Report No.: RZA2010-0024

TESTING
No. L2264

OET 65

TEST REPORT

Product Name	CDMA 1xRTT Digital Mobile Handset
FCC ID	Q78-ZTECF350
Model	ZTE-C F350
Client	ZTE CORPORATION

报告专用章

TA Technology (Shanghai) Co., Ltd.

GENERAL SUMMARY

Product Name	CDMA 1xRTT Digital Mobile Handset	**Model**	ZTE-C F350
FCC ID	Q78-ZTECF350	**Report No.**	RZA2010 -0024
Client	ZTE CORPORATION		
Manufacturer	ZTE CORPORATION		
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 62209-1:2006** 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: January 25th, 2010**		
Comment	The test result only responds to the measured sample.		

Approved by_____ **Revised by**_____ **Performed by**_____

Yang Weizhong Ling Minbao Li Jinchang

TABLE OF CONTENT

1. General Information 5
1.1. Notes of the test report 5
1.2. Testing laboratory 5
1.3. Applicant Information 6
1.4. Manufacturer Information 6
1.5. Information of EUT 7
1.6. Test Date 8
2. Operational Conditions during Test 9
2.1. General description of test procedures 9
2.2. Information for the measurement of CDMA 1x devices 9
2.2.1. Output Power Verification 9
2.2.2. Head SAR measurement 9
2.2.3. Body SAR measurement 9
3. SAR Measurements System Configuration 11
3.1. SAR Measurement Set-up 11
3.2. DASY5 E-field Probe System 12
3.2.1. EX3DV4 Probe Specification 12
3.2.2. E-field Probe Calibration 13
3.3. Other Test Equipment 13
3.3.1. Device Holder for Transmitters 13
3.3.2. Phantom 14
3.4. Scanning procedure 14
3.5. Data Storage and Evaluation 16
3.5.1. Data Storage 16
3.5.2. Data Evaluation by SEMCAD 16
3.6. System check 19
3.7. Equivalent Tissues 20
4. Laboratory Environment 21
5. Characteristics of the Test 21
5.1. Applicable Limit Regulations 21
5.2. Applicable Measurement Standards 21
6. Conducted Output Power Measurement 22
6.1. Summary 22
6.2. Conducted Power Results 22
7. Test Results 23
7.1. Dielectric Performance 23
7.2. System Checking Results 24
7.3. Test Results 25
7.3.1. Summary of Measurement Results (CDMA Cellular) 25

7.3.2. Summary of Measurement Results (CDMA PCS).....27
7.3.3. Summary of Measurement Results (Bluetooth function).....29
7.4. Conclusion 29
8. Measurement Uncertainty 30
9. Main Test Instruments 31
ANNEX A: Test Layout 32
ANNEX B: System Check Results 35
ANNEX C: Graph Results 43
ANNEX D: Probe Calibration Certificate 123
ANNEX E: D835V2 Dipole Calibration Certificate 132
ANNEX F: D1900V2 Dipole Calibration Certificate 141
ANNEX G: DAE4 Calibration Certificate..... 150
ANNEX H: The EUT Appearances and Test Configuration..... 155

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

1.4. Manufacturer Information

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

1.5. Information of EUT

General information

Device type :	portable device		
Exposure category:	uncontrolled environment / general population		
Name of EUT:	CDMA 1xRTT Digital Mobile Handset		
Device operating configurations :			
Operating mode(s):	CDMA Cellular		
	CDMA PCS		
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
Test channel (Low –Middle –High)	1013 – 384 – 777 (CDMA Cellular) (tested) 25 – 600 – 1175 (CDMA PCS) (tested)		
hardware version:	1.2		
software version:	ZTEF350V1.0.0B05		
antenna type:	internal antenna		

Auxiliary equipment details

AE1:Battery

Model:	Li3709T42P3h453756
Manufacture:	ZTE CORPORATION
IMEI or SN:	10100911040033036

AE2:Travel Adaptor

Model:	STC-A22O50I700M5-Z
Manufacture:	ZTE CORPORATION
IMEI or SN:	/

Equipment Under Test (EUT) is a model of CDMA 1xRTT Digital Mobile Handset 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.

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 January 11, 2010 to January 13, 2010.

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

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

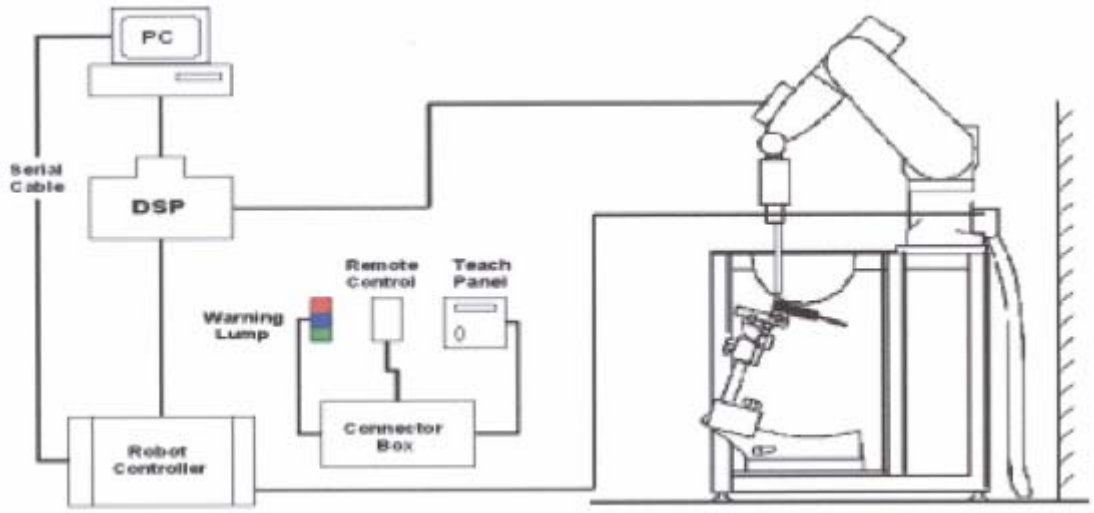


Figure 1. SAR Lab Test Measurement Set-up

3.2. DASY5 E-field Probe System

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

3.2.1. EX3DV4 Probe Specification

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	Basic Broad Band Calibration in air Conversion Factors (CF) for HSL 835 ,HSL 900, HSL 1750 and HSL 1950 Additional CF for other liquids and frequencies upon request
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 μW/g to > 100 mW/g Linearity: ± 0.2dB (noise: typically < 1 μW/g)
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.

Figure 2.EX3DV4 E-field Probe

Figure 3. EX3DV4 E-field probe

3.2.2. E-field Probe Calibration

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

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

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

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

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

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

3.3. Other Test Equipment

3.3.1. Device Holder for Transmitters

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

Figure 4.Device Holder

3.3.2. Phantom

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

Shell Thickness	2±0.1 mm
Filling Volume	Approx. 20 liters
Dimensions	810 x l000 x 500 mm (H x L x W)
Aailable	Special

Figure 5.Generic Twin Phantom

3.4. Scanning procedure

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

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

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

- Area Scan

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

spacing 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 DASY5 system allows evaluations that combine measured data and robot positions, such as:
  • maximum search
  • extrapolation
  • boundary correction
  • peak search for averaged SAR
  During a maximum search, global and local maxima searches are automatically performed in 2-D after each Area Scan measurement with at least 6 measurement points. It is based on the evaluation of the local SAR gradient calculated by the Quadratic Shepard's method. The algorithm will find the global maximum and all local maxima within -2 dB of the global maxima for all SAR distributions.
  Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. Several measurements at different distances are necessary for the extrapolation. Extrapolation routines require at least 10 measurement points in 3-D space. They are used in the Zoom Scan to obtain SAR values between the lowest measurement points and the inner phantom surface. The routine uses the modified Quadratic Shepard's method for extrapolation. 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 DASY5 software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension ".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, a_{i0}, a_{i1}, a_{i2}
	- Conversion factor	$ConvF_i$
	- Diode compression point	Dcp_i
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	
	- Density	

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

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

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

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

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

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

cf = crest factor of exciting field (DASY parameter)

dcp_i = diode compression point (DASY parameter)

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

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

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

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

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

$ConvF$ = sensitivity enhancement in solution

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

f = carrier frequency [GHz]

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

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

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

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

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

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

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

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

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

- = equivalent tissue density in g/cm^3

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

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

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

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

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

3.6. 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 DASY5 system.

.

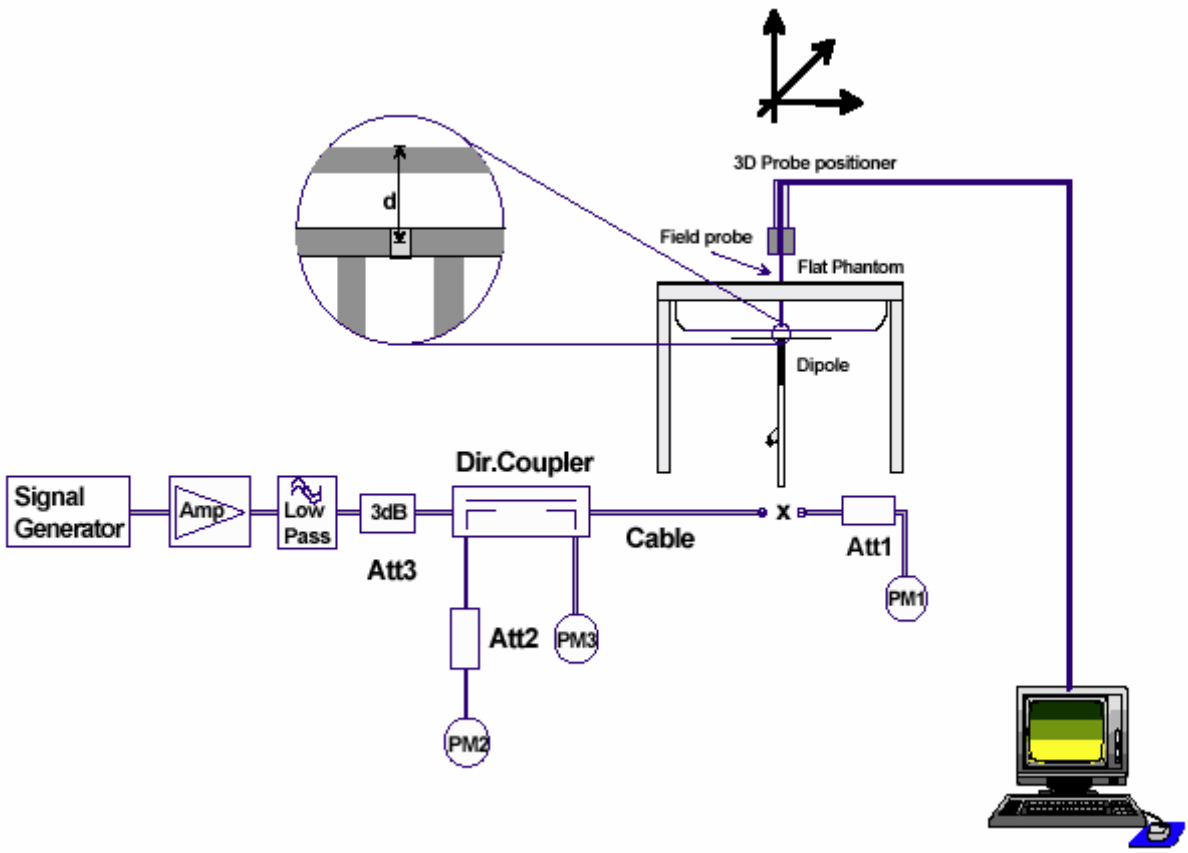


Figure 6. System Check Set-up

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)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)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: 2006 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)	23.88	23.60	23.64
After test (dBm)	23.87	23.61	23.63
CDMA Cellular (RC1)	**Conducted Power**		
	Channel 1013	**Channel 384**	**Channel 777**
Before test (dBm)	23.86	23.61	23.62
After test (dBm)	23.85	23.59	23.61
CDMA PCS (RC3)	**Conducted Power**		
	Channel 25	**Channel 600**	**Channel 1175**
Before test (dBm)	23.14	23.25	23.34
After test (dBm)	23.13	23.24	23.33
CDMA PCS (RC1)	**Conducted Power**		
	Channel 25	**Channel 600**	**Channel 1175**
Before test (dBm)	23.12	23.22	23.33
After test (dBm)	23.11	23.21	23.32

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 2010-1-11	42.60	0.89	22.5
1900MHz (head)	Target value ±5% window	40.00 38.00 – 42.00	1.40 1.33 – 1.47	/
	Measurement value 2010-1-13	40.06	1.42	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 2010-1-12	53.56	0.99	22.5
1900MHz (body)	Target value ±5% window	53.3 50.64 – 55.97	1.52 1.44 – 1.60	/
	Measurement value 2010-1-13	52.87	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	1.61 1.45 — 1.77	2.44 2.20 — 2.68	41.4	0.91	/
	Measurement value 2010-1-11	1.62	2.48	42.60	0.89	22.5
1900 MHz	Recommended value ±10% window	5.38 4.84 — 5.92	10.3 9.27 — 11.33	41	1.42	/
	Measurement value 2010-1-13	5.46	10.6	40.06	1.42	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	1.67 1.50 — 1.84	2.54 2.29 — 2.79	53.5	1.00	/
	Measurement value 2010-1-12	1.68	2.56	53.56	0.98	21.9
1900 MHz	Recommended value ±10% window	5.52 4.97 — 6.07	10.5 9.45 — 11.55	54	1.55	/
	Measurement value 2010-1-13	5.17	9.73	52.87	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, open)

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	0.443	0.598	0.165	Figure 15
Left hand, Tilt 15 Degree	Middle	0.235	0.315	-0.020	Figure 17
Right hand, Touch cheek	High	0.460	0.627	-0.024	Figure 19
	Middle	0.447	0.608	-0.073	Figure 21
	Low	0.365	0.495	0.179	Figure 23
Right hand, Tilt 15 Degree	Middle	0.232	0.310	-0.008	Figure 25
Test position of Body (Distance 15mm)					
Towards Ground	High	0.527	0.731	0.009	Figure 27
	Middle	0.569	0.791	0.139	Figure 29
	Low	0.493	0.679	-0.118	Figure 31
Towards Phantom	Middle	0.530	0.721	0.013	Figure 33

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.

Table 10: SAR Values (CDMA Cellular, close)

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	0.334	0.462	-0.042	Figure 35
	Middle	0.302	0.411	0.094	Figure 37
	Low	0.386	0.530	-0.034	Figure 39
Left hand, Tilt 15 Degree	Middle	0.219	0.290	0.063	Figure 41
Right hand, Touch cheek	Middle	0.222	0.289	0.063	Figure 43
Right hand, Tilt 15 Degree	Middle	0.207	0.272	-0.018	Figure 45
Test position of Body (Distance 15mm)					
Towards Ground	High	0.419	0.605	0.000	Figure 47
	Middle	0.439	0.640	-0.165	Figure 49
	Low	0.448	0.643	0.032	Figure 51
Towards Phantom	Middle	0.156	0.209	-0.062	Figure 53

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 11: SAR Values (CDMA PCS, open)

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	0.256	0.430	0.144	Figure 55
	Middle	0.221	0.368	0.155	Figure 57
	Low	0.379	0.646	0.030	Figure 59
Left hand, Tilt 15 Degree	Middle	0.069	0.120	0.061	Figure 61
Right hand, Touch cheek	Middle	0.187	0.300	-0.127	Figure 63
Right hand, Tilt 15 Degree	Middle	0.105	0.199	0.060	Figure 65
Test position of Body (Distance 15mm)					
Towards Ground	High	0.404	0.657	-0.156	Figure 67
	Middle	0.315	0.512	0.081	Figure 69
	Low	0.439(max.cube)	0.718(max.cube)	-0.018	Figure 71
Towards Phantom	Middle	0.126	0.198	-0.045	Figure 73

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

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.cube) labeling indicates that during the grid scanning an additional peak was found which was within 2.0dB of the highest peak. The value of the highest cube is given in the table above; the value from the second assessed cube is given in the SAR distribution plots (See ANNEX C).

Table 12: SAR Values (CDMA PCS, close)

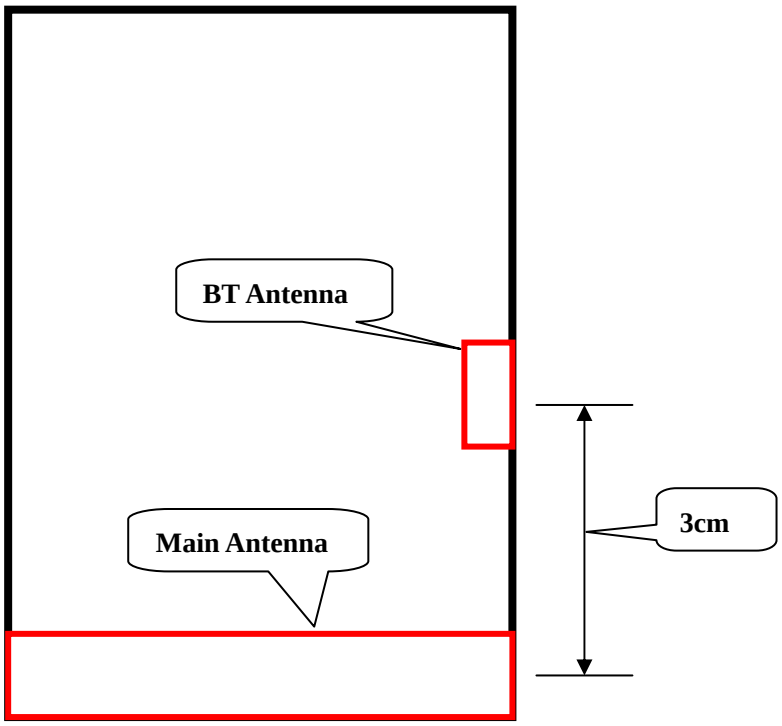
Limit of SAR (W/kg)		10 g Average	1 g Average	Power Drift (dB)	Graph Results
		2.0	1.6	± 0.21	
Different Test Position	Channel	Measurement Result(W/kg)		Power Drift(dB)	
		10 g Average	1 g Average		
Test position of Head					
Left hand, Touch cheek	Middle	0.488	0.778	0.010	Figure 75
Left hand, Tilt 15 Degree	Middle	0.163	0.280	-0.013	Figure 77
Right hand, Touch cheek	High	0.655	1.200	-0.045	Figure 79
	Middle	0.521	0.929	0.007	Figure 81
	Low	0.817	1.480	-0.100	Figure 83
Right hand, Tilt 15 Degree	Middle	0.180	0.297	-0.110	Figure 85
Test position of Body (Distance 15mm)					
Towards Ground	High	0.420	0.716	-0.088	Figure 87
	Middle	0.329	0.573	0.073	Figure 89
	Low	0.519	0.901	0.010	Figure 91
Towards Phantom	Middle	0.132(max.cube)	0.218(max.cube)	-0.155	Figure 93

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.cube) labeling indicates that during the grid scanning an additional peak was found which was within 2.0dB of the highest peak. The value of the highest cube is given in the table above; the value from the second assessed cube is given in the SAR distribution plots (See ANNEX C).

7.3.3. Summary of Measurement Results (Bluetooth function)

The distance between BT antenna and GSM antenna is 〈5cm and >2.5cm. The location of the antennas inside mobile phone is shown below:



The output power of BT antenna is as following:

Channel	Ch 0 2402 MHz	Ch 39 2441 Mhz	Ch 78 2480 MHz
Peak Conducted Output Power(dBm)	-3.92	-3.58	-0.87

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 ≤P_{Ref} and its antenna is 〈5cm and >2.5cm from other antenna.

