No.: RZA2008-1617FCC

OET 65

TEST REPORT

Test name	Electromagnetic Field (Specific Absorption Rate)
Product	GSM Mobile Phone
Model	HUAWEI G2200
FCC ID	QISG2200
Client	Huawei Technologies Co., Ltd.

TA Technology (Shanghai) Co., Ltd.

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GENERAL SUMMARY

Product	GSM Mobile Phone	**Model**	HUAWEI G2200
Client	Huawei Technologies Co., Ltd.	**Type of test**	Entrusted
Manufacturer	Huawei Technologies Co., Ltd.	**Arrival Date of sample**	December 18th, 2008
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	011820000000982		
Standard(s)	**ANSI C95.1–2005:** IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz. **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(draft):** 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)		
Conclusion	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. General Judgment: **Pass** (Stamp) **Date of issue: December 25th, 2008**		
Comment	The test result only responds to the measured sample.		

Approved by 杨伟中 Weizhong Yang **Revised by** 凌敏宝 Minbao Ling **Performed by** 李金昌 Jinchang Li

TABLE OF CONTENT

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.

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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, Longgang 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, Longgang 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	Serial Number	Manufacturer
Handset	HUAWEI G2200	011820000000982	HUAWEI Technologies Co., Ltd
Lithium Battery	HB5E1	BAA8B03XE3700138	HUAWEI Technologies Co., Ltd
AC/DC Adapter	HS-050040U2	BYA8A1507978	HUAWEI Technologies Co., Ltd

Note:
The EUT appearances see ANNEX H.

3.3. 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 sample under test was selected by the Client.

Components list please refer to documents of the manufacturer.

3.4. 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）	
Modulation:	GMSK,	
Standard output power	(33dBm,2W)GSM850; （tested） (30dBm,1W)GSM1900; （tested）	
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 (GSM850) (tested) 512 - 661 – 810 (GSM1900) (tested)	
Hardware version:	Ver.C	
Software version:	ENGC01B204	
Antenna type:	integrated antenna	

4. OPERATIONAL CONDITIONS DURING TEST

4.1. General description of test procedures

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..

The Absolute Radio Frequency Channel Number (ARFCN) is allocated to 128, 190 and 251 respectively in the case of GSM 850. 512, 661 and 810 respectively in the case of GSM 1900. The EUT shall use its External transmitter. The antenna(s), battery and accessories shall be those specified by the manufacturer. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output.

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,

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.

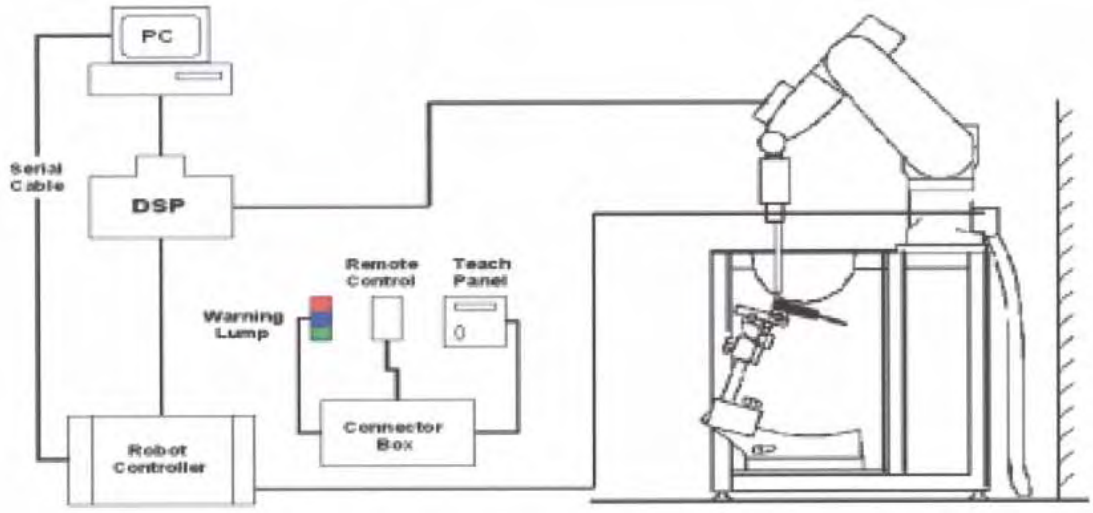

Figure 1. SAR Lab Test Measurement Set-up

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 µW/g to > 100 mW/g Linearity: ± 0.2dB (noise: typically < 1 µW/g)
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.

Figure 2.EX3DV4 E-field Probe

Figure 3. EX3DV4 E-field probe

5.2.2. E-field Probe Calibration

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

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

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

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

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

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

5.3. Other Test Equipment

5.3.1. Device Holder for Transmitters

The DASY device holder is designed to cope with the die rent positions given in the standard.
It has two scales for device rotation (with respect to the body axis) and device inclination (with respect to the line between the ear reference points). The rotation centers for both scales is the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.
The DASY device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity "=3 and loss tangent _=0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the

Figure 4.Device Holder

inference of the clamp on the test results could thus be lowered.

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 l000 x 500 mm (H x L x W)
Aailable	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. ± 5 %.

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

- Area Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values before running a detailed measurement around the hot spot.Before starting the area scan a grid spacing of 15 mm x 15 mm is set. During the scan the distance of the probe to the phantom remains unchanged.
After finishing area scan, the field maxima within a range of 2 dB will be ascertained.

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

- Spatial Peak Detection
  The procedure for spatial peak SAR evaluation has been implemented according to the IEEE1529 standard 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, a_{i1}, a_{i2}
	- Conversion factor	$ConvF_i$
	- Diode compression point	Dcp_i
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	
	- Density	

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

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

the diode type and the DC-transmission factor from the diode to the evaluation electronics.

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

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

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

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

cf = crest factor of exciting field (DASY parameter)

dcp_i = diode compression point (DASY parameter)

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

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

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

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

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

$ConvF$ = sensitivity enhancement in solution

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

f = carrier frequency [GHz]

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

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

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

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

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

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

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

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

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

ρ = equivalent tissue density in g/cm^3

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

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

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

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

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

5.6. System validation

System validation is performed by using a validation dipole which is positioned parallel to the planar part of the SAM phantom at the reference point. The distance of the dipole to the SAM phantom is determined by a plexiglass spacer. The dipole is connected to the signal source consisting of signal generator and amplifier via a directional coupler, N-connector cable and adaptation to SMA. It is fed with a power of 1000 mW. To adjust this power a power meter is used. The power sensor is connected to the cable before the validation to measure the power at this point and do adjustments at the signal generator. At the outputs of the directional coupler both return loss as well as forward power are controlled during the validation to make sure that emitted power at the dipole is kept constant. This can also be checked by the power drift measurement after the test.

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

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

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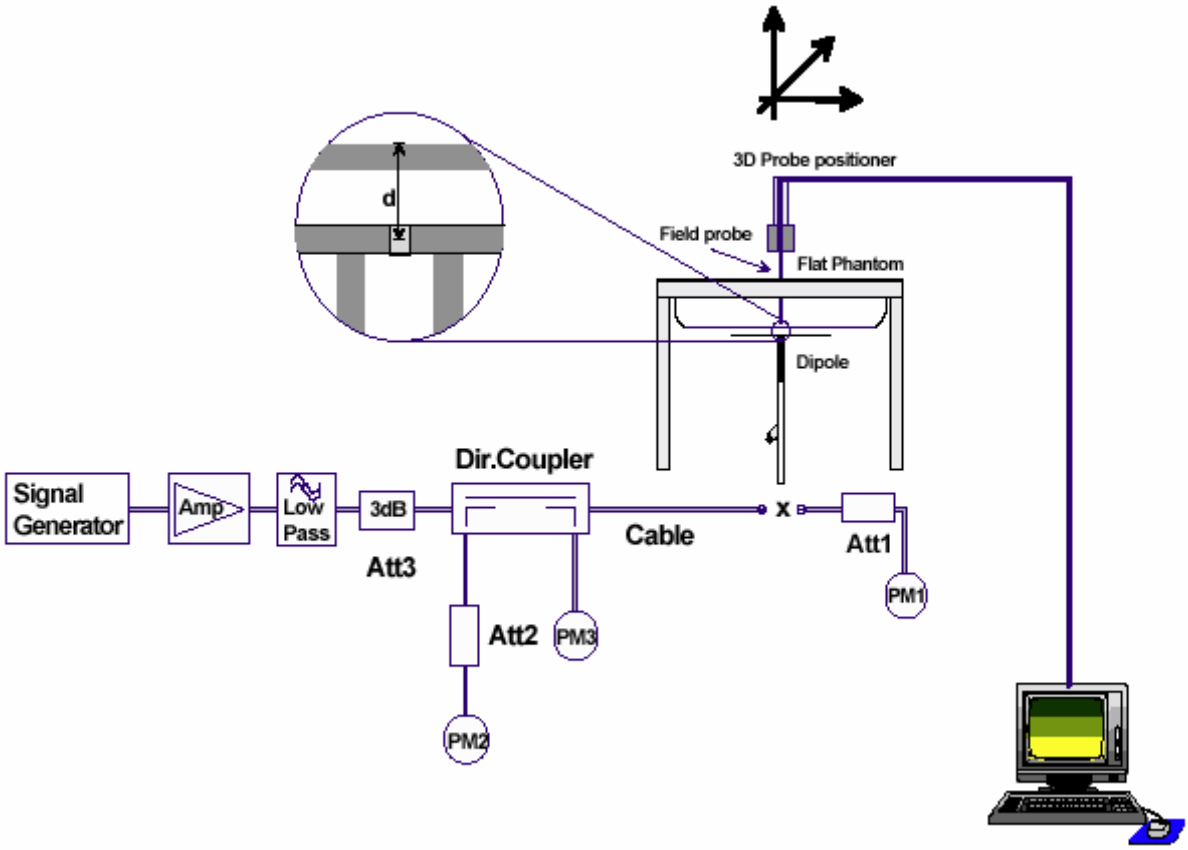


Figure 6. System validation Set-up

5.7. Equivalent Tissues

The liquid is consisted of water, salt, Glycol monobutyl, Sugar, Preventol and Cellulose.The liquid has previously been proven to be suited for worst-case. The Table 5 and Table 6 show the detail solution. It's satisfying the latest tissue dielectric parameters requirements proposed by the OET 65.

Table 5: Composition of the Head Tissue Equivalent Matter

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

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

Table 6: Composition of the Body Tissue Equivalent Matter

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

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

6. LABORATORY ENVIRONMENT

Table 7: 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 C95.1–2005: 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(draft): 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. Measurement result

Table 8: Conducted Power Measurement Results

GSM 850	**Conducted Power**		
	Channel 128	Channel 190	Channel 251
	(824.2MHz)	(836.6MHz)	(848.8MHz)
Before Test (dBm)	32.55	32.44	32.47
After Test (dBm)	32.53	32.42	32.46
GSM 1900	**Conducted Power**		
	Channel 512	Channel 661	Channel 810
	(1850.2MHz)	(1880MHz)	(1909.8MHz)
Before Test (dBm)	29.39	29.44	29.34
After Test (dBm)	29.36	29.42	29.34

9. TEST RESULTS

9.1. Dielectric Performance

Table 9: Dielectric Performance of Head Tissue Simulating Liquid

Measurement is made at temperature 22.5 ℃ and relative humidity 51%. Liquid temperature during the test: 22.3℃					
Frequency (MHz)		**Target value**	**Measurement value**	**Difference percentage**	
835 (Brain)	Permittivity ε_r	41.50	41.21	-0.70	%
	Conductivity σ	0.90	0.89	-1.11	%
1900 (Brain)	Permittivity ε_r	40.00	39.98	-0.05	%
	Conductivity σ	1.40	1.41	0.71	%

Table 10: Dielectric Performance of Body Tissue Simulating Liquid

Measurement is made at temperature 22.5 ℃ and relative humidity 51%. Liquid temperature during the test: 22.3℃					
Frequency (MHz)		**Target value**	**Measurement value**	**Difference percentage**	
835 (Body)	Permittivity ε_r	55.20	54.06	-2.07	%
	Conductivity σ	0.97	0.98	1.03	%
1900 (Body)	Permittivity ε_r	53.30	53.23	-0.13	%
	Conductivity σ	1.52	1.56	2.63	%

9.2. System Validation Results

Table 11: System Validation

Measurement is made at temperature 23.2 ℃, relative humidity 50%, and input power 250 mW. Liquid temperature during the test: 22.3℃							
Liquid parameters	**Frequency**	**Permittivity ε**		**Conductivity σ (S/m)**			
	835MHz	41.21		0.89			
	1900MHz	39.98		1.41			
Verification results	**Frequency**	**Target value (W/kg)**		**Measurement value (W/kg)**		**Difference percentage**	
		10 g Average	**1 g Average**	**10 g Average**	**1 g Average**	**10 g Average**	**1g Average**
	835MHz	1.52	2.30	1.50	2.30	-1.32%	0.00%
	1900MHz	5.06	9.84	5.09	9.74	0.59%	-1.02%

Note：

1. Target Values used derive from the SPEAG calibration certificate and 250 mW is used as feeding power to the validation dipole (SPEAG using).
2. The graph results see ANNEX C.

9.3. Summary of Measurement Results

Table 12: SAR Values (GSM850)

Liquid Temperature: 22.5℃					
Limit of SAR (W/kg)		**10 g Average**	**1 g Average**	**Power Drift (dB)**	**Graph Results**
		2.0	**1.6**	**± 0.21**	
Different Test Position	**Channel**	**Measurement Result(W/kg)**		**Power Drift (dB)**	
		10 g Average	**1 g Average**		
Test position of Head					
Left hand, Touch cheek	High	0.792	1.120	-0.090	Figure 7
	Middle	0.591	0.834	-0.006	Figure 9
	Low	0.417	0.588	-0.158	Figure 11
Left hand, Tilt 15 Degree	High	0.301	0.427	-0.147	Figure 13
	Middle	0.221	0.310	0.145	Figure 15
	Low	0.173	0.240	0.168	Figure 17
Right hand, Touch cheek	High	0.778	1.120	-0.018	Figure 19
	Middle	0.579	0.826	-0.197	Figure 21
	Low	0.444	0.634	0.064	Figure 23
Right hand, Tilt 15 Degree	High	0.281	0.398	-0.114	Figure 25
	Middle	0.243	0.340	-0.105	Figure 27
	Low	0.174	0.241	-0.047	Figure 29
Test position of Body (Distance 15mm)					
Towards Ground	High	0.392	0.559	0.063	Figure 31
	Middle	0.311	0.440	0.103	Figure 33
	Low	0.219	0.310	0.084	Figure 35
Towards Phantom	High	0.339	0.483	0.172	Figure 37
	Middle	0.275	0.388	0.017	Figure 39
	Low	0.201	0.282	-0.159	Figure 41
Worst case position of Body with earphone (Distance 15mm)					
Towards Ground	High	0.269	0.377	0.181	Figure 43

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

2. Tests in body position were performed with 15 mm air gap between DUT and Phantom to simulate the use of a non-metallic belt-clip or holster.

Table 13: SAR Values (GSM1900)

Liquid Temperature: 22.5℃					
Limit of SAR (W/kg)		**10 g Average**	**1 g Average**	**Power Drift (dB)**	**Graph Results**
		2.0	**1.6**	**± 0.21**	
Different Test Position	**Channel**	**Measurement Result(W/kg)**		**Power Drift (dB)**	
		10 g Average	**1 g Average**		
Test position of Head					
Left hand, Touch cheek	High	0.370	0.607	0.095	Figure 45
	Middle	0.402	0.647	-0.179	Figure 47
	Low	0.394	0.630	0.032	Figure 49
Left hand, Tilt 15 Degree	High	0.059(max.cube)	0.089(max.cube)	0.177	Figure 51
	Middle	0.066(max.cube)	0.101(max.cube)	0.067	Figure 53
	Low	0.068	0.103	-0.028	Figure 55
Right hand, Touch cheek	High	0.459	0.780	-0.168	Figure 57
	Middle	0.512	0.865	-0.069	Figure 59
	Low	0.442	0.747	-0.135	Figure 61
Right hand, Tilt 15 Degree	High	0.069	0.114	0.025	Figure 63
	Middle	0.073	0.113	0.046	Figure 65
	Low	0.065(max.cube)	0.098(max.cube)	0.011	Figure 67
Test position of Body (Distance 15mm)					
Towards Ground	High	0.146	0.259	0.037	Figure 69
	Middle	0.164	0.288	0.048	Figure 71
	Low	0.157	0.275	-0.009	Figure 73
Towards Phantom	High	0.137	0.234	-0.136	Figure 75
	Middle	0.150	0.251	0.198	Figure 77
	Low	0.143	0.237	0.158	Figure 79
Worst case position of Body with earphone(Distance 15mm)					
Towards Ground	Middle	0.138	0.237	0.025	Figure 81

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

2. Tests in body position were performed with 15 mm air gap between DUT and Phantom to simulate the use of a non-metallic belt-clip or holster.
3. 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 B).

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 is 1.12 W/kg (body)and 0.559 W/kg (body) that are below exposure limits specified in the relevant standards cited in Clause 7.1 of this test report.

10. MEASUREMENT UNCERTAINTY

No.	a	Type	c	d	e=f(d、k)	f	h=c×f／e	k
	Uncertainty Component		Tol. (±%)	Prob. Dist	Div.	c_1(1g)	1g u (± %)	v_1
1	System repetivity	A	0.5	N	1	1	0.5	9
	Measurement system							
2	Probe Calibration	B	5	N	2	1	2.5	∞
3	Axial isotropy	B	4.7	R	$\sqrt{3}$	$(1\text{-}cp)^{1/2}$	4.3	∞
4	Hemisphere Isotropy	B	9.4	R	$\sqrt{3}$	$\sqrt{C_P}$		∞
5	Boundary Effect	B	0.4	R	$\sqrt{3}$	1	0.23	∞
6	Linearity	B	4.7	R	$\sqrt{3}$	1	2.7	∞
7	System Detection Limits	B	1.0	R	$\sqrt{3}$	1	0.6	∞
8	Readout Electronics	B	1.0	N	1	1	1.0	∞
9	RF Ambient Conditions	B	3.0	R	$\sqrt{3}$	1	1.73	∞
10	Probe Positioner Mechanical Tolerance	B	0.4	R	$\sqrt{3}$	1	0.2	∞
11	Probe Positioning with respect to Phantom Shell	B	2.9	R	$\sqrt{3}$	1	1.7	∞
12	Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	B	3.9	R	$\sqrt{3}$	1	2.3	∞
	Test Sample Related							
13	Test Sample Positioning	A	4.9	N	1	1	4.9	N-1
14	Device Holder Uncertainty	A	6.1	N	1	1	6.1	N-1
15	Output Power Variation-SAR drift measurement	B	5.0	R	$\sqrt{3}$	1	2.9	∞
	Phantom and Tissue Parameters							
16	Phantom Uncertainty(shape and thickness tolerances)	B	1.0	R	$\sqrt{3}$	1	0.6	∞
17	Liquid Conductivity-deviation from target values	B	5.0	R	$\sqrt{3}$	0.64	1.7	∞
18	Liquid Conductivity-measurement uncertainty	B	5.0	N	1	0.64	1.7	M
19	Liquid Permittivity-deviation from target values	B	5.0	R	$\sqrt{3}$	0.6	1.7	∞
20	Liquid Permittivity- measurement uncertainty	B	5.0	N	1	0.6	1.7	M
Combined Standard Uncertainty				RSS			11.25	
Expanded Uncertainty (95 % CONFIDENCE INTERVAL)				K=2			22.5	

11. MAIN TEST INSTRUMENTS

Table 14: 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, 2008	One year
04	Power sensor	Agilent 8481H	MY41091316	March 14, 2008	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	DAE3	536	August 28, 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 December 23, 2008 to December 24, 2008.

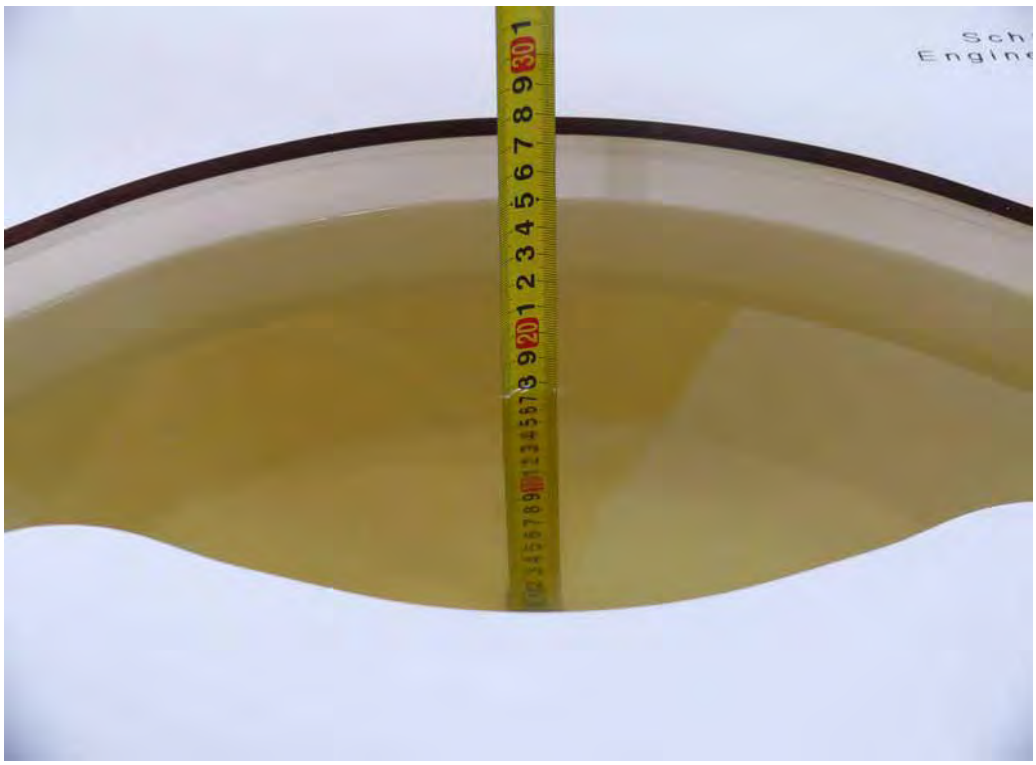
13. TEST LOCATION

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

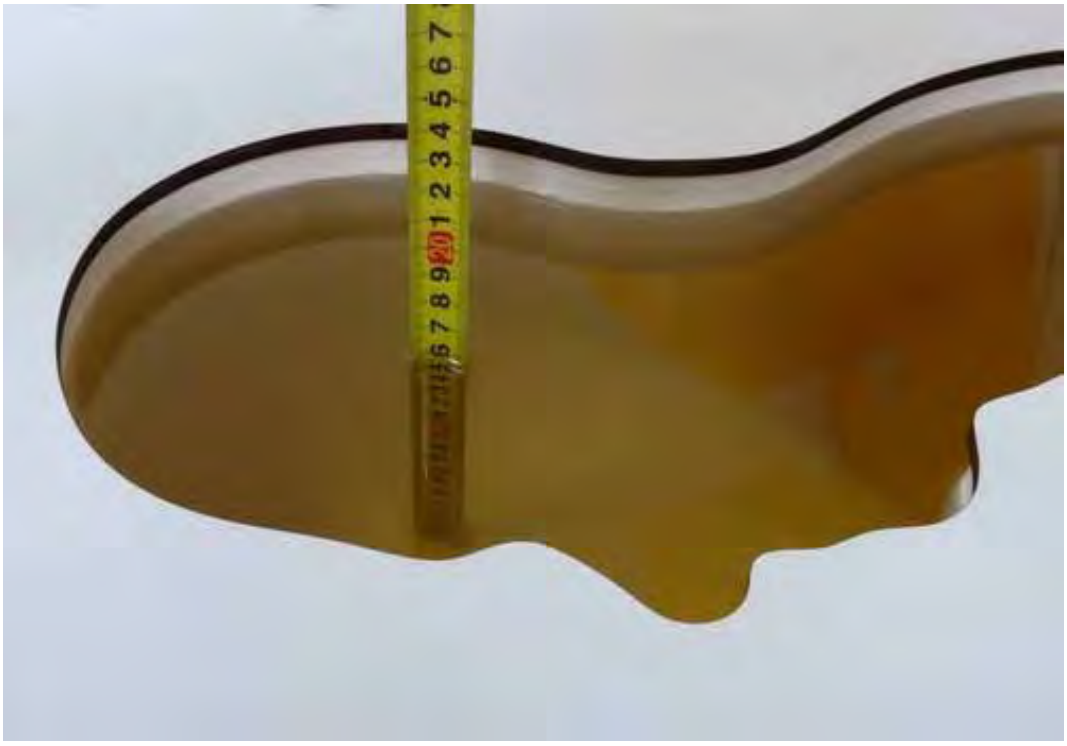
*******END OF REPORT BODY*******

ANNEX A： TEST LAYOUT

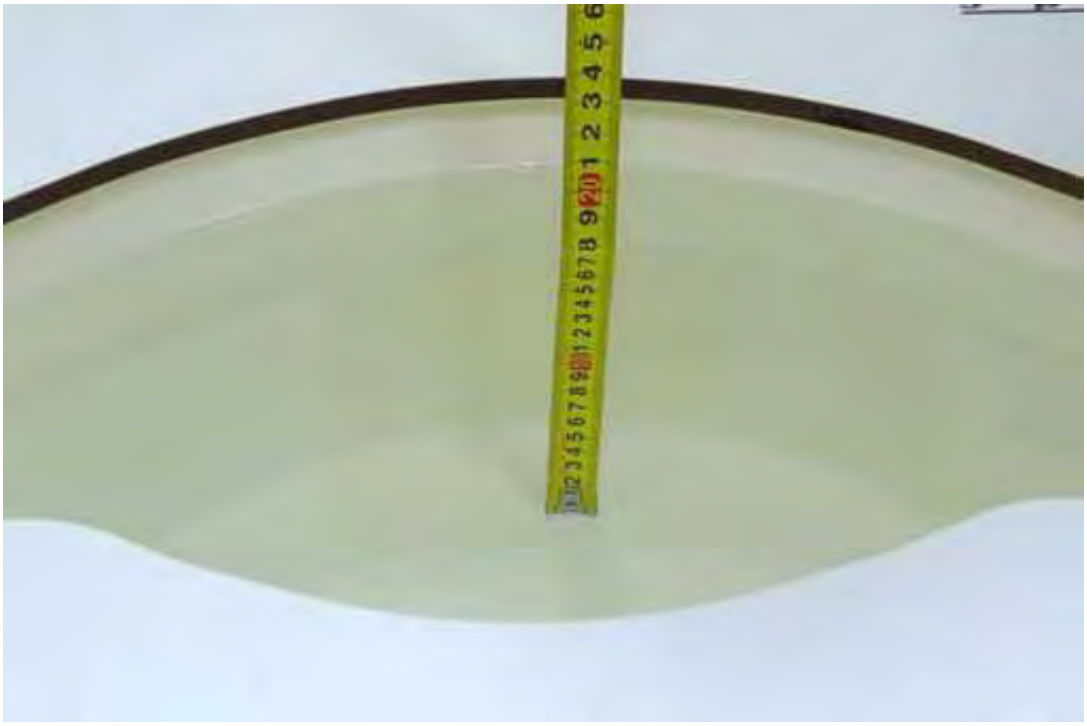
Picture 1: Specific Absorption Rate Test Layout



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： GRAPH RESULTS

Date/Time: 12/23/2008 8:40:59 PM

GSM 850 Left Cheek High

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.9 mho/m; ε_r = 41; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19);
- Electronics: DAE3 Sn536;

Cheek High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.32 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.3 V/m; Power Drift = -0.090 dB
Peak SAR (extrapolated) = 1.51 W/kg
SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.792 mW/g
Maximum value of SAR (measured) = 1.30 mW/g

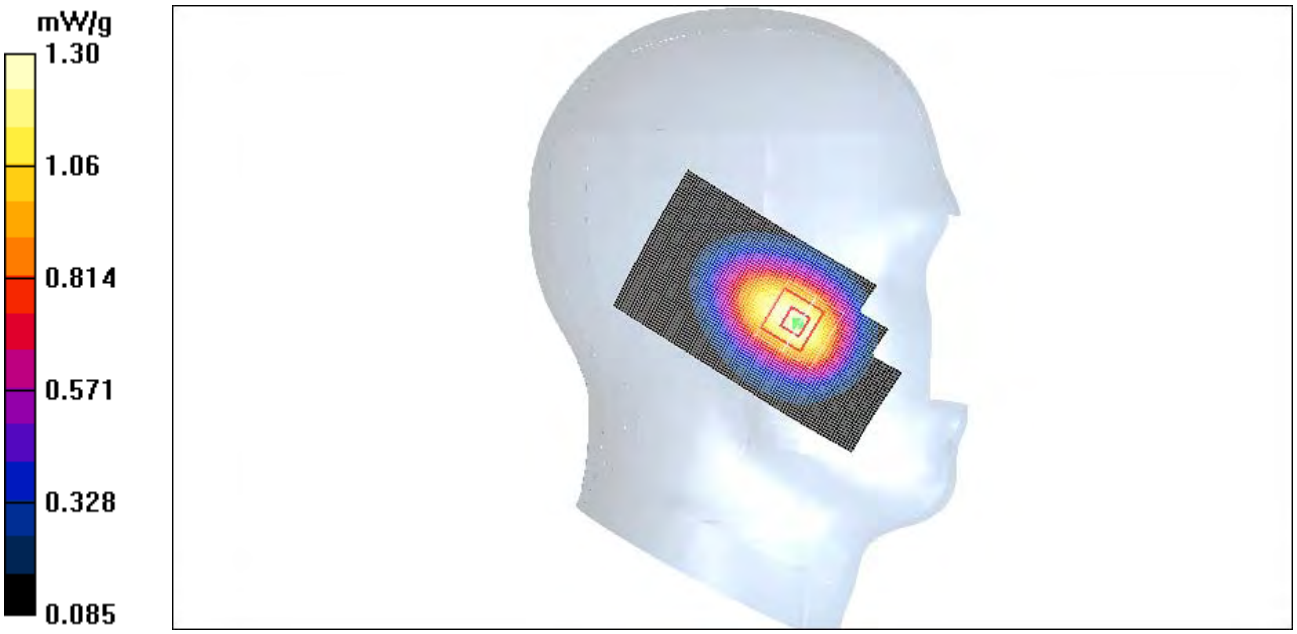


Figure 7 Left Hand Touch Cheek GSM 850 Channel 251

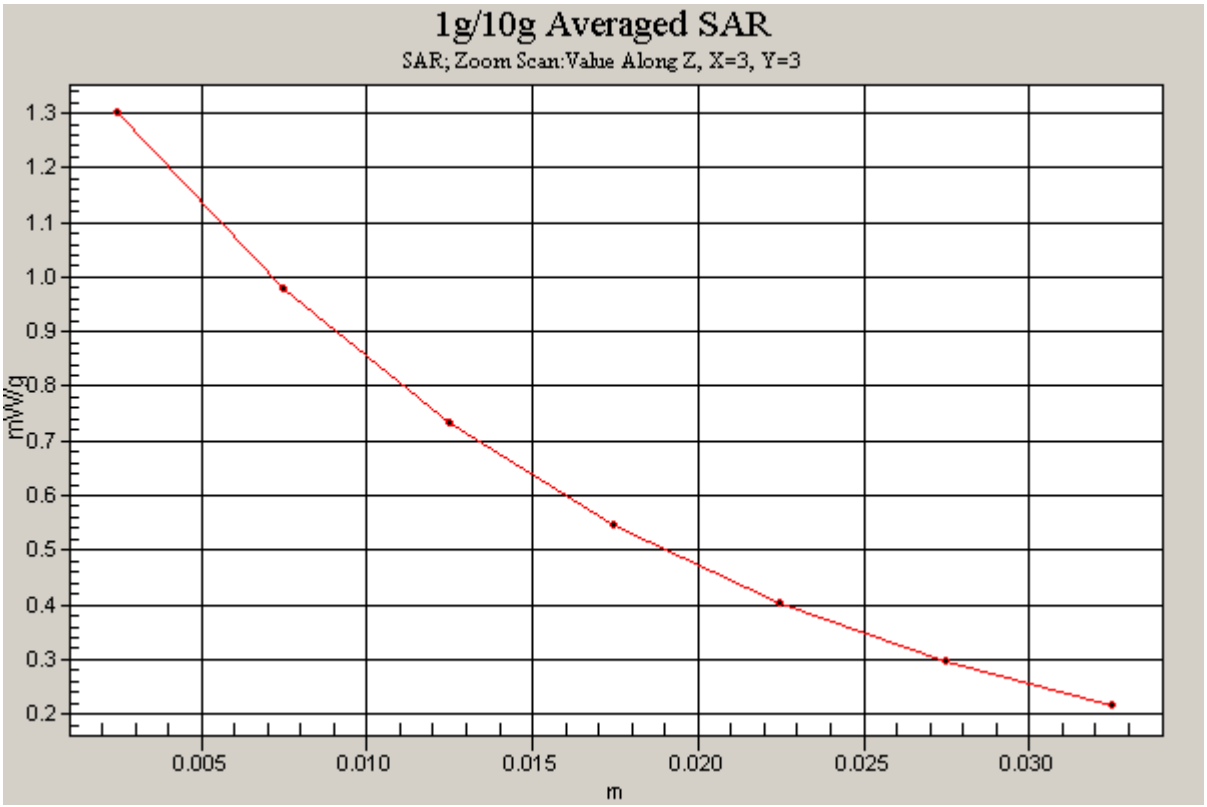


Figure 8 Z-Scan at power reference point (Left Hand Touch Cheek GSM 850 Channel 251)

Date/Time: 12/23/2008 7:47:27 PM

GSM 850 Left Cheek Middle

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.889 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19);
- Electronics: DAE3 Sn536;

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.987 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = -0.006 dB
Peak SAR (extrapolated) = 1.11 W/kg
SAR(1 g) = 0.834 mW/g; SAR(10 g) = 0.591 mW/g
Maximum value of SAR (measured) = 0.959 mW/g

