Report No.: RZA2009-0984

TESTING
No. L2264

OET 65
TEST REPORT

Product Name	HSDPA Multi band 3G Mobile Phone
Model	T6
FCC ID	Q78-ZTET6
Client	ZTE CORPORATION

TA Technology (Shanghai) Co., Ltd

GENERAL SUMMARY

Product Name	HSDPA Multi band 3G Mobile Phone	**Model**	T6
FCC ID	Q78-ZTET6	**Report No.**	RZA2009-0984
Client	ZTE CORPORATION		
Manufacturer	ZTE CORPORATION		
Standard(s)	**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. **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)		
Conclusion	This portable wireless equipment has been measured in all cases requested by the relevant standards. Test results in Chapter 7 of this test report are below limits specified in the relevant standards. General Judgment: **Pass** (Stamp) **Date of issue: September 1st, 2009**		
Comment	The test result only responds to the measured sample.		

Approved by 杨伟中 Yang Weizhong **Revised by** 凌敏宝 Ling Minbao **Performed by** 王路 Wang Lu

TABLE OF CONTENT

1. General Information

1.1. Notes of the 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. This report only refers to the item that has undergone the test.

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

1.2. Testing laboratory

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1.3. Applicant Information

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Postal Code:	518057
Country:	P.R.China
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1.4. Manufacturer Information

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Address:	ZTE Plaza, Keji Road South, Hi-Tech Industrial Park,Nanshan District,Shenzhen, Guangdong, 518057, P.R.China
City:	Shenzhen
Postal Code:	518057
Country:	P.R.China
Telephone:	021-68897541
Fax:	021-50801070

1.5. Information of EUT

General information

Device type :	portable device		
Exposure category:	uncontrolled environment / general population		
Name of EUT:	HSDPA Multi band 3G Mobile Phone		
S/N or IMEI	6934933001916		
Device operating configurations :			
Operating mode(s):	GSM850:（tested）		
	GSM1900:（tested）		
	WCDMA Band II:（tested）		
	WCDMA Band V:（tested）		
Test Modulation:	(GSM) GMSK (WCDMA) QPSK		
GPRS mobile station class :	A		
GPRS multislot class :	12		
EGPRS multi-slot class:	12		
Maximum no. of timeslots in uplink:	4		
HSDPA UE category	6		
Operating frequency range(s)	Band	Tx (MHz)	Rx (MHz)
	GSM850	824.2 ~ 848.8	869.2 ~ 893.8
	GSM1900:	1850.2 ~ 1909.8	1930.2 ~ 1989.8
	WCDMA Band II	1852.4~ 1907.6	1932.4 ~1987.6
	WCDMA Band V;	826.4 ~ 846.6	871.4 ~ 891.6
Power class	GSM 850: 4, tested with power level 5		
	GSM 1900: 1, tested with power level 0		
	WCDMA Band II: 3, tested with maximum output power		
	WCDMA Band V: 3, tested with maximum output power		
Test channel (Low –Middle –High)	128-190-251 (GSM850) 512 - 661-810 (GSM1900) 9262 -9400 -9538 (WCDMA Band II) 4132 -4182 -4233 (WCDMA Band V)		
Hardware version:	wo5B		
Software version:	P622C3-PERU0.1		
Antenna type:	Internal antenna		

Auxiliary equipment details

AE1: Battery

Model:	Li3710T42p3h553457
Manufacture:	ZTE CORPORATION
IMEI or SN:	40040902162039583

AE2: Travel Adaptor

Model:	STC-A22O504U8-A
Manufacture:	ZTE CORPORATION
IMEI or SN:	100712270809580

Equipment Under Test (EUT) is HSDPA Multi band 3G Mobile Phone with internal antenna. It consists of mobile phone, battery and adaptor, and the detail about these is in chapter 1.5 in this report. The EUT supports GSM 850, GSM1900, WCDMA Band II and WCDMA Band V. The EUT not only has the speech transfer function but also the data transfer function. The EUT has GPRS (class 12), EGPRS (class 12) and HSDPA(category 6) functions.

The sample under test was selected by the Client.

Components list please refer to documents of the manufacturer.

1.6. Test Date

The test is performed from August 26, 2009 to August 29, 2009.

2. Operational Conditions during Test

2.1. 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 allocated to 128, 190 and 251 in the case of GSM 850, 512, 661 and 810 in the case of GSM 1900, 9262, 9400 and 9538 in the case of WCDMA Band II, 4132, 4183 and 4233 in the case of WCDMA Band V. 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.

2.2. GSM Test Configuration

For the body SAR tests for GSM 850, GSM 1900, a communication link is set up with a System Simulator (SS) by air link. The EUT is commanded to operate at maximum transmitting power. Since the EUT only has the data transfer function, but does not have the speech transfer function. The tests in the band of GSM 850, GSM 1900 are only performed in the mode of GPRS and EGPRS. The GPRS class is 12 for this EUT; it has at most 4 timeslots in uplink. The EGPRS class is 12 for this EUT; it has at most 4 timeslots in uplink.

2.3. WCDMA Test Configuration

As the SAR body tests for WCDMA Band II and WCDMA Band V, we established the radio link through call processing. The maximum output power were verified on high, middle and low channels for each test band according to 3GPP TS 34.121 with the following configuration:

1) 12.2kbps RMC, 64,144,384 kbps RMC with TPC set to all ''all '1's"
2) Test loop Mode 1

For the output power, the configurations for the DPCCH and $DPDCH_1$ are as followed (EUT do not support the $DPDCH_{2-n}$)

Table 1：The configurations for the DPCCH and $DPDCH_1$

	Channel Bit Rate(kbps)	Channel Symbol Rate(ksps)	Spreading Factor	Spreading Code Number	Bits/Slot
DPCCH	15	15	256	0	10
$DPDCH_1$	15	15	256	64	10
	30	30	128	32	20
	60	60	64	16	40
	120	120	32	8	80
	240	240	16	4	160
	480	480	8	2	320
	960	960	4	1	640

SAR is tested with 12.2kps RMC and not required for other spreading codes (64,144, and 384 kbps RMC) and multiple $DPDCH_n$, because the maximum output power for each of these other configurations<0.25dB higher than 12.2kbps RMC and the multiple $DPDCH_n$ is not applicable for the EUT.

2.4. HSDPA Test Configuration

SAR for body exposure configurations is measured according to the" Body SAR Measurements" procedures of 3G device. In addition, body SAR is also measured for HSDPA when the maximum average output of each RF channel with HSDPA active is at least 1/4 dB higher than that measured without HSDPA using 12.2kbps RMC or the maximum SAR 12.2kbps RMC is above 75% of the SAR limit. Body SAR for HSDPA is measured using an FRC with H-Set 1 in Sub-test 1 and a 12.2kbps RMC configured in Test Loop Mode 1, using the highest body SAR configuration in 12.2 kbps RMC without HSDPA.

HSDPA should be configured according to the UE category of a test device. The number of HS-DSCH/HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission condition, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms with a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors(βc,βd), and HS-DPCCH

power offset parameters(△ACK, △NACK, △CQI)should be set according to values indicated in the Table below. The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

Table 2: Subtests for UMTS Release 5 HSDPA

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

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

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

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

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

Table 3: Settings of required H-Set 1 QPSK in HSDPA mode

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

Table 4: HSDPA UE category

HS-DSCH Category	Maximum HS-DSCH Codes Received	Minimum Inter-TTI Interval	Maximum Transport Bits/HS-DSCH	Total Channel
1	5	3	7298	19200
2	5	3	7298	28800
3	5	2	7298	28800
4	5	2	7298	38400
5	5	1	7298	57600
6	5	1	7298	67200
7	10	1	14411	115200
8	10	1	14411	134400
9	15	1	25251	172800
10	15	1	27952	172800
11	5	2	3630	14400
12	5	1	3630	28800
13	15	1	34800	259200
14	15	1	42196	259200
15	15	1	23370	345600

3. SAR Measurements System Configuration

3.1. 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.

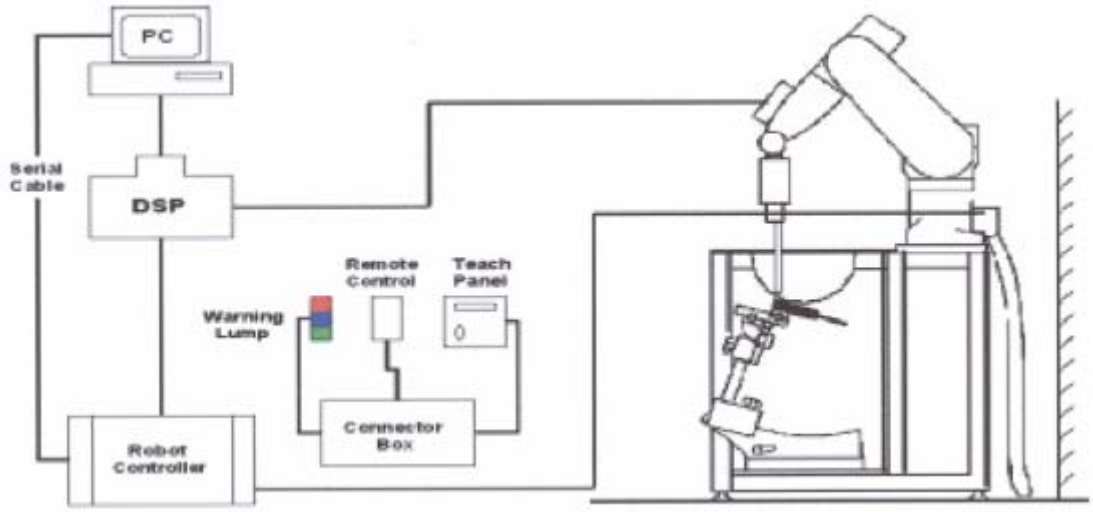

Figure 1. SAR Lab Test Measurement Set-up

3.2. DASY 4 E-field Probe System

The SAR measurements were conducted with the dosimetric probe ET3DV6 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

3.2.1. ET3DV6 Probe Specification

Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection System (ET3DV6 only) Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.q., glycol)
Calibration	In air from 10 MHz to 3 GHz In brain and muscle simulating tissue at frequencies of 450MHz, 900MHz, 1750 MHz, 1950MHz and 2450 MHz. (accuracy±8%) Calibration for other liquids and frequencies upon request
Frequency	10 MHz to 2.5 GHz; Linearity: ±0.2 dB (30 MHz to 2.5 GHz)
Directivity	±0.2 dB in brain tissue (rotation around probe axis) ±0.4 dB in brain tissue (rotation around probe axis)
Dynamic Range	5u W/g to > 100mW/g; Linearity: ±0.2dB
Surface Detection	±0.2 mm repeatability in air and clear liquids over diffuse reflecting surface (ET3DV6 only)
Dimensions	Overall length: 330mm Tip length: 16mm Body diameter: 12mm Tip diarneter: 6.8mm Distance from probe tip to dipole centers: 2.7mm
Application	General dosimetry up to 2.5GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary Phantoms

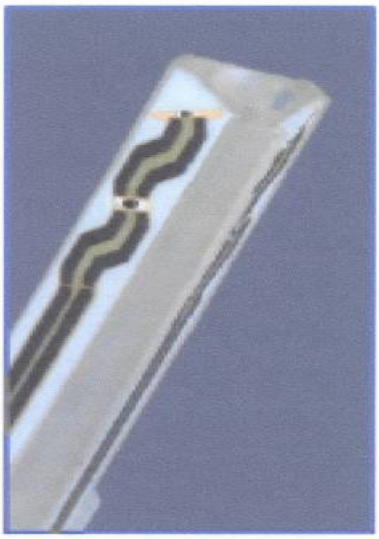

Figure 2 ET3DV6 E-field Probe

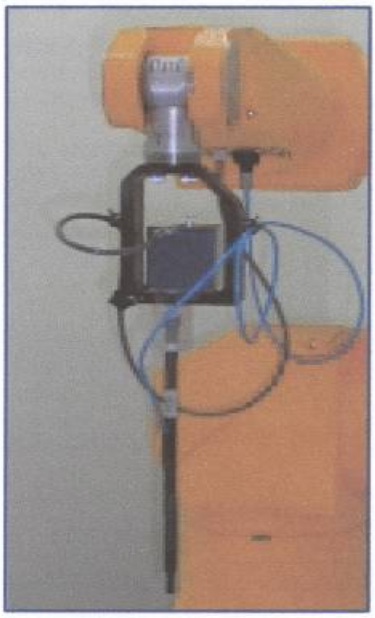

Figure 3 ET3DV6 E-field probe

3.2.2. E-field Probe Calibration

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

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

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

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

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

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

3.3. Other Test Equipment

3.3.1. Device Holder for Transmitters

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

Figure 4.Device Holder

3.3.2. 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

3.4. 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 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.

3.5. Data Storage and Evaluation

3.5.1. 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.

3.5.2. 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

3.6. 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 11 and Table 12.

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

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

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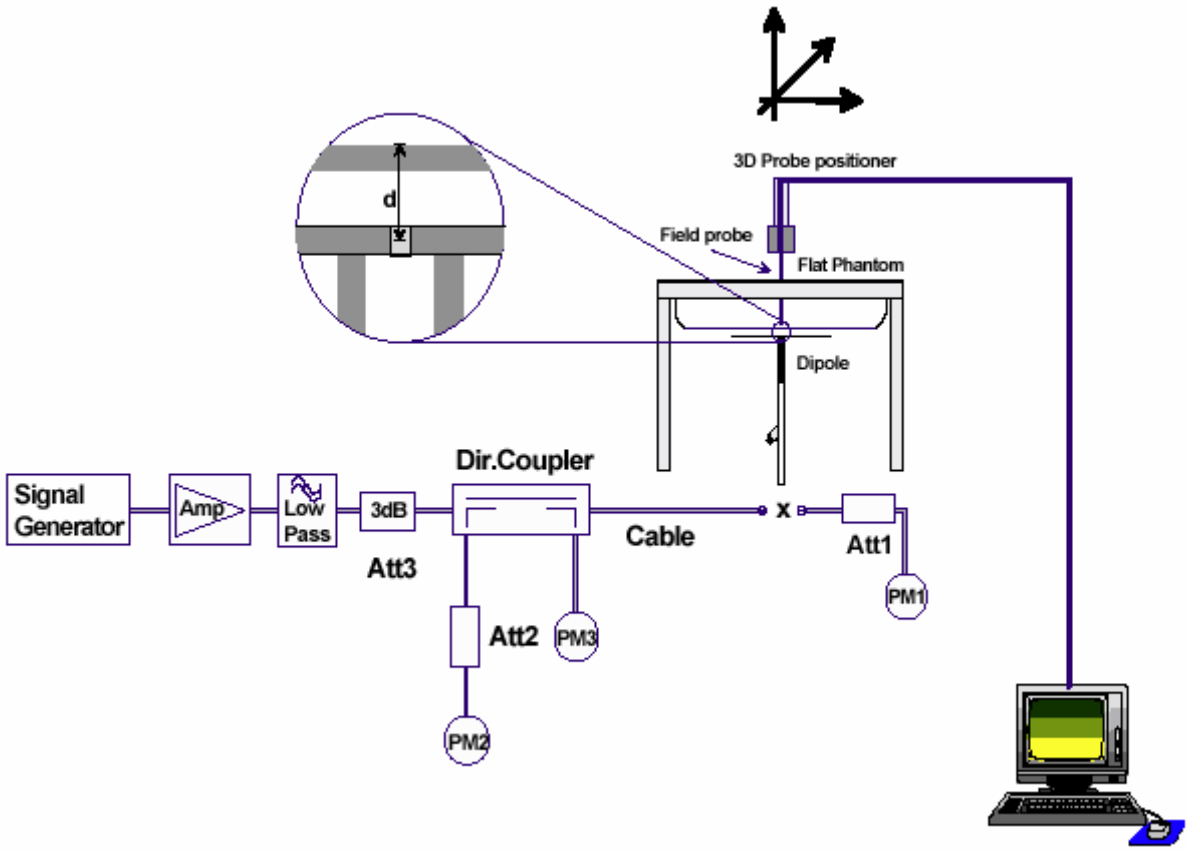


Figure 6. System Check Set-up

3.7. Equivalent Tissues

The liquid is consisted of water, salt, Glycol. 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

4. 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.	

5. Characteristics of the Test

5.1. 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.

5.2. 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)

6. Conducted Output Power Measurement

6.1. 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.

6.2. Conducted Power Results

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)	32.75	32.66	32.54
After Test (dBm)	32.74	32.65	32.53
GSM 1900	**Conducted Power**		
	Channel 512	Channel 661	Channel 810
	(1850.2MHz)	(1880MHz)	(1909.8MHz)
Before Test (dBm)	29.04	29.05	29.28
After Test (dBm)	29.03	29.04	29.27
WCDMA Band II	**Conducted Power**		
(12.2kbps RMC)	Channel 9262	Channel 9400	Channel 9538
Test Result (dBm)	21.62	22.40	22.30
After Test (dBm)	21.61	22.41	22.31
WCDMA Band V	**Conducted Power**		
(12.2kbps RMC)	Channel 4132	Channel 4183	Channel 4233
Test Result (dBm)	22.77	22.56	22.80
After Test (dBm)	22.76	22.55	22.81

Average Power

GSM 850 + GPRS		Channel 128	Channel 190	Channel 251		Channel 128	Channel 190	Channel 251
1 TX-slot	Before Test (dBm)	32.77	32.68	32.56	-9.03	23.74	23.65	23.53
	After Test (dBm)	32.76	32.66	32.56		23.73	23.63	23.53
2 TX-slots	Before Test (dBm)	30.77	30.67	30.57	-6.02	24.75	24.65	24.55
	After Test (dBm)	30.76	30.66	30.56		24.74	24.64	24.54
3 TX-slots	Before Test (dBm)	28.88	28.79	28.67	-4.26	24.62	24.53	24.41
	After Test (dBm)	28.87	28.79	28.66		24.61	24.53	24.4
4 TX-slots	Before Test (dBm)	27.76	27.68	27.57	-3.01	24.75	24.67	24.56
	After Test (dBm)	27.76	27.67	27.56		24.75	24.66	24.55
GSM 1900 + GPRS		Channel 512	Channel 661	Channel 810		Channel 512	Channel 661	Channel 810

1 TX-slot	Before Test (dBm)	29	28.98	29.22	-9.03	19.97	19.95	20.19
	After Test (dBm)	29.01	28.97	29.21		19.98	19.94	20.18
2 TX-slots	Before Test (dBm)	27.03	27.01	27.26	-6.02	21.01	20.99	21.24
	After Test (dBm)	27.02	27.02	27.25		21	21	21.23
3 TX-slots	Before Test (dBm)	25.25	25.23	25.47	-4.26	20.99	20.97	21.21
	After Test (dBm)	25.24	25.24	25.46		20.98	20.98	21.2
4 TX-slots	Before Test (dBm)	24.15	24.15	24.38	-3.01	21.14	21.14	21.37
	After Test (dBm)	24.14	24.16	24.37		21.13	21.15	21.36
GSM 850 + EGPRS		Channel	Channel	Channel		Channel	Channel	Channel
		128	190	251		128	190	251
1 TX-slot	Before Test (dBm)	32.77	32.68	32.56	-9.03	23.74	23.65	23.53
	After Test (dBm)	32.76	32.66	32.56		23.73	23.63	23.53
2 TX-slots	Before Test (dBm)	30.77	30.67	30.57	-6.02	24.75	24.65	24.55
	After Test (dBm)	30.76	30.66	30.56		24.74	24.64	24.54
3 TX-slots	Before Test (dBm)	28.88	28.79	28.67	-4.26	24.62	24.53	24.41
	After Test (dBm)	28.87	28.79	28.66		24.61	24.53	24.4
4 TX-slots	Before Test (dBm)	27.76	27.68	27.57	-3.01	24.75	24.67	24.56
	After Test (dBm)	27.76	27.67	27.56		24.75	24.66	24.55
GSM 1900 + EGPRS		Channel	Channel	Channel		Channel	Channel	Channel
		512	661	810		512	661	810
1 TX-slot	Before Test (dBm)	29	28.98	29.22	-9.03	19.97	19.95	20.19
	After Test (dBm)	29.00	28.97	29.21		19.97	19.94	20.18
2 TX-slots	Before Test (dBm)	27.03	27.01	27.26	-6.02	21.01	20.99	21.24
	After Test (dBm)	27.02	27.02	27.25		21	21	21.23
3 TX-slots	Before Test (dBm)	25.25	25.23	25.47	-4.26	20.99	20.97	21.21
	After Test (dBm)	25.24	25.24	25.46		20.98	20.98	21.2
4 TX-slots	Before Test (dBm)	24.15	24.15	24.38	-3.01	21.14	21.14	21.37
	After Test (dBm)	24.14	24.16	24.37		21.13	21.15	21.36

Note:

1) Division Factors

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

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

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

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

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

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

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

4 TX- slot = 4 transmit tome slots out of 8 time slots

=> conducted power divided by (8/4) => -3.01 dB

2) Average power numbers

The maximum power numbers are marks in bold.

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

7. Test Results

7.1. Dielectric Performance

Table 9: Dielectric Performance of Head Tissue Simulating Liquid

Frequency	Description	Dielectric Parameters		Temp ℃
		ε_r	σ(s/m)	
835MHz (head)	Target value ±5% window	41.5 39.43 — 43.58	0.90 0.86 — 0.95	/
	Measurement value 2009-8-28	41.86	0.92	21.8
1900MHz (head)	Target value 5% window	40.0 38 — 42	1.40 1.33 — 1.47	/
	Measurement value 2009-8-29	39.50	1.41	21.9

Table 10: Dielectric Performance of Body Tissue Simulating Liquid

Frequency	Description	Dielectric Parameters		Temp ℃
		ε_r	σ(s/m)	
835MHz (body)	Target value ±5% window	55.20 52.44 — 57.96	0.97 0.92 — 1.02	/
	Measurement value 2009-8-29	55.07	1.02	21.8
1900MHz (body)	Target value ±5% window	53.3 50.64 — 55.97	1.52 1.44 — 1.60	/
	Measurement value 2009-8-26	52.65	1.53	21.9

7.2. System Check Results

Table 11: System Check for Head tissue simulation liquid

Frequency	Description	SAR(W/kg)		Dielectric Parameters		Temp
		10g	1g	ε_r	σ(s/m)	℃
835MHz	Recommended result ±10% window	1.55 1.40--1.70	2.40 2.16--2.64	41.2	0.91	/
	Measurement value 2009-8-28	1.50	2.30	41.86	0.92	21.9
1900MHz	Recommended result 10% window	5.00 4.55---5.55	9.88 8.89--10.87	39.6	1.40	/
	Measurement value 2009-8-29	5.09	9.74	39.50	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 12: System Check for Body tissue simulation liquid

Frequency	Description	SAR(W/kg)		Dielectric Parameters		Temp
		10g	1g	ε_r	σ(s/m)	℃
835MHz	Recommended result ±10% window	1.58 1.42—1.74	2.41 2.16 — 2.64	54.6	0.99	/
	Measurement value 2009-8-29	1.56	2.41	55.07	1.02	21.9
1900 MHz	Recommended result ±10% window	5.18 4.66—5.70	10.2 9.18 — 11.22	52.9	1.55	/
	Measurement value 2009-8-26	5.14	10.0	52.65	1.53	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.

7.3. Test Results

Table 13: SAR Values (GSM850)

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)	
Different Test Position	Channel	10 g Average	1 g Average		
Test position of Head					
Left hand, Touch cheek	High	0.604	0.861	-0.151	Figure 15
	Middle	0.615	0.881	-0.029	Figure 17
	Low	0.623	0.892	-0.001	Figure 19
Left hand, Tilt 15 Degree	Middle	0.362	0.524	-0.169	Figure 21
Right hand, Touch cheek	High	0.688	0.971	-0.038	Figure 23
	Middle	0.642	0.905	-0.010	Figure 25
	Low	0.791	1.110	-0.193	Figure 27
Right hand, Tilt 15 Degree	Middle	0.368	0.525	-0.029	Figure 29
Test position of Body (Distance 15mm)					
Towards Ground	High	0.378	0.528	-0.106	Figure 31
	Middle	0.393	0.548	-0.076	Figure 33
	Low	0.402	0.555	-0.078	Figure 35
Towards phantom	Middle	0.363	0.509	-0.051	Figure 37
Worst case position of Body with Earphone (Distance 15mm)					
Towards Ground	Low	0.418	0.582	-0.046	Figure 39
Worst case position of Body with GPRS (4 timeslots uplink, Distance 15mm)					
Towards Ground	Low	0.460	0.636	-0.093	Figure 41
Worst case position of Body with EGPRS (4 timeslots uplink, Distance 15mm)					
Towards Ground	Low	0.463	0.641	-0.021	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.

Table 14: SAR Values (GSM1900)

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)	
Different Test Position	Channel	10 g Average	1 g Average		
Test position of Head					
Left hand, Touch cheek	High	0.134	0.242	-0.076	Figure 45
	Middle	0.120	0.220	-0.096	Figure 47
	Low	0.117	0.216	-0.030	Figure 49
Left hand, Tilt 15 Degree	Middle	0.109	0.203	-0.178	Figure 51
Right hand, Touch cheek	Middle	0.121	0.205	-0.018	Figure 53
Right hand, Tilt 15 Degree	Middle	0.101	0.181	-0.035	Figure 55
Test position of Body (Distance 15mm)					
Towards Ground	High	0.112(max.cube)	0.192(max.cube)	-0.009	Figure 57
	Middle	0.096(max.cube)	0.164(max.cube)	-0.029	Figure 59
	Low	0.102(max.cube)	0.164(max.cube)	-0.003	Figure 61
Towards phantom	Middle	0.044	0.077	-0.072	Figure 63
Worst case position of Body with Earphone (Distance 15mm)					
Towards Ground	High	0.109(max.cube)	0.187(max.cube)	-0.010	Figure 65
Worst case position of Body with GPRS (4 timeslots uplink, Distance 15mm)					
Towards Ground	High	0.137(max.cube)	0.243(max.cube)	-0.077	Figure 67
Worst case position of Body with EGPRS (4 timeslots uplink, Distance 15mm)					
Towards Ground	High	0.143(max.cube)	0.246(max.cube)	0.012	Figure 69

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.
4. 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).

Table 15: SAR Values (WCDMA Band II)

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)	
Different Test Position	Channel	10 g Average	1 g Average		
Test position of Head					
Left hand, Touch cheek	Middle	0.329	0.593	-0.150	Figure 71
Left hand, Tilt 15 Degree	Middle	0.294	0.530	-0.034	Figure 73
Right hand, Touch cheek	High	0.353	0.589	-0.060	Figure 75
	Middle	0.391	0.673	-0.056	Figure 77
	Low	0.191	0.322	-0.026	Figure 79
Right hand, Tilt 15 Degree	Middle	0.305	0.547	0.005	Figure 81
Test position of Body (Distance 15mm)					
Towards Ground	High	0.277(max.cube)	0.474(max.cube)	-0.036	Figure 83
	Middle	0.271 (max.cube)	0.461(max.cube)	-0.037	Figure 85
	Low	0.155 (max.cube)	0.264(max.cube)	0.055	Figure 87
Towards phantom	Middle	0.153 (max.cube)	0.262(max.cube)	0.020	Figure 89
Worst case position of Body with Earphone (Distance 15mm)					
Towards Ground	High	0.233 (max.cube)	0.402(max.cube)	-0.059	Figure 91

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.
4. 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).

Table 16: SAR Values (WCDMA Band V)

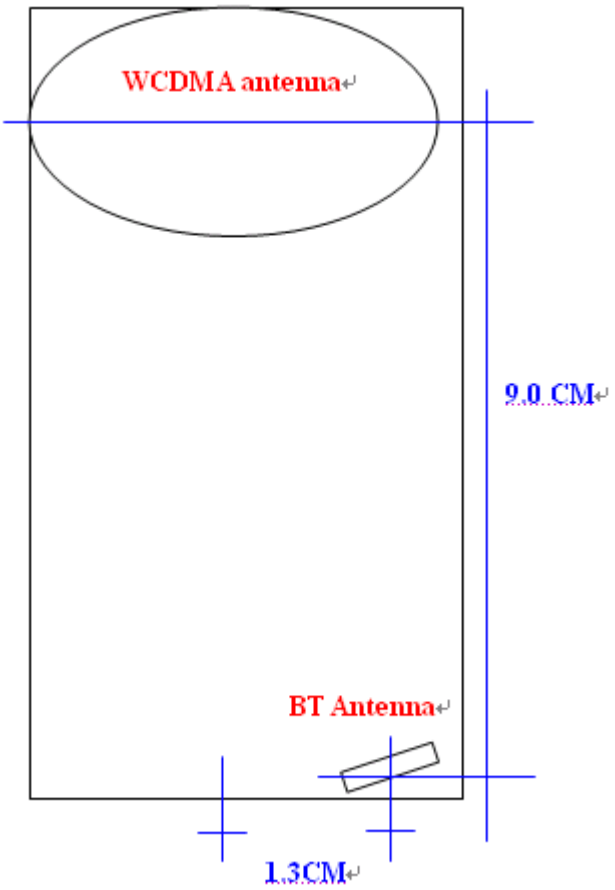
Limit of SAR (W/kg)		10 g Average	1 g Average	Power Drift (dB)	Graph Results
		2.0	1.6	± 0.21	
Test Case Of Head		Measurement Result(W/kg)		Power Drift (dB)	
Different Test Position	Channel	10 g Average	1 g Average		
Test position of Head					
Left hand, Touch cheek	Middle	0.531	0.767	0.116	Figure 93
Left hand, Tilt 15 Degree	Middle	0.353	0.512	-0.048	Figure 95
Right hand, Touch cheek	High	0.506	0.710	-0.029	Figure 97
	Middle	0.593	0.829	-0.087	Figure 99
	Low	0.569	0.799	-0.193	Figure 101
Right hand, Tilt 15 Degree	Middle	0.354	0.502	-0.035	Figure 103
Test position of Body (Distance 15mm)					
Towards Ground	High	0.247	0.347	-0.047	Figure 105
	Middle	0.336	0.477	-0.118	Figure 107
	Low	0.308	0.426	0.078	Figure 109
Towards phantom	Middle	0.317	0.440	-0.008	Figure 111
Worst case position of Body with Earphone (Distance 15mm)					
Towards Ground	Middle	0.315	0.435	-0.030	Figure 113

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.

7.3.1. Summary of Measurement Results (Bluetooth function)

The distance between BT antenna and WCDMA 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)	1.78	0.68	-0.53

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 $\leqslant 2P_{Ref}$ and its antenna is $\geqslant$5cm from other antenna

7.4. 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 5.2 of this report. Maximum localized SAR_{1g} are 1.11 W/kg (head) and 0.64 W/kg (body) that are below exposure limits specified in the relevant standards cited in Clause 5.1 of this test report.

8. Measurement Uncertainty

No.	source	Type	Uncertainty Value (%)	Probability Distribution	k	c_i	Standard ncertainty $u_i^{'}$ (%)	Degree of freedom V_{eff} or v_i
1	System repetivity	A	0.5	N	1	1	0.5	9
Measurement system								
2	probe calibration	B	5.9	N	1	1	5.9	∞
3	axial isotropy of the probe	B	4.7	R	$\sqrt{3}$	$\sqrt{0.5}$	1.9	∞
4	Hemispherical isotropy of the probe	B	9.4	R	$\sqrt{3}$	$\sqrt{0.5}$	3.9	∞
6	boundary effect	B	1.9	R	$\sqrt{3}$	1	1.1	∞
7	probe linearity	B	4.7	R	$\sqrt{3}$	1	2.7	∞
8	System detection limits	B	1.0	R	$\sqrt{3}$	1	0.6	∞
9	readout Electronics	B	1.0	N	1	1	1.0	∞
10	response time	B	0	R	$\sqrt{3}$	1	0	∞
11	integration time	B	4.32	R	$\sqrt{3}$	1	2.5	∞
12	noise	B	0	R	$\sqrt{3}$	1	0	∞
13	RF Ambient Conditions	B	3	R	$\sqrt{3}$	1	1.73	∞
14	Probe Positioner Mechanical Tolerance	B	0.4	R	$\sqrt{3}$	1	0.2	∞
15	Probe Positioning with respect to Phantom Shell	B	2.9	R	$\sqrt{3}$	1	1.7	∞
16	Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	B	3.9	R	$\sqrt{3}$	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	$\sqrt{3}$	1	2.9	∞
Physical parameter								

20	-phantom	B	4.0	R	$\sqrt{3}$	1	2.3	∞
21	-liquid conductivity (deviation from target)	B	5.0	R	$\sqrt{3}$	0.64	1.8	∞
22	-liquid conductivity (measurement uncertainty)	B	5.0	N	1	0.64	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	

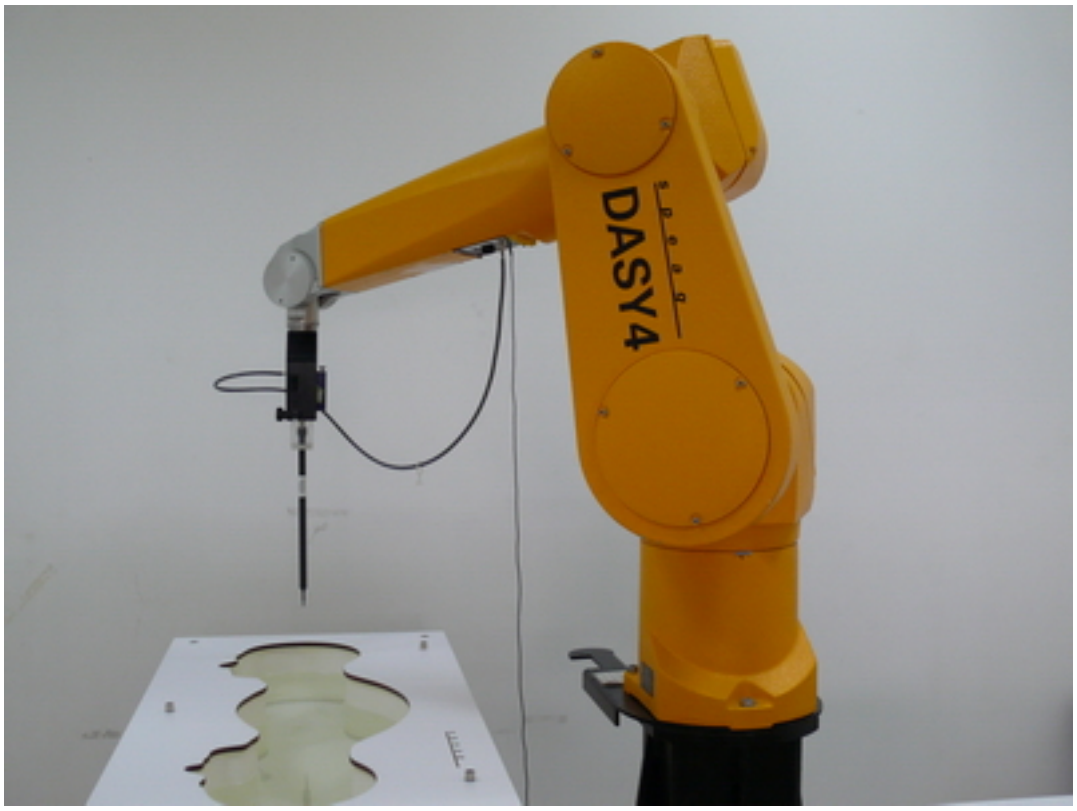
9. Main Test Instruments

Table 17: List of Main Instruments

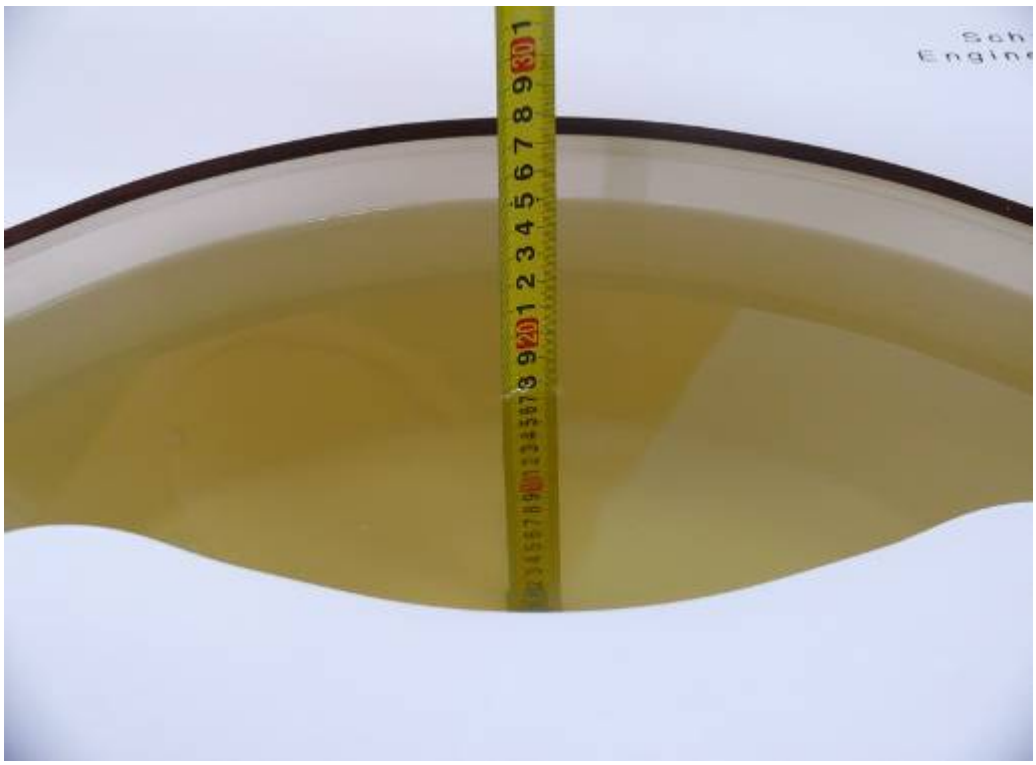
No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	Agilent 8753E	US37390326	September 14, 2008	One year
02	Dielectric Probe Kit	Agilent 85070E	US44020115	No Calibration Requested	
03	Power meter	Agilent E4417A	GB41291714	March 14, 2009	One year
04	Power sensor	Agilent 8481H	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	ET3DV6	1737	November 25, 2008	One year
09	DAE	DAE4	452	November 18, 2008	One year
11	Validation Kit 1900MHz	D1900V2	5d060	July 15, 2009	One year
12	Validation Kit 8500MHz	D835V2	4d020	July 15, 2009	One year

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

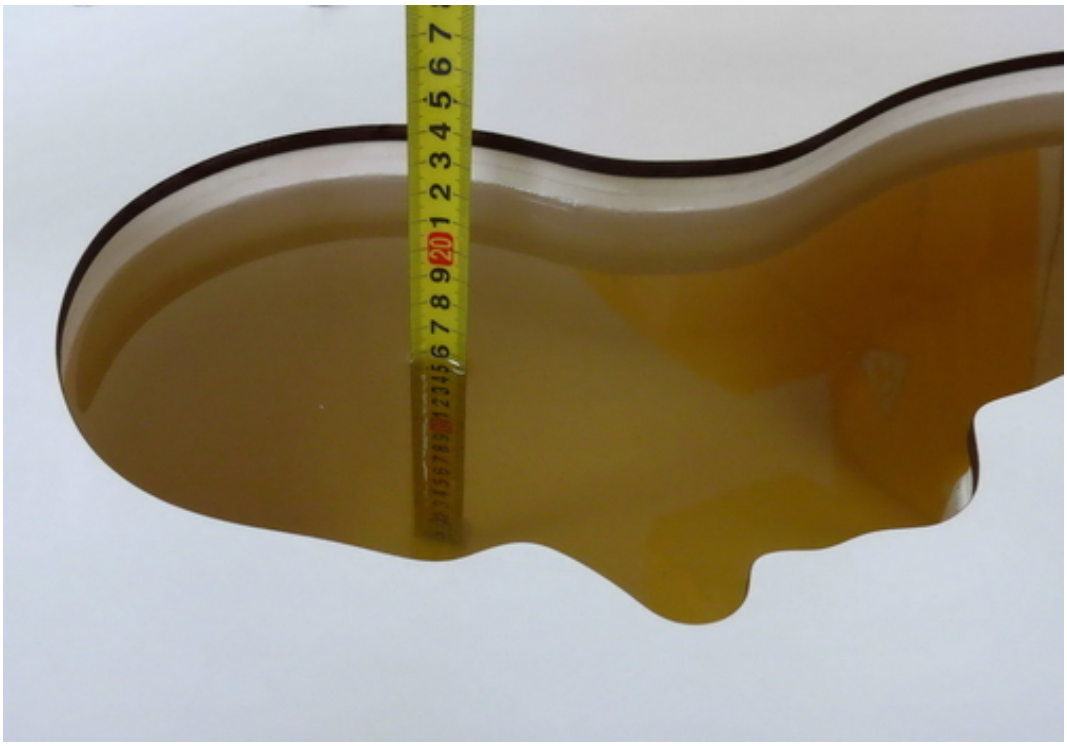
ANNEX A: Test Layout



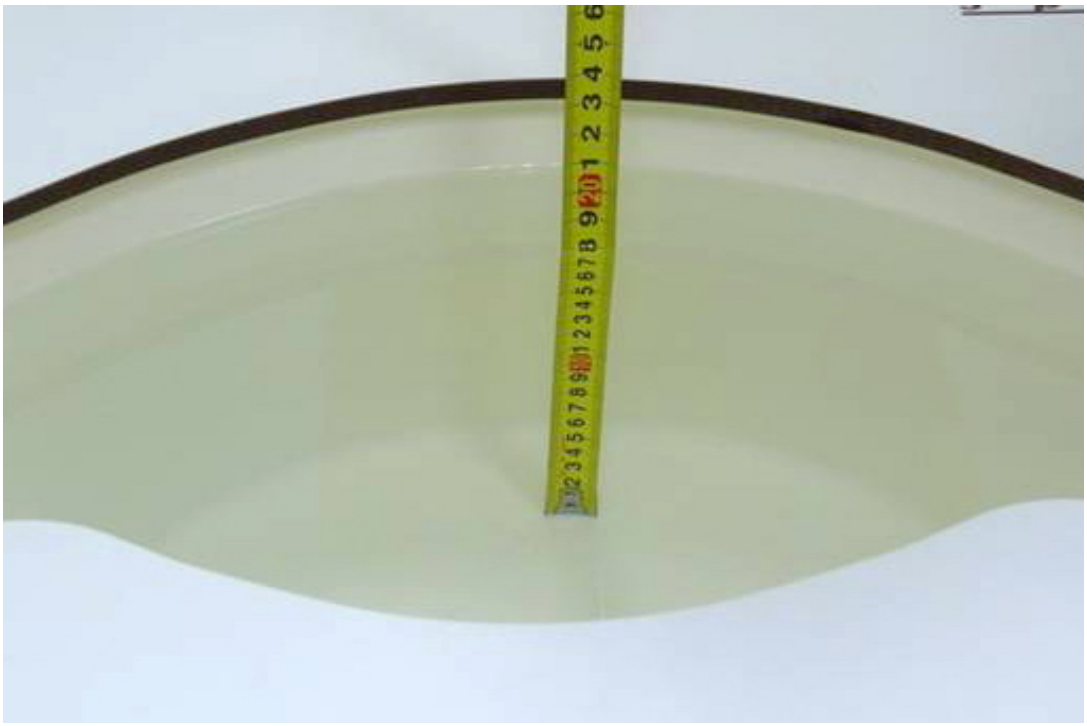
Picture 1: Specific Absorption Rate Test Layout



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: 8/28/2009 4:47:58 AM

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

Medium parameters used: f = 835 MHz; σ = 0.92 mho/m; ε_r = 41.86; ρ = 1000 kg/m^3

Probe: ET3DV6 - SN1737; ConvF(6.33, 6.33, 6.33); Calibrated: 11/25/2008

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

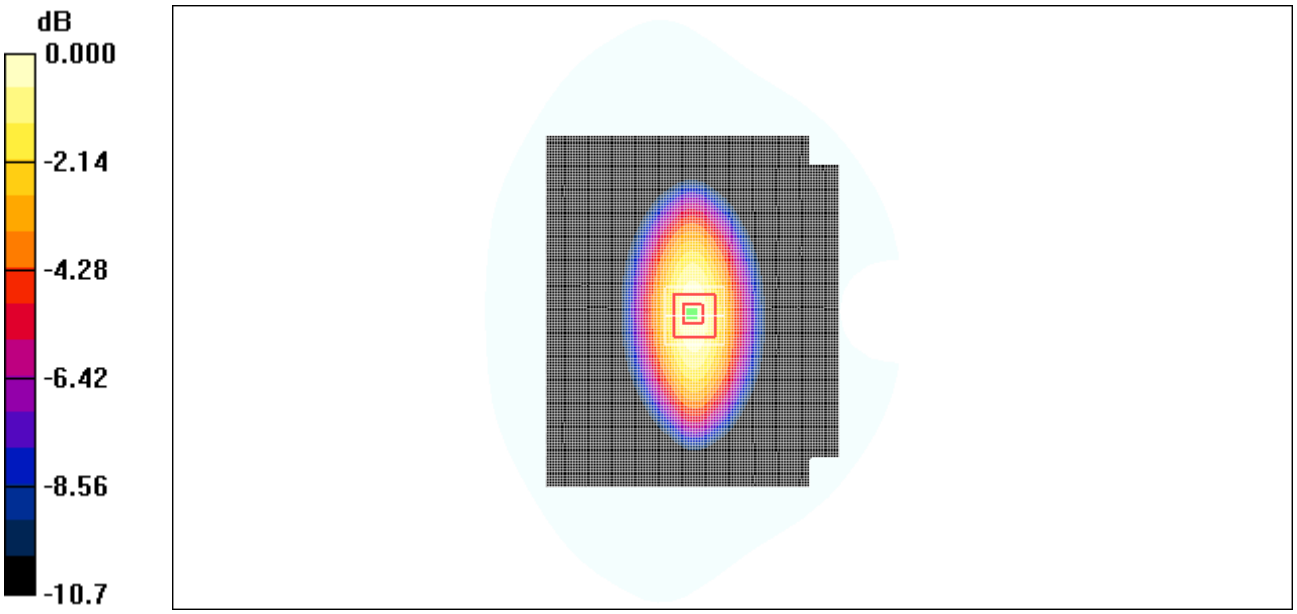


Figure 7 System Performance Check 835MHz 250mW

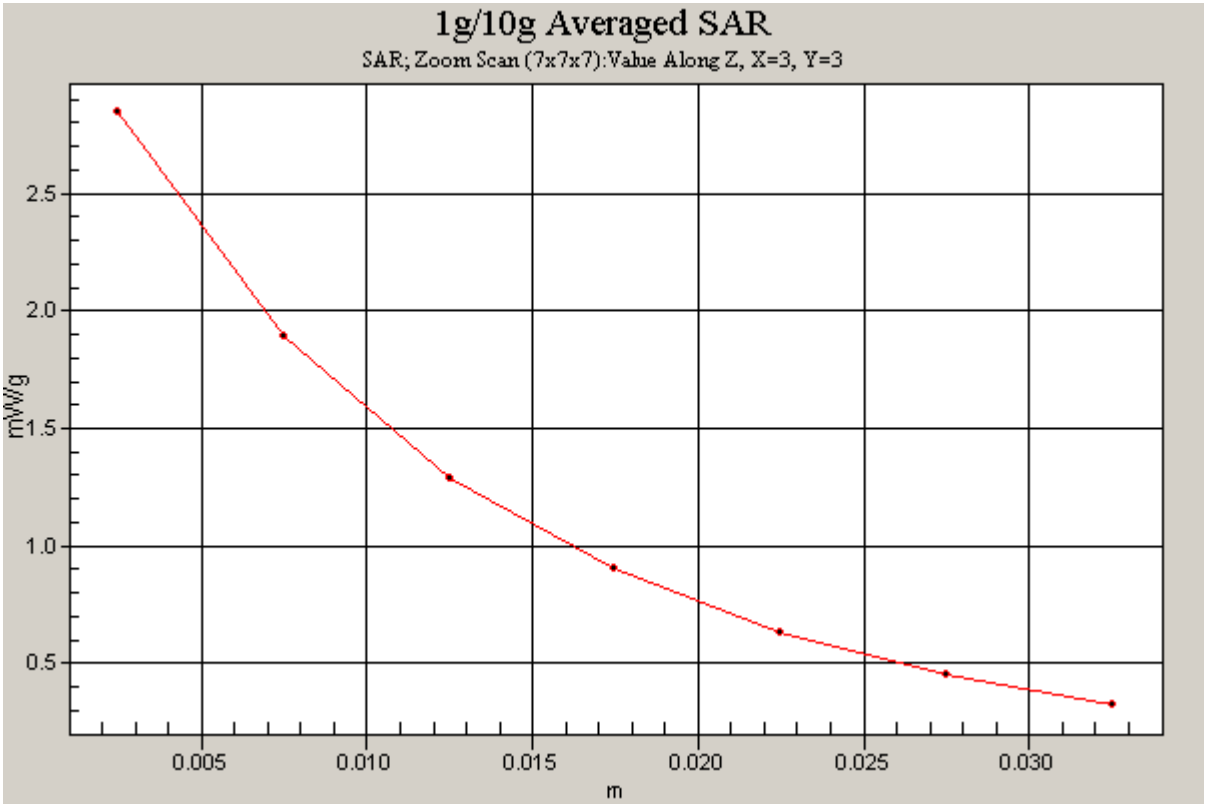


Figure 8 Z-Scan at power reference point (system check at 835 MHz dipole)

System Performance Check at 835 MHz Body TSL

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

Date/Time: 8/29/2009 11:02:49 AM

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

Medium parameters used: f = 835 MHz; σ = 1.02 mho/m; ε_r = 55.07; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

Probe: ET3DV6 - SN1737; ConvF(6.14, 6.14, 6.14); Calibrated: 11/25/2008

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) = 2.41 mW/g; SAR(10 g) = 1.56 mW/g

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

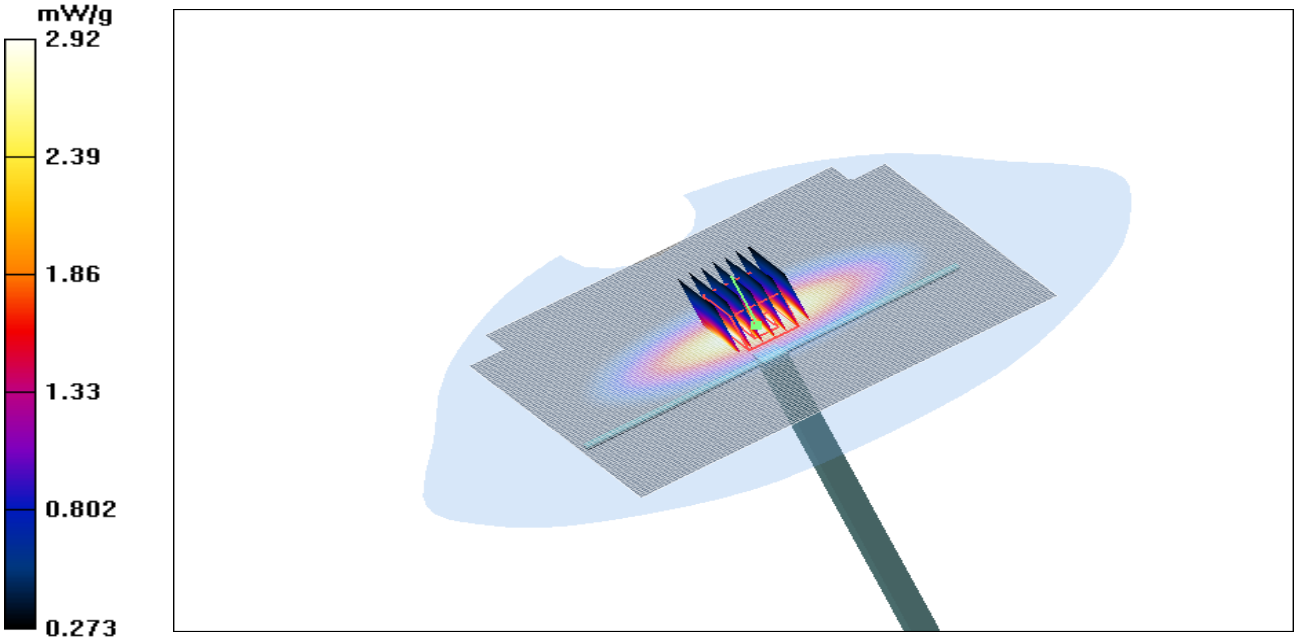


Figure 9 System Performance Check 835MHz 250mW

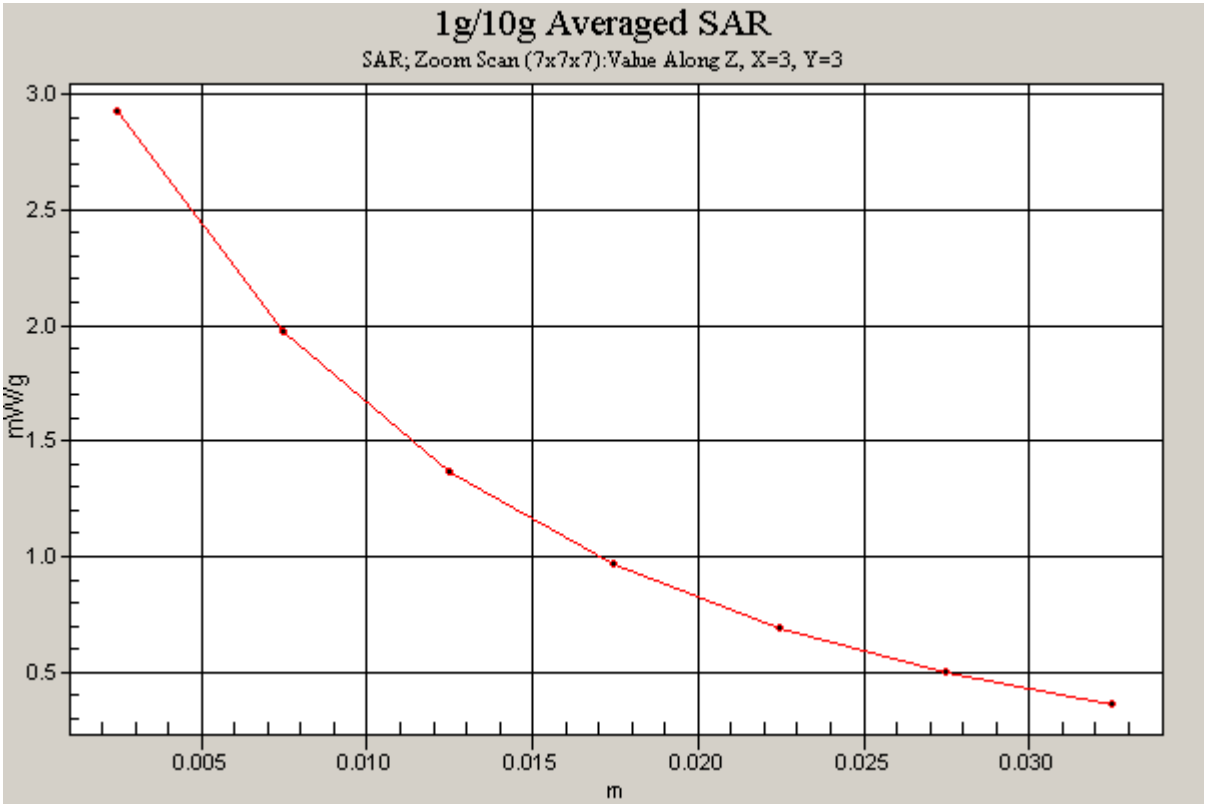


Figure 10 Z-Scan at power reference point (system Check at 835 MHz dipole)

