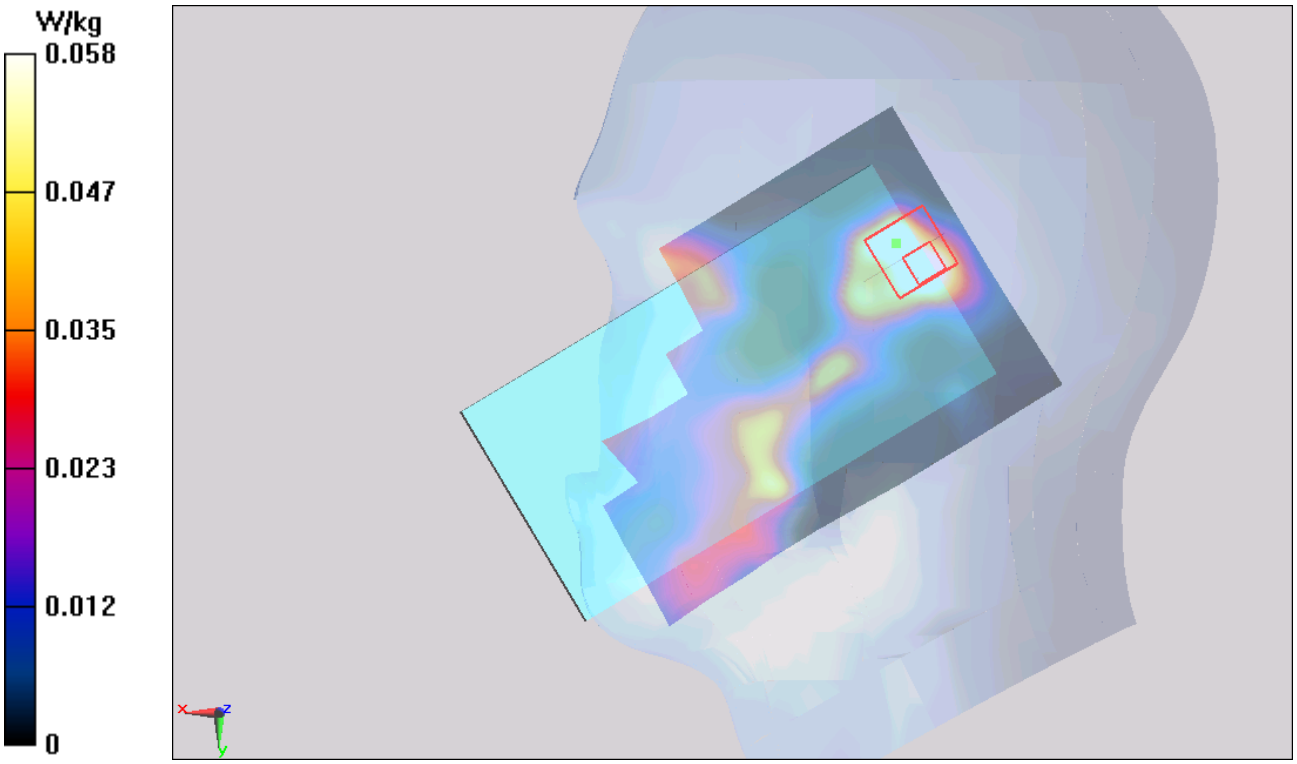


Figure 49 Right Hand Touch Cheek LTE Band 7 50%RB Channel 20850

LTE Band 7 50%RB Right Tilt Low(Battery 1)

Date: 9/30/2014

Communication System: UID 0, LTE (0); Frequency: 2510 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2510 MHz; σ = 1.889 S/m; ε_r = 38.958; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Right Tilt Low/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0851 W/kg

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

Reference Value = 4.043 V/m; Power Drift = 0.048 dB

Peak SAR (extrapolated) = 0.0890 W/kg

SAR(1 g) = 0.044 W/kg; SAR(10 g) = 0.017 W/kg

Maximum value of SAR (measured) = 0.0501 W/kg

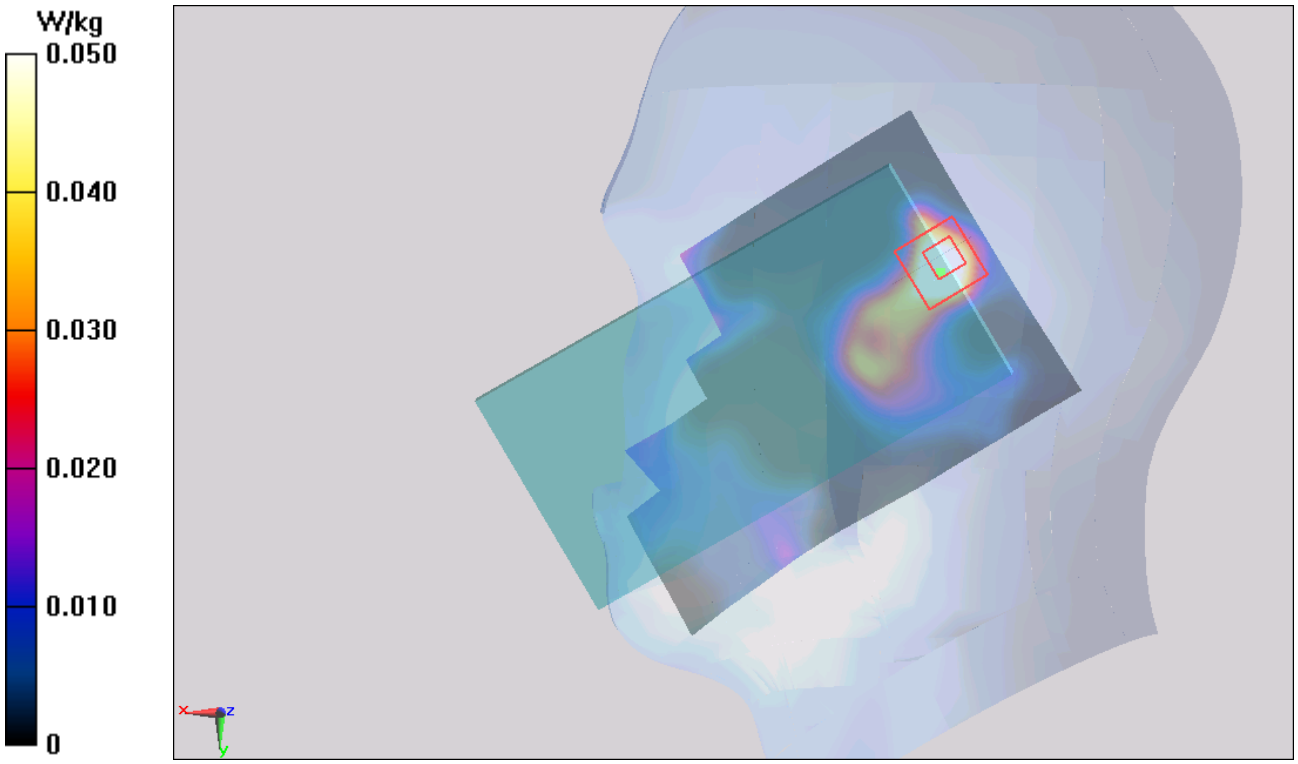


Figure 50 Right Hand Tilt 15° LTE Band 7 50%RB Channel 20850

LTE Band 7 1RB Left Cheek Low (Battery 2)

Date: 9/30/2014

Communication System: UID 0, LTE (0); Frequency: 2510 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2510 MHz; σ = 1.889 S/m; ε_r = 38.958; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Left Cheek Low/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.119 W/kg

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

Reference Value = 4.694 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 0.159 W/kg

SAR(1 g) = 0.094 W/kg; SAR(10 g) = 0.049 W/kg

Maximum value of SAR (measured) = 0.0952 W/kg

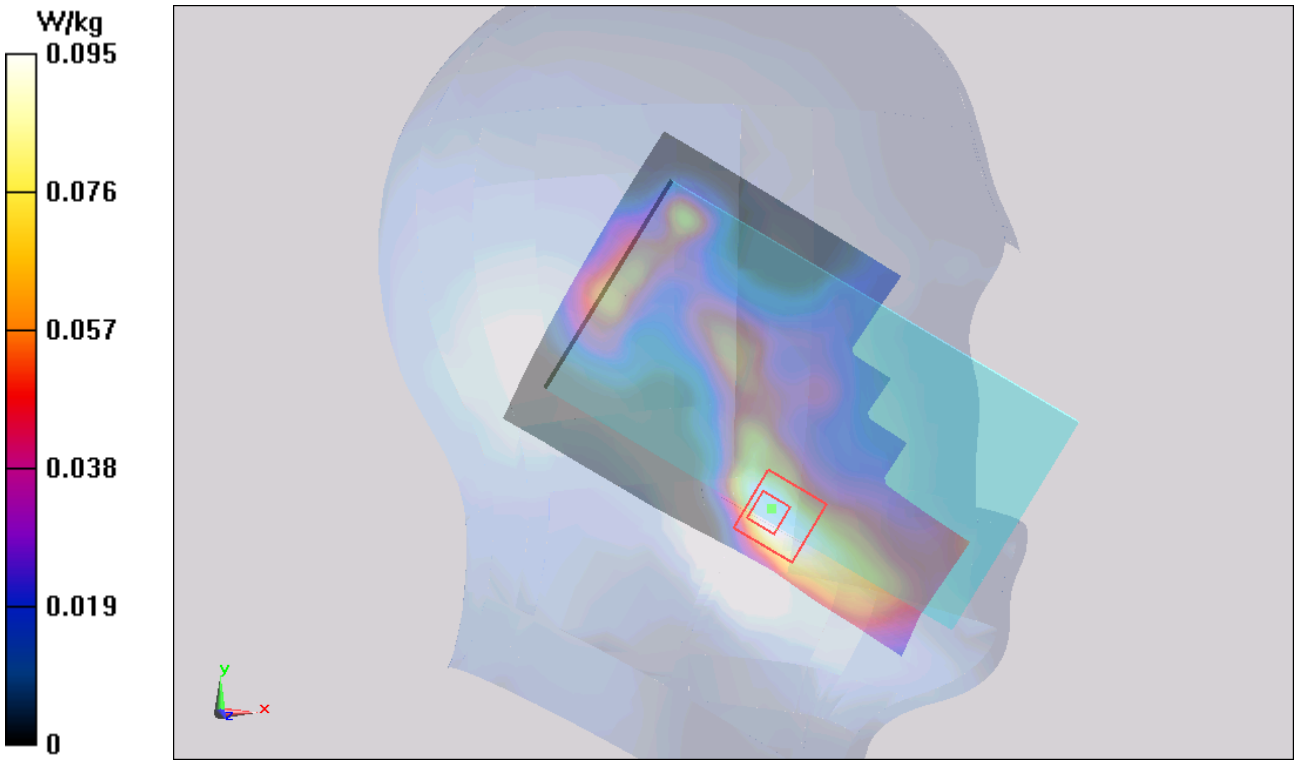


Figure 51 Left Hand Touch Cheek LTE Band 7 1RB Channel 20850

LTE Band 7 1RB Back Side Low (Battery 1, Distance 15mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2510 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2510 MHz; σ = 2.093 S/m; ε_r = 52.611; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Back Side Low/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.461 W/kg

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

Reference Value = 3.771 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.693 W/kg

SAR(1 g) = 0.414 W/kg; SAR(10 g) = 0.240 W/kg

Maximum value of SAR (measured) = 0.440 W/kg

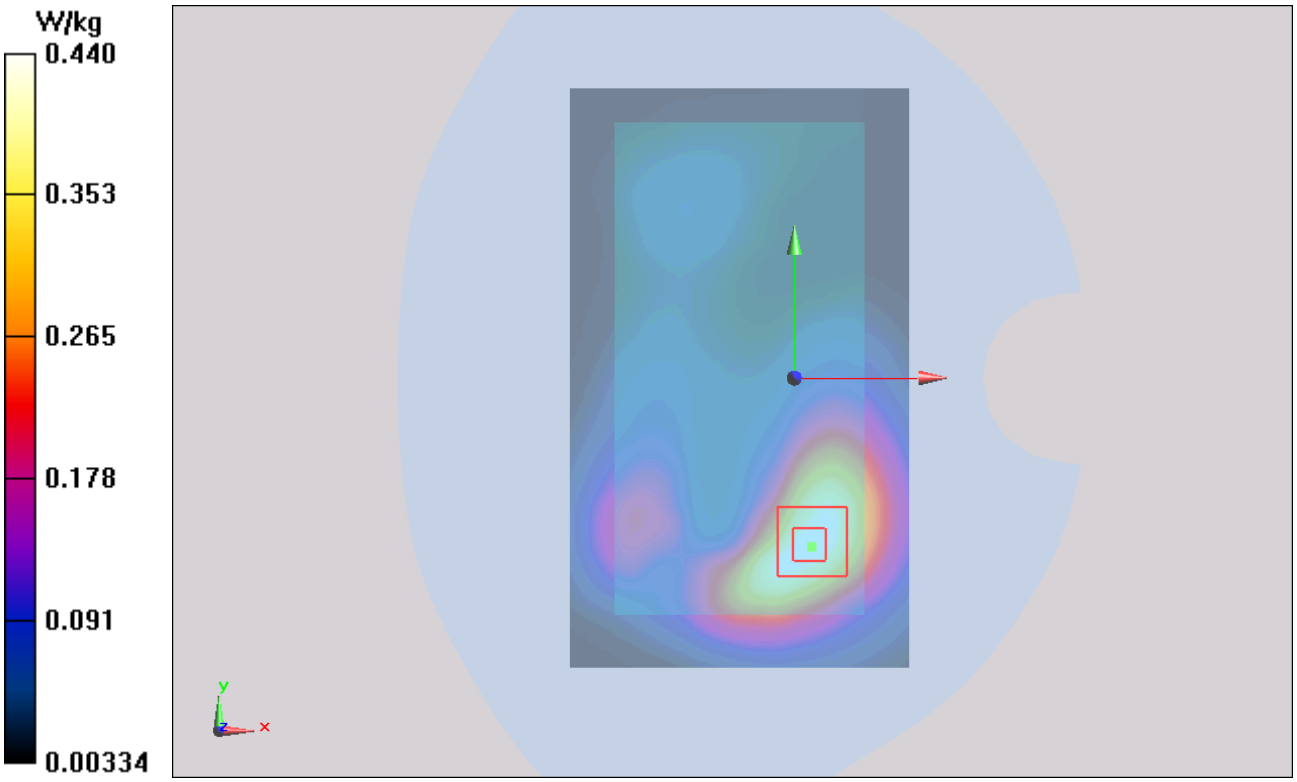


Figure 52 Body, Back Side, LTE Band 7 1RB Channel 20850

LTE Band 7 1RB Front Side Low (Battery 1, Distance 15mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2510 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2510 MHz; σ = 2.093 S/m; ε_r = 52.611; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Front Side Low/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.324 W/kg

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

Reference Value = 2.141 V/m; Power Drift = 0.024 dB

Peak SAR (extrapolated) = 0.507 W/kg

SAR(1 g) = 0.292 W/kg; SAR(10 g) = 0.165 W/kg

Maximum value of SAR (measured) = 0.314 W/kg

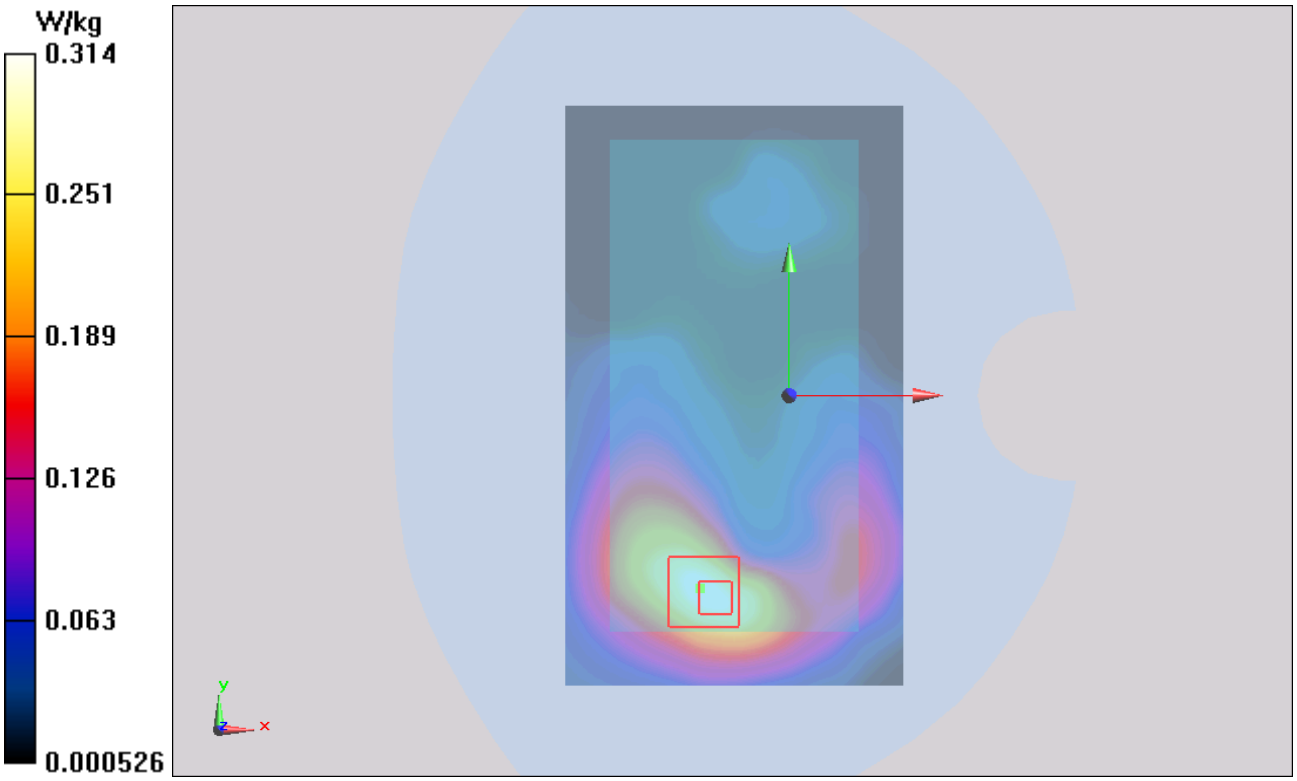


Figure 53 Body, Front Side, LTE Band 7 1RB Channel 20850

LTE Band 7 50%RB Back Side Low (Battery 1, Distance 15mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2510 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2510 MHz; σ = 2.093 S/m; ε_r = 52.611; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Back Side Low/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.313 W/kg

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

Reference Value = 3.394 V/m; Power Drift = 0.032 dB

Peak SAR (extrapolated) = 0.482 W/kg

SAR(1 g) = 0.283 W/kg; SAR(10 g) = 0.162 W/kg

Maximum value of SAR (measured) = 0.312 W/kg

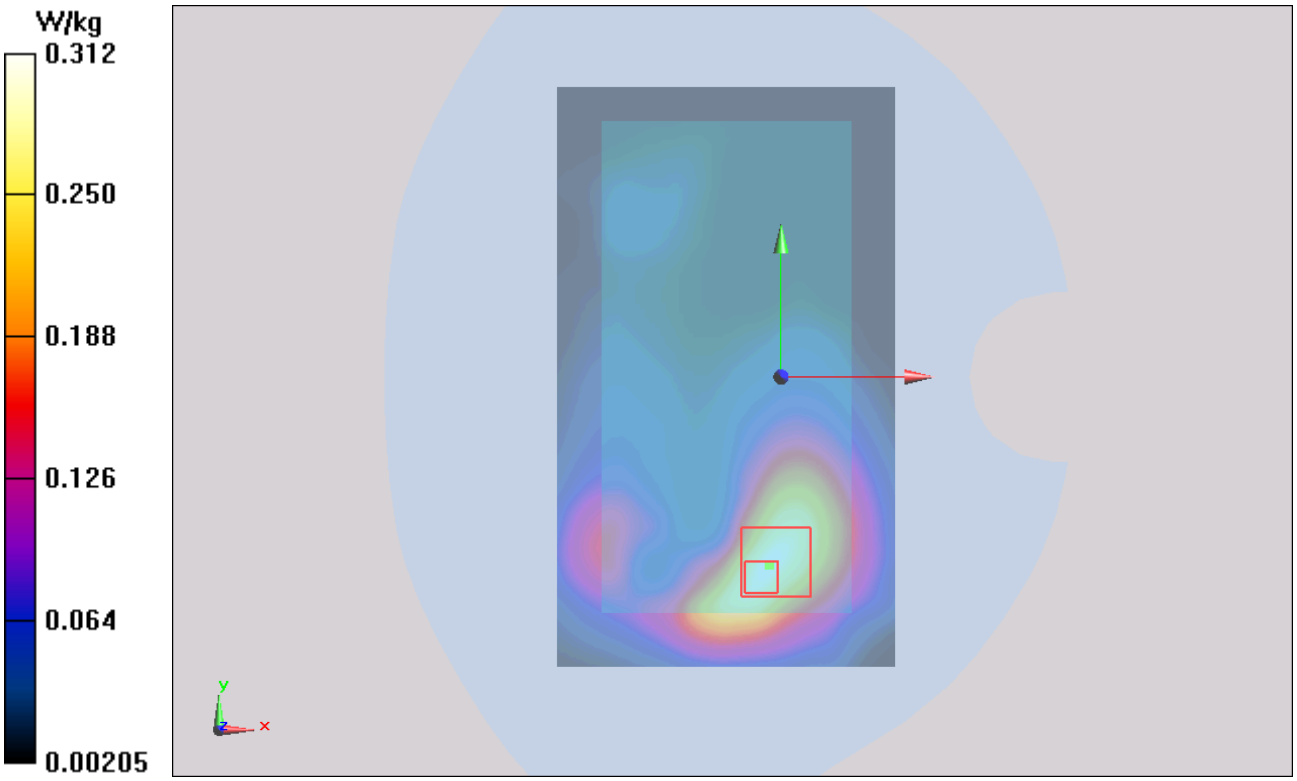


Figure 54 Body, Back Side, LTE Band 7 50%RB Channel 20850

LTE Band 7 50%RB Front Side Low (Battery 1, Distance 15mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2510 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2510 MHz; σ = 2.093 S/m; ε_r = 52.611; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Front Side Low/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.240 W/kg

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

Reference Value = 1.099 V/m; Power Drift = 0.042 dB

Peak SAR (extrapolated) = 0.385 W/kg

SAR(1 g) = 0.219 W/kg; SAR(10 g) = 0.121 W/kg

Maximum value of SAR (measured) = 0.231 W/kg

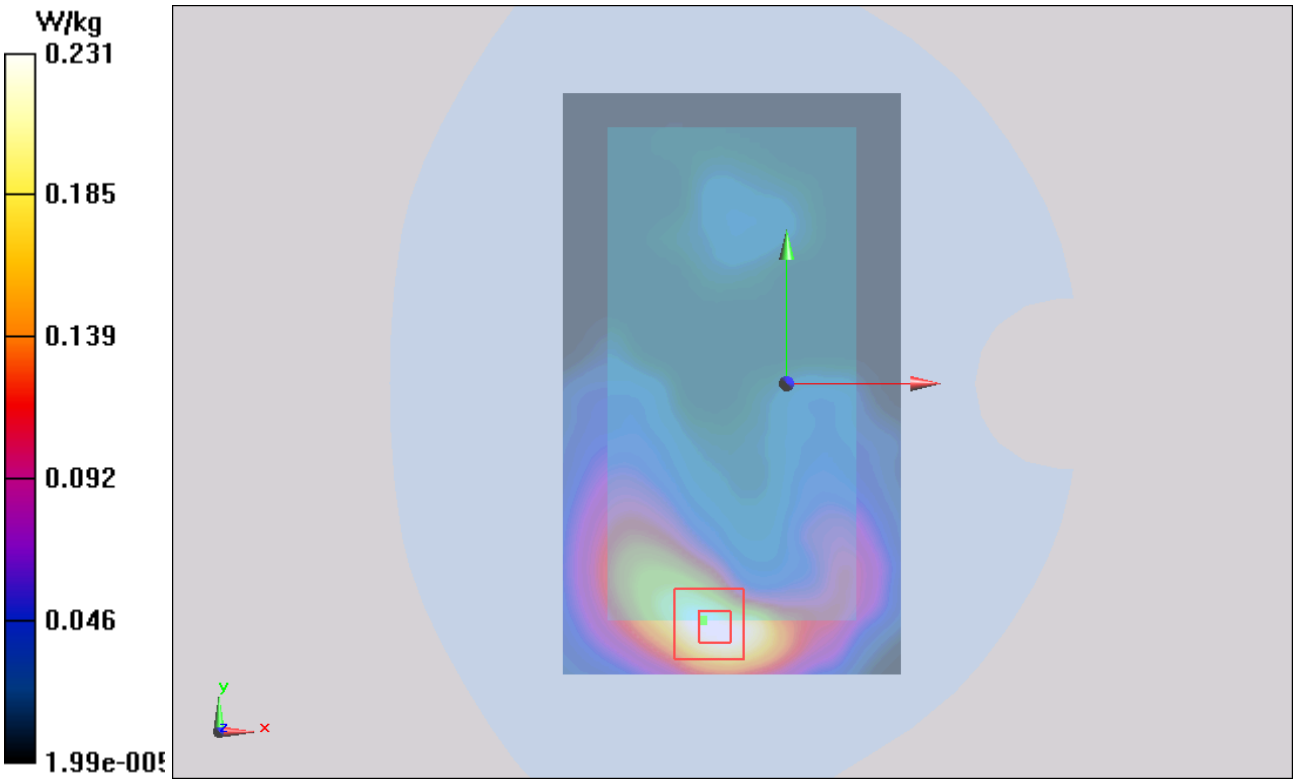


Figure 55 Body, Front Side, LTE Band 7 50%RB Channel 20850

LTE Band 7 1RB Back Side Middle (Battery 1, Distance 10mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2535 MHz; σ = 2.121 S/m; ε_r = 52.544; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Back Side Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.251 W/kg

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

Reference Value = 2.334 V/m; Power Drift = -0.025 dB

Peak SAR (extrapolated) = 0.372 W/kg

SAR(1 g) = 0.211 W/kg; SAR(10 g) = 0.114 W/kg

Maximum value of SAR (measured) = 0.229 W/kg

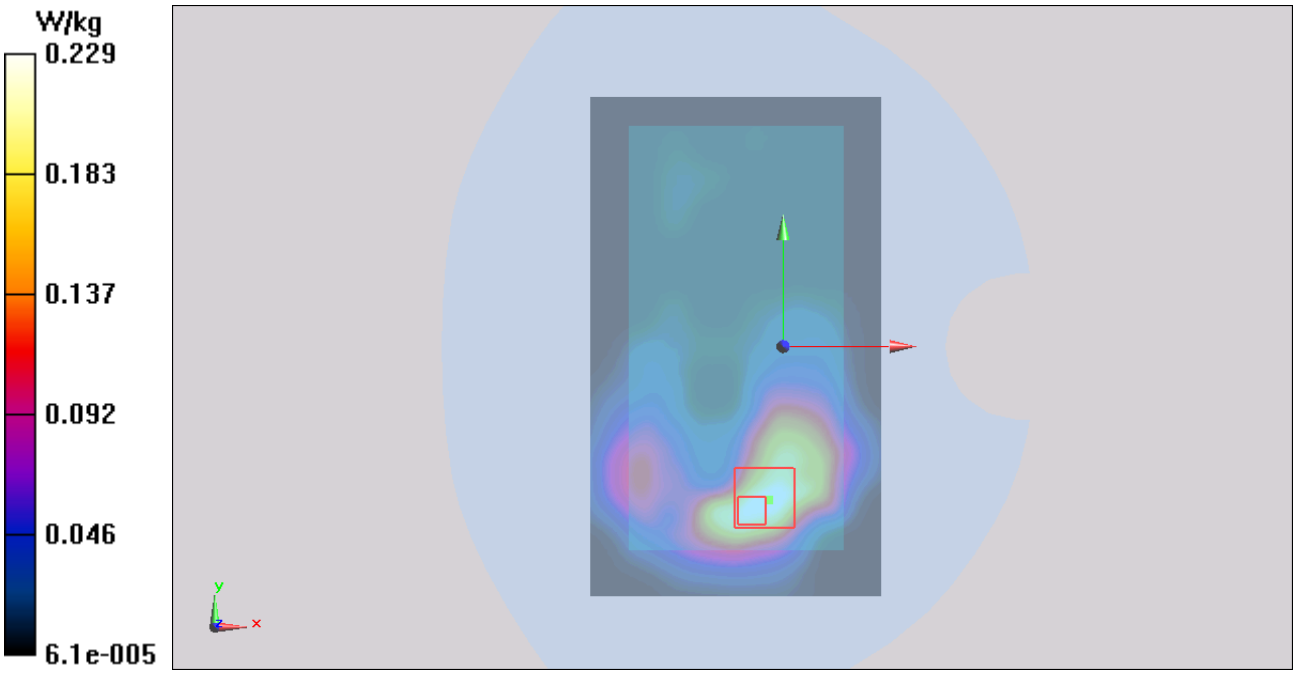


Figure 56 Body, Back Side, LTE Band 7 1RB Channel 21100

LTE Band 7 1RB Front Side Middle (Battery 1, Distance 10mm)

Date: 9/29/2014
Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 2.121 S/m; ε_r = 52.544; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Front Side Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.168 W/kg

Front Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.091 V/m; Power Drift = 0.031 dB
Peak SAR (extrapolated) = 0.271 W/kg
SAR(1 g) = 0.153 W/kg; SAR(10 g) = 0.081 W/kg
Maximum value of SAR (measured) = 0.162 W/kg