7.4. Conclusion

Localized Specific Absorption Rate (SAR) of this portable wireless device has been measured in all cases requested by the relevant standards cited in Clause 5.2 of this report. Maximum localized SAR_{1g} are 1.48 W/kg (head) and 0.901 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

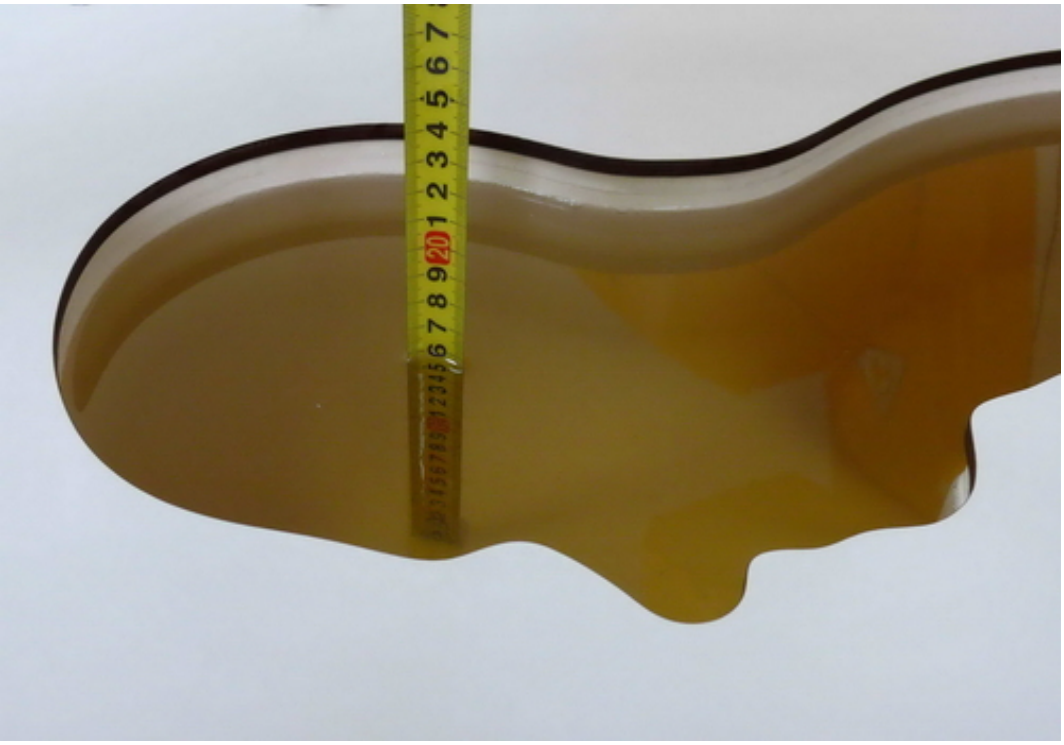
Table 13: List of Main Instruments

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 4, 2009	One year
08	E-field Probe	EX3DV4	3677	September 23, 2009	One year
09	DAE	DAE4	905	June 24, 2009	One year
10	Validation Kit 835MHz	D835V2	4d031	January 22, 2009	One year
11	Validation Kit 1900MHz	D1900V2	5d018	June 26, 2009	One year

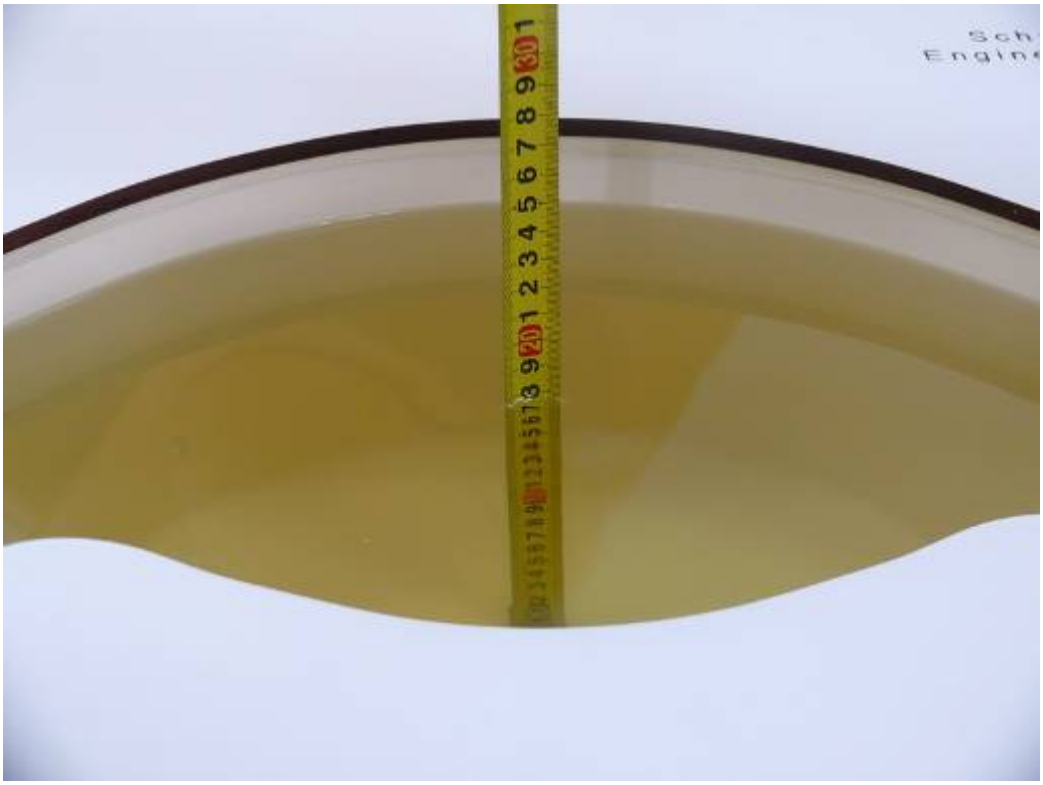
*******END OF REPORT BODY*******

ANNEX A: Test Layout

Picture 1: Specific Absorption Rate Test Layout

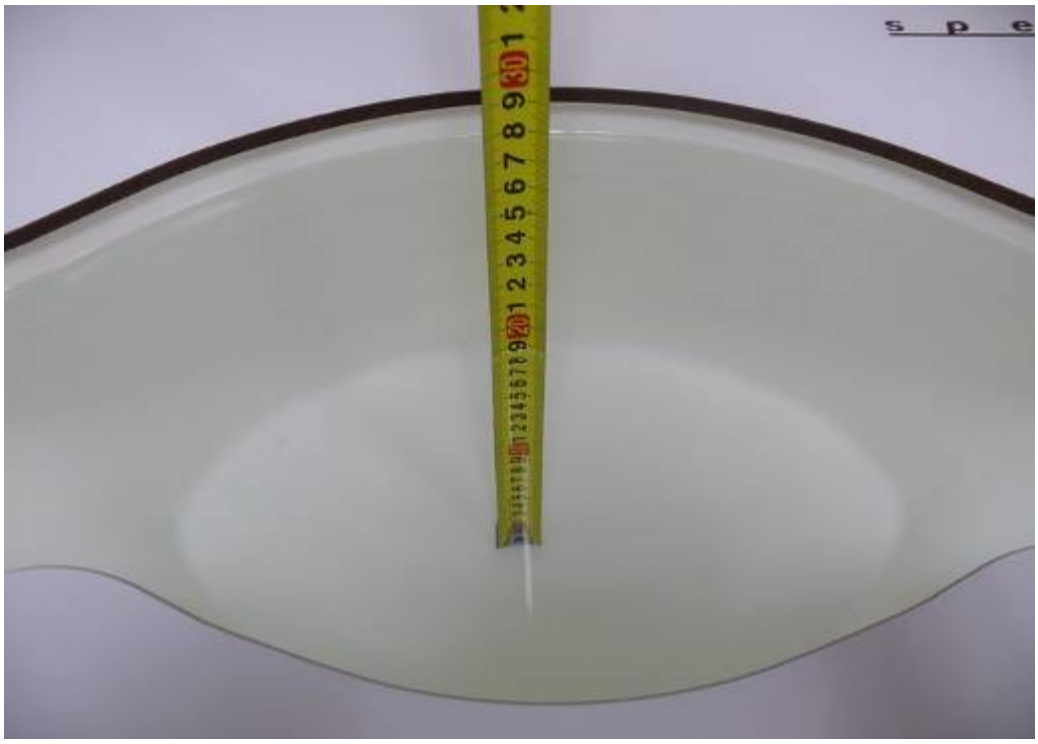


Picture 2: Liquid depth in the Head Phantom (835 MHz)



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

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



Picture 5: 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:4d031

Date/Time: 1/11/2010 11:31:02 AM

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

Medium parameters used: f = 835 MHz; σ = 0.89 mho/m; ε_r = 42.60; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.2, 9.2, 9.2); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

835 MHZ Dipole/Area Scan (41x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.71 mW/g

835 MHZ Dipole/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.5 V/m; Power Drift = -0.092 dB

Peak SAR (extrapolated) = 3.75 W/kg

SAR(1 g) = 2.48 mW/g; SAR(10 g) = 1.62 mW/g

Maximum value of SAR (measured) = 2.67 mW/g

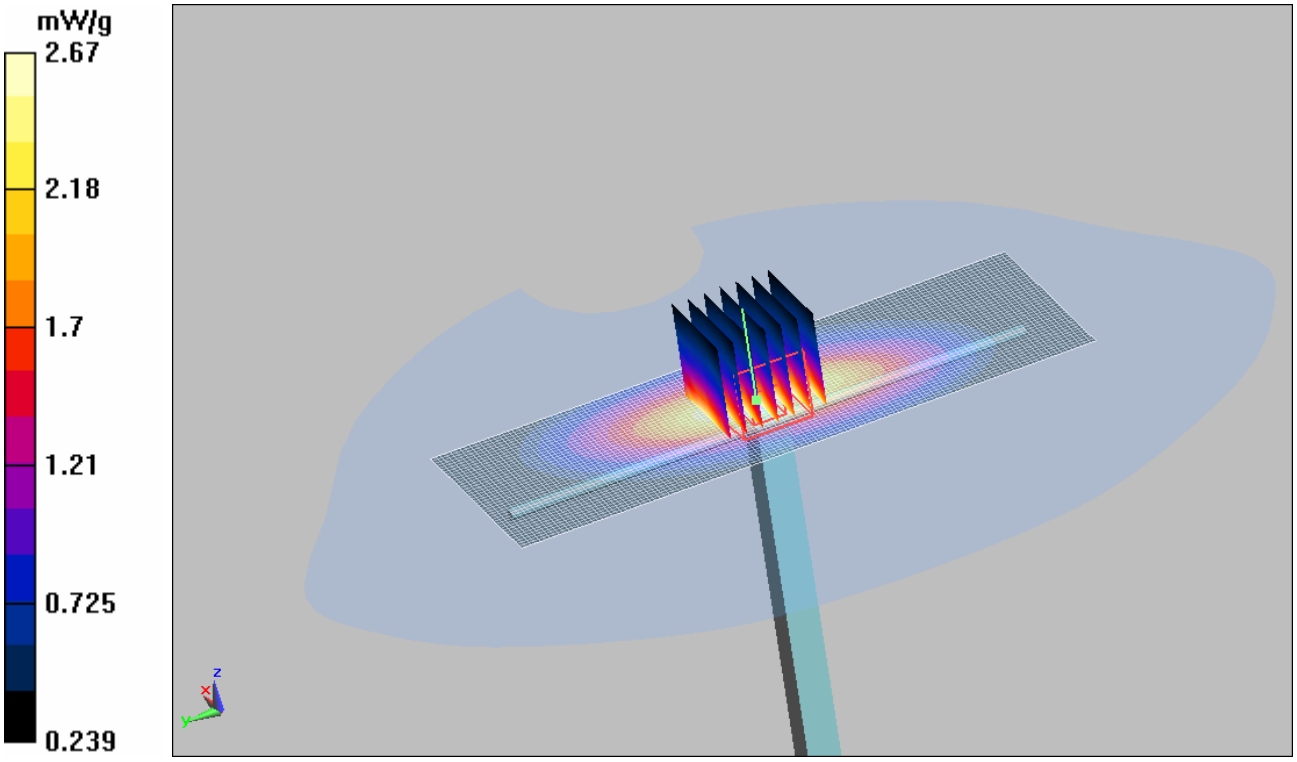


Figure 7 System Performance Check 835MHz 250mW

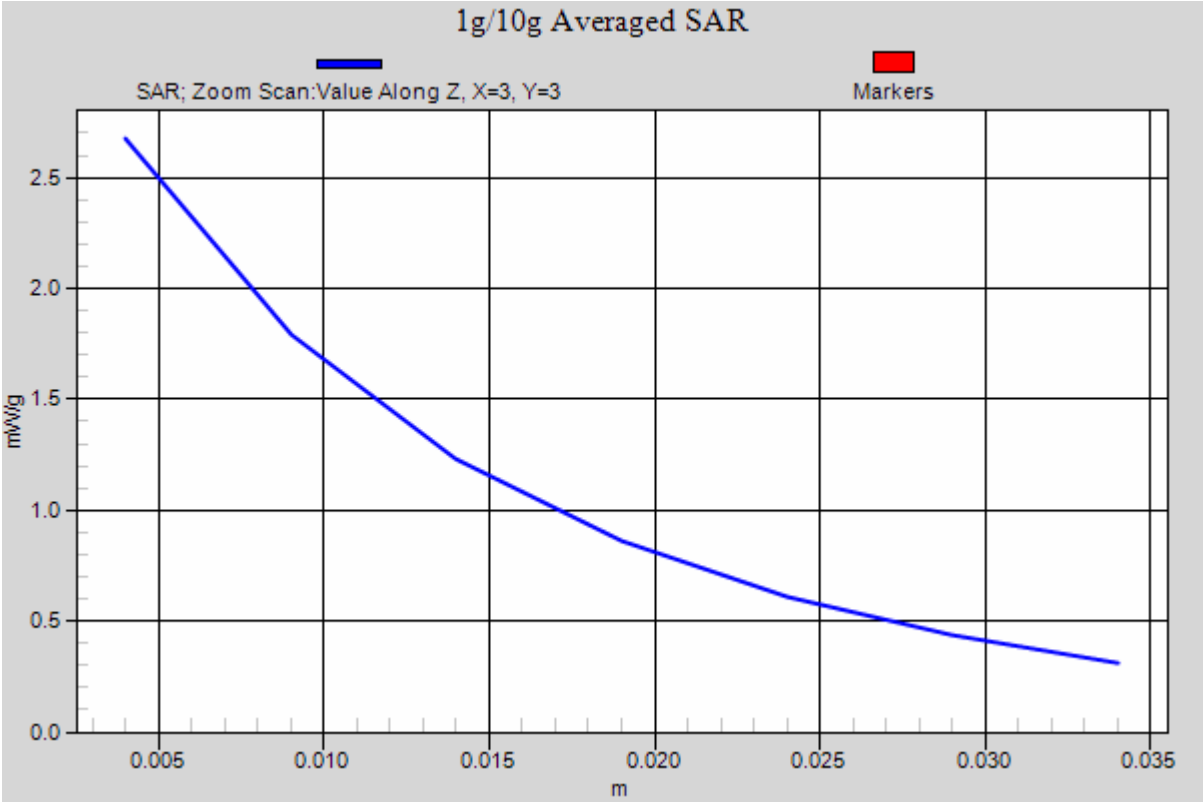


Figure 8 Z-Scan at power reference point (system check at 835 MHz dipole)

System Performance Check at 835 MHz Body TSL

DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN:4d031

Date/Time: 1/12/2010 1:13:20 PM

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

Medium parameters used: f = 835 MHz; σ = 0.99 mho/m; ε_r = 53.56; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.11, 9.11, 9.11); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

835 MHZ Dipole/Area Scan (61x121x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 2.77 mW/g

835 MHZ Dipole/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 50.9 V/m; Power Drift = 0.023 dB

Peak SAR (extrapolated) = 3.68 W/kg

SAR(1 g) = 2.56 mW/g; SAR(10 g) = 1.68 mW/g

Maximum value of SAR (measured) = 2.77 mW/g

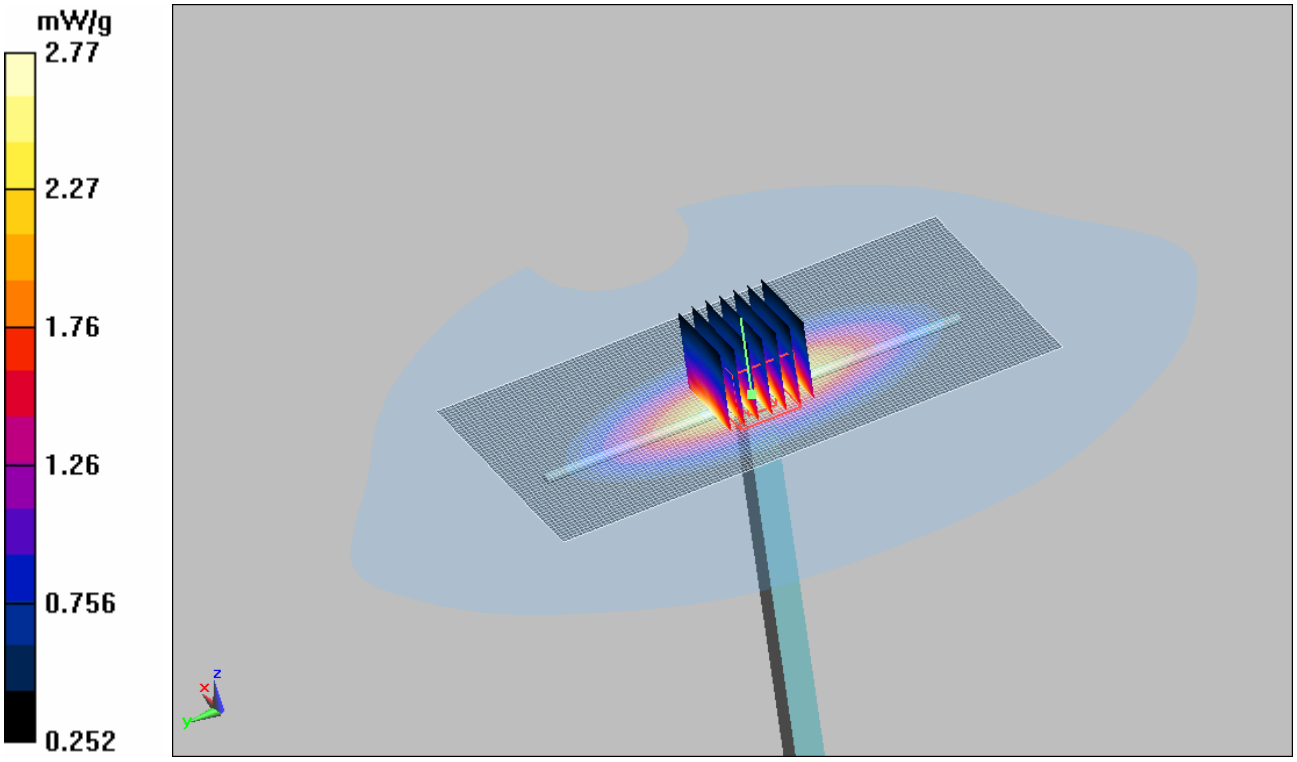


Figure 9 System Performance Check 835MHz 250mW

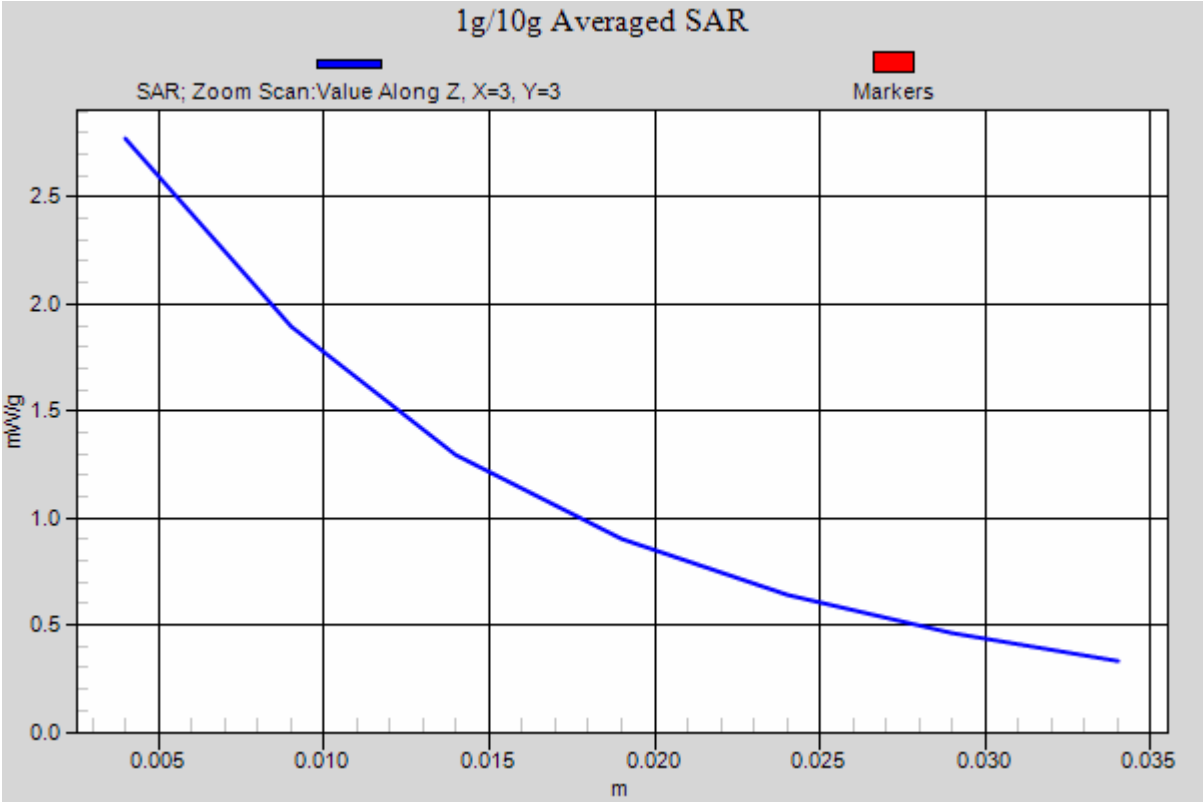


Figure 10 Z-Scan at power reference point (system Check at 835 MHz dipole)