System Performance Check at 1900 MHz Head TSL

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

Date/Time: 8/29/2009 3:05:58 AM

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

Medium parameters used: f = 1900 MHz; σ = 1.41 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3

Probe: ET3DV6 – SN1737; ConvF(4.89, 4.89, 4.89); Calibrated: 11/25/2008

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

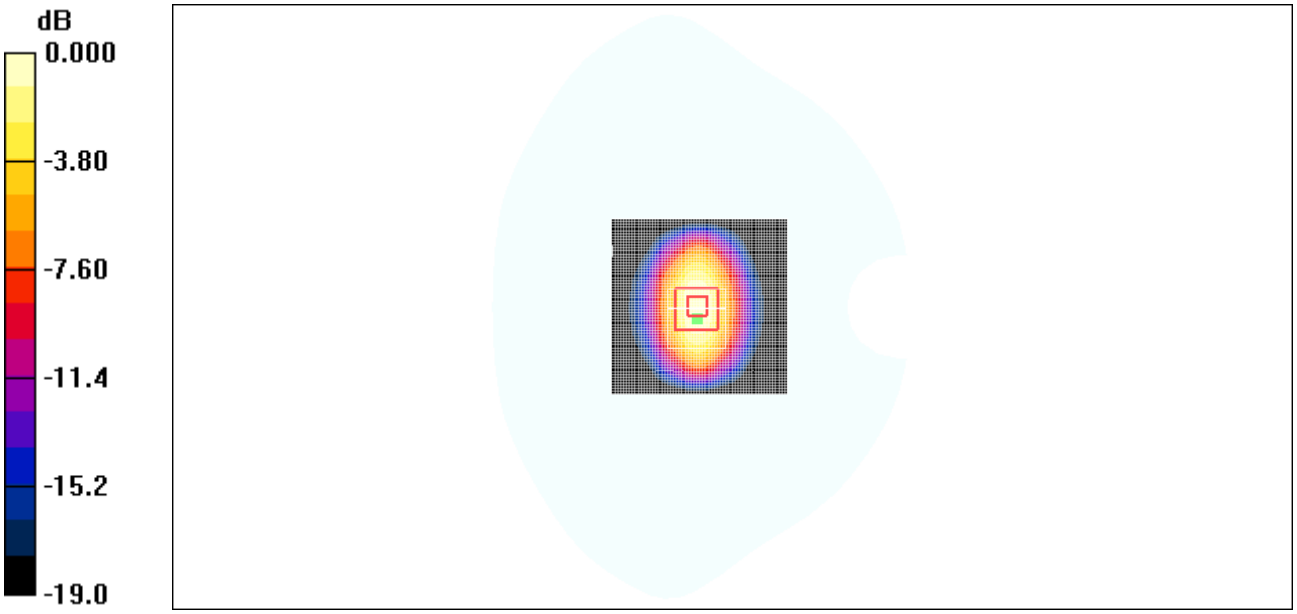


Figure 11 System Performance Check 1900MHz 250mW

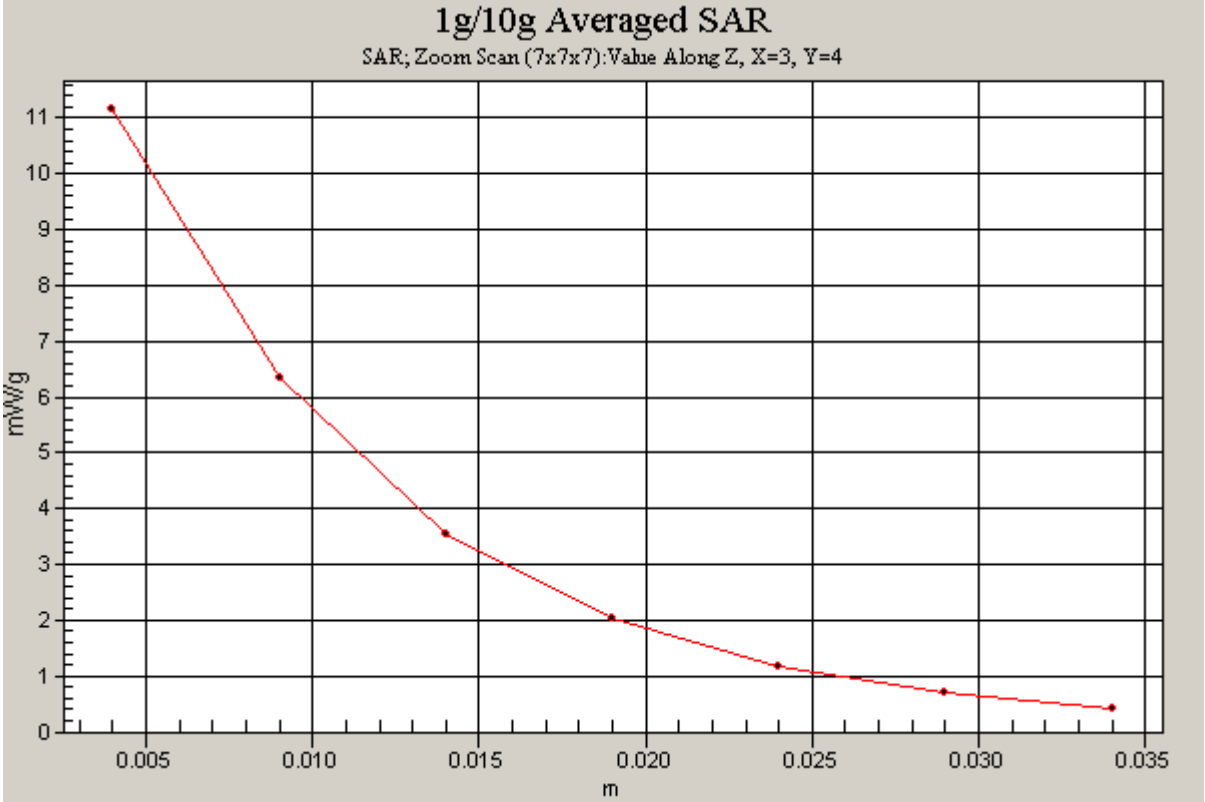


Figure 12 Z-Scan at power reference point (system check at 1900 MHz dipole)

System Performance Check at 1900 MHz Body TSL

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

Date/Time: 8/26/2009 12:14:49 AM

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

Medium parameters used: f = 1900 MHz; σ = 1.53 mho/m; ε_r = 52.65; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY4 Configuration:

Probe: ET3DV6 – SN1737; ConvF(4.60, 4.60, 4.60); Calibrated: 11/25/2008

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

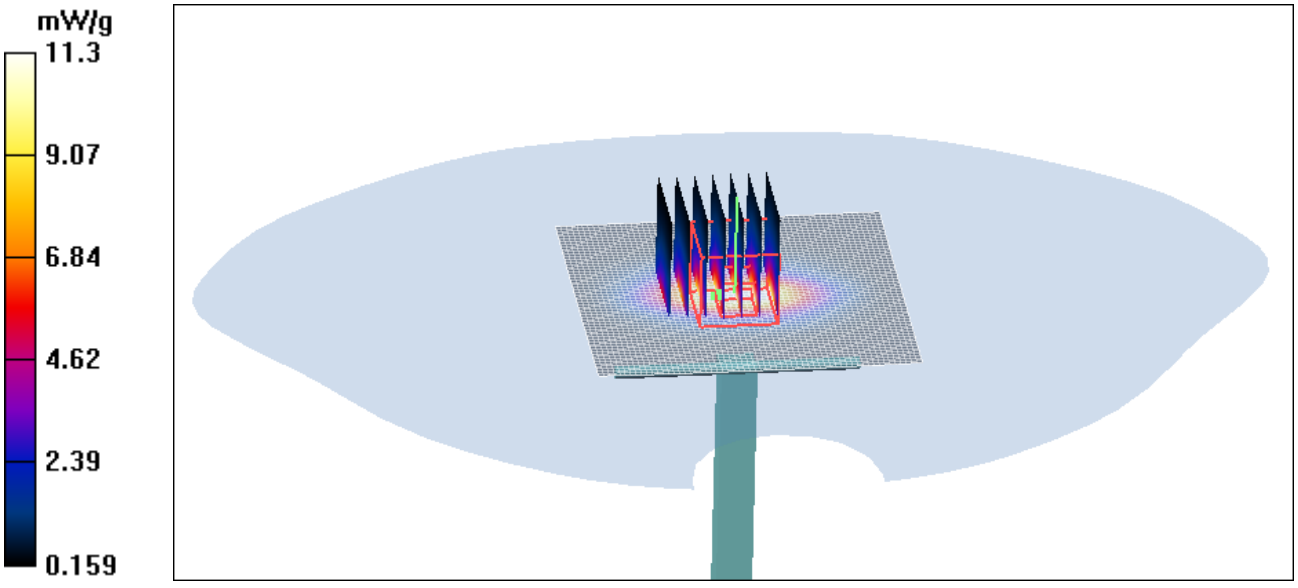


Figure 13 System Performance Check 1900MHz 250mW

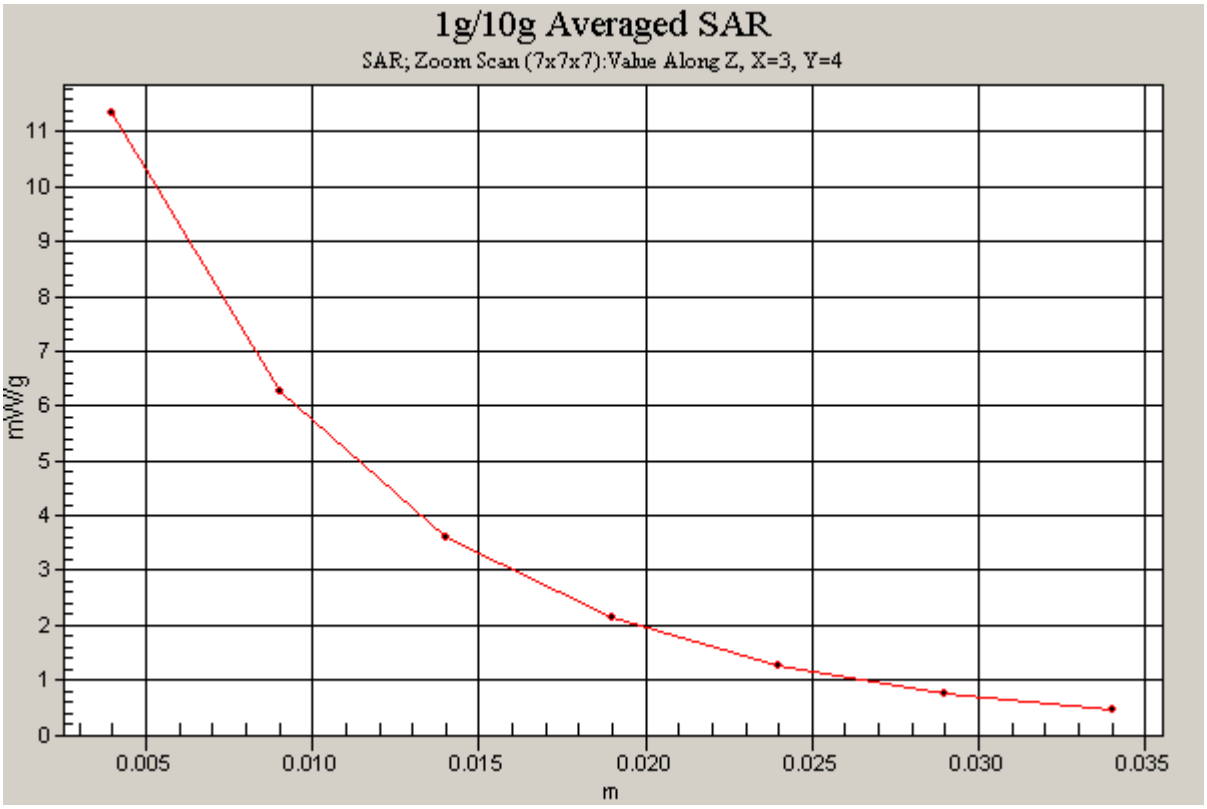


Figure 14 Z-Scan at power reference point (system Check at 1900 MHz dipole)

ANNEX C: Graph Results

GSM 850 Left Cheek High

Date/Time: 8/28/2009 10:02:52 AM
Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.939 mho/m; ε_r = 42.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.33, 6.33, 6.33); Calibrated: 11/25/2008
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) = 0.930 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.4 V/m; Power Drift = -0.151 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.861 mW/g; SAR(10 g) = 0.604 mW/g
Maximum value of SAR (measured) = 0.954 mW/g

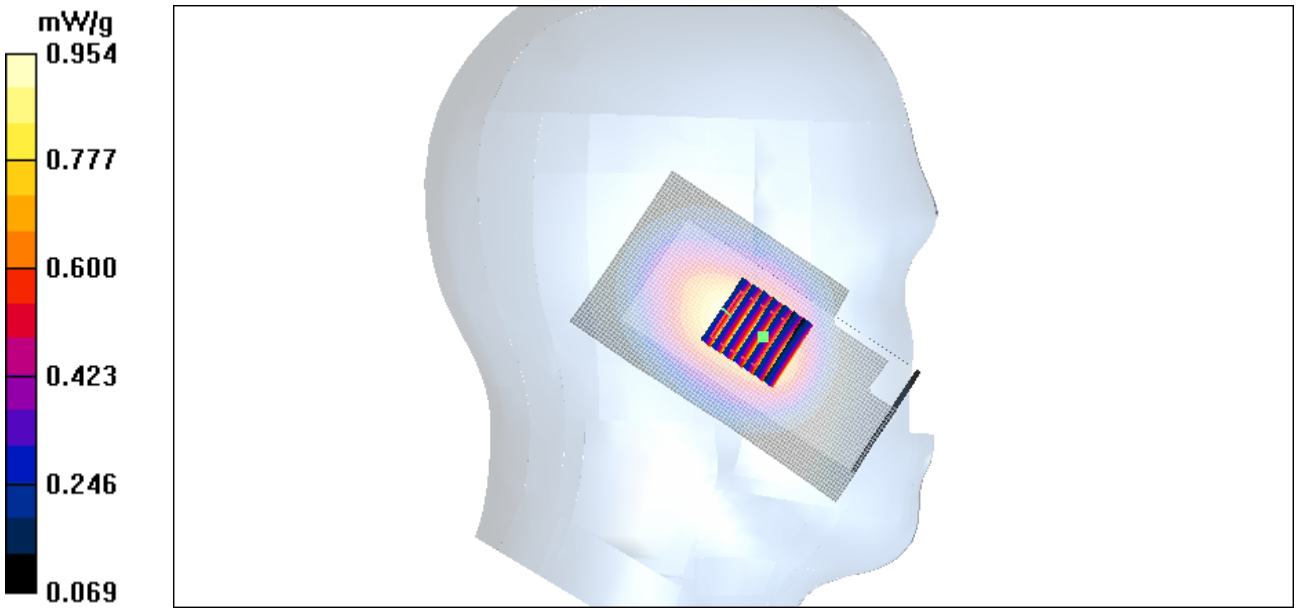


Figure 15 Left Hand Touch Cheek GSM 850 Channel 810

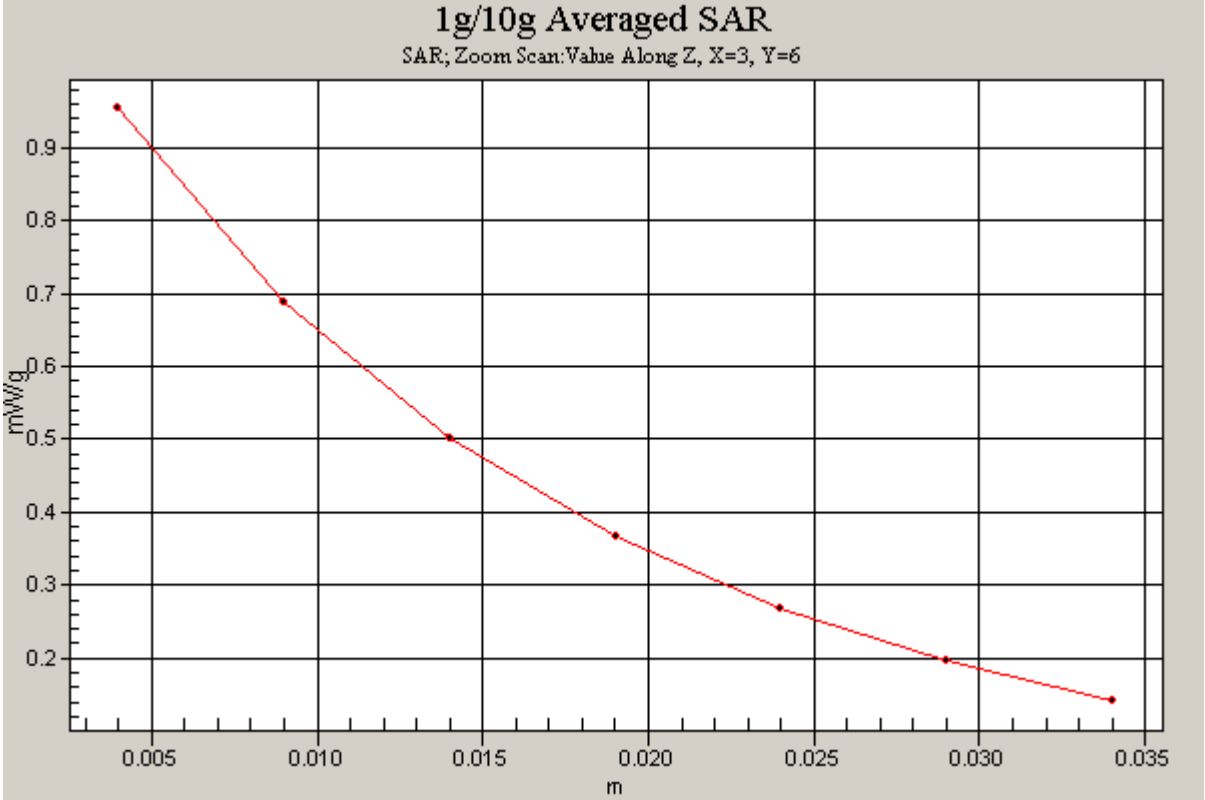


Figure 16 Z-Scan at power reference point (Left Hand Touch Cheek GSM 850 Channel 810)

GSM 850 Left Cheek Middle

Date/Time: 8/28/2009 9:43:54 AM
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.926 mho/m; ε_r = 42.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.33, 6.33, 6.33); Calibrated: 11/25/2008
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) = 0.922 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.5 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 1.18 W/kg
SAR(1 g) = 0.881 mW/g; SAR(10 g) = 0.615 mW/g
Maximum value of SAR (measured) = 0.936 mW/g

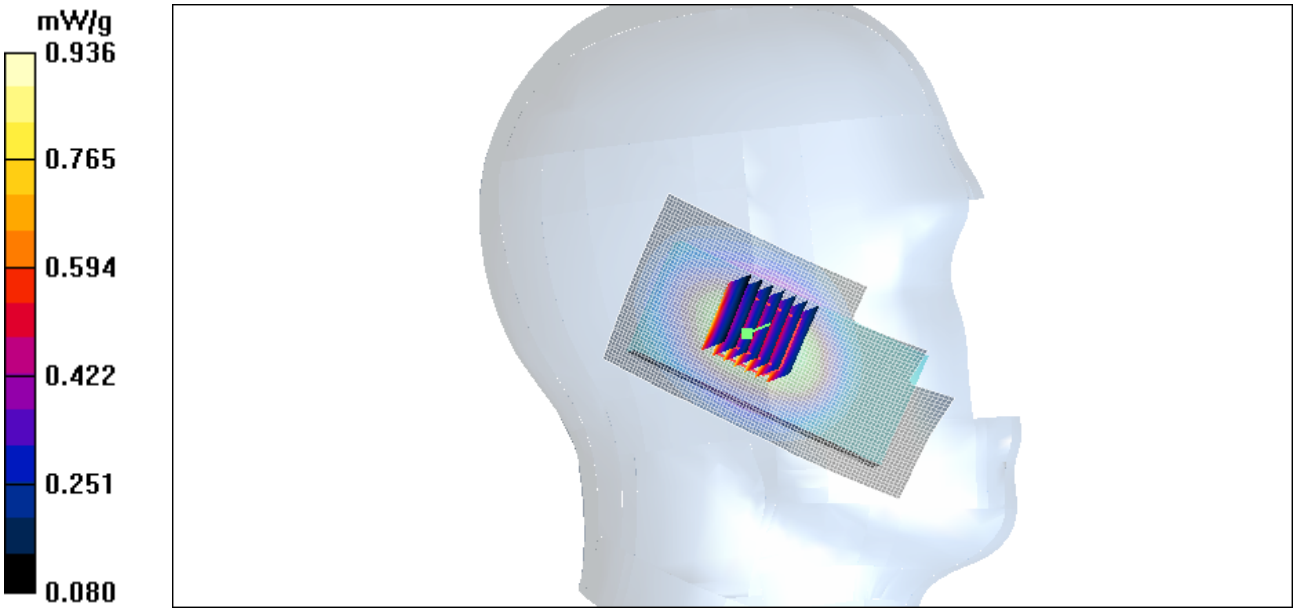


Figure 17 Left Hand Touch Cheek GSM 850 Channel 661

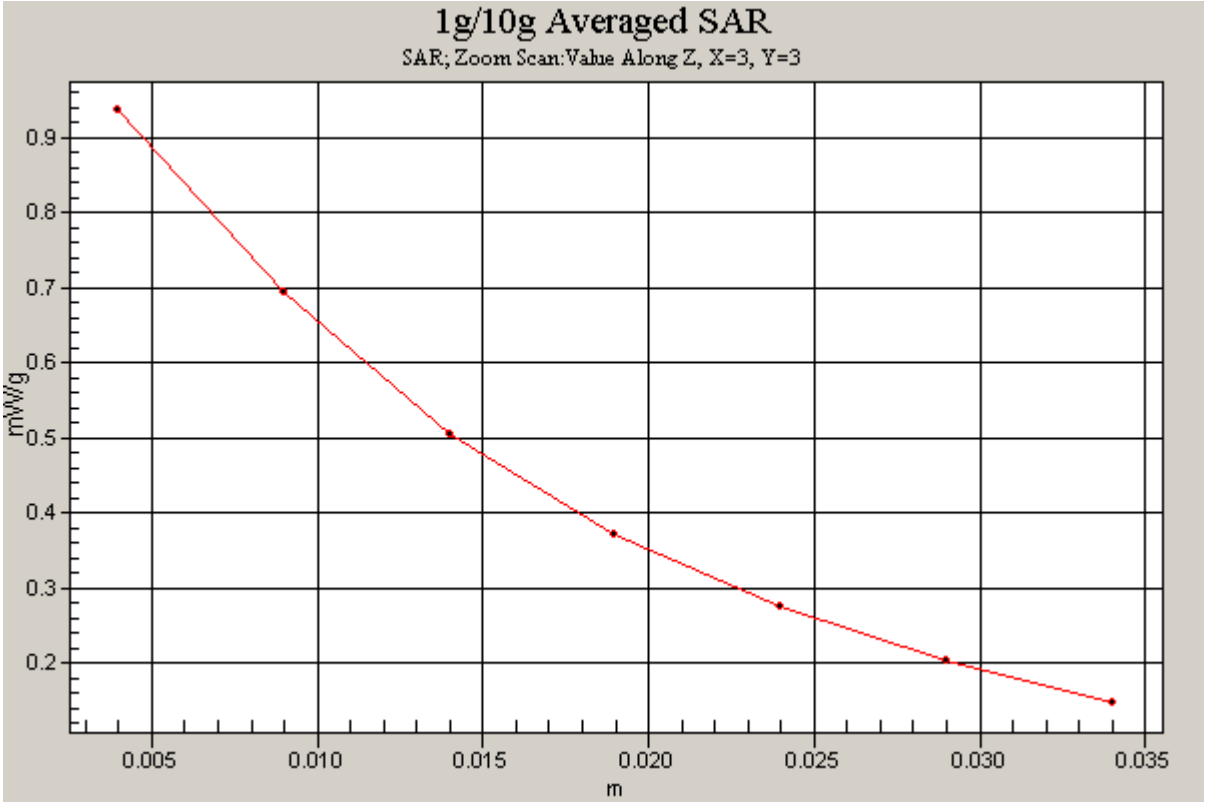


Figure 18 Z-Scan at power reference point (Left Hand Touch Cheek GSM 850 Channel 661)

GSM 850 Left Cheek Low

Date/Time: 8/28/2009 10:21:36 AM
Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.908 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.33, 6.33, 6.33); Calibrated: 11/25/2008
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) = 0.926 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.3 V/m; Power Drift = -0.001 dB
Peak SAR (extrapolated) = 1.20 W/kg
SAR(1 g) = 0.892 mW/g; SAR(10 g) = 0.623 mW/g
Maximum value of SAR (measured) = 0.963 mW/g

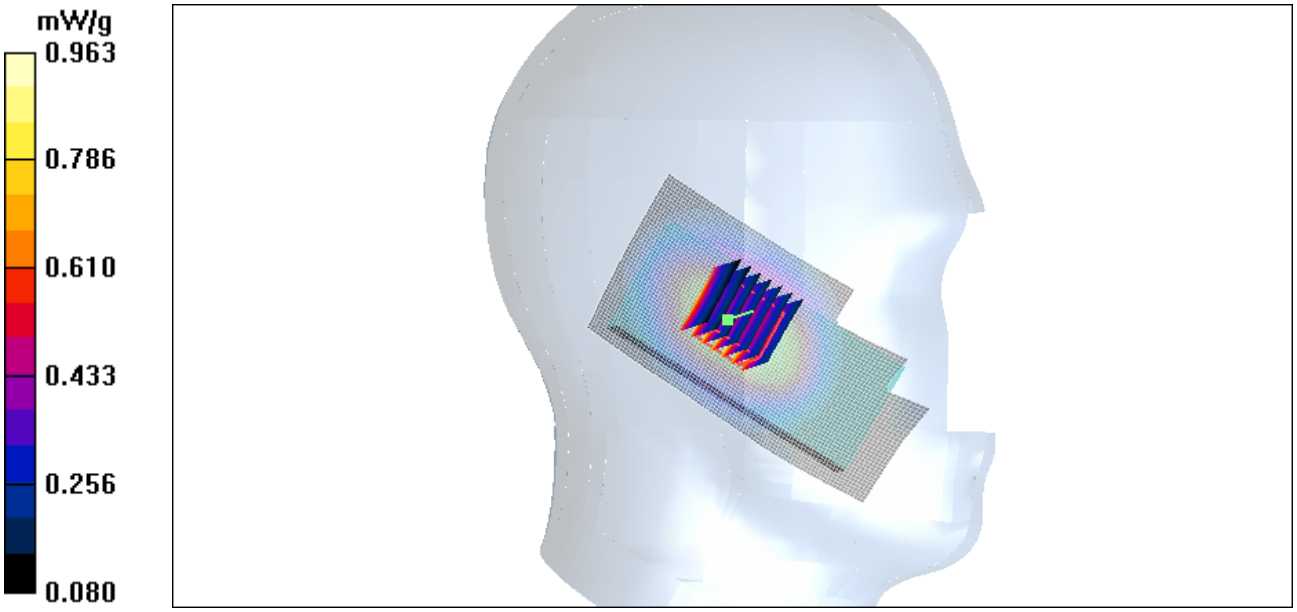


Figure 19 Left Hand Touch Cheek GSM 850 Channel 512

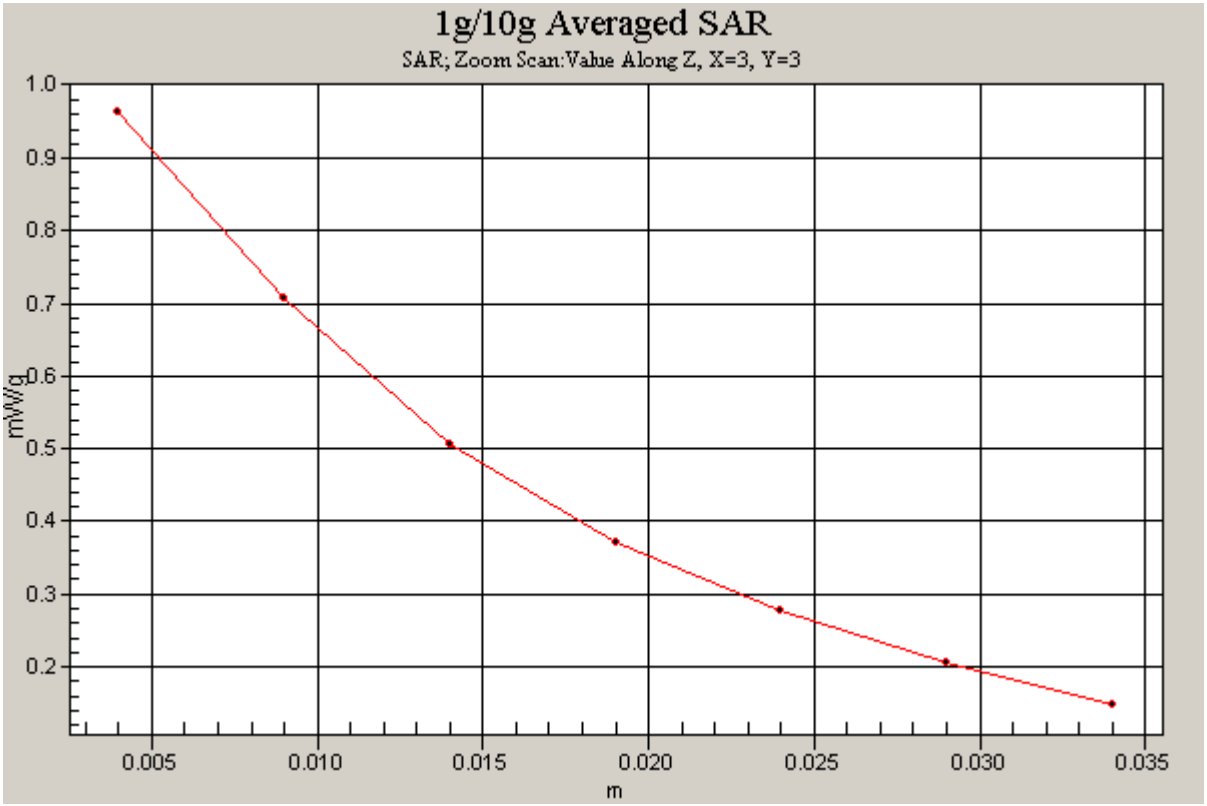


Figure 20 Z-Scan at power reference point (Left Hand Touch Cheek GSM 850 Channel 512)

GSM 850 Left Tilt Middle

Date/Time: 8/28/2009 11:01:20 AM
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.926 mho/m; ε_r = 42.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.33, 6.33, 6.33); Calibrated: 11/25/2008
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) = 0.554 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.3 V/m; Power Drift = -0.169 dB
Peak SAR (extrapolated) = 0.717 W/kg
SAR(1 g) = 0.524 mW/g; SAR(10 g) = 0.362 mW/g
Maximum value of SAR (measured) = 0.558 mW/g

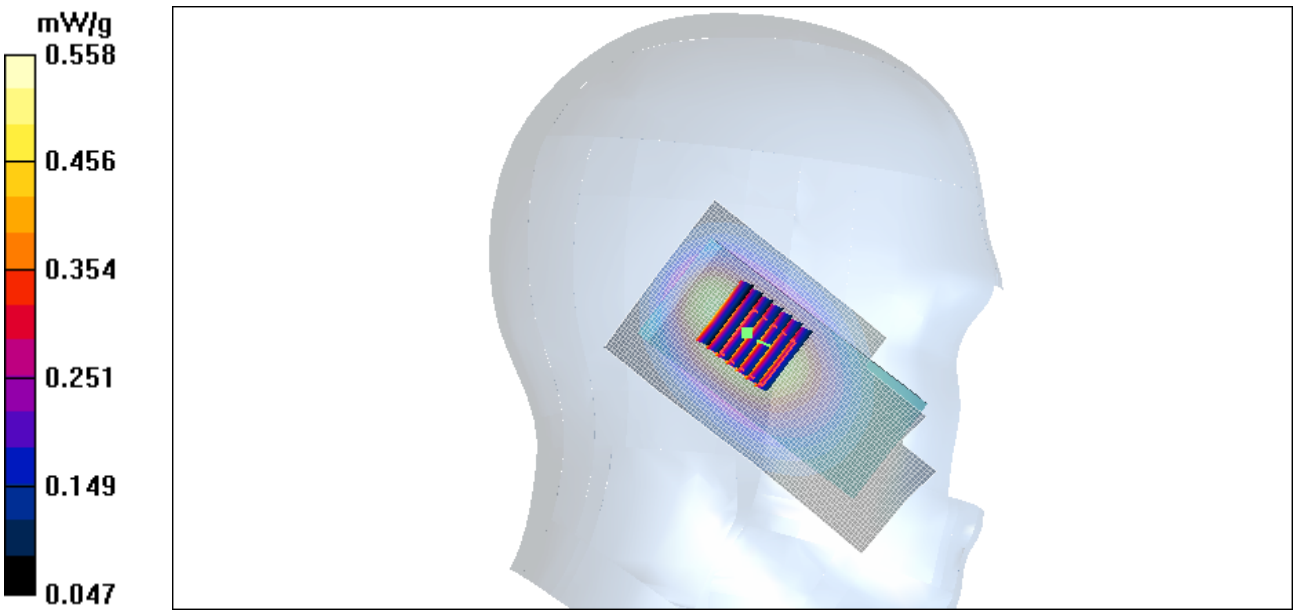


Figure 21 Left Hand Tilt 15° GSM 850 Channel 661

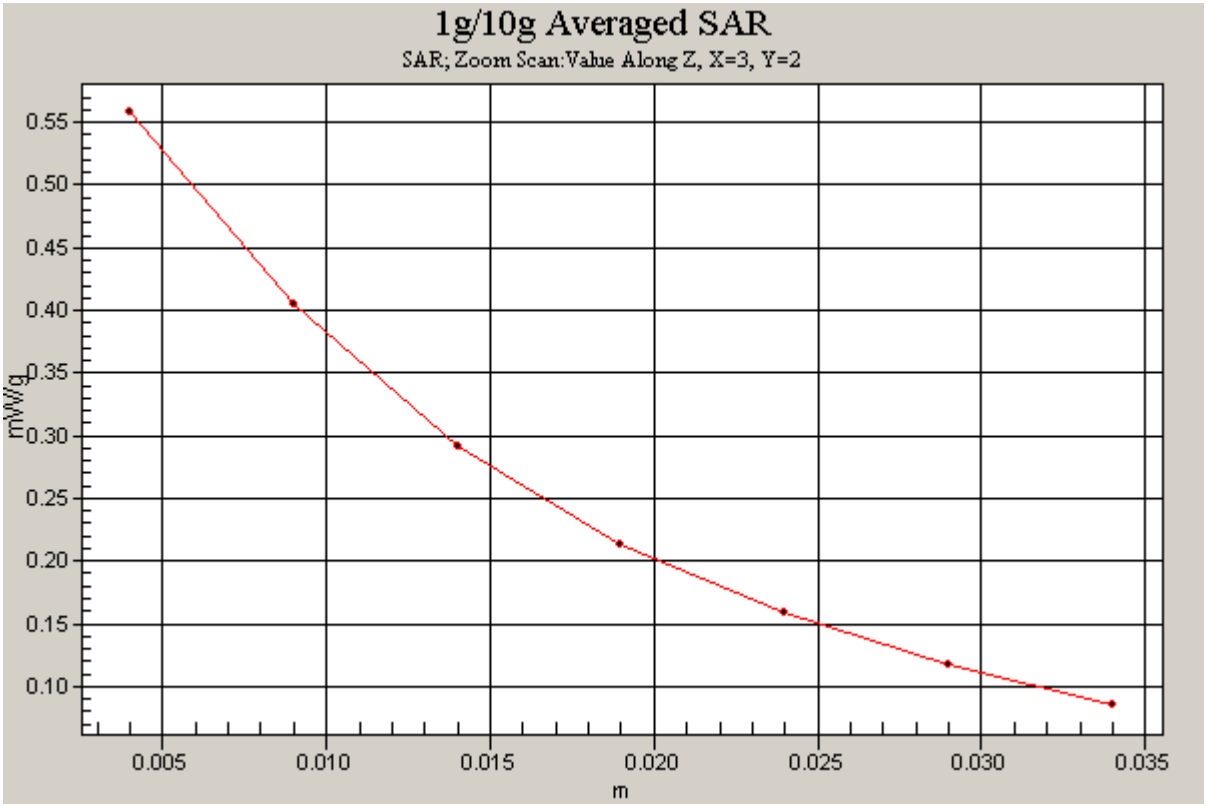


Figure 22 Z-Scan at power reference point (Left Hand Tilt 15° GSM 850 Channel 661)

GSM 850 Right Cheek High

Date/Time: 8/28/2009 6:30:29 AM
Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 0.939 mho/m; ε_r = 42.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.33, 6.33, 6.33); Calibrated: 11/25/2008
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) = 1.03 mW/g

Cheek High /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.8 V/m; Power Drift = -0.038 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.971 mW/g; SAR(10 g) = 0.688 mW/g
Maximum value of SAR (measured) = 1.03 mW/g

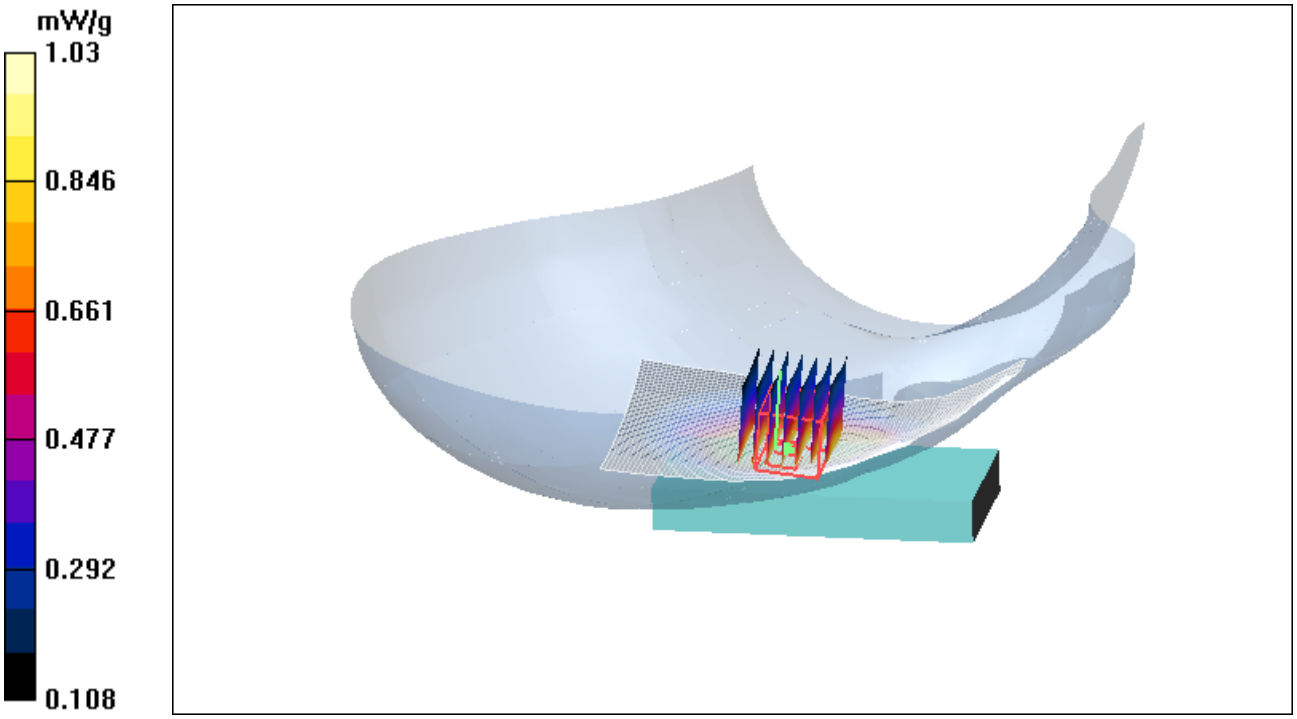


Figure 23 Right Hand Touch Cheek GSM 850 Channel 251

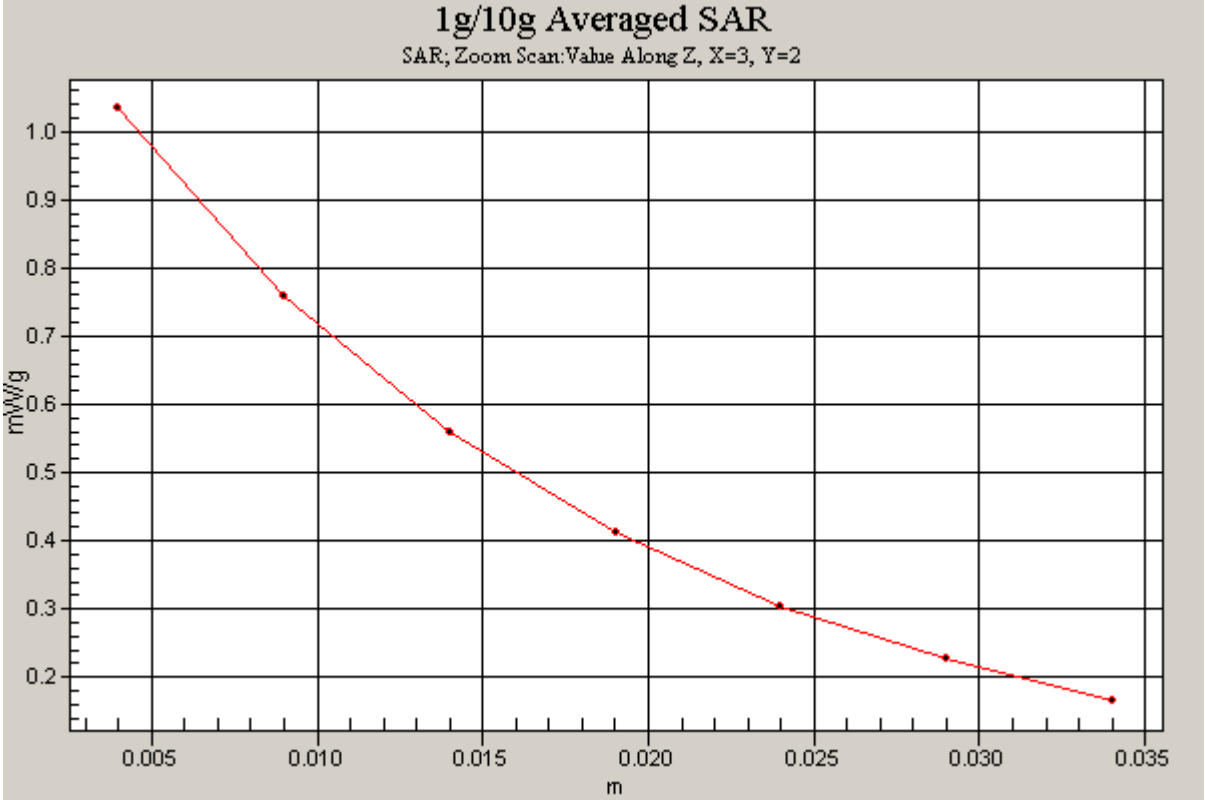


Figure 24 Z-Scan at power reference point (Right Hand Touch Cheek GSM 850 Channel 251)

GSM 850 Right Cheek Middle

Date/Time: 8/28/2009 11:43:05 AM
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.926 mho/m; ε_r = 42.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.33, 6.33, 6.33); Calibrated: 11/25/2008
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) = 0.955 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.0 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 1.19 W/kg
SAR(1 g) = 0.905 mW/g; SAR(10 g) = 0.642 mW/g
Maximum value of SAR (measured) = 0.971 mW/g

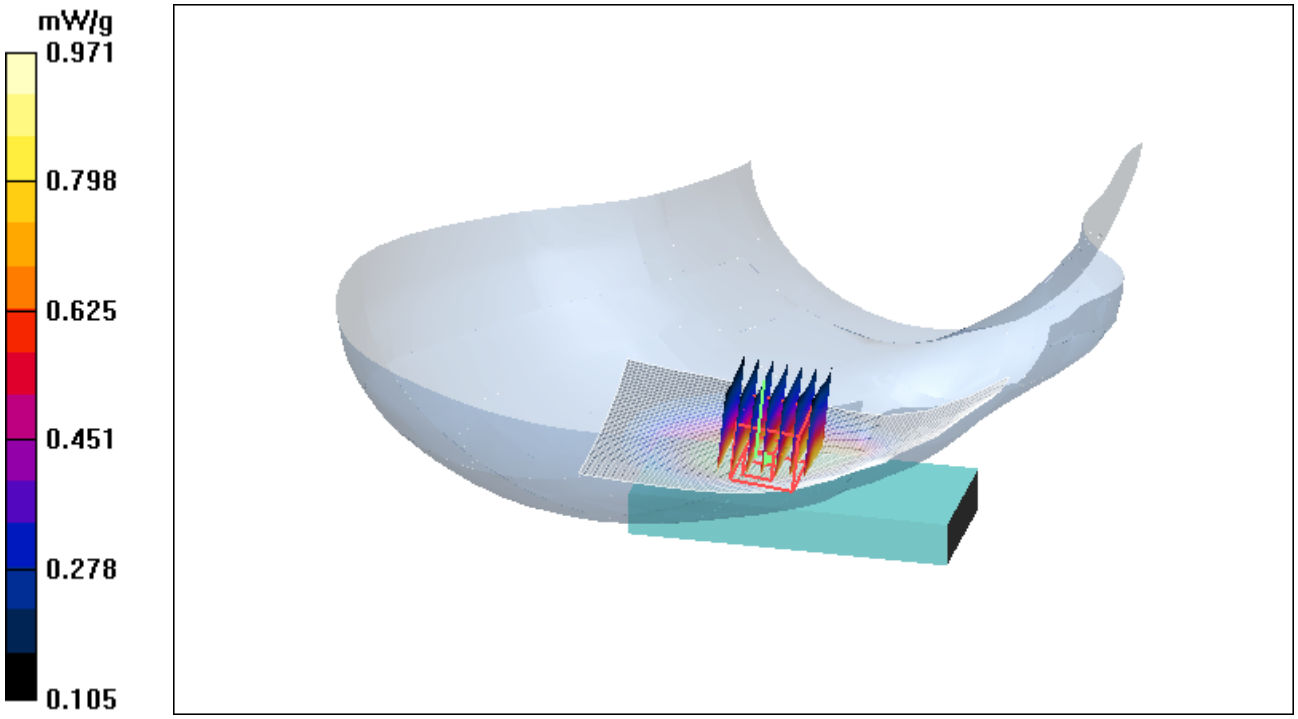


Figure 25 Right Hand Touch Cheek GSM 850 Channel 661

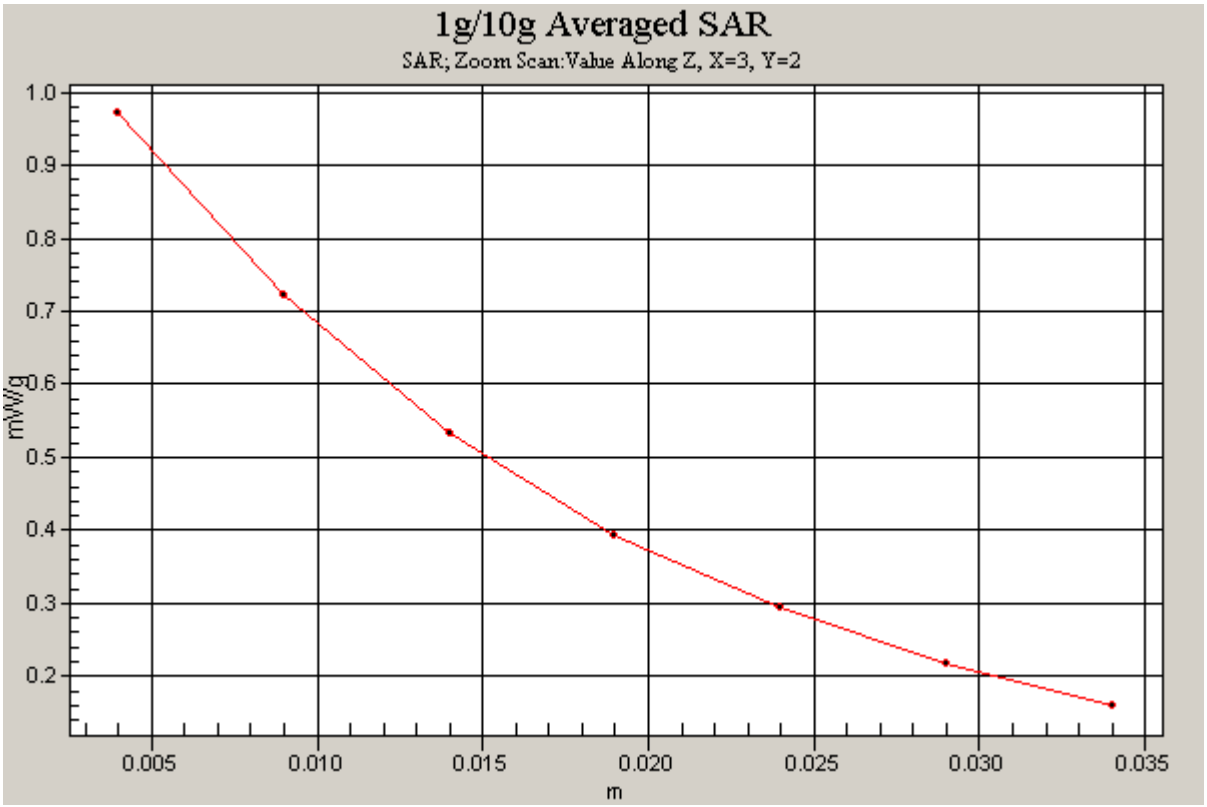


Figure 26 Z-Scan at power reference point (Right Hand Touch Cheek GSM 850 Channel 661)

GSM 850 Right Cheek Low

Date/Time: 8/28/2009 6:12:00 AM
Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 0.908 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.33, 6.33, 6.33); Calibrated: 11/25/2008
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) = 1.18 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.8 V/m; Power Drift = -0.193 dB
Peak SAR (extrapolated) = 1.47 W/kg
SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.791 mW/g
Maximum value of SAR (measured) = 1.18 mW/g