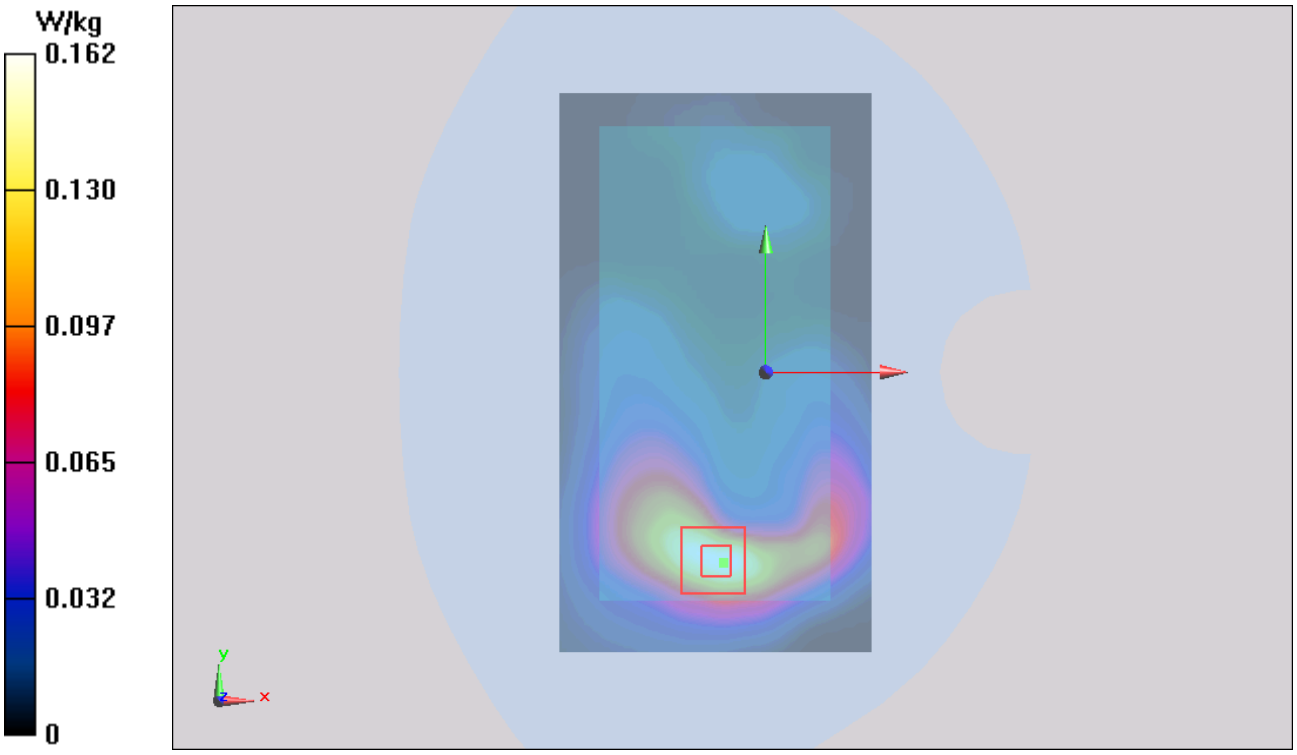


Figure 57 Body, Front Side, LTE Band 7 1RB Channel 21100

LTE Band 7 1RB Left Edge Middle (Battery 1, Distance 10mm)

Date: 9/29/2014
Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 2.121 S/m; ε_r = 52.544; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Edge Middle/Area Scan (51x181x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.0559 W/kg

Left Edge Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.524 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 0.104 W/kg
SAR(1 g) = 0.058 W/kg; SAR(10 g) = 0.029 W/kg
Maximum value of SAR (measured) = 0.0634 W/kg

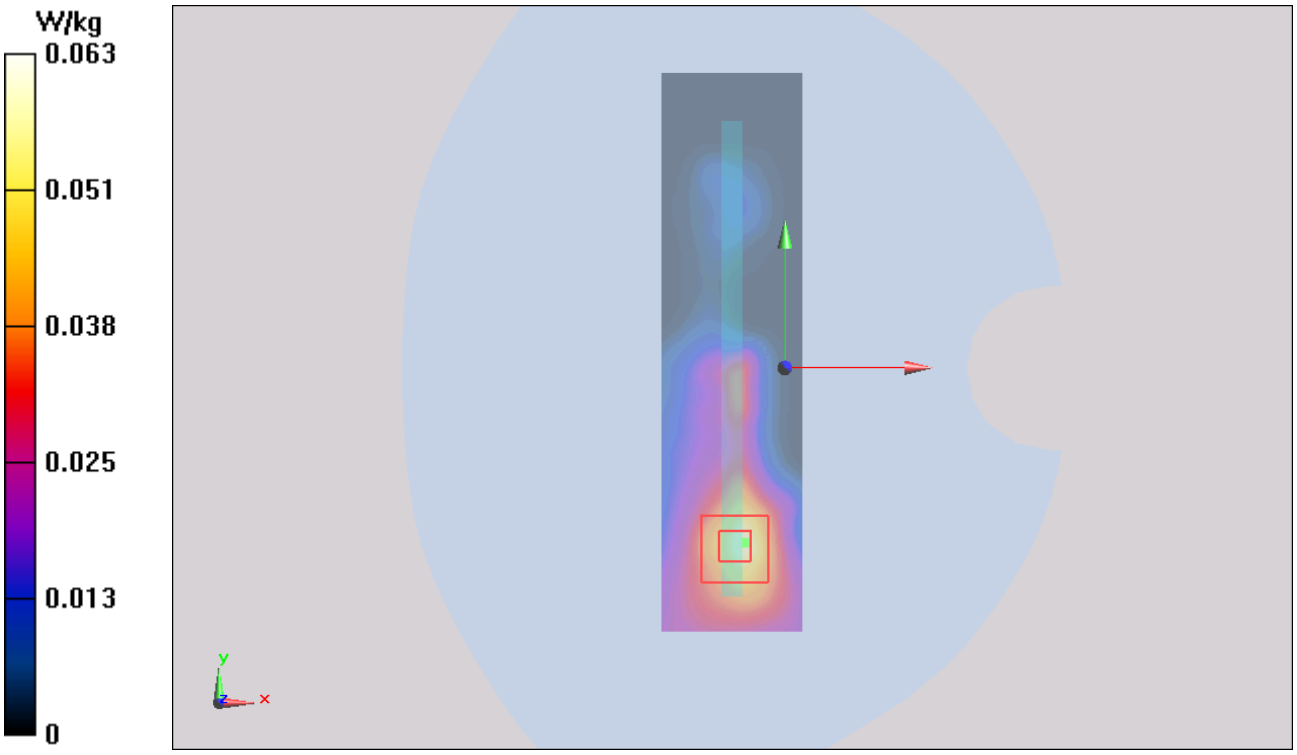


Figure 58 Body, Left Edge, LTE Band 7 1RB Channel 21100

LTE Band 7 1RB Right Edge Middle (Battery 1, Distance 10mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2535 MHz; σ = 2.121 S/m; ε_r = 52.544; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Right Edge Middle/Area Scan (51x181x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0434 W/kg

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

Reference Value = 2.417 V/m; Power Drift = 0.053 dB

Peak SAR (extrapolated) = 0.0870 W/kg

SAR(1 g) = 0.049 W/kg; SAR(10 g) = 0.025 W/kg

Maximum value of SAR (measured) = 0.0583 W/kg

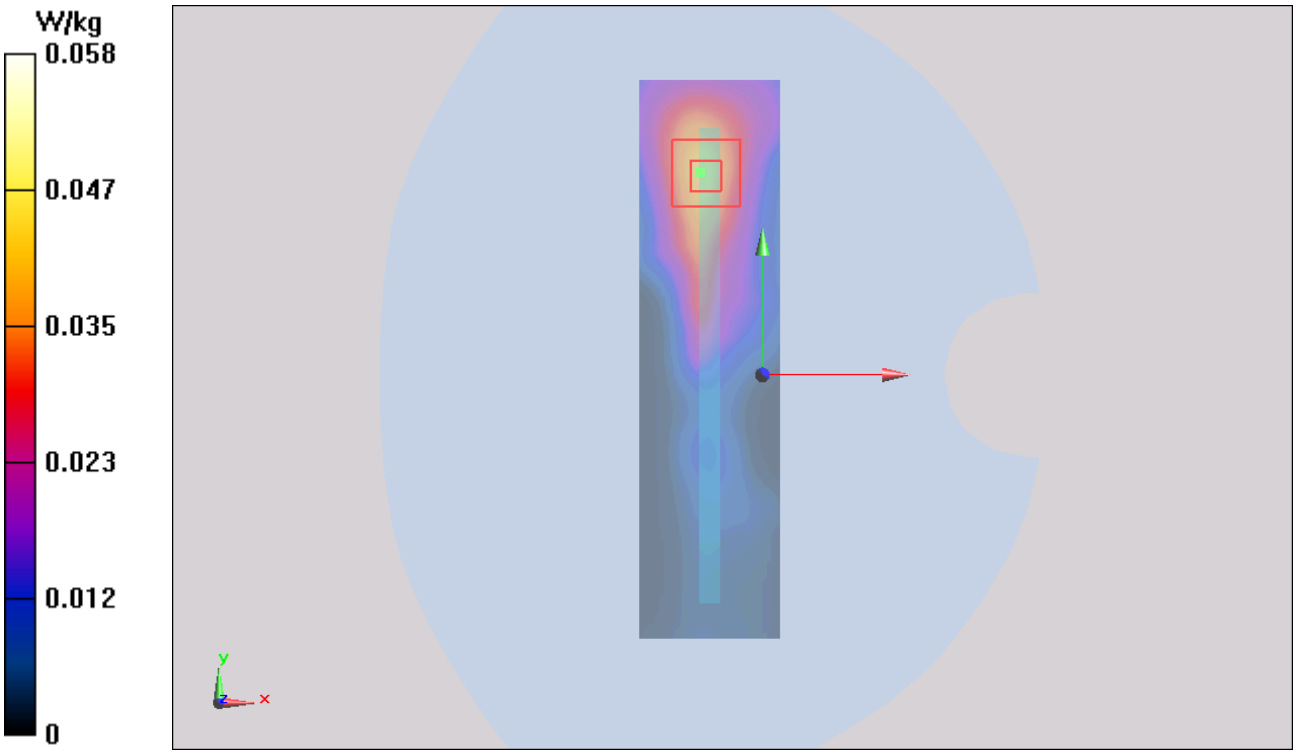


Figure 59 Body, Right Edge, LTE Band 7 1RB Channel 21100

LTE Band 7 1RB Bottom Edge Middle (Battery 1, Distance 10mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2535 MHz; σ = 2.121 S/m; ε_r = 52.544; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Bottom Edge Middle/Area Scan (51x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.694 W/kg

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

Reference Value = 16.976 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.09 W/kg

SAR(1 g) = 0.586 W/kg; SAR(10 g) = 0.283 W/kg

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

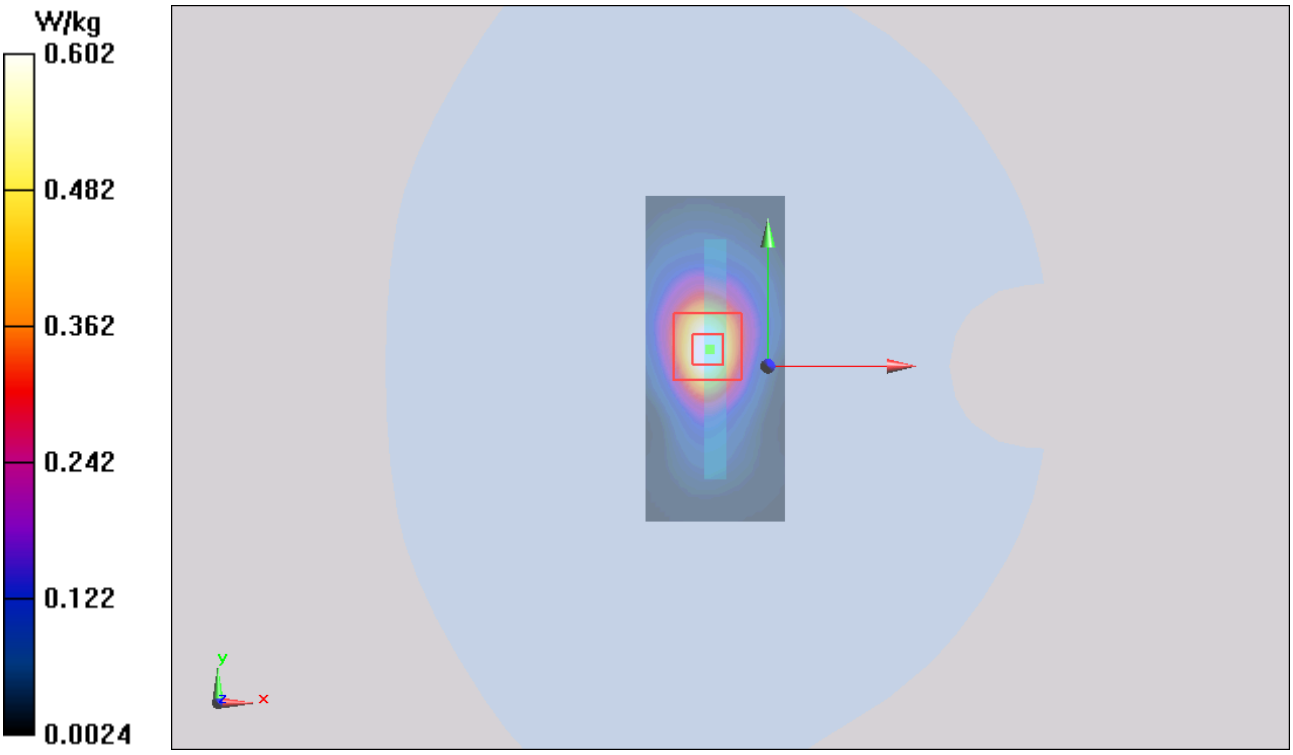


Figure 60 Body, Bottom Edge, LTE Band 7 1RB Channel 21100

LTE Band 7 50%RB Back Side Middle (Battery 1, Distance 10mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2535 MHz; σ = 2.121 S/m; ε_r = 52.544; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Back Side Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.240 W/kg

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

Reference Value = 2.331 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 0.371 W/kg

SAR(1 g) = 0.213 W/kg; SAR(10 g) = 0.116 W/kg

Maximum value of SAR (measured) = 0.229 W/kg

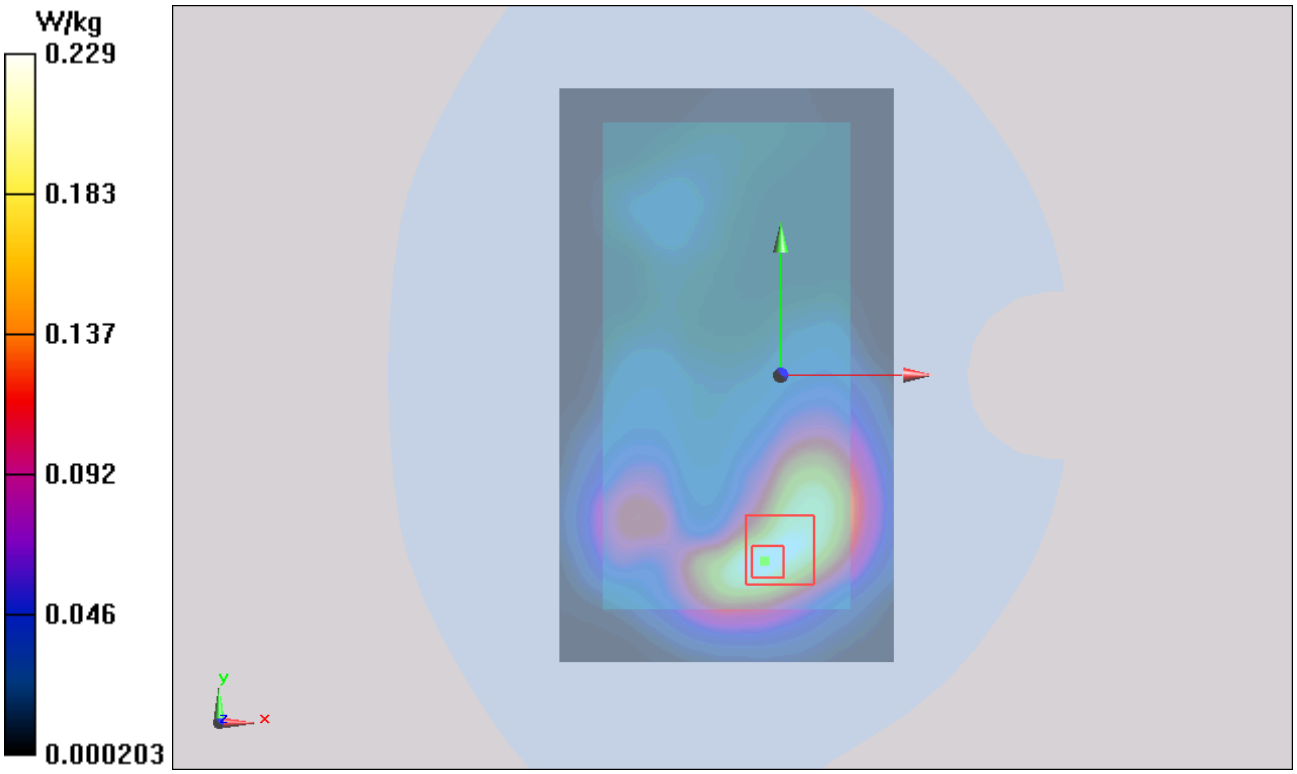


Figure 61 Body, Back Side, LTE Band 7 50%RB Channel 21100

LTE Band 7 50%RB Front Side Middle (Battery 1, Distance 10mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2535 MHz; σ = 2.121 S/m; ε_r = 52.544; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Front Side Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.168 W/kg

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

Reference Value = 1.026 V/m; Power Drift = 0.034 dB

Peak SAR (extrapolated) = 0.268 W/kg

SAR(1 g) = 0.153 W/kg; SAR(10 g) = 0.082 W/kg

Maximum value of SAR (measured) = 0.164 W/kg

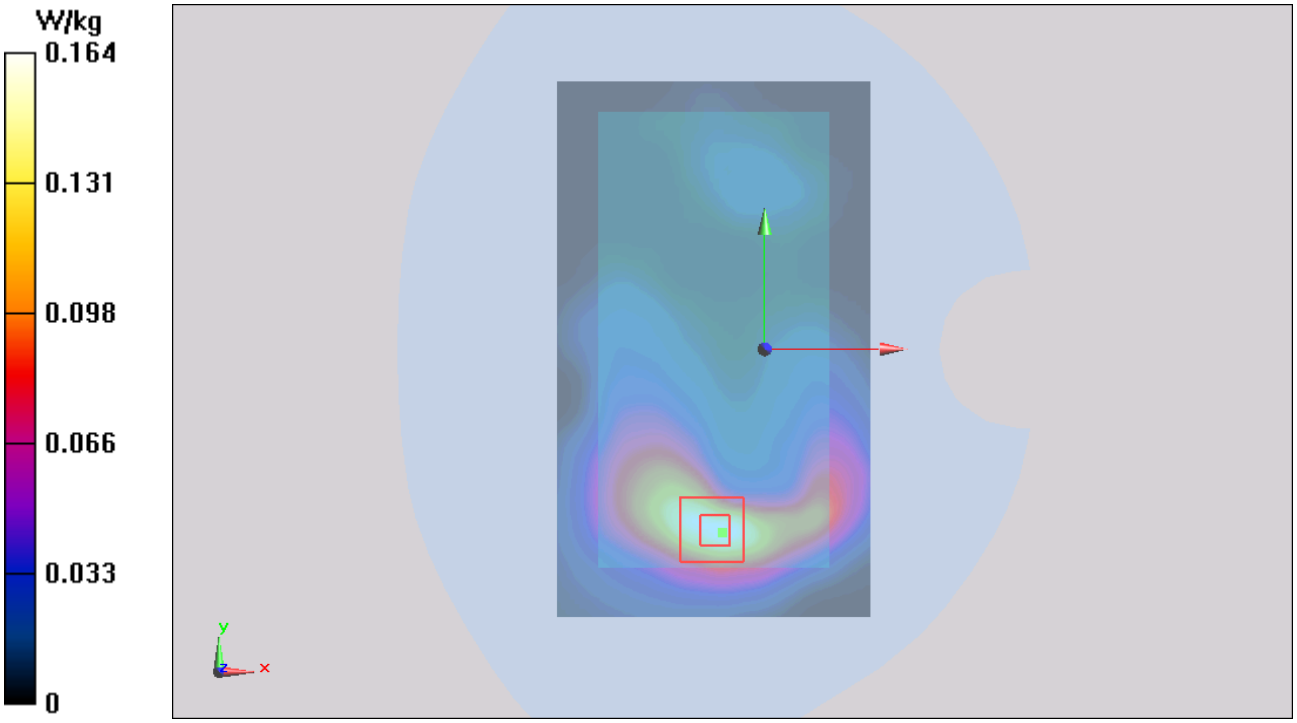


Figure 62 Body, Front Side, LTE Band 7 50%RB Channel 21100

LTE Band 7 50%RB Left Edge Middle (Battery 1, Distance 10mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2535 MHz; σ = 2.121 S/m; ε_r = 52.544; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Left Edge Middle/Area Scan (51x181x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0575 W/kg

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

Reference Value = 3.418 V/m; Power Drift = 0.056 dB

Peak SAR (extrapolated) = 0.107 W/kg

SAR(1 g) = 0.059 W/kg; SAR(10 g) = 0.030 W/kg

Maximum value of SAR (measured) = 0.0645 W/kg

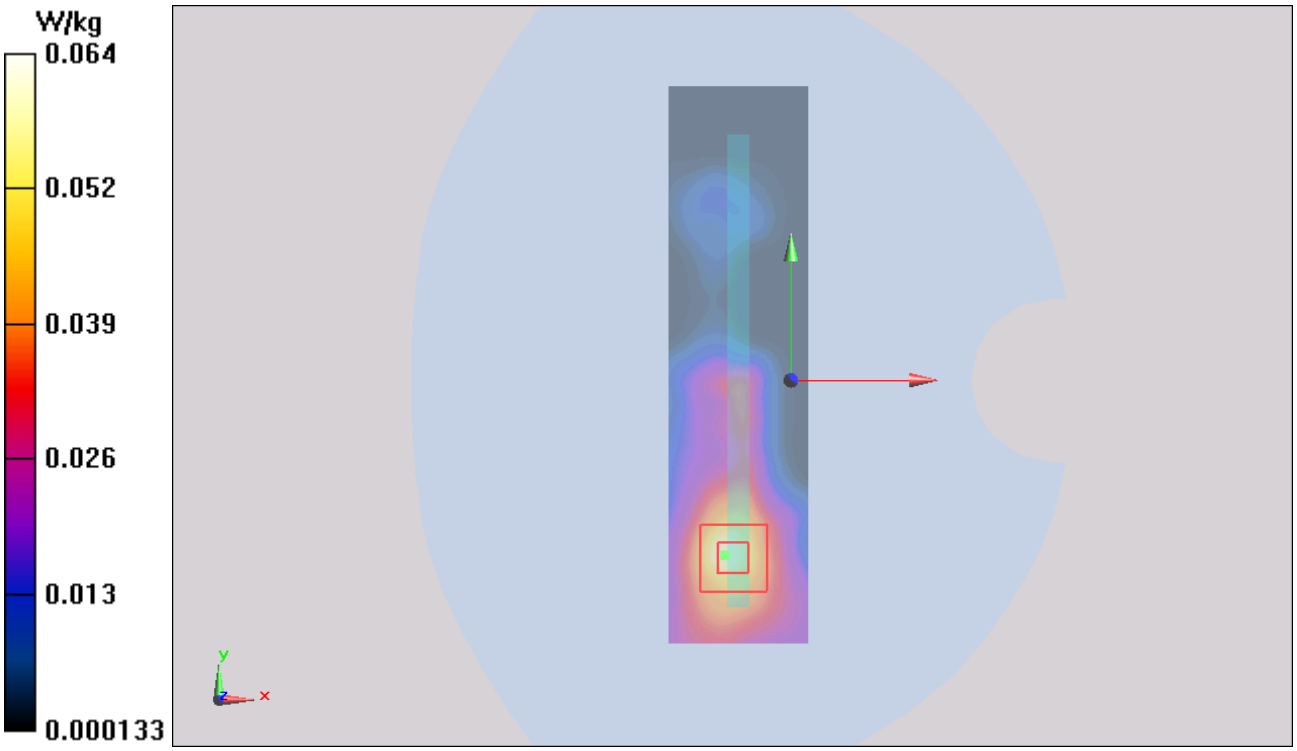


Figure 63 Body, Left Edge, LTE Band 7 50%RB Channel 21100

LTE Band 7 50%RB Right Edge Middle (Battery 1, Distance 10mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2535 MHz; σ = 2.121 S/m; ε_r = 52.544; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Right Edge Middle/Area Scan (51x181x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0428 W/kg

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

Reference Value = 2.234 V/m; Power Drift = 0.122 dB

Peak SAR (extrapolated) = 0.0670 W/kg

SAR(1 g) = 0.043 W/kg; SAR(10 g) = 0.022 W/kg

Maximum value of SAR (measured) = 0.0541 W/kg

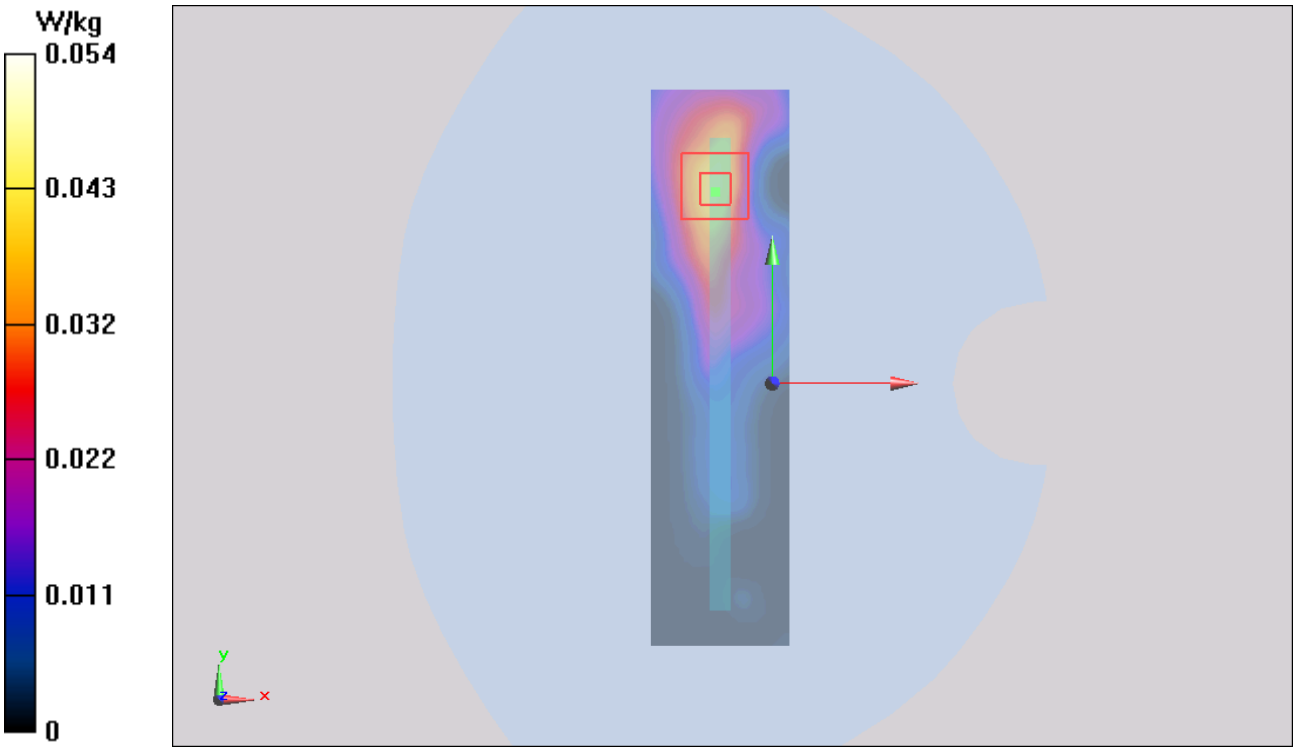


Figure 64 Body, Right Edge, LTE Band 7 50%RB Channel 21100

LTE Band 7 50%RB Bottom Edge Middle (Battery 1, Distance 10mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2535 MHz; σ = 2.121 S/m; ε_r = 52.544; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Bottom Edge Middle/Area Scan (51x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.676 W/kg

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

Reference Value = 16.983 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 1.17 W/kg

SAR(1 g) = 0.603 W/kg; SAR(10 g) = 0.290 W/kg

Maximum value of SAR (measured) = 0.612 W/kg

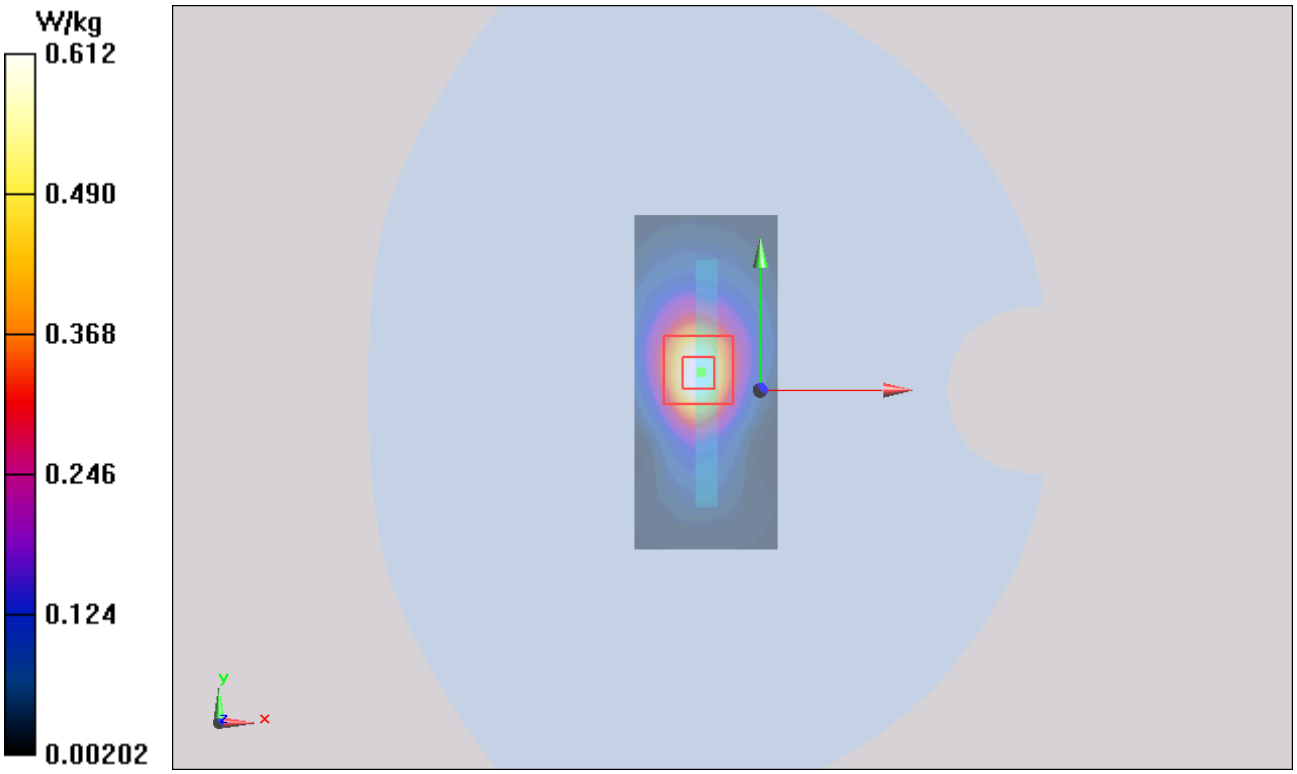


Figure 65 Body, Bottom Edge, LTE Band 7 50%RB Channel 21100

LTE Band 7 1RB Bottom Edge High (Battery 2, Distance 10mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2560 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2560 MHz; σ = 2.151 S/m; ε_r = 52.442; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Bottom Side High/Area Scan (51x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.691 W/kg