System Performance Check at 1900 MHz Head TSL

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d018

Date/Time: 1/13/2010 11:01:04 AM

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

Medium parameters used: f = 1900 MHz; σ = 1.42 mho/m; ε_r = 40.06; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.53, 7.53, 7.53); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

1900 MHZ Dipole/Area Scan (41x71x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 12.9 mW/g

1900 MHZ Dipole/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.8 V/m; Power Drift = 0.040 dB

Peak SAR (extrapolated) = 20.1 W/kg

SAR(1 g) = 10.6 mW/g; SAR(10 g) = 5.46 mW/g

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

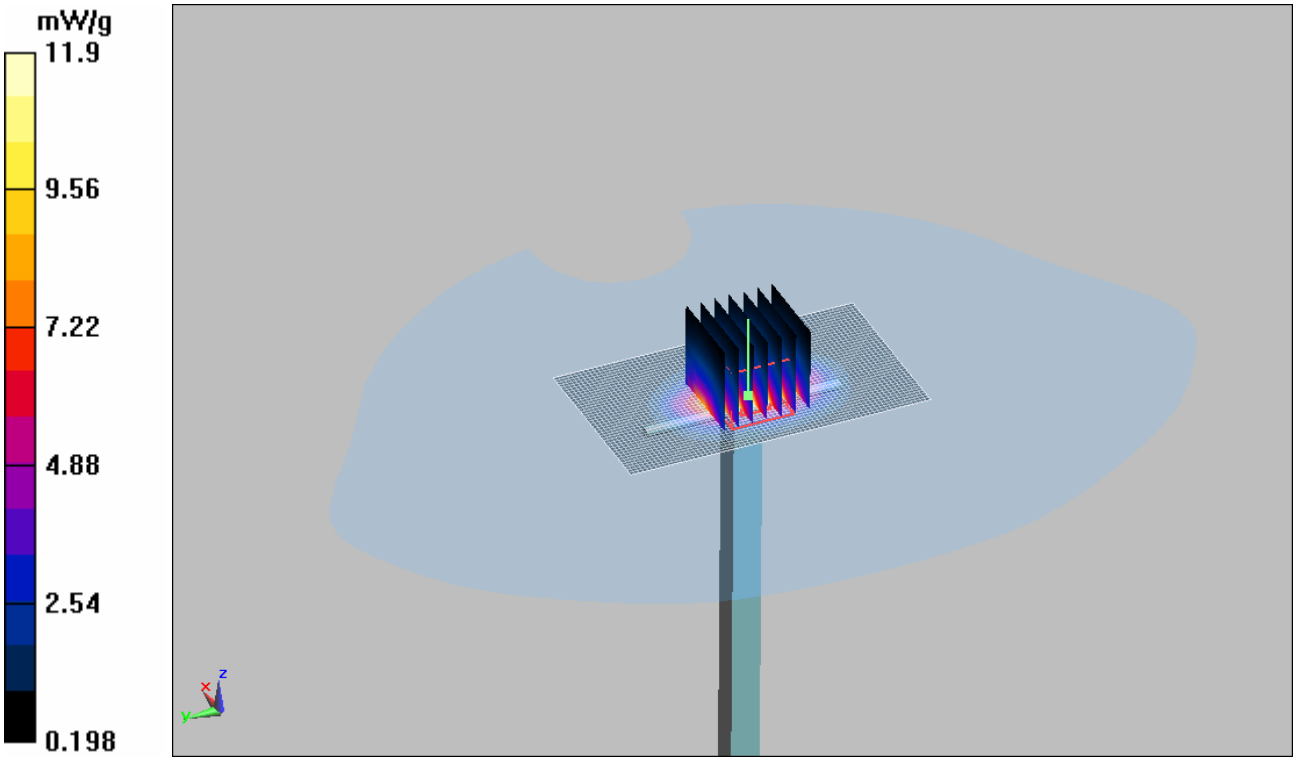


Figure 11 System Performance Check 1900MHz 250mW

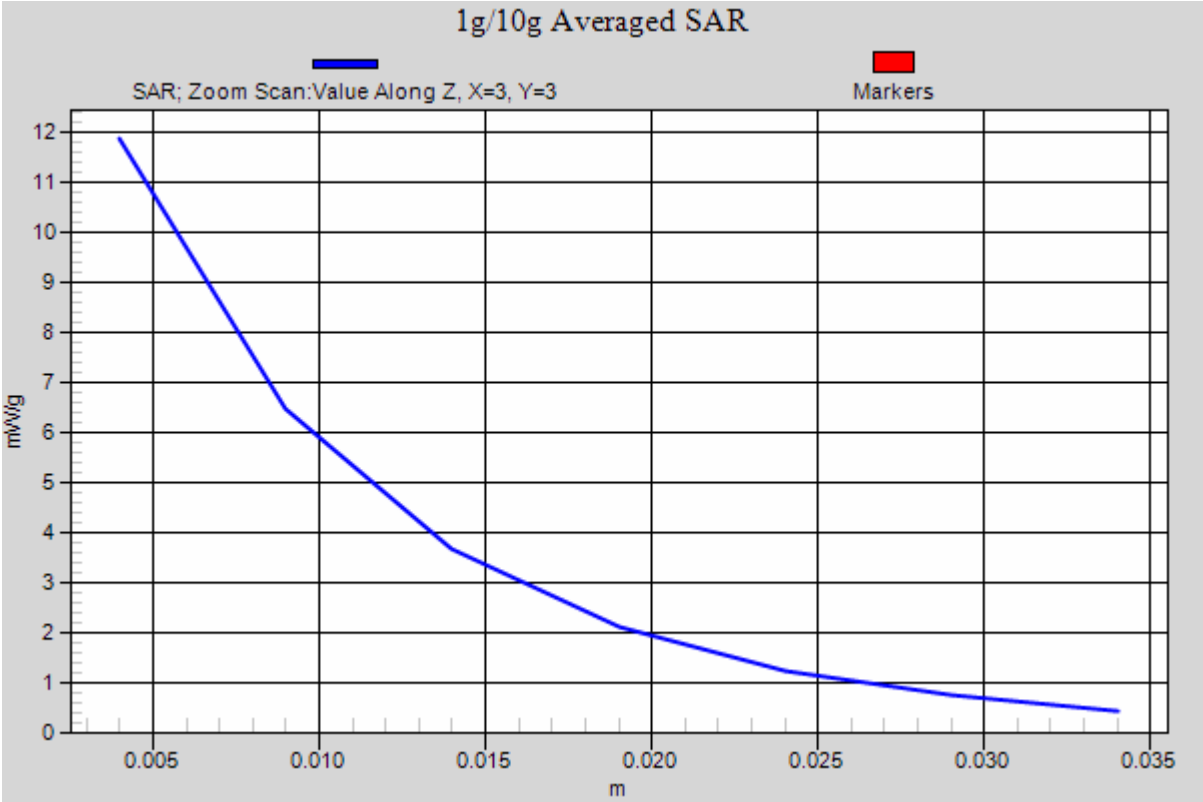


Figure 12 Z-Scan at power reference point (system check at 1900 MHz dipole)

System Performance Check at 1900 MHz Body TSL

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN:5d018

Date/Time: 1/12/2010 7:43:19 PM

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

Medium parameters used: f = 1900 MHz; σ = 1.53 mho/m; ε_r = 52.87; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.62, 7.62, 7.62); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

1900 MHZ Dipole/Area Scan (41x71x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 12.5 mW/g

1900 MHZ Dipole/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 75.9 V/m; Power Drift = 0.051 dB

Peak SAR (extrapolated) = 16.8 W/kg

SAR(1 g) = 9.73 mW/g; SAR(10 g) = 5.17 mW/g

Maximum value of SAR (measured) = 11 mW/g

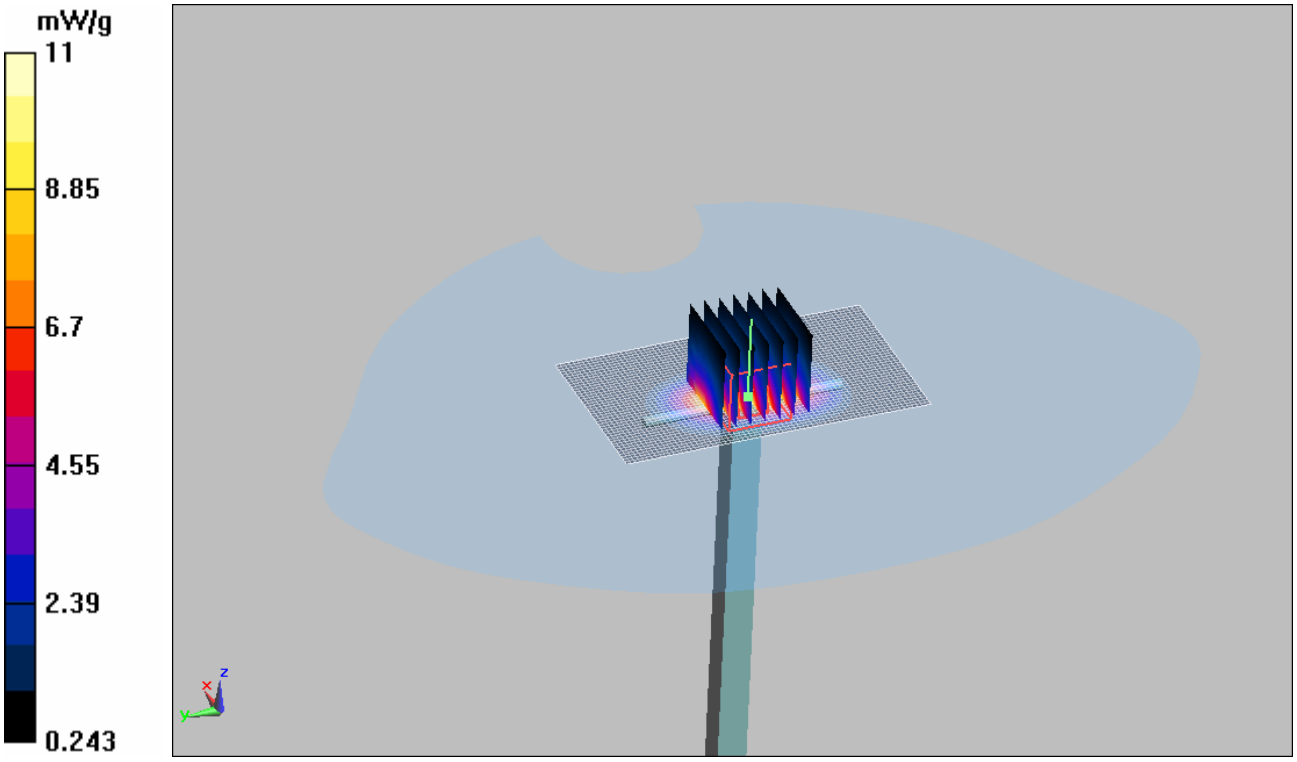


Figure 13 System Performance Check 1900MHz 250mW

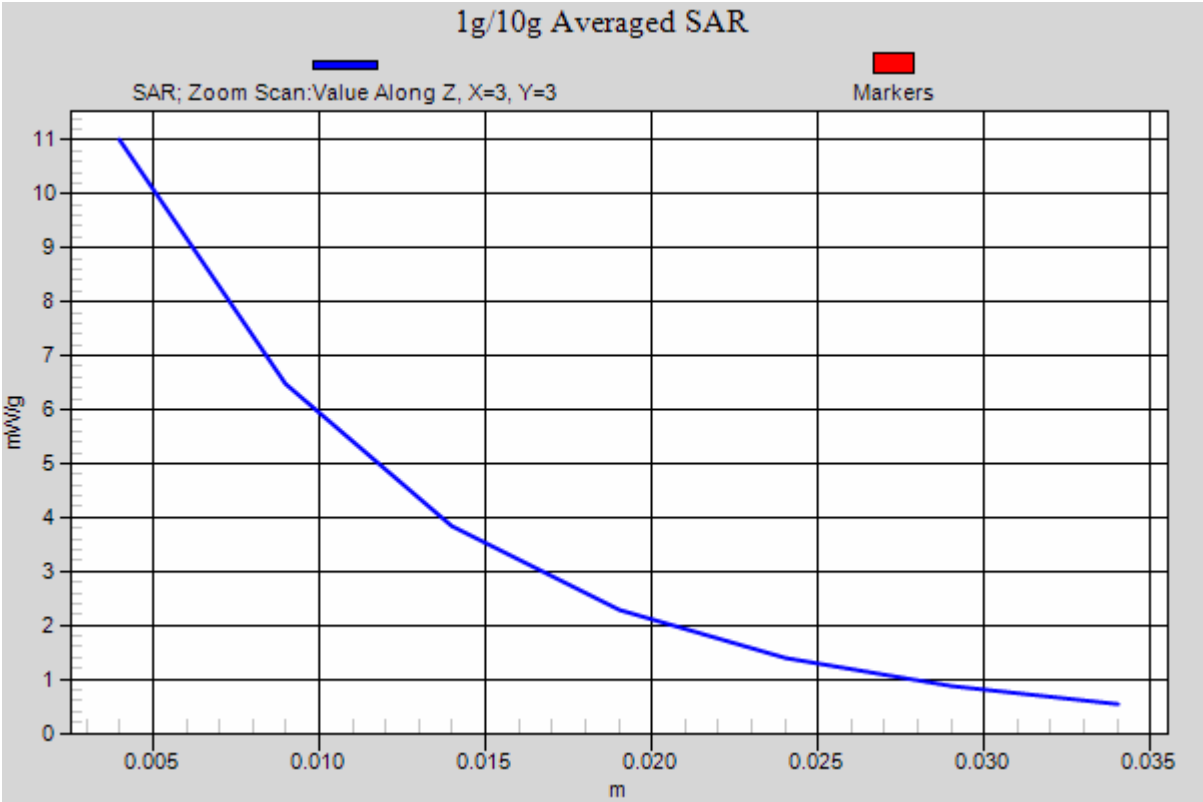


Figure 14 Z-Scan at power reference point (system Check at 1900 MHz dipole)

ANNEX C: Graph Results

CDMA Cellular Left Cheek Middle Slide Open

Date/Time: 1/11/2010 7:58:41 PM
Communication System: CDMA Cellular; Frequency: 836.52 MHz;Duty Cycle: 1:1
Medium parameters used: f = 837 MHz; σ = 0.898 mho/m; ε_r = 42.6; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY5 Configuration:
Probe: EX3DV4 - SN3677; ConvF(9.2, 9.2, 9.2); Calibrated: 9/23/2009
Electronics: DAE4 Sn905; Calibrated: 6/24/2009
Phantom: SAM1; Type: SAM;
Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

Cheek Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.635 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.61 V/m; Power Drift = 0.165 dB
Peak SAR (extrapolated) = 0.764 W/kg
SAR(1 g) = 0.598 mW/g; SAR(10 g) = 0.443 mW/g
Maximum value of SAR (measured) = 0.628 mW/g

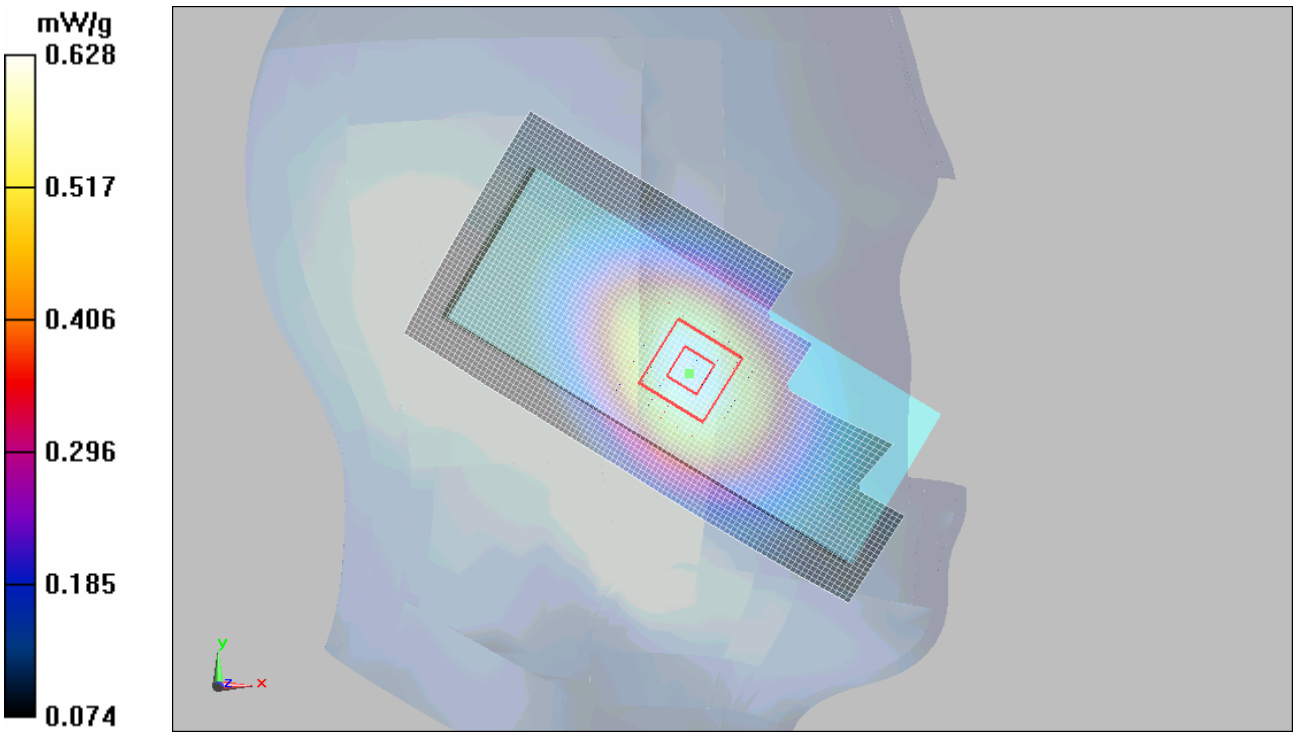


Figure 15 Slide Open, Left Hand Touch Cheek CDMA Cellular Channel 384

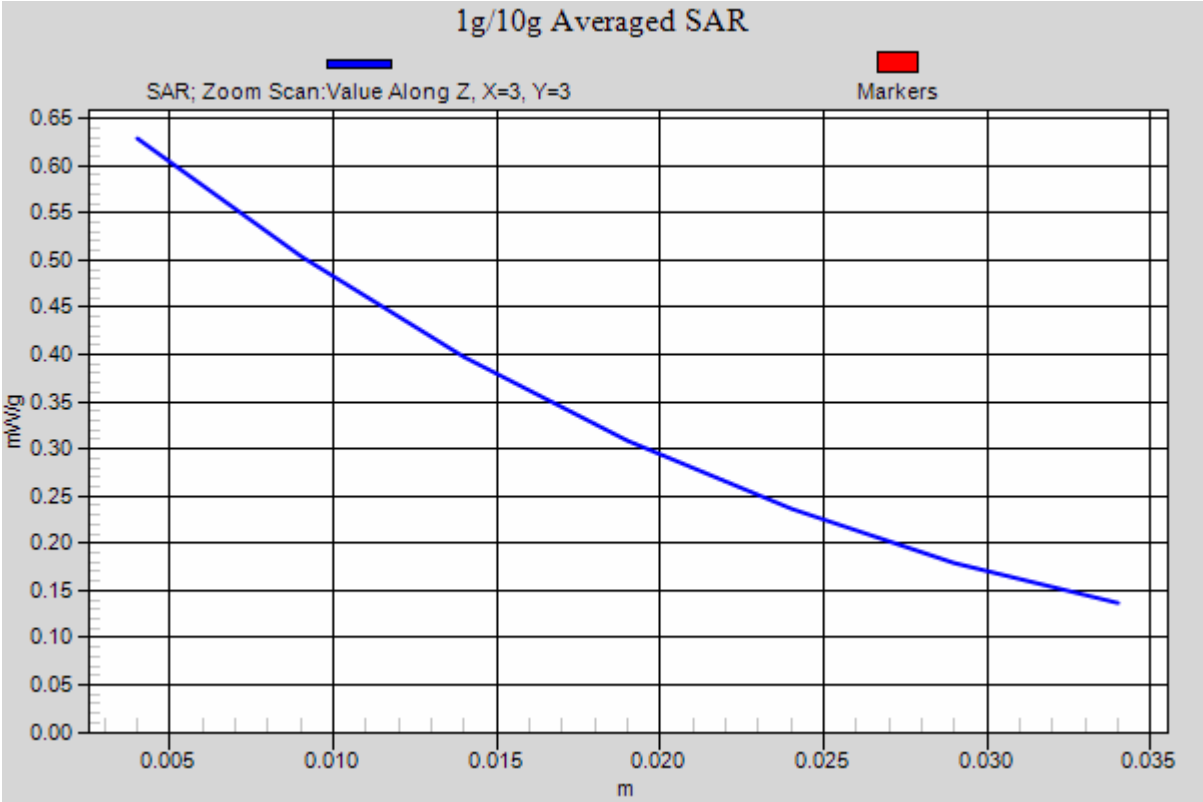


Figure 16 Z-Scan at power reference point (Slide Open, Left Hand Touch Cheek CDMA Cellular Channel 384)

