Report NO.: RZA2009-1352

TESTING
No. L2264

OET 65

TEST REPORT

Product Name	CDMA 1X Digital Mobile Telephone
FCC ID	QISM228
Model	HUAWEI M228
Client	Huawei Technologies Co., Ltd.

TA Technology (Shanghai) Co., Ltd.

GENERAL SUMMARY

Product Name	CDMA 1X Digital Mobile Telephone	**Model**	HUAWEI M228
FCC ID	QISM228	**Report No.**	RZA2009 -1352
Client	Huawei Technologies Co., Ltd.		
Manufacturer	Huawei Technologies Co., Ltd.		
Standard(s)	**ANSI/IEEE 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	Localized Specific Absorption Rate (SAR) of this portable wireless equipment has been measured in all cases requested by the relevant standards cited in Clause 5.2 of this test report. Maximum localized SAR is below exposure limits specified in the relevant standards cited in Clause 5.1 of this test report. General Judgment: **Pass** (Stamp) **Date of issue: October 23rd, 2009**		
Comment	The test result only responds to the measured sample.		

Approved by Yang Weizhong **Revised by** Ling Minbao **Performed by** Li Jinchang

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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

Company: TA Technology (Shanghai) Co., Ltd.
Address: No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai,China
City: Shanghai
Post code: 201201
Country: P. R. China
Contact: Yang Weizhong
Telephone: +86-021-50791141/2/3
Fax: +86-021-50791141/2/3-8000
Website: http://www.ta-shanghai.com
E-mail: yangweizhong@ta-shanghai.com

1.3. Applicant Information

Company:	Huawei Technologies Co., Ltd.
Address:	Bantian, Longgang District
City:	Shenzhen
Postal Code:	518129
Country:	P.R. China
Contact:	Wang Yue
Telephone:	0755-28780808
Fax:	0755-28780808

1.4. Manufacturer Information

Company:	Huawei Technologies Co., Ltd.
Address:	Bantian, Longgang District
City:	Shenzhen
Postal Code:	518129
Country:	P.R. China
Telephone:	0755-28780808
Fax:	0755-28780808

1.5. Information of EUT

General information

Device type :	portable device		
Exposure category:	uncontrolled environment / general population		
Name of EUT:	CDMA 1X Digital Mobile Telephone		
IMEI or SN:	YS2AB10960300141		
Device operating configurations :			
Operating mode(s):	CDMA Cellular		
	CDMA PCS		
	CDMA AWS		
Test Modulation:	QPSK		
Operating frequency range(s):	Band	Tx (MHz)	Rx (MHz)
	CDMA Cellular	824.7 ~ 848.31	869.7 ~ 893.31
	CDMA PCS	1851.25 ~ 1908.75	1931.25 ~ 1988.75
	CDMA AWS	1711.25 ~ 1752.5	2111.25 ~ 2152.5
Test channel (Low –Middle –High)	1013 – 384 – 777 (CDMA Cellular) (tested) 25 – 600 – 1175 (CDMA PCS) (tested) 25 – 450 – 850 (CDMA AWS) (tested)		
hardware version:	Ver.B		
software version:	M228C45B207		
antenna type:	internal antenna		

Auxiliary equipment details

AE1:Battery

Model:	HB5A2H
Manufacture:	Huawei Technologies Co., Ltd.
IMEI or SN:	YAC9806HI2805899

AE2:Travel Adaptor

Model:	HS-050040U1
Manufacture:	TECH-POWER Electronics（Shenzhen）Co., Ltd.
IMEI or SN:	HKA911933489

Equipment Under Test (EUT) is a model of CDMA 1X Digital Mobile Telephone with internal antenna. The detail about Mobile phone, Lithium Battery and AC/DC Adapter is in chapter 1.5. in this report. SAR is tested for CDMA Cellular, CDMA PCS and CDMA AWS.

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 October 19, 2009 to October 22, 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 1013, 384 and 777 respectively in the case of CDMA Cellular, to 25, 600 and 1175 respectively in the case of CDMA PCS, to 25, 450 and 850 respectively in the case of CDMA AWS. 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. Information for the measurement of CDMA 1x devices

2.2.1. Output Power Verification

Test Parameter setup for maximum RF output power according to section 4.4.5 of 3GPP2

Parameter	Units	Value
I or	dBm/1.23MHz	-104
PilotE c /I or	dB	-7
TrafficE c /I or	dB	-7.4

For SAR test, the maximum power output is very important and essential; it is identical under the measurement uncertainty. It is proper to use typical Test Mode 3 (FW RC3, RVS RC3, SO55) as the worst case for SAR test.

2.2.2. Head SAR measurement

SAR is measured in RC3 with the DUT configured to transmit at full rate using Loopback Service Option SO55.SAR for RC1 is not required because the maximum average output of each channel is less than 0.25 dB higher than that measured in RC3.Otherwise, SAR is measured on the maximum output channel in RC1 using the exposure configuration that results in the highest SAR for that channel in RC3.

2.2.3. Body SAR measurement

SAR is measured in RC3 with the EUT configured to transmit at full rate using TDSO/SO32, transmit at full rate on FCH with all other code channels disabled. SAR for multiple code channels (FCH+SCHn) is not required when the maximum average output of each RF channel is less than 0.25dB higher than measured with FCH only.

Body SAR in RC1 is not required because the maximum average output of each channel is less than 0.25 dB higher than that measured in RC3. Otherwise, SAR is measured on the maximum output channel in RC1; with Loopback Service Option SO55, at full rate using the body exposure configuration that results in the highest SAR for that channel in RC3.

Test communication setup meet as followings:

Communication standard between mobile station and base station simulator	3GPP2 C.S0011-B
Radio configuration	RC3（Supporting CDMA 1X）
Spreading Rate	SR1
Data Rate	9600bps
Service Options	SO55 （loop back mode）
Service Options	SO32 （test data service mode）
Multiplex Options	The mobile station does not support this service.

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.

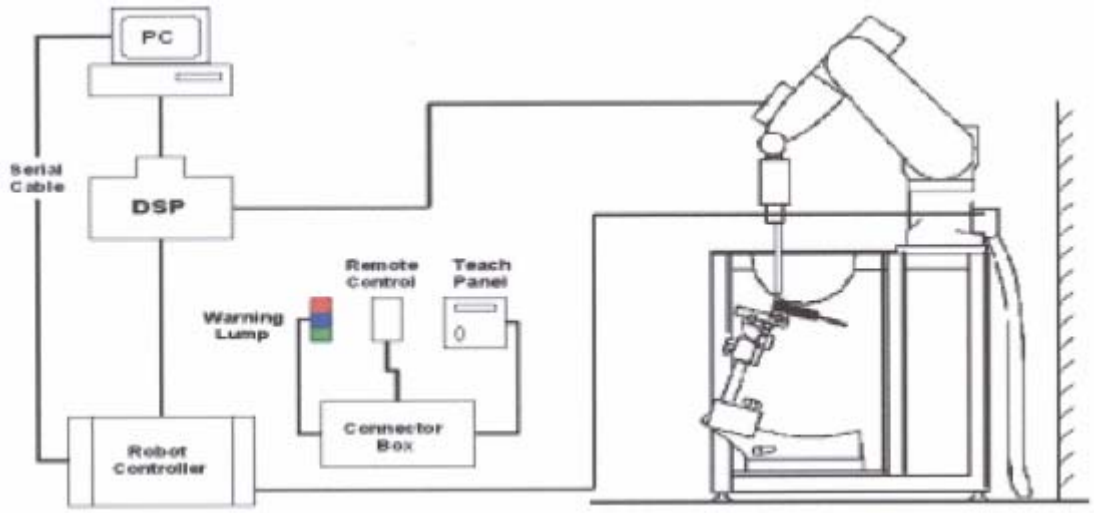

Figure 1. SAR Lab Test Measurement Set-up

3.2. DASY4 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

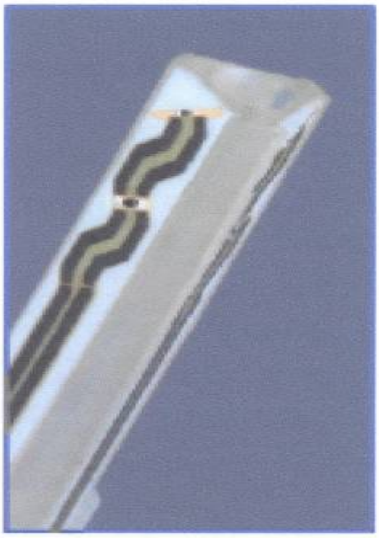

Figure 2 ET3DV6 E-field Probe

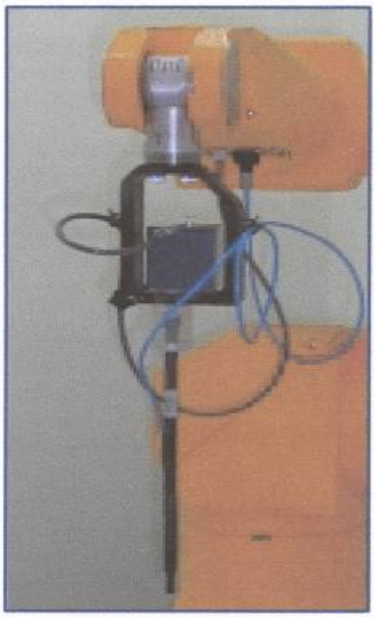

Figure 3 ET3DV6 E-field probe

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.

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

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

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

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

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 simulants were measured every day using the dielectric probe kit and the network analyser. A system check measurement was made following the determination of the dielectric parameters of the simulant, 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 7 and table 8.

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 DASY4 system.

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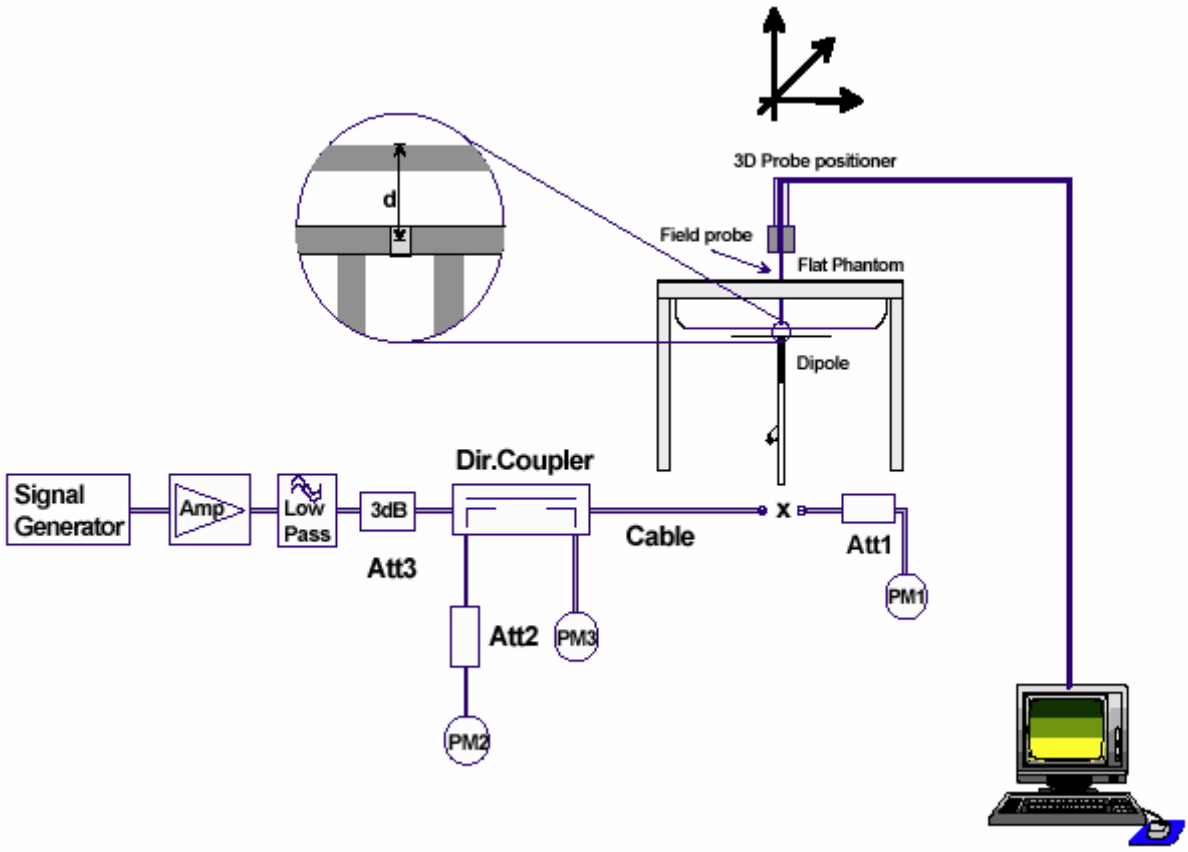


Figure 6. System Check Set-up

3.7. Equivalent Tissues

The liquid is consisted of water, sugar, salt, Preventol,Glycol and Cellulose. The liquid has previously been proven to be suited for worst-case. The Table 1 and Table 2 show the detail solution. It's satisfying the latest tissue dielectric parameters requirements proposed by the OET 65.

Table 1: 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) 1800MHz
Water	55.242
Glycol	44.452
Salt	0.306
Dielectric Parameters Target Value	f=1800MHz ε=40.0 σ=1.40

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 2: 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)1800MHz
Water	69.91
Glycol	29.96
Salt	0.13
Dielectric Parameters Target Value	f=1800MHz ε=53.3 σ=1.52

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

4. Laboratory Environment

Table 3: 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 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 4: Conducted Power Measurement Results

CDMA Cellular (RC3)	**Conducted Power**		
	Channel 1013	**Channel 384**	**Channel 777**
Before test (dBm)	24.4	24.3	24.2
After test (dBm)	24.3	24.3	24.3
CDMA Cellular (RC1)	**Conducted Power**		
	Channel 1013	**Channel 384**	**Channel 777**
Before test (dBm)	24.3	24.3	24.3
After test (dBm)	24.3	24.2	24.2
CDMA PCS (RC3)	**Conducted Power**		
	Channel 25	**Channel 600**	**Channel 1175**
Before test (dBm)	24.2	24.3	24.4
After test (dBm)	24.2	24.2	24.2
CDMA PCS (RC1)	**Conducted Power**		
	Channel 25	**Channel 600**	**Channel 1175**
Before test (dBm)	24.3	24.2	24.3
After test (dBm)	24.2	24.3	24.3
CDMA AWS (RC3)	**Conducted Power**		
	Channel 25	**Channel 450**	**Channel 850**
Before test (dBm)	24.3	24.2	24.3
After test (dBm)	24.3	24.4	24.4
CDMA AWS (RC1)	**Conducted Power**		
	Channel 25	**Channel 450**	**Channel 850**
Before test (dBm)	24.2	24.3	24.3
After test (dBm)	24.4	24.3	24.2

7. Test Results

7.1. Dielectric Performance

Table 5: 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 2009-10-20	41.91	0.88	22.5
1800MHz (head)	Target value ±5% window	40.00 38.00 – 42.00	1.40 1.33 – 1.47	/
	Measurement value 2009-10-22	40.42	1.40	21.9
1900MHz (head)	Target value ±5% window	40.00 38.00 – 42.00	1.40 1.33 – 1.47	/
	Measurement value 2009-10-19	39.79	1.39	21.8

Table 6: 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 2009-10-19	54.65	0.99	22.5
1800MHz (body)	Target value ±5% window	53.3 50.64 – 55.97	1.52 1.44 – 1.60	/
	Measurement value 2009-10-21	52.57	1.48	21.9
1900MHz (body)	Target value ±5% window	53.3 50.64 – 55.97	1.52 1.44 – 1.60	/
	Measurement value 2009-10-19	52.4	1.53	21.8

7.2. System Checking Results

Table 7: System Checking for Head tissue simulant

Frequency	Description	SAR(W/kg)		Dielectric Parameters		Temp
		10g	1g	ε_r	σ(s/m)	℃
835MHz	Recommended value ±10% window	1.55 1.40 - 1.71	2.40 2.16 - 2.64	41.2	0.91	/
	Measurement value 2009-10-20	1.50	2.30	41.91	0.88	22.5
1800 MHz	Recommended value ±10% window	5.11 4.60 – 5.62	9.87 8.88 – 10.86	40.4	1.40	/
	Measurement value 2009-10-22	5.00	9.64	40.42	1.40	22.1
1900 MHz	Recommended value ±10% window	5.00 4.50 – 5.50	9.88 8.89 – 10.87	39.6	1.40	/
	Measurement value 2009-10-19	5.09	9.74	39.79	1.39	21.7

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 8: System Check for body tissue stimulant

Frequency	Description	SAR(W/kg)		Dielectric Parameters		Temp
		10g	1g	ε_r	σ(s/m)	℃
835MHz	Recommended value ±10% window	1.58 1.42 - 1.74	2.41 2.17 - 2.65	54.60	0.99	/
	Measurement value 2009-10-19	1.58	2.40	54.65	0.99	21.9
1800 MHz	Recommended value ±10% window	5.28 4.75 – 5.81	10.20 9.18 – 11.22	52.10	1.49	/
	Measurement value 2009-10-21	5.27	9.96	52.57	1.48	22.1
1900 MHz	Recommended value ±10% window	5.18 4.66 – 5.70	10.2 9.18 – 11.22	52.90	1.55	/
	Measurement value 2009-10-19	5.14	10.0	52.4	1.53	21.7

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.

7.3. Test Results

7.3.1. Summary of Measurement Results (CDMA Cellular)

Table 9: SAR Values (CDMA Cellular)

Limit of SAR (W/kg)		10 g Average	1 g Average	Power Drift (dB)	Graph Results
		2.0	1.6	± 0.21	
Different Test Position	Channel	Measurement Result(W/kg)		Power Drift(dB)	
		10 g Average	1 g Average		
Test position of Head					
Left hand, Touch cheek	Middle	0.457	0.636	-0.029	Figure 19
Left hand, Tilt 15 Degree	Middle	0.288	0.400	-0.079	Figure 21
Right hand, Touch cheek	High	0.740	1.030	-0.043	Figure 23
	Middle	0.520	0.726	-0.084	Figure 25
	Low	0.506	0.702	-0.060	Figure 27
Right hand, Tilt 15 Degree	Middle	0.253	0.348	0.000	Figure 29
Test position of Body (Distance 15mm)					
Towards Ground	High	0.588	0.833	0.119	Figure 31
	Middle	0.444	0.616	-0.042	Figure 33
	Low	0.429	0.591	0.073	Figure 35
Towards Phantom	Middle	0.348	0.482	-0.019	Figure 37
Worst case position of Body with Earphone (Distance 15mm)					
Towards Ground	High	0.552	0.767	0.197	Figure 39

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_{1g} limit (< 0.8W/kg), testing at the high and low channels is optional.
4. Tests in body position were performed with 15 mm air gap between DUT and Phantom to simulate the use of a non-metallic belt-clip or holster.

7.3.2. Summary of Measurement Results (CDMA PCS)

Table 10: SAR Values (CDMA PCS)

Limit of SAR (W/kg)		10 g Average	1 g Average	Power Drift (dB)	Graph Results
		2.0	1.6	± 0.21	
Different Test Position	Channel	Measurement Result(W/kg)		Power Drift(dB)	
		10 g Average	1 g Average		
Test position of Head					
Left hand, Touch cheek	High	0.556(MAX)	0.906(MAX)	-0.049	Figure 41
	Middle	0.615(MAX)	1.010(MAX)	0.053	Figure 43
	Low	0.430(MAX)	0.710(MAX)	0.009	Figure 45
Left hand, Tilt 15 Degree	Middle	0.416	0.687	0.129	Figure 47
Right hand, Touch cheek	High	0.582(MAX)	0.968(MAX)	0.008	Figure 49
	Middle	0.604(MAX)	1.020(MAX)	0.036	Figure 51
	Low	0.416(MAX)	0.682(MAX)	0.015	Figure 53
Right hand, Tilt 15 Degree	Middle	0.372	0.609	-0.064	Figure 55
Test position of Body (Distance 15mm)					
Towards Ground	High	0.413(MAX)	0.717(MAX)	-0.131	Figure 57
	Middle	0.415(MAX)	0.727(MAX)	0.086	Figure 59
	Low	0.274(MAX)	0.474(MAX)	0.044	Figure 61
Towards Phantom	Middle	0.229(MAX)	0.390(MAX)	0.002	Figure 63
Worst case position of Body with Earphone (Distance 15mm)					
Towards Ground	Middle	0.450	0.760	-0.062	Figure 65

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_{1g} limit (< 0.8W/kg), testing at the high and low channels is optional.
4. Tests in body position were performed with 15 mm air gap between DUT and Phantom to simulate the use of a non-metallic belt-clip or holster.
5. The (MAX) 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).

7.3.3. Summary of Measurement Results (CDMA AWS)

Table 11: SAR Values (CDMA AWS)

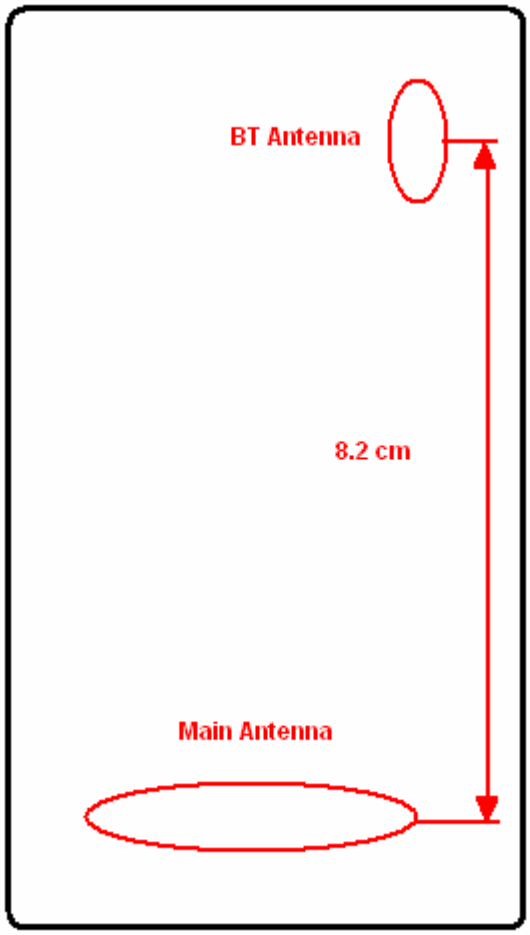
Limit of SAR (W/kg)		10 g Average	1 g Average	Power Drift (dB)	Graph Results
		2.0	1.6	± 0.21	
Different Test Position	Channel	Measurement Result(W/kg)		Power Drift(dB)	
		10 g Average	1 g Average		
Test position of Head					
Left hand, Touch cheek	High	0.629(MAX)	1.060(MAX)	0.150	Figure 67
	Middle	0.540(MAX)	0.905(MAX)	-0.095	Figure 69
	Low	0.453(MAX)	0.756(MAX)	0.172	Figure 71
Left hand, Tilt 15 Degree	Middle	0.298	0.484	0.032	Figure 73
Right hand, Touch cheek	Middle	0.466(MAX)	0.742(MAX)	-0.086	Figure 75
Right hand, Tilt 15 Degree	Middle	0.285	0.451	-0.172	Figure 77
Test position of Body (Distance 15mm)					
Towards Ground	High	0.459(MAX)	0.703(MAX)	-0.040	Figure 79
	Middle	0.304(MAX)	0.643(MAX)	-0.152	Figure 81
	Low	0.322(MAX)	0.487(MAX)	-0.065	Figure 83
Towards Phantom	Middle	0.177(MAX)	0.298(MAX)	0.079	Figure 85
Worst case position of Body with Earphone (Distance 15mm)					
Towards Ground	High	0.474	0.798	0.088	Figure 87

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_{1g} limit (< 0.8W/kg), testing at the high and low channels is optional.
4. Tests in body position were performed with 15 mm air gap between DUT and Phantom to simulate the use of a non-metallic belt-clip or holster.
5. The (MAX) 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).

7.3.4. Summary of Measurement Results (Bluetooth function)

The distance between BT antenna and CDMA antenna is >5 cm. 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)	6.26	6.93	6.84

According to the output power measurement result and the distance between the two antennas, we can draw the conclusion that: stand-alone SAR and simultaneous transmission SAR are not required for BT transmitter, because the output power of BT transmitter is ≤2P_{Ref} and its antenna is 〉 5 cm 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 1.06 W/kg (head) and 0.833 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	

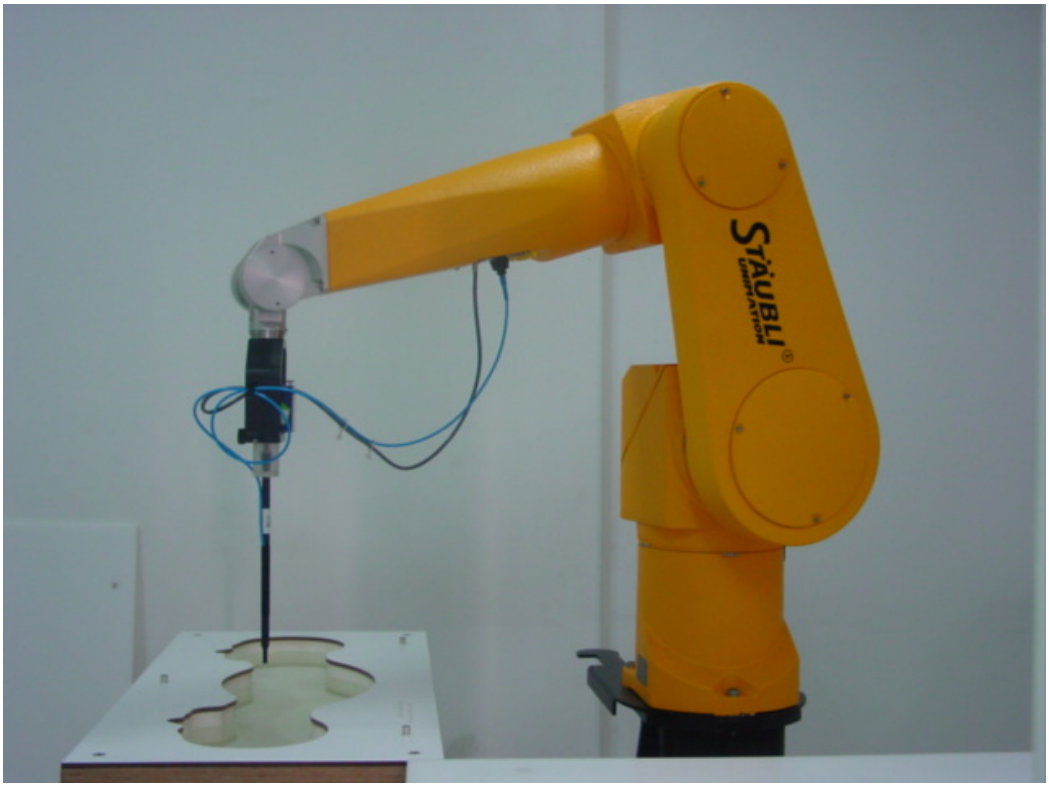
9. Main Test Instruments

Table 12: List of Main Instruments

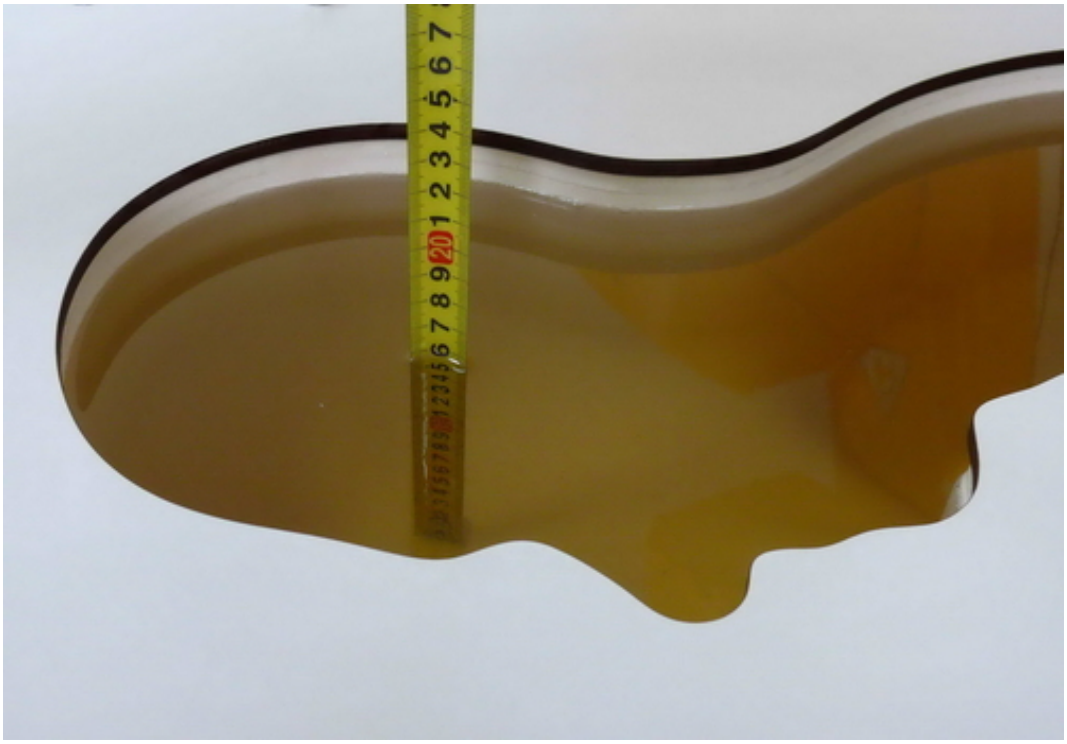
No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	Agilent 8753E	US37390326	September 13, 2009	One year
02	Dielectric Probe Kit	Agilent 85070E	US44020115	No Calibration Requested	
03	Power meter	Agilent E4417A	GB41291714	March 14, 2009	One year
04	Power sensor	Agilent 8481H	MY41091316	March 14, 2009	One year
05	Signal Generator	HP 8341B	2730A00804	September 13, 2009	One year
06	Amplifier	IXA-020	0401	No Calibration Requested	
07	BTS	E5515C	MY48360988	December 16, 2008	One year
08	E-field Probe	ET3DV6	1737	November 25, 2008	One year
09	DAE	DAE4	452	November 18, 2008	One year
10	Validation Kit 835MHz	D835V2	4d020	July 15, 2009	One year
11	Validation Kit 1800MHz	D1800V2	2d055	February 16, 2009	One year
12	Validation Kit 1900MHz	D1900V2	5d060	July 15, 2009	One year

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

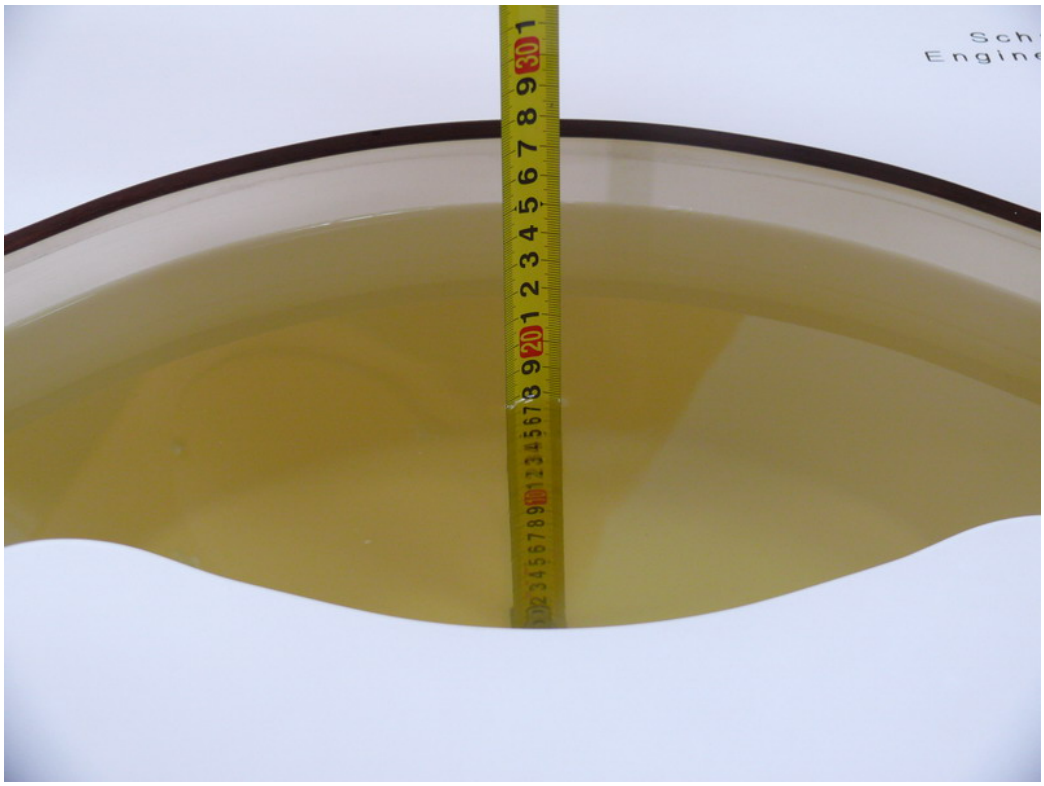
ANNEX A: Test Layout



Picture 1: Specific Absorption Rate Test Layout

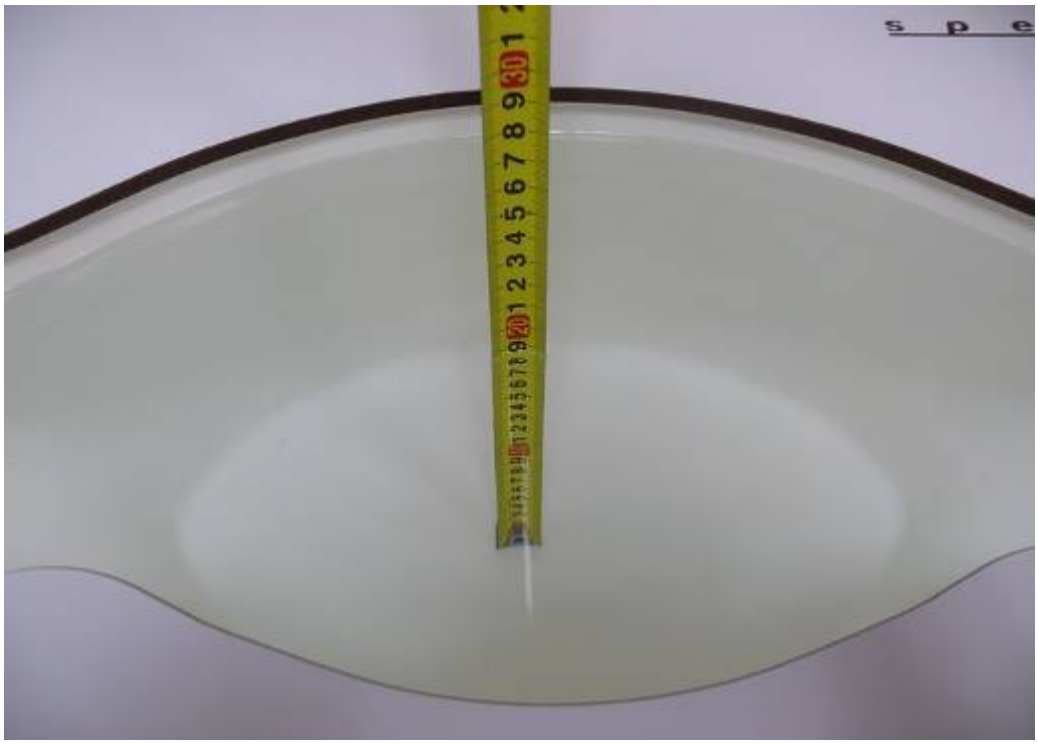


Picture 2: Liquid depth in the Head Phantom (835 MHz)