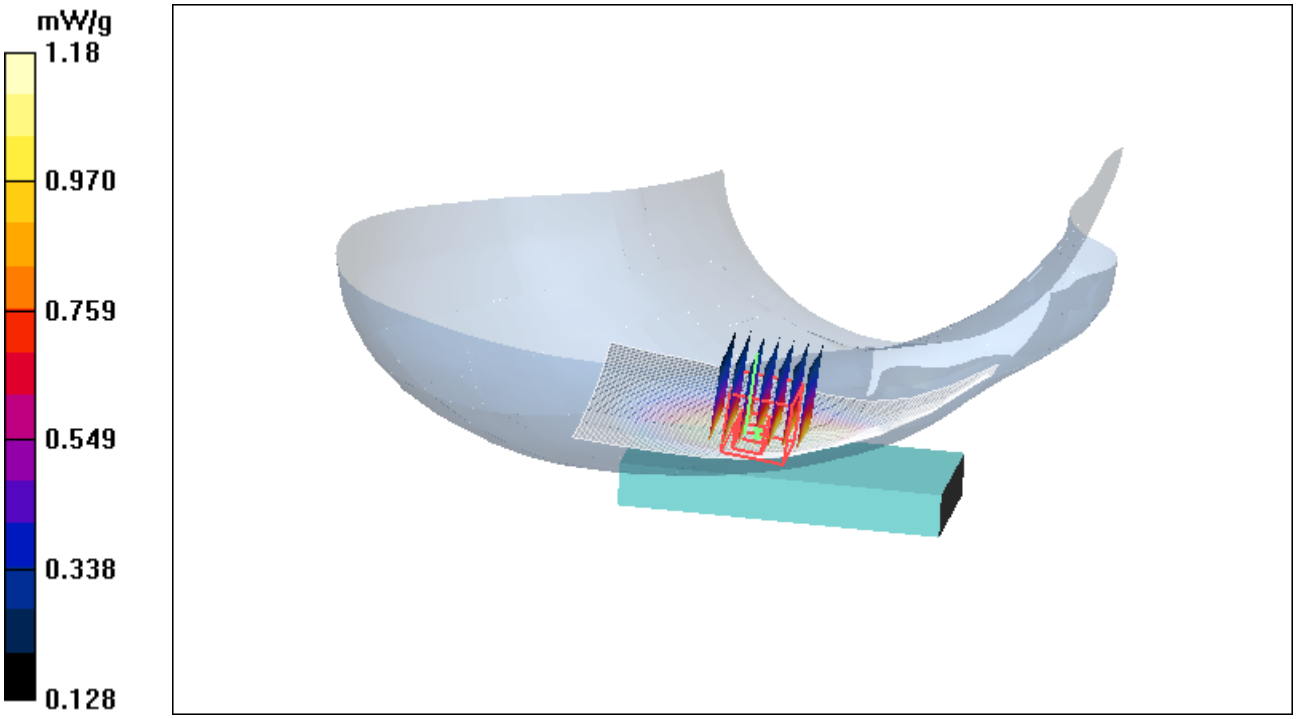


Figure 27 Right Hand Touch Cheek GSM 850 Channel 128

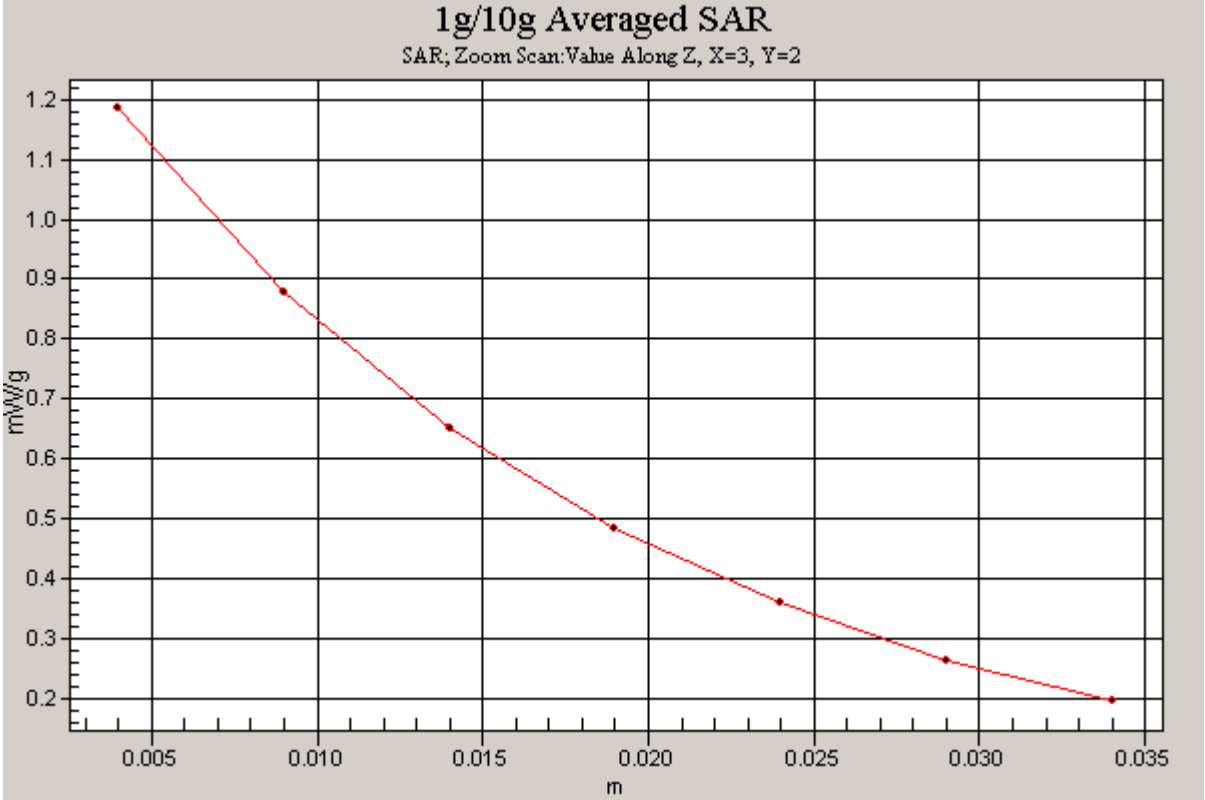


Figure 28 Z-Scan at power reference point (Right Hand Touch Cheek GSM 850 Channel 128)

GSM 850 Right Tilt Middle

Date/Time: 8/28/2009 11:23:34 AM
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 0.926 mho/m; ε_r = 42.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.33, 6.33, 6.33); Calibrated: 11/25/2008
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) = 0.567 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.3 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 0.693 W/kg
SAR(1 g) = 0.525 mW/g; SAR(10 g) = 0.368 mW/g
Maximum value of SAR (measured) = 0.560 mW/g

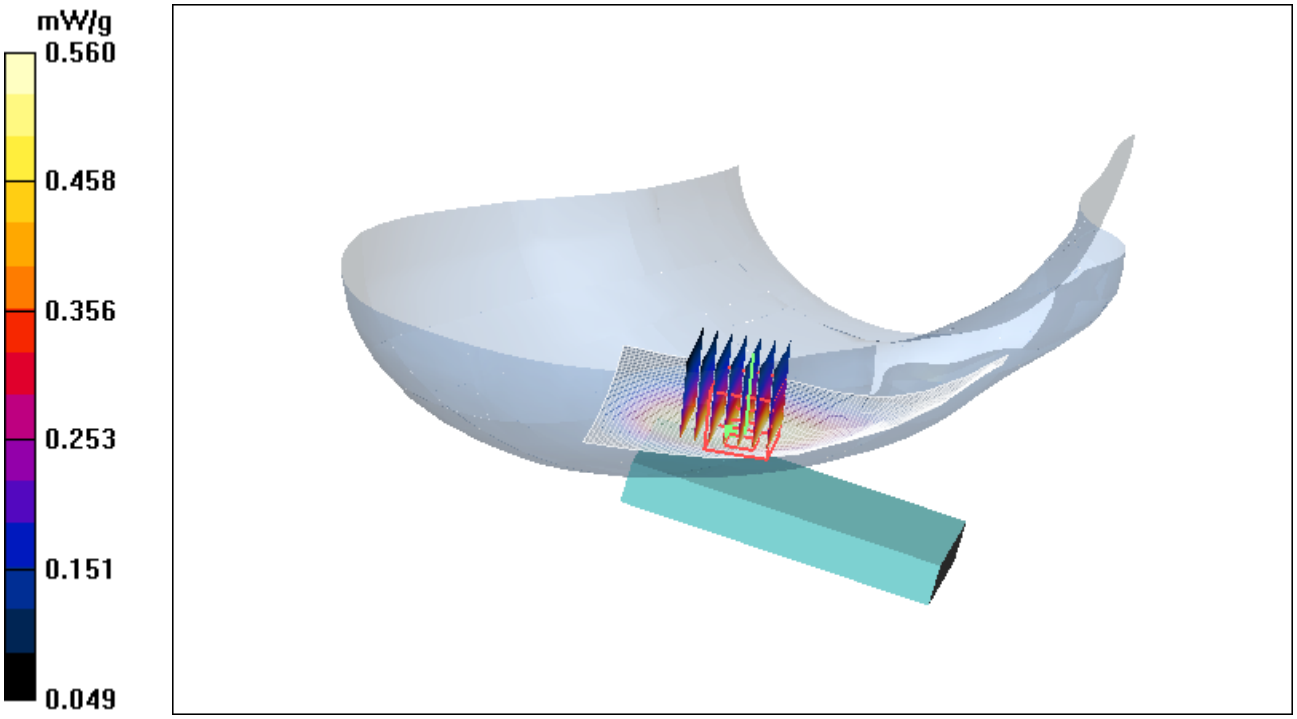


Figure 29 Right Hand Tilt 15° GSM 850 Channel 661

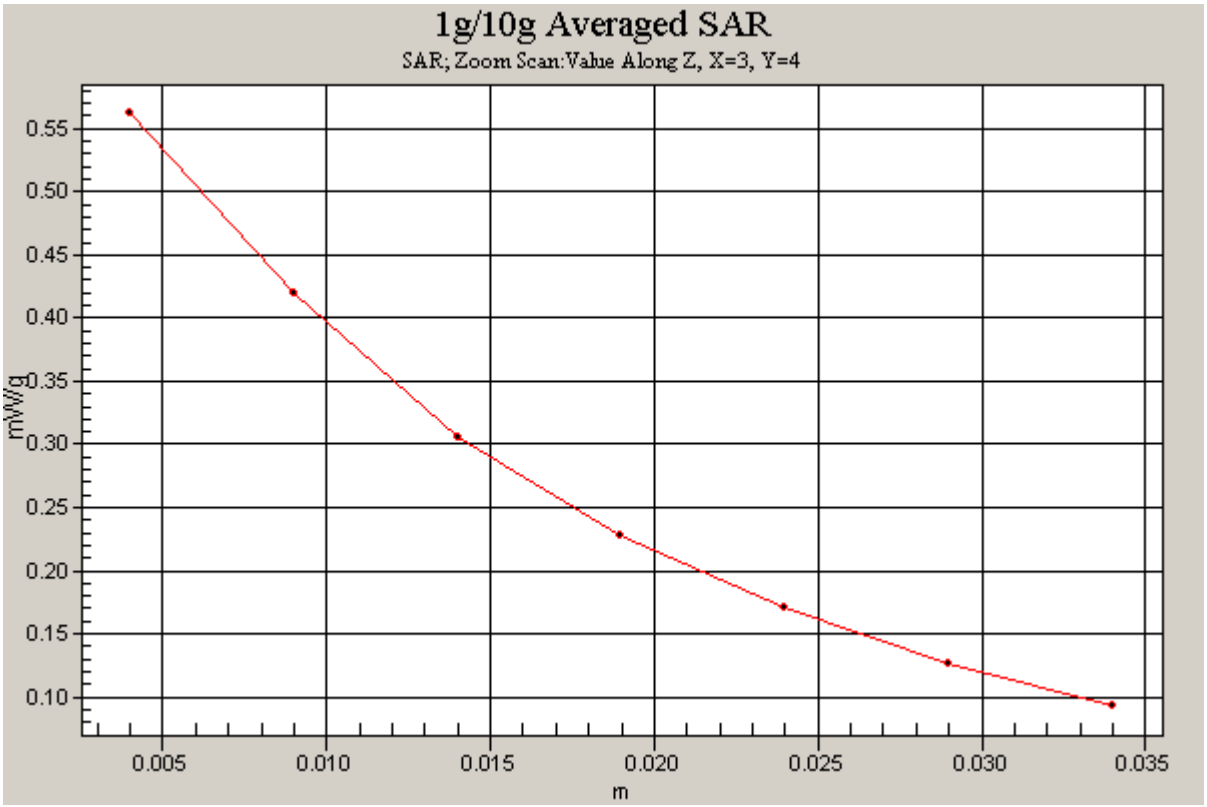


Figure 30 Z-Scan at power reference point (Right Hand Tilt 15° GSM 850 Channel 661)

GSM 850 Towards Ground High

Date/Time: 8/29/2009 2:12:00 PM
Communication System: GSM 850; Frequency: 848.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 849 MHz; σ = 1.03 mho/m; ε_r = 54.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.14, 6.14, 6.14); Calibrated: 11/25/2008
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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.558 mW/g

Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.5 V/m; Power Drift = -0.106 dB
Peak SAR (extrapolated) = 0.676 W/kg
SAR(1 g) = 0.528 mW/g; SAR(10 g) = 0.378 mW/g
Maximum value of SAR (measured) = 0.564 mW/g

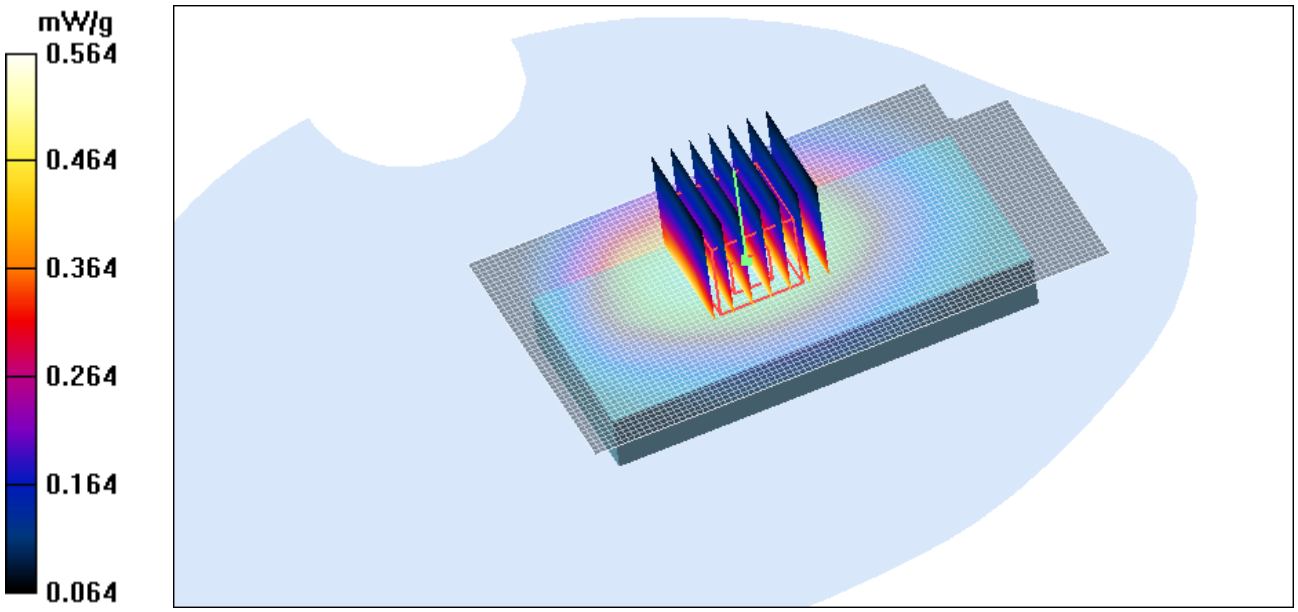


Figure 31 Body, Towards Ground, GSM 850 Channel 810

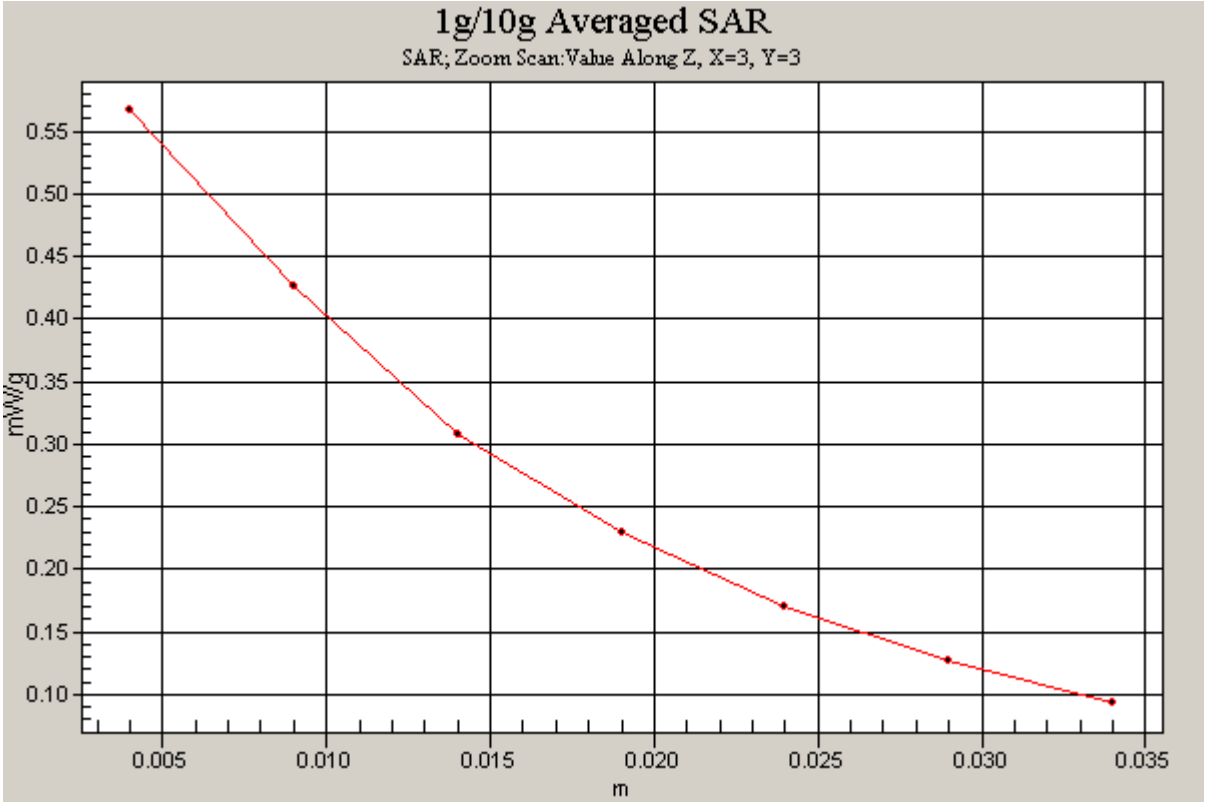


Figure 32 Z-Scan at power reference point (Body, Towards Ground, GSM 850 Channel 810)

GSM 850 Towards Ground Middle

Date/Time: 8/29/2009 1:53:43 PM
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 1.02 mho/m; ε_r = 55; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.14, 6.14, 6.14); Calibrated: 11/25/2008
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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.589 mW/g

Towards Ground Middle /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = -0.076 dB
Peak SAR (extrapolated) = 0.695 W/kg
SAR(1 g) = 0.548 mW/g; SAR(10 g) = 0.393 mW/g
Maximum value of SAR (measured) = 0.582 mW/g

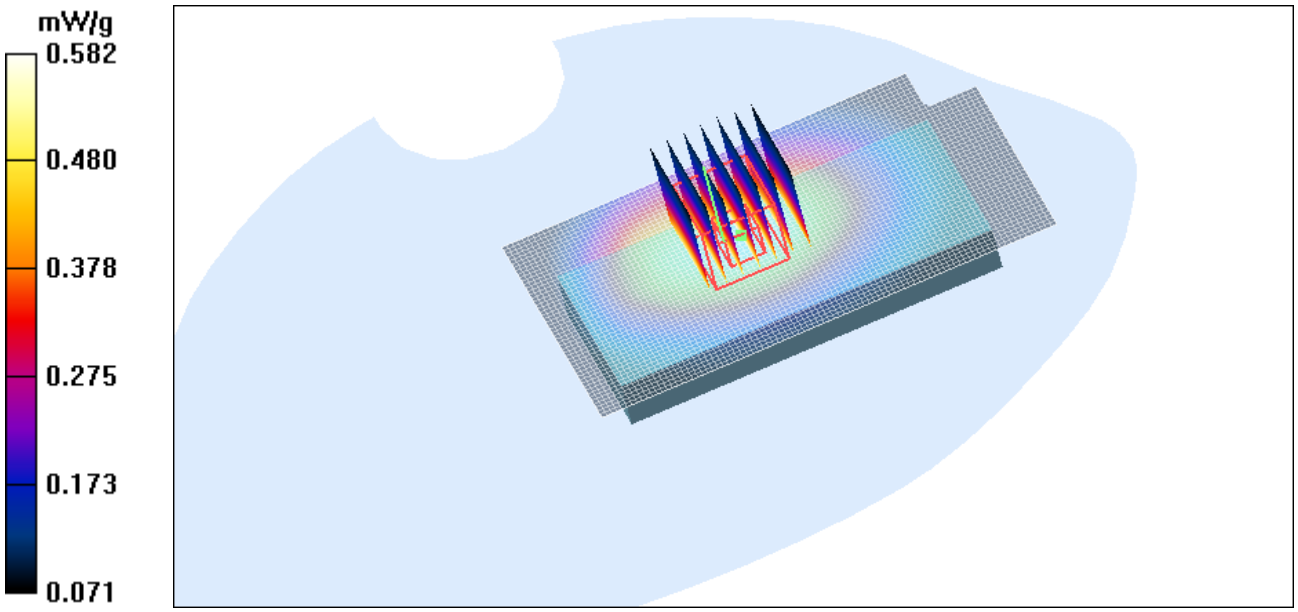


Figure 33 Body, Towards Ground, GSM 850 Channel 661

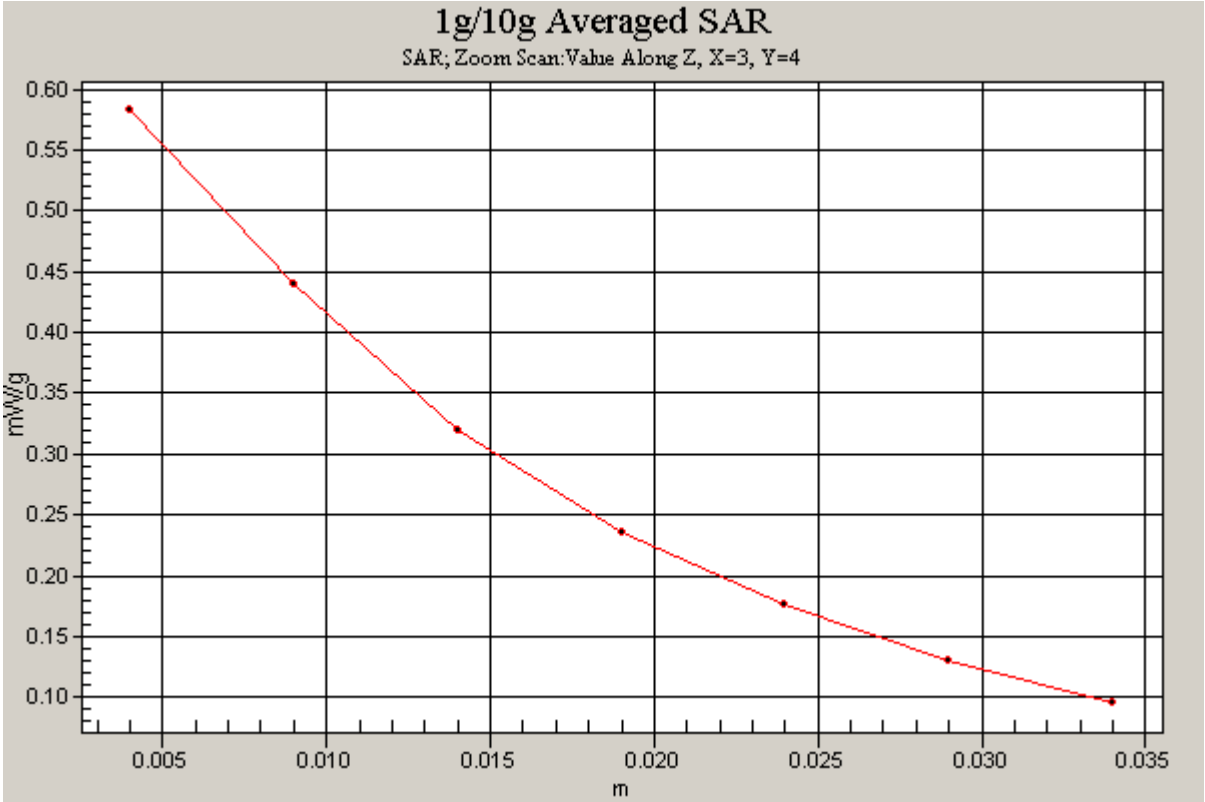


Figure 34 Z-Scan at power reference point (Body, Towards Ground, GSM 850 Channel 661)

GSM 850 Towards Ground Low

Date/Time: 8/29/2009 2:29:44 PM
Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 1.01 mho/m; ε_r = 55.2; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.14, 6.14, 6.14); Calibrated: 11/25/2008
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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.594 mW/g

Towards Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.1 V/m; Power Drift = -0.078 dB
Peak SAR (extrapolated) = 0.705 W/kg
SAR(1 g) = 0.555 mW/g; SAR(10 g) = 0.402 mW/g
Maximum value of SAR (measured) = 0.588 mW/g

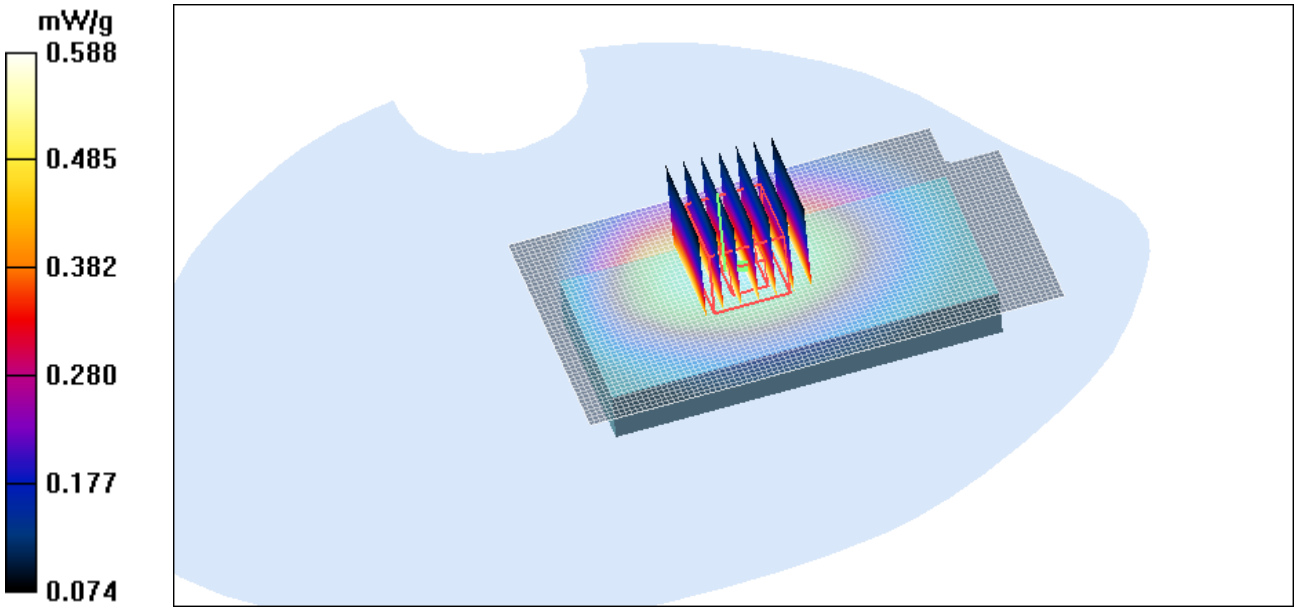


Figure 35 Body, Towards Ground, GSM 850 Channel 512

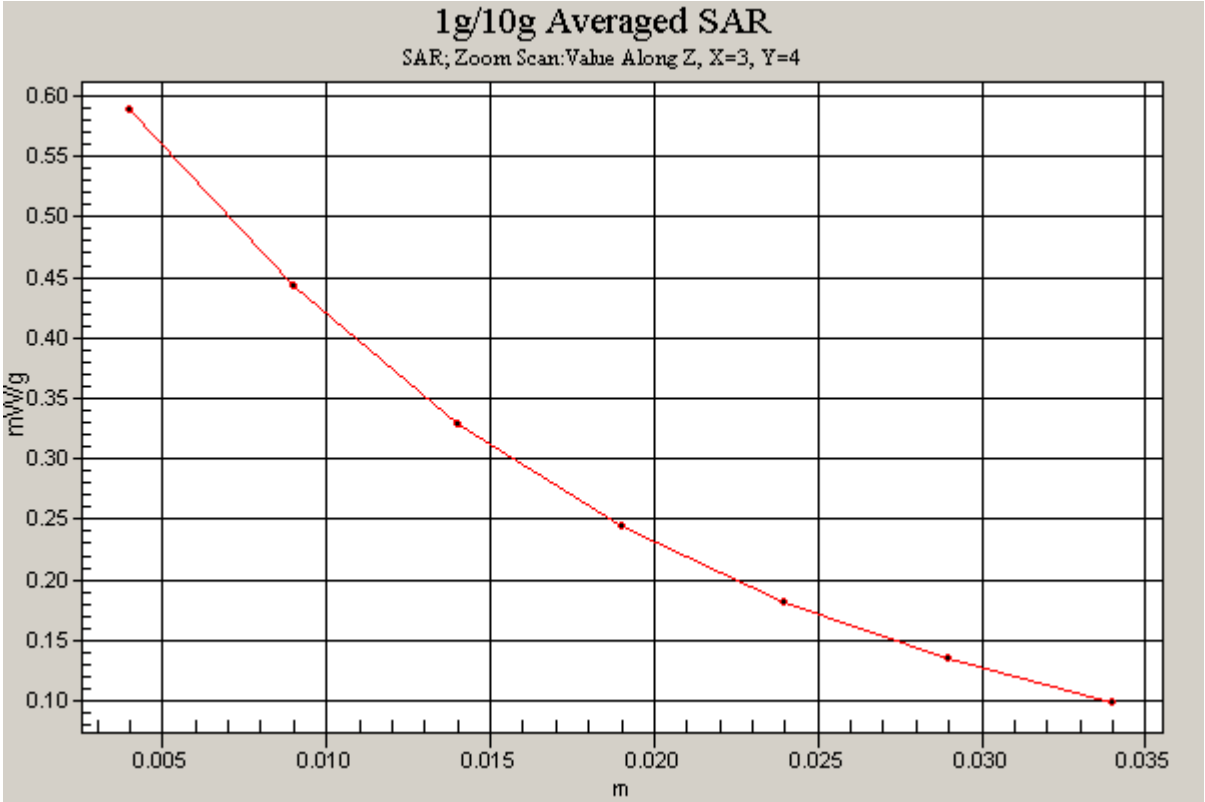


Figure 36 Z-Scan at power reference point (Body, Towards Ground, GSM 850 Channel 512)

GSM 850 Towards Phantom Middle

Date/Time: 8/29/2009 1:35:12 PM
Communication System: GSM 850; Frequency: 836.6 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 837 MHz; σ = 1.02 mho/m; ε_r = 55; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.14, 6.14, 6.14); Calibrated: 11/25/2008
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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.544 mW/g

Towards Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.5 V/m; Power Drift = -0.051 dB
Peak SAR (extrapolated) = 0.657 W/kg
SAR(1 g) = 0.509 mW/g; SAR(10 g) = 0.363 mW/g
Maximum value of SAR (measured) = 0.544 mW/g

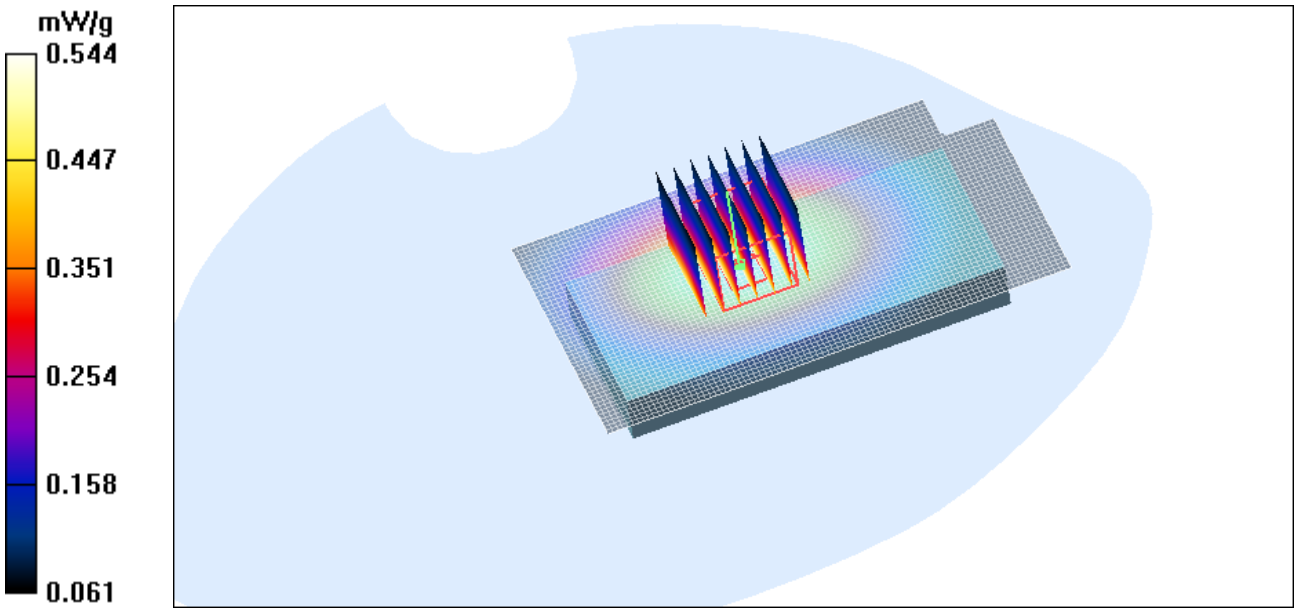


Figure 37 Body, Towards Phantom, GSM 850 Channel 661

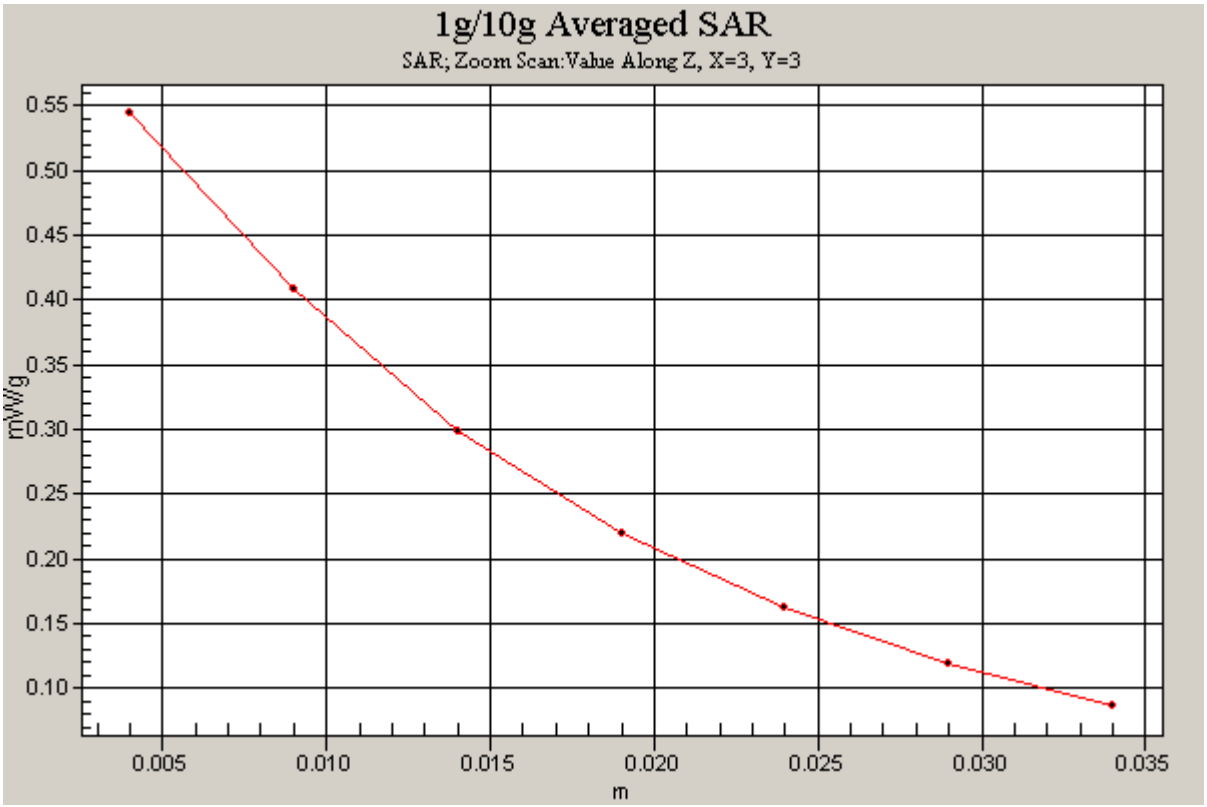


Figure 38 Z-Scan at power reference point (Body, Towards Phantom, GSM 850 Channel 661)

GSM 850 Towards Ground with Earphone Low

Date/Time: 8/29/2009 2:50:15 PM
Communication System: GSM 850; Frequency: 824.2 MHz;Duty Cycle: 1:8.3
Medium parameters used (interpolated): f = 824.2 MHz; σ = 1.01 mho/m; ε_r = 55.2; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.14, 6.14, 6.14); Calibrated: 11/25/2008
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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.621 mW/g

Towards Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.3 V/m; Power Drift = -0.046 dB
Peak SAR (extrapolated) = 0.751 W/kg
SAR(1 g) = 0.582 mW/g; SAR(10 g) = 0.418 mW/g
Maximum value of SAR (measured) = 0.620 mW/g

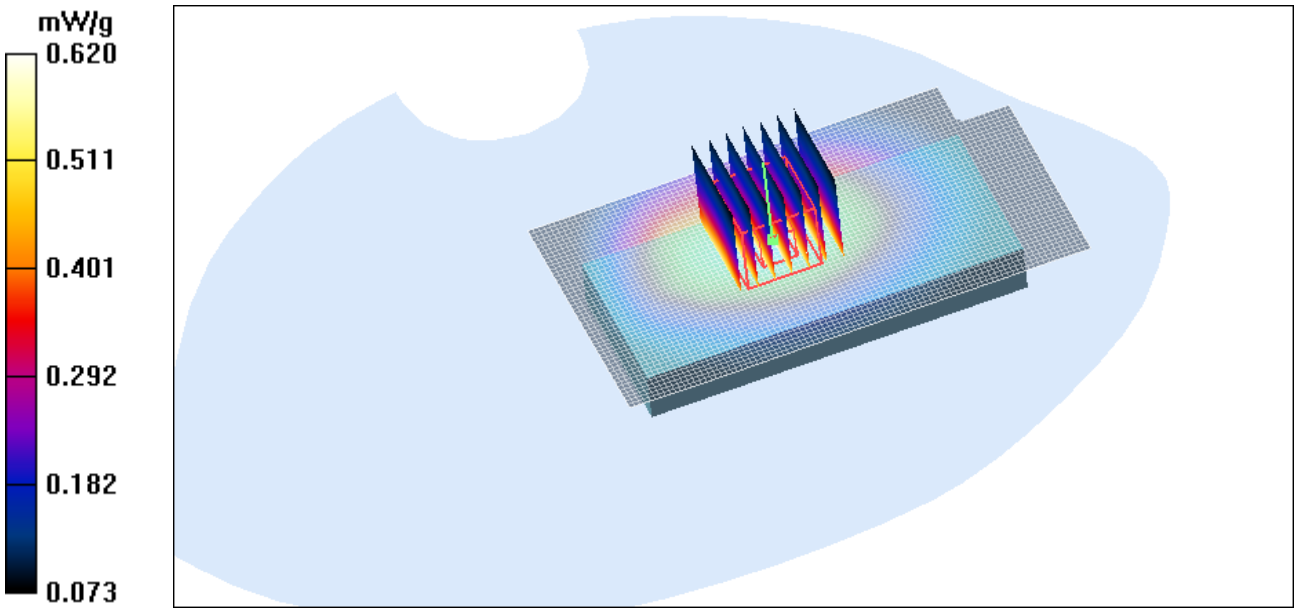


Figure 39 Body with Earphone, Towards Ground, GSM 850 Channel 512

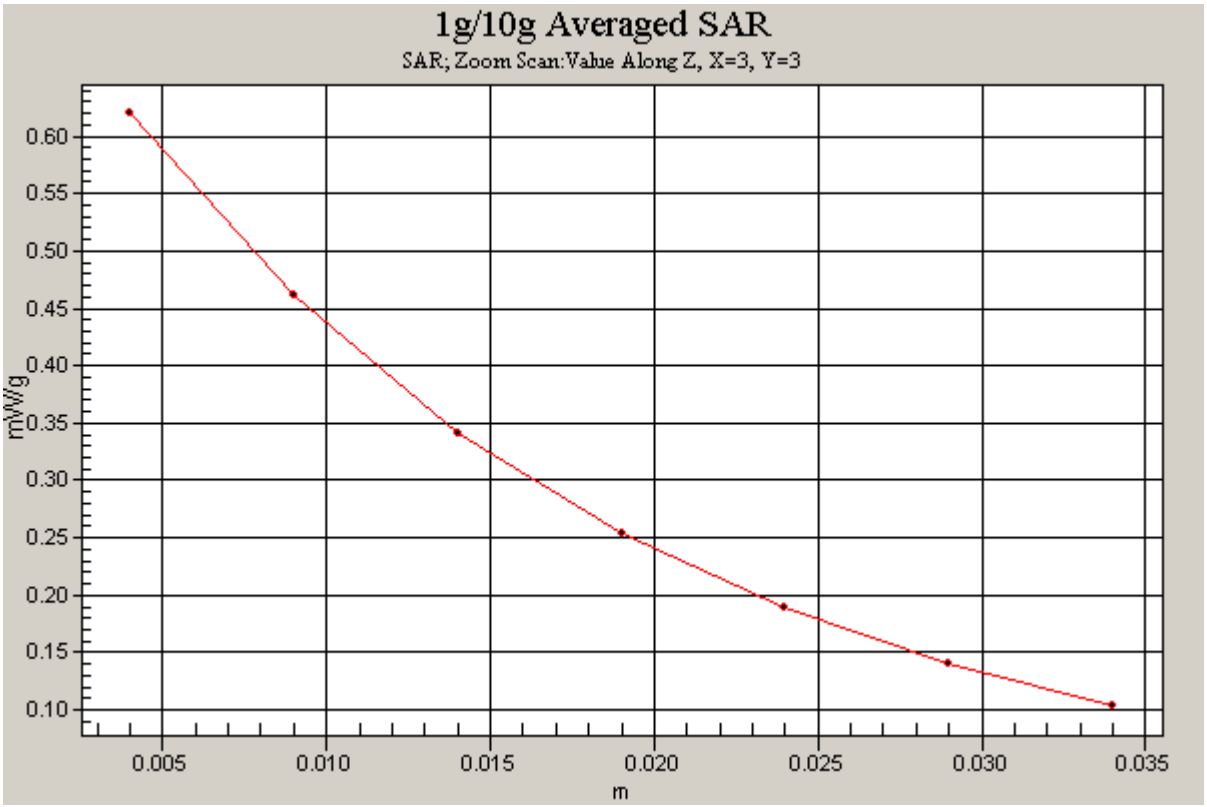


Figure 40 Z-Scan at power reference point (Body with Earphone, Towards Ground, GSM 850 Channel 512)

GSM 850 GPRS (4 timeslots uplink) Towards Ground Low

Date/Time: 8/29/2009 4:29:58 PM

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

Medium parameters used (interpolated): f = 824.2 MHz; σ = 1.01 mho/m; ε_r = 55.2; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

Phantom section: Flat Section

DASY4 Configuration:

Probe: ET3DV6 - SN1737; ConvF(6.14, 6.14, 6.14); Calibrated: 11/25/2008

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 (51x91x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.683 mW/g

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

Reference Value = 17.7 V/m; Power Drift = -0.093 dB

Peak SAR (extrapolated) = 1.71 W/kg

SAR(1 g) = 0.636 mW/g; SAR(10 g) = 0.460 mW/g

Maximum value of SAR (measured) = 0.672 mW/g

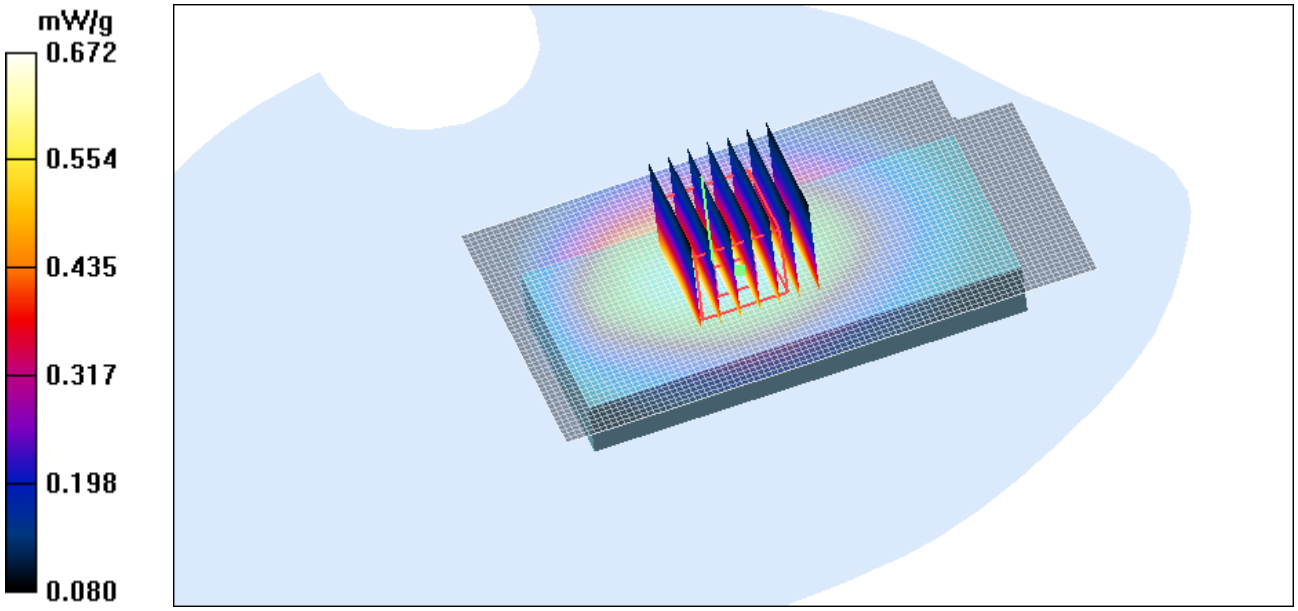


Figure 41 Body, Towards Ground, GSM 850 GPRS (4 timeslots uplink) Channel 512

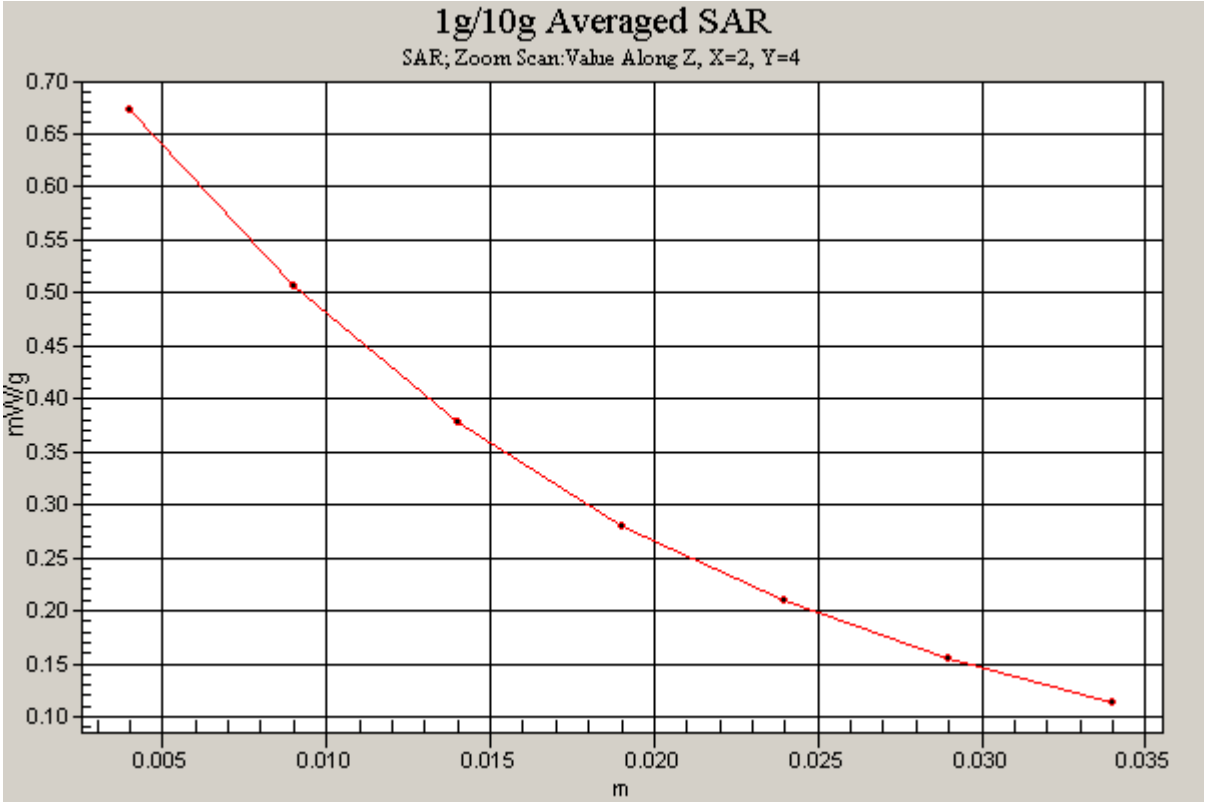


Figure 42 Z-Scan at power reference point [Body, Towards Ground, GSM 850 GPRS (4 timeslots uplink) Channel 512]

GSM 850 EGPRS (4 timeslots uplink) Towards Ground Low

Date/Time: 8/29/2009 3:12:31 PM
Communication System: GSM 850+EGPRS(4Up); Frequency: 824.2 MHz;Duty Cycle: 1:2
Medium parameters used (interpolated): f = 824.2 MHz; σ = 1.01 mho/m; ε_r = 55.2; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.14, 6.14, 6.14); Calibrated: 11/25/2008
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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.697 mW/g

Towards Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.0 V/m; Power Drift = -0.021 dB
Peak SAR (extrapolated) = 0.823 W/kg
SAR(1 g) = 0.641 mW/g; SAR(10 g) = 0.463 mW/g
Maximum value of SAR (measured) = 0.677 mW/g

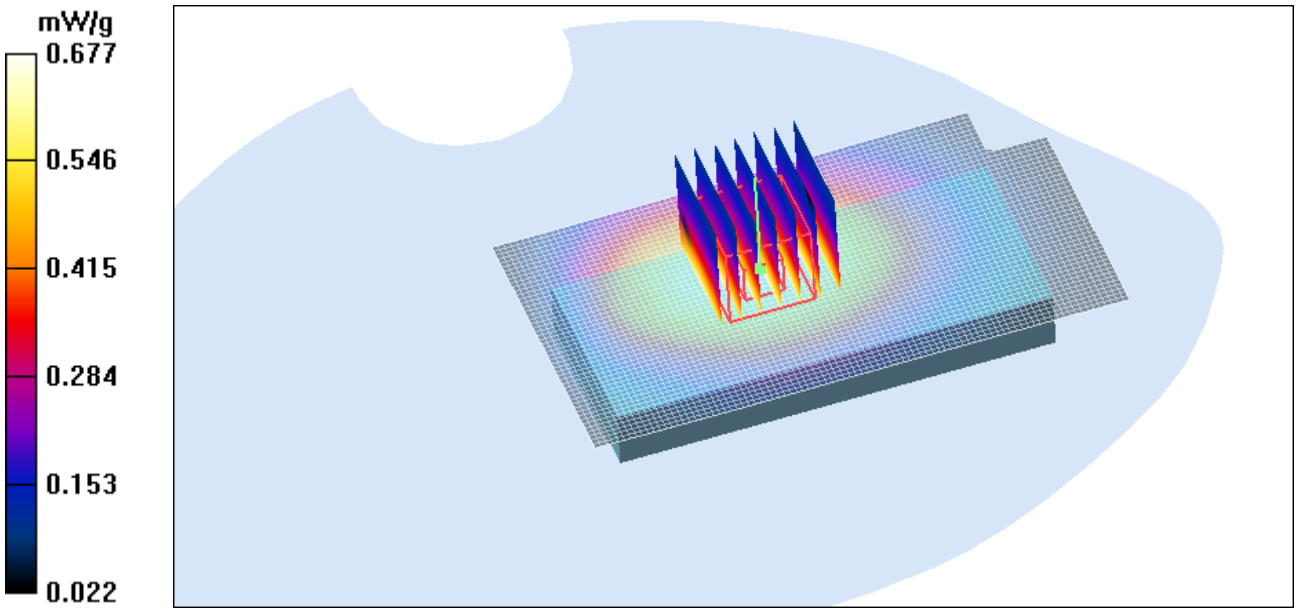


Figure 43 Body, Towards Ground, GSM 850 EGPRS (4 timeslots uplink) Channel 512

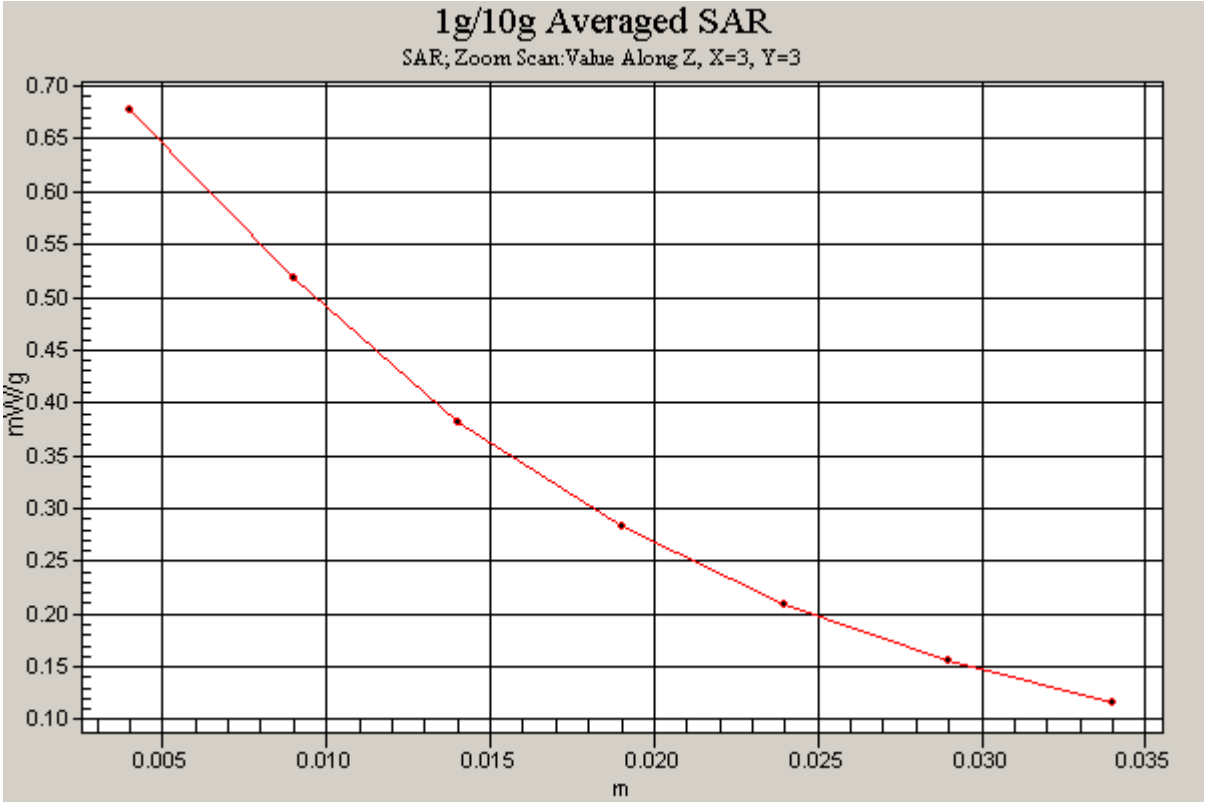


Figure 44 Z-Scan at power reference point [Body, Towards Ground, GSM 850 EGPRS (4 timeslots uplink) Channel 512]