CDMA Cellular Left Tilt Middle Slide Open

Date/Time: 1/11/2010 8:50:13 PM

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

Medium parameters used: f = 837 MHz; σ = 0.898 mho/m; ε_r = 42.6; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.2, 9.2, 9.2); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.339 mW/g

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

Reference Value = 13.5 V/m; Power Drift = -0.020 dB

Peak SAR (extrapolated) = 0.405 W/kg

SAR(1 g) = 0.315 mW/g; SAR(10 g) = 0.235 mW/g

Maximum value of SAR (measured) = 0.332 mW/g

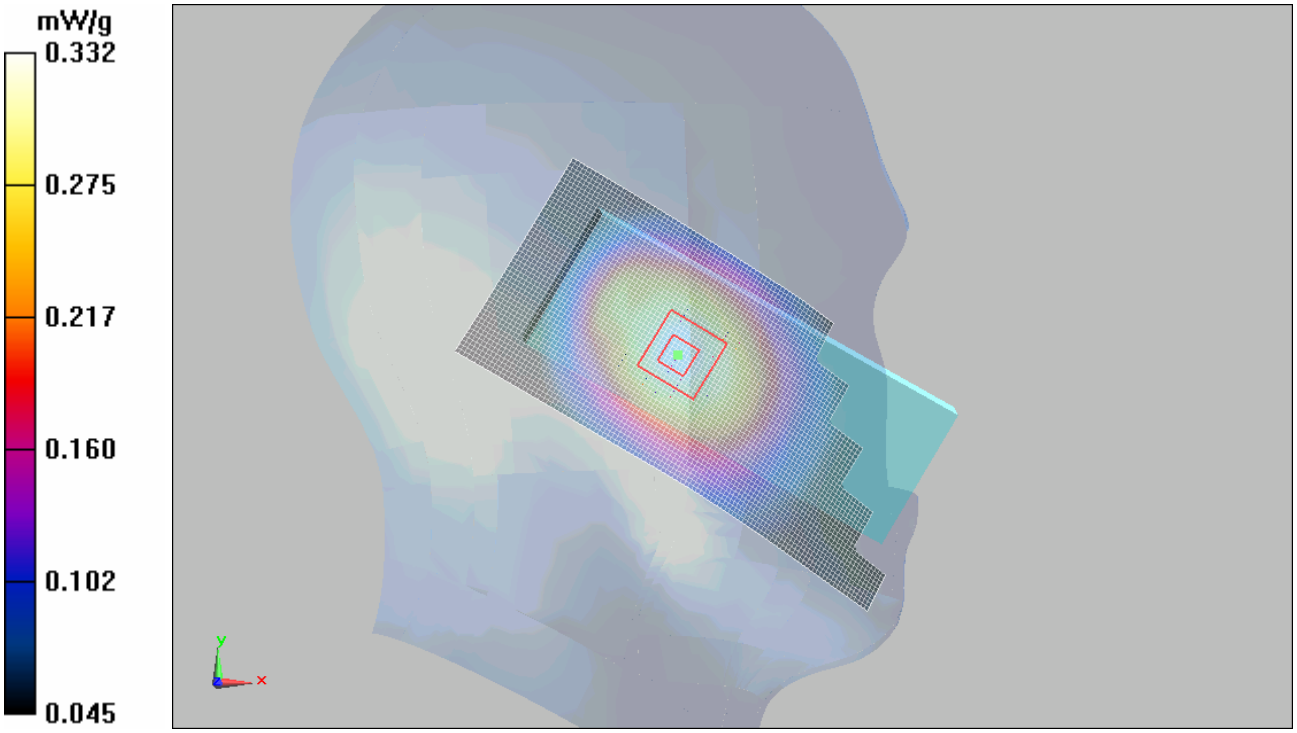


Figure 17 Slide Open, Left Hand Tilt 15° CDMA Cellular Channel 384

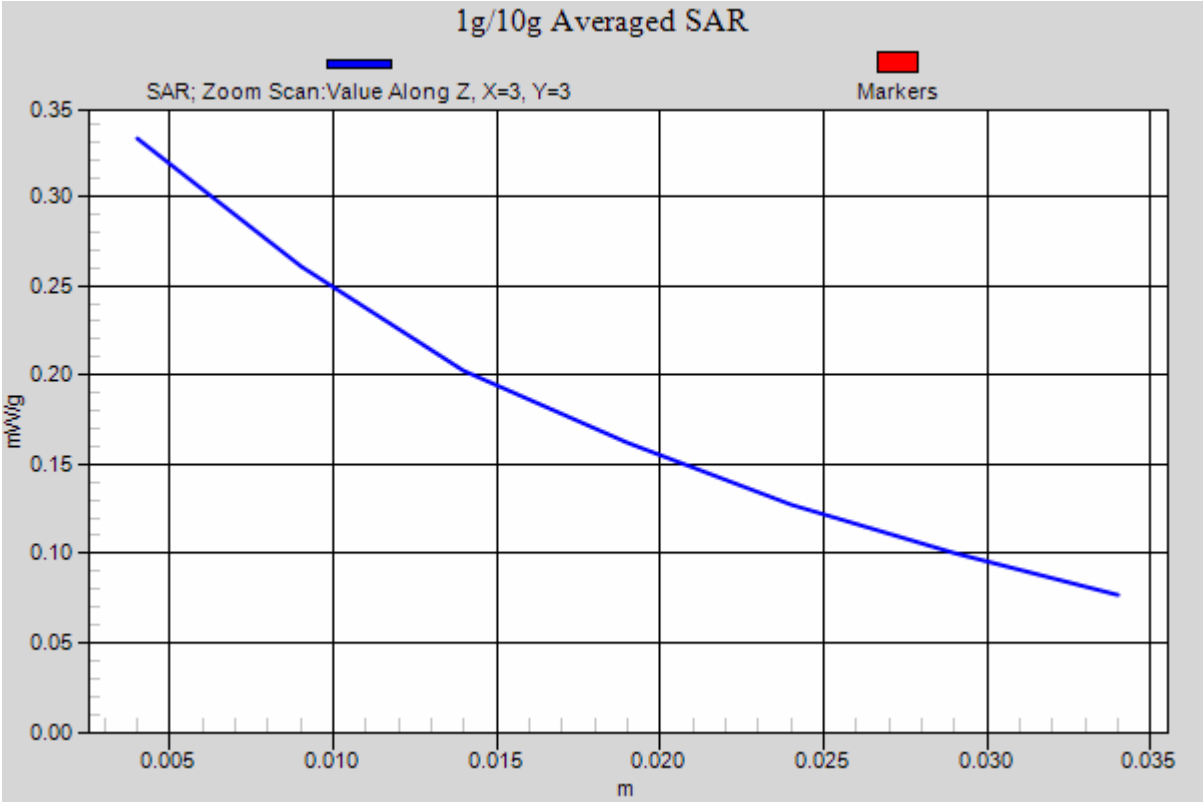


Figure 18 Z-Scan at power reference point (Slide Open, Left Hand Tilt 15° CDMA Cellular Channel 384)

CDMA Cellular Right Cheek High Slide Open

Date/Time: 1/12/2010 10:20:15 AM

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

Medium parameters used (interpolated): f = 848.31 MHz; σ = 0.91 mho/m; ε_r = 42.5; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.2, 9.2, 9.2); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.663 mW/g

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

Reference Value = 9.62 V/m; Power Drift = -0.024 dB

Peak SAR (extrapolated) = 0.797 W/kg

SAR(1 g) = 0.627 mW/g; SAR(10 g) = 0.460 mW/g

Maximum value of SAR (measured) = 0.663 mW/g

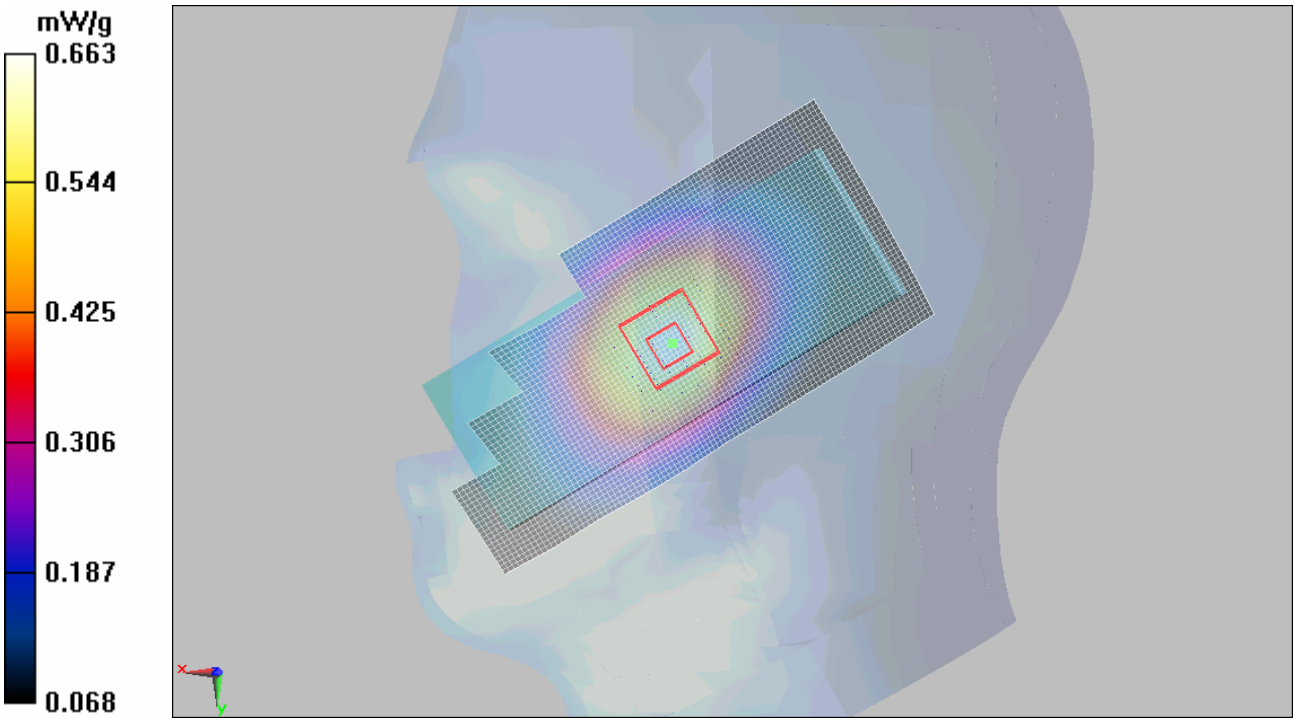


Figure 19 Slide Open, Right Hand Touch Cheek CDMA Cellular Channel 777

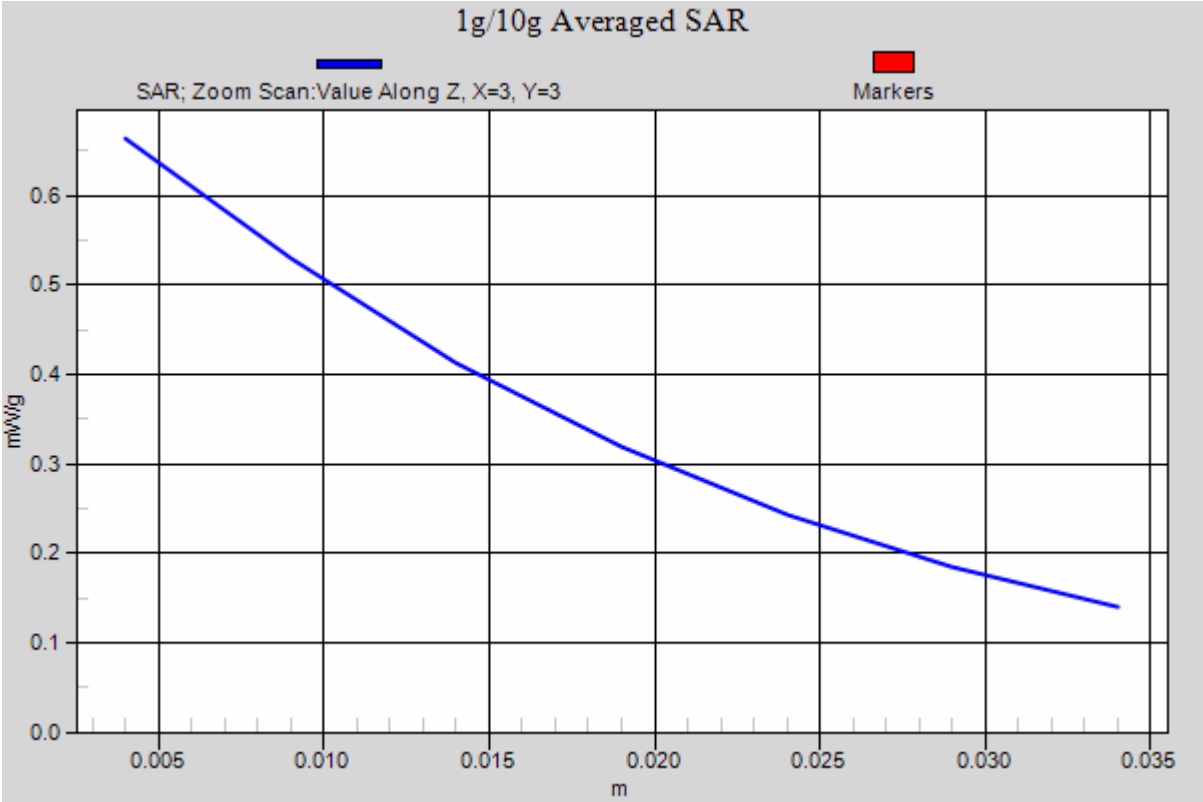


Figure 20 Z-Scan at power reference point (Slide Open, Right Hand Touch Cheek CDMA Cellular Channel 777)

CDMA Cellular Right Cheek Middle Slide Open

Date/Time: 1/11/2010 9:13:34 PM

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

Medium parameters used: f = 837 MHz; σ = 0.898 mho/m; ε_r = 42.6; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.2, 9.2, 9.2); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.653 mW/g

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

Reference Value = 9.47 V/m; Power Drift = -0.073 dB

Peak SAR (extrapolated) = 0.765 W/kg

SAR(1 g) = 0.608 mW/g; SAR(10 g) = 0.447 mW/g

Maximum value of SAR (measured) = 0.644 mW/g

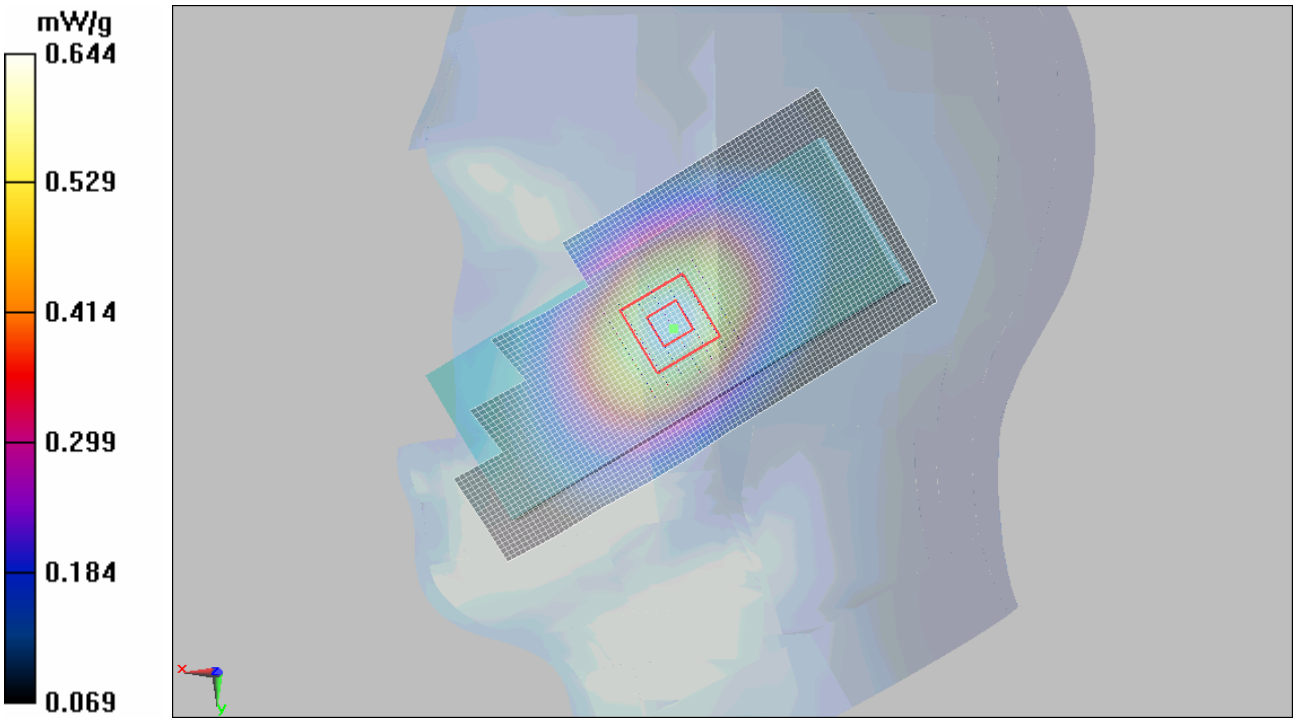


Figure 21 Slide Open, Right Hand Touch Cheek CDMA Cellular Channel 384

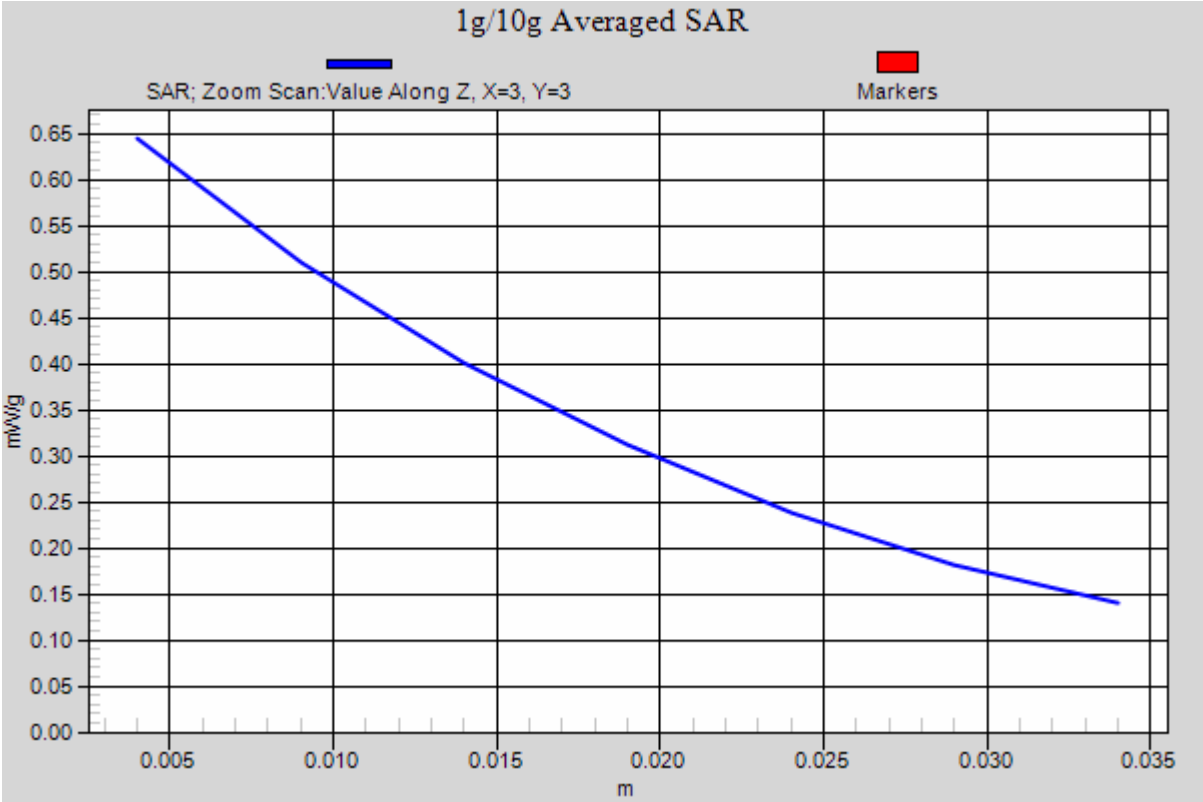


Figure 22 Z-Scan at power reference point (Slide Open, Right Hand Touch Cheek CDMA Cellular Channel 384)

CDMA Cellular Right Cheek Low Slide Open

Date/Time: 1/12/2010 10:41:47 AM

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

Medium parameters used: f = 825 MHz; σ = 0.886 mho/m; ε_r = 42.7; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.2, 9.2, 9.2); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.520 mW/g