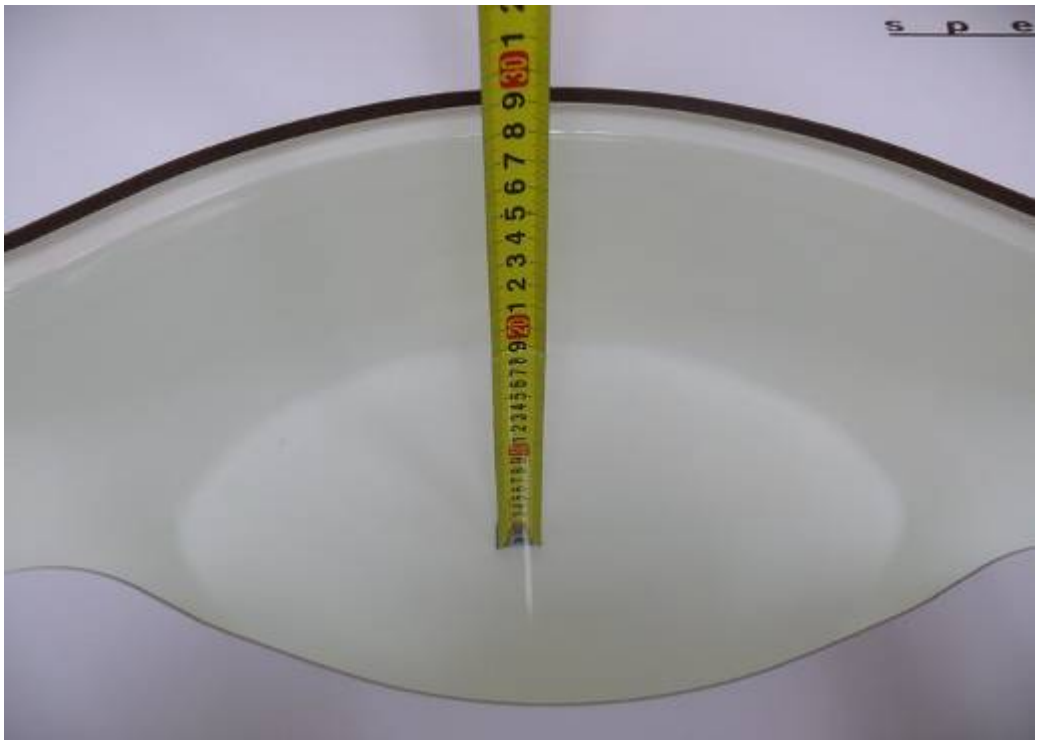
Picture 3: Liquid depth in the Flat Phantom (835 MHz)

Picture 4: Liquid depth in the Head Phantom (1800 MHz)



Picture 5: Liquid depth in the Flat Phantom (1800 MHz)

Picture 6: Liquid depth in the Head Phantom (1900 MHz)



Picture 7: Liquid depth in the Flat 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: 10/20/2009 7:45:58 AM

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

Medium parameters used: f = 835 MHz; σ = 0.88 mho/m; ε_r = 41.91; ρ = 1000 kg/m^3

Ambient Temperature:22.3℃ Liqiud Temperature: 21.5℃

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

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

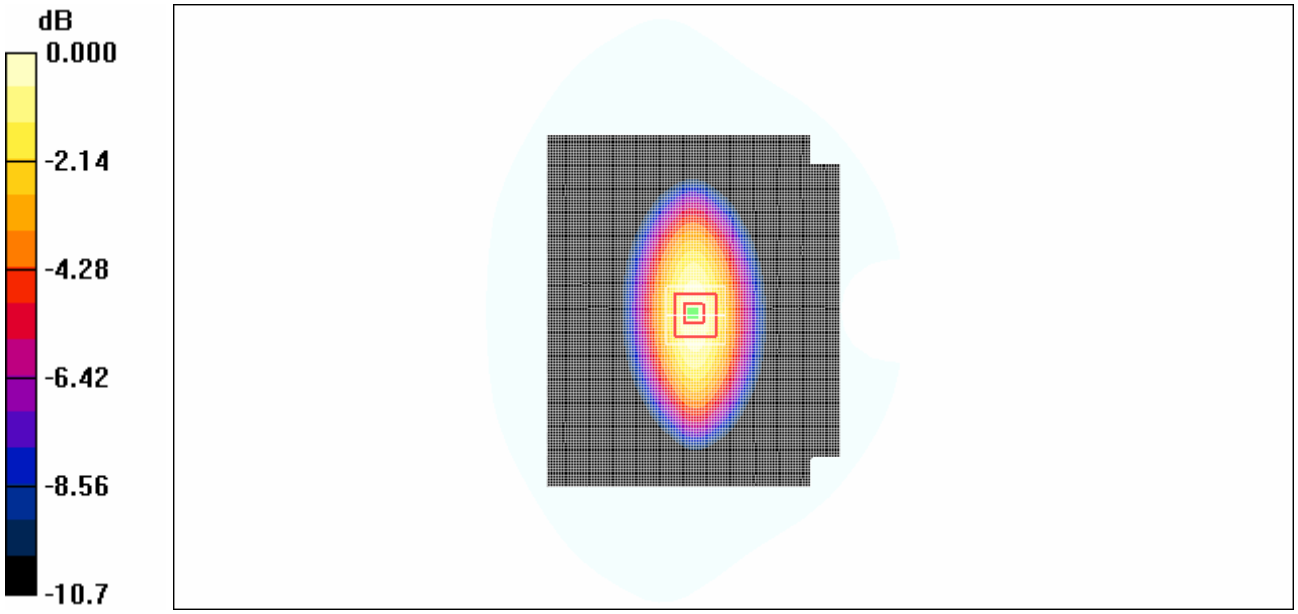


Figure 7 System Performance Check 835MHz 250mW

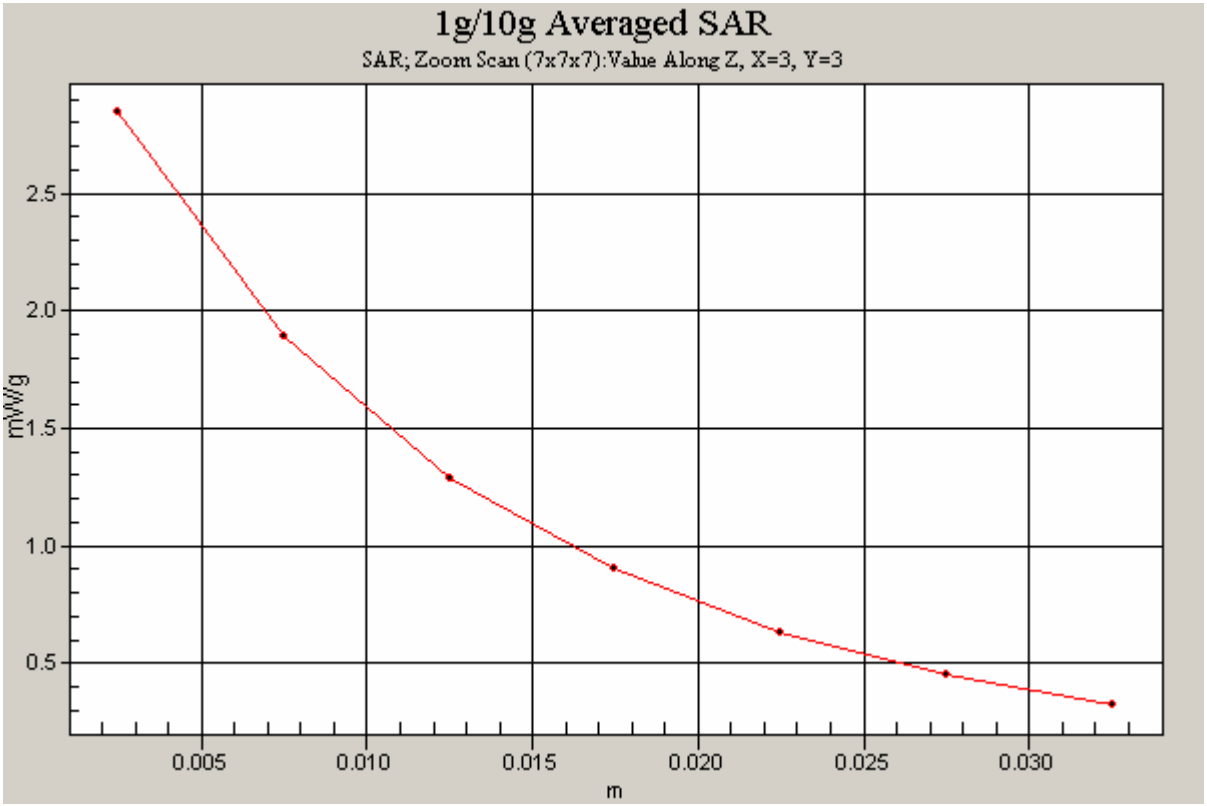


Figure 8 Z-Scan at power reference point (system check at 835 MHz dipole)

System Performance Check at 835 MHz Body TSL

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

Date/Time: 10/19/2009 7:20:49 PM

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

Medium parameters used: f = 835 MHz; σ = 0.99 mho/m; ε_r = 54.65; ρ = 1000 kg/m^3

Ambient Temperature:22.3℃ Liqiud Temperature: 21.5℃

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

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

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

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

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

Peak SAR (extrapolated) = 3.59 W/kg

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

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

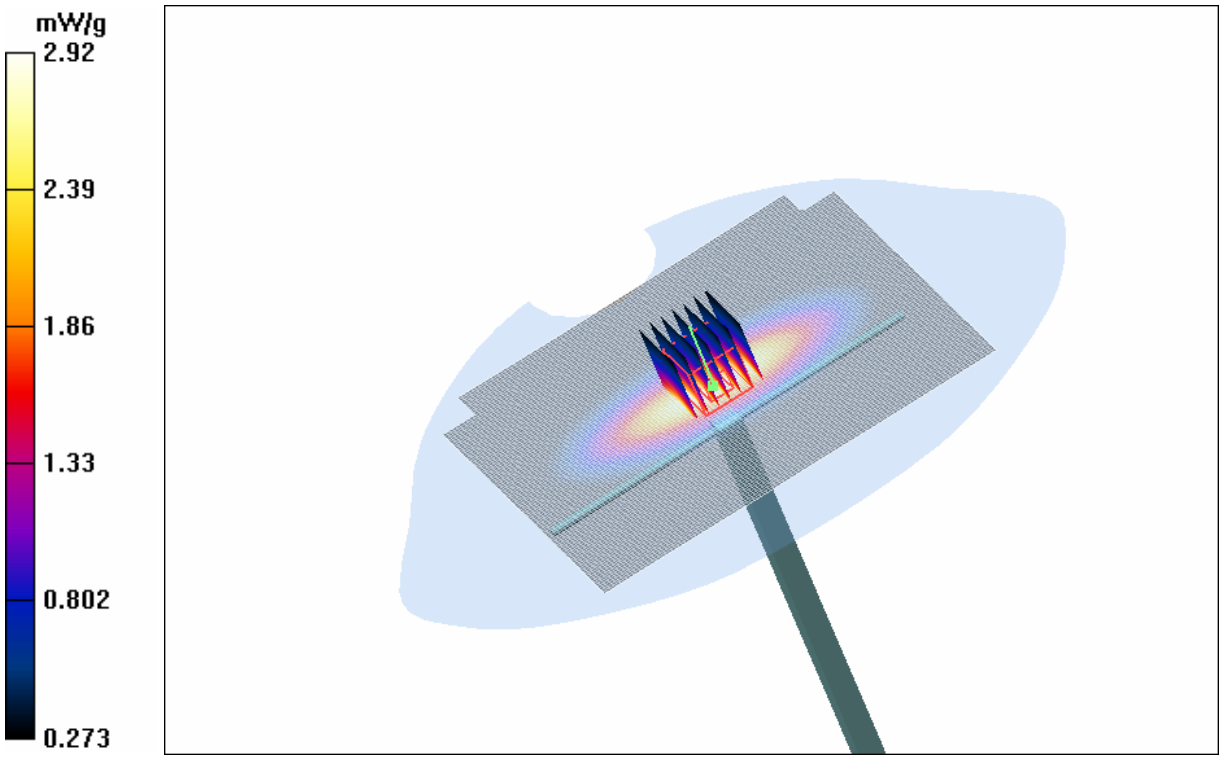


Figure 9 System Performance Check 835MHz 250mW

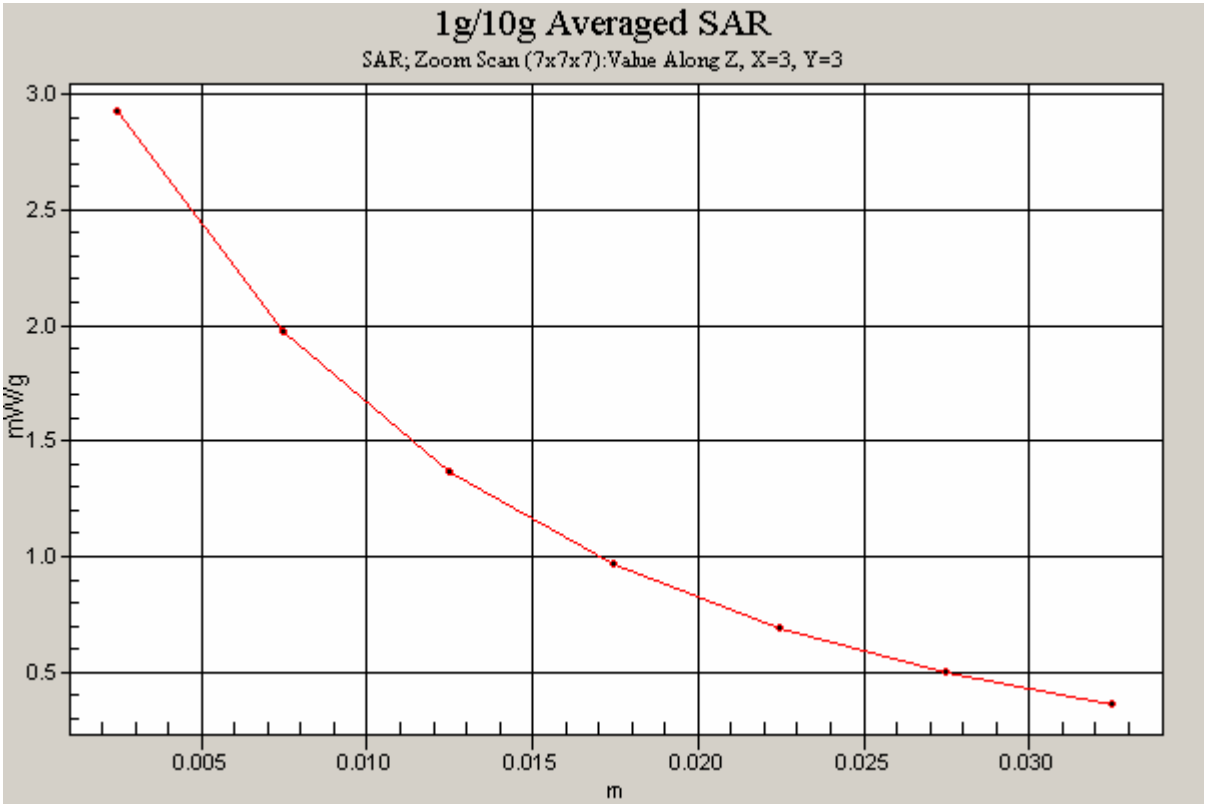


Figure 10 Z-Scan at power reference point (System Check at 835 MHz Dipole)

System Performance Check at 1800 MHz Head TSL

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN: 2d055

Date/Time: 10/22/2009 5:20:44 AM

Communication System: CW; Frequency: 1800 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1800 MHz; σ = 1.4 mho/m; ε_r = 40.42; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY4 Configuration:

Probe: ET3DV6 – SN1737; ConvF(5.35, 5.35, 5.35); 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 (81x81x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 13.1 mW/g

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

Reference Value = 96.2 V/m; Power Drift = 0.000 dB

Peak SAR (extrapolated) = 18.2 W/kg

SAR(1 g) = 9.64 mW/g; SAR(10 g) = 5 mW/g

Maximum value of SAR (measured) = 13.1 mW/g

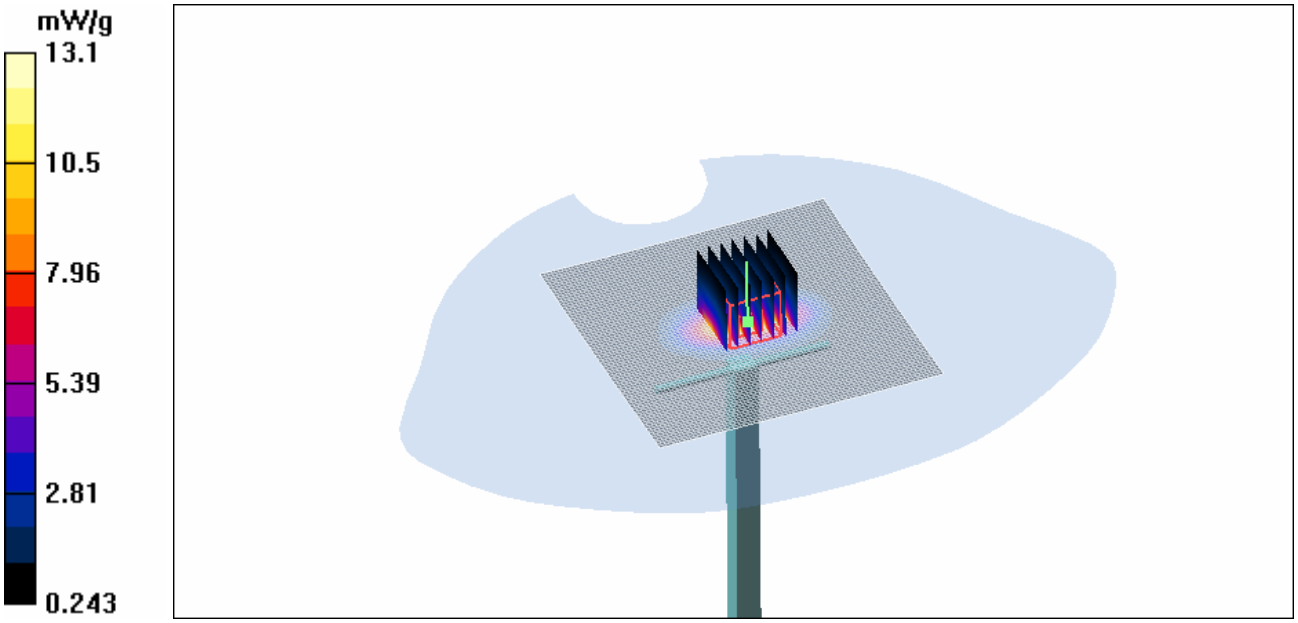


Figure 11 System Performance Check 1800MHz 250mW

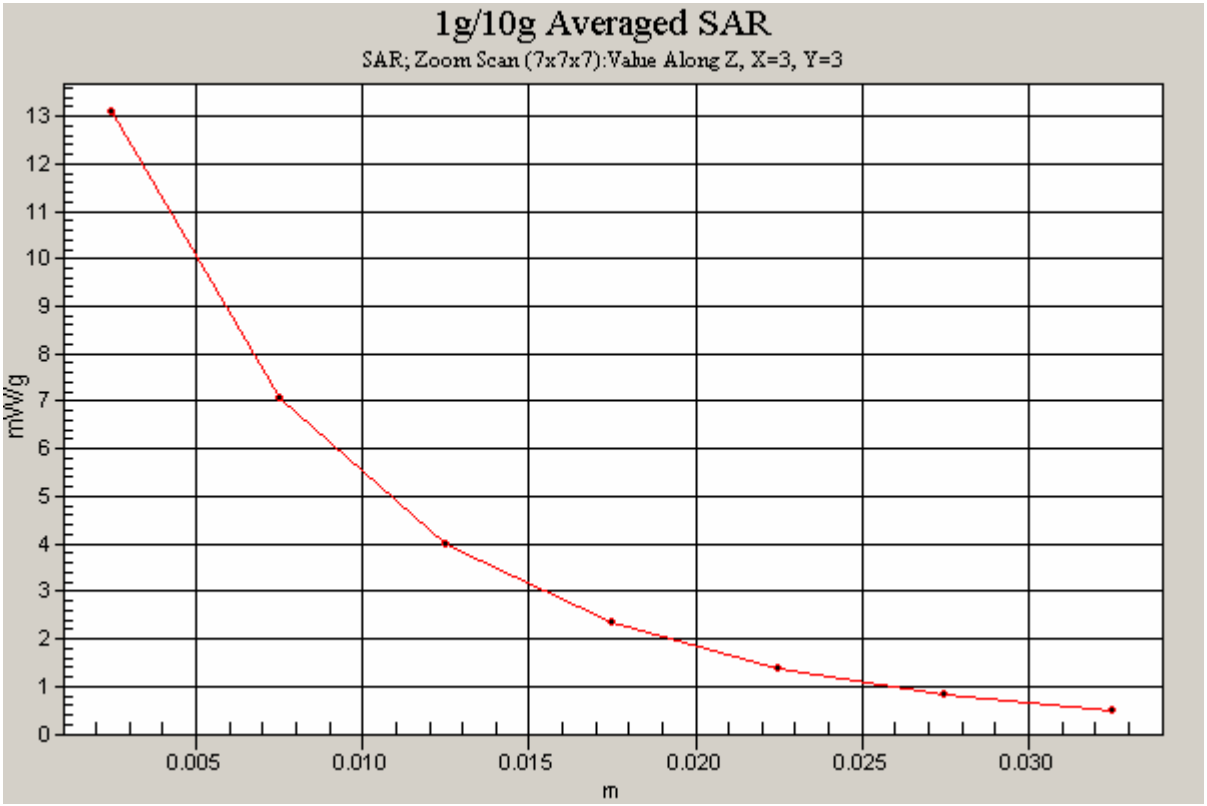


Figure 12 Z-Scan at power reference point (system Check at 1800 MHz dipole)

System Performance Check at 1800 MHz Body TSL

DUT: Dipole 1800 MHz; Type: D1800V2; Serial: D1800V2 - SN: 2d055

Date/Time: 10/21/2009 5:45:45 AM

Communication System: CW; Frequency: 1800 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1800 MHz; σ = 1.48 mho/m; ε_r = 52.57; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY4 Configuration:

Probe: ET3DV6 – SN1737; ConvF(4.84, 4.84, 4.84); 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 (81x81x1): Measurement grid: dx=15mm, dy=15mm

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

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

Reference Value = 89.9 V/m; Power Drift = -0.095 dB

Peak SAR (extrapolated) = 17.6 W/kg

SAR(1 g) = 9.96 mW/g; SAR(10 g) = 5.27 mW/g

Maximum value of SAR (measured) = 11.2 mW/g

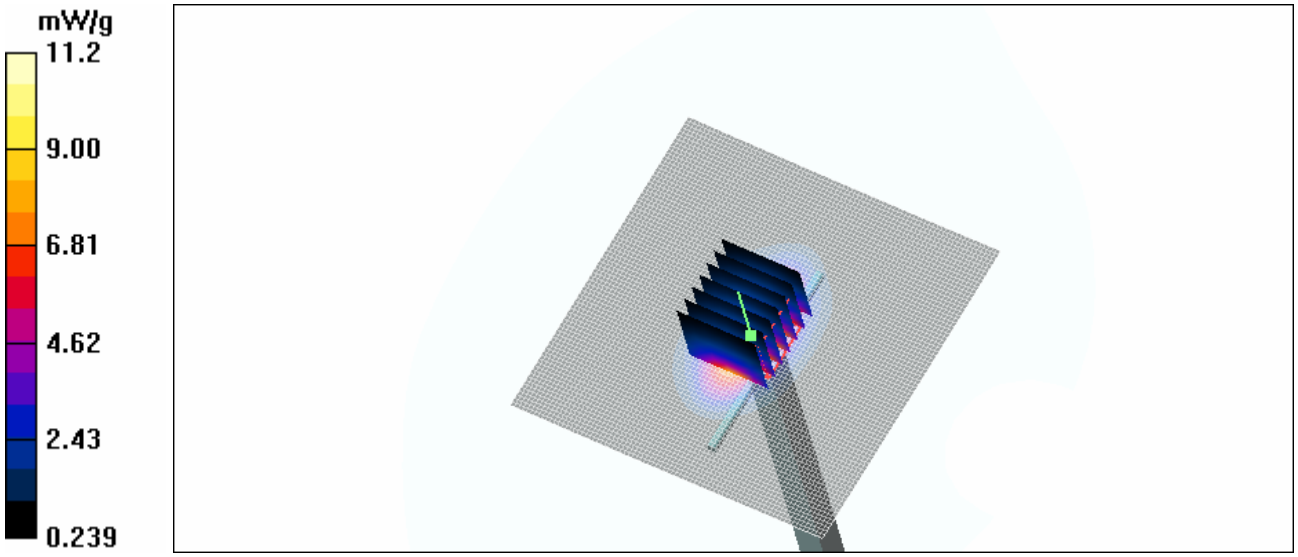


Figure 13 System Performance Check 1800MHz 250mW

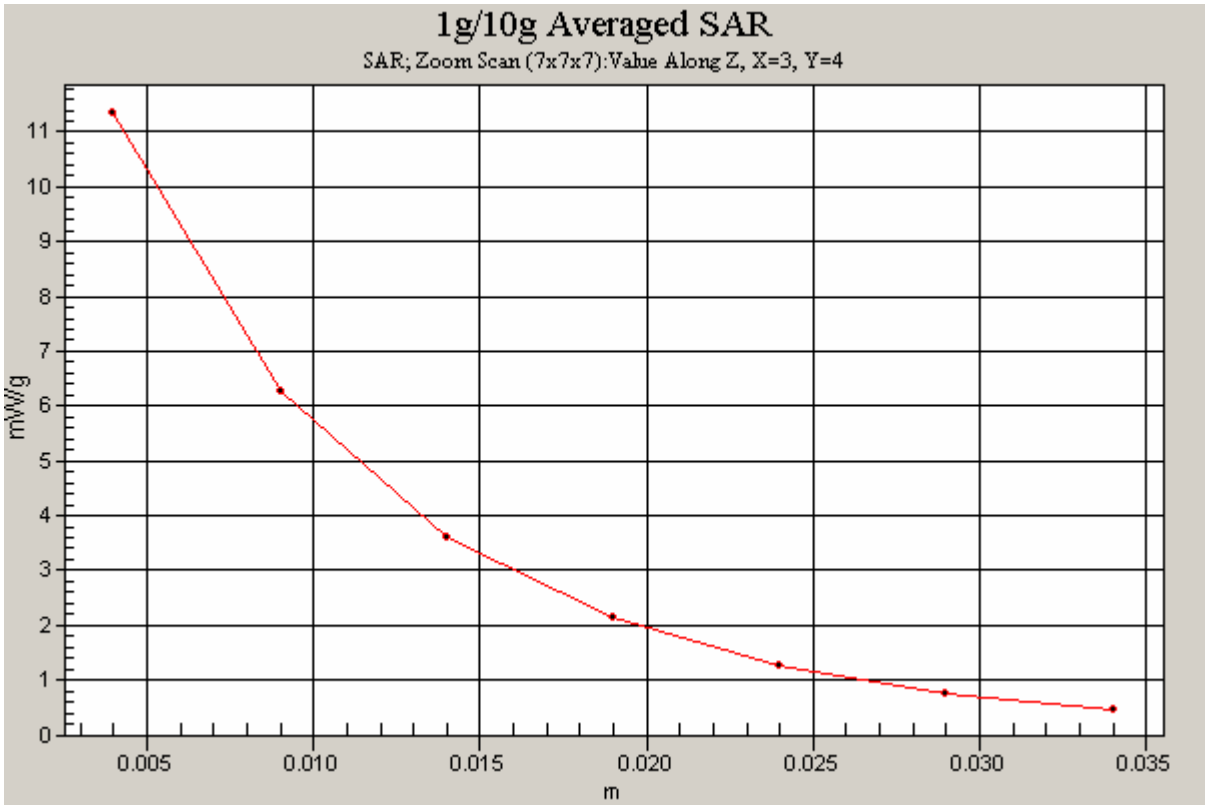


Figure 14 Z-Scan at power reference point (system Check at 1800 MHz dipole)

System Performance Check at 1900 MHz Head TSL

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

Date/Time: 10/19/2009 10:30:58 AM

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

Medium parameters used: f = 1900 MHz; σ = 1.39 mho/m; ε_r = 39.79; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

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

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

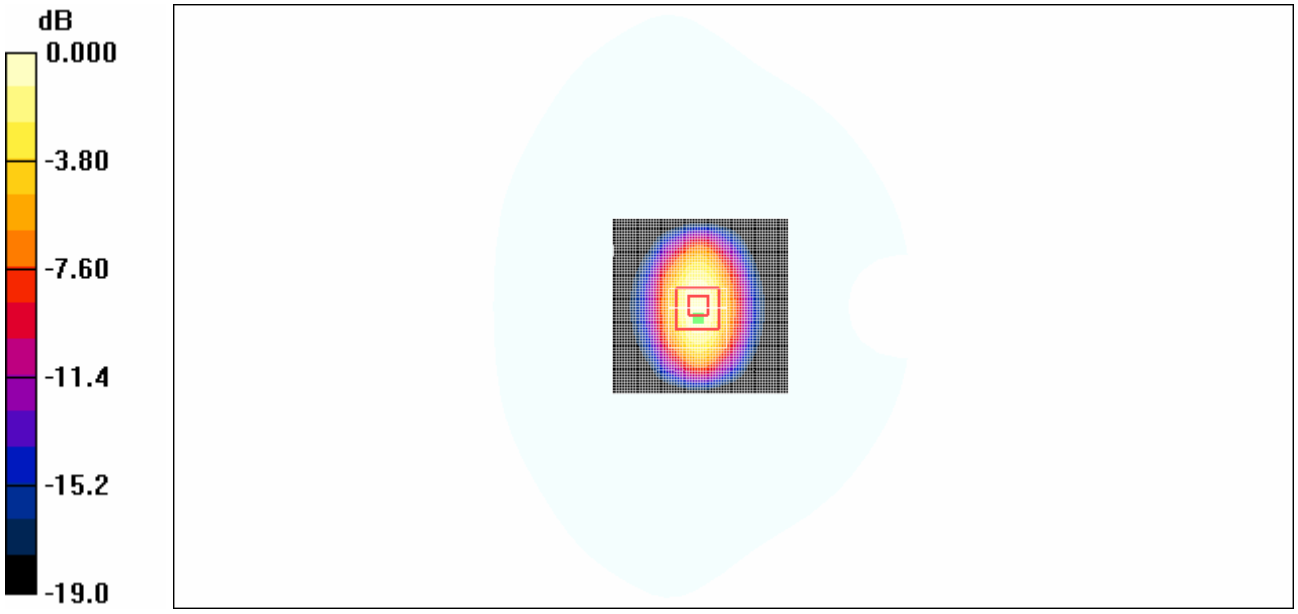


Figure 15 System Performance Check 1900MHz 250mW

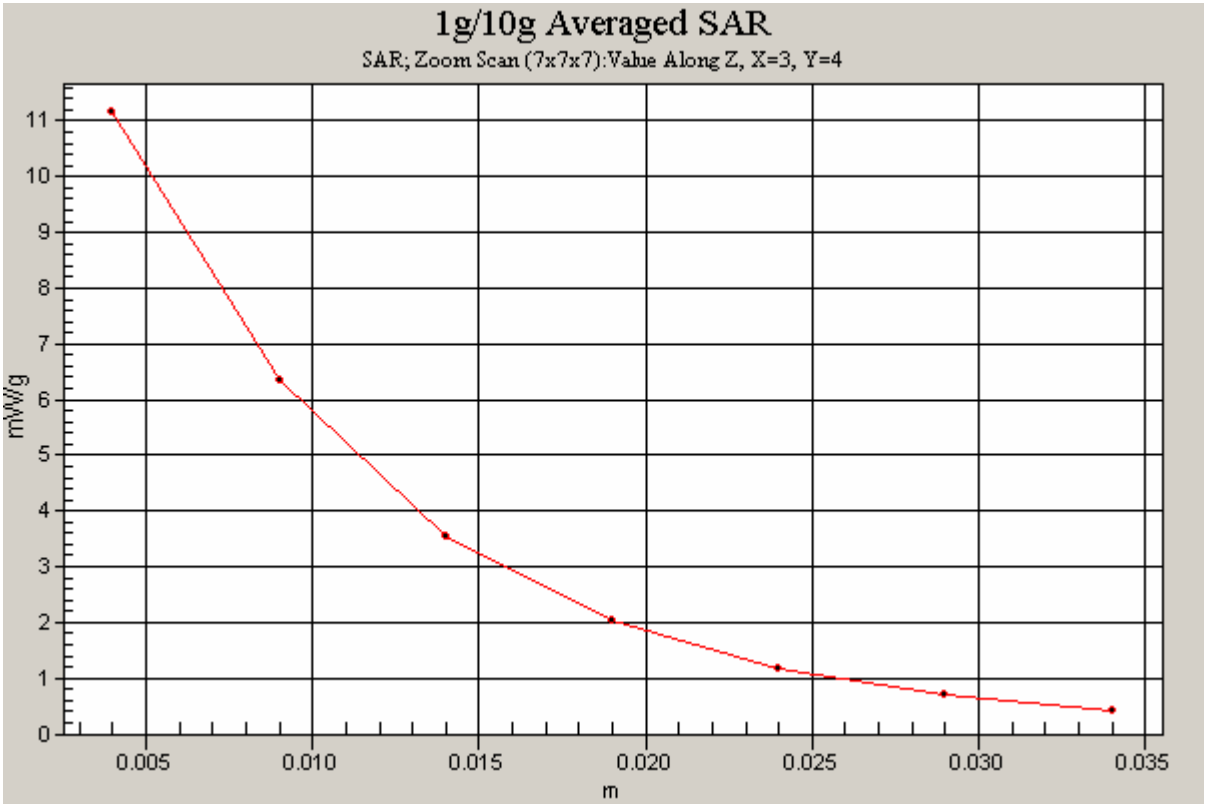


Figure 16 Z-Scan at power reference point (system check at 1900 MHz dipole)

System Performance Check at 1900 MHz Body TSL

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

Date/Time: 10/19/2009 4:00:49 AM

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

Medium parameters used: f = 1900 MHz; σ = 1.53 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

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

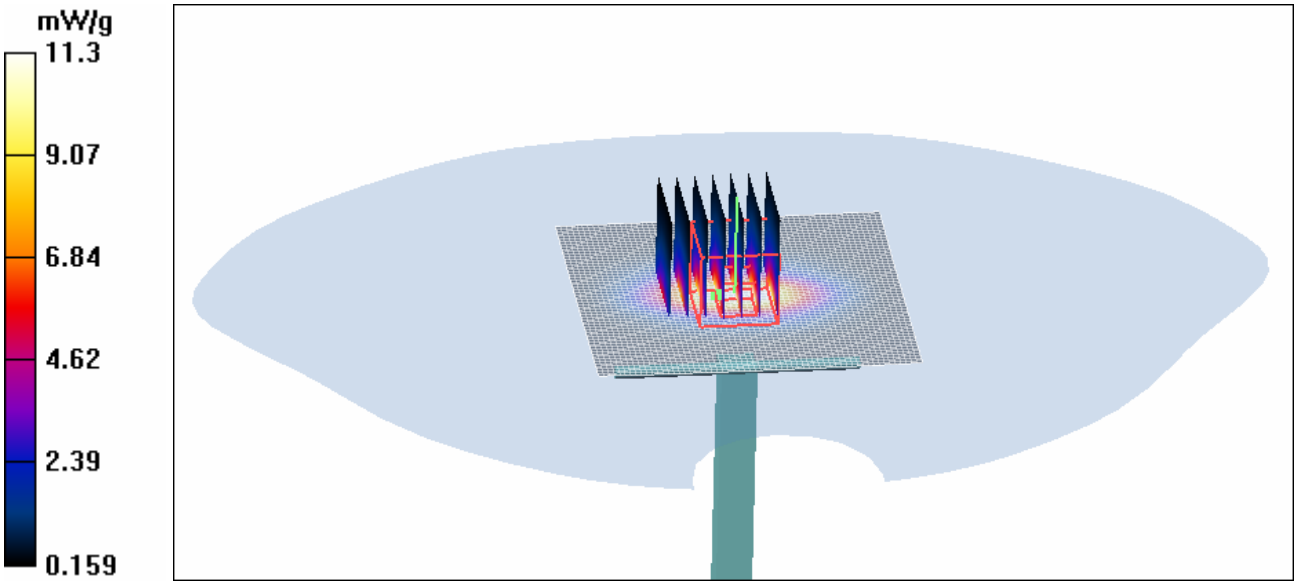


Figure 17 System Performance Check 1900MHz 250mW

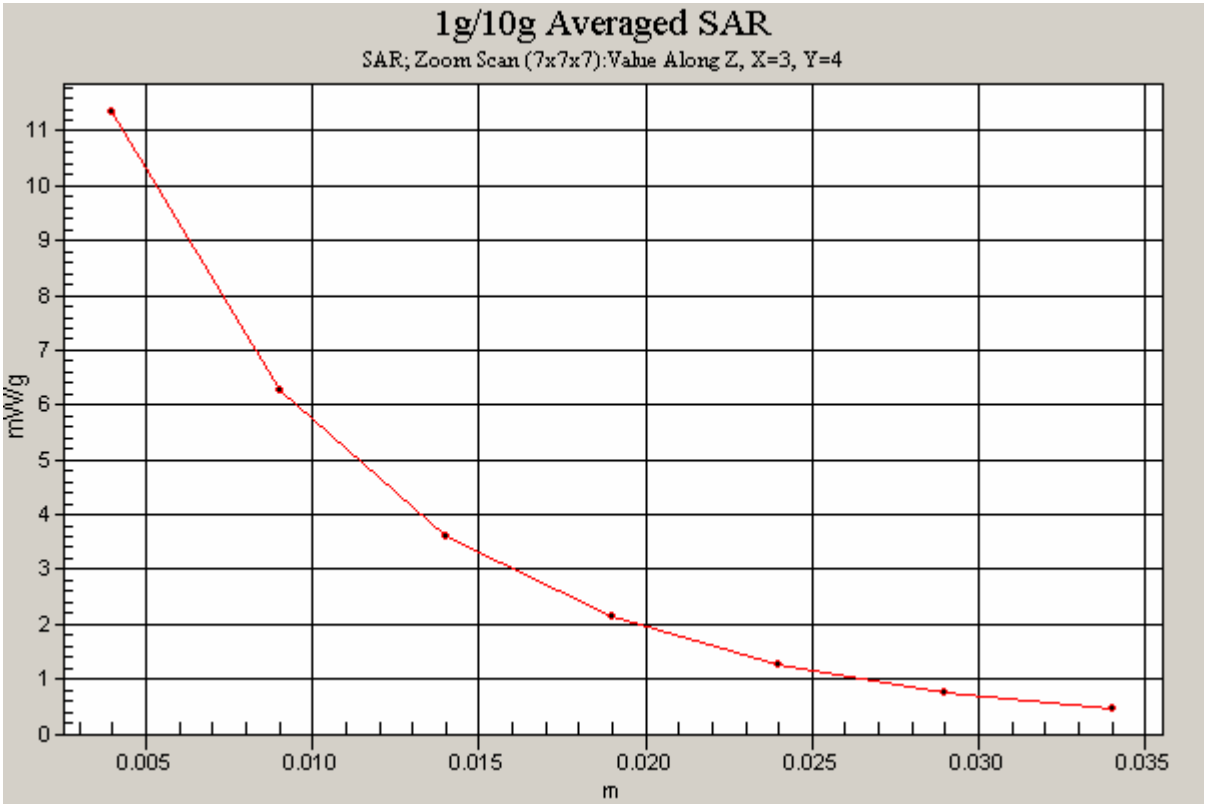


Figure 18 Z-Scan at power reference point (system Check at 1900 MHz dipole)