GSM 1900 Left Cheek High

Date/Time: 8/29/2009 6:38:42 AM
Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.42 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.89, 4.89, 4.89); Calibrated: 11/25/2008
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

Cheek High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.277 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.37 V/m; Power Drift = -0.076 dB
Peak SAR (extrapolated) = 0.382 W/kg
SAR(1 g) = 0.242 mW/g; SAR(10 g) = 0.134 mW/g
Maximum value of SAR (measured) = 0.272 mW/g

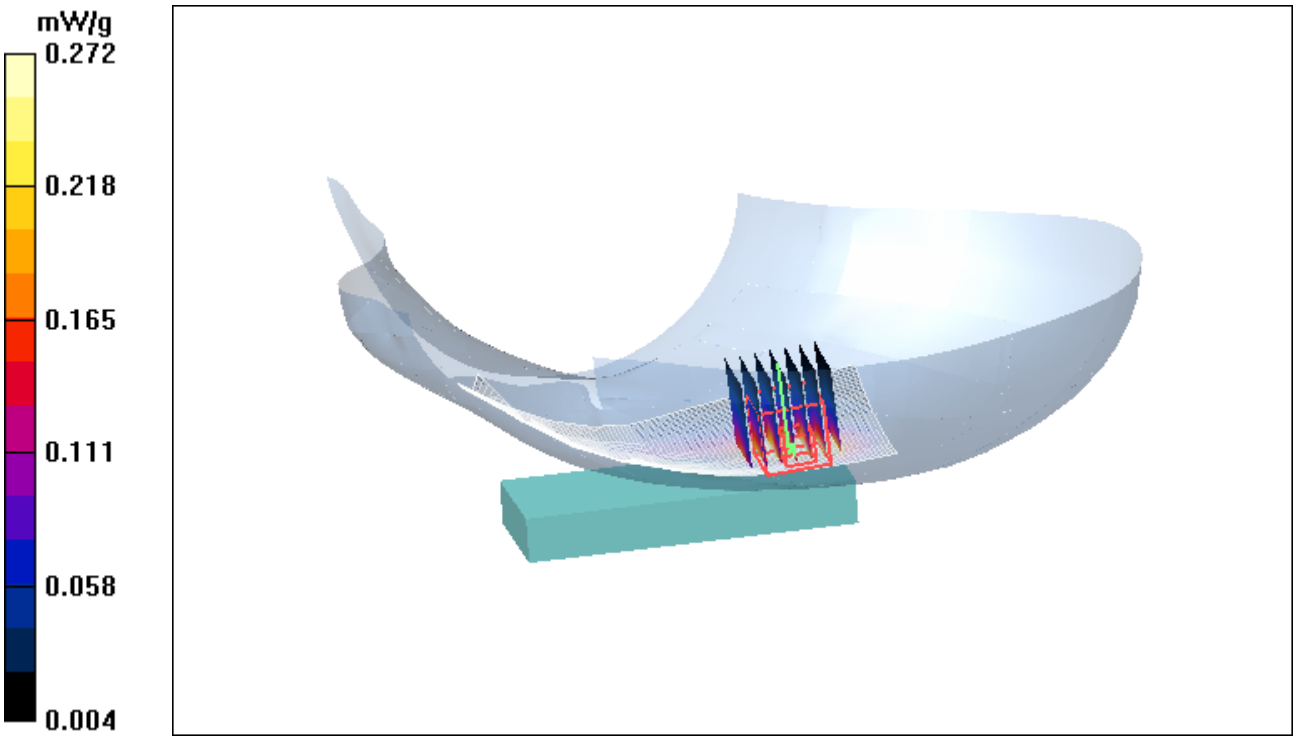


Figure 45 Left Hand Touch Cheek GSM 1900 Channel 810

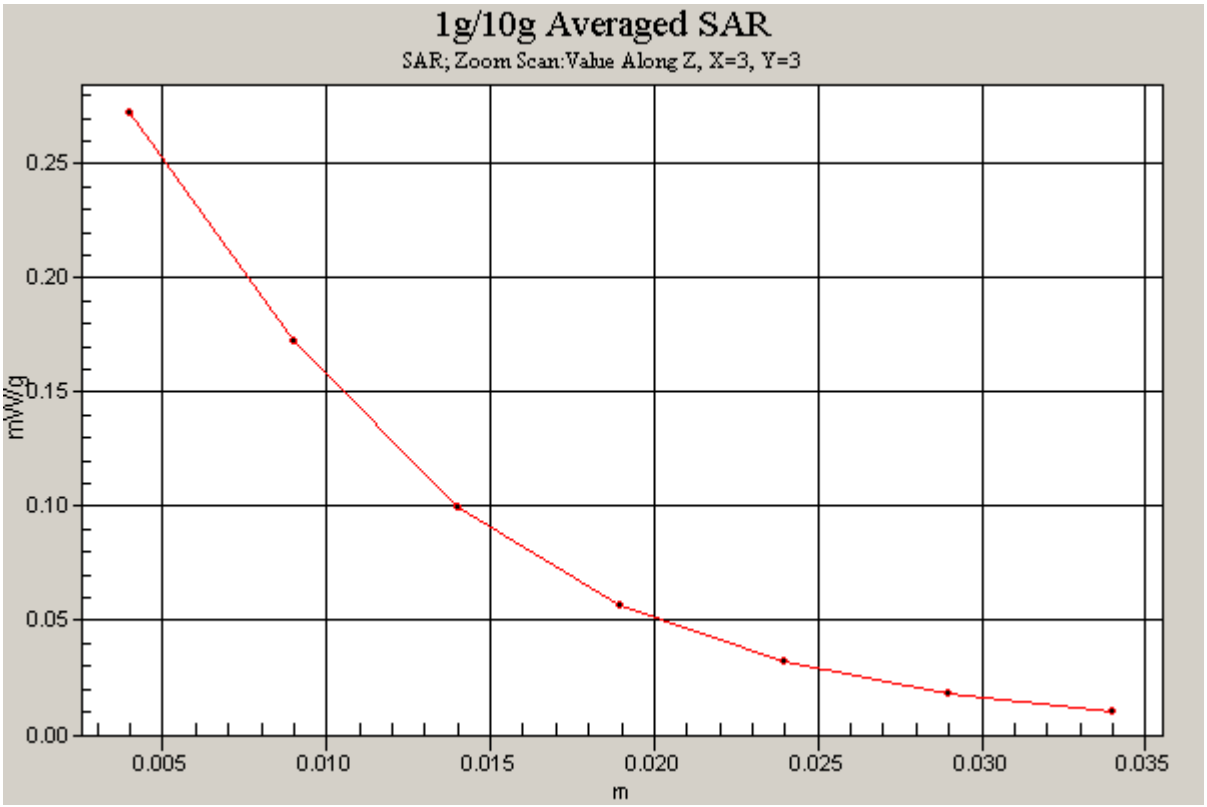


Figure 46 Z-Scan at power reference point (Left Hand Touch Cheek GSM 1900 Channel 810)

GSM 1900 Left Cheek Middle

Date/Time: 8/29/2009 6:20:24 AM
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.89, 4.89, 4.89); Calibrated: 11/25/2008
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

Cheek Middle /Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.251 mW/g

Cheek Middle /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.87 V/m; Power Drift = -0.096 dB
Peak SAR (extrapolated) = 0.345 W/kg
SAR(1 g) = 0.220 mW/g; SAR(10 g) = 0.120 mW/g
Maximum value of SAR (measured) = 0.250 mW/g

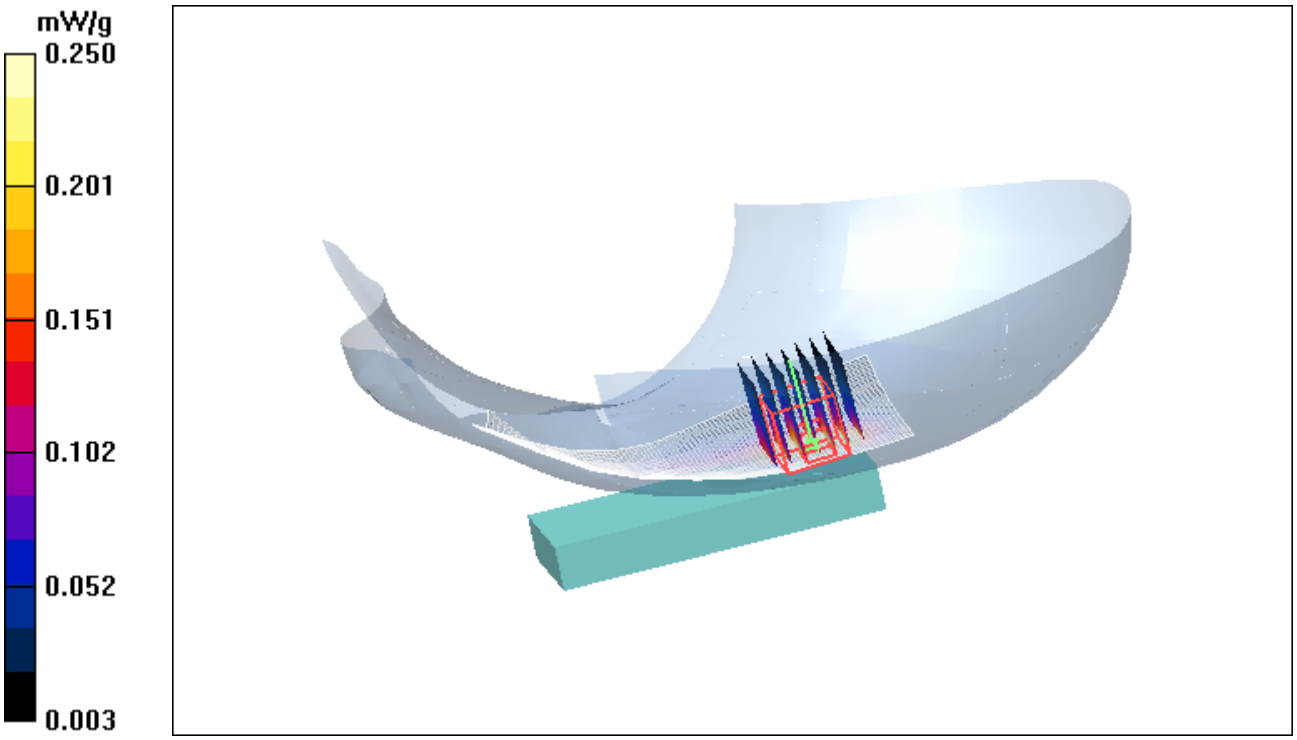


Figure 47 Left Hand Touch Cheek GSM 1900 Channel 661

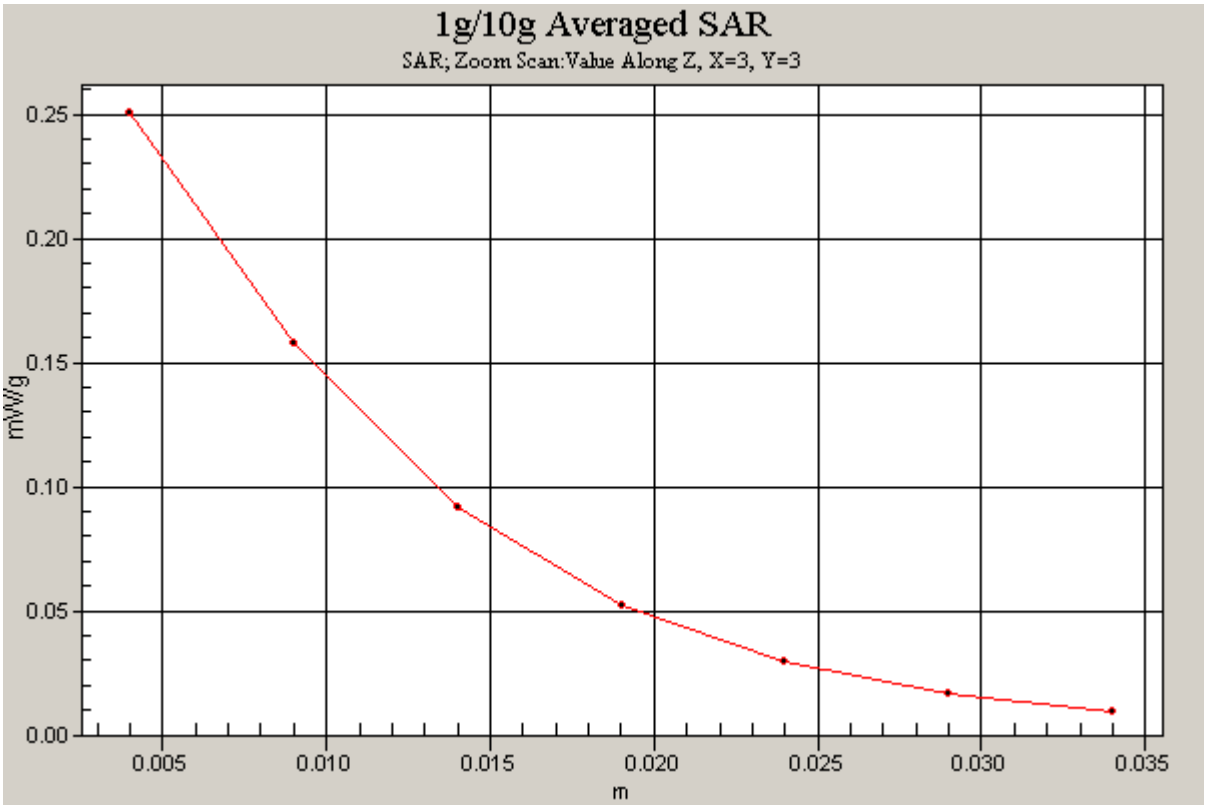


Figure 48 Z-Scan at power reference point (Left Hand Touch Cheek GSM 1900 Channel 661)

GSM 1900 Left Cheek Low

Date/Time: 8/29/2009 6:56:40 AM
Communication System: PCS 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 = 39.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.89, 4.89, 4.89); Calibrated: 11/25/2008
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

Cheek Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.247 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.62 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 0.340 W/kg
SAR(1 g) = 0.216 mW/g; SAR(10 g) = 0.117 mW/g
Maximum value of SAR (measured) = 0.246 mW/g

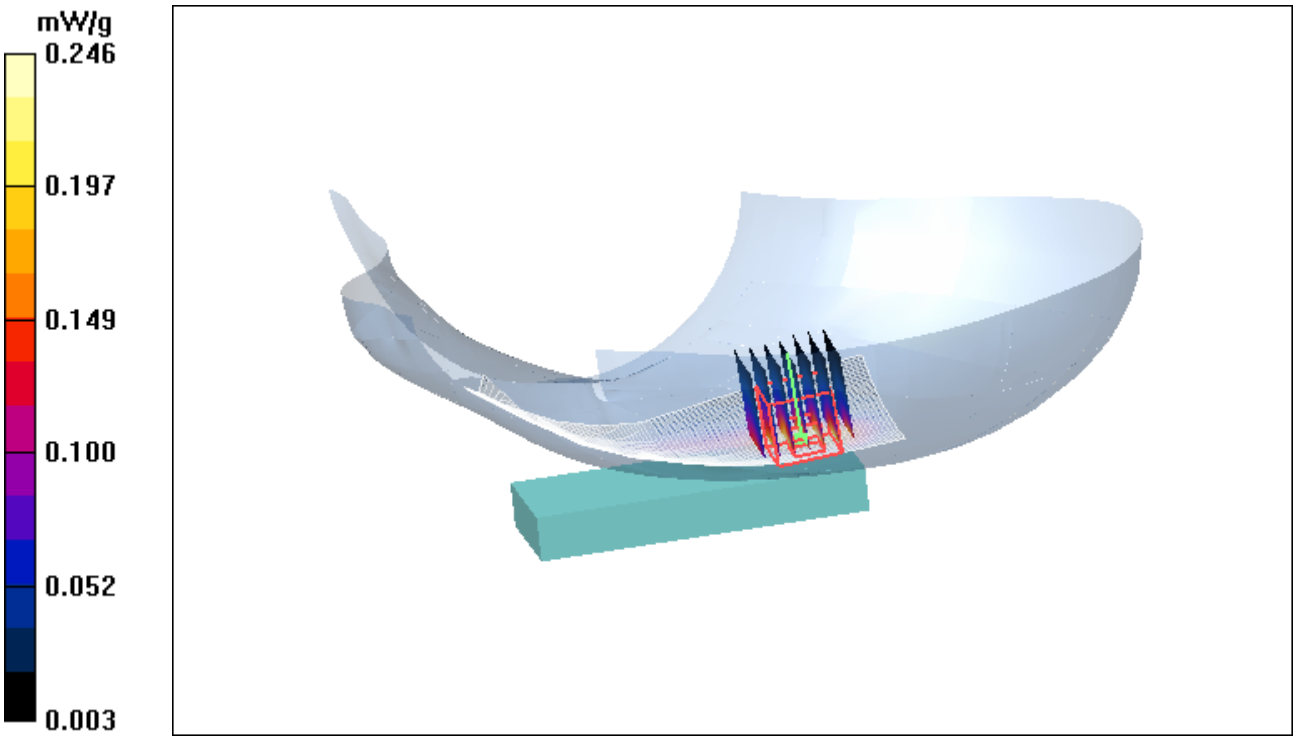


Figure 49 Left Hand Touch Cheek GSM 1900 Channel 512

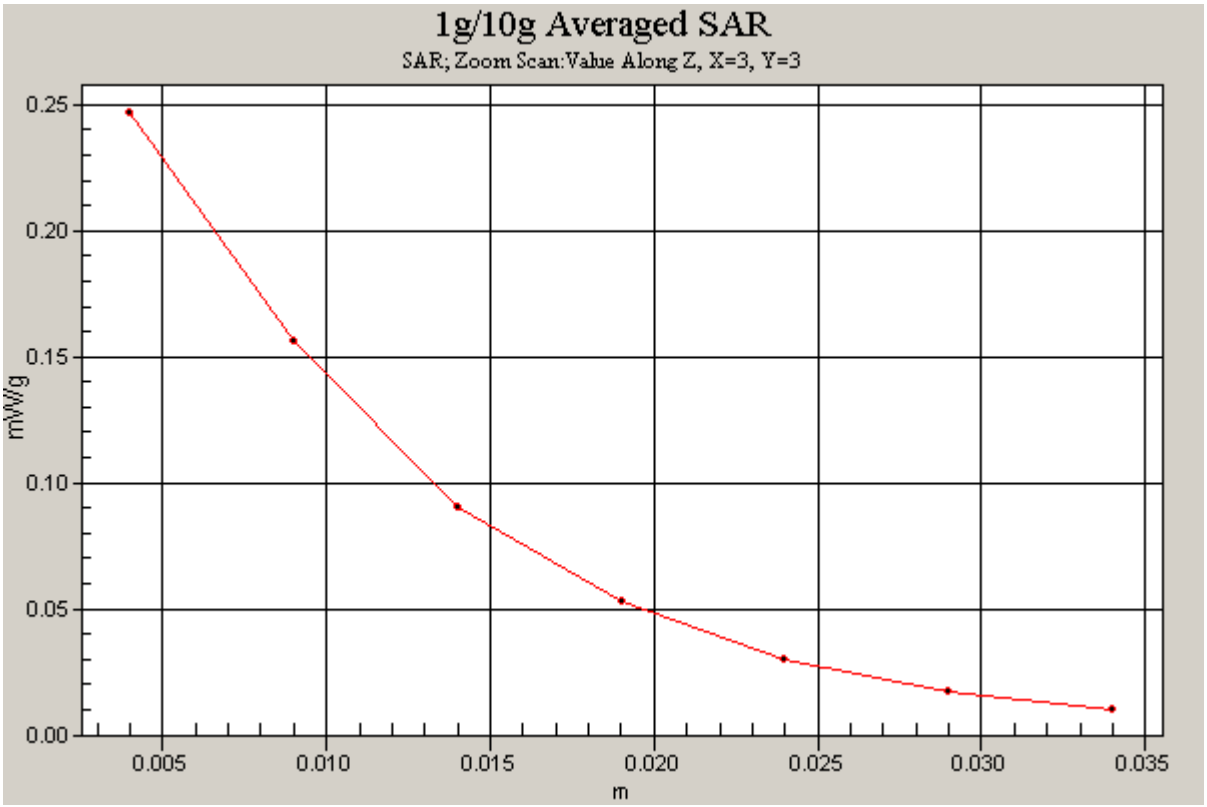


Figure 50 Z-Scan at power reference point (Left Hand Touch Cheek GSM 1900 Channel 512)

GSM 1900 Left Tilt Middle

Date/Time: 8/29/2009 6:00:48 AM
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.89, 4.89, 4.89); Calibrated: 11/25/2008
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

Tilt Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.227 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.95 V/m; Power Drift = -0.178 dB
Peak SAR (extrapolated) = 0.327 W/kg
SAR(1 g) = 0.203 mW/g; SAR(10 g) = 0.109 mW/g
Maximum value of SAR (measured) = 0.229 mW/g

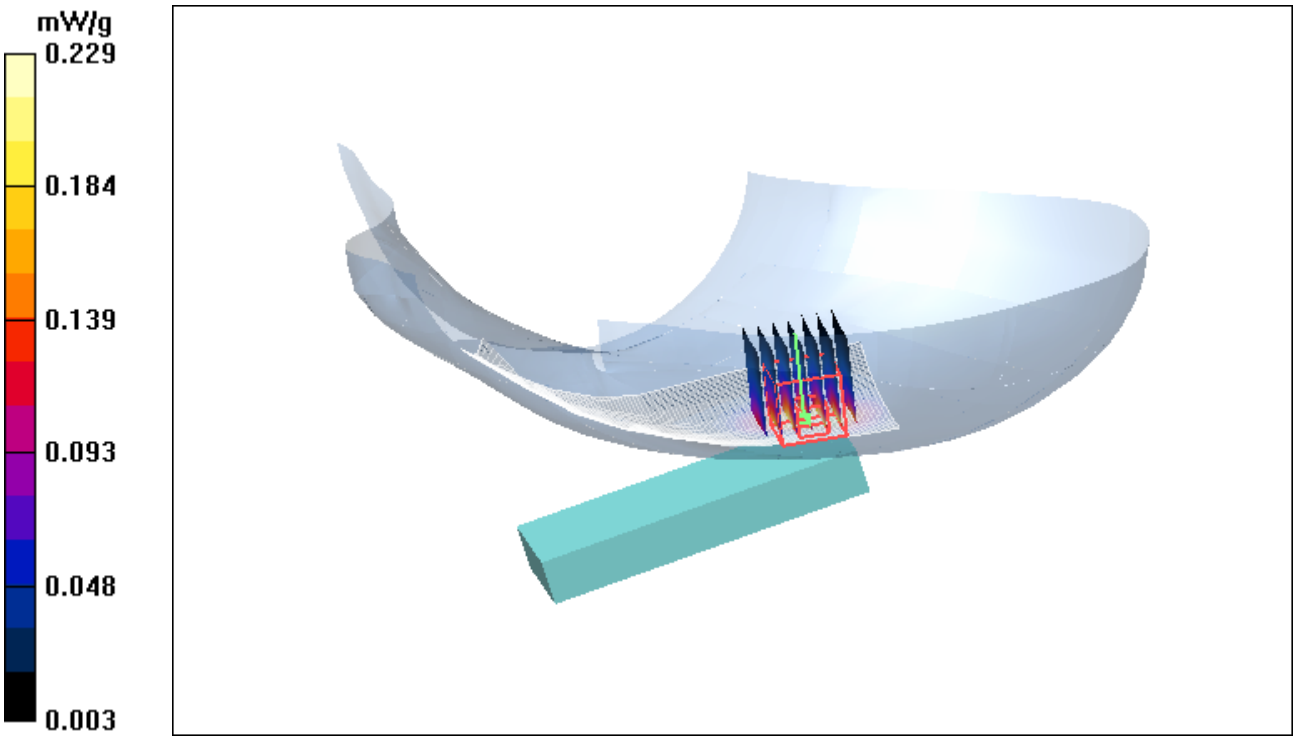


Figure 51 Left Hand Tilt 15° GSM 1900 Channel 661

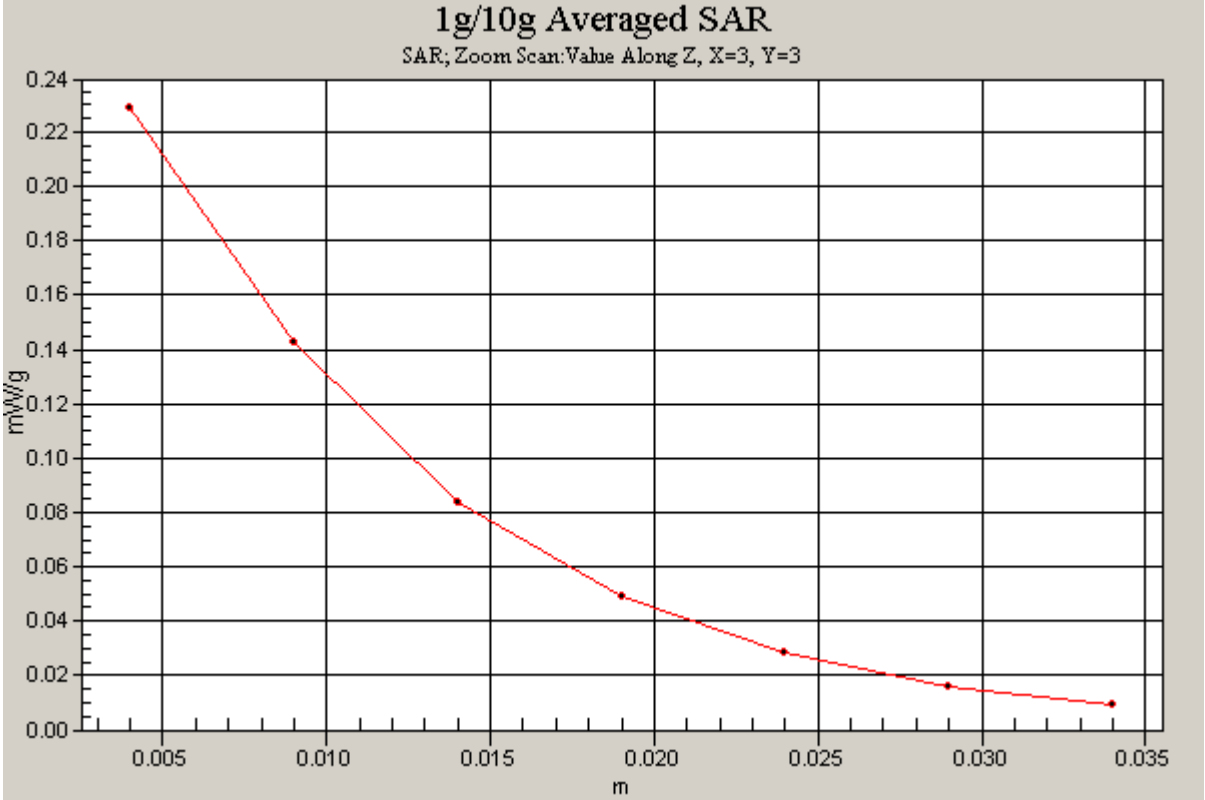


Figure 52 Z-Scan at power reference point (Left Hand Tilt 15° GSM 1900 Channel 661)

GSM 1900 Right Cheek Middle

Date/Time: 8/29/2009 4:37:40 AM
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.89, 4.89, 4.89); Calibrated: 11/25/2008
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

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.230 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.0 V/m; Power Drift = -0.018 dB
Peak SAR (extrapolated) = 0.289 W/kg
SAR(1 g) = 0.205 mW/g; SAR(10 g) = 0.121 mW/g
Maximum value of SAR (measured) = 0.229 mW/g

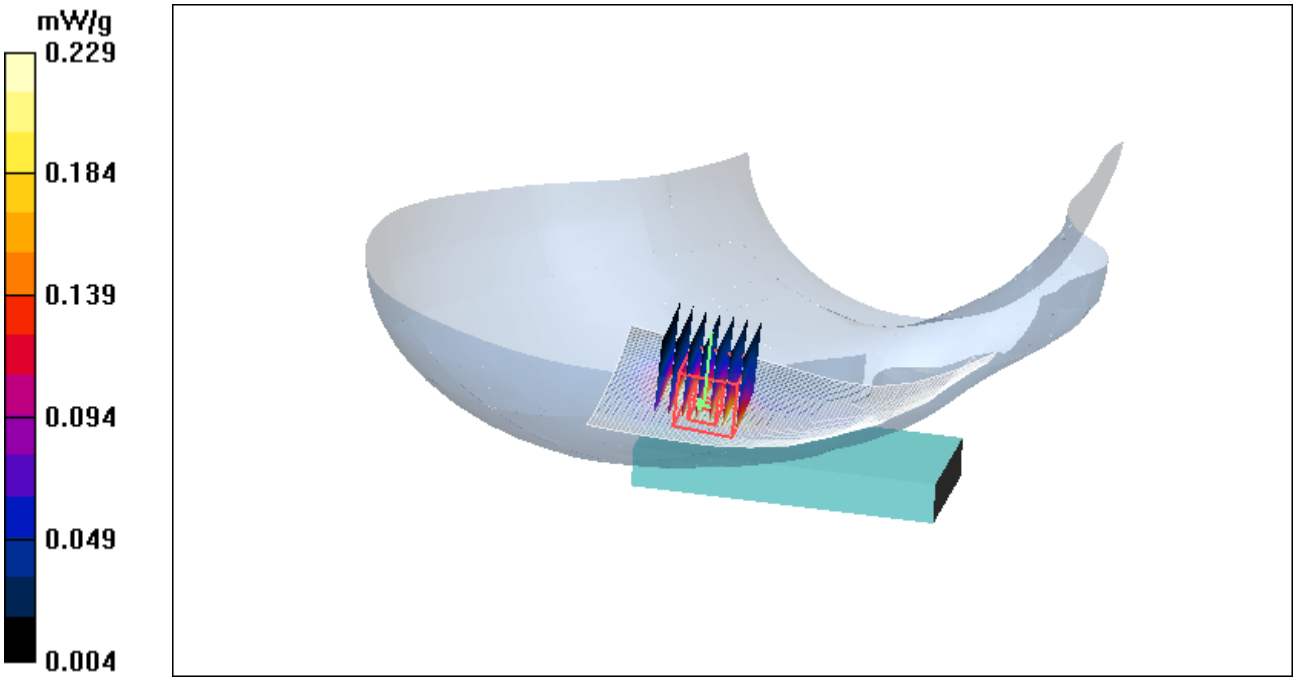


Figure 53 Right Hand Touch Cheek GSM 1900 Channel 661

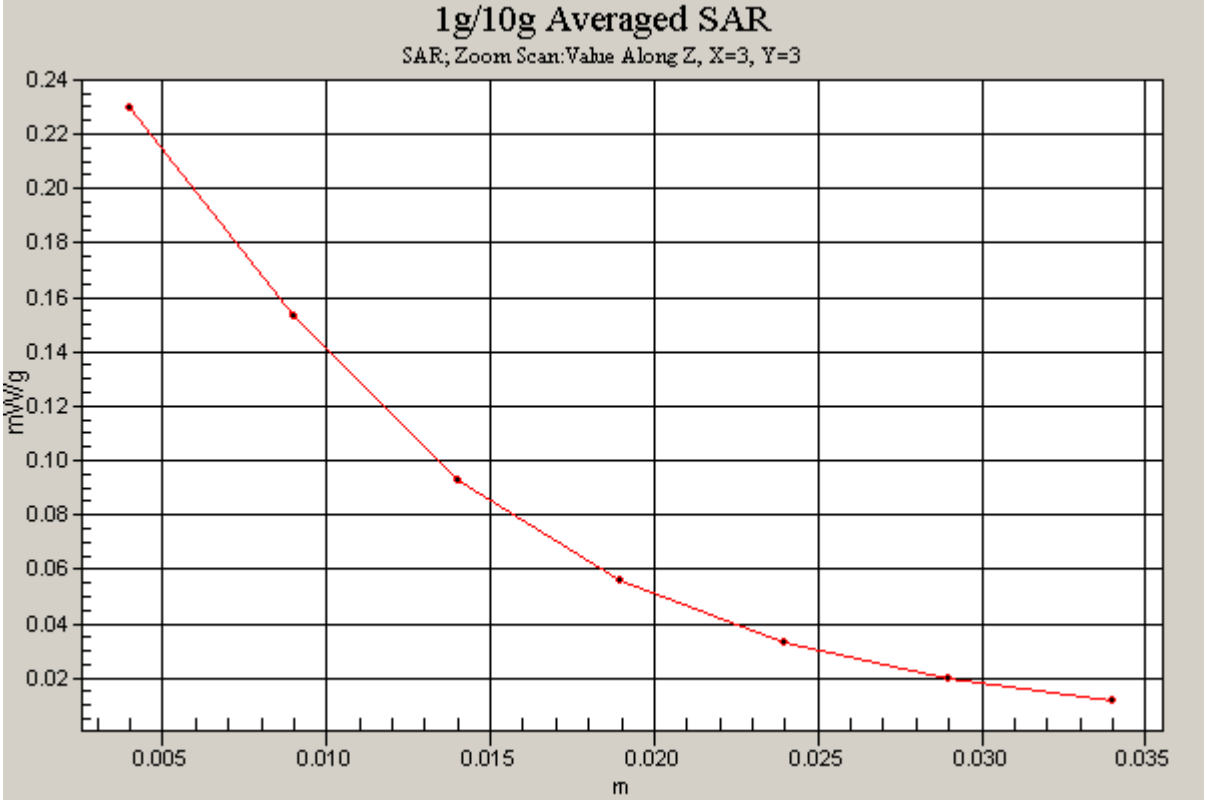


Figure 54 Z-Scan at power reference point (Right Hand Touch Cheek GSM 1900 Channel 661)

GSM 1900 Right Tilt Middle

Date/Time: 8/29/2009 4:57:12 AM
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.89, 4.89, 4.89); Calibrated: 11/25/2008
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

Tilt Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.204 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = -0.035 dB
Peak SAR (extrapolated) = 0.275 W/kg
SAR(1 g) = 0.181 mW/g; SAR(10 g) = 0.101 mW/g
Maximum value of SAR (measured) = 0.202 mW/g

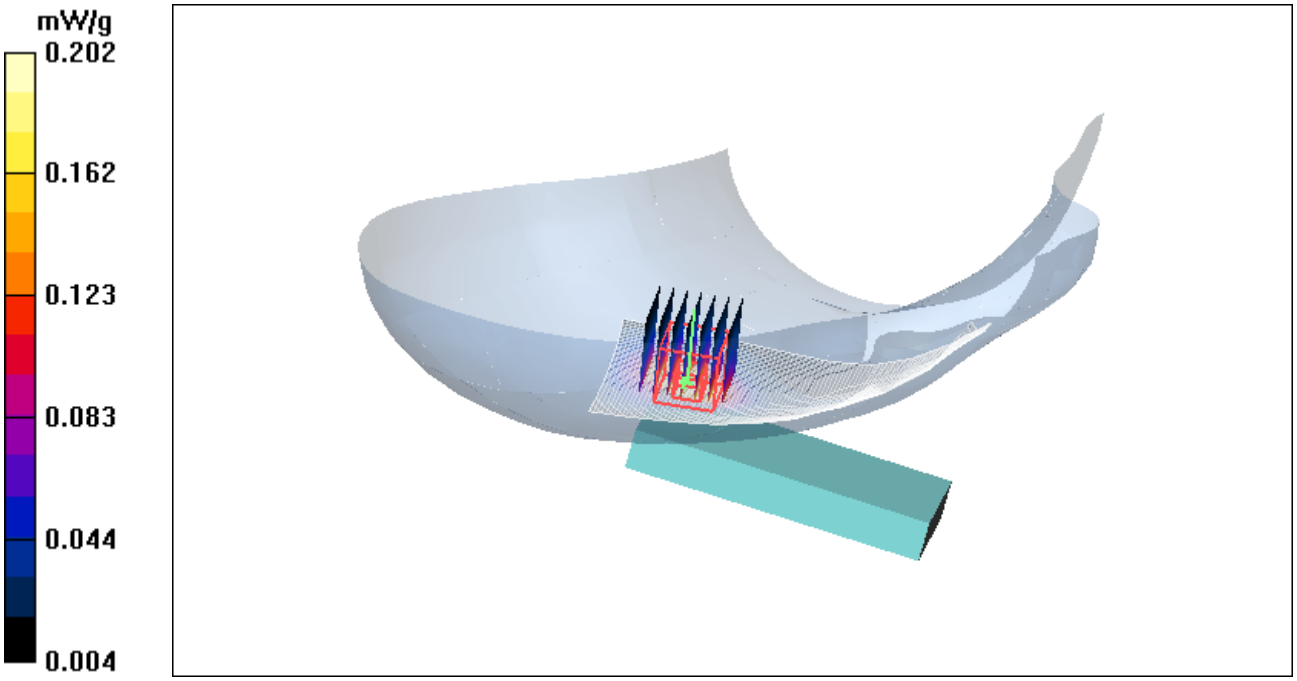


Figure 55 Right Hand Tilt 15° GSM 1900 Channel 661

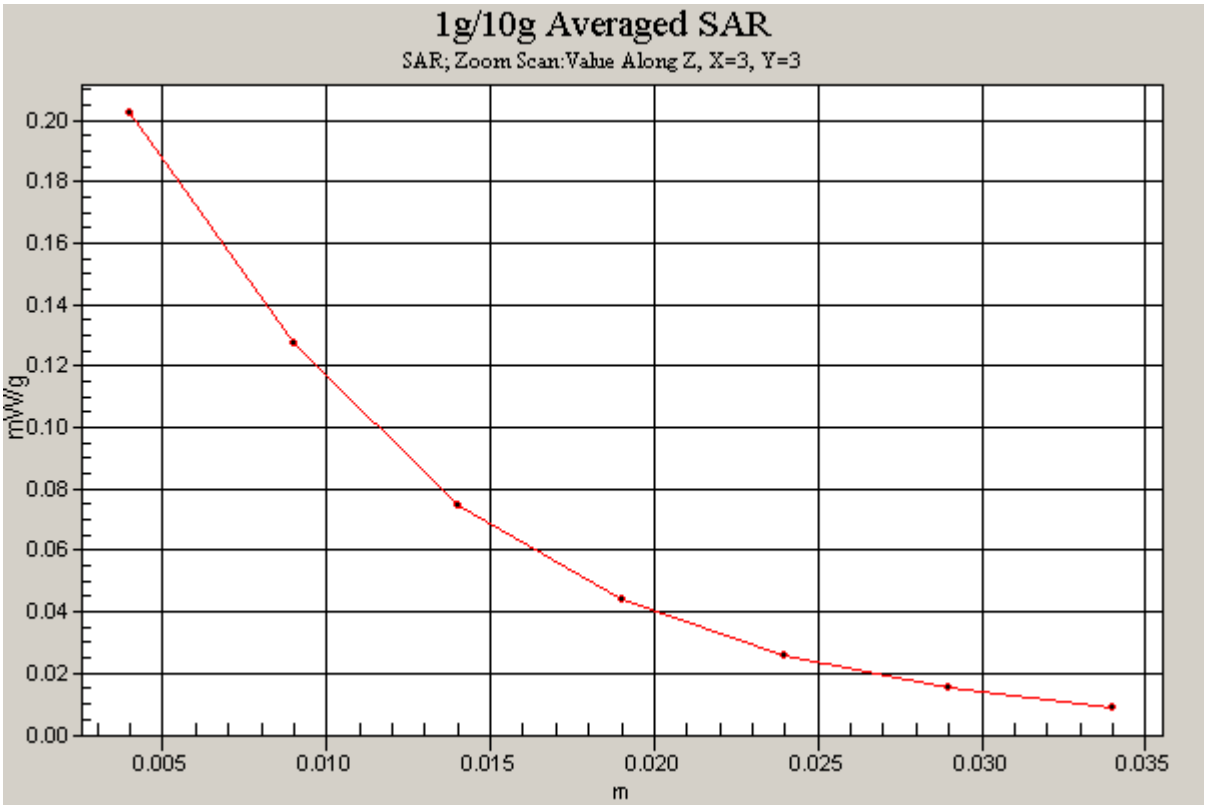


Figure 56 Z-Scan at power reference point (Right Hand Tilt 15° GSM 1900 Channel 661)

GSM 1900 Towards Ground High

Date/Time: 8/26/2009 2:46:51 AM

Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3

Medium parameters used: f = 1910 MHz; σ = 1.54 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

Phantom section: Flat Section

DASY4 Configuration:

Probe: ET3DV6 - SN1737; ConvF(4.6, 4.6, 4.6); Calibrated: 11/25/2008

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

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

Maximum value of SAR (interpolated) = 0.209 mW/g

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

Reference Value = 10.6 V/m; Power Drift = -0.009 dB

Peak SAR (extrapolated) = 0.351 W/kg

SAR(1 g) = 0.192 mW/g; SAR(10 g) = 0.112 mW/g

Maximum value of SAR (measured) = 0.206 mW/g

Towards Ground High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.6 V/m; Power Drift = -0.009 dB

Peak SAR (extrapolated) = 0.285 W/kg

SAR(1 g) = 0.169 mW/g; SAR(10 g) = 0.104 mW/g

Maximum value of SAR (measured) = 0.181 mW/g

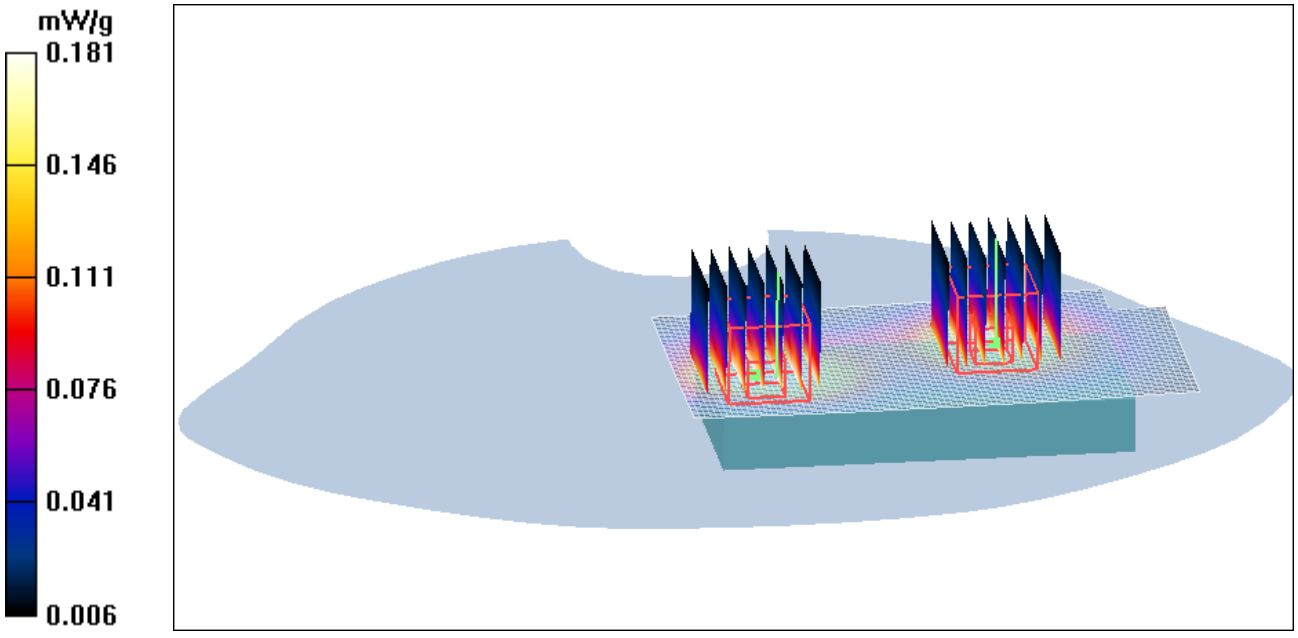
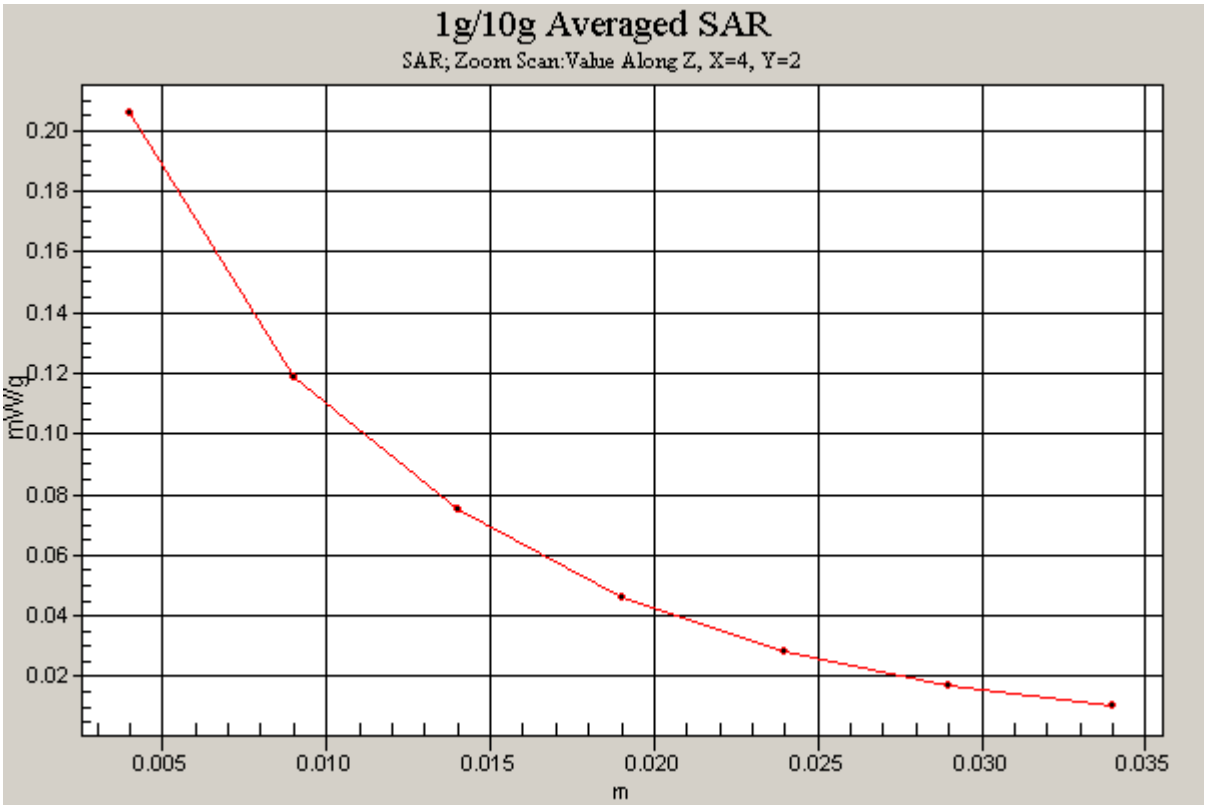


Figure 57 Body, Towards Ground, GSM 1900 Channel 810



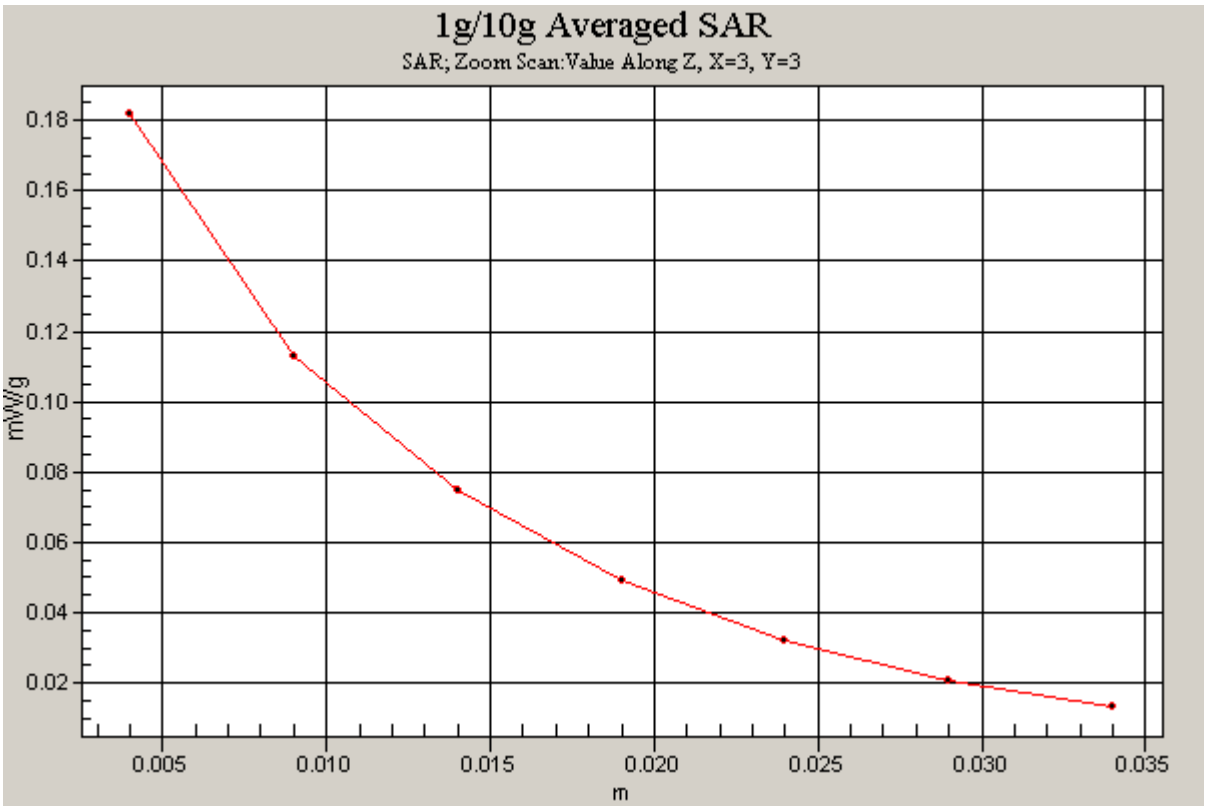


Figure 58 Z-Scan at power reference point (Body, Towards Ground, GSM 1900 Channel 810)

GSM 1900 Towards Ground Middle

Date/Time: 8/26/2009 2:17:01 AM

Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3

Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

Phantom section: Flat Section

DASY4 Configuration:

Probe: ET3DV6 - SN1737; ConvF(4.6, 4.6, 4.6); Calibrated: 11/25/2008

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

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

Maximum value of SAR (interpolated) = 0.180 mW/g

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

Reference Value = 9.85 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 0.292 W/kg

SAR(1 g) = 0.164 mW/g; SAR(10 g) = 0.096 mW/g

Maximum value of SAR (measured) = 0.174 mW/g

Towards Ground Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.85 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 0.264 W/kg