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

Reference Value = 8.56 V/m; Power Drift = 0.179 dB

Peak SAR (extrapolated) = 0.620 W/kg

SAR(1 g) = 0.495 mW/g; SAR(10 g) = 0.365 mW/g

Maximum value of SAR (measured) = 0.523 mW/g

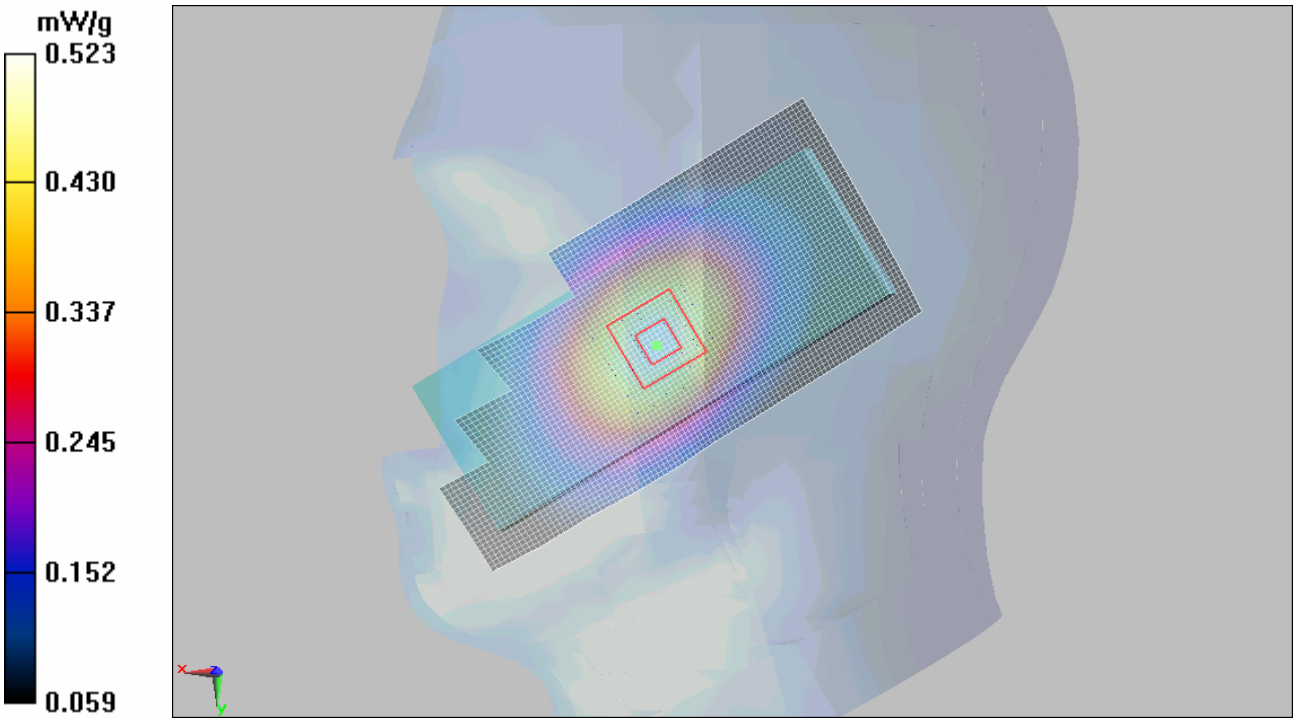


Figure 23 Slide Open, Right Hand Touch Cheek CDMA Cellular Channel 1013

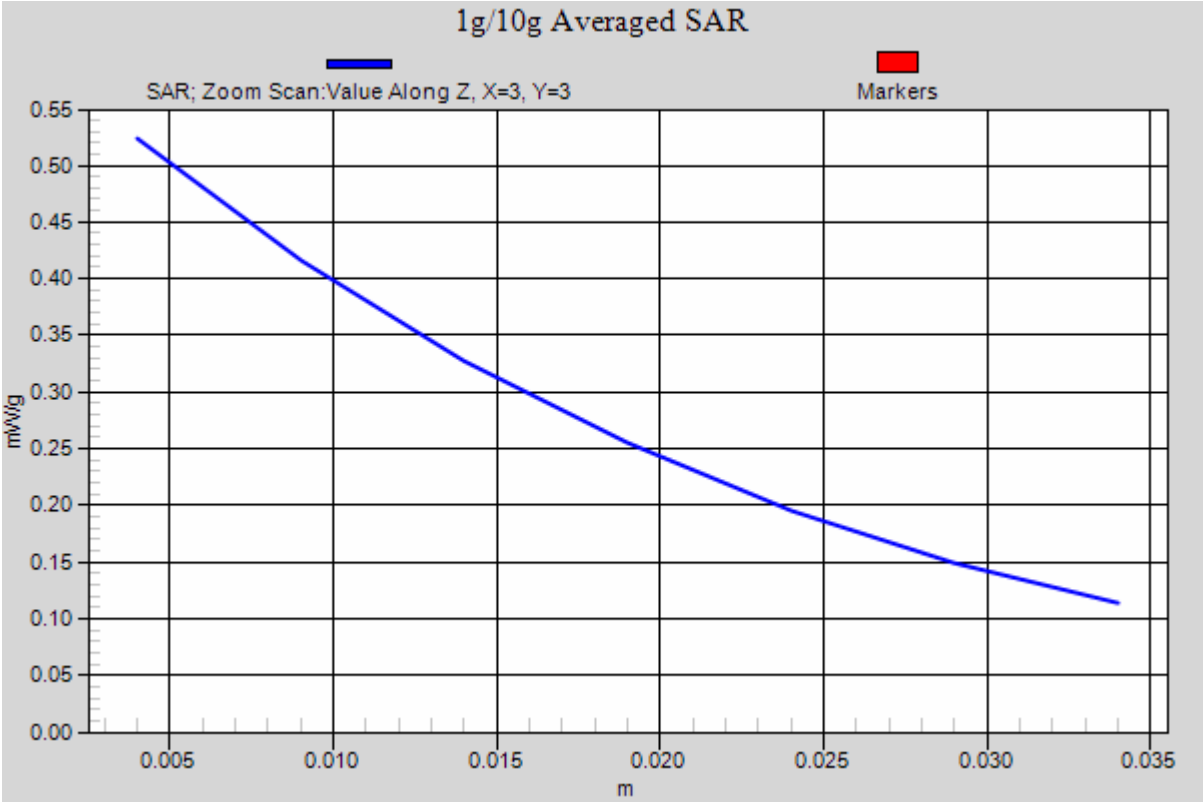


Figure 24 Z-Scan at power reference point (Slide Open, Right Hand Touch Cheek CDMA Cellular Channel 1013)

CDMA Cellular Right Tilt Middle Slide Open

Date/Time: 1/12/2010 11:11:05 AM

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

Medium parameters used: f = 837 MHz; σ = 0.898 mho/m; ε_r = 42.6; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.2, 9.2, 9.2); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

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

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

Reference Value = 14.2 V/m; Power Drift = -0.008 dB

Peak SAR (extrapolated) = 0.403 W/kg

SAR(1 g) = 0.310 mW/g; SAR(10 g) = 0.232 mW/g

Maximum value of SAR (measured) = 0.328 mW/g

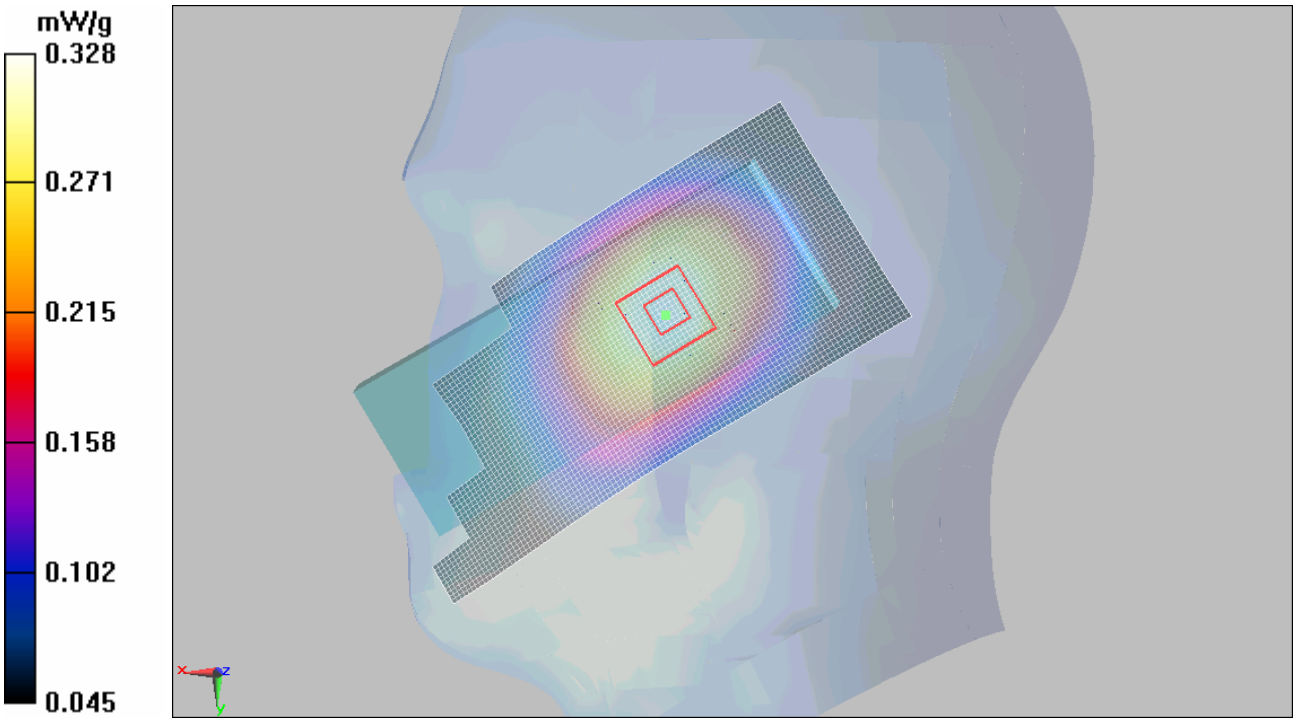


Figure 25 Slide Open, Right Hand Tilt 15° CDMA Cellular Channel 384

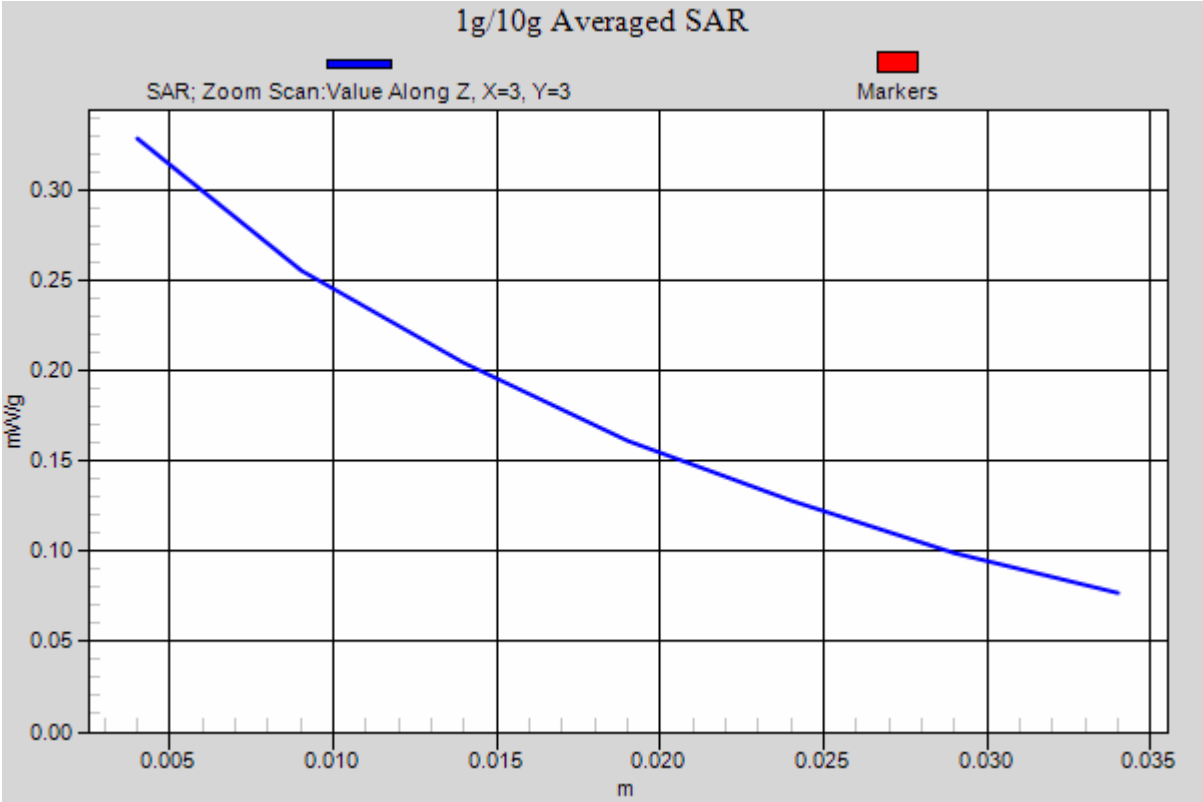


Figure 26 Z-Scan at power reference point (Slide Open, Right Hand Tilt 15° CDMA Cellular Channel 384)

CDMA Cellular Towards Ground High Slide Open

Date/Time: 1/12/2010 5:19:28 PM

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

Medium parameters used (interpolated): f = 848.31 MHz; σ = 1 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.11, 9.11, 9.11); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.805 mW/g

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

Reference Value = 18.4 V/m; Power Drift = 0.009 dB

Peak SAR (extrapolated) = 0.984 W/kg

SAR(1 g) = 0.731 mW/g; SAR(10 g) = 0.527 mW/g

Maximum value of SAR (measured) = 0.776 mW/g

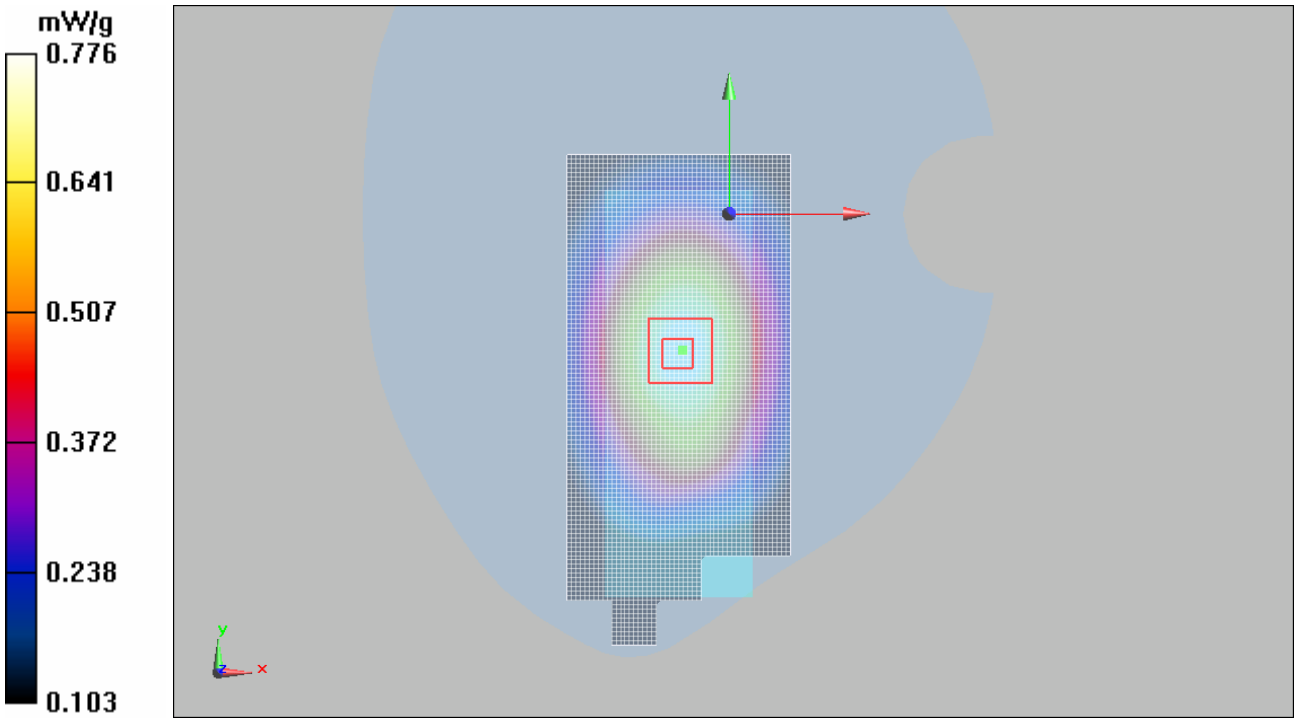


Figure 27 Body, Slide Open, Towards Ground, CDMA Cellular Channel 777

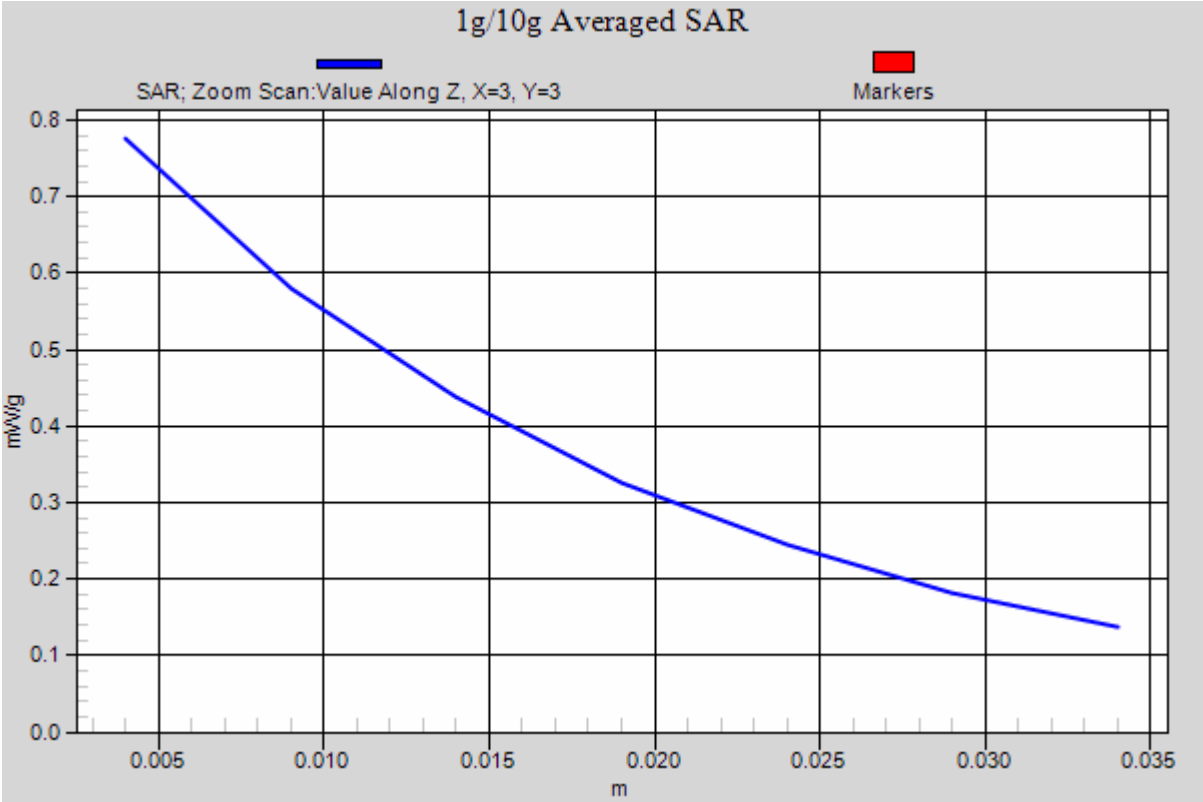


Figure 28 Z-Scan at power reference point (Body, Slide Open, Towards Ground, CDMA Cellular Channel 777)

CDMA Cellular Towards Ground Middle Slide Open

Date/Time: 1/12/2010 5:27:09 PM

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

Medium parameters used: f = 837 MHz; σ = 0.989 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.11, 9.11, 9.11); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.797 mW/g

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

Reference Value = 9.89 V/m; Power Drift = 0.139 dB

Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.791 mW/g; SAR(10 g) = 0.569 mW/g

