



No.: RZA2009-0733



OET 65

TEST REPORT

Test name	Electromagnetic Field (Specific Absorption Rate)
Product	GSM Mobile Phone
Model	HUAWEI G5730
FCC ID	QISG5730
Client	HUAWEI Technologies Co., Ltd.

TA Technology (Shanghai) Co., Ltd.



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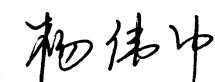
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GENERAL SUMMARY

Product	GSM Mobile Phone	Model	HUAWEI G5730
Client	HUAWEI Technologies Co., Ltd.	Type of test	Entrusted
Manufacturer	HUAWEI Technologies Co., Ltd.	Arrival Date of sample	June 11 th , 2009
Place of sampling	(Blank)	Carrier of the samples	Peng Wang
Quantity of the samples	One	Date of product	(Blank)
Base of the samples	(Blank)	Items of test	SAR
Series number/IMEI	862795000000333		
Standard(s)	<p>ANSI/IEEE Std C95.1-1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.</p> <p>IEEE 1528-2003: Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head Due to Wireless Communications Devices: Experimental Techniques.</p> <p>OET Bulletin 65 supplement C, published June 2001 including DA 02-1438, published June 2002: Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits. Transition Period for the Phantom Requirements of Supplement C to OET Bulletin 65.</p> <p>IEC 62209-1: Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures –Part 1: Procedure to determine the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz).</p> <p>IEC 62209-2:2008(106/162/CDV): Human exposure to radio frequency fields from handheld and body-mounted wireless communication devices – Human models, instrumentation, and procedures –Part 2: Procedure to determine the Specific Absorption Rate (SAR)for wireless communication devices used in close proximity to the human body .(frequency rang of 30MHz to 6GHz)</p>		
Conclusion	<p>Localized Specific Absorption Rate (SAR) of this portable wireless equipment has been measured in all cases requested by the relevant standards cited in Clause 7.2 of this test report. Maximum localized SAR is below exposure limits specified in the relevant standards cited in Clause 7.1 of this test report.</p> <p>General Judgment: Pass</p> <p style="text-align: right;">(Stamp)</p> <p style="text-align: right;">Date of issue: June 26th, 2009</p>		
Comment	The test result only responds to the measured sample.		

Approved by



Weizhong Yang

Revised by



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Performed by



Jinchang Li

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1. COMPETENCE AND WARRANTIES

TA Technology (Shanghai) Co., Ltd. is a test laboratory competent to carry out the tests described in this test report.

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

TA Technology (Shanghai) Co., Ltd. is liable to the client for the maintenance by its personnel of the confidentiality of all information related to the items under test and the results of the test.

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3. DESCRIPTION OF EUT

3.1. Addressing Information Related to EUT

Table 1: Applicant (The Client)

Name or Company	HUAWEI Technologies Co., Ltd.
Address/Post	Bantian, Long gang District
City	Shenzhen
Postal Code	518129
Country	P.R. China
Telephone	0755-28780808
Fax	0755-28780808

Table 2: Manufacturer

Name or Company	HUAWEI Technologies Co., Ltd.
Address/Post	Bantian, Long gang District
City	Shenzhen
Postal Code	518129
Country	P.R. China
Telephone	0755-28780808
Fax	0755-28780808

3.2. Constituents of EUT

Table 3: Constituents of Samples

Description	Model	Series number/IMEI	Manufacturer
Handset	HUAWEI G5730	862795000000333	HUAWEI Technologies Co., Ltd.
Lithium Battery	HBL3A	BAA8C29XE4453689	HUAWEI Technologies Co., Ltd.
AC/DC Adapter	HS-050040E5	HKA853106460	HUAWEI Technologies Co., Ltd.
	HS-050040U6	XQH852523452	HUAWEI Technologies Co., Ltd.

Note:

The EUT appearances see ANNEX H.

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3.3. Test item

Table 4: Test item of EUT

Device type :	portable device	
Exposure category:	uncontrolled environment / general population	
Device operating configurations :		
Operating mode(s):	GSM850; （tested） GSM1900; （tested）	
Test Modulation:	GMSK	
GPRS multislot class :	12	
Operating frequency range(s)	transmitter frequency range	receiver frequency range
GSM850: (tested)	824.2 MHz ~ 848.8 MHz	869.2 MHz ~ 893.8 MHz
GSM1900: (tested)	1850.2 MHz ~ 1909.8 MHz	1930.2 MHz ~ 1989.8 MHz
Power class	GSM 850: 4, tested with power level 5	
	GSM 1900: 1, tested with power level 0	
Test channel (Low –Middle –High)	128 – 190 – 251 512 – 661 – 810	(GSM850) (tested) (GSM1900) (tested)
Hardware version:	Ver.B	
Software version:	ENG01B104	
Antenna type:	integrated antenna	

3.4. General Description

Equipment Under Test (EUT) is a model of GSM Mobile Phone with internal antenna. It consists of Handset, Lithium Battery and AC/DC Adapter. The detail about Mobile phone, Lithium Battery and AC/DC Adapter is in Table 3. SAR is tested for GSM 850 and GSM 1900. The EUT has GPRS (class 12) function.

The sample under test was selected by the Client.

Components list please refer to documents of the manufacturer.

4. OPERATIONAL CONDITIONS DURING TEST

4.1. General description of test procedures

A communication link is set up with a System Simulator (SS) by air link, and a call is established. The Absolute Radio Frequency Channel Number (ARFCN) is allocated to 128, 190 and 251 in the case of GSM 850, allocated to 512, 661 and 810 in the case of GSM 1900. The EUT is commanded to operate at maximum transmitting power.

Connection to the EUT is established via air interface with E5515C, and the EUT is set to maximum output power by E5515C. The 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.

4.2. GSM Test Configuration

SAR tests for GSM 850 and GSM 1900, a communication link is set up with a System Simulator (SS) by air link. Using E5515C the power lever is set to "5" in head SAR and body SAR of GSM850, set to "0" in head SAR and body SAR of GSM1900, The test in the band of GSM850 and GSM1900 are performed in the mode of speech transfer function. Since the GPRS class is 12 for this EUT, it has at most 4 timeslots in uplink. According to specification 3GPP TS 51.010, the maximum power of the GSM can do the power reduction for the multi-slot. The allowed power reduction in the multi-slot configuration is as following:

Table 5: The allowed power reduction in the multi-slot configuration

Number of timeslots in uplink assignment	Permissible nominal reduction of maximum output power,(dB)
1	0
2	0 to 3,0
3	1.8 to 4.8
4	3,0 to 6,0

For this EUT, the tests for GSM 850 GPRS and GSM 1900 GPRS band will be performed under the following 4 setups at one same test position:

- 1) using 1 timeslot in uplink with the power of maximum power
- 2) using 2 timeslots in uplink with the power reduced 2dB
- 3) using 3 timeslots in uplink with the power reduced 2dB
- 4) using 4 timeslots in uplink with the power reduced 2dB

5. SAR MEASUREMENTS SYSTEM CONFIGURATION

5.1. SAR Measurement Set-up

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

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

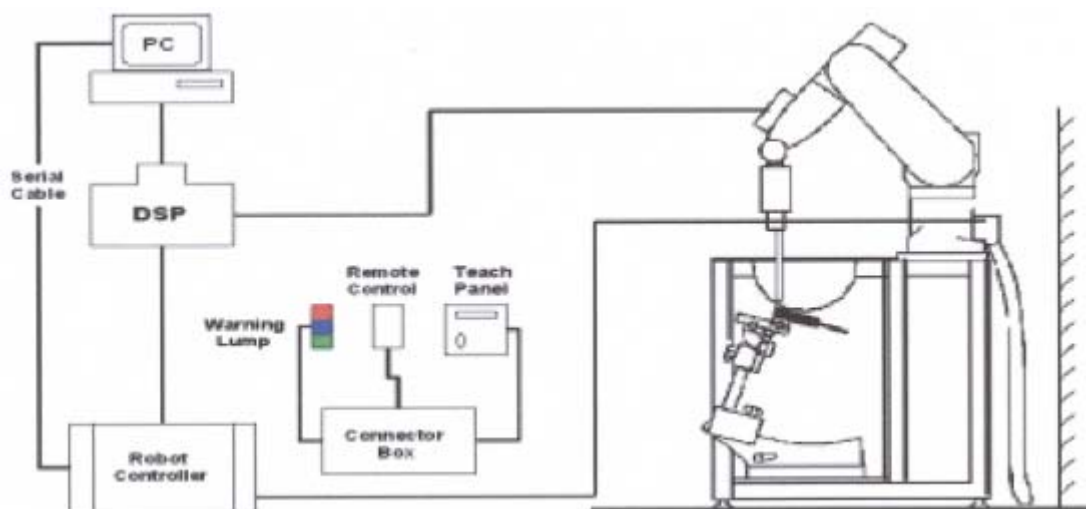


Figure 1. SAR Lab Test Measurement Set-up

5.2. Dasy4 E-field Probe System

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

5.2.1. 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	Basic Broad Band Calibration in air Conversion Factors (CF) for HSL 900 and HSL 1750 Additional CF for other liquids and frequencies upon request
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 μ W/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 μ W/g)
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.



Figure 2. EX3DV4 E-field Probe



Figure 3. EX3DV4 E-field probe

5.2.2. E-field Probe Calibration

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than $\pm 10\%$. The spherical isotropy was evaluated and found to be better than $\pm 0.25\text{dB}$. 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 below 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.

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

Where: Δt = Exposure time (30 seconds),

C = Heat capacity of tissue (brain or muscle),

ΔT = Temperature increase due to RF exposure.

Or

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

Where:

σ = Simulated tissue conductivity,

ρ = Tissue density (kg/m^3).

5.3. Other Test Equipment

5.3.1. Device Holder for Transmitters

The DASY device holder is designed to cope with the different 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 influence of the clamp on the test results could thus be lowered.



Figure 4. Device Holder

5.3.2. 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)
Available	Special



Figure 5. Generic Twin Phantom

5.4. Scanning procedure

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

- The "reference" and "drift" measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure. The indicated drift is mainly the variation of the DUT's output power and should vary max. $\pm 5\%$.
- The "surface check" measurement tests the optical surface detection system of the DASY4 system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above $\pm 0.1\text{mm}$). 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 $\pm 30^\circ$.)
- Area Scan
The Area Scan is used as a fast scan in two dimensions to find the area of high field values before running a detailed measurement around the hot spot. Before starting the area scan a grid

spacing of 15 mm x 15 mm is set. During the scan the distance of the probe to the phantom remains unchanged.

After finishing area scan, the field maxima within a range of 2 dB will be ascertained.

- **Zoom Scan**

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

- **Spatial Peak Detection**

The procedure for spatial peak SAR evaluation has been implemented and can determine values of masses of 1g and 10g, as well as for user-specific masses. The DASY4 system allows evaluations that combine measured data and robot positions, such as:

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

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

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. Several measurements at different distances are necessary for the extrapolation. Extrapolation routines require at least 10 measurement points in 3-D space. They are used in the Zoom Scan to obtain SAR values between the lowest measurement points and the inner phantom surface. The routine uses the modified Quadratic Shepard's method for extrapolation. For a grid using 7x7x7 measurement points with 5mm resolution amounting to 343 measurement points, the uncertainty of the extrapolation routines is less than 1% for 1g and 10g cubes.

- A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube 7x7x7 scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 5mm steps.

5.5. Data Storage and Evaluation

5.5.1. Data Storage

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

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

5.5.2. Data Evaluation by SEMCAD

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

Probe parameters:	- Sensitivity	Normi, ai ₀ , ai ₁ , ai ₂
	- Conversion factor	ConvFi
	- Diode compression point	Dcp _i
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	
	- Density	

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

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

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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.

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

with **SAR** = local specific absorption rate in mW/g

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

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

ρ = equivalent tissue density in g/cm³

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/cm²

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

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

5.6. System check

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulates were measured every day using the dielectric probe kit and the network analyzer. A system check measurement was made following the determination of the dielectric parameters of the simulates, using the dipole validation kit. A power level of 250 mW was supplied to the dipole antenna, which was placed under the flat section of the twin SAM phantom. The system check results (dielectric parameters and SAR values) are given in the table 12 and table 13.

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

System check is performed regularly on all frequency bands where tests are performed with the DASY 4 system.

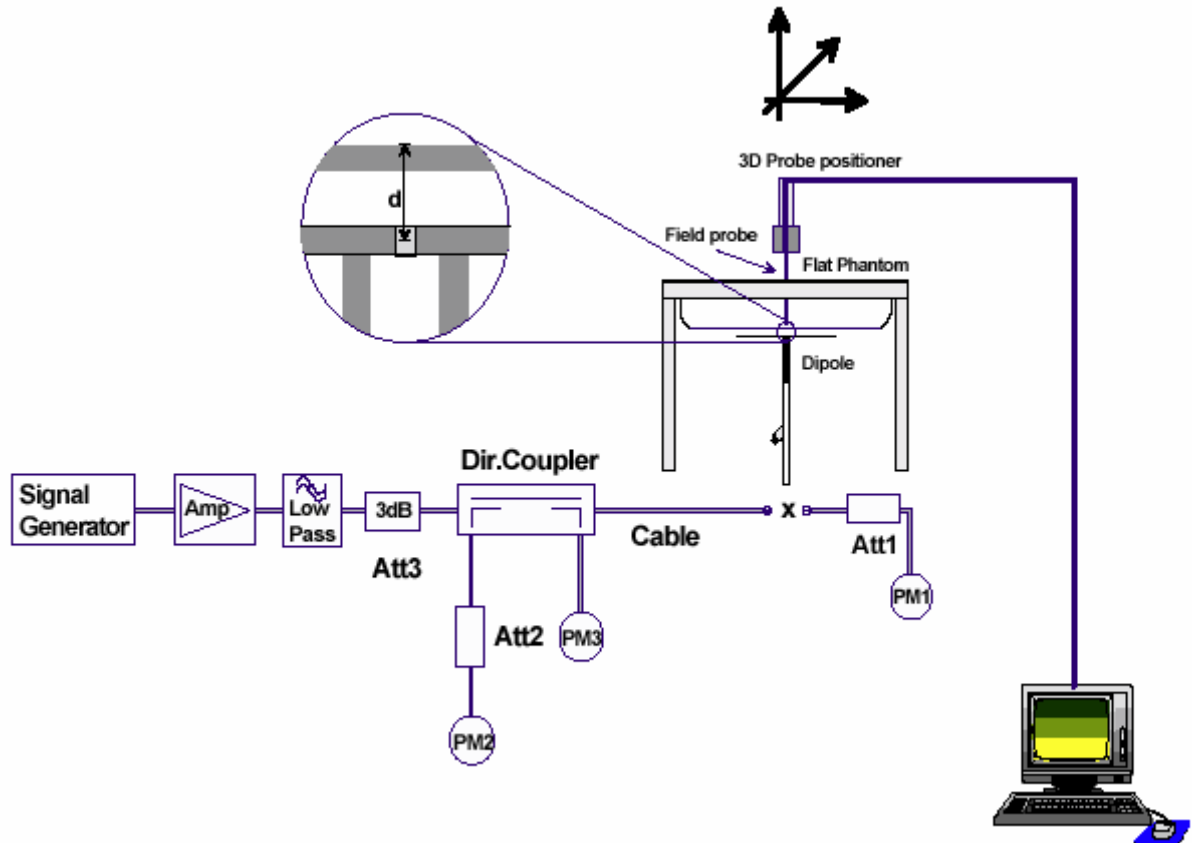


Figure 6. System Check Set-up

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5.7. Equivalent Tissues

The liquid is consisted of water, salt, Glycol, Sugar, Preventol and Cellulose. The liquid has previously been proven to be suited for worst-case. The Table 6 and Table 7 show the detail solution. It's satisfying the latest tissue dielectric parameters requirements proposed by the OET 65.

Table 6: 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 $\epsilon=41.5$ $\sigma=0.9$

MIXTURE%	FREQUENCY(Brain)1900MHz
Water	55.242
Glycol monobutyl	44.452
Salt	0.306
Dielectric Parameters Target Value	f=1900MHz $\epsilon=40.0$ $\sigma=1.40$

Table 7: 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 $\epsilon=55.2$ $\sigma=0.97$

MIXTURE%	FREQUENCY (Body) 1900MHz
Water	69.91
Glycol monobutyl	29.96
Salt	0.13
Dielectric Parameters Target Value	f=1900MHz $\epsilon=53.3$ $\sigma=1.52$

6. LABORATORY ENVIRONMENT

Table 8: The Ambient Conditions during Test

Temperature	Min. = 20°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards.	
Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

7. CHARACTERISTICS OF THE TEST

7.1. Applicable Limit Regulations

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

It specifies the maximum exposure limit of 1.6 W/kg as averaged over any 1 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.

7.2. Applicable Measurement Standards

IEEE 1528–2003: Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head Due to Wireless Communications Devices: Experimental Techniques.

OET Bulletin 65 supplement C, published June 2001 including DA 02-1438, published June 2002: Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits. Transition Period for the Phantom Requirements of Supplement C to OET Bulletin 65.

IEC 62209-1: Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures –Part 1: Procedure to determine the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz).

IEC 62209-2:2008(106/162/CDV): Human exposure to radio frequency fields from handheld and body-mounted wireless communication devices – Human models, instrumentation, and procedures –Part 2: Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body .(frequency rang of 30MHz to 6GHz)

8. CONDUCTED OUTPUT POWER MEASUREMENT

8.1. Summary

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

8.2. Conducted Power Results

Table 9: Conducted Power Measurement Results

GSM 850	Conducted Power		
	Channel 128	Channel 190	Channel 251
	(824.2MHz)	(836.6MHz)	(848.8MHz)
	Before Test (dBm)	32.21	32.14
After Test (dBm)	32.19	32.16	32.25
GSM 1900	Conducted Power		
	Channel 512	Channel 661	Channel 810
	(1850.2MHz)	(1880MHz)	(1909.8MHz)
	Before Test (dBm)	29.28	29.24
After Test (dBm)	29.26	29.25	29.19

		Average Power						
GSM 850 + GPRS		Channel	Channel	Channel		Channel	Channel	Channel
		128	190	251		128	190	251
1 TX-slot	Before Test (dBm)	32.25	32.28	32.30	-9.03	23.22	23.25	23.27
	After Test (dBm)	32.24	32.27	32.28		23.21	23.24	23.25
2 TX-slots	Before Test (dBm)	30.20	30.40	30.30	-6.02	24.18	24.38	24.28
	After Test (dBm)	30.21	30.41	30.31		24.19	24.39	24.29
3 TX-slots	Before Test (dBm)	30.20	30.40	30.30	-4.26	25.94	26.14	26.04
	After Test (dBm)	30.22	30.40	30.31		25.96	26.14	26.05
4 TX-slots	Before Test (dBm)	30.20	30.40	30.30	-3.01	27.19	27.39	27.29
	After Test (dBm)	30.18	30.410	30.29		27.17	27.39	27.28
GSM 1900 + GPRS		Channel	Channel	Channel		Channel	Channel	Channel
		512	661	810		512	661	810
1 TX-slot	Before Test (dBm)	29.28	29.24	29.19	-9.03	20.25	20.21	20.16

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	After Test (dBm)	29.26	29.25	29.19		20.23	20.22	20.16
2 TX-slots	Before Test (dBm)	27.40	27.30	27.30	-6.02	21.38	21.28	21.28
	After Test (dBm)	27.42	27.29	27.31		21.40	21.27	21.29
3 TX-slots	Before Test (dBm)	27.40	27.30	27.30	-4.26	23.14	23.04	23.04
	After Test (dBm)	27.41	27.32	27.32		23.15	23.06	23.06
4 TX-slots	Before Test (dBm)	27.40	27.30	27.30	-3.01	24.39	24.29	24.29
	After Test (dBm)	27.39	27.30	27.29		24.38	24.29	24.28

Note:

1) Division Factors

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

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

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

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

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

3TX- slot = 3 transmit time slots out of 8 time slots

=> conducted power divided by (8/3) => -4.26 dB

4 TX- slot = 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 marked in bold.

3) For SAR testing the EUT was set to multislot class based on the maximum averaged conducted power.

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9. TEST RESULTS

9.1. Dielectric Performance

Table 10: Dielectric Performance of Head Tissue Simulating Liquid

Frequency	Description	Dielectric Parameters		Temp ℃
		ϵ_r	$\sigma(\text{s/m})$	
835MHz (head)	Target value $\pm 10\%$ window	41.5 39.43 — 43.58	0.90 0.86 — 0.95	/
	Measurement value 2009-6-23	41.95	0.93	21.8
1900MHz (head)	Target value 10% window	40.0 38 — 42	1.40 1.33 — 1.47	/
	Measurement value 2009-6-13	39.77	1.41	21.9

Table 11: Dielectric Performance of Body Tissue Simulating Liquid

Frequency	Description	Dielectric Parameters		Temp ℃
		ϵ_r	$\sigma(\text{s/m})$	
835MHz (body)	Target value $\pm 5\%$ window	55.20 52.44 — 57.96	0.97 0.92 — 1.02	/
	Measurement value 2009-6-24	55.17	1.01	21.8
1900MHz (body)	Target value $\pm 5\%$ window	53.3 50.64 — 55.97	1.52 1.44 — 1.60	/
	Measurement value 2009-6-24	52.65	1.56	21.9

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9.2. System Check Results

Table 12: System Check for Head tissue simulation liquid

Frequency	Description	SAR(W/kg)		Dielectric Parameters		Temp
		10g	1g	ϵ_r	σ (s/m)	°C
835MHz	Recommended result ±10% window	1.52 1.37--1.67	2.30 2.07--2.53	40.90	0.89	/
	Measurement value 2009-6-23	1.50	2.30	41.95	0.93	21.9
1900MHz	Recommended result 10% window	5.06 4.55---5.57	9.84 8.86--10.82	38.80	1.47	/
	Measurement value 2009-6-13	5.09	9.74	39.77	1.41	22.1

Note: 1. the graph results see ANNEX B.

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

Table 13: System Check for Body tissue simulation liquid

Frequency	Description	SAR(W/kg)		Dielectric Parameters		Temp
		10g	1g	ϵ_r	σ (s/m)	°C
835MHz	Recommended result ±10% window	1.59 1.43—1.75	2.41 2.17 — 2.65	53.6	1.0	/
	Measurement value 2009-6-24	1.58	2.40	55.17	1.01	21.9
1900 MHz	Recommended result ±10% window	5.36 4.82—5.90	10.2 9.18 — 11.22	52.4	1.59	/
	Measurement value 2009-6-24	5.14	10.0	52.65	1.56	21.7

Note: 1. The graph results see ANNEX B.

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

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9.3. Test Results

9.3.1. Summary of Measurement Results (GSM850/GPRS)

Table 14: SAR Values (GSM850/GPRS, Open)

Limit of SAR (W/kg)		10 g Average	1 g Average	Power Drift (dB)	Graph Results
		2.0	1.6	± 0.21	
Test Case Of Head		Measurement Result(W/kg)		Power Drift (dB)	
		10 g Average	1 g Average		
Different Test Position	Channel				
Test position of Head					
Left hand, Touch cheek	Middle	0.306	0.405	0.030	Figure 15
Left hand, Tilt 15 Degree	Middle	0.164	0.223	0.055	Figure 17
Right hand, Touch cheek	High	0.470	0.628	-0.056	Figure 19
	Middle	0.381	0.508	-0.100	Figure 21
	Low	0.321	0.426	-0.102	Figure 23
Right hand, Tilt 15 Degree	Middle	0.183	0.249	-0.086	Figure 25
Test position of Body (Distance 20mm)					
Towards Ground	High	0.287	0.392	-0.082	Figure 27
	Middle	0.269	0.369	-0.133	Figure 29
	Low	0.231	0.313	-0.095	Figure 31
Towards phantom	Middle	0.268	0.363	0.016	Figure 33
Worst case position of Body with Earphone (Distance 20mm)					
Towards Ground	High	0.240	0.332	-0.171	Figure 35
Test position of Body with GPRS (4 timeslots uplink, Distance 20mm)					
Towards Ground	High	0.690	0.956	0.198	Figure 37
	Middle	0.654	0.895	-0.160	Figure 39
	Low	0.612	0.835	0.033	Figure 41
Towards phantom	Middle	0.512	0.698	0.002	Figure 43

Note: 1. The value with blue color is the maximum SAR Value of test case of head and body in each test band.

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

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

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Table 15: SAR Values (GSM850/GPRS, Close)

Limit of SAR (W/kg)		10 g Average	1 g Average	Power Drift (dB)	Graph Results
		2.0	1.6	± 0.21	
Test Case Of Head		Measurement Result(W/kg)		Power Drift (dB)	
		10 g Average	1 g Average		
Different Test Position	Channel				
Test position of Head					
Left hand, Touch cheek	High	0.358	0.511	-0.171	Figure 45
	Middle	0.385	0.572	-0.051	Figure 47
	Low	0.364	0.513	-0.043	Figure 49
Left hand, Tilt 15 Degree	Middle	0.248	0.339	-0.042	Figure 51
Right hand, Touch cheek	Middle	0.393	0.544	-0.086	Figure 53
Right hand, Tilt 15 Degree	Middle	0.236	0.324	-0.044	Figure 55
Test position of Body (Distance 20mm)					
Towards Ground	High	0.253	0.362	-0.174	Figure 57
	Middle	0.323	0.462	0.053	Figure 59
	Low	0.282	0.402	-0.103	Figure 61
Towards phantom	Middle	0.155	0.212	-0.152	Figure 63
Worst case position of Body with Earphone (Distance 20mm)					
Towards Ground	Middle	0.244	0.350	-0.105	Figure 65
Test position of Body with GPRS (4 timeslots uplink, Distance 20mm)					
Towards Ground	High	0.483	0.700	-0.001	Figure 67
	Middle	0.586	0.845	-0.042	Figure 69
	Low	0.540	0.773	0.063	Figure 71
Towards phantom	Middle	0.296	0.408	-0.147	Figure 73

Note: 1. The value with blue color is the maximum SAR Value of test case of head and body in each test band.

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

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9.3.2. Summary of Measurement Results (GSM1900/GPRS)

Table 16: SAR Values (GSM1900/GPRS, open)

Limit of SAR (W/kg)		10 g Average	1 g Average	Power Drift (dB)	Graph Results
		2.0	1.6	± 0.21	
Test Case Of Head		Measurement Result(W/kg)		Power Drift (dB)	
		10 g Average	1 g Average		
Different Test Position	Channel				
Test position of Head					
Left hand, Touch cheek	Middle	0.242	0.384	0.025	Figure 75
Left hand, Tilt 15 Degree	Middle	0.151	0.246	-0.020	Figure 77
Right hand, Touch cheek	High	0.303	0.513	-0.070	Figure 79
	Middle	0.311	0.525	-0.090	Figure 81
	Low	0.259	0.435	0.197	Figure 83
Right hand, Tilt 15 Degree	Middle	0.134	0.211	0.002	Figure 85
Test position of Body (Distance 20mm)					
Towards Ground	High	0.129	0.197	-0.020	Figure 87
	Middle	0.121	0.183	0.009	Figure 89
	Low	0.100	0.149	-0.060	Figure 91
Towards phantom	Middle	0.088 (max.cube)	0.129 (max.cube)	0.021	Figure 93
Worst case position of Body with Earphone (Distance 20mm)					
Towards Ground	High	0.135	0.209	-0.095	Figure 95
Test position of Body with GPRS (4 timeslots uplink, Distance 20mm)					
Towards Ground	High	0.303	0.481	-0.020	Figure 97
	Middle	0.270	0.427	0.028	Figure 99
	Low	0.223	0.347	-0.082	Figure 101
Towards phantom	Middle	0.152 (max.cube)	0.238 (max.cube)	-0.174	Figure 103

Note: 1. The value with blue color is the maximum SAR Value of test case of head and body in each test band.

- Upper and lower frequencies were measured at the worst position.
- The SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit ($< 0.8\text{W/kg}$), testing at the high and low channels is optional.
- The (max.cube) labeling indicates that during the grid scanning an additional peak was found which was within 2.0dB of the highest peak. The value of the highest cube is given in the table above; the value from the second assessed cube is given in the SAR distribution plots (See ANNEX C).

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Table 17: SAR Values (GSM1900/GPRS, close)

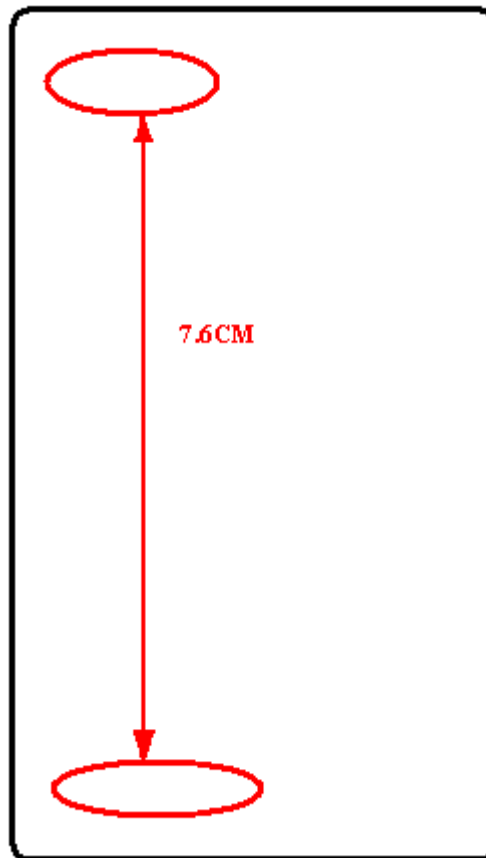
Limit of SAR (W/kg)		10 g Average	1 g Average	Power Drift (dB)	Graph Results
		2.0	1.6	± 0.21	
Test Case Of Head		Measurement Result(W/kg)		Power Drift (dB)	
		10 g Average	1 g Average		
Different Test Position	Channel				
Test position of Head					
Left hand, Touch cheek	Middle	0.118	0.197	-0.023	Figure 105
Left hand, Tilt 15 Degree	Middle	0.053	0.083	0.109	Figure 107
Right hand, Touch cheek	High	0.171	0.278	-0.103	Figure 109
	Middle	0.133	0.213	0.107	Figure 111
	Low	0.100	0.158	0.099	Figure 113
Right hand, Tilt 15 Degree	Middle	0.055	0.086	0.043	Figure 115
Test position of Body (Distance 20mm)					
Towards Ground	High	0.087 (max.cube)	0.134 (max.cube)	-0.004	Figure 117
	Middle	0.074 (max.cube)	0.112 (max.cube)	0.025	Figure 119
	Low	0.059	0.087	0.159	Figure 121
Towards phantom	Middle	0.036	0.045	-0.041	Figure 123
Worst case position of Body with Earphone (Distance 20mm)					
Towards Ground	High	0.093 (max.cube)	0.143 (max.cube)	-0.135	Figure 125
Test position of Body with GPRS (4 timeslots uplink, Distance 20mm)					
Towards Ground	High	0.192 (max.cube)	0.313 (max.cube)	-0.011	Figure 127
	Middle	0.178 (max.cube)	0.290 (max.cube)	0.032	Figure 129
	Low	0.101 (max.cube)	0.158 (max.cube)	0.038	Figure 131
Towards phantom	Middle	0.067	0.094	0.080	Figure 133

Note: 1. The value with blue color is the maximum SAR Value of test case of head and body in each test band.

- Upper and lower frequencies were measured at the worst position.
- The SAR test shall be performed at the high, middle and low frequency channels of each operating mode. If the SAR measured at mid-band channel for each test configuration is at least 3.0 dB lower than the SAR limit ($< 0.8\text{W/kg}$), testing at the high and low channels is optional.
- The (max.cube) labeling indicates that during the grid scanning an additional peak was found which was within 2.0dB of the highest peak. The value of the highest cube is given in the table above; the value from the second assessed cube is given in the SAR distribution plots (See ANNEX C).