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

Reference Value = 17.052 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 1.19 W/kg

SAR(1 g) = 0.617 W/kg; SAR(10 g) = 0.296 W/kg

Maximum value of SAR (measured) = 0.626 W/kg

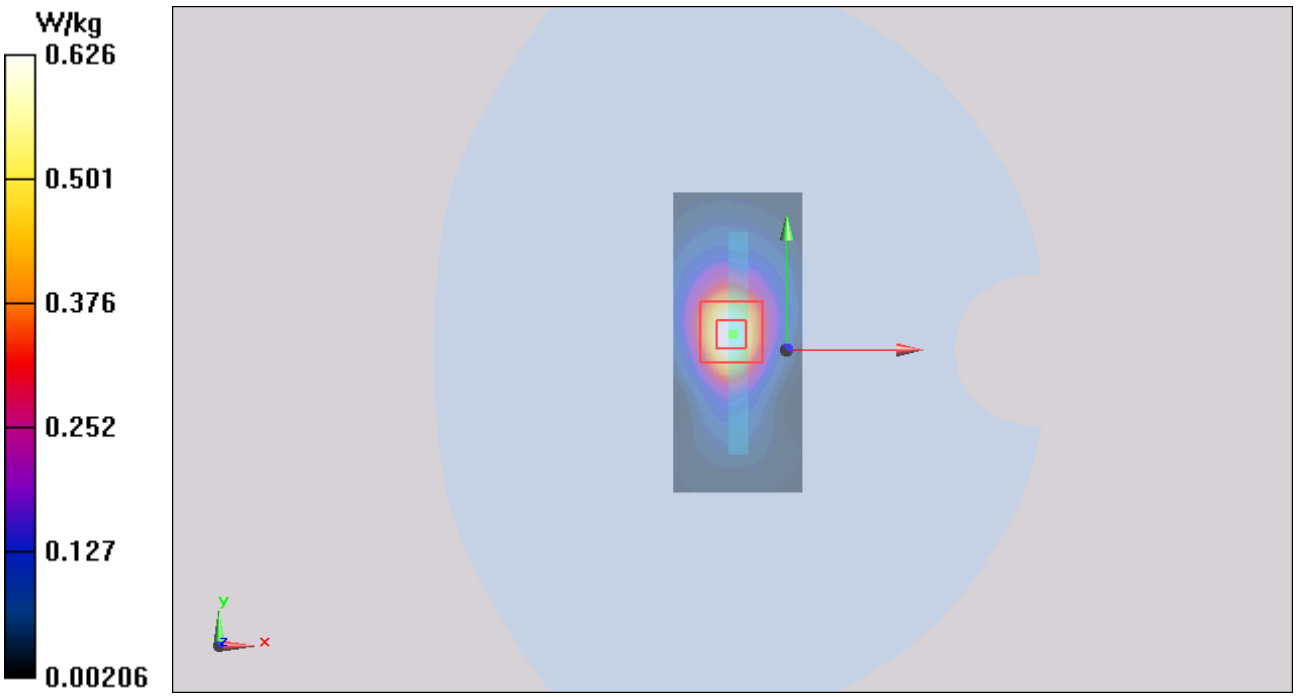


Figure 66 Body, Bottom Edge, LTE Band 7 1RB Channel 21350

LTE Band 7 1RB Bottom Edge Middle (Battery 2, Distance 10mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2535 MHz; σ = 2.121 S/m; ε_r = 52.544; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Bottom Side Middle/Area Scan (51x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.698 W/kg

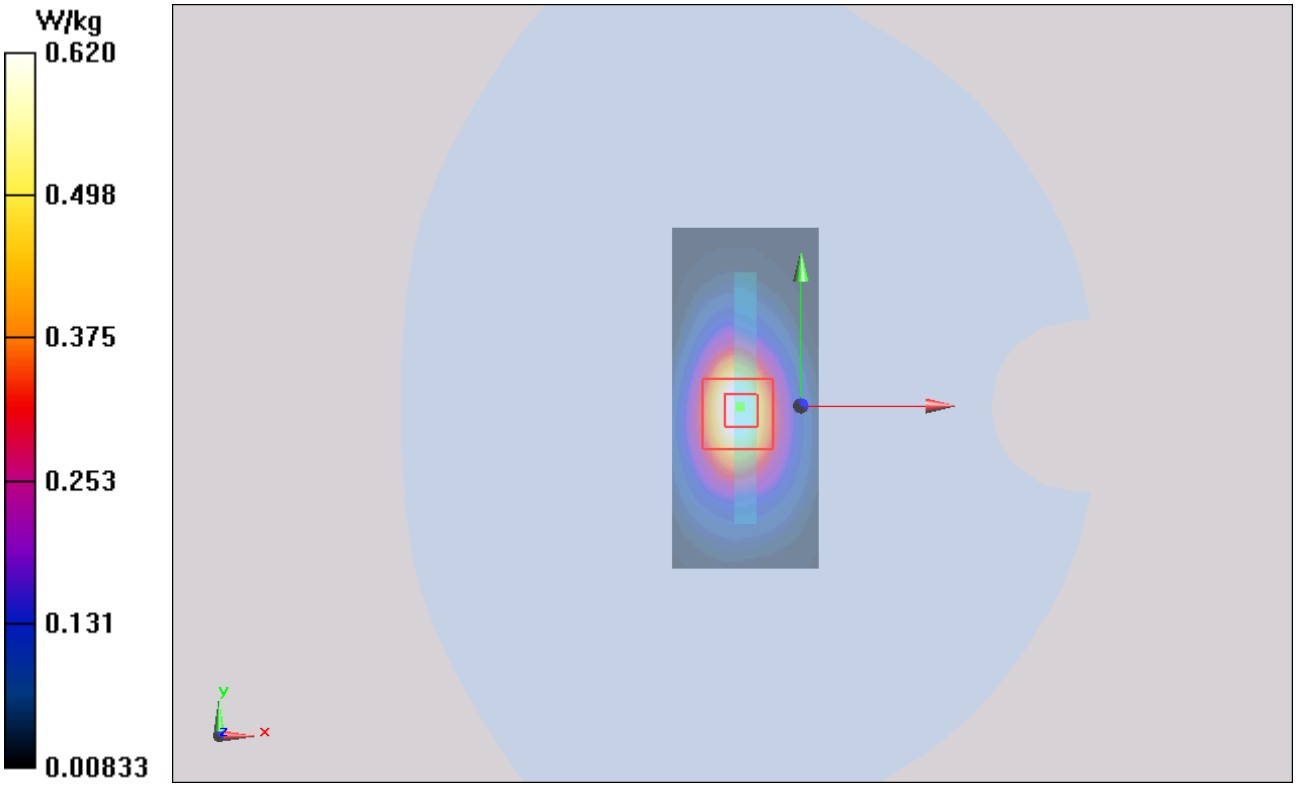
Bottom Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 18.025 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.27 W/kg

SAR(1 g) = 0.646 W/kg; SAR(10 g) = 0.327 W/kg

Maximum value of SAR (measured) = 0.620 W/kg



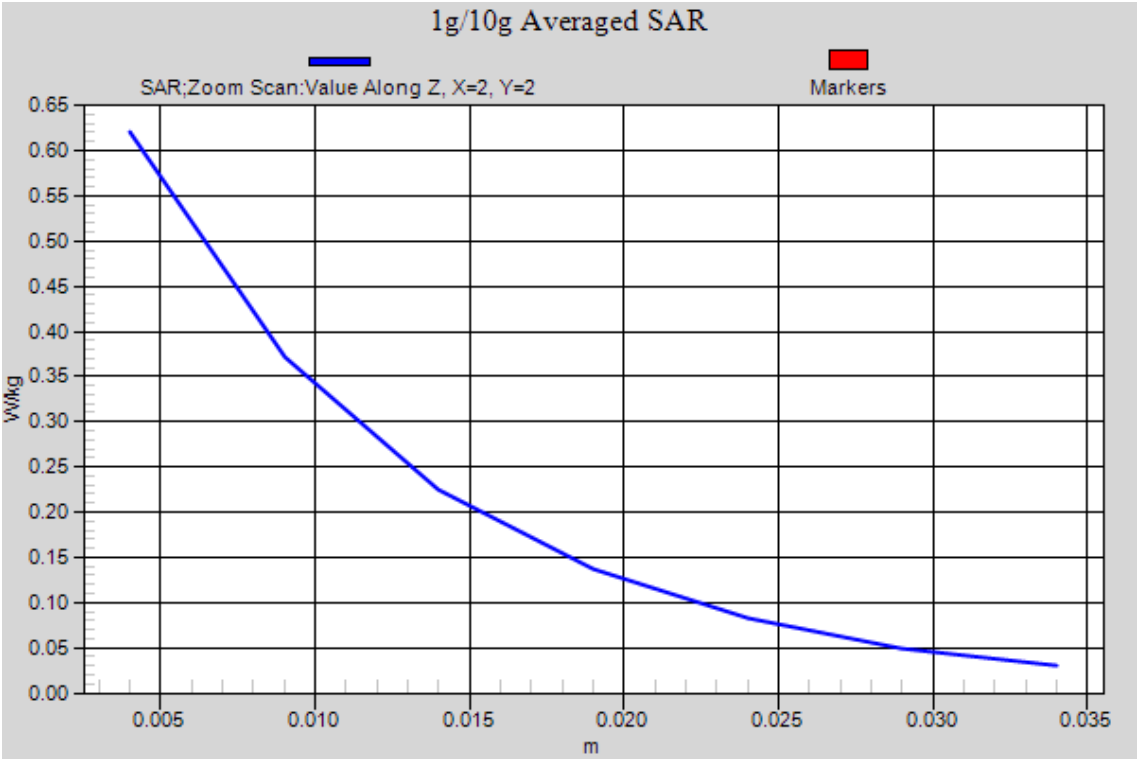


Figure 67 Body, Bottom Edge, LTE Band 7 1RB Channel 21100

LTE Band 7 1RB Bottom Edge Low (Battery 2, Distance 10mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2510 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2510 MHz; σ = 2.093 S/m; ε_r = 52.611; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Bottom Side Low/Area Scan (51x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.662 W/kg

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

Reference Value = 16.915 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 1.14 W/kg

SAR(1 g) = 0.591 W/kg; SAR(10 g) = 0.284 W/kg

Maximum value of SAR (measured) = 0.599 W/kg

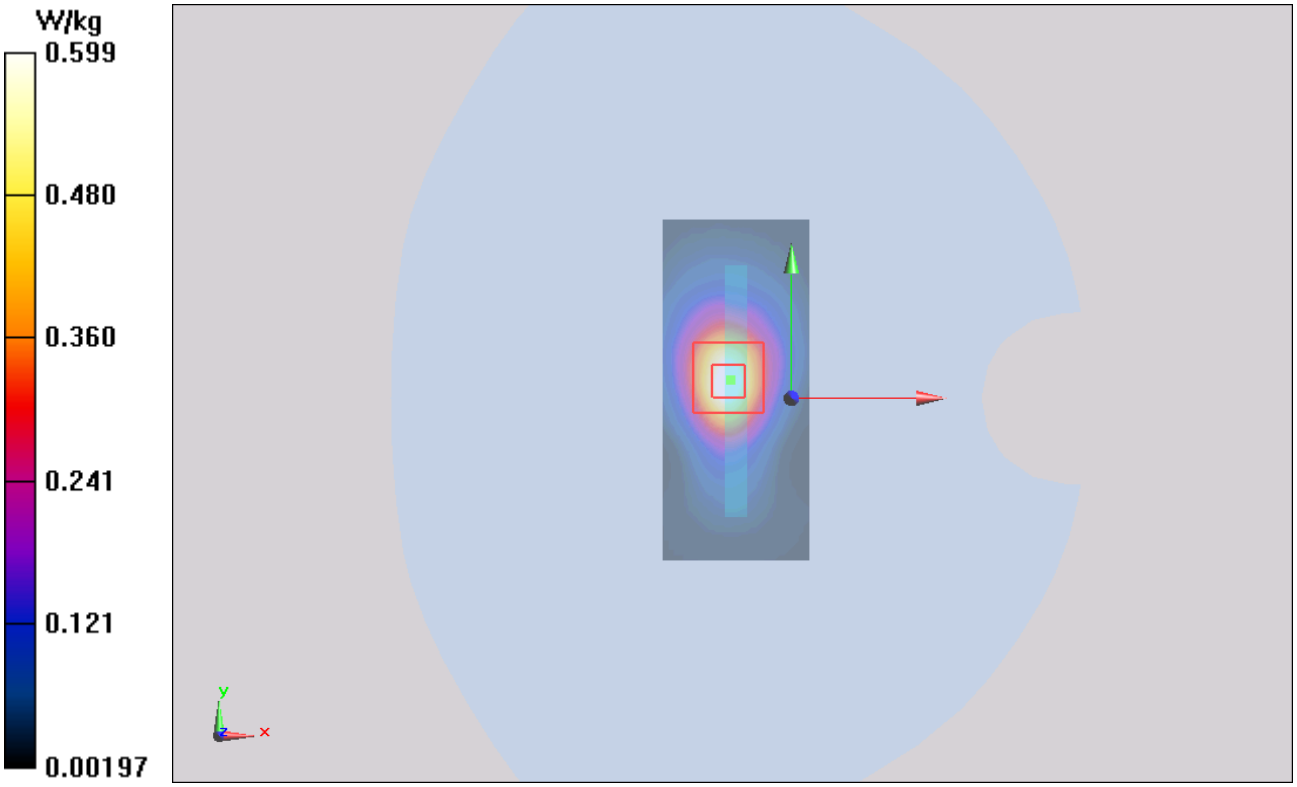


Figure 68 Body, Bottom Edge, LTE Band 7 1RB Channel 20850

Antenna 2

GSM 850 Left Cheek Middle (Battery 1)

Date: 9/24/2014
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 - SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Cheek Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.370 W/kg

Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 15.235 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 0.712 W/kg
SAR(1 g) = 0.396 W/kg; SAR(10 g) = 0.217 W/kg
Maximum value of SAR (measured) = 0.444 W/kg

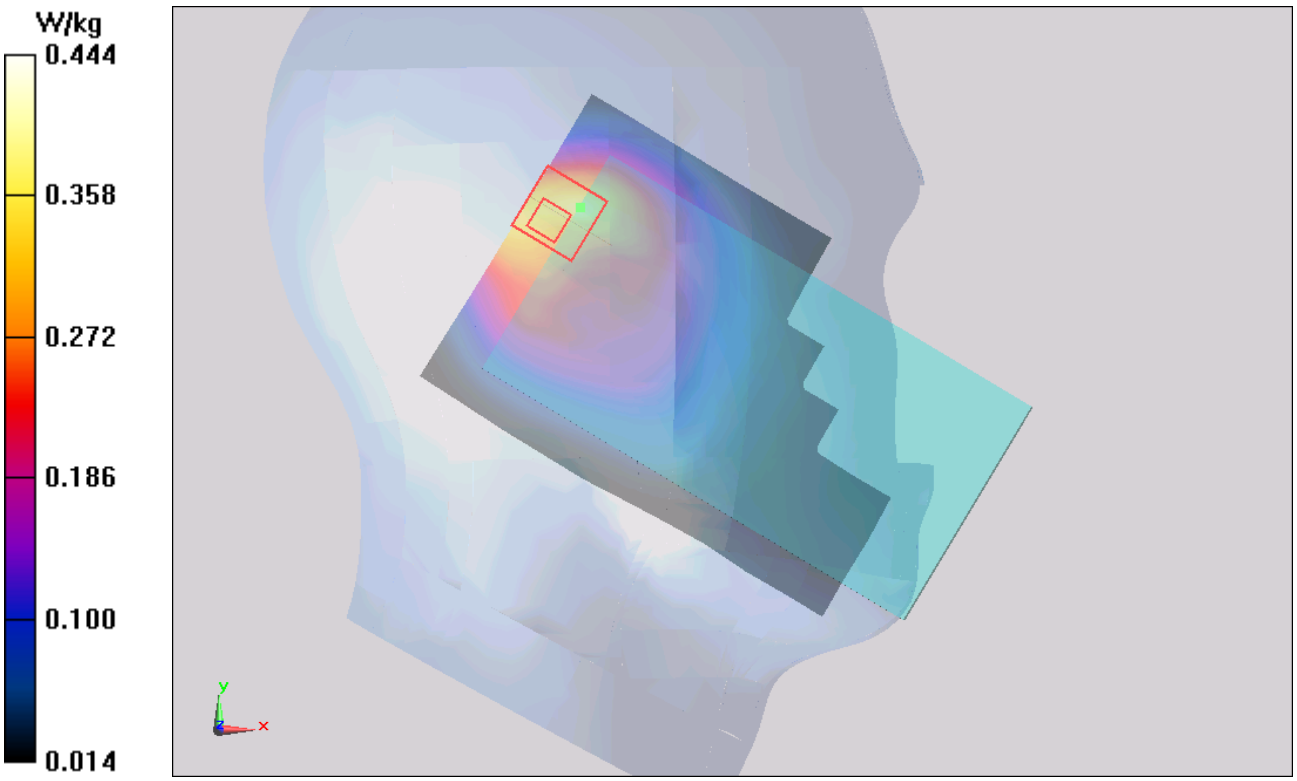


Figure 69 Left Hand Touch Cheek GSM 850 Channel 190

GSM 850 Left Tilt Middle (Battery 1)

Date: 9/24/2014

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 - SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

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

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

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

Left Tilt Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.428 W/kg

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

Reference Value = 17.106 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.723 W/kg

SAR(1 g) = 0.392 W/kg; SAR(10 g) = 0.211 W/kg

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

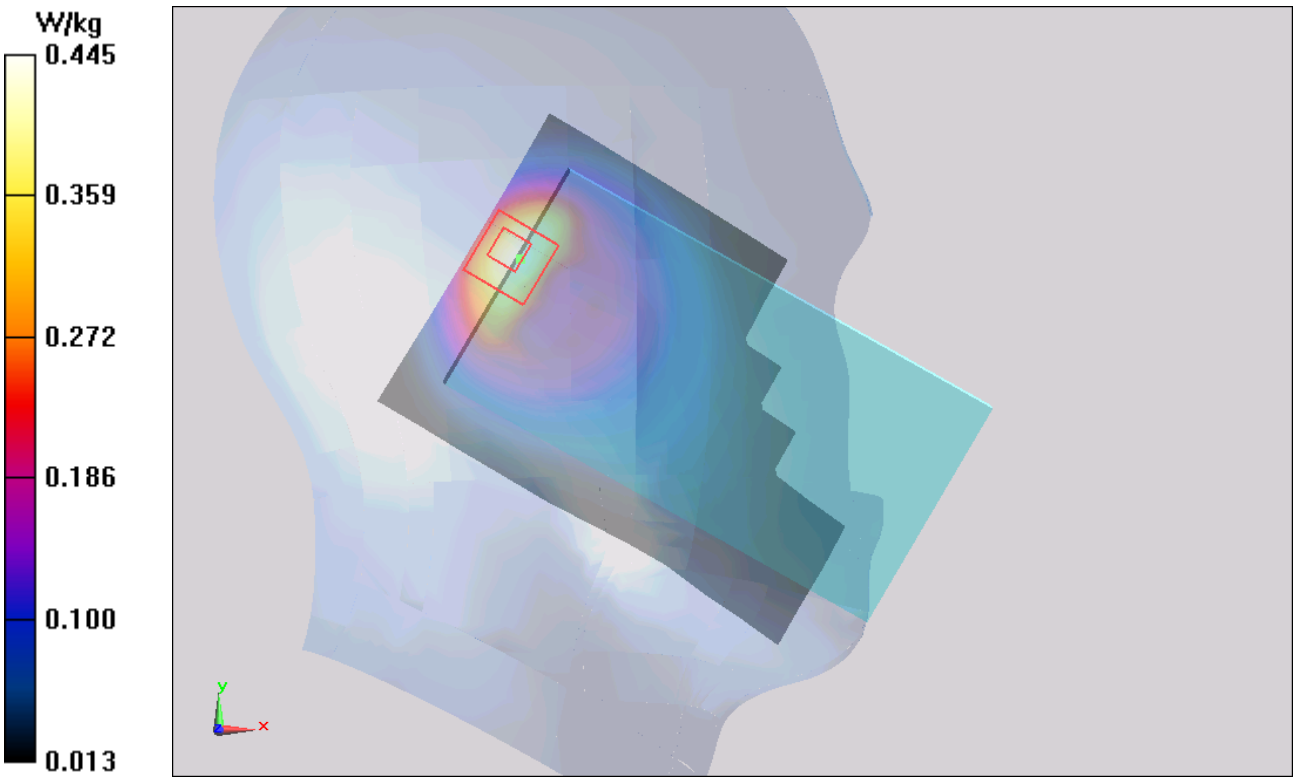


Figure 70 Left Hand Tilt 15° GSM 850 Channel 190

GSM 850 Right Cheek Middle (Battery 1)

Date: 9/24/2014

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 - SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

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

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

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

Right Cheek Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.600 W/kg

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

Reference Value = 21.763 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.947 W/kg

SAR(1 g) = 0.510 W/kg; SAR(10 g) = 0.302 W/kg

Maximum value of SAR (measured) = 0.577 W/kg

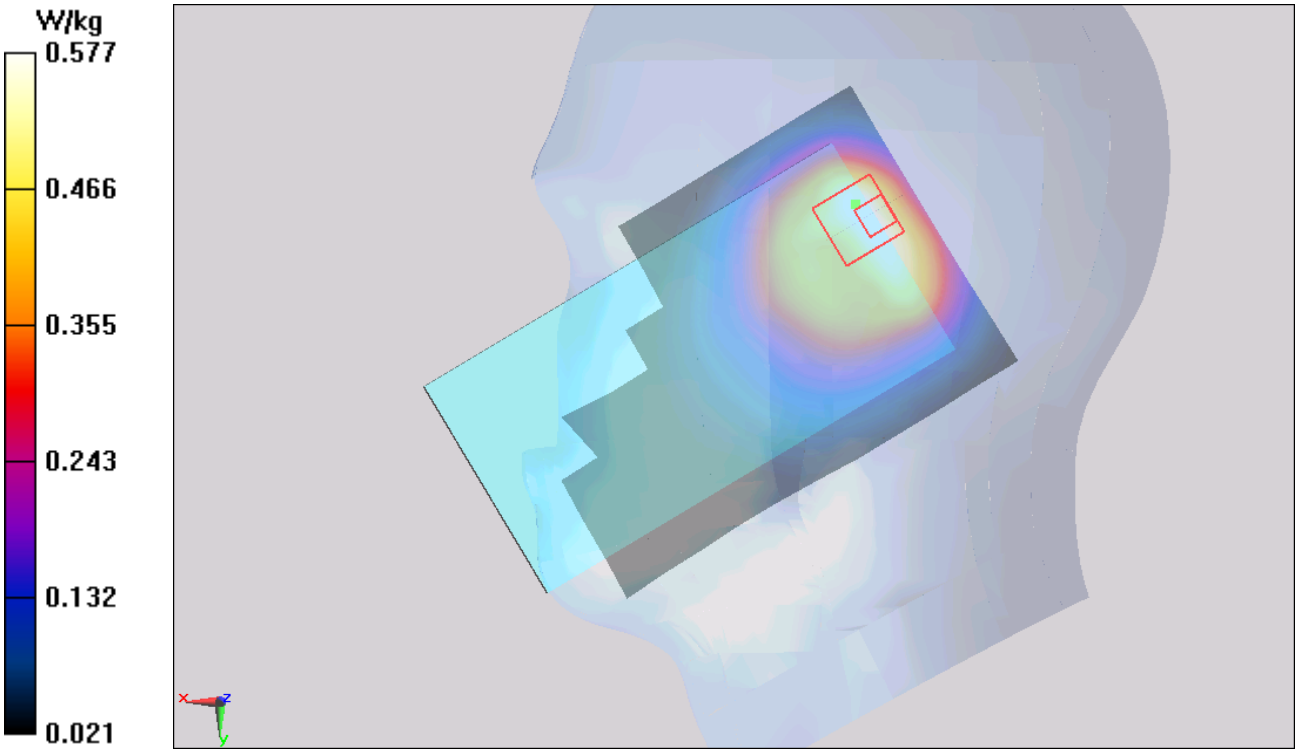


Figure 71 Right Hand Touch Cheek GSM 850 Channel 190

GSM 850 Right Tilt Middle (Battery 1)

Date: 9/24/2014

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 - SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;

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

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

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

Right Tilt Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.539 W/kg

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

Reference Value = 18.310 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.913 W/kg

SAR(1 g) = 0.444 W/kg; SAR(10 g) = 0.236 W/kg

Maximum value of SAR (measured) = 0.517 W/kg

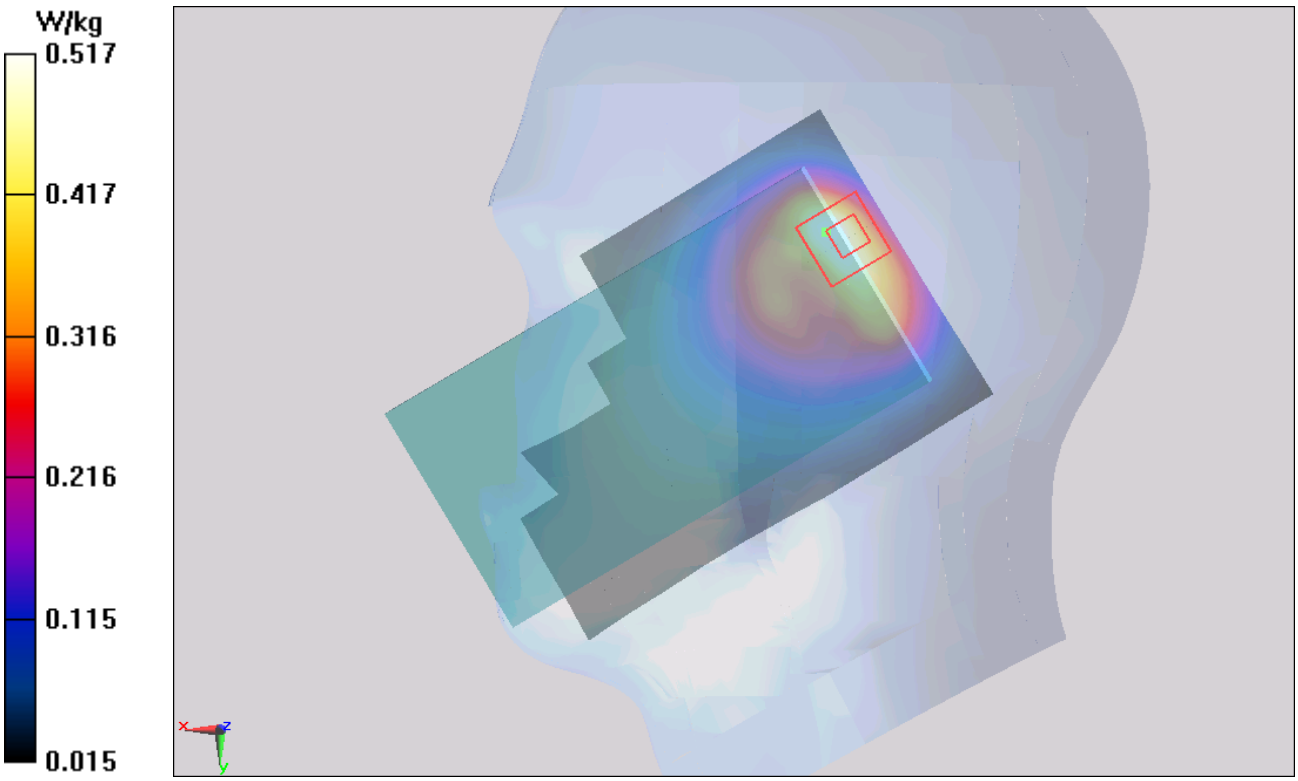


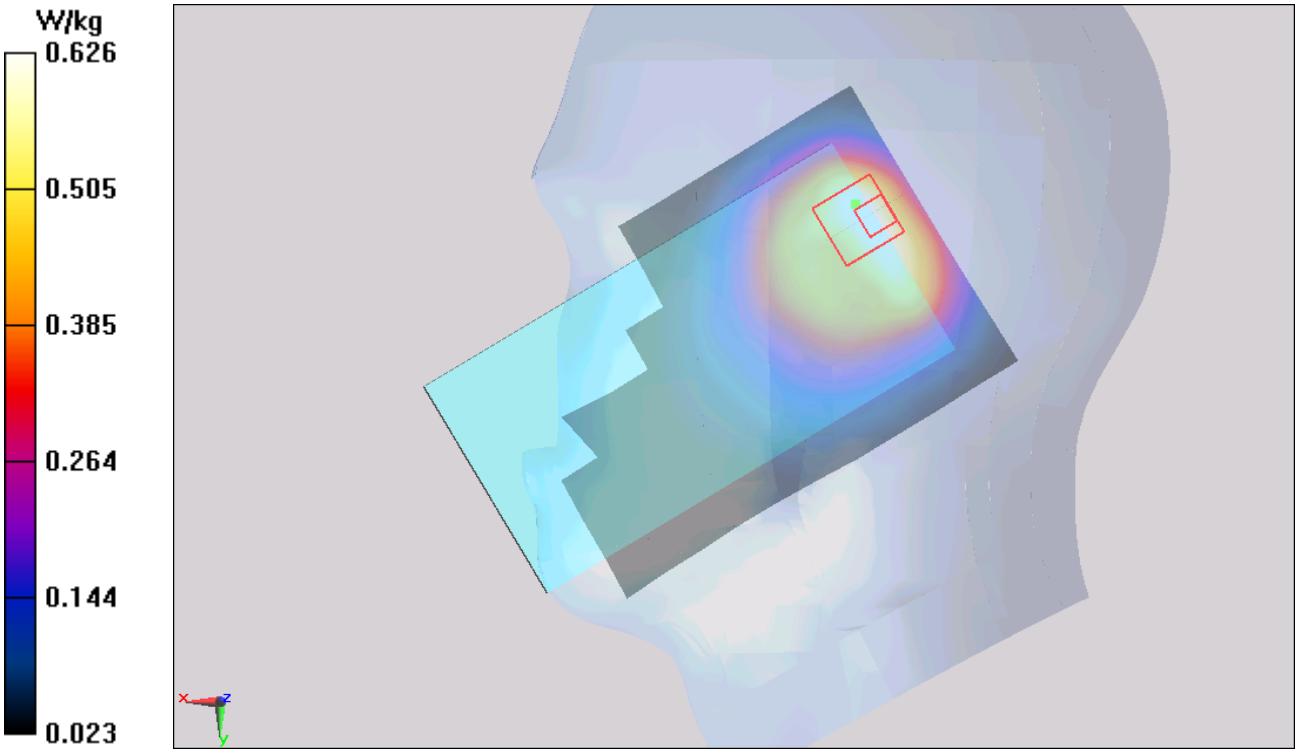
Figure 72 Right Hand Tilt 15° GSM 850 Channel 190