SAR(1 g) = 0.158 mW/g; SAR(10 g) = 0.098 mW/g

Maximum value of SAR (measured) = 0.169 mW/g

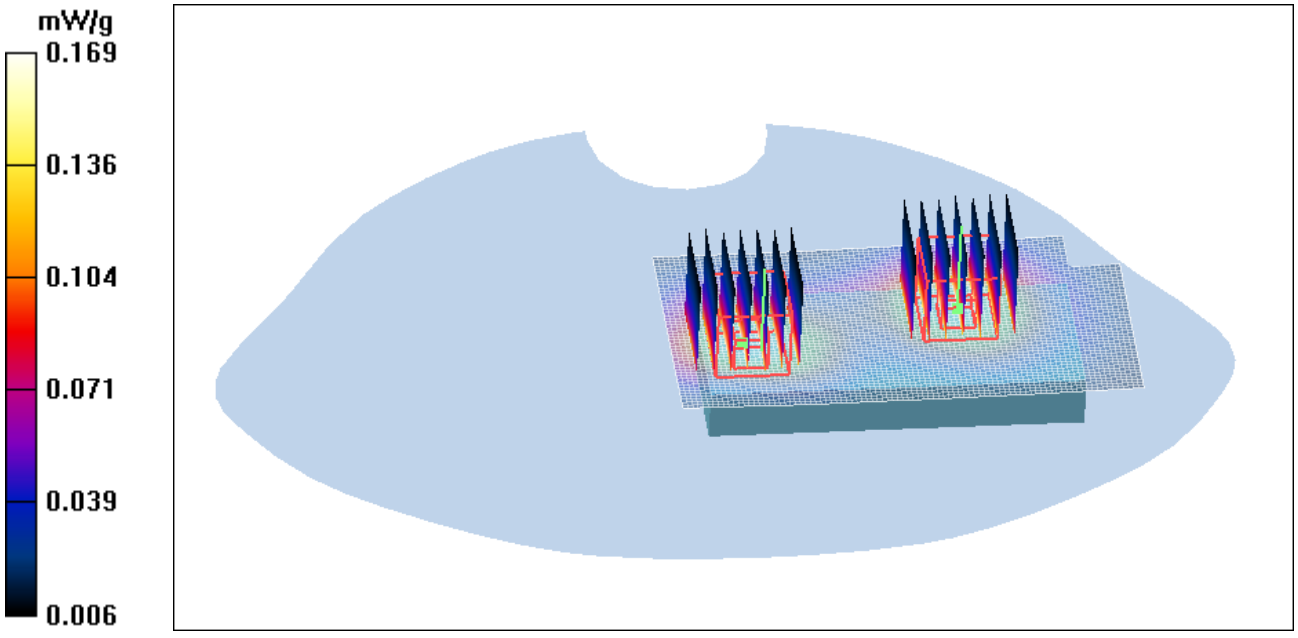
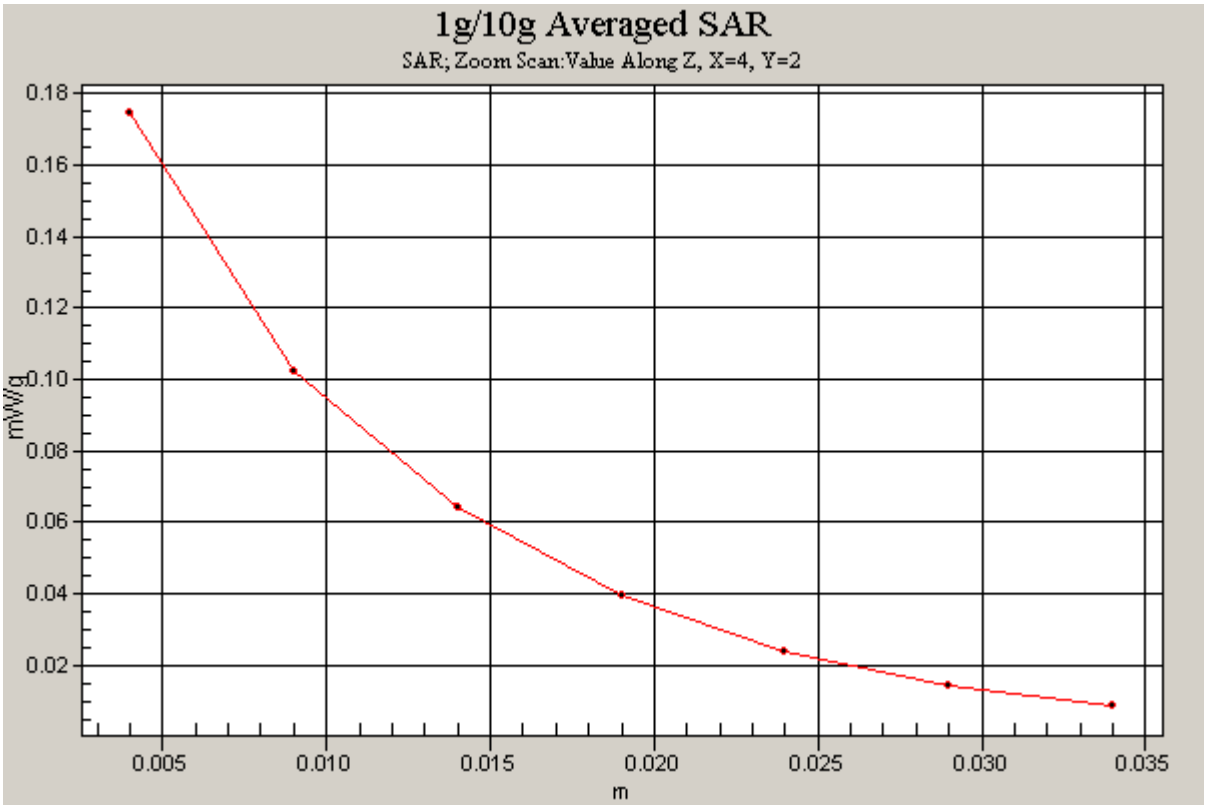


Figure 59 Body, Towards Ground, GSM 1900 Channel 661



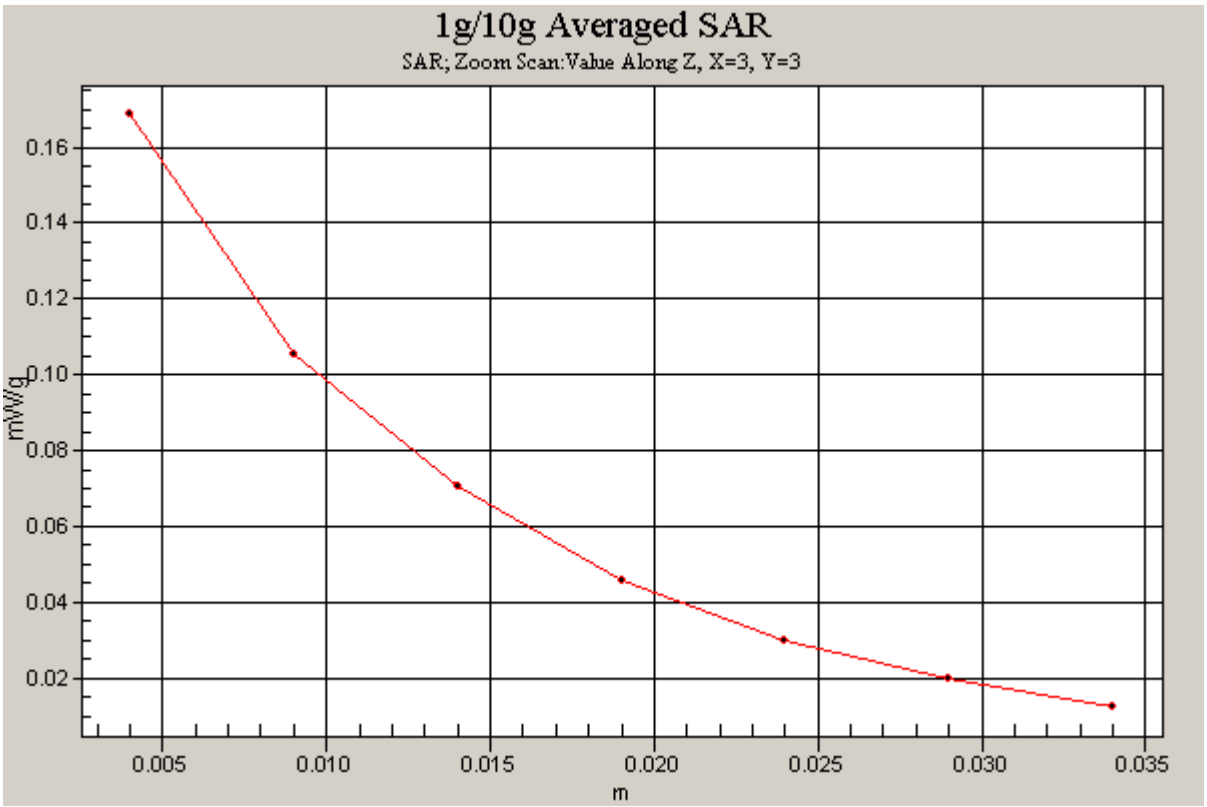


Figure 60 Z-Scan at power reference point (Body, Towards Ground, GSM 1900 Channel 661)

GSM 1900 Towards Ground Low

Date/Time: 8/26/2009 3:16:47 AM

Communication System: PCS 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 = 52.9; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

Phantom section: Flat Section

DASY4 Configuration:

Probe: ET3DV6 - SN1737; ConvF(4.6, 4.6, 4.6); Calibrated: 11/25/2008

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

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

Maximum value of SAR (interpolated) = 0.176 mW/g

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

Reference Value = 9.47 V/m; Power Drift = -0.003 dB

Peak SAR (extrapolated) = 0.268 W/kg

SAR(1 g) = 0.164 mW/g; SAR(10 g) = 0.102 mW/g

Maximum value of SAR (measured) = 0.175 mW/g

Towards Ground Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.47 V/m; Power Drift = -0.003 dB

Peak SAR (extrapolated) = 0.267 W/kg

SAR(1 g) = 0.150 mW/g; SAR(10 g) = 0.088 mW/g

Maximum value of SAR (measured) = 0.160 mW/g

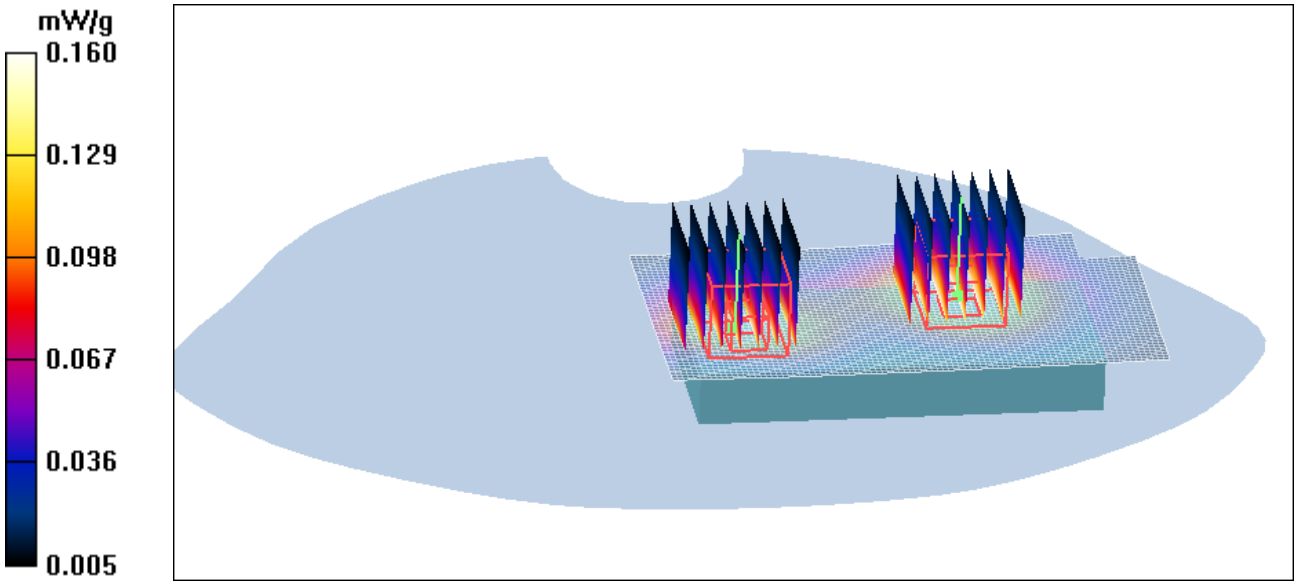
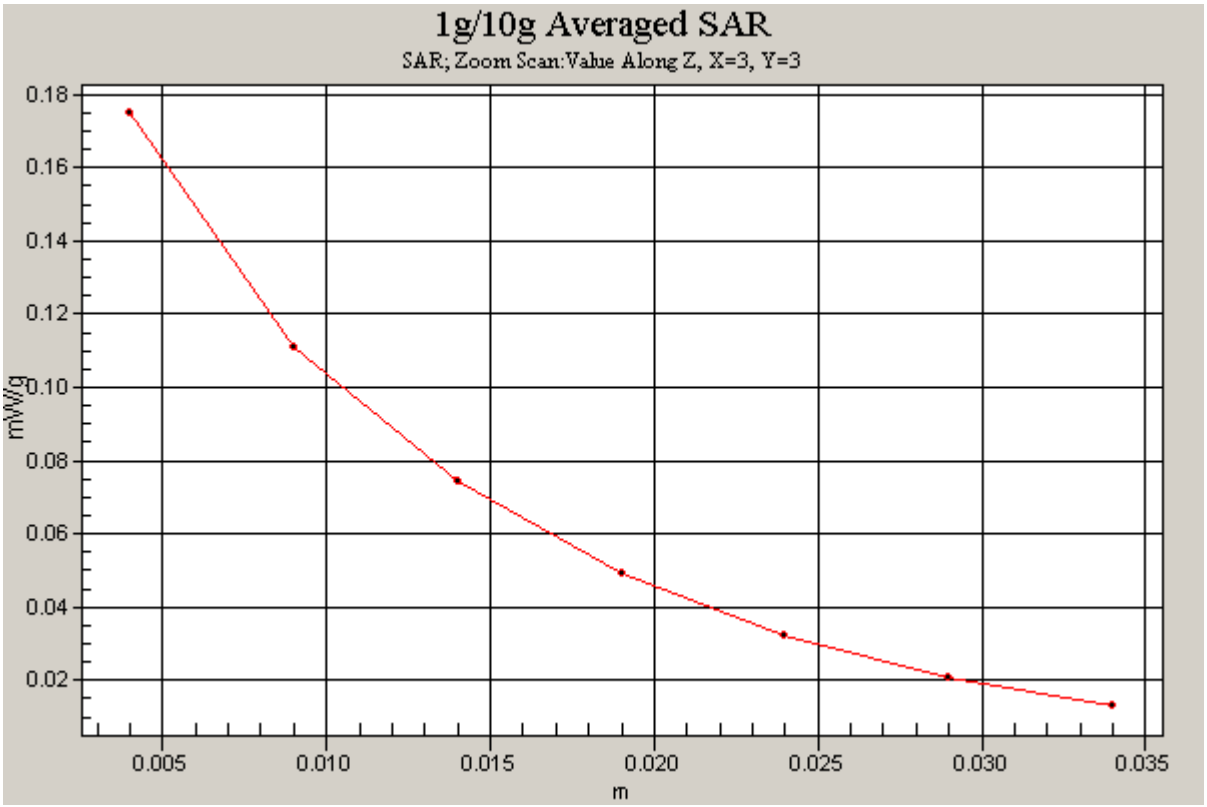


Figure 61 Body, Towards Ground, GSM 1900 Channel 512



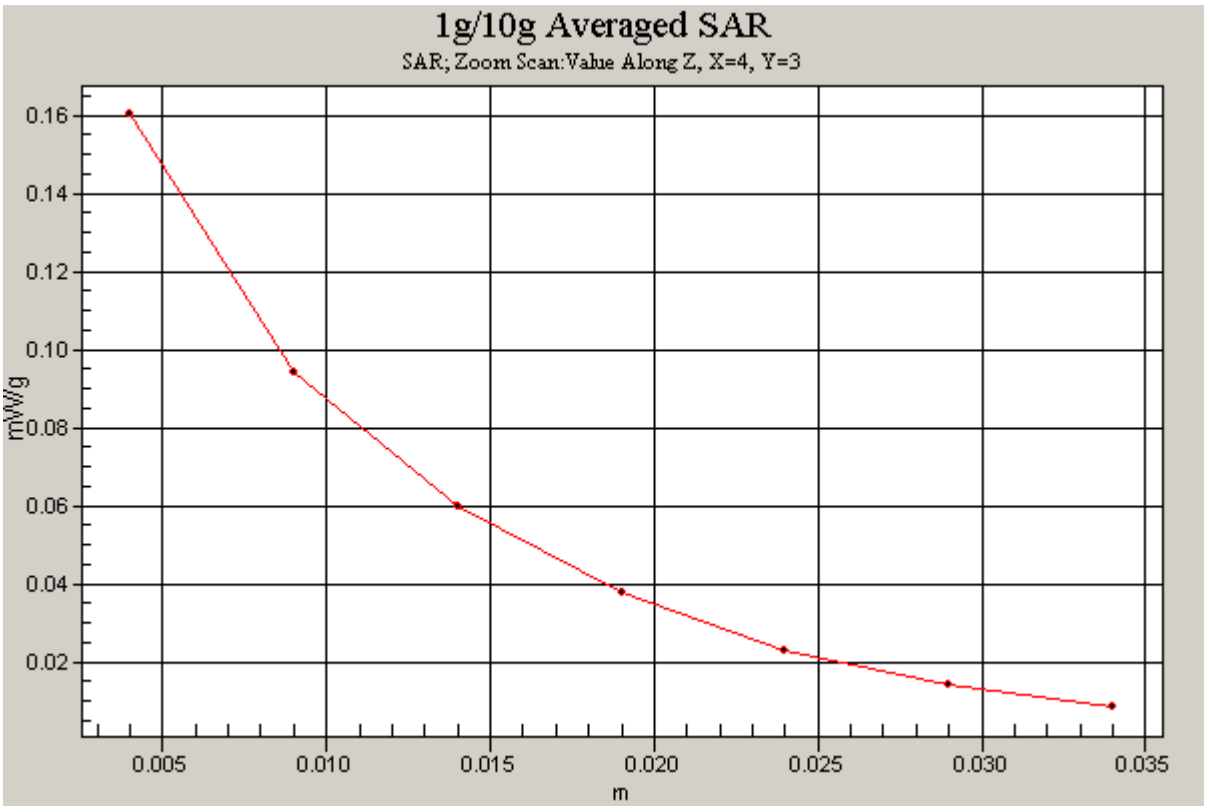


Figure 62 Z-Scan at power reference point (Body, Towards Ground, GSM 1900 Channel 512)

GSM 1900 Towards Phantom Middle

Date/Time: 8/26/2009 1:58:14 AM
Communication System: PCS 1900; Frequency: 1880 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.6, 4.6, 4.6); Calibrated: 11/25/2008
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

Towards Phantom Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.089 mW/g

Towards Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.88 V/m; Power Drift = -0.072 dB
Peak SAR (extrapolated) = 0.134 W/kg
SAR(1 g) = 0.077 mW/g; SAR(10 g) = 0.044 mW/g
Maximum value of SAR (measured) = 0.083 mW/g

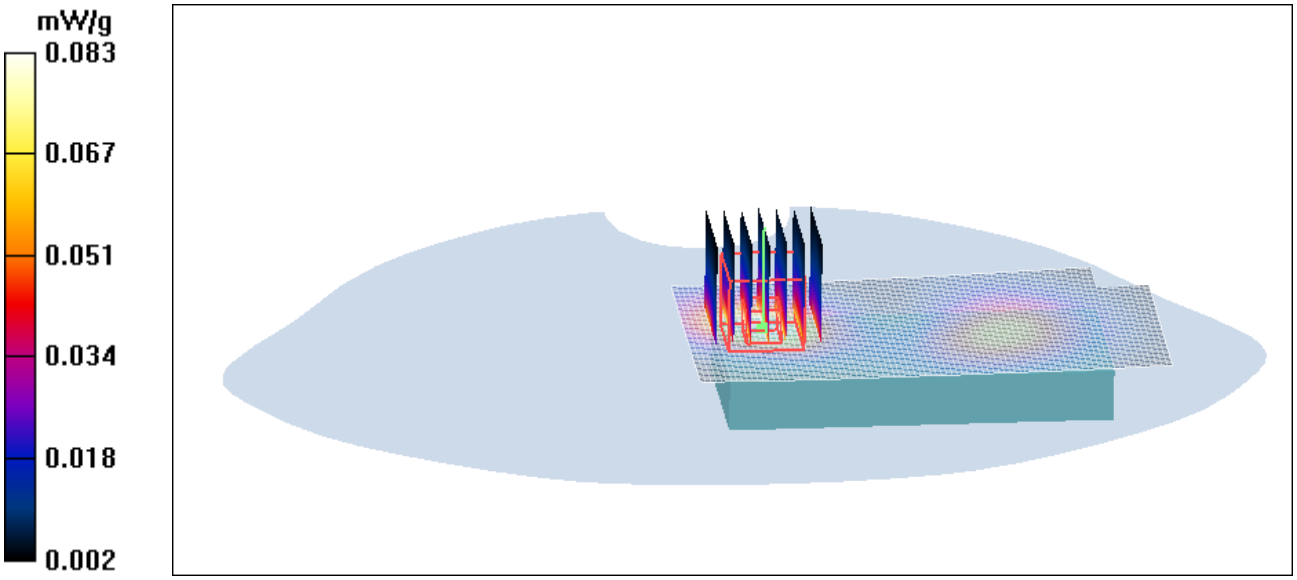


Figure 63 Body, Towards Phantom, GSM 1900 Channel 661

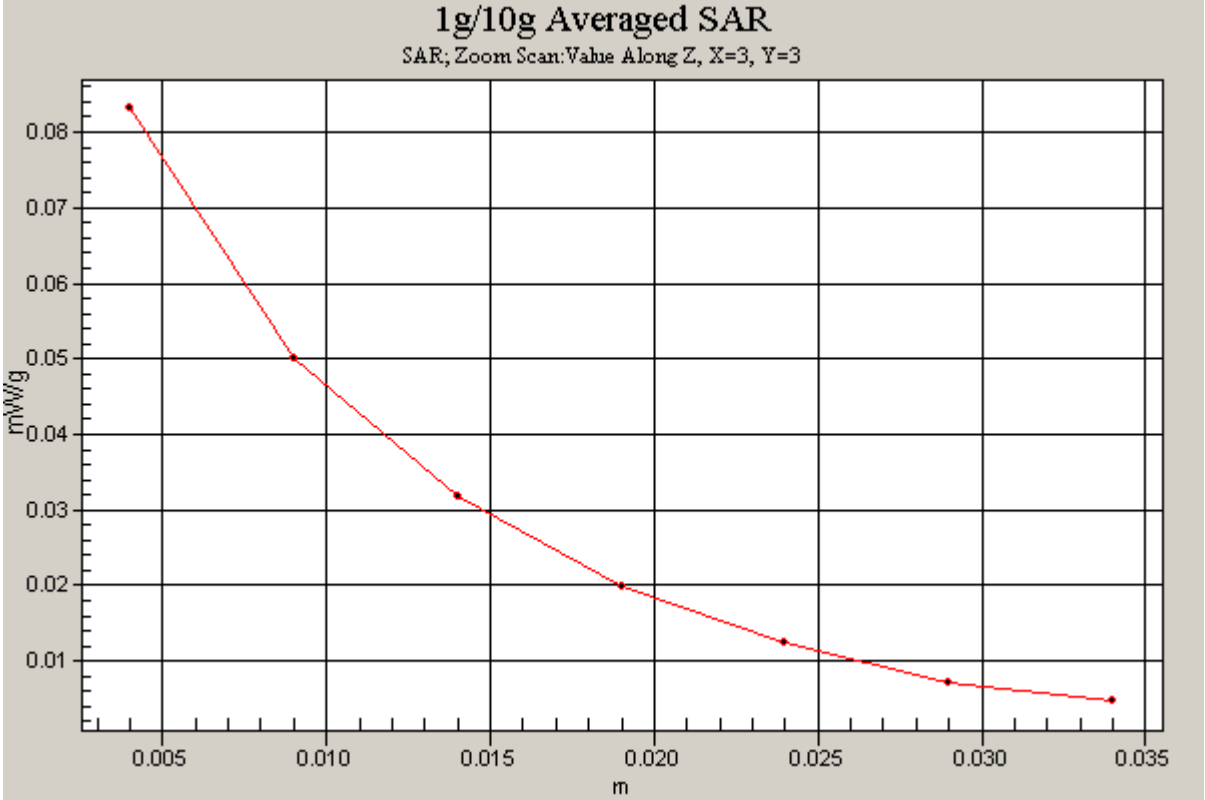


Figure 64 Z-Scan at power reference point (Body, Towards Phantom, GSM 1900 Channel 661)

GSM 1900 Towards Ground with Earphone High

Date/Time: 8/26/2009 3:48:31 AM
Communication System: PCS 1900; Frequency: 1909.8 MHz;Duty Cycle: 1:8.3
Medium parameters used: f = 1910 MHz; σ = 1.54 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.6, 4.6, 4.6); Calibrated: 11/25/2008
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

Towards Ground High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.204 mW/g
Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.5 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 0.337 W/kg
SAR(1 g) = 0.187 mW/g; SAR(10 g) = 0.109 mW/g
Maximum value of SAR (measured) = 0.200 mW/g
Towards Ground High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.5 V/m; Power Drift = -0.010 dB
Peak SAR (extrapolated) = 0.276 W/kg
SAR(1 g) = 0.163 mW/g; SAR(10 g) = 0.100 mW/g
Maximum value of SAR (measured) = 0.175 mW/g

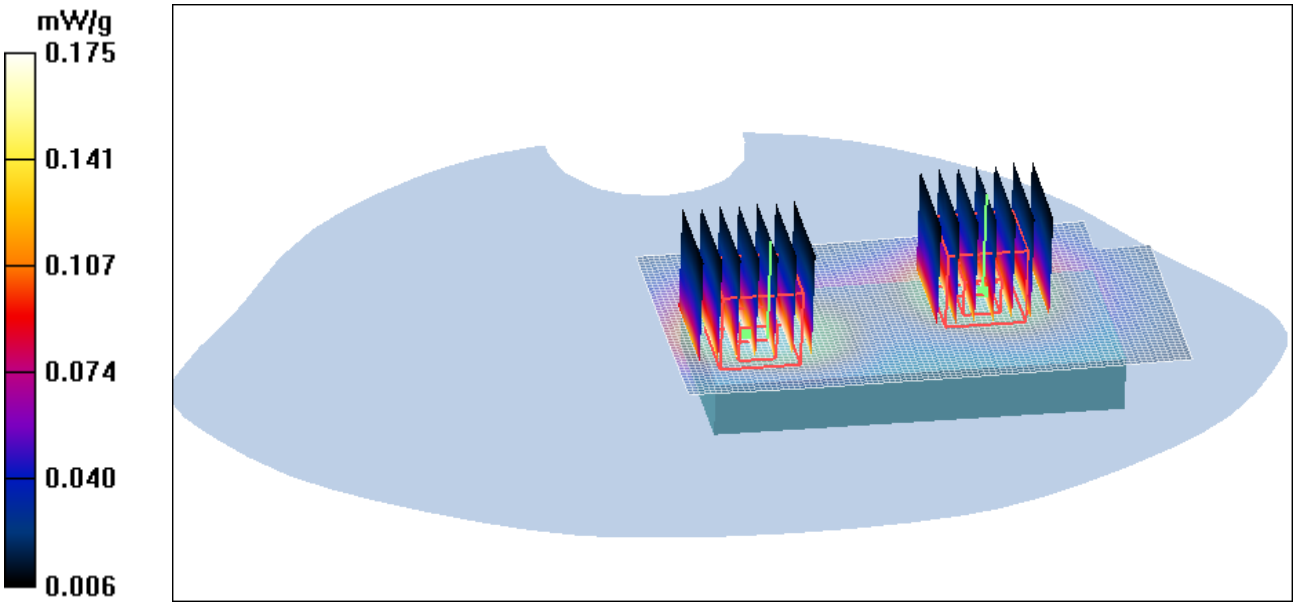
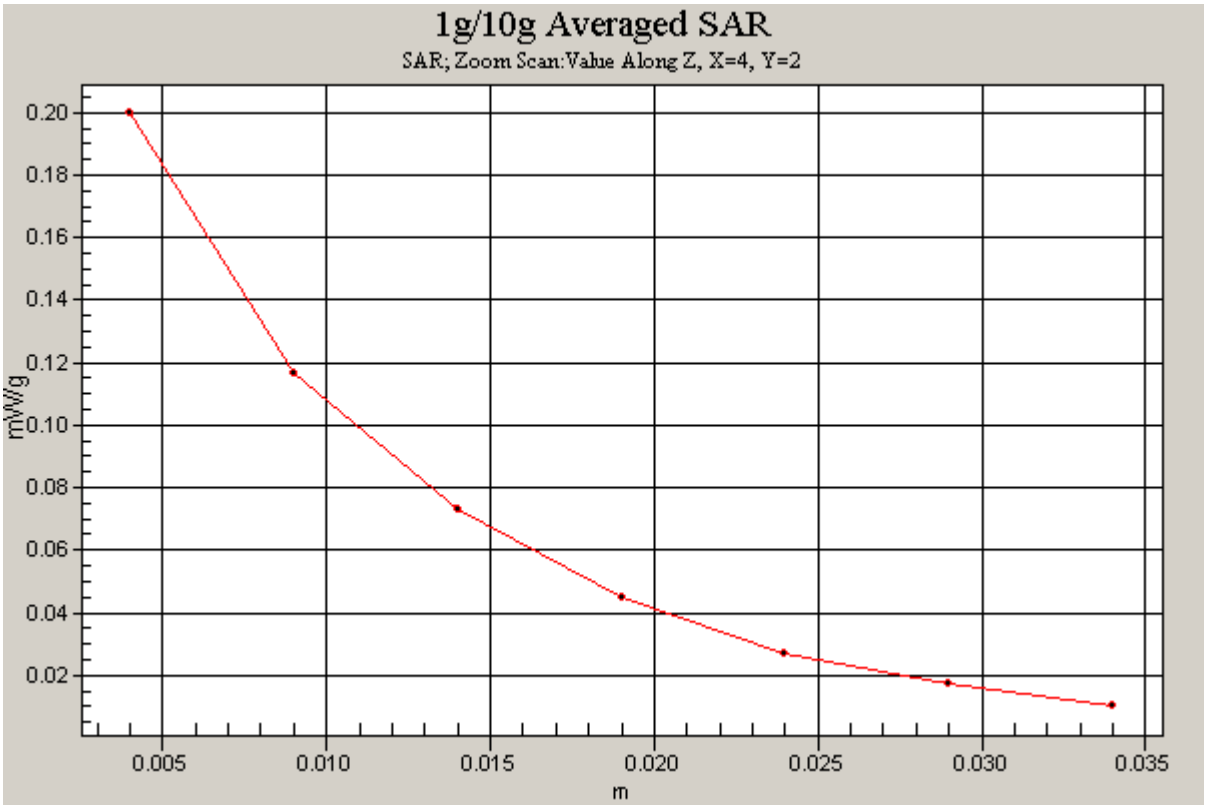


Figure 65 Body with Earphone, Towards Ground, GSM 1900 Channel 810



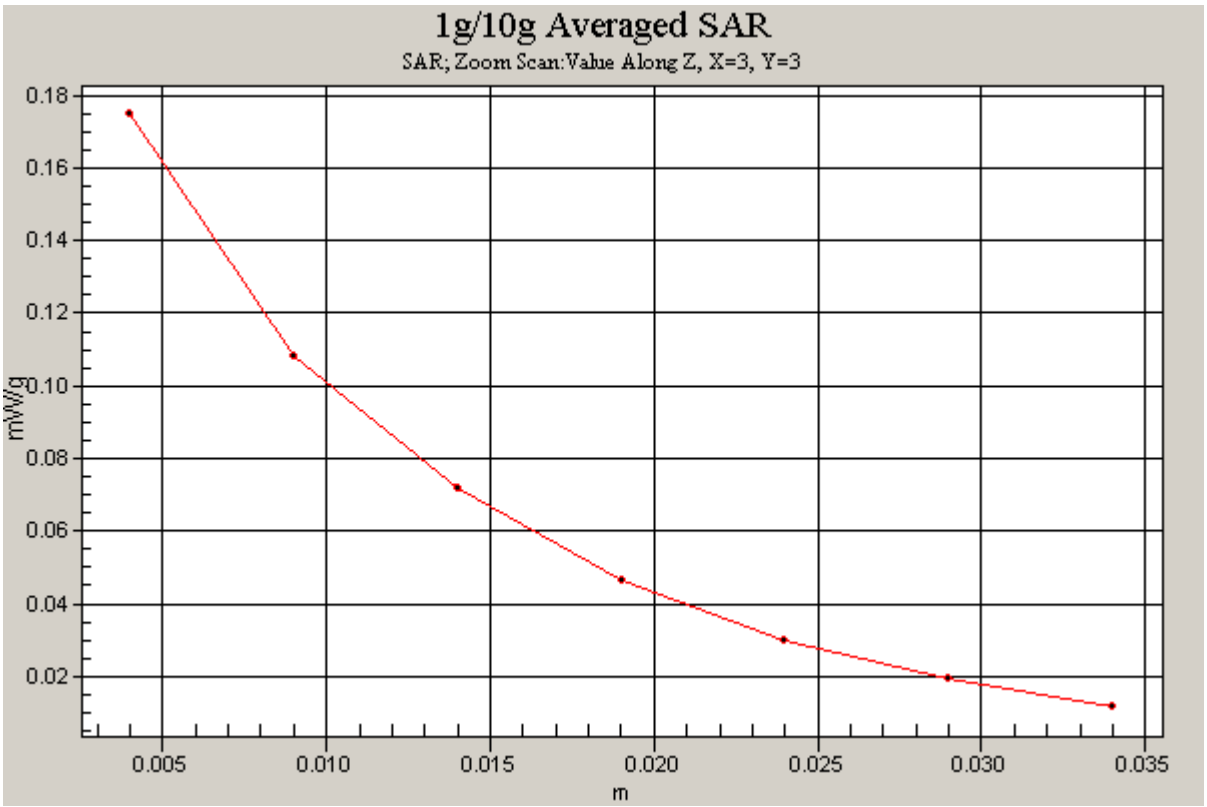


Figure 66 Z-Scan at power reference point (Body with Earphone, Towards Ground, GSM 1900 Channel 810)

GSM 1900 GPRS (4 timeslots uplink) Towards Ground High

Date/Time: 8/26/2009 9:51:05 AM
Communication System: PCS 1900+GPRS(4Up); Frequency: 1909.8 MHz;Duty Cycle: 1:2
Medium parameters used: f = 1910 MHz; σ = 1.54 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.6, 4.6, 4.6); Calibrated: 11/25/2008
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

Towards Ground High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.316 mW/g
Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.1 V/m; Power Drift = -0.077 dB
Peak SAR (extrapolated) = 0.405 W/kg
SAR(1 g) = 0.243 mW/g; SAR(10 g) = 0.137 mW/g
Maximum value of SAR (measured) = 0.263 mW/g
Towards Ground High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.1 V/m; Power Drift = -0.077 dB
Peak SAR (extrapolated) = 0.463 W/kg
SAR(1 g) = 0.206 mW/g; SAR(10 g) = 0.126 mW/g
Maximum value of SAR (measured) = 0.224 mW/g

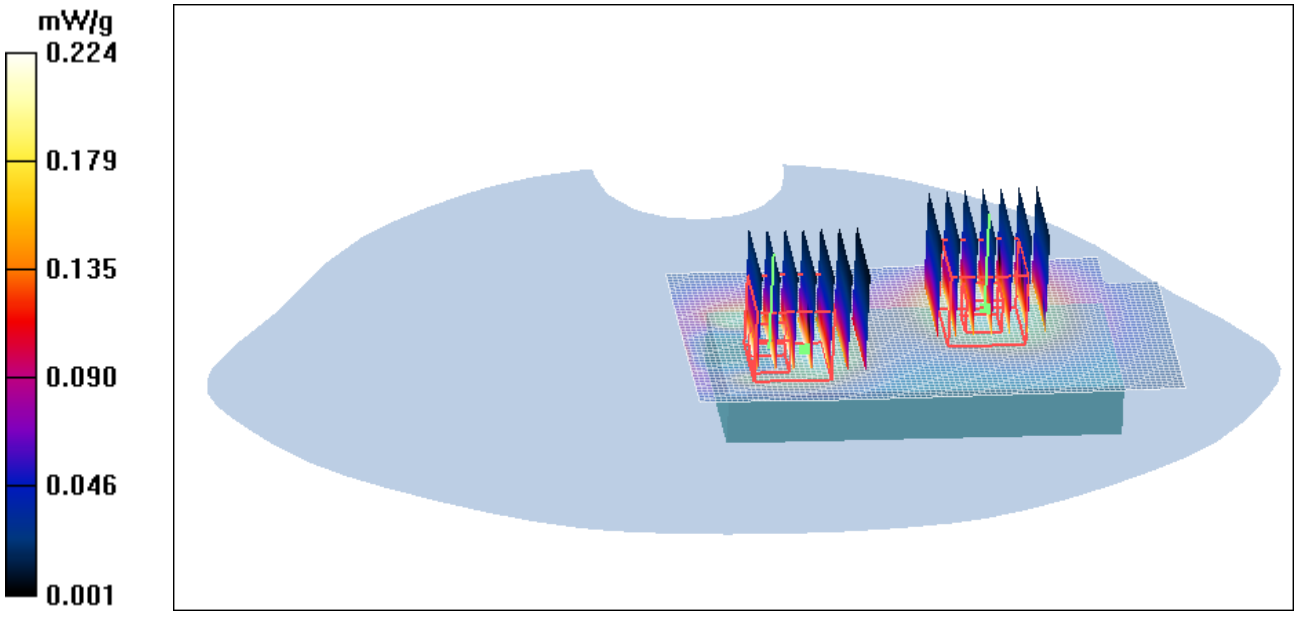
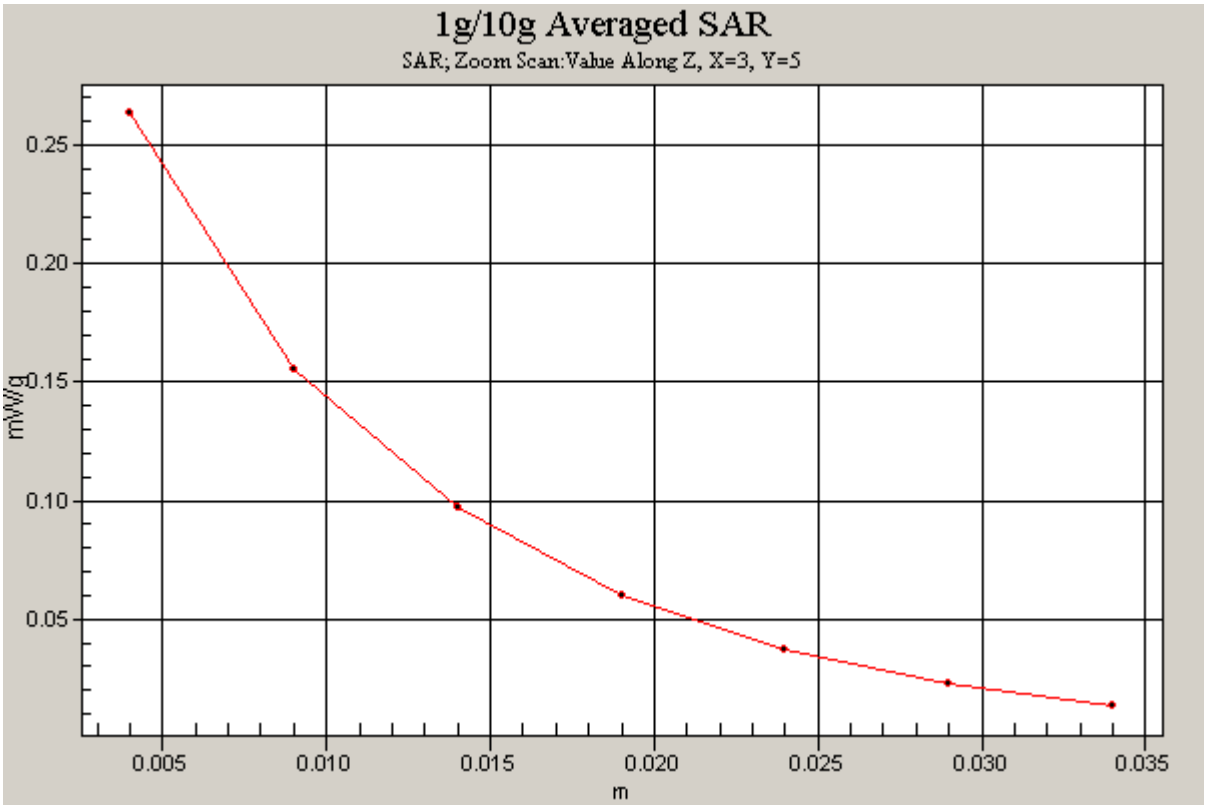


Figure 67 Body, Towards Ground, GSM 1900 GPRS (4 timeslots uplink) Channel 810



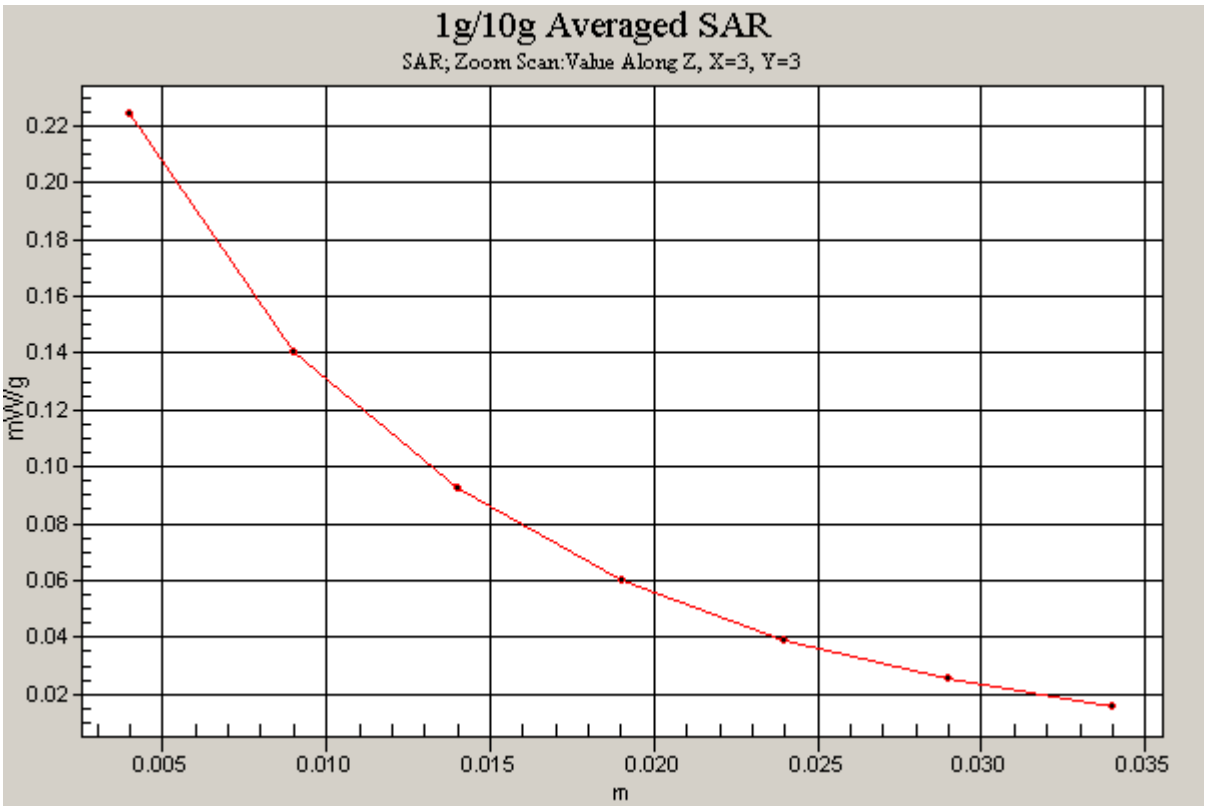


Figure 68 Z-Scan at power reference point [Body, Towards Ground, GSM 1900 GPRS (4 timeslots uplink) Channel 810]

GSM 1900 EGPRS (4 timeslots uplink) Towards Ground High

Date/Time: 8/26/2009 5:15:59 AM
Communication System: PCS 1900+EGPRS(4Up); Frequency: 1909.8 MHz;Duty Cycle: 1:2
Medium parameters used: f = 1910 MHz; σ = 1.54 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.6, 4.6, 4.6); Calibrated: 11/25/2008
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

Towards Ground High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.266 mW/g
Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.9 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 0.447 W/kg
SAR(1 g) = 0.246 mW/g; SAR(10 g) = 0.143 mW/g
Maximum value of SAR (measured) = 0.265 mW/g
Towards Ground High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.9 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 0.354 W/kg
SAR(1 g) = 0.207 mW/g; SAR(10 g) = 0.128 mW/g
Maximum value of SAR (measured) = 0.223 mW/g

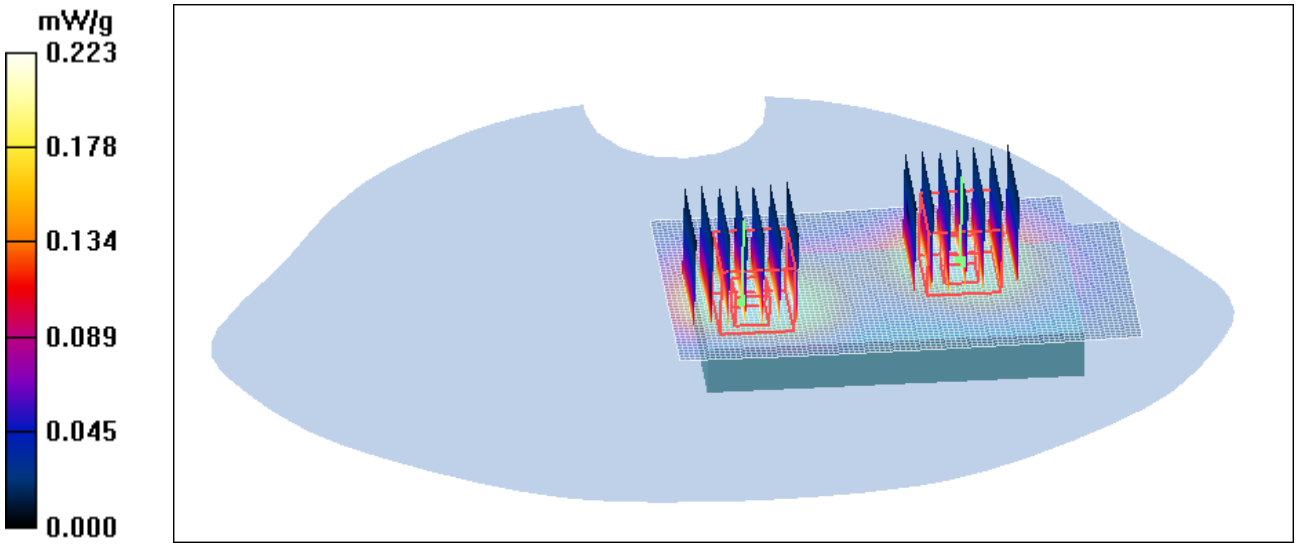
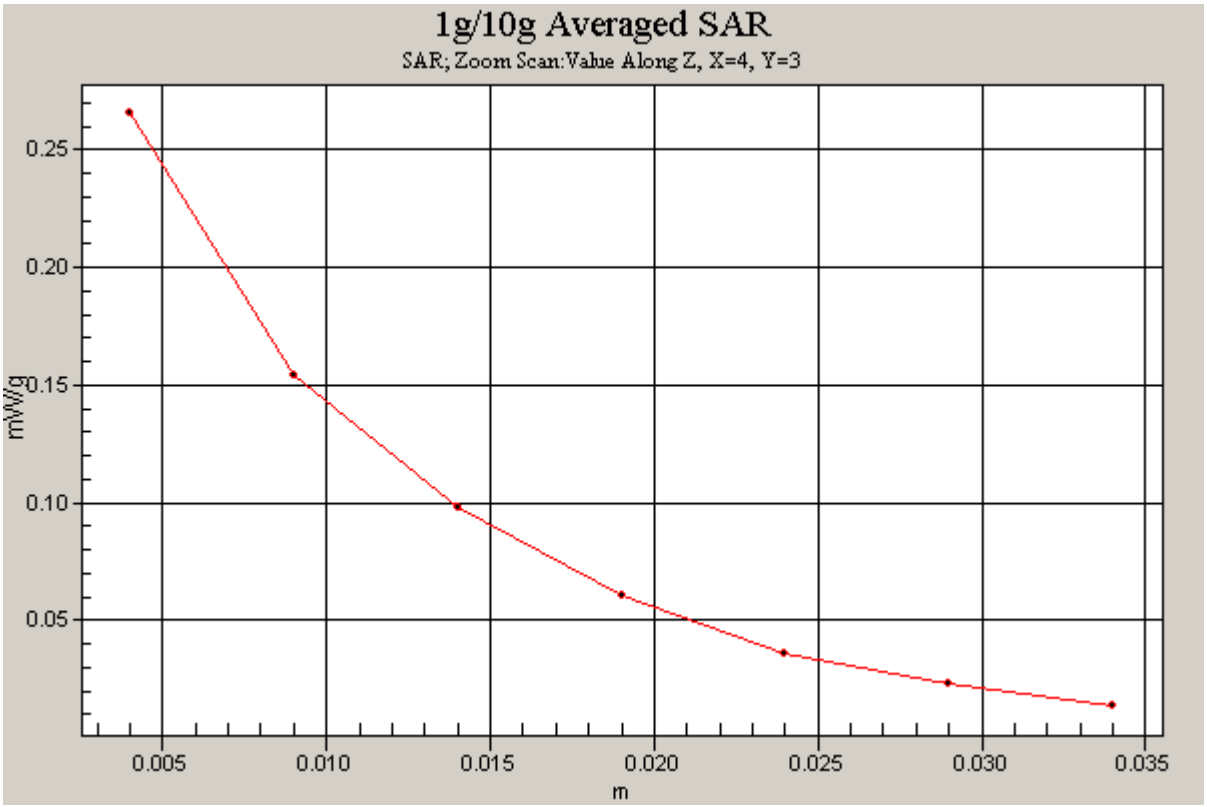


Figure 69 Body, Towards Ground, GSM 1900 EGPRS (4 timeslots uplink) Channel 810



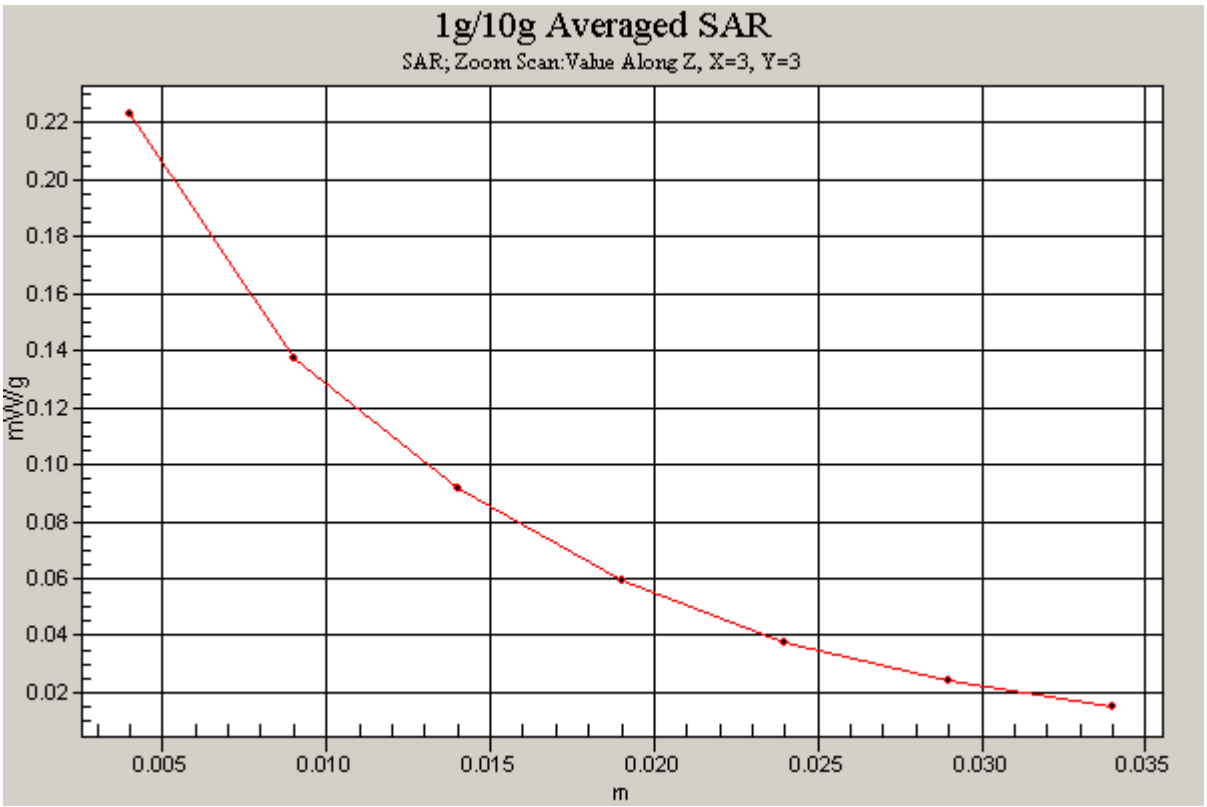


Figure 70 Z-Scan at power reference point [Body, Towards Ground, GSM 1900 EGPRS (4 timeslots uplink) Channel 810]

WCDMA Band II Left Cheek Middle

Date/Time: 8/29/2009 5:30:57 AM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.89, 4.89, 4.89); Calibrated: 11/25/2008
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

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.719 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.7 V/m; Power Drift = -0.150 dB
Peak SAR (extrapolated) = 0.886 W/kg
SAR(1 g) = 0.593 mW/g; SAR(10 g) = 0.329 mW/g
Maximum value of SAR (measured) = 0.691 mW/g