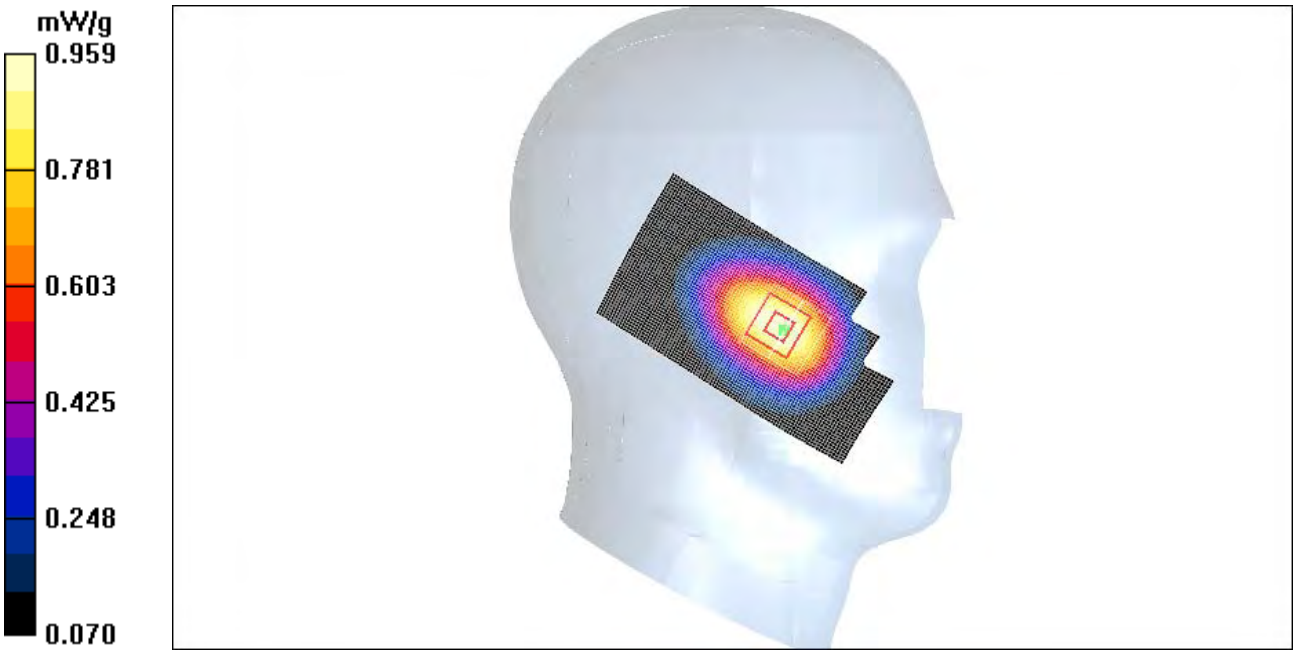


Figure 9 Left Hand Touch Cheek GSM 850 Channel 190

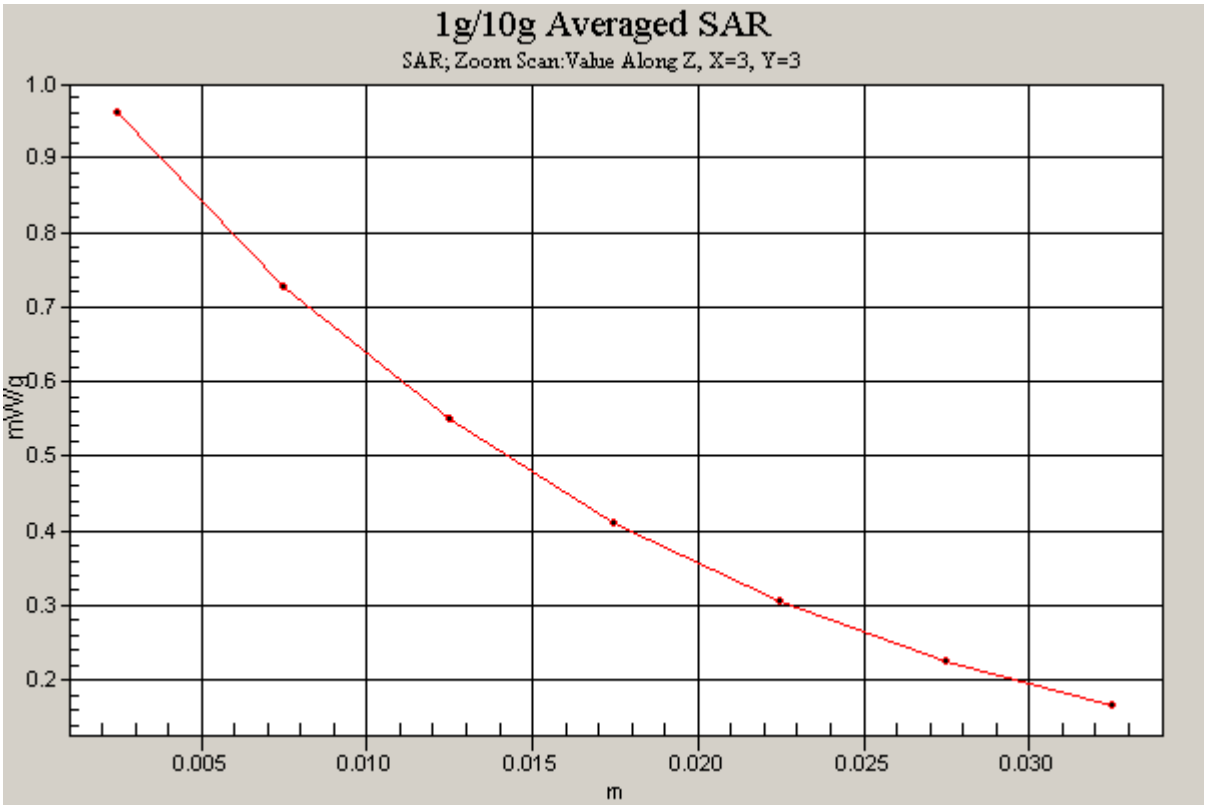


Figure 10 Z-Scan at power reference point (Left Hand Touch Cheek GSM 850 Channel 190)

Date/Time: 12/23/2008 8:06:04 PM

GSM 850 Left Cheek Low

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.878 mho/m; ε_r = 41.3; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19);
- Electronics: DAE3 Sn536;

Cheek Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.711 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.1 V/m; Power Drift = -0.158 dB
Peak SAR (extrapolated) = 0.776 W/kg
SAR(1 g) = 0.588 mW/g; SAR(10 g) = 0.417 mW/g
Maximum value of SAR (measured) = 0.679 mW/g

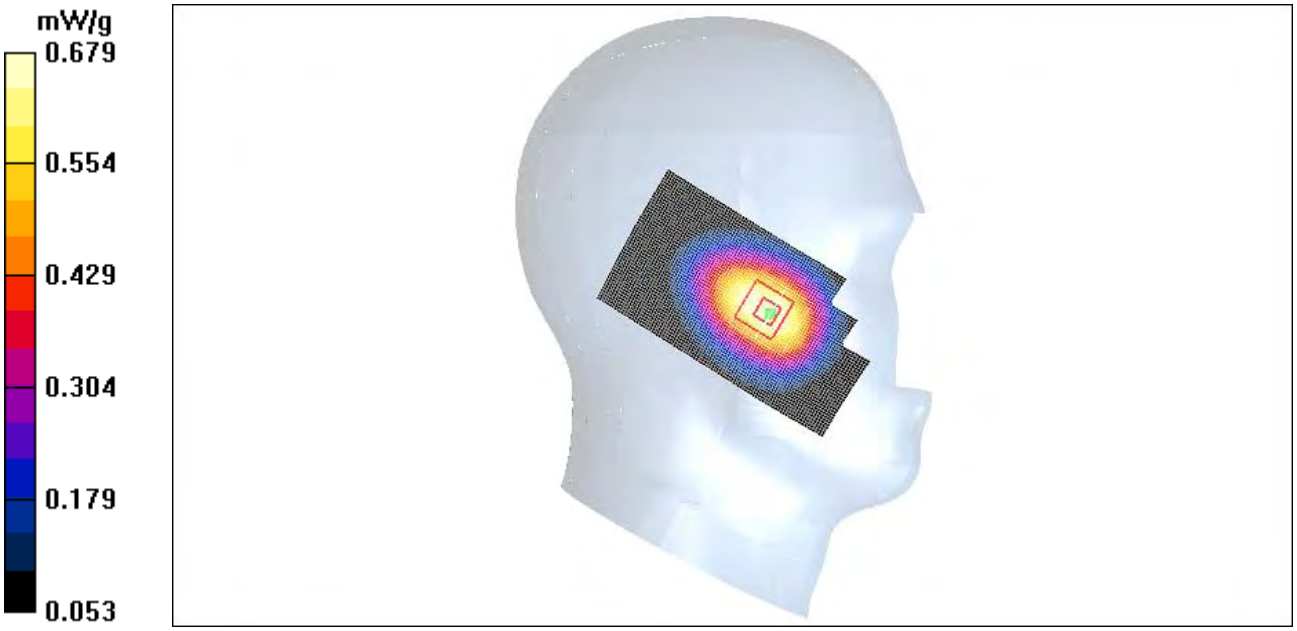


Figure 11 Left Hand Touch Cheek GSM 850 Channel 128

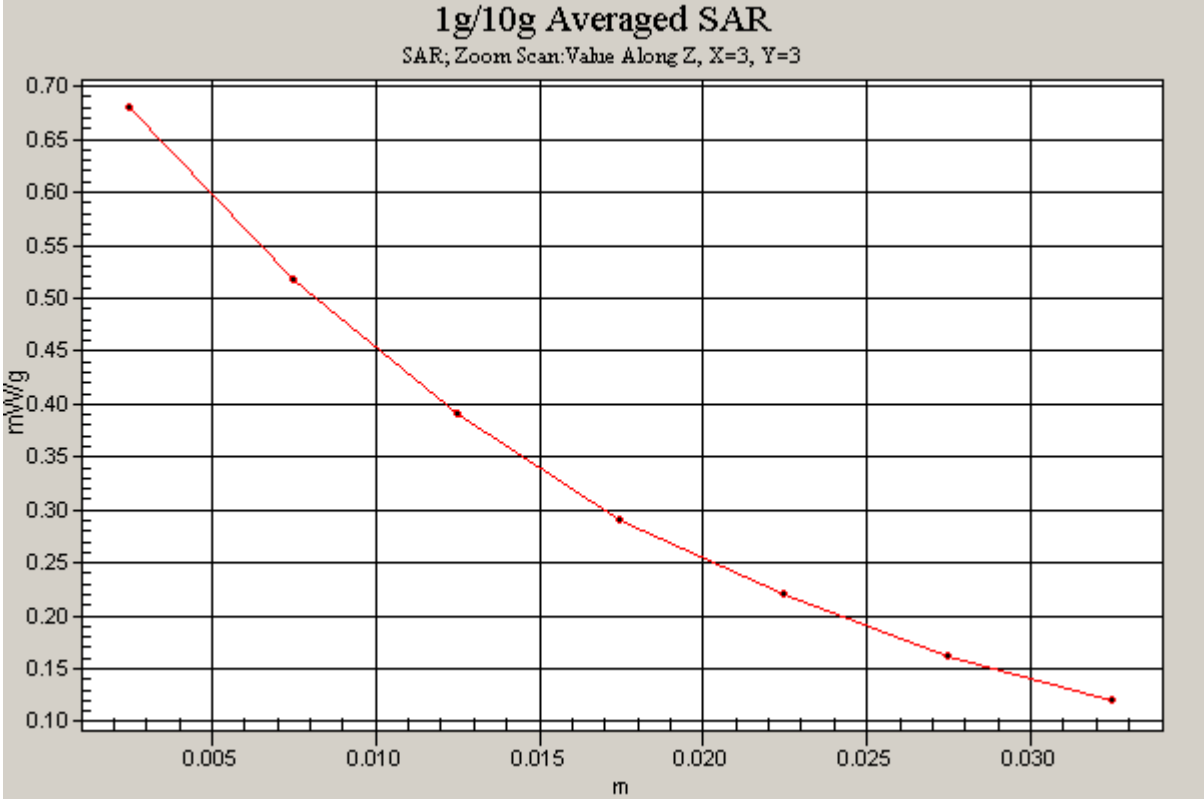


Figure 12 Z-Scan at power reference point (Left Hand Touch Cheek GSM 850 Channel 128)

Date/Time: 12/23/2008 9:00:08 PM

GSM 850 Left Tilt High

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.9 mho/m; ε_r = 41; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19);
- Electronics: DAE3 Sn536;

Tilt High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.502 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = -0.147 dB
Peak SAR (extrapolated) = 0.585 W/kg
SAR(1 g) = 0.427 mW/g; SAR(10 g) = 0.301 mW/g
Maximum value of SAR (measured) = 0.500 mW/g

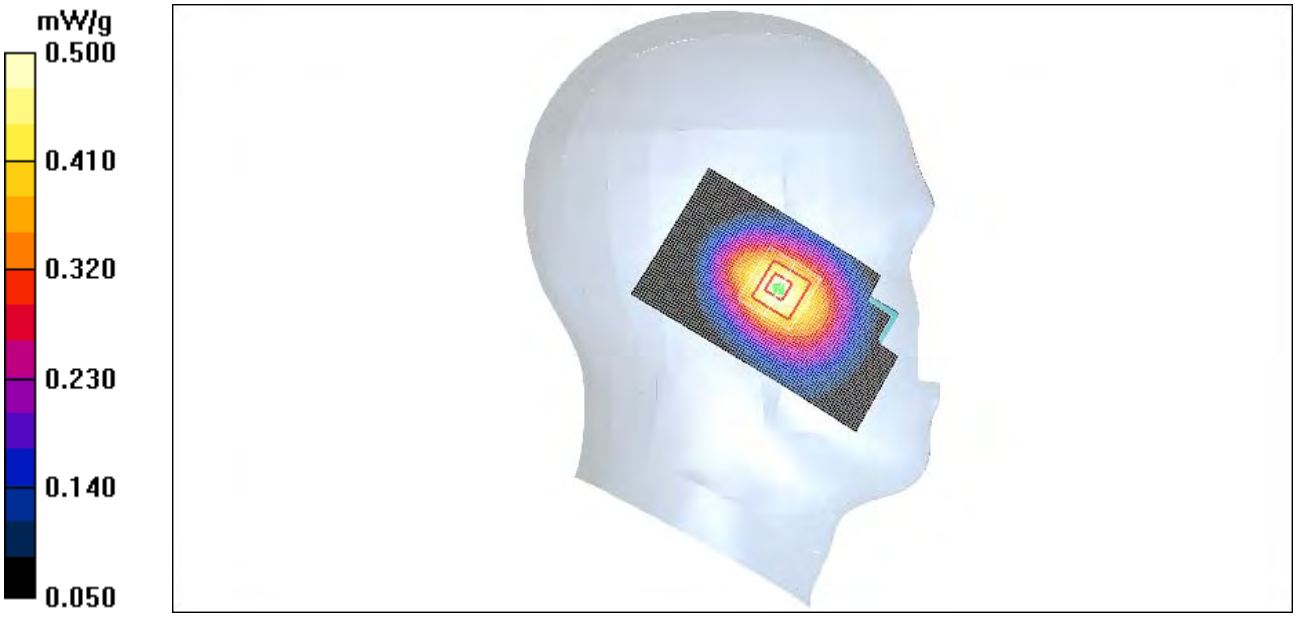


Figure 13 Left Hand Tilt 15° GSM 850 Channel 251

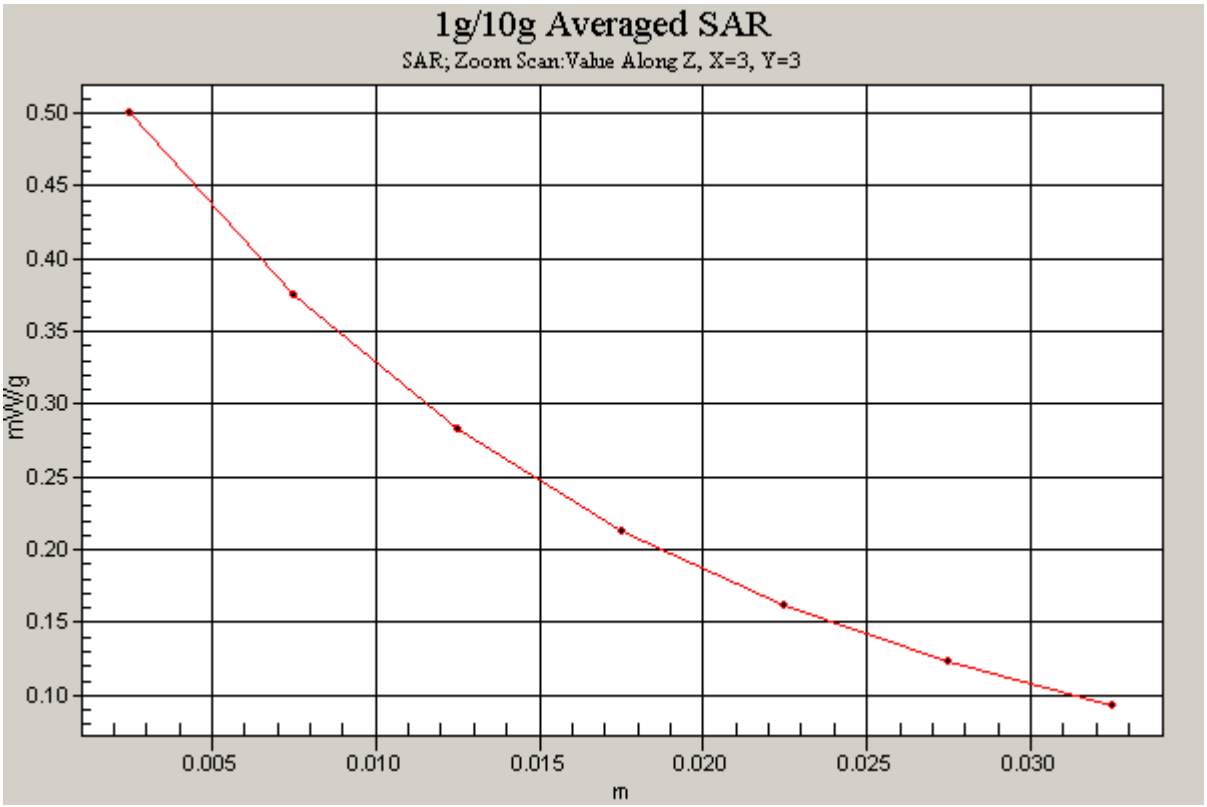


Figure 14 Z-Scan at power reference point (Left Hand Tilt 15°GSM 850 Channel 251)

Date/Time: 12/23/2008 9:18:44 PM

GSM 850 Left Tilt Middle

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.889 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19);
- Electronics: DAE3 Sn536;

Tilt Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.367 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.1 V/m; Power Drift = 0.145 dB
Peak SAR (extrapolated) = 0.421 W/kg
SAR(1 g) = 0.310 mW/g; SAR(10 g) = 0.221 mW/g
Maximum value of SAR (measured) = 0.362 mW/g

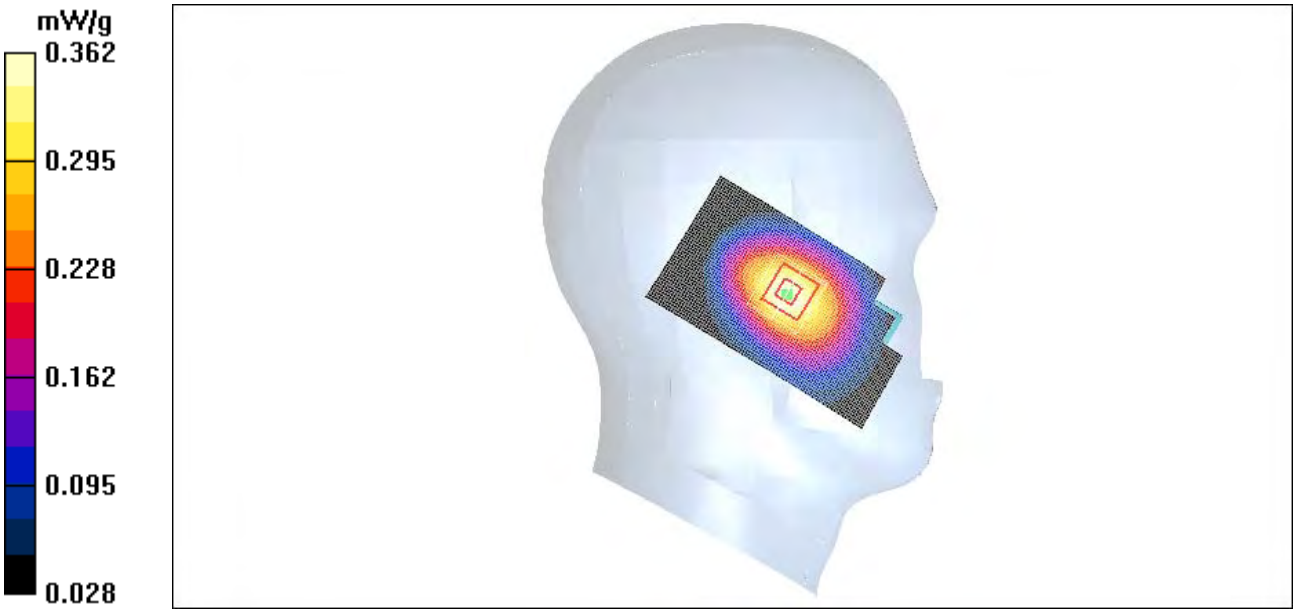


Figure 15 Left Hand Tilt 15°GSM 850 Channel 190

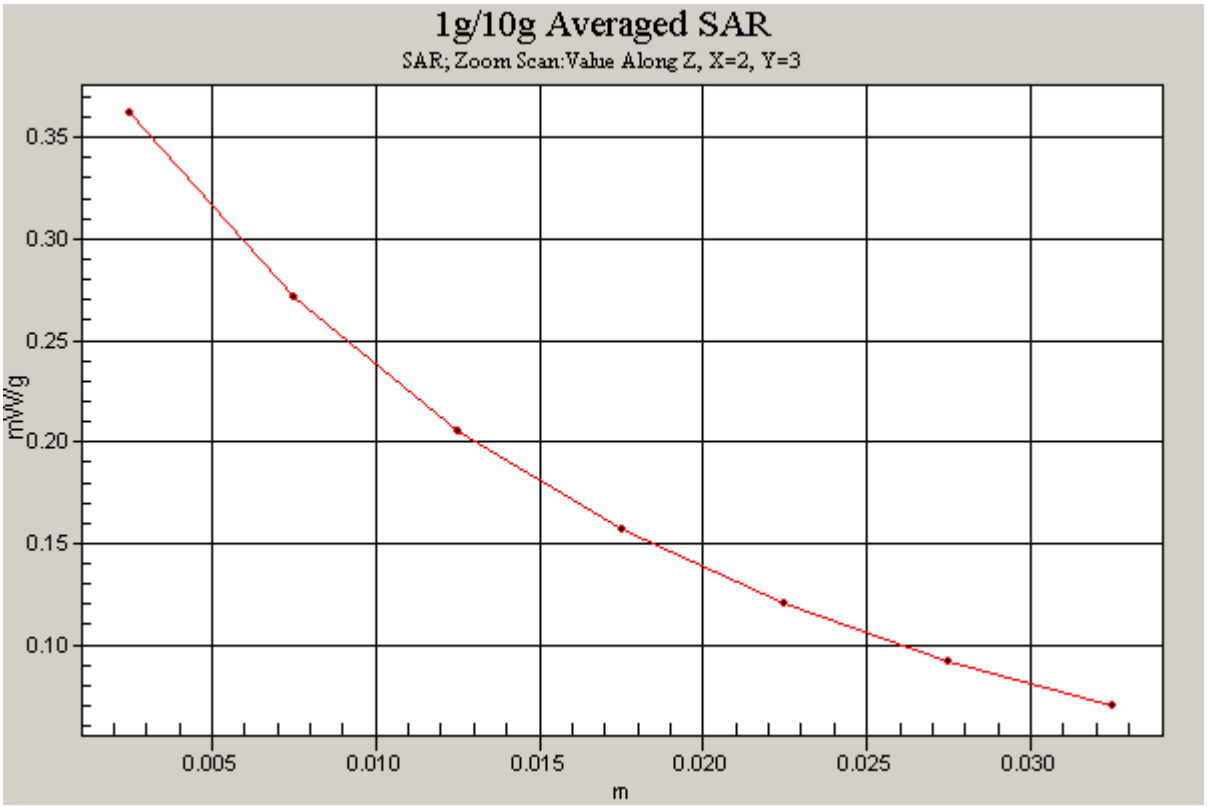


Figure 16 Z-Scan at power reference point (Left Hand Tilt 15°GSM 850 Channel 190)

Date/Time: 12/23/2008 9:41:23 PM

GSM 850 Left Tilt Low

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.878 mho/m; ε_r = 41.3; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19);
- Electronics: DAE3 Sn536;

Tilt Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.278 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.9 V/m; Power Drift = 0.168 dB
Peak SAR (extrapolated) = 0.325 W/kg
SAR(1 g) = 0.240 mW/g; SAR(10 g) = 0.173 mW/g
Maximum value of SAR (measured) = 0.279 mW/g

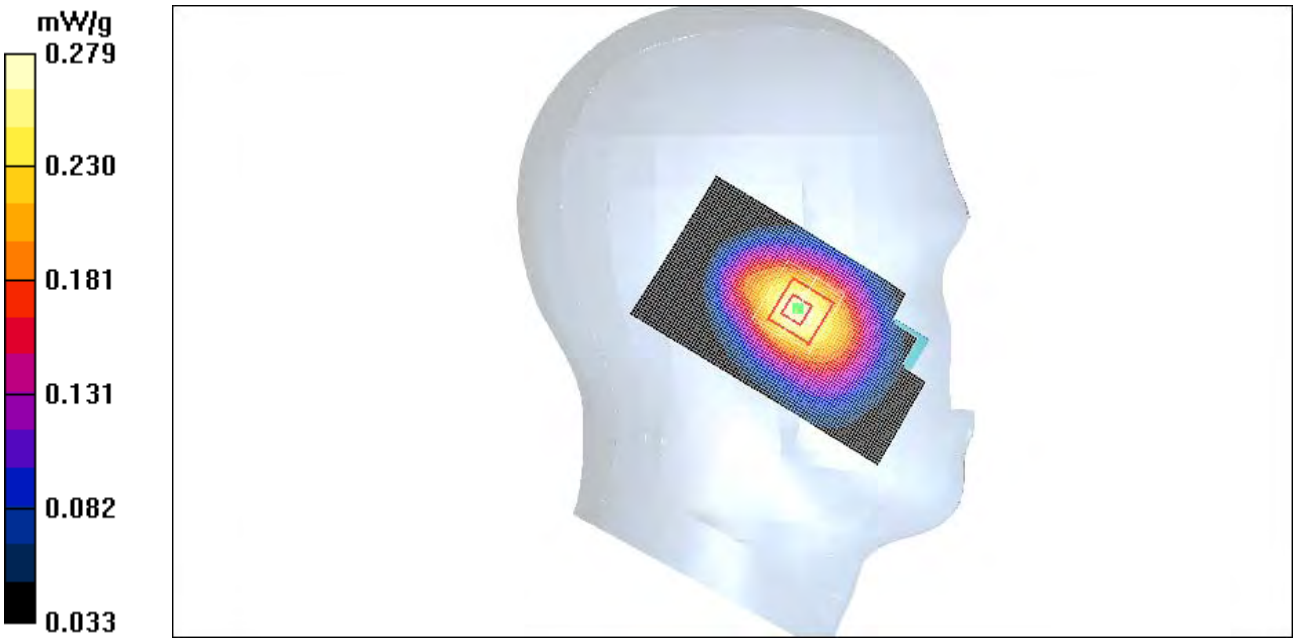


Figure 17 Left Hand Tilt 15°GSM 850 Channel 128

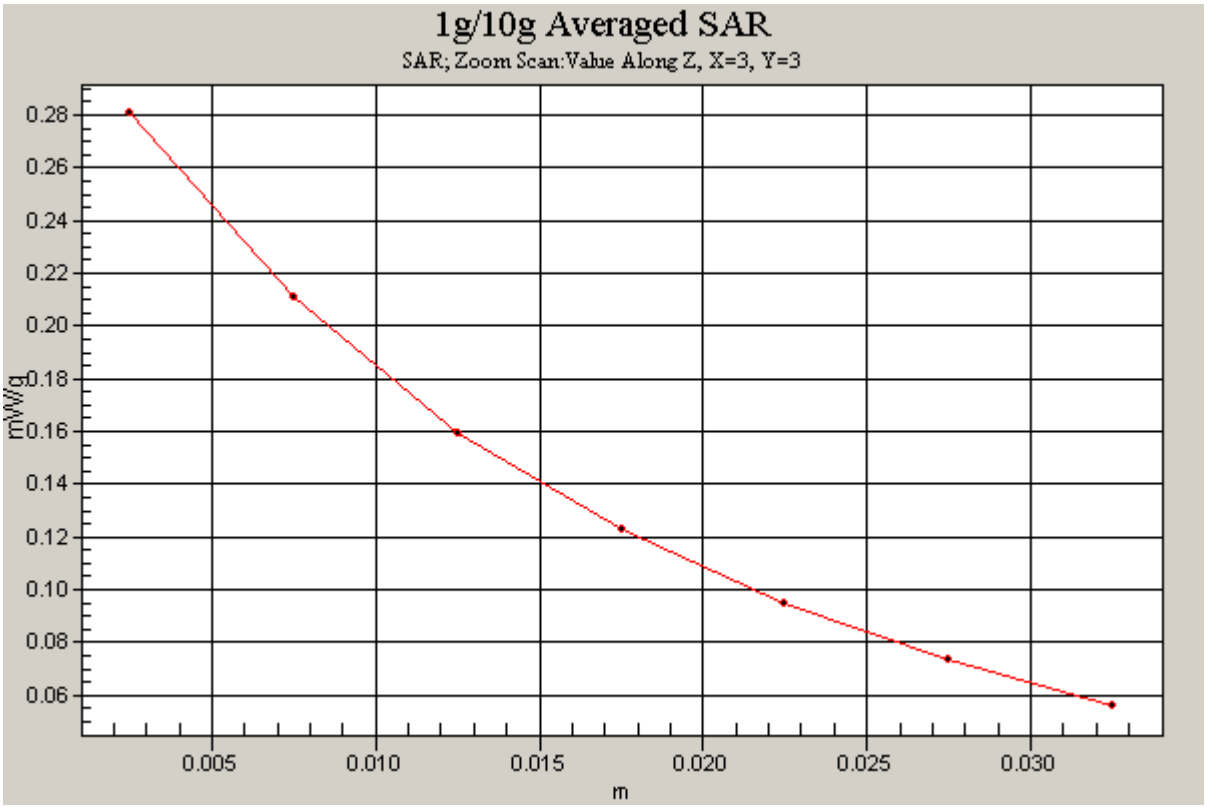


Figure 18 Z-Scan at power reference point (Left Hand Tilt 15°GSM 850 Channel 128)

Date/Time: 12/23/2008 4:23:43 PM

GSM 850 Right Cheek High

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.9 mho/m; ε_r = 41; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19);
- Electronics: DAE3 Sn536;

Cheek High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.35 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.3 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 1.61 W/kg
SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.778 mW/g
Maximum value of SAR (measured) = 1.35 mW/g

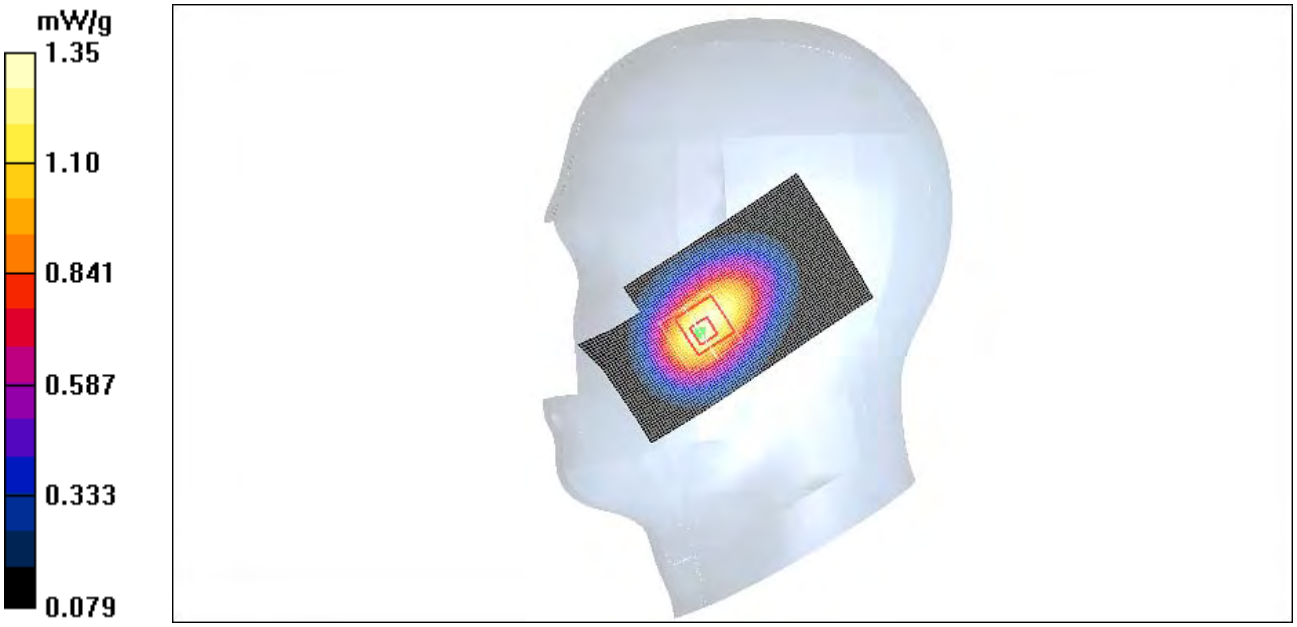


Figure 19 Right Hand Touch Cheek GSM 850 Channel 251

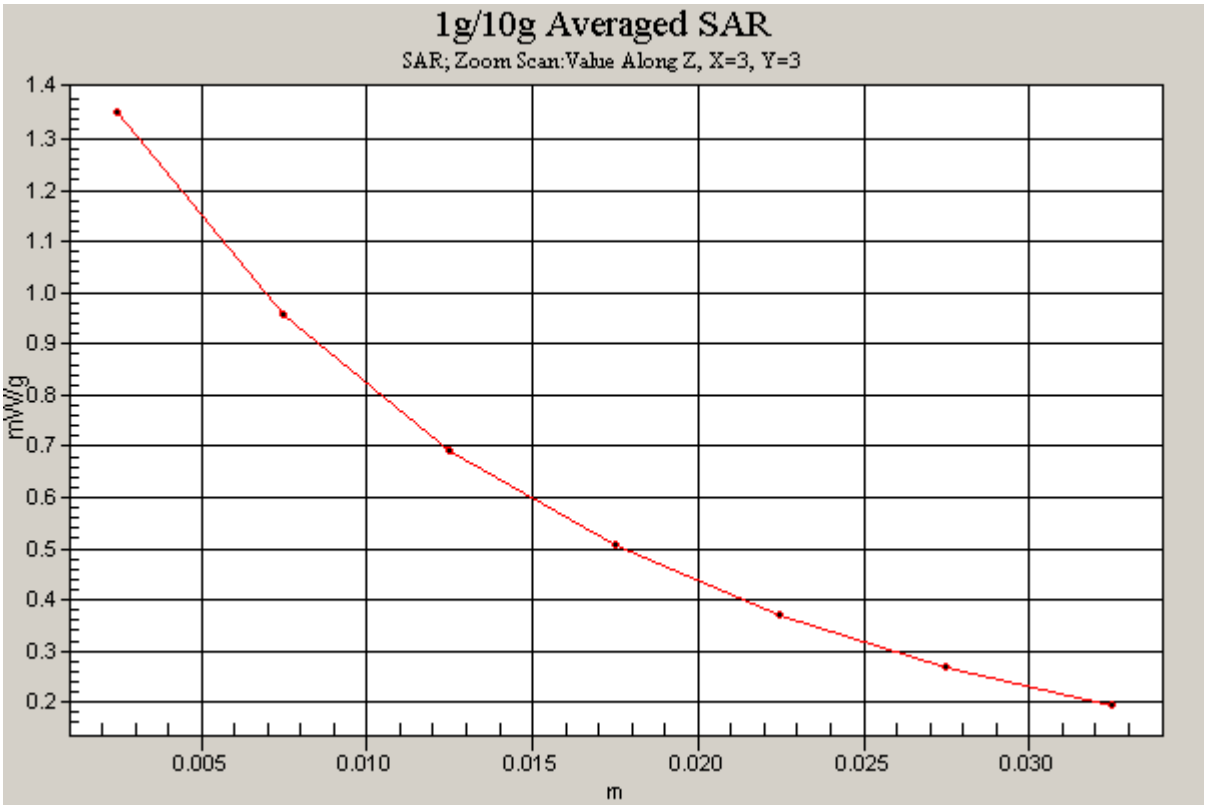


Figure 20 Z-Scan at power reference point (Right Hand Touch Cheek GSM 850 Channel 251)

Date/Time: 12/23/2008 3:43:10 PM

GSM 850 Right Cheek Middle

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.889 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19);
- Electronics: DAE3 Sn536;

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.04 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.3 V/m; Power Drift = -0.197 dB
Peak SAR (extrapolated) = 1.18 W/kg
SAR(1 g) = 0.826 mW/g; SAR(10 g) = 0.579 mW/g
Maximum value of SAR (measured) = 0.995 mW/g