9.3.3. Summary of Measurement Results (Bluetooth function)

The distance between BT antenna and GSM antenna is >5cm. The location of the antennas inside mobile phone is shown below:



The output power of BT antenna is as following:

Channel	Ch 0 2402 MHz	Ch 39 2441 Mhz	Ch 78 2480 MHz
Peak Conducted Output Power(dBm)	3.18	3.42	3.67

According to the output power measurement result and the distance between the two antennas, we can draw the conclusion that: stand-alone SAR is not required for BT transmitter, because the output power of BT transmitter is $\leq 2P_{Ref}$ and its antenna is $\geq 5\text{cm}$ from other antenna

So, because of the power and the distance, we didn't perform the standalone BT SAR tests.

9.4. Conclusion

Localized Specific Absorption Rate (SAR) of this portable wireless device has been measured in all cases requested by the relevant standards cited in Clause 7.2 of this report. Maximum localized SAR_{1g} are 0.628 W/kg (head) and 0.956 W/kg (body) that are below exposure limits specified in the relevant standards cited in Clause 7.1 of this test report.

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	5.9	N	1	1	5.9	∞
3	axial isotropy of the probe	B	4.7	R	√3	√0.5	1.9	∞
4	Hemispherical isotropy of the probe	B	9.4	R	√3	√0.5	3.9	∞
6	boundary effect	B	1.9	R	√3	1	1.1	∞
7	probe linearity	B	4.7	R	√3	1	2.7	∞
8	System detection limits	B	1.0	R	√3	1	0.6	∞
9	readout Electronics	B	1.0	N	1	1	1.0	∞
10	response time	B	0	R	√3	1	0	∞
11	integration time	B	4.32	R	√3	1	2.5	∞
12	noise	B	0	R	√3	1	0	∞
13	RF Ambient Conditions	B	3	R	√3	1	1.73	∞
14	Probe Positioner Mechanical Tolerance	B	0.4	R	√3	1	0.2	∞
15	Probe Positioning with respect to Phantom Shell	B	2.9	R	√3	1	1.7	∞
16	Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	B	3.9	R	√3	1	2.3	∞
Test sample Related								
17	-Test Sample Positioning	A	2.9	N	1	1	2.9	5
18	-Device Holder Uncertainty	A	4.1	N	1	1	4.1	5
19	-Output Power Variation - SAR drift measurement	B	5.0	R	√3	1	2.9	∞
Physical parameter								

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20	-phantom	B	4.0	R	$\sqrt{3}$	1	2.3	∞
21	-liquid conductivity (deviation from target)	B	5.0	R	$\sqrt{3}$	0.6 4	1.8	∞
22	-liquid conductivity (measurement uncertainty)	B	5.0	N	1	0.6 4	3.2	∞
23	-liquid permittivity (deviation from target)	B	5.0	R	$\sqrt{3}$	0.6	1.7	∞
24	-liquid permittivity (measurement uncertainty)	B	5.0	N	1	0.6	3.0	∞
Combined standard uncertainty		$u_c' = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$					12.0	
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$		N	k=2		24.0	

11. MAIN TEST INSTRUMENTS

Table 18: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	Agilent 8753E	US37390326	September 14, 2008	One year
02	Dielectric Probe Kit	Agilent 85070E	US44020115	No Calibration Requested	
03	Power meter	Agilent E4417A	GB41291714	March 14, 2009	One year
04	Power sensor	Agilent 8481H	MY41091316	March 14, 2009	One year
05	Signal Generator	HP 8341B	2730A00804	September 14, 2008	One year
06	Amplifier	IXA-020	0401	No Calibration Requested	
07	BTS	E5515C	GB46490218	September 14, 2008	One year
08	E-field Probe	EX3DV4	3660	September 3, 2008	One year
09	DAE	DAE4	452	November 18, 2008	One year
10	Validation Kit 835MHz	D835V2	4d020	July 21, 2008	One year
11	Validation Kit 1900MHz	D1900V2	5d060	July 22, 2008	One year

12. TEST PERIOD

The test is performed from June 13, 2009 to June 25, 2009.

13. TEST LOCATION

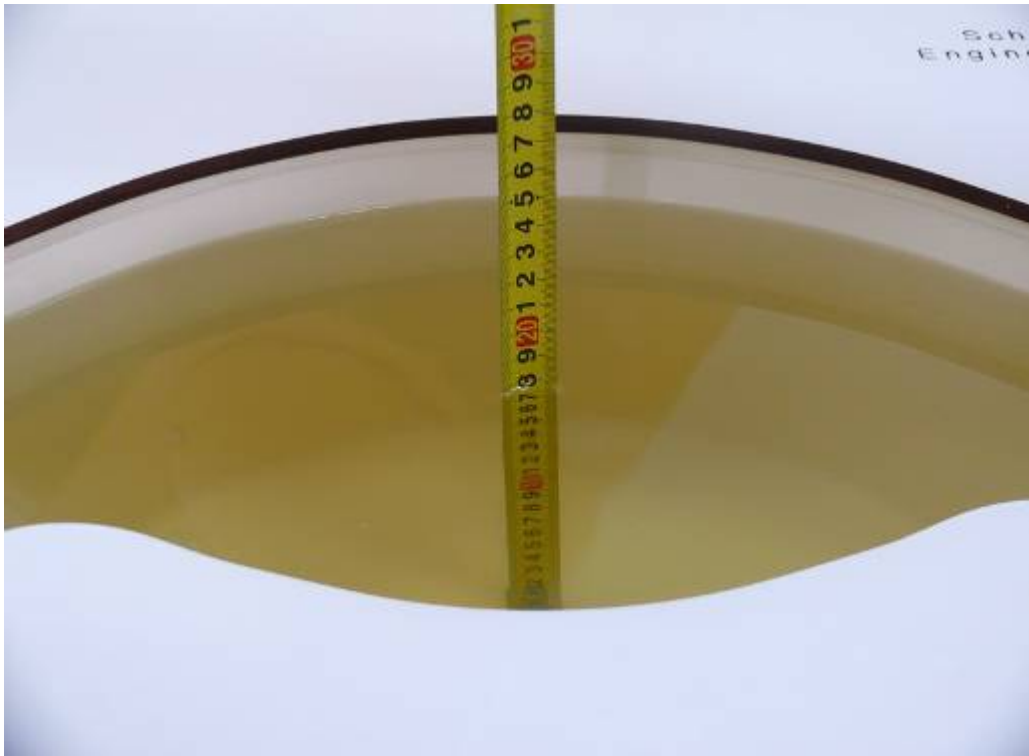
The test is performed at TA Technology (Shanghai) Co., Ltd.

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

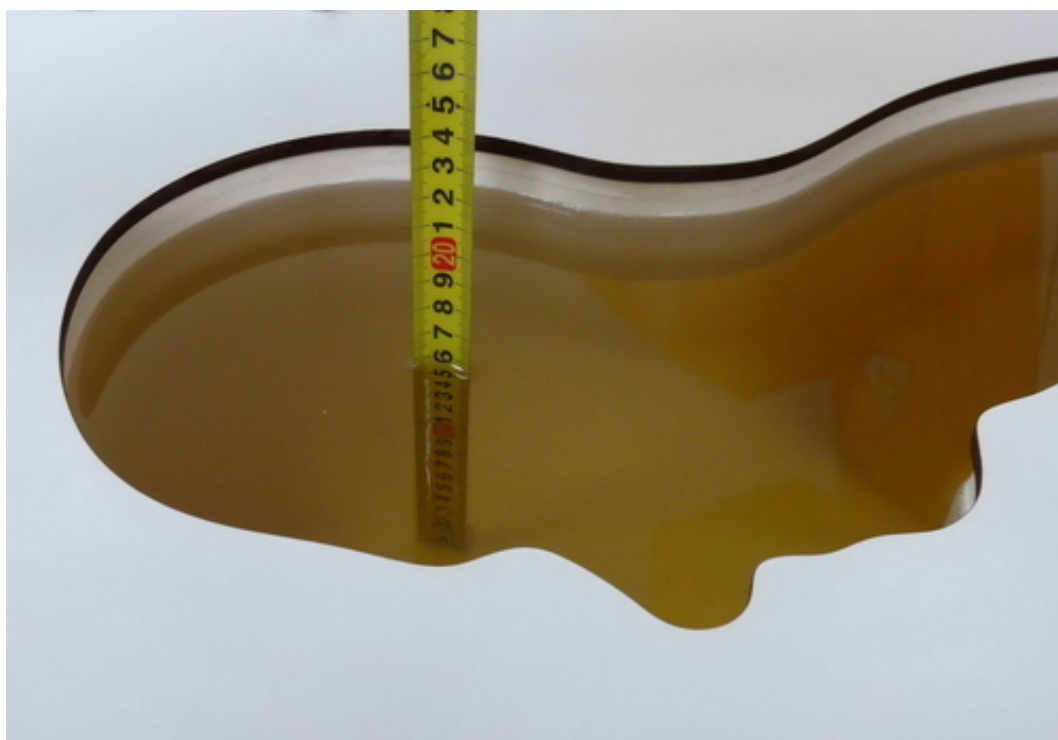
ANNEX A: TEST LAYOUT



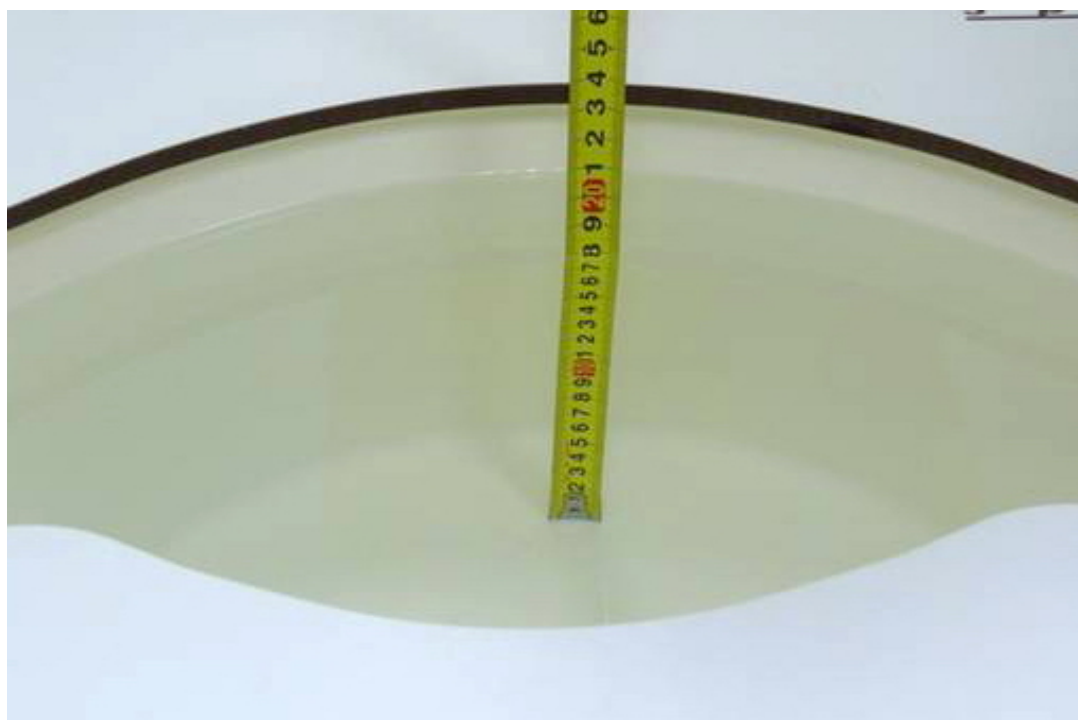
Picture 1: Specific Absorption Rate Test Layout



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



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



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



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

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: 6/23/2009 7:01:58 AM

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

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 0.93 \text{ mho/m}$; $\epsilon_r = 41.95$; $\rho = 1000 \text{ kg/m}^3$

Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19);

Electronics: DAE4 Sn452;

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

Maximum value of SAR (interpolated) = 2.81 mW/g

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

Reference Value = 55.8 V/m; Power Drift = -0.060 dB

Peak SAR (extrapolated) = 3.50 W/kg

SAR(1 g) = 2.3 mW/g; SAR(10 g) = 1.5 mW/g

Maximum value of SAR (measured) = 2.83 mW/g

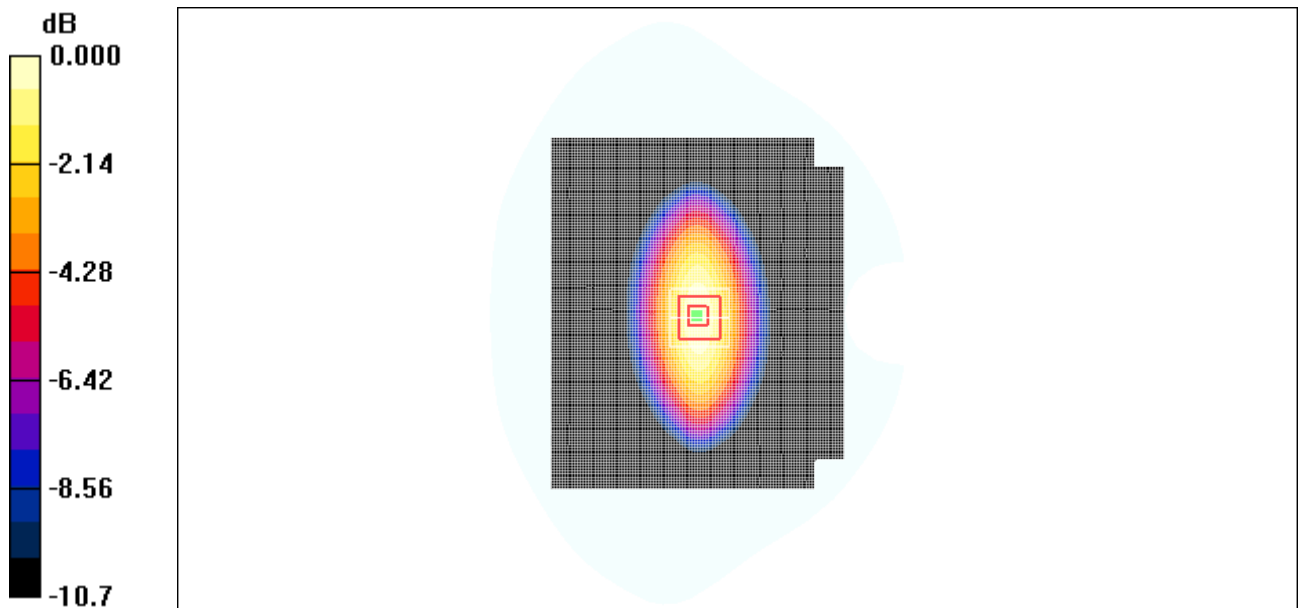


Figure 7 System Performance Check 835MHz 250mW

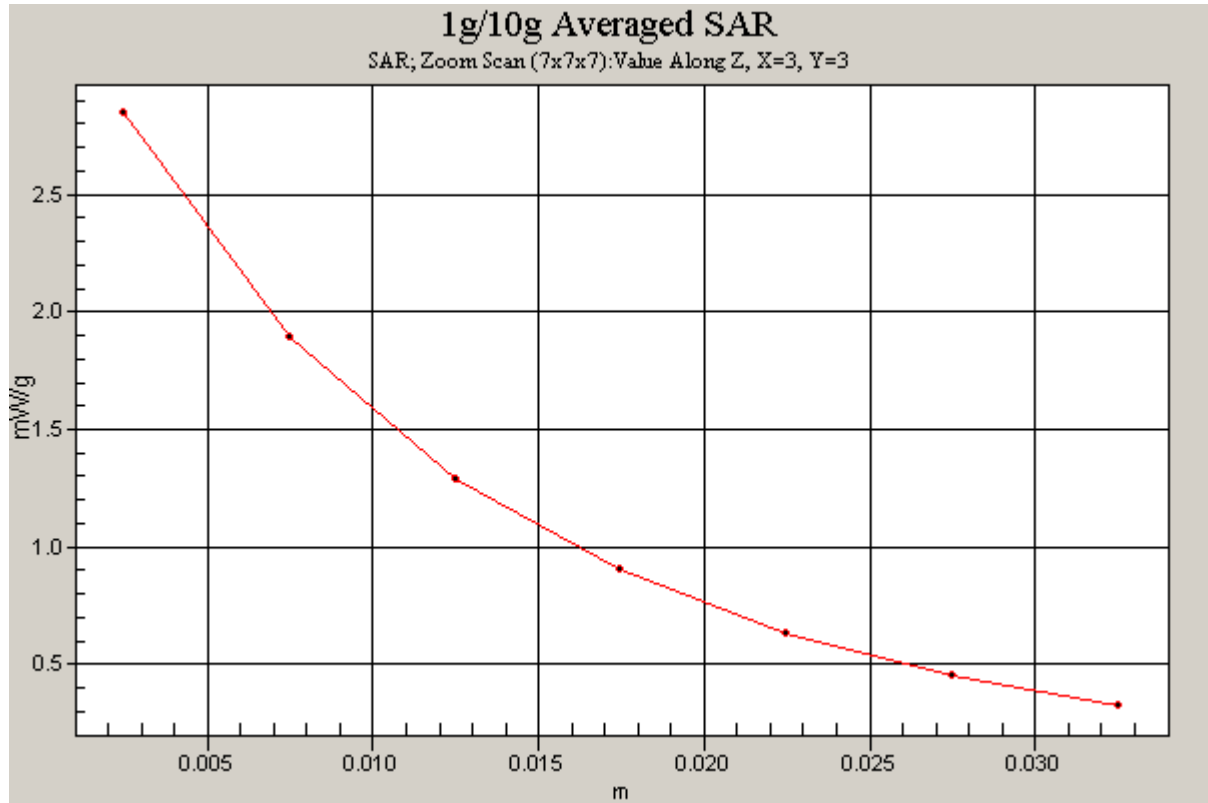


Figure 8 Z-Scan at power reference point (system check at 835 MHz dipole)

System Performance Check at 835 MHz Body TSL

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

Date/Time: 6/24/2009 7:12:49 PM

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

Medium parameters used: $f = 835 \text{ MHz}$; $\sigma = 1.01 \text{ mho/m}$; $\epsilon_r = 55.17$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

Measurement SW: DASY4, V4.7 Build 55; Postprocessing SW: SEMCAD, V1.8 Build 186

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

Maximum value of SAR (interpolated) = 2.93 mW/g

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

Reference Value = 55.7 V/m; Power Drift = -0.017 dB

Peak SAR (extrapolated) = 3.59 W/kg

SAR(1 g) = 2.4 mW/g; SAR(10 g) = 1.58 mW/g

Maximum value of SAR (measured) = 2.92 mW/g

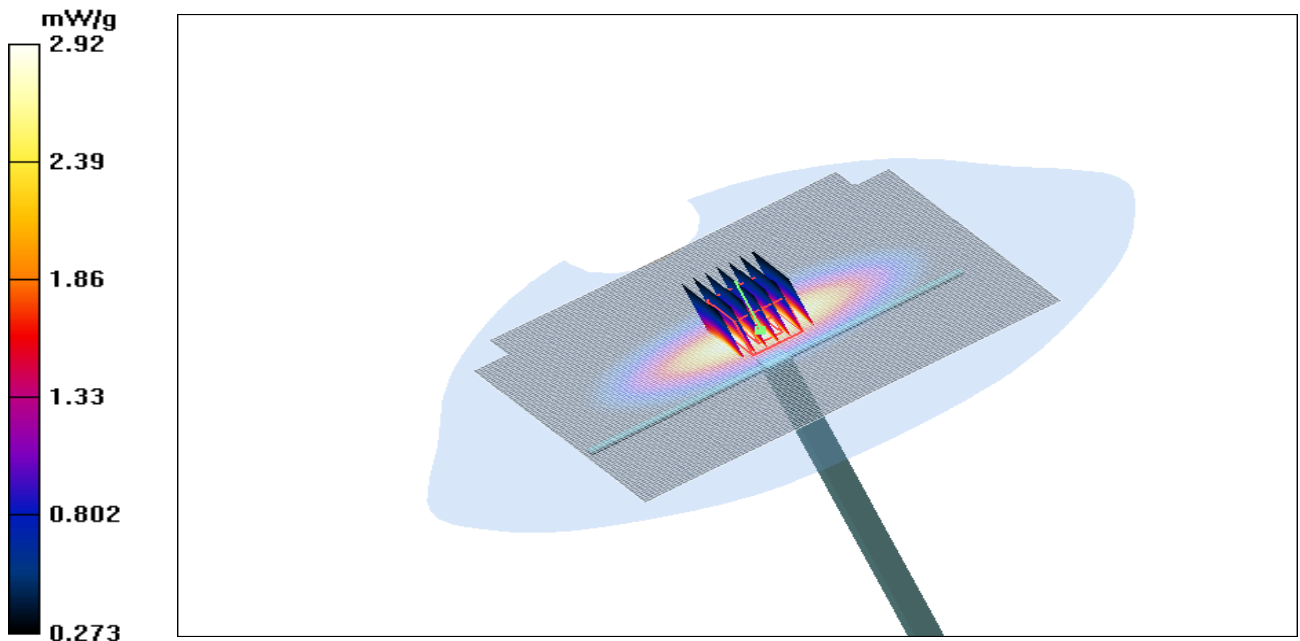


Figure 9 System Performance Check 835MHz 250mW

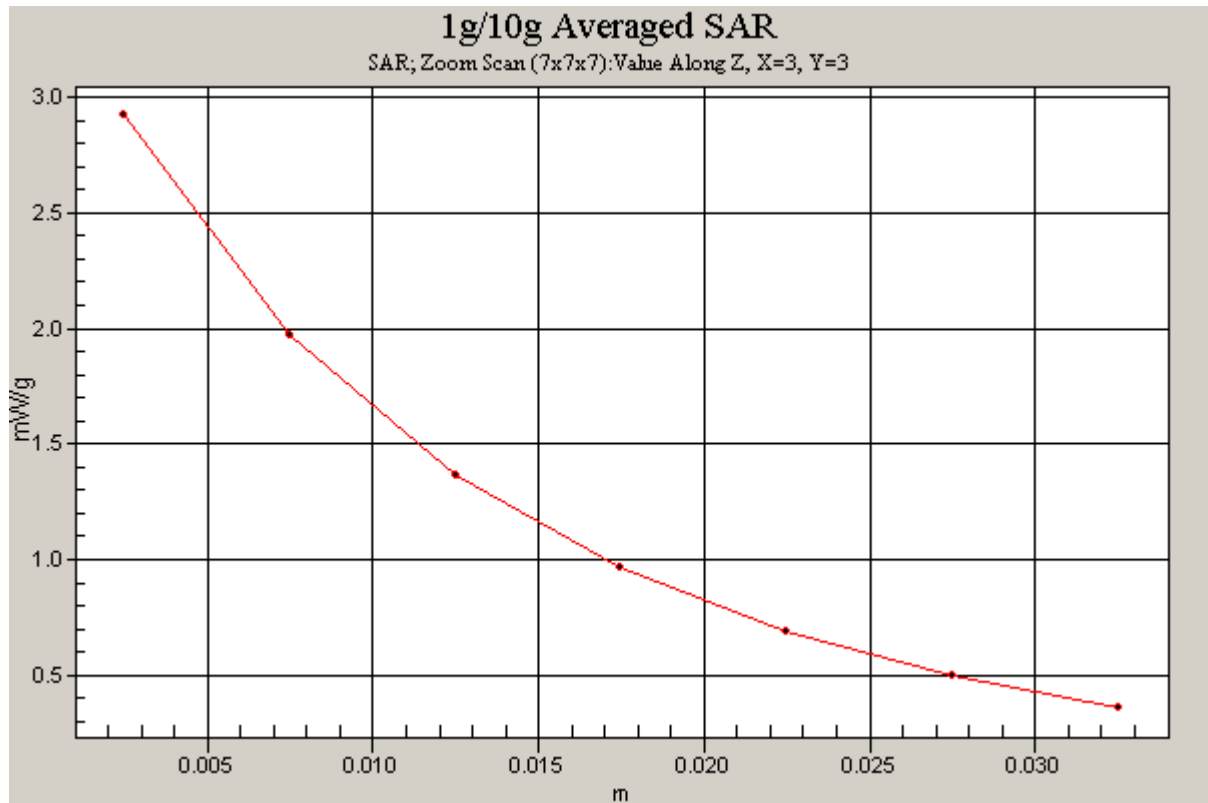


Figure 10 Z-Scan at power reference point (system Check at 835 MHz dipole)

System Performance Check at 1900 MHz Head TSL

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

Date/Time: 6/13/2009 8:45:58 AM

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

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.41 \text{ mho/m}$; $\epsilon_r = 39.77$; $\rho = 1000 \text{ kg/m}^3$

Probe: EX3DV4 - SN3660; ConvF(7.35, 7.35, 7.35);

Electronics: DAE4 Sn452;

d=10mm, Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 93.1 V/m; Power Drift = -0.006 dB

Peak SAR (extrapolated) = 16.9 W/kg

SAR(1 g) = 9.74 mW/g; SAR(10 g) = 5.09 mW/g

Maximum value of SAR (measured) = 11.1 mW/g

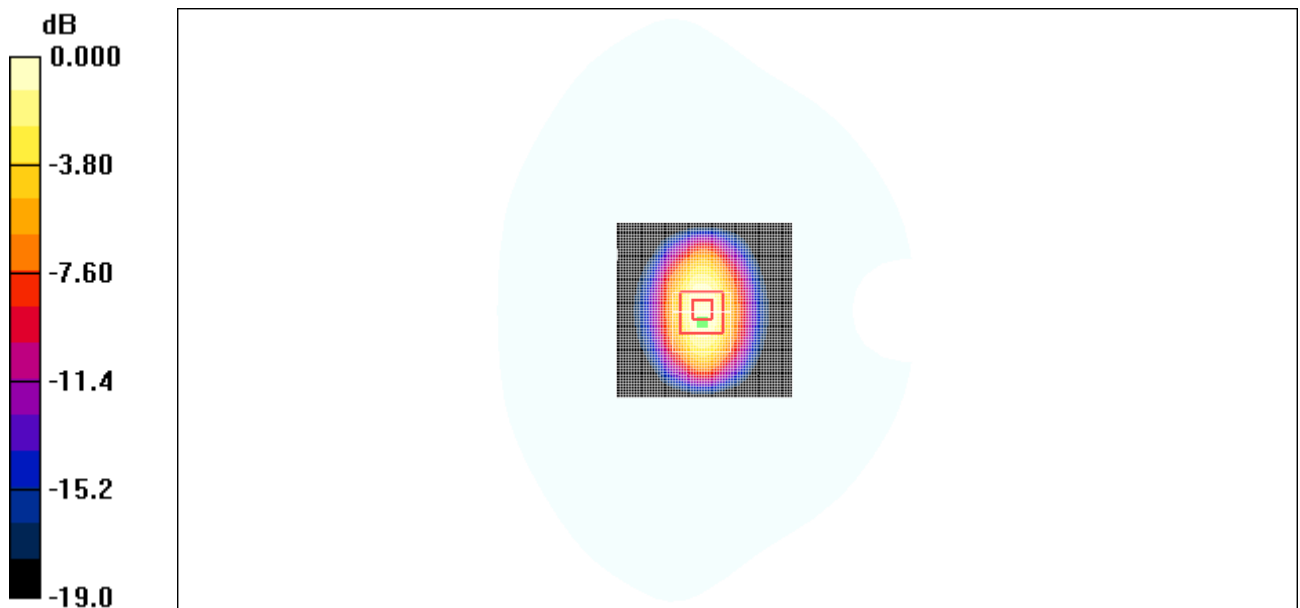


Figure 11 System Performance Check 1900MHz 250mW

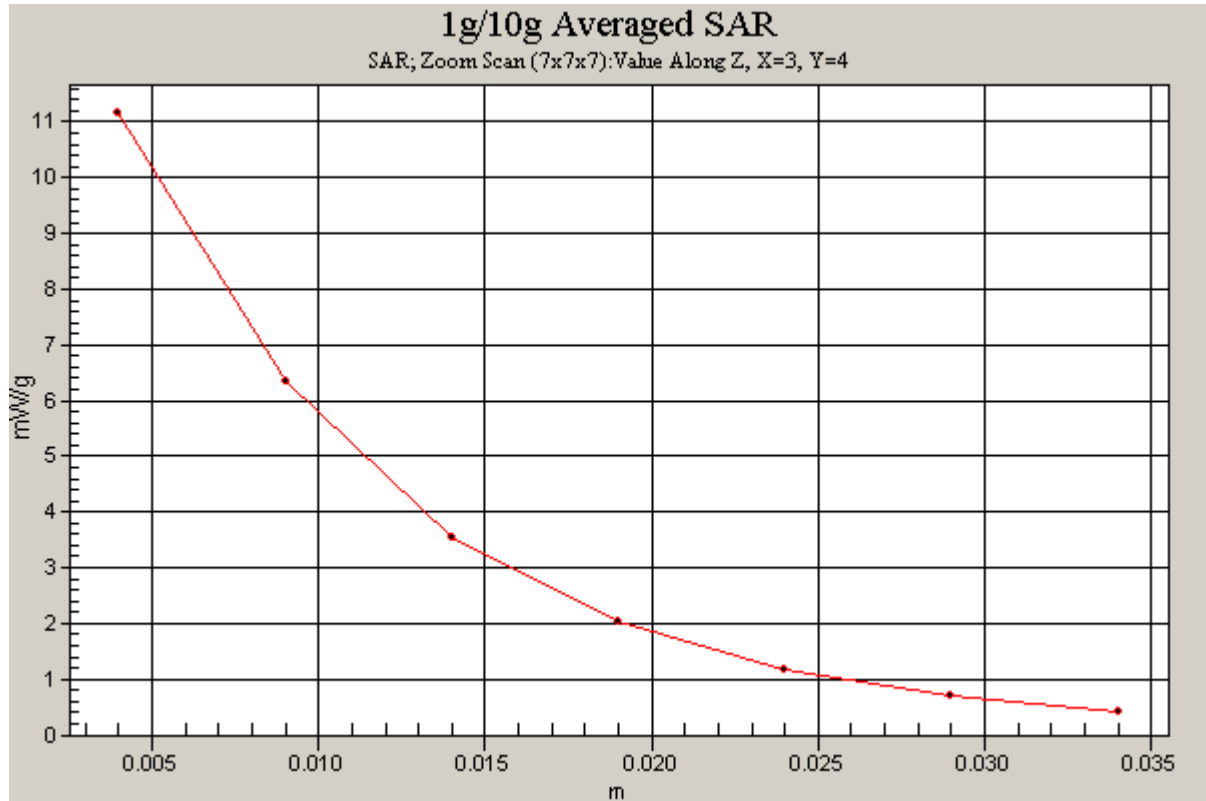


Figure 12 Z-Scan at power reference point (system check at 1900 MHz dipole)

System Performance Check at 1900 MHz Body TSL

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

Date/Time: 6/24/2009 5:51:49 PM

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

Medium parameters used: $f = 1900 \text{ MHz}$; $\sigma = 1.56 \text{ mho/m}$; $\epsilon_r = 52.65$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

d=10mm, Pin=250mW/Area Scan (61x61x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 11.9 mW/g