ANNEX C: Graph Results

CDMA Cellular Left Cheek Middle

Date/Time: 10/20/2009 10:03:11 AM
Communication System: CDMA Cellular; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.886 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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) = 0.767 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.8 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 0.857 W/kg
SAR(1 g) = 0.636 mW/g; SAR(10 g) = 0.457 mW/g
Maximum value of SAR (measured) = 0.739 mW/g

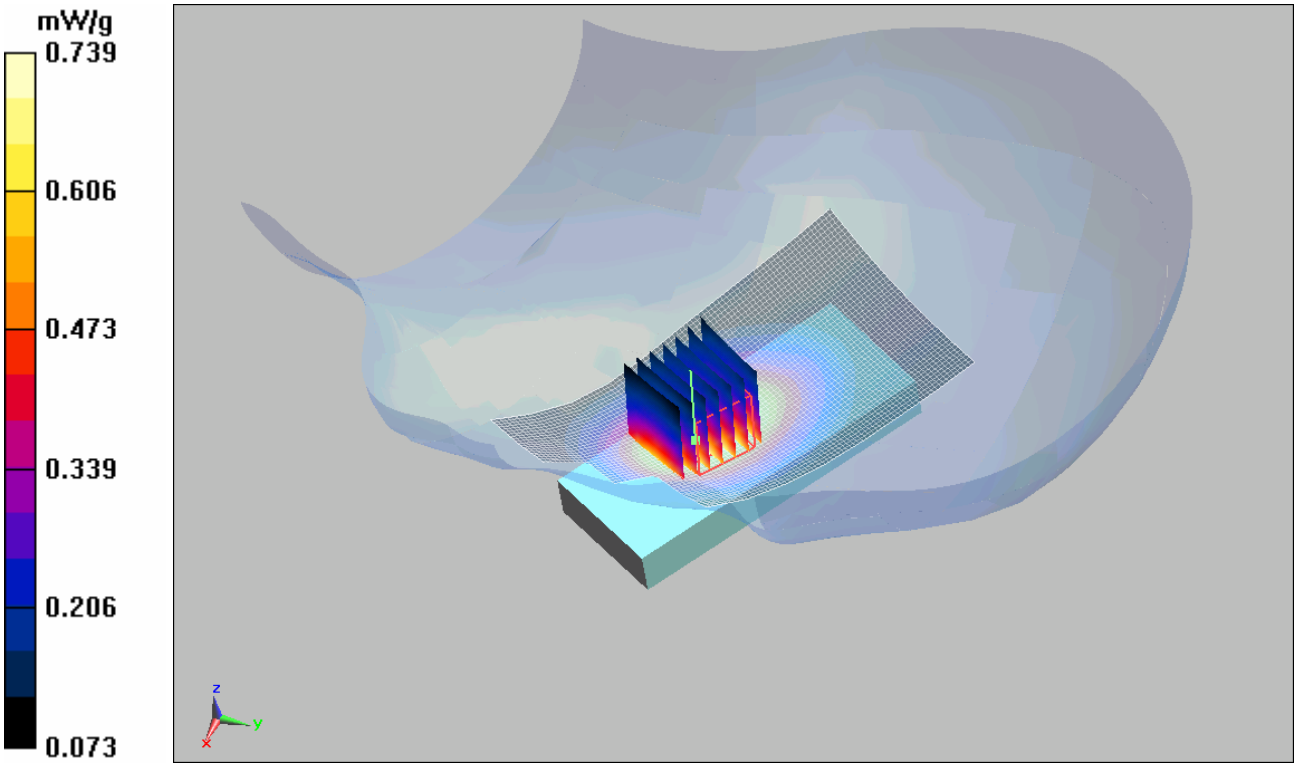


Figure 19 Left Hand Touch Cheek CDMA Cellular Channel 384

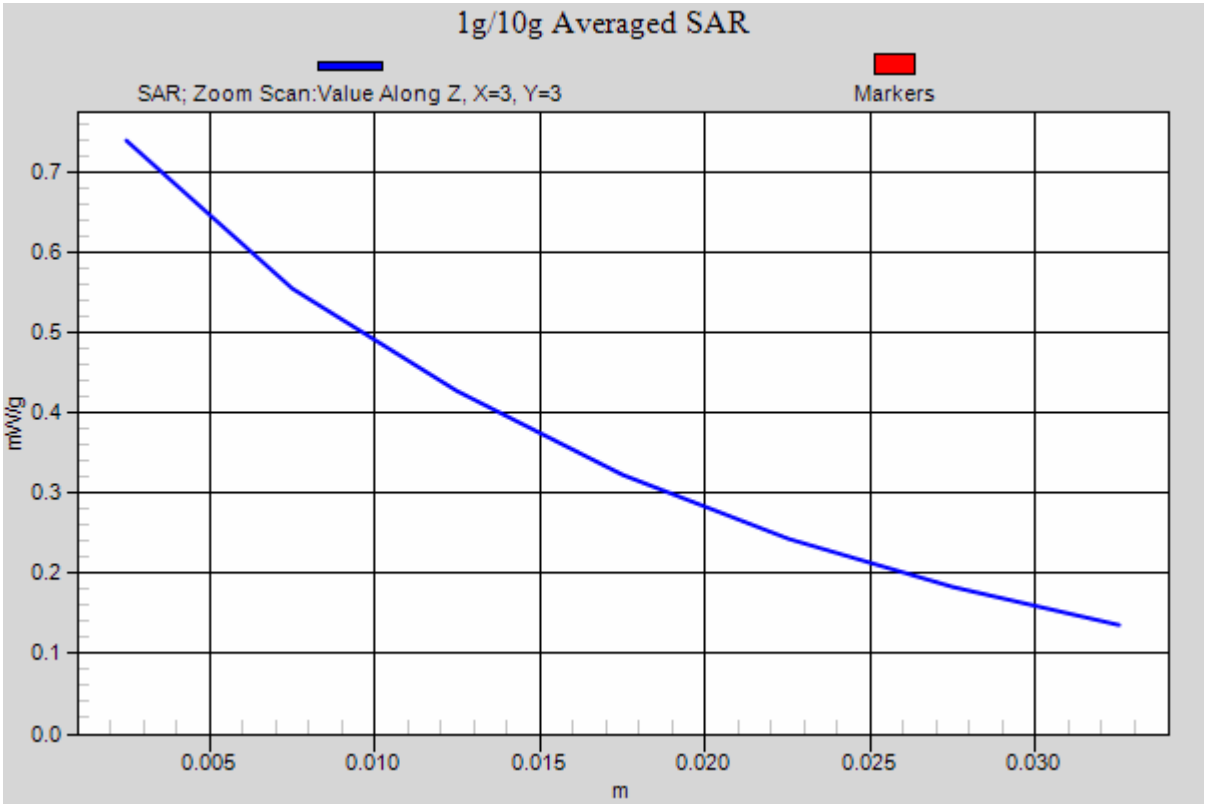


Figure 20 Z-Scan at power reference point (Left Hand Touch Cheek CDMA Cellular Channel 384)

CDMA Cellular Left Tilt Middle

Date/Time: 10/20/2009 10:24:20 AM
Communication System: CDMA Cellular; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.886 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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) = 0.466 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14 V/m; Power Drift = -0.079 dB
Peak SAR (extrapolated) = 0.542 W/kg
SAR(1 g) = 0.400 mW/g; SAR(10 g) = 0.288 mW/g
Maximum value of SAR (measured) = 0.462 mW/g

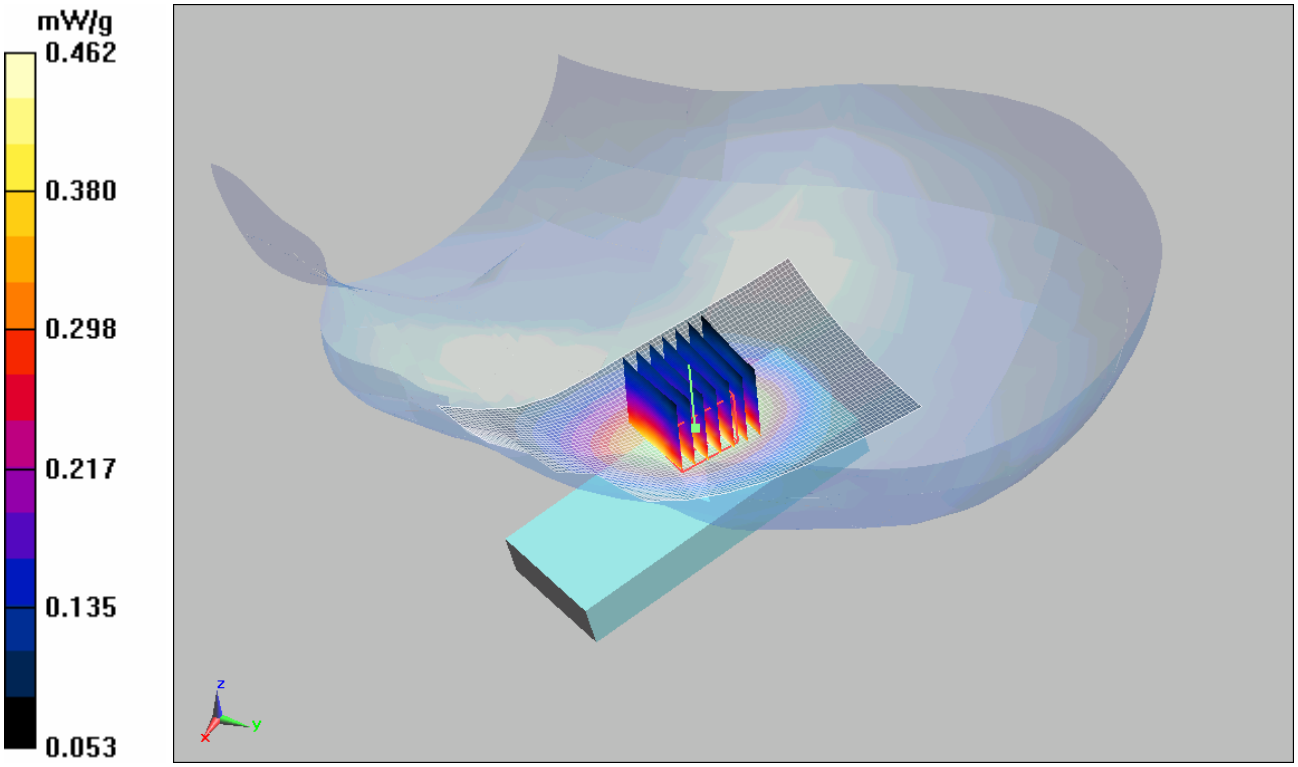


Figure 21 Left Hand Tilt 15° CDMA Cellular Channel 384

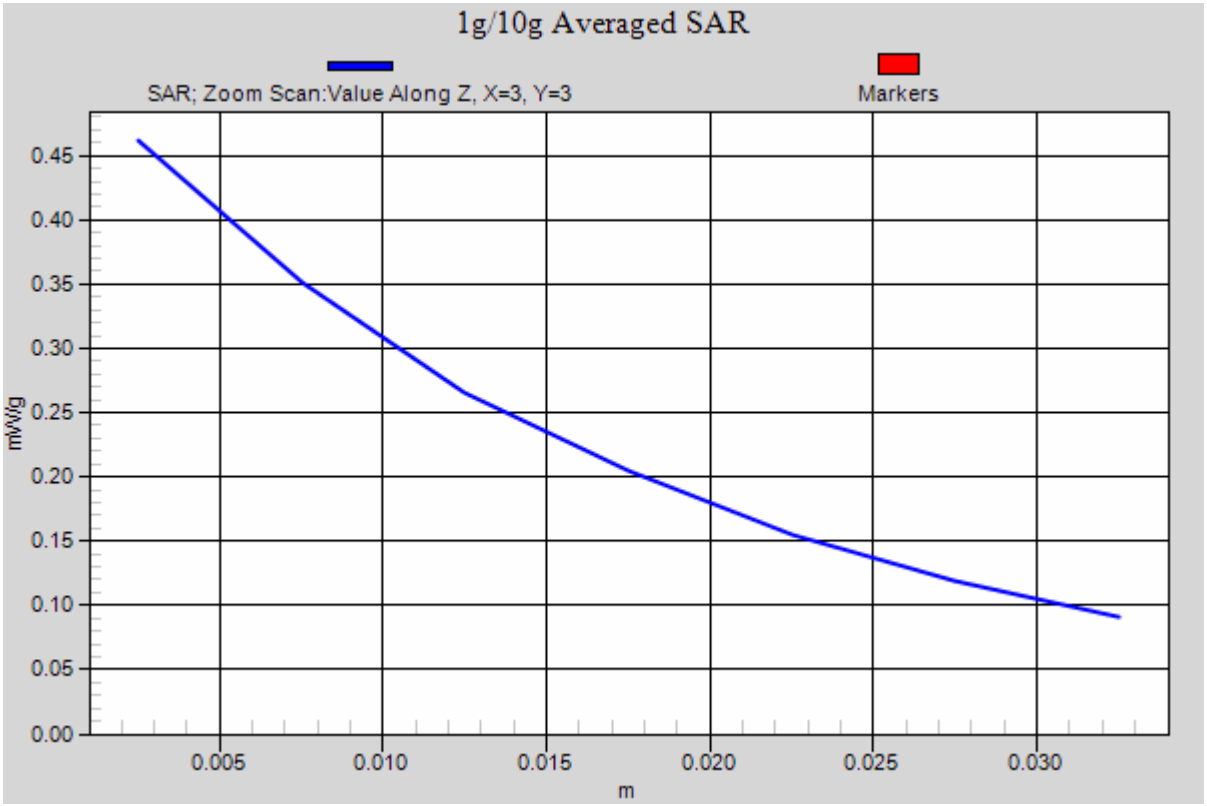


Figure 22 Z-Scan at power reference point (Left Hand Tilt 15° CDMA Cellular Channel 384)

CDMA Cellular Right Cheek High

Date/Time: 10/20/2009 11:09:00 AM
Communication System: CDMA Cellular; Frequency: 848.31 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 848.31 MHz; σ = 0.896 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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) = 1.27 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.6 V/m; Power Drift = -0.043 dB
Peak SAR (extrapolated) = 1.38 W/kg
SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.740 mW/g
Maximum value of SAR (measured) = 1.18 mW/g

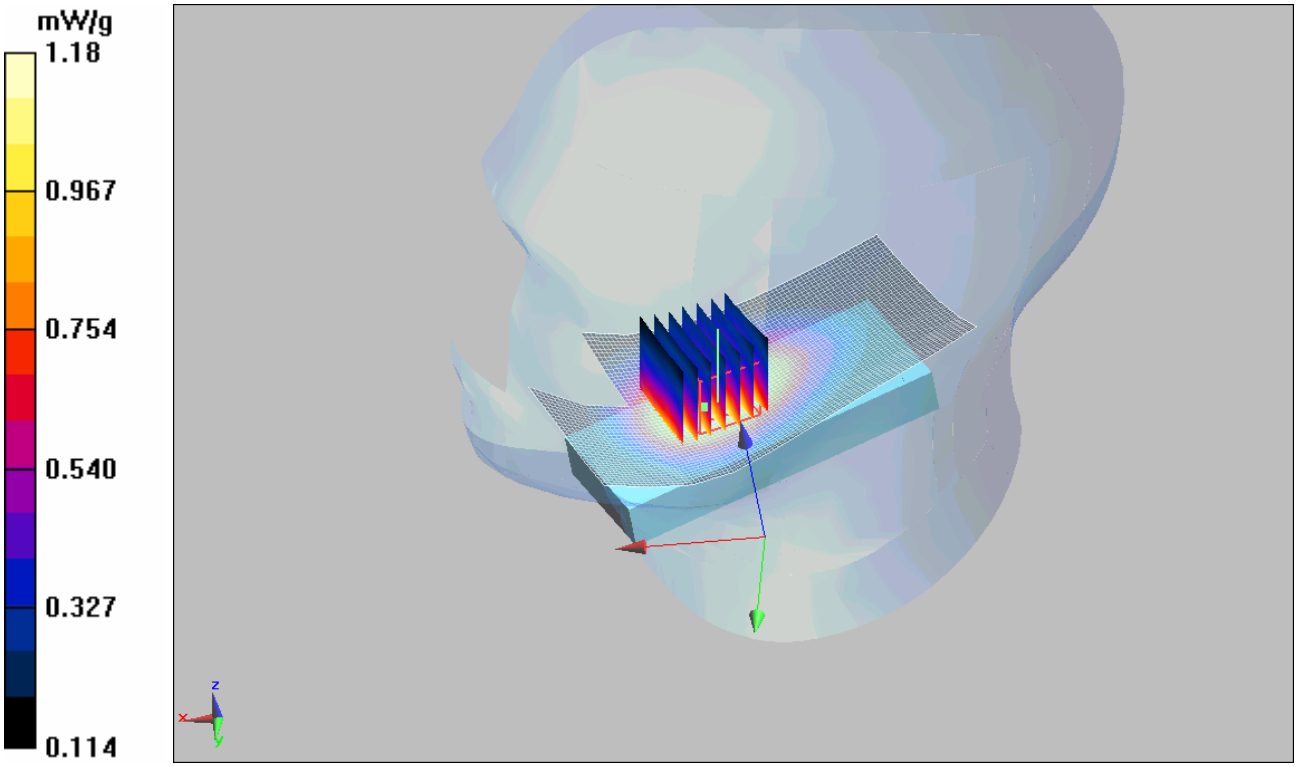


Figure 23 Right Hand Touch Cheek CDMA Cellular Channel 777

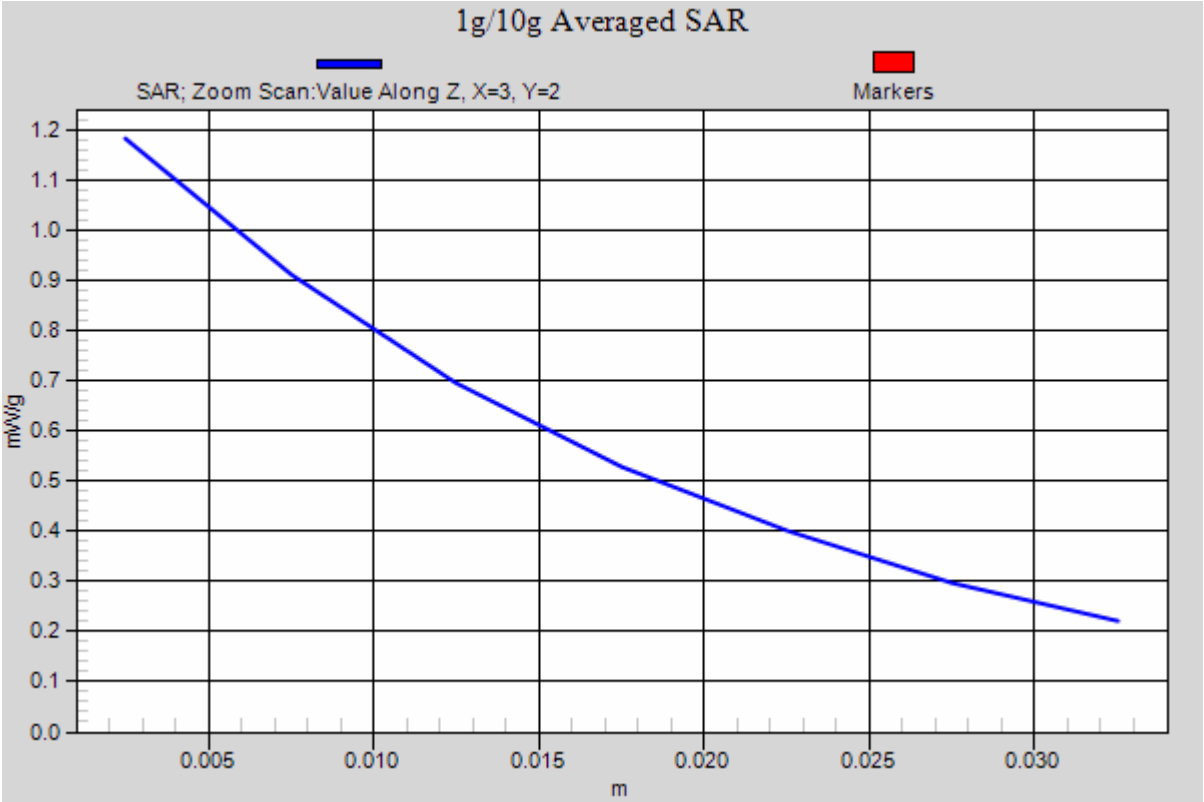


Figure 24 Z-Scan at power reference point (Right Hand Touch Cheek CDMA Cellular Channel 777)

CDMA Cellular Right Cheek Middle

Date/Time: 10/20/2009 10:48:01 AM

Communication System: CDMA Cellular; Frequency: 836.52 MHz;Duty Cycle: 1:1

Medium parameters used: f = 837 MHz; σ = 0.886 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

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) = 0.841 mW/g

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

Reference Value = 11.4 V/m; Power Drift = -0.084 dB

Peak SAR (extrapolated) = 0.993 W/kg

SAR(1 g) = 0.726 mW/g; SAR(10 g) = 0.520 mW/g

Maximum value of SAR (measured) = 0.837 mW/g

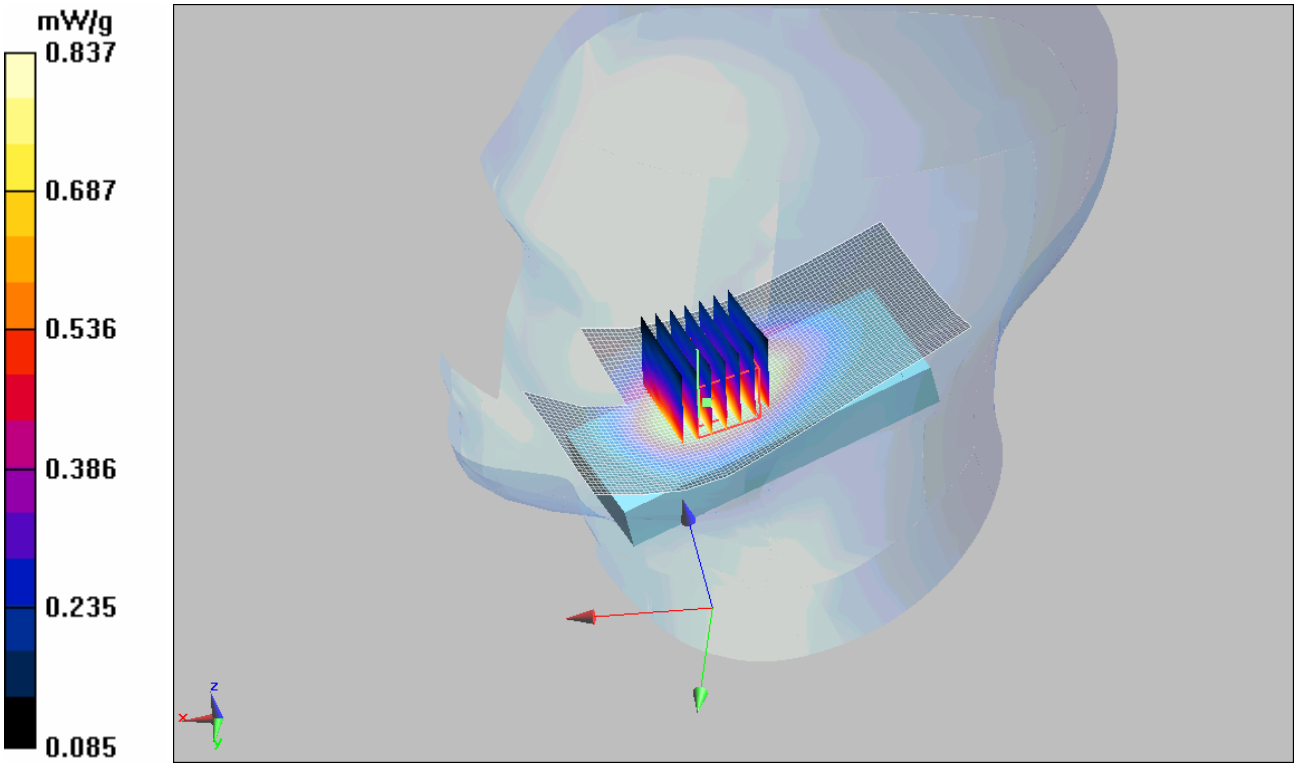


Figure 25 Right Hand Touch Cheek CDMA Cellular Channel 384

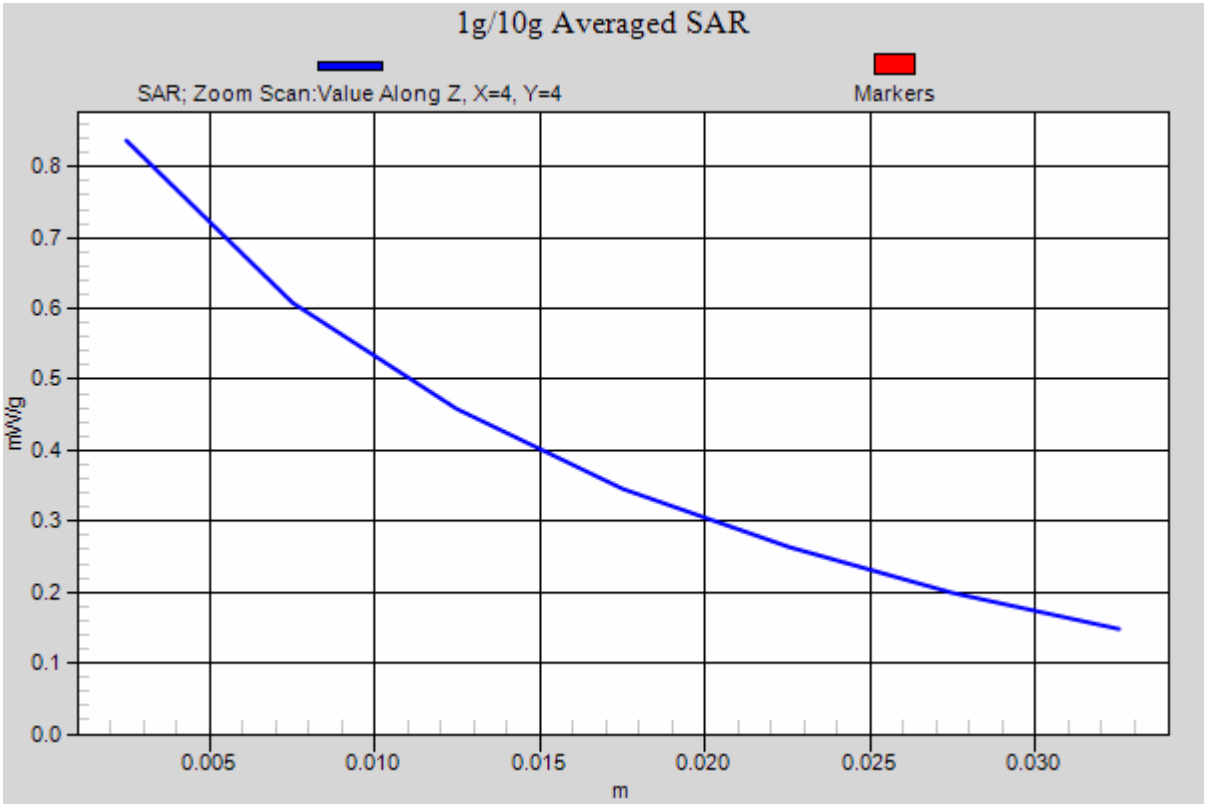


Figure 26 Z-Scan at power reference point (Right Hand Touch Cheek CDMA Cellular Channel 384)

CDMA Cellular Right Cheek Low

Date/Time: 10/20/2009 11:46:14 AM
Communication System: CDMA Cellular; Frequency: 824.7 MHz;Duty Cycle: 1:1
Medium parameters used: f = 825 MHz; σ = 0.875 mho/m; ε_r = 42; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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) = 0.822 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.8 V/m; Power Drift = -0.060 dB
Peak SAR (extrapolated) = 0.939 W/kg
SAR(1 g) = 0.702 mW/g; SAR(10 g) = 0.506 mW/g
Maximum value of SAR (measured) = 0.814 mW/g

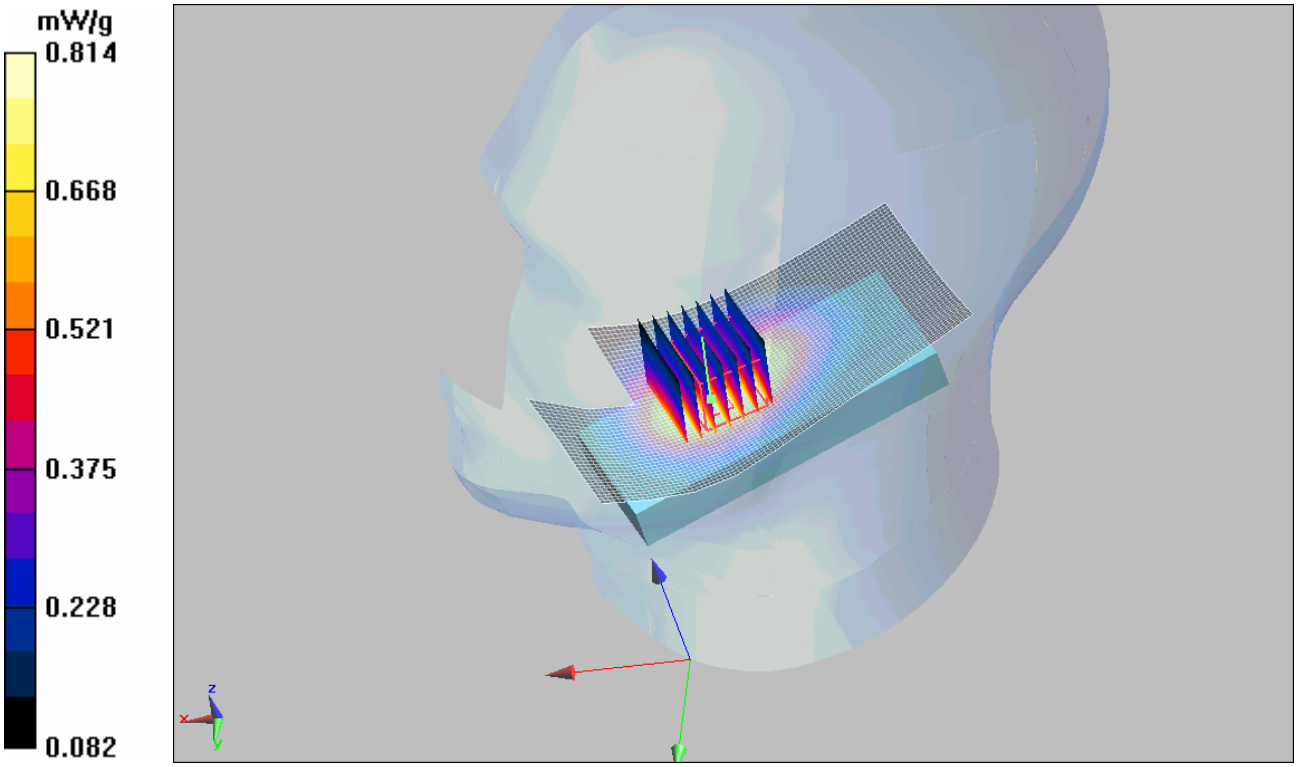


Figure 27 Right Hand Touch Cheek CDMA Cellular Channel 1013

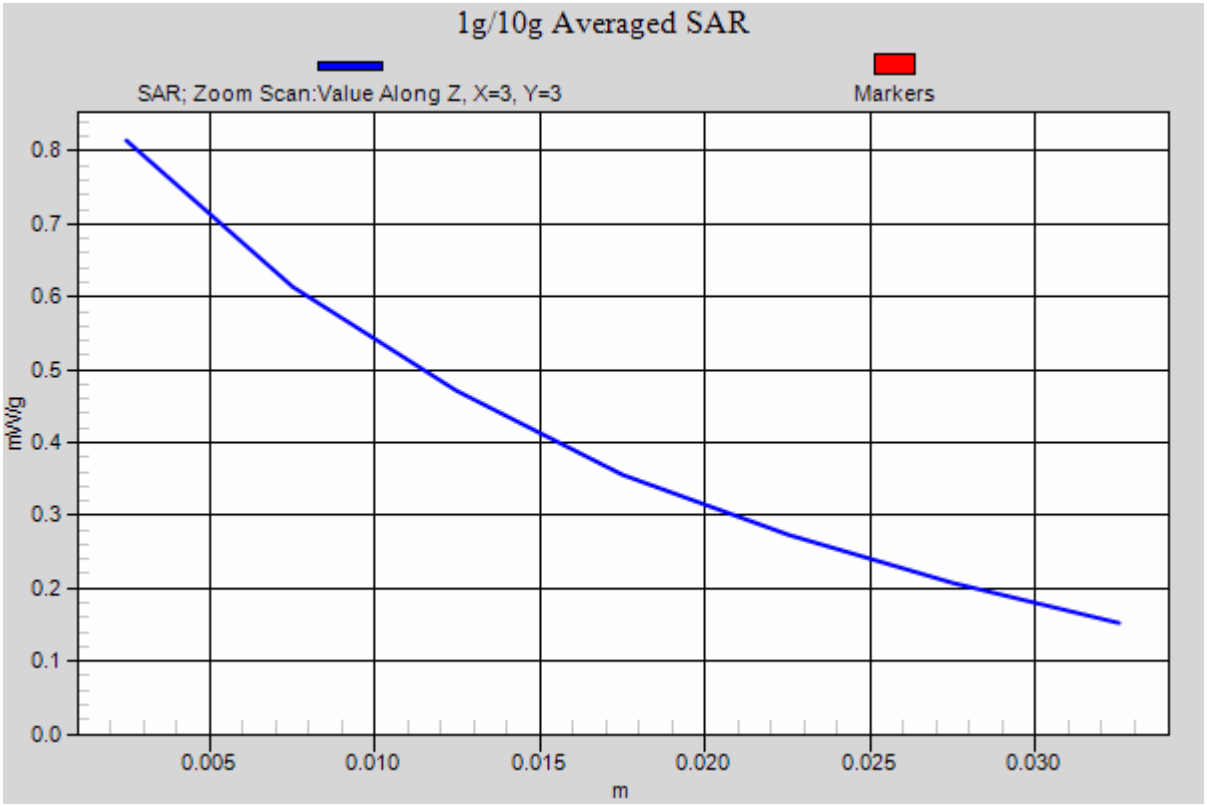


Figure 28 Z-Scan at power reference point (Right Hand Touch Cheek CDMA Cellular Channel 1013)