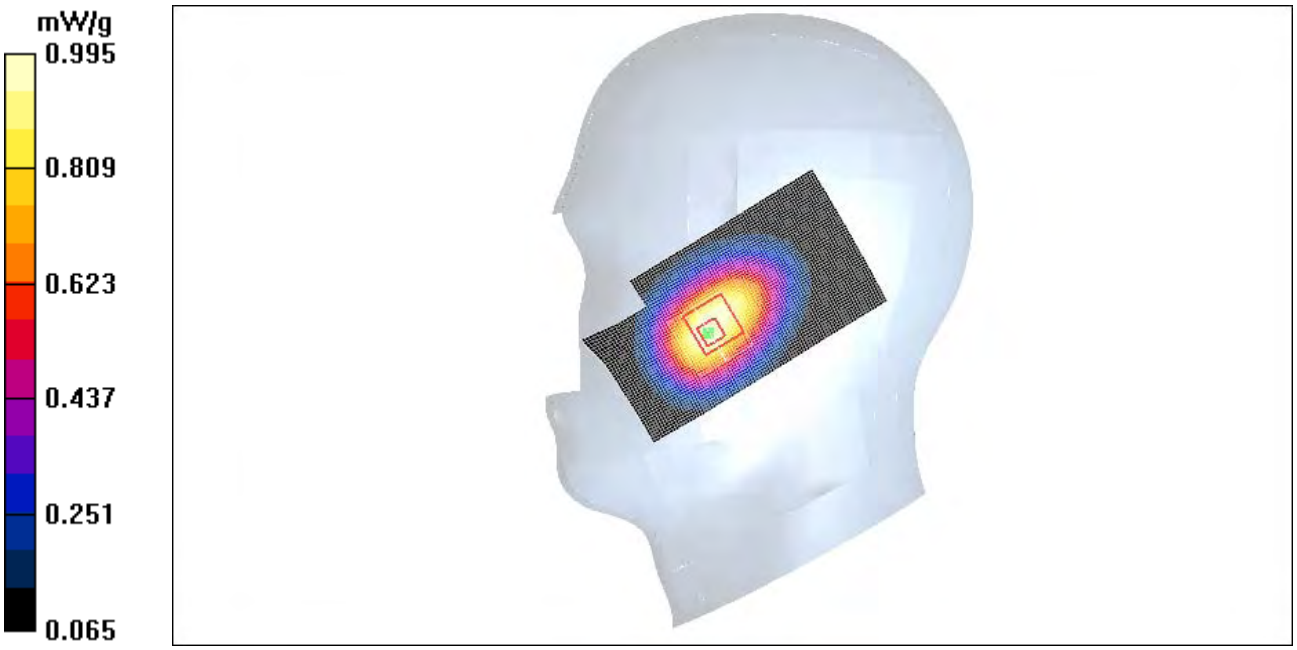


Figure 21 Right Hand Touch Cheek GSM 850 Channel 190

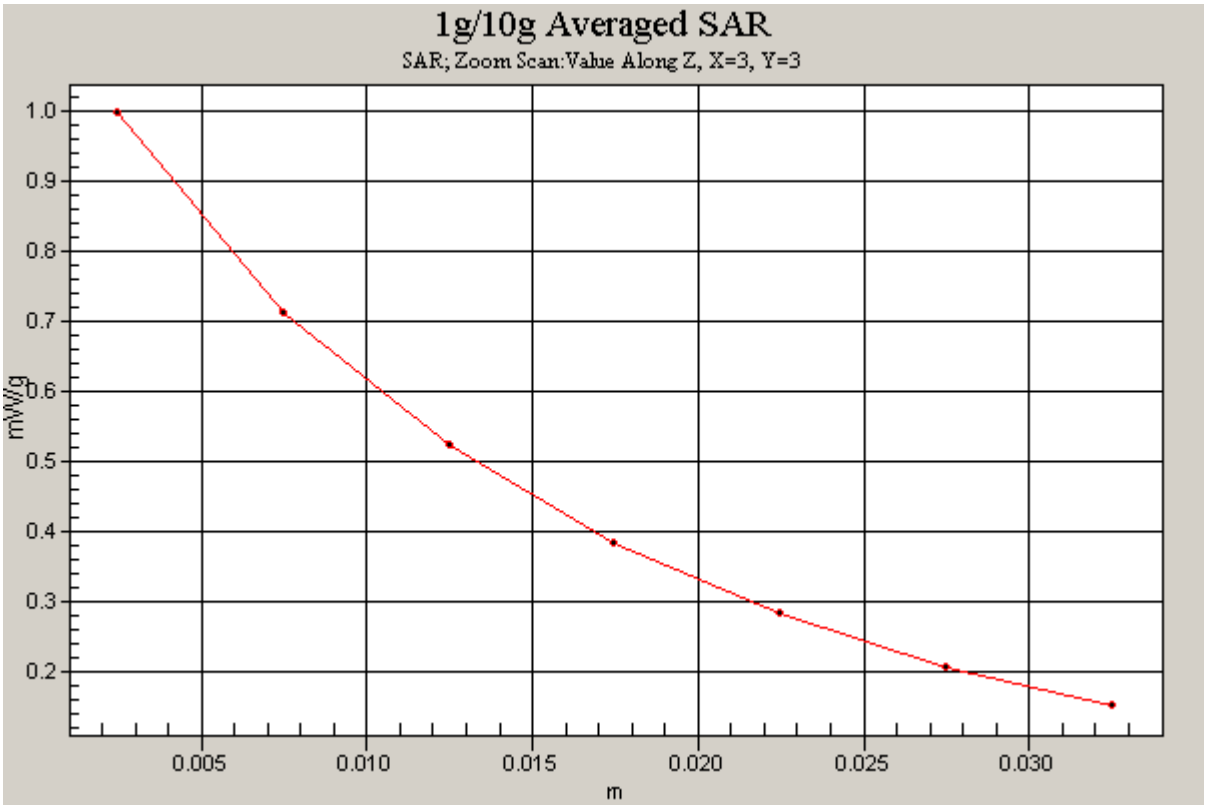


Figure 22 Z-Scan at power reference point (Right Hand Touch Cheek GSM 850 Channel 190)

Date/Time: 12/23/2008 3:23:44 PM

GSM 850 Right Cheek Low

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.878 mho/m; ε_r = 41.3; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19);
- Electronics: DAE3 Sn536;

Cheek Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.776 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.4 V/m; Power Drift = 0.064 dB
Peak SAR (extrapolated) = 0.905 W/kg
SAR(1 g) = 0.634 mW/g; SAR(10 g) = 0.444 mW/g
Maximum value of SAR (measured) = 0.758 mW/g

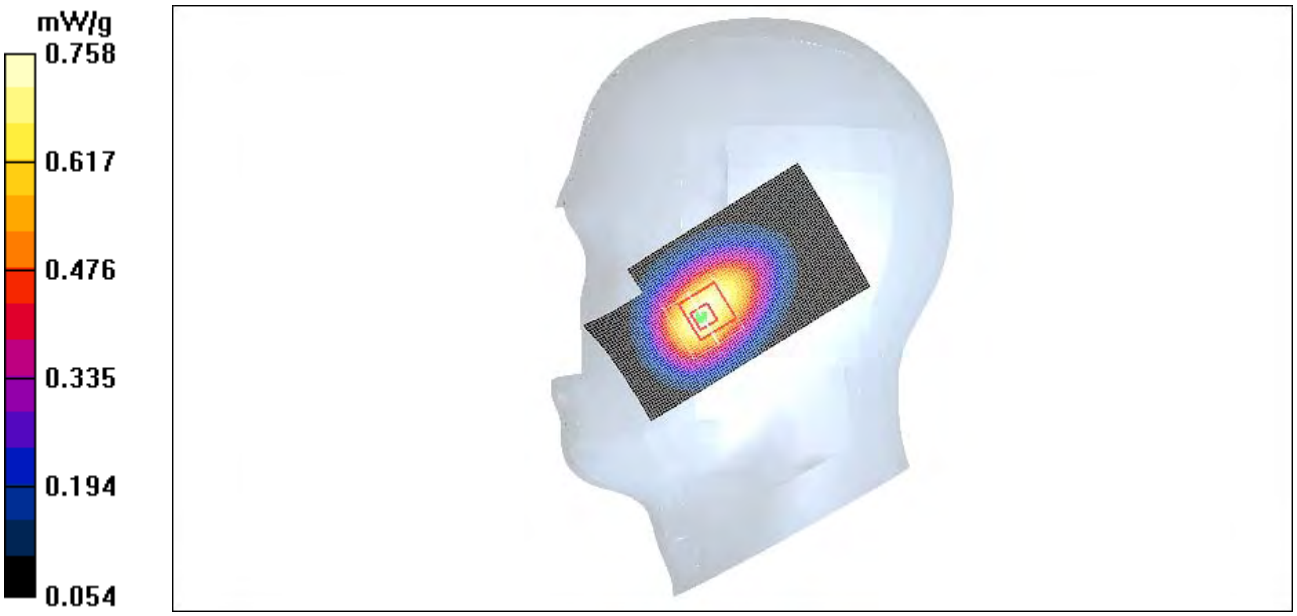


Figure 23 Right Hand Touch Cheek GSM 850 Channel 128

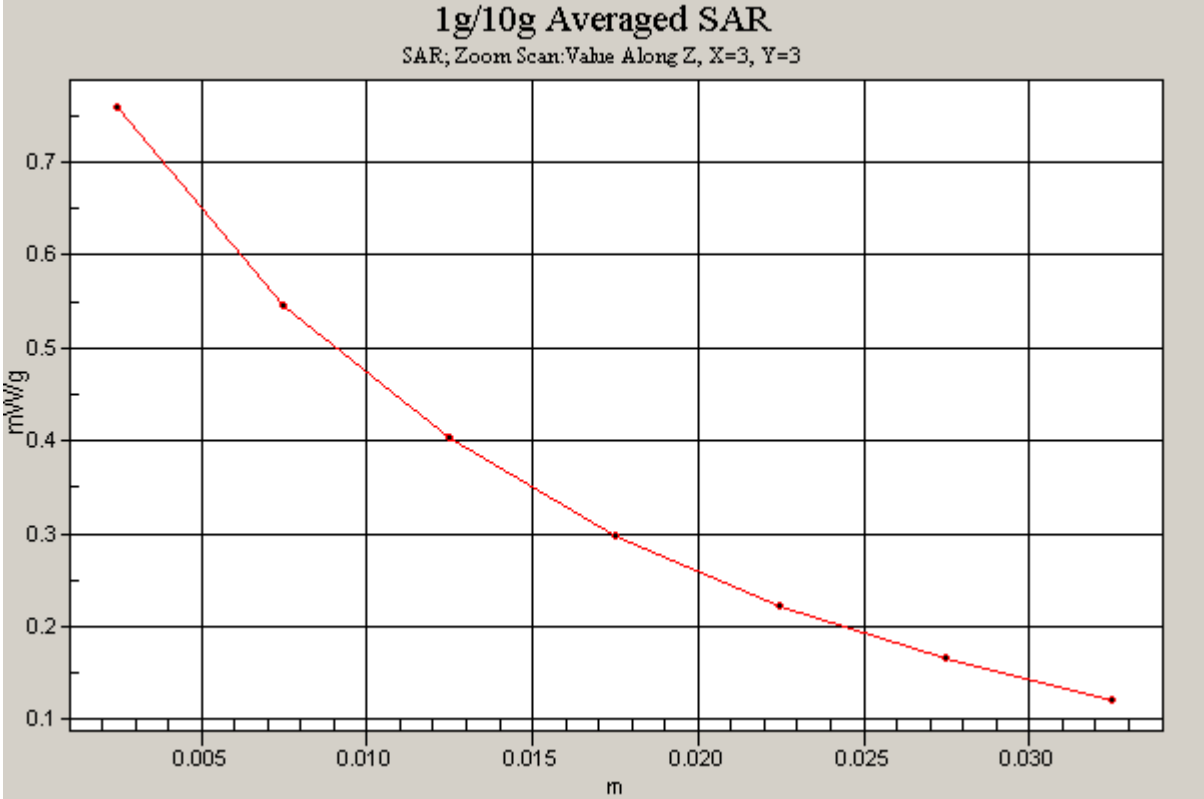


Figure 24 Z-Scan at power reference point (Right Hand Touch Cheek GSM 850 Channel 128)

Date/Time: 12/23/2008 5:22:57 PM

GSM 850 Right Tilt High

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.9 mho/m; ε_r = 41; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19);
- Electronics: DAE3 Sn536;

Tilt High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.463 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.6 V/m; Power Drift = -0.114 dB
Peak SAR (extrapolated) = 0.542 W/kg
SAR(1 g) = 0.398 mW/g; SAR(10 g) = 0.281 mW/g
Maximum value of SAR (measured) = 0.464 mW/g

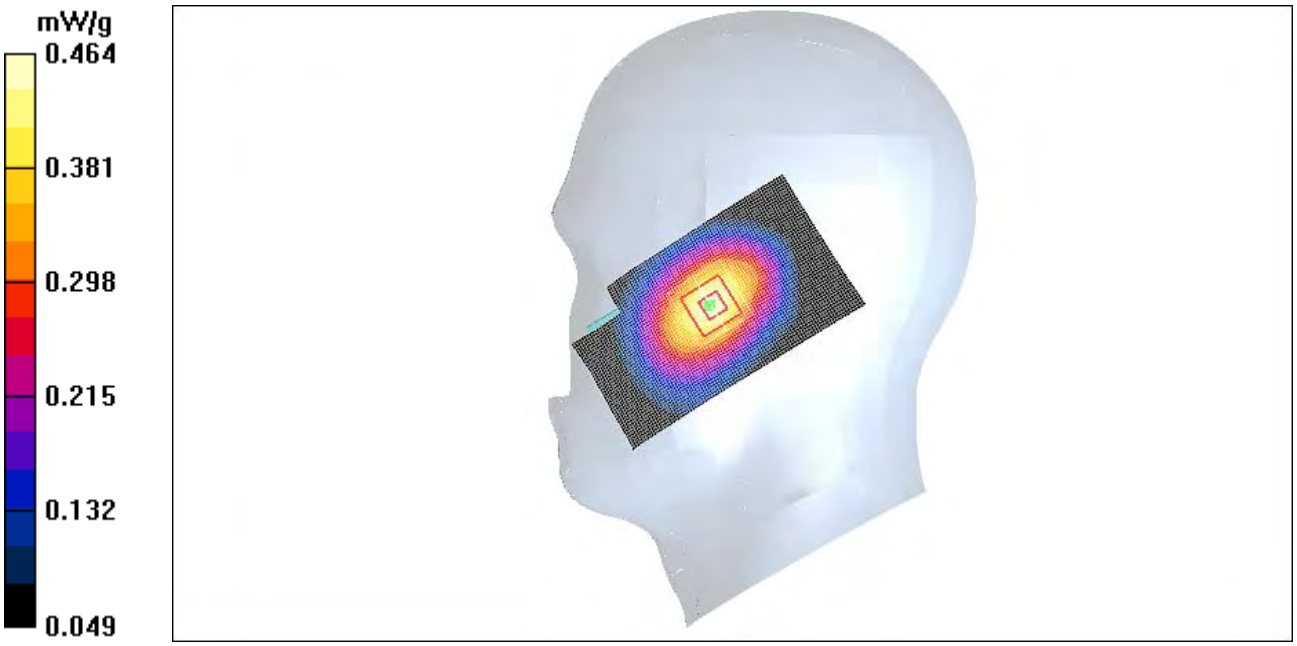


Figure 25 Right Hand Tilt 15°GSM 850 Channel 251

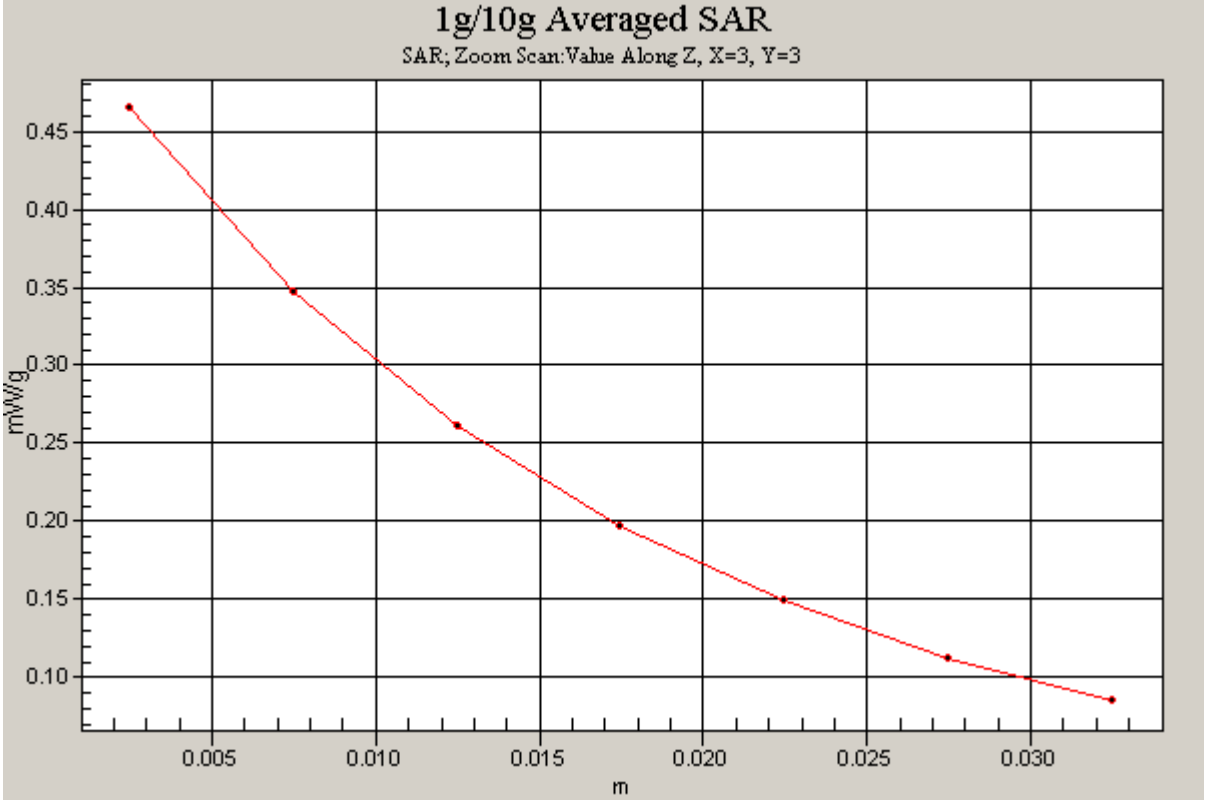


Figure 26 Z-Scan at power reference point (Right Hand Tilt 15°GSM 850 Channel 251)

Date/Time: 12/23/2008 4:44:26 PM

GSM 850 Right Tilt Middle

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.889 mho/m; ε_r = 41.2; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19);
- Electronics: DAE3 Sn536;

Tilt Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.397 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.6 V/m; Power Drift = -0.105 dB
Peak SAR (extrapolated) = 0.460 W/kg
SAR(1 g) = 0.340 mW/g; SAR(10 g) = 0.243 mW/g
Maximum value of SAR (measured) = 0.397 mW/g

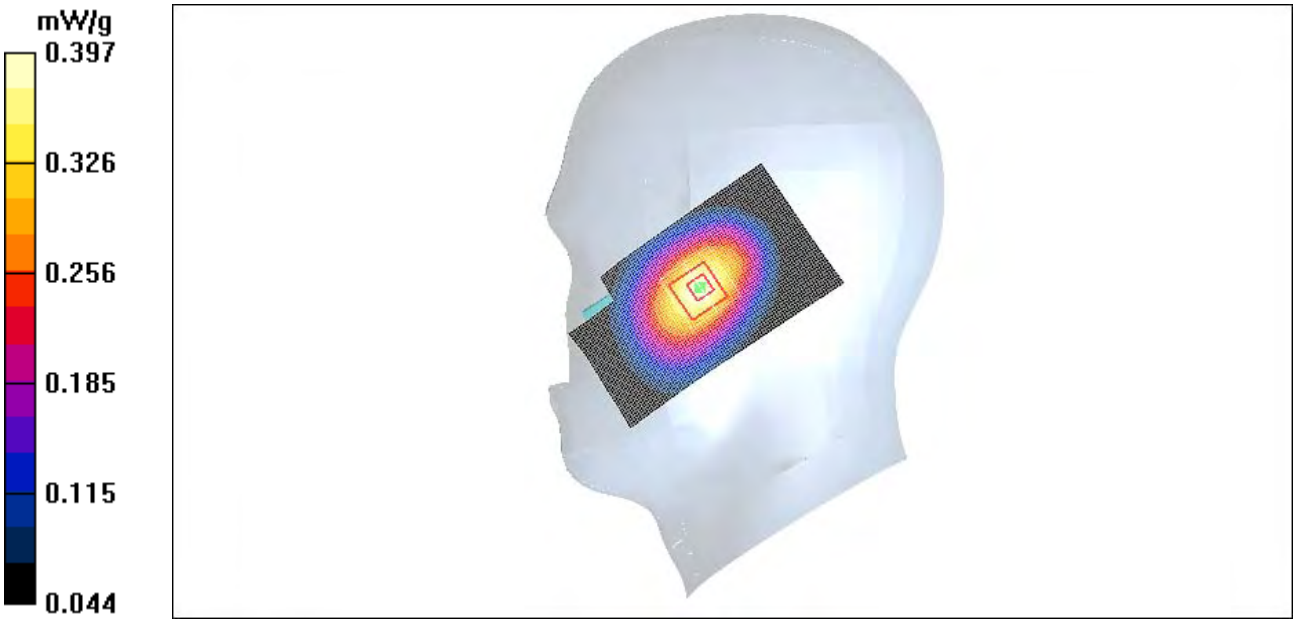


Figure 27 Right Hand Tilt 15°GSM 850 Channel 190

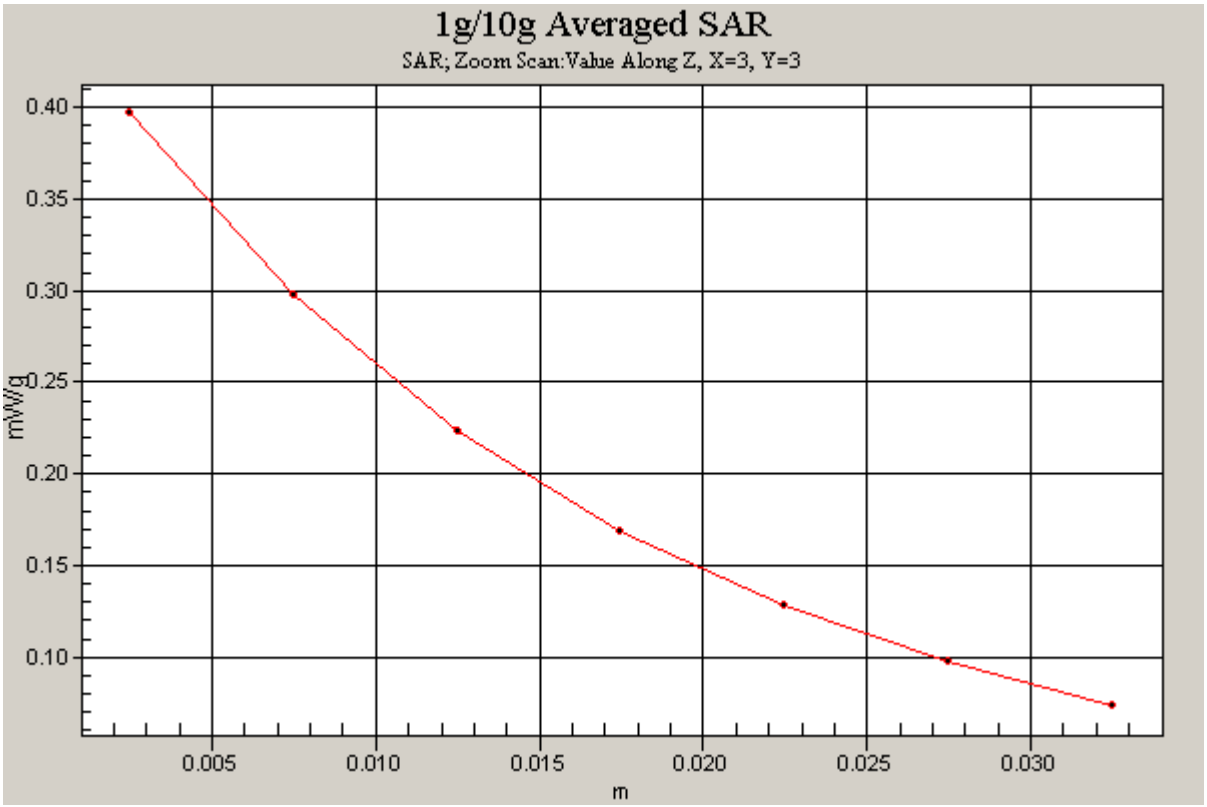


Figure 28 Z-Scan at power reference point (Right Hand Tilt 15°GSM 850 Channel 190)

Date/Time: 12/23/2008 5:03:46 PM

GSM 850 Right Tilt Low

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.878 mho/m; ε_r = 41.3; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.19, 9.19, 9.19);
- Electronics: DAE3 Sn536;

Tilt Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.288 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.5 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 0.326 W/kg
SAR(1 g) = 0.241 mW/g; SAR(10 g) = 0.174 mW/g
Maximum value of SAR (measured) = 0.279 mW/g

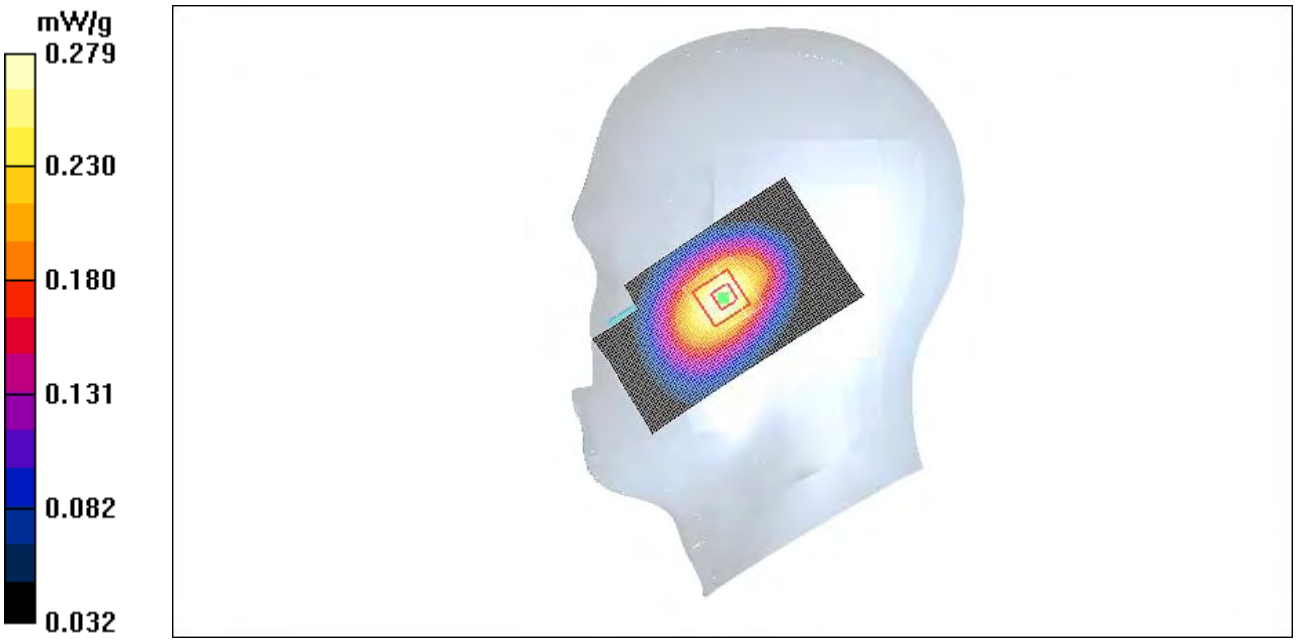


Figure 29 Right Hand Tilt 15°GSM 850 Channel 128

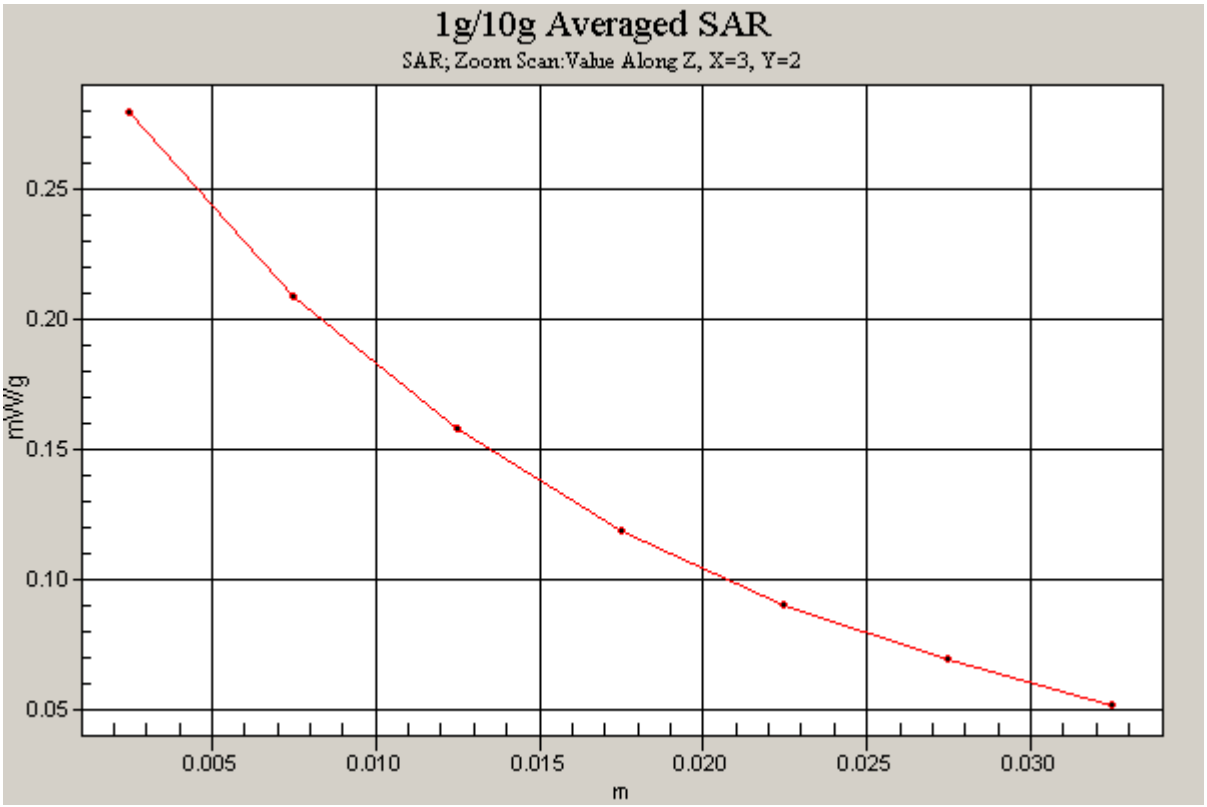


Figure 30 Z-Scan at power reference point (Right Hand Tilt 15°GSM 850 Channel 128)

Date/Time: 12/23/2008 4:44:26 PM

GSM 850 Towards Ground High

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.997 mho/m; ε_r = 54.2; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1);
- Electronics: DAE3 Sn536;

Towards Ground High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.651 mW/g

Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.1 V/m; Power Drift = 0.063 dB
Peak SAR (extrapolated) = 0.771 W/kg
SAR(1 g) = 0.559 mW/g; SAR(10 g) = 0.392 mW/g
Maximum value of SAR (measured) = 0.655 mW/g

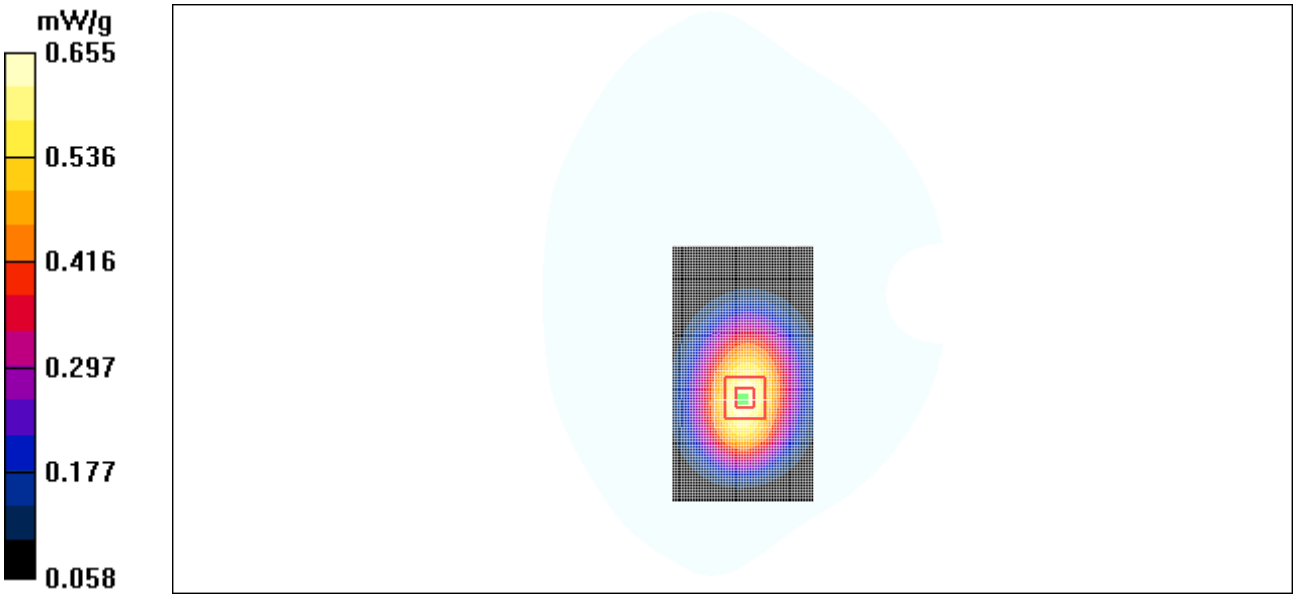


Figure 31 Body, Towards Ground, GSM 850 Channel 251

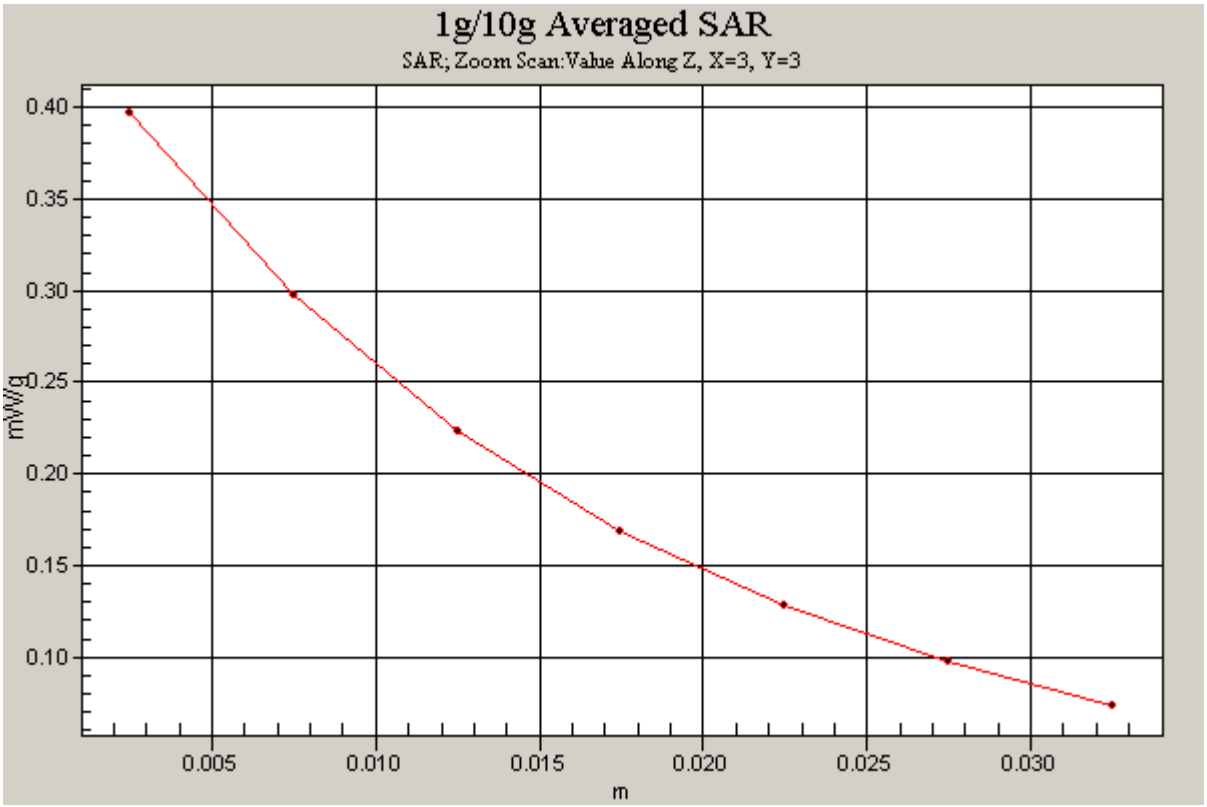


Figure 32 Z-Scan at power reference point (Body, Towards Ground, GSM 850 Channel 251)