GSM 850 Right Cheek Middle (Battery 2)

Date: 9/24/2014
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 - SN3677; ConvF(9.41, 9.41, 9.41); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM1; Type: SAM; Serial: TP-1534
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Cheek Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.644 W/kg

Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 22.853 V/m; Power Drift = 0.07 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.551 W/kg; SAR(10 g) = 0.321 W/kg
Maximum value of SAR (measured) = 0.626 W/kg



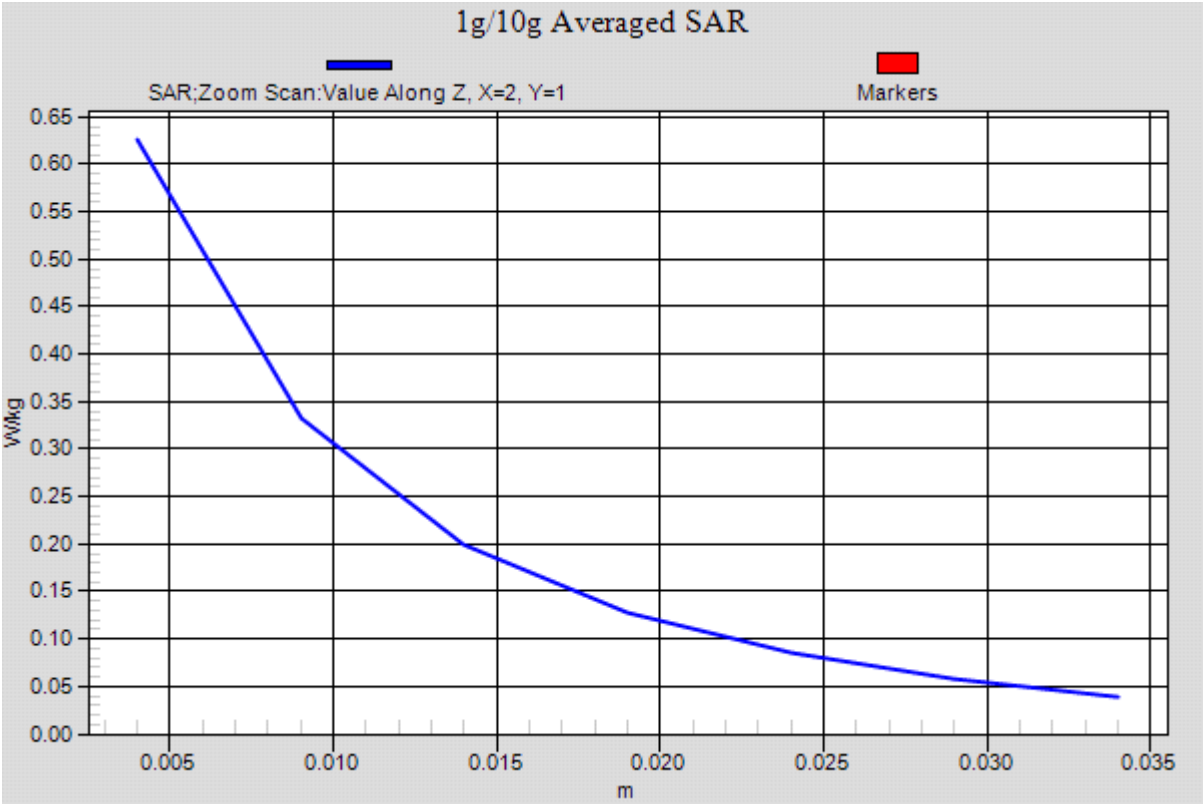


Figure 73 Right Hand Touch Cheek GSM 850 Channel 190

GSM 850 Back Side Middle (Battery 1, Distance 15mm)

Date: 9/25/2014

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz;Duty Cycle: 1:8.30042

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Back Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0941 W/kg

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

Reference Value = 8.733 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.107 W/kg

SAR(1 g) = 0.087 W/kg; SAR(10 g) = 0.066 W/kg

Maximum value of SAR (measured) = 0.0906 W/kg

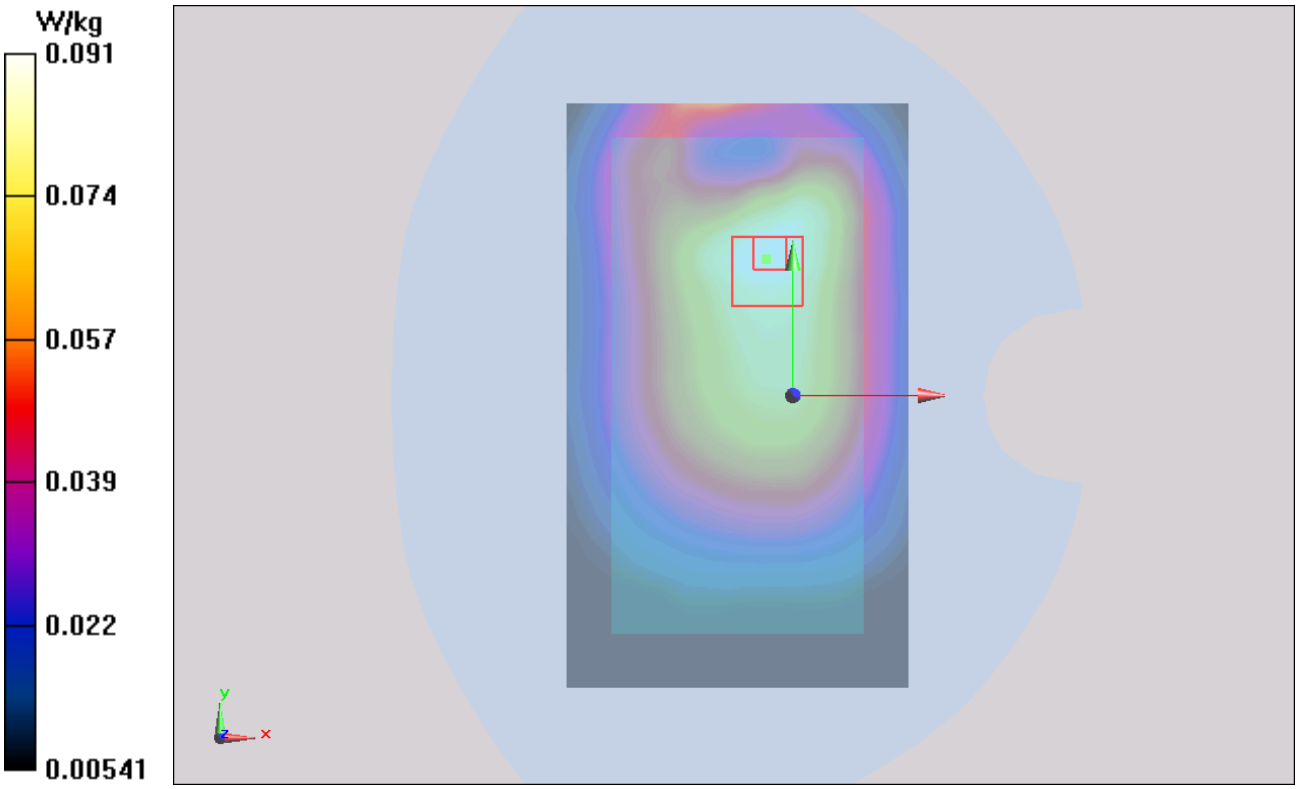


Figure 74 Body, Back Side, GSM 850 Channel 190

GSM 850 Front Side Middle (Battery 1, Distance 15mm)

Date: 9/25/2014

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz;Duty Cycle: 1:8.30042

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Front Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0764 W/kg

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

Reference Value = 7.948 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.0880 W/kg

SAR(1 g) = 0.071 W/kg; SAR(10 g) = 0.053 W/kg

Maximum value of SAR (measured) = 0.0735 W/kg

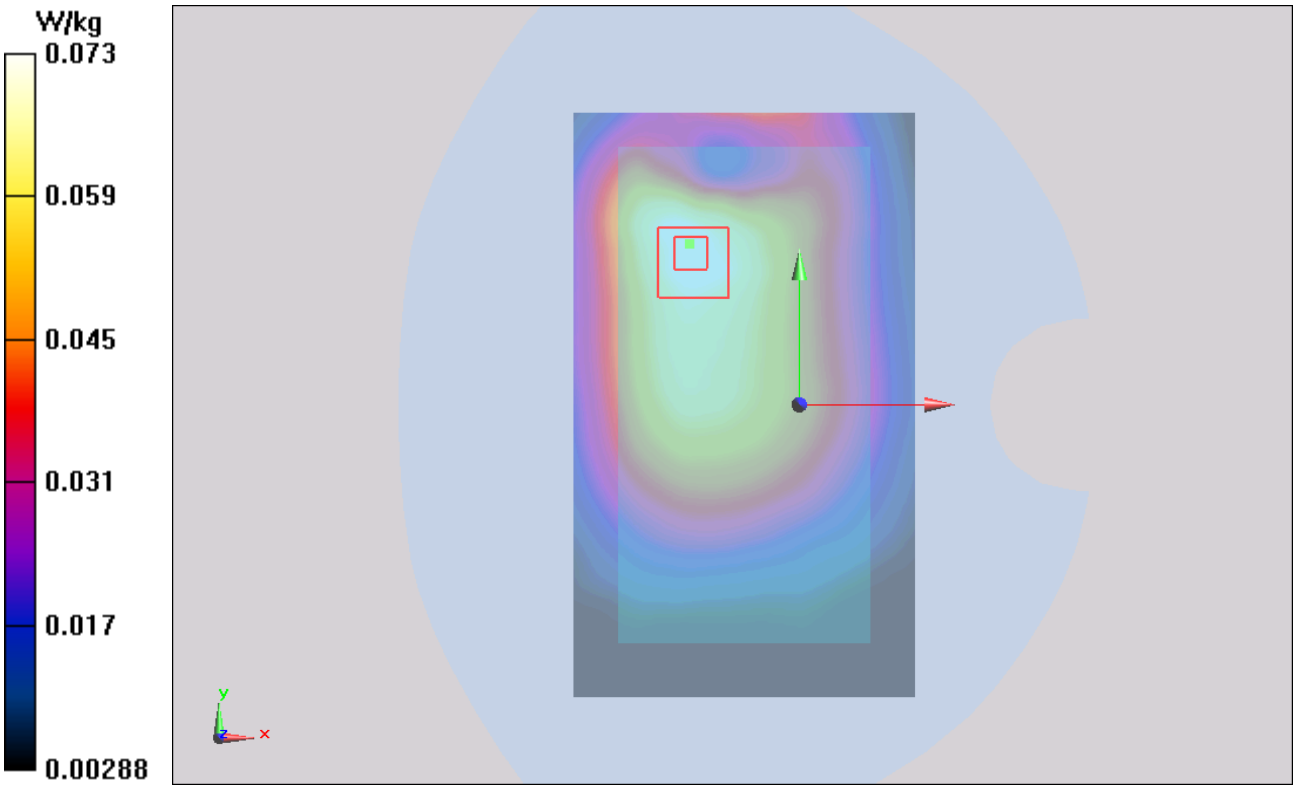


Figure 75 Body, Front Side, GSM 850 Channel 190

GSM 850 GPRS (2Txslots) Back Side Middle (Battery 1, Distance 10mm)

Date: 9/25/2014

Communication System: UID 0, GPRS 2TX (0); Frequency: 836.6 MHz;Duty Cycle: 1:4.14954

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Back Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.271 W/kg

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

Reference Value = 10.909 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.363 W/kg

SAR(1 g) = 0.236 W/kg; SAR(10 g) = 0.144 W/kg

Maximum value of SAR (measured) = 0.247 W/kg

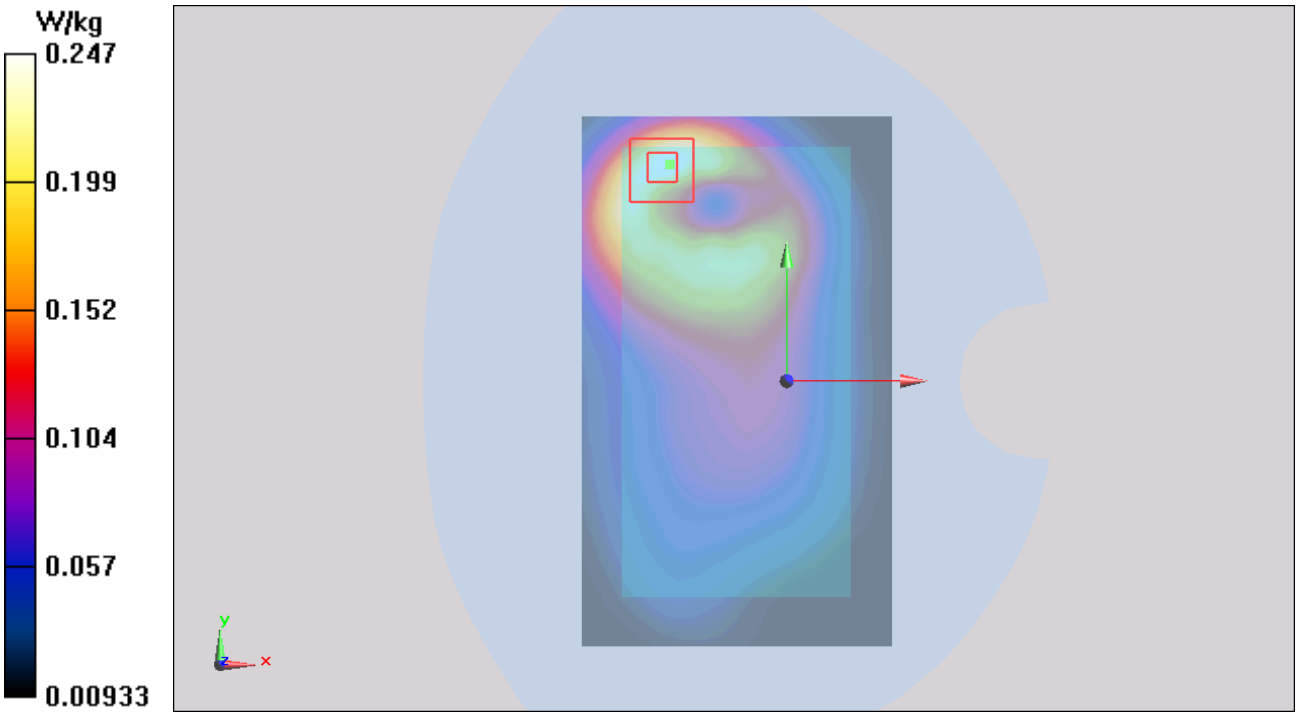


Figure 76 Body, Back Side, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 GPRS (2Txslots)Front Side Middle (Battery 1, Distance 10mm)

Date: 9/25/2014

Communication System: UID 0, GPRS 2TX (0); Frequency: 836.6 MHz;Duty Cycle: 1:4.14954

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Front Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.182 W/kg

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

Reference Value = 10.076 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.241 W/kg

SAR(1 g) = 0.162 W/kg; SAR(10 g) = 0.099 W/kg

Maximum value of SAR (measured) = 0.168 W/kg

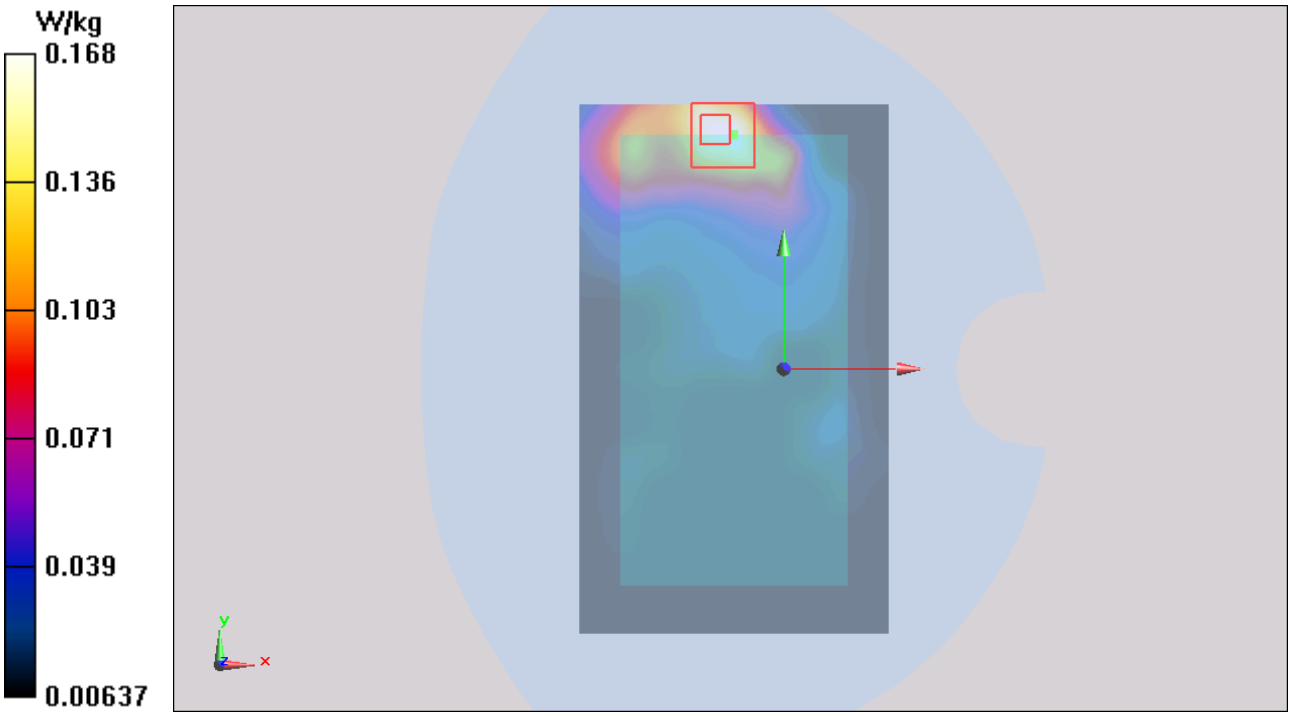


Figure 77 Body, Front Side, GSM 850 GPRS (2Txslots)Channel 190

GSM 850 GPRS (2Txslots)Left Edge Middle (Battery 1, Distance 10mm)

Date: 9/25/2014

Communication System: UID 0, GPRS 2TX (0); Frequency: 836.6 MHz;Duty Cycle: 1:4.14954

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Left Edge Middle/Area Scan (51x181x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0860 W/kg

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

Reference Value = 9.535 V/m; Power Drift = -0.025 dB

Peak SAR (extrapolated) = 0.105 W/kg

SAR(1 g) = 0.078 W/kg; SAR(10 g) = 0.055 W/kg

Maximum value of SAR (measured) = 0.0824 W/kg

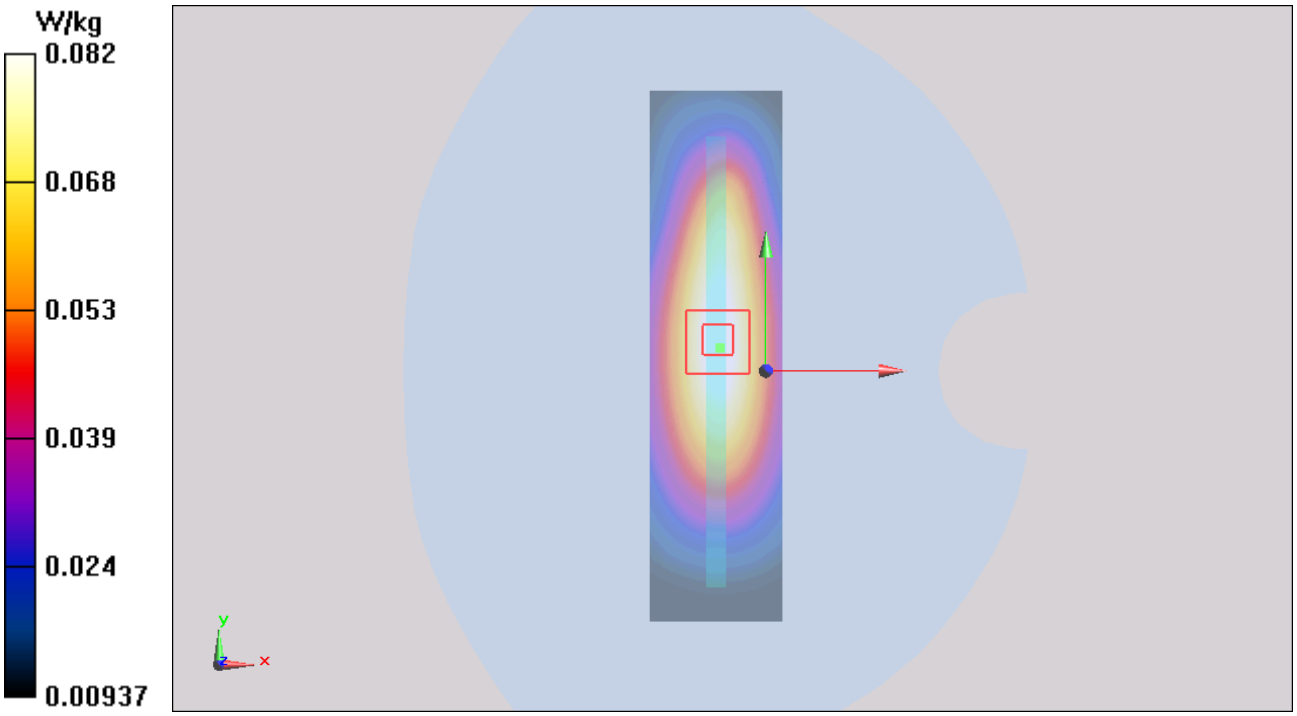


Figure 78 Body, Left Edge, GSM 850 GPRS (2Txslots)Channel 190

GSM 850 GPRS (2Txslots)Right Edge Middle (Battery 1, Distance 10mm)

Date: 9/25/2014

Communication System: UID 0, GPRS 2TX (0); Frequency: 836.6 MHz;Duty Cycle: 1:4.14954

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Right Edge Middle/Area Scan (51x181x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0234 W/kg

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

Reference Value = 2.681 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 0.0270 W/kg

SAR(1 g) = 0.020 W/kg; SAR(10 g) = 0.013 W/kg

Maximum value of SAR (measured) = 0.0211 W/kg

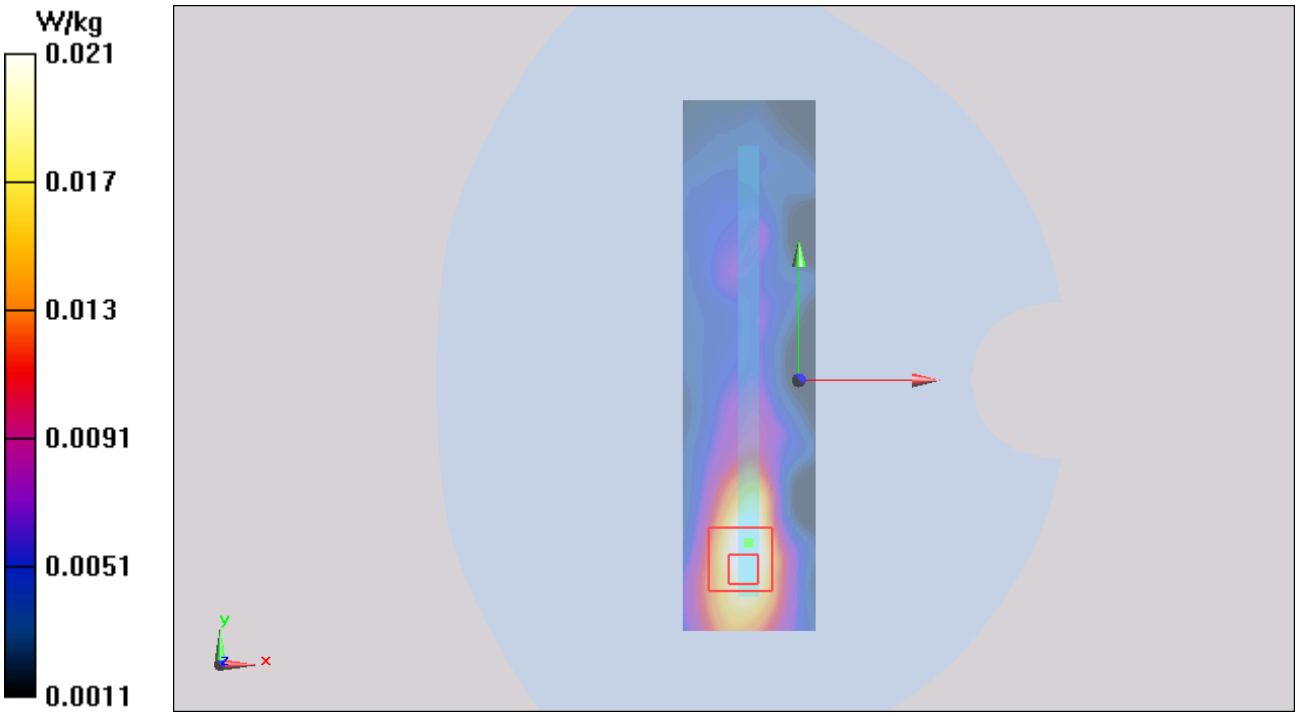


Figure 79 Body, Right Edge, GSM 850 GPRS (2Txslots)Channel 190

GSM 850 GPRS (2Txslots) Top Edge Middle (Battery 1, Distance 10mm)

Date: 9/25/2014

Communication System: UID 0, GPRS 2TX (0); Frequency: 836.6 MHz;Duty Cycle: 1:4.14954

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Top Edge Middle/Area Scan (51x111x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.198 W/kg

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

Reference Value = 14.957 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.294 W/kg

SAR(1 g) = 0.185 W/kg; SAR(10 g) = 0.098 W/kg

Maximum value of SAR (measured) = 0.171 W/kg

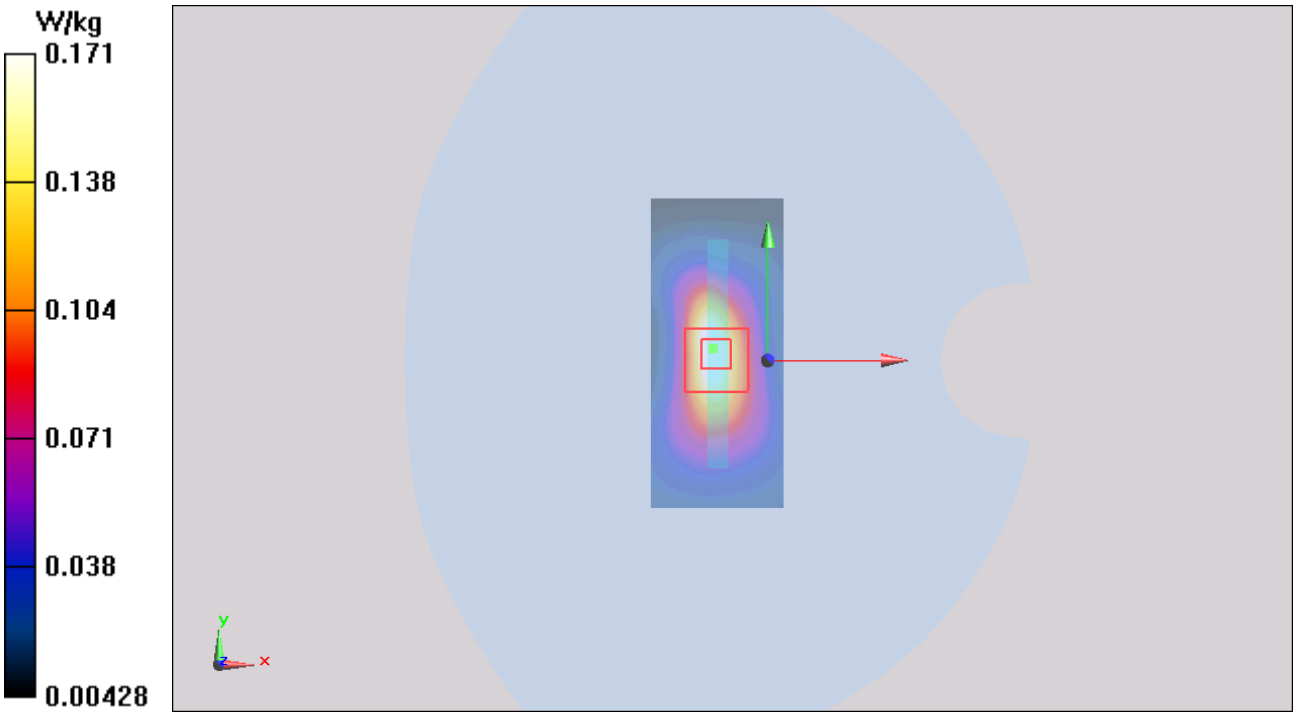


Figure 80 Body, Top Edge, GSM 850 GPRS (2Txslots)annel 190

GSM 850 GPRS (2Txslots) Back Side Middle (Battery 2, Distance 10mm)