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

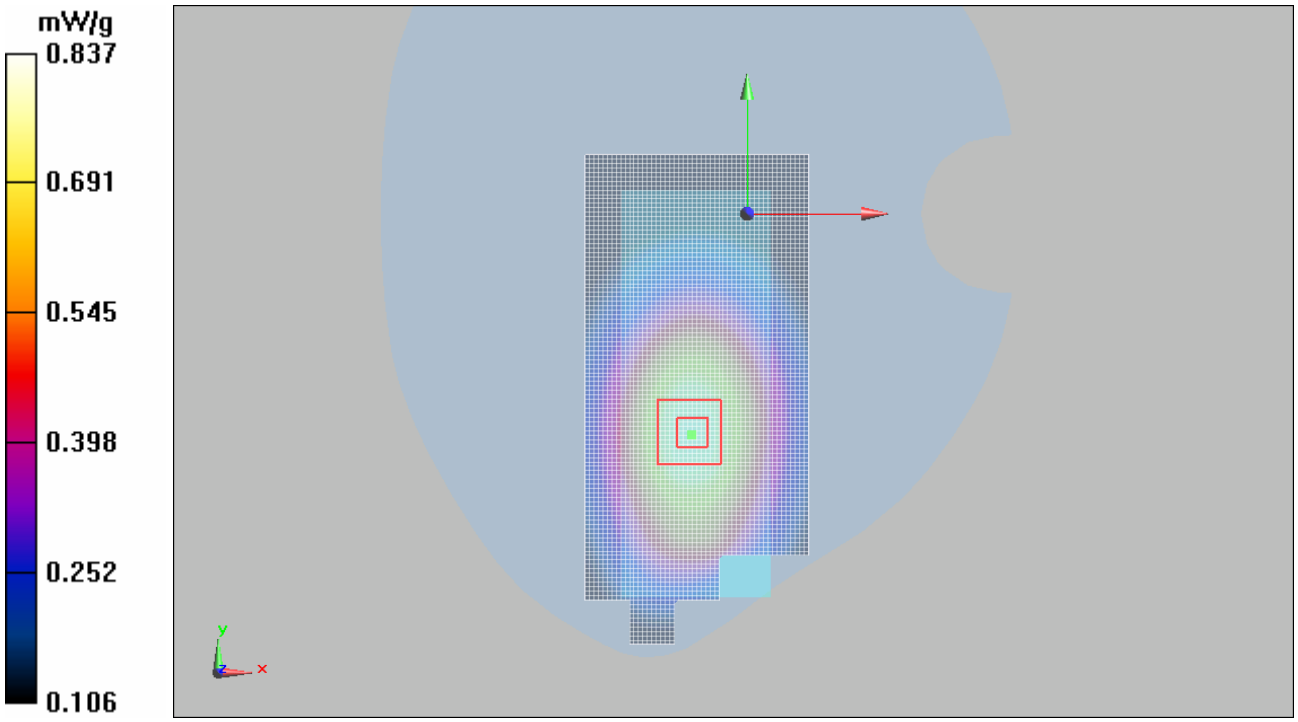


Figure 29 Body, Slide Open, Towards Ground, CDMA Cellular Channel 384

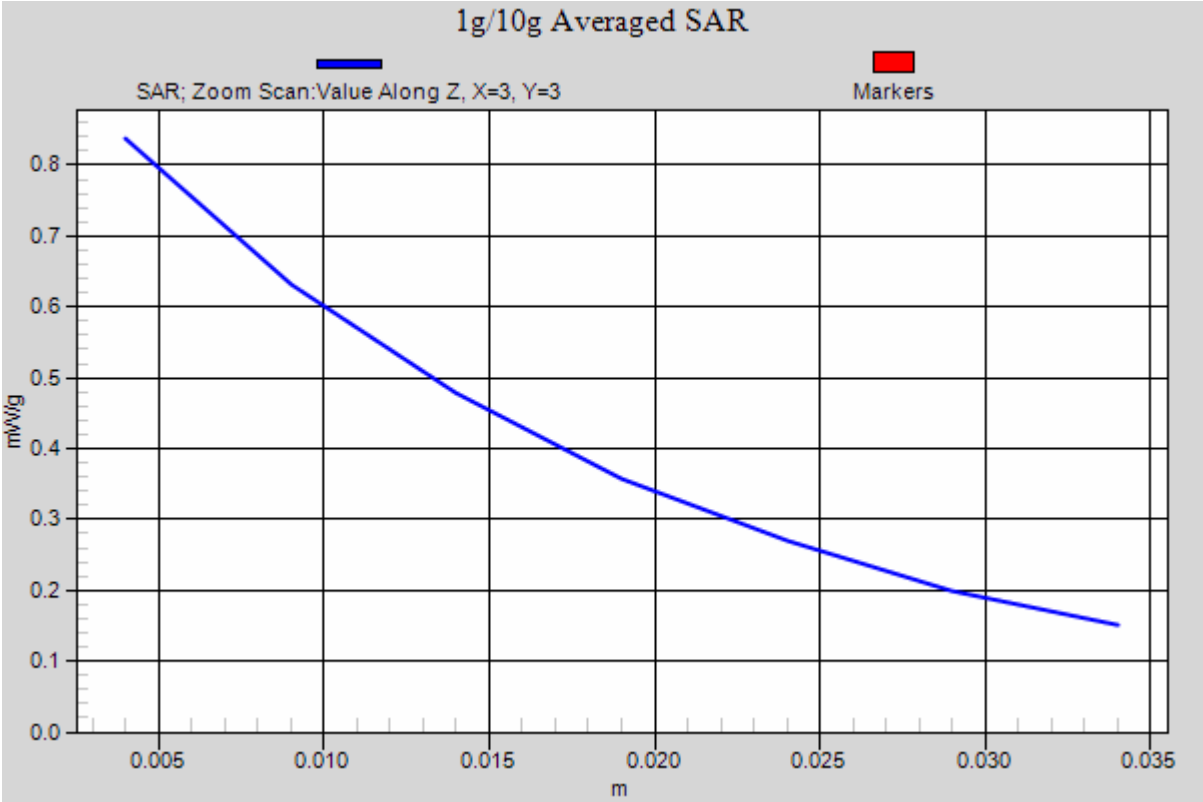


Figure 30 Z-Scan at power reference point (Body, Slide Open, Towards Ground, CDMA Cellular Channel 384)

CDMA Cellular Towards Ground Low Slide Open

Date/Time: 1/12/2010 5:41:07 PM

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

Medium parameters used: f = 825 MHz; σ = 0.971 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.11, 9.11, 9.11); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.727 mW/g

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

Reference Value = 17.3 V/m; Power Drift = -0.118 dB

Peak SAR (extrapolated) = 0.903 W/kg

SAR(1 g) = 0.679 mW/g; SAR(10 g) = 0.493 mW/g

Maximum value of SAR (measured) = 0.720 mW/g

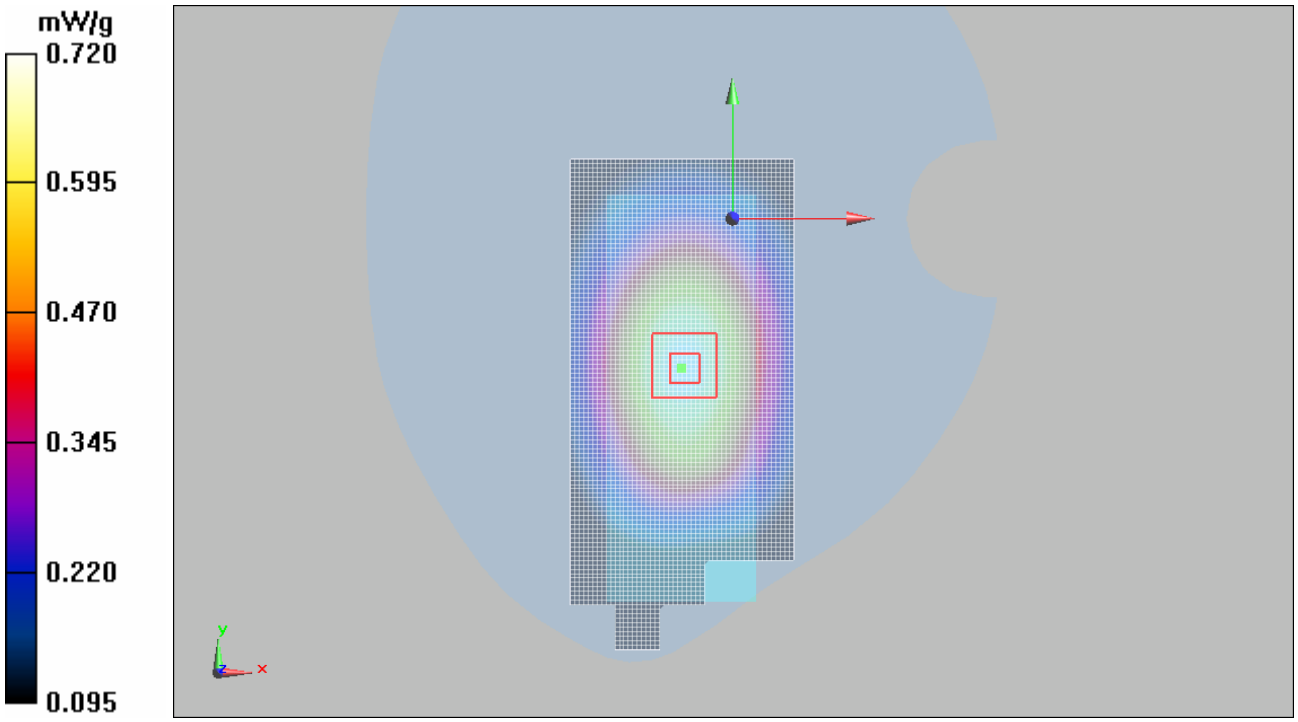


Figure 31 Body, Slide Open, Towards Ground, CDMA Cellular Channel 1013

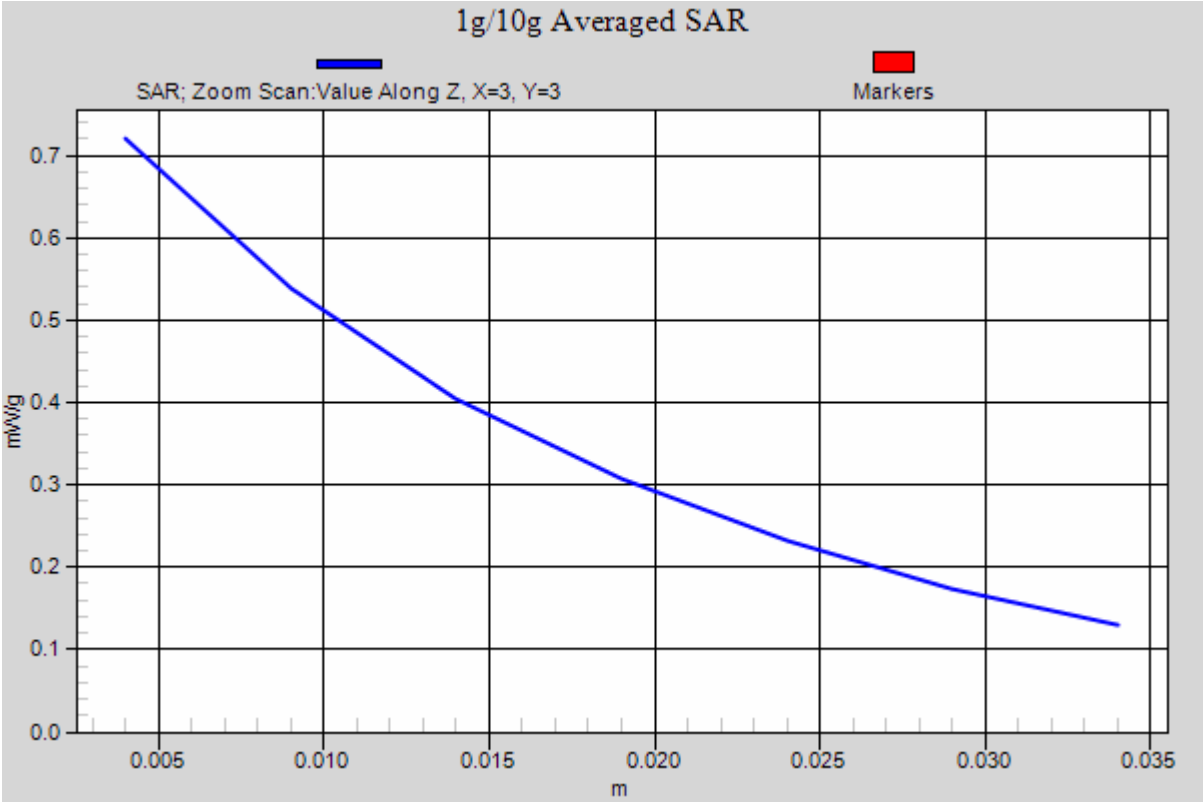


Figure 32 Z-Scan at power reference point (Body, Slide Open, Towards Ground, CDMA Cellular Channel 1013)

CDMA Cellular Towards Phantom Middle Slide Open

Date/Time: 1/12/2010 6:00:29 PM

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

Medium parameters used: f = 837 MHz; σ = 0.989 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.11, 9.11, 9.11); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.754 mW/g

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

Reference Value = 10.8 V/m; Power Drift = 0.013 dB

Peak SAR (extrapolated) = 0.945 W/kg

SAR(1 g) = 0.721 mW/g; SAR(10 g) = 0.530 mW/g

Maximum value of SAR (measured) = 0.762 mW/g

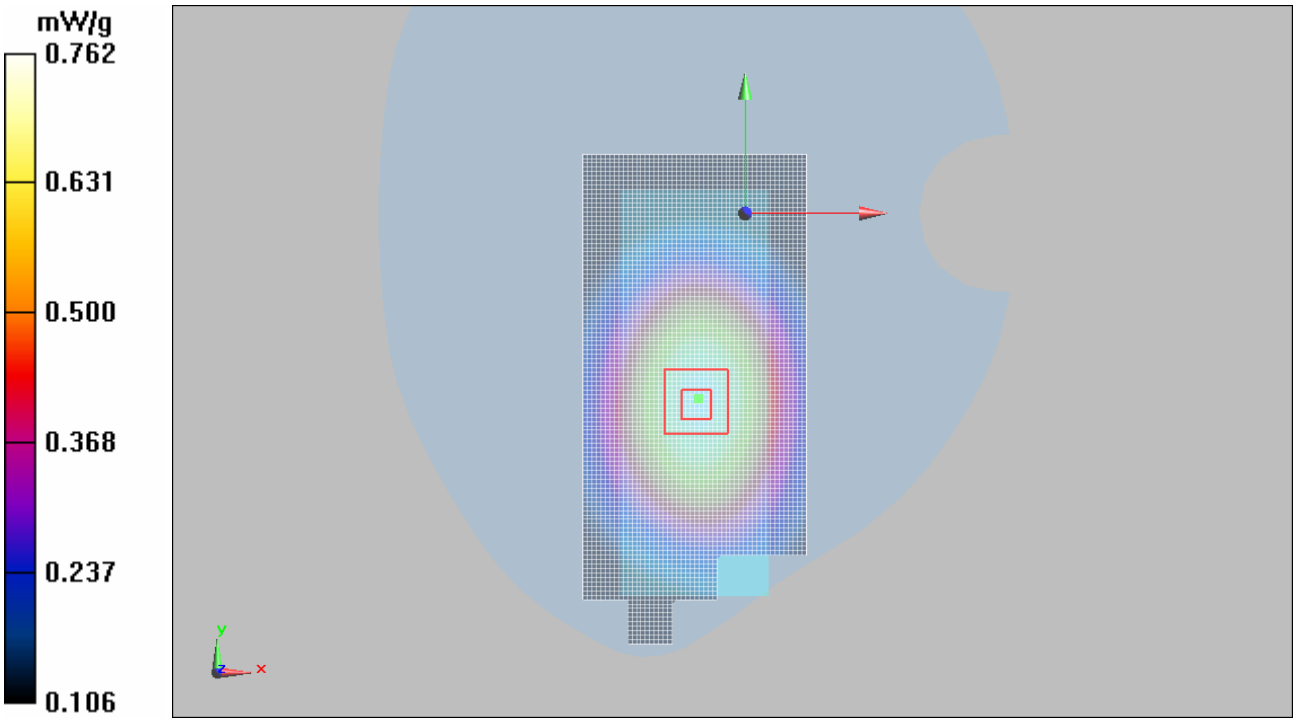


Figure 33 Body, Slide Open, Towards Phantom, CDMA Cellular Channel 384

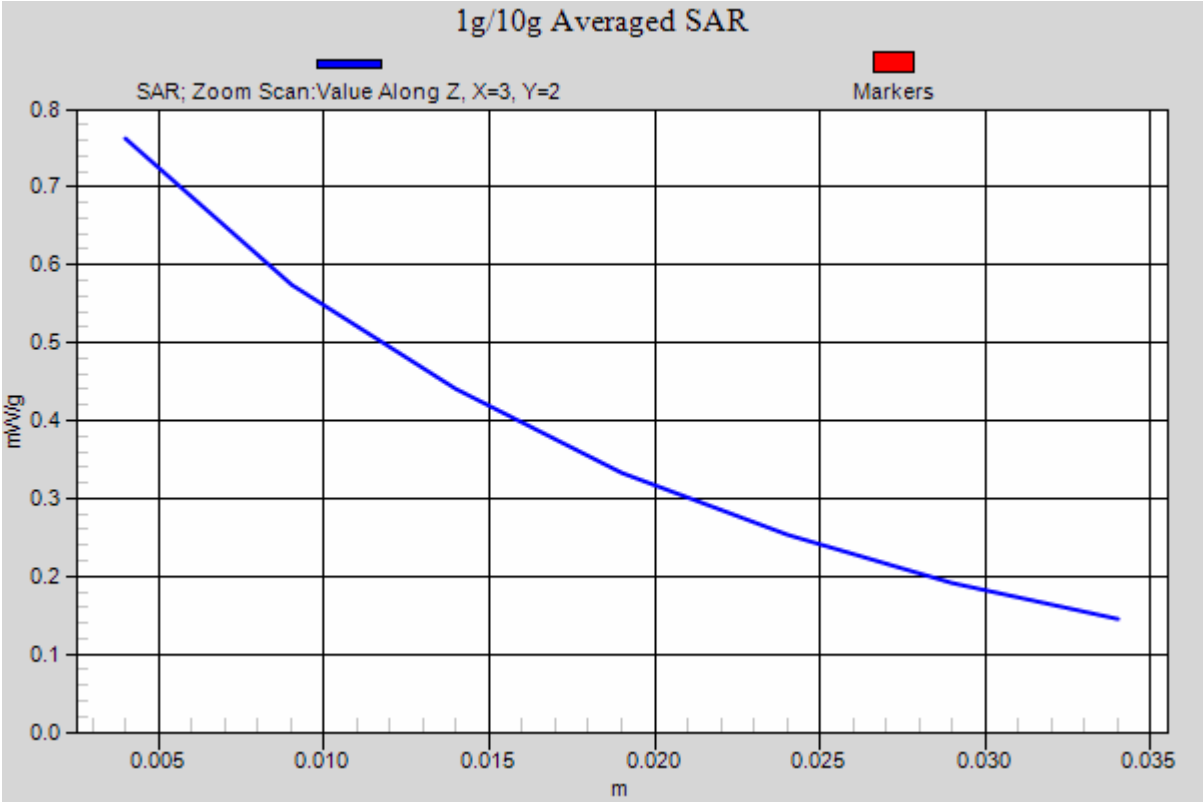


Figure 34 Z-Scan at power reference point (Body, Slide Open, Towards Phantom, CDMA Cellular Channel 384)

CDMA Cellular Left Cheek High Slide Close

Date/Time: 1/11/2010 6:50:16 PM

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

Medium parameters used (interpolated): f = 848.31 MHz; σ = 0.91 mho/m; ε_r = 42.5; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.2, 9.2, 9.2); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.475 mW/g