Date/Time: 12/23/2008 10:54:33 AM

GSM 850 Towards Ground Middle

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.986 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1);
- Electronics: DAE3 Sn536;

Towards Ground Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.516 mW/g

Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.89 V/m; Power Drift = 0.103 dB
Peak SAR (extrapolated) = 0.608 W/kg
SAR(1 g) = 0.440 mW/g; SAR(10 g) = 0.311 mW/g
Maximum value of SAR (measured) = 0.515 mW/g

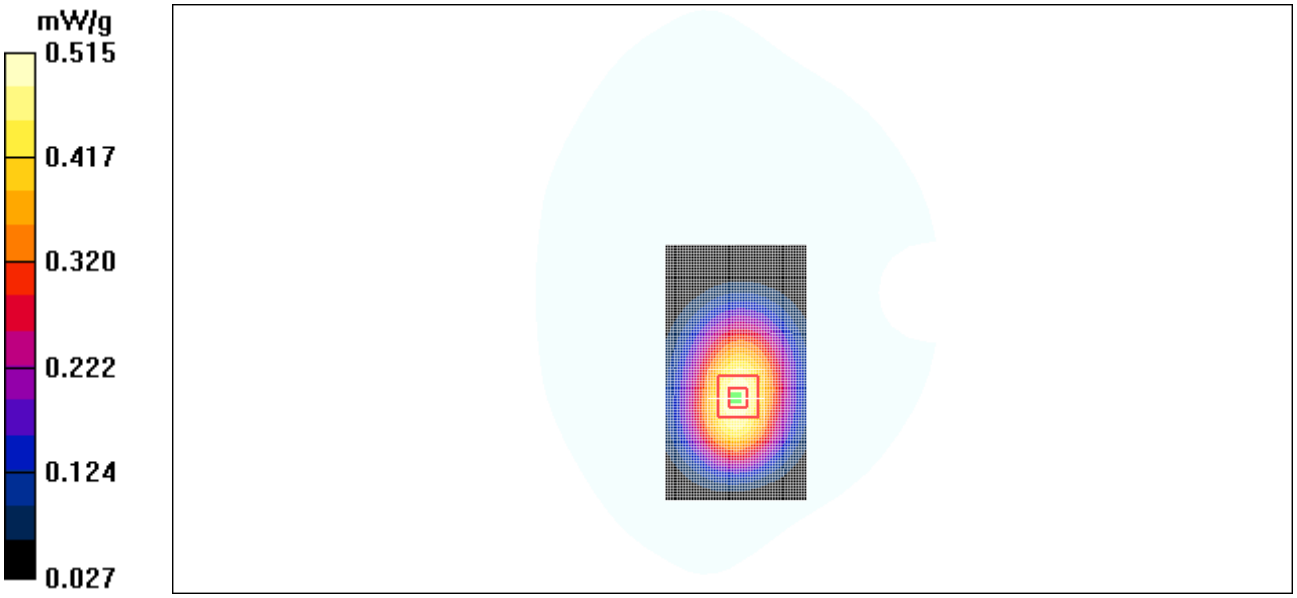


Figure 33 Body, Towards Ground, GSM 850 Channel 190

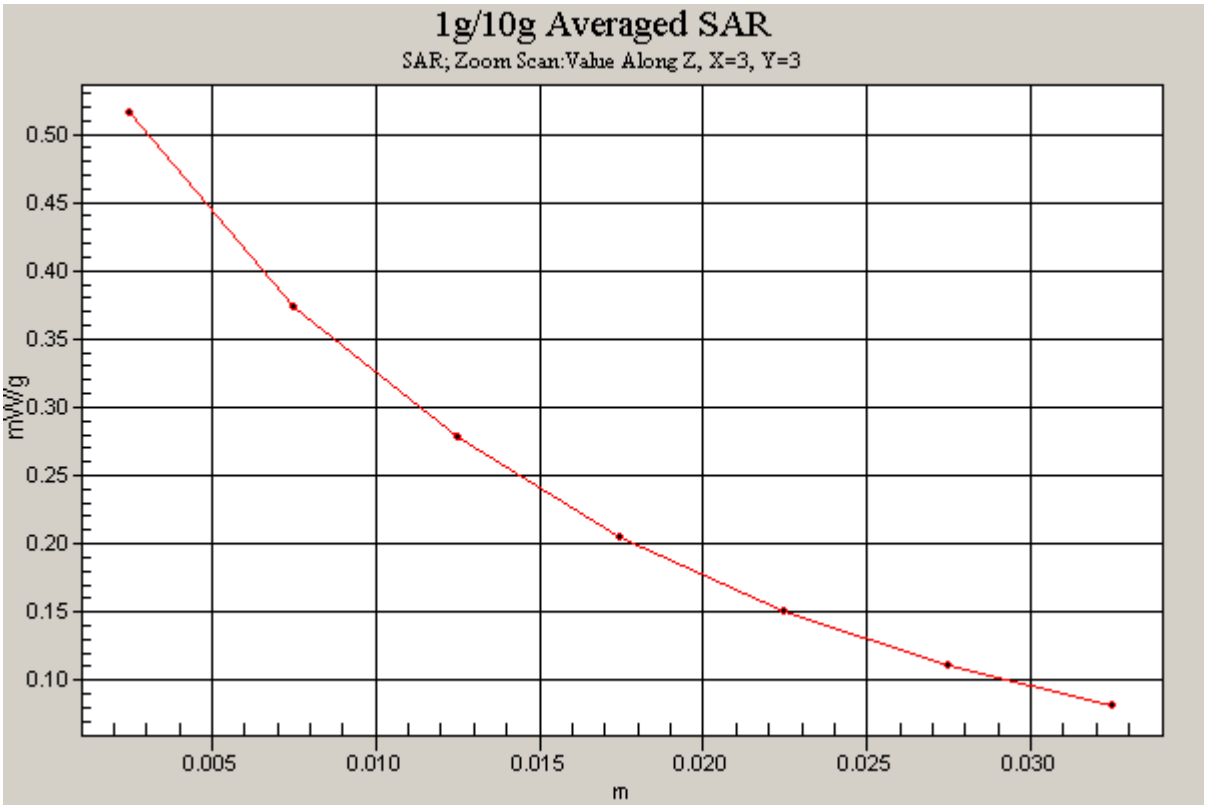


Figure 34 Z-Scan at power reference point (Body, Towards Ground, GSM 850 Channel 190)

Date/Time: 12/23/2008 10:36:27 AM

GSM 850 Towards Ground Low

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.972 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1);
- Electronics: DAE3 Sn536;

Towards Ground Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.366 mW/g

Towards Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.32 V/m; Power Drift = 0.084 dB
Peak SAR (extrapolated) = 0.428 W/kg
SAR(1 g) = 0.310 mW/g; SAR(10 g) = 0.219 mW/g
Maximum value of SAR (measured) = 0.363 mW/g

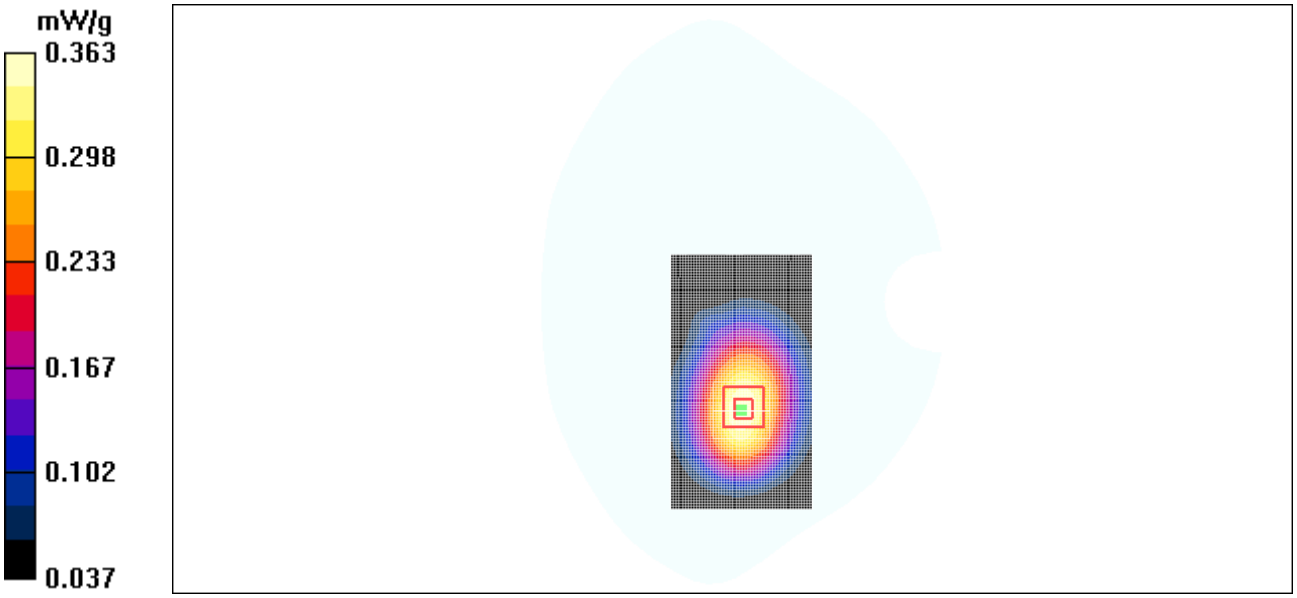


Figure 35 Body, Towards Ground, GSM 850 Channel 128

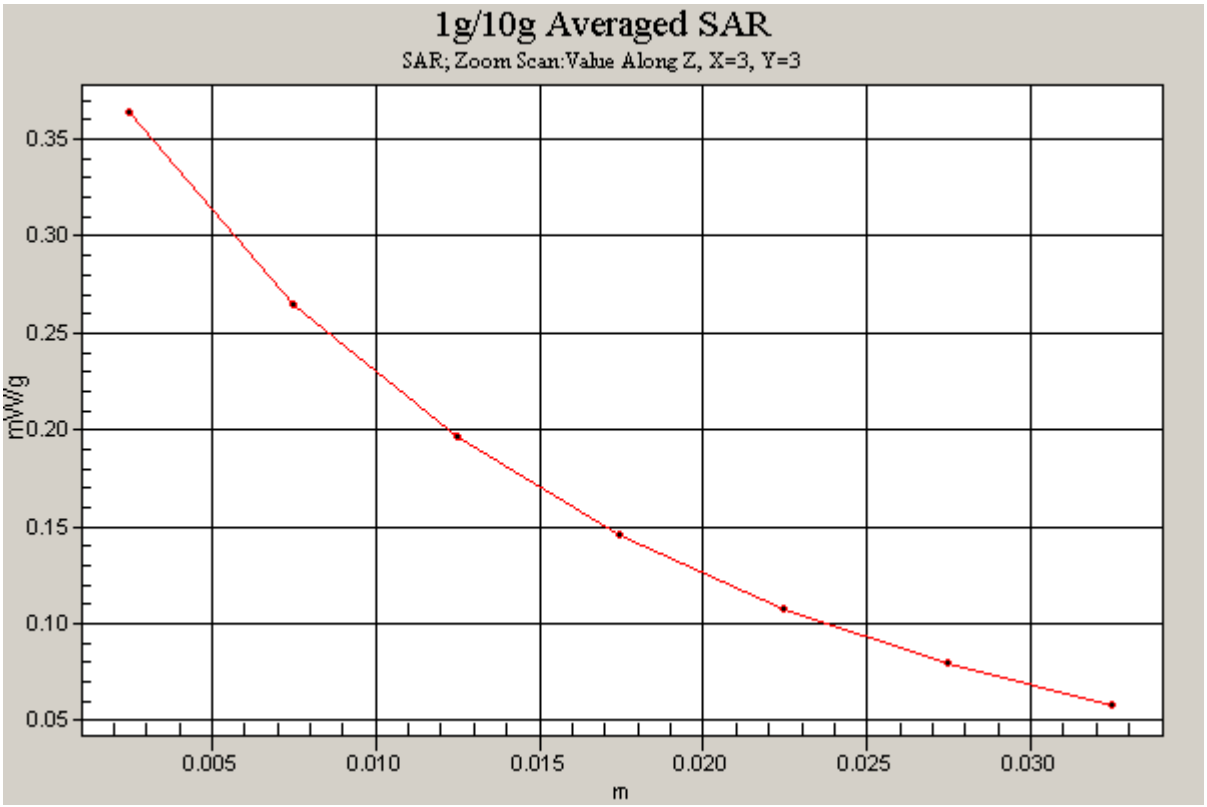


Figure 36 Z-Scan at power reference point (Body, Towards Ground, GSM 850 Channel 128)

Date/Time: 12/23/2008 8:37:28 AM

GSM 850 Towards Phantom High

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.997 mho/m; ε_r = 54.2; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1);
- Electronics: DAE3 Sn536;

Towards Phantom High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.565 mW/g

Towards Phantom High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.54 V/m; Power Drift = 0.172 dB
Peak SAR (extrapolated) = 0.672 W/kg
SAR(1 g) = 0.483 mW/g; SAR(10 g) = 0.339 mW/g
Maximum value of SAR (measured) = 0.576 mW/g

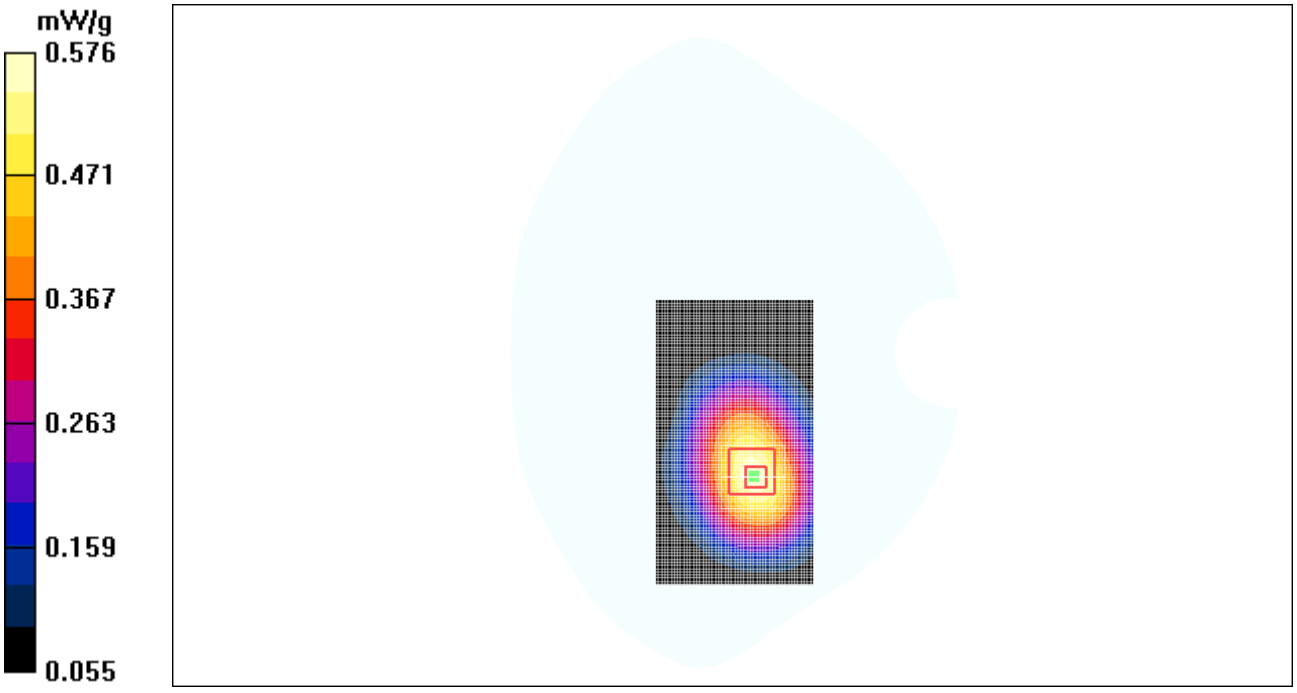


Figure 37 Body, Towards Phantom, GSM 850 Channel 251

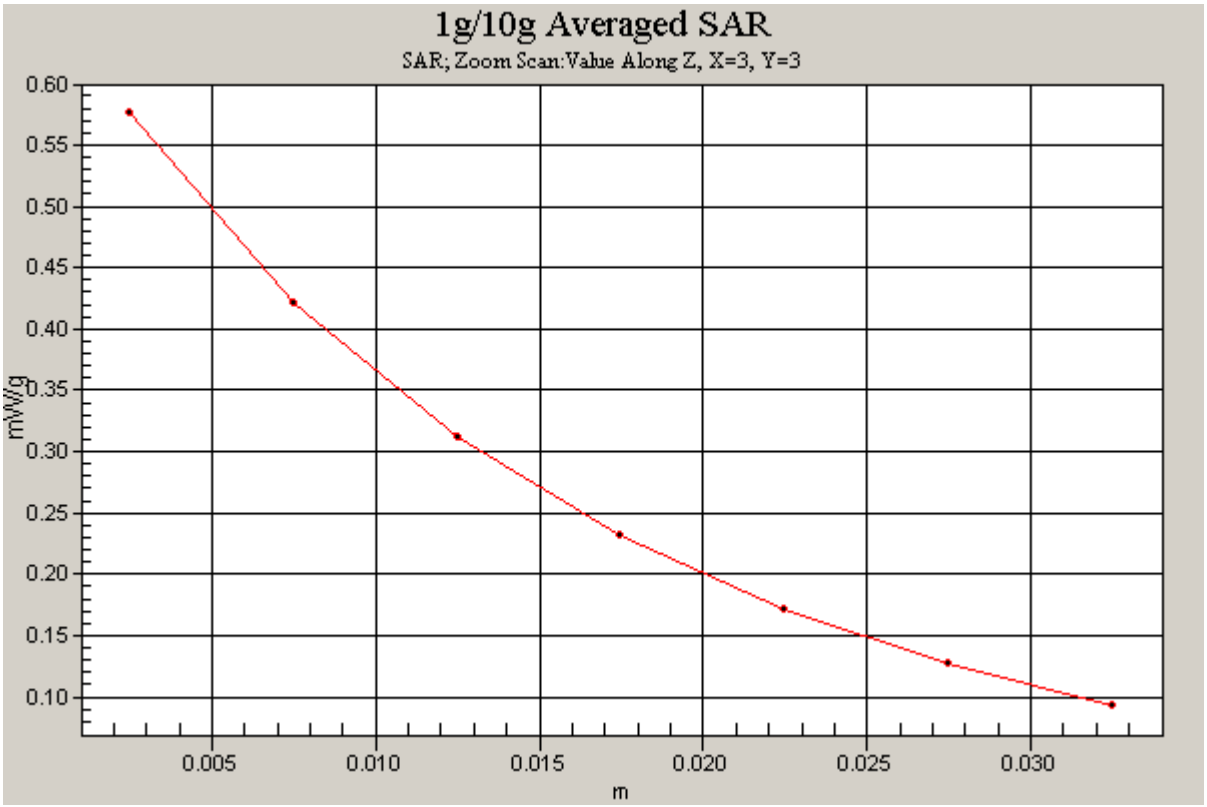


Figure 38 Z-Scan at power reference point (Body, Towards Phantom, GSM 850 Channel 251)

Date/Time: 12/23/2008 8:19:49 AM

GSM 850 Towards Phantom Middle

Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.986 mho/m; ε_r = 54.3; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1);
- Electronics: DAE3 Sn536;

Towards Phantom Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.459 mW/g

Towards Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.73 V/m; Power Drift = 0.017 dB
Peak SAR (extrapolated) = 0.536 W/kg
SAR(1 g) = 0.388 mW/g; SAR(10 g) = 0.275 mW/g
Maximum value of SAR (measured) = 0.456 mW/g

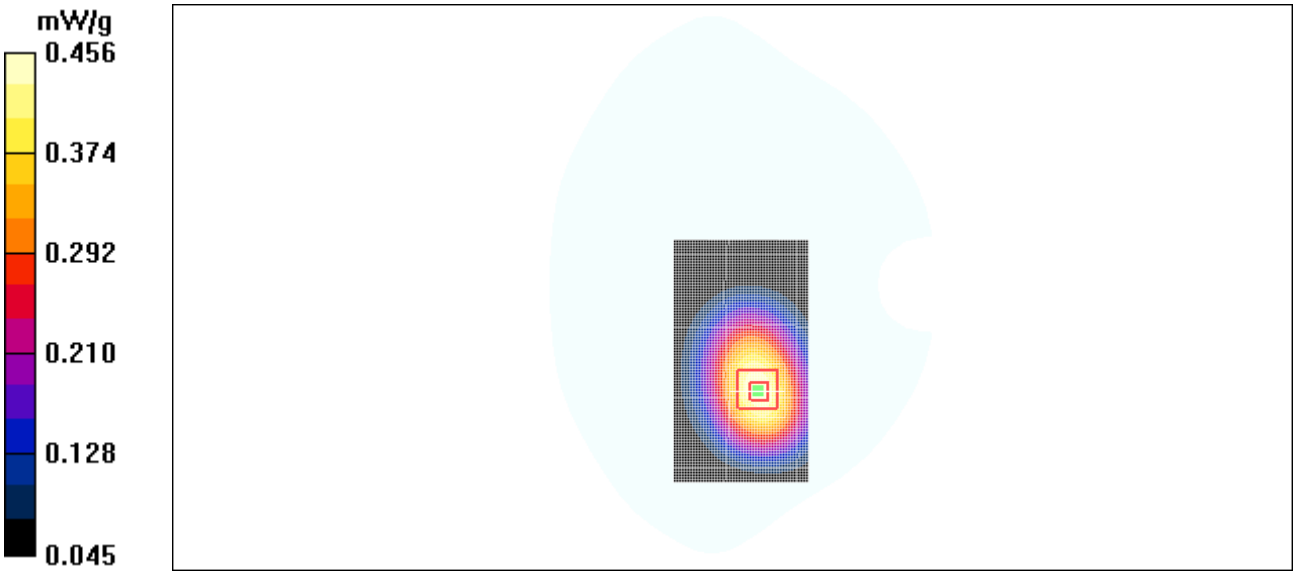


Figure 39 Body, Towards Phantom, GSM 850 Channel 190

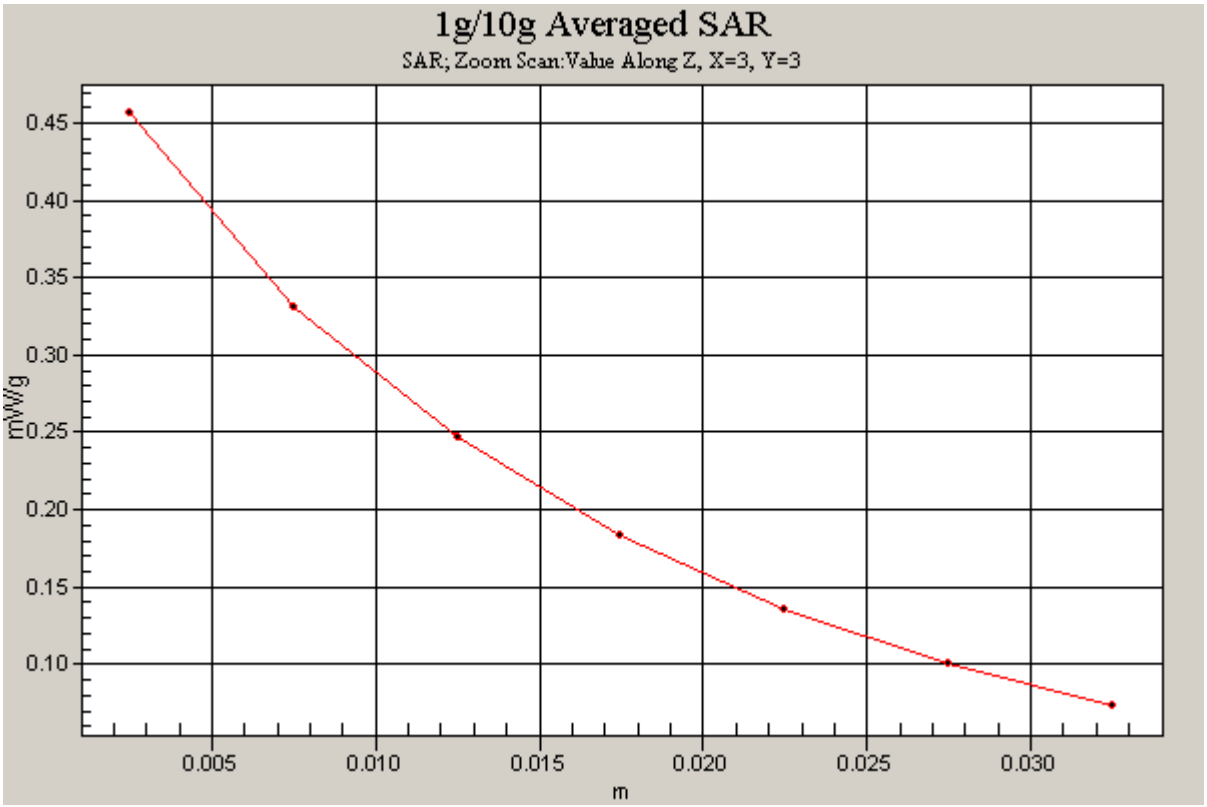


Figure 40 Z-Scan at power reference point (Body, Towards Phantom, GSM 850 Channel 190)

Date/Time: 12/23/2008 10:17:29 AM

GSM 850 Towards Phantom Low

Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.972 mho/m; ε_r = 54.4; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1);
- Electronics: DAE3 Sn536;

Towards Phantom Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.334 mW/g

Towards Phantom Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.78 V/m; Power Drift = -0.159 dB
Peak SAR (extrapolated) = 0.384 W/kg
SAR(1 g) = 0.282 mW/g; SAR(10 g) = 0.201 mW/g
Maximum value of SAR (measured) = 0.329 mW/g

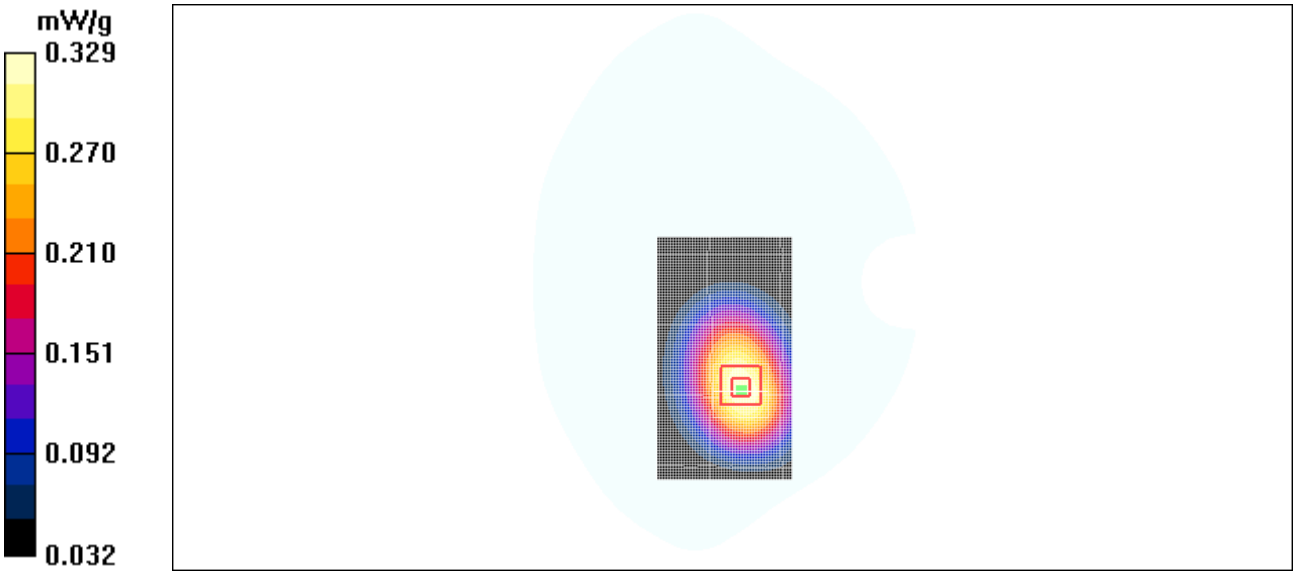


Figure 41 Body, Towards Phantom, GSM 850 Channel 128

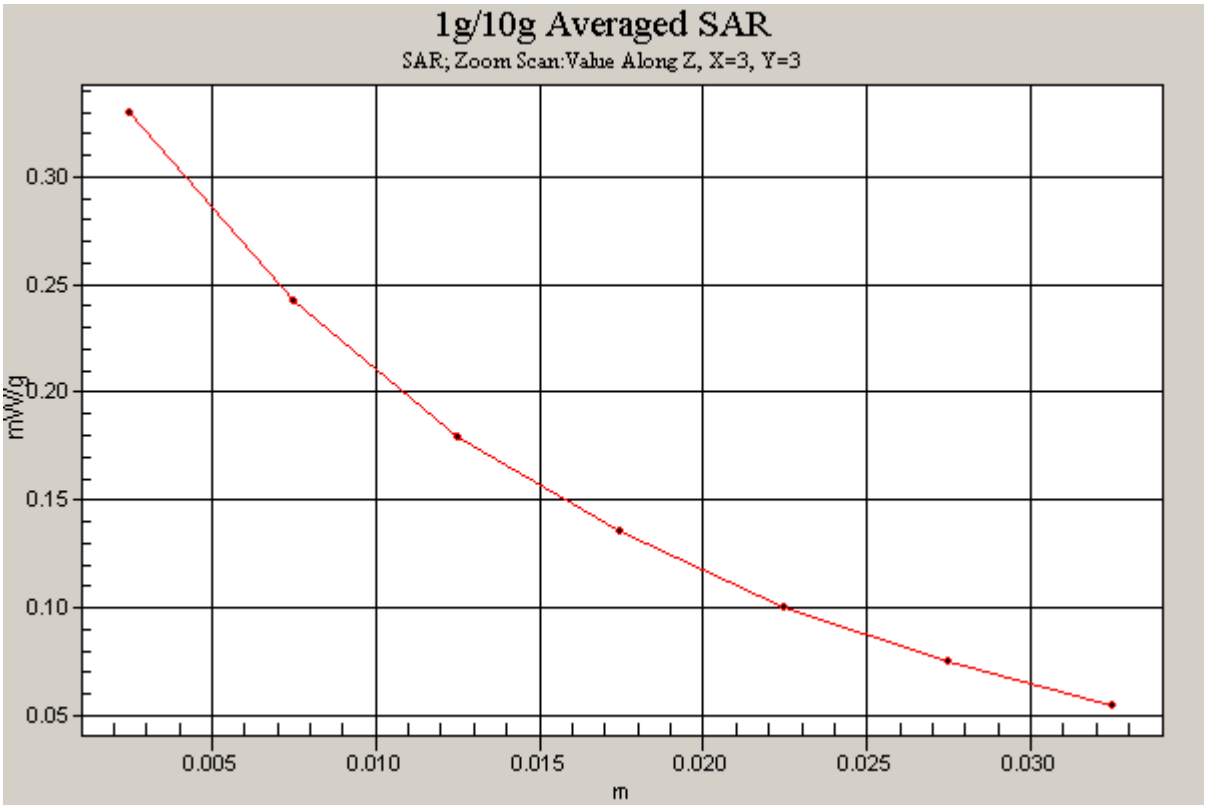


Figure 42 Z-Scan at power reference point (Body, Towards Phantom, GSM 850, Channel 128)

Date/Time: 12/23/2008 11:33:38 AM

GSM 850 Earphone Towards Ground High

Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.997 mho/m; ε_r = 54.2; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(9.1, 9.1, 9.1);
- Electronics: DAE3 Sn536;

Towards Ground High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.433 mW/g

Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.4 V/m; Power Drift = 0.181 dB
Peak SAR (extrapolated) = 0.507 W/kg
SAR(1 g) = 0.377 mW/g; SAR(10 g) = 0.269 mW/g
Maximum value of SAR (measured) = 0.436 mW/g