Date: 9/25/2014

Communication System: UID 0, EGPRS 2TX (0); Frequency: 836.6 MHz;Duty Cycle: 1:4.14954

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Back Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.366 W/kg

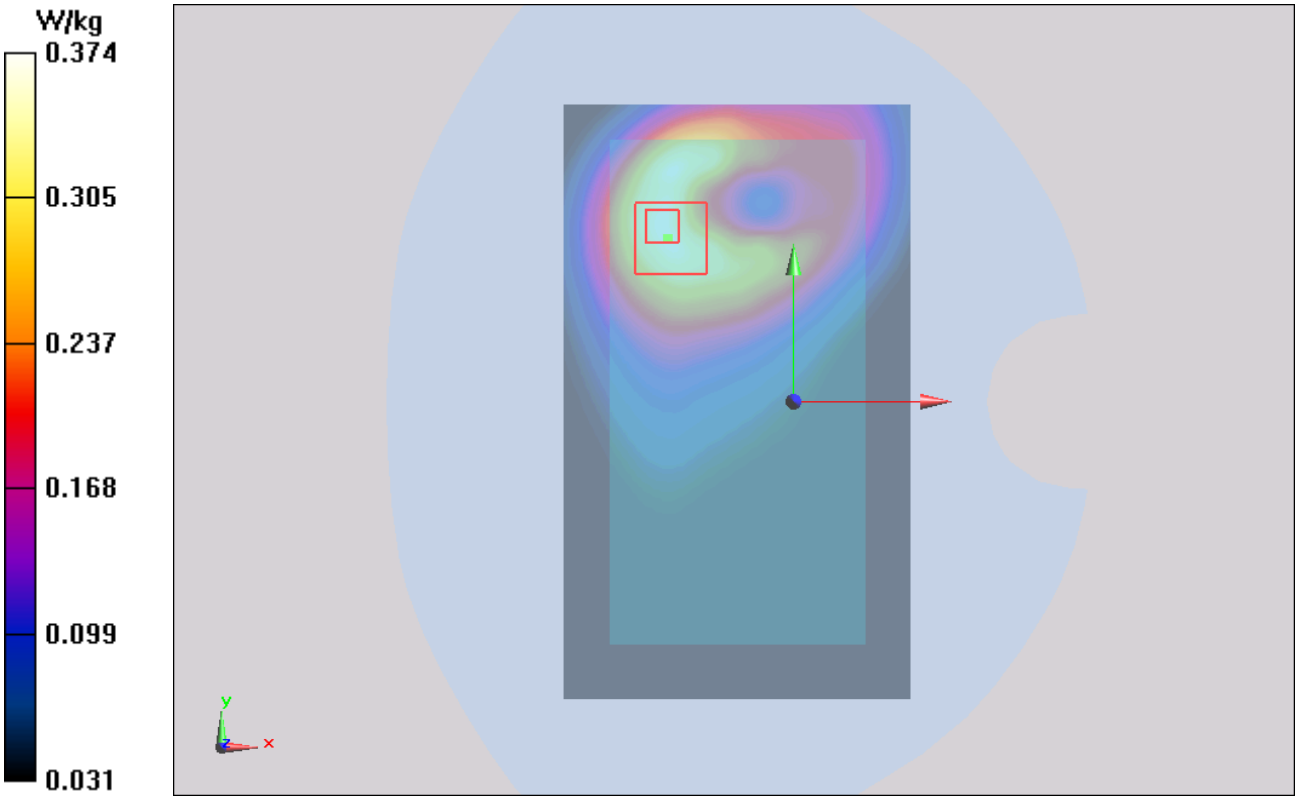
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.632 V/m; Power Drift = 0.120 dB

Peak SAR (extrapolated) = 0.498 W/kg

SAR(1 g) = 0.348 W/kg; SAR(10 g) = 0.235 W/kg

Maximum value of SAR (measured) = 0.374 W/kg



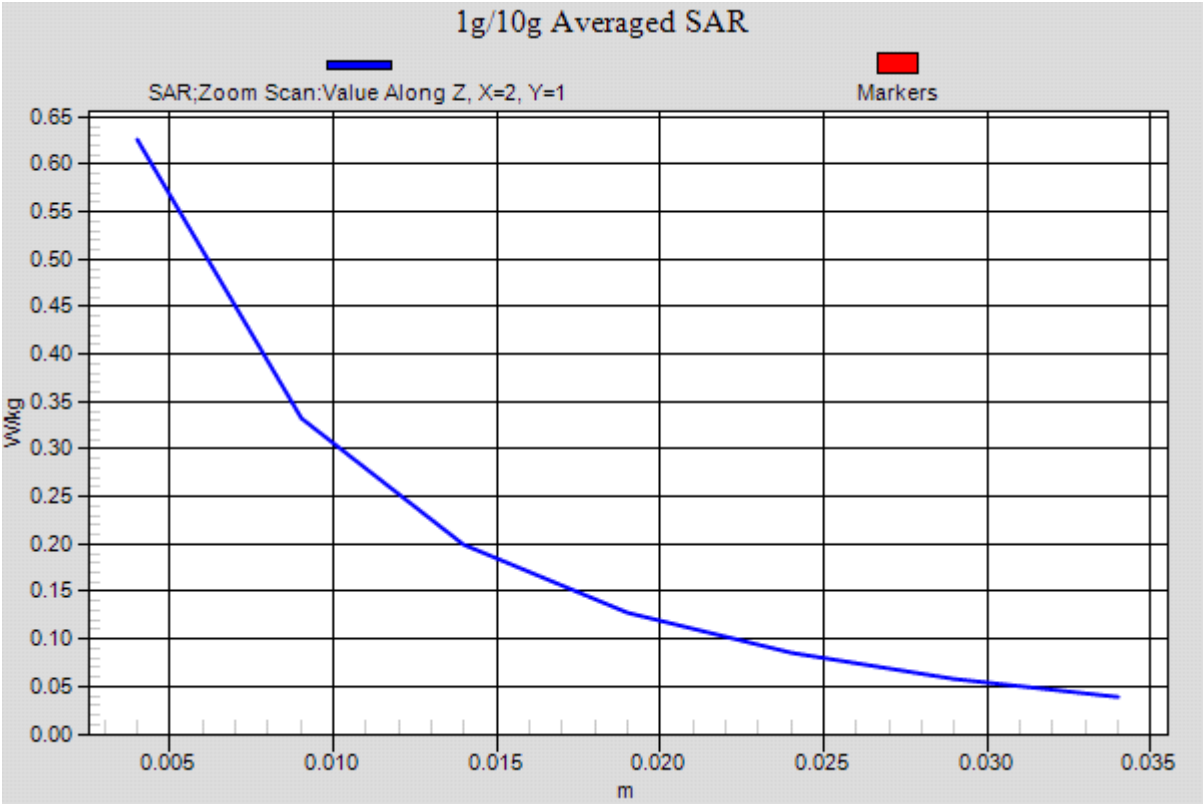


Figure 81 Body, Back Side, GSM 850 GPRS (2Txslots) Channel 190

GSM 850 EGPRS (2Txslots) Back Side Middle (Battery 1, Distance 10mm)

Date: 9/25/2014

Communication System: UID 0, EGPRS 2TX (0); Frequency: 836.6 MHz;Duty Cycle: 1:4.14954

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 - SN3677; ConvF(9.51, 9.51, 9.51); Calibrated: 11/28/2013;

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

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

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

Back Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.411 W/kg

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

Reference Value = 8.410 V/m; Power Drift = 0.032 dB

Peak SAR (extrapolated) = 0.497 W/kg

SAR(1 g) = 0.346 W/kg; SAR(10 g) = 0.233 W/kg

Maximum value of SAR (measured) = 0.371 W/kg

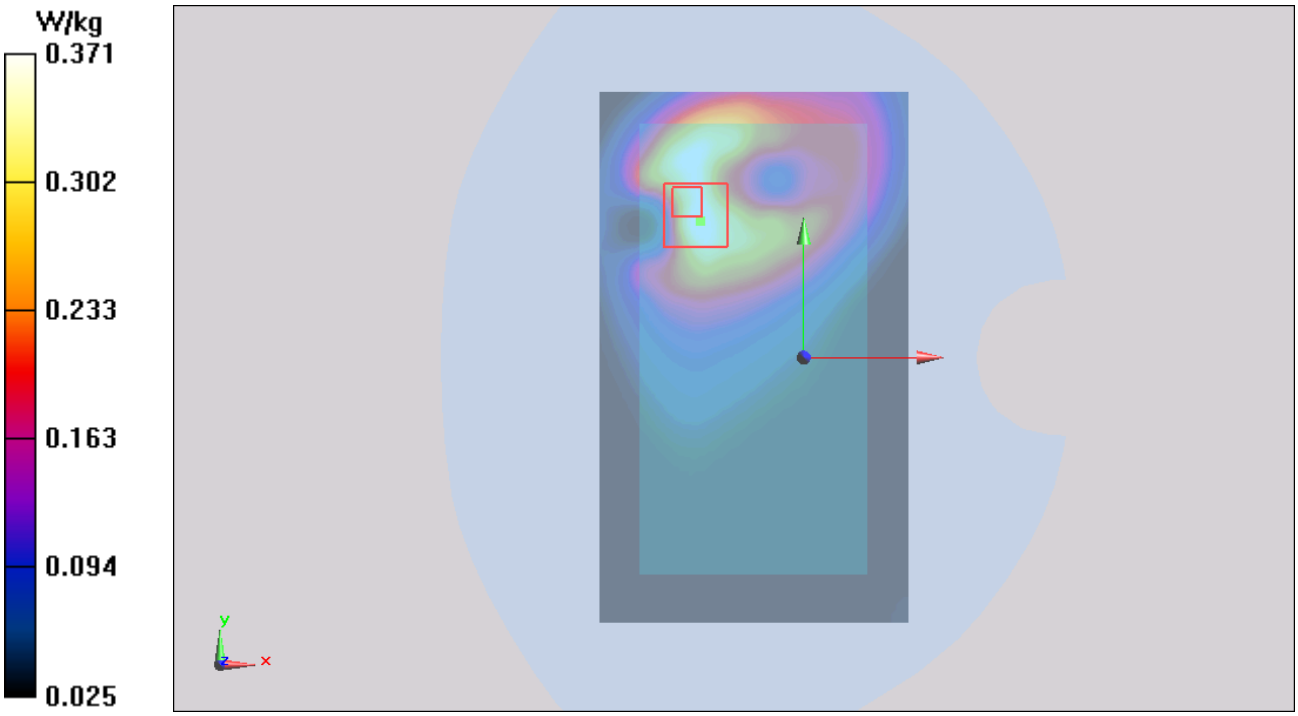


Figure 82 Body, Back Side, GSM 850 EGPRS (2Txslots) Channel 190

GSM 1900 Left Cheek Middle (Battery 1)

Date: 9/21/2014

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 - SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Left Cheek Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.508 W/kg

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

Reference Value = 17.780 V/m; Power Drift = 0.120 dB

Peak SAR (extrapolated) = 0.726 W/kg

SAR(1 g) = 0.433 W/kg; SAR(10 g) = 0.236 W/kg

Maximum value of SAR (measured) = 0.470 W/kg

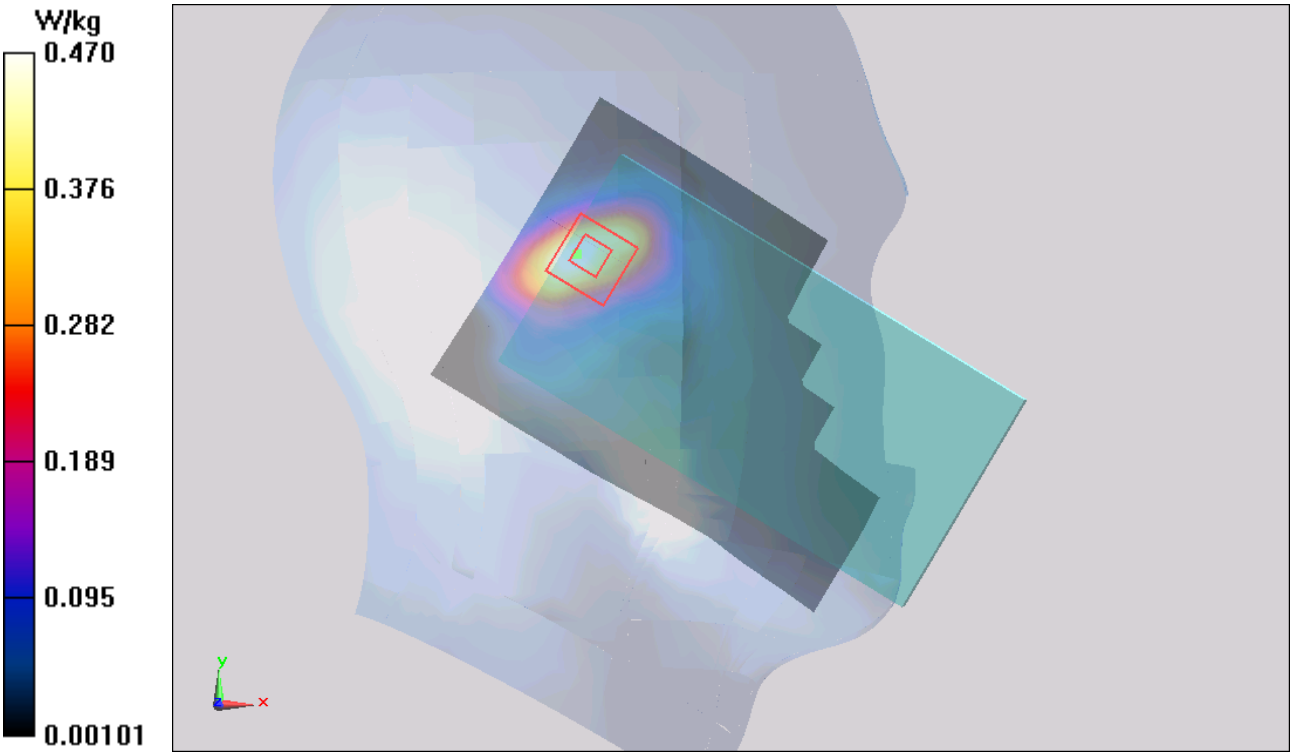


Figure 83 Left Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Left Tilt Middle (Battery 1)

Date: 9/21/2014

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 - SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Left Tilt Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.436 W/kg

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

Reference Value = 16.982 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.641 W/kg

SAR(1 g) = 0.367 W/kg; SAR(10 g) = 0.195 W/kg

Maximum value of SAR (measured) = 0.389 W/kg

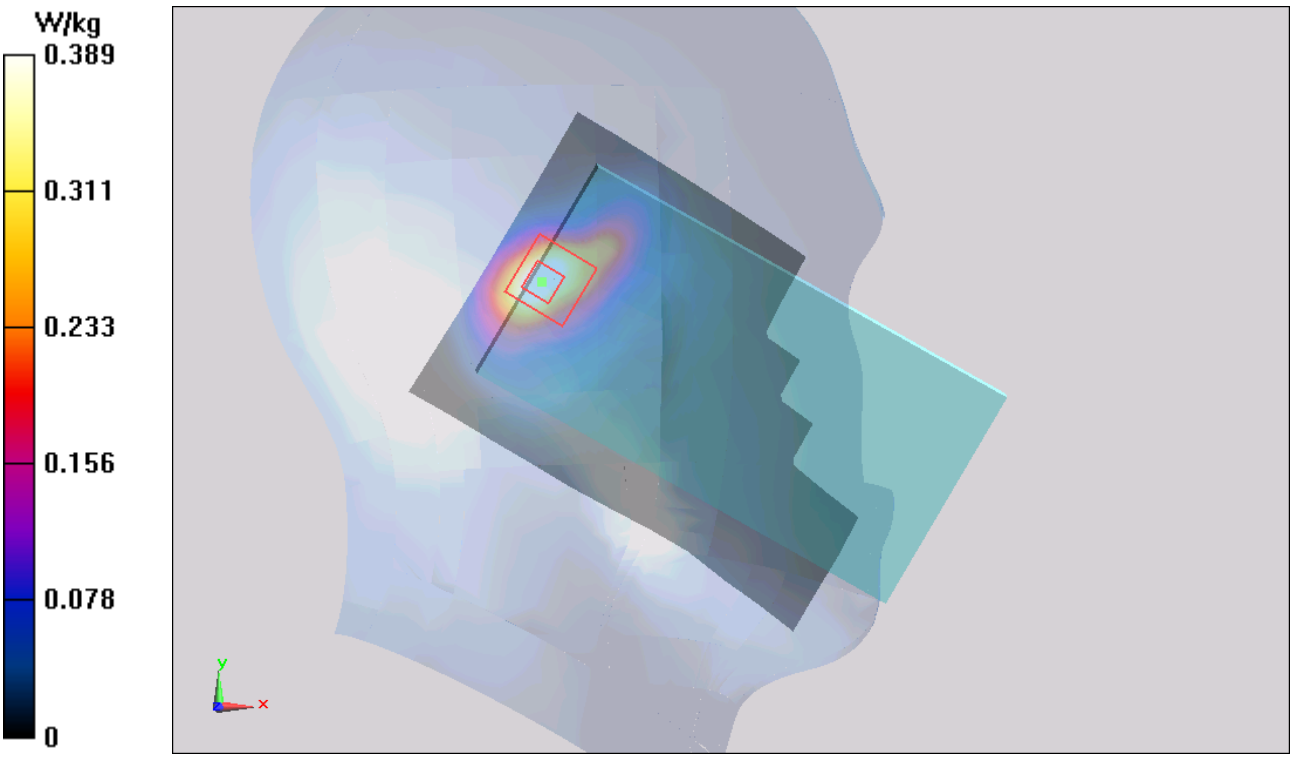


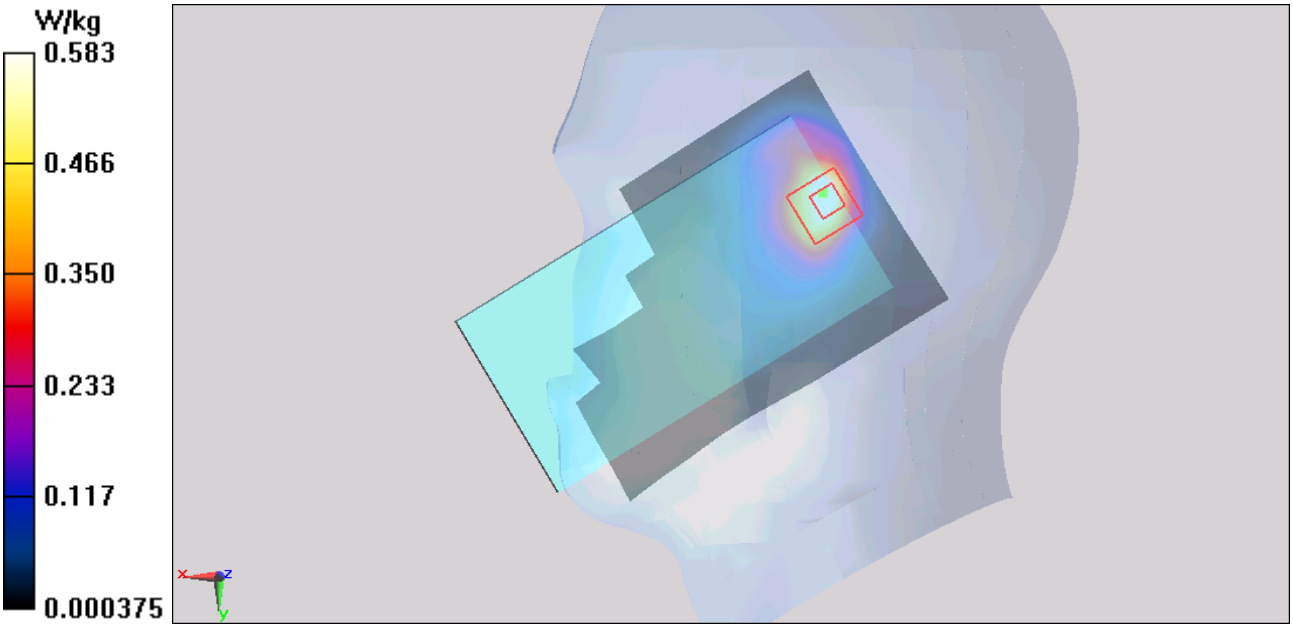
Figure 84 Left Hand Tilt 15° GSM 1900 Channel 661

GSM 1900 Right Cheek Middle (Battery 1)

Date: 9/21/2014
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 - SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Cheek Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 0.723 W/kg

Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 20.280 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.07 W/kg
SAR(1 g) = 0.564 W/kg; SAR(10 g) = 0.282 W/kg
Maximum value of SAR (measured) = 0.583 W/kg



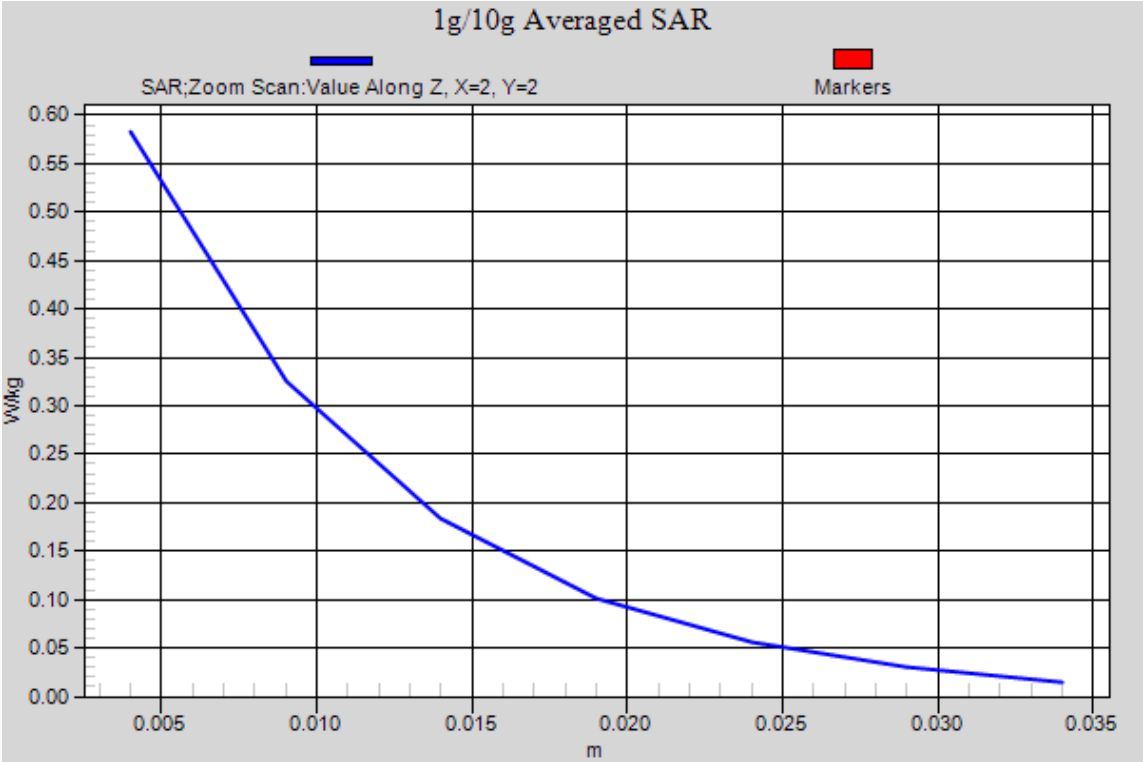


Figure 85 Right Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Right Tilt Middle (Battery 1)

Date: 9/21/2014

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 - SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Right Tilt Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.673 W/kg

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

Reference Value = 19.192 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.961 W/kg

SAR(1 g) = 0.521 W/kg; SAR(10 g) = 0.262 W/kg

Maximum value of SAR (measured) = 0.547 W/kg

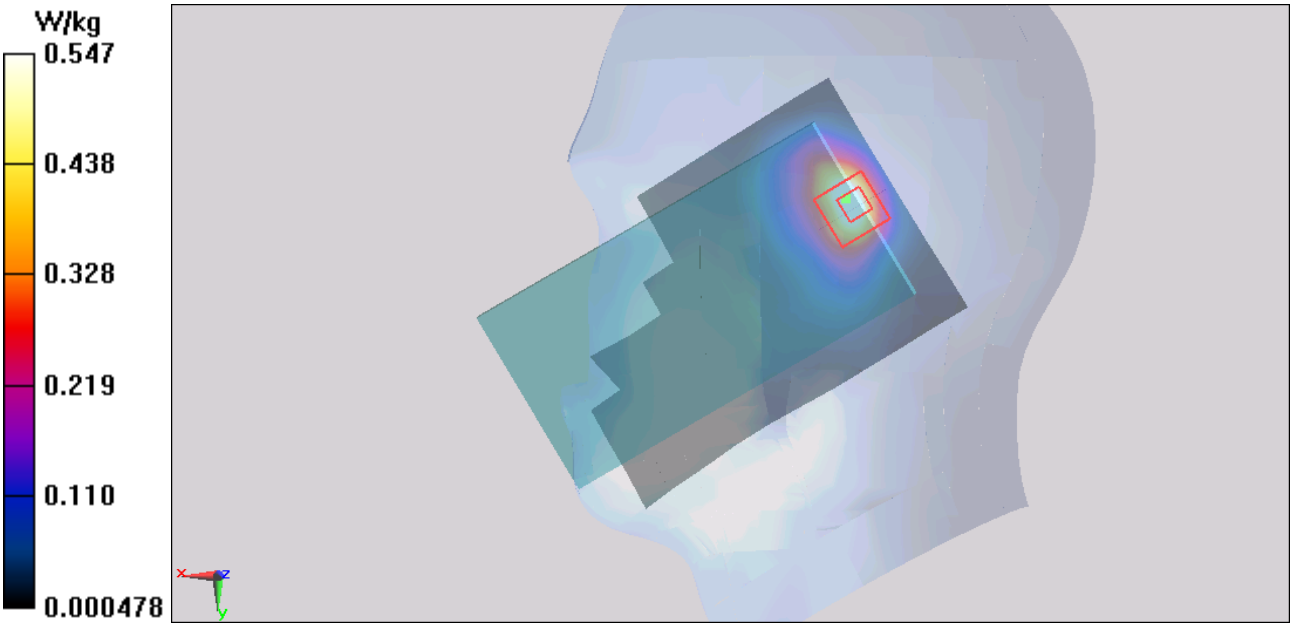


Figure 86 Right Hand Tilt 15° GSM 1900 Channel 661

GSM 1900 Right Cheek Middle (Battery 2)

Date: 9/21/2014

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 - SN3677; ConvF(8.15, 8.15, 8.15); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Right Cheek Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.626 W/kg

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

Reference Value = 19.481 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.962 W/kg

SAR(1 g) = 0.514 W/kg; SAR(10 g) = 0.256 W/kg

Maximum value of SAR (measured) = 0.579 W/kg

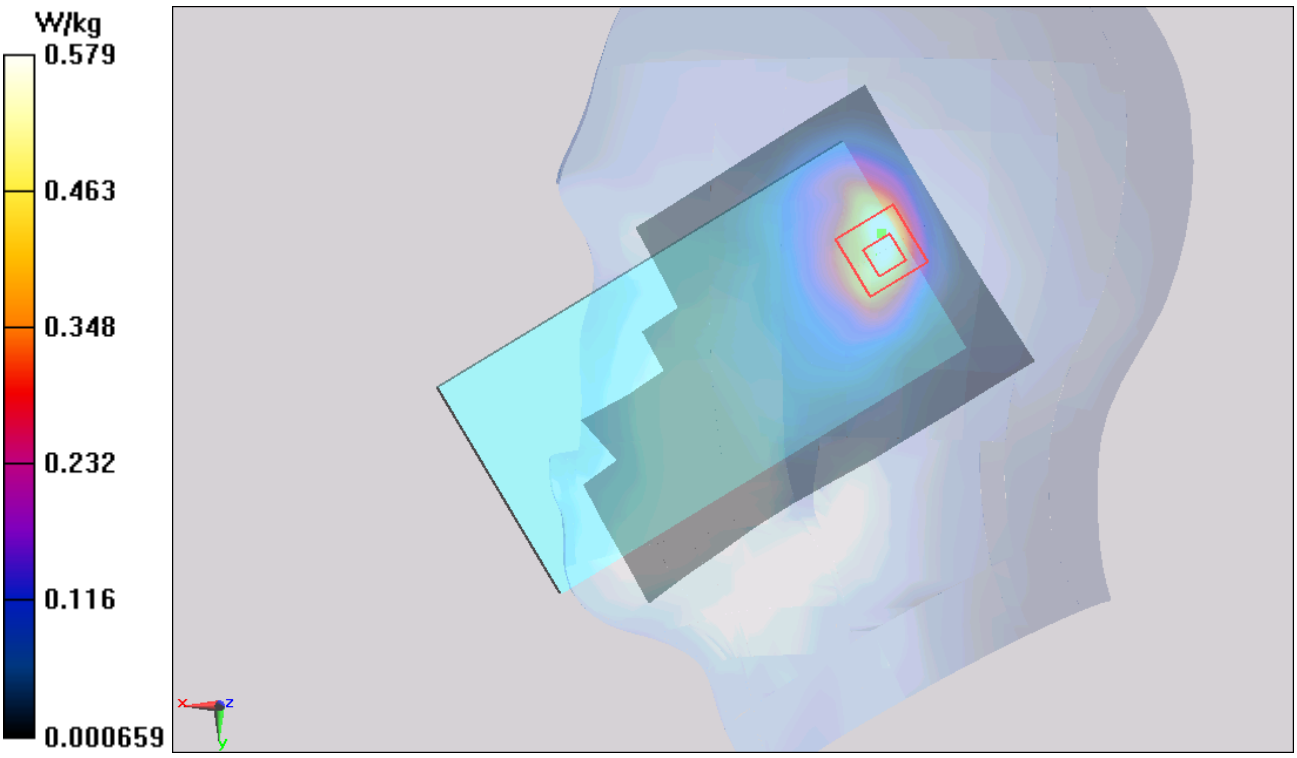


Figure 87 Right Hand Touch Cheek GSM 1900 Channel 661

GSM 1900 Back Side Middle (Battery 1, Distance 15mm)