CDMA Cellular Right Tilt Middle

Date/Time: 10/20/2009 12:09:51 PM
Communication System: CDMA Cellular; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.886 mho/m; ε_r = 41.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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) = 0.405 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = -0.000 dB
Peak SAR (extrapolated) = 0.467 W/kg
SAR(1 g) = 0.348 mW/g; SAR(10 g) = 0.253 mW/g
Maximum value of SAR (measured) = 0.404 mW/g

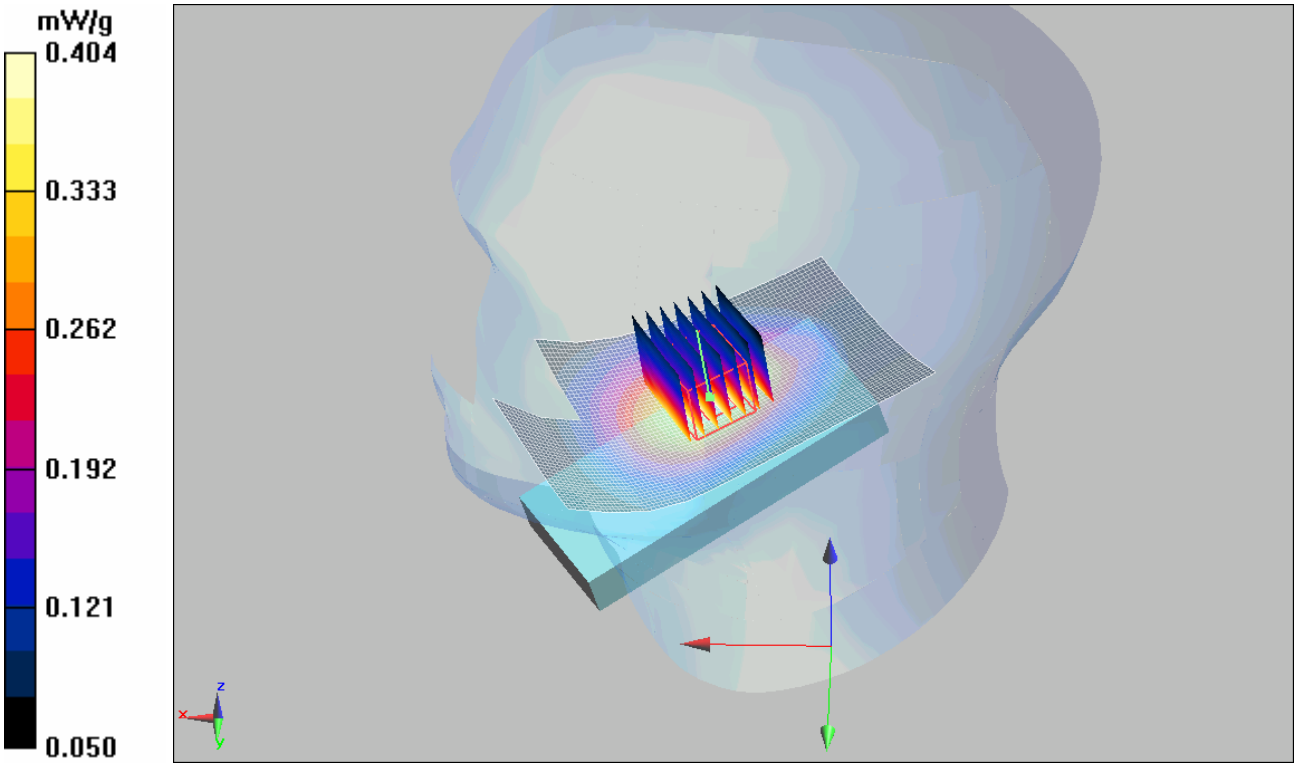


Figure 29 Right Hand Tilt 15° CDMA Cellular Channel 384

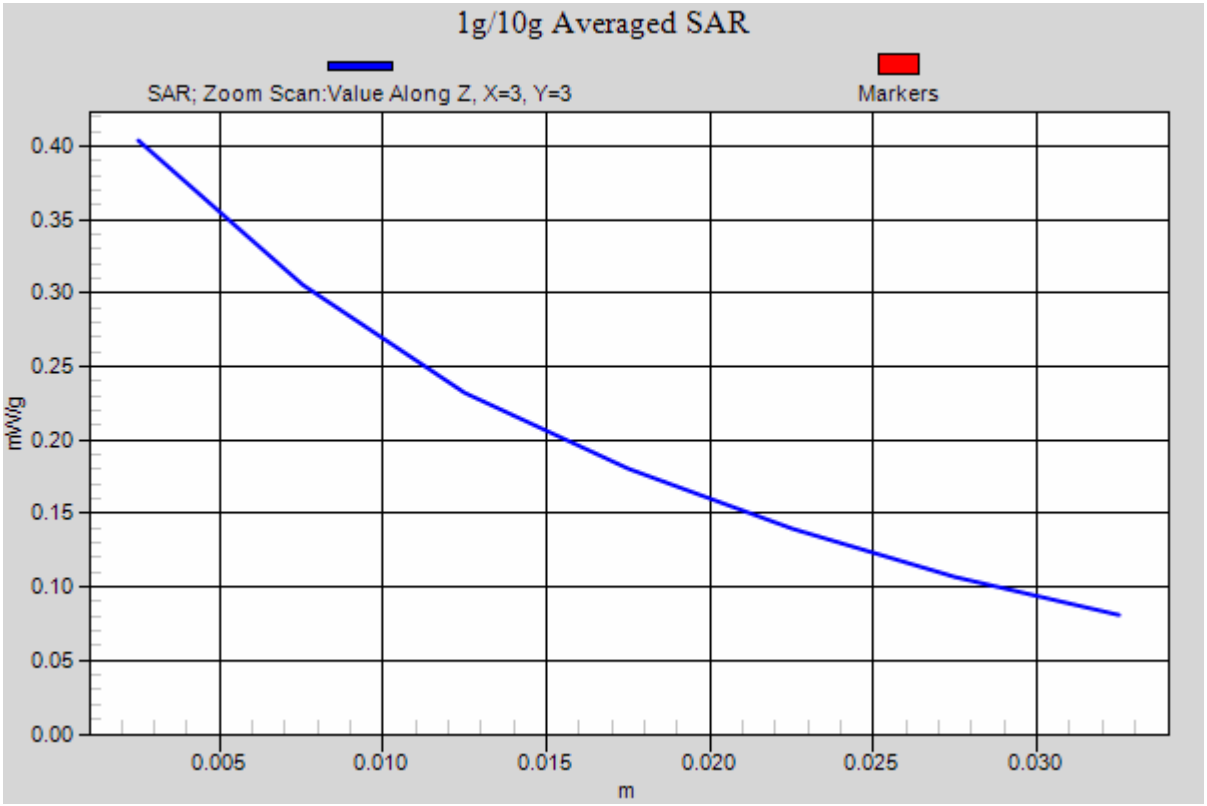


Figure 30 Z-Scan at power reference point (Right Hand Tilt 15° CDMA Cellular Channel 384)

CDMA Cellular Towards Ground High

Date/Time: 10/19/2009 10:38:00 PM
Communication System: CDMA Cellular; Frequency: 848.31 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 848.31 MHz; σ = 1.01 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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) = 0.835 mW/g

Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.6 V/m; Power Drift = 0.119 dB
Peak SAR (extrapolated) = 1.18 W/kg
SAR(1 g) = 0.833 mW/g; SAR(10 g) = 0.588 mW/g
Maximum value of SAR (measured) = 0.890 mW/g

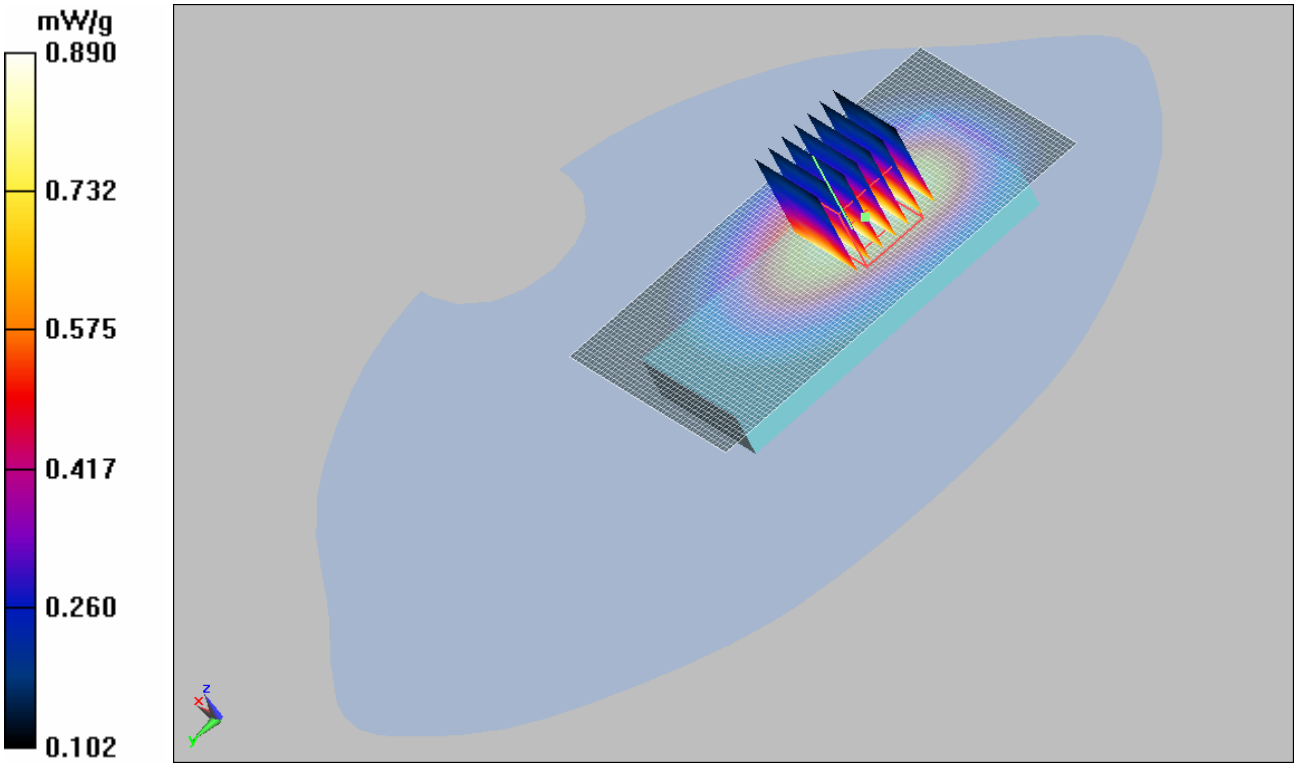


Figure 31 Body, Towards Ground, CDMA Cellular Channel 777

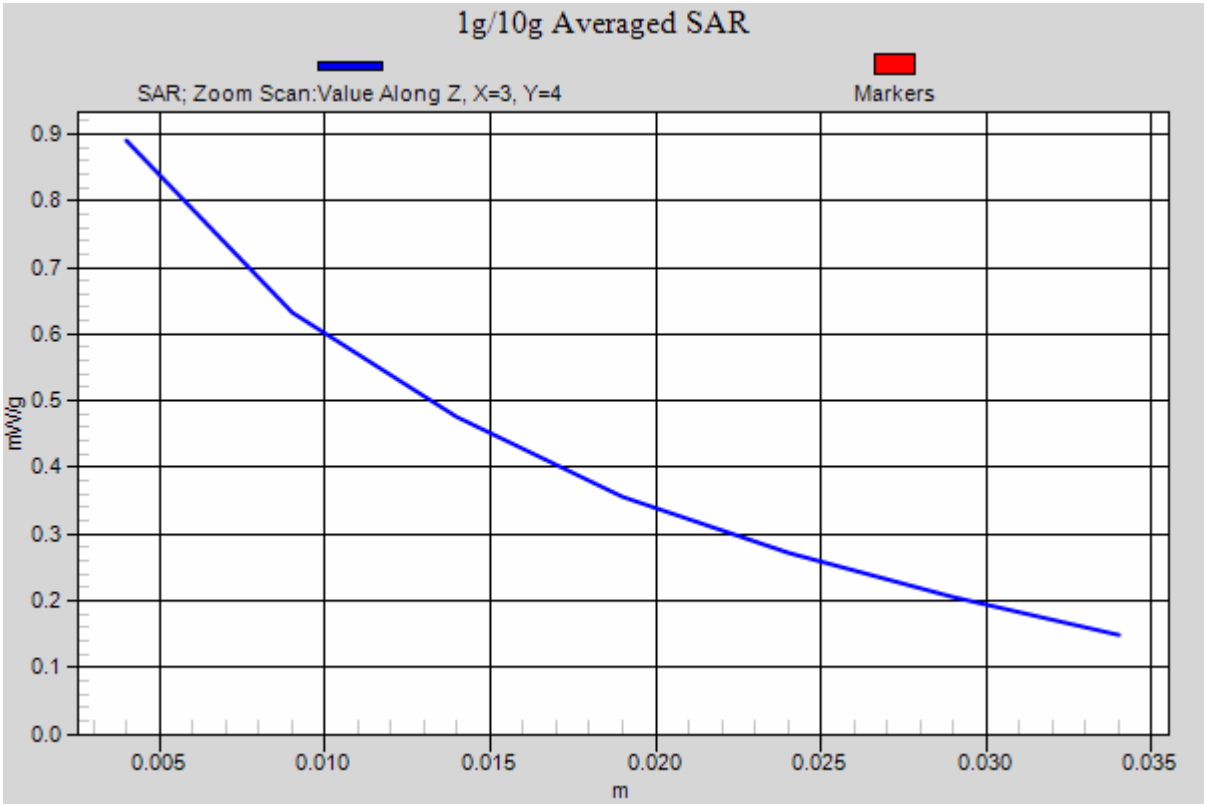


Figure 32 Z-Scan at power reference point (Body, Towards Ground, CDMA Cellular Channel 777)

CDMA Cellular Towards Ground Middle

Date/Time: 10/19/2009 10:16:48 PM

Communication System: CDMA Cellular; Frequency: 836.52 MHz;Duty Cycle: 1:1

Medium parameters used: f = 837 MHz; σ = 0.995 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

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) = 0.651 mW/g

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

Reference Value = 9.96 V/m; Power Drift = -0.042 dB

Peak SAR (extrapolated) = 0.832 W/kg

SAR(1 g) = 0.616 mW/g; SAR(10 g) = 0.444 mW/g

Maximum value of SAR (measured) = 0.651 mW/g

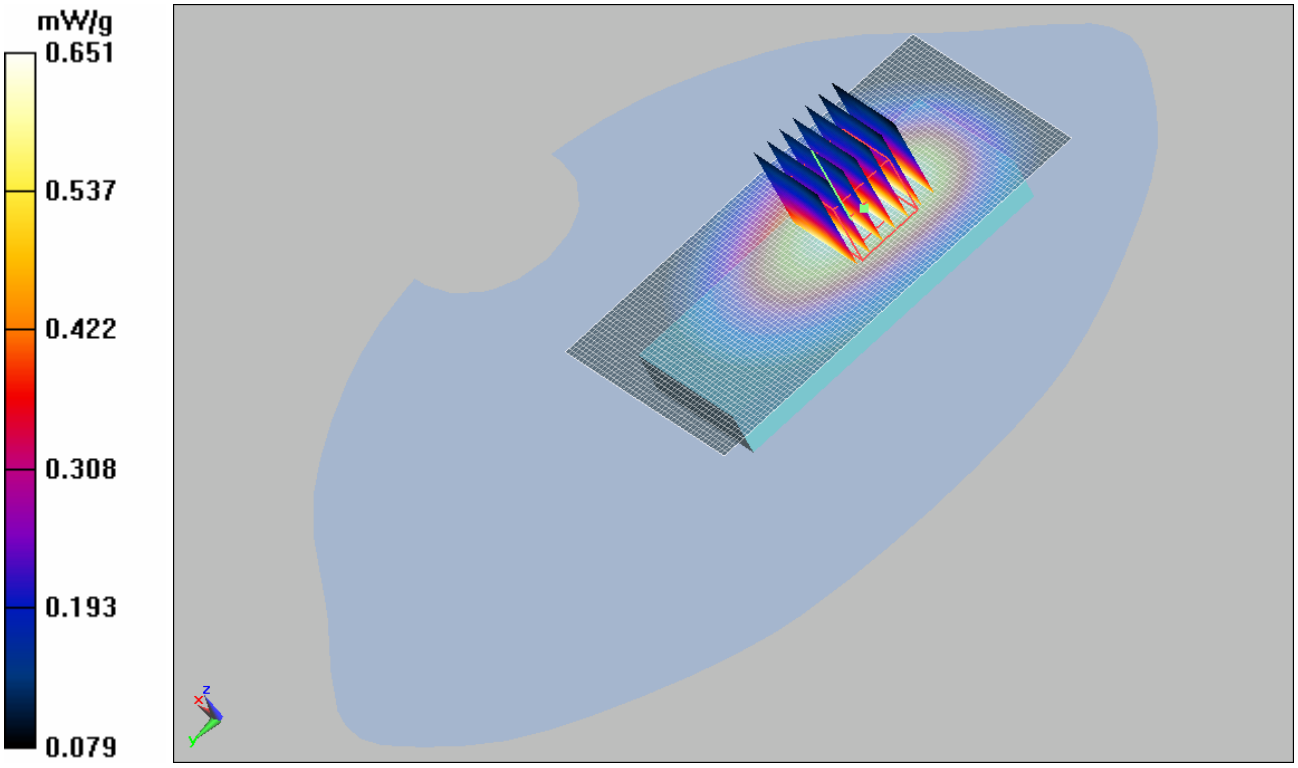


Figure 33 Body, Towards Ground, CDMA Cellular Channel 384

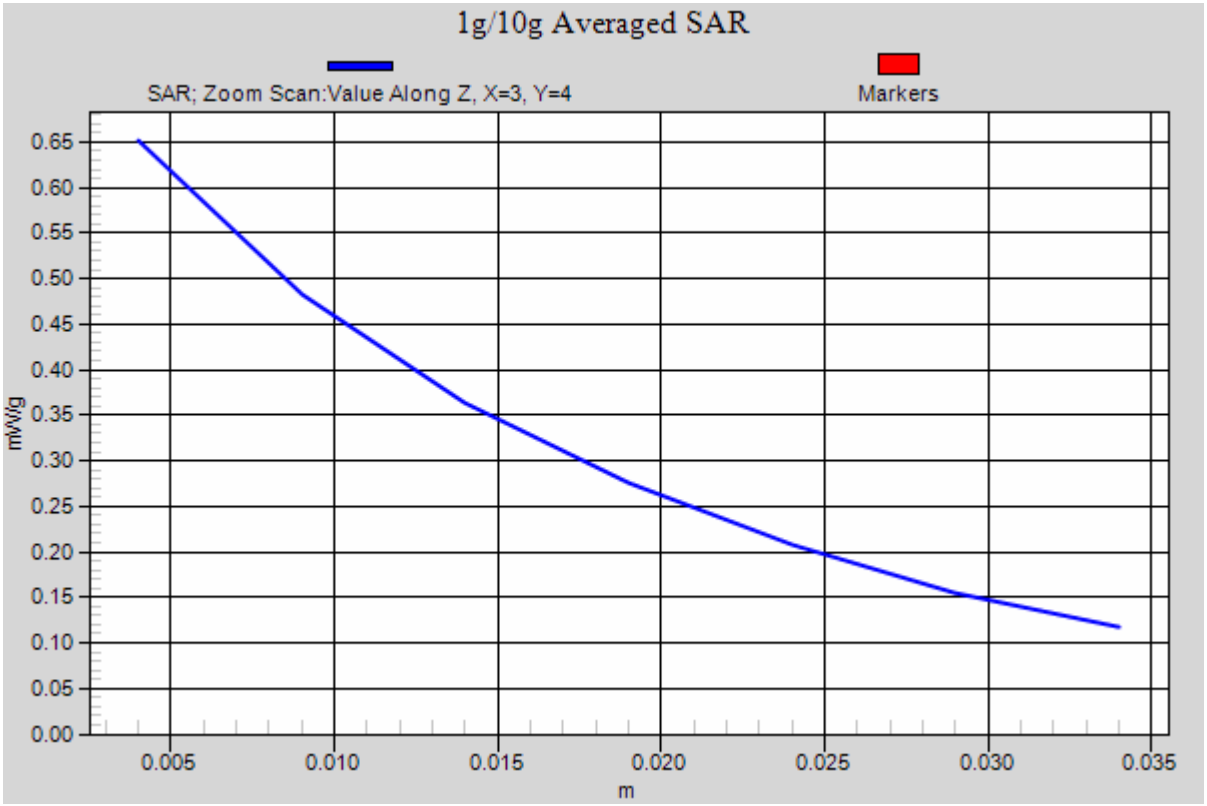


Figure 34 Z-Scan at power reference point (Body, Towards Ground, CDMA Cellular Channel 384)

CDMA Cellular Towards Ground Low

Date/Time: 10/19/2009 10:59:08 PM

Communication System: CDMA Cellular; Frequency: 824.7 MHz;Duty Cycle: 1:1

Medium parameters used: f = 825 MHz; σ = 0.984 mho/m; ε_r = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

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) = 0.632 mW/g

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

Reference Value = 9.65 V/m; Power Drift = 0.073 dB

Peak SAR (extrapolated) = 0.777 W/kg

SAR(1 g) = 0.591 mW/g; SAR(10 g) = 0.429 mW/g

Maximum value of SAR (measured) = 0.624 mW/g

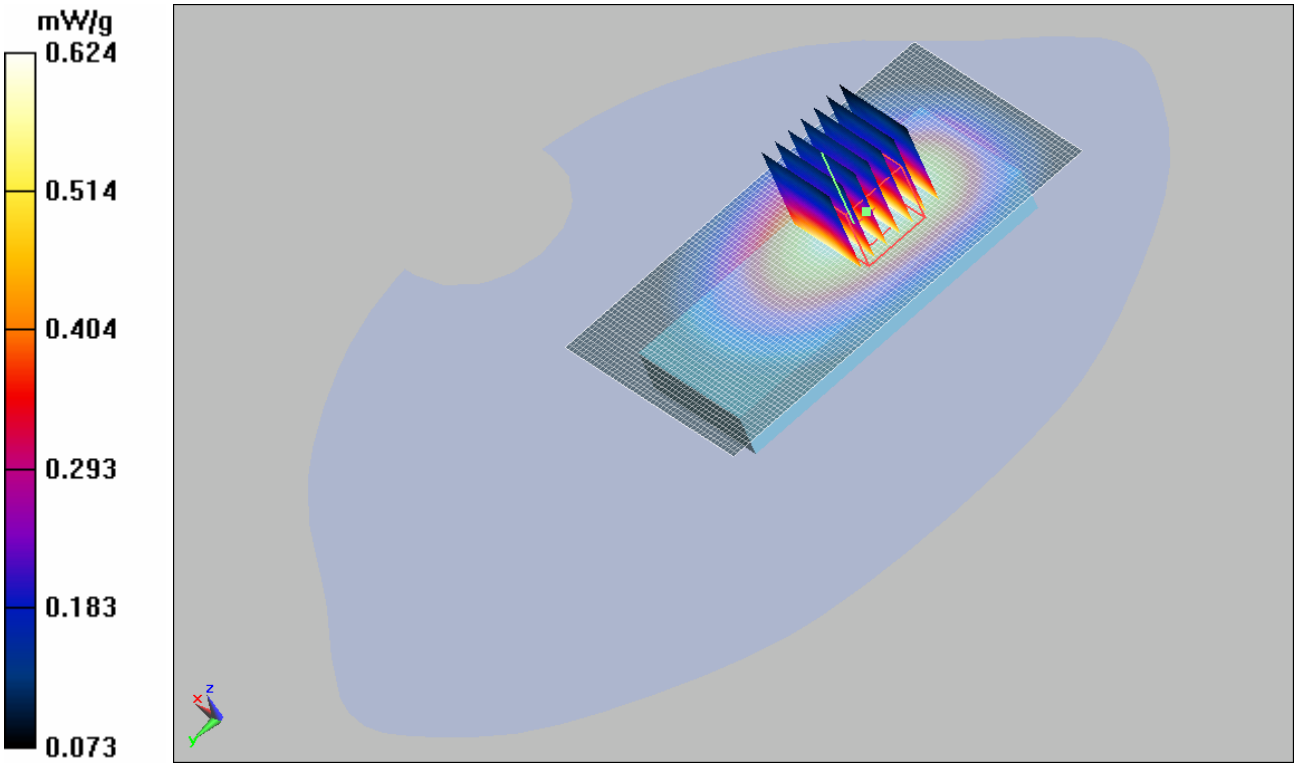


Figure 35 Body, Towards Ground, CDMA Cellular Channel 1013

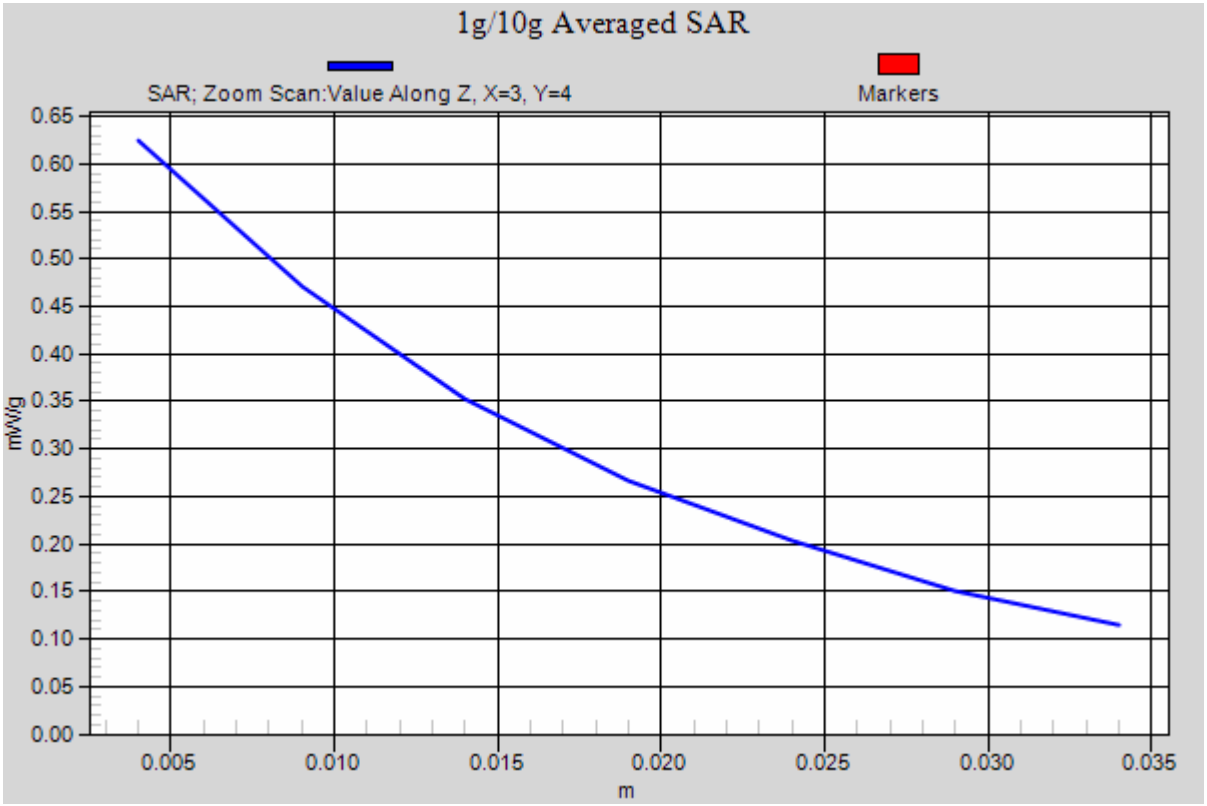


Figure 36 Z-Scan at power reference point (Body, Towards Ground, CDMA Cellular Channel 1013)

CDMA Cellular Towards Phantom Middle

Date/Time: 10/19/2009 9:52:05 PM

Communication System: CDMA Cellular; Frequency: 836.52 MHz;Duty Cycle: 1:1

Medium parameters used: f = 837 MHz; σ = 0.995 mho/m; ε_r = 54.6; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

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) = 0.509 mW/g

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

Reference Value = 8.63 V/m; Power Drift = -0.019 dB

Peak SAR (extrapolated) = 0.643 W/kg

SAR(1 g) = 0.482 mW/g; SAR(10 g) = 0.348 mW/g

Maximum value of SAR (measured) = 0.511 mW/g

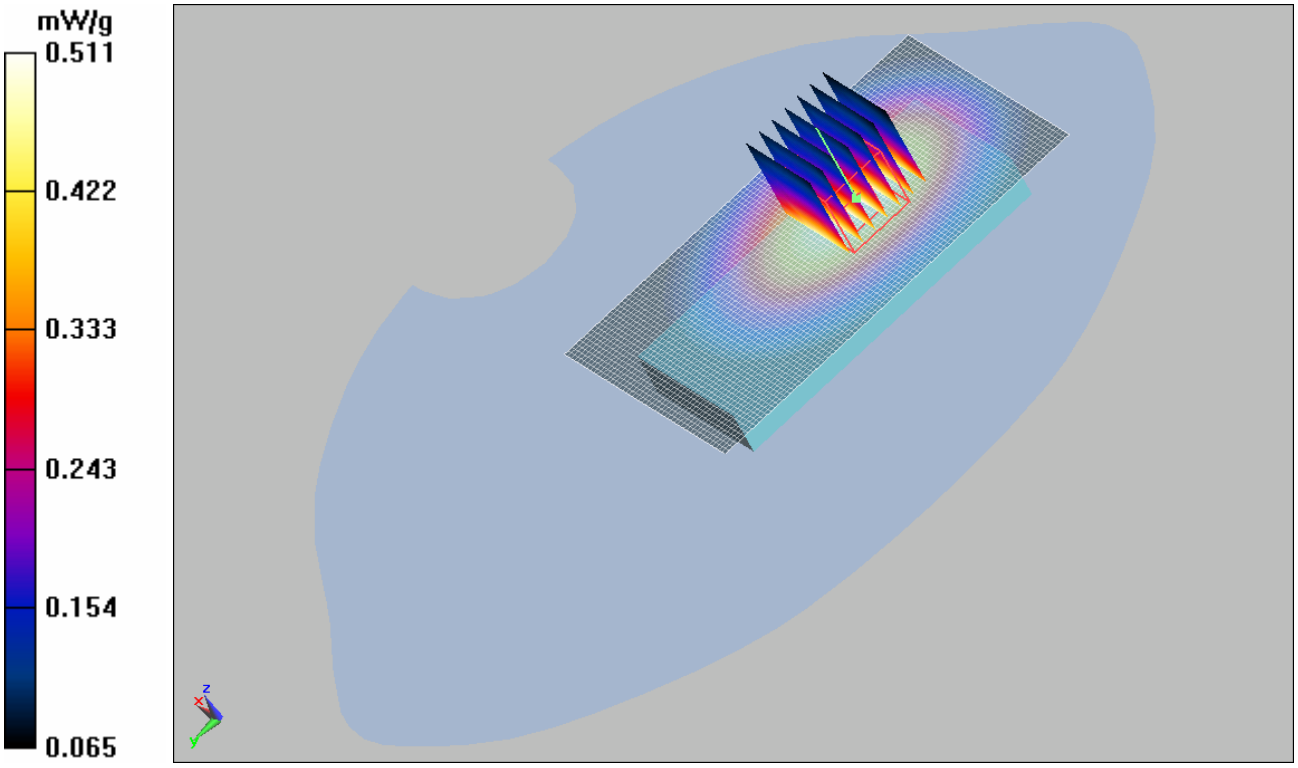


Figure 37 Body, Towards Phantom, CDMA Cellular Channel 384

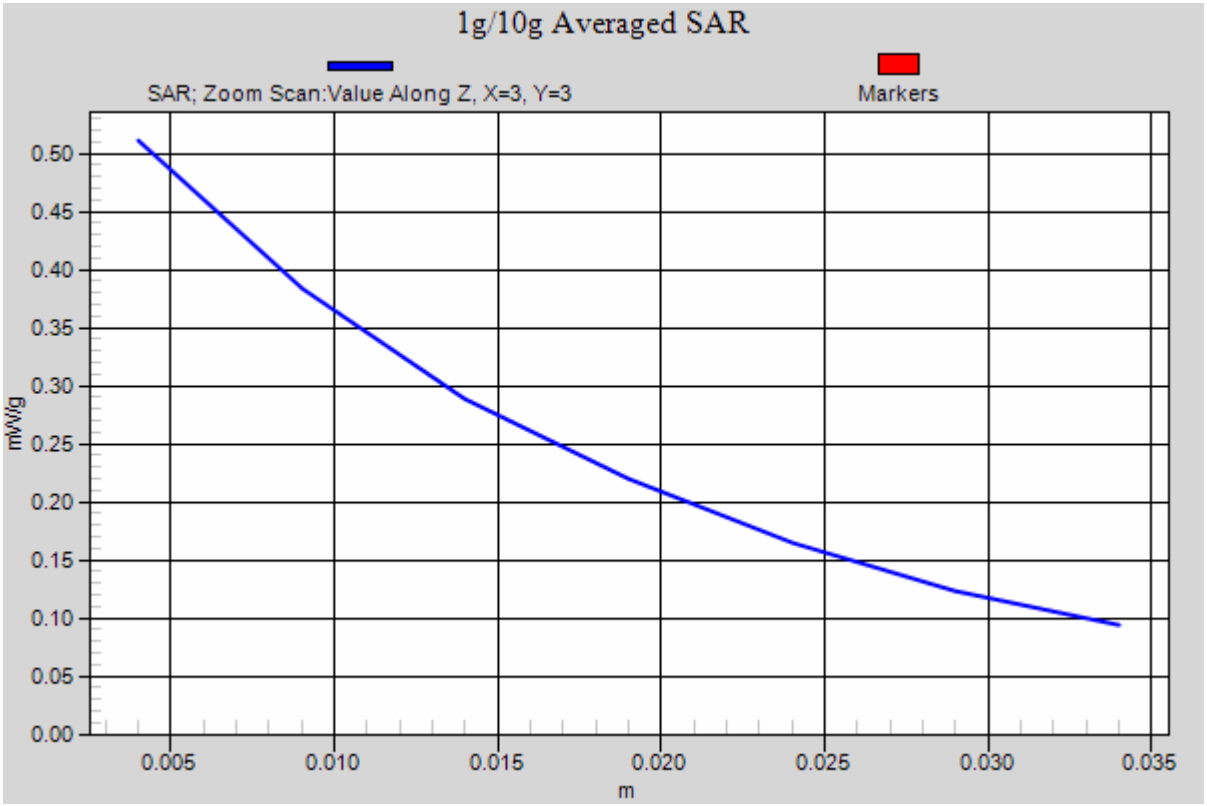


Figure 38 Z-Scan at power reference point (Body, Towards Phantom, CDMA Cellular Channel 384)

CDMA Cellular Towards Ground with Earphone High

Date/Time: 10/19/2009 11:37:43 PM

Communication System: CDMA Cellular; Frequency: 848.31 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 848.31 MHz; σ = 1.01 mho/m; ε_r = 54.5; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

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) = 0.817 mW/g

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

Reference Value = 11.8 V/m; Power Drift = 0.197 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.767 mW/g; SAR(10 g) = 0.552 mW/g