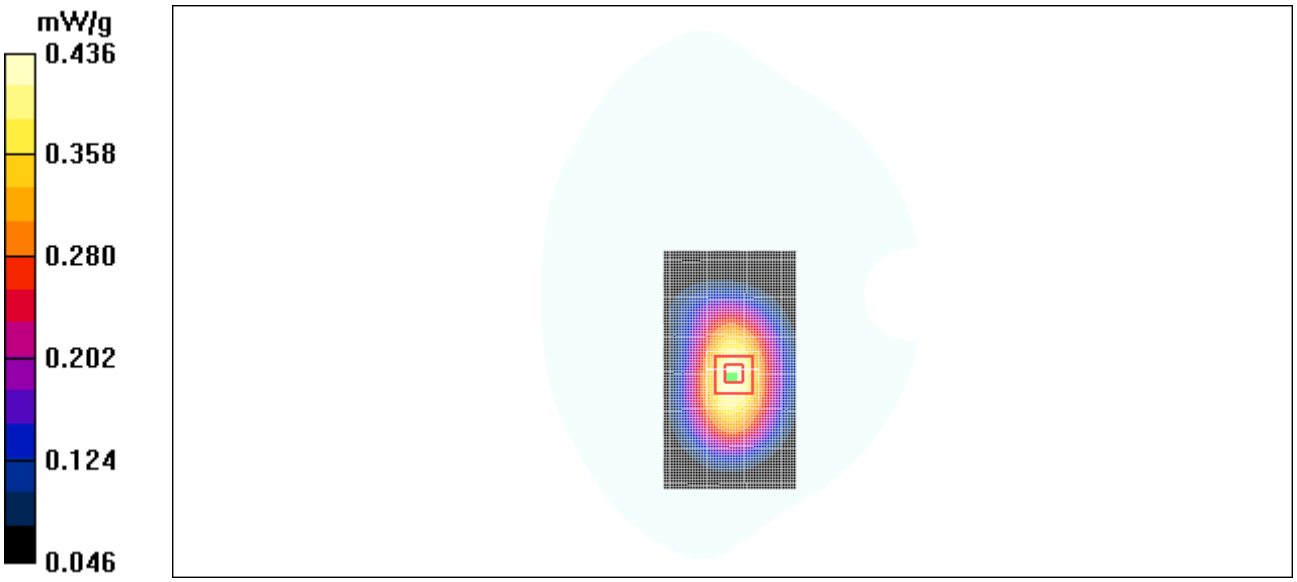


Figure 43 Body with Earphone, Towards Ground, GSM 850, Channel 251

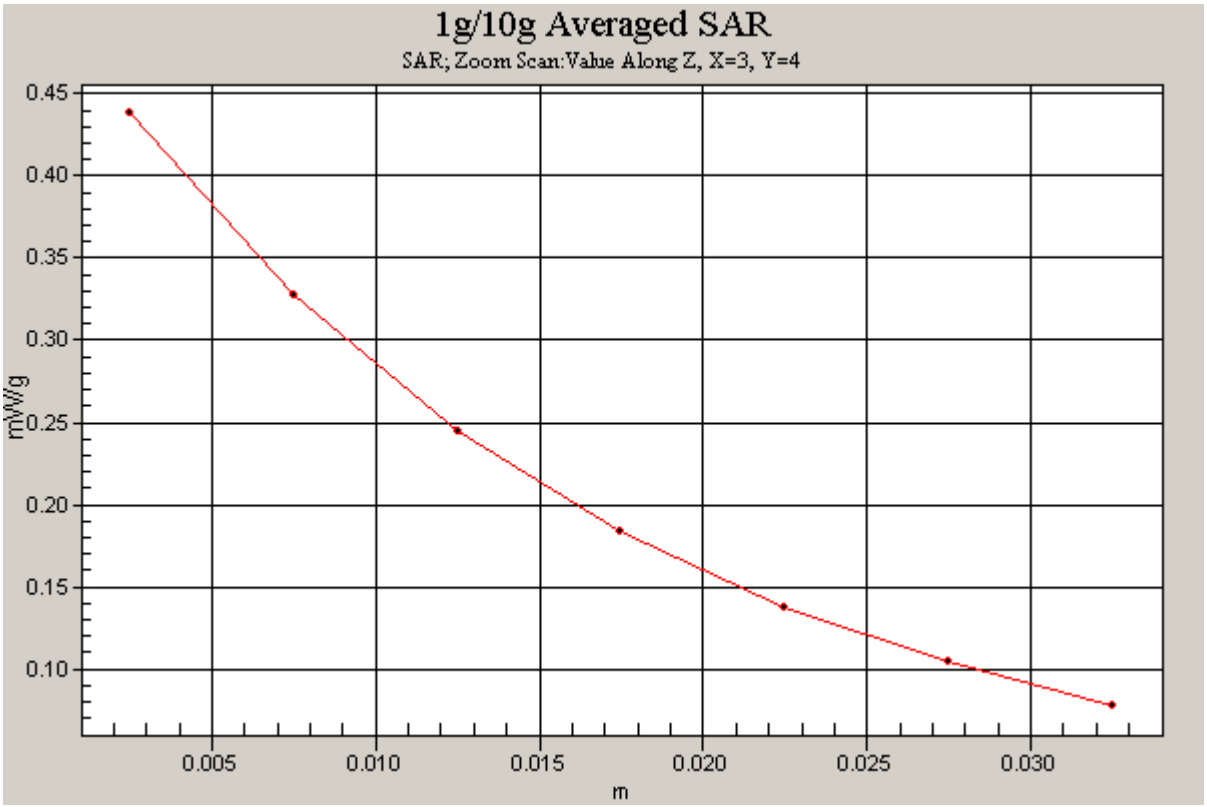


Figure 44 Z-Scan at power reference point (Body with Earphone, Towards Ground, GSM 850, Channel 251)

Date/Time: 12/24/2008 2:01:28 AM

GSM 1900 Left Cheek High

Communication System: GSM 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.42 mho/m; ε_r = 40; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.35, 7.35, 7.35);
- Electronics: DAE3 Sn536;

Cheek High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.824 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.89 V/m; Power Drift = 0.095 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.607 mW/g; SAR(10 g) = 0.370 mW/g
Maximum value of SAR (measured) = 0.720 mW/g

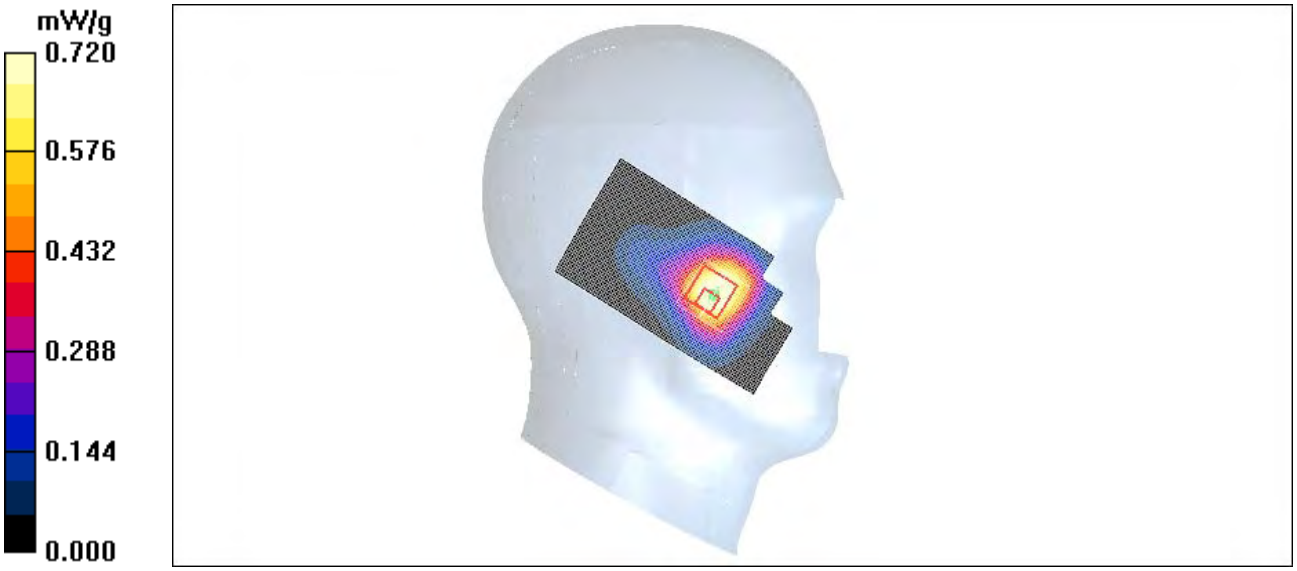


Figure 45 Left Hand Touch Cheek GSM 1900 Channel 810

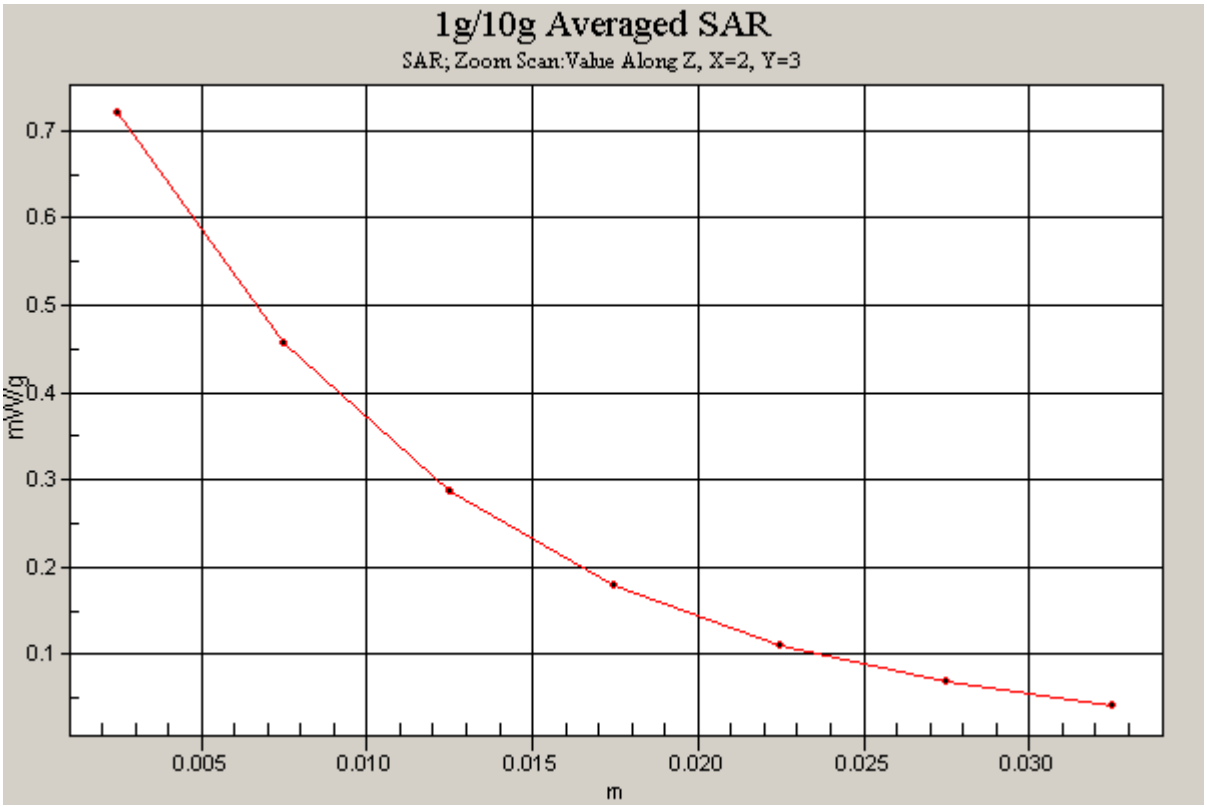


Figure 46 Z-Scan at power reference point (Left Hand Touch Cheek GSM 1900 Channel 810)

Date/Time: 12/24/2008 1:42:09 AM

GSM 1900 Left Cheek Middle

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.35, 7.35, 7.35);
- Electronics: DAE3 Sn536;

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.879 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.04 V/m; Power Drift = -0.179 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.647 mW/g; SAR(10 g) = 0.402 mW/g
Maximum value of SAR (measured) = 0.805 mW/g

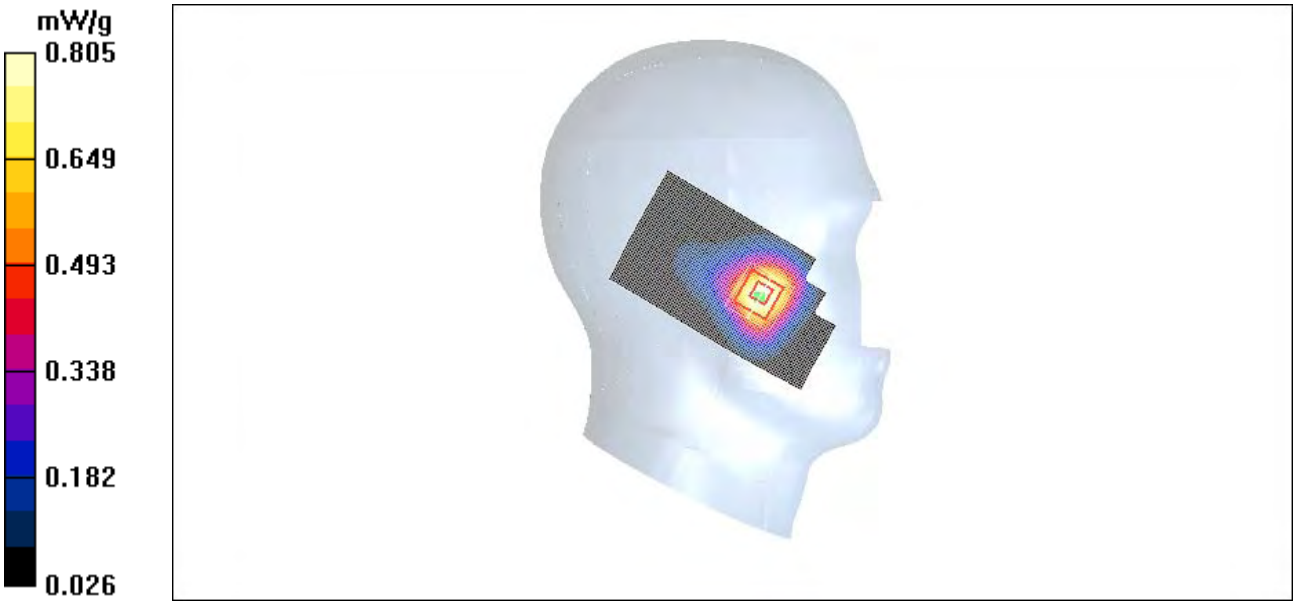


Figure 47 Left Hand Touch Cheek GSM 1900 Channel 661

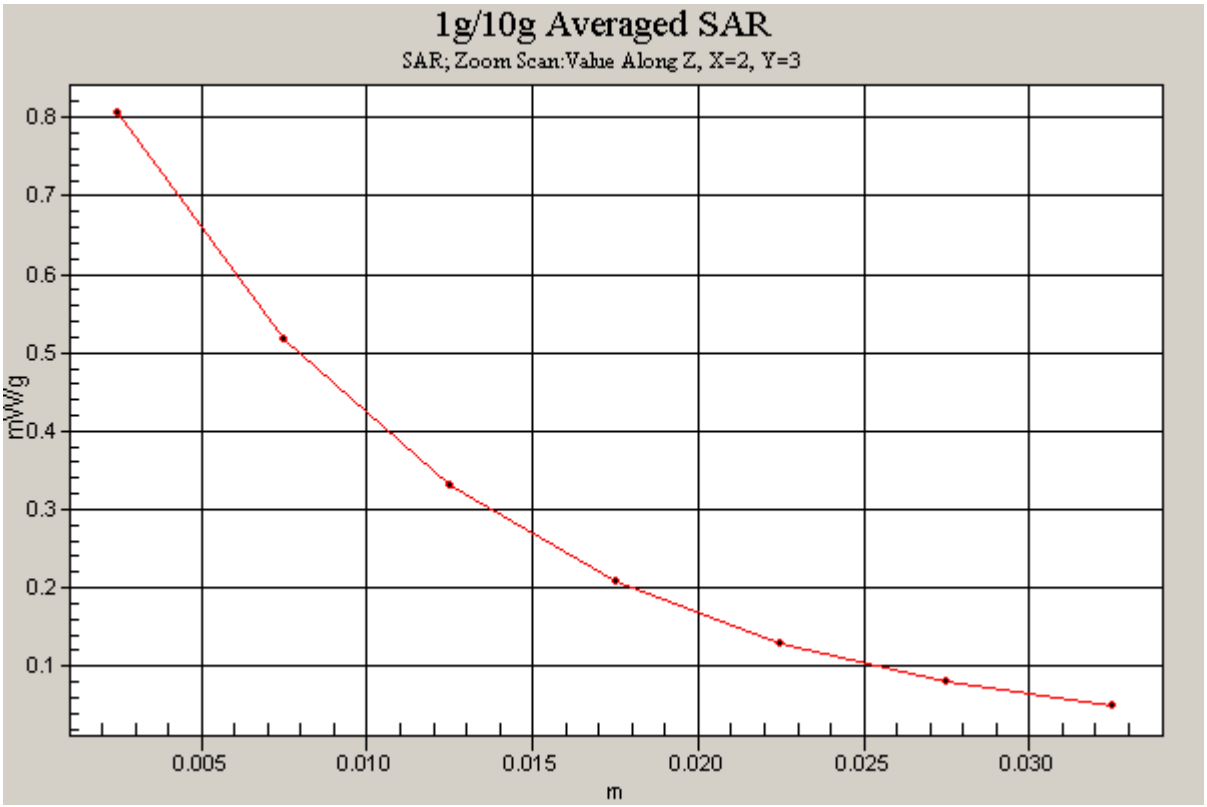


Figure 48 Z-Scan at power reference point (Left Hand Touch Cheek GSM 1900 Channel 661)

Date/Time: 12/24/2008 2:24:41 AM

GSM 1900 Left Cheek Low

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.37 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.35, 7.35, 7.35);
- Electronics: DAE3 Sn536;

Cheek Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.881 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.80 V/m; Power Drift = 0.032 dB
Peak SAR (extrapolated) = 0.999 W/kg
SAR(1 g) = 0.630 mW/g; SAR(10 g) = 0.394 mW/g
Maximum value of SAR (measured) = 0.784 mW/g

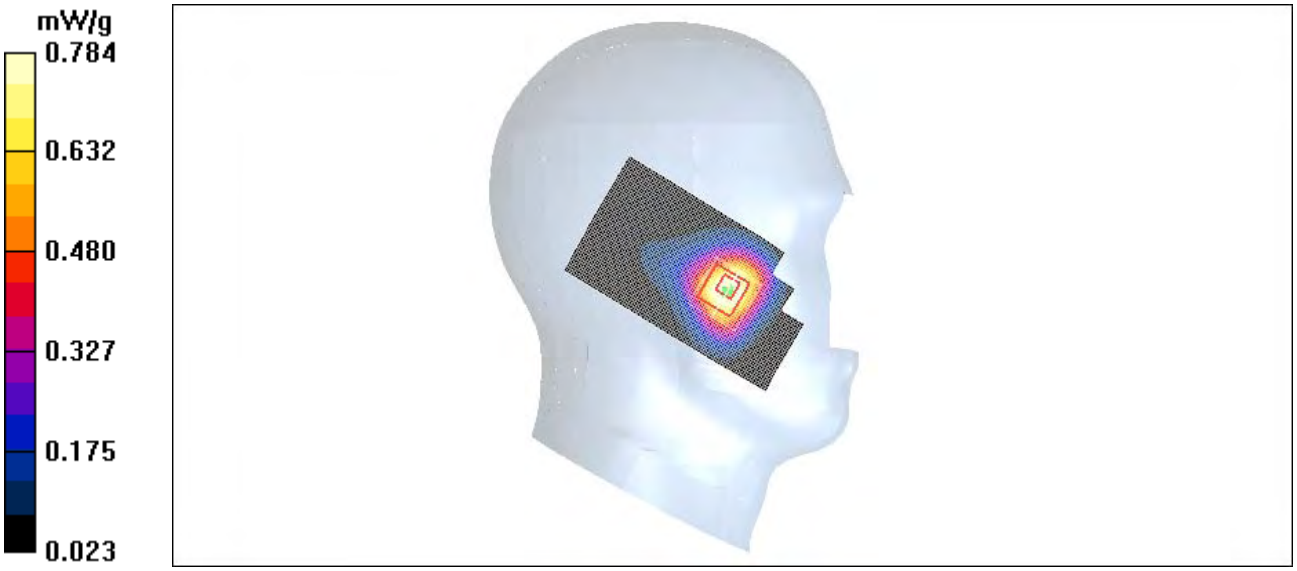


Figure 49 Left Hand Touch Cheek GSM 1900 Channel 512

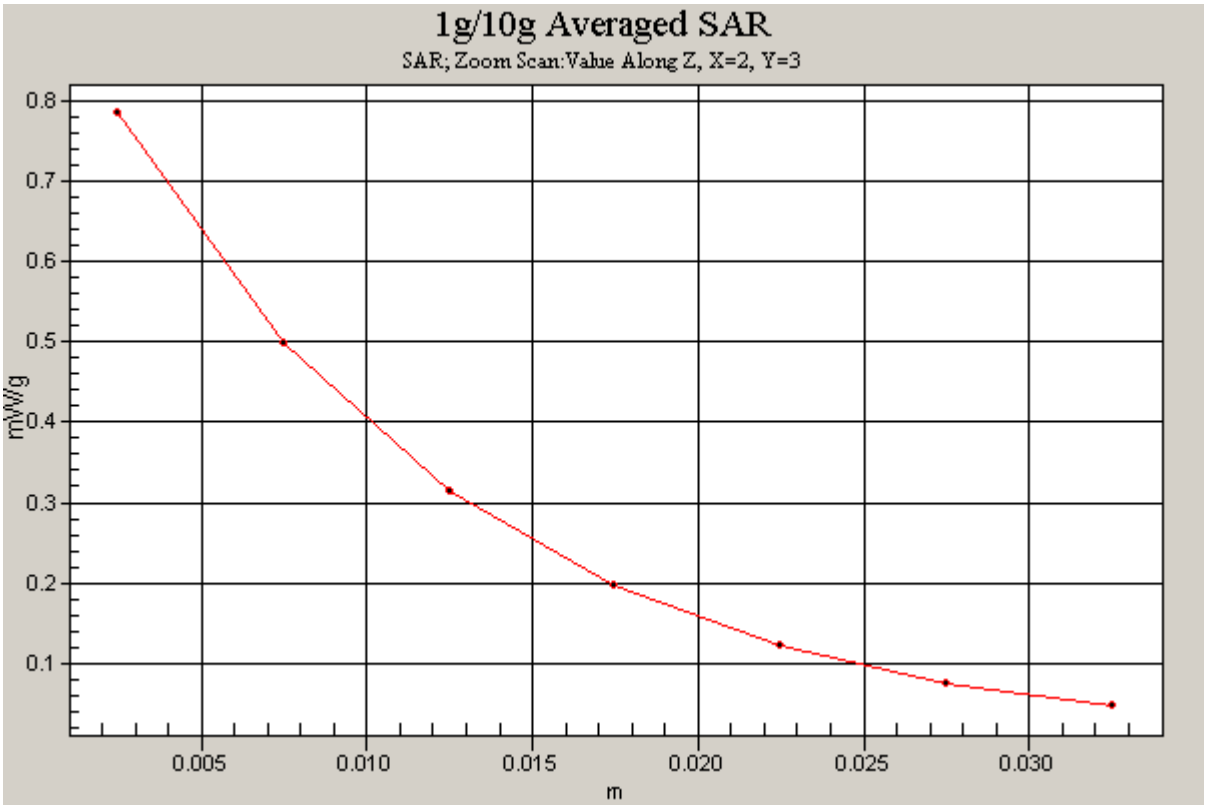


Figure 50 Z-Scan at power reference point (Left Hand Touch Cheek GSM 1900 Channel 512)

Date/Time: 12/24/2008 3:37:21 AM

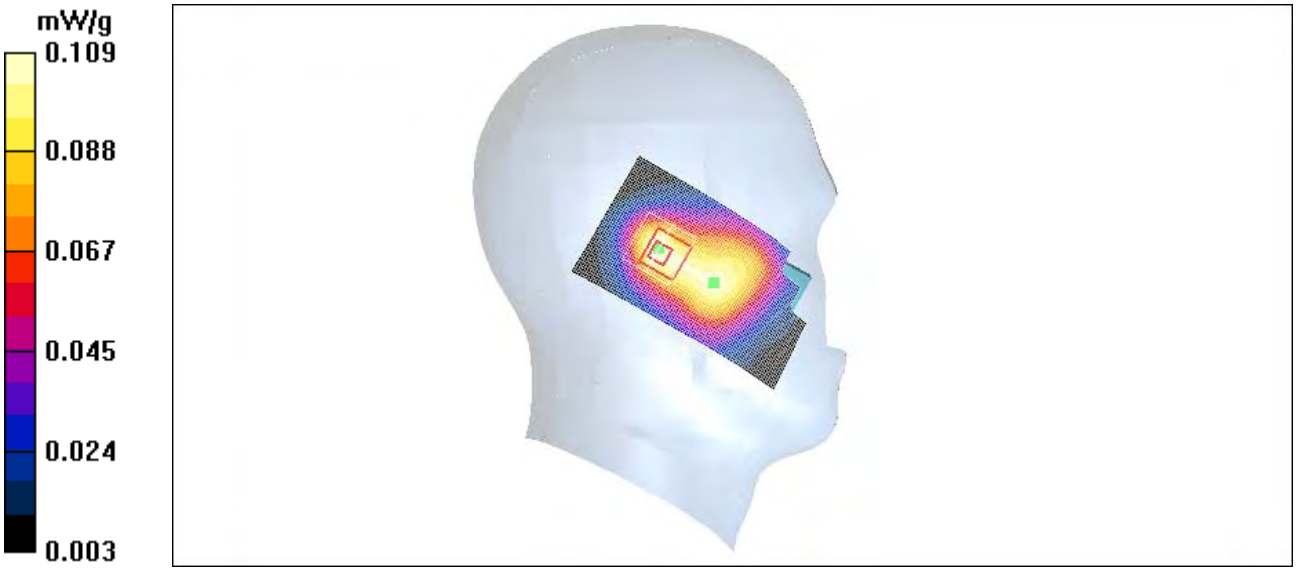
GSM 1900 Left Tilt High

Communication System: GSM 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.42 mho/m; ε_r = 40; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.35, 7.35, 7.35);
- Electronics: DAE3 Sn536;

Tilt High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.116 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.74 V/m; Power Drift = 0.177 dB
Peak SAR (extrapolated) = 0.135 W/kg
SAR(1 g) = 0.088 mW/g; SAR(10 g) = 0.056 mW/g
Maximum value of SAR (measured) = 0.109 mW/g



Communication System: GSM 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.42 mho/m; ε_r = 40; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.35, 7.35, 7.35);
- Electronics: DAE3 Sn536;

Tilt High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.116 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.74 V/m; Power Drift = 0.177 dB
Peak SAR (extrapolated) = 0.130 W/kg
SAR(1 g) = 0.089 mW/g; SAR(10 g) = 0.059 mW/g
Maximum value of SAR (measured) = 0.107 mW/g

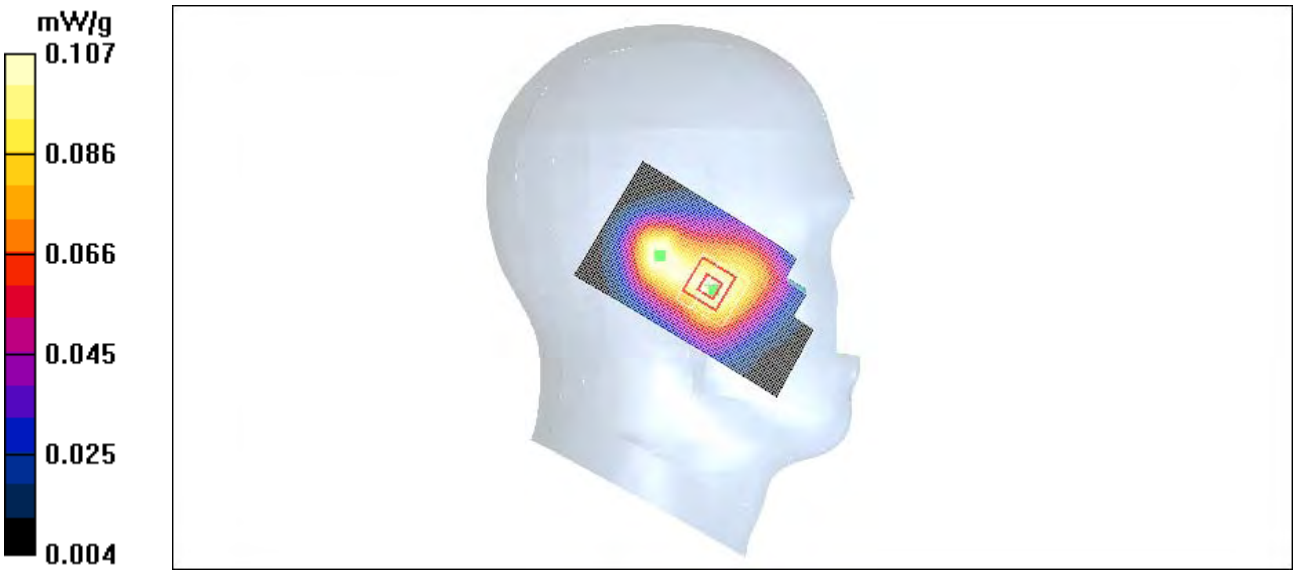
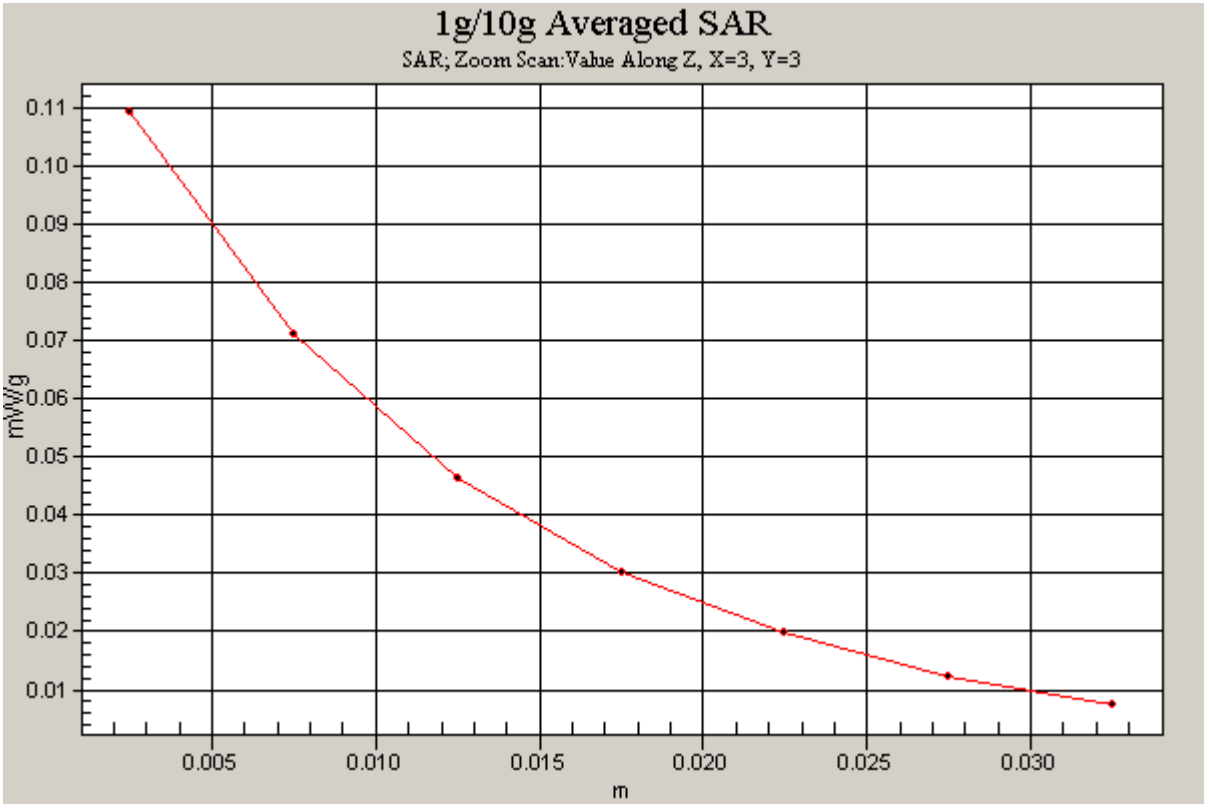


Figure 51 Left Hand Tilt 15°GSM 1900 Channel 810



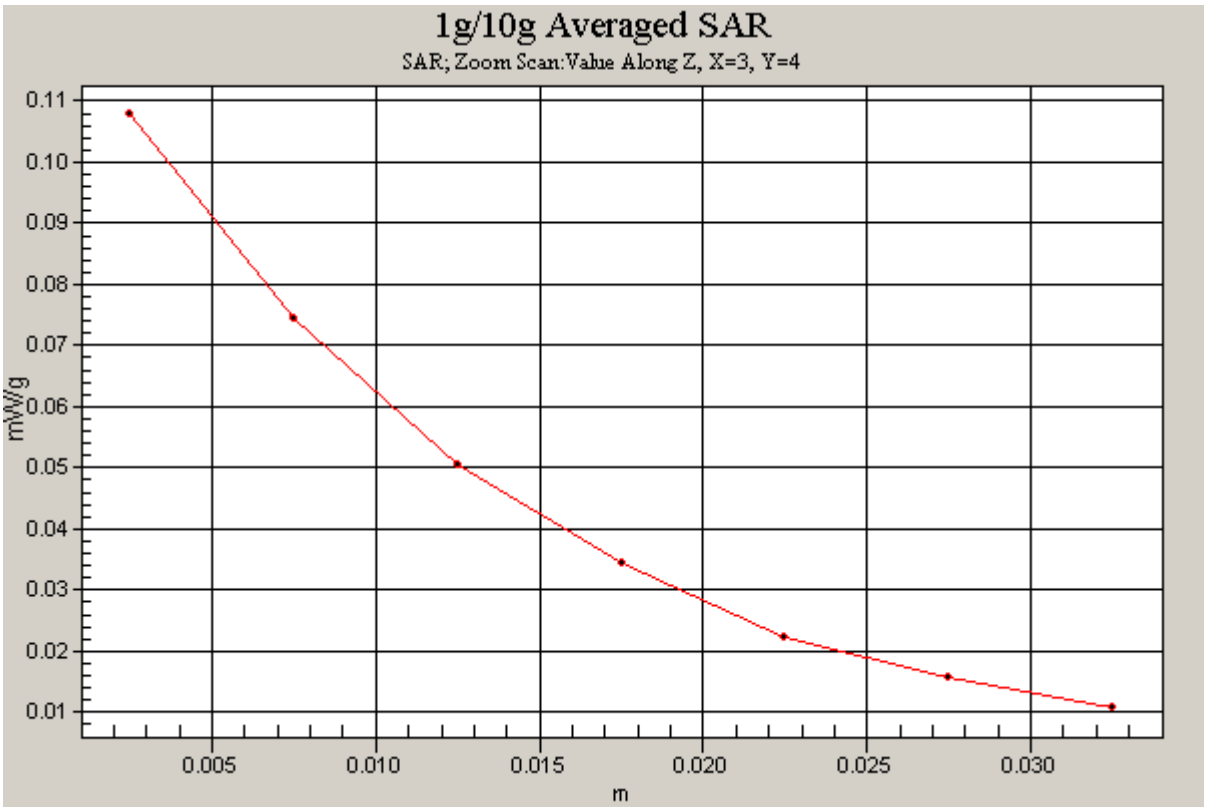


Figure 52 Z-Scan at power reference point (Left Hand Tilt 15°GSM 1900 Channel 810)

Date/Time: 12/24/2008 3:05:10 AM

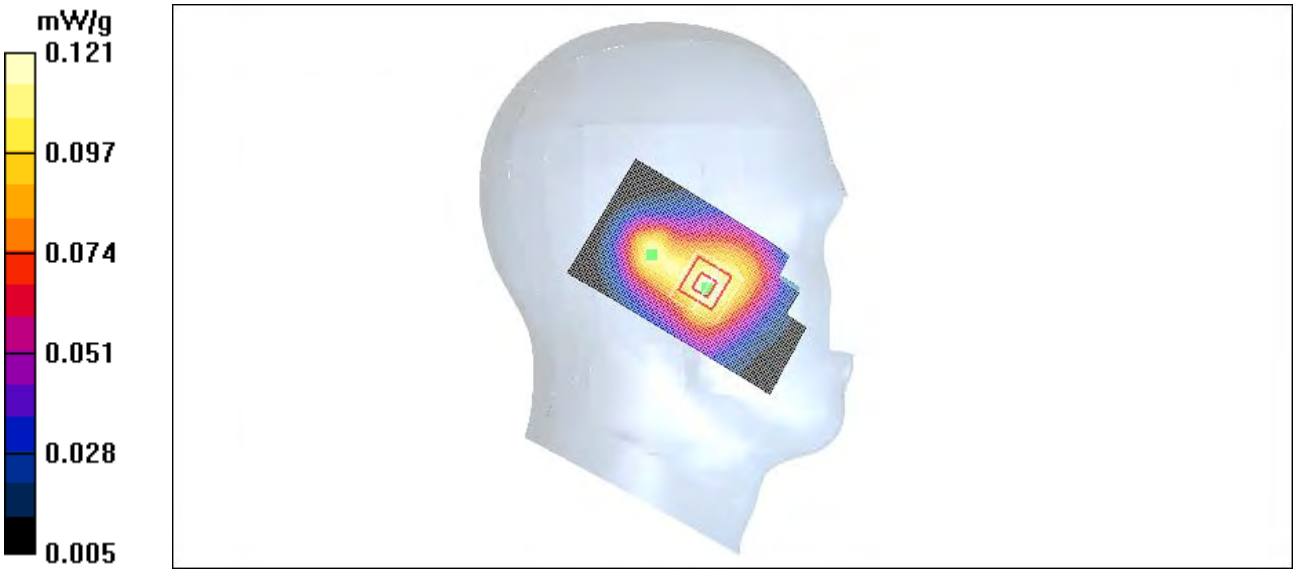
GSM 1900 Left Tilt Middle

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.35, 7.35, 7.35);
- Electronics: DAE3 Sn536;