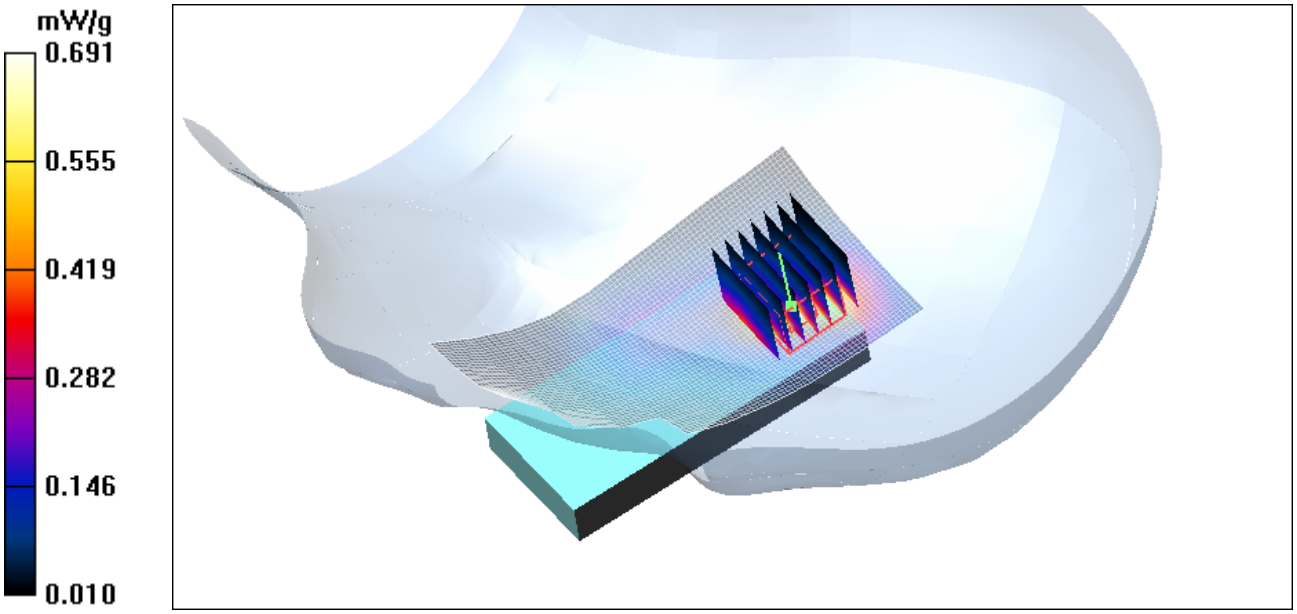


Figure 71 Left Hand Touch Cheek WCDMA Band II Channel 9400

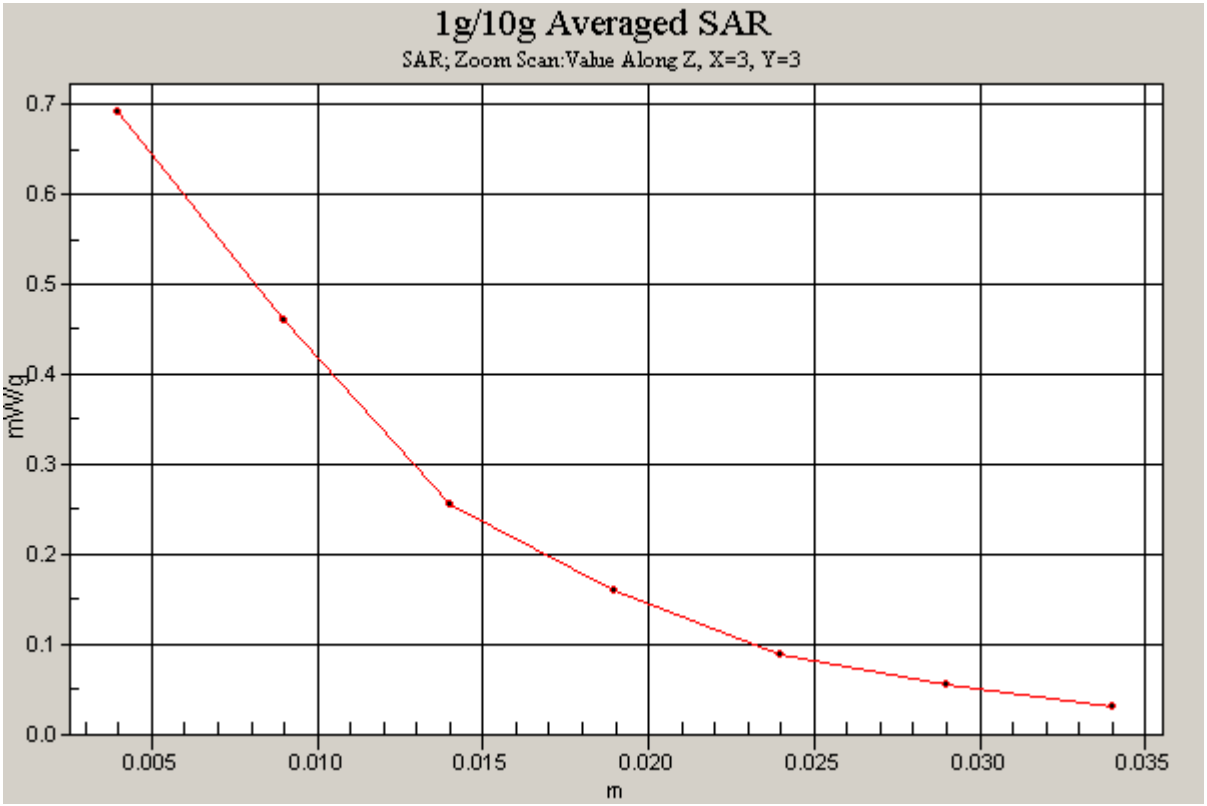


Figure 72 Z-Scan at power reference point (Left Hand Touch Cheek WCDMA Band II Channel 9400)

WCDMA Band II Left Tilt Middle

Date/Time: 8/29/2009 7:51:11 AM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.89, 4.89, 4.89); Calibrated: 11/25/2008
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

Tilt Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.650 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.3 V/m; Power Drift = -0.034 dB
Peak SAR (extrapolated) = 0.820 W/kg
SAR(1 g) = 0.530 mW/g; SAR(10 g) = 0.294 mW/g
Maximum value of SAR (measured) = 0.589 mW/g

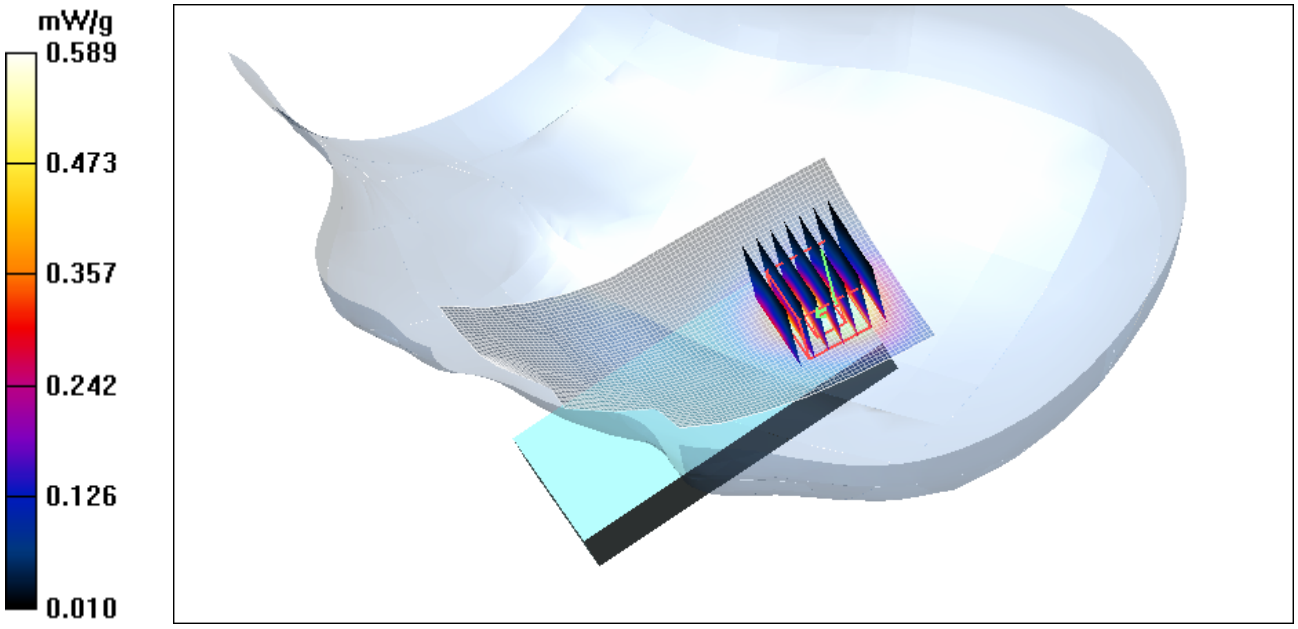


Figure 73 Left Hand Tilt 15° WCDMA Band II Channel 9400

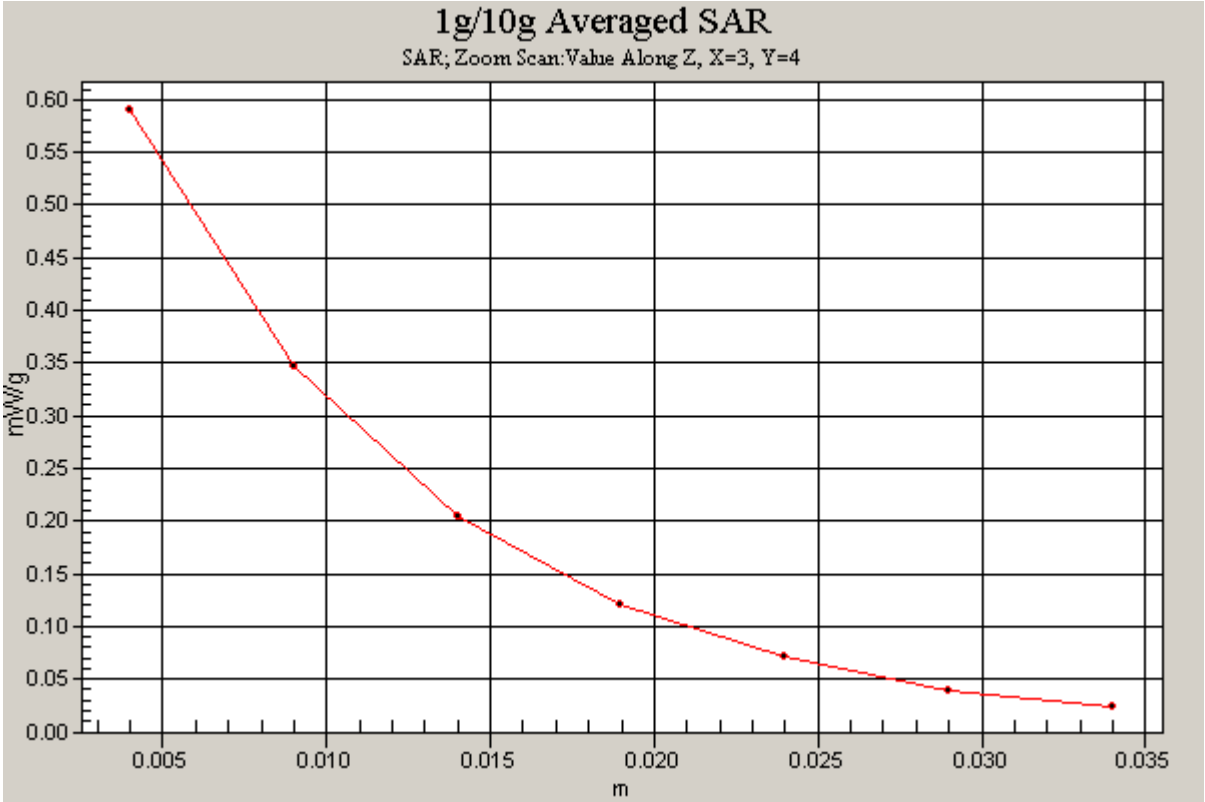


Figure 74 Z-Scan at power reference point (Left Hand Tilt 15° WCDMA Band II Channel 9400)

WCDMA Band II Right Cheek High

Date/Time: 8/29/2009 9:16:25 AM
Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.42 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.89, 4.89, 4.89); Calibrated: 11/25/2008
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

Cheek High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.658 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.4 V/m; Power Drift = -0.060 dB
Peak SAR (extrapolated) = 0.825 W/kg
SAR(1 g) = 0.589 mW/g; SAR(10 g) = 0.353 mW/g
Maximum value of SAR (measured) = 0.655 mW/g

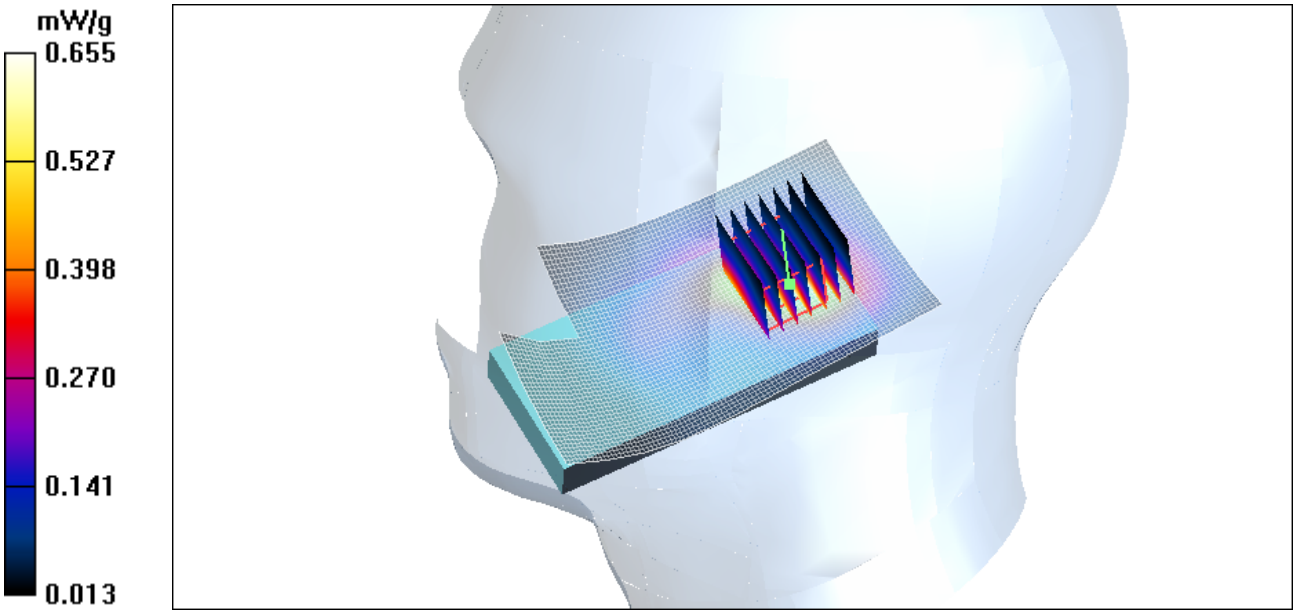


Figure 75 Right Hand Touch Cheek WCDMA Band II Channel 9538

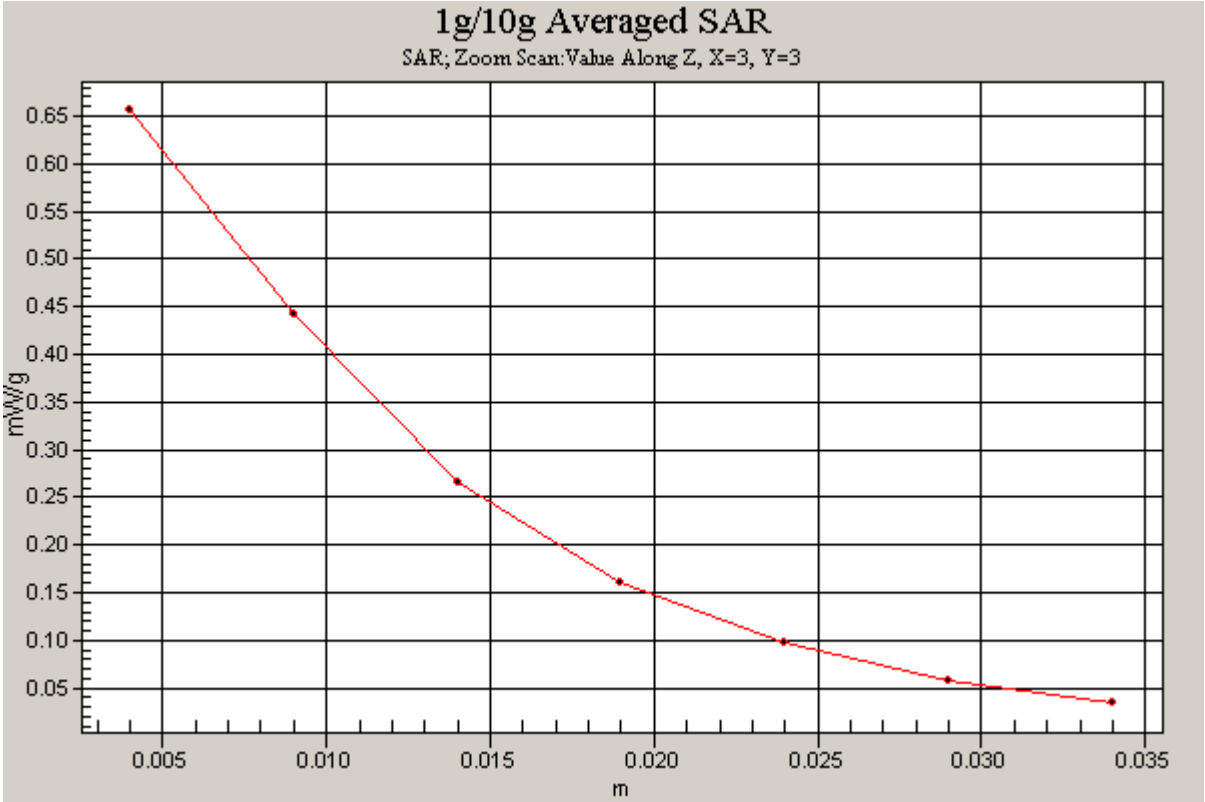


Figure 76 Z-Scan at power reference point (Right Hand Touch Cheek WCDMA Band II Channel 9538)

WCDMA Band II Right Cheek Middle

Date/Time: 8/29/2009 8:14:19 AM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.89, 4.89, 4.89); Calibrated: 11/25/2008
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

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.734 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.7 V/m; Power Drift = -0.056 dB
Peak SAR (extrapolated) = 0.967 W/kg
SAR(1 g) = 0.673 mW/g; SAR(10 g) = 0.391 mW/g
Maximum value of SAR (measured) = 0.753 mW/g

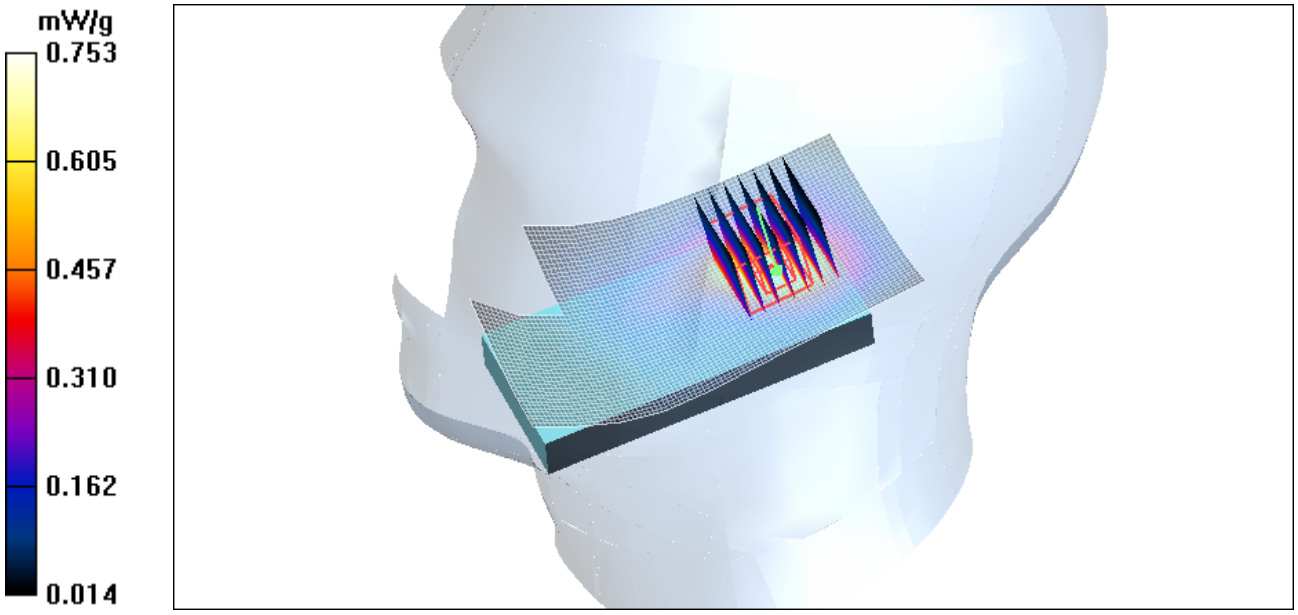


Figure 77 Right Hand Touch Cheek WCDMA Band II Channel 9400

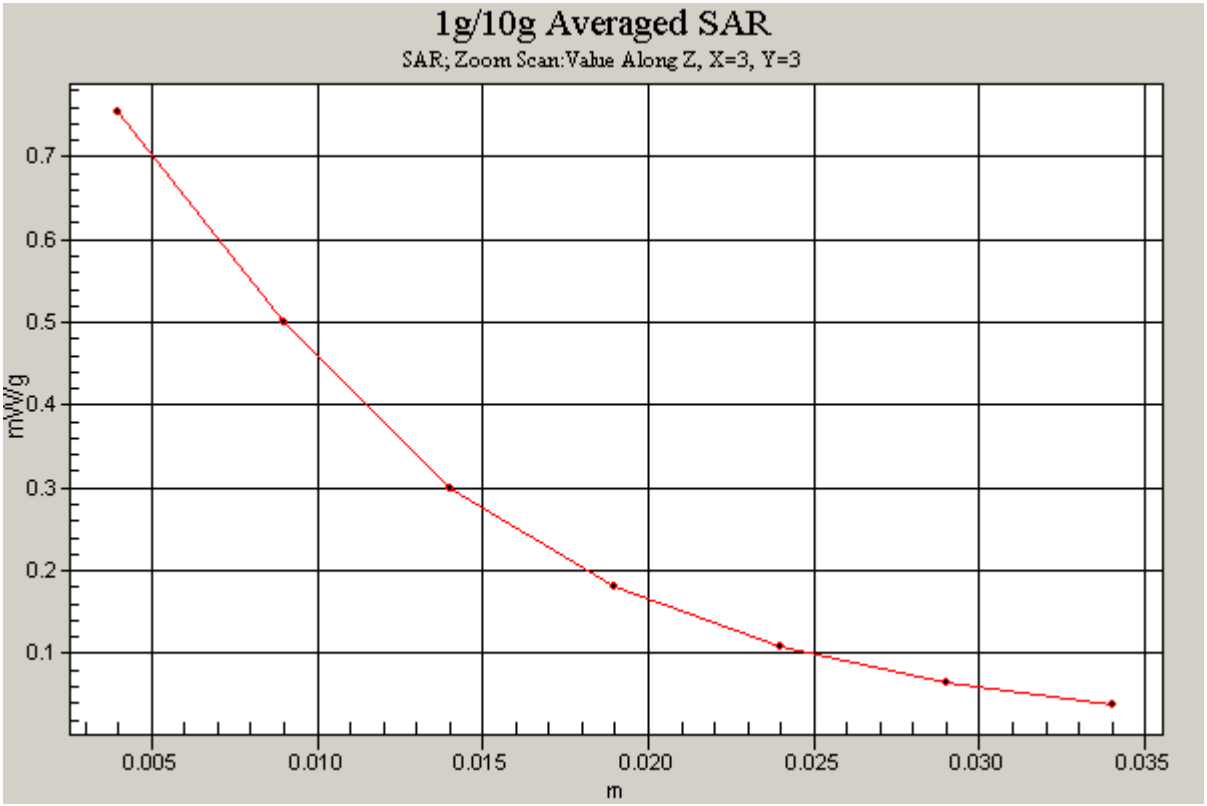


Figure 78 Z-Scan at power reference point (Right Hand Touch Cheek WCDMA Band II Channel 9400)

WCDMA Band II Right Cheek Low

Date/Time: 8/29/2009 9:38:31 AM
Communication System: WCDMA Band II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.37 mho/m; ε_r = 39.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.89, 4.89, 4.89); Calibrated: 11/25/2008
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

Cheek Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.358 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.9 V/m; Power Drift = -0.026 dB
Peak SAR (extrapolated) = 0.456 W/kg
SAR(1 g) = 0.322 mW/g; SAR(10 g) = 0.191 mW/g
Maximum value of SAR (measured) = 0.358 mW/g

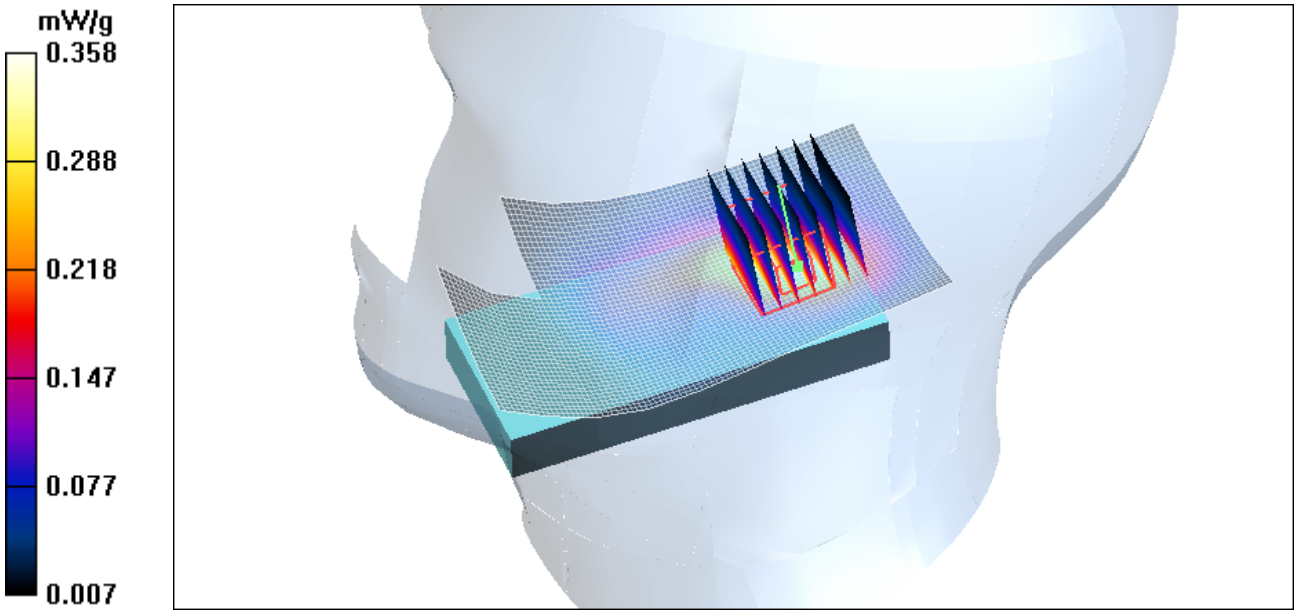


Figure 79 Right Hand Touch Cheek WCDMA Band II Channel 9262

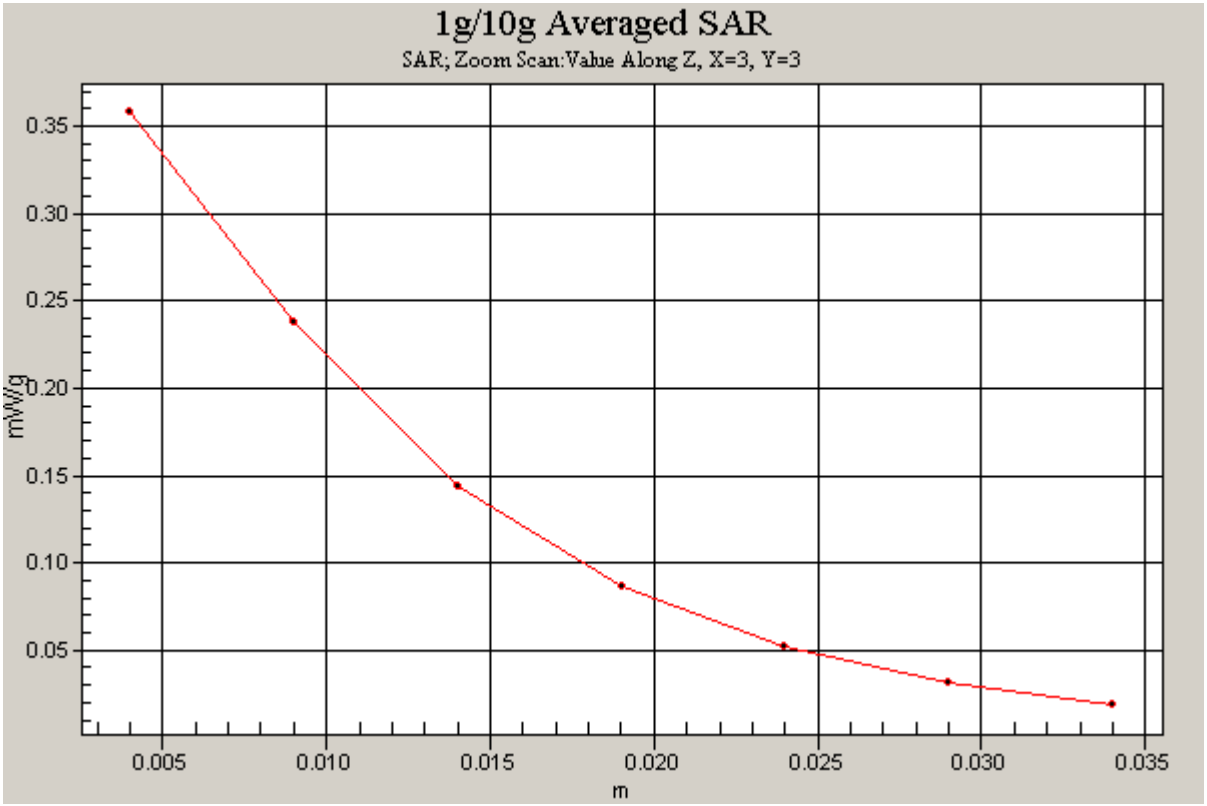


Figure 80 Z-Scan at power reference point (Right Hand Touch Cheek WCDMA Band II Channel 9262)

WCDMA Band II Right Tilt Middle

Date/Time: 8/29/2009 8:53:15 AM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.89, 4.89, 4.89); Calibrated: 11/25/2008
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

Tilt Middle /Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.607 mW/g

Tilt Middle /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.6 V/m; Power Drift = 0.005 dB
Peak SAR (extrapolated) = 0.850 W/kg
SAR(1 g) = 0.547 mW/g; SAR(10 g) = 0.305 mW/g
Maximum value of SAR (measured) = 0.632 mW/g

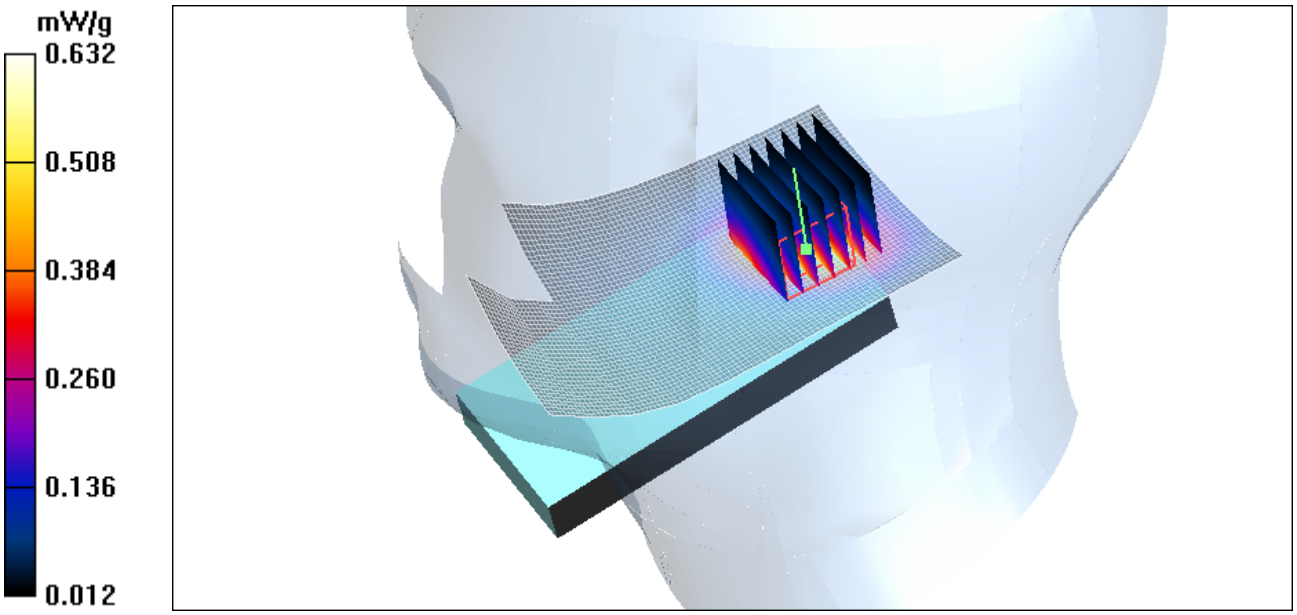


Figure 81 Right Hand Tilt 15° WCDMA Band II Channel 9400

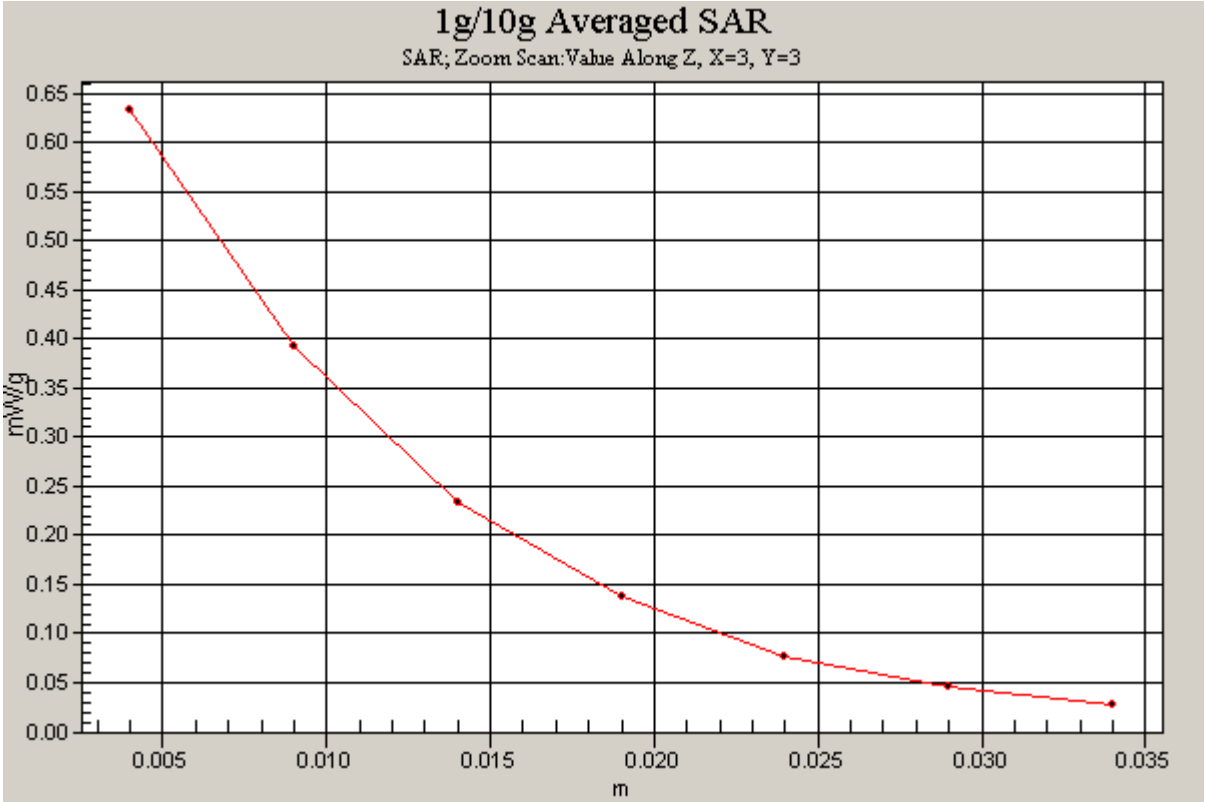


Figure 82 Z-Scan at power reference point (Right Hand Tilt 15° WCDMA Band II Channel 9400)

WCDMA Band II Towards Ground High

Date/Time: 8/26/2009 6:44:51 AM

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

Medium parameters used: f = 1908 MHz; σ = 1.54 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

Phantom section: Flat Section

DASY4 Configuration:

Probe: ET3DV6 - SN1737; ConvF(4.6, 4.6, 4.6); Calibrated: 11/25/2008

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

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

Maximum value of SAR (interpolated) = 0.543 mW/g

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

Reference Value = 17.1 V/m; Power Drift = -0.036 dB

Peak SAR (extrapolated) = 0.849 W/kg

SAR(1 g) = 0.474 mW/g; SAR(10 g) = 0.277 mW/g

Maximum value of SAR (measured) = 0.505 mW/g

Towards Ground High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.1 V/m; Power Drift = -0.036 dB

Peak SAR (extrapolated) = 0.664 W/kg

SAR(1 g) = 0.396 mW/g; SAR(10 g) = 0.245 mW/g

Maximum value of SAR (measured) = 0.421 mW/g

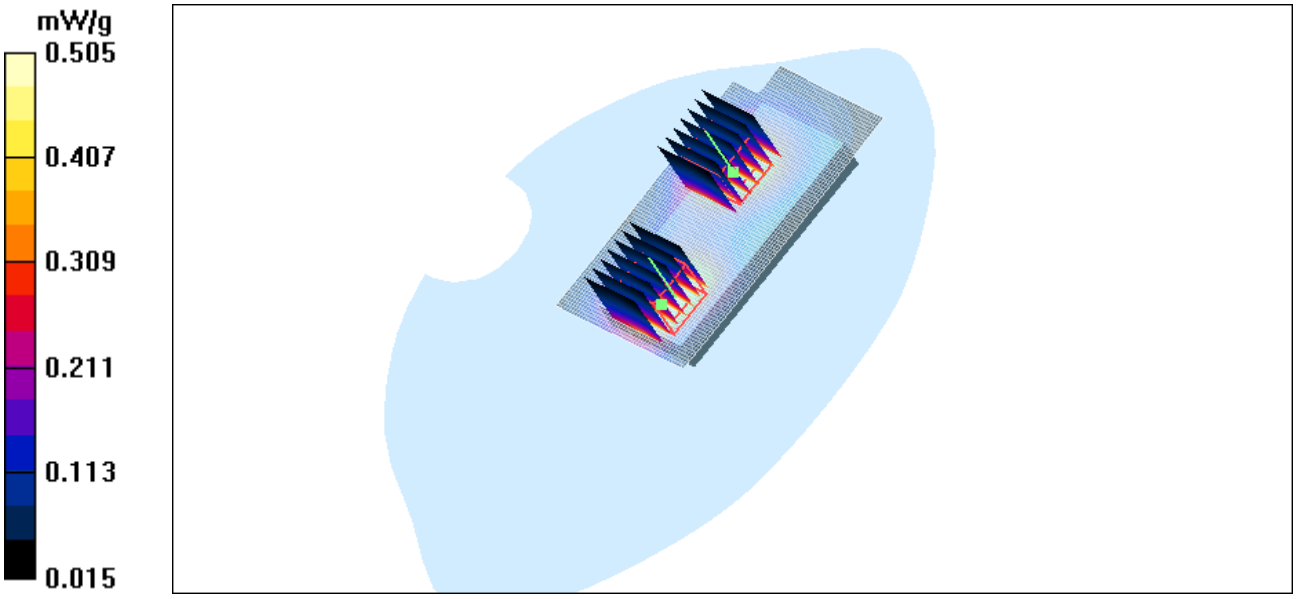
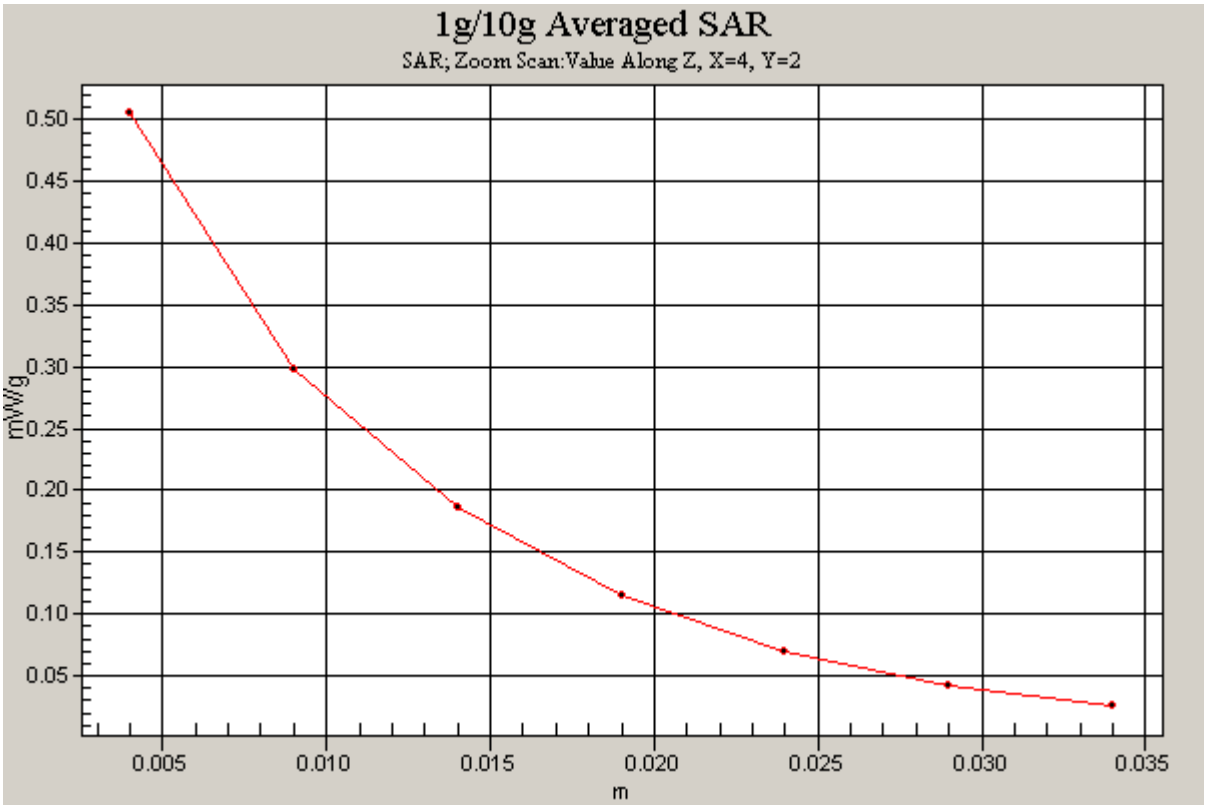


Figure 83 Body, Towards Ground, WCDMA Band II Channel 9538



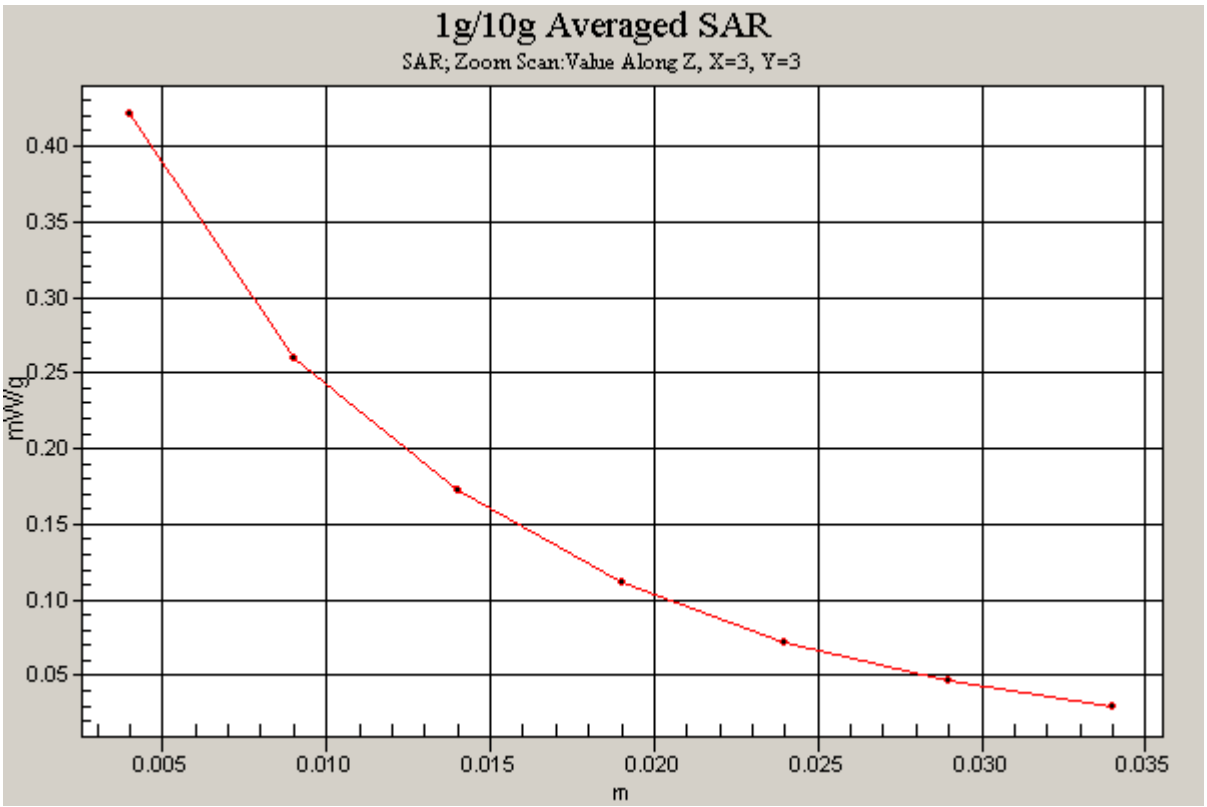


Figure 84 Z-Scan at power reference point (Body, Towards Ground, WCDMA Band II Channel 9538)

WCDMA Band II Towards Ground Middle

Date/Time: 8/26/2009 7:15:07 AM
Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.6, 4.6, 4.6); Calibrated: 11/25/2008
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

Towards Ground Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.500 mW/g
Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.6 V/m; Power Drift = -0.037 dB
Peak SAR (extrapolated) = 0.829 W/kg
SAR(1 g) = 0.461 mW/g; SAR(10 g) = 0.271 mW/g
Maximum value of SAR (measured) = 0.493 mW/g
Towards Ground Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.6 V/m; Power Drift = -0.037 dB
Peak SAR (extrapolated) = 0.685 W/kg
SAR(1 g) = 0.413 mW/g; SAR(10 g) = 0.257 mW/g
Maximum value of SAR (measured) = 0.442 mW/g

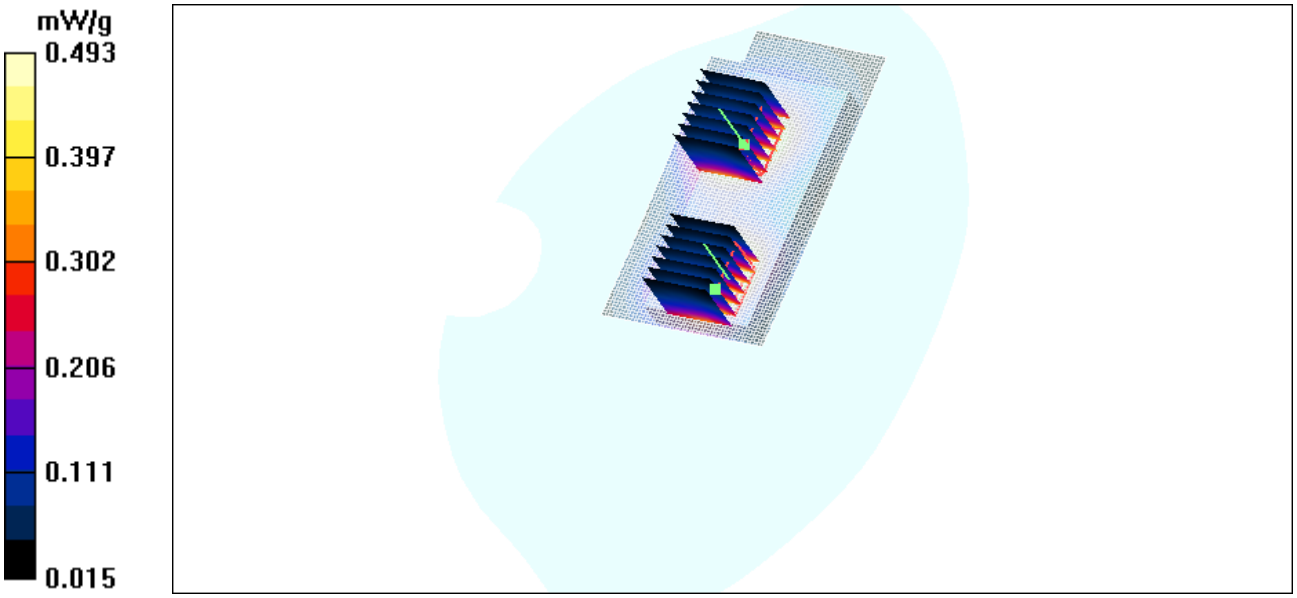
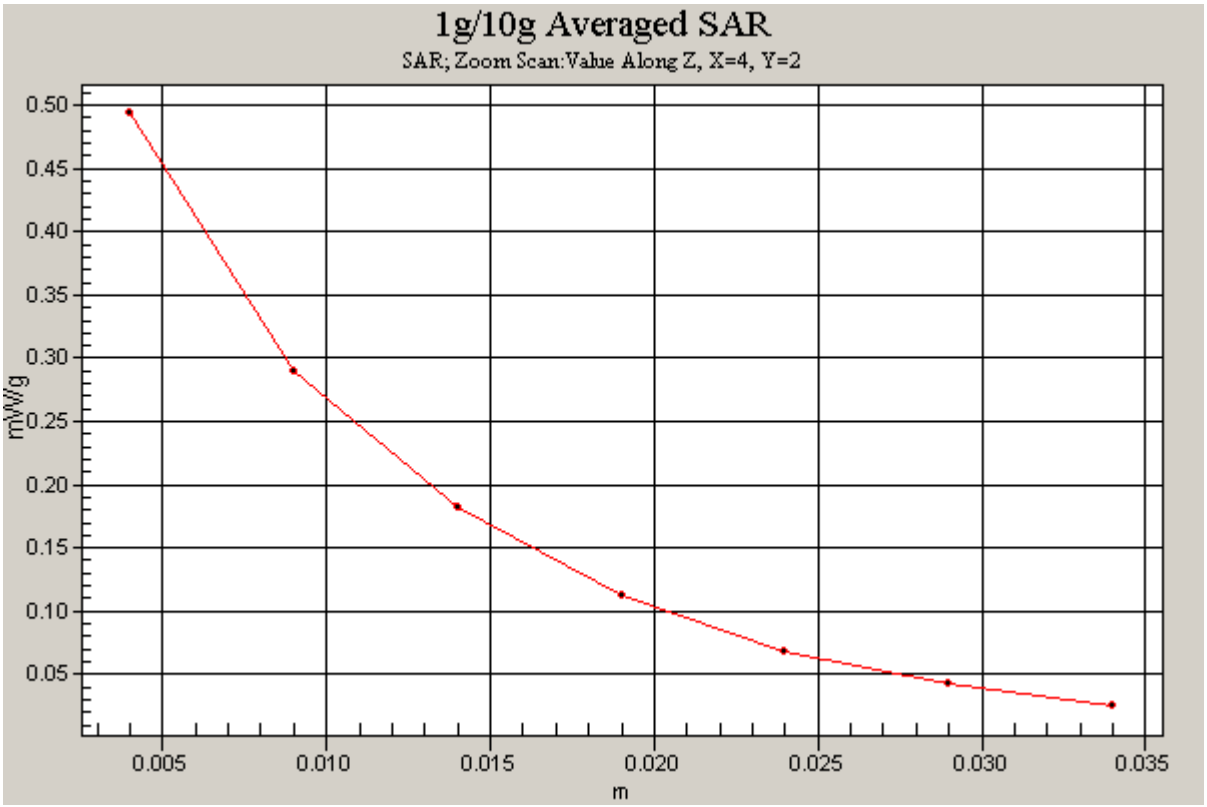