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

Reference Value = 9.15 V/m; Power Drift = -0.042 dB

Peak SAR (extrapolated) = 0.610 W/kg

SAR(1 g) = 0.462 mW/g; SAR(10 g) = 0.334 mW/g

Maximum value of SAR (measured) = 0.493 mW/g

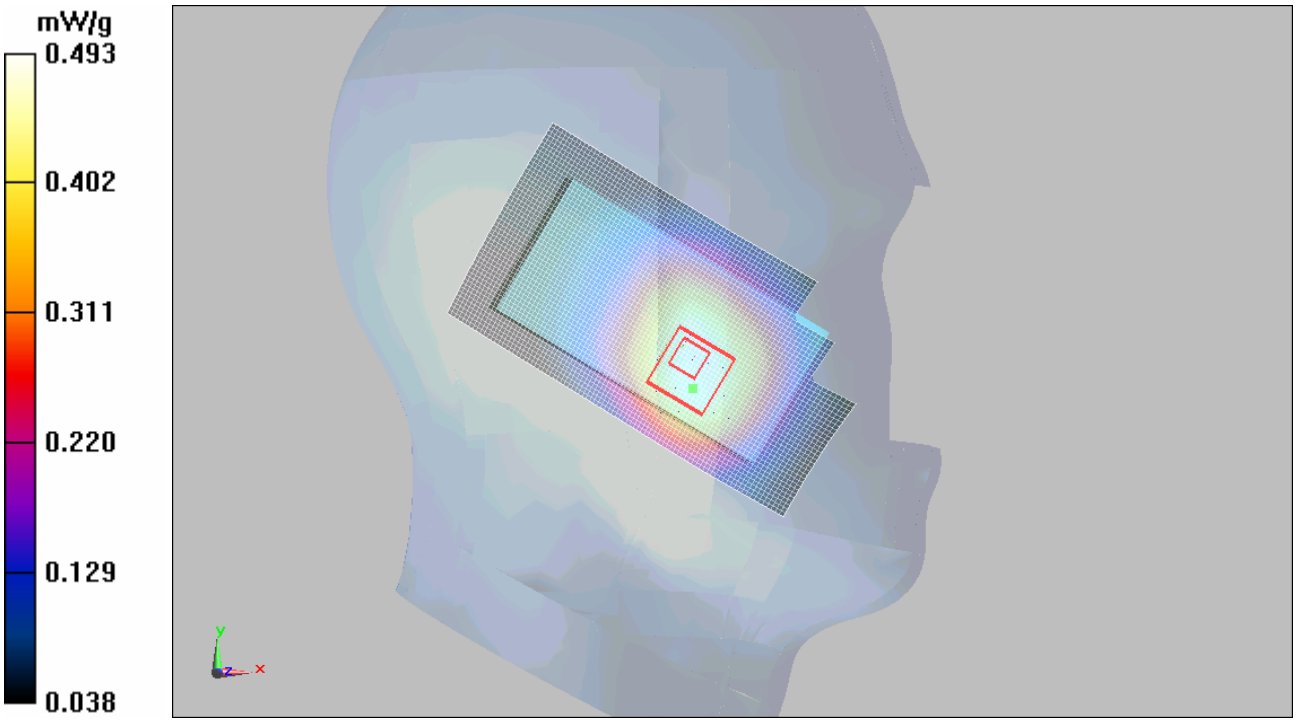


Figure 35 Slide Close, Left Hand Touch Cheek CDMA Cellular Channel 777

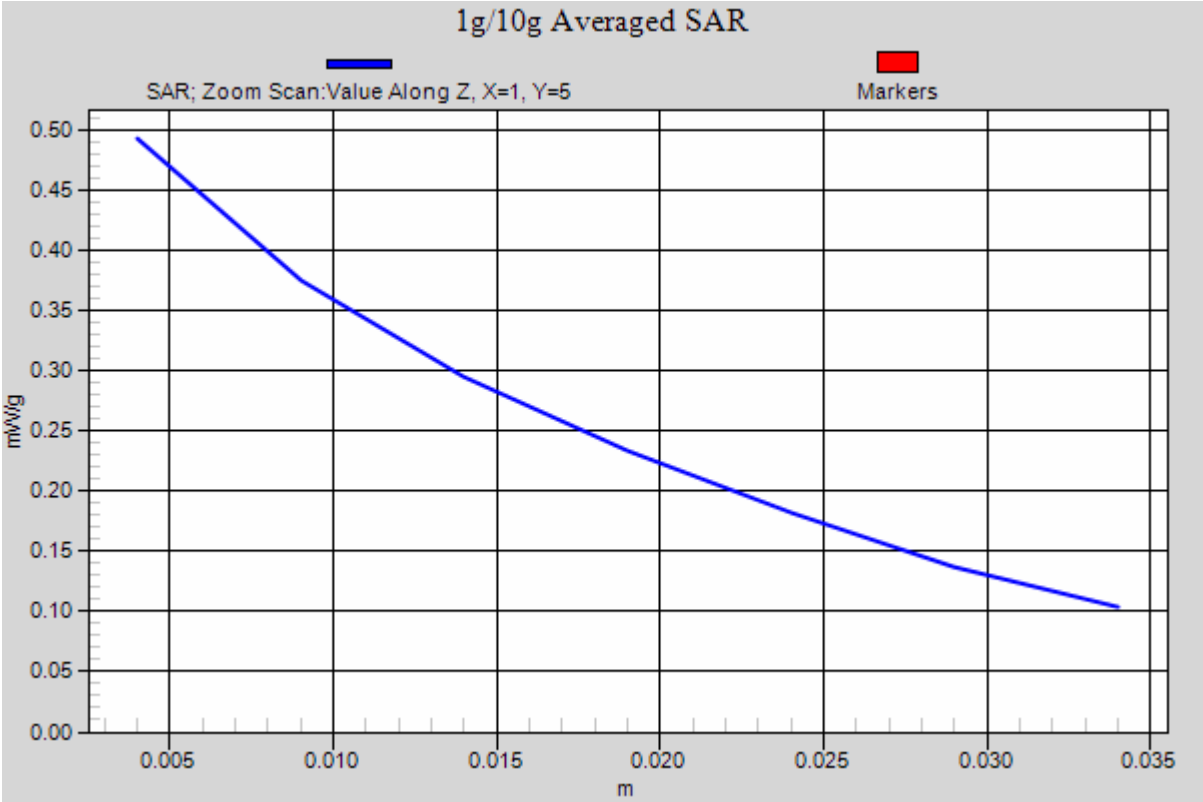


Figure 36 Z-Scan at power reference point (Slide Close, Left Hand Touch Cheek CDMA Cellular Channel 777)

CDMA Cellular Left Cheek Middle Slide Close

Date/Time: 1/11/2010 2:48:58 PM

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

Medium parameters used: f = 837 MHz; σ = 0.924 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EEX3DV4 - SN3677; ConvF(9.2, 9.2, 9.2); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM 12; Type: SAM V4.0;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.444 mW/g

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

Reference Value = 7.65 V/m; Power Drift = 0.094 dB

Peak SAR (extrapolated) = 0.568 W/kg

SAR(1 g) = 0.411 mW/g; SAR(10 g) = 0.302 mW/g

Maximum value of SAR (measured) = 0.435 mW/g

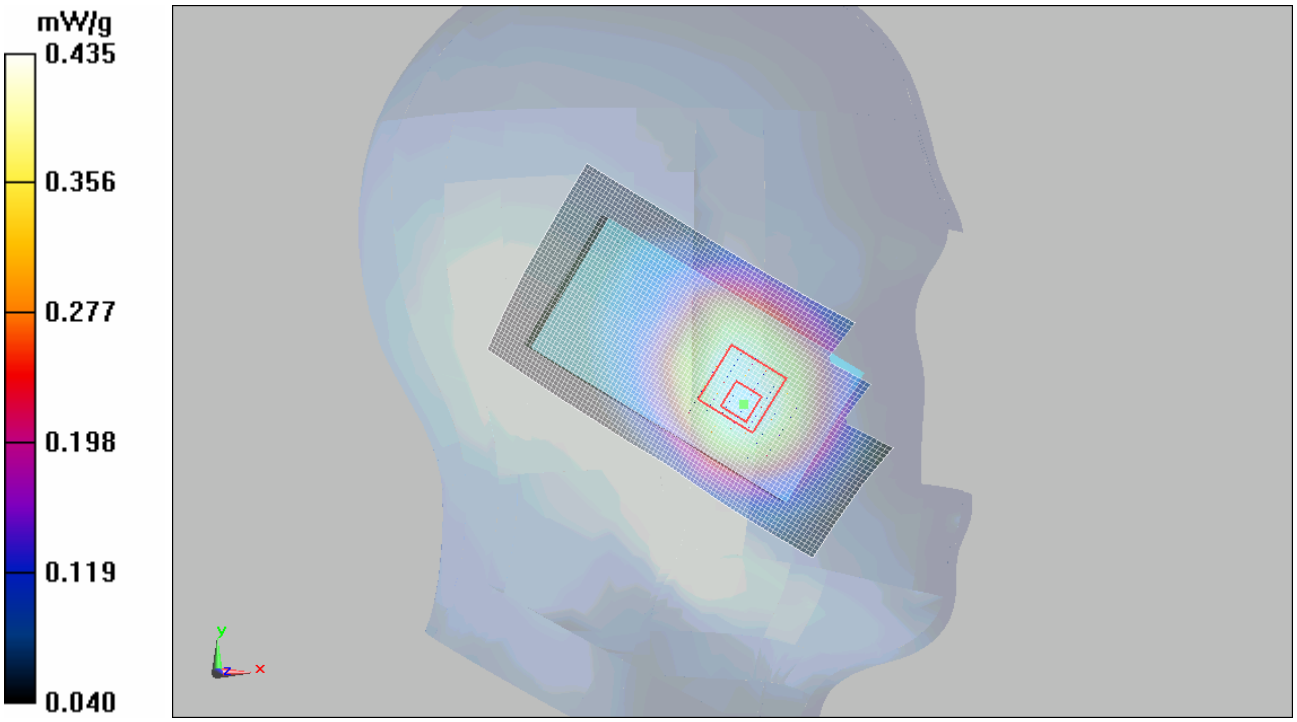


Figure 37 Slide Close, Left Hand Touch Cheek CDMA Cellular Channel 384

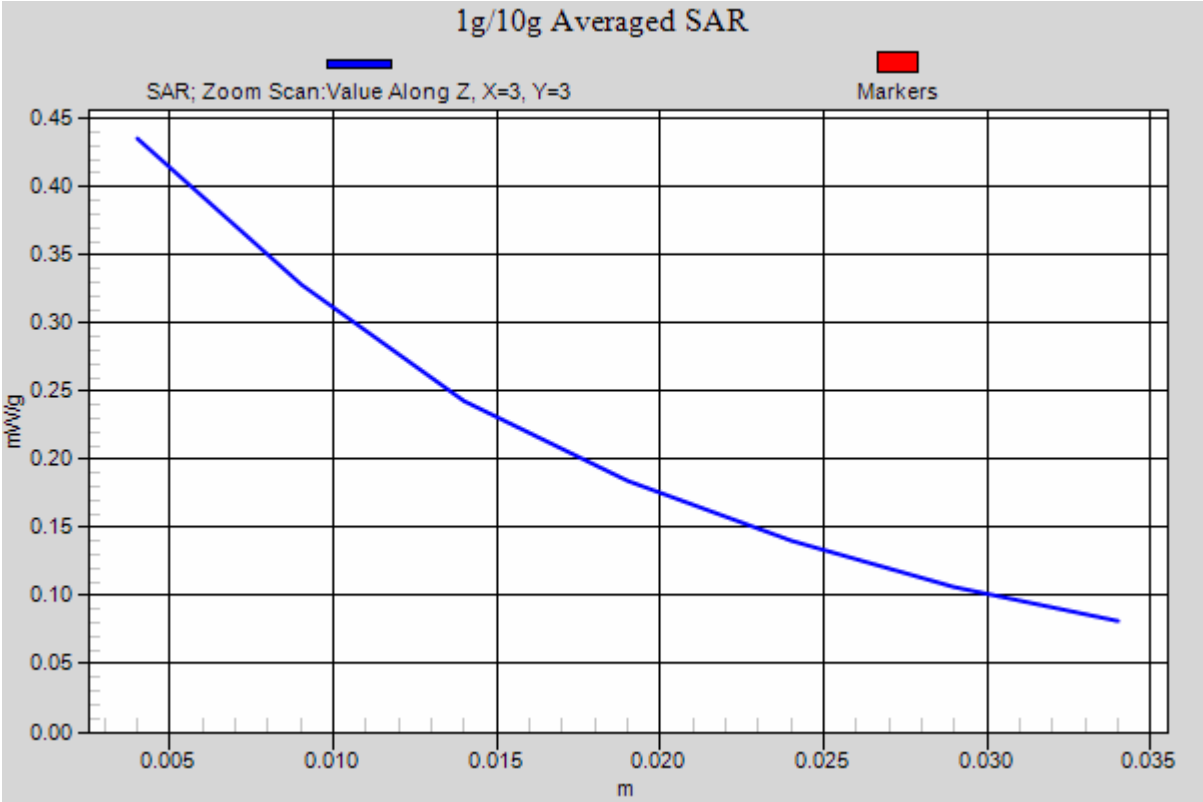


Figure 38 Z-Scan at power reference point (Slide Close, Left Hand Touch Cheek CDMA Cellular Channel 384)

CDMA Cellular Left Cheek Low Slide Close

Date/Time: 1/11/2010 7:11:12 PM

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

Medium parameters used: f = 825 MHz; σ = 0.886 mho/m; ε_r = 42.7; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.2, 9.2, 9.2); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.560 mW/g

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

Reference Value = 8.33 V/m; Power Drift = -0.034 dB

Peak SAR (extrapolated) = 0.703 W/kg

SAR(1 g) = 0.530 mW/g; SAR(10 g) = 0.386 mW/g

Maximum value of SAR (measured) = 0.557 mW/g

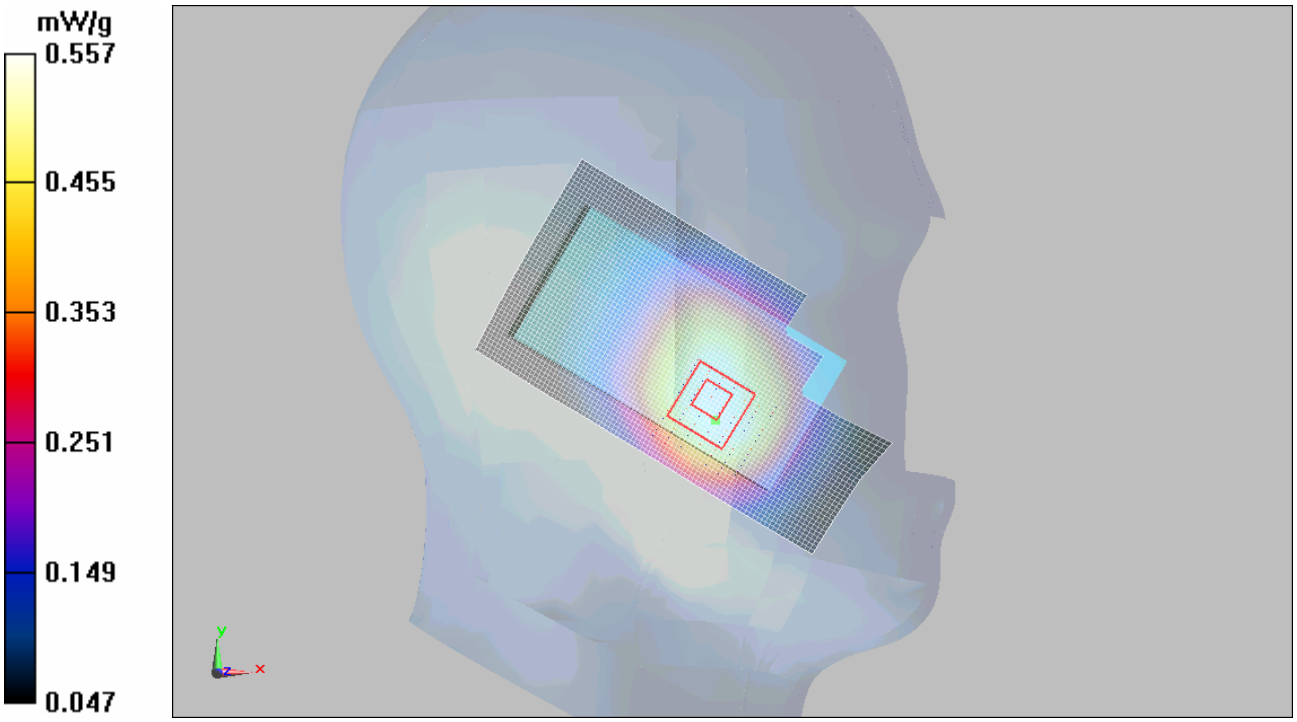


Figure 39 Slide Close, Left Hand Touch Cheek CDMA Cellular Channel 1013

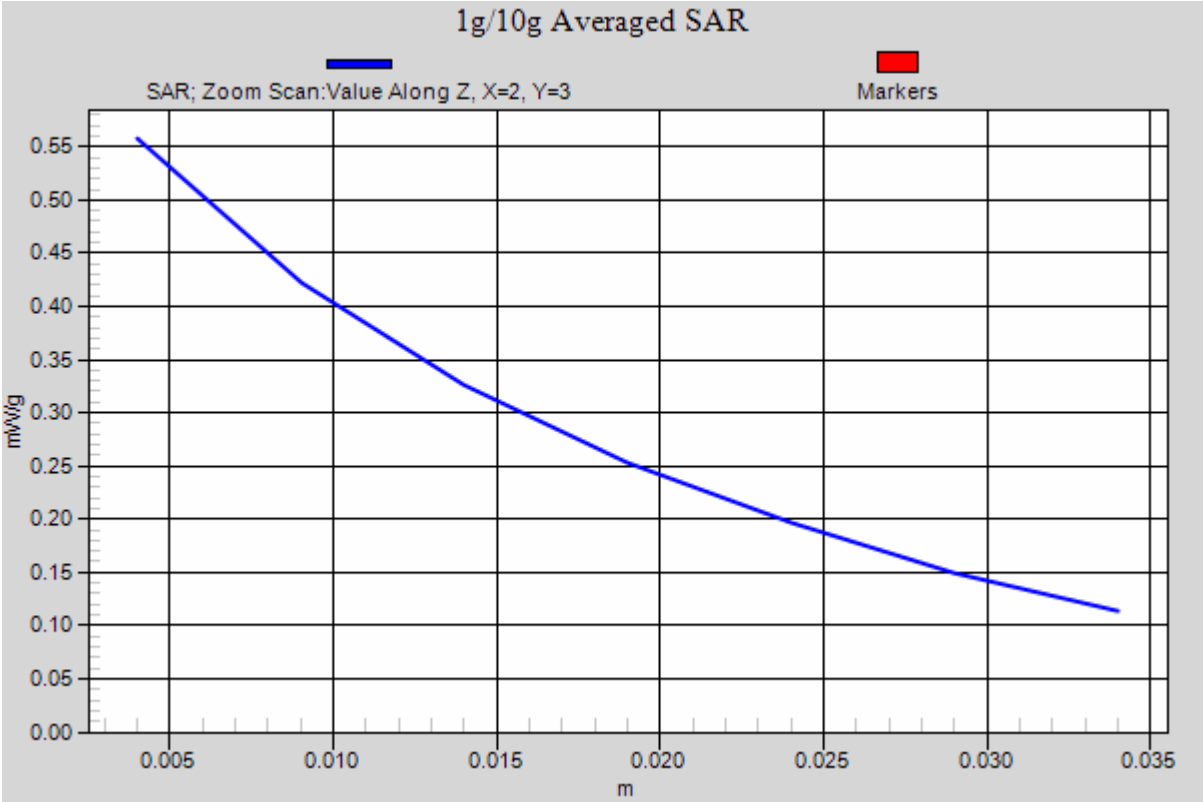


Figure 40 Z-Scan at power reference point (Slide Close, Left Hand Touch Cheek CDMA Cellular Channel 1013)

CDMA Cellular Left Tilt Middle Slide Close

Date/Time: 1/11/2010 7:36:14 PM

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

Medium parameters used: f = 837 MHz; σ = 0.898 mho/m; ε_r = 42.6; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.2, 9.2, 9.2); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.299 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 = 0.063 dB