Date: 9/20/2014

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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Back Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0701 W/kg

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

Reference Value = 2.200 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.103 W/kg

SAR(1 g) = 0.064 W/kg; SAR(10 g) = 0.037 W/kg

Maximum value of SAR (measured) = 0.0681 W/kg

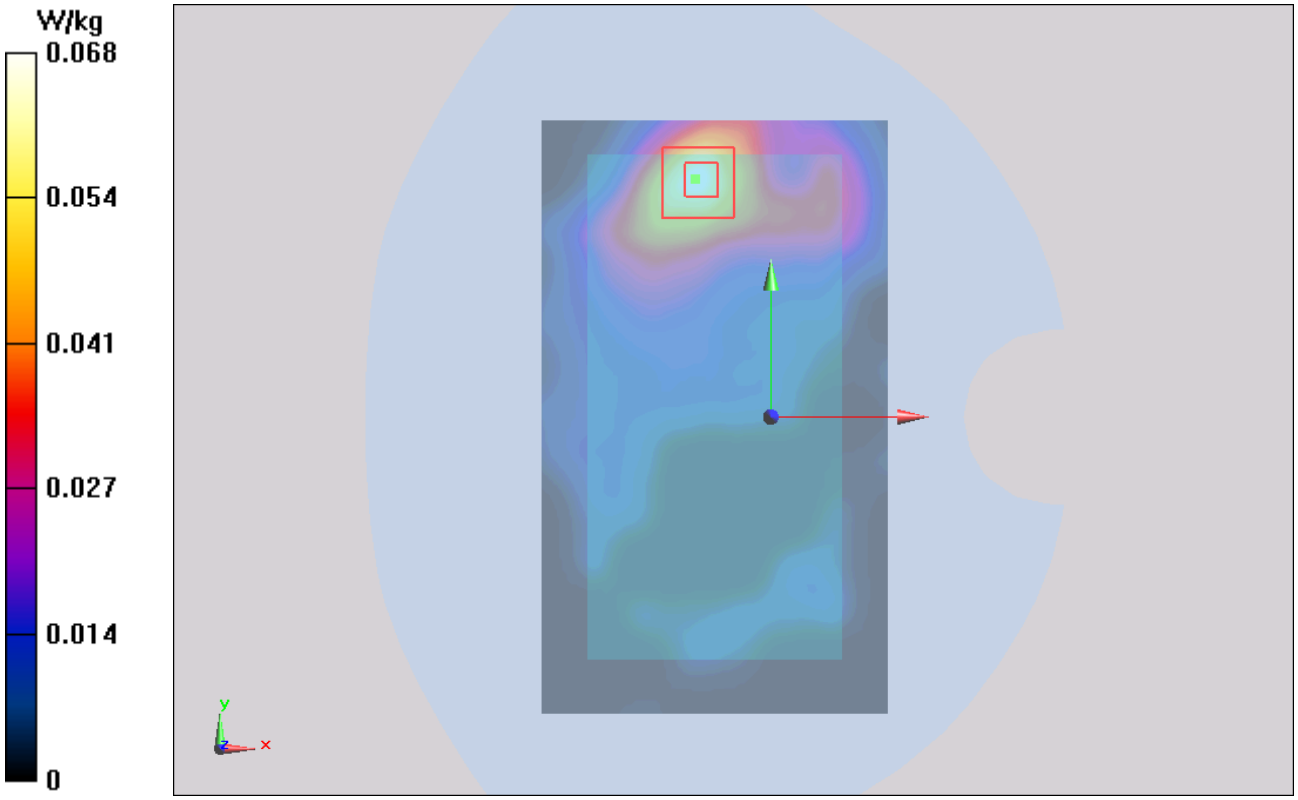


Figure 88 Body, Back Side, GSM 1900 Channel 661

GSM 1900 Front Side Middle (Battery 1, Distance 15mm)

Date: 9/20/2014

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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Front Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0530 W/kg

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

Reference Value = 2.156 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.0730 W/kg

SAR(1 g) = 0.048 W/kg; SAR(10 g) = 0.028 W/kg

Maximum value of SAR (measured) = 0.0514 W/kg

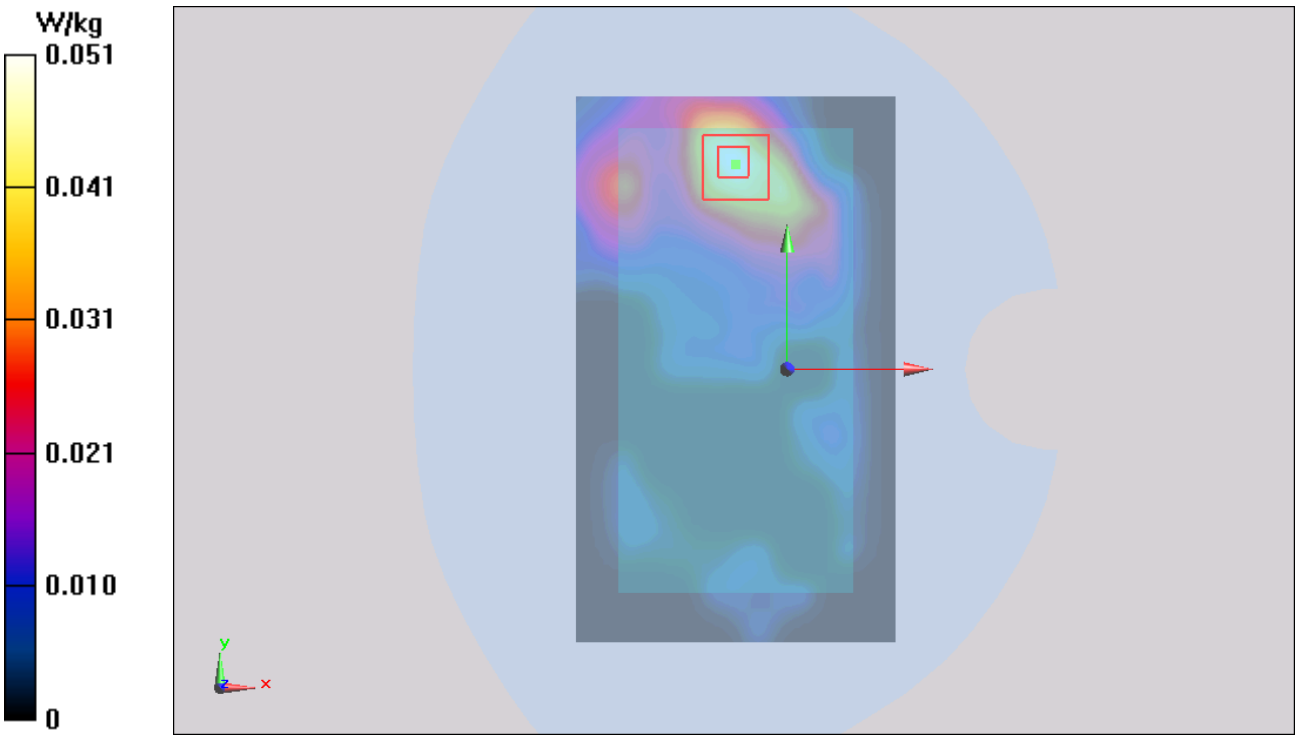


Figure 89 Body, Front Side, GSM 1900 Channel 661

GSM 1900 GPRS (3Txslots) Back Side Middle (Battery 1, Distance 10mm)

Date: 9/20/2014

Communication System: UID 0, GPRS 3TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.76694

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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Back Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.138 W/kg

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

Reference Value = 1.760 V/m; Power Drift = 0.161 dB

Peak SAR (extrapolated) = 0.186 W/kg

SAR(1 g) = 0.123 W/kg; SAR(10 g) = 0.070 W/kg

Maximum value of SAR (measured) = 0.127 W/kg

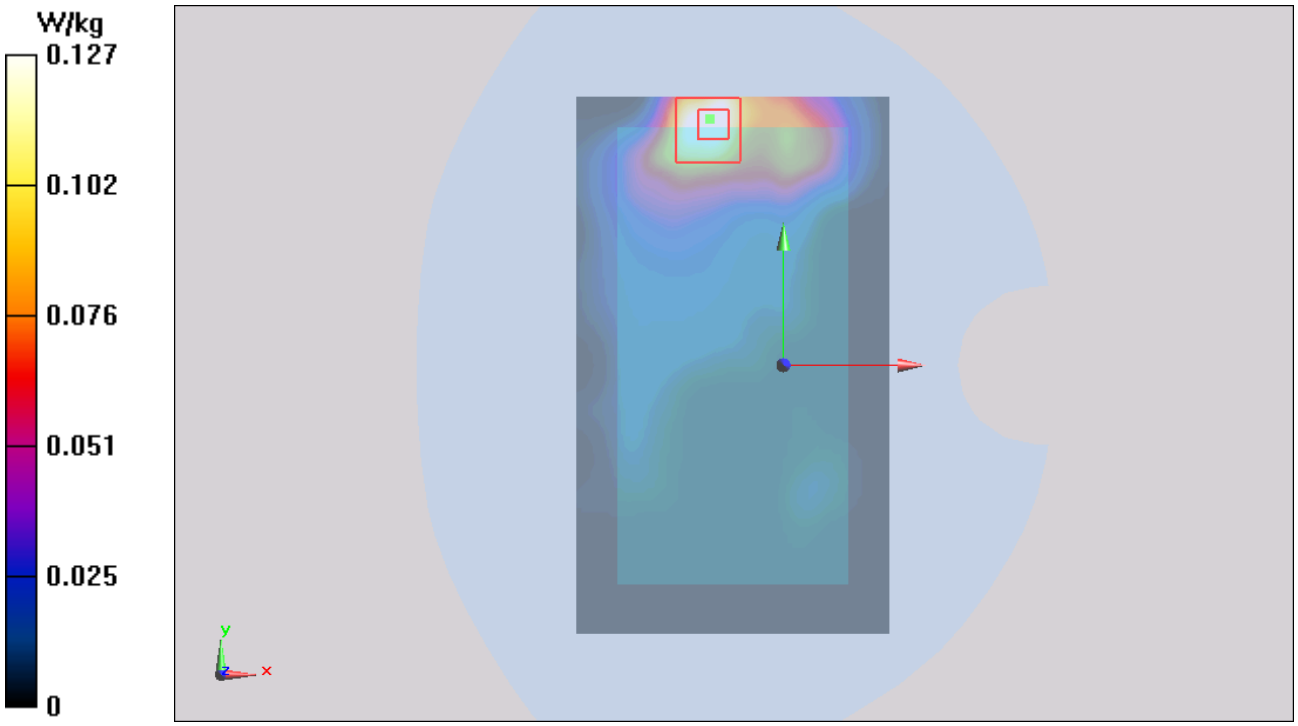


Figure 90 Body, Back Side, GSM 1900 GPRS (3Txslots) Channel 661

GSM 1900 GPRS (3Txslots) Front Side Middle (Battery 1, Distance 10mm)

Date: 9/20/2014

Communication System: UID 0, GPRS 3TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.76694

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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Front Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.101 W/kg

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

Reference Value = 1.804 V/m; Power Drift = 0.167 dB

Peak SAR (extrapolated) = 0.159 W/kg

SAR(1 g) = 0.097 W/kg; SAR(10 g) = 0.055 W/kg

Maximum value of SAR (measured) = 0.105 W/kg

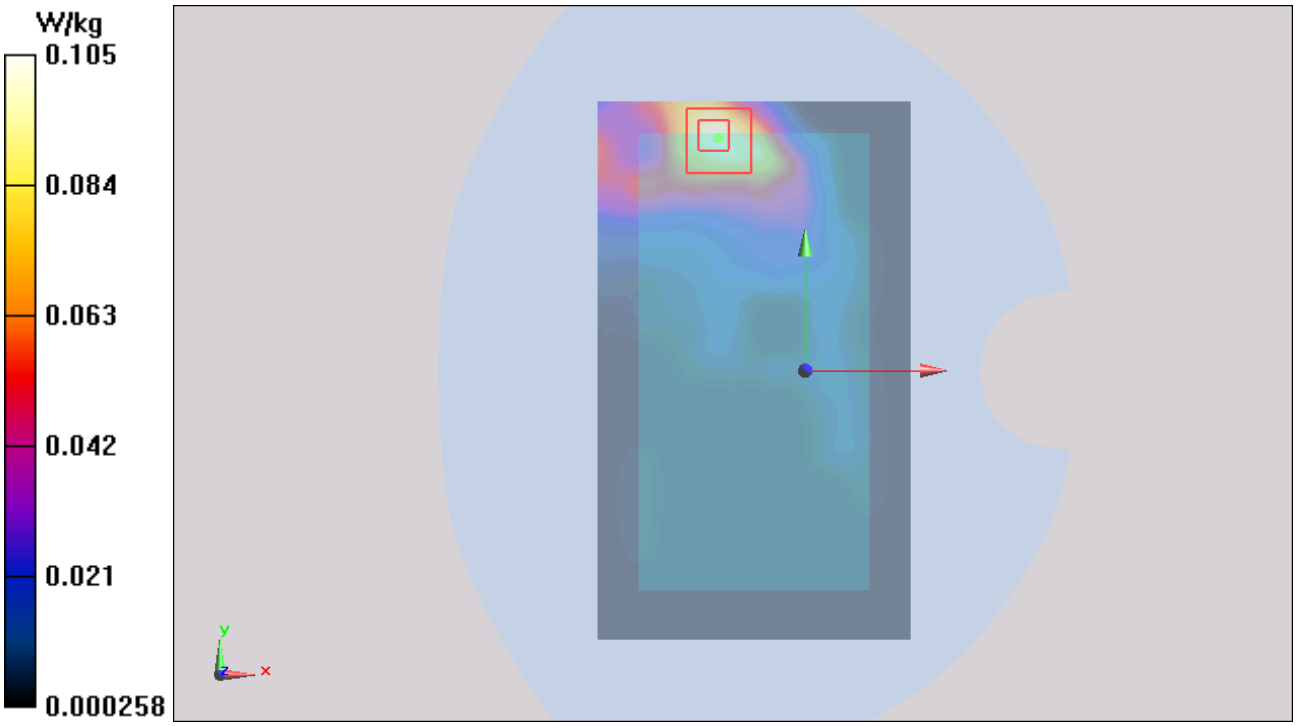


Figure 91 Body, Front Side, GSM 1900 GPRS (3Txslots) Channel 661

GSM 1900 GPRS (3Txslots) Left Edge Middle (Battery 1, Distance 10mm)

Date: 9/20/2014

Communication System: UID 0, GPRS 3TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.76694

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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Left Edge Middle/Area Scan (51x181x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0461 W/kg

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

Reference Value = 1.487 V/m; Power Drift = 0.173 dB

Peak SAR (extrapolated) = 0.0440 W/kg

SAR(1 g) = 0.030 W/kg; SAR(10 g) = 0.017 W/kg

Maximum value of SAR (measured) = 0.0337 W/kg

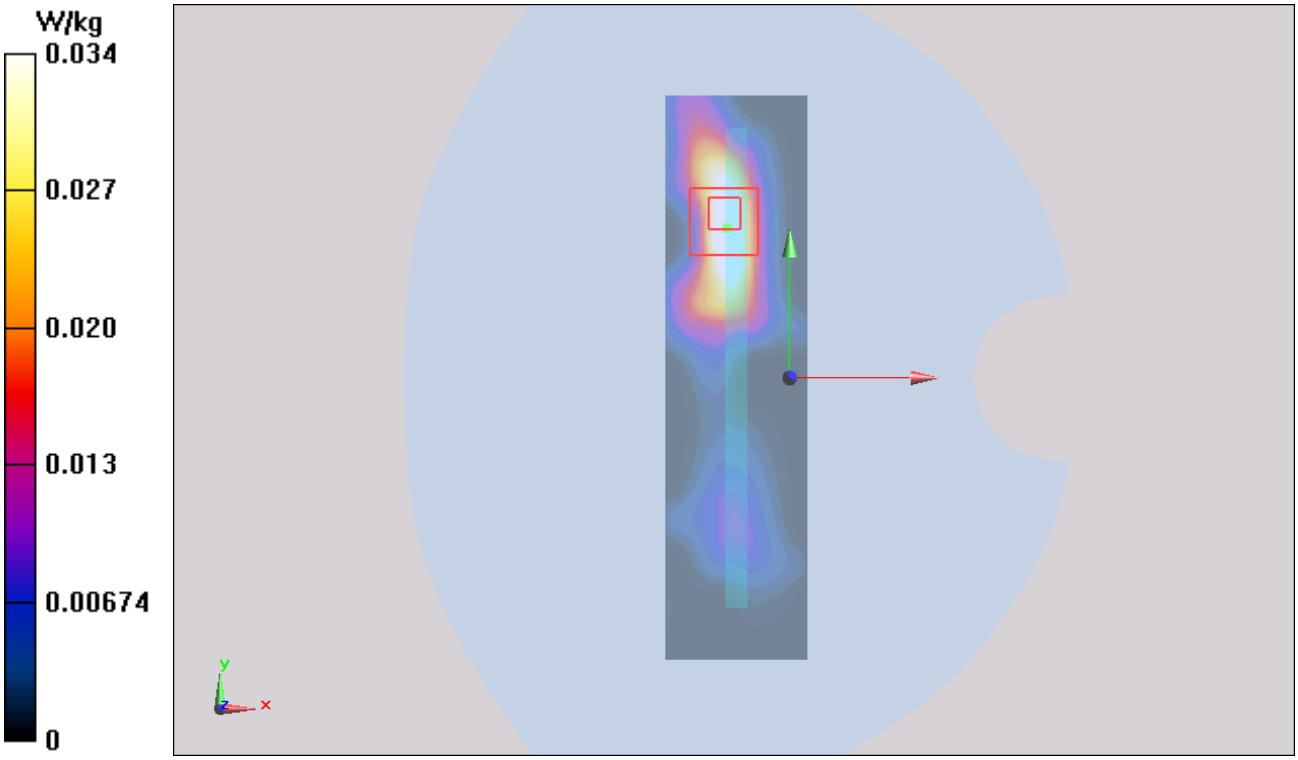


Figure 92 Body, Left Edge, GSM 1900 GPRS (3Txslots) Channel 661

GSM 1900 GPRS (3Txslots) Right Edge Middle (Battery 1, Distance 10mm)

Date: 9/20/2014

Communication System: UID 0, GPRS 3TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.76694

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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Right Edge Middle/Area Scan (51x181x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0185 W/kg

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

Reference Value = 1.197 V/m; Power Drift = 0.033 dB

Peak SAR (extrapolated) = 0.0180 W/kg

SAR(1 g) = 0.00789 W/kg; SAR(10 g) = 0.00368 W/kg

Maximum value of SAR (measured) = 0.00959 W/kg

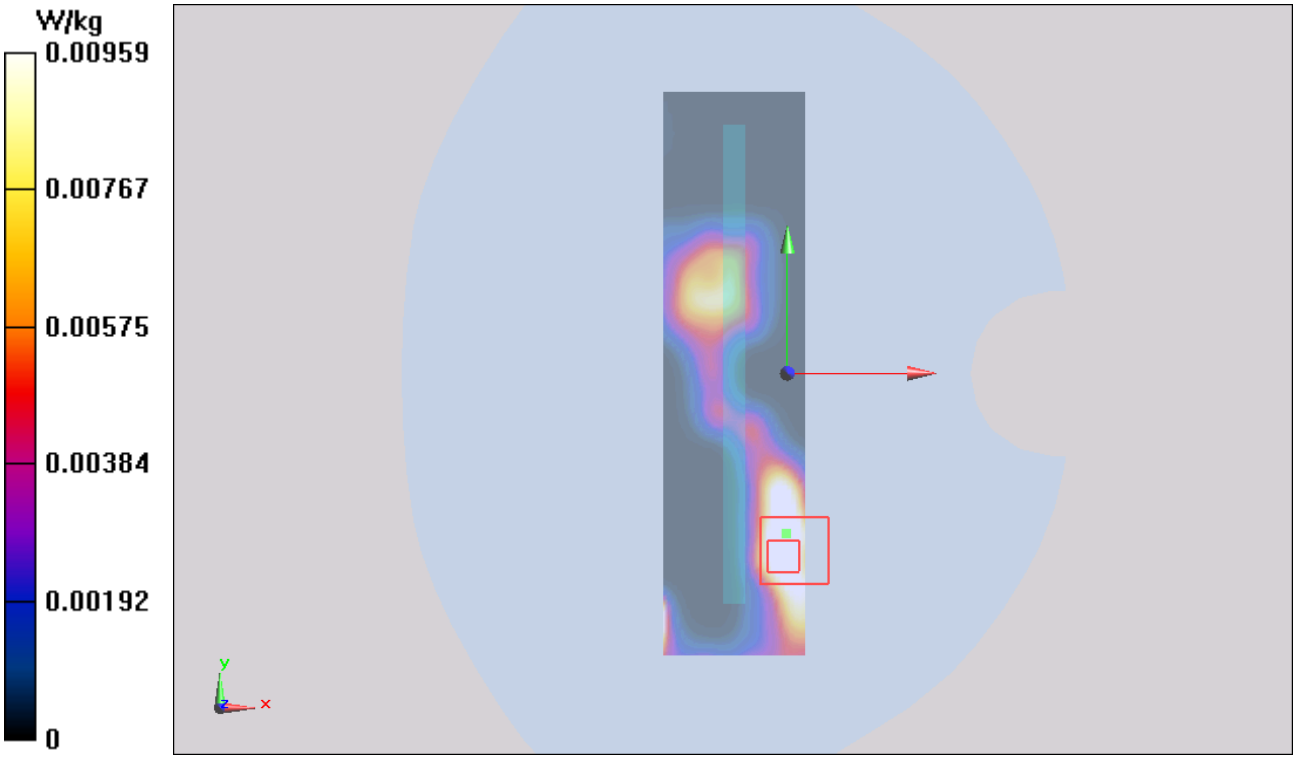


Figure 93 Body, Right Edge, GSM 1900 GPRS (3Txslots) Channel 661

GSM 1900 GPRS (3Txslots) Top Edge Middle (Battery 1, Distance 10mm)

Date: 9/20/2014

Communication System: UID 0, GPRS 3TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.76694

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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Top Edge Middle/Area Scan (51x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0852 W/kg

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

Reference Value = 7.112 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.149 W/kg

SAR(1 g) = 0.095 W/kg; SAR(10 g) = 0.053 W/kg

Maximum value of SAR (measured) = 0.105 W/kg

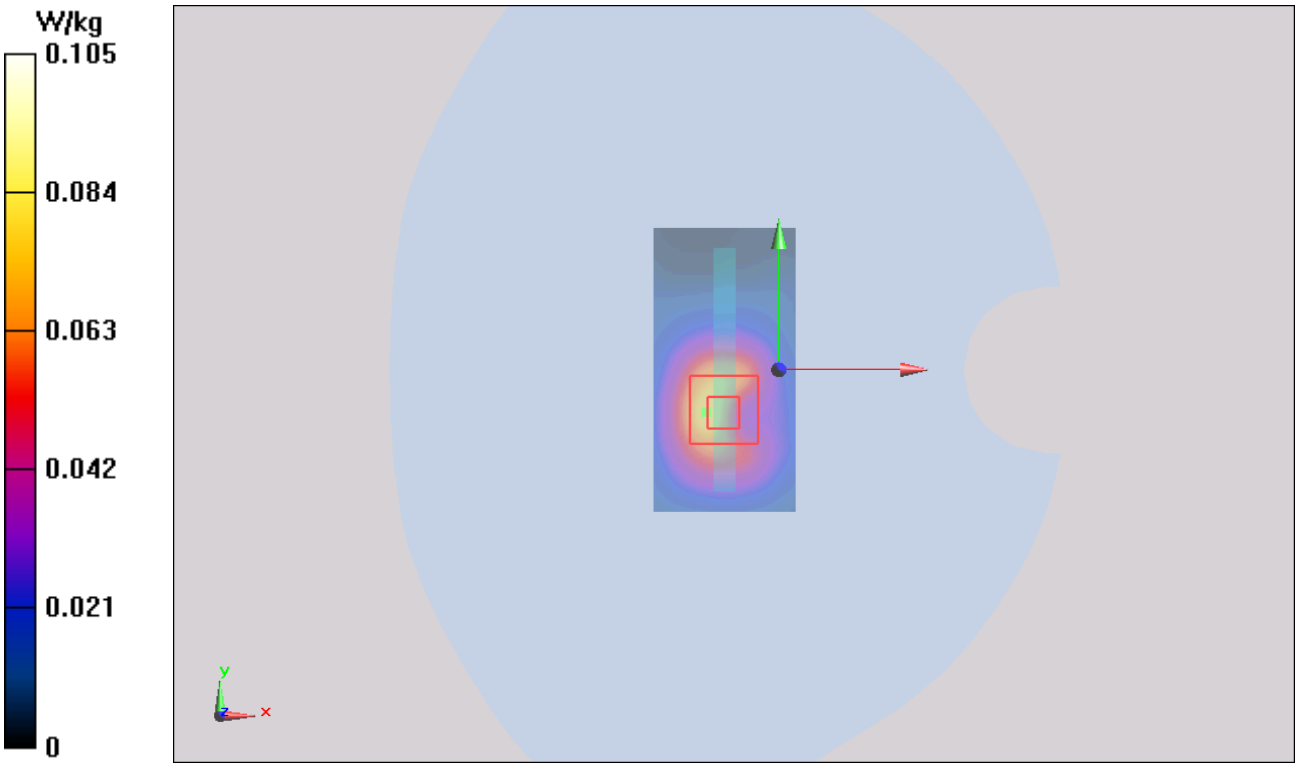


Figure 94 Body, Top Edge, GSM 1900 GPRS (3Txslots) Channel 661

GSM 1900 EPRS (3Txslots) Back Side Middle (Battery 2, Distance 10mm)

Date: 9/20/2014

Communication System: UID 0, EGPRS 3TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.76694

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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Back Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.138 W/kg

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

Reference Value = 2.283 V/m; Power Drift = 0.045 dB

Peak SAR (extrapolated) = 0.206 W/kg

SAR(1 g) = 0.127 W/kg; SAR(10 g) = 0.071 W/kg

Maximum value of SAR (measured) = 0.143 W/kg

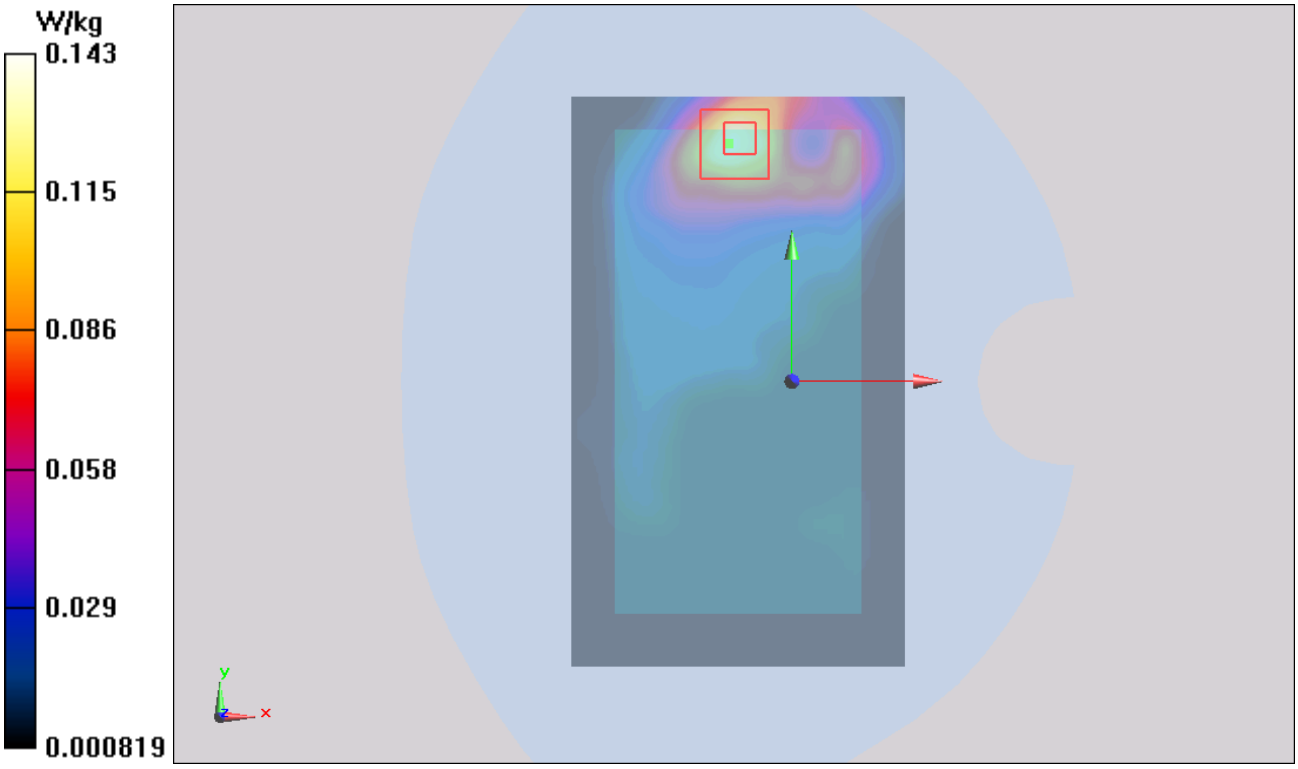


Figure 95 Body, Back Side, GSM 1900 EGPRS (3Txslots) Channel 661

GSM 1900 EGPRS (3Txslots) Back Side Middle (Battery 1, Distance 10mm)

Date: 9/20/2014

Communication System: UID 0, EGPRS 3TX (0); Frequency: 1880 MHz;Duty Cycle: 1:2.76694

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 - SN3677; ConvF(7.63, 7.63, 7.63); Calibrated: 11/28/2013;

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

Phantom: SAM 2; Type: SAM;

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

Back Side Middle/Area Scan (71x121x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.136 W/kg