Figure 85 Body, Towards Ground, WCDMA Band II Channel 9400



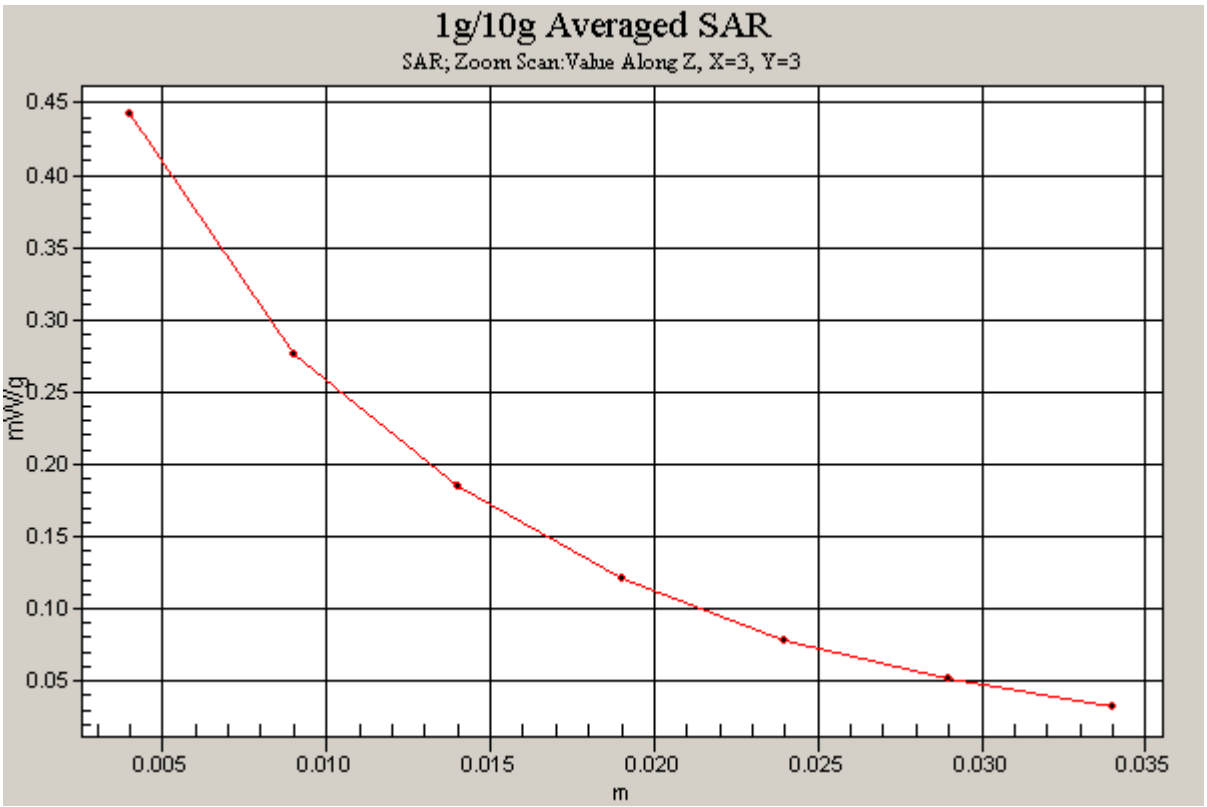


Figure 86 Z-Scan at power reference point (Body, Towards Ground, WCDMA Band II Channel 9400)

WCDMA Band II Towards Ground Low

Date/Time: 8/26/2009 7:45:44 AM
Communication System: WCDMA Band II; Frequency: 1852.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.51 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.6, 4.6, 4.6); Calibrated: 11/25/2008
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

Towards Ground Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.286 mW/g
Towards Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.4 V/m; Power Drift = 0.055 dB
Peak SAR (extrapolated) = 0.474 W/kg
SAR(1 g) = 0.264 mW/g; SAR(10 g) = 0.155 mW/g
Maximum value of SAR (measured) = 0.281 mW/g
Towards Ground Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.4 V/m; Power Drift = 0.055 dB
Peak SAR (extrapolated) = 0.436 W/kg
SAR(1 g) = 0.266 mW/g; SAR(10 g) = 0.166 mW/g
Maximum value of SAR (measured) = 0.286 mW/g

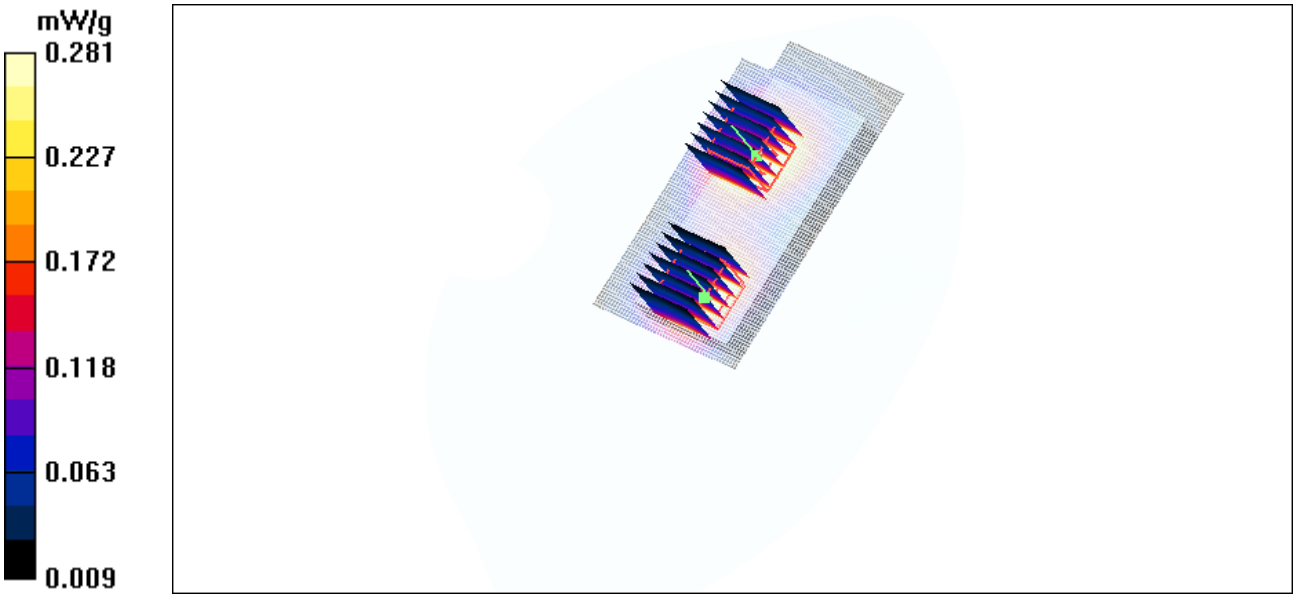
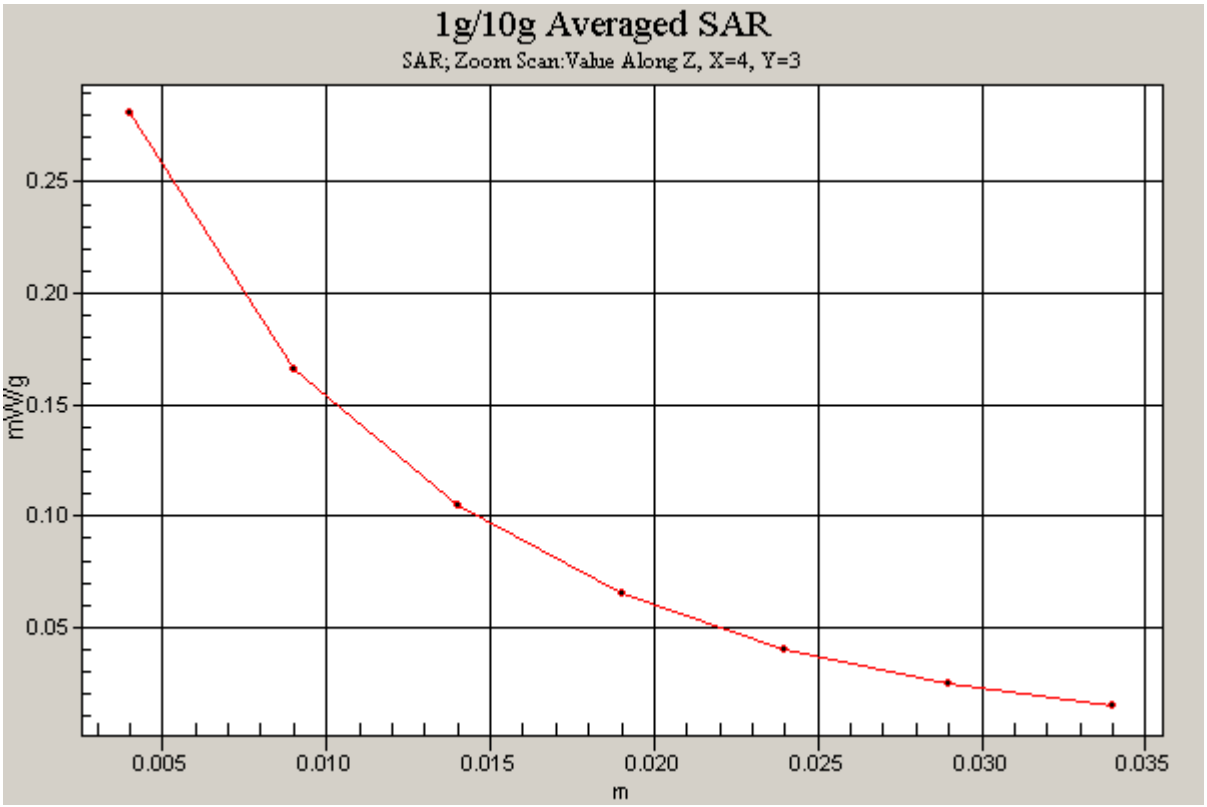


Figure 87 Body, Towards Ground, WCDMA Band II Channel 9262



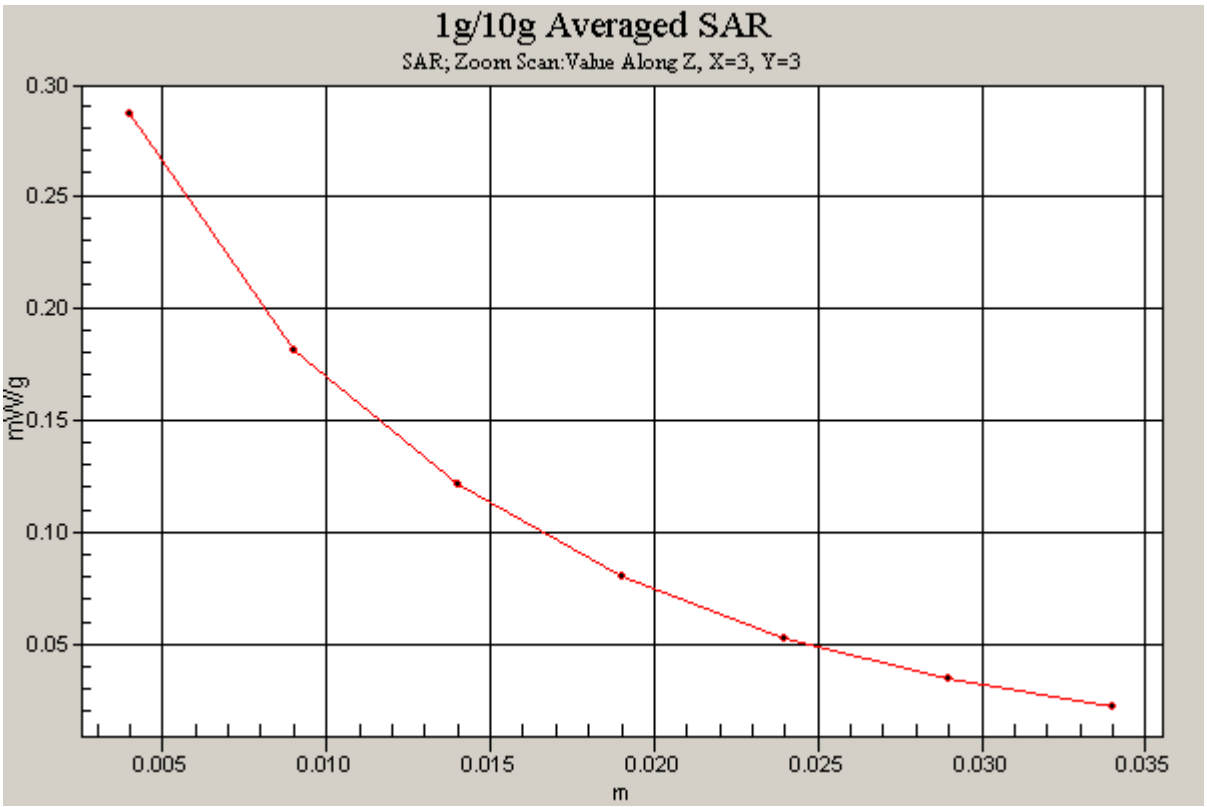


Figure 88 Z-Scan at power reference point (Body, Towards Ground, WCDMA Band II Channel 9262)

WCDMA Band II Towards Phantom Middle

Date/Time: 8/26/2009 8:17:53 AM

Communication System: WCDMA Band II; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1880 MHz; σ = 1.53 mho/m; ε_r = 52.7; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

Phantom section: Flat Section

DASY4 Configuration:

Probe: ET3DV6 - SN1737; ConvF(4.6, 4.6, 4.6); Calibrated: 11/25/2008

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

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

Maximum value of SAR (interpolated) = 0.290 mW/g

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

Reference Value = 12.7 V/m; Power Drift = 0.020 dB

Peak SAR (extrapolated) = 0.453 W/kg

SAR(1 g) = 0.262 mW/g; SAR(10 g) = 0.153 mW/g

Maximum value of SAR (measured) = 0.281 mW/g

Towards Phantom Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.7 V/m; Power Drift = 0.020 dB

Peak SAR (extrapolated) = 0.276 W/kg

SAR(1 g) = 0.165 mW/g; SAR(10 g) = 0.101 mW/g

Maximum value of SAR (measured) = 0.183 mW/g

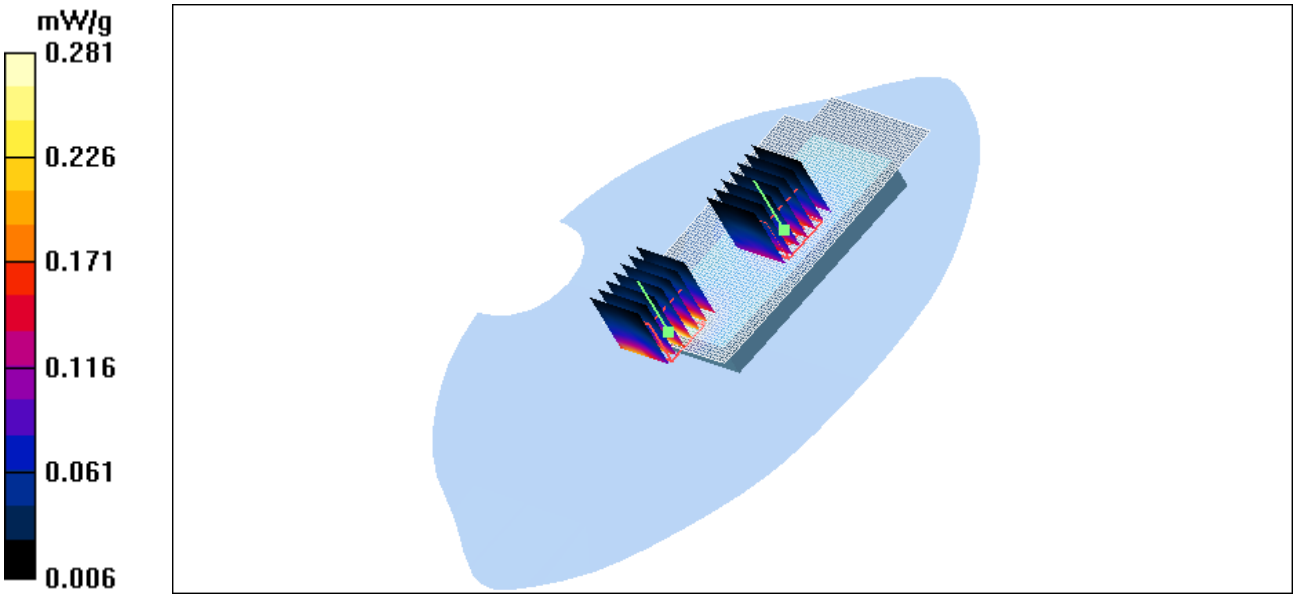
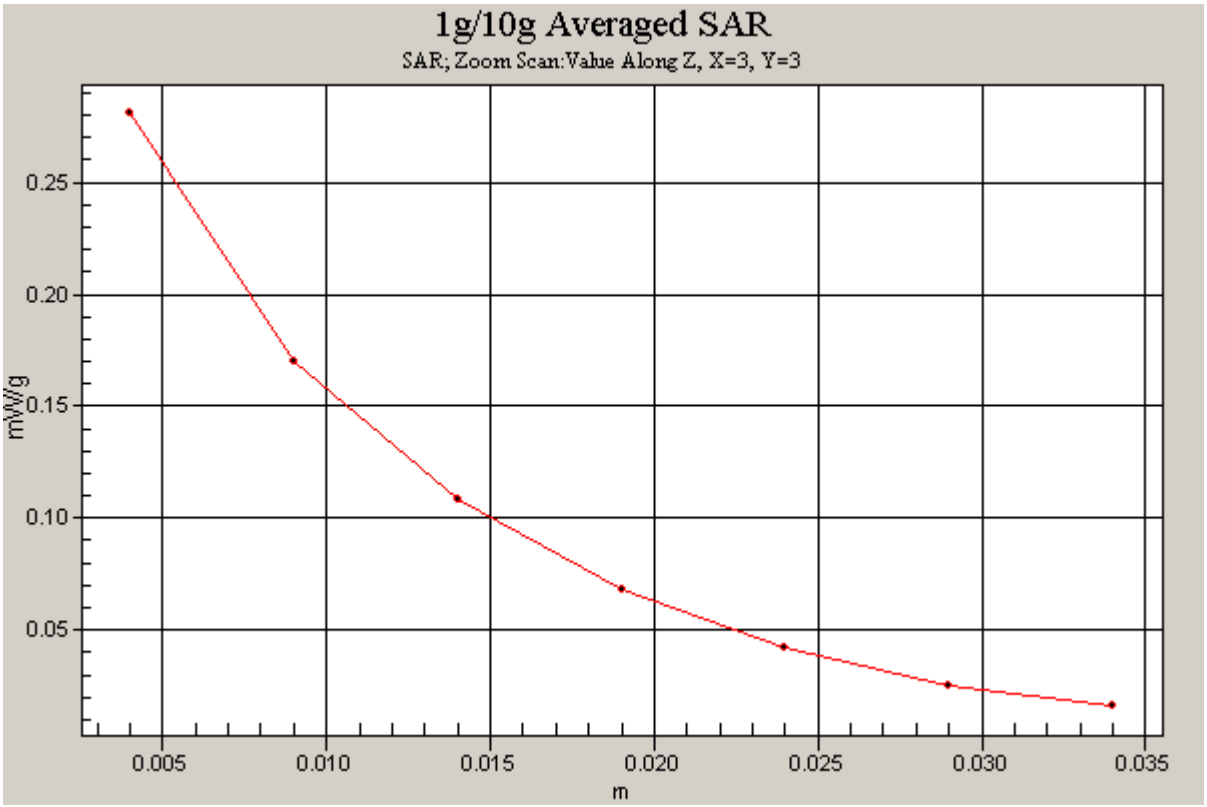


Figure 89 Body, Towards Phantom, WCDMA Band II Channel 9400



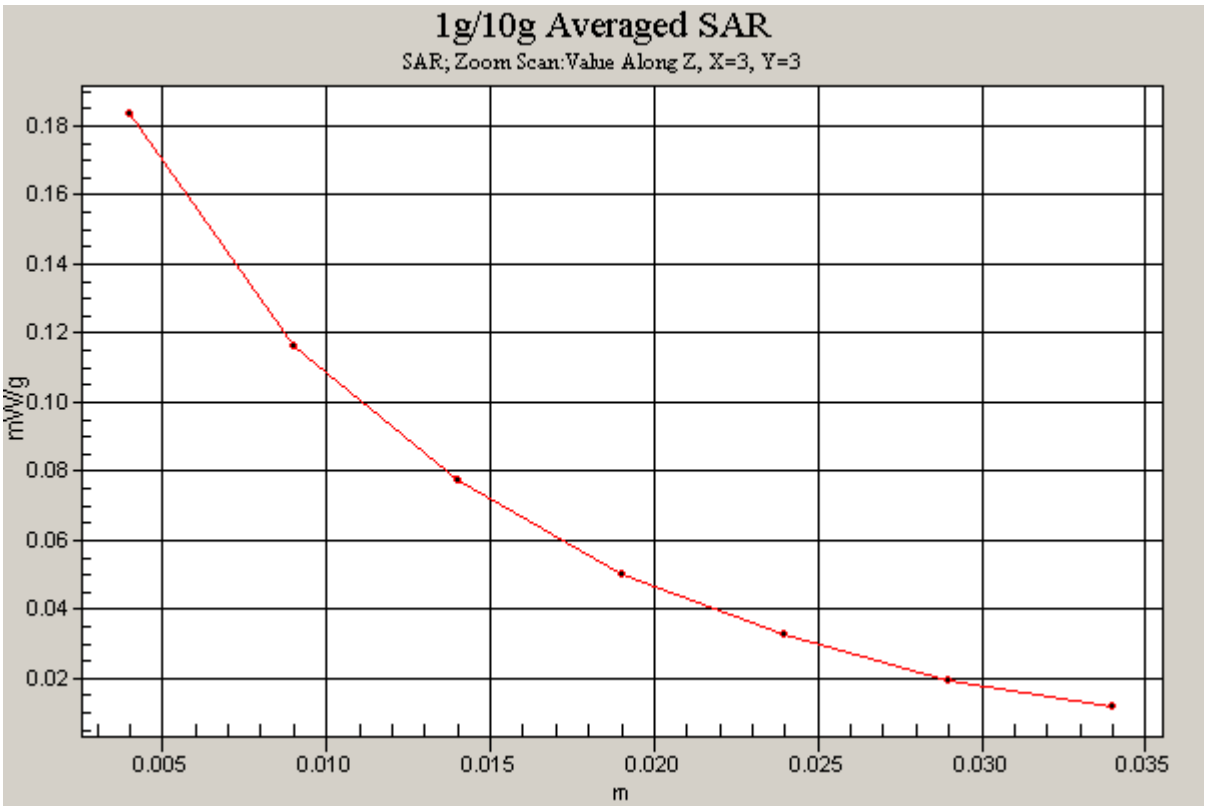


Figure 90 Z-Scan at power reference point (Body, Towards Phantom, WCDMA Band II Channel 9400)

WCDMA Band II Towards Ground with Earphone High

Date/Time: 8/26/2009 8:51:33 AM
Communication System: WCDMA Band II; Frequency: 1907.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1908 MHz; σ = 1.54 mho/m; ε_r = 52.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(4.6, 4.6, 4.6); Calibrated: 11/25/2008
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

Towards Ground High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.457 mW/g
Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.4 V/m; Power Drift = -0.059 dB
Peak SAR (extrapolated) = 0.733 W/kg
SAR(1 g) = 0.402 mW/g; SAR(10 g) = 0.233 mW/g
Maximum value of SAR (measured) = 0.430 mW/g
Towards Ground High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.4 V/m; Power Drift = -0.059 dB
Peak SAR (extrapolated) = 0.593 W/kg
SAR(1 g) = 0.352 mW/g; SAR(10 g) = 0.219 mW/g
Maximum value of SAR (measured) = 0.376 mW/g

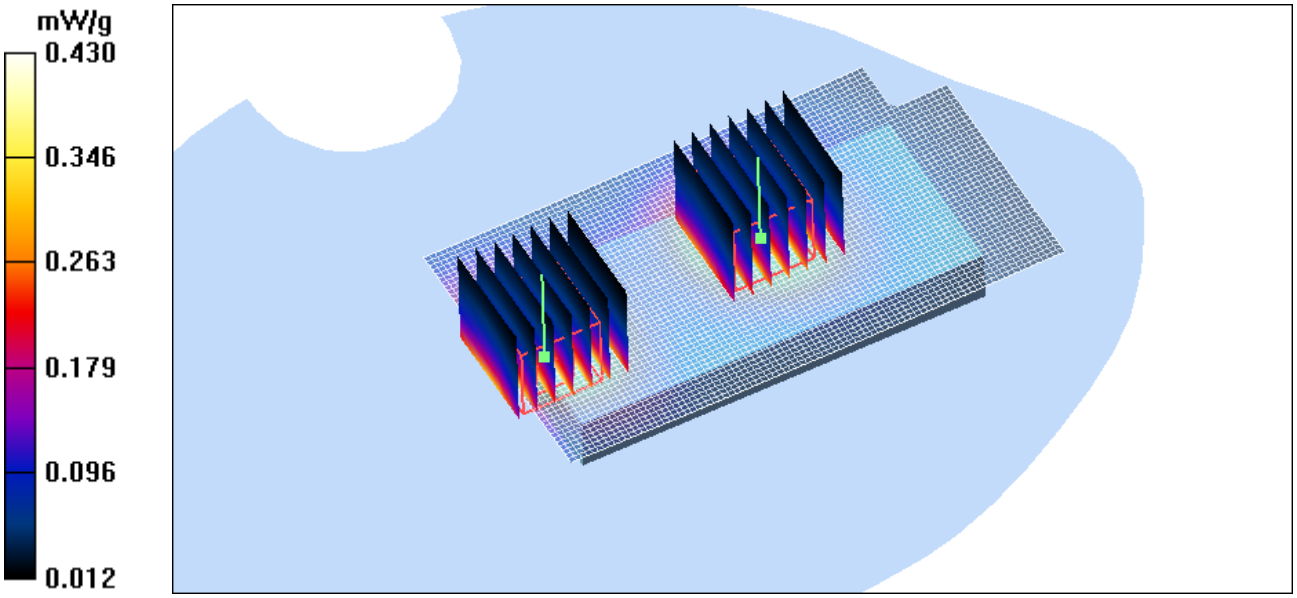
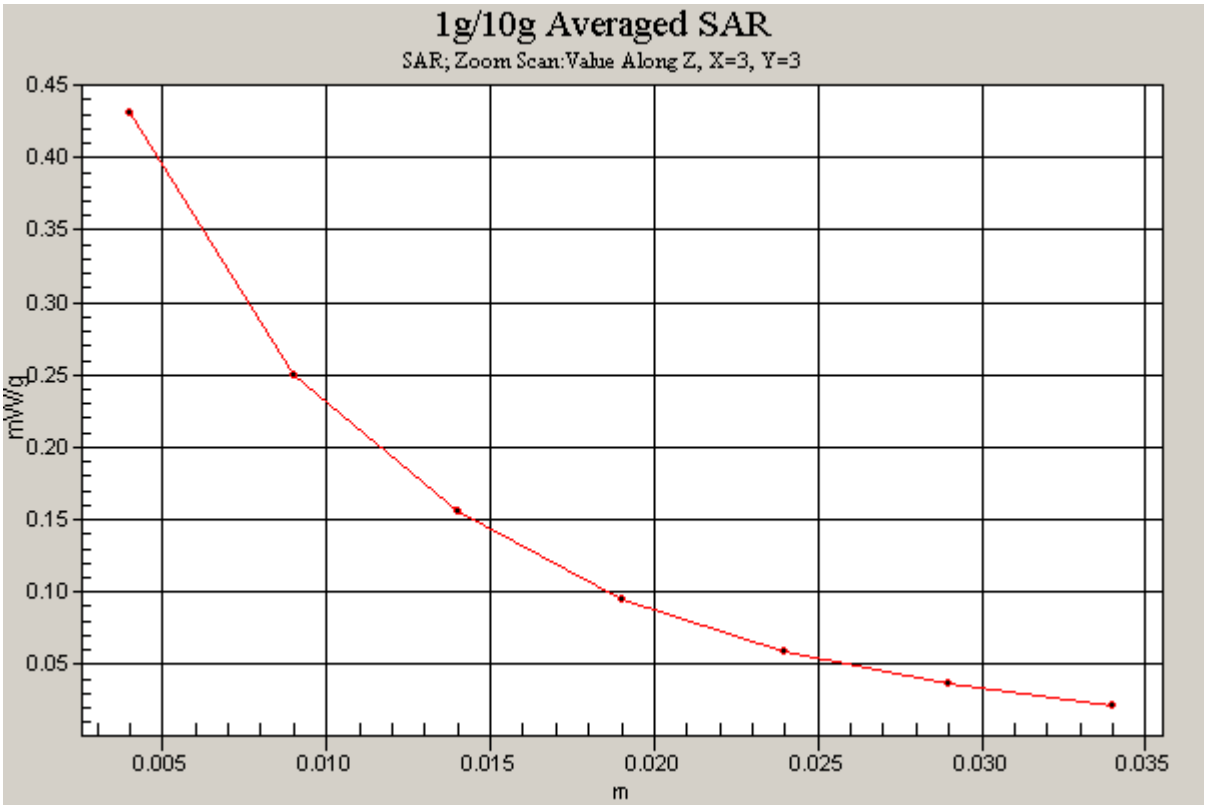


Figure 91 Body with Earphone, Towards Ground, WCDMA Band II Channel 9538



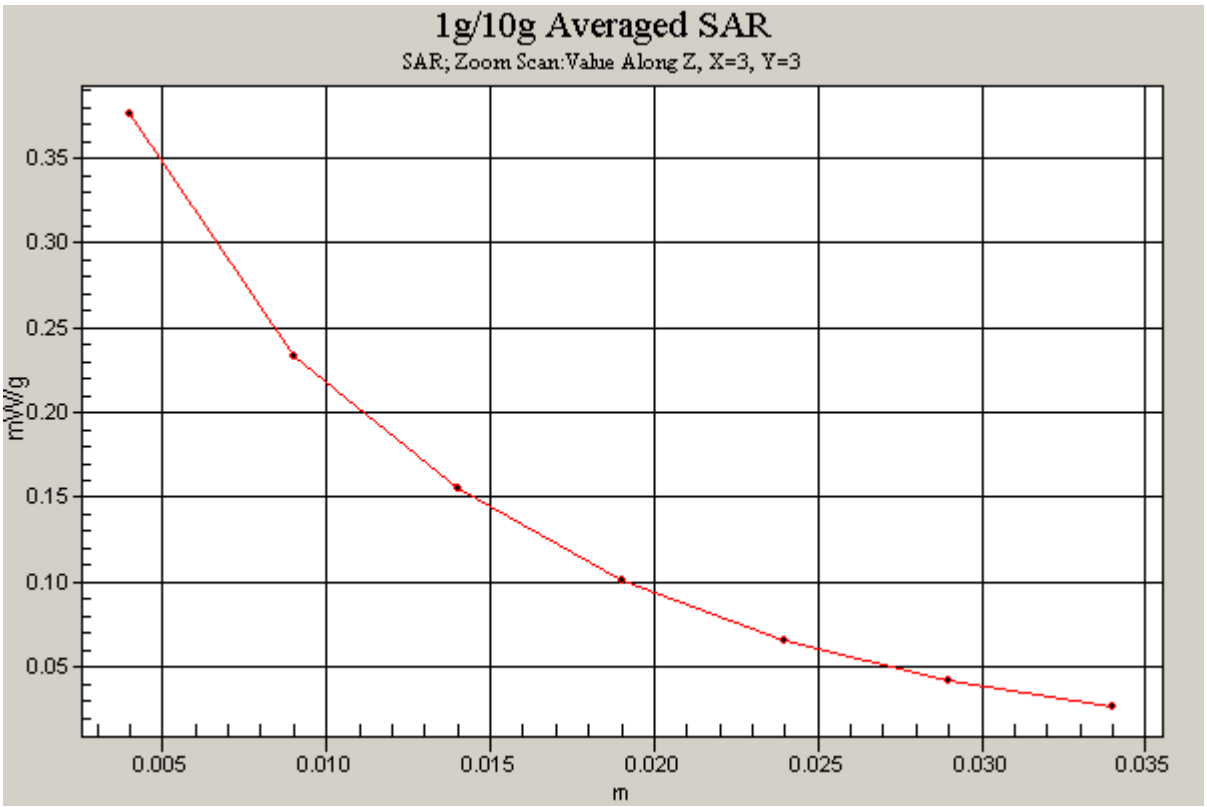


Figure 92 Z-Scan at power reference point (Body with Earphone, Towards Ground, WCDMA Band II Channel 9538)

WCDMA Band V Left Cheek Middle

Date/Time: 8/28/2009 8:18:35 AM
Communication System: WCDMA Band V; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.926 mho/m; ε_r = 42.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.33, 6.33, 6.33); Calibrated: 11/25/2008
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) = 0.798 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.9 V/m; Power Drift = 0.116 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.767 mW/g; SAR(10 g) = 0.531 mW/g
Maximum value of SAR (measured) = 0.825 mW/g

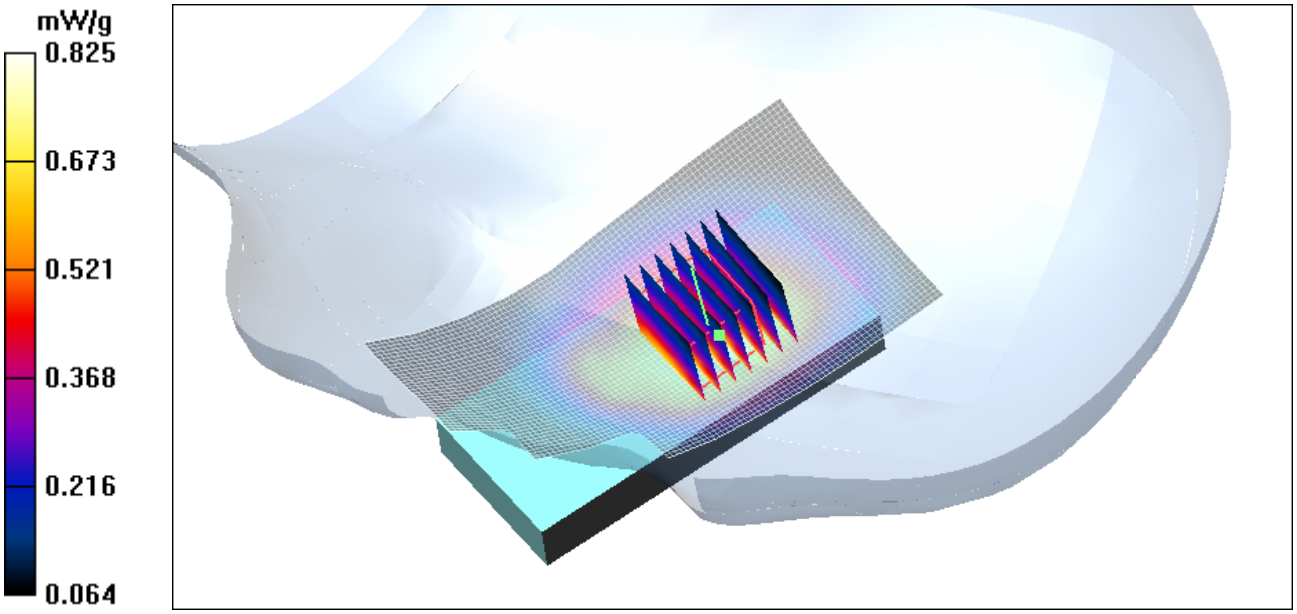


Figure 93 Left Hand Touch Cheek WCDMA Band V Channel 4183

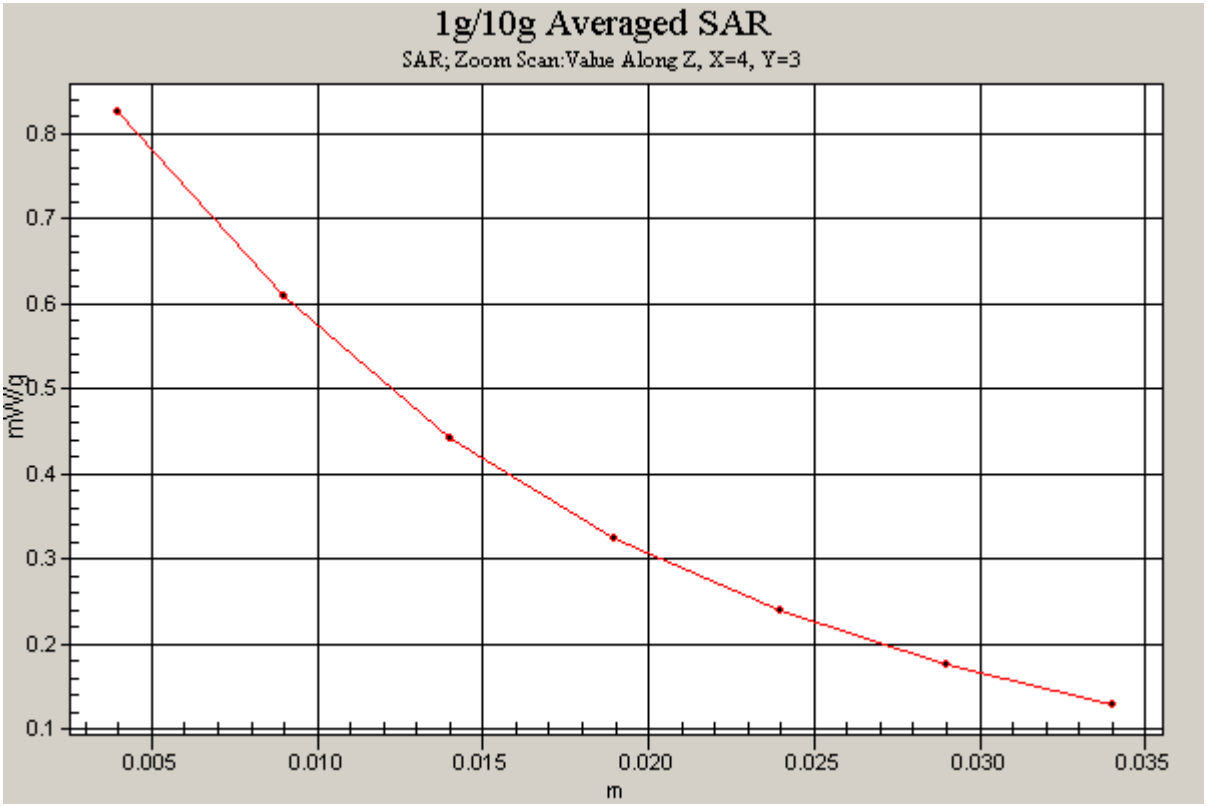


Figure 94 Z-Scan at power reference point (Left Hand Touch Cheek WCDMA Band V Channel 4183)

WCDMA Band V Left Tilt Middle

Date/Time: 8/28/2009 8:48:47 AM
Communication System: WCDMA Band V; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.926 mho/m; ε_r = 42.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Left Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.33, 6.33, 6.33); Calibrated: 11/25/2008
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) = 0.538 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.5 V/m; Power Drift = -0.048 dB
Peak SAR (extrapolated) = 0.689 W/kg
SAR(1 g) = 0.512 mW/g; SAR(10 g) = 0.353 mW/g
Maximum value of SAR (measured) = 0.552 mW/g

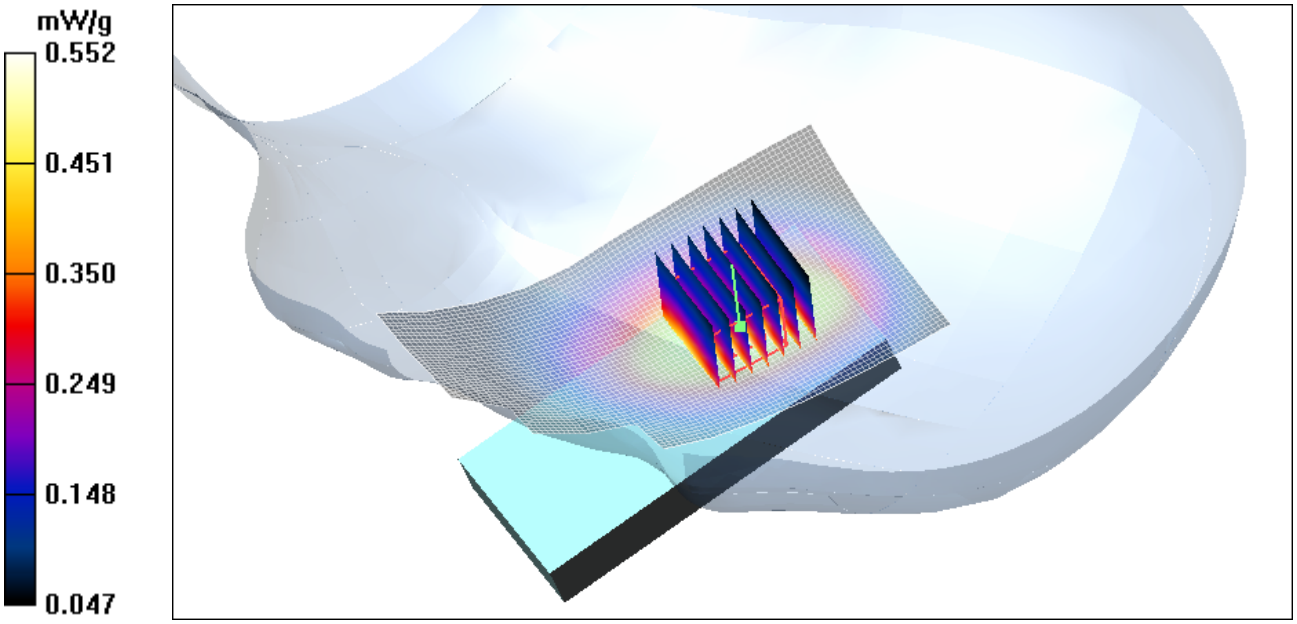


Figure 95 Left Hand Tilt 15° WCDMA Band V Channel 4183

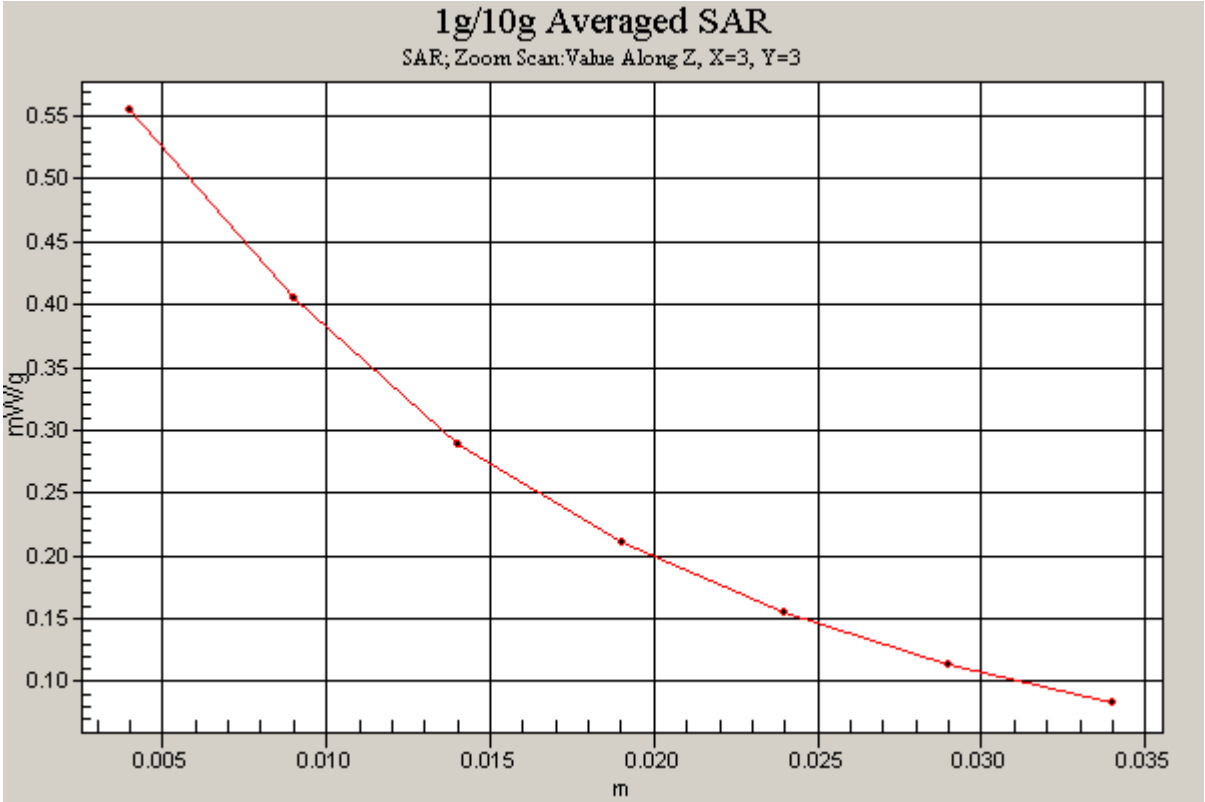


Figure 96 Z-Scan at power reference point (Left Hand Tilt 15° WCDMA Band V Channel 4183)

WCDMA Band V Right Cheek High

Date/Time: 8/28/2009 7:11:08 AM
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 0.937 mho/m; ε_r = 42.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.33, 6.33, 6.33); Calibrated: 11/25/2008
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) = 0.754 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.3 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 0.922 W/kg
SAR(1 g) = 0.710 mW/g; SAR(10 g) = 0.506 mW/g
Maximum value of SAR (measured) = 0.753 mW/g

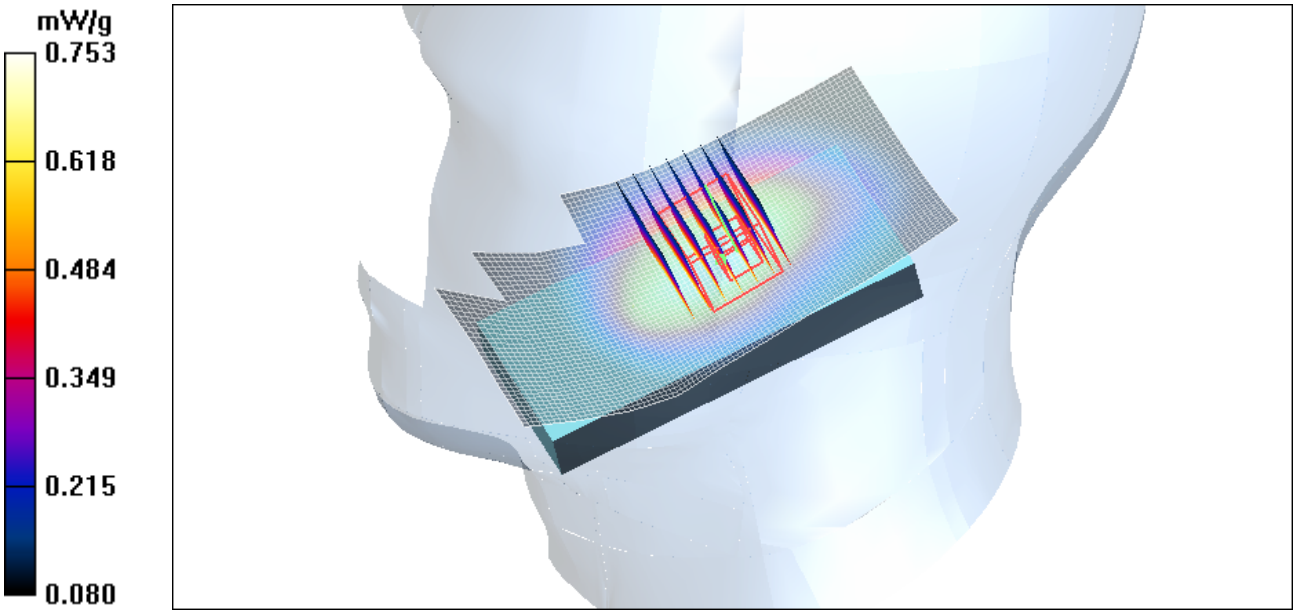


Figure 97 Right Hand Touch Cheek WCDMA Band V Channel 4233

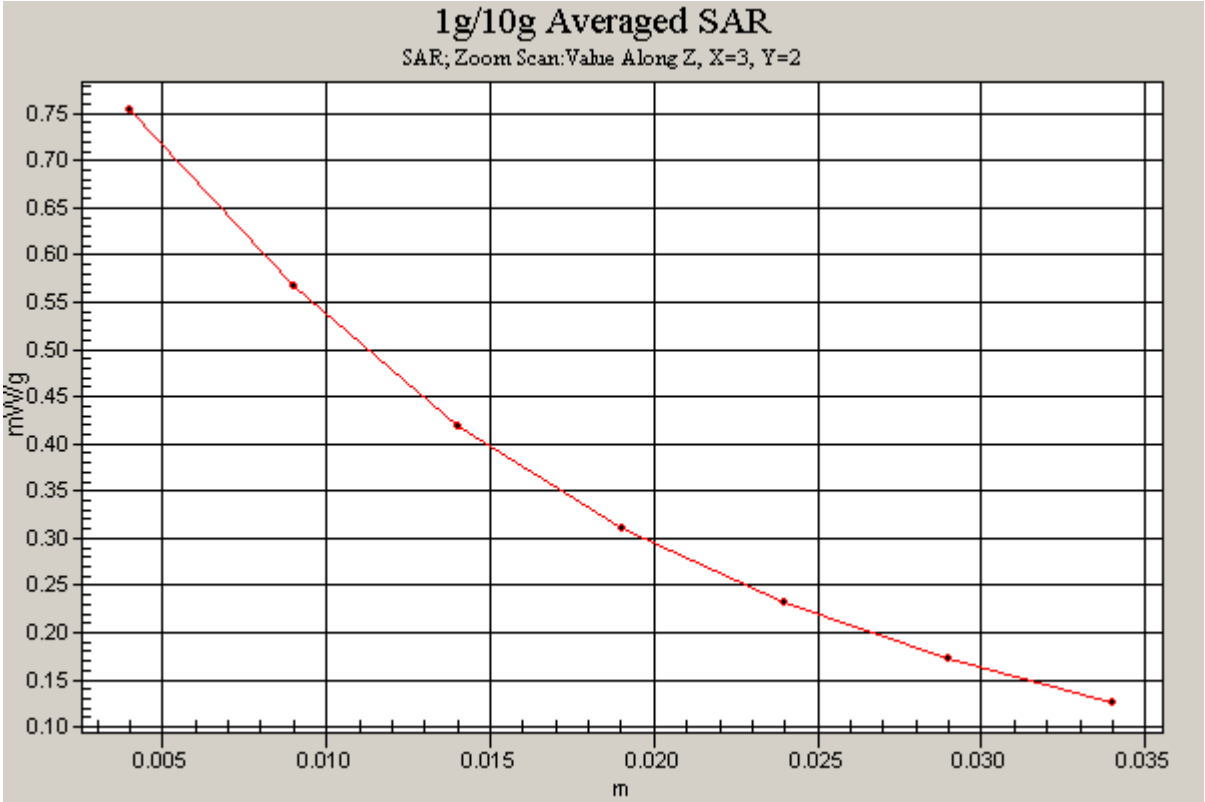


Figure 98 Z-Scan at power reference point (Right Hand Touch Cheek WCDMA Band V Channel 4233)

WCDMA Band V Right Cheek Middle

Date/Time: 8/28/2009 6:52:39 AM
Communication System: WCDMA Band V; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.926 mho/m; ε_r = 42.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.33, 6.33, 6.33); Calibrated: 11/25/2008
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) = 0.923 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.4 V/m; Power Drift = -0.087dB
Peak SAR (extrapolated) = 1.08 W/kg
SAR(1 g) = 0.829 mW/g; SAR(10 g) = 0.593 mW/g
Maximum value of SAR (measured) = 0.882 mW/g

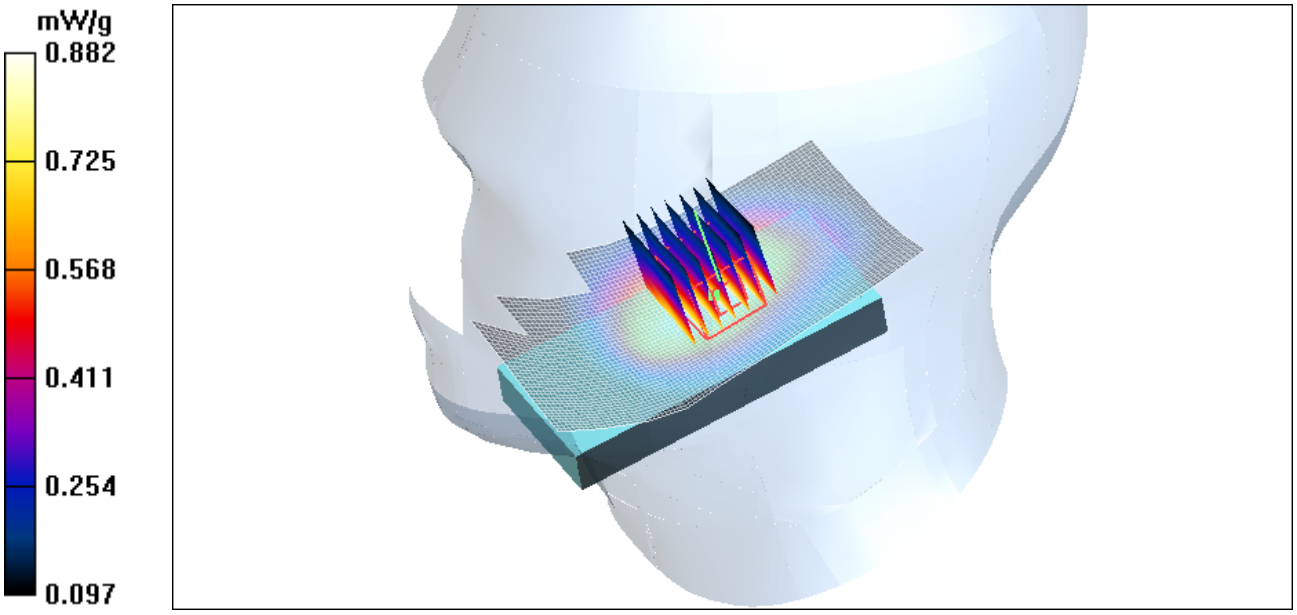


Figure 99 Right Hand Touch Cheek WCDMA Band V Channel 4183

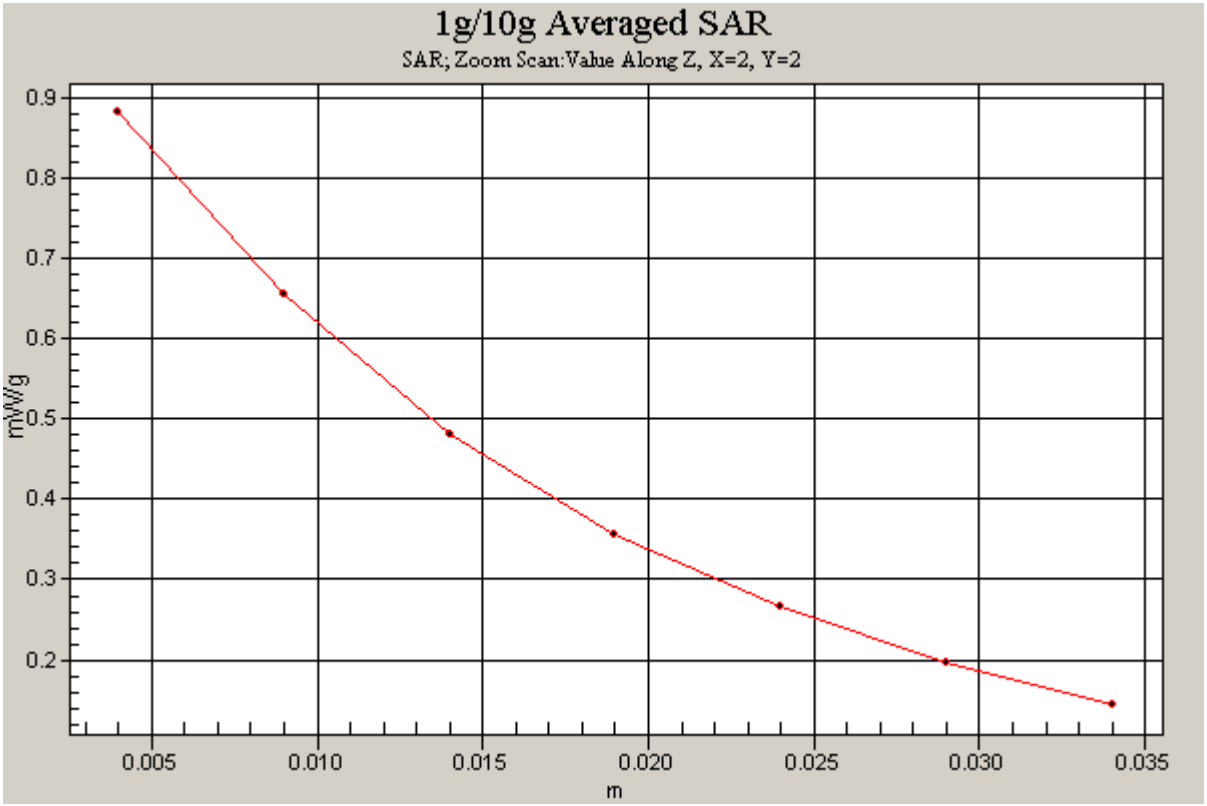


Figure 100 Z-Scan at power reference point (Right Hand Touch Cheek WCDMA Band V Channel 4183)