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

Reference Value = 86.0 V/m; Power Drift = -0.012 dB

Peak SAR (extrapolated) = 18.9 W/kg

SAR(1 g) = 10 mW/g; SAR(10 g) = 5.14 mW/g

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

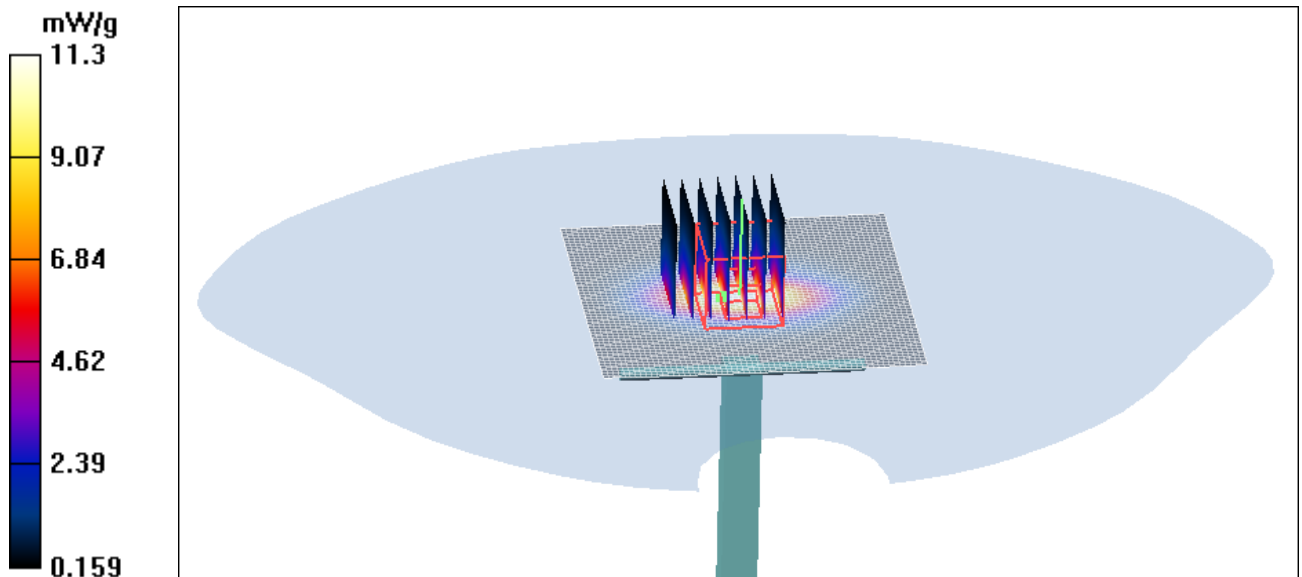


Figure 13 System Performance Check 1900MHz 250mW

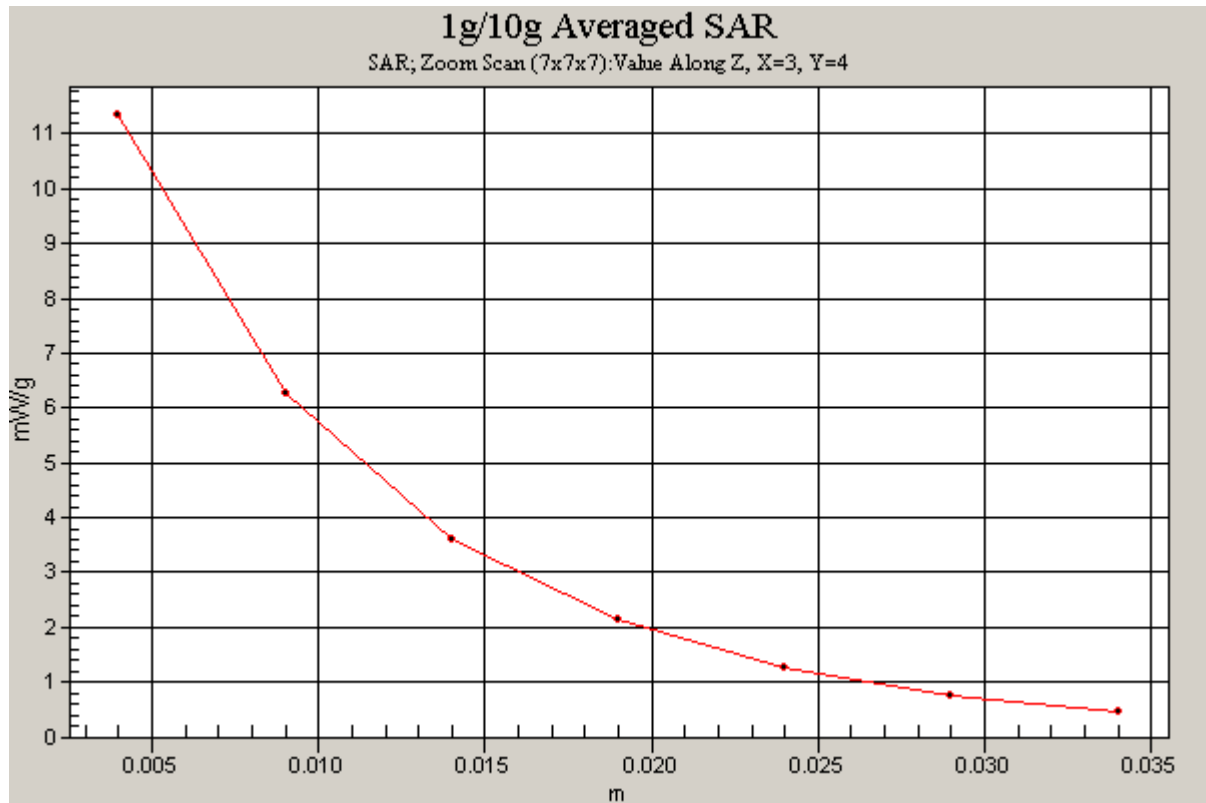


Figure 14 Z-Scan at power reference point (system Check at 1900 MHz dipole)

ANNEX C: GRAPH RESULTS

GSM 850 Left Cheek Middle Slide Open

Date/Time: 6/23/2009 9:15:32 AM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 837$ MHz; $\sigma = 0.927$ mho/m; $\epsilon_r = 41.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

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

Maximum value of SAR (interpolated) = 0.453 mW/g

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

Reference Value = 8.15 V/m; Power Drift = 0.030 dB

Peak SAR (extrapolated) = 0.515 W/kg

SAR(1 g) = 0.405 mW/g; SAR(10 g) = 0.306 mW/g

Maximum value of SAR (measured) = 0.454 mW/g

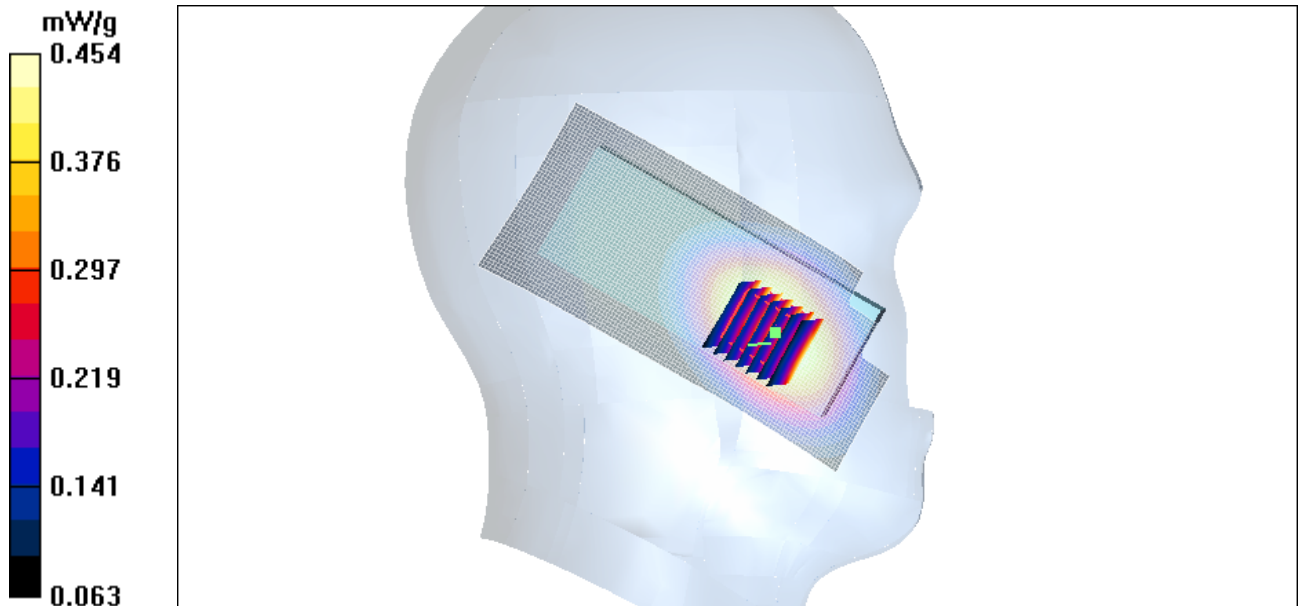


Figure 15 Left Hand Touch Cheek Slide Open GSM 850 Channel 190

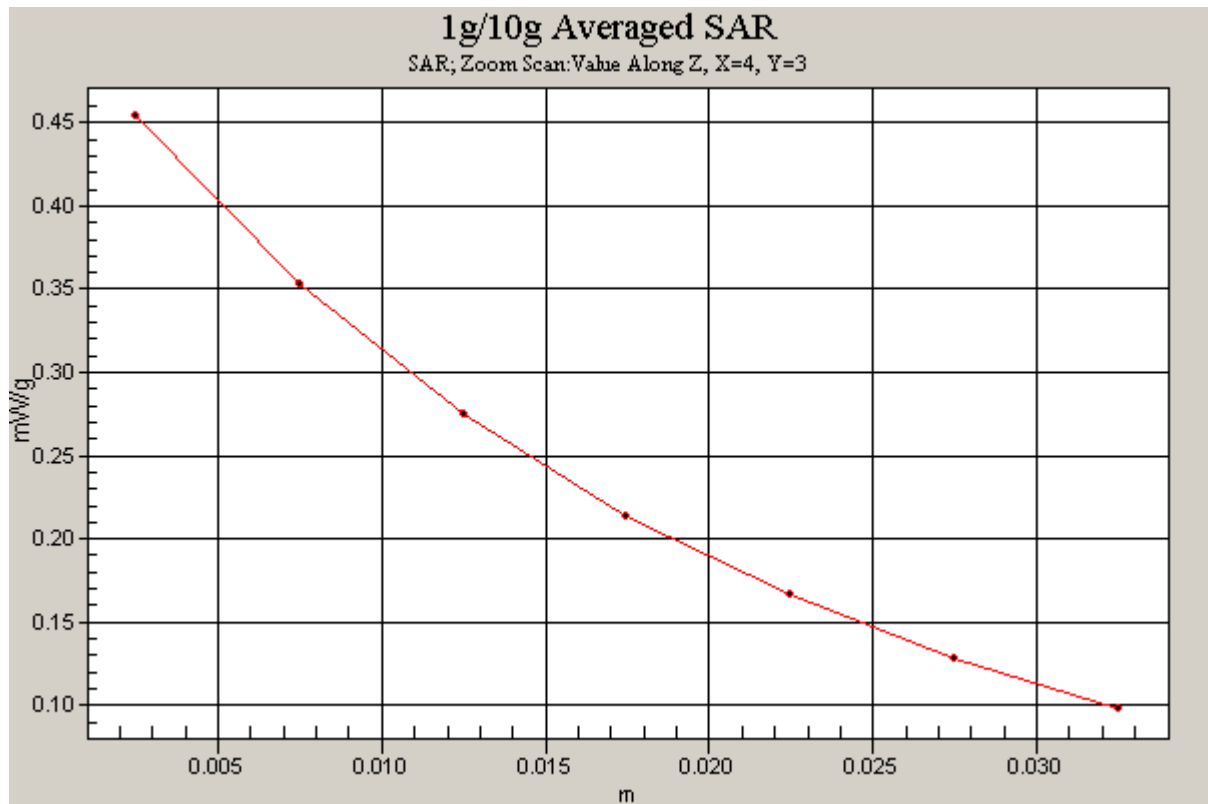


Figure 16 Z-Scan at power reference point (Left Hand Touch Cheek Slide Open GSM 850 Channel 190)

GSM 850 Left Tilt Middle Slide Open

Date/Time: 6/23/2009 9:38:29 AM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 837$ MHz; $\sigma = 0.927$ mho/m; $\epsilon_r = 41.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

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

Maximum value of SAR (interpolated) = 0.257 mW/g

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

Reference Value = 10.7 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 0.291 W/kg

SAR(1 g) = 0.223 mW/g; SAR(10 g) = 0.164 mW/g

Maximum value of SAR (measured) = 0.255 mW/g

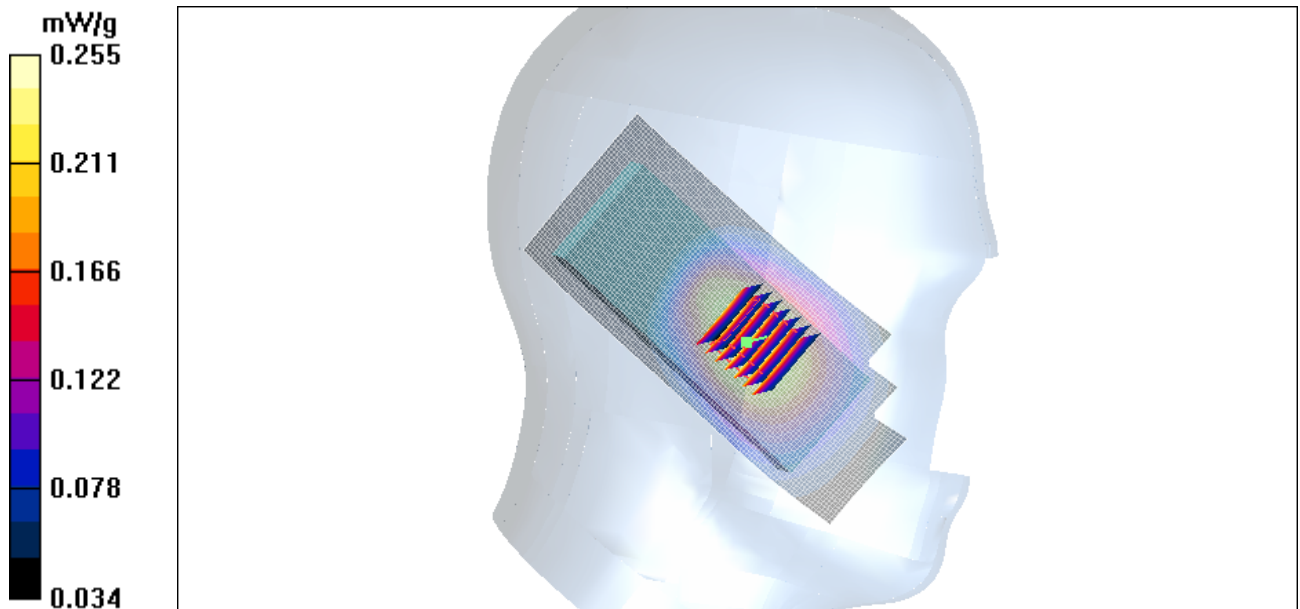


Figure 17 Left Hand Tilt 15° Slide Open GSM 850 Channel 190

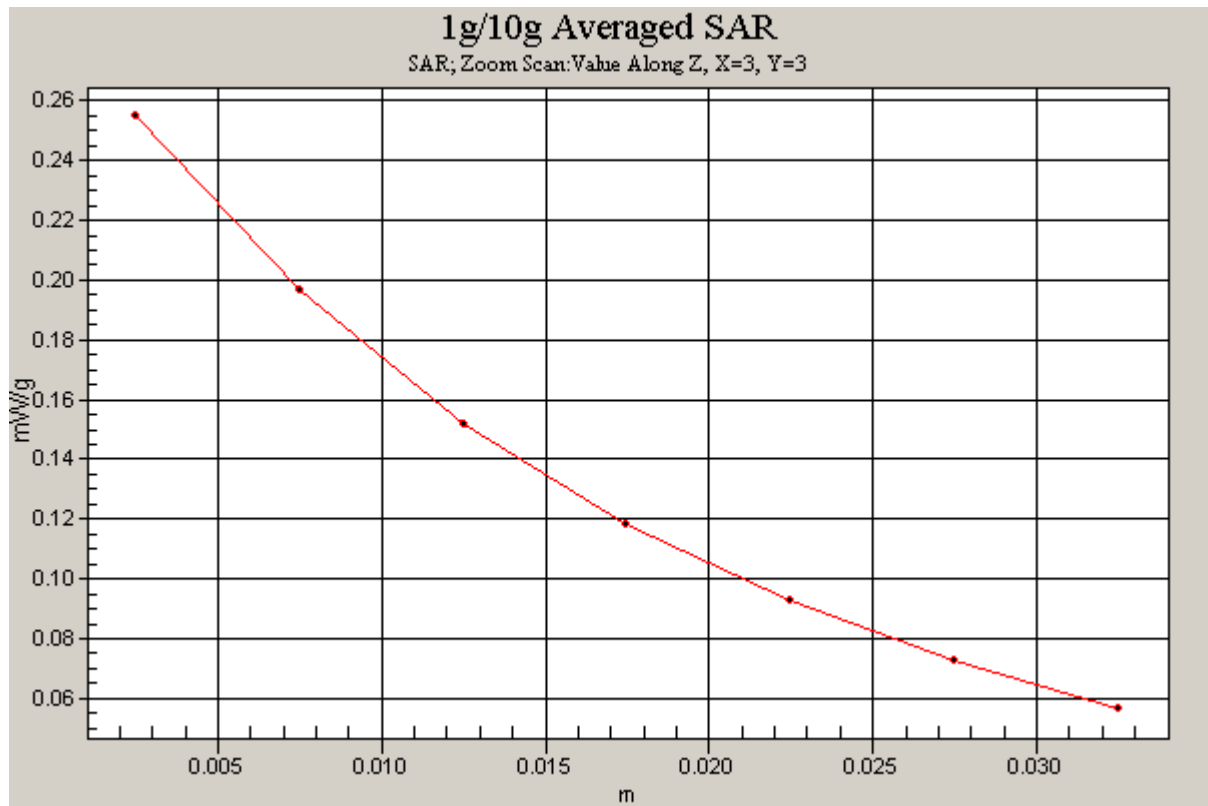


Figure 18 Z-Scan at power reference point (Left Hand Tilt 15° Slide Open GSM 850 Channel 190)

GSM 850 Right Cheek High Slide Open

Date/Time: 6/23/2009 10:49:23 AM

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 849 \text{ MHz}$; $\sigma = 0.941 \text{ mho/m}$; $\epsilon_r = 41.7$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.3°C Liquid Temperature: 21.5°C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

Cheek High/Area Scan (51x101x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.747 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5\text{mm}$, $dy=5\text{mm}$, $dz=5\text{mm}$

Reference Value = 9.31 V/m ; Power Drift = -0.056 dB

Peak SAR (extrapolated) = 0.793 W/kg

SAR(1 g) = 0.628 mW/g ; SAR(10 g) = 0.470 mW/g

Maximum value of SAR (measured) = 0.701 mW/g

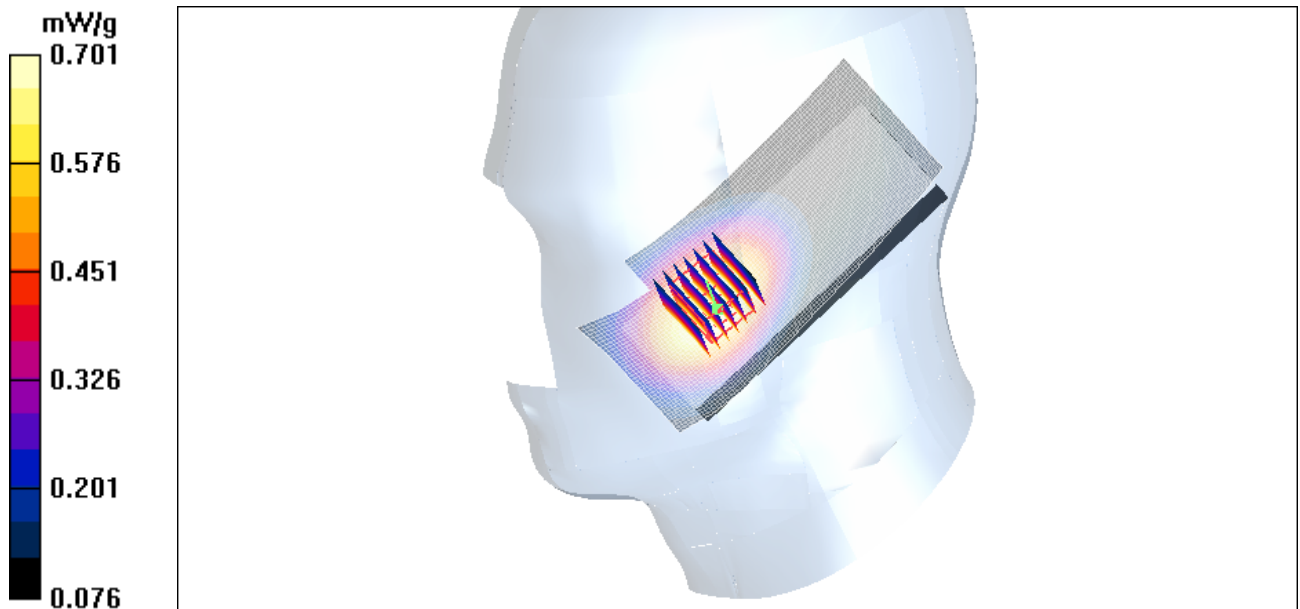


Figure 19 Right Hand Touch Cheek Slide Open GSM 850 Channel 251

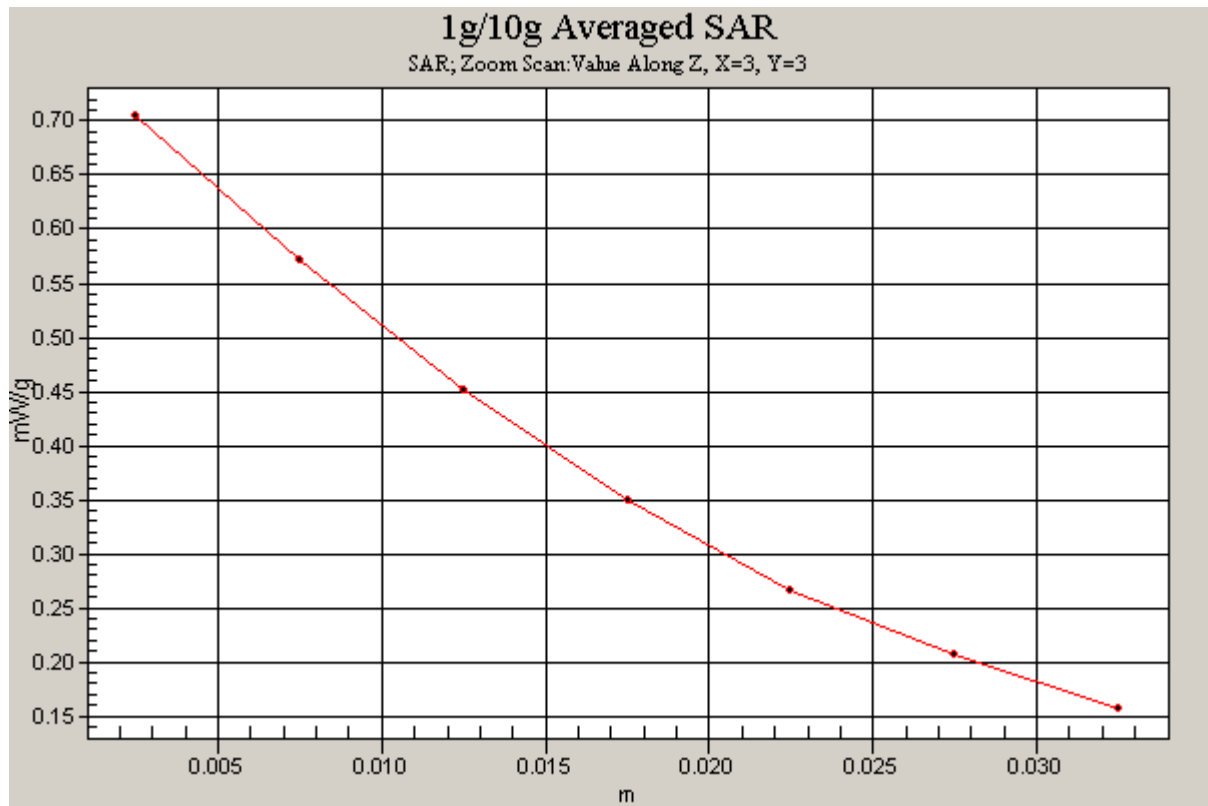


Figure 20 Z-Scan at power reference point (Right Hand Touch Cheek Slide Open GSM 850 Channel 251)

GSM 850 Right Cheek Middle Slide Open

Date/Time: 6/23/2009 10:29:17 AM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 837$ MHz; $\sigma = 0.927$ mho/m; $\epsilon_r = 41.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

Cheek Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.609 mW/g

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

Reference Value = 9.05 V/m; Power Drift = -0.100 dB

Peak SAR (extrapolated) = 0.642 W/kg

SAR(1 g) = 0.508 mW/g; SAR(10 g) = 0.381 mW/g

Maximum value of SAR (measured) = 0.573 mW/g

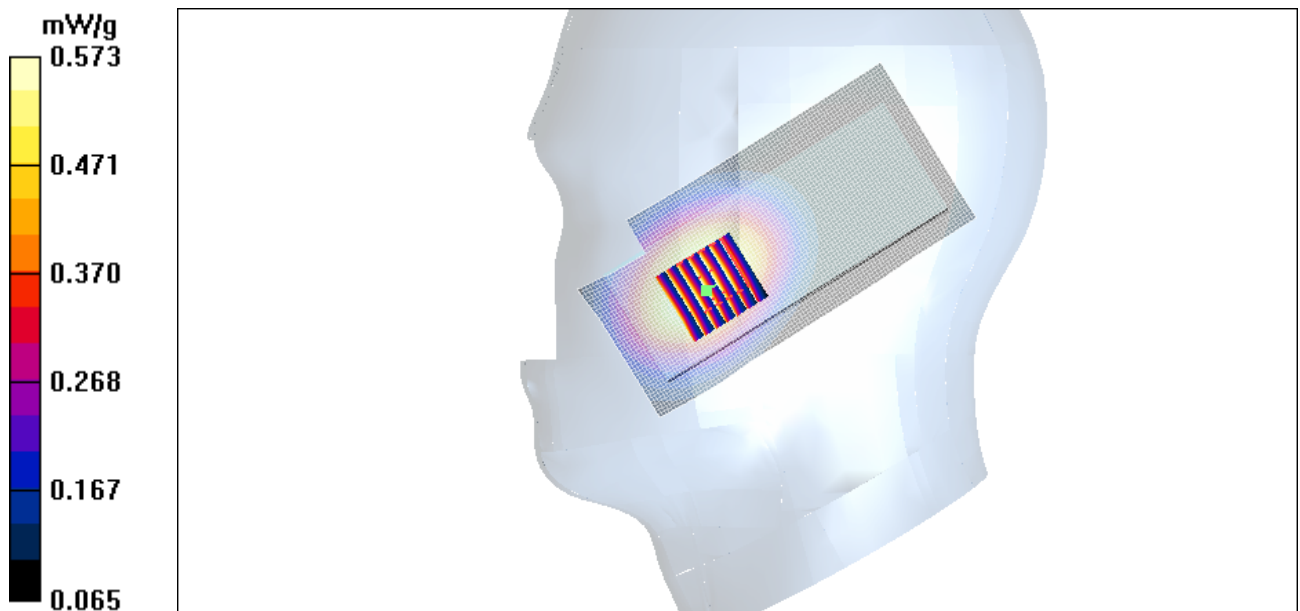


Figure 21 Right Hand Touch Cheek Slide Open GSM 850 Channel 190

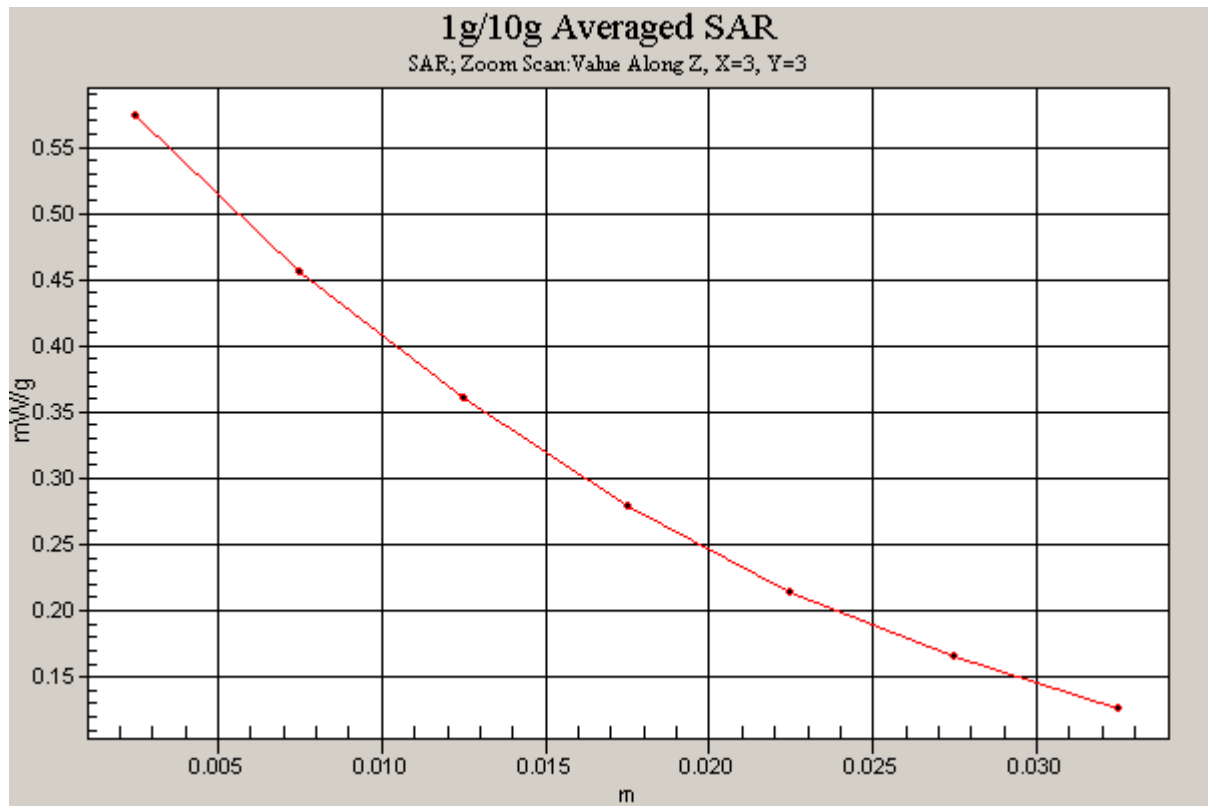


Figure 22 Z-Scan at power reference point (Right Hand Touch Cheek Slide Open GSM 850 Channel 190)

GSM 850 Right Cheek Low Slide Open

Date/Time: 6/23/2009 11:17:14 AM

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

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 41.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