Peak SAR (extrapolated) = 0.372 W/kg

SAR(1 g) = 0.290 mW/g; SAR(10 g) = 0.219 mW/g

Maximum value of SAR (measured) = 0.306 mW/g

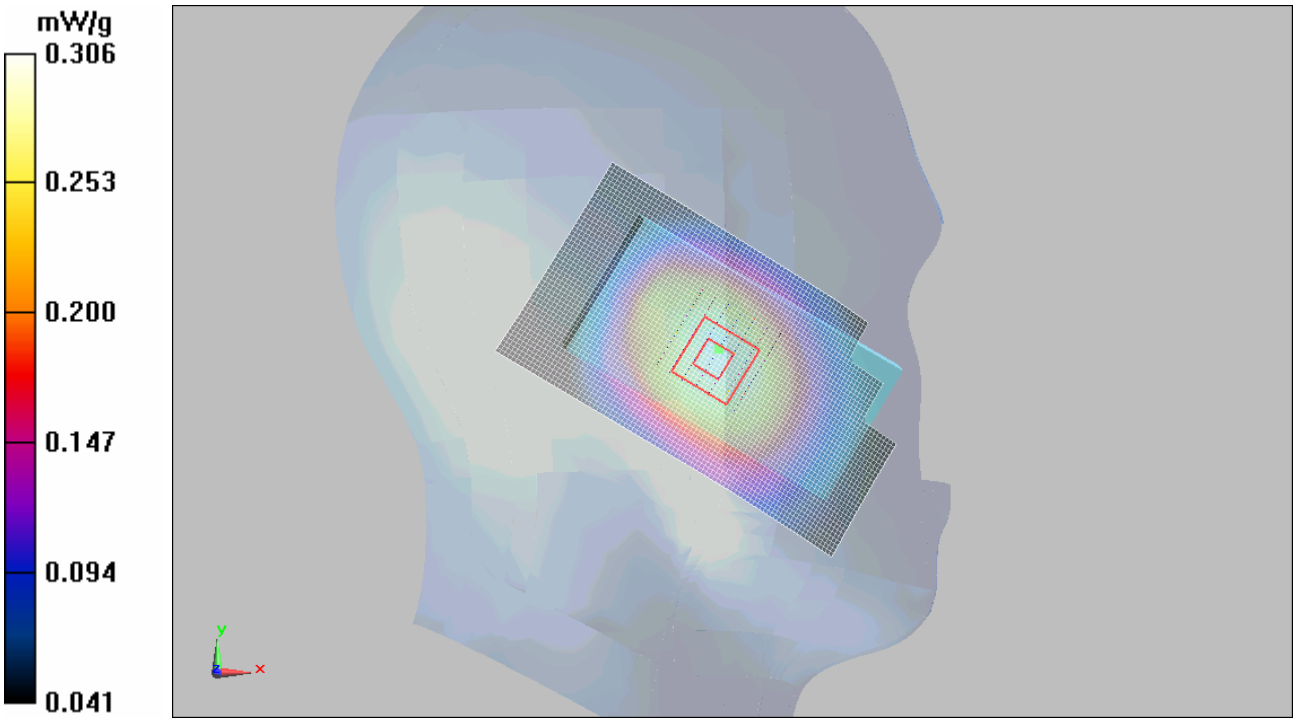


Figure 41 Slide Close, Left Hand Tilt 15° CDMA Cellular Channel 384

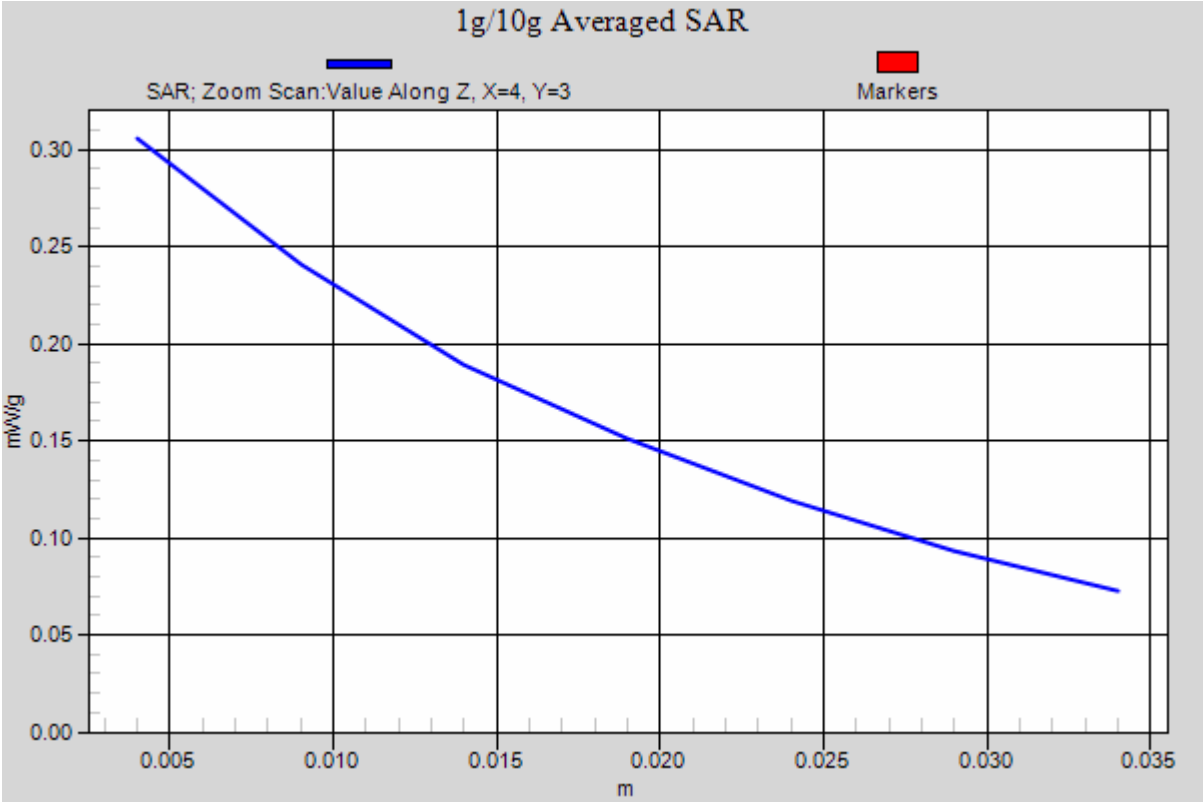


Figure 42 Z-Scan at power reference point (Slide Close, Left Hand Tilt 15° CDMA Cellular Channel 384)

CDMA Cellular Right Cheek Middle Slide Close

Date/Time: 1/11/2010 1:24:11 PM

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

Medium parameters used: f = 837 MHz; σ = 0.924 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EEX3DV4 - SN3677; ConvF(9.2, 9.2, 9.2); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM 12; Type: SAM V4.0;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.301 mW/g

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

Reference Value = 7.28 V/m; Power Drift = 0.063 dB

Peak SAR (extrapolated) = 0.355 W/kg

SAR(1 g) = 0.289 mW/g; SAR(10 g) = 0.222 mW/g

Maximum value of SAR (measured) = 0.302 mW/g

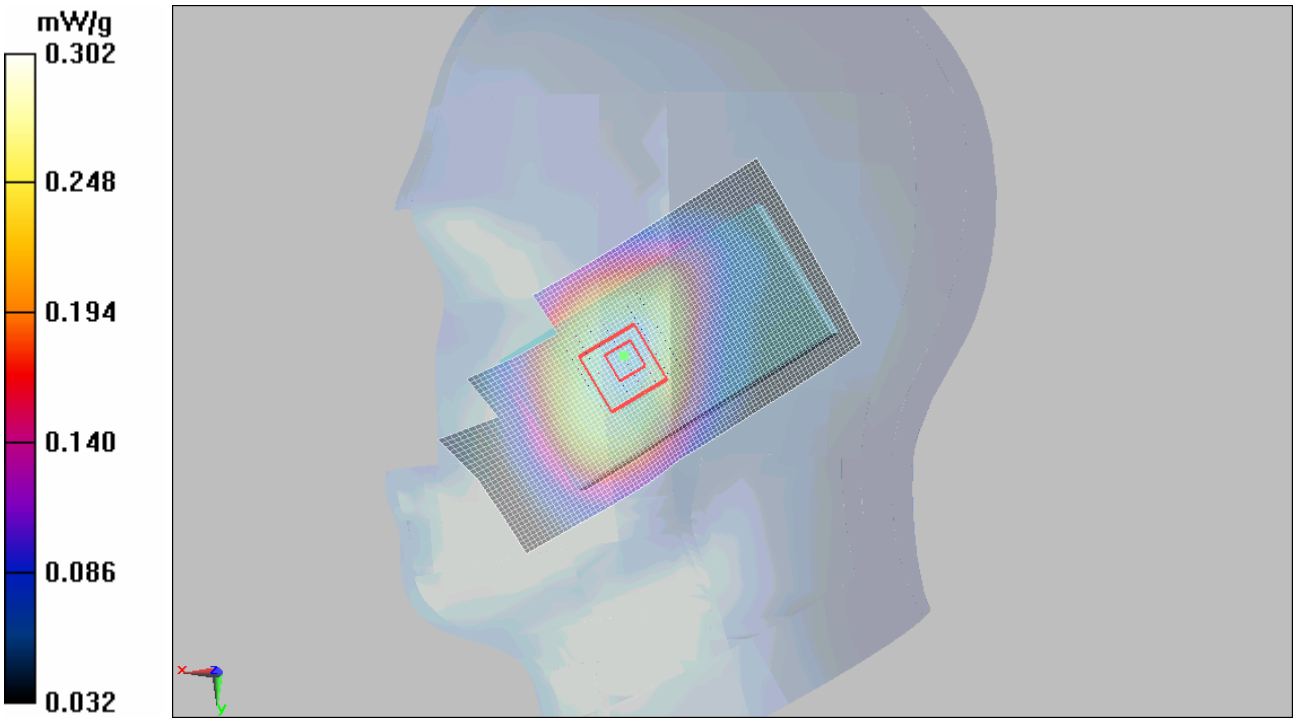


Figure 43 Slide Close, Right Hand Touch Cheek CDMA Cellular Channel 384

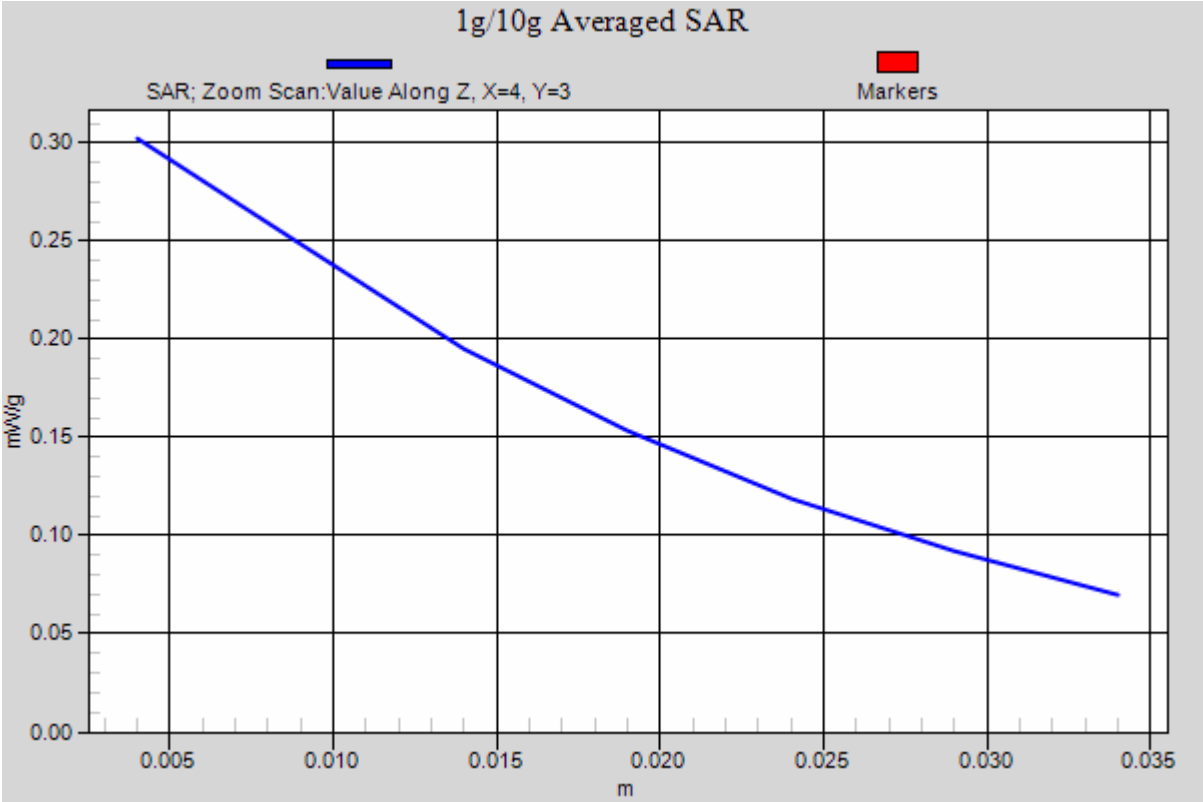


Figure 44 Z-Scan at power reference point (Slide Close, Right Hand Touch Cheek CDMA Cellular Channel 384)

CDMA Cellular Right Tilt Middle Slide Close

Date/Time: 1/11/2010 2:26:43 PM

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

Medium parameters used: f = 837 MHz; σ = 0.924 mho/m; ε_r = 41.8; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EEX3DV4 - SN3677; ConvF(9.2, 9.2, 9.2); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM 12; Type: SAM V4.0;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

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

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

Reference Value = 13.8 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 0.340 W/kg

SAR(1 g) = 0.272 mW/g; SAR(10 g) = 0.207 mW/g

Maximum value of SAR (measured) = 0.285 mW/g

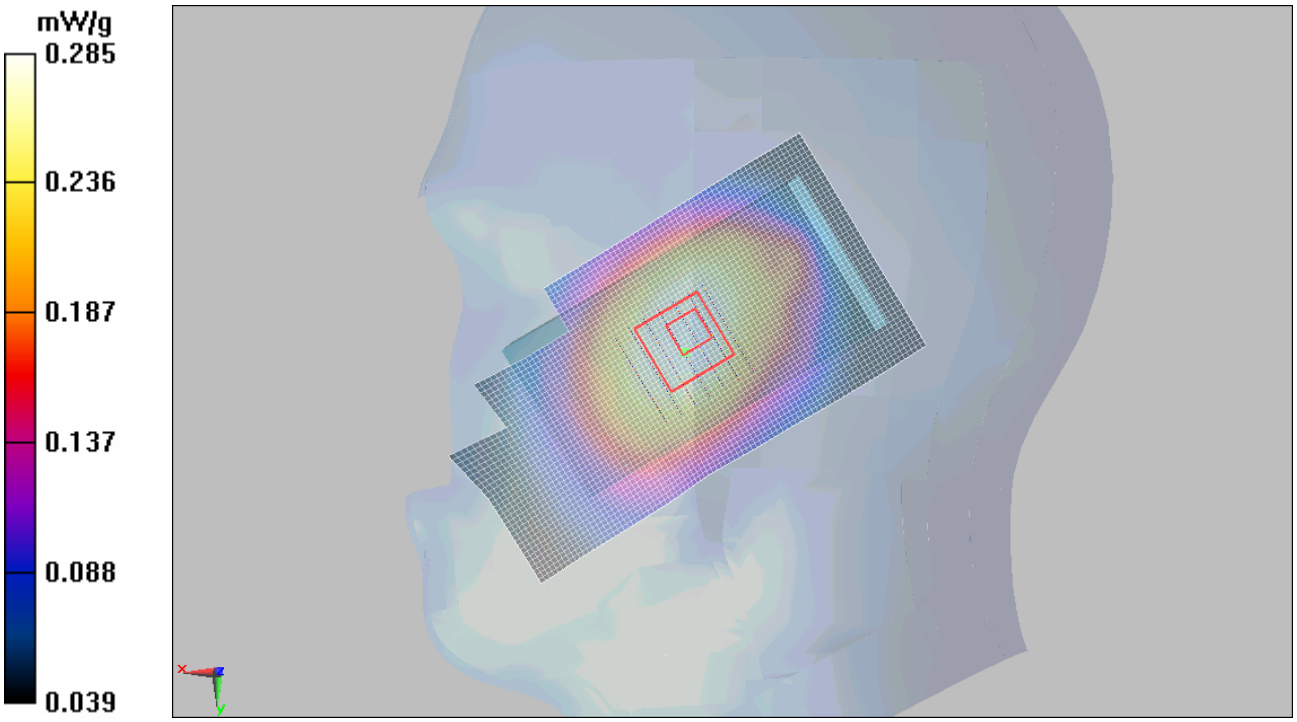


Figure 45 Slide Close, Right Hand Tilt 15° CDMA Cellular Channel 384

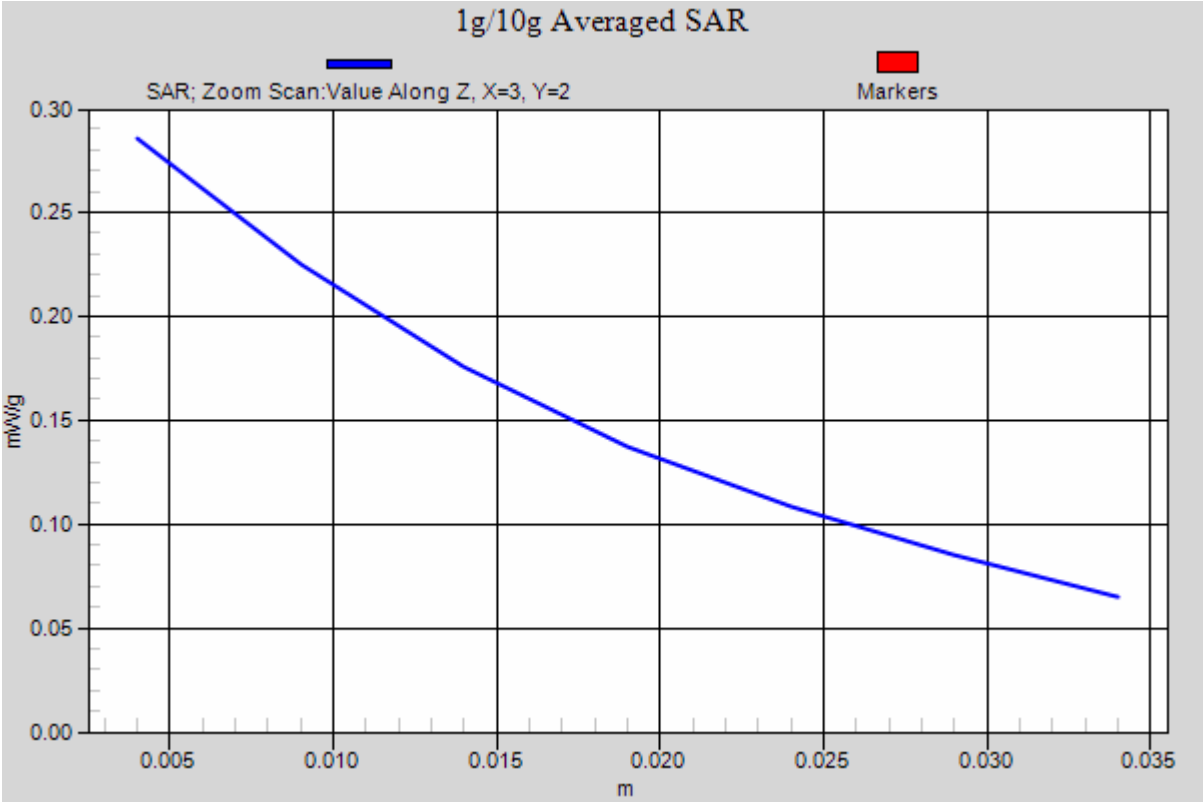


Figure 46 Z-Scan at power reference point (Slide Close, Right Hand Tilt 15° CDMA Cellular Channel 384)

CDMA Cellular Towards Ground High Slide Close

Date/Time: 1/12/2010 6:31:53 PM

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

Medium parameters used (interpolated): f = 848.31 MHz; σ = 1 mho/m; ε_r = 53.4; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.11, 9.11, 9.11); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

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

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

Reference Value = 8.71 V/m; Power Drift = 0.000 dB

Peak SAR (extrapolated) = 0.881 W/kg

SAR(1 g) = 0.605 mW/g; SAR(10 g) = 0.419 mW/g

Maximum value of SAR (measured) = 0.652 mW/g

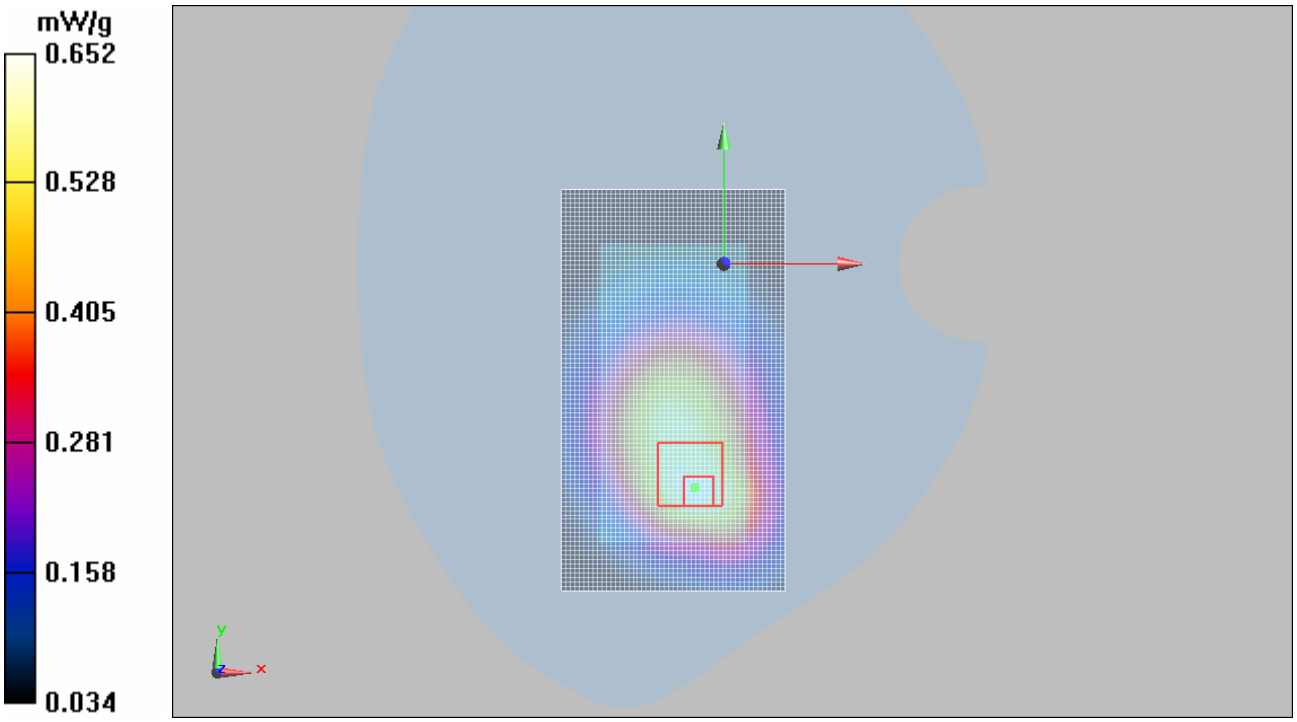


Figure 47 Body, Slide Close, Towards Ground, CDMA Cellular Channel 777