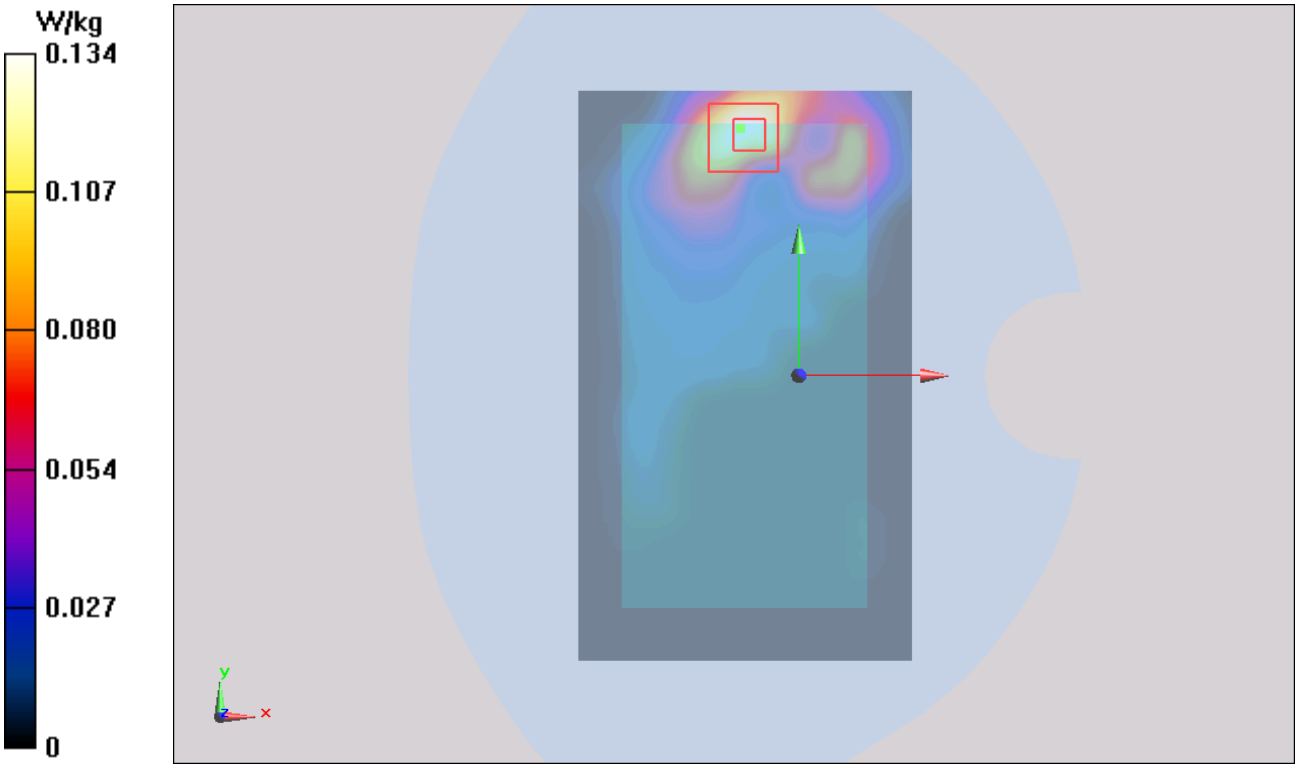
Back Side Middle/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.297 V/m; Power Drift = 0.026 dB

Peak SAR (extrapolated) = 0.209 W/kg

SAR(1 g) = 0.128 W/kg; SAR(10 g) = 0.072 W/kg

Maximum value of SAR (measured) = 0.134 W/kg



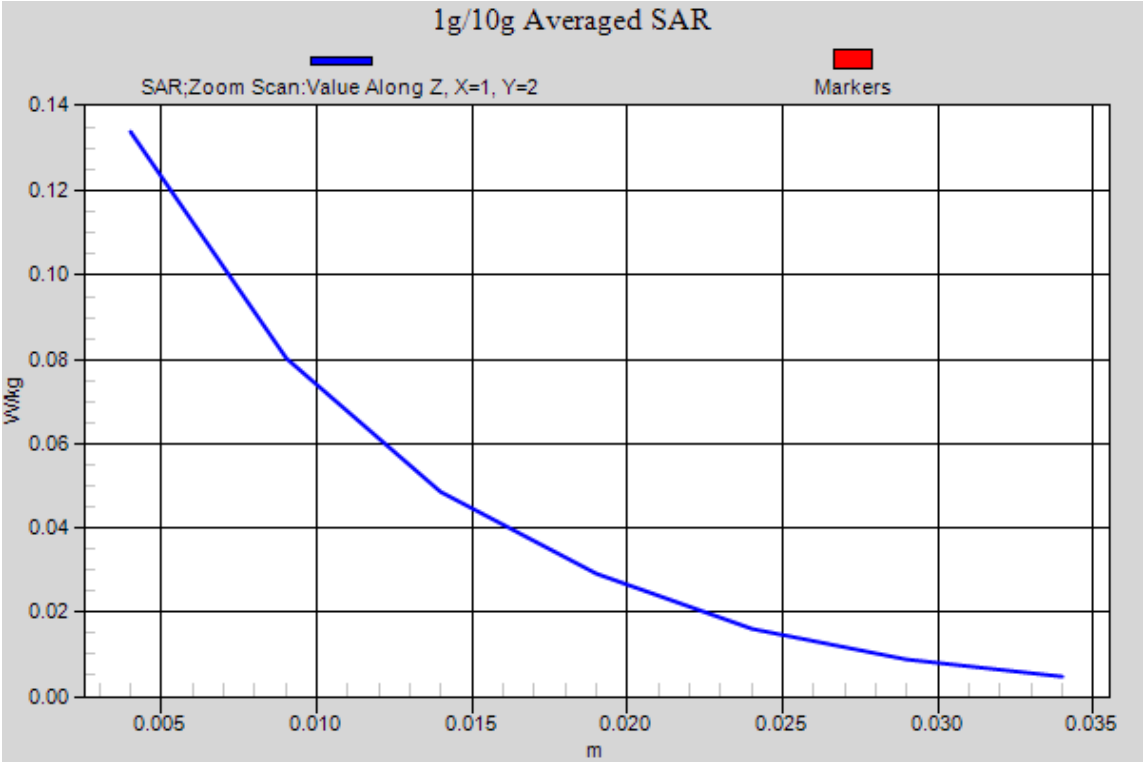


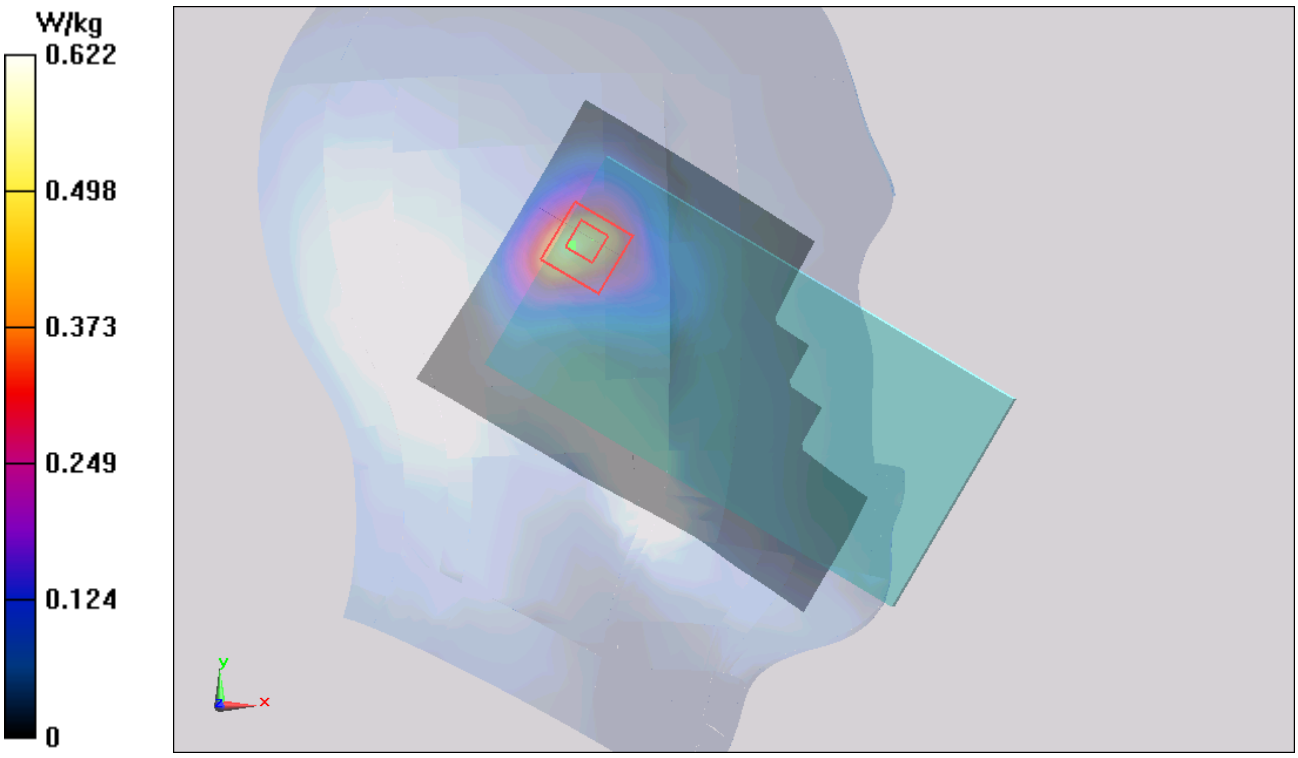
Figure 96 Body, Back Side, GSM 1900 EGPRS (3Txslots) Channel 661

LTE Band 7 1RB Left Cheek Middle (Battery 1)

Date: 9/30/2014
Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 1.915 S/m; ε_r = 38.869; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Cheek Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.493 W/kg

Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.239 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 1.07 W/kg
SAR(1 g) = 0.513 W/kg; SAR(10 g) = 0.232 W/kg
Maximum value of SAR (measured) = 0.622 W/kg



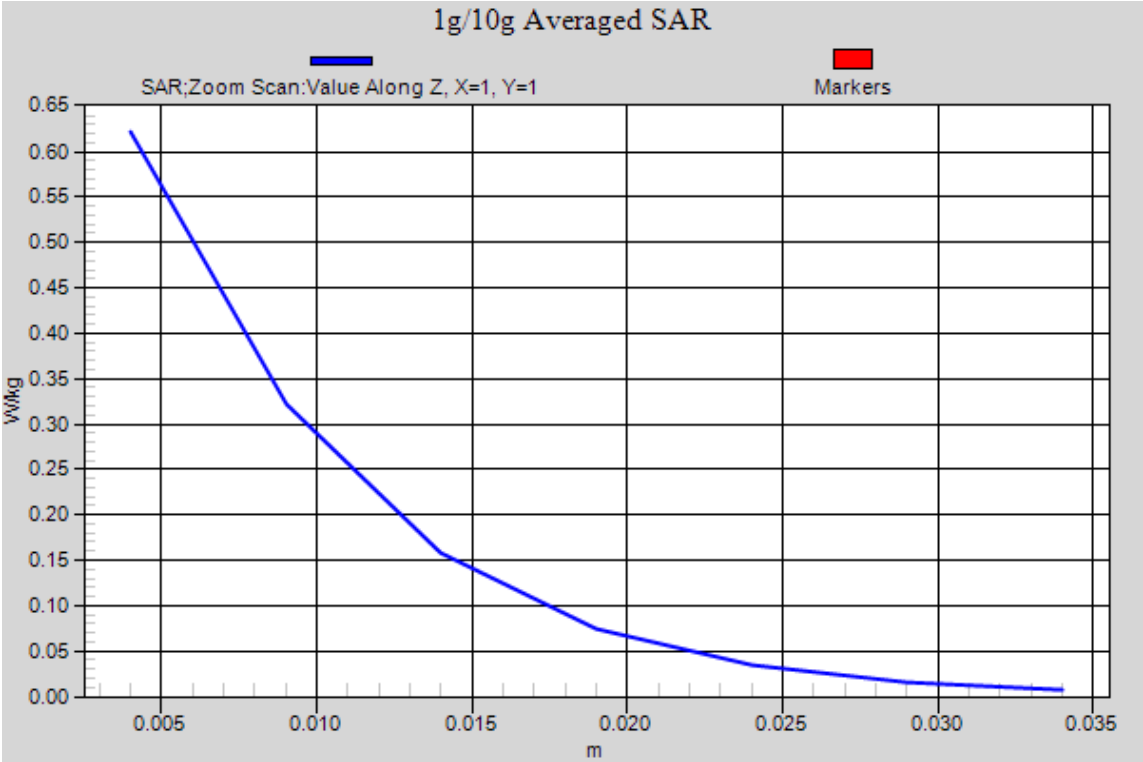


Figure 97 Left Hand Touch Cheek LTE Band 7 1RB Channel 21100

LTE Band 7 1RB Left Tilt Middle (Battery 1)

Date: 9/30/2014
Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 1.915 S/m; ε_r = 38.869; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Left Tilt Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.379 W/kg

Left Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.774 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 0.774 W/kg
SAR(1 g) = 0.372 W/kg; SAR(10 g) = 0.168 W/kg
Maximum value of SAR (measured) = 0.428 W/kg

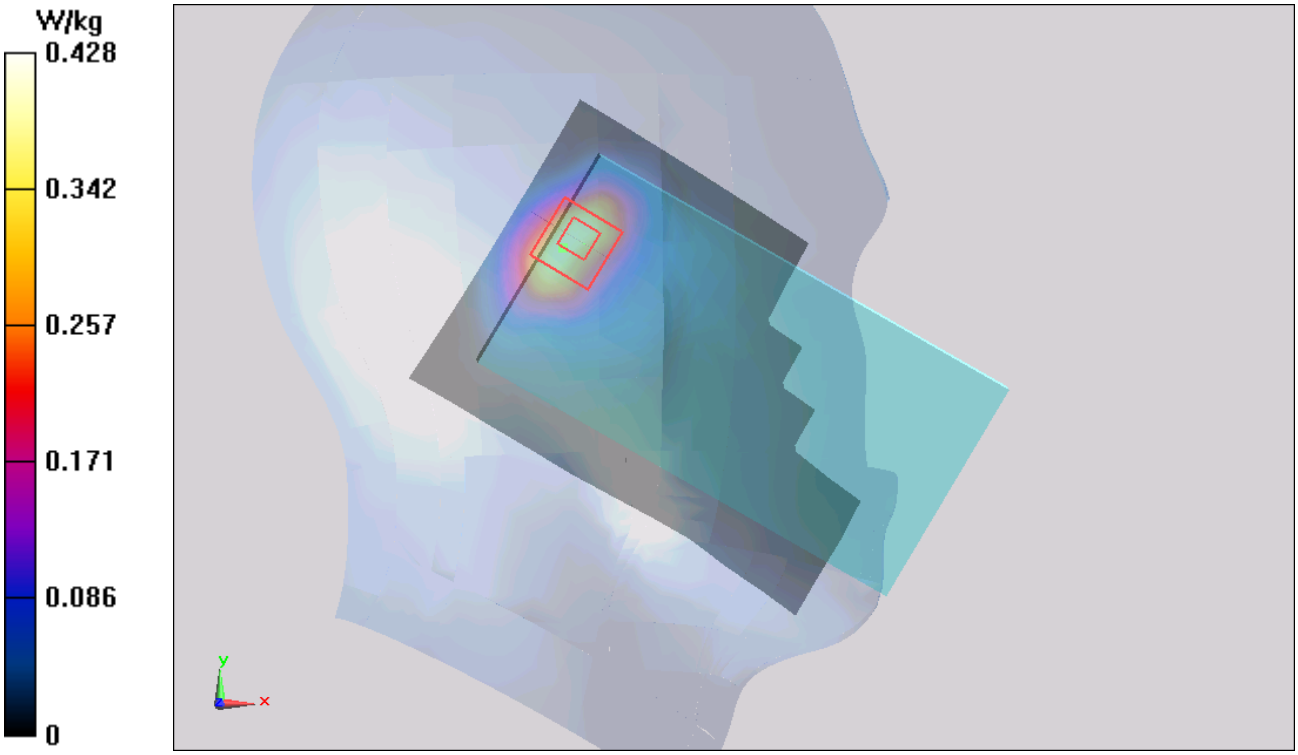


Figure 98 Left Hand Tilt 15° LTE Band 7 1RB Channel 21100

LTE Band 7 1RB Right Cheek Middle (Battery 1)

Date: 9/30/2014
Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 1.915 S/m; ε_r = 38.869; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Cheek Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.356 W/kg

Right Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.084 V/m; Power Drift = 0.026 dB
Peak SAR (extrapolated) = 0.622 W/kg
SAR(1 g) = 0.278 W/kg; SAR(10 g) = 0.145 W/kg
Maximum value of SAR (measured) = 0.341 W/kg

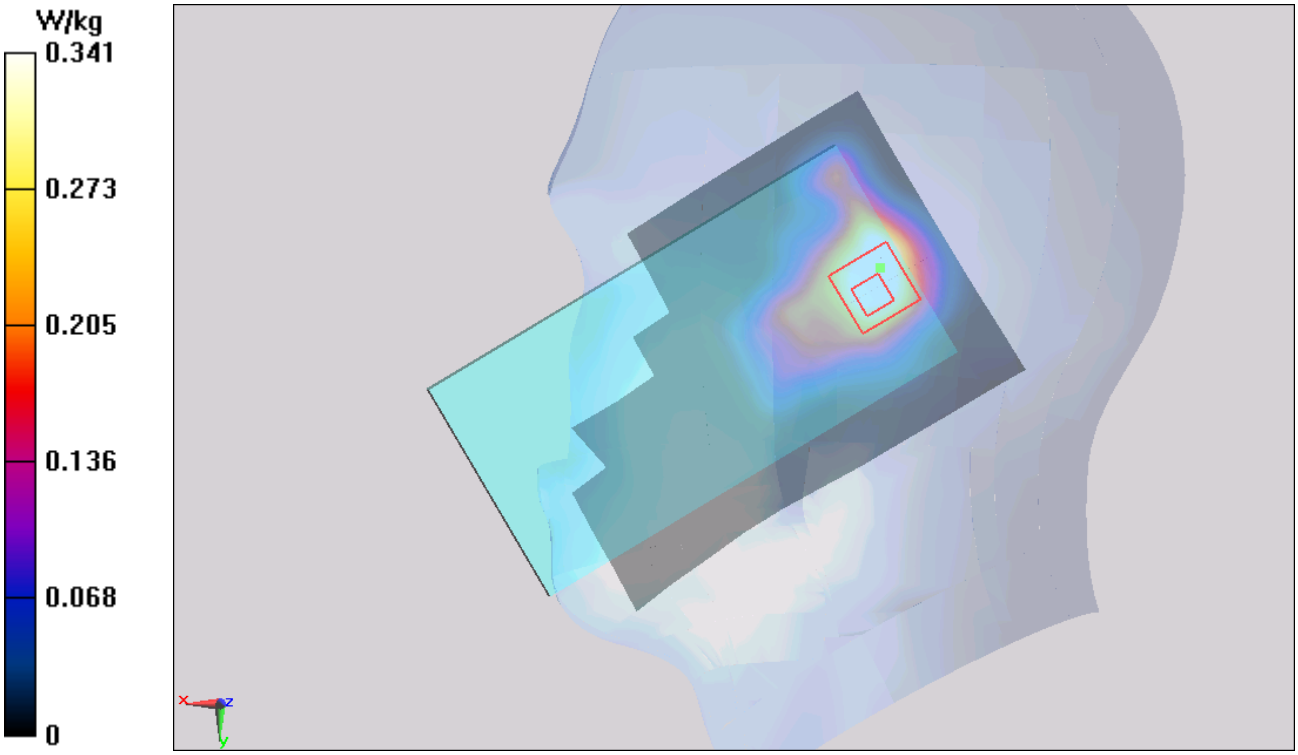


Figure 99 Right Hand Touch Cheek LTE Band 7 1RB Channel 21100

LTE Band 7 1RB Right Tilt Middle (Battery 1)

Date: 9/30/2014
Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 1.915 S/m; ε_r = 38.869; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Tilt Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.302 W/kg

Right Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.945 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.446 W/kg
SAR(1 g) = 0.208 W/kg; SAR(10 g) = 0.107 W/kg
Maximum value of SAR (measured) = 0.254 W/kg

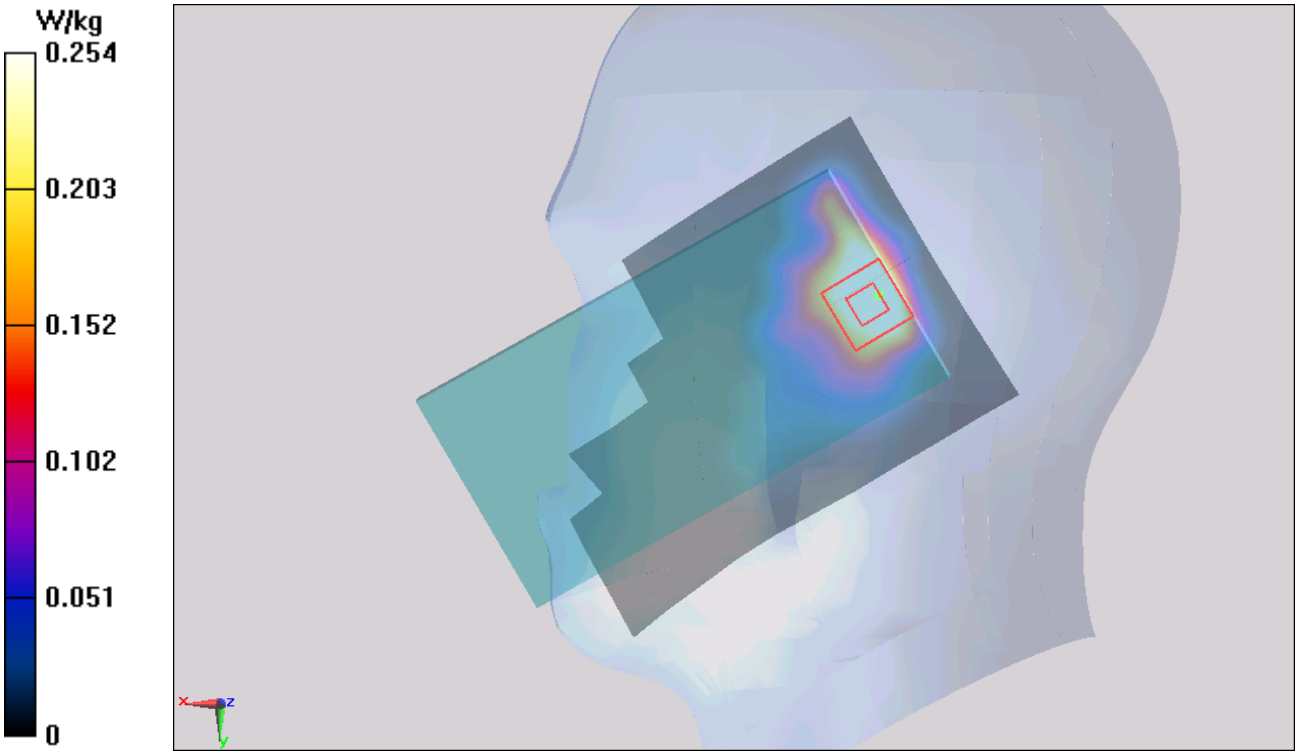


Figure 100 Right Hand Tilt 15° LTE Band 7 1RB Channel 21100

LTE Band 7 50%RB Left Cheek Middle (Battery 1)

Date: 9/30/2014

Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2535 MHz; σ = 1.915 S/m; ε_r = 38.869; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Left Cheek Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.386 W/kg

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

Reference Value = 10.045 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.816 W/kg

SAR(1 g) = 0.393 W/kg; SAR(10 g) = 0.183 W/kg

Maximum value of SAR (measured) = 0.438 W/kg

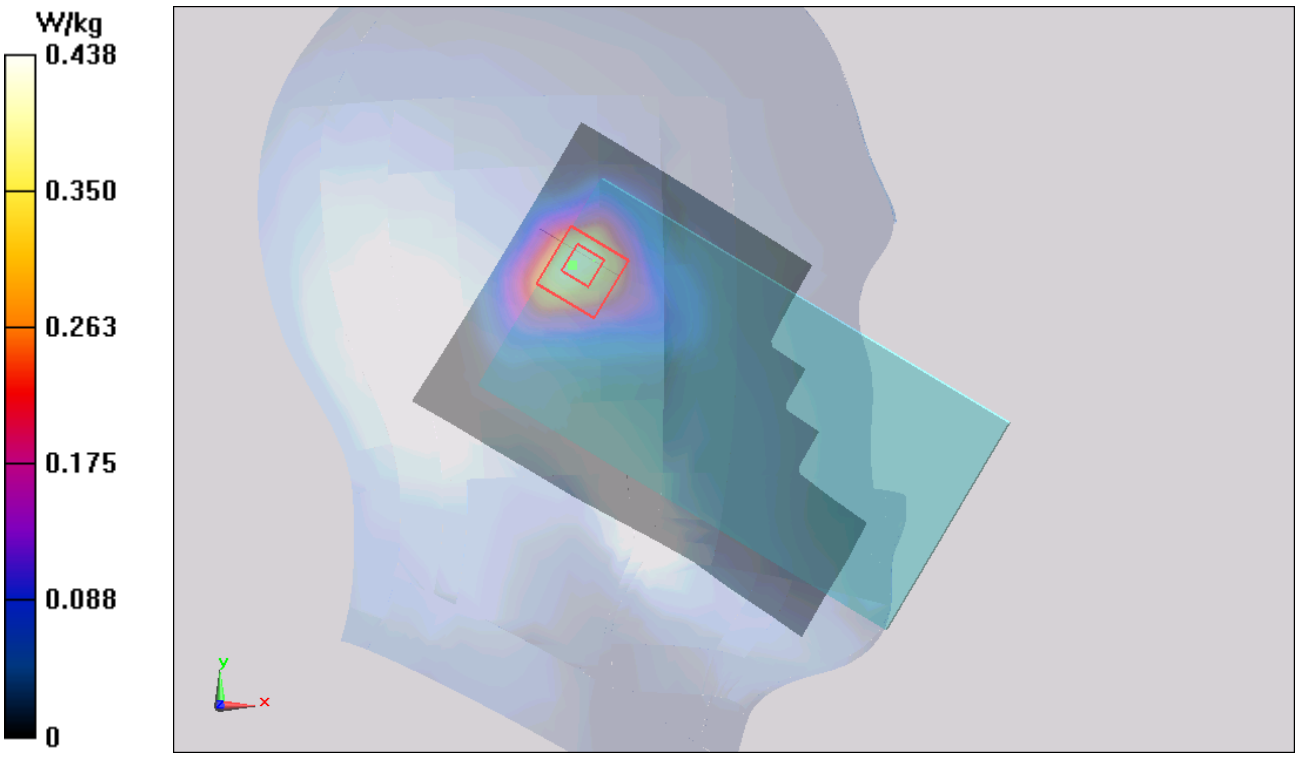


Figure 101 Left Hand Touch Cheek LTE Band 7 50%RB Channel 21100

LTE Band 7 50%RB Left Tilt Middle (Battery 1)

Date: 9/30/2014

Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2535 MHz; σ = 1.915 S/m; ε_r = 38.869; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Left Tilt Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.293 W/kg

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

Reference Value = 9.506 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.602 W/kg

SAR(1 g) = 0.289 W/kg; SAR(10 g) = 0.129 W/kg

Maximum value of SAR (measured) = 0.332 W/kg

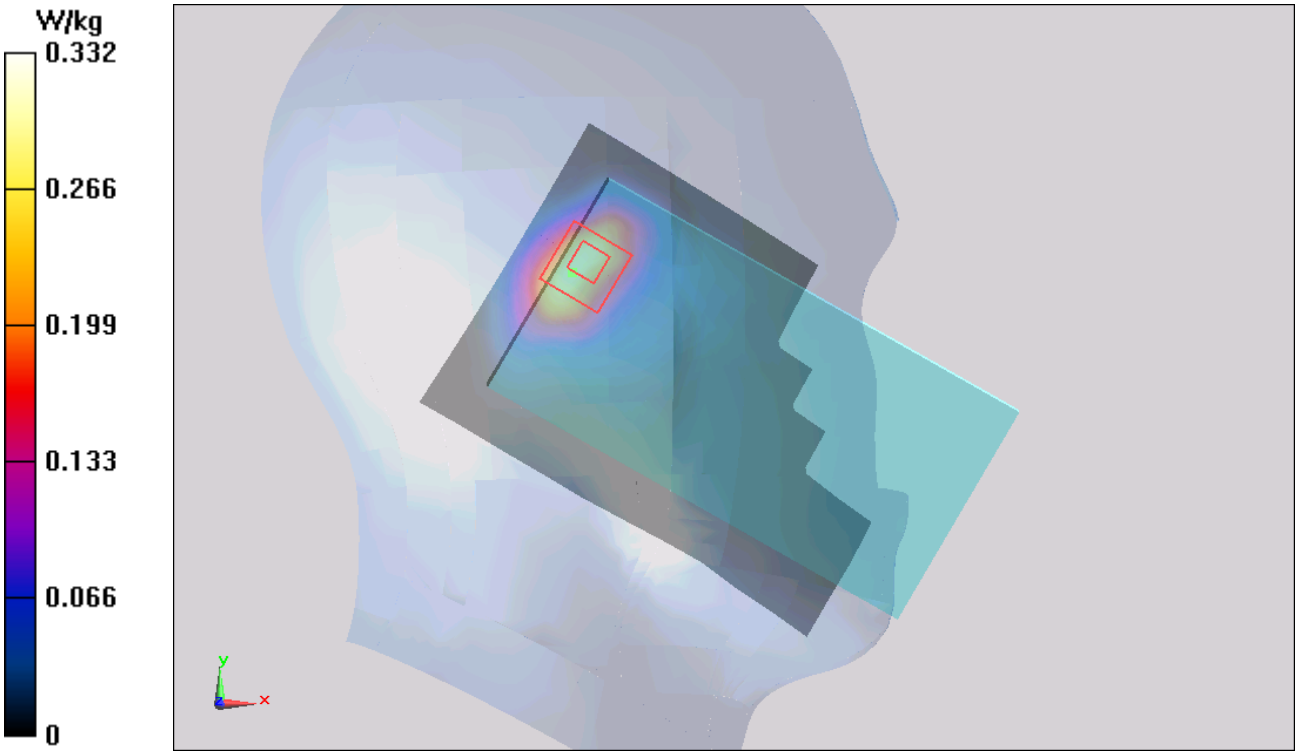


Figure 102 Left Hand Tilt 15° LTE Band 7 50%RB Channel 21100

LTE Band 7 50%RB Right Cheek Middle (Battery 1)