WCDMA Band V Right Cheek Low

Date/Time: 8/28/2009 7:34:17 AM
Communication System: WCDMA Band V; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.912 mho/m; ε_r = 42.8; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.33, 6.33, 6.33); Calibrated: 11/25/2008
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) = 0.851 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.4 V/m; Power Drift = -0.193 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.799 mW/g; SAR(10 g) = 0.569 mW/g
Maximum value of SAR (measured) = 0.856 mW/g

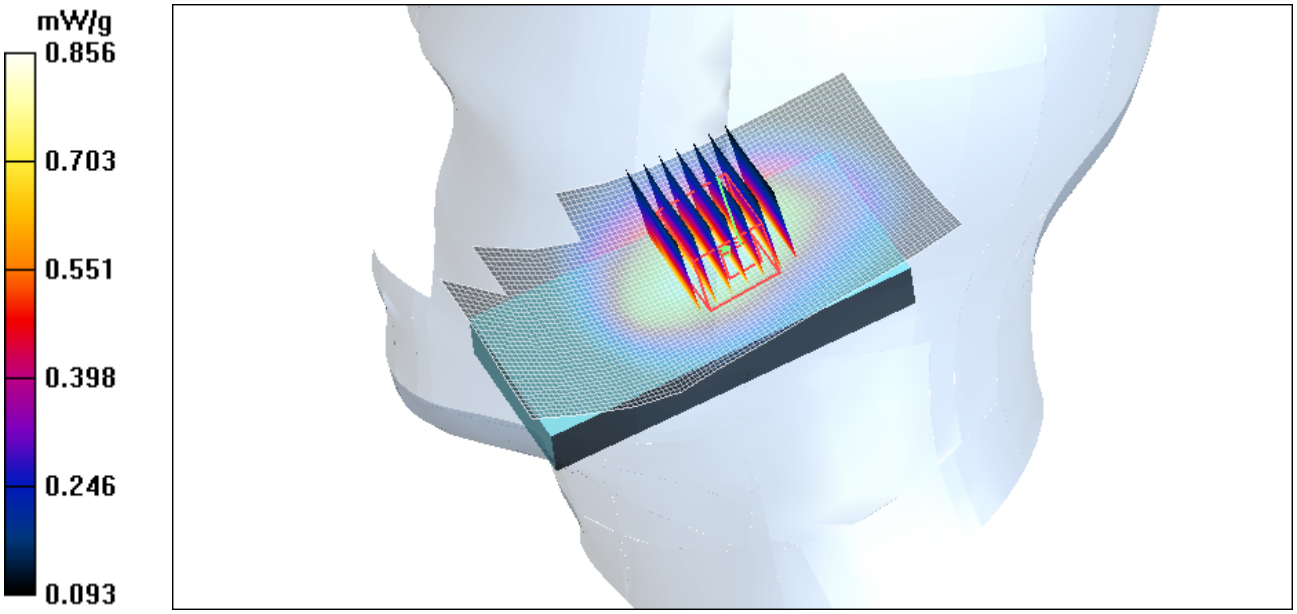


Figure 101 Right Hand Touch Cheek WCDMA Band V Channel 4132

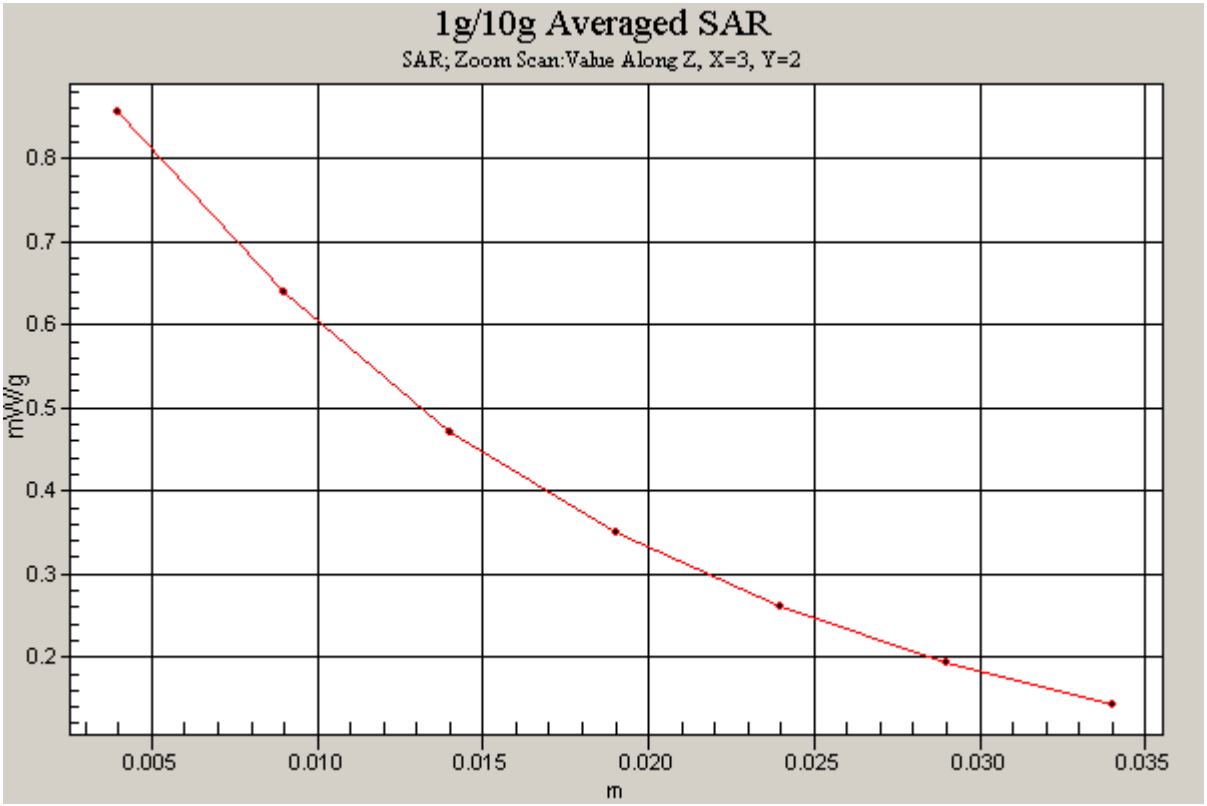


Figure 102 Z-Scan at power reference point (Right Hand Touch Cheek WCDMA Band V Channel 4132)

WCDMA Band V Right Tilt Middle

Date/Time: 8/28/2009 7:54:11 AM
Communication System: WCDMA Band V; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.926 mho/m; ε_r = 42.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Right Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.33, 6.33, 6.33); Calibrated: 11/25/2008
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) = 0.521 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.0 V/m; Power Drift = -0.035 dB
Peak SAR (extrapolated) = 0.654 W/kg
SAR(1 g) = 0.502 mW/g; SAR(10 g) = 0.354 mW/g
Maximum value of SAR (measured) = 0.538 mW/g

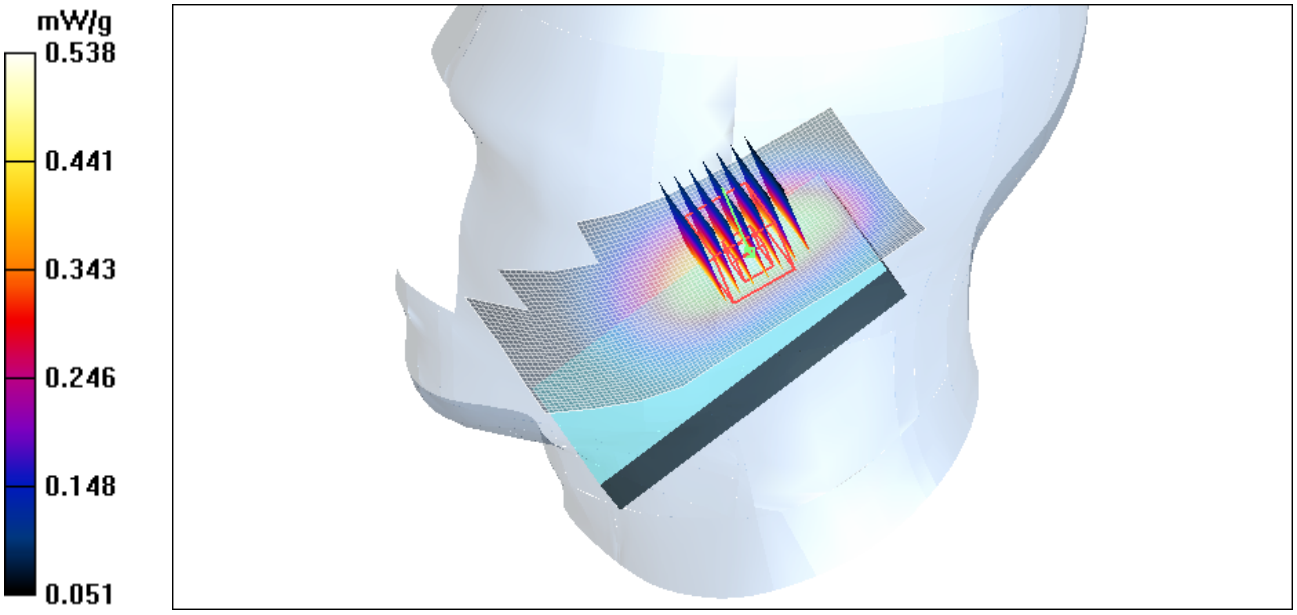


Figure 103 Right Hand Tilt 15° WCDMA Band V Channel 4183

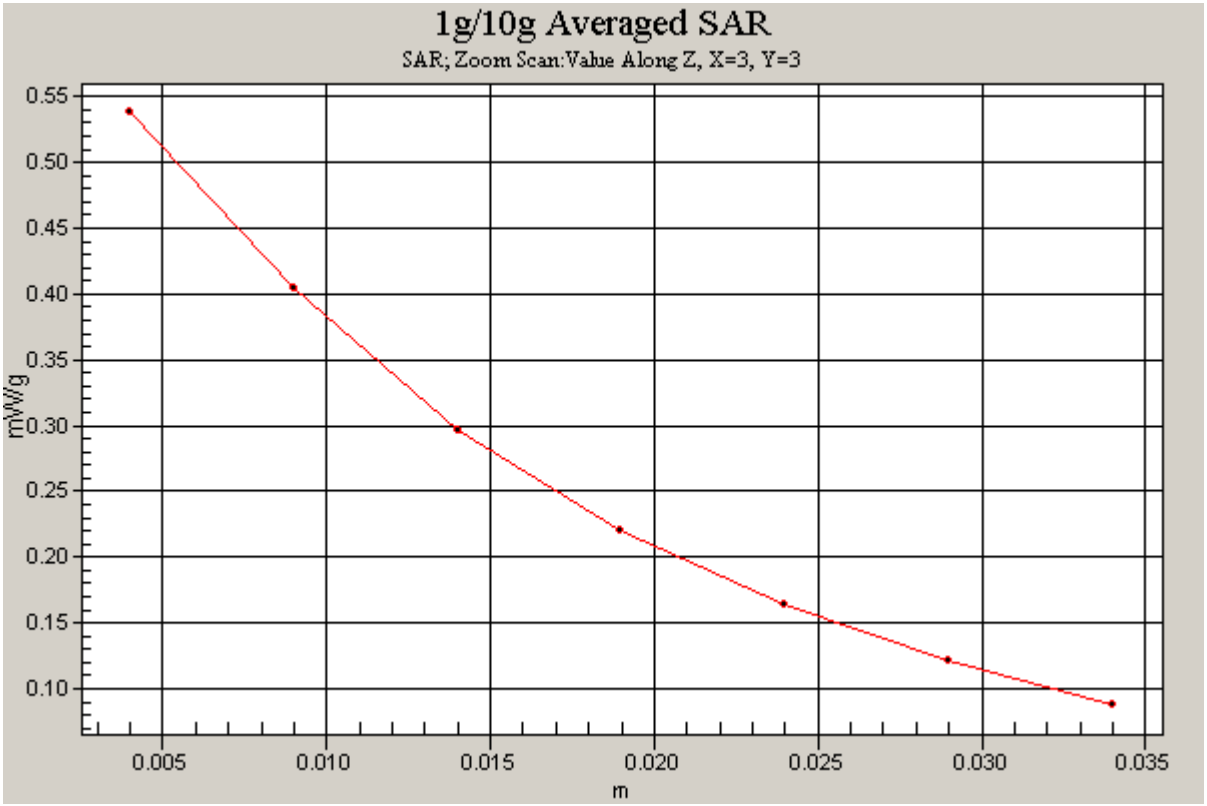


Figure 104 Z-Scan at power reference point (Right Hand Tilt 15° WCDMA Band V Channel 4183)

WCDMA Band V Towards Ground High

Date/Time: 8/29/2009 10:18:21 PM
Communication System: WCDMA Band V; Frequency: 846.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 847 MHz; σ = 1.03 mho/m; ε_r = 54.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.14, 6.14, 6.14); Calibrated: 11/25/2008
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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.376 mW/g

Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.6 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 0.447 W/kg
SAR(1 g) = 0.347 mW/g; SAR(10 g) = 0.247 mW/g
Maximum value of SAR (measured) = 0.372 mW/g

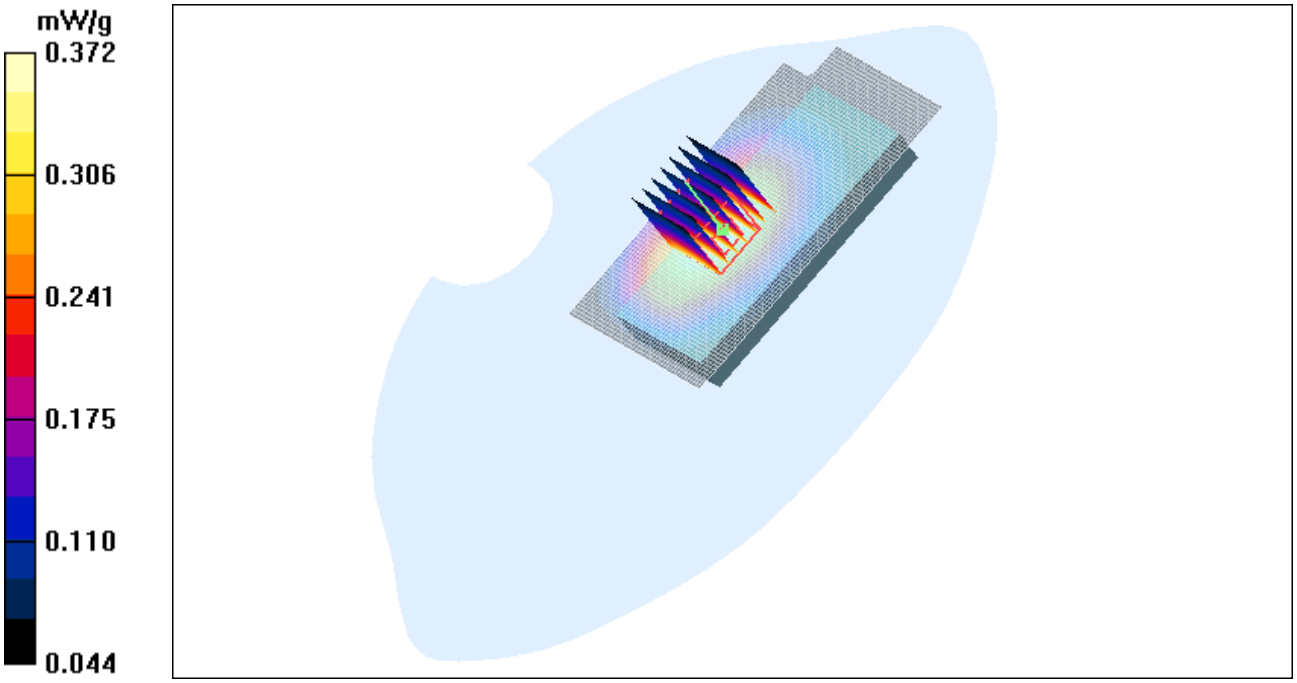


Figure 105 Body, Towards Ground, WCDMA Band V Channel 4233

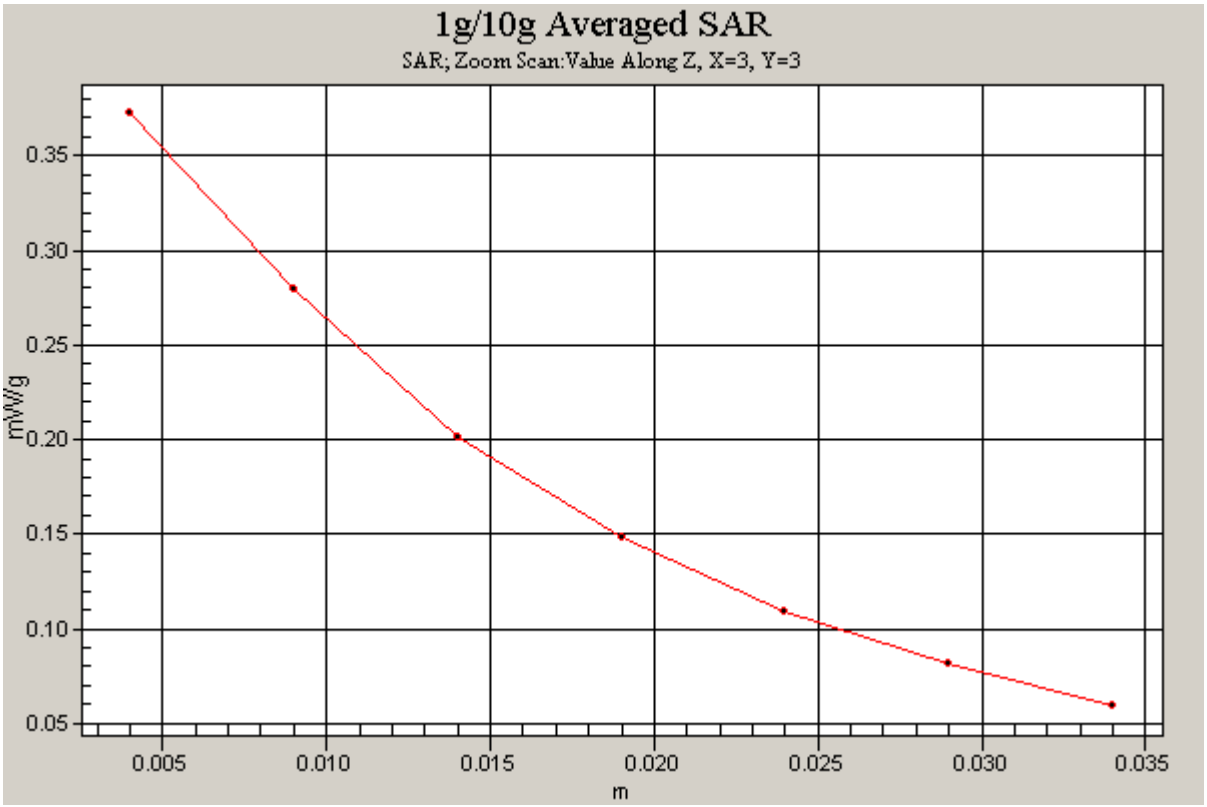


Figure 106 Z-Scan at power reference point (Body, Towards Ground, WCDMA Band V Channel 4233)

WCDMA Band V Towards Ground Middle

Date/Time: 8/29/2009 5:03:41 PM
Communication System: WCDMA Band V; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 1.02 mho/m; ε_r = 55; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.14, 6.14, 6.14); Calibrated: 11/25/2008
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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.507 mW/g

Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = -0.118 dB
Peak SAR (extrapolated) = 0.620 W/kg
SAR(1 g) = 0.477 mW/g; SAR(10 g) = 0.336 mW/g
Maximum value of SAR (measured) = 0.507 mW/g

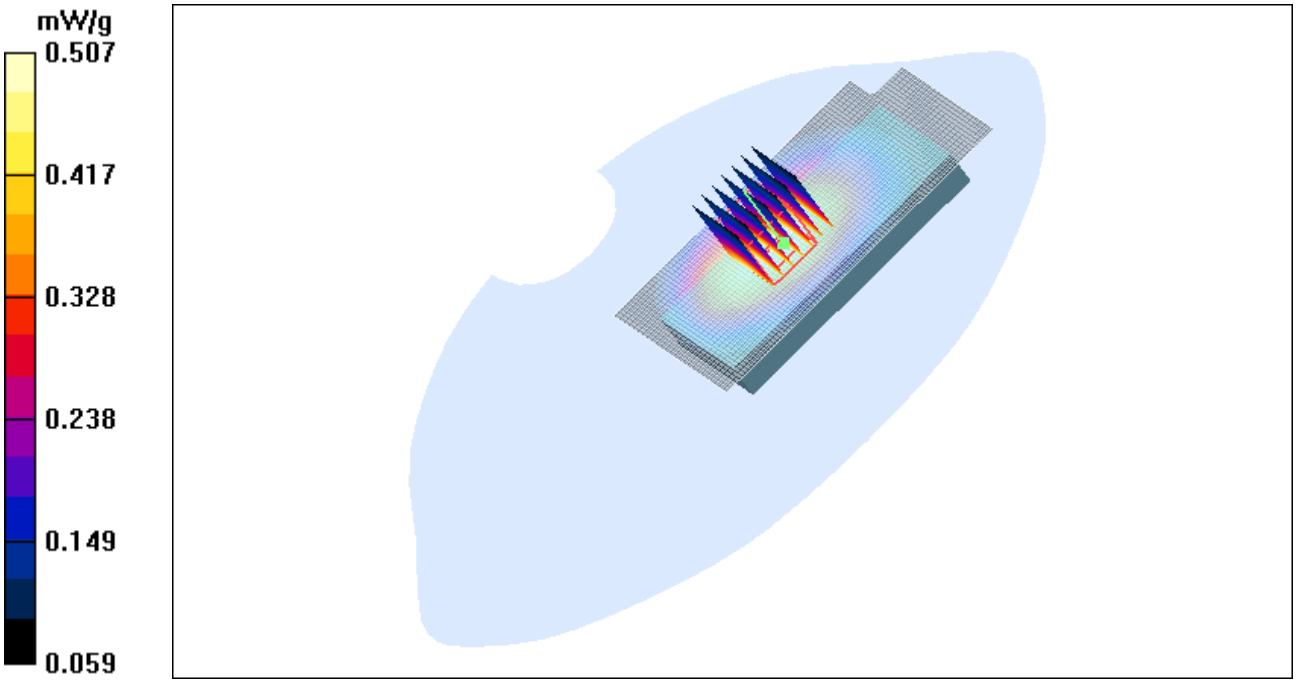


Figure 107 Body, Towards Ground, WCDMA Band V Channel 4183

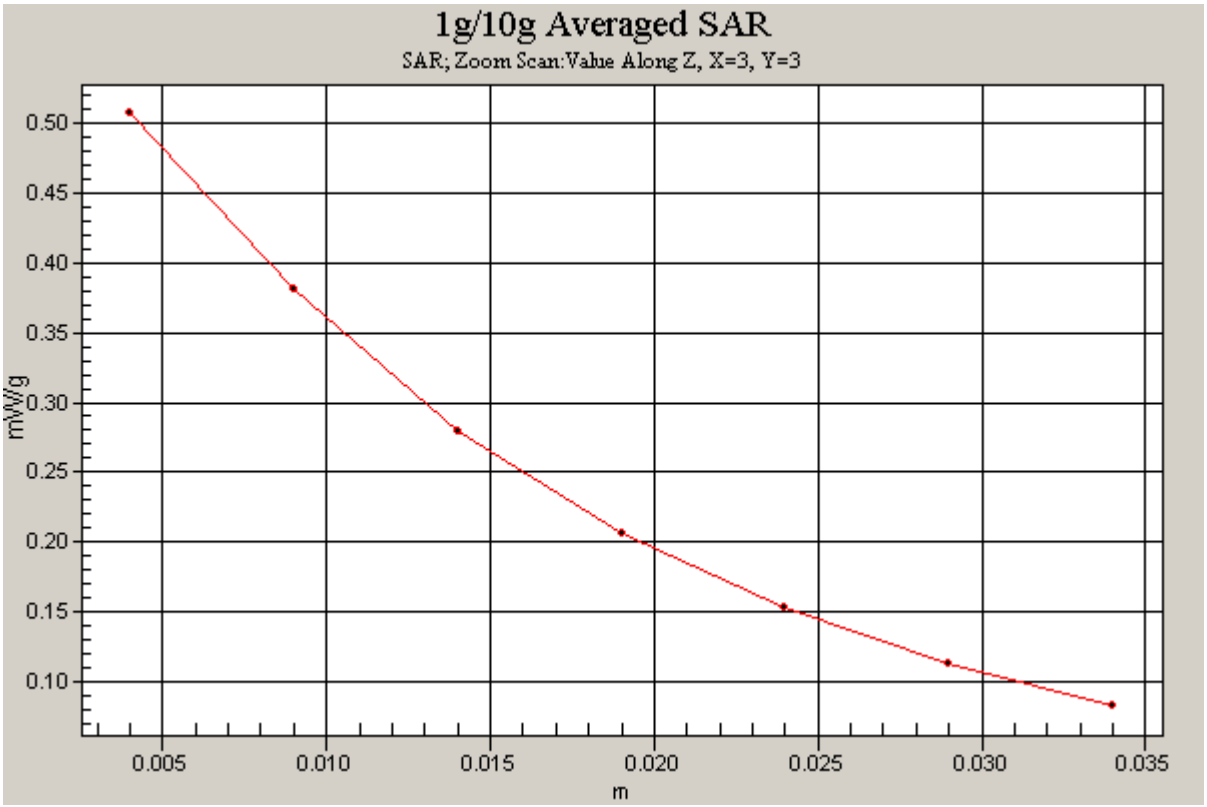


Figure 108 Z-Scan at power reference point (Body, Towards Ground, WCDMA Band V Channel 4183)

WCDMA Band V Towards Ground Low

Date/Time: 8/29/2009 10:35:51 PM
Communication System: WCDMA Band V; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 826.4 MHz; σ = 1.01 mho/m; ε_r = 55.2; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.14, 6.14, 6.14); Calibrated: 11/25/2008
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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.453 mW/g

Towards Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.0 V/m; Power Drift = 0.078 dB
Peak SAR (extrapolated) = 0.539 W/kg
SAR(1 g) = 0.426 mW/g; SAR(10 g) = 0.308 mW/g
Maximum value of SAR (measured) = 0.451 mW/g

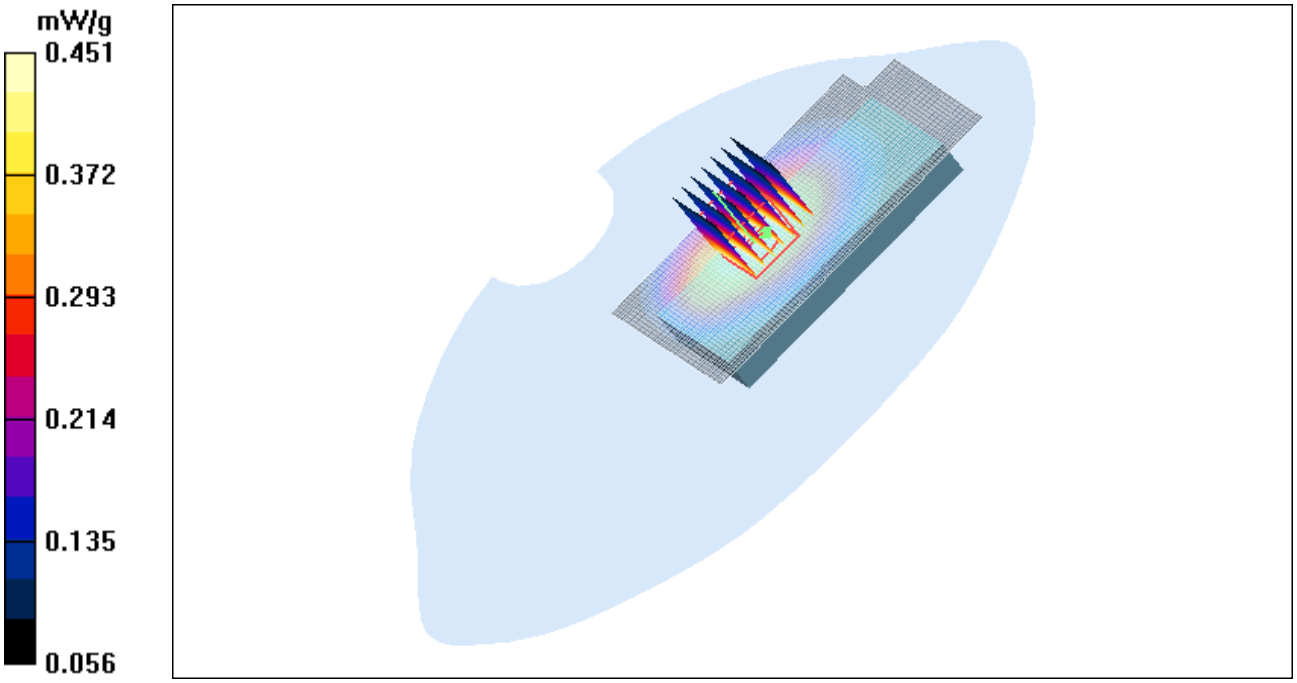


Figure 109 Body, Towards Ground, WCDMA Band V Channel 4132

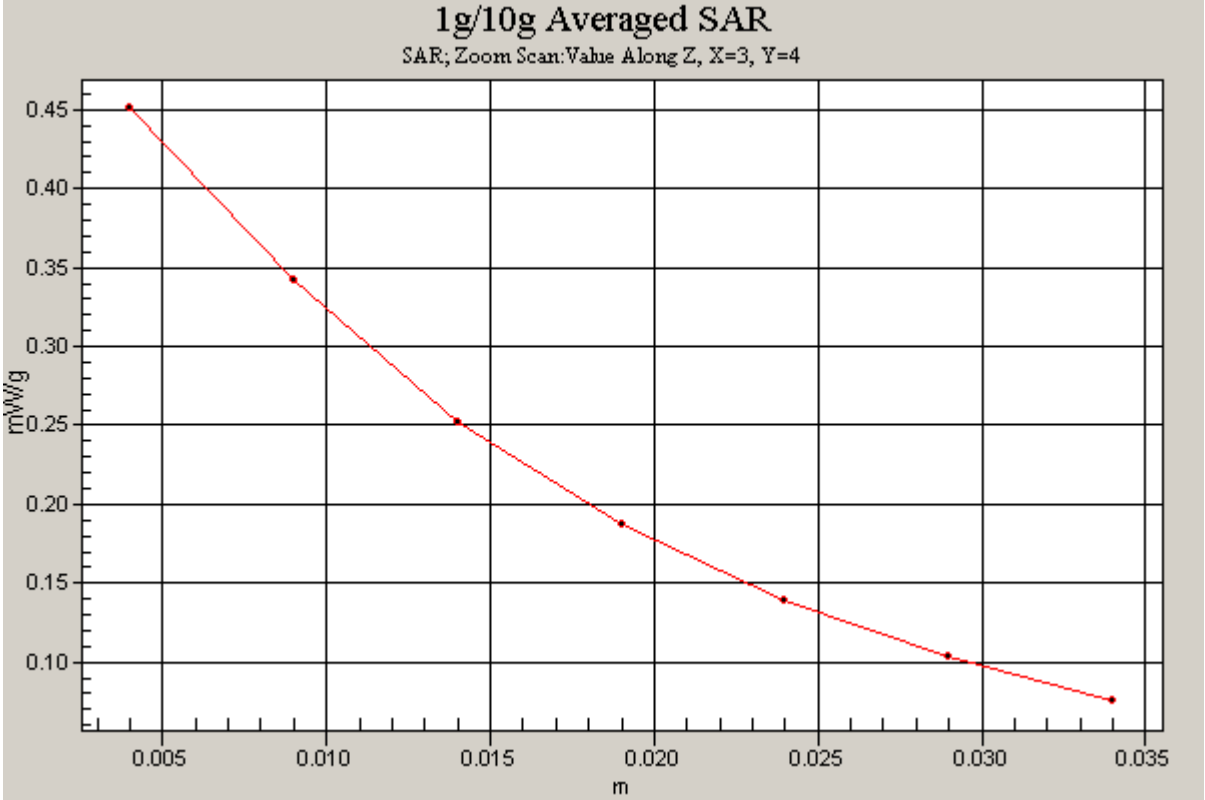


Figure 110 Z-Scan at power reference point (Body, Towards Ground, WCDMA Band V Channel 4132)

WCDMA Band V Towards Phantom Middle

Date/Time: 8/29/2009 11:45:33 PM
Communication System: WCDMA Band V; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 1.02 mho/m; ε_r = 55; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.14, 6.14, 6.14); Calibrated: 11/25/2008
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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.511 mW/g

Towards Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.1 V/m; Power Drift = -0.008 dB
Peak SAR (extrapolated) = 0.562 W/kg
SAR(1 g) = 0.440 mW/g; SAR(10 g) = 0.317 mW/g
Maximum value of SAR (measured) = 0.466 mW/g

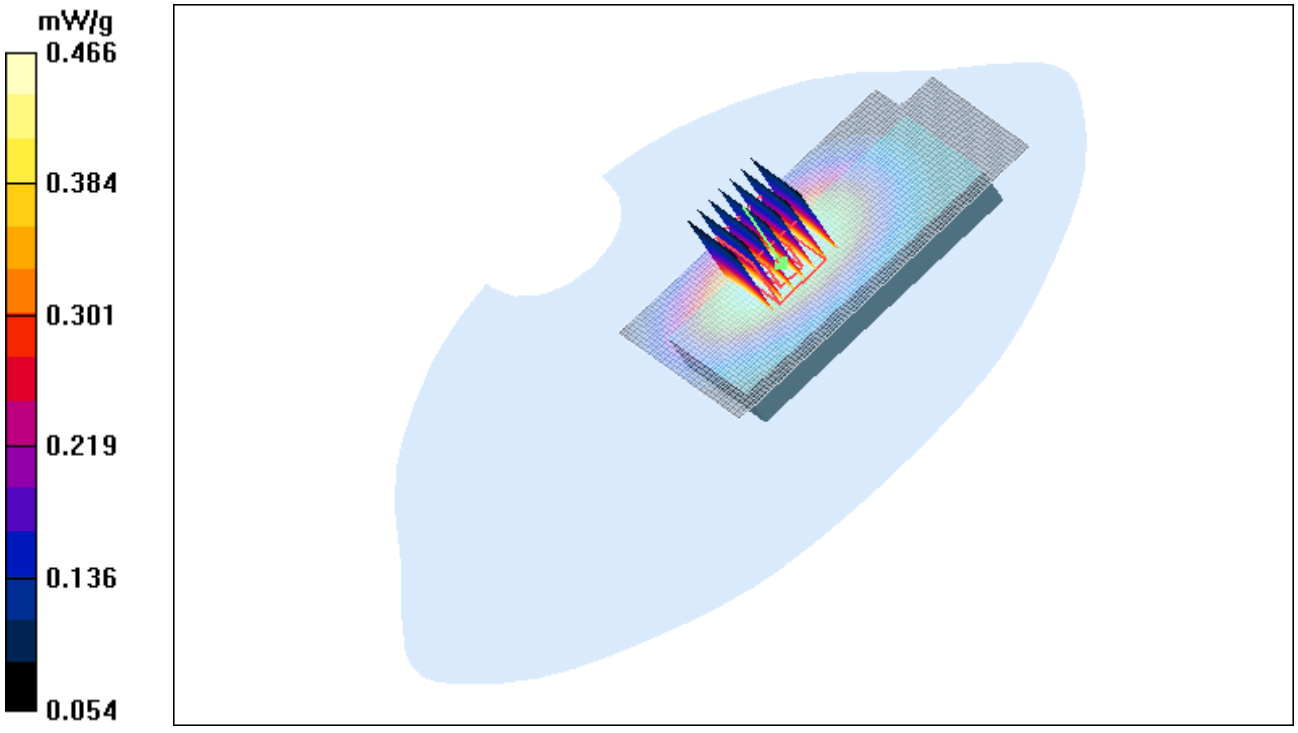


Figure 111 Body, Towards Phantom, WCDMA Band V Channel 4183

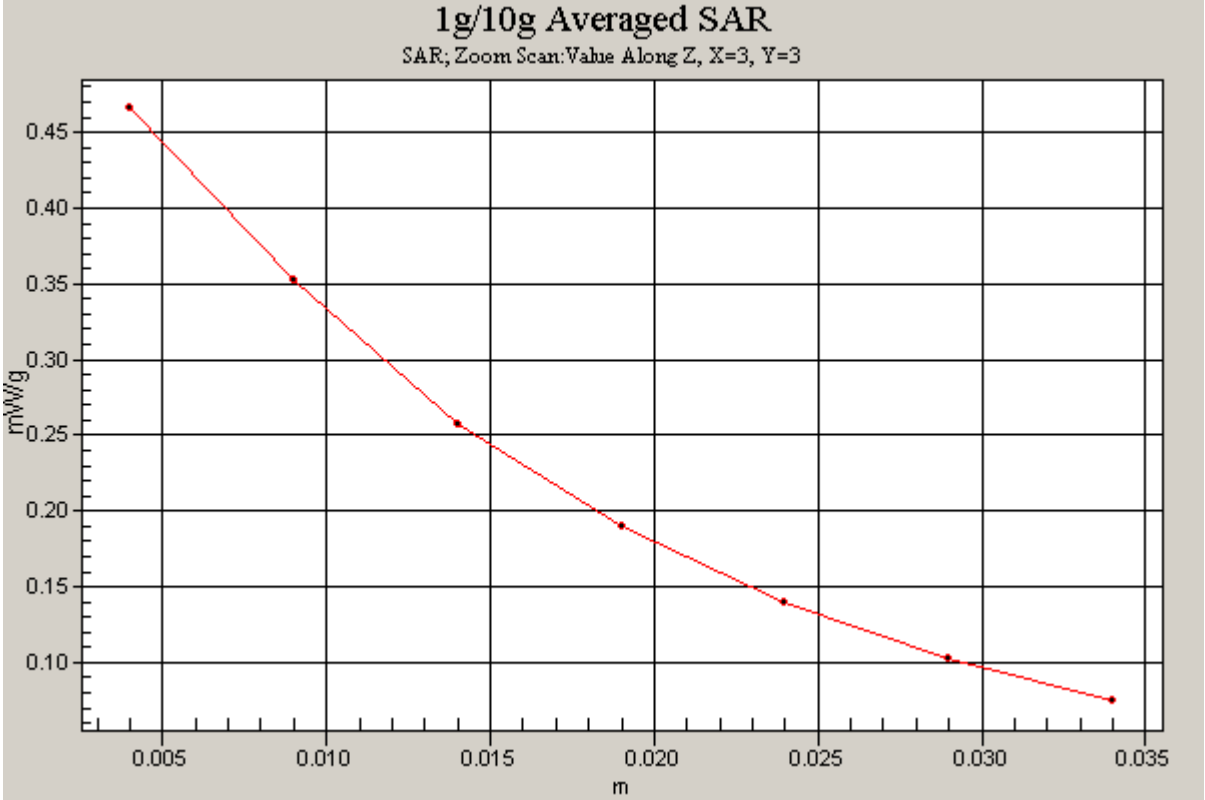


Figure 112 Z-Scan at power reference point (Body, Towards Phantom, WCDMA Band V Channel 4183)

WCDMA Band V Towards Ground with Earphone Middle

Date/Time: 8/29/2009 12:21:07 PM
Communication System: WCDMA Band V; Frequency: 836.6 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 1.02 mho/m; ε_r = 55; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
Phantom section: Flat Section
DASY4 Configuration:
Probe: ET3DV6 - SN1737; ConvF(6.14, 6.14, 6.14); Calibrated: 11/25/2008
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 (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.466 mW/g

Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.4 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 0.555 W/kg
SAR(1 g) = 0.435 mW/g; SAR(10 g) = 0.315 mW/g
Maximum value of SAR (measured) = 0.460 mW/g

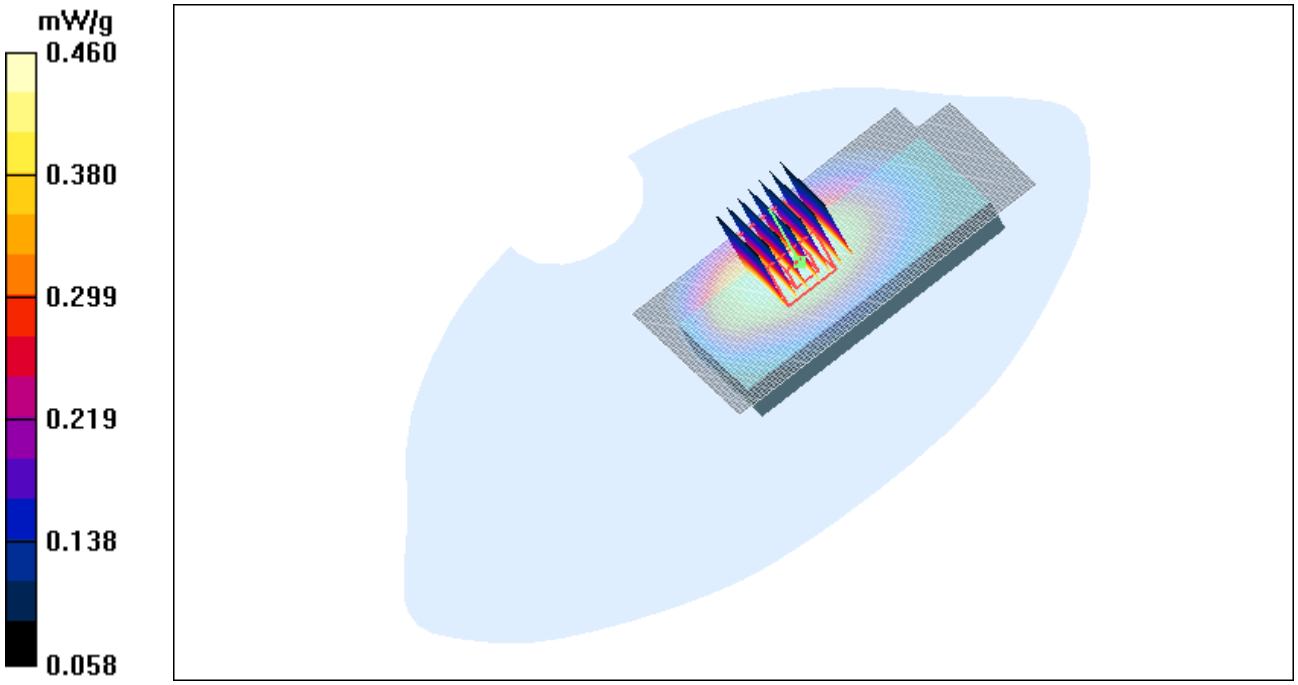


Figure 113 Body with Earphone, Towards Ground, WCDMA Band V Channel 4183

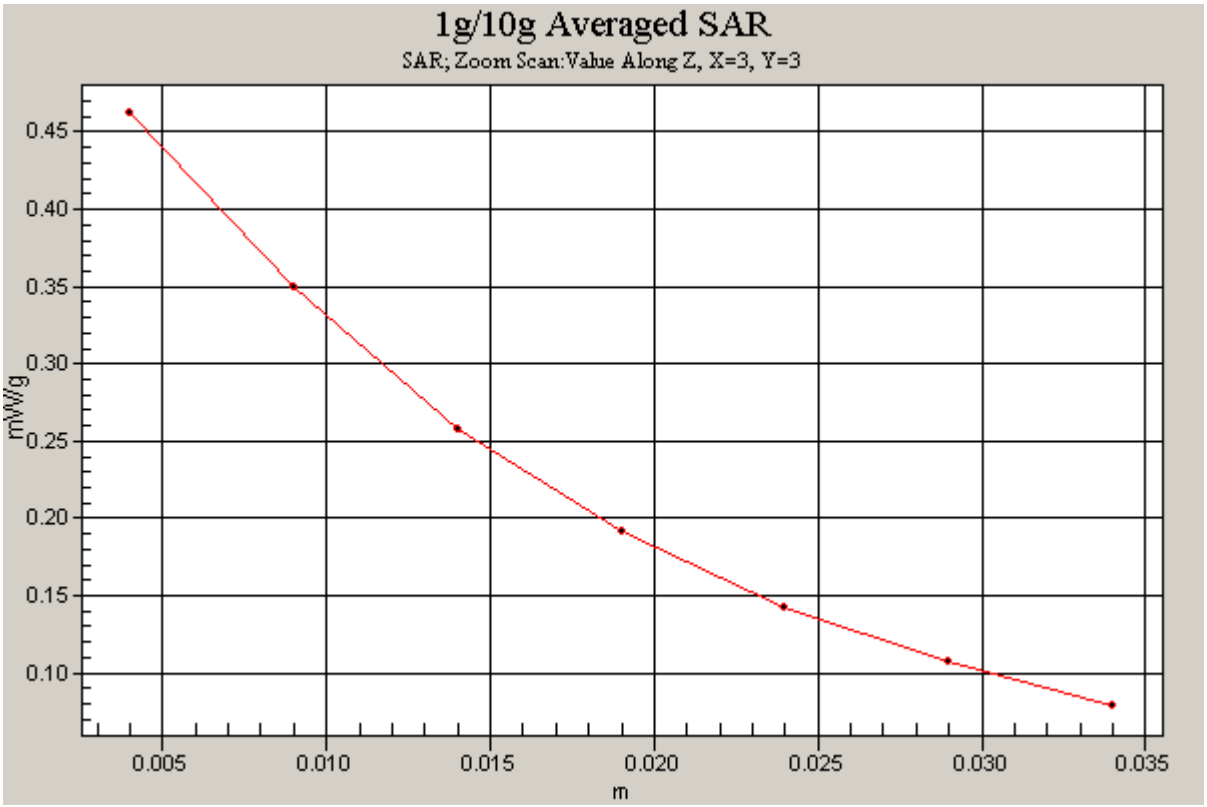


Figure 114 Z-Scan at power reference point (Body with Earphone, Towards Ground, WCDMA Band V Channel 4183)

ANNEX D: Probe Calibration Certificate

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Client **TA Shanghai (Auden)** Certificate No: **ET3-1737_Nov08**

CALIBRATION CERTIFICATE

Object ET3DV6 - SN:1737

Calibration procedure(s) QA CAL-01.v6, QA CAL-12.v5 and QA CAL-23.v3
Calibration procedure for dosimetric E-field probes

Calibration date: November 25, 2008

Condition of the calibrated item In Tolerance

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter E4419B	GB41293874	1-Apr-08 (No. 217-00788)	Apr-09
Power sensor E4412A	MY41495277	1-Apr-08 (No. 217-00788)	Apr-09
Power sensor E4412A	MY41498087	1-Apr-08 (No. 217-00788)	Apr-09
Reference 3 dB Attenuator	SN: S5054 (3c)	1-Jul-08 (No. 217-00865)	Jul-09
Reference 20 dB Attenuator	SN: S5086 (20b)	31-Mar-08 (No. 217-00787)	Apr-09
Reference 30 dB Attenuator	SN: S5129 (30b)	1-Jul-08 (No. 217-00866)	Jul-09
Reference Probe ES3DV2	SN: 3013	2-Jan-08 (No. ES3-3013_Jan08)	Jan-09
DAE4	SN: 660	9-Sep-08 (No. DAE4-660_Sep08)	Sep-09

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator HP 8648C	US3642U01700	4-Aug-99 (in house check Oct-07)	In house check: Oct-09
Network Analyzer HP 8753E	US37390585	18-Oct-01 (in house check Oct-08)	In house check: Oct-09

	Name	Function	Signature
Calibrated by:	Katja Pokovic	Technical Manager	
Approved by:	Niels Kuster	Quality Manager	

Issued: November 25, 2008

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 108

Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., ϑ = 0 is normal to probe axis

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2003, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", December 2003
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,y,z * frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f ≤ 800 MHz) and inside waveguide using analytical field distributions based on power measurements for f > 800 MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to *NORMx,y,z * ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- *Spherical isotropy (3D deviation from isotropy)*: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset*: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.

Probe ET3DV6

SN:1737

Manufactured:	September 27, 2002
Last calibrated:	February 19, 2007
Repaired:	November 18, 2008
Recalibrated:	November 25, 2008

Calibrated for DASY Systems

(Note: non-compatible with DASY2 system!)

ET3DV6 SN:1737 November 25, 2008

DASY - Parameters of Probe: ET3DV6 SN:1737

Sensitivity in Free Space[A] Diode Compression[B]

NormX	**1.42** ± 10.1%	$\mu V/(V/m)^2$	DCP X	**93** mV
NormY	**1.68** ± 10.1%	$\mu V/(V/m)^2$	DCP Y	**94** mV
NormZ	**1.63** ± 10.1%	$\mu V/(V/m)^2$	DCP Z	**85** mV

Sensitivity in Tissue Simulating Liquid (Conversion Factors)

Please see Page 8.

Boundary Effect

TSL **900 MHz** **Typical SAR gradient: 5 % per mm**

Sensor Center to Phantom Surface Distance		**3.7 mm**	**4.7 mm**
SAR_{be} [%]	Without Correction Algorithm	10.7	6.9
SAR_{be} [%]	With Correction Algorithm	0.3	0.4

TSL **1750 MHz** **Typical SAR gradient: 10 % per mm**

Sensor Center to Phantom Surface Distance		**3.7 mm**	**4.7 mm**
SAR_{be} [%]	Without Correction Algorithm	12.5	8.4
SAR_{be} [%]	With Correction Algorithm	0.8	0.5

Sensor Offset

Probe Tip to Sensor Center	**2.7** mm

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

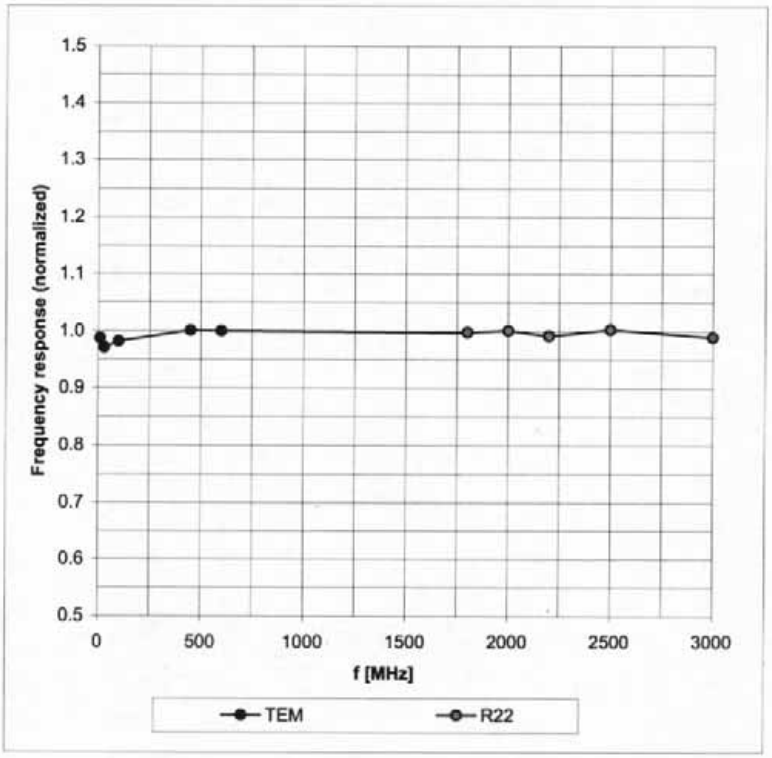
[A] The uncertainties of NormX,Y,Z do not affect the E^2-field uncertainty inside TSL (see Page 8).

[B] Numerical linearization parameter: uncertainty not required.

ET3DV6 SN:1737 November 25, 2008

Frequency Response of E-Field

(TEM-Cell:ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)