Tilt Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.122 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.82 V/m; Power Drift = 0.067 dB
Peak SAR (extrapolated) = 0.147 W/kg
SAR(1 g) = 0.101 mW/g; SAR(10 g) = 0.066 mW/g
Maximum value of SAR (measured) = 0.121 mW/g



Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.35, 7.35, 7.35);
- Electronics: DAE3 Sn536;

Tilt Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.122 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.82 V/m; Power Drift = 0.067 dB
Peak SAR (extrapolated) = 0.294 W/kg
SAR(1 g) = 0.047 mW/g; SAR(10 g) = 0.013 mW/g
Maximum value of SAR (measured) = 0.125 mW/g

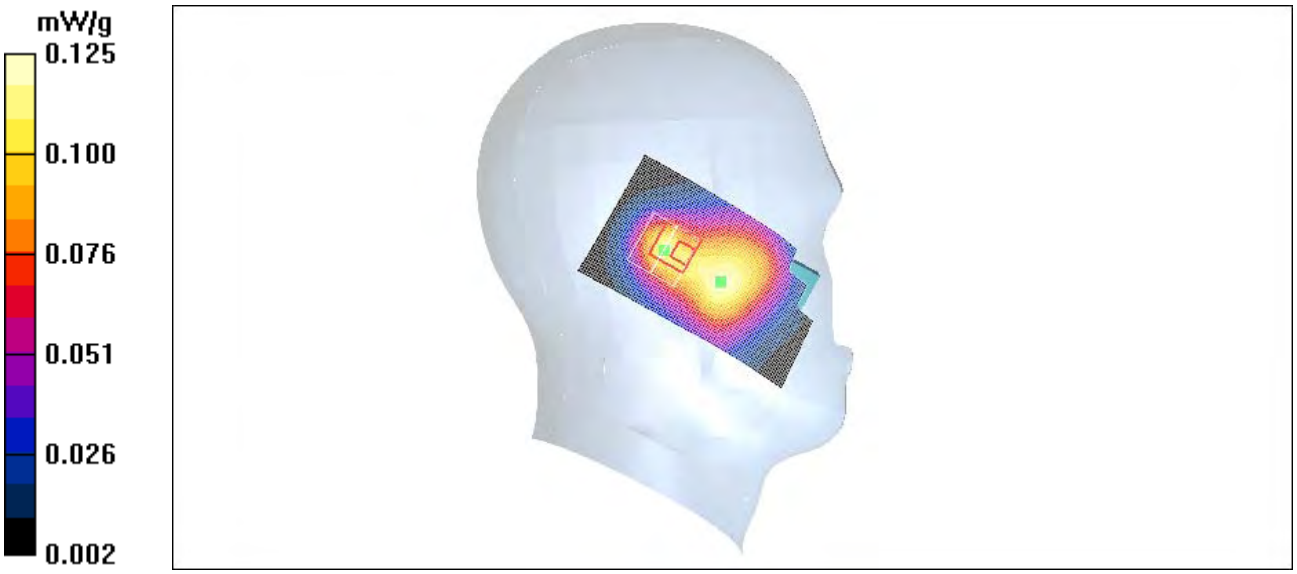
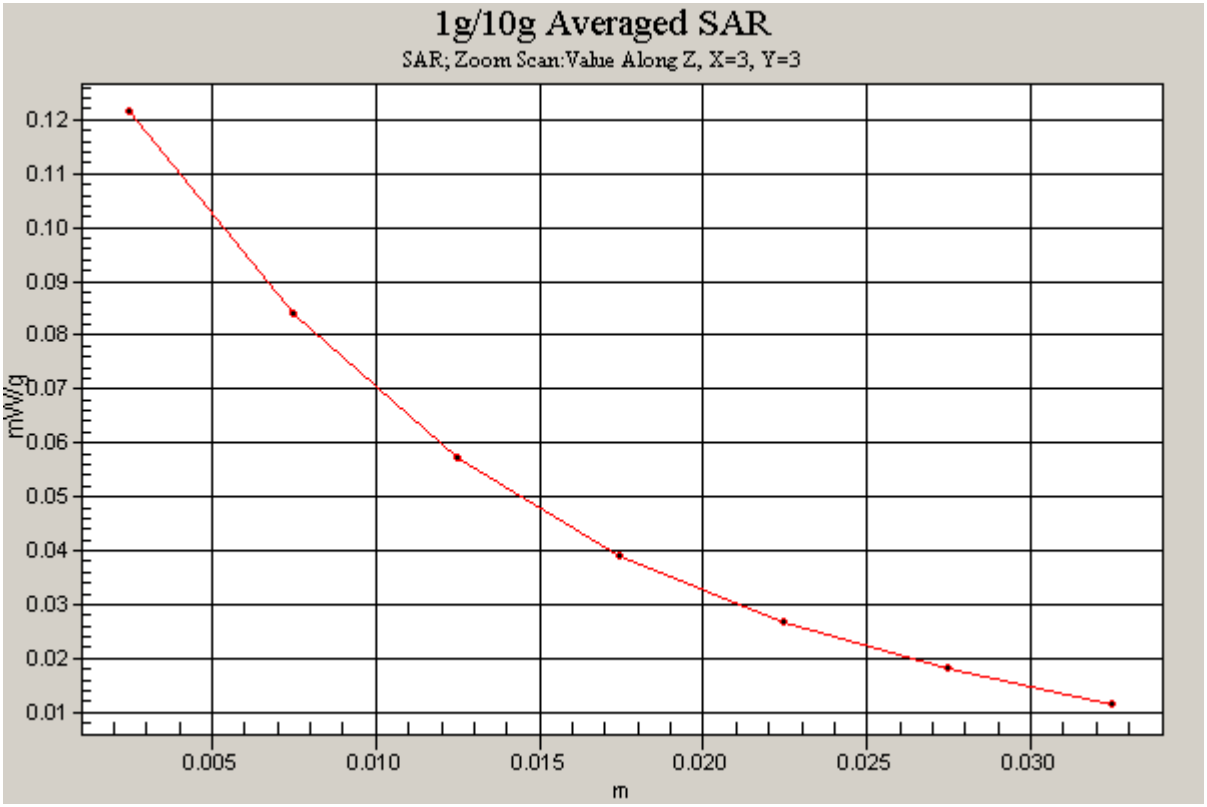


Figure 53 Left Hand Tilt 15°GSM 1900 Channel 661



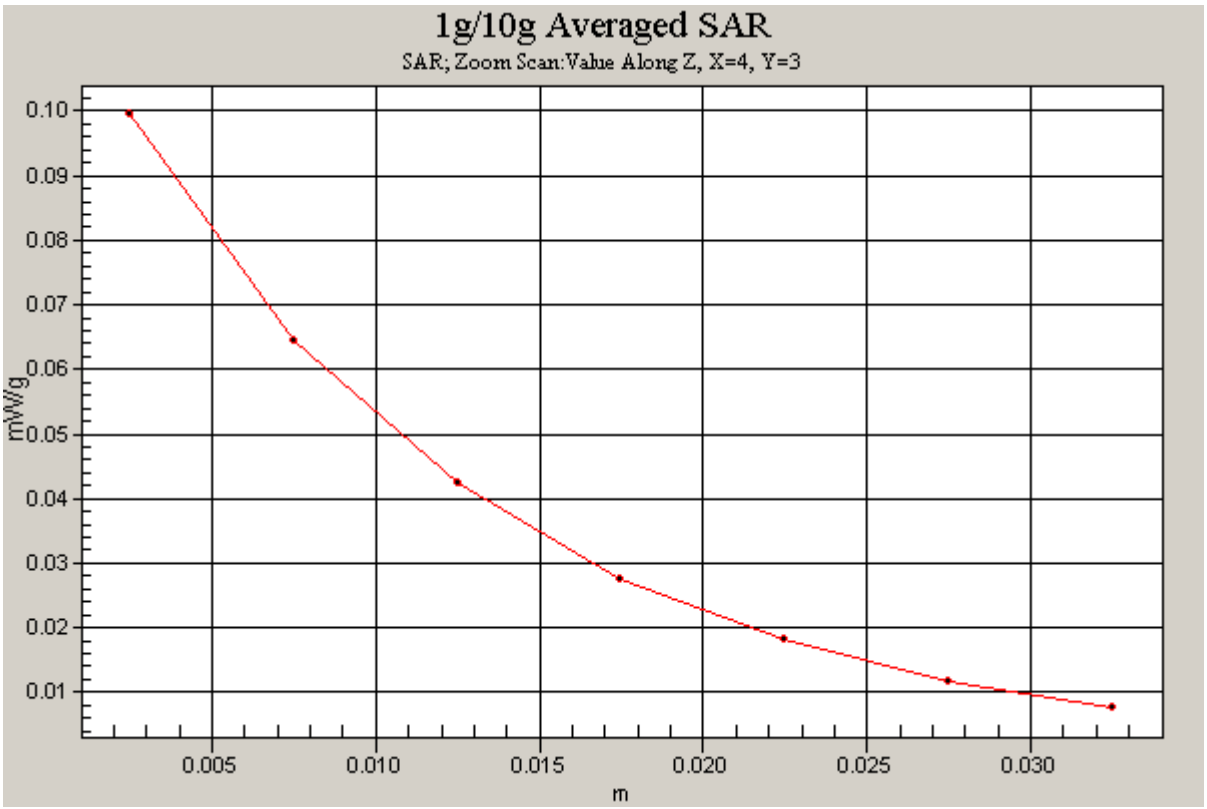


Figure 54 Z-Scan at power reference point (Left Hand Tilt 15°GSM 1900 Channel 661)

Date/Time: 12/24/2008 2:43:57 AM

GSM 1900 Left Tilt Low

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.37 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.35, 7.35, 7.35);
- Electronics: DAE3 Sn536;

Tilt Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.127 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.91 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.150 W/kg
SAR(1 g) = 0.103 mW/g; SAR(10 g) = 0.068 mW/g
Maximum value of SAR (measured) = 0.124 mW/g

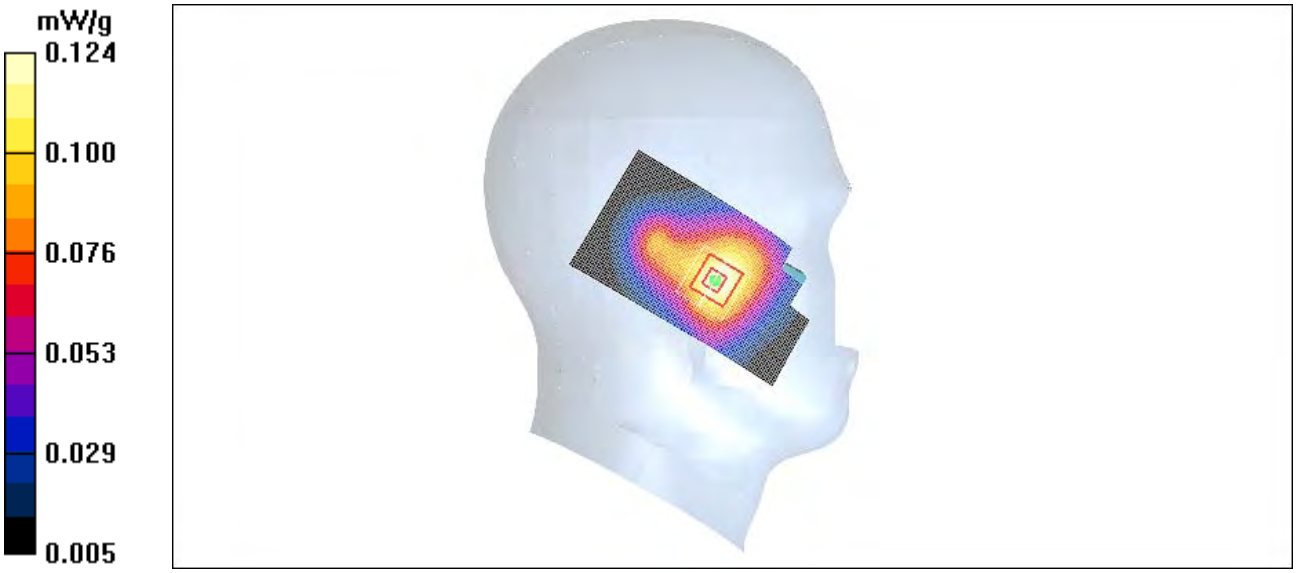


Figure 55 Left Hand Tilt 15°GSM 1900 Channel 512

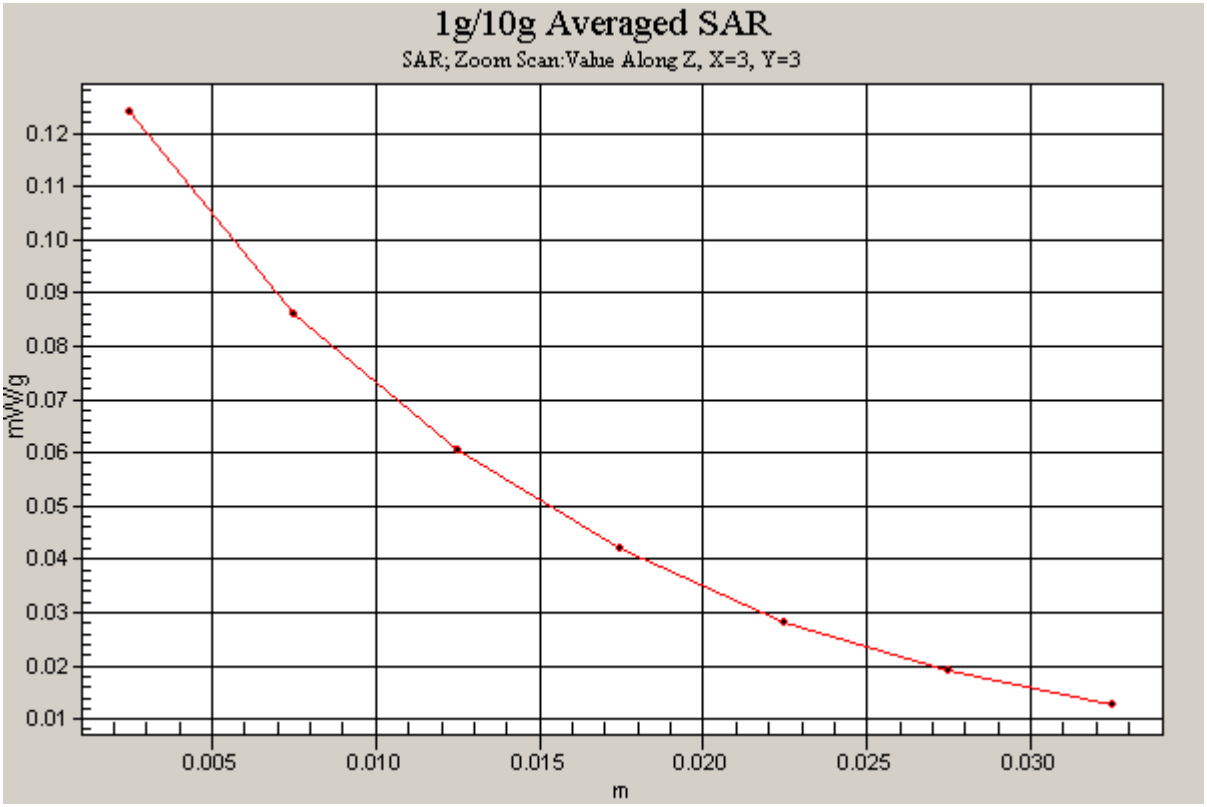


Figure 56 Z-Scan at power reference point (Left Hand Tilt 15°GSM 1900 Channel 512)

Date/Time: 12/24/2008 4:11:18 AM

GSM 1900 Right Cheek High

Communication System: GSM 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.42 mho/m; ε_r = 40; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.35, 7.35, 7.35);
- Electronics: DAE3 Sn536;

Cheek High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.993 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.95 V/m; Power Drift = -0.168 dB
Peak SAR (extrapolated) = 1.30 W/kg
SAR(1 g) = 0.780 mW/g; SAR(10 g) = 0.459 mW/g
Maximum value of SAR (measured) = 0.991 mW/g

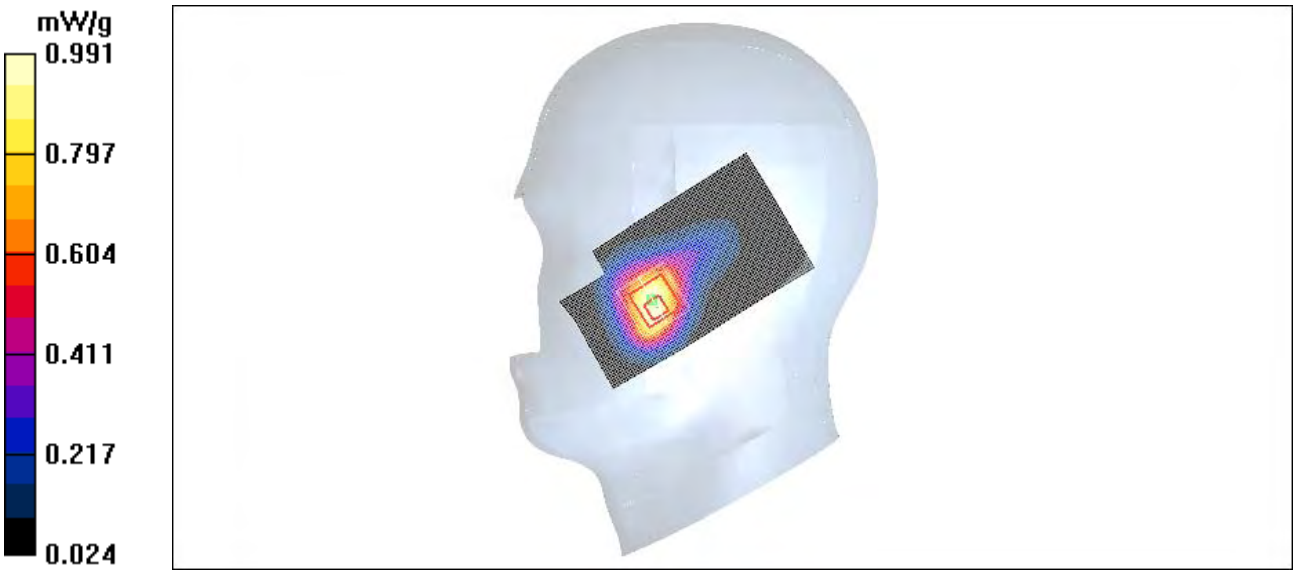


Figure 57 Right Hand Touch Cheek GSM 1900 Channel 810

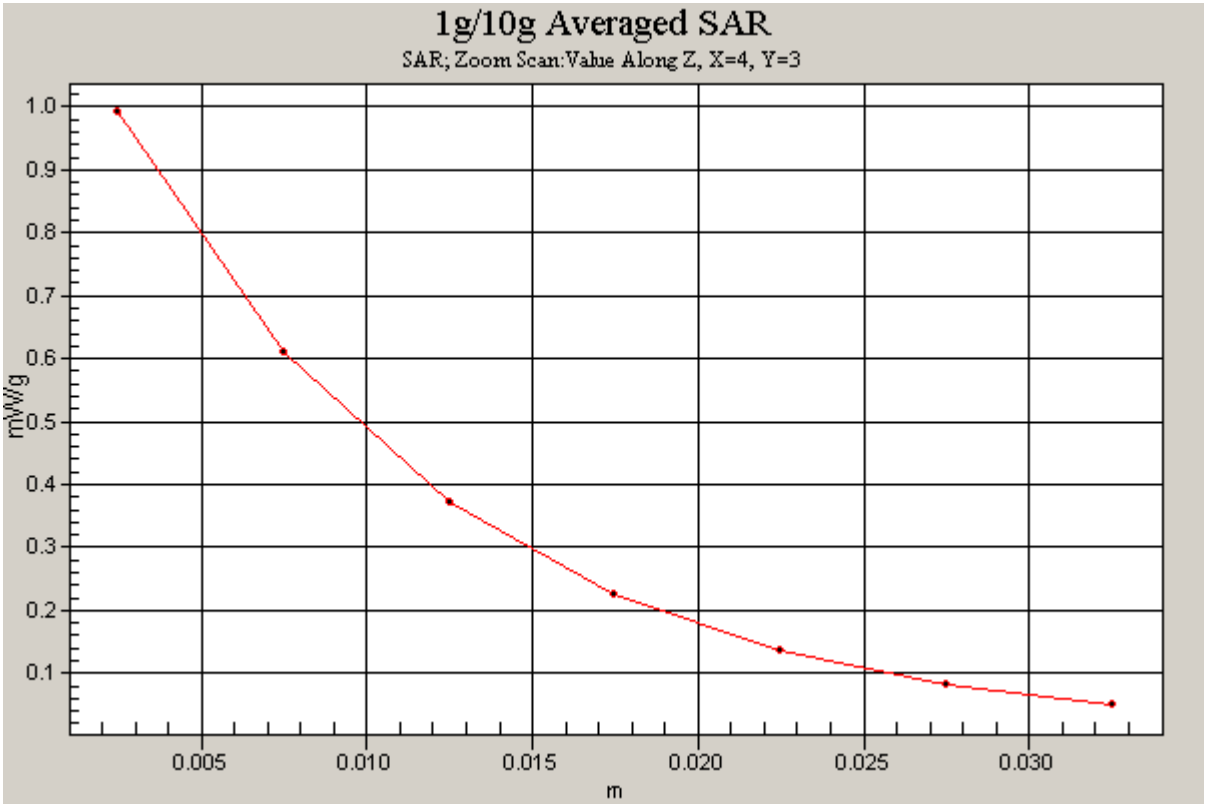


Figure 58 Z-Scan at power reference point (Right Hand Touch Cheek GSM 1900 Channel 810)

Date/Time: 12/24/2008 4:30:50 AM

GSM 1900 Right Cheek Middle

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.35, 7.35, 7.35);
- Electronics: DAE3 Sn536;

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 1.11 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.79 V/m; Power Drift = -0.069 dB
Peak SAR (extrapolated) = 1.42 W/kg
SAR(1 g) = 0.865 mW/g; SAR(10 g) = 0.512 mW/g
Maximum value of SAR (measured) = 1.09 mW/g

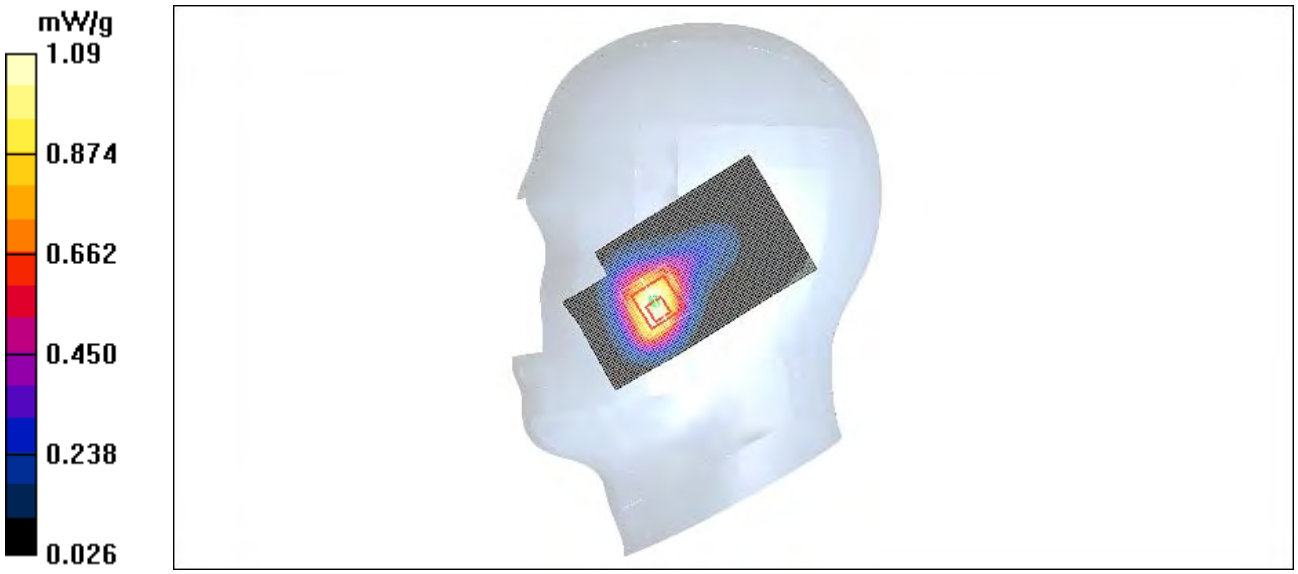


Figure 59 Right Hand Touch Cheek GSM 1900 Channel 661

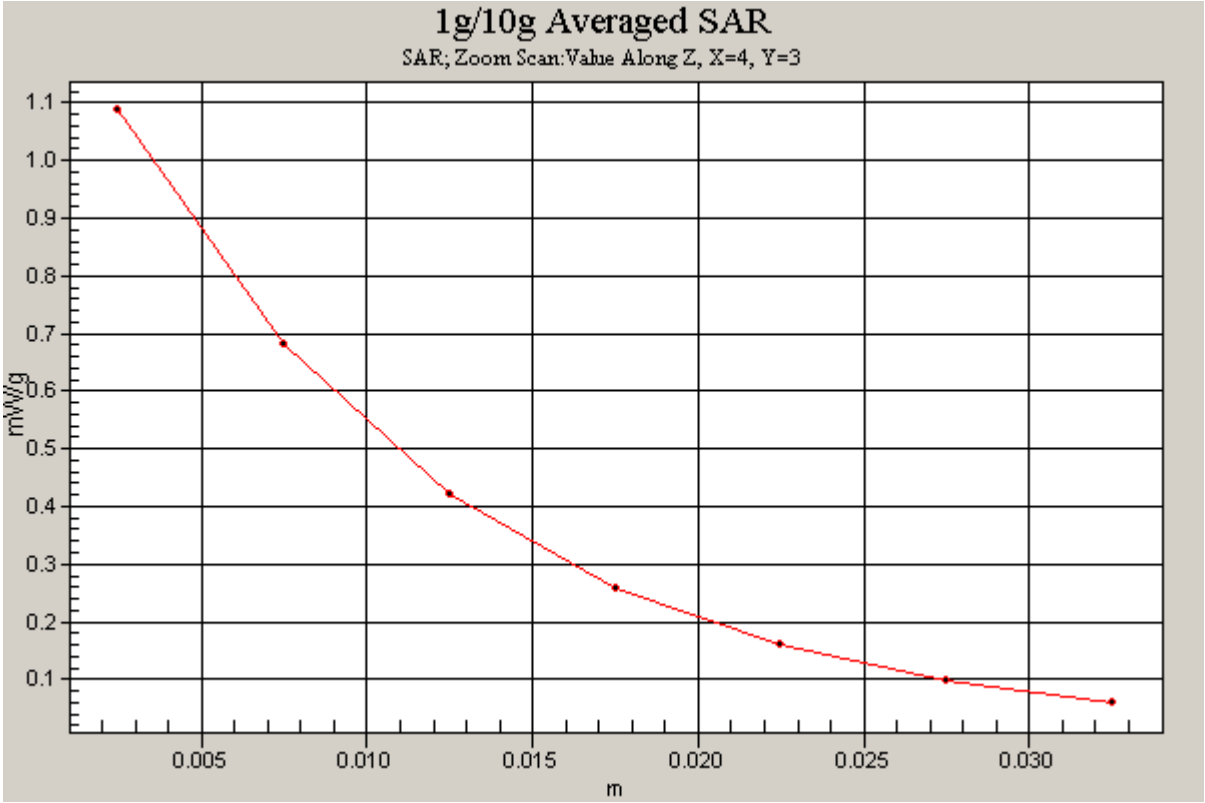


Figure 60 Z-Scan at power reference point (Right Hand Touch Cheek GSM 1900 Channel 661)

Date/Time: 12/24/2008 4:11:18 AM

GSM 1900 Right Cheek Low

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.37 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.35, 7.35, 7.35);
- Electronics: DAE3 Sn536;

Cheek Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.954 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.78 V/m; Power Drift = -0.135 dB
Peak SAR (extrapolated) = 1.22 W/kg
SAR(1 g) = 0.747 mW/g; SAR(10 g) = 0.442 mW/g
Maximum value of SAR (measured) = 0.953 mW/g

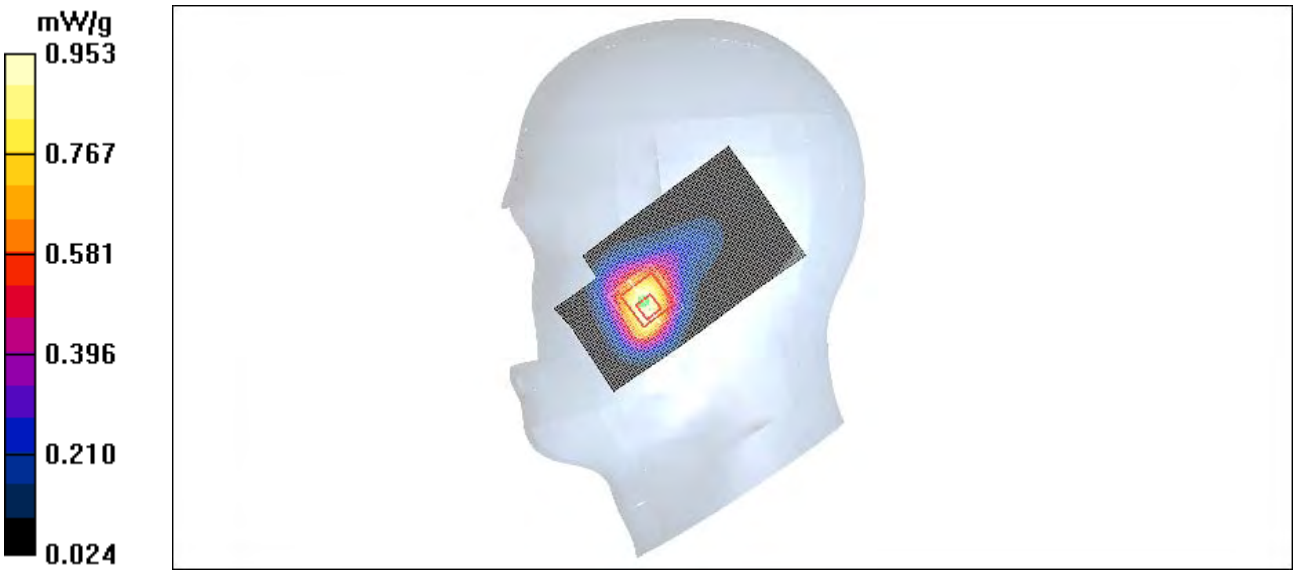


Figure 61 Right Hand Touch Cheek GSM 1900 Channel 512

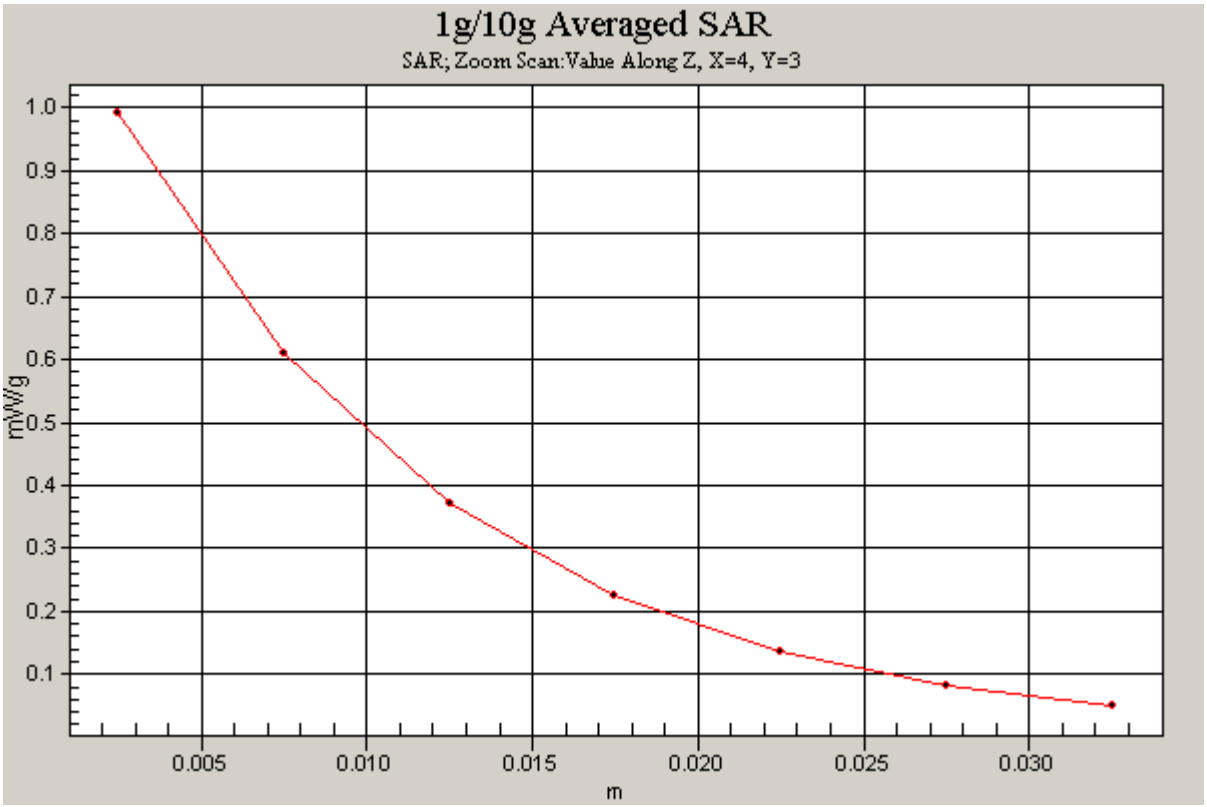


Figure 62 Z-Scan at power reference point (Right Hand Touch Cheek GSM 1900 Channel 512)

Date/Time: 12/24/2008 6:15:19 AM

GSM 1900 Right Tilt High

Communication System: GSM 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.42 mho/m; ε_r = 40; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.35, 7.35, 7.35);
- Electronics: DAE3 Sn536;

Tilt High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.146 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.77 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 0.175 W/kg
SAR(1 g) = 0.114 mW/g; SAR(10 g) = 0.069 mW/g
Maximum value of SAR (measured) = 0.139 mW/g