Date: 9/30/2014
Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 1.915 S/m; ε_r = 38.869; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Cheek Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.305 W/kg

Right Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.478 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 0.465 W/kg
SAR(1 g) = 0.229 W/kg; SAR(10 g) = 0.121 W/kg
Maximum value of SAR (measured) = 0.244 W/kg

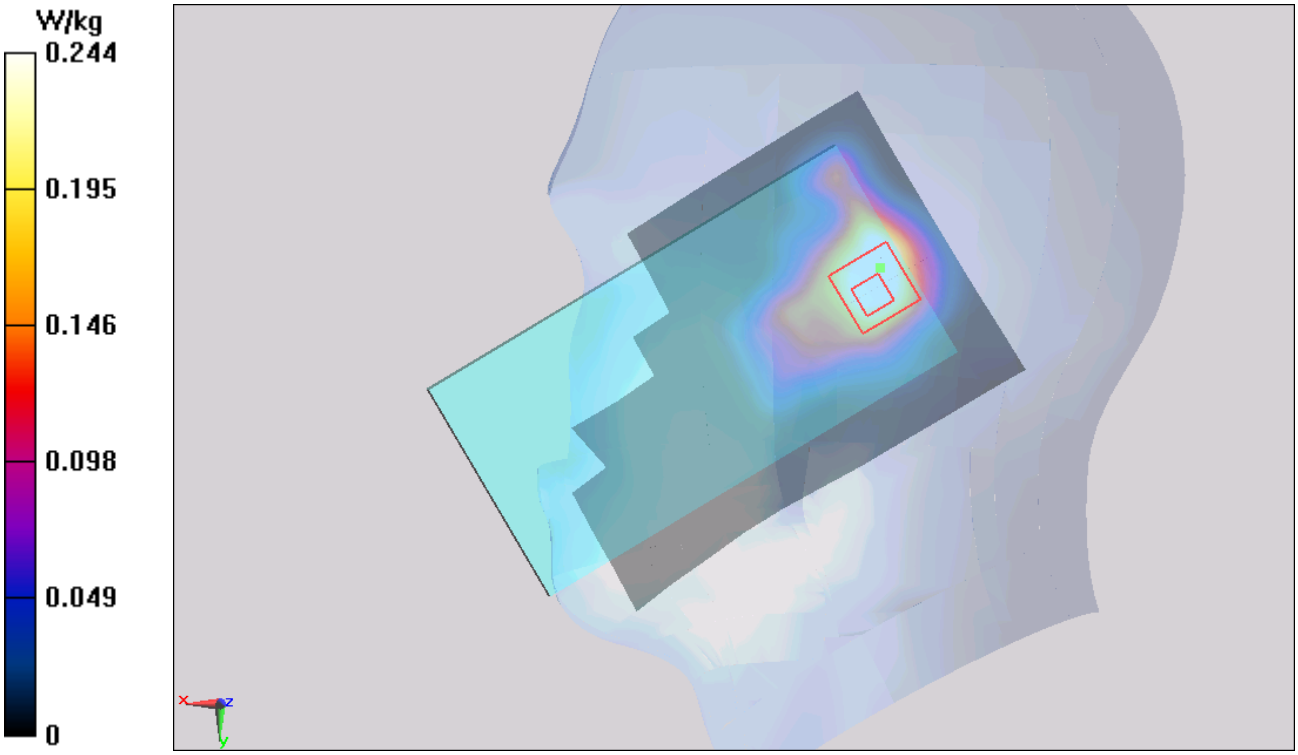


Figure 103 Right Hand Touch Cheek LTE Band 7 50%RB Channel 21100

LTE Band 7 50%RB Right Tilt Middle (Battery 1)

Date: 9/30/2014
Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 1.915 S/m; ε_r = 38.869; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Right Tilt Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.310 W/kg

Right Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.338 V/m; Power Drift = 0.020 dB
Peak SAR (extrapolated) = 0.357 W/kg
SAR(1 g) = 0.166 W/kg; SAR(10 g) = 0.087 W/kg
Maximum value of SAR (measured) = 0.177 W/kg

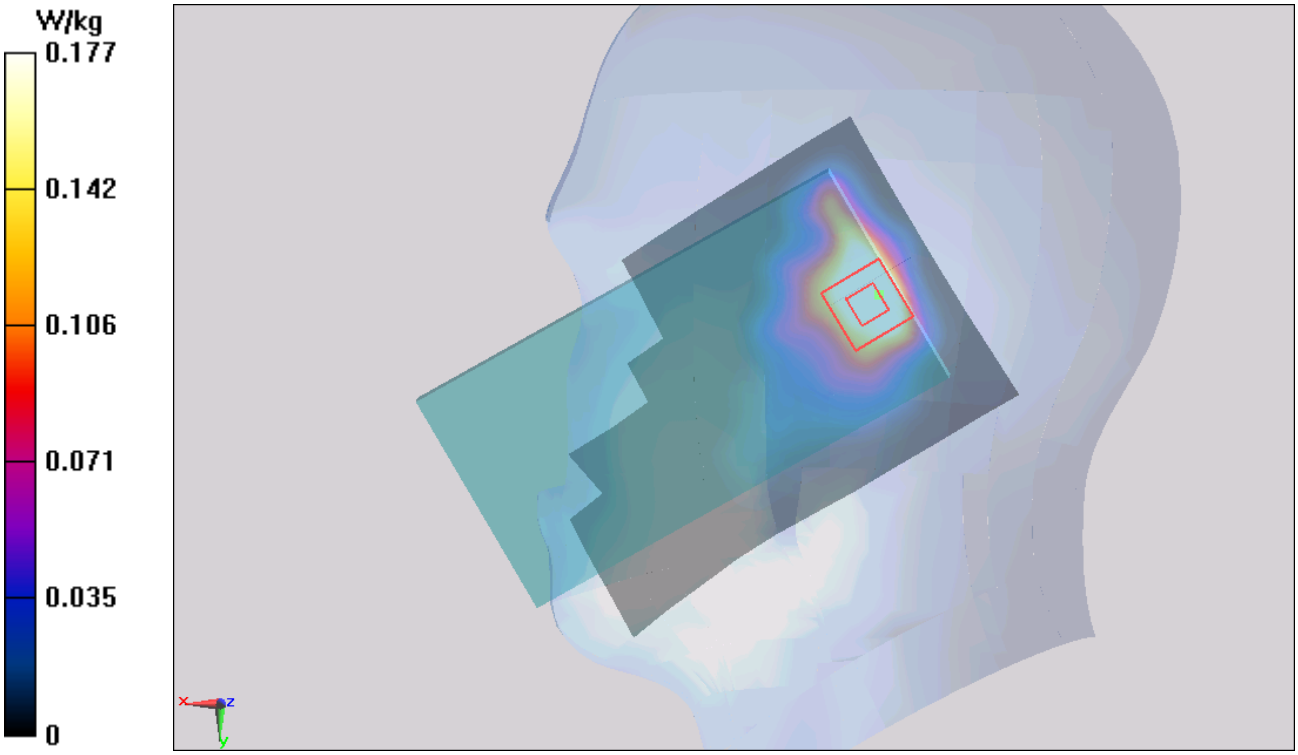


Figure 104 Right Hand Tilt 15° LTE Band 7 50%RB Channel 21100

LTE Band 7 1RB Left Cheek Middle (Battery 2)

Date: 9/30/2014

Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2535 MHz; σ = 1.915 S/m; ε_r = 38.869; 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(7.07, 7.07, 7.07); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Left Cheek Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.419 W/kg

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

Reference Value = 10.656 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 0.961 W/kg

SAR(1 g) = 0.476 W/kg; SAR(10 g) = 0.217 W/kg

Maximum value of SAR (measured) = 0.526 W/kg

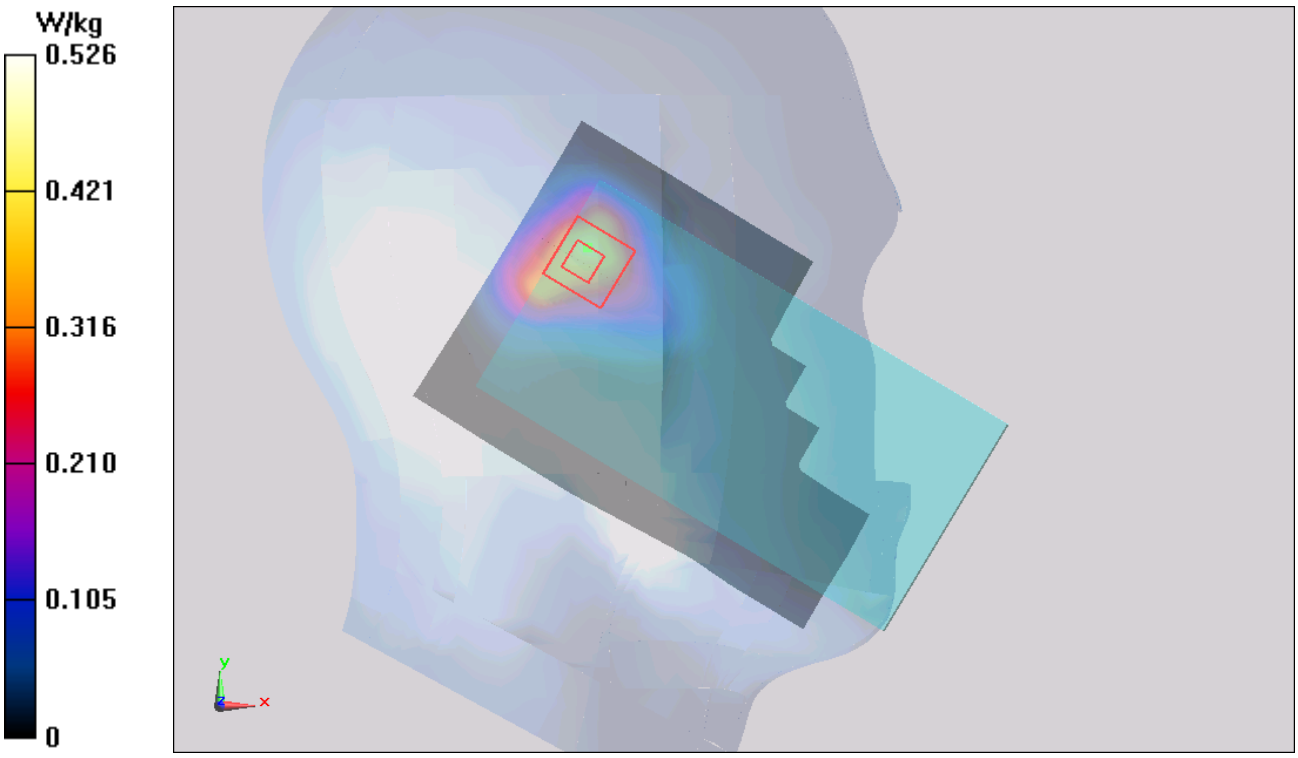


Figure 105 Left Hand Touch Cheek LTE Band 7 1RB Channel 21100

LTE Band 7 1RB Back Side Middle (Battery 1, Distance 15mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2535 MHz; σ = 2.121 S/m; ε_r = 52.544; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Back Side Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0917 W/kg

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

Reference Value = 2.291 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.0630 W/kg

SAR(1 g) = 0.038 W/kg; SAR(10 g) = 0.021 W/kg

Maximum value of SAR (measured) = 0.0408 W/kg

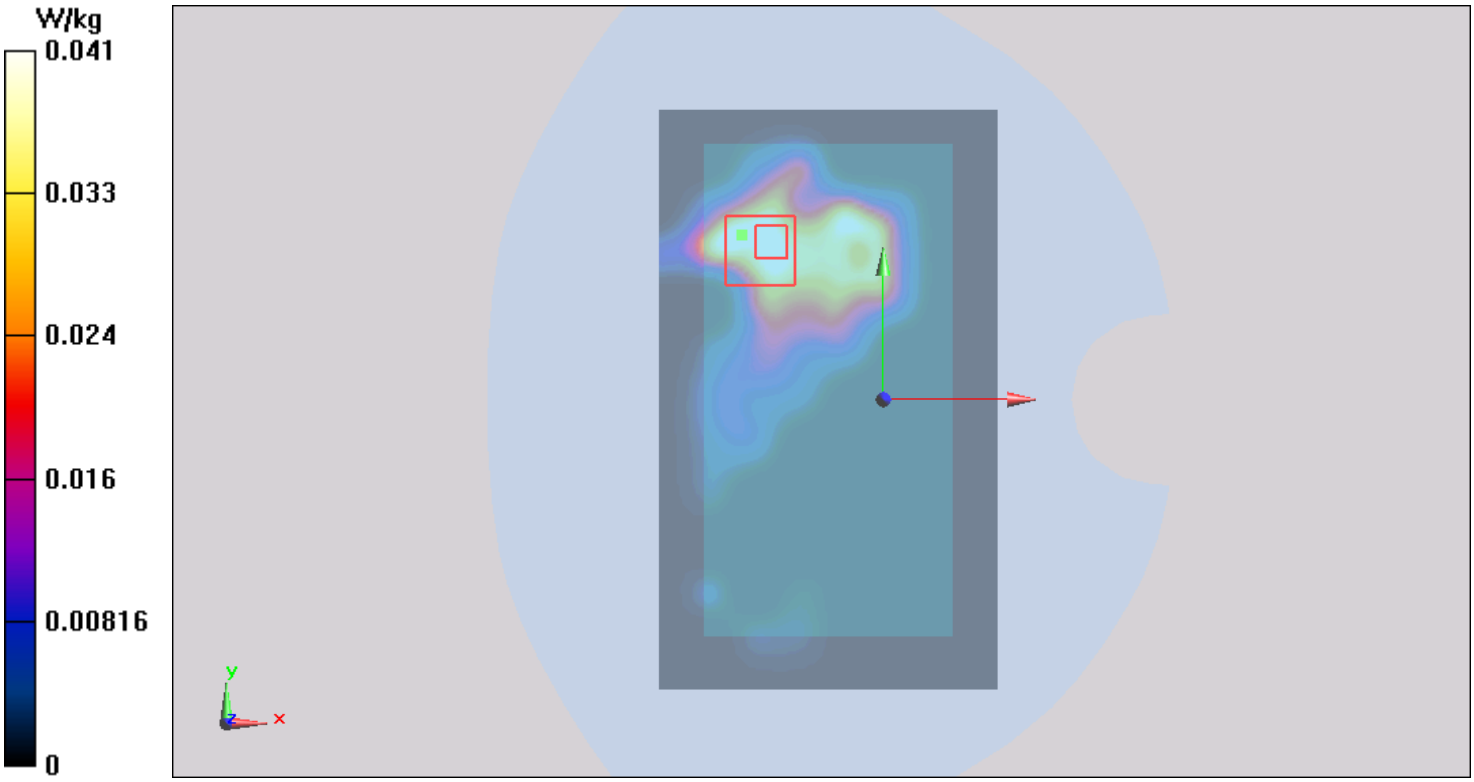


Figure 106 Body, Back Side, LTE Band 7 1RB Channel 21100

LTE Band 7 1RB Front Side Middle (Battery 1, Distance 15mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2535 MHz; σ = 2.121 S/m; ε_r = 52.544; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Front Side Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0956 W/kg

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

Reference Value = 0 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.0380 W/kg

SAR(1 g) = 0.029 W/kg; SAR(10 g) = 0.015 W/kg

Maximum value of SAR (measured) = 0.0323 W/kg

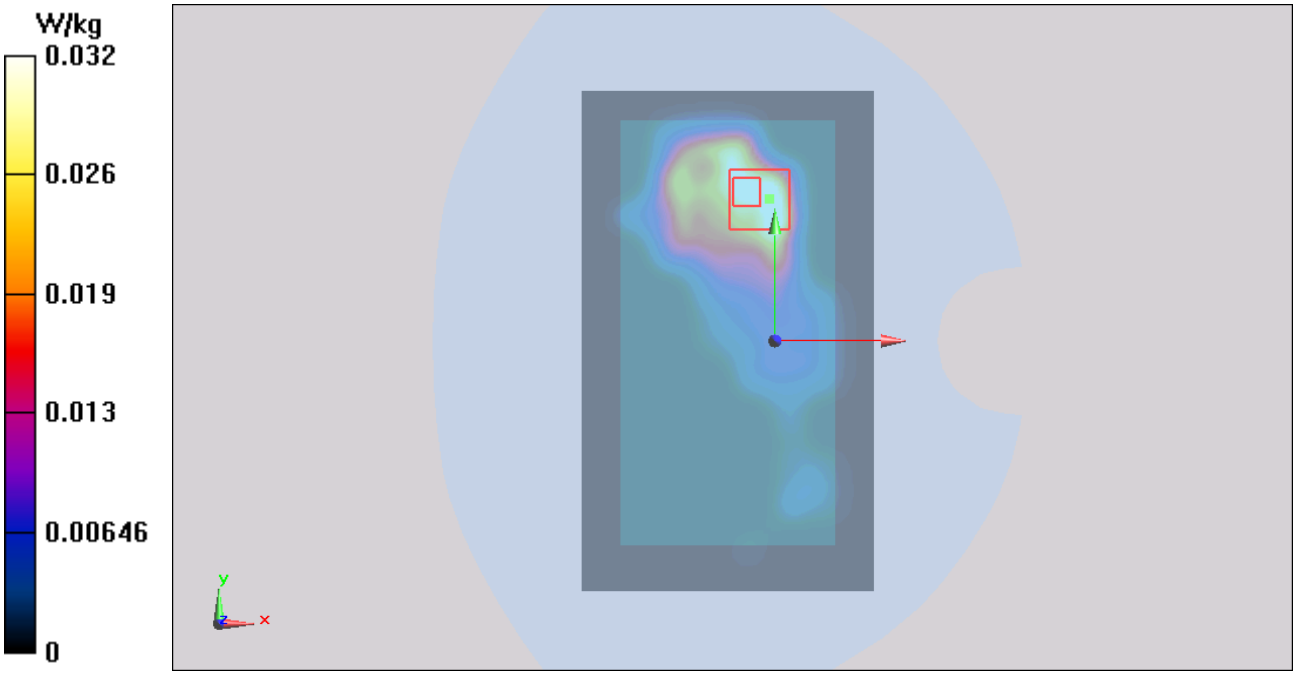


Figure 107 Body, Front Side, LTE Band 7 1RB Channel 21100

LTE Band 7 1RB Back Side Middle (Battery 1, Distance 10mm)

Date: 9/29/2014
Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2535 MHz; σ = 2.121 S/m; ε_r = 52.544; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;
Electronics: DAE4 Sn1317; Calibrated: 1/16/2014
Phantom: SAM 2; Type: SAM;
Measurement SW: DASY52, Version 52.8 (7); SEMCAD X Version 14.6.10 (7164)

Back Side Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.0799 W/kg

Back Side Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.365 V/m; Power Drift = 0.150 dB
Peak SAR (extrapolated) = 0.110 W/kg
SAR(1 g) = 0.070 W/kg; SAR(10 g) = 0.036 W/kg
Maximum value of SAR (measured) = 0.0797 W/kg

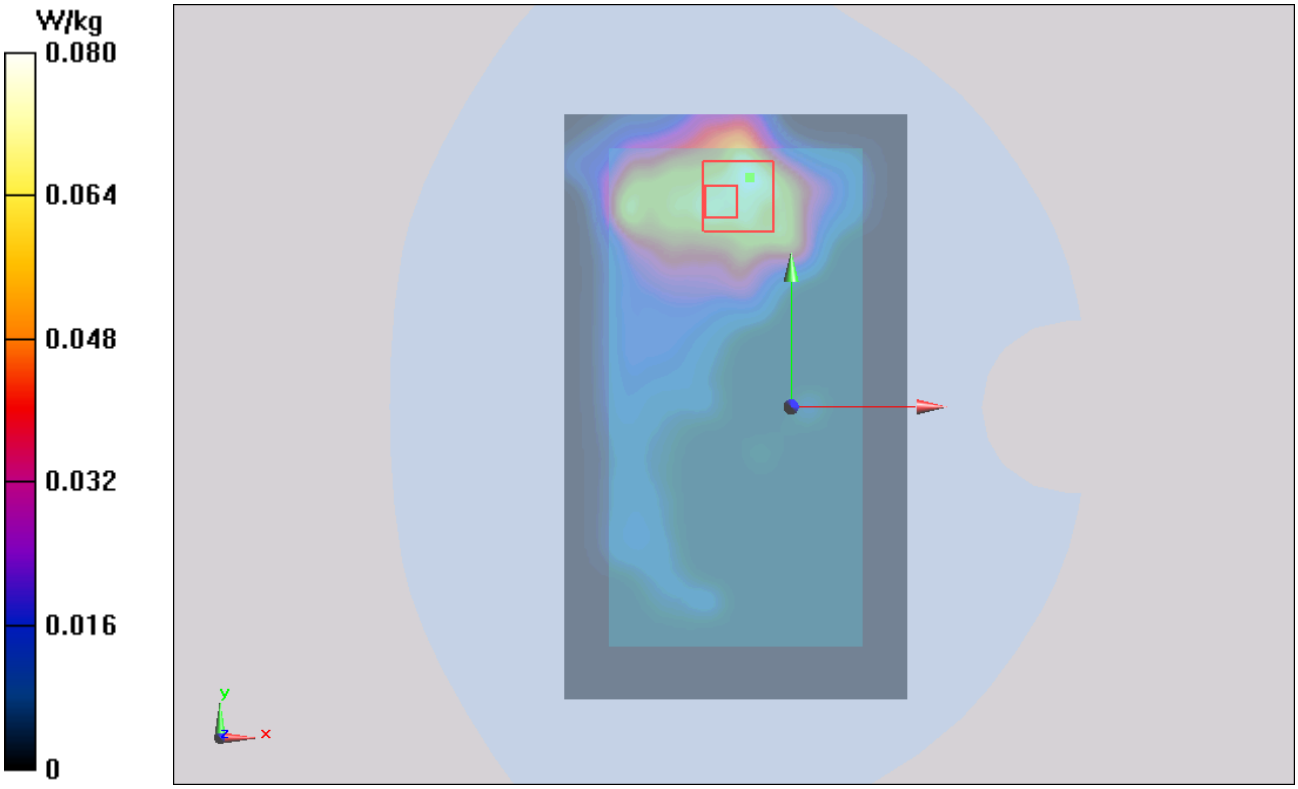


Figure 108 Body, Back Side, LTE Band 7 1RB Channel 21100

LTE Band 7 1RB Front Side Middle (Battery 1, Distance 10mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2535 MHz; σ = 2.121 S/m; ε_r = 52.544; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Front Side Middle/Area Scan (91x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.131 W/kg

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

Reference Value = 2.123 V/m; Power Drift = 0.081 dB

Peak SAR (extrapolated) = 0.127 W/kg

SAR(1 g) = 0.084 W/kg; SAR(10 g) = 0.044 W/kg

Maximum value of SAR (measured) = 0.0904 W/kg

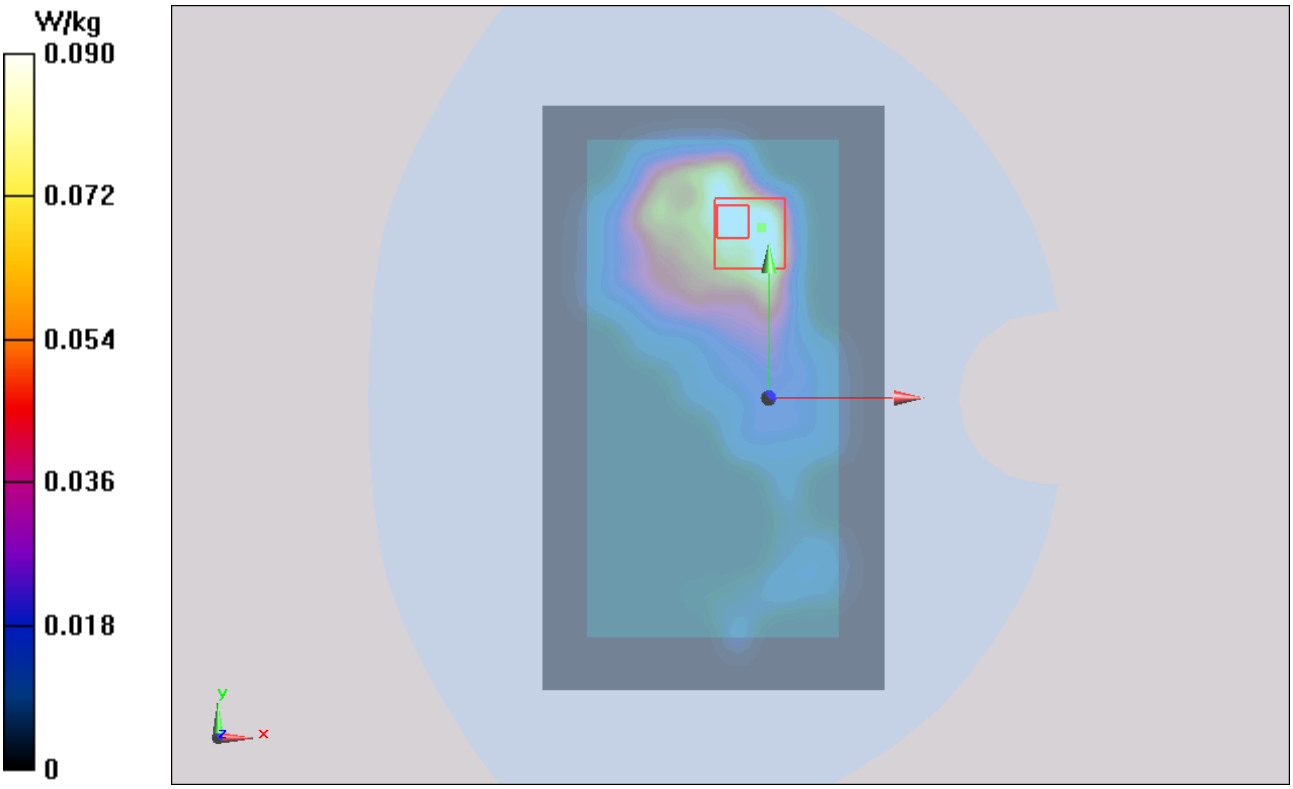


Figure 109 Body, Front Side, LTE Band 7 1RB Channel 21100

LTE Band 7 1RB Left Edge Middle (Battery 1, Distance 10mm)

Date: 9/29/2014

Communication System: UID 0, LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2535 MHz; σ = 2.121 S/m; ε_r = 52.544; 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(6.68, 6.68, 6.68); Calibrated: 2/17/2014;

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

Phantom: SAM 2; Type: SAM;

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

Left Edge Middle/Area Scan (51x181x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0127 W/kg

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

Reference Value = 0.686 V/m; Power Drift = 0.023 dB

Peak SAR (extrapolated) = 0.0160 W/kg

SAR(1 g) = 0.006 W/kg; SAR(10 g) = 0.00186 W/kg

Maximum value of SAR (measured) = 0.00665 W/kg

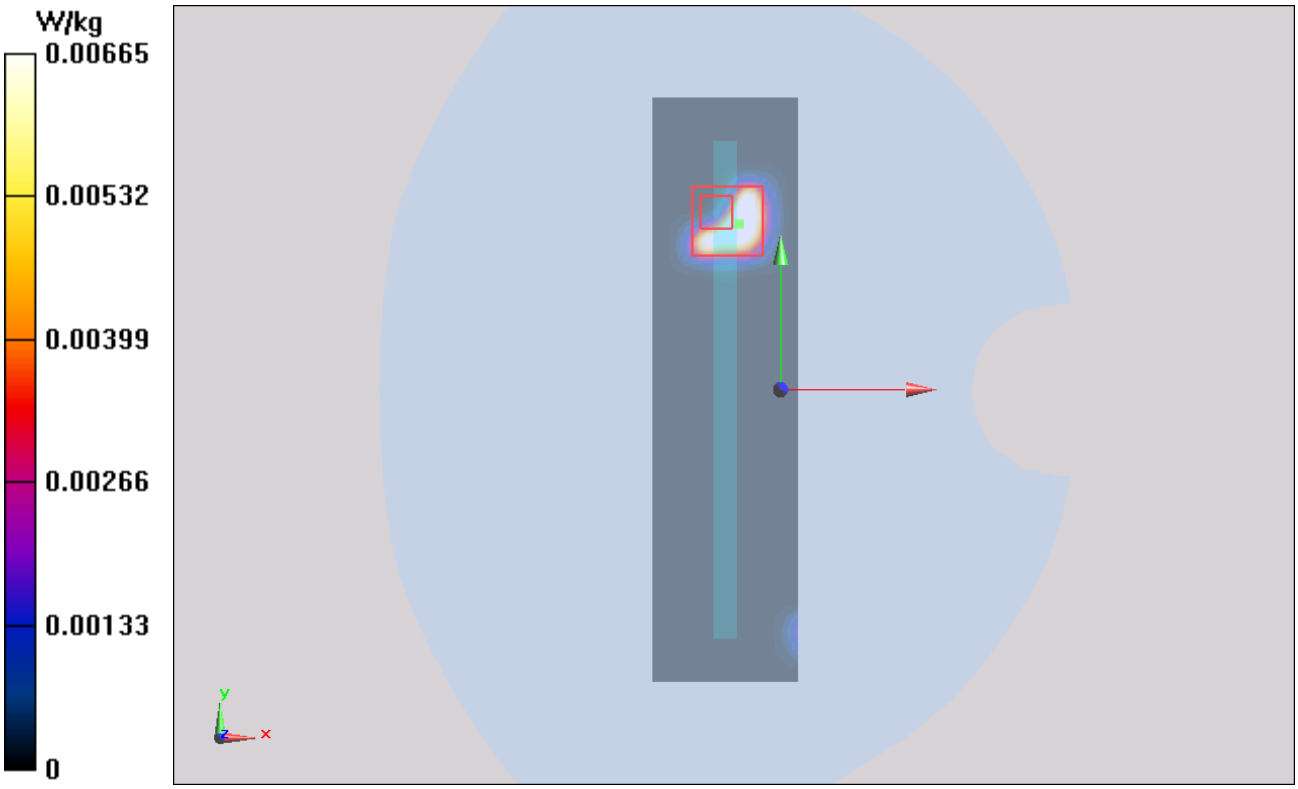


Figure 110 Body, Left Edge, LTE Band 7 1RB Channel 21100