Cheek Low/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.501 mW/g

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

Reference Value = 7.70 V/m; Power Drift = -0.102 dB

Peak SAR (extrapolated) = 0.525 W/kg

SAR(1 g) = 0.426 mW/g; SAR(10 g) = 0.321 mW/g

Maximum value of SAR (measured) = 0.473 mW/g

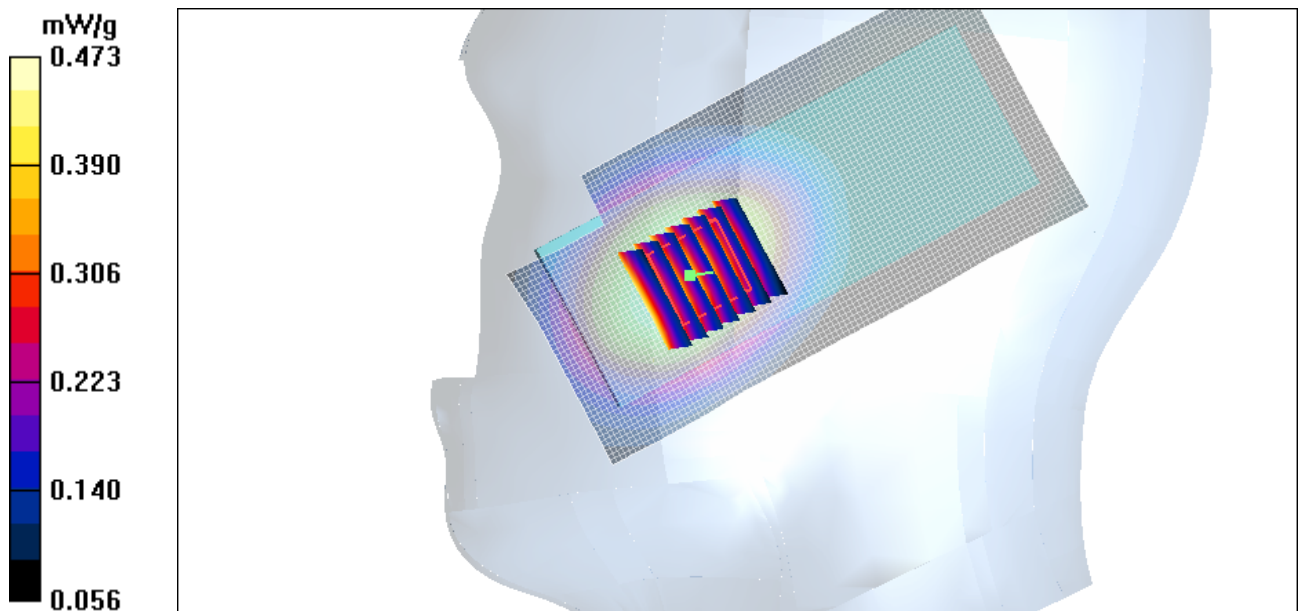


Figure 23 Right Hand Touch Cheek Slide Open GSM 850 Channel 128

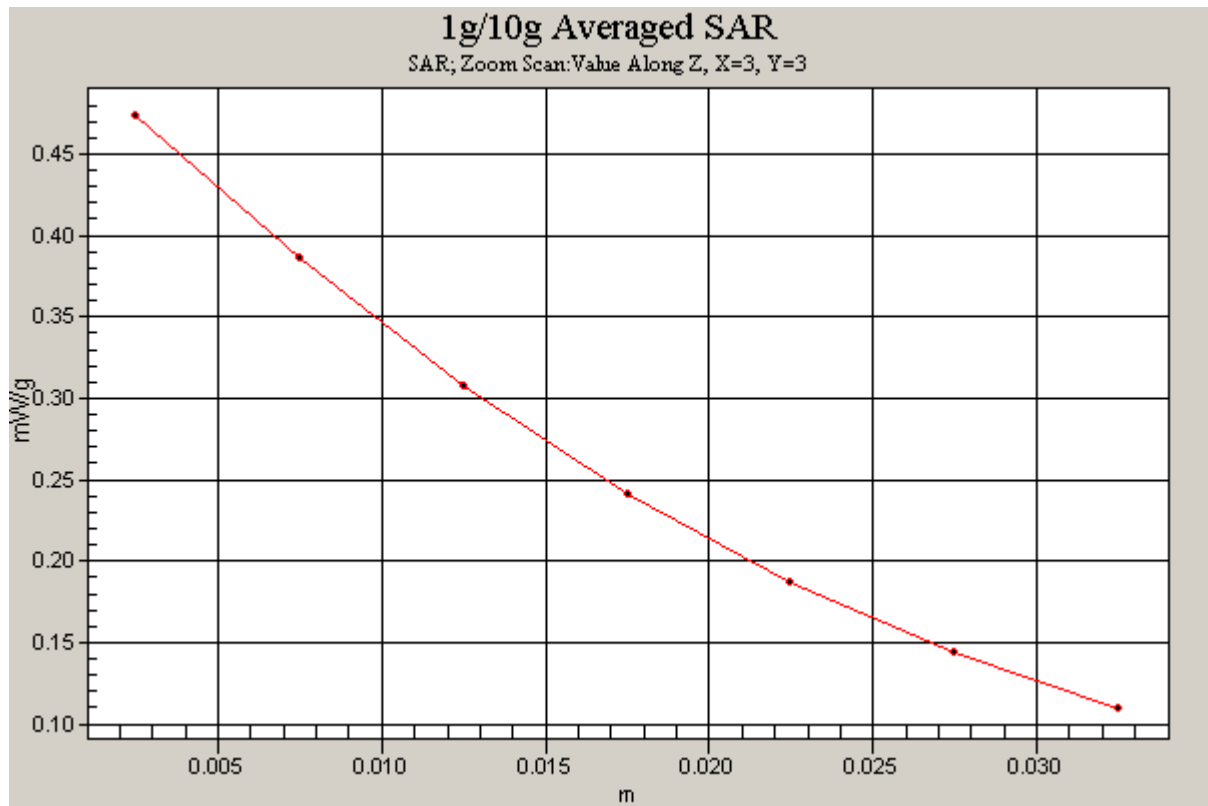


Figure 24 Z-Scan at power reference point (Right Hand Touch Cheek Slide Open GSM 850 Channel 128)

GSM 850 Right Tilt Middle Slide Open

Date/Time: 6/23/2009 10:06:30 AM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 837$ MHz; $\sigma = 0.927$ mho/m; $\epsilon_r = 41.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

Tilt Middle/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.292 mW/g

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

Reference Value = 10.9 V/m; Power Drift = -0.086 dB

Peak SAR (extrapolated) = 0.325 W/kg

SAR(1 g) = 0.249 mW/g; SAR(10 g) = 0.183 mW/g

Maximum value of SAR (measured) = 0.284 mW/g

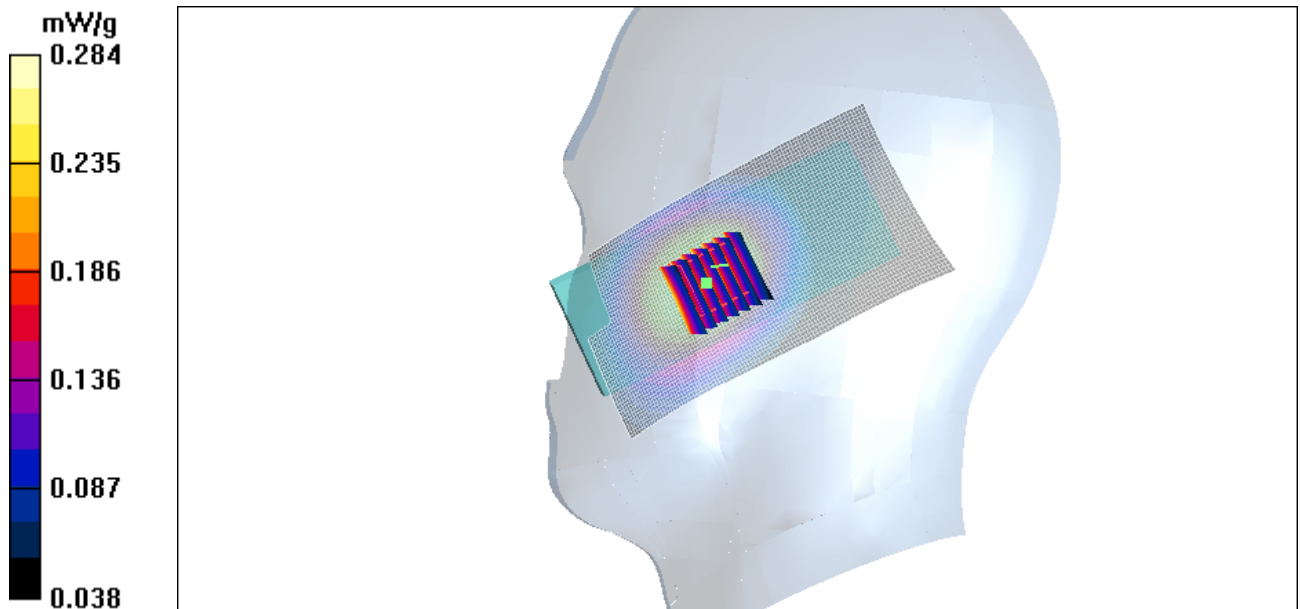


Figure 25 Right Hand Tilt 15° Slide Open GSM 850 Channel 190

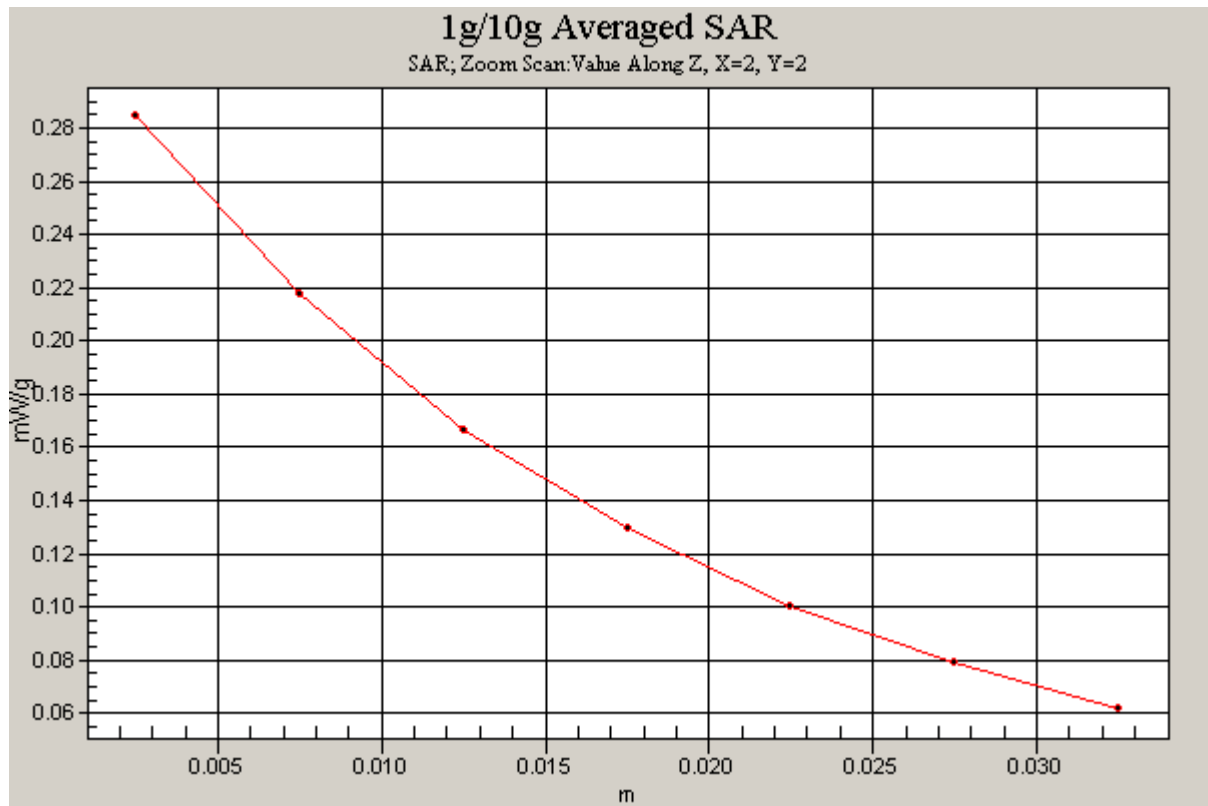


Figure 26 Z-Scan at power reference point (Right Hand Tilt 15° Slide Open GSM 850 Channel 190)

GSM 850 Towards Ground High Slide Open

Date/Time: 6/25/2009 1:04:26 AM

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 849$ MHz; $\sigma = 1.02$ mho/m; $\epsilon_r = 55.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

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

Maximum value of SAR (interpolated) = 0.422 mW/g

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

Reference Value = 9.03 V/m; Power Drift = -0.082 dB

Peak SAR (extrapolated) = 0.521 W/kg

SAR(1 g) = 0.392 mW/g; SAR(10 g) = 0.287 mW/g

Maximum value of SAR (measured) = 0.416 mW/g

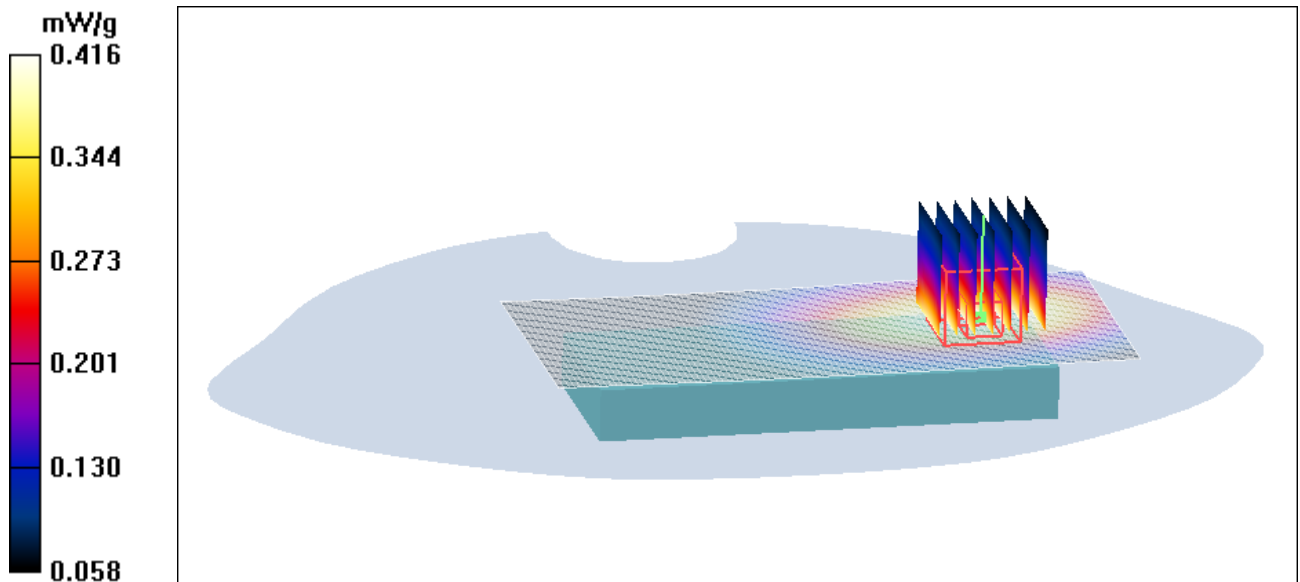


Figure 27 Body, Towards Ground, Slide Open GSM 850 Channel 251

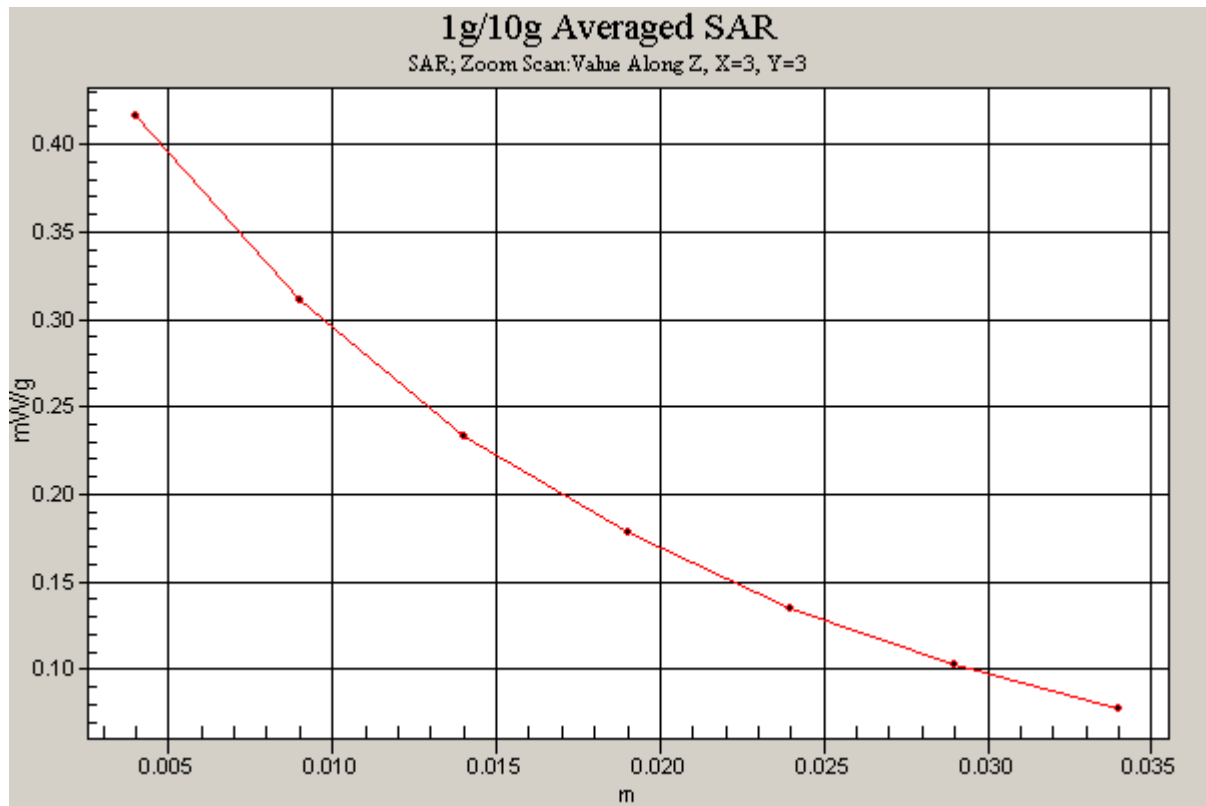


Figure 28 Z-Scan at power reference point (Body, Towards Ground, Slide Open GSM 850 Channel 251)

GSM 850 Towards Ground Middle Slide Open

Date/Time: 6/25/2009 12:45:27 AM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 55.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

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

Maximum value of SAR (interpolated) = 0.394 mW/g

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

Reference Value = 8.87 V/m; Power Drift = -0.133 dB

Peak SAR (extrapolated) = 0.494 W/kg

SAR(1 g) = 0.369 mW/g; SAR(10 g) = 0.269 mW/g

Maximum value of SAR (measured) = 0.389 mW/g

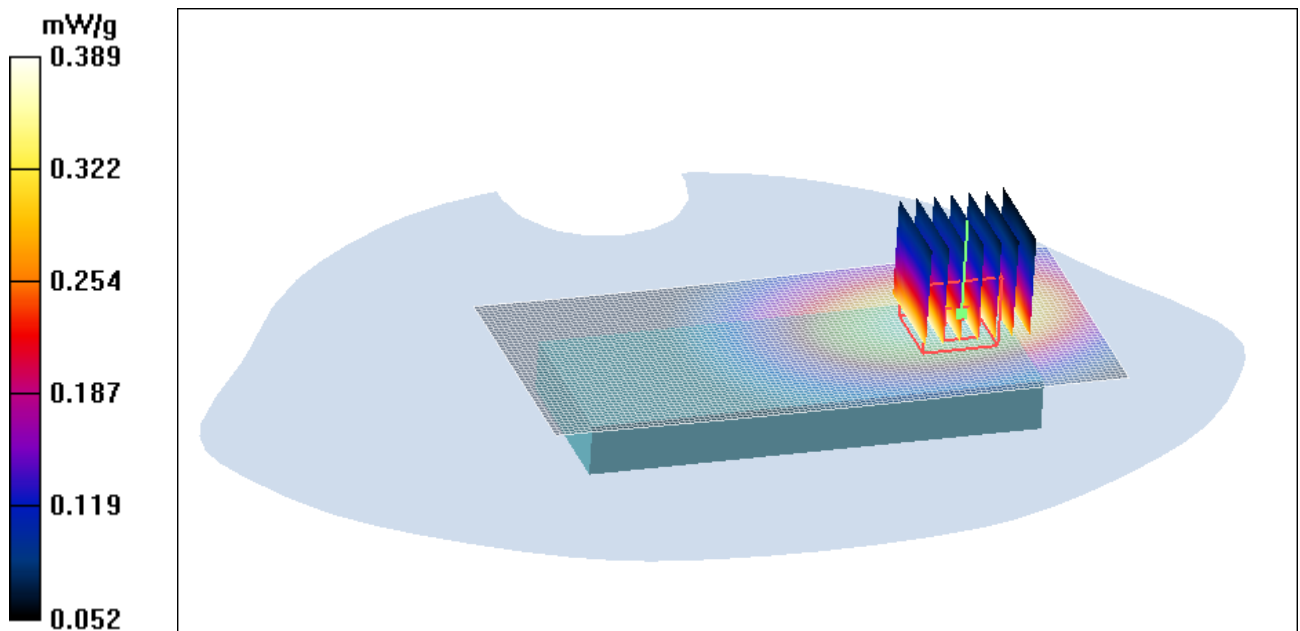


Figure 29 Body, Towards Ground, Slide Open GSM 850 Channel 190

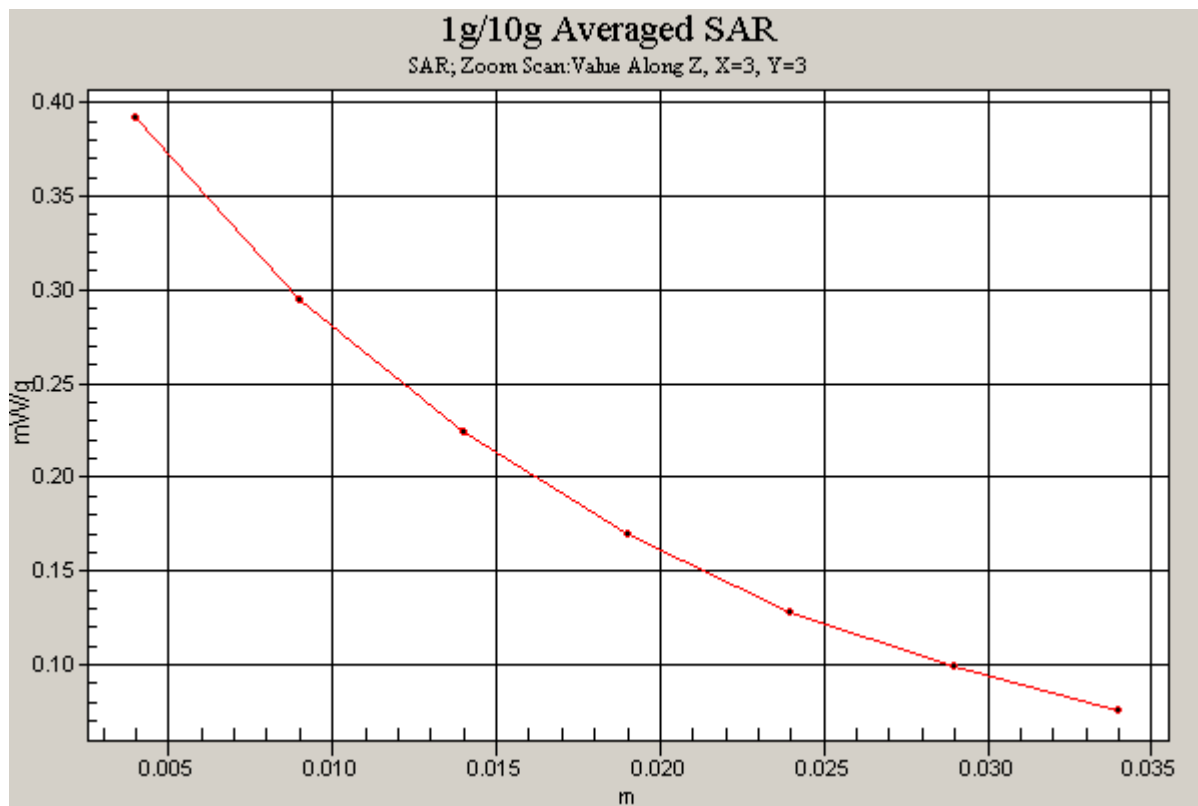


Figure 30 Z-Scan at power reference point (Body, Towards Ground, Slide Open GSM 850 Channel 190)

GSM 850 Towards Ground Low Slide Open

Date/Time: 6/25/2009 1:23:26 AM

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

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.999$ mho/m; $\epsilon_r = 55.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

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

Maximum value of SAR (interpolated) = 0.335 mW/g

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

Reference Value = 8.23 V/m; Power Drift = -0.095 dB

Peak SAR (extrapolated) = 0.412 W/kg

SAR(1 g) = 0.313 mW/g; SAR(10 g) = 0.231 mW/g

Maximum value of SAR (measured) = 0.330 mW/g

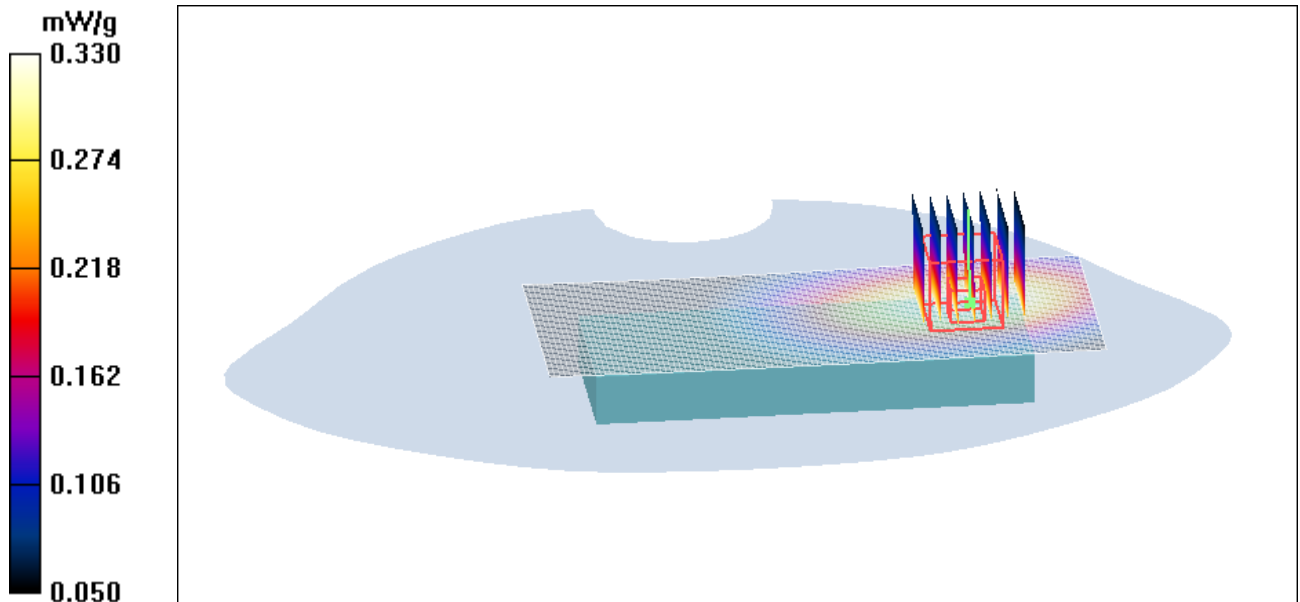


Figure 31 Body, Towards Ground, Slide Open GSM 850 Channel 128

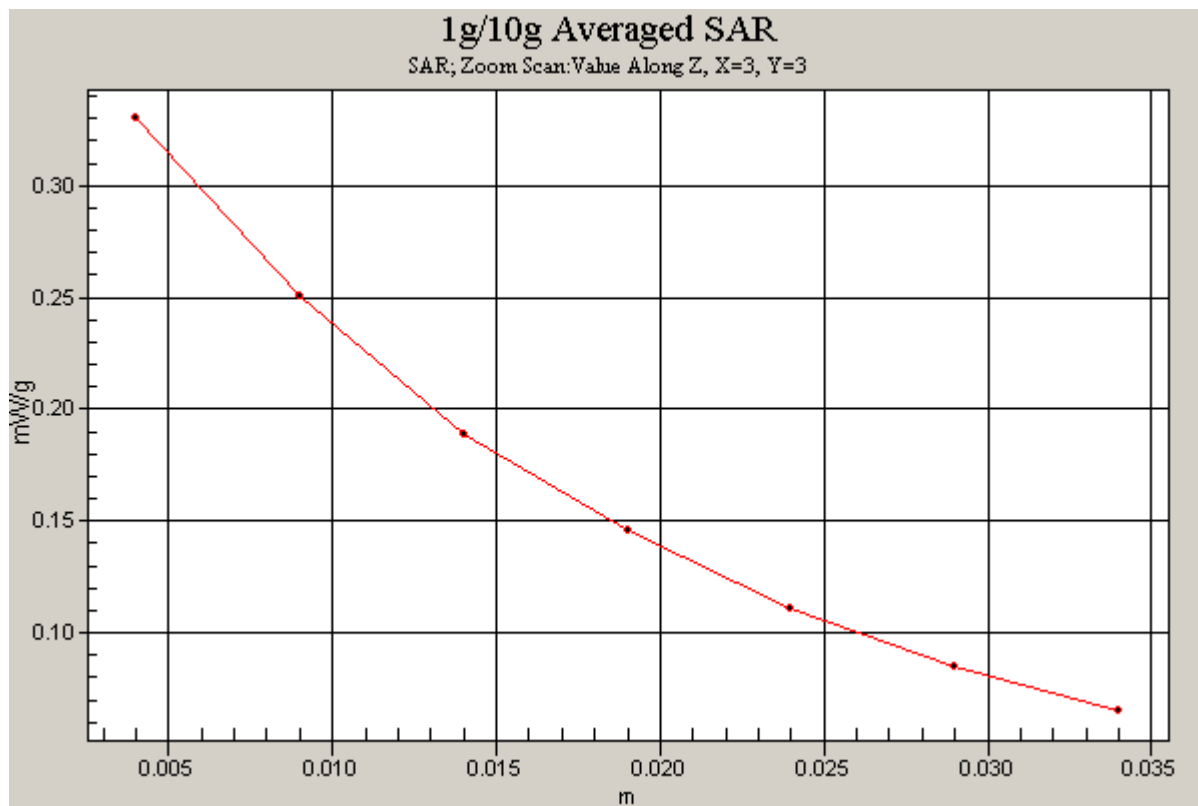


Figure 32 Z-Scan at power reference point (Body, Towards Ground, Slide Open GSM 850 Channel 128)

GSM 850 Towards Phantom Middle Slide Open

Date/Time: 6/25/2009 12:20:17 AM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 55.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

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

Maximum value of SAR (interpolated) = 0.383 mW/g

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

Reference Value = 9.10 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 0.474 W/kg

SAR(1 g) = 0.363 mW/g; SAR(10 g) = 0.268 mW/g

Maximum value of SAR (measured) = 0.381 mW/g

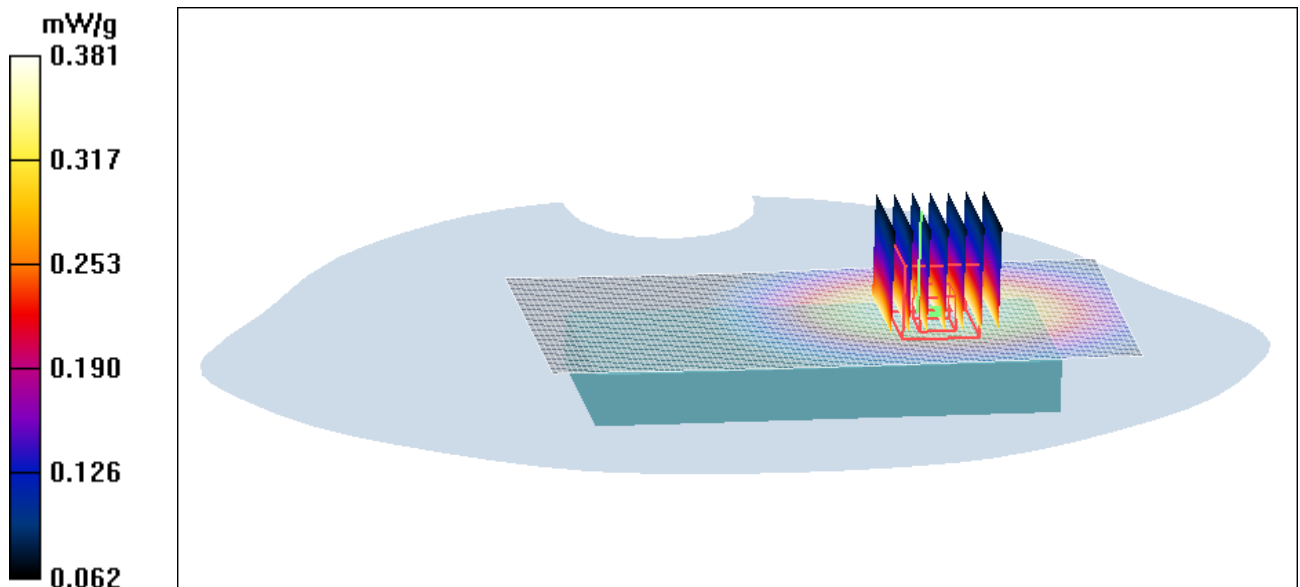


Figure 33 Body, Towards Phantom, Slide Open GSM 850 Channel 190

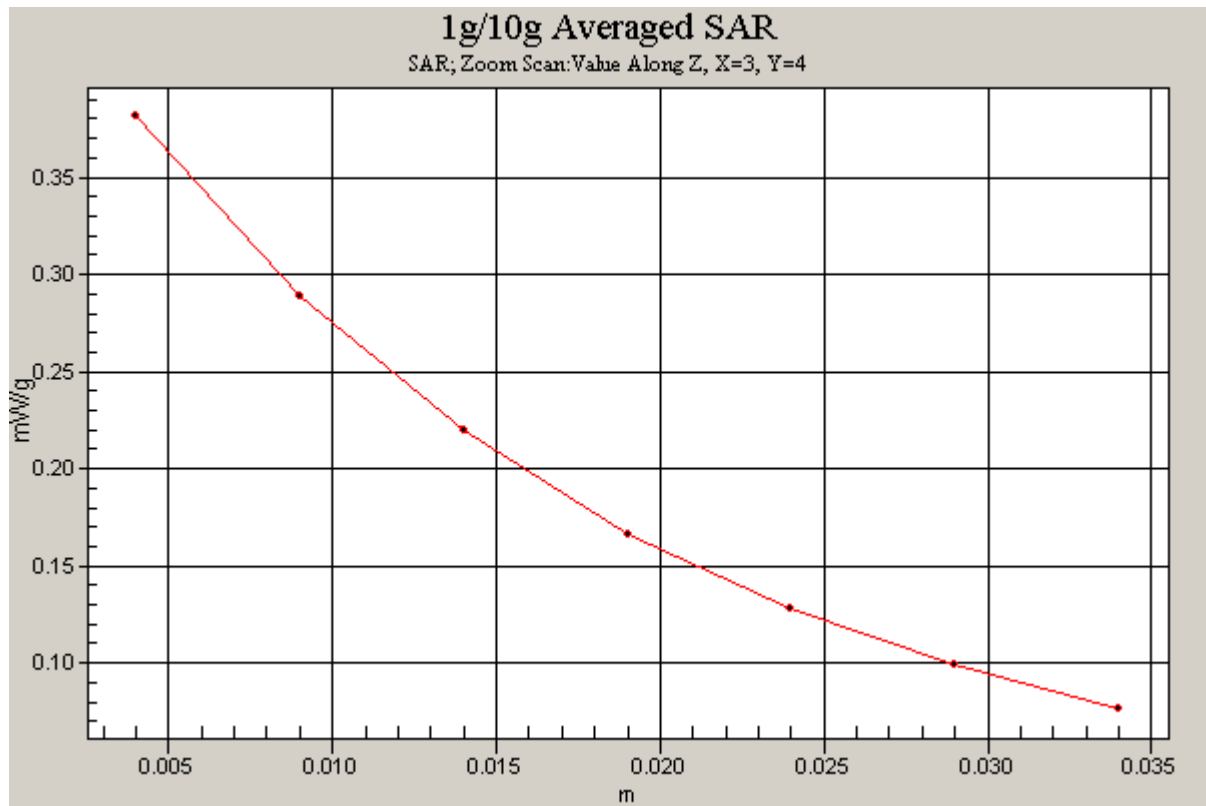


Figure 34 Z-Scan at power reference point (Body, Towards Phantom, Slide Open GSM 850 Channel 190)

GSM 850 Towards Ground with Earphone High Slide Open

Date/Time: 6/25/2009 1:43:29 AM

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 849$ MHz; $\sigma = 1.02$ mho/m; $\epsilon_r = 55.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

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

Maximum value of SAR (interpolated) = 0.355 mW/g

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

Reference Value = 7.39 V/m; Power Drift = -0.171 dB

Peak SAR (extrapolated) = 0.444 W/kg

SAR(1 g) = 0.332 mW/g; SAR(10 g) = 0.240 mW/g

Maximum value of SAR (measured) = 0.354 mW/g

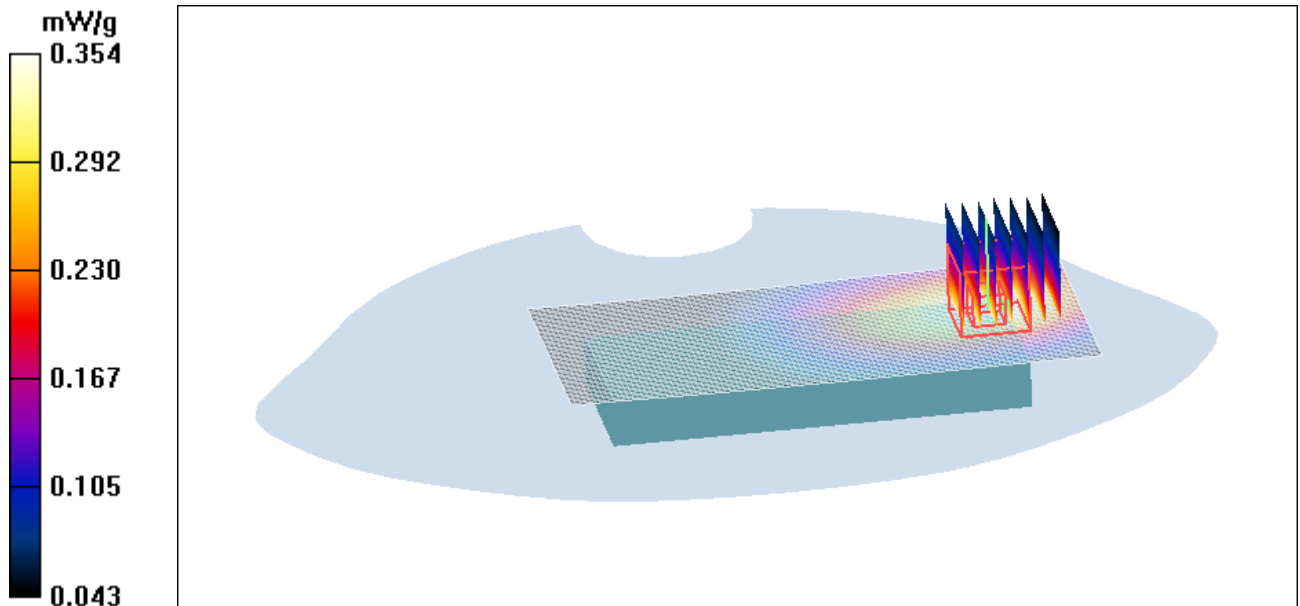


Figure 35 Body with Earphone, Towards Ground, Slide Open GSM 850 Channel 251

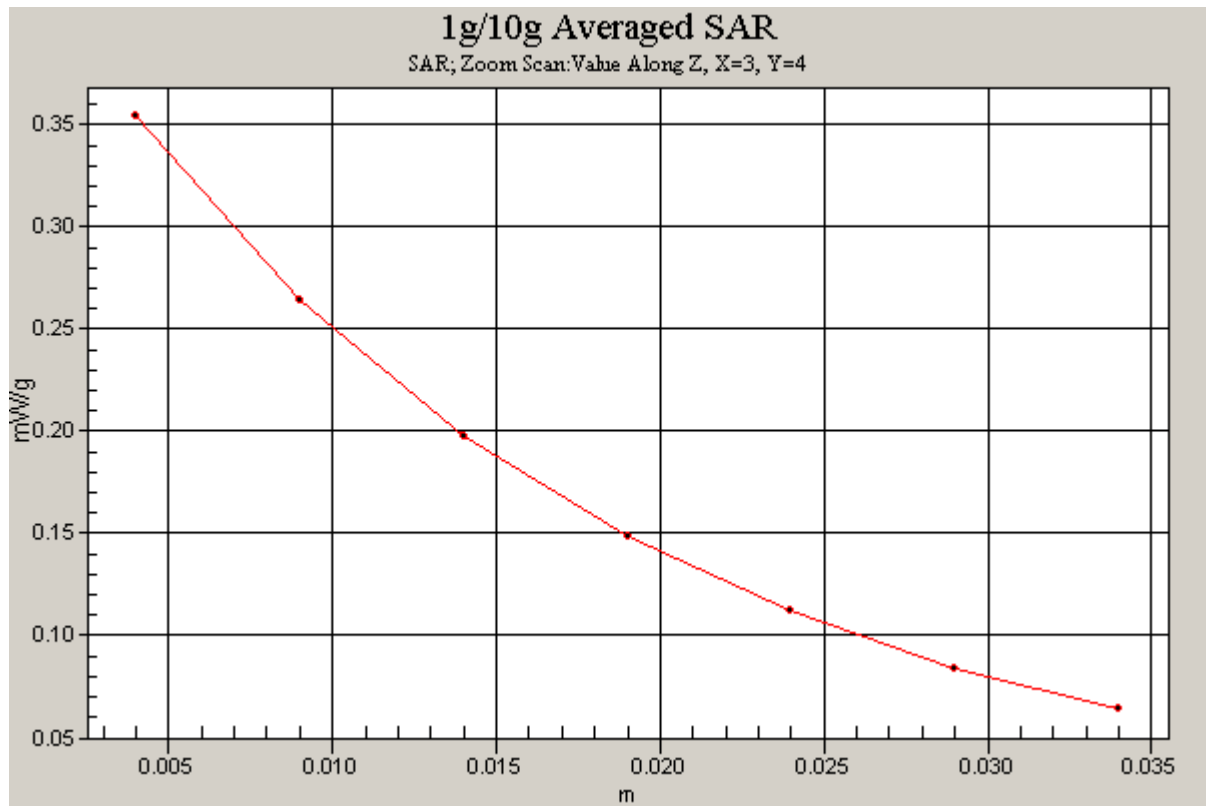


Figure 36 Z-Scan at power reference point (Body with Earphone, Towards Ground, Slide Open GSM 850 Channel 251)

GSM 850 GPRS (4 timeslots Uplink)Towards Ground High Slide Open

Date/Time: 6/25/2009 3:27:19 AM

Communication System: GSM 850+GPRS(4Up); Frequency: 848.8 MHz; Duty Cycle: 1:2

Medium parameters used: $f = 849$ MHz; $\sigma = 1.02$ mho/m; $\epsilon_r = 55.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

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

Maximum value of SAR (interpolated) = 0.952 mW/g

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

Reference Value = 15.3 V/m; Power Drift = 0.198 dB

Peak SAR (extrapolated) = 1.28 W/kg

SAR(1 g) = 0.956 mW/g; SAR(10 g) = 0.690 mW/g

Maximum value of SAR (measured) = 1.02 mW/g

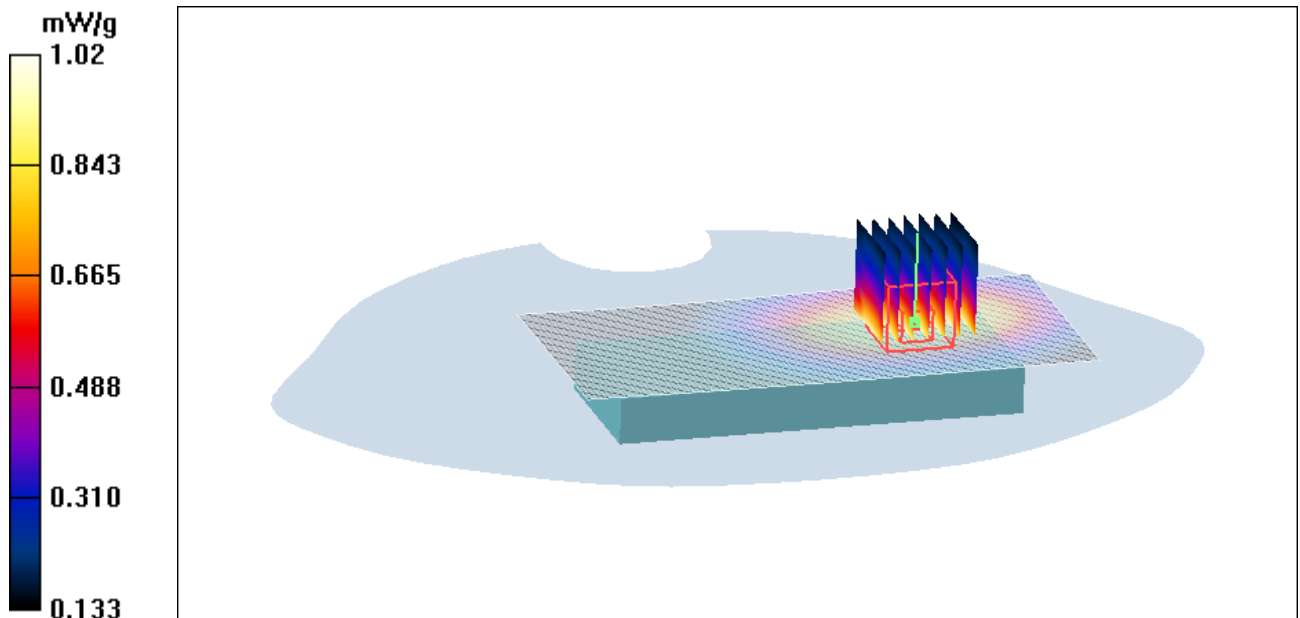


Figure 37 Body, Towards Ground, Slide Open GSM 850 GPRS (4 timeslots Uplink) Channel 251

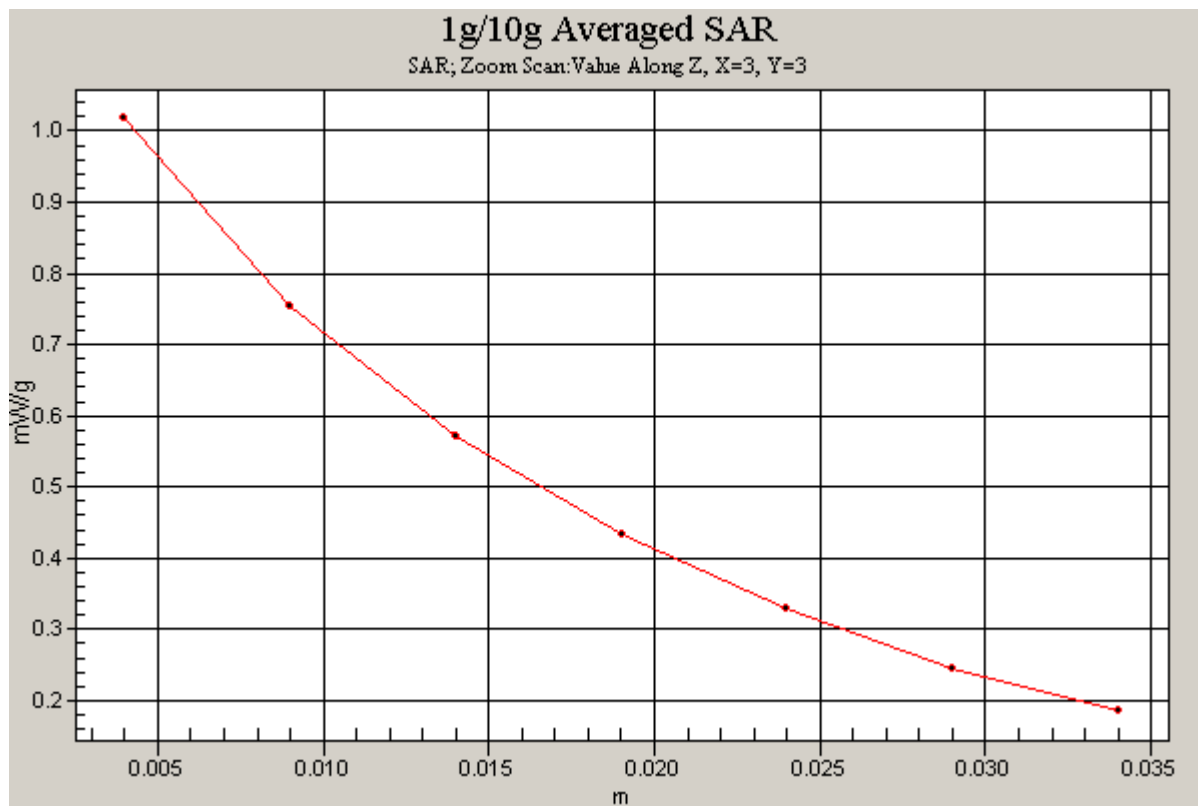


Figure 38 Z-Scan at power reference point [Body, Towards Ground, Slide Open GSM 850 GPRS (4 timeslots Uplink) Channel 251]

GSM 850 GPRS (4 timeslots Uplink) Towards Ground Middle Slide Open

Date/Time: 6/25/2009 3:08:35 AM

Communication System: GSM 850+GPRS(4Up); Frequency: 836.6 MHz; Duty Cycle: 1:2

Medium parameters used: $f = 837 \text{ MHz}$; $\sigma = 1.01 \text{ mho/m}$; $\epsilon_r = 55.2$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.3°C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

Towards Ground Middle/Area Scan (51x111x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.969 mW/g

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

Reference Value = 15.3 V/m ; Power Drift = -0.160 dB

Peak SAR (extrapolated) = 1.19 W/kg

SAR(1 g) = 0.895 mW/g ; SAR(10 g) = 0.654 mW/g

Maximum value of SAR (measured) = 0.949 mW/g

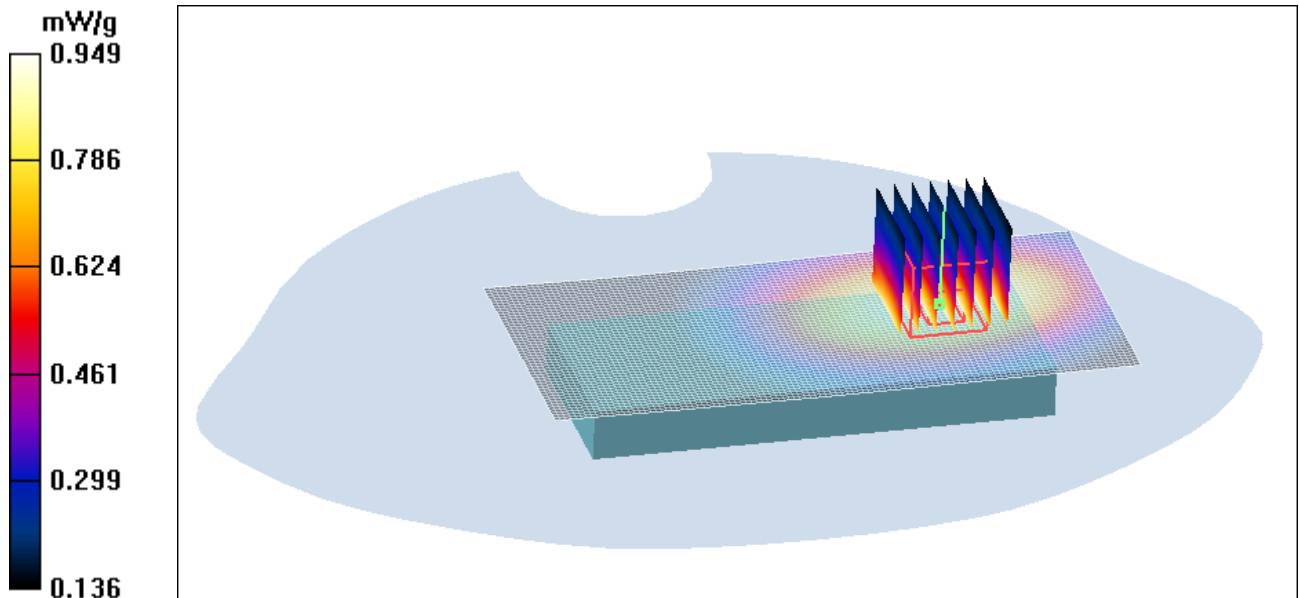


Figure 39 Body, Towards Ground, Slide Open GSM 850 GPRS (4 timeslots Uplink) Channel 190

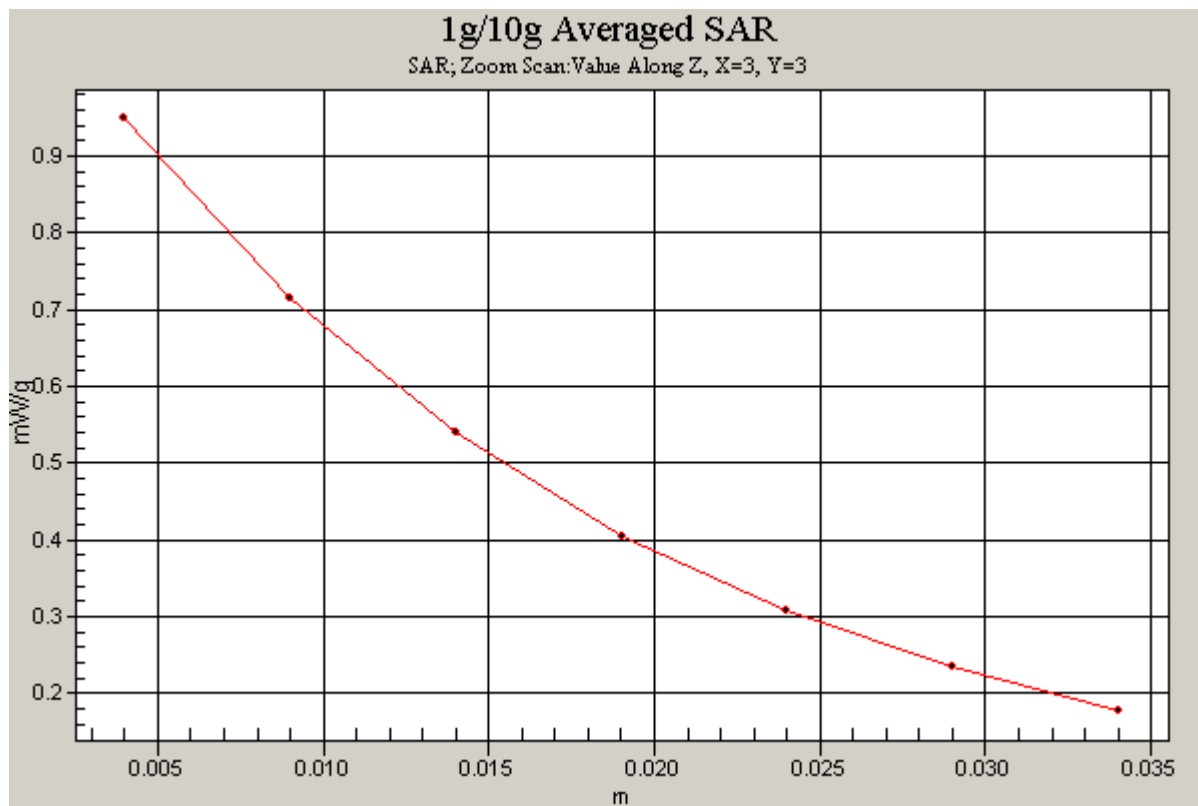


Figure 40 Z-Scan at power reference point [Body, Towards Ground, Slide Open GSM 850 GPRS (4 timeslots Uplink) Channel 190]

GSM 850 GPRS (4 timeslots Uplink) Towards Ground Low Slide Open

Date/Time: 6/25/2009 3:49:10 AM

Communication System: GSM 850+GPRS(4Up); Frequency: 824.2 MHz; Duty Cycle: 1:2

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.999$ mho/m; $\epsilon_r = 55.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

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

Maximum value of SAR (interpolated) = 0.891 mW/g

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

Reference Value = 13.5 V/m; Power Drift = 0.033 dB

Peak SAR (extrapolated) = 1.10 W/kg

SAR(1 g) = 0.835 mW/g; SAR(10 g) = 0.612 mW/g

Maximum value of SAR (measured) = 0.879 mW/g

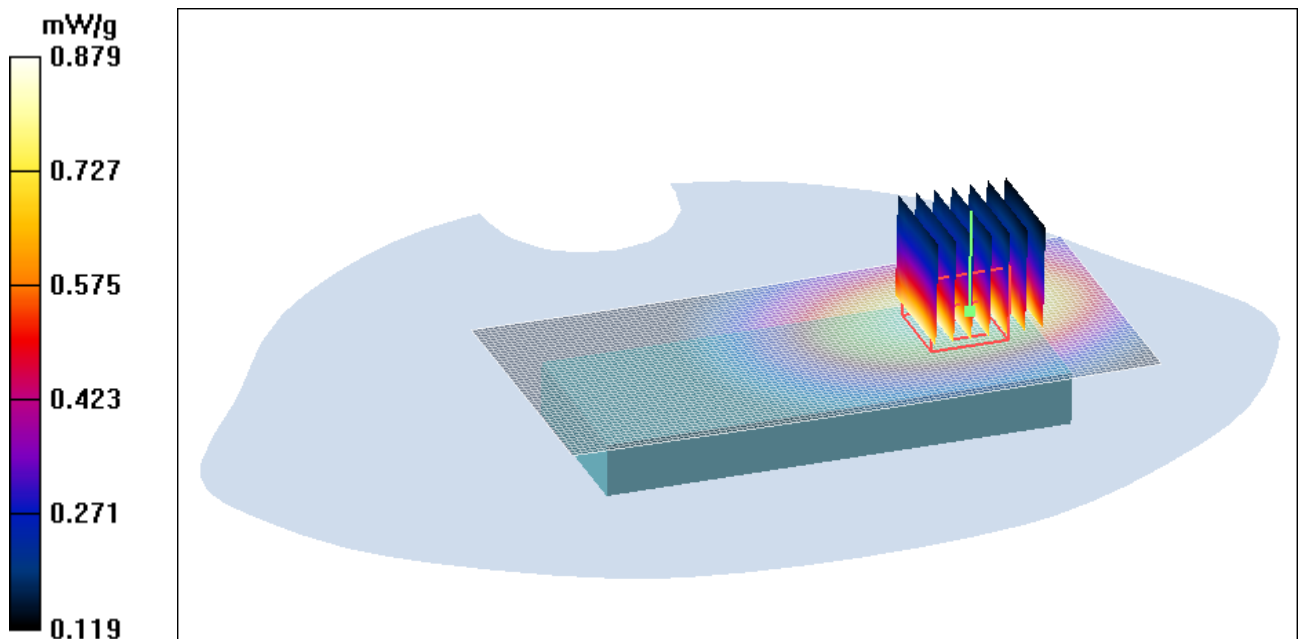


Figure 41 Body, Towards Ground, Slide Open GSM 850 GPRS (4 timeslots Uplink) Channel 128

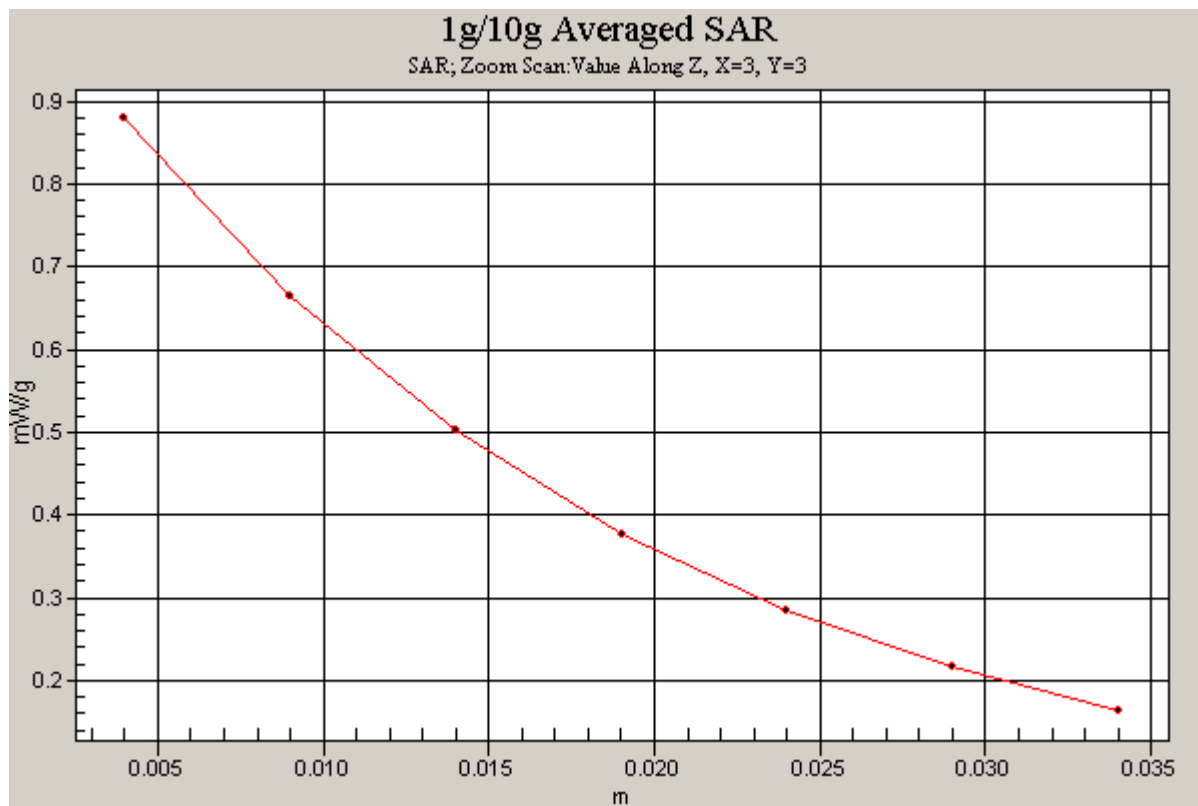


Figure 42 Z-Scan at power reference point [Body, Towards Ground, Slide Open GSM 850 GPRS (4 timeslots Uplink) Channel 128]

GSM 850 GPRS (4 timeslots Uplink) Towards Phantom Middle Slide Open

Date/Time: 6/25/2009 2:28:23 AM

Communication System: GSM 850+GPRS(4Up); Frequency: 836.6 MHz; Duty Cycle: 1:2

Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 55.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

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

Maximum value of SAR (interpolated) = 0.731 mW/g

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

Reference Value = 12.6 V/m; Power Drift = 0.002 dB

Peak SAR (extrapolated) = 0.922 W/kg

SAR(1 g) = 0.698 mW/g; SAR(10 g) = 0.512 mW/g

Maximum value of SAR (measured) = 0.734 mW/g

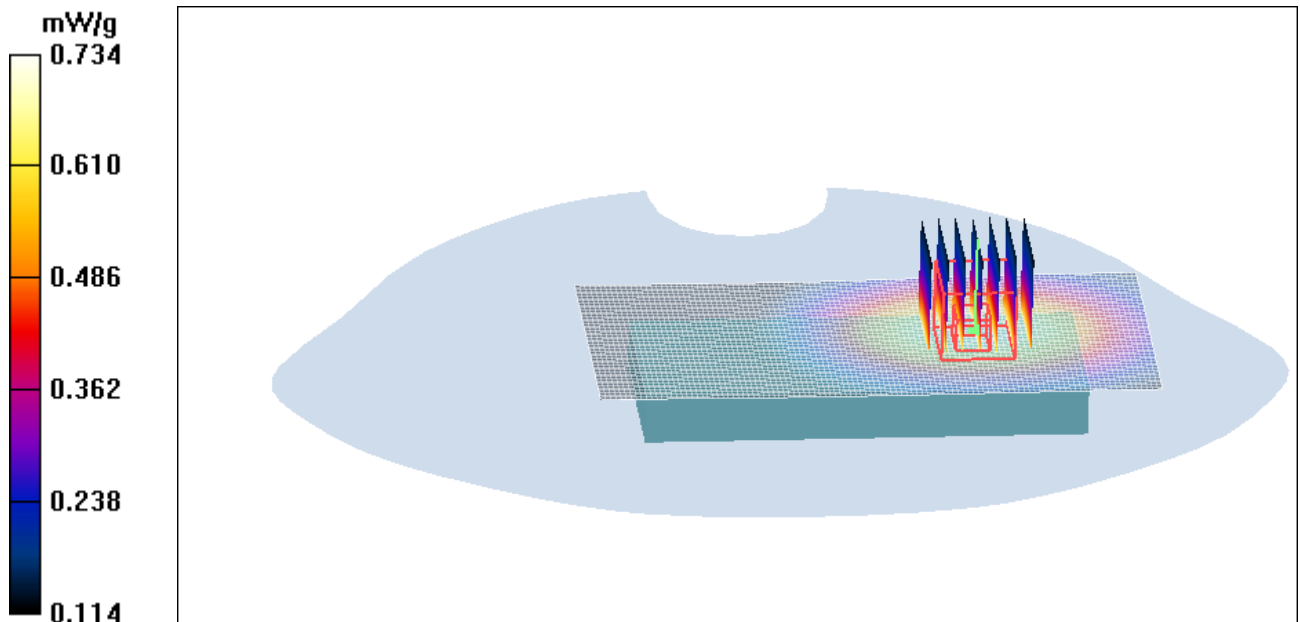


Figure 43 Body, Towards Phantom, Slide Open GSM 850 GPRS (4 timeslots Uplink) Channel 190

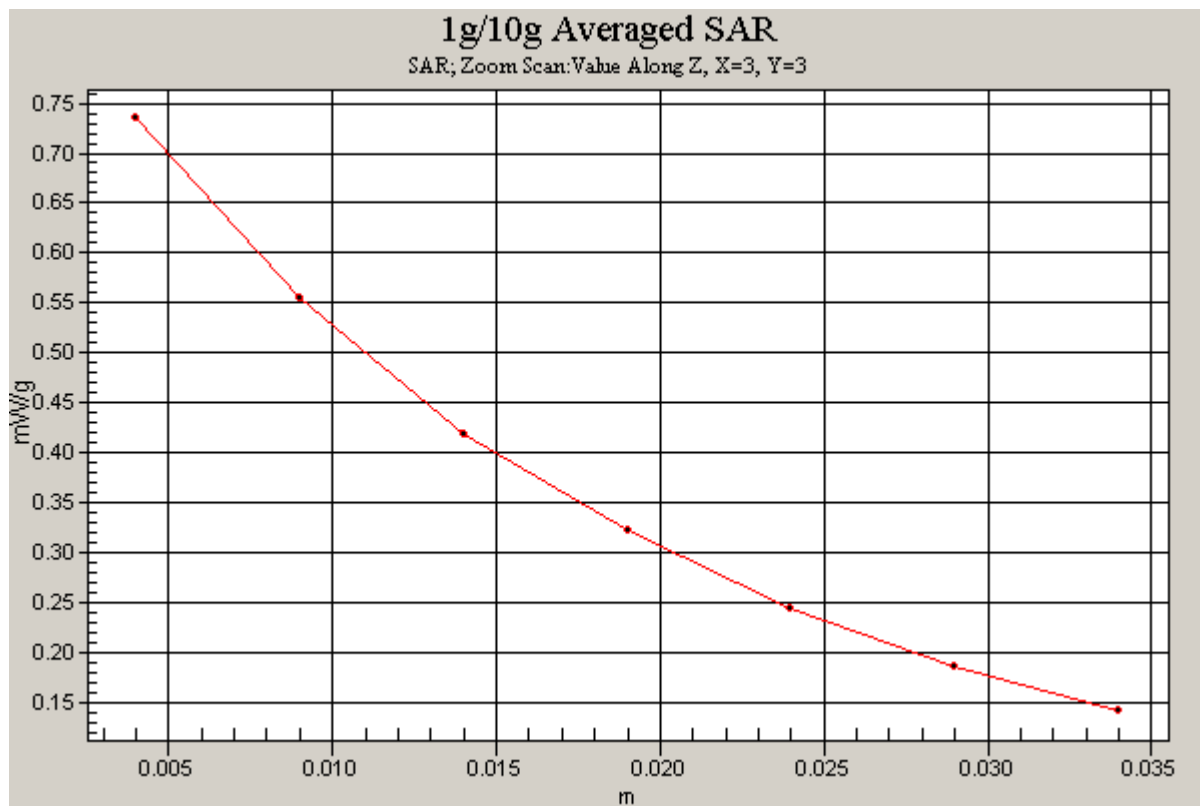


Figure 44 Z-Scan at power reference point [Body, Towards Phantom, Slide Open GSM 850 GPRS (4 timeslots Uplink) Channel 190]

GSM 850 Left Cheek High Slide Close

Date/Time: 6/23/2009 8:22:45 AM

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 849$ MHz; $\sigma = 0.941$ mho/m; $\epsilon_r = 41.7$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

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

Maximum value of SAR (interpolated) = 0.601 mW/g

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

Reference Value = 7.71 V/m; Power Drift = -0.171 dB

Peak SAR (extrapolated) = 0.704 W/kg

SAR(1 g) = 0.511 mW/g; SAR(10 g) = 0.358 mW/g

Maximum value of SAR (measured) = 0.589 mW/g

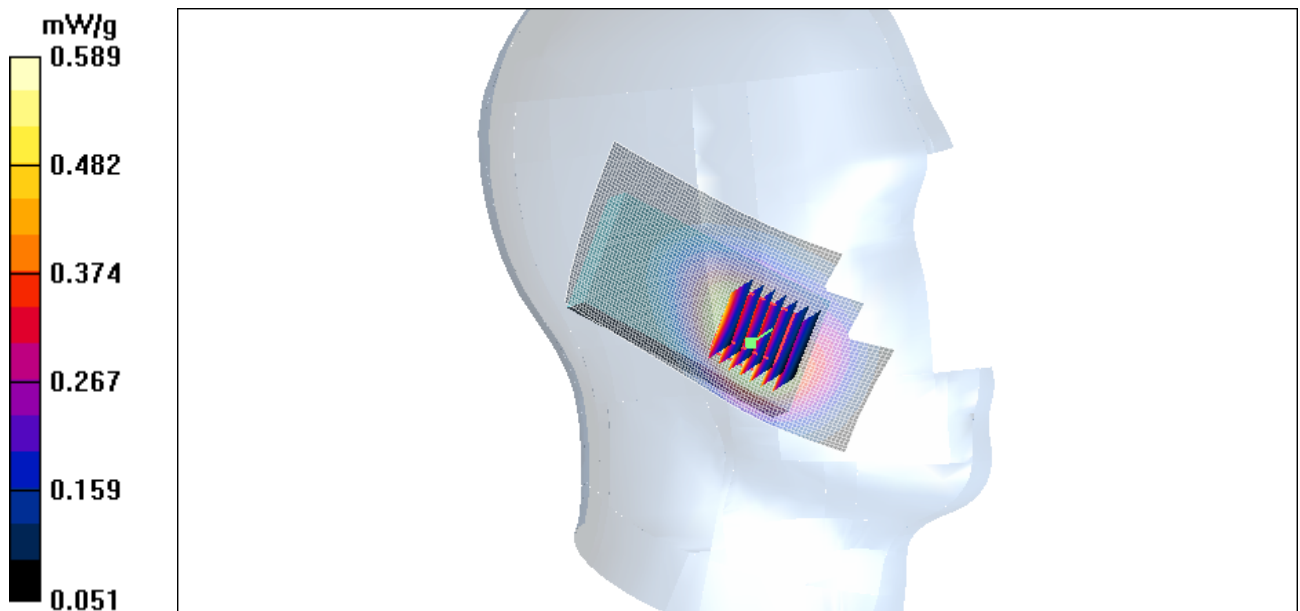


Figure 45 Left Hand Touch Cheek Slide Close GSM 850 Channel 251

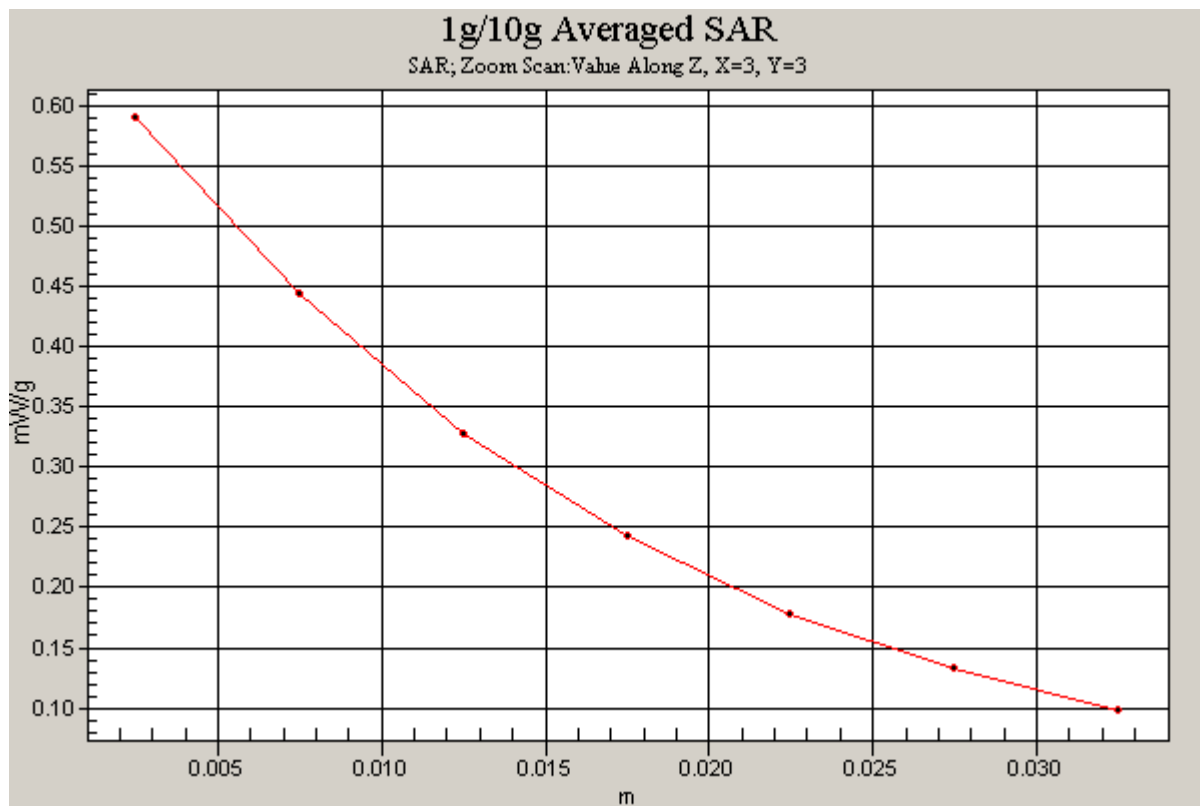


Figure 46 Z-Scan at power reference point (Left Hand Touch Cheek Slide Close GSM 850 Channel 251)

GSM 850 Left Cheek Middle Slide Close

Date/Time: 6/23/2009 2:06:31 PM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 837$ MHz; $\sigma = 0.927$ mho/m; $\epsilon_r = 41.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

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

Maximum value of SAR (interpolated) = 0.591 mW/g

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

Reference Value = 7.48 V/m; Power Drift = -0.051 dB

Peak SAR (extrapolated) = 0.810 W/kg

SAR(1 g) = 0.572 mW/g; SAR(10 g) = 0.385 mW/g

Maximum value of SAR (measured) = 0.675 mW/g

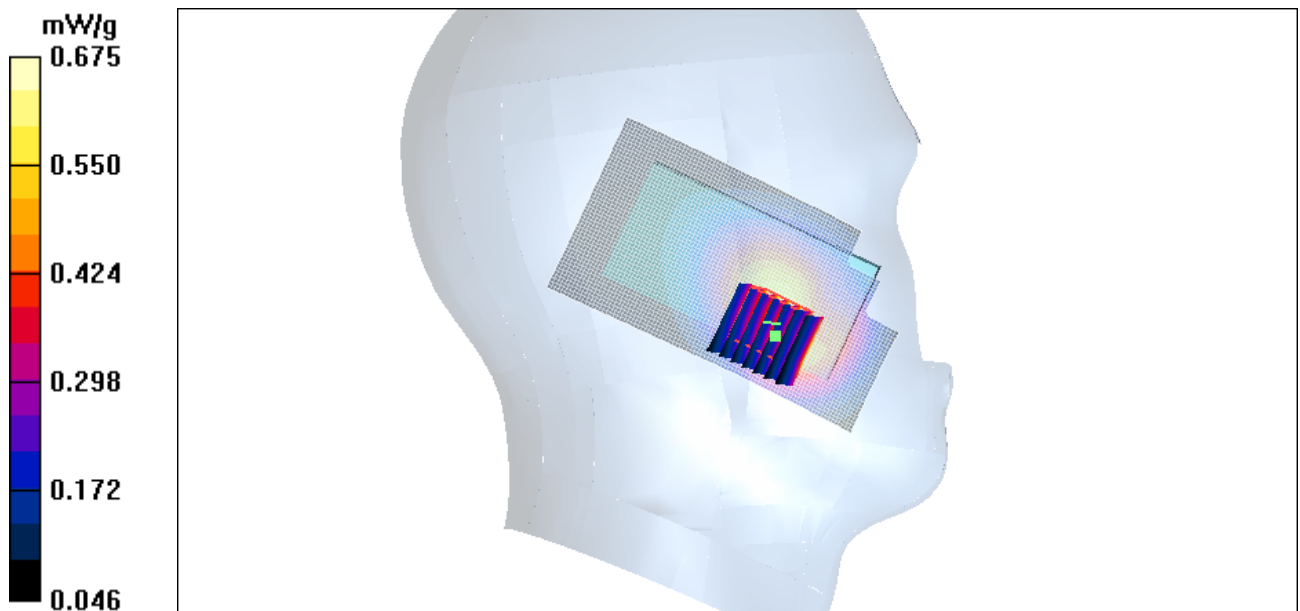


Figure 47 Left Hand Touch Cheek Slide Close GSM 850 Channel 190

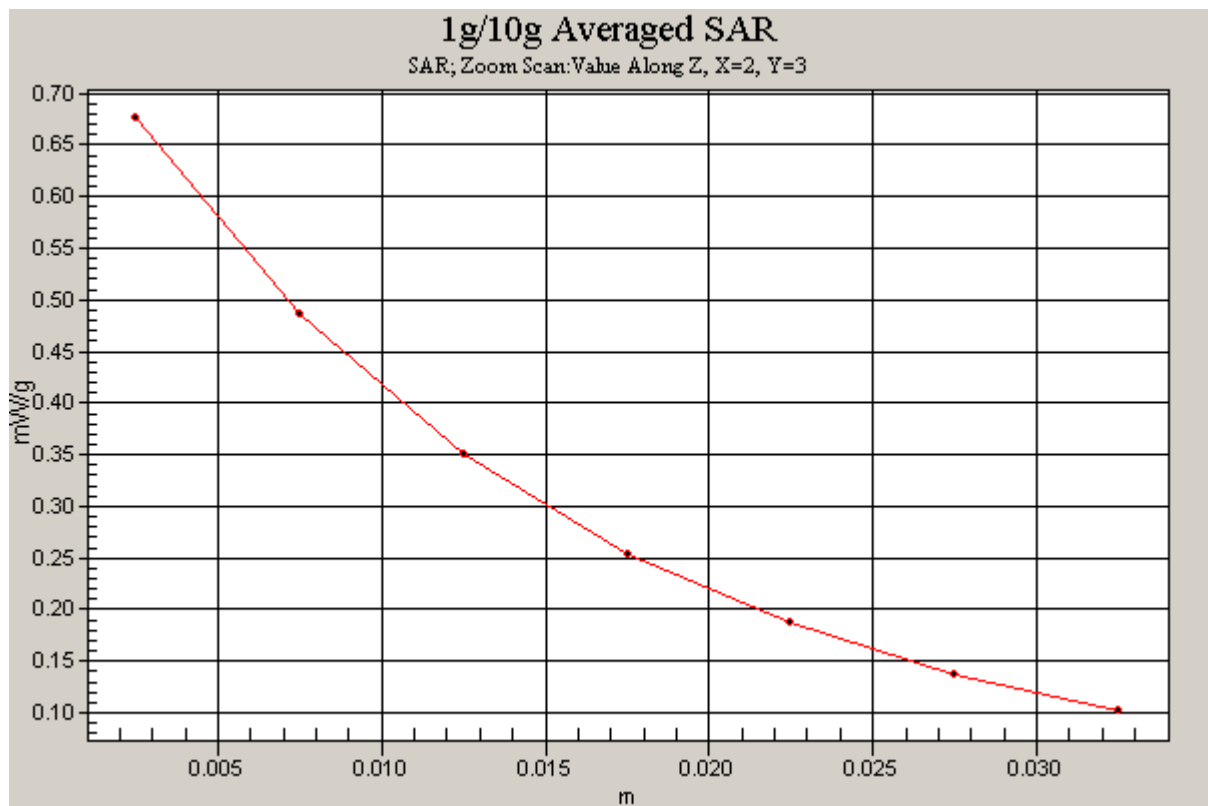


Figure 48 Z-Scan at power reference point (Left Hand Touch Cheek Slide Close GSM 850 Channel 190)

GSM 850 Left Cheek Low Slide Close

Date/Time: 6/23/2009 8:42:14 AM

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

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.91$ mho/m; $\epsilon_r = 41.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

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

Maximum value of SAR (interpolated) = 0.620 mW/g

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

Reference Value = 8.01 V/m; Power Drift = -0.043 dB

Peak SAR (extrapolated) = 0.709 W/kg

SAR(1 g) = 0.513 mW/g; SAR(10 g) = 0.364 mW/g

Maximum value of SAR (measured) = 0.603 mW/g

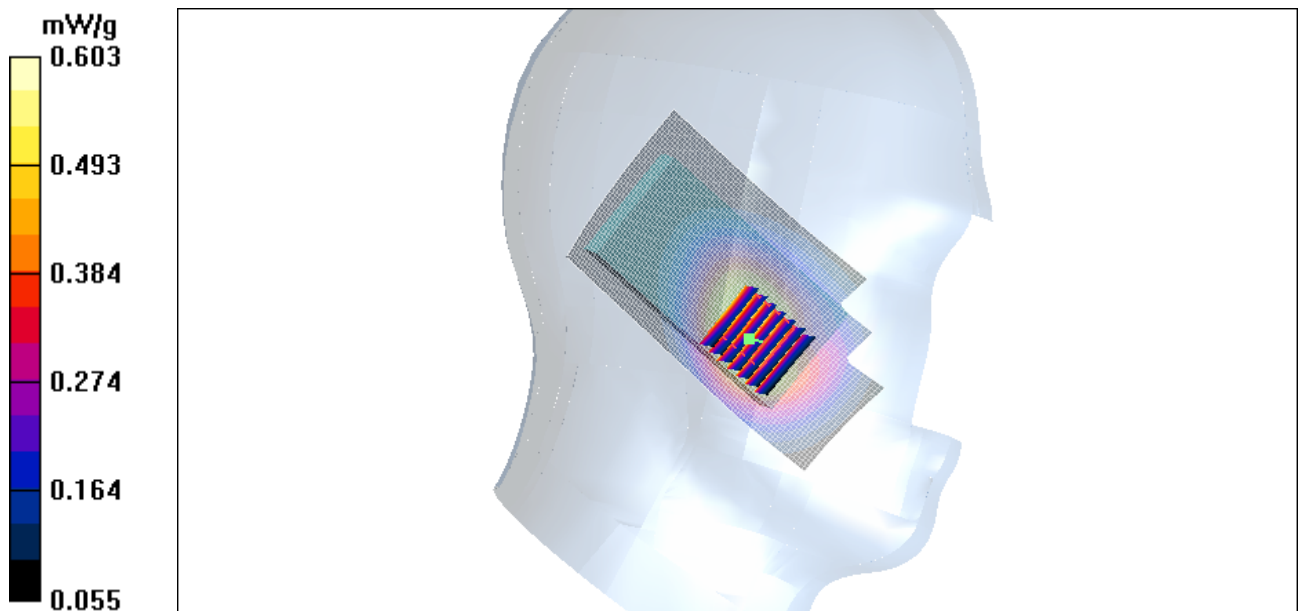


Figure 49 Left Hand Touch Cheek Slide Close GSM 850 Channel 128

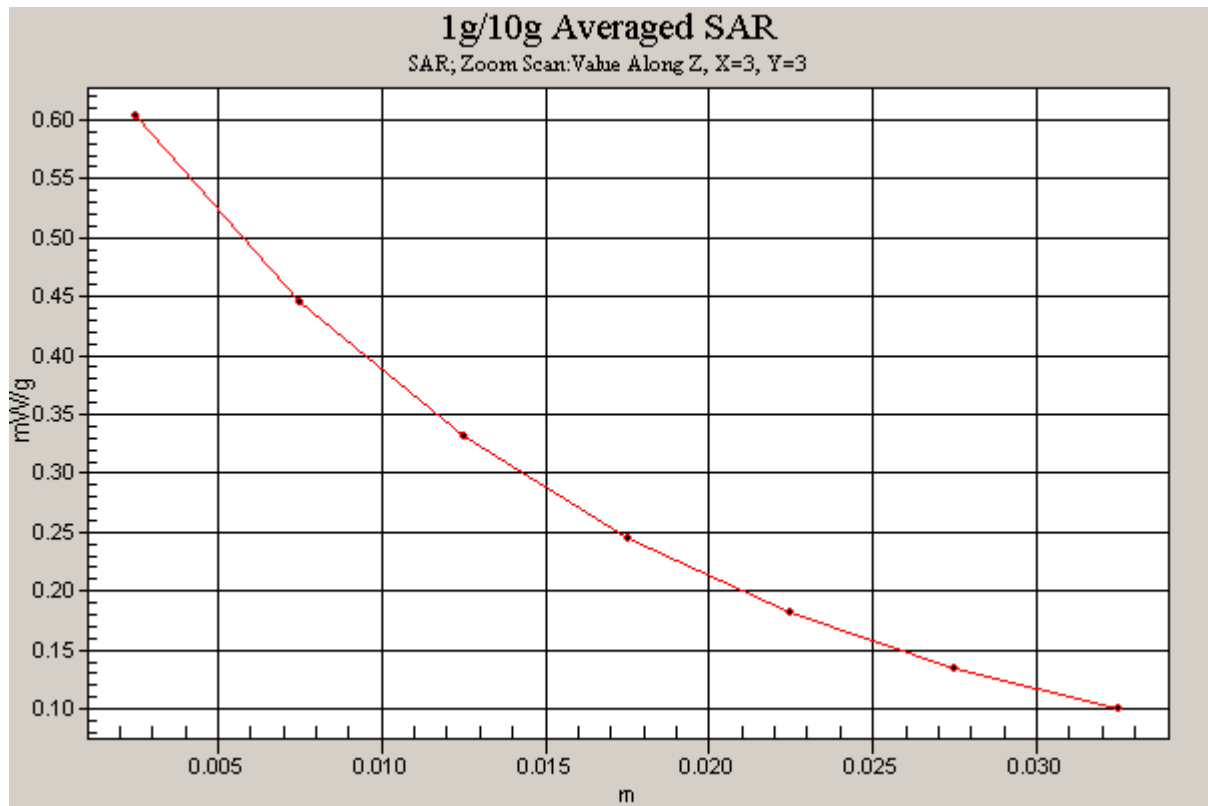


Figure 50 Z-Scan at power reference point (Left Hand Touch Cheek Slide Close GSM 850 Channel 128)

GSM 850 Left Tilt Middle Slide Close

Date/Time: 6/23/2009 1:47:24 PM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 837$ MHz; $\sigma = 0.927$ mho/m; $\epsilon_r = 41.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

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

Maximum value of SAR (interpolated) = 0.389 mW/g

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

Reference Value = 12.5 V/m; Power Drift = -0.042 dB

Peak SAR (extrapolated) = 0.443 W/kg

SAR(1 g) = 0.339 mW/g; SAR(10 g) = 0.248 mW/g

Maximum value of SAR (measured) = 0.389 mW/g

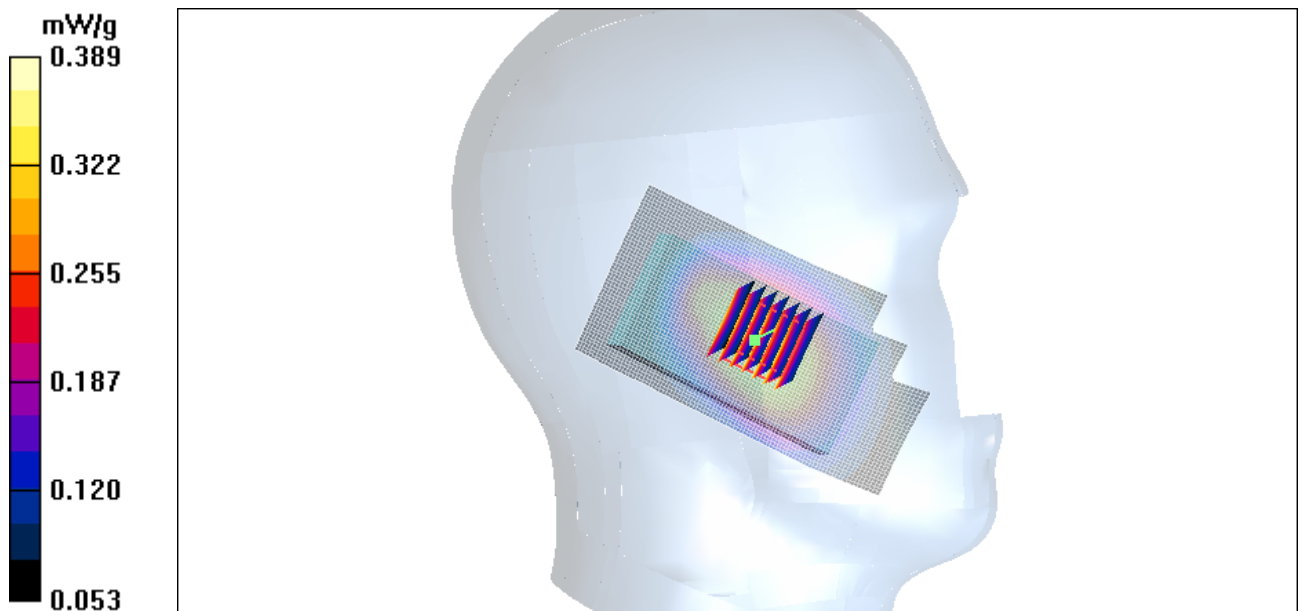


Figure 51 Left Hand Tilt 15° Slide Close GSM 850 Channel 190

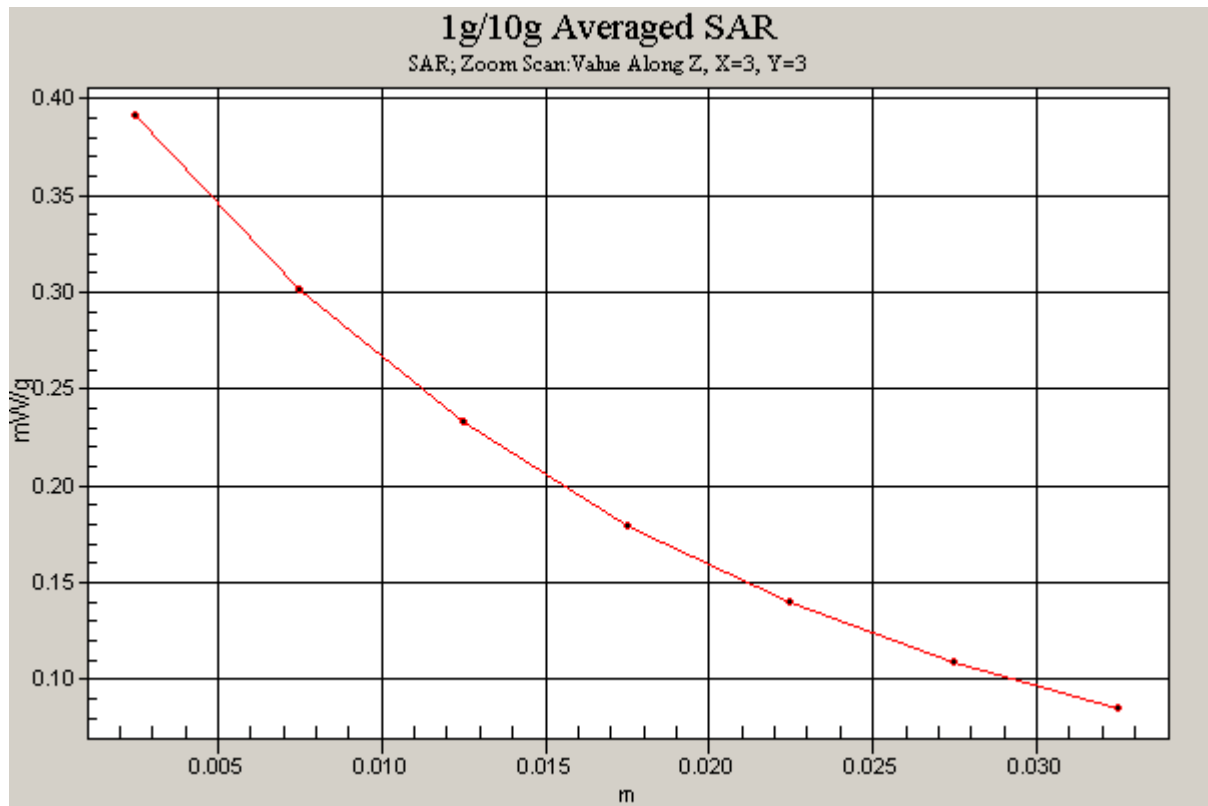


Figure 52 Z-Scan at power reference point (Left Hand Tilt 15° Slide Close GSM 850 Channel 190)

GSM 850 Right Cheek Middle Slide Close

Date/Time: 6/23/2009 1:05:55 PM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 837$ MHz; $\sigma = 0.927$ mho/m; $\epsilon_r = 41.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

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

Maximum value of SAR (interpolated) = 0.610 mW/g

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

Reference Value = 9.08 V/m; Power Drift = -0.086 dB

Peak SAR (extrapolated) = 0.732 W/kg

SAR(1 g) = 0.544 mW/g; SAR(10 g) = 0.393 mW/g

Maximum value of SAR (measured) = 0.621 mW/g

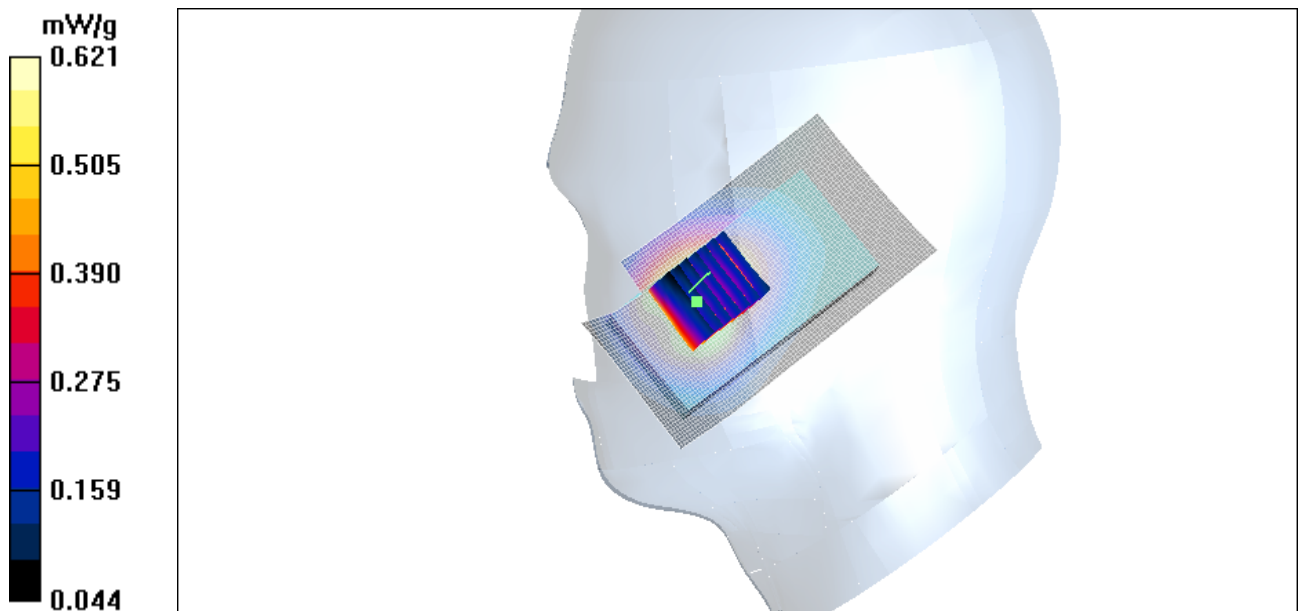


Figure 53 Right Hand Touch Cheek Slide Close GSM 850 Channel 190

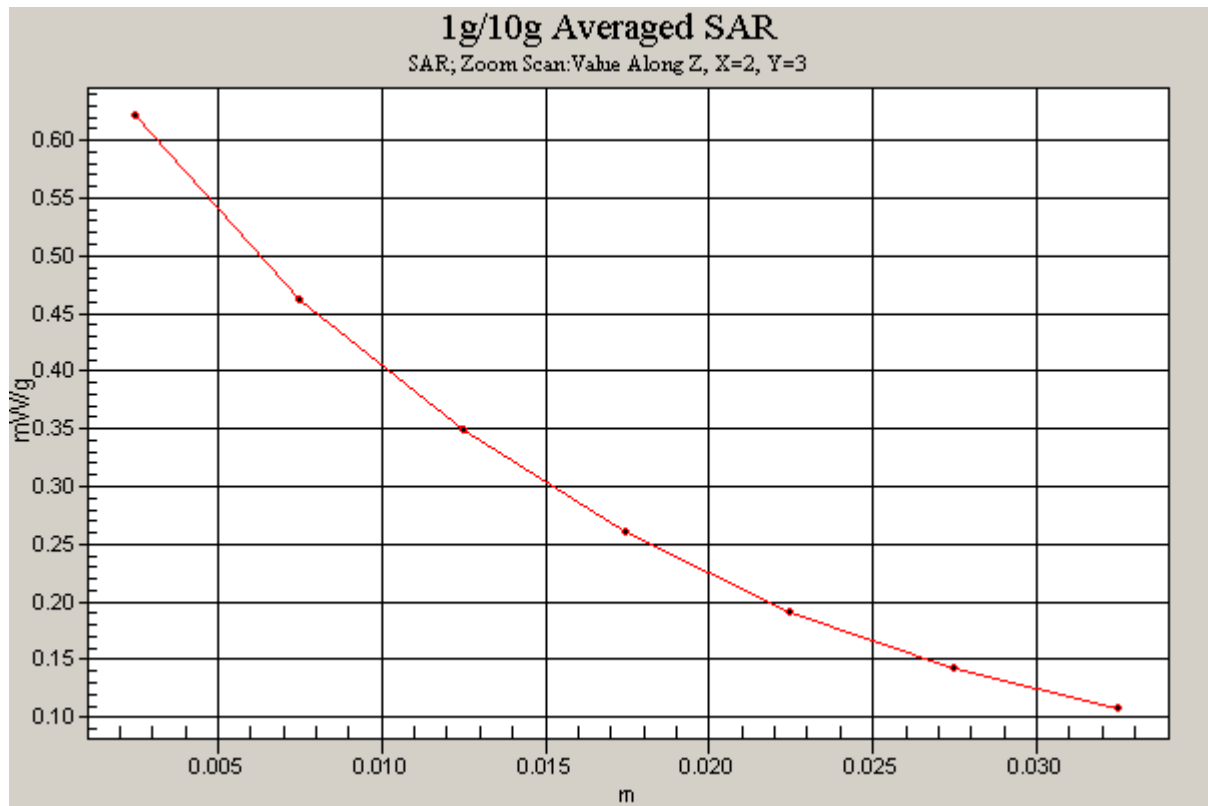


Figure 54 Z-Scan at power reference point (Right Hand Touch Cheek Slide Close GSM 850 Channel 190)

GSM 850 Right Tilt Middle Slide Close

Date/Time: 6/23/2009 1:26:11 PM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 837$ MHz; $\sigma = 0.927$ mho/m; $\epsilon_r = 41.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

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

Maximum value of SAR (interpolated) = 0.379 mW/g

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

Reference Value = 12.3 V/m; Power Drift = -0.044 dB

Peak SAR (extrapolated) = 0.427 W/kg

SAR(1 g) = 0.324 mW/g; SAR(10 g) = 0.236 mW/g

Maximum value of SAR (measured) = 0.374 mW/g

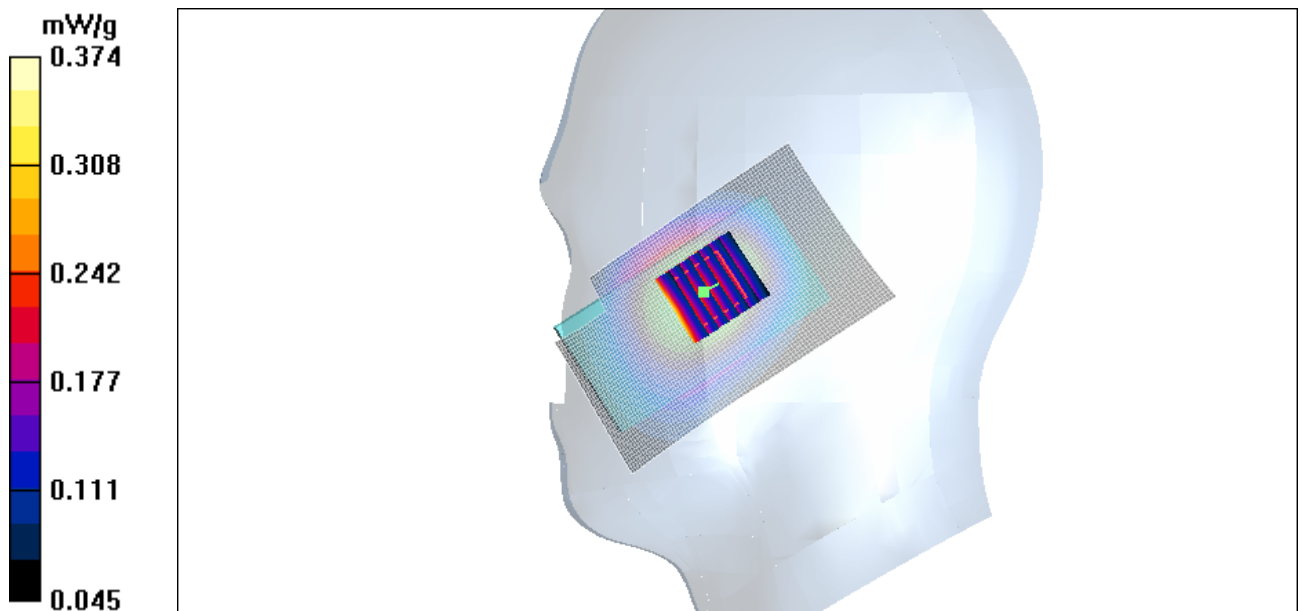


Figure 55 Right Hand Tilt 15° Slide Close GSM 850 Channel 190

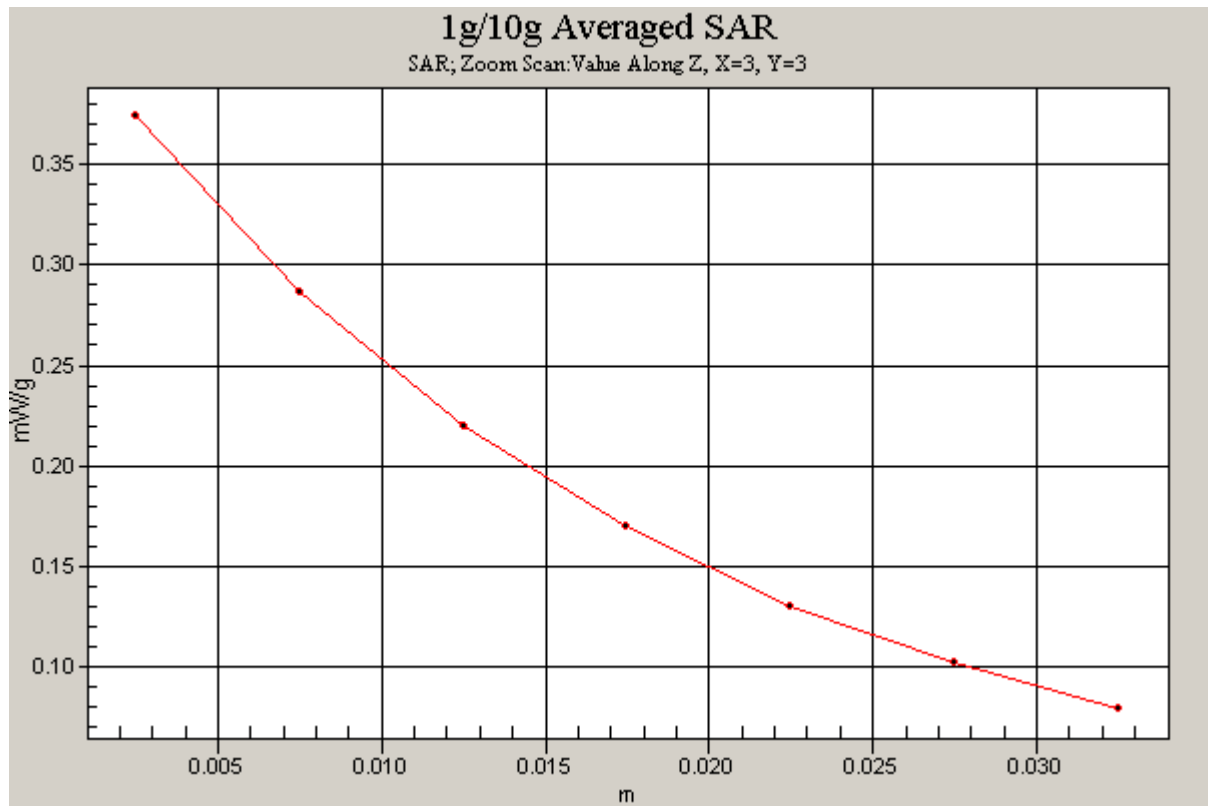


Figure 56 Z-Scan at power reference point (Right Hand Tilt 15° Slide Close GSM 850 Channel 190)

GSM 850 Towards Ground High Slide Close

Date/Time: 6/24/2009 11:13:57 PM

Communication System: GSM 850; Frequency: 848.8 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 849 \text{ MHz}$; $\sigma = 1.02 \text{ mho/m}$; $\epsilon_r = 55.1$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.3°C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

Towards Ground High/Area Scan (51x81x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.428 mW/g

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

Reference Value = 8.28 V/m ; Power Drift = -0.174 dB

Peak SAR (extrapolated) = 0.507 W/kg

SAR(1 g) = 0.362 mW/g ; SAR(10 g) = 0.253 mW/g

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

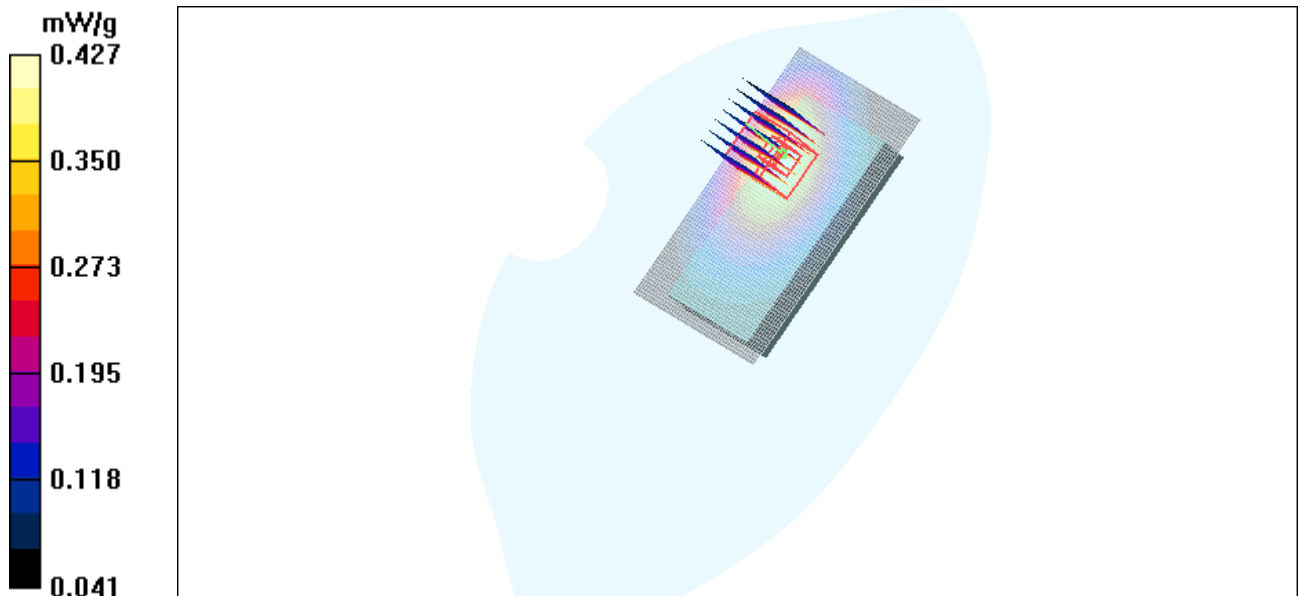


Figure 57 Body, Towards Ground, Slide Close GSM 850 Channel 251

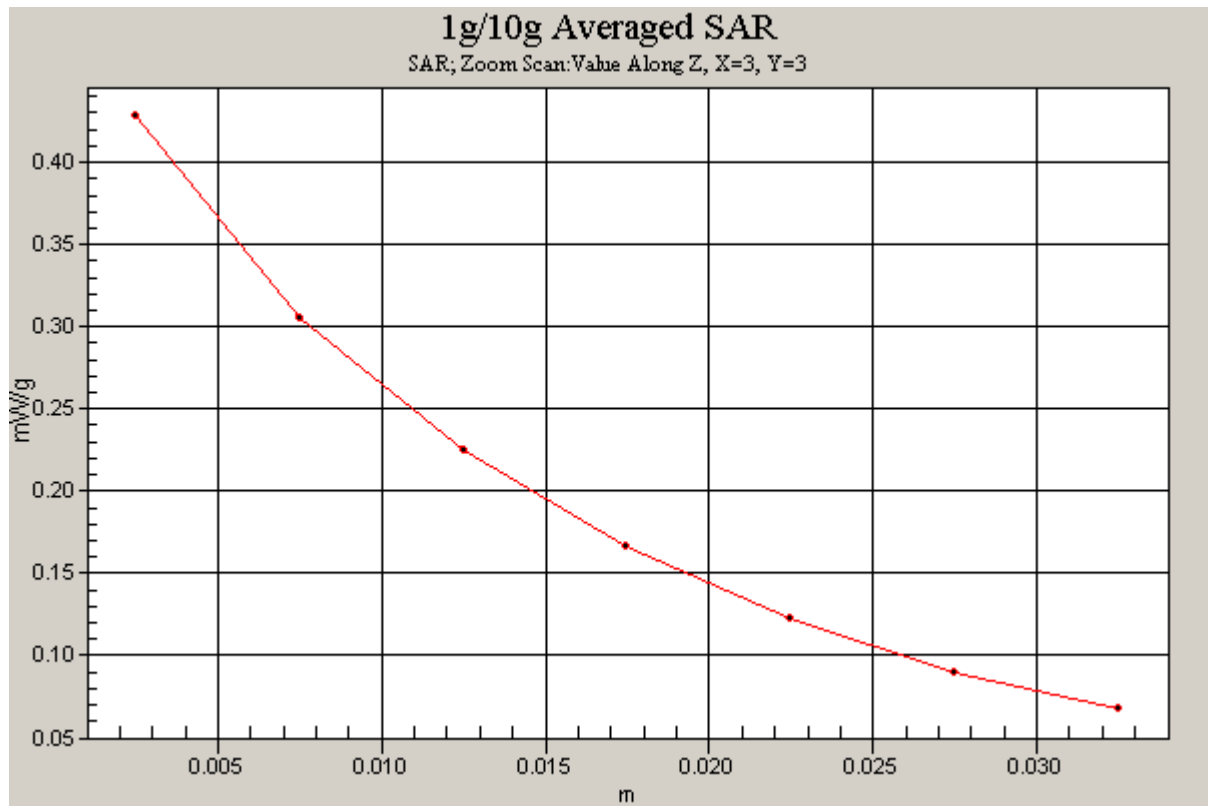


Figure 58 Z-Scan at power reference point (Body, Towards Ground, Slide Close GSM 850 Channel 251)

GSM 850 Towards Ground Middle Slide Close

Date/Time: 6/24/2009 10:56:44 PM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 55.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

Towards Ground Middle/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.533 mW/g

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

Reference Value = 9.00 V/m; Power Drift = 0.053 dB

Peak SAR (extrapolated) = 0.643 W/kg

SAR(1 g) = 0.462 mW/g; SAR(10 g) = 0.323 mW/g

Maximum value of SAR (measured) = 0.545 mW/g

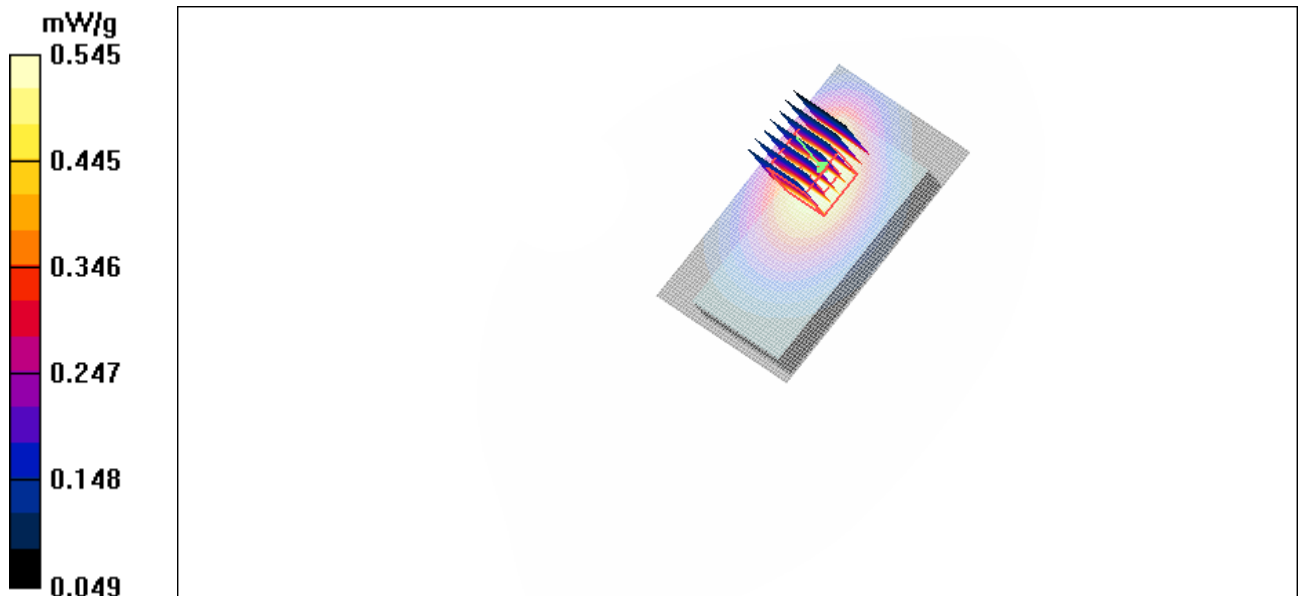


Figure 59 Body, Towards Ground, Slide Close GSM 850 Channel 190

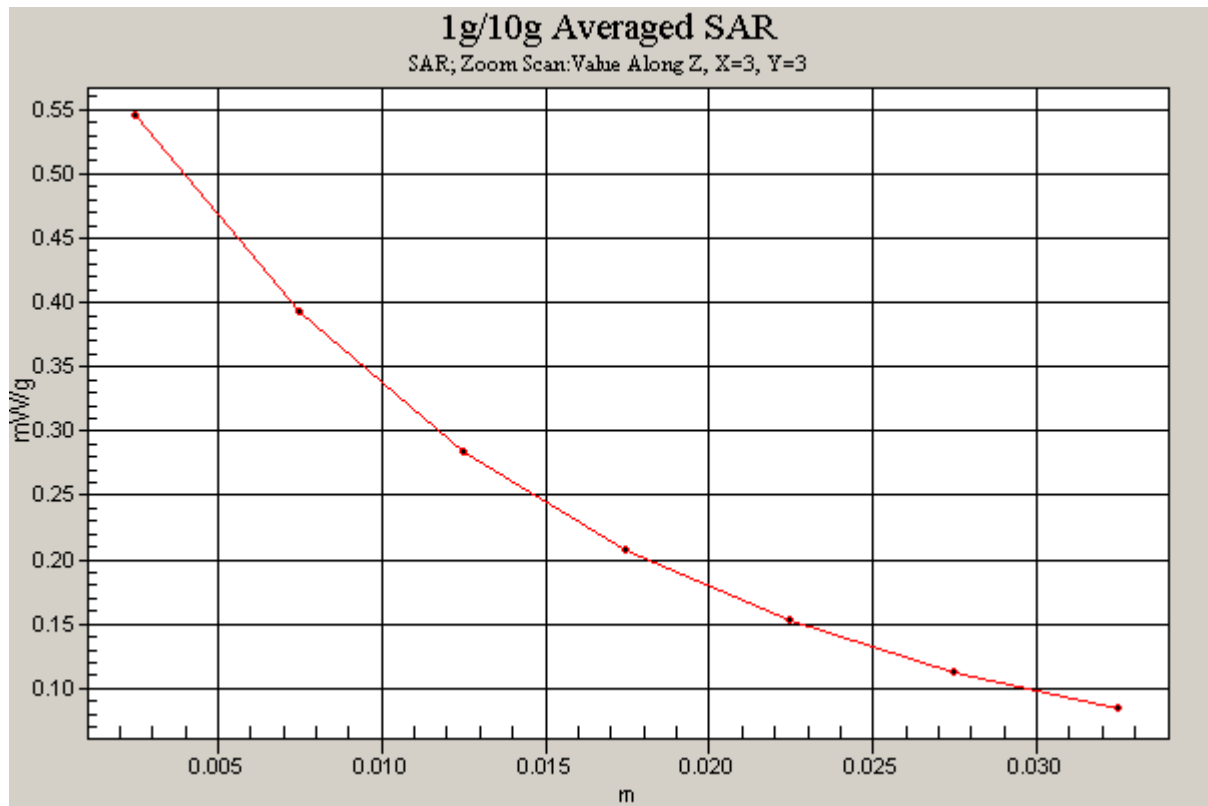


Figure 60 Z-Scan at power reference point (Body, Towards Ground, Slide Close GSM 850 Channel 190)

GSM 850 Towards Ground Low Slide Close

Date/Time: 6/24/2009 11:31:28 PM

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

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.999$ mho/m; $\epsilon_r = 55.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

Towards Ground Low/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.469 mW/g

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

Reference Value = 8.54 V/m; Power Drift = -0.103 dB

Peak SAR (extrapolated) = 0.559 W/kg

SAR(1 g) = 0.402 mW/g; SAR(10 g) = 0.282 mW/g

Maximum value of SAR (measured) = 0.474 mW/g

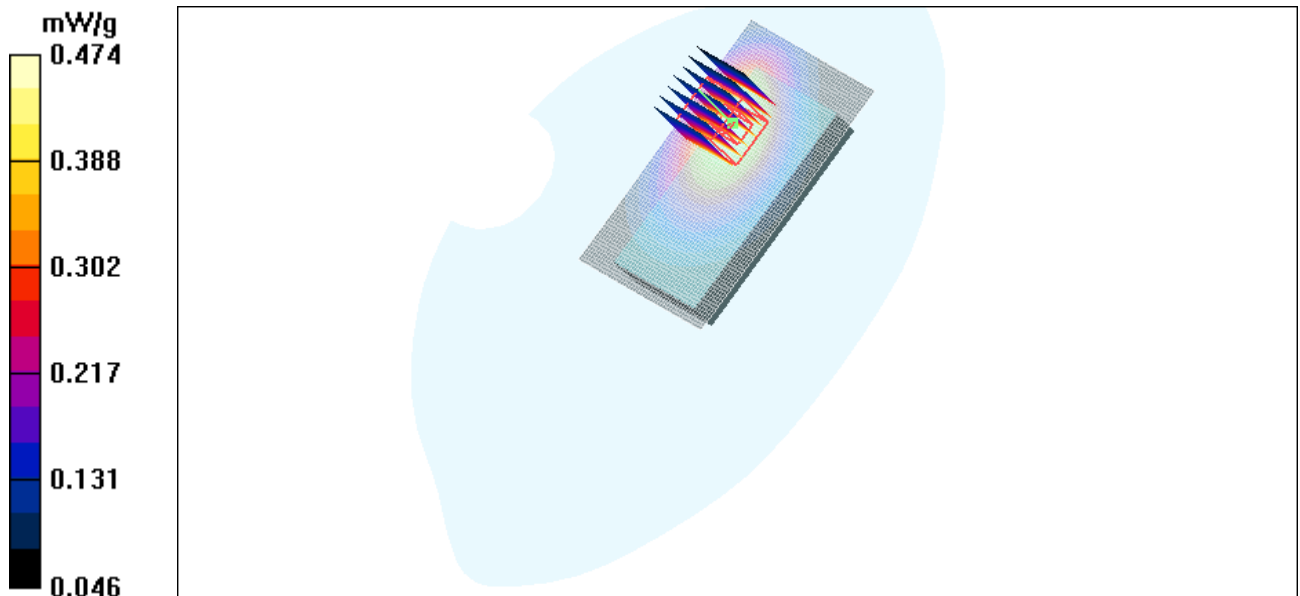


Figure 61 Body, Towards Ground, Slide Close GSM 850 Channel 128

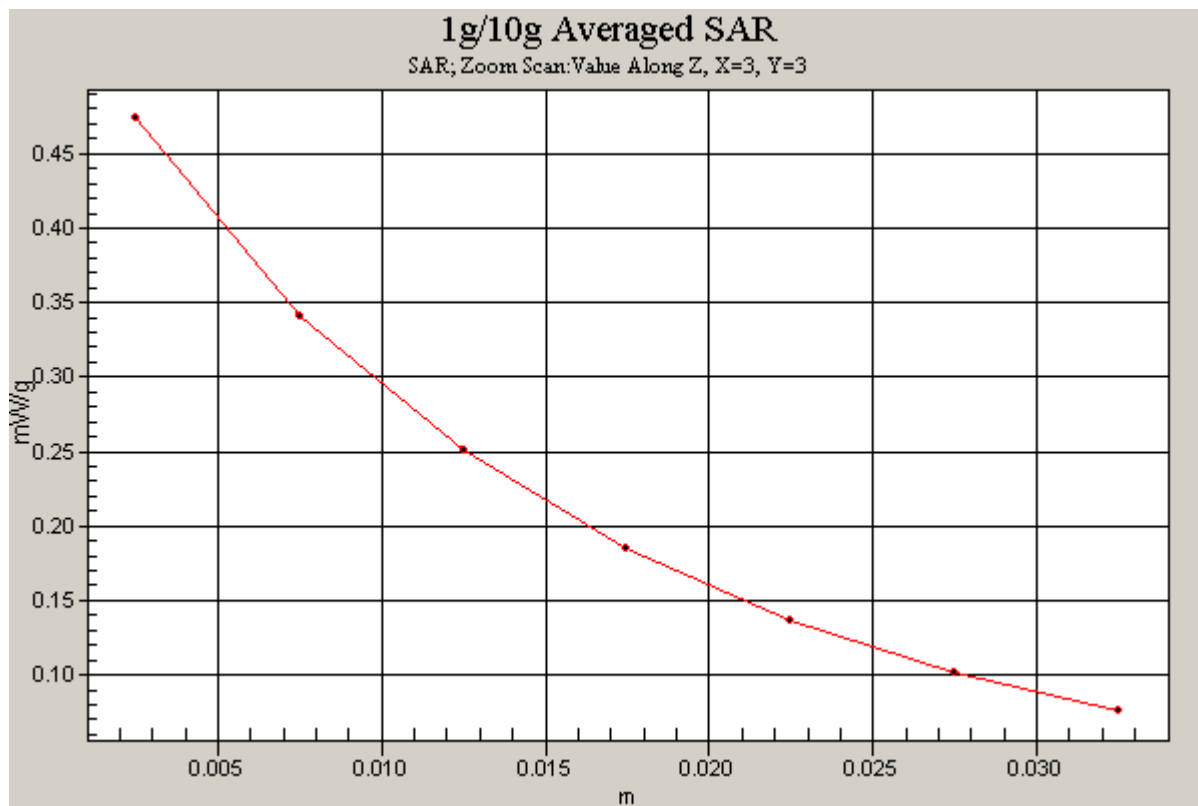


Figure 62 Z-Scan at power reference point (Body, Towards Ground, Slide Close GSM 850 Channel 128)

GSM 850 Towards Phantom Middle Slide Close

Date/Time: 6/24/2009 10:36:18 PM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 55.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

Towards Phantom Middle/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.253 mW/g

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

Reference Value = 7.86 V/m; Power Drift = -0.152 dB

Peak SAR (extrapolated) = 0.283 W/kg

SAR(1 g) = 0.212 mW/g; SAR(10 g) = 0.155 mW/g

Maximum value of SAR (measured) = 0.244 mW/g

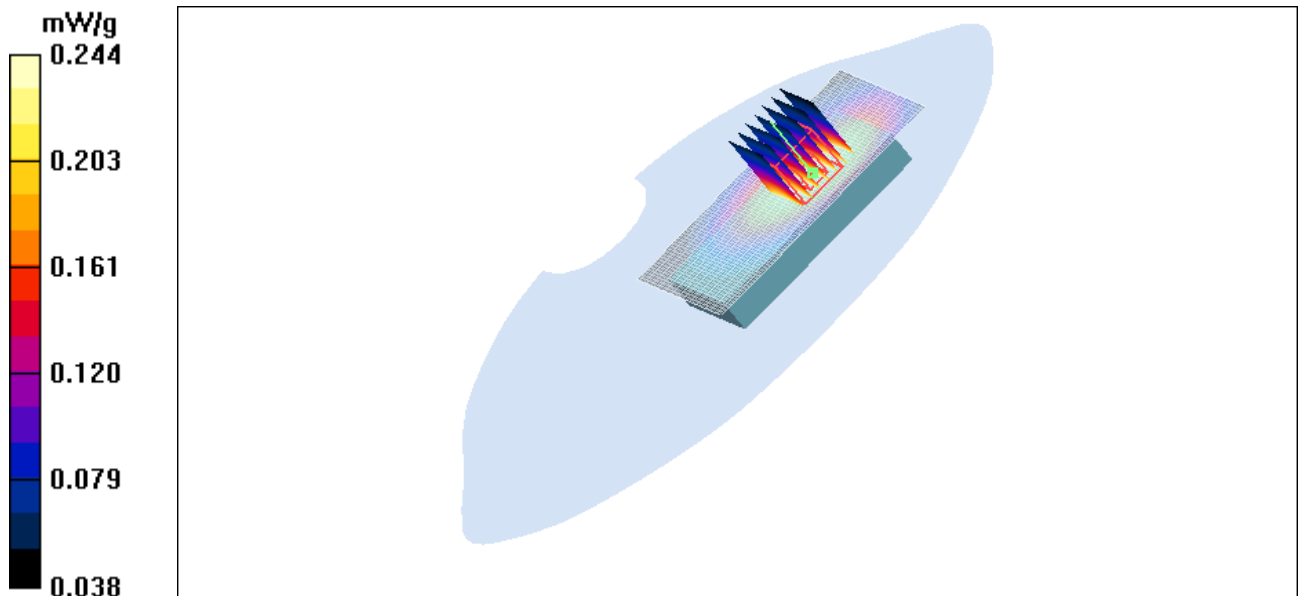


Figure 63 Body, Towards Phantom, Slide Close GSM 850 Channel 190

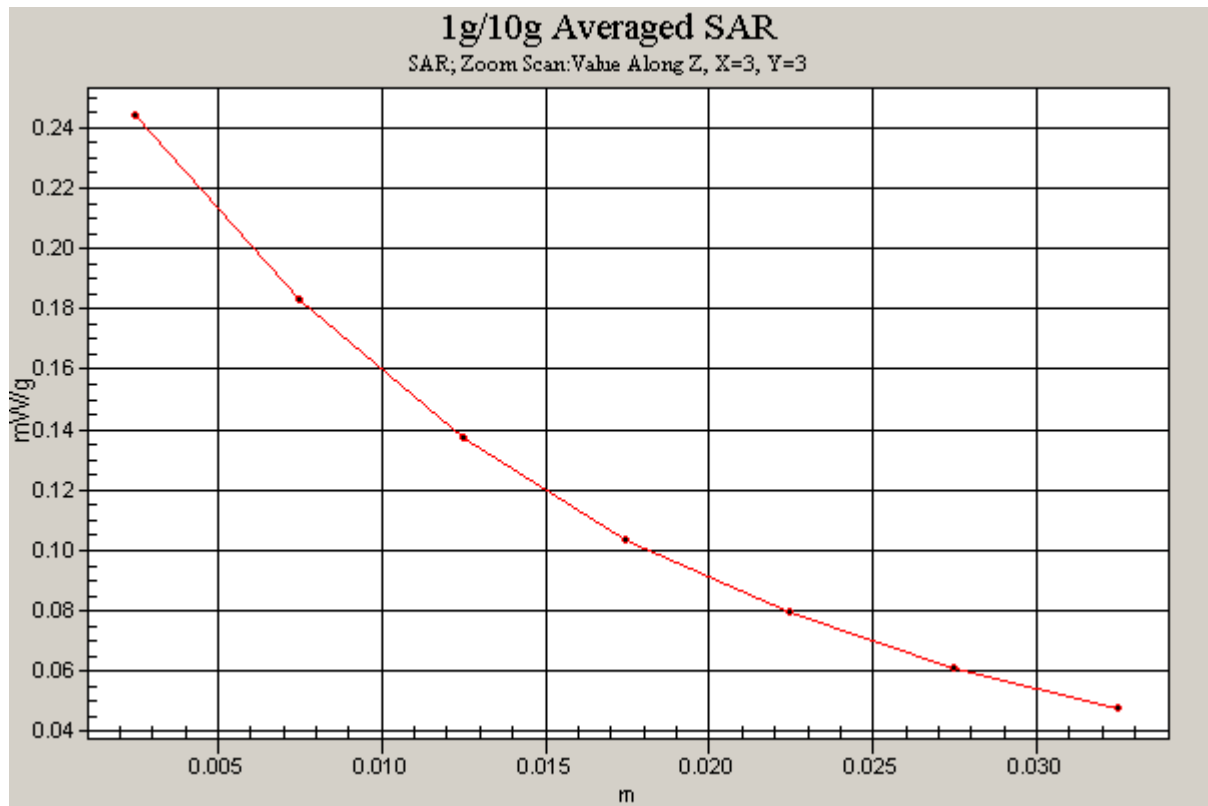


Figure 64 Z-Scan at power reference point (Body, Towards Phantom, Slide Close GSM 850 Channel 190)

GSM 850 Towards Ground with Earphone Middle Slide Close

Date/Time: 6/24/2009 11:50:05 PM

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 55.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

Towards Ground Middle/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.409 mW/g

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

Reference Value = 8.98 V/m; Power Drift = -0.105 dB

Peak SAR (extrapolated) = 0.488 W/kg

SAR(1 g) = 0.350 mW/g; SAR(10 g) = 0.244 mW/g

Maximum value of SAR (measured) = 0.412 mW/g

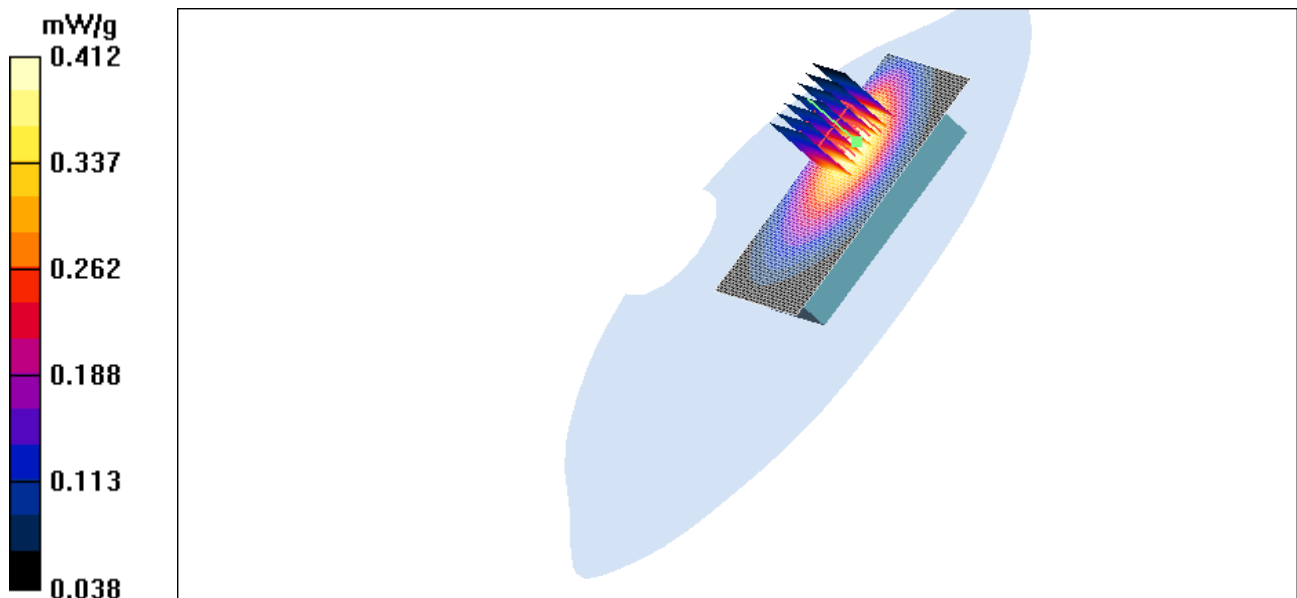


Figure 65 Body with Earphone, Towards Ground, Slide Close GSM 850 Channel 190

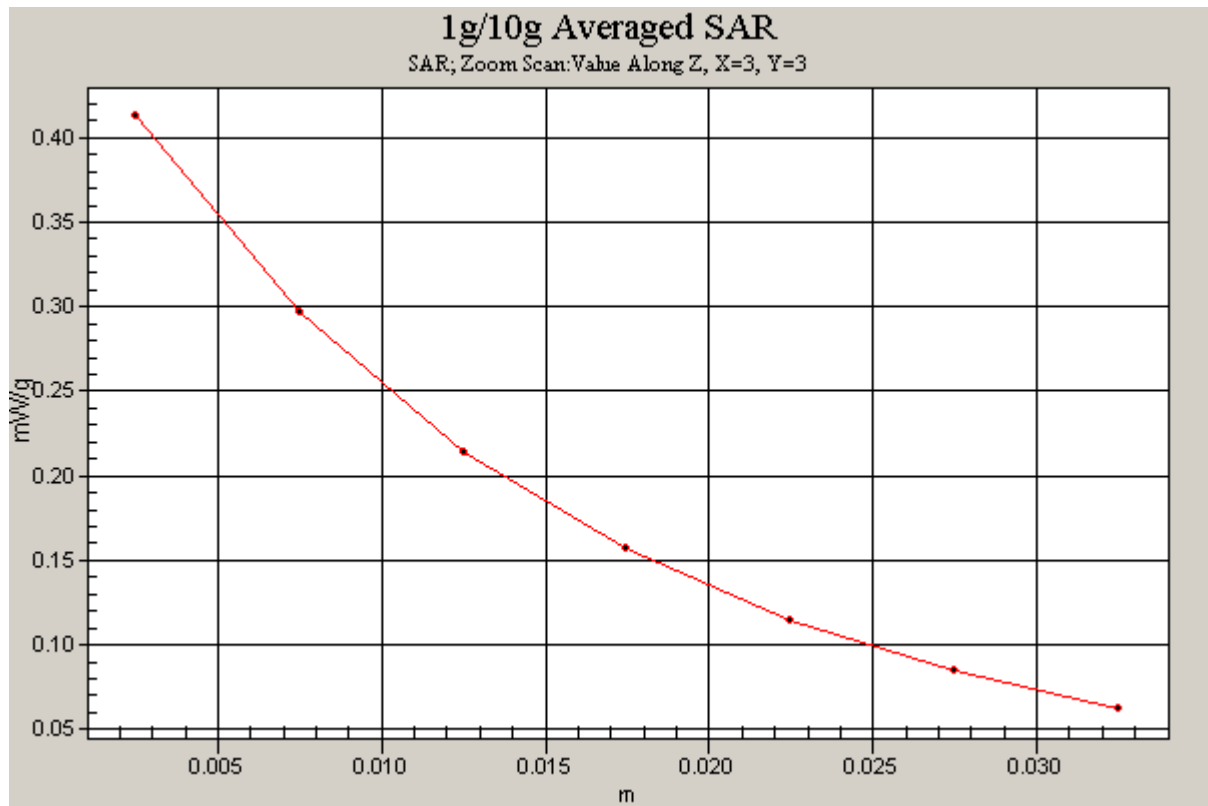


Figure 66 Z-Scan at power reference point (Body with Earphone, Towards Ground, Slide Close GSM 850 Channel 190)

GSM 850 GPRS (4 timeslots uplink) Towards Ground High Slide Close

Date/Time: 6/24/2009 9:19:14 PM

Communication System: GSM850 + GPRS(4Up); Frequency: 848.8 MHz; Duty Cycle: 1:2

Medium parameters used: $f = 849$ MHz; $\sigma = 1.02$ mho/m; $\epsilon_r = 55.1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

Towards Ground High/Area Scan (51x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.737 mW/g

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

Reference Value = 10.9 V/m; Power Drift = -0.001 dB

Peak SAR (extrapolated) = 0.981 W/kg

SAR(1 g) = 0.700 mW/g; SAR(10 g) = 0.483 mW/g

Maximum value of SAR (measured) = 0.750 mW/g

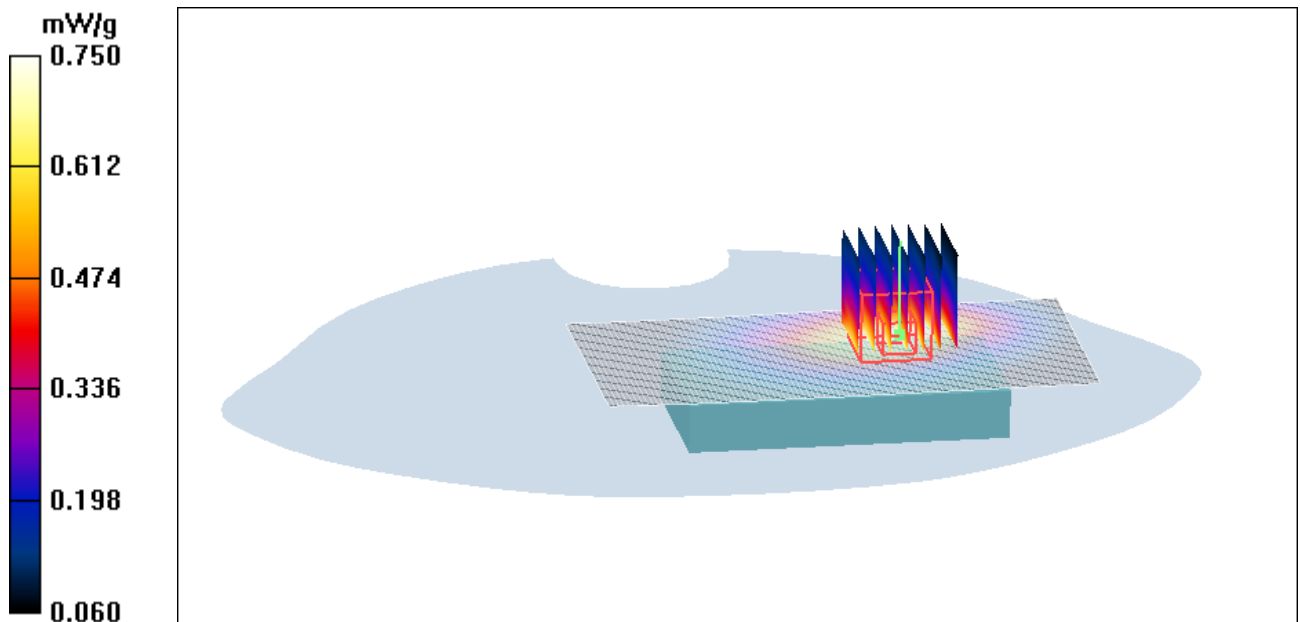


Figure 67 Body, Towards Ground, Slide Close GSM 850 GPRS (4 timeslots uplink) Channel 251

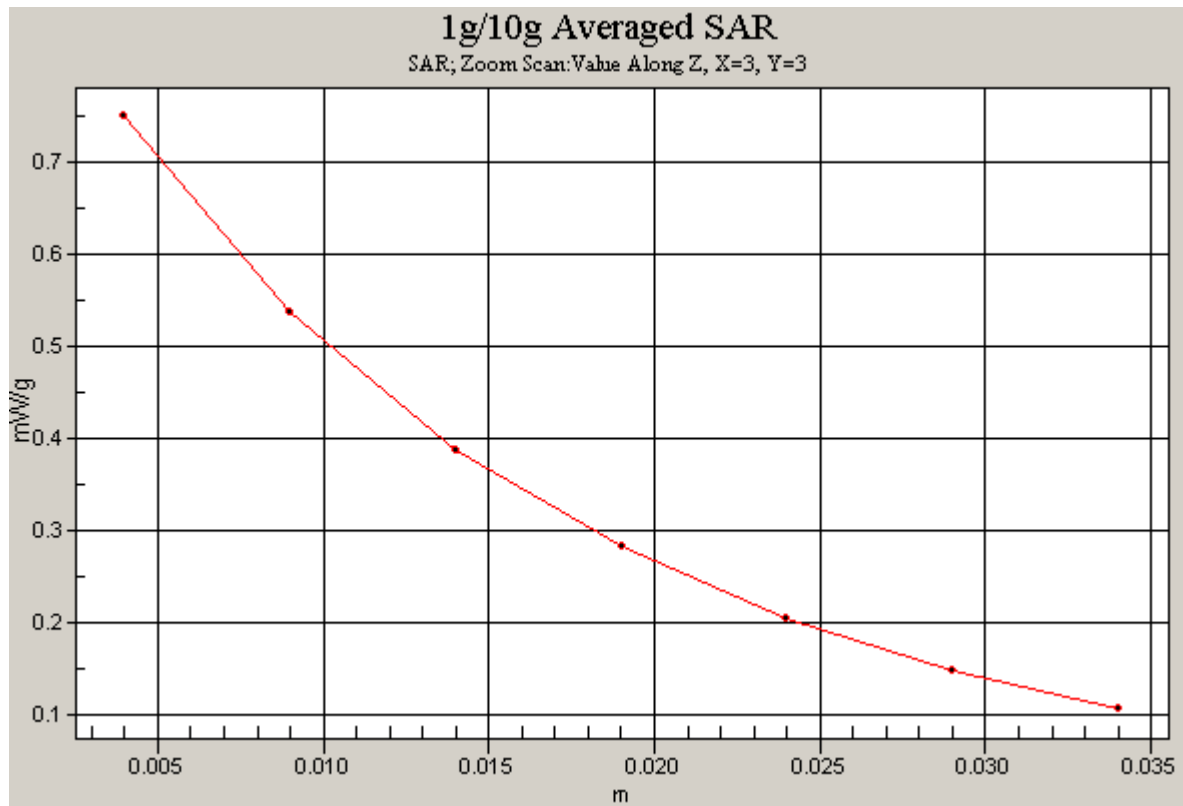


Figure 68 Z-Scan at power reference point [Body, Towards Ground, Slide Close GSM 850 GPRS (4 timeslots uplink) Channel 251]

GSM 850 GPRS (4 timeslots uplink) Towards Ground Middle Slide Close

Date/Time: 6/24/2009 8:57:21 PM

Communication System: GSM850 + GPRS(4Up); Frequency: 836.6 MHz; Duty Cycle: 1:2

Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 55.2$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

Towards Ground Middle/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 13.1 V/m; Power Drift = -0.042 dB

Peak SAR (extrapolated) = 1.17 W/kg

SAR(1 g) = 0.845 mW/g; SAR(10 g) = 0.586 mW/g

Maximum value of SAR (measured) = 0.993 mW/g

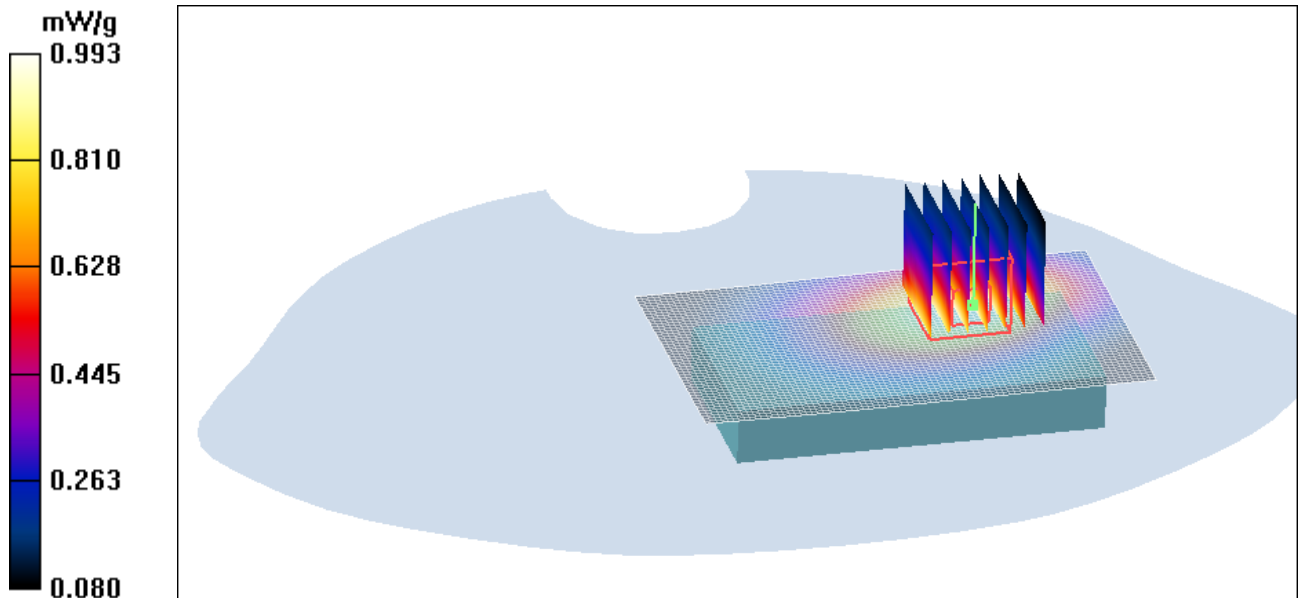


Figure 69 Body, Towards Ground, Slide Close GSM 850 GPRS (4 timeslots uplink) Channel 190

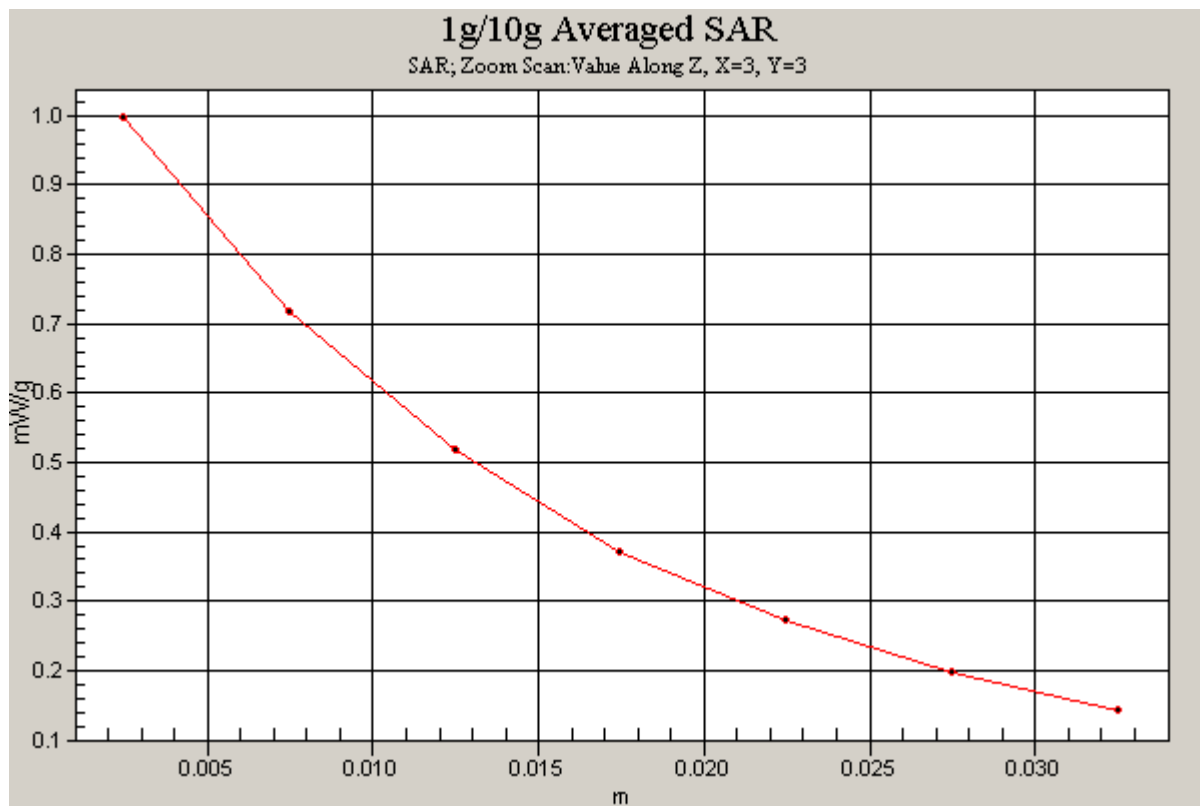


Figure 70 Z-Scan at power reference point [Body, Towards Ground, Slide Close GSM 850 GPRS (4 timeslots uplink) Channel 190]

GSM 850 GPRS (4 timeslots uplink) Towards Ground Low Slide Close

Date/Time: 6/24/2009 9:38:36 PM

Communication System: GSM850 + GPRS(4Up); Frequency: 824.2 MHz; Duty Cycle: 1:2

Medium parameters used (interpolated): $f = 824.2$ MHz; $\sigma = 0.999$ mho/m; $\epsilon_r = 55.3$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY4 Configuration:

Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1); Calibrated: 9/3/2008

Electronics: DAE4 Sn452; Calibrated: 11/18/2008

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

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

Towards Ground Low/Area Scan (51x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.832 mW/g

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

Reference Value = 11.4 V/m; Power Drift = 0.063 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.773 mW/g; SAR(10 g) = 0.540 mW/g

Maximum value of SAR (measured) = 0.834 mW/g

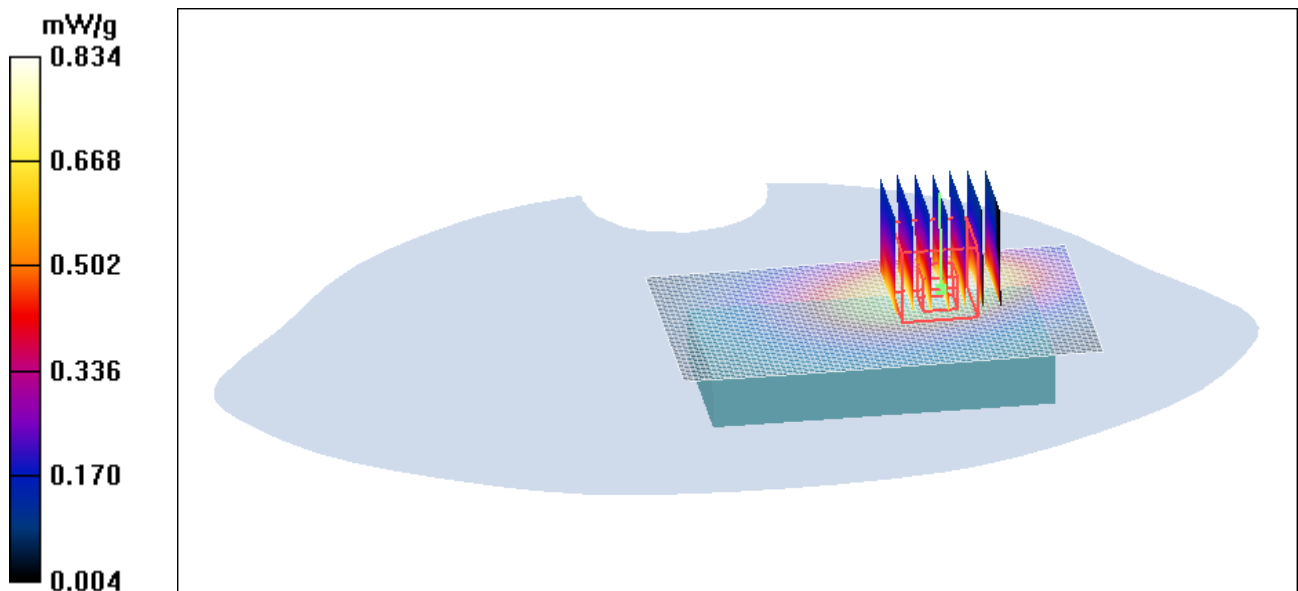


Figure 71 Body, Towards Ground, Slide Close GSM 850 GPRS (4 timeslots uplink) Channel 128

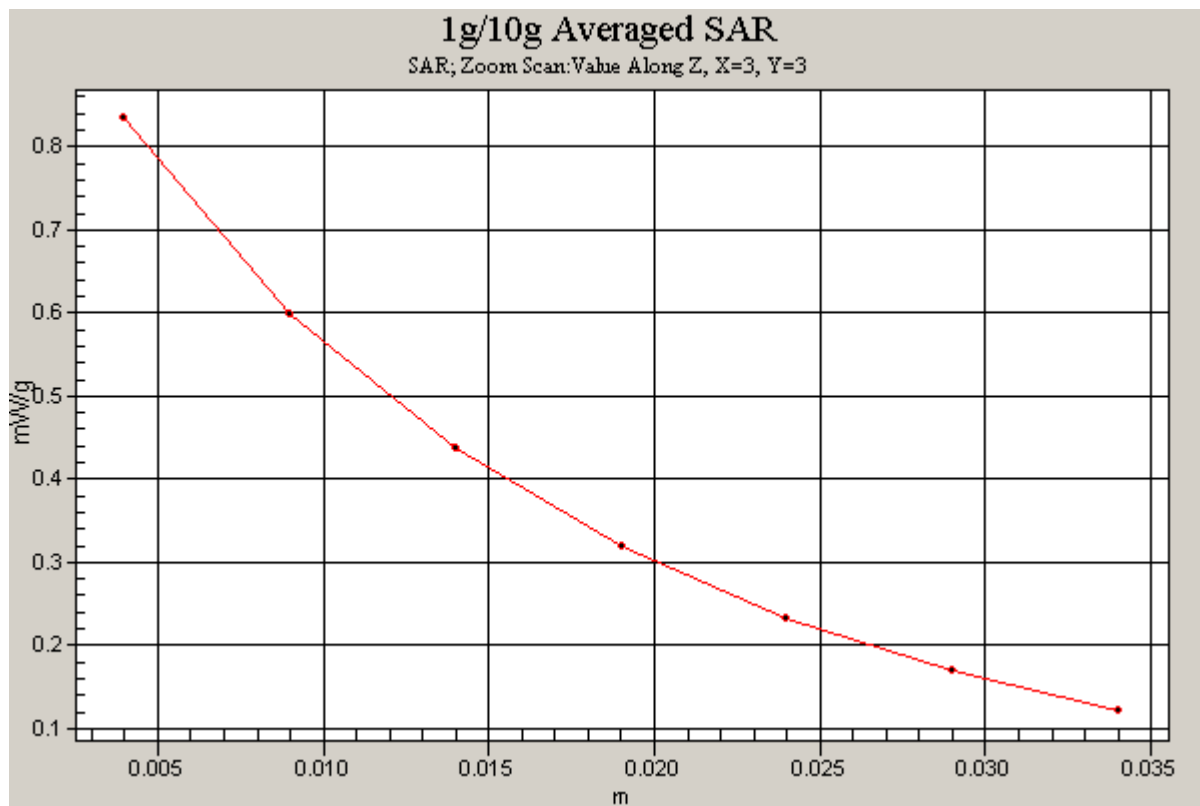


Figure 72 Z-Scan at power reference point [Body, Towards Ground, Slide Close GSM 850 GPRS (4 timeslots uplink) Channel 128]