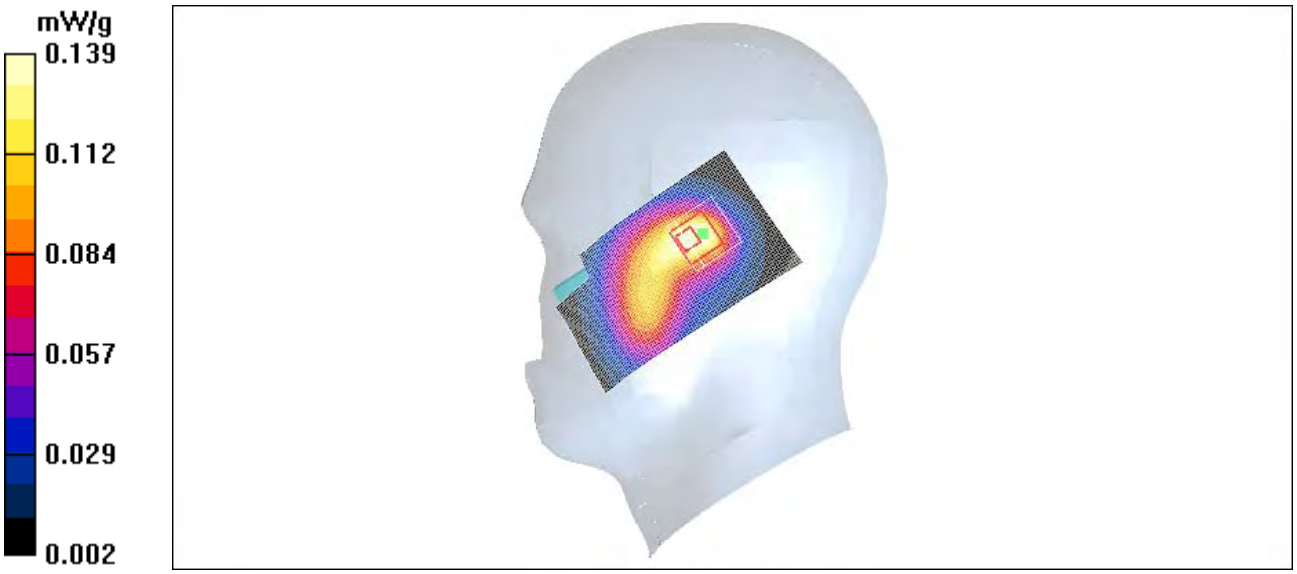


Figure 63 Right Hand Tilt 15°GSM 1900 Channel 810

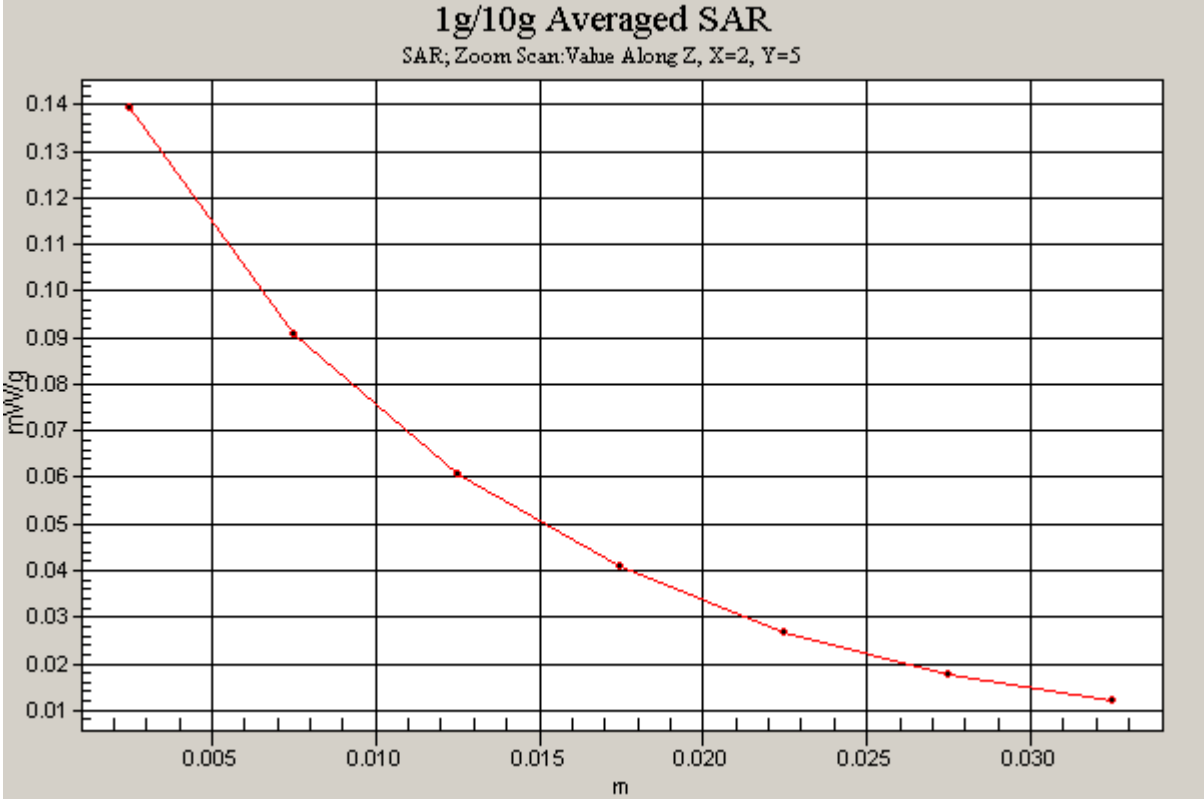


Figure 64 Z-Scan at power reference point (Right Hand Tilt 15°GSM 1900 Channel 810)

Date/Time: 12/24/2008 6:34:42 AM

GSM 1900 Right Tilt Middle

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.35, 7.35, 7.35);
- Electronics: DAE3 Sn536;

Tilt Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.144 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.59 V/m; Power Drift = 0.046 dB
Peak SAR (extrapolated) = 0.172 W/kg
SAR(1 g) = 0.113 mW/g; SAR(10 g) = 0.073 mW/g
Maximum value of SAR (measured) = 0.139 mW/g

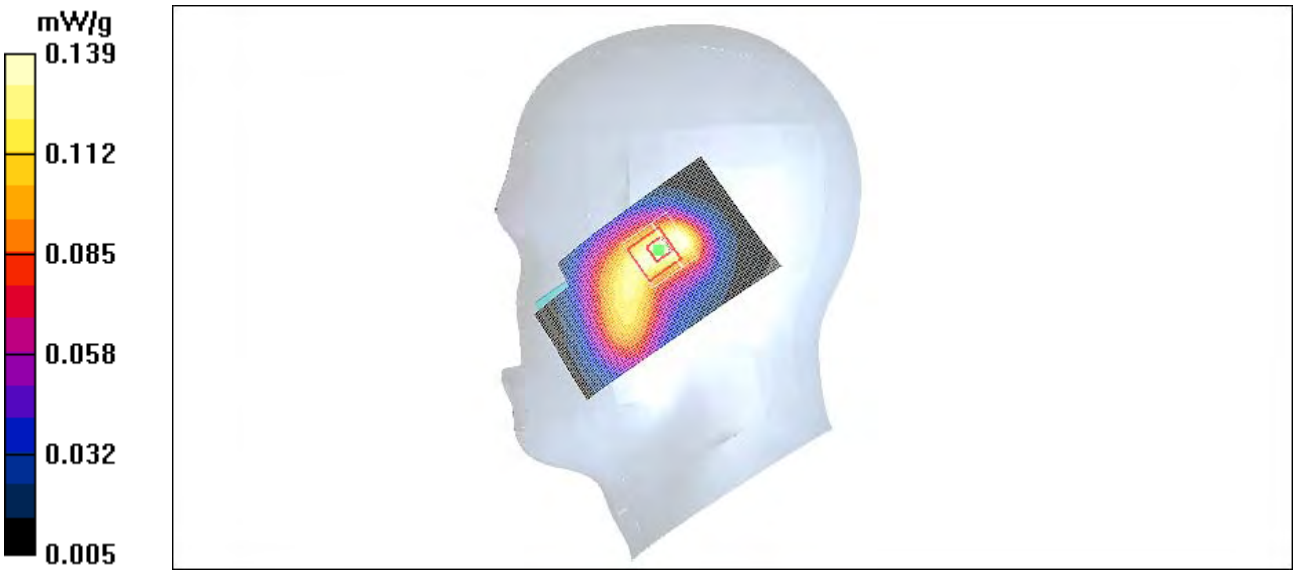


Figure 65 Right Hand Tilt 15°GSM 1900 Channel 661

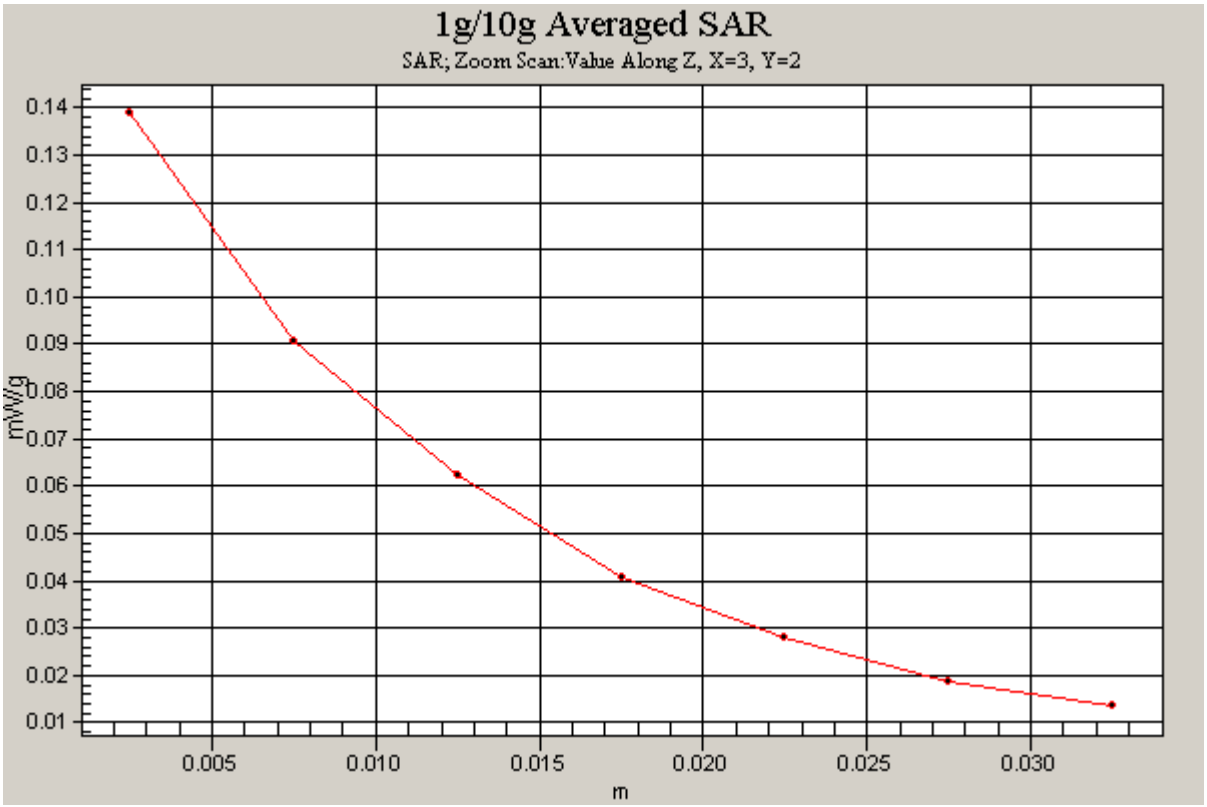


Figure 66 Z-Scan at power reference point (Right Hand Tilt 15°GSM 1900 Channel 661)

Date/Time: 12/24/2008 5:11:28 AM

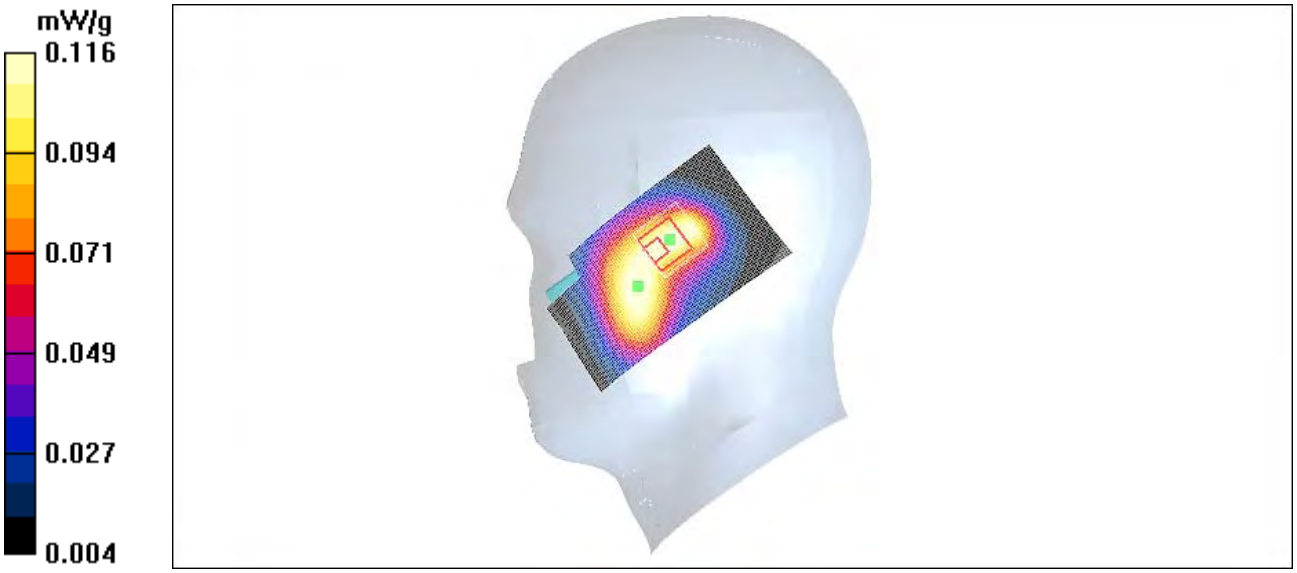
GSM 1900 Right Tilt Low

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.37 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.35, 7.35, 7.35);
- Electronics: DAE3 Sn536;

Tilt Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.120 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.74 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 0.144 W/kg
SAR(1 g) = 0.096 mW/g; SAR(10 g) = 0.062 mW/g
Maximum value of SAR (measured) = 0.116 mW/g



Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.37 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.35, 7.35, 7.35);
- Electronics: DAE3 Sn536;

Tilt Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.120 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.74 V/m; Power Drift = 0.011 dB
Peak SAR (extrapolated) = 0.141 W/kg
SAR(1 g) = 0.098 mW/g; SAR(10 g) = 0.065 mW/g
Maximum value of SAR (measured) = 0.116 mW/g

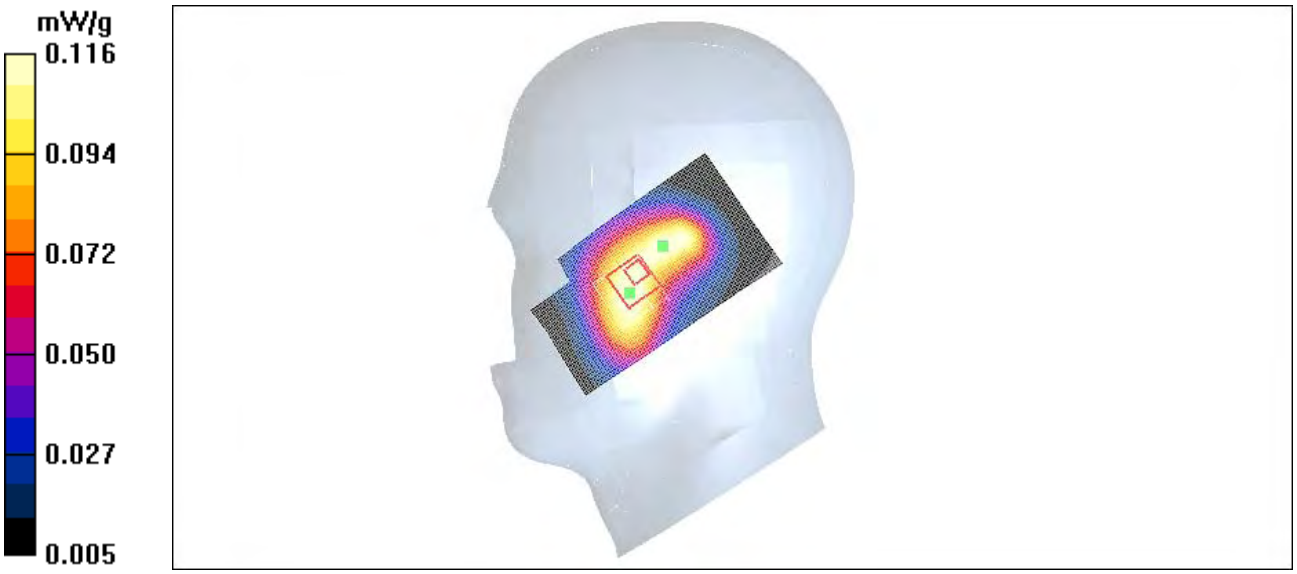
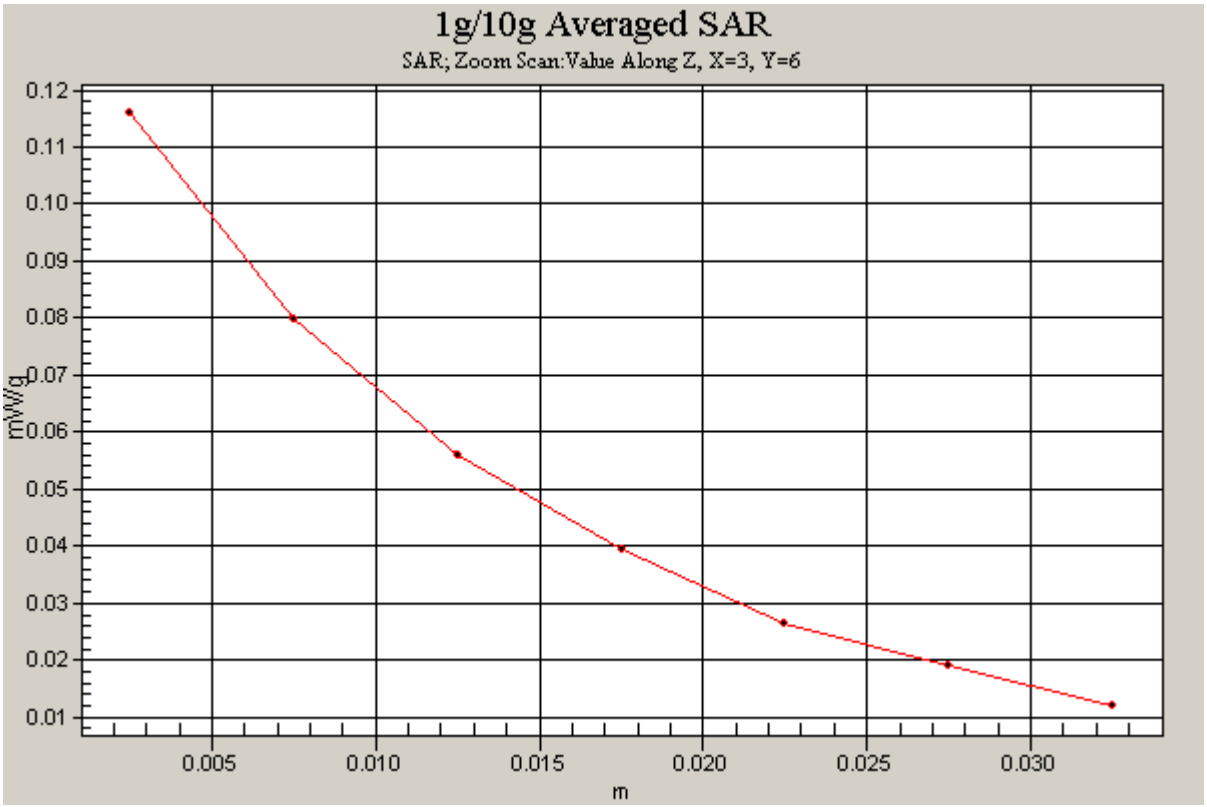


Figure 67 Right Hand Tilt 15°GSM 1900 Channel 512



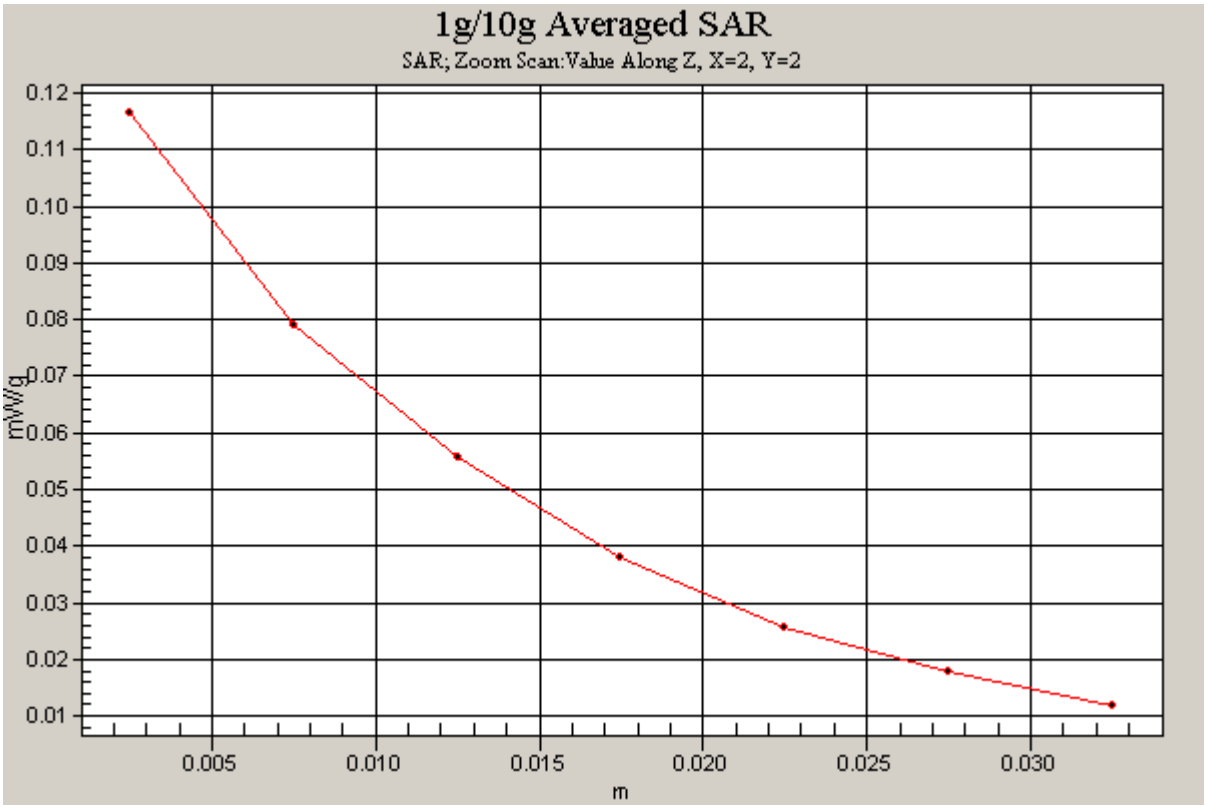


Figure 68 Z-Scan at power reference point (Right Hand Tilt 15°GSM 1900 Channel 512)

Date/Time: 12/24/2008 10:47:39 AM

GSM 1900 Towards Ground High

Communication System: GSM 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.57 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45);
- Electronics: DAE3 Sn536;

Towards Ground High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.350 mW/g

Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.18 V/m; Power Drift = 0.037 dB
Peak SAR (extrapolated) = 0.444 W/kg
SAR(1 g) = 0.259 mW/g; SAR(10 g) = 0.146 mW/g
Maximum value of SAR (measured) = 0.334 mW/g

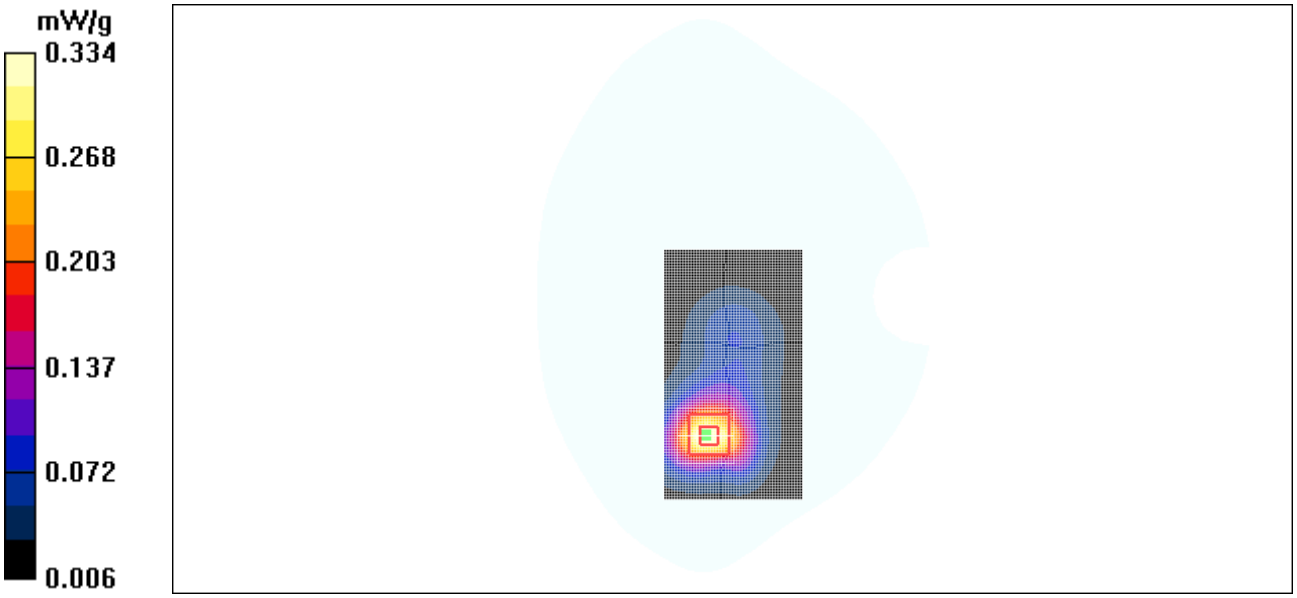


Figure 69 Body, Towards Ground, GSM 1900 Channel 810

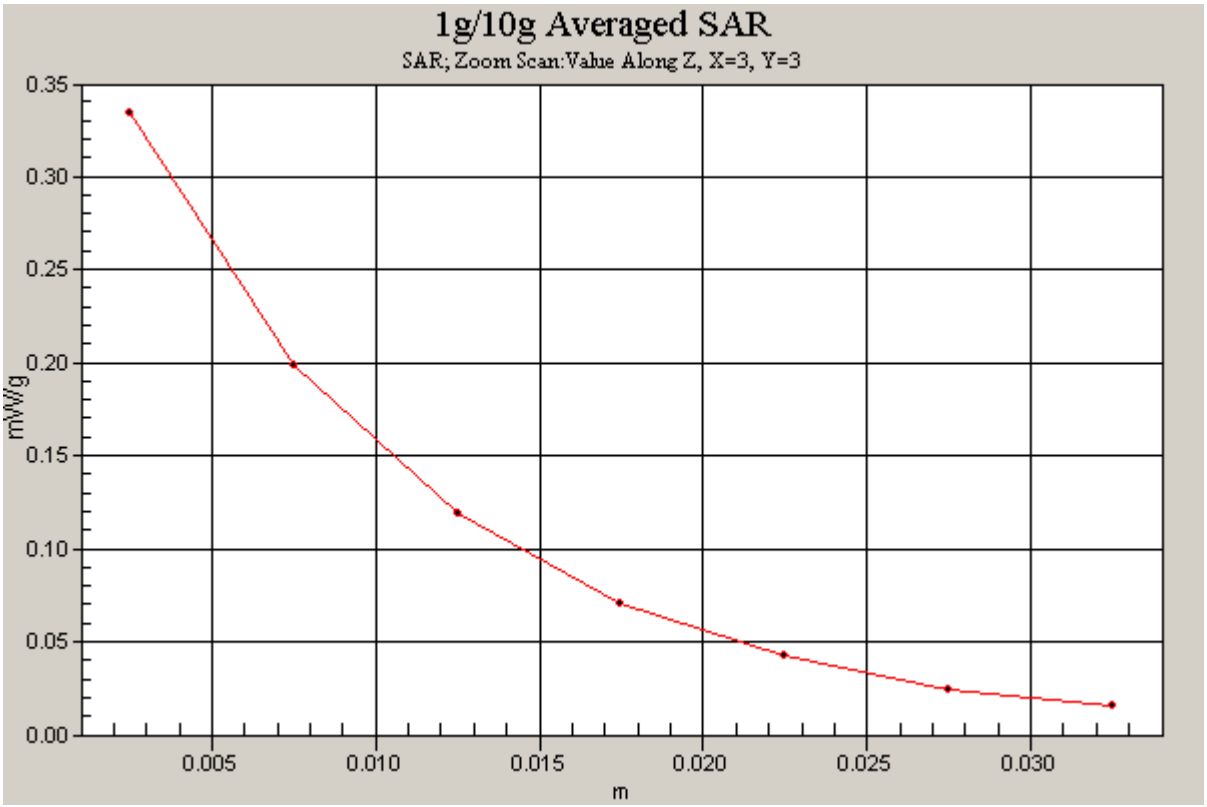


Figure 70 Z-Scan at power reference point (Body, Towards Ground, GSM 1900 Channel 810)

Date/Time: 12/24/2008 10:25:57 AM

GSM 1900 Towards Ground Middle

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45);
- Electronics: DAE3 Sn536;

Towards Ground Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.383 mW/g

Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.39 V/m; Power Drift = 0.048 dB
Peak SAR (extrapolated) = 0.488 W/kg
SAR(1 g) = 0.288 mW/g; SAR(10 g) = 0.164 mW/g
Maximum value of SAR (measured) = 0.370 mW/g

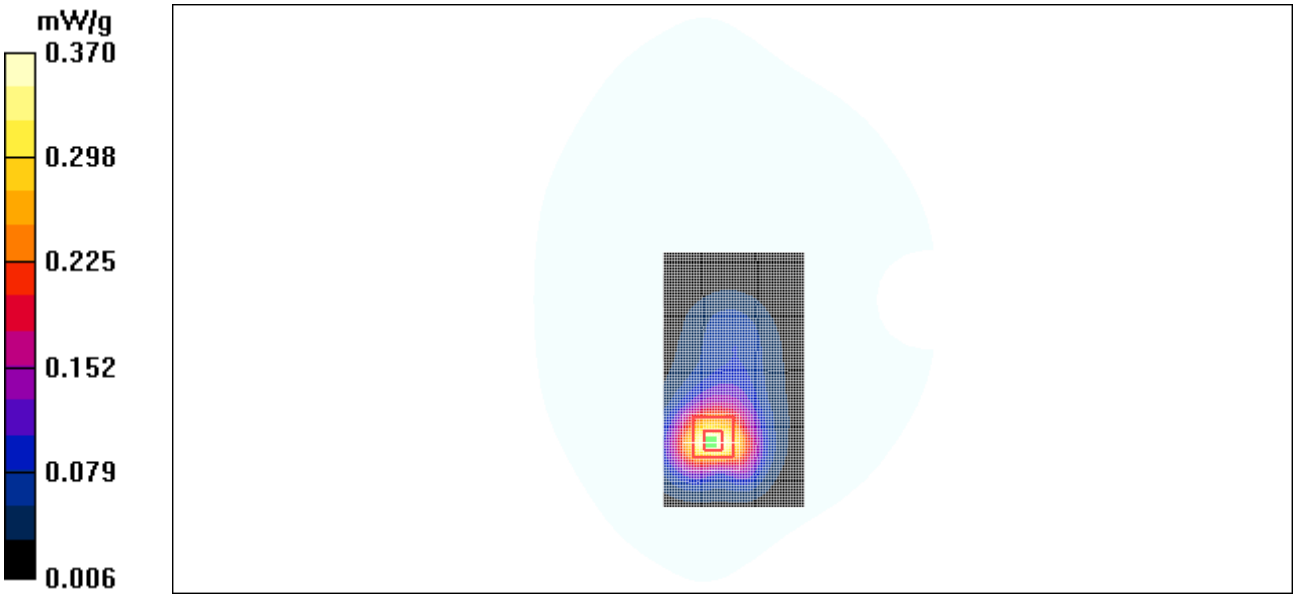


Figure 71 Body, Towards Ground, GSM 1900 Channel 661

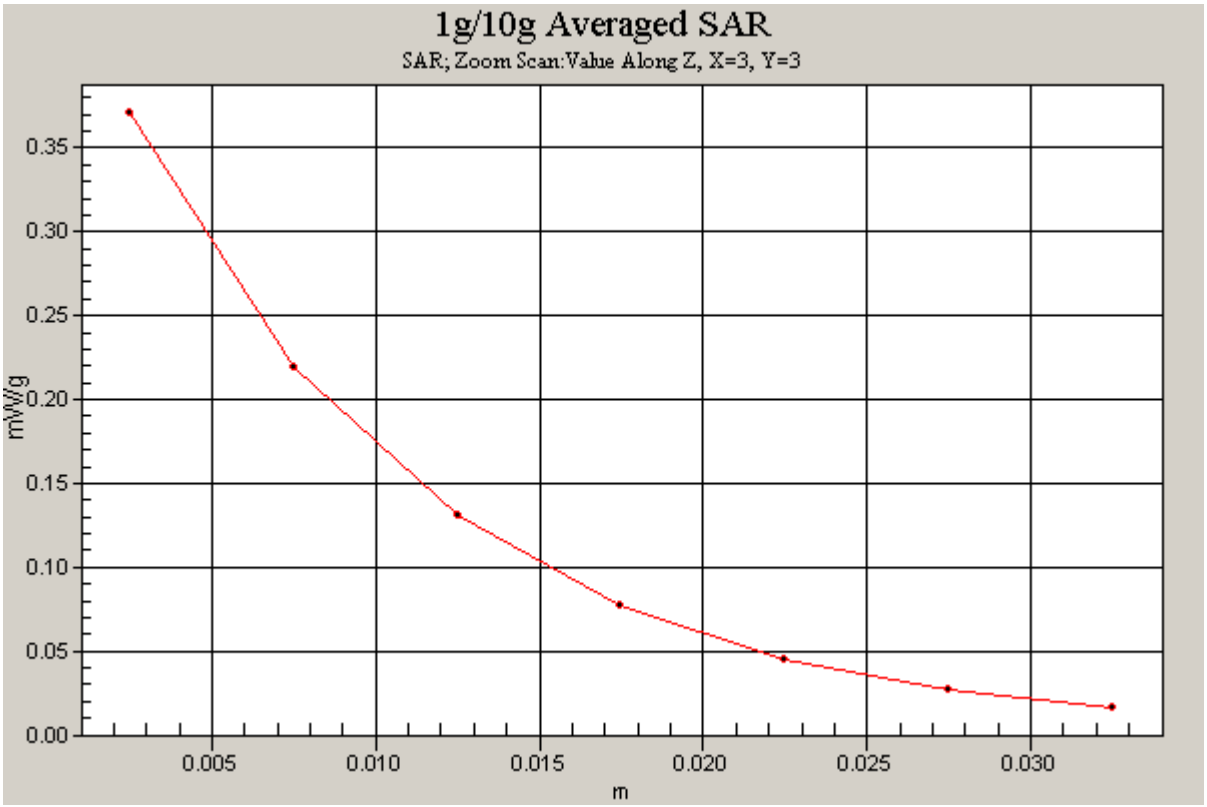


Figure 72 Z-Scan at power reference point (Body, Towards Ground, GSM 1900 Channel 661)

GSM 1900 Towards Ground Low

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.51 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45);
- Electronics: DAE3 Sn536;

Towards Ground Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.363 mW/g

Towards Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.83 V/m; Power Drift = -0.009 dB
Peak SAR (extrapolated) = 0.469 W/kg
SAR(1 g) = 0.275 mW/g; SAR(10 g) = 0.157 mW/g
Maximum value of SAR (measured) = 0.355 mW/g