Maximum value of SAR (measured) = 0.813 mW/g

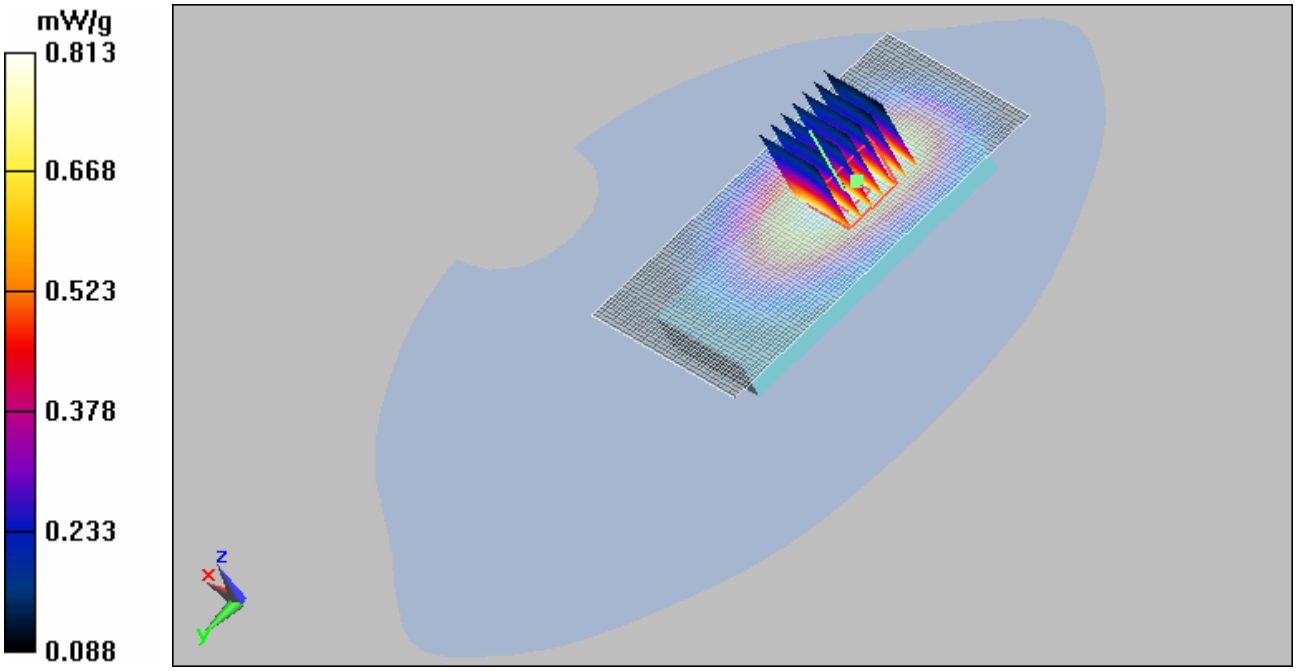


Figure 39 Body with Earphone, Towards Ground, CDMA Cellular Channel 777

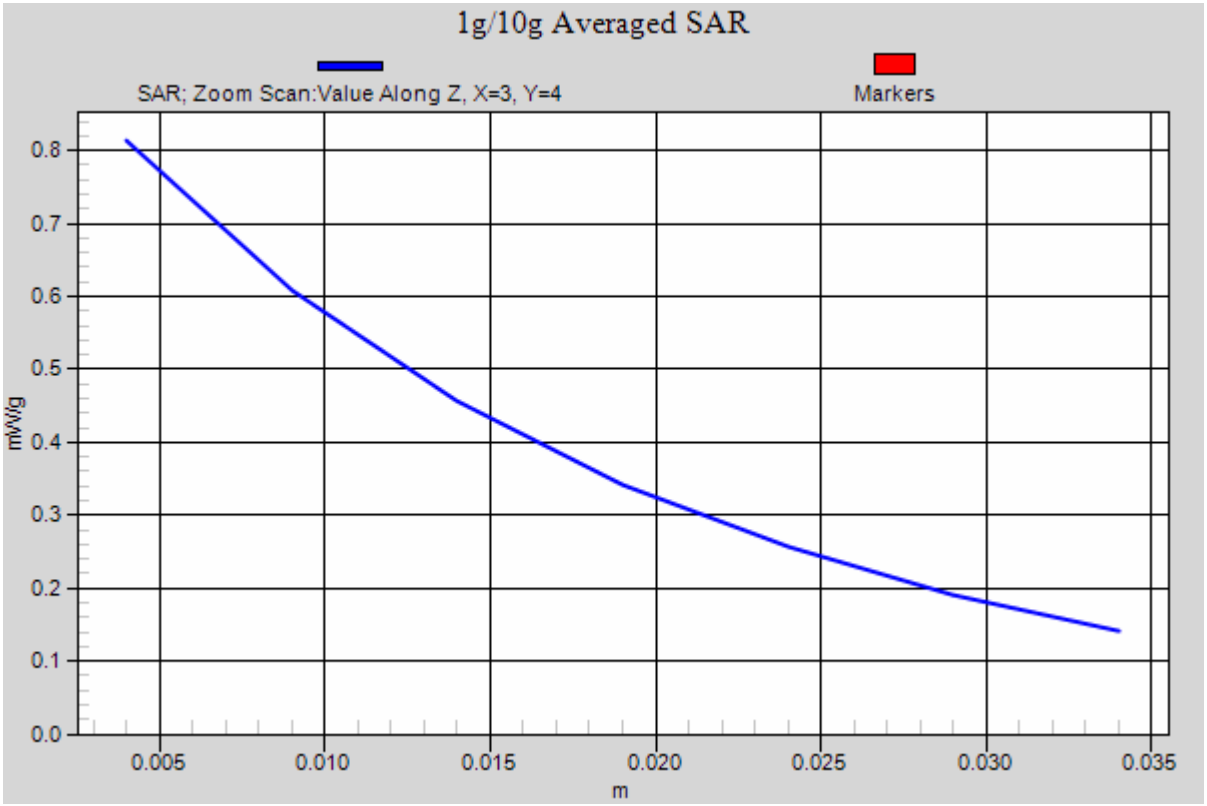


Figure 40 Z-Scan at power reference point (Body with Earphone, Towards Ground, CDMA Cellular Channel 777)

CDMA PCS Left Cheek High

Date/Time: 10/19/2009 3:51:47 PM
Communication System: CDMA PCS; Frequency: 1908.75 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1908.75 MHz; σ = 1.4 mho/m; ε_r = 39.8; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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) = 1.17 mW/g
Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.2 V/m; Power Drift = -0.049 dB
Peak SAR (extrapolated) = 1.38 W/kg
SAR(1 g) = 0.906 mW/g; SAR(10 g) = 0.556 mW/g
Maximum value of SAR (measured) = 1.1 mW/g
Cheek High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.2 V/m; Power Drift = -0.049 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 0.804 mW/g; SAR(10 g) = 0.481 mW/g
Maximum value of SAR (measured) = 0.989 mW/g

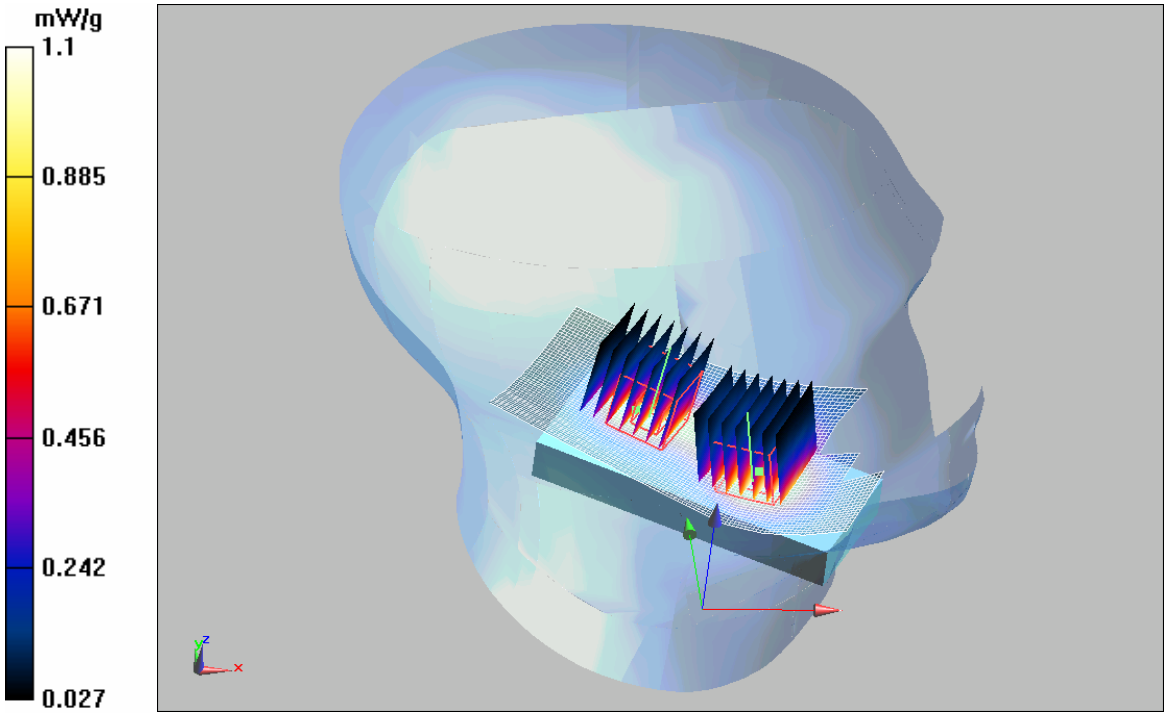
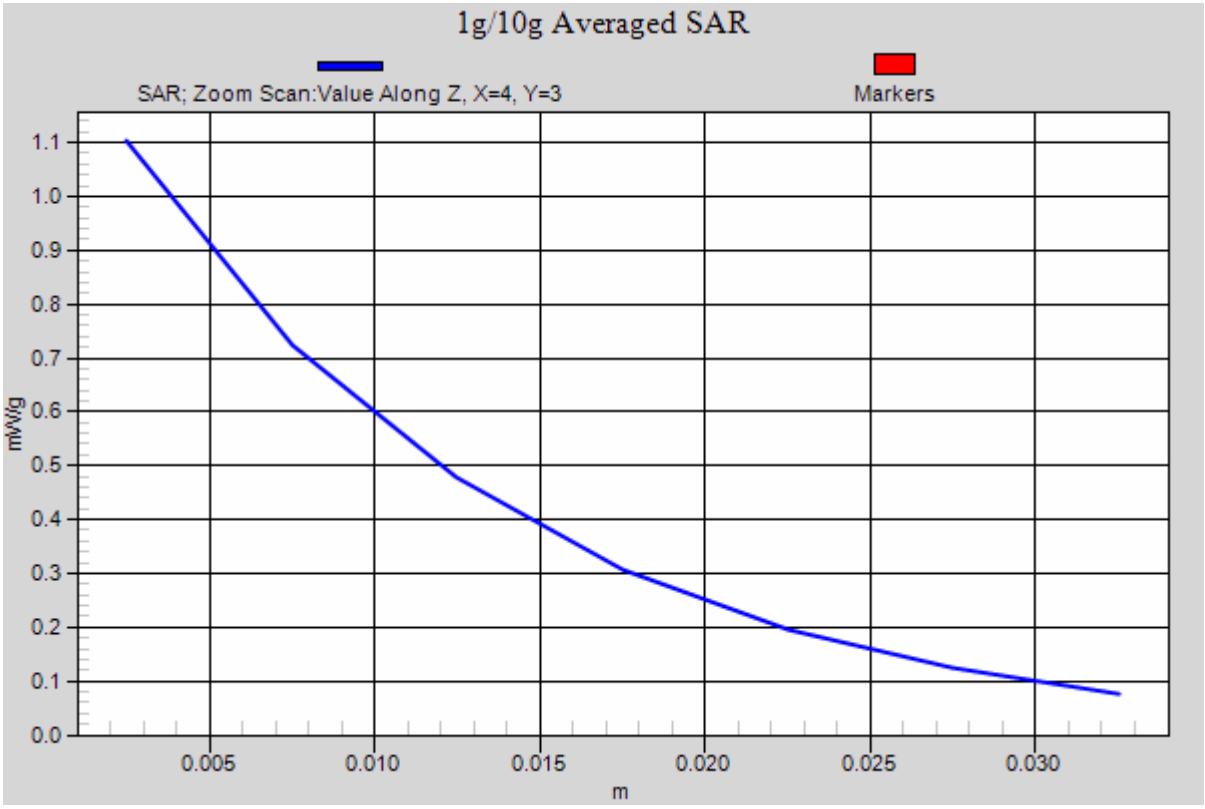


Figure 41 Left Hand Touch Cheek CDMA PCS Channel 1175



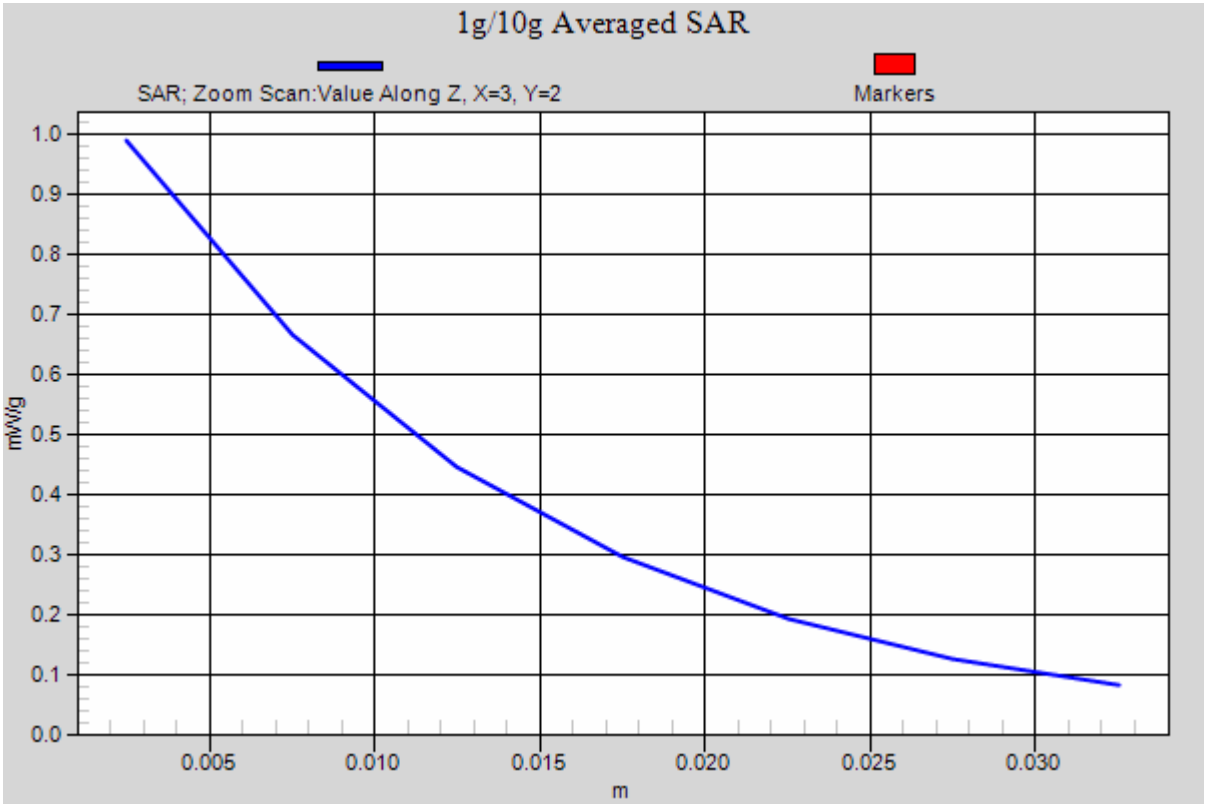


Figure 42 Z-Scan at power reference point (Left Hand Touch Cheek CDMA PCS Channel 1175)

CDMA PCS Left Cheek Middle

Date/Time: 10/19/2009 3:10:48 PM
Communication System: CDMA PCS; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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) = 1.3 mW/g
Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.8 V/m; Power Drift = 0.053 dB
Peak SAR (extrapolated) = 1.57 W/kg
SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.615 mW/g
Maximum value of SAR (measured) = 1.25 mW/g
Cheek Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.8 V/m; Power Drift = 0.053 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.860 mW/g; SAR(10 g) = 0.517 mW/g
Maximum value of SAR (measured) = 1.05 mW/g

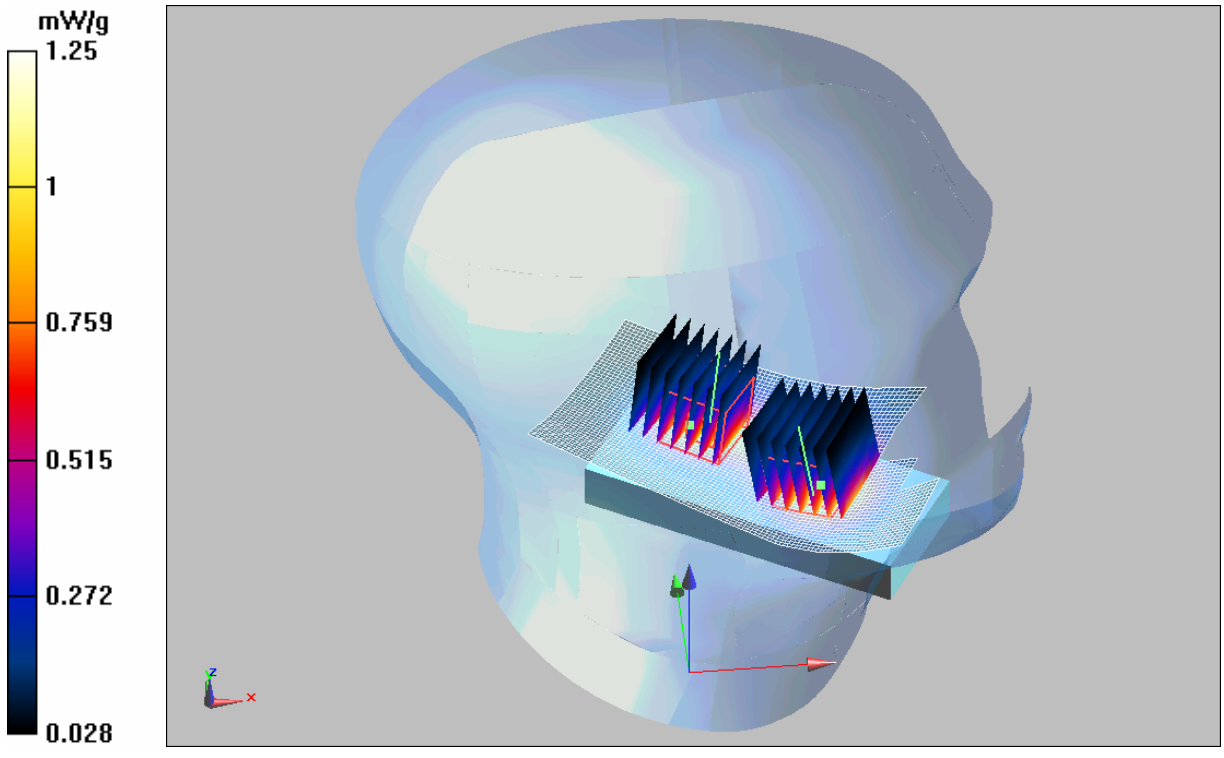
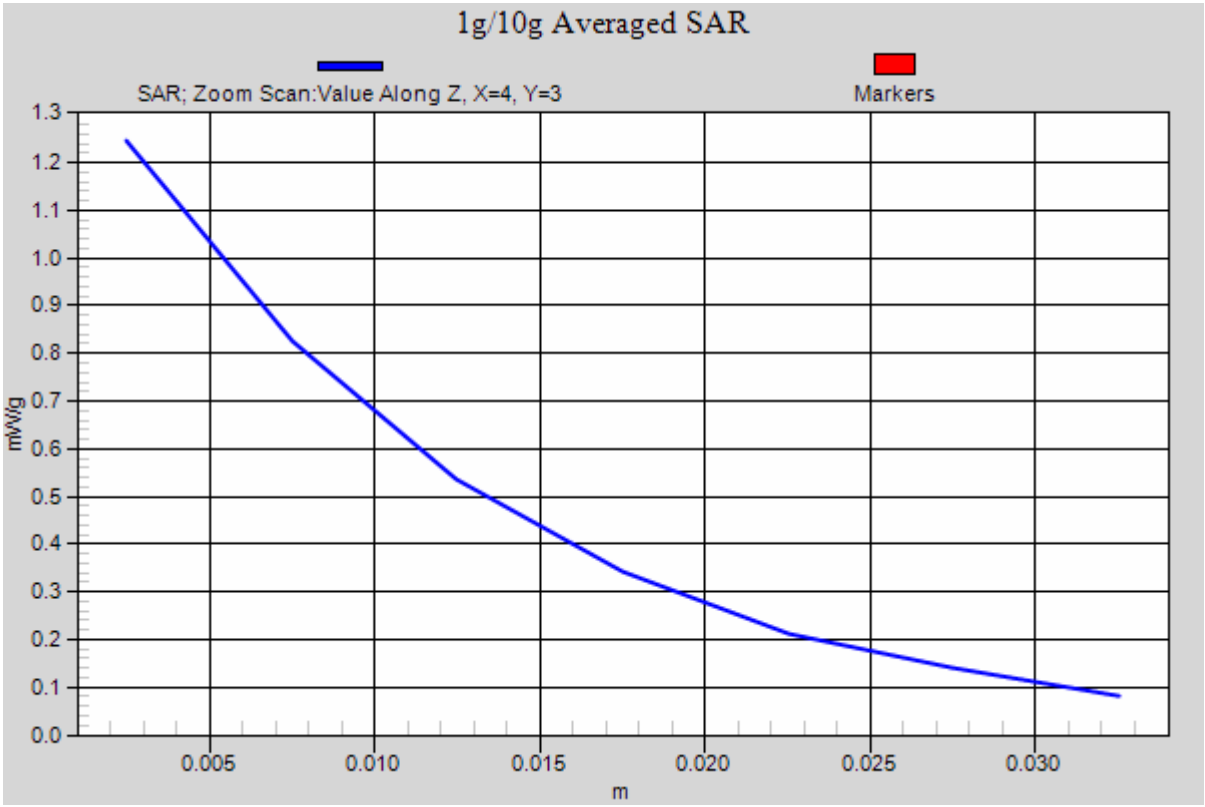


Figure 43 Left Hand Touch Cheek CDMA PCS Channel 600



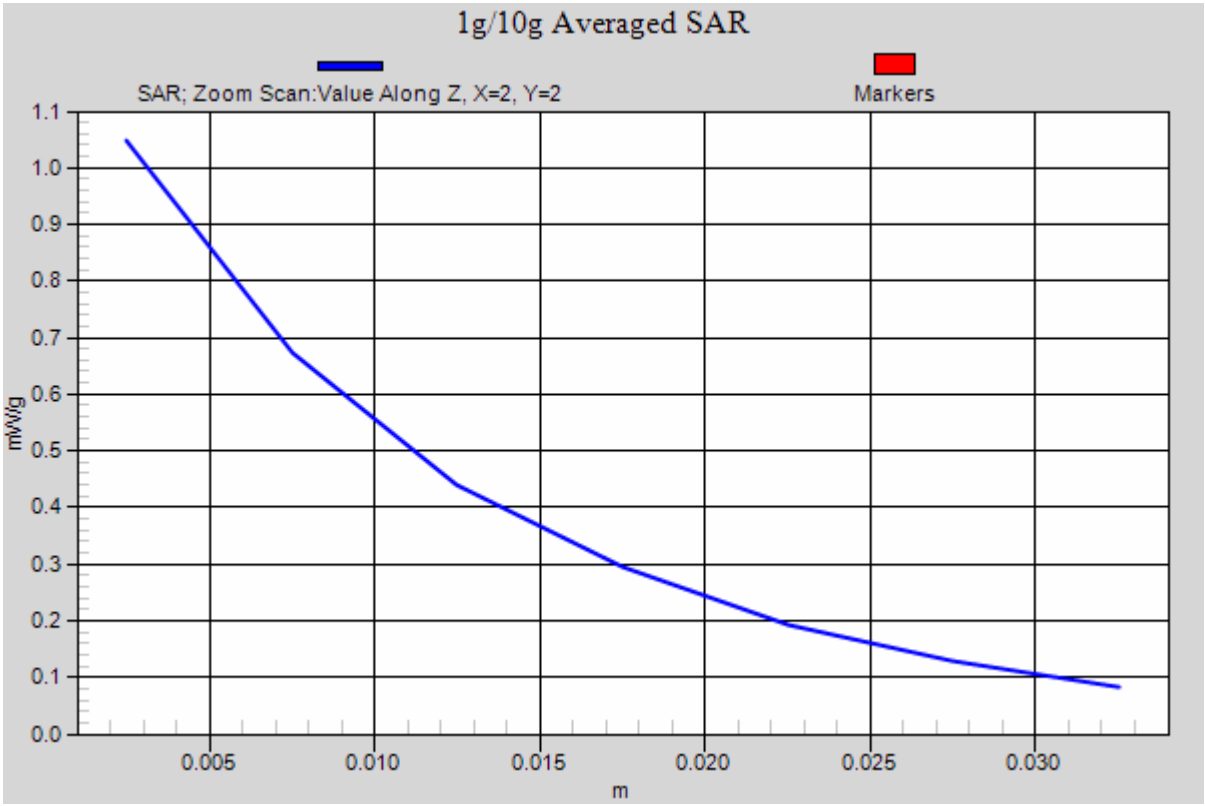


Figure 44 Z-Scan at power reference point (Left Hand Touch Cheek CDMA PCS Channel 600)

CDMA PCS Left Cheek Low

Date/Time: 10/19/2009 4:35:13 PM
Communication System: CDMA PCS; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1852 MHz; σ = 1.36 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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) = 0.872 mW/g
Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.4 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.710 mW/g; SAR(10 g) = 0.430 mW/g
Maximum value of SAR (measured) = 0.869 mW/g
Cheek Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.4 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 0.965 W/kg
SAR(1 g) = 0.635 mW/g; SAR(10 g) = 0.385 mW/g
Maximum value of SAR (measured) = 0.772 mW/g

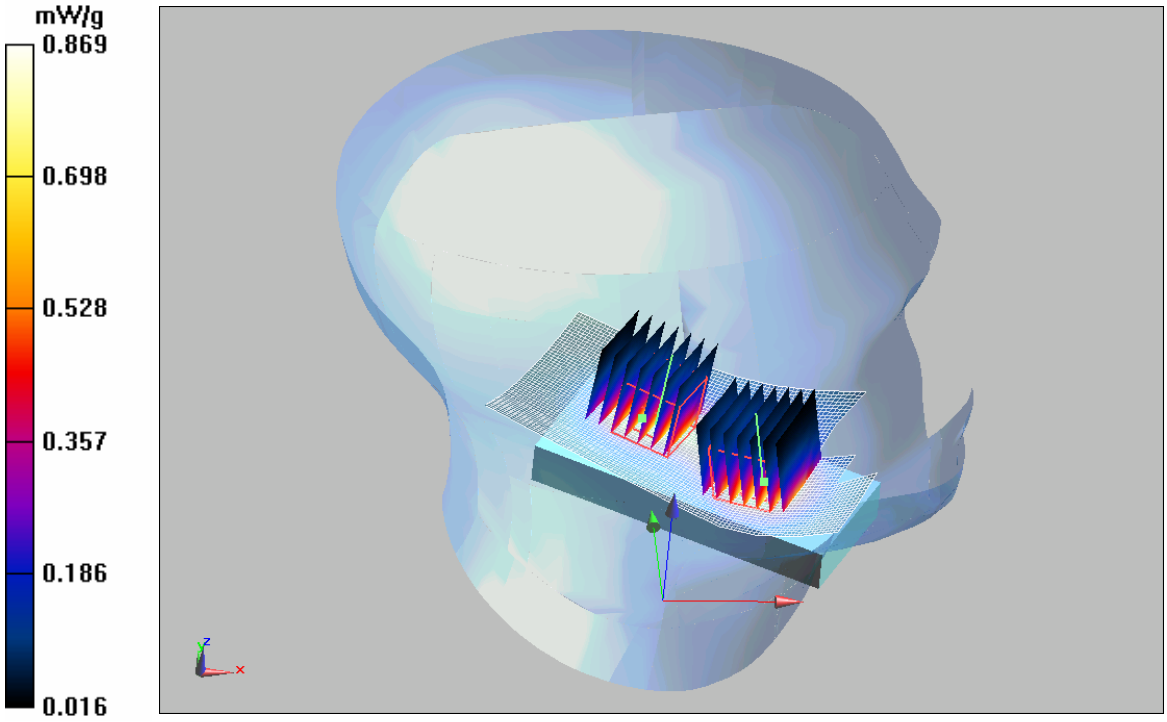
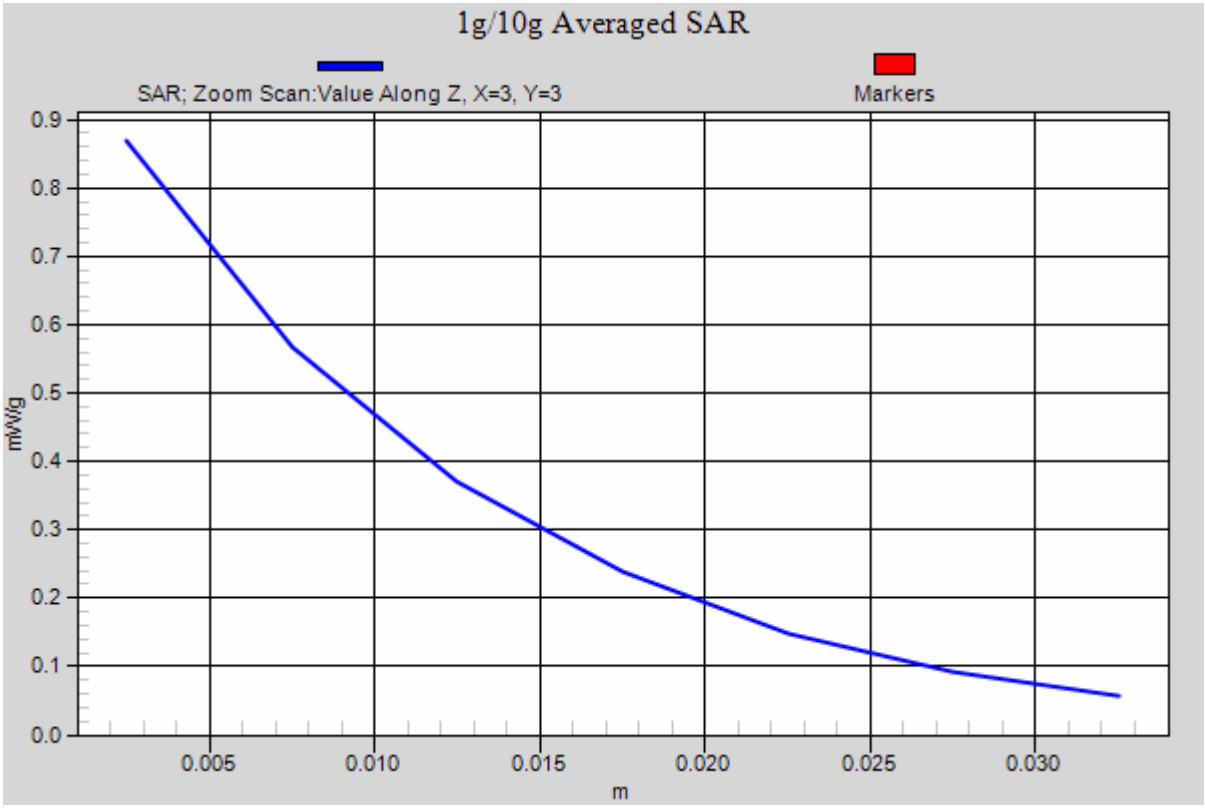


Figure 45 Left Hand Touch Cheek CDMA PCS Channel 25



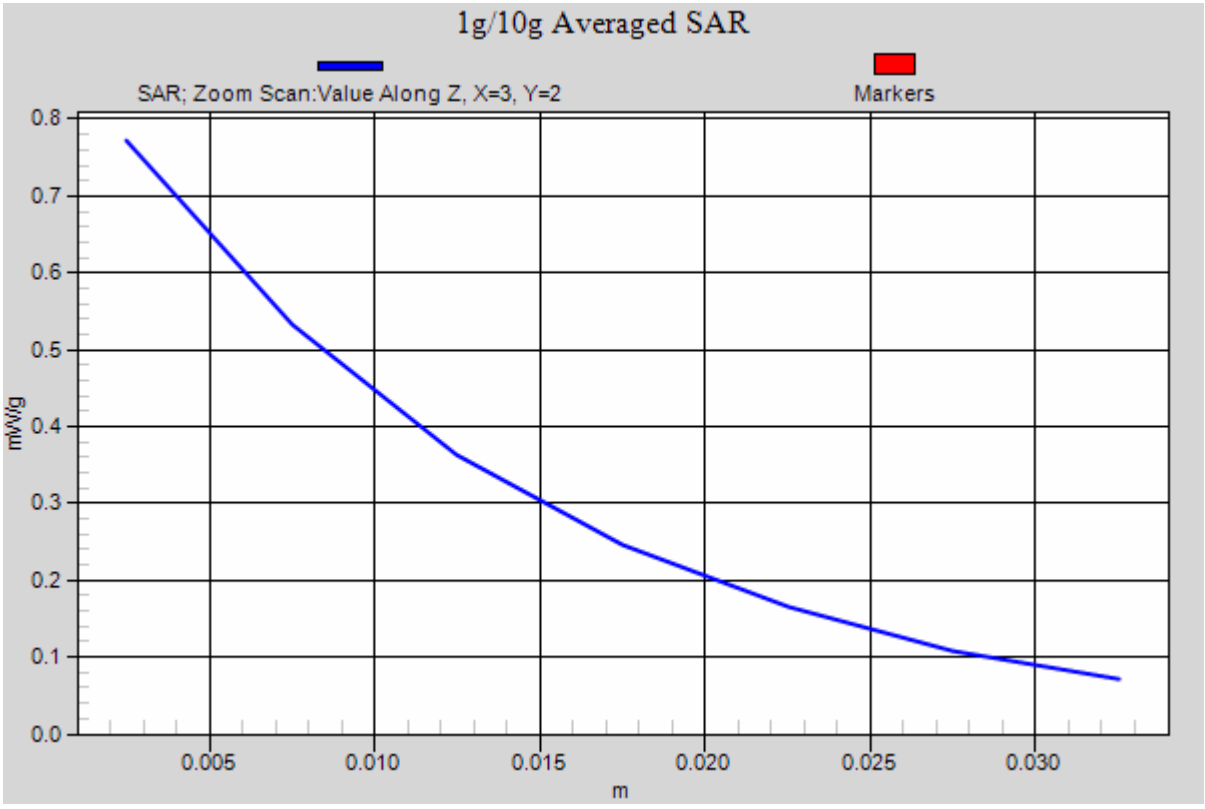


Figure 46 Z-Scan at power reference point (Left Hand Touch Cheek CDMA PCS Channel 25)

CDMA PCS Left Tilt Middle

Date/Time: 10/19/2009 5:24:56 PM
Communication System: CDMA PCS; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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) = 0.955 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.4 V/m; Power Drift = 0.129 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.687 mW/g; SAR(10 g) = 0.416 mW/g
Maximum value of SAR (measured) = 0.843 mW/g

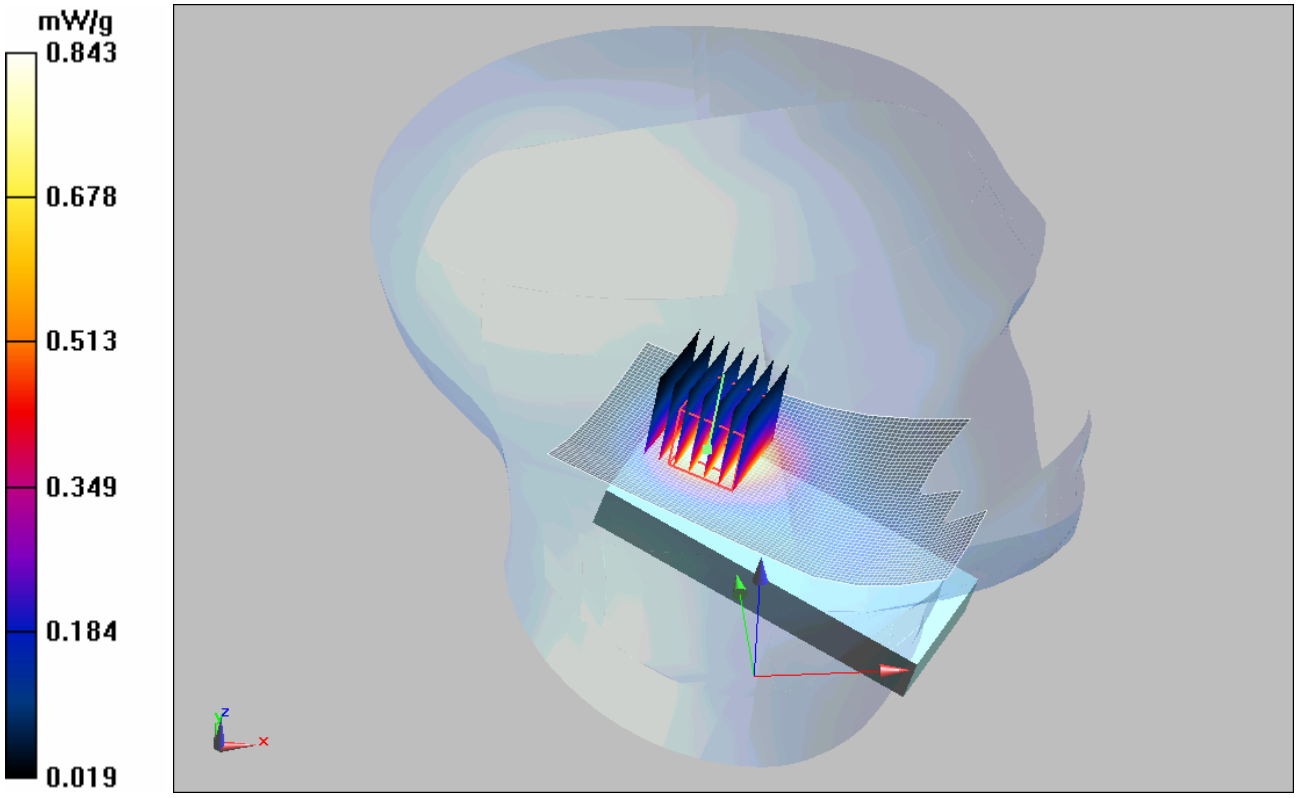


Figure 47 Left Hand Tilt 15° CDMA PCS Channel 600

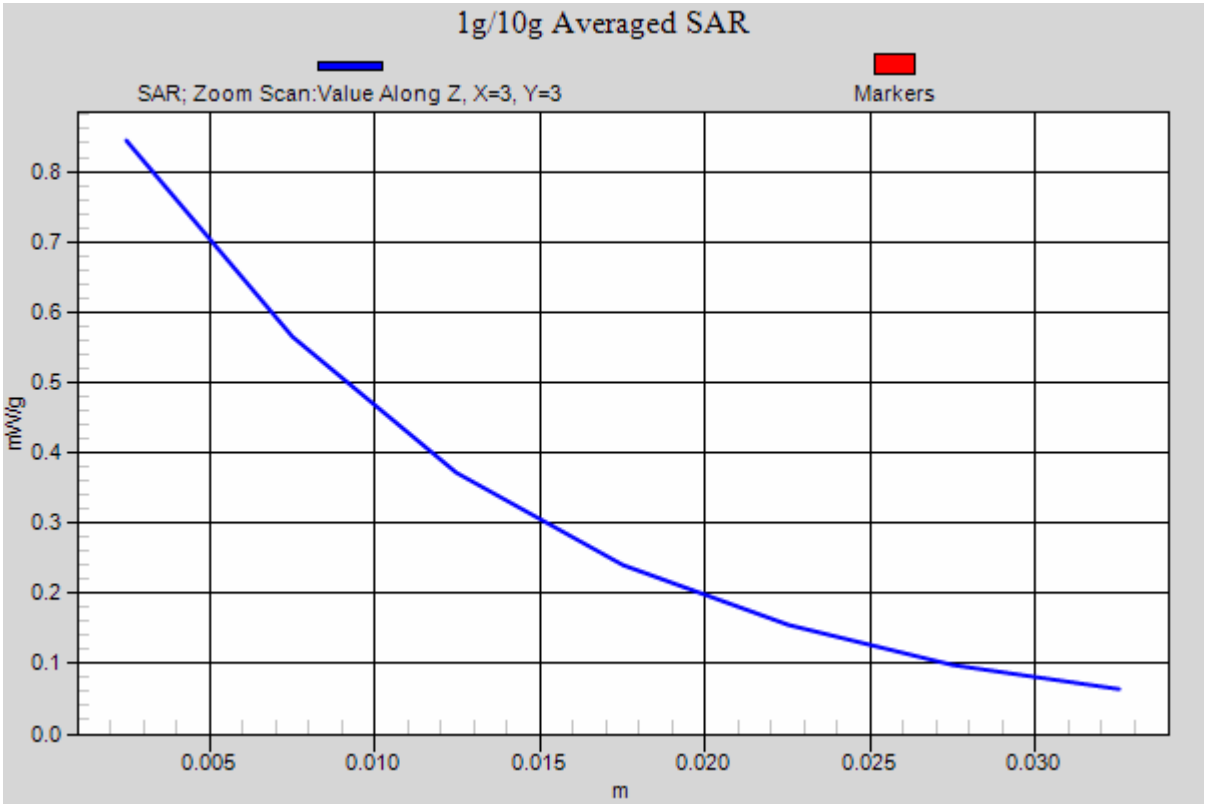


Figure 48 Z-Scan at power reference point (Left Hand Tilt 15° CDMA PCS Channel 600)

CDMA PCS Right Cheek High

Date/Time: 10/19/2009 1:32:55 PM
Communication System: CDMA PCS; Frequency: 1908.75 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1908.75 MHz; σ = 1.4 mho/m; ε_r = 39.8; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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) = 1.25 mW/g
Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.5 V/m; Power Drift = 0.008 dB
Peak SAR (extrapolated) = 1.45 W/kg
SAR(1 g) = 0.968 mW/g; SAR(10 g) = 0.582 mW/g
Maximum value of SAR (measured) = 1.18 mW/g
Cheek High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.5 V/m; Power Drift = 0.008 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.691 mW/g; SAR(10 g) = 0.419 mW/g
Maximum value of SAR (measured) = 0.839 mW/g

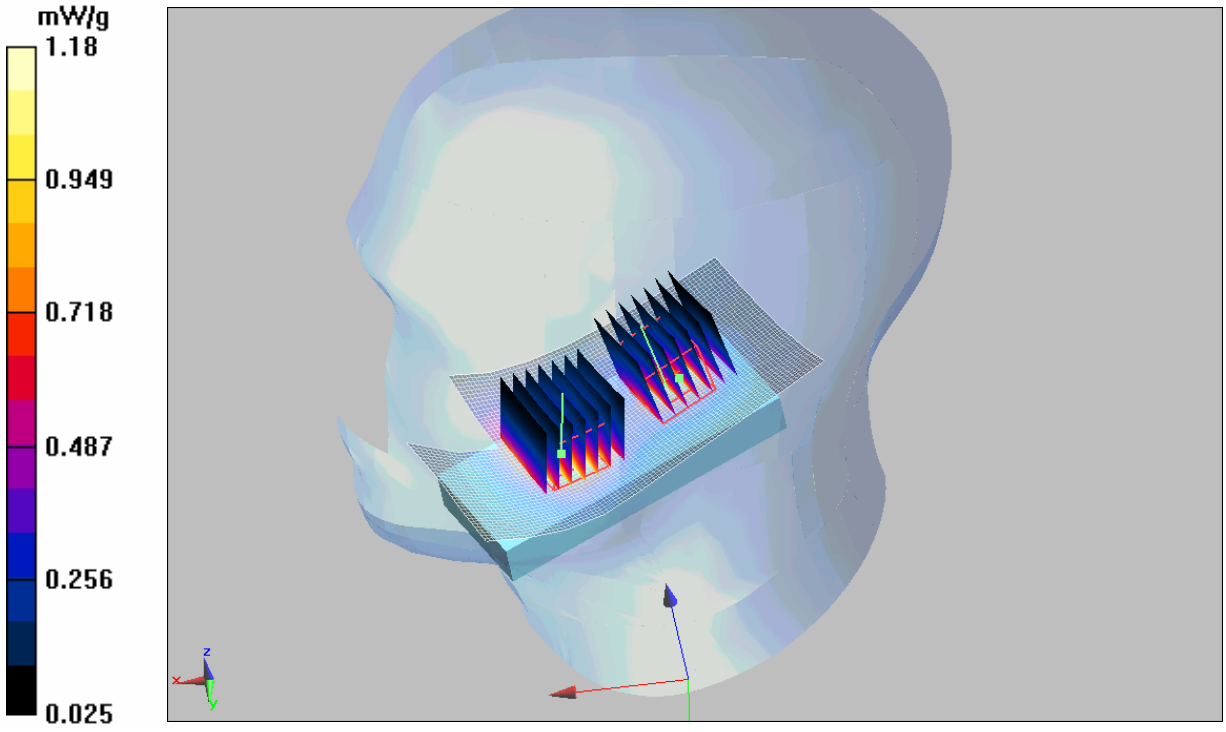
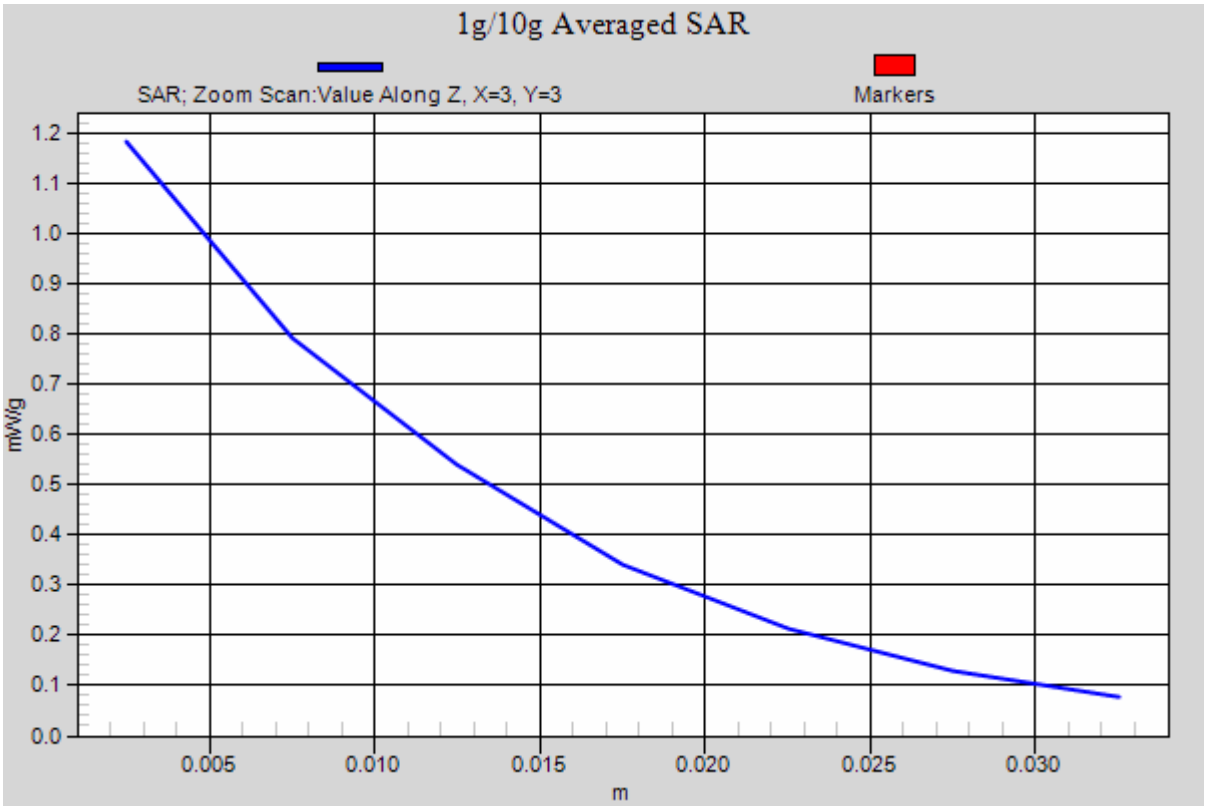


Figure 49 Right Hand Touch Cheek CDMA PCS Channel 1175



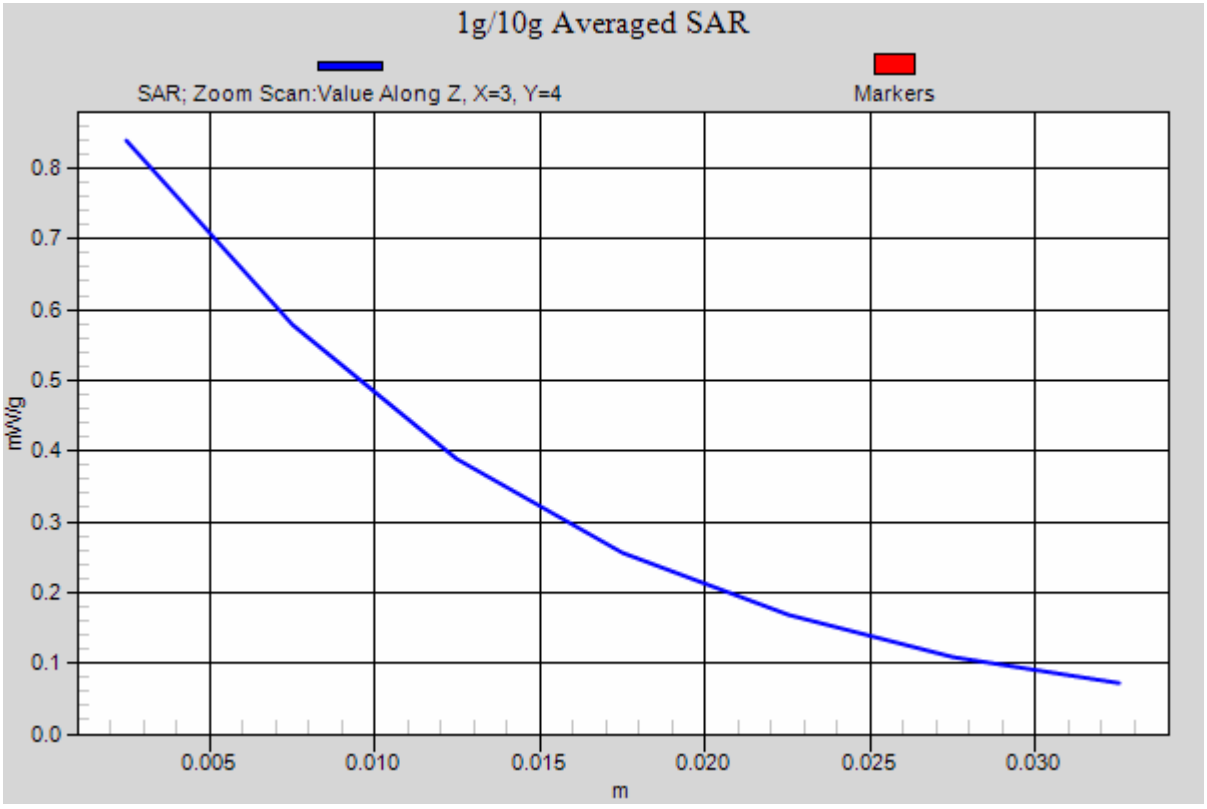


Figure 50 Z-Scan at power reference point (Right Hand Touch Cheek CDMA PCS Channel 1175)

CDMA PCS Right Cheek Middle

Date/Time: 10/19/2009 12:52:36 PM
Communication System: CDMA PCS; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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) = 1.32 mW/g
Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.4 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.604 mW/g
Maximum value of SAR (measured) = 1.25 mW/g
Cheek Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.4 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.729 mW/g; SAR(10 g) = 0.445 mW/g
Maximum value of SAR (measured) = 0.894 mW/g

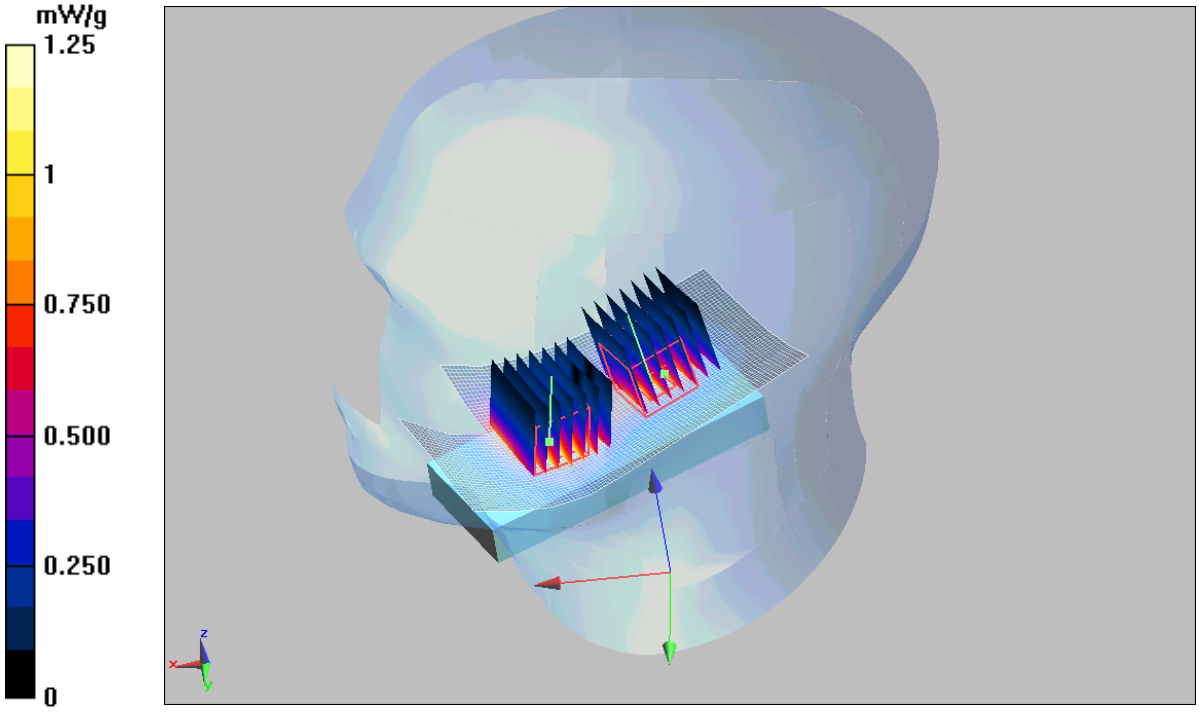
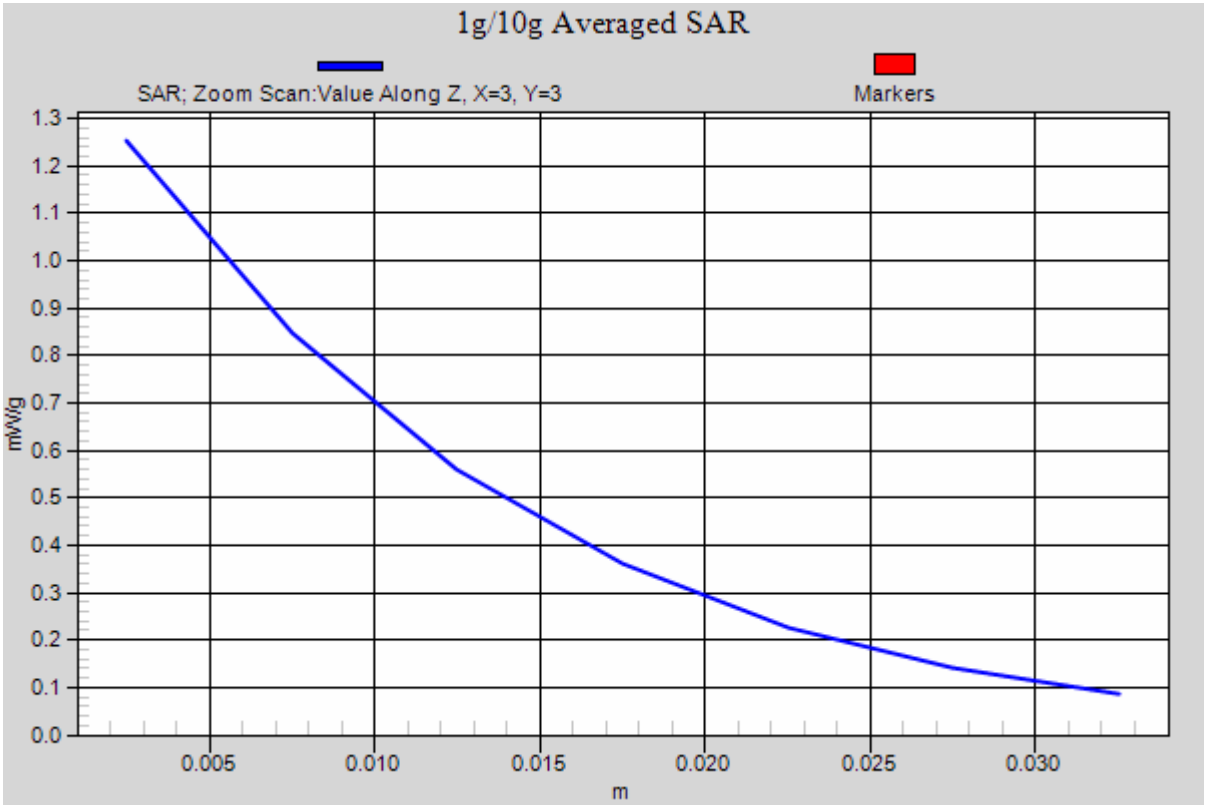


Figure 51 Right Hand Touch Cheek CDMA PCS Channel 600



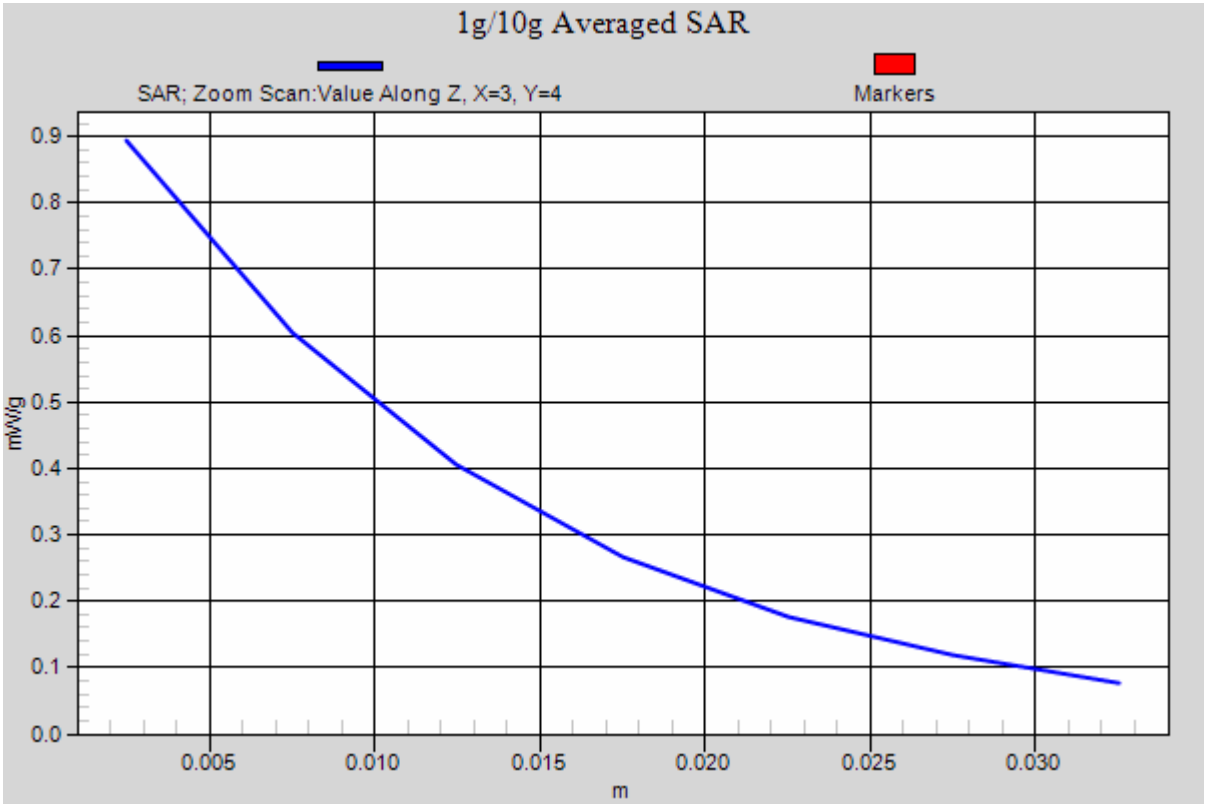


Figure 52 Z-Scan at power reference point (Right Hand Touch Cheek CDMA PCS Channel 600)

CDMA PCS Right Cheek Low

Date/Time: 10/19/2009 2:07:36 PM
Communication System: CDMA PCS; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1852 MHz; σ = 1.36 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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) = 0.890 mW/g
Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.8 V/m; Power Drift = 0.015 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.682 mW/g; SAR(10 g) = 0.416 mW/g
Maximum value of SAR (measured) = 0.838 mW/g
Cheek Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.8 V/m; Power Drift = 0.015 dB
Peak SAR (extrapolated) = 0.798 W/kg
SAR(1 g) = 0.549 mW/g; SAR(10 g) = 0.338 mW/g
Maximum value of SAR (measured) = 0.665 mW/g

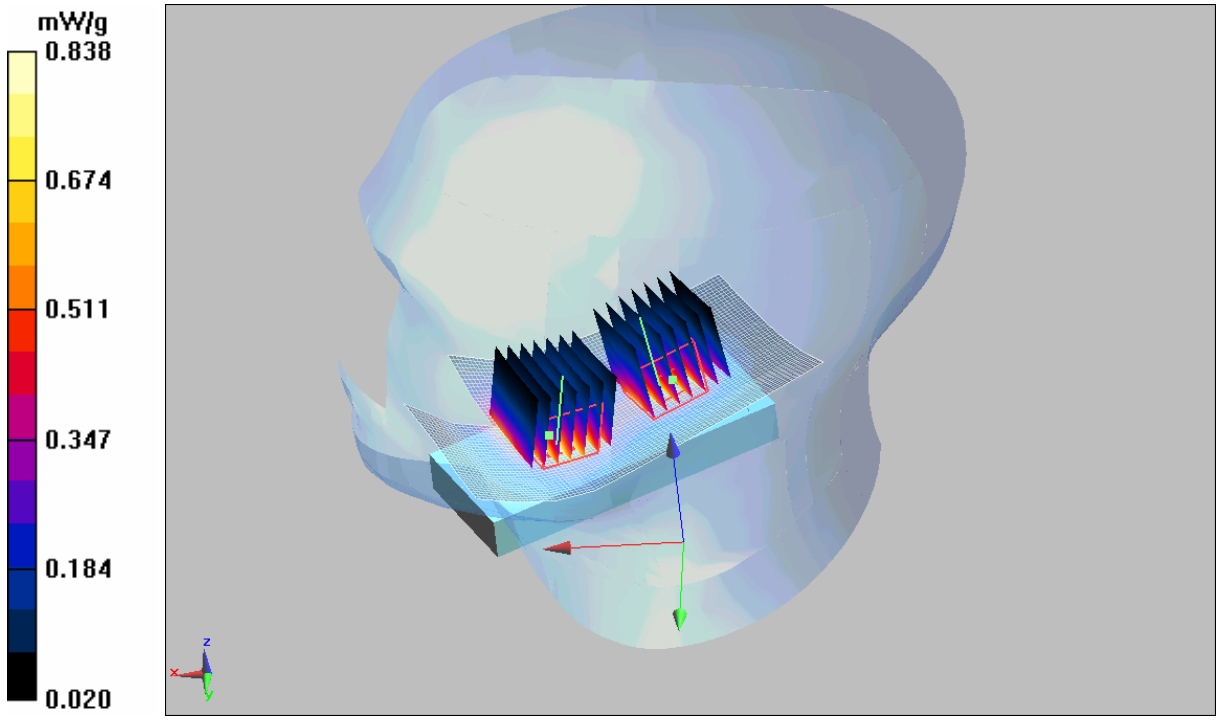
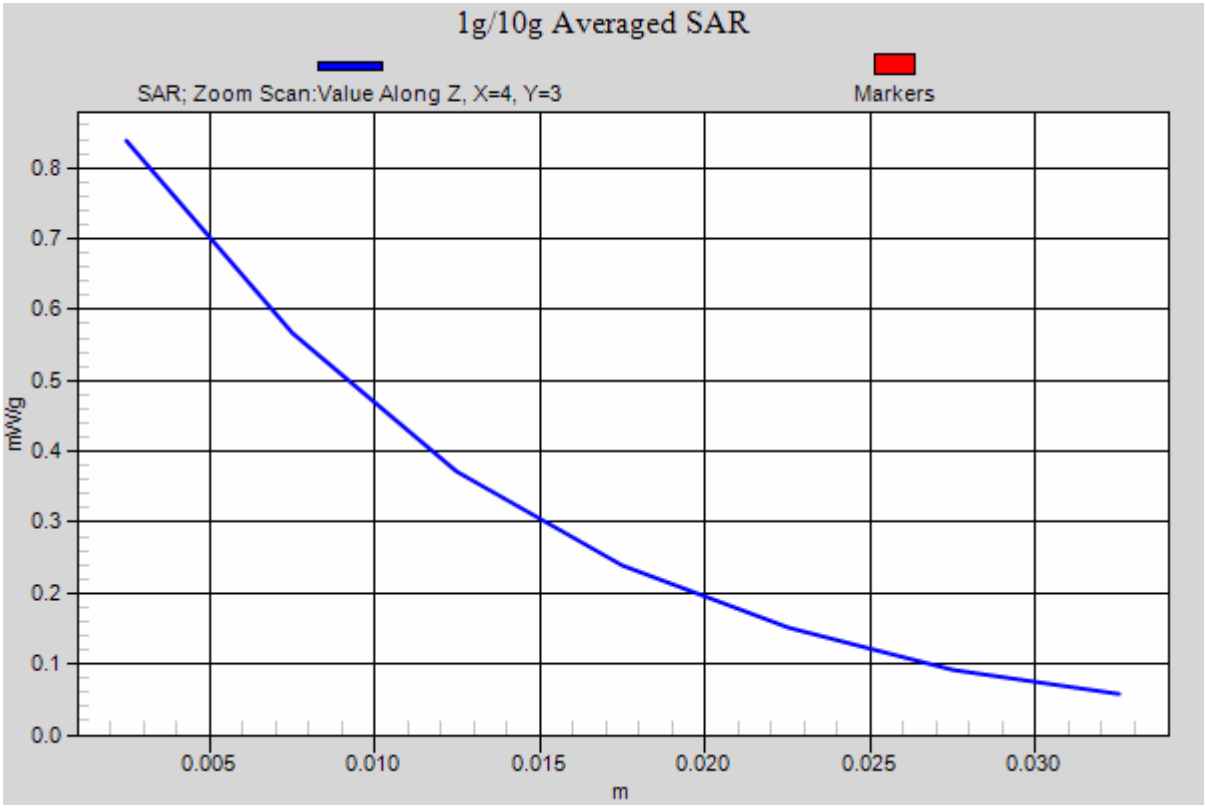


Figure 53 Right Hand Touch Cheek CDMA PCS Channel 25



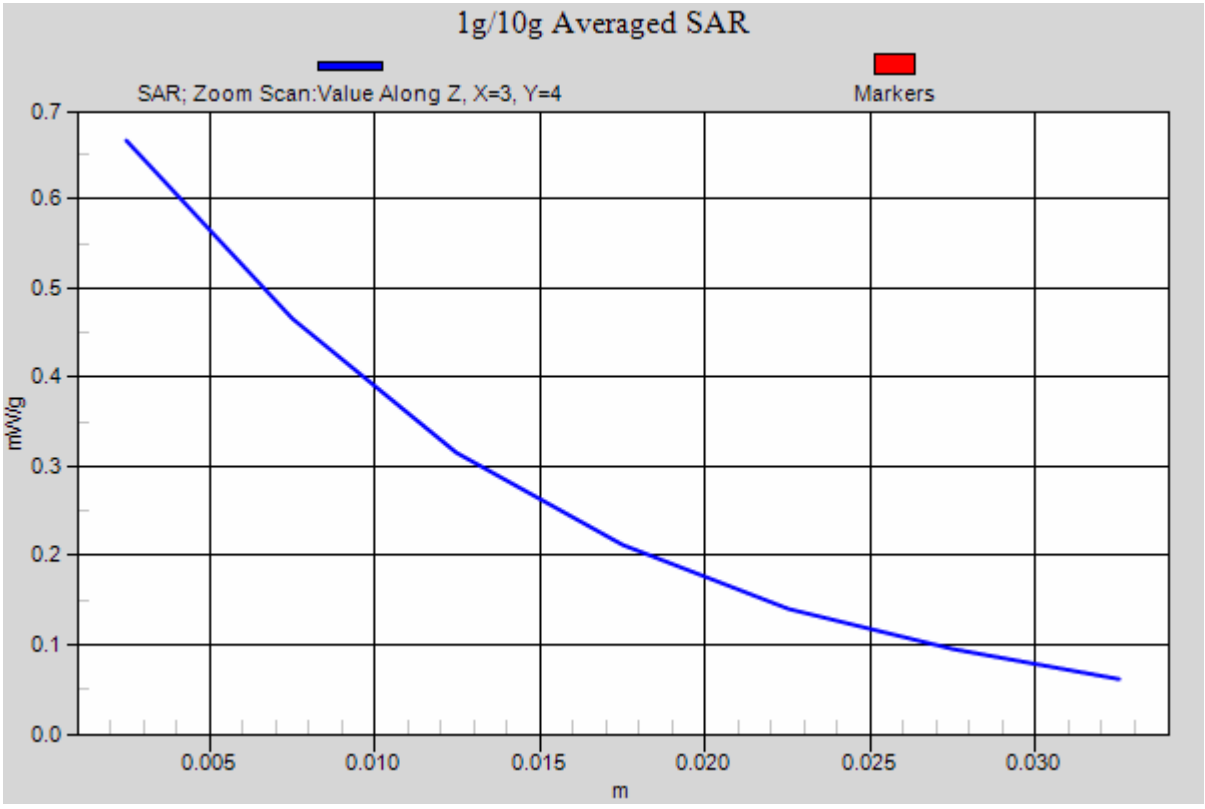


Figure 54 Z-Scan at power reference point (Right Hand Touch Cheek CDMA PCS Channel 25)

CDMA PCS Right Tilt Middle

Date/Time: 10/19/2009 2:45:14 PM
Communication System: CDMA PCS; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; ε_r = 39.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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) = 0.838 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.4 V/m; Power Drift = -0.064 dB
Peak SAR (extrapolated) = 0.917 W/kg
SAR(1 g) = 0.609 mW/g; SAR(10 g) = 0.372 mW/g
Maximum value of SAR (measured) = 0.735 mW/g

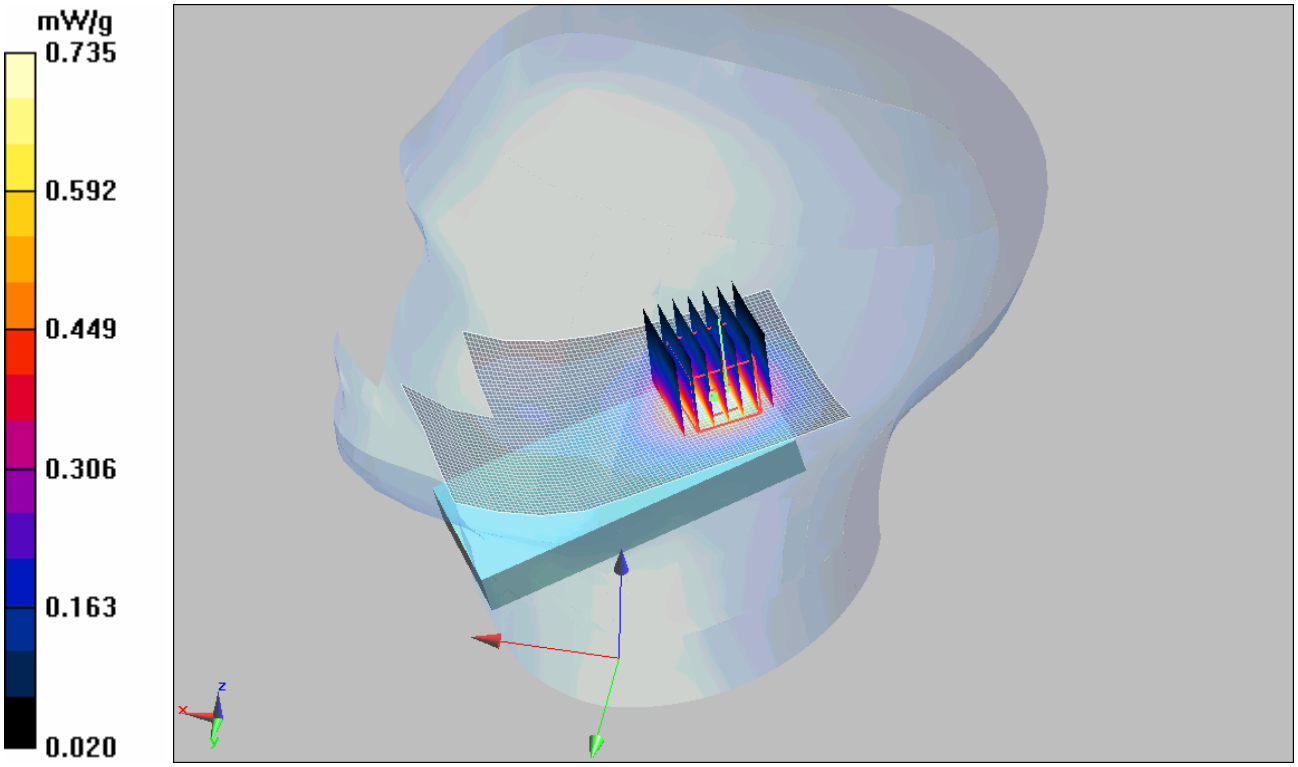


Figure 55 Right Hand Tilt 15° CDMA PCS Channel 600

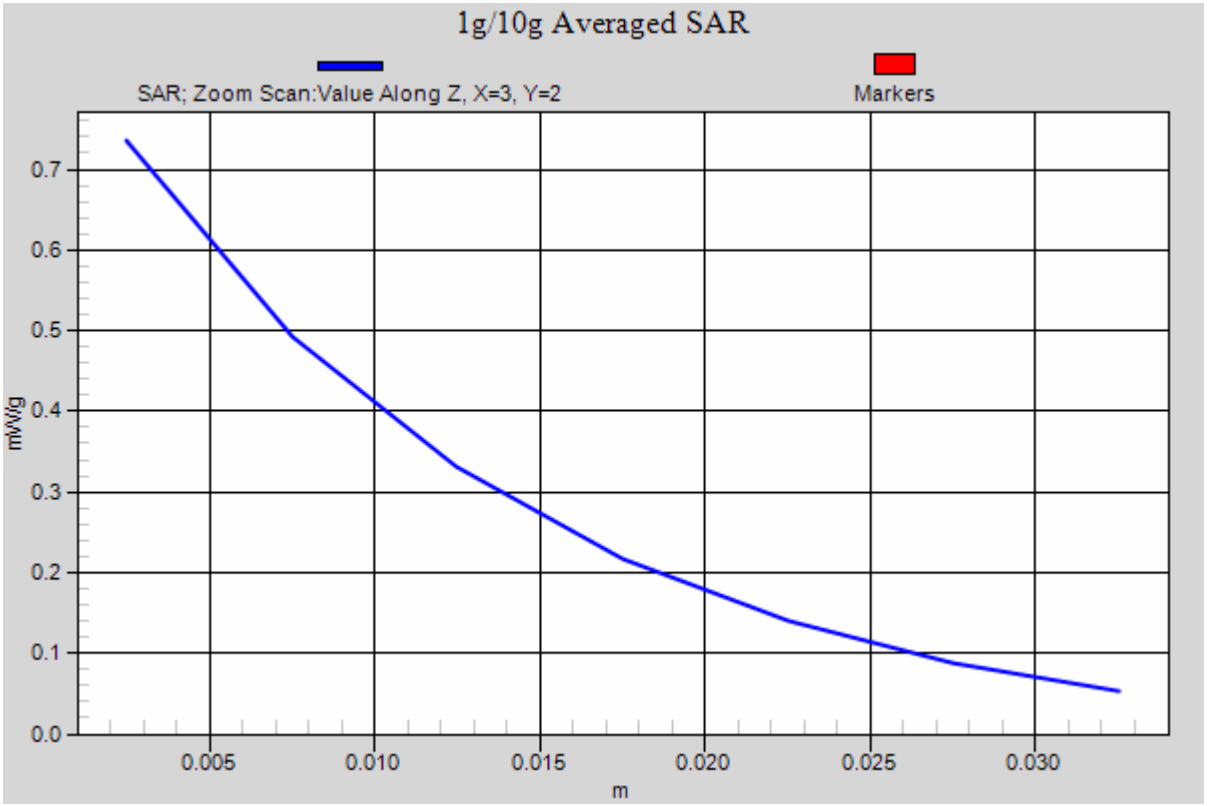


Figure 56 Z-Scan at power reference point (Right Hand Tilt 15° CDMA PCS Channel 600)

CDMA PCS Towards Ground High

Date/Time: 10/19/2009 7:40:35 AM
Communication System: CDMA PCS; Frequency: 1908.75 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1908.75 MHz; σ = 1.53 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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
Towards Ground High/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.804 mW/g
Towards Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.5 V/m; Power Drift = -0.131 dB
Peak SAR (extrapolated) = 1.18 W/kg
SAR(1 g) = 0.717 mW/g; SAR(10 g) = 0.413 mW/g
Maximum value of SAR (measured) = 0.777 mW/g
Towards Ground High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.5 V/m; Power Drift = -0.131 dB
Peak SAR (extrapolated) = 0.945 W/kg
SAR(1 g) = 0.625 mW/g; SAR(10 g) = 0.397 mW/g
Maximum value of SAR (measured) = 0.678 mW/g

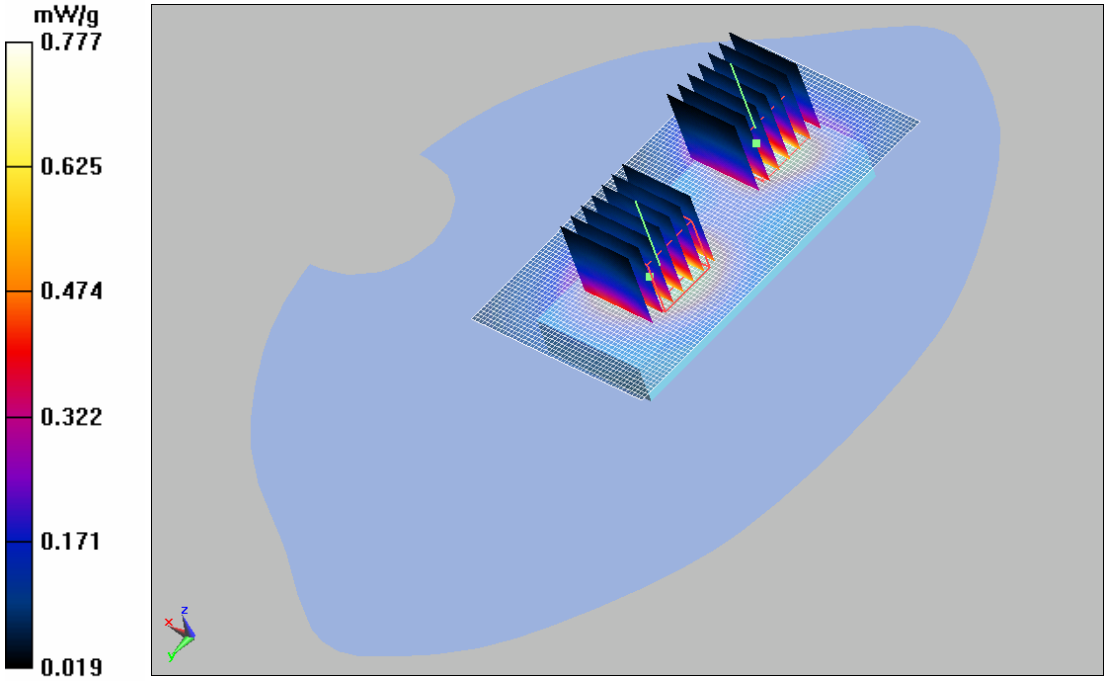
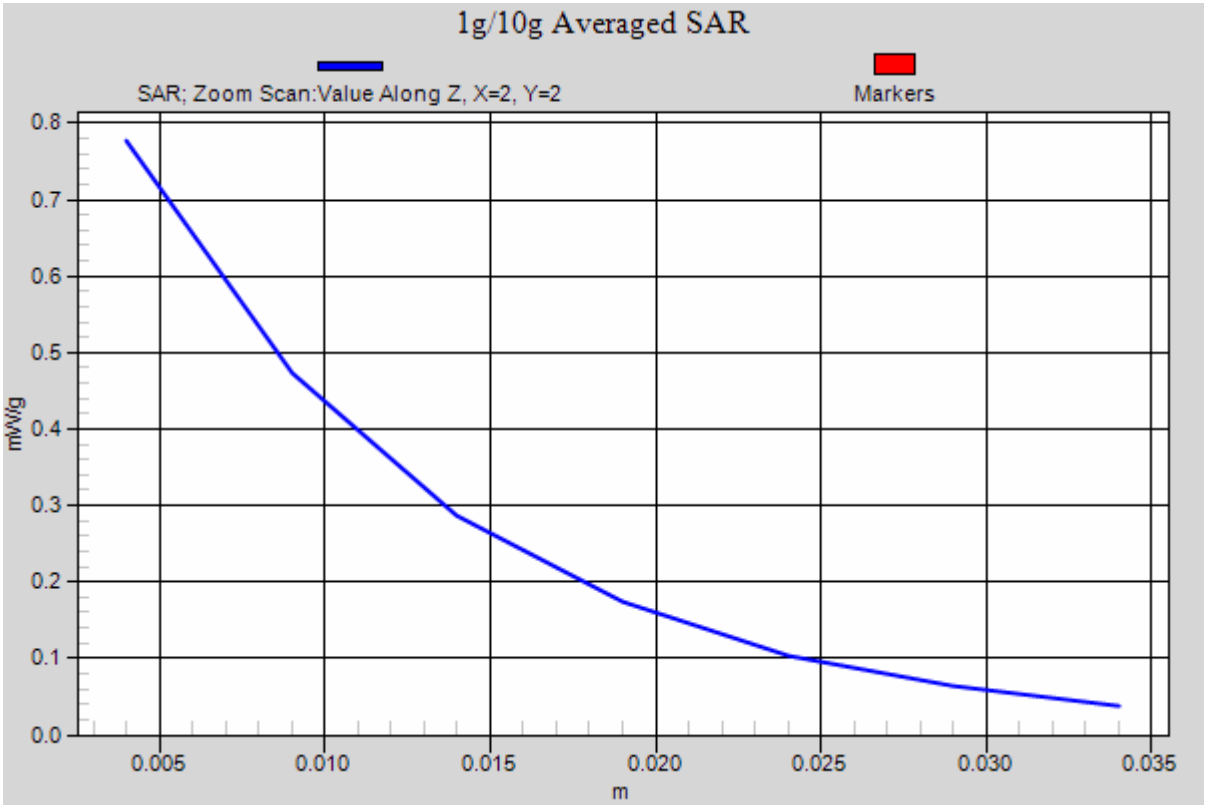


Figure 57 Body, Towards Ground, CDMA PCS Channel 1175



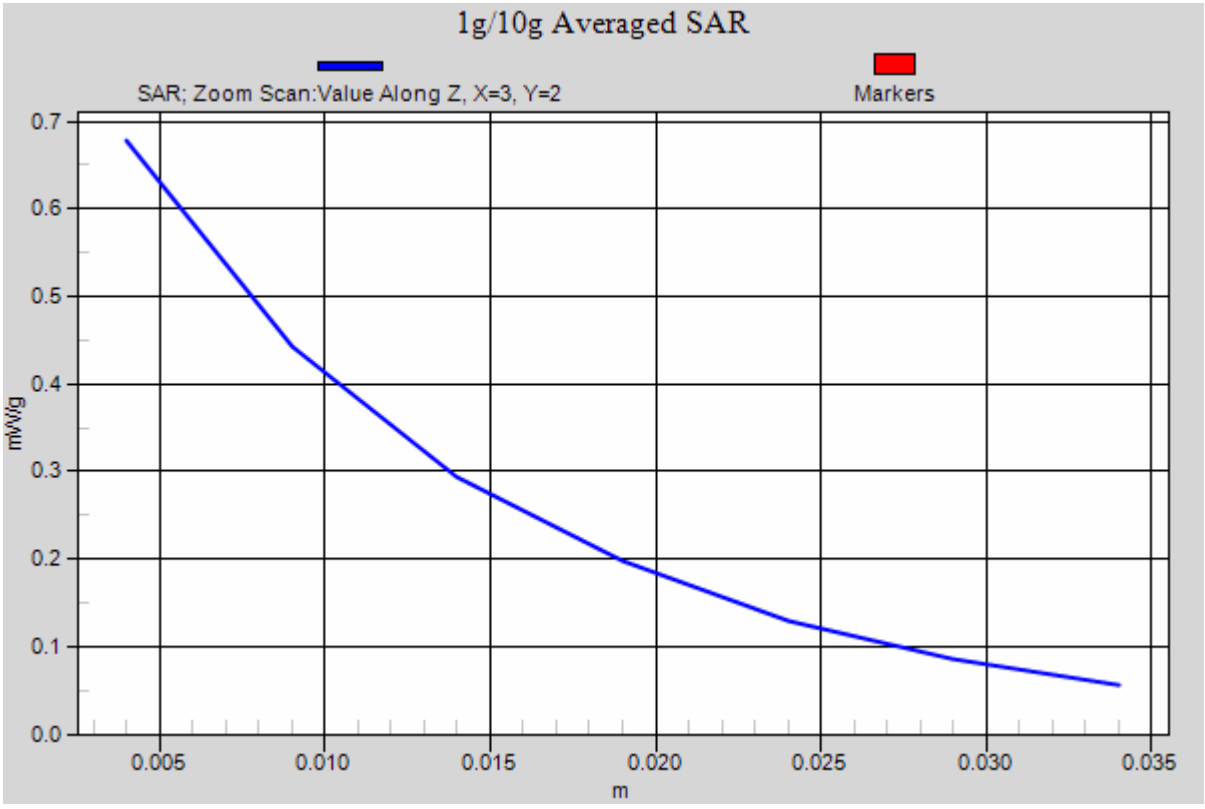


Figure 58 Z-Scan at power reference point (Body, Towards Ground, CDMA PCS Channel 1175)

CDMA PCS Towards Ground Middle

Date/Time: 10/19/2009 7:05:10 AM
Communication System: CDMA PCS; Frequency: 1880 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1880 MHz; σ = 1.51 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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
Towards Ground Middle/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.805 mW/g
Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.9 V/m; Power Drift = 0.086 dB
Peak SAR (extrapolated) = 1.2 W/kg
SAR(1 g) = 0.727 mW/g; SAR(10 g) = 0.415 mW/g
Maximum value of SAR (measured) = 0.801 mW/g
Towards Ground Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.9 V/m; Power Drift = 0.086 dB
Peak SAR (extrapolated) = 0.995 W/kg
SAR(1 g) = 0.665 mW/g; SAR(10 g) = 0.425 mW/g
Maximum value of SAR (measured) = 0.718 mW/g

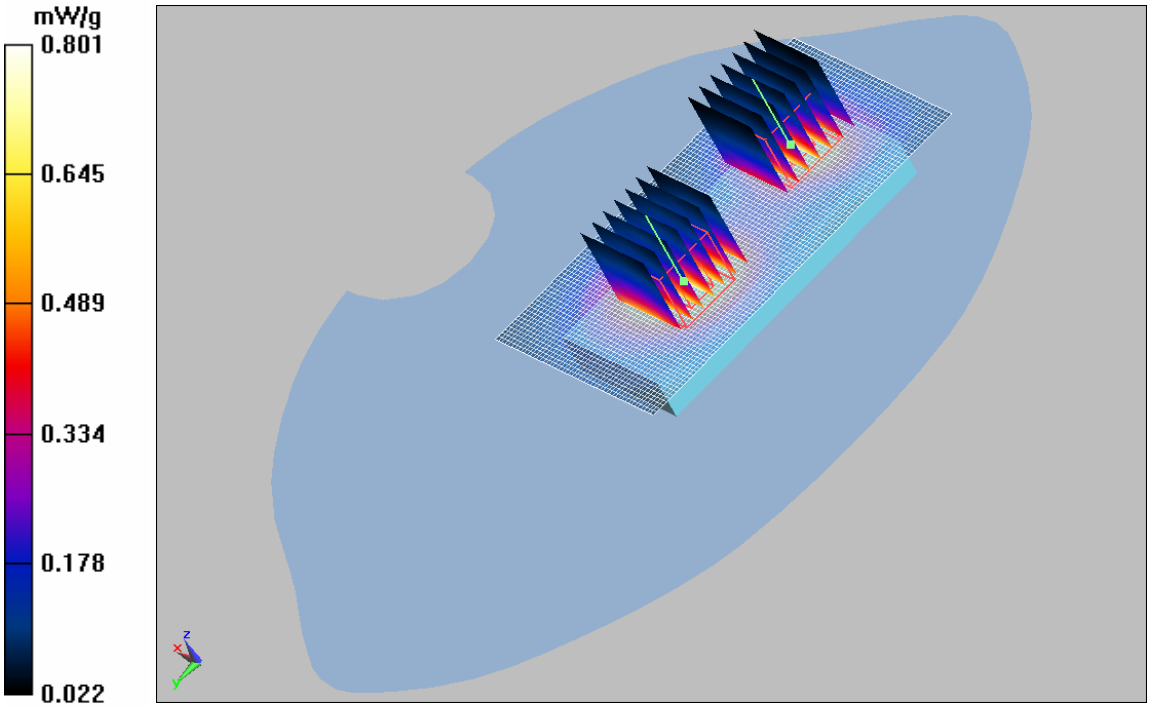
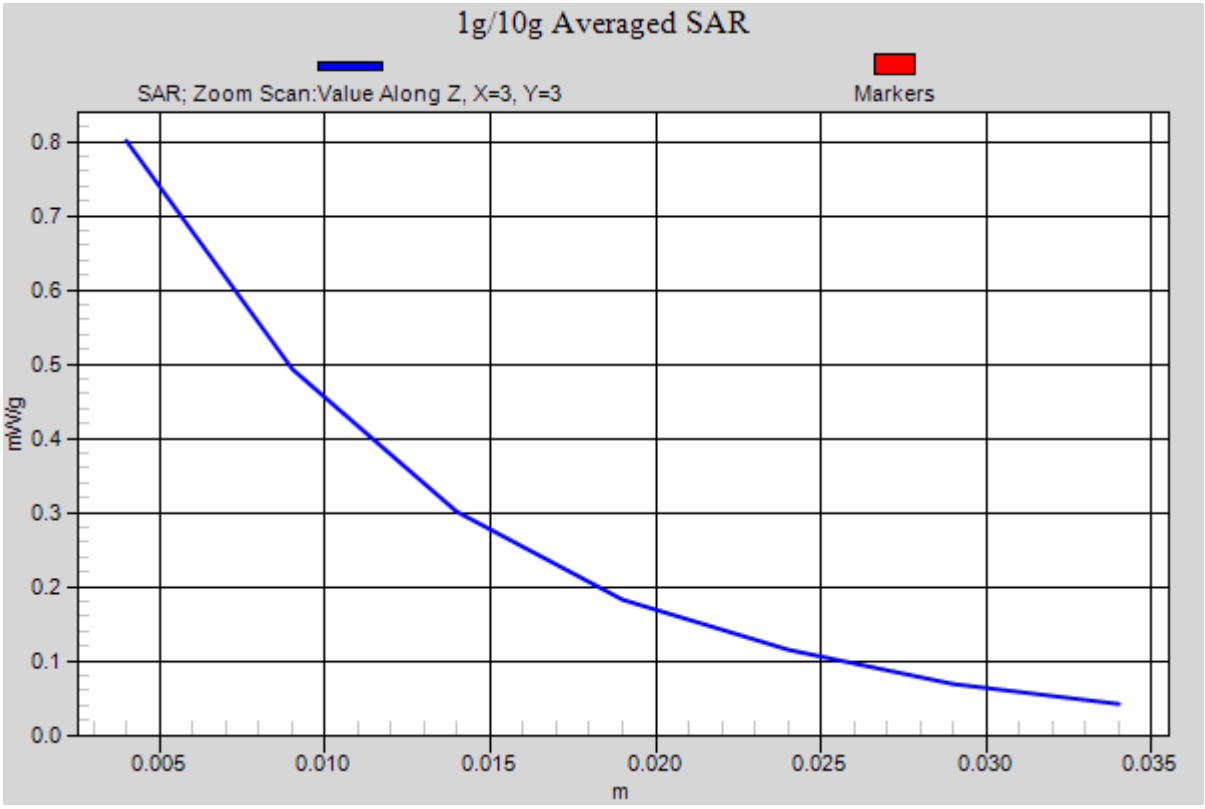


Figure 59 Body, Towards Ground, CDMA PCS Channel 600



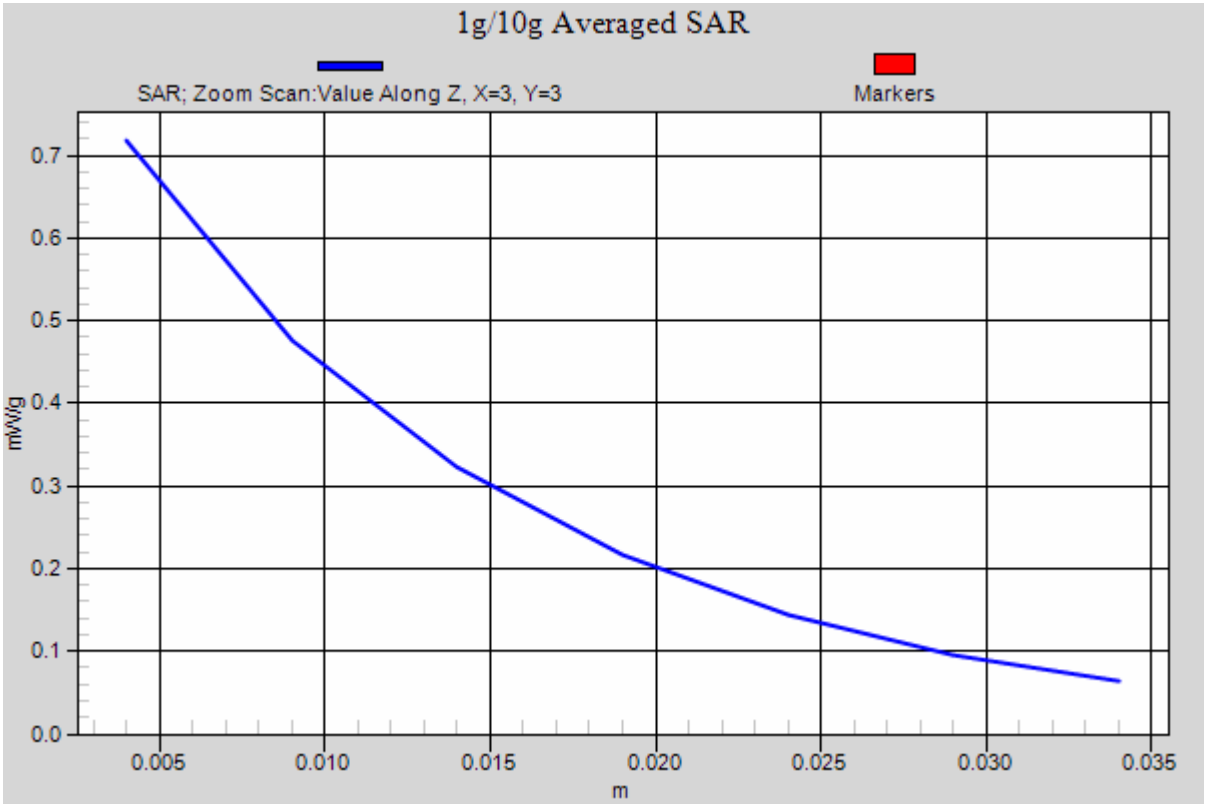


Figure 60 Z-Scan at power reference point (Body, Towards Ground, CDMA PCS Channel 600)

CDMA PCS Towards Ground Low

Date/Time: 10/19/2009 8:58:44 AM
Communication System: CDMA PCS; Frequency: 1851.25 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1852 MHz; σ = 1.48 mho/m; ε_r = 52.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
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
Towards Ground Low/Area Scan (51x91x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.520 mW/g
Towards Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.6 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 0.773 W/kg
SAR(1 g) = 0.474 mW/g; SAR(10 g) = 0.274 mW/g
Maximum value of SAR (measured) = 0.518 mW/g
Towards Ground Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.6 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 0.683 W/kg
SAR(1 g) = 0.458 mW/g; SAR(10 g) = 0.296 mW/g
Maximum value of SAR (measured) = 0.491 mW/g

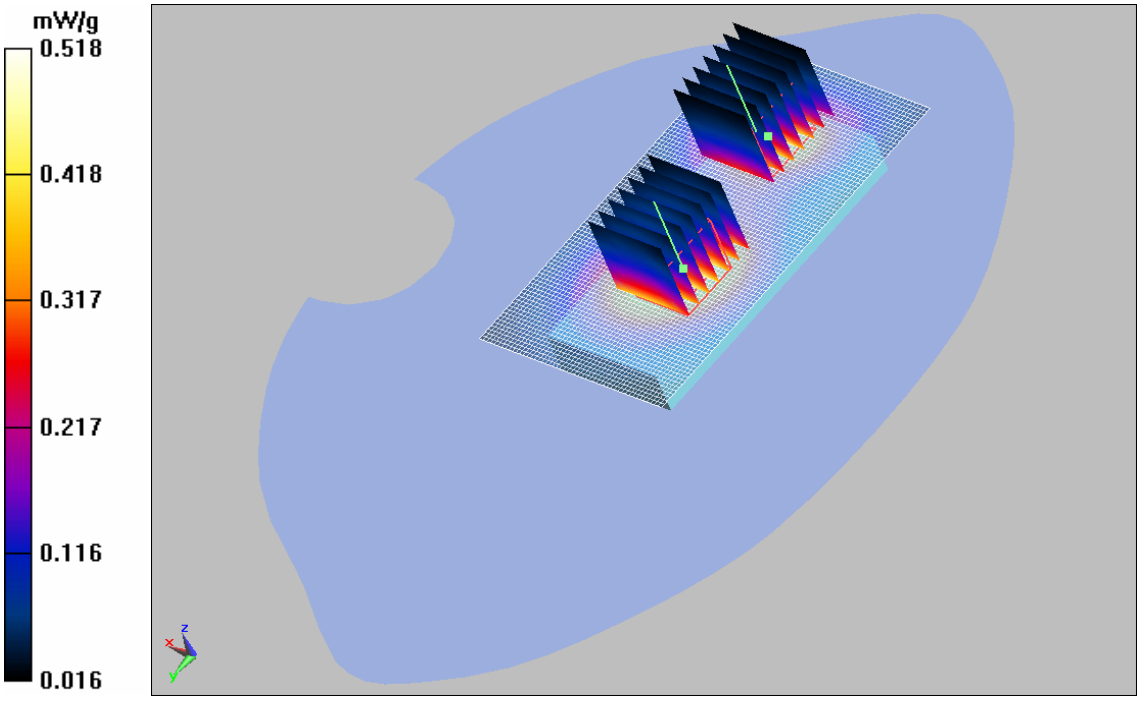
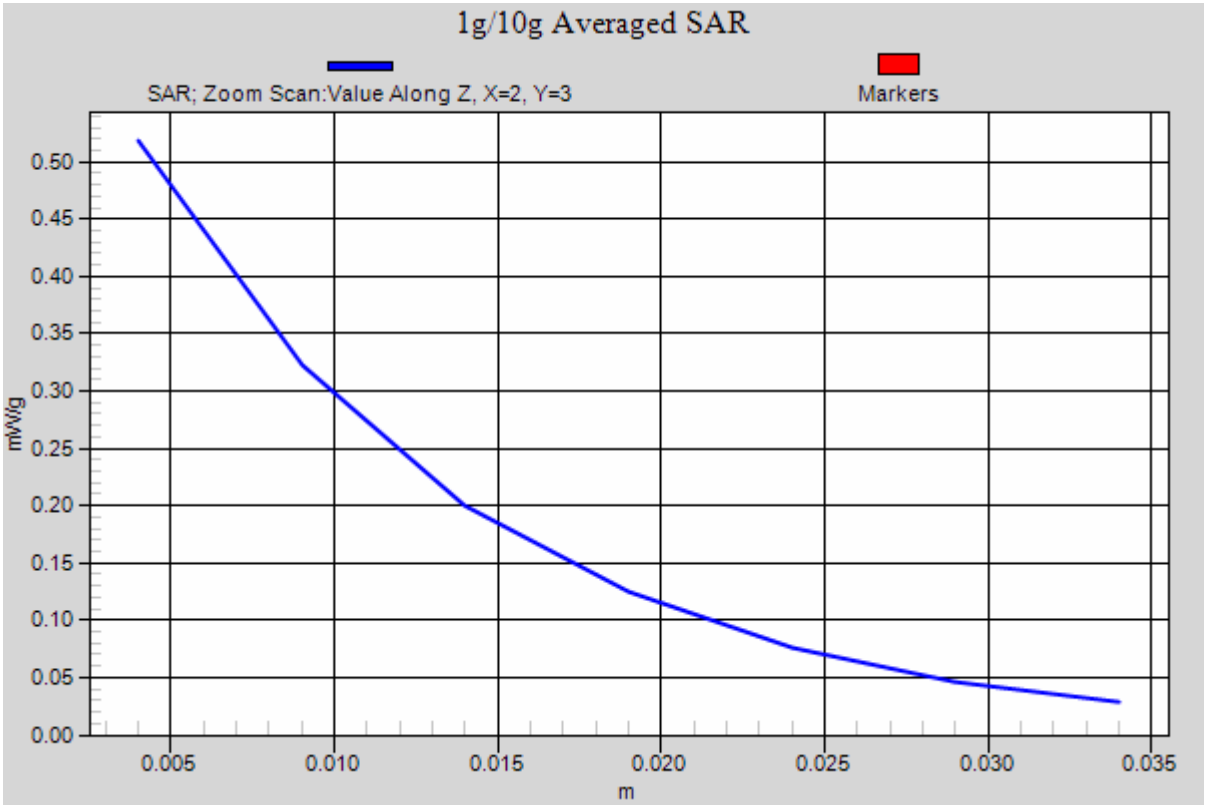


Figure 61 Body, Towards Ground, CDMA PCS Channel 25



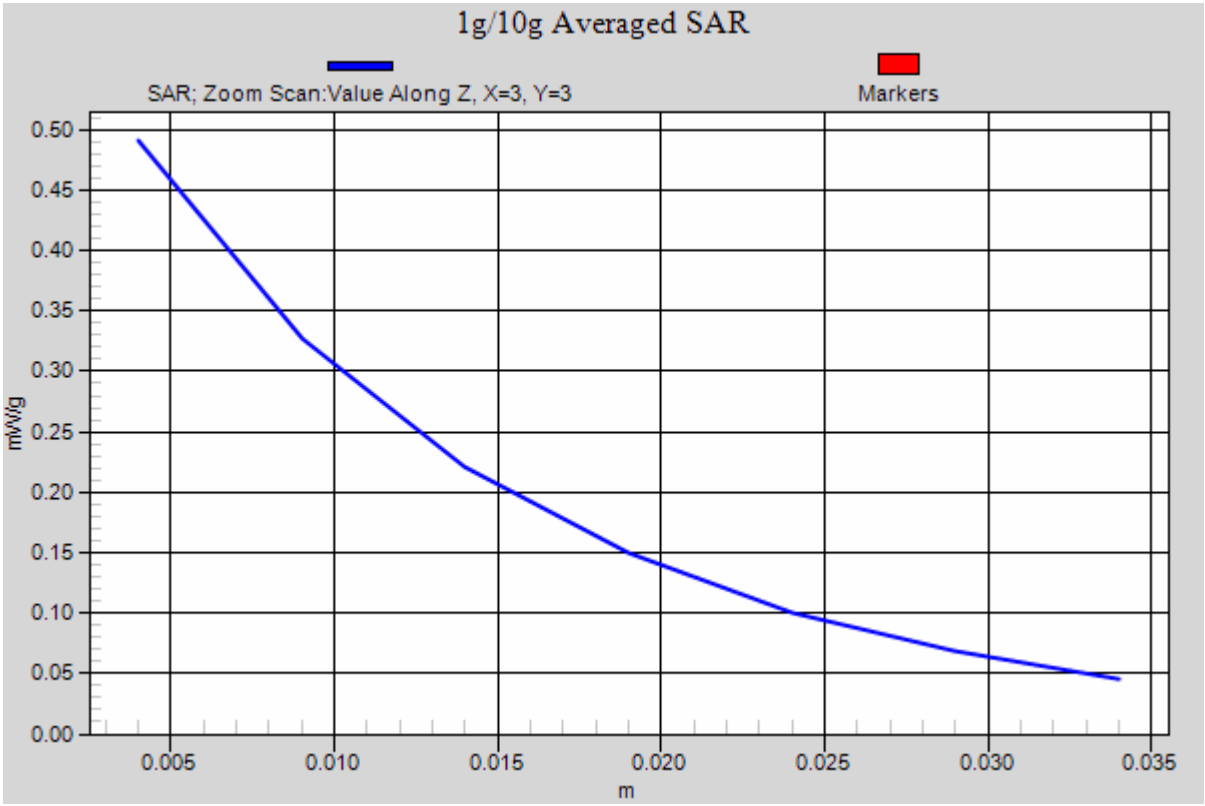


Figure 62 Z-Scan at power reference point (Body, Towards Ground, CDMA PCS Channel 25)

CDMA PCS Towards Phantom Middle

Date/Time: 10/19/2009 6:26:21 AM

Communication System: CDMA PCS; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1880 MHz; σ = 1.51 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

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

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

Maximum value of SAR (interpolated) = 0.439 mW/g

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

Reference Value = 11.5 V/m; Power Drift = 0.002 dB

Peak SAR (extrapolated) = 0.619 W/kg

SAR(1 g) = 0.390 mW/g; SAR(10 g) = 0.229 mW/g

Maximum value of SAR (measured) = 0.425 mW/g

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

Reference Value = 11.5 V/m; Power Drift = 0.002 dB

Peak SAR (extrapolated) = 0.544 W/kg

SAR(1 g) = 0.367 mW/g; SAR(10 g) = 0.232 mW/g

Maximum value of SAR (measured) = 0.396 mW/g

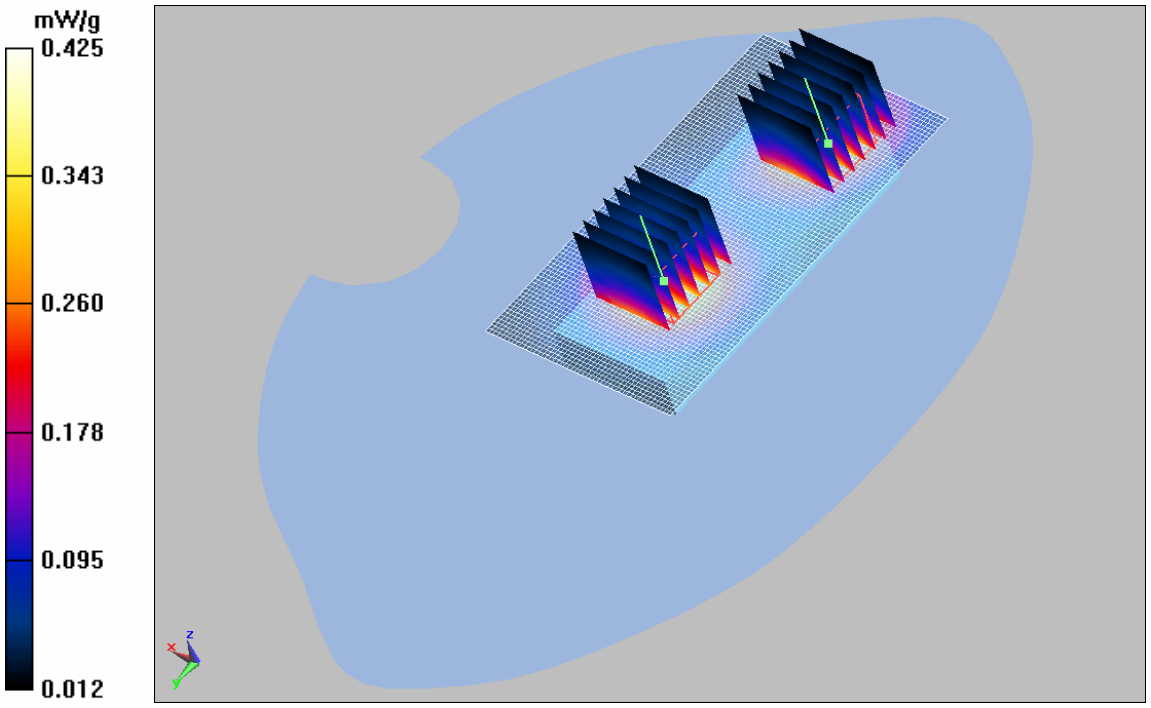
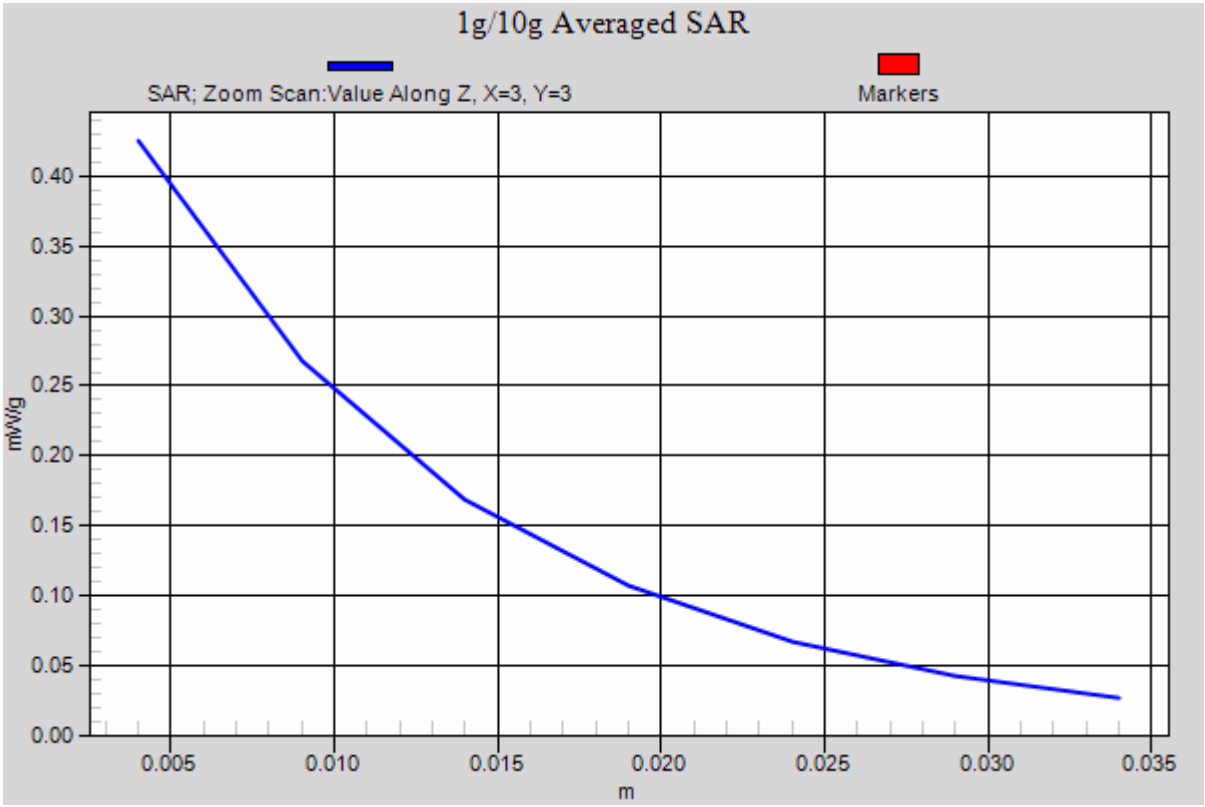


Figure 63 Body, Towards Phantom, CDMA PCS Channel 600



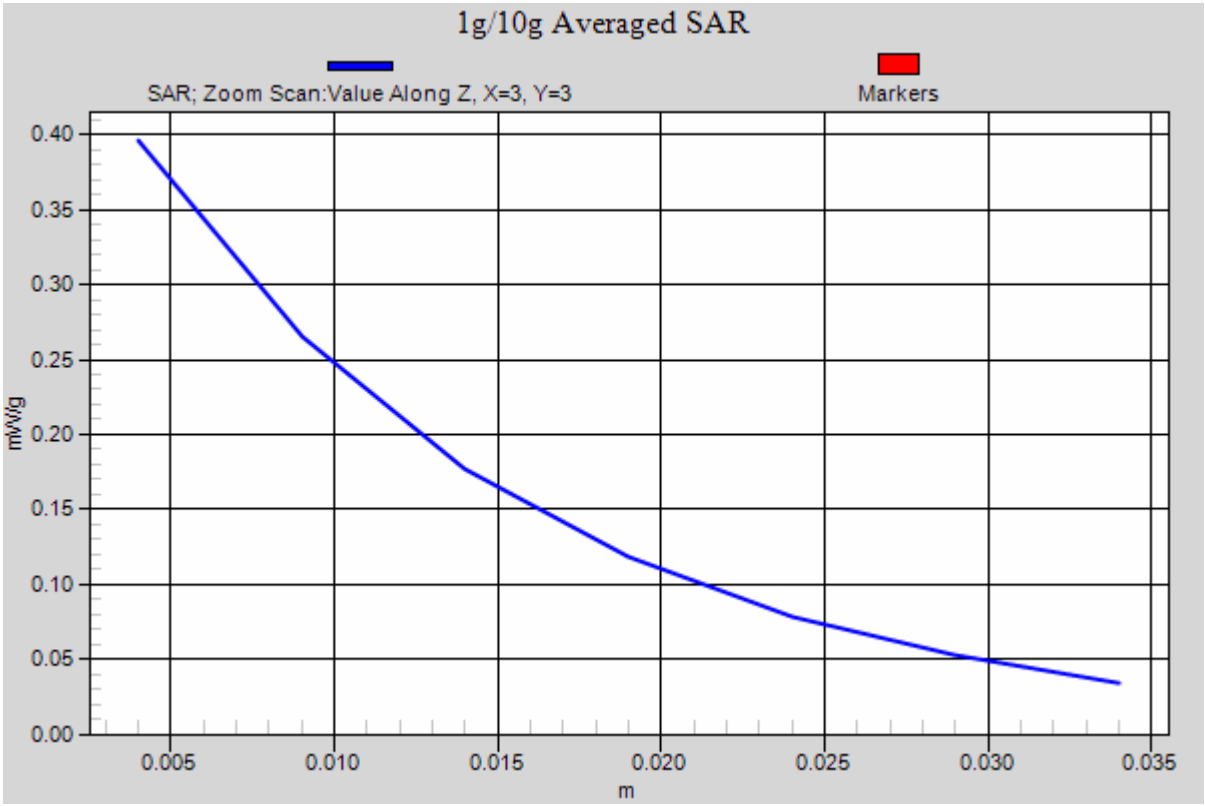


Figure 64 Z-Scan at power reference point (Body, Towards Phantom, CDMA PCS Channel 600)

CDMA PCS Towards Ground with Earphone Middle

Date/Time: 10/19/2009 9:36:26 AM

Communication System: CDMA PCS; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1880 MHz; σ = 1.51 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

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

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

Maximum value of SAR (interpolated) = 0.875 mW/g

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

Reference Value = 16 V/m; Power Drift = -0.062 dB

Peak SAR (extrapolated) = 1.26 W/kg

SAR(1 g) = 0.760 mW/g; SAR(10 g) = 0.450 mW/g

Maximum value of SAR (measured) = 0.833 mW/g

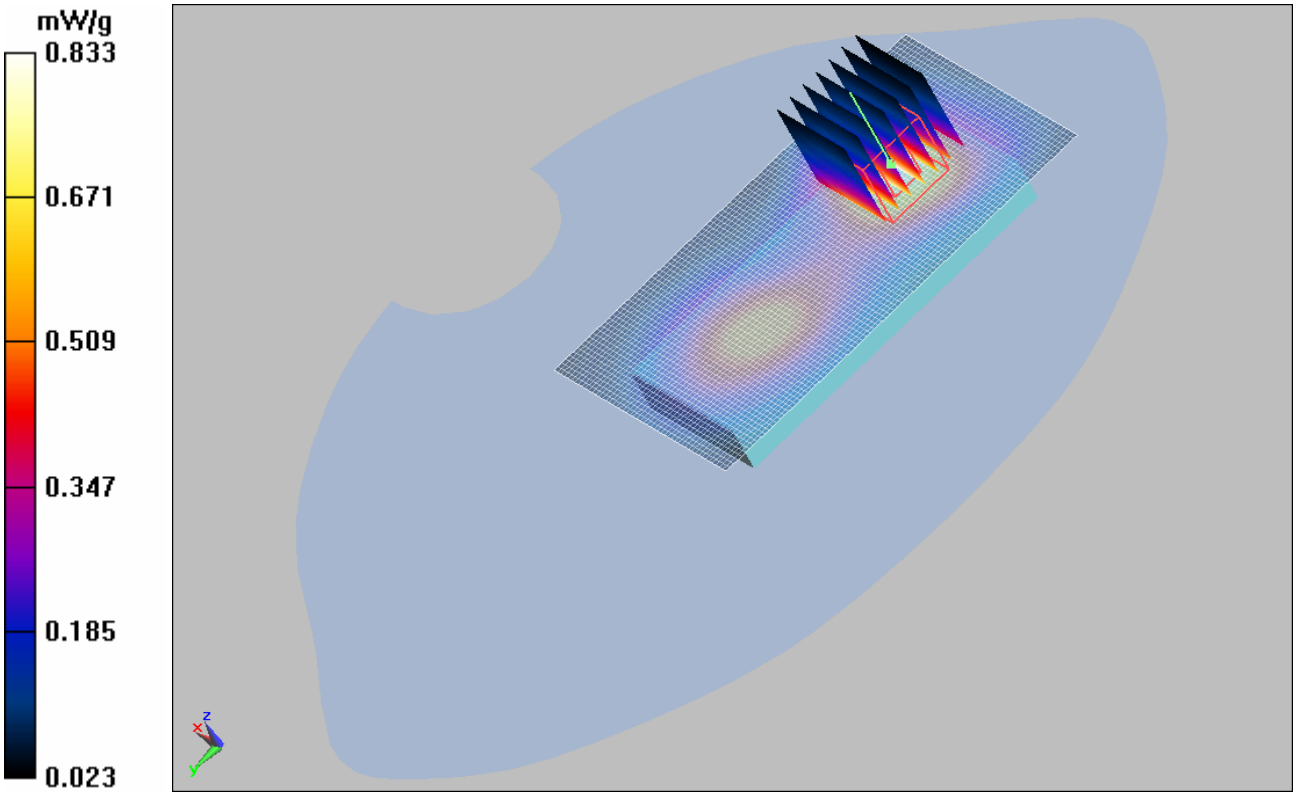


Figure 65 Body with Earphone, Towards Ground, CDMA PCS Channel 600

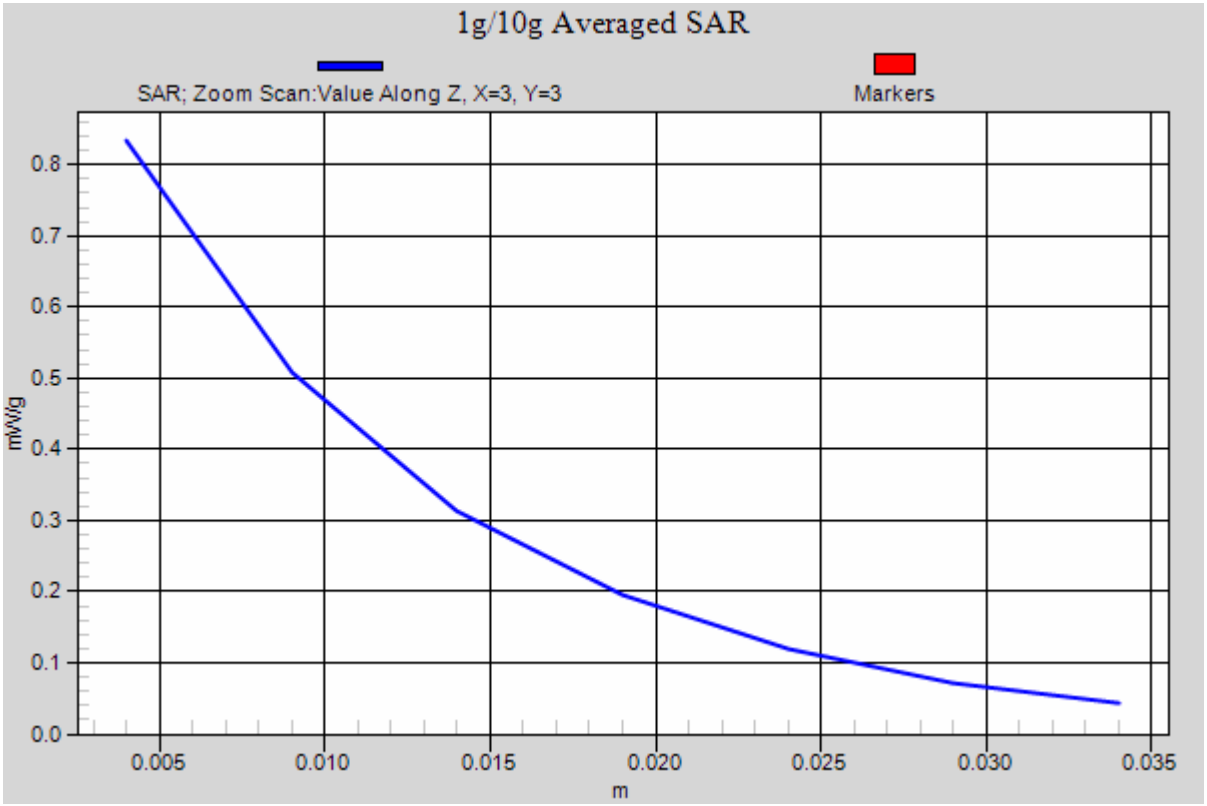


Figure 66 Z-Scan at power reference point (Body with Earphone, Towards Ground, CDMA PCS Channel 600)

CDMA AWS Left Cheek High

Date/Time: 10/22/2009 9:54:45 AM
Communication System: CDMA AWS; Frequency: 1752.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1752.5 MHz; σ = 1.37 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: ET3DV6 – SN1737; ConvF(5.35, 5.35, 5.35); 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) = 1.36 mW/g
Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.7 V/m; Power Drift = 0.150 dB
Peak SAR (extrapolated) = 1.7 W/kg
SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.629 mW/g
Maximum value of SAR (measured) = 1.33 mW/g
Cheek High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.7 V/m; Power Drift = 0.150 dB
Peak SAR (extrapolated) = 1.29 W/kg
SAR(1 g) = 0.858 mW/g; SAR(10 g) = 0.524 mW/g
Maximum value of SAR (measured) = 1.05 mW/g

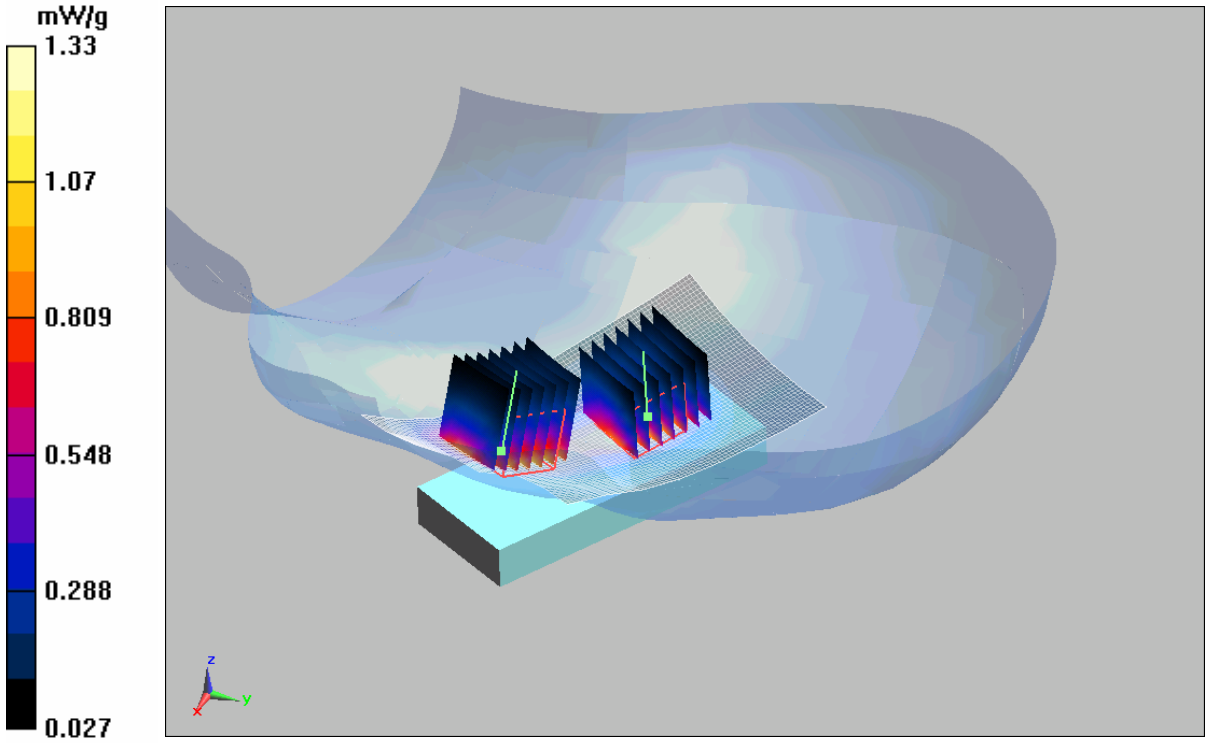
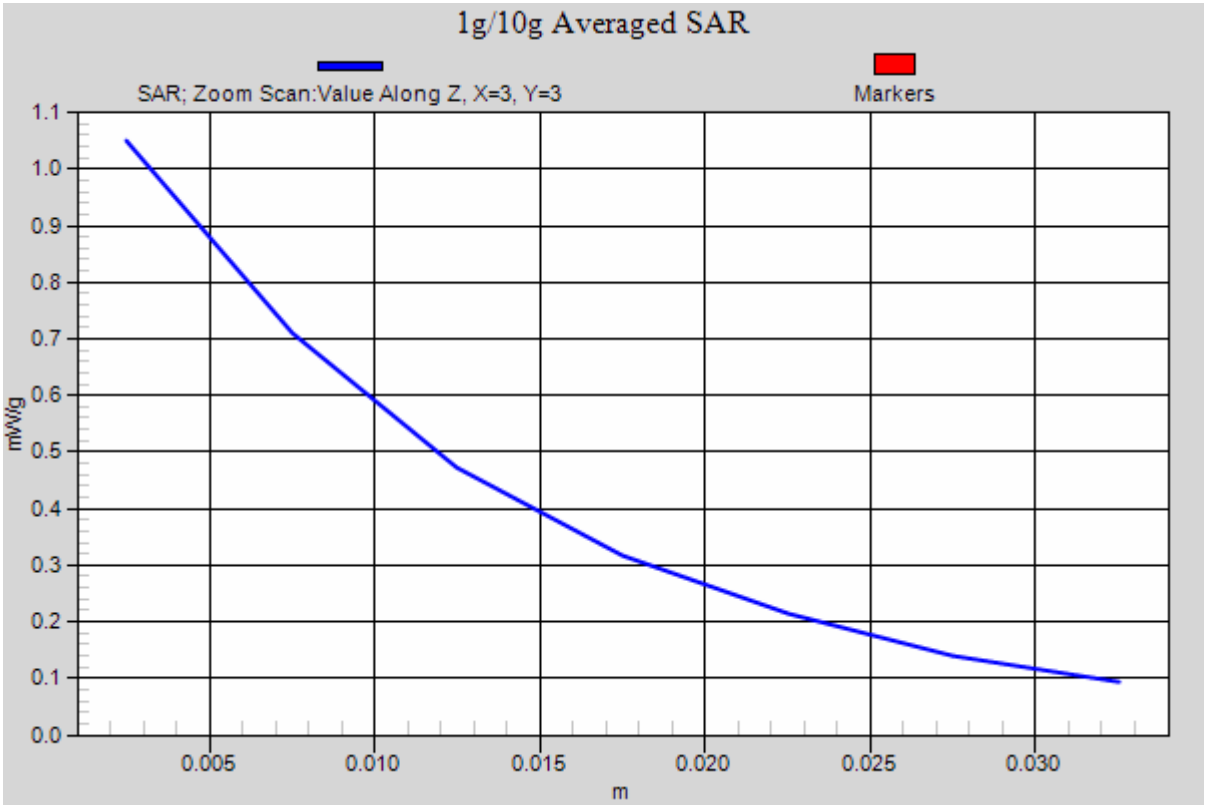


Figure 67 Left Hand Touch Cheek CDMA AWS Channel 850



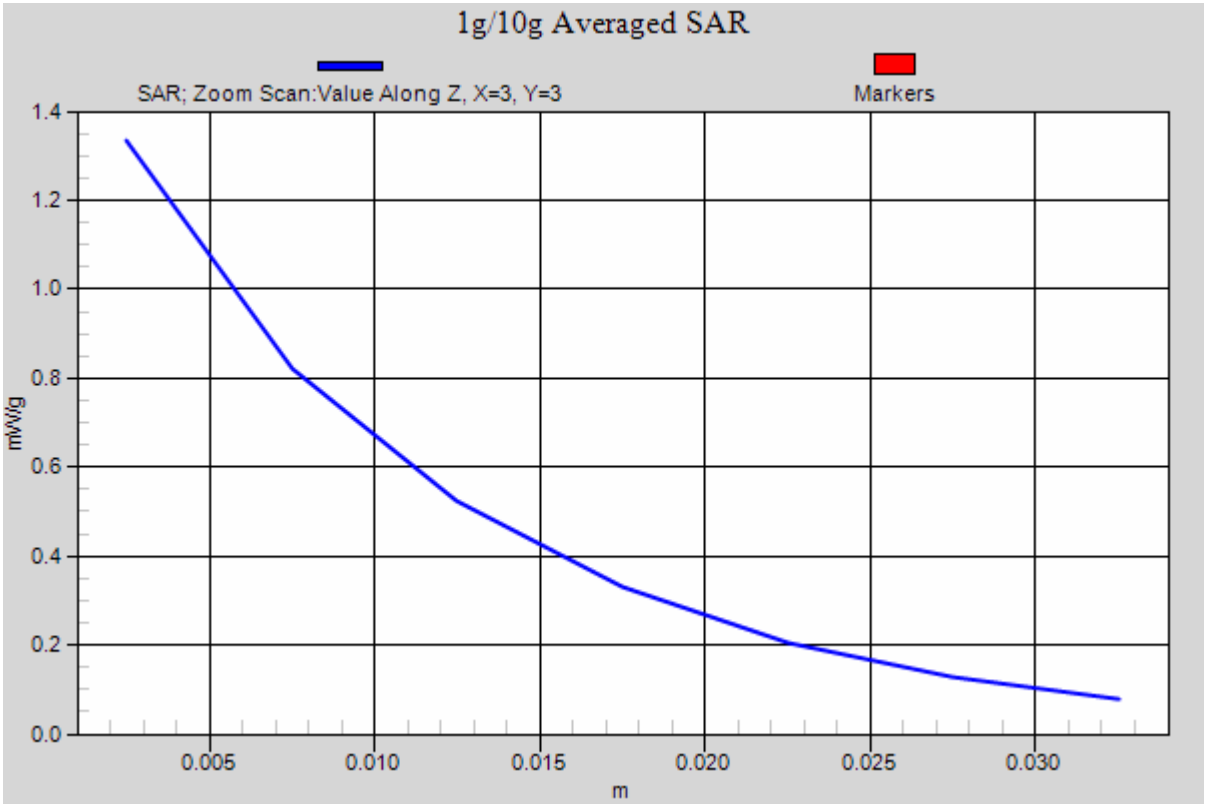


Figure 68 Z-Scan at power reference point (Left Hand Touch Cheek CDMA AWS Channel 850)

CDMA AWS Left Cheek Middle

Date/Time: 10/22/2009 9:00:11 AM
Communication System: CDMA AWS; Frequency: 1732.5 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1732.5 MHz; σ = 1.36 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: ET3DV6 – SN1737; ConvF(5.35, 5.35, 5.35); 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) = 1.16 mW/g
Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = -0.095 dB
Peak SAR (extrapolated) = 1.45 W/kg
SAR(1 g) = 0.905 mW/g; SAR(10 g) = 0.540 mW/g
Maximum value of SAR (measured) = 1.12 mW/g
Cheek Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = -0.095 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.807 mW/g; SAR(10 g) = 0.495 mW/g
Maximum value of SAR (measured) = 0.992 mW/g

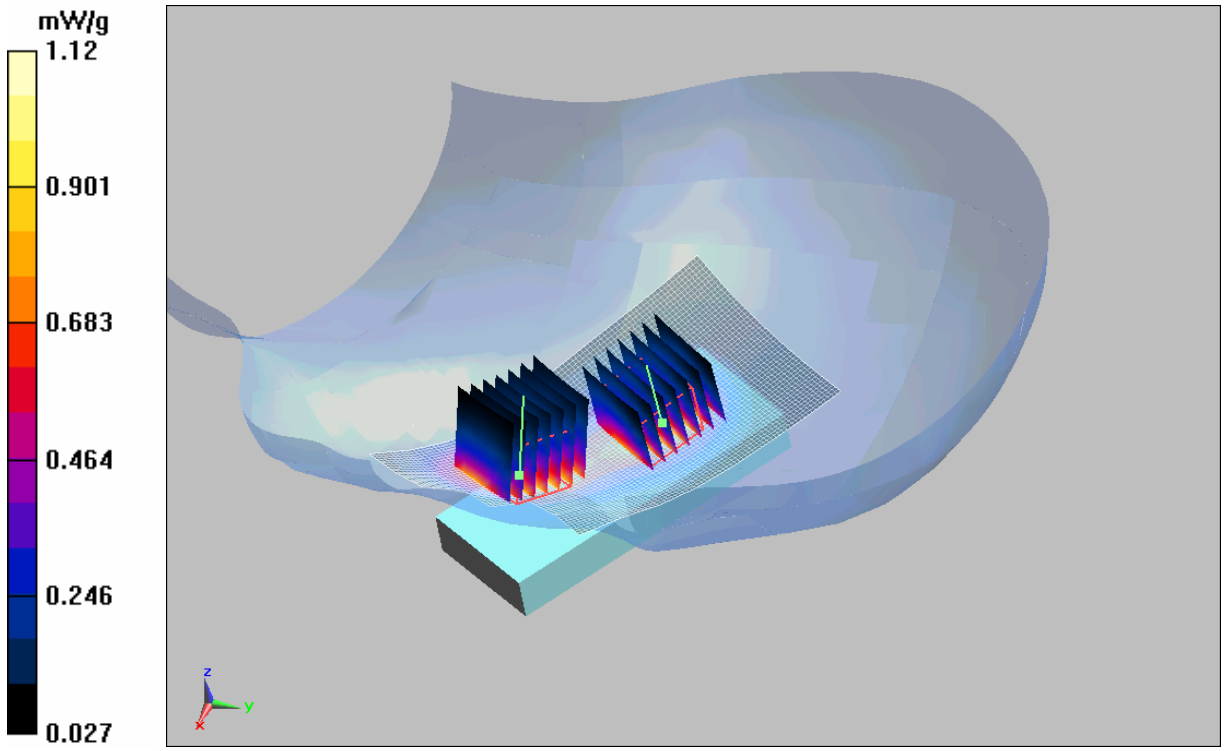
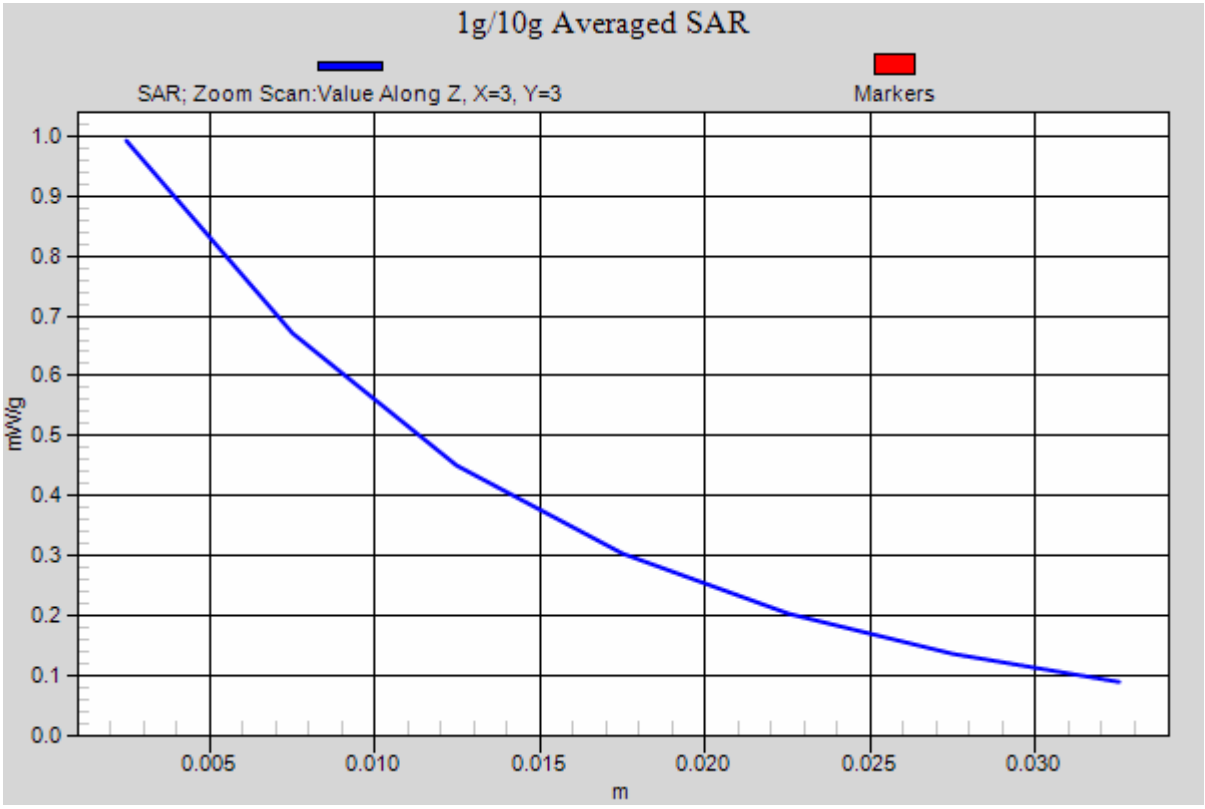


Figure 69 Left Hand Touch Cheek CDMA AWS Channel 450



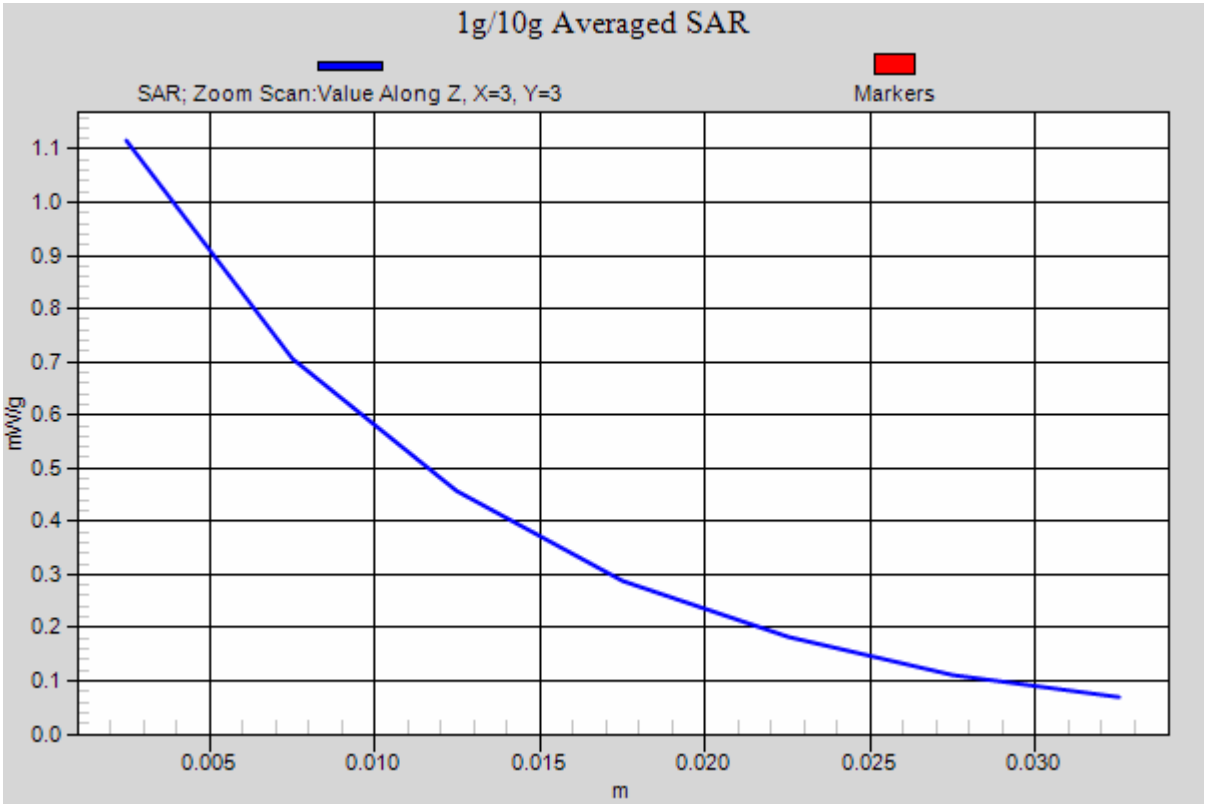


Figure 70 Z-Scan at power reference point (Left Hand Touch Cheek CDMA AWS Channel 450)

CDMA AWS Left Cheek Low

Date/Time: 10/22/2009 10:29:31 AM
Communication System: CDMA AWS; Frequency: 1711.25 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1712 MHz; σ = 1.35 mho/m; ε_r = 40.5; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY4 Configuration:
Probe: ET3DV6 – SN1737; ConvF(5.35, 5.35, 5.35); 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) = 0.976 mW/g
Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = 0.172 dB
Peak SAR (extrapolated) = 1.21 W/kg
SAR(1 g) = 0.756 mW/g; SAR(10 g) = 0.453 mW/g
Maximum value of SAR (measured) = 0.948 mW/g
Cheek Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = 0.172 dB
Peak SAR (extrapolated) = 0.940 W/kg
SAR(1 g) = 0.639 mW/g; SAR(10 g) = 0.395 mW/g
Maximum value of SAR (measured) = 0.772 mW/g

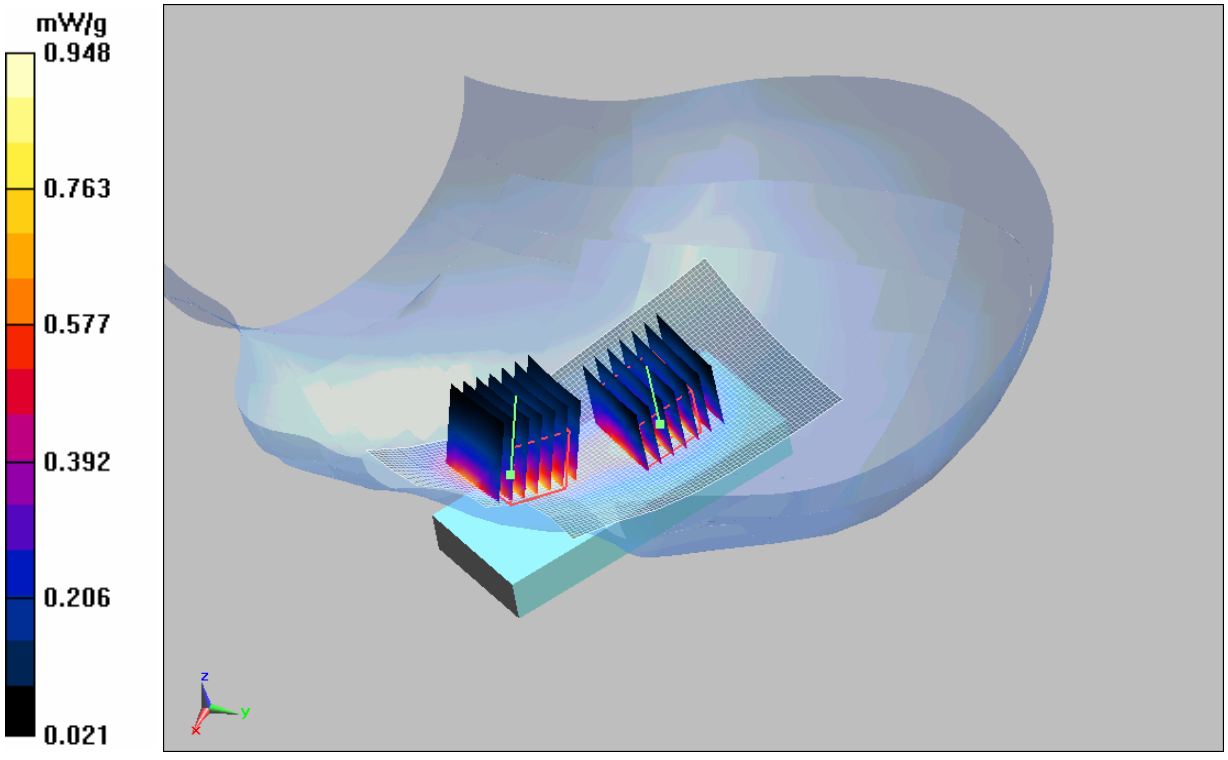


Figure 71 Left Hand Touch Cheek CDMA AWS Channel 25