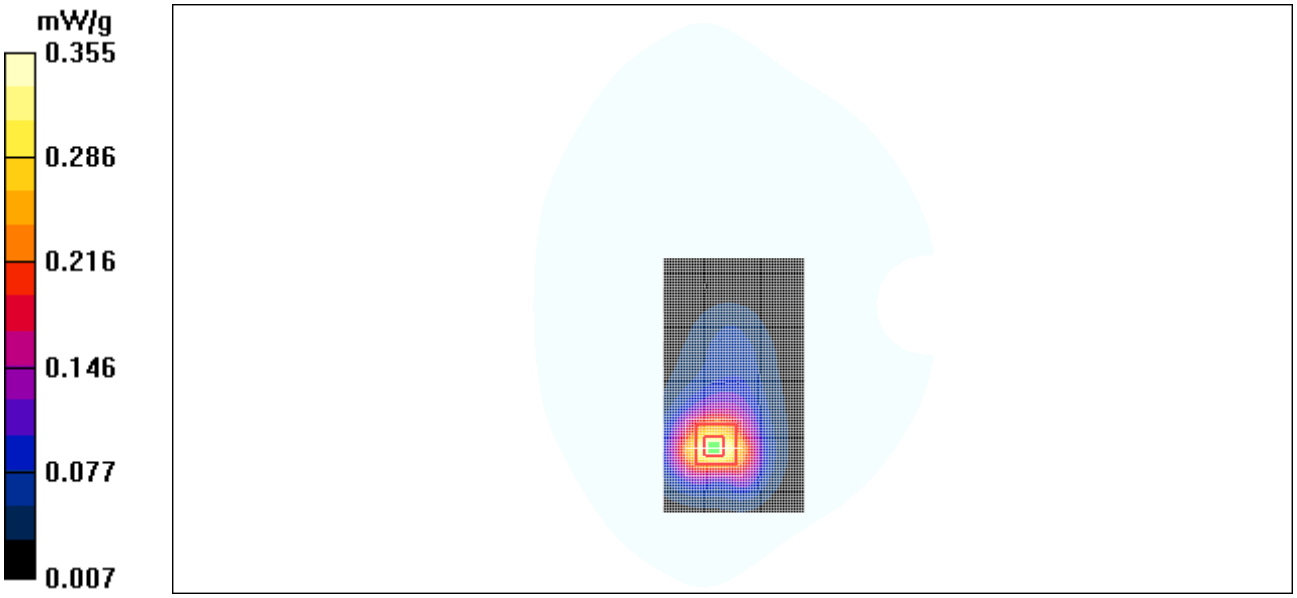


Figure 73 Body, Towards Ground, GSM 1900 Channel 512

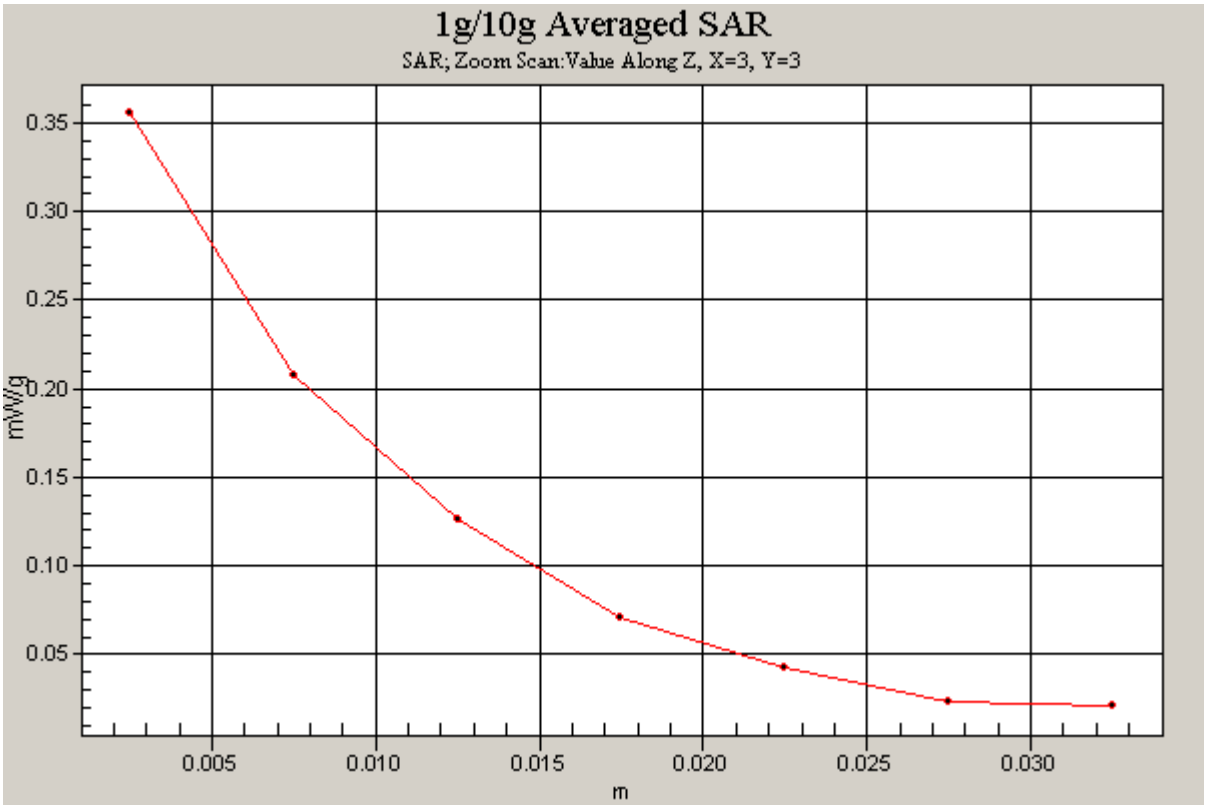


Figure 74 Z-Scan at power reference point (Body, Towards Ground, GSM 1900 Channel 512)

Date/Time: 12/24/2008 9:42:14 AM

GSM 1900 Towards Phantom High

Communication System: GSM 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.57 mho/m; ε_r = 53.2; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45);
- Electronics: DAE3 Sn536;

Towards Phantom High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.301 mW/g

Towards Phantom High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.00 V/m; Power Drift = -0.136 dB
Peak SAR (extrapolated) = 0.392 W/kg
SAR(1 g) = 0.234 mW/g; SAR(10 g) = 0.137 mW/g
Maximum value of SAR (measured) = 0.299 mW/g

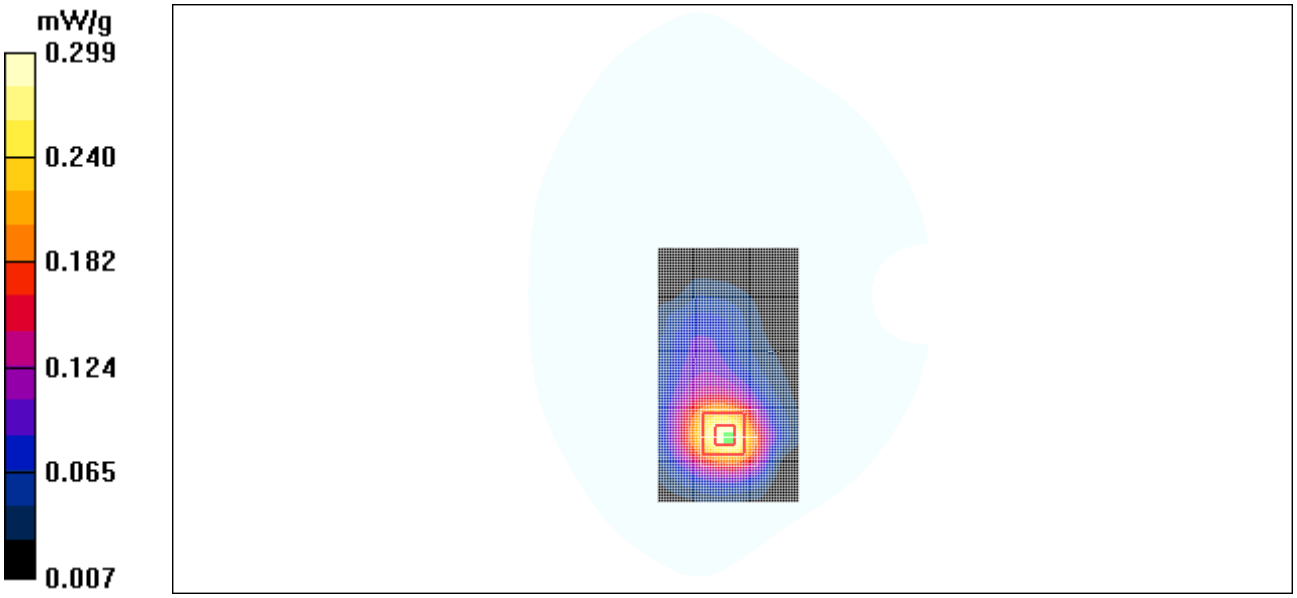


Figure 75 Body, Towards Phantom, GSM 1900 Channel 810

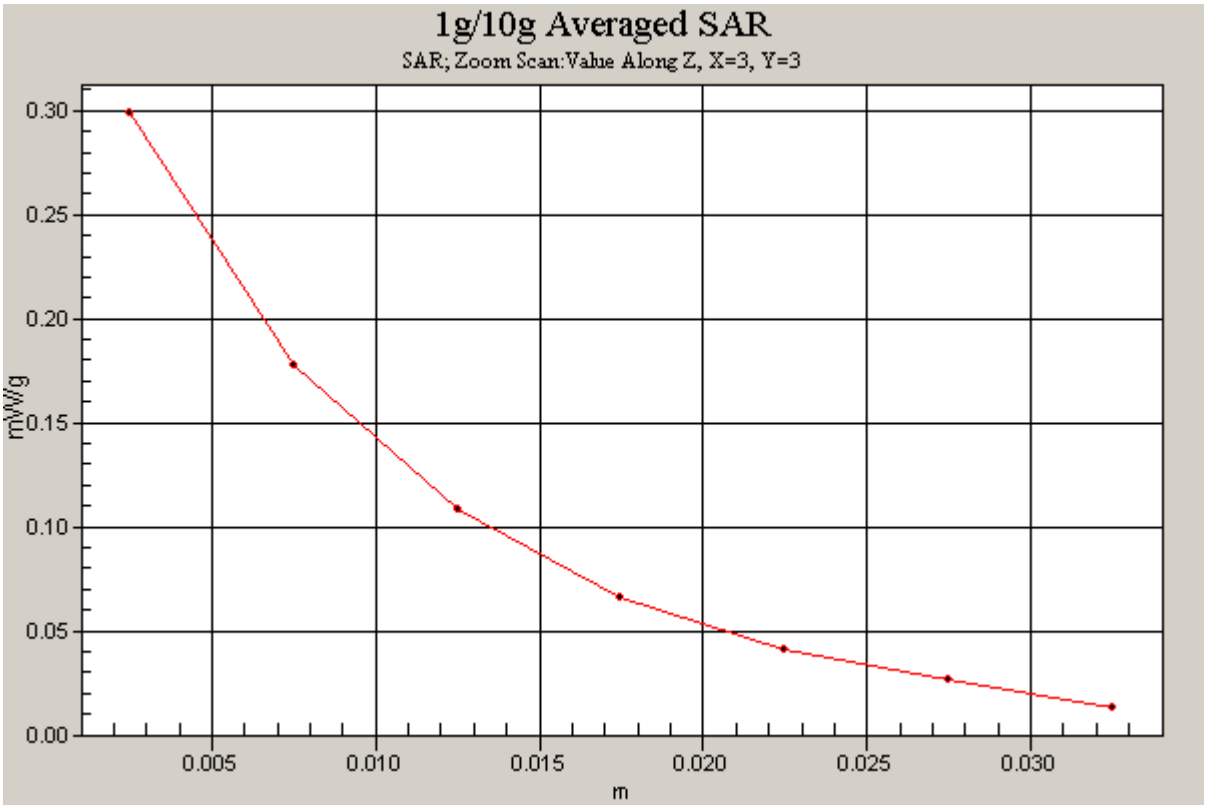


Figure 76 Z-Scan at power reference point (Body, Towards Phantom, GSM 1900 Channel 810)

Date/Time: 12/24/2008 9:24:08 AM

GSM 1900 Towards Phantom Middle

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45);
- Electronics: DAE3 Sn536;

Towards Phantom Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.330 mW/g

Towards Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.96 V/m; Power Drift = 0.198 dB
Peak SAR (extrapolated) = 0.418 W/kg
SAR(1 g) = 0.251 mW/g; SAR(10 g) = 0.150 mW/g
Maximum value of SAR (measured) = 0.316 mW/g

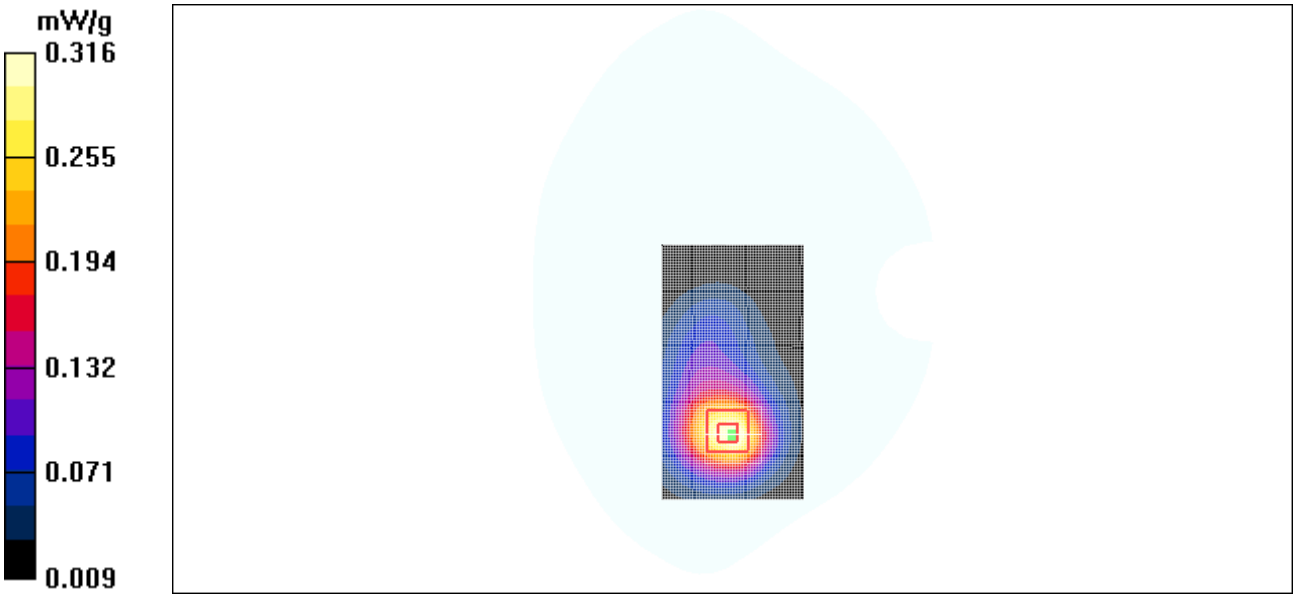


Figure 77 Body, Towards Phantom, GSM 1900 Channel 661

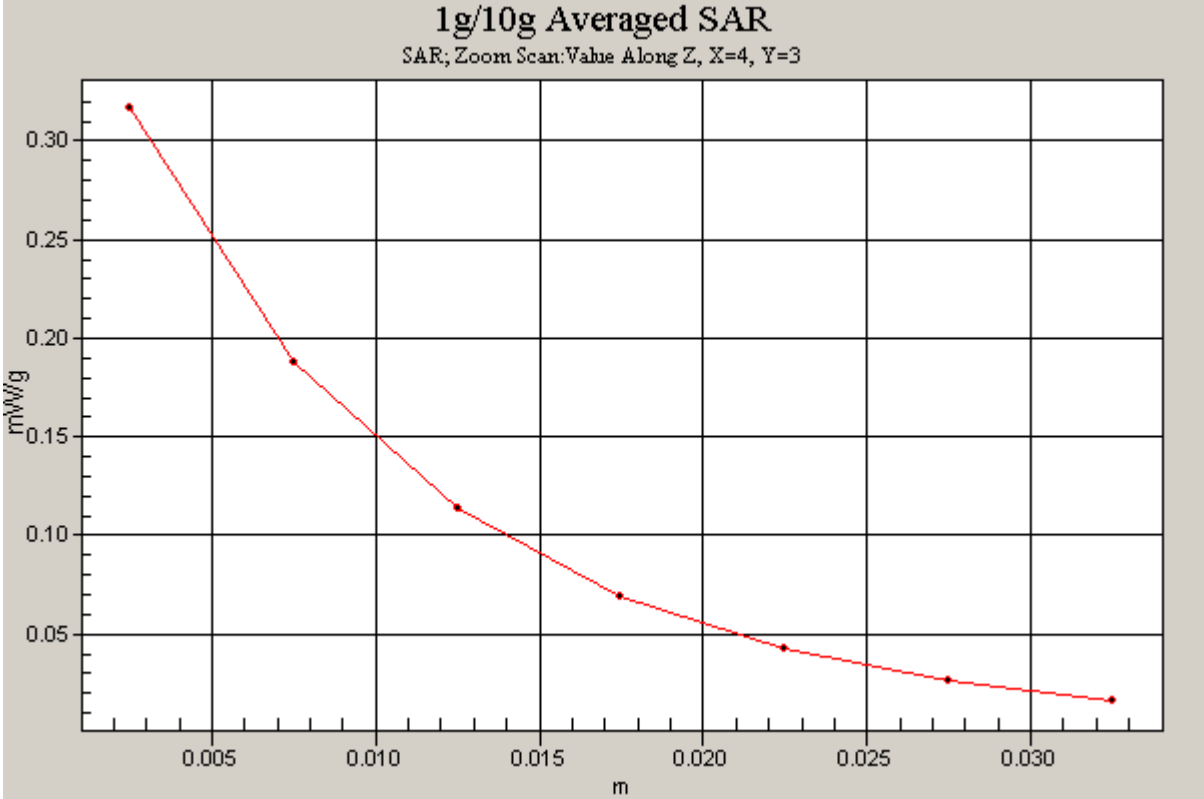


Figure 78 Z-Scan at power reference point (Body, Towards Phantom, GSM 1900 Channel 661)

Date/Time: 12/24/2008 9:05:17 AM

GSM 1900 Towards Phantom Low

Communication System: GSM 1900; Frequency: 1850.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.51 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45);
- Electronics: DAE3 Sn536;

Towards Phantom Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.312 mW/g

Towards Phantom Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.51 V/m; Power Drift = 0.158 dB
Peak SAR (extrapolated) = 0.389 W/kg
SAR(1 g) = 0.237 mW/g; SAR(10 g) = 0.143 mW/g
Maximum value of SAR (measured) = 0.297 mW/g

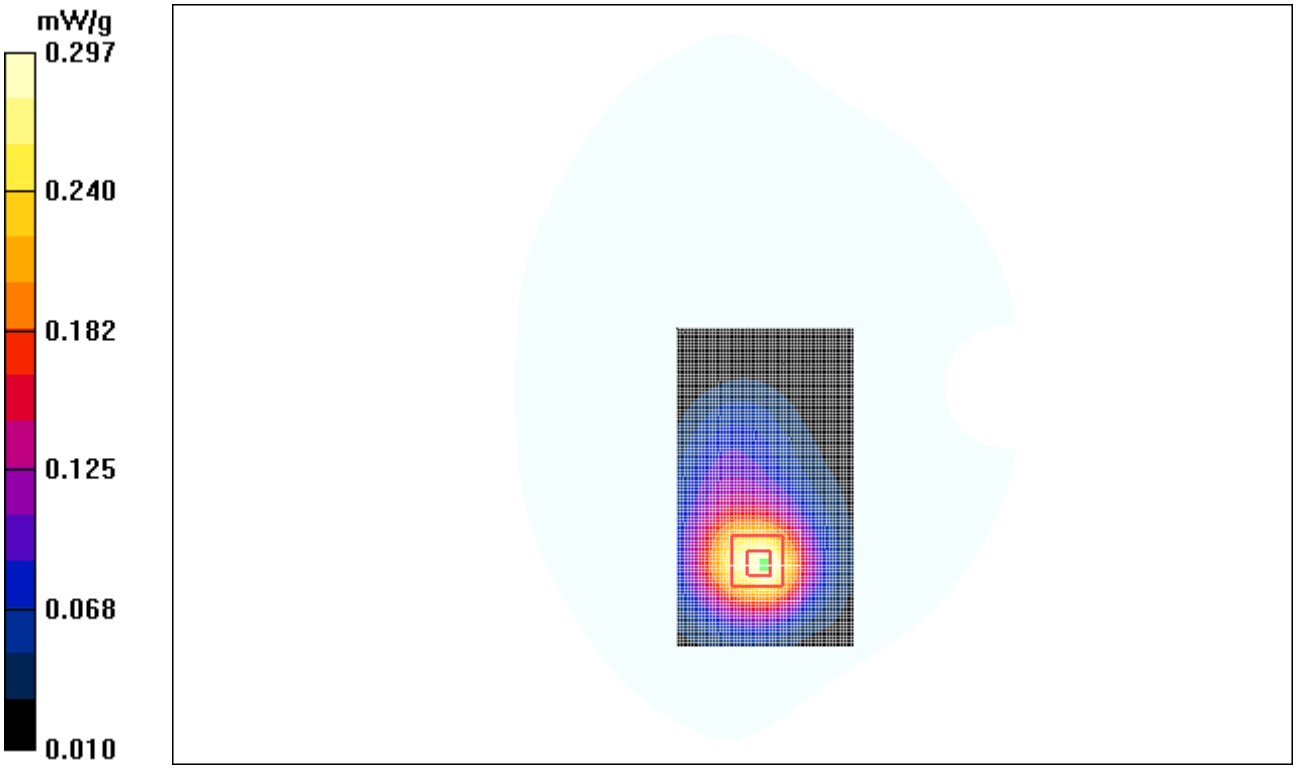


Figure 79 Body, Towards Phantom, GSM 1900 Channel 512

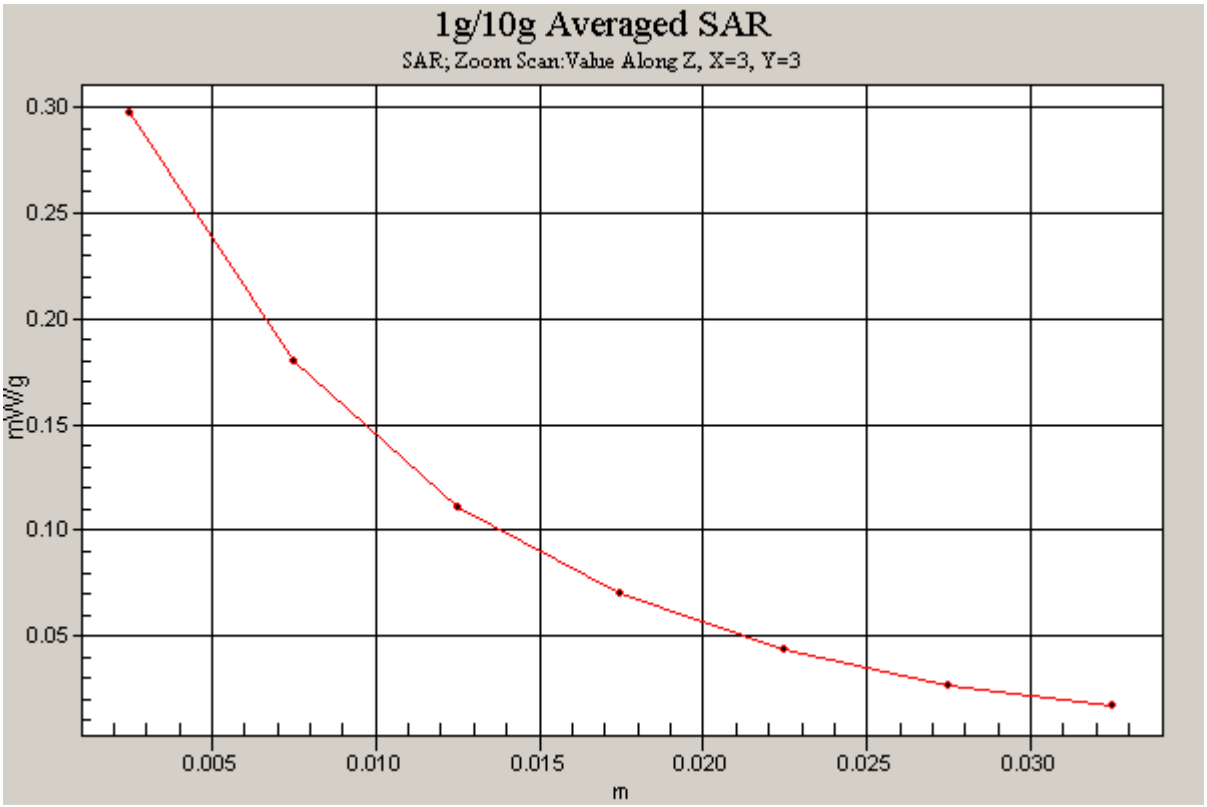


Figure 80 Z-Scan at power reference point (Body, Towards Ground, GSM 1900, Channel 512)

Date/Time: 12/24/2008 11:13:20 AM

GSM 1900 Earphone Towards Ground Middle

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 53.3; ρ = 1000 kg/m^3

- Probe: EX3DV4 - SN3660; ConvF(7.45, 7.45, 7.45);
- Electronics: DAE3 Sn536;

Towards Ground Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.315 mW/g

Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.89 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 0.396 W/kg
SAR(1 g) = 0.237 mW/g; SAR(10 g) = 0.138 mW/g
Maximum value of SAR (measured) = 0.303 mW/g

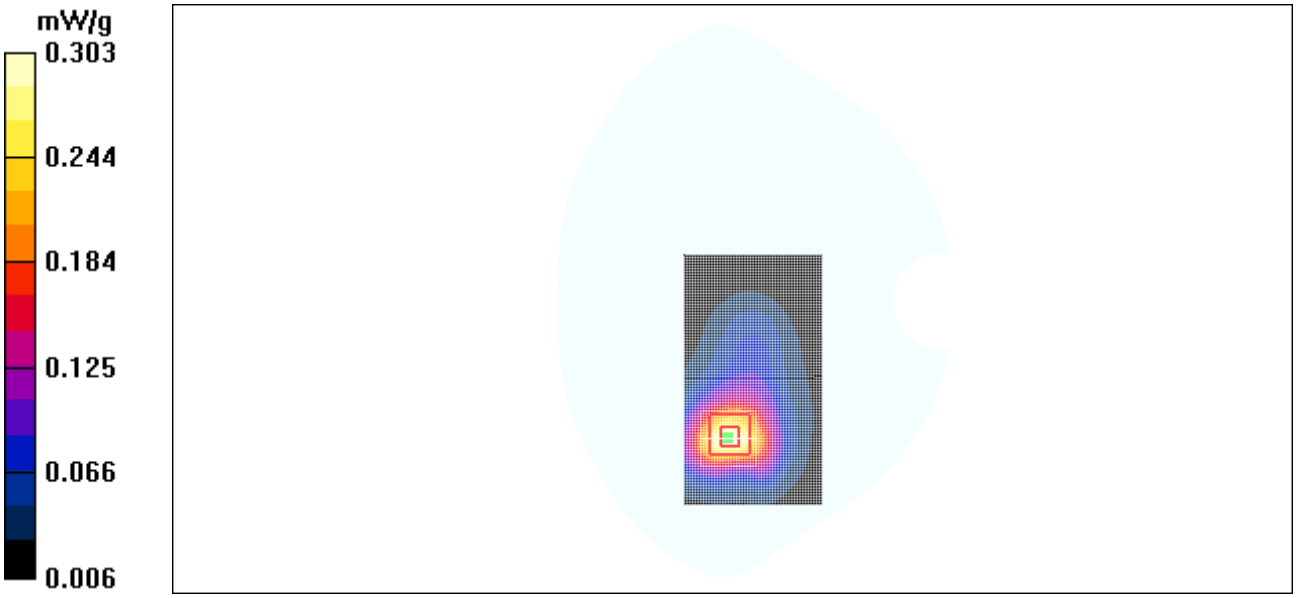


Figure 81 Body with Earphone, Towards Ground, GSM 1900, Channel 661

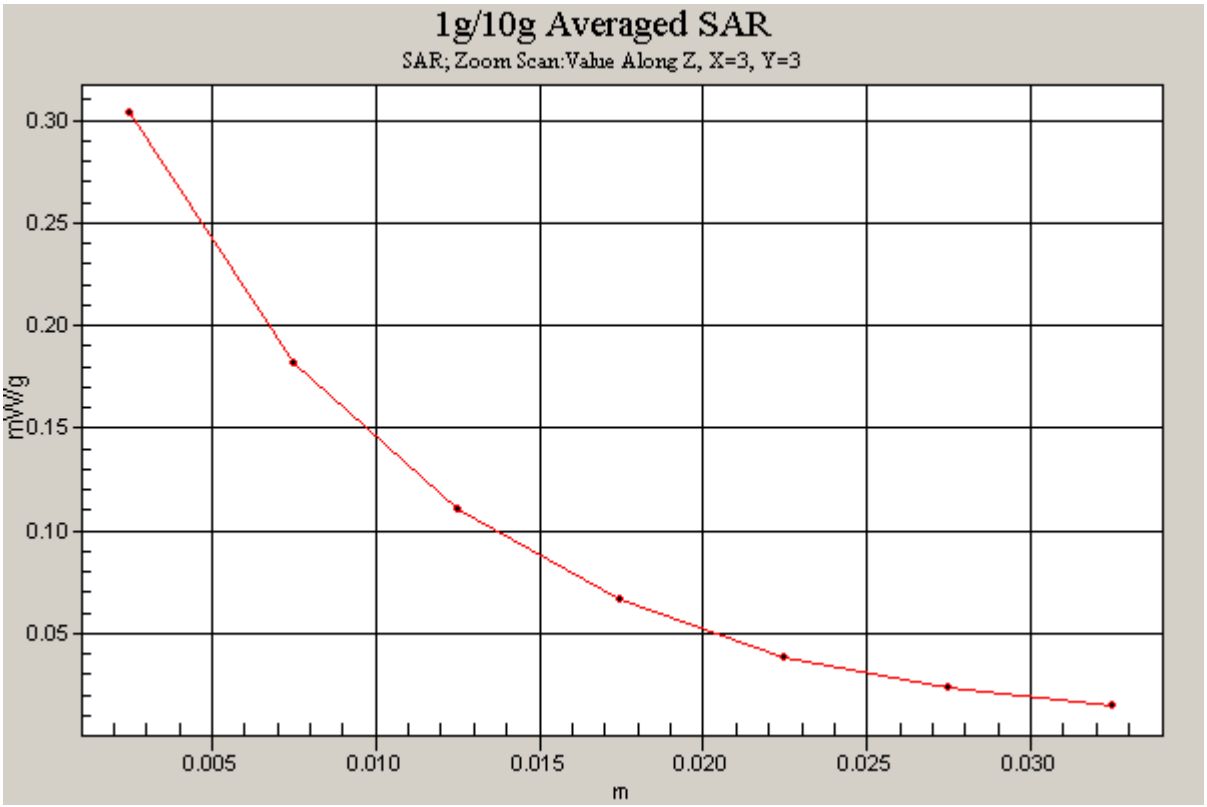


Figure 82 Z-Scan at power reference point (Body with Earphone, Towards Ground, GSM 1900, Channel 661)

ANNEX C： SYSTEM VALIDATION RESULTS

System Performance Check at 835 MHz

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

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

Medium parameters used: f = 835 MHz; σ = 0.89 mho/m; ε_r = 41.21; ρ = 1000 kg/m^3

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

Electronics: DAE3 Sn536;

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

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

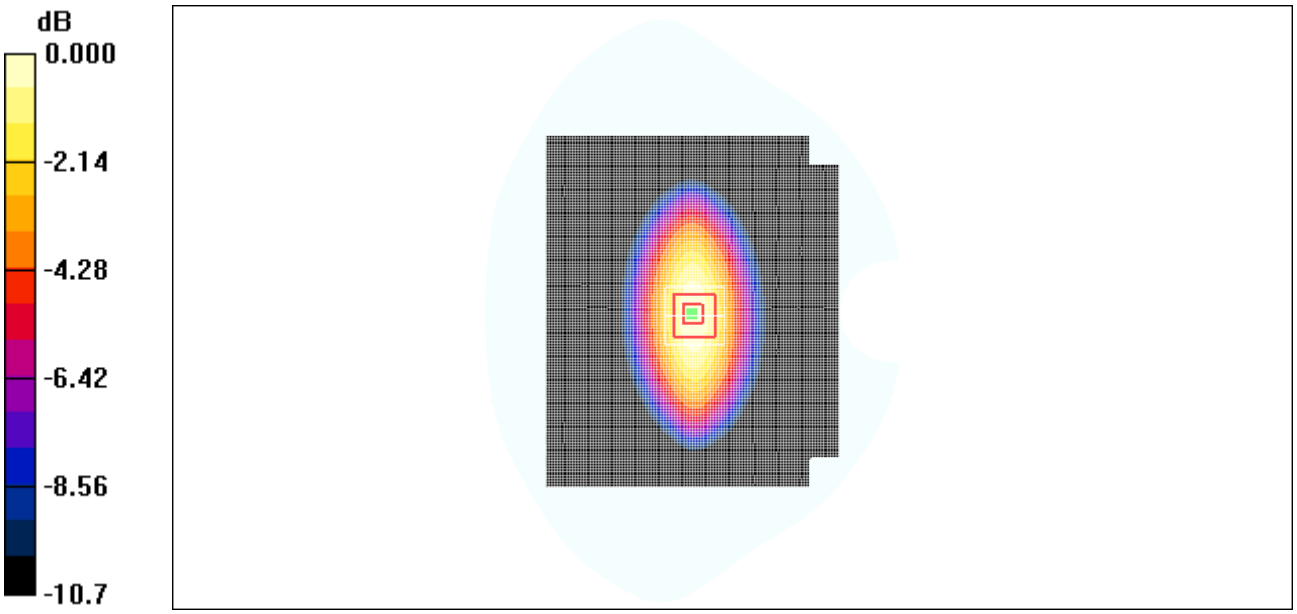
d=15mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

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



0 dB = 2.83mW/g

Figure 83 System Performance Check 835MHz 250mW

System Performance Check at 1900 MHz

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

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

Medium parameters used: f = 1900 MHz; σ = 1.41 mho/m; ε_r = 39.98; ρ = 1000 kg/m^3

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

Electronics: DAE3 Sn536;

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

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

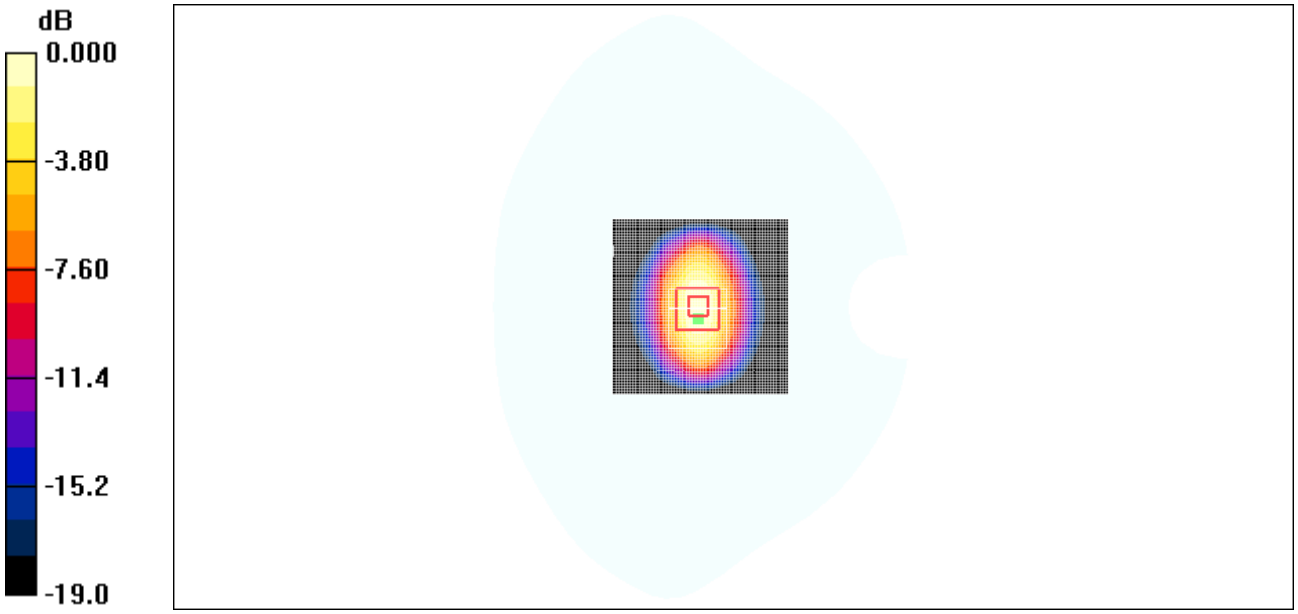
d=10mm, Pin=250mW/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

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



0 dB = 11.1mW/g

Figure 84 System Performance Check 1900MHz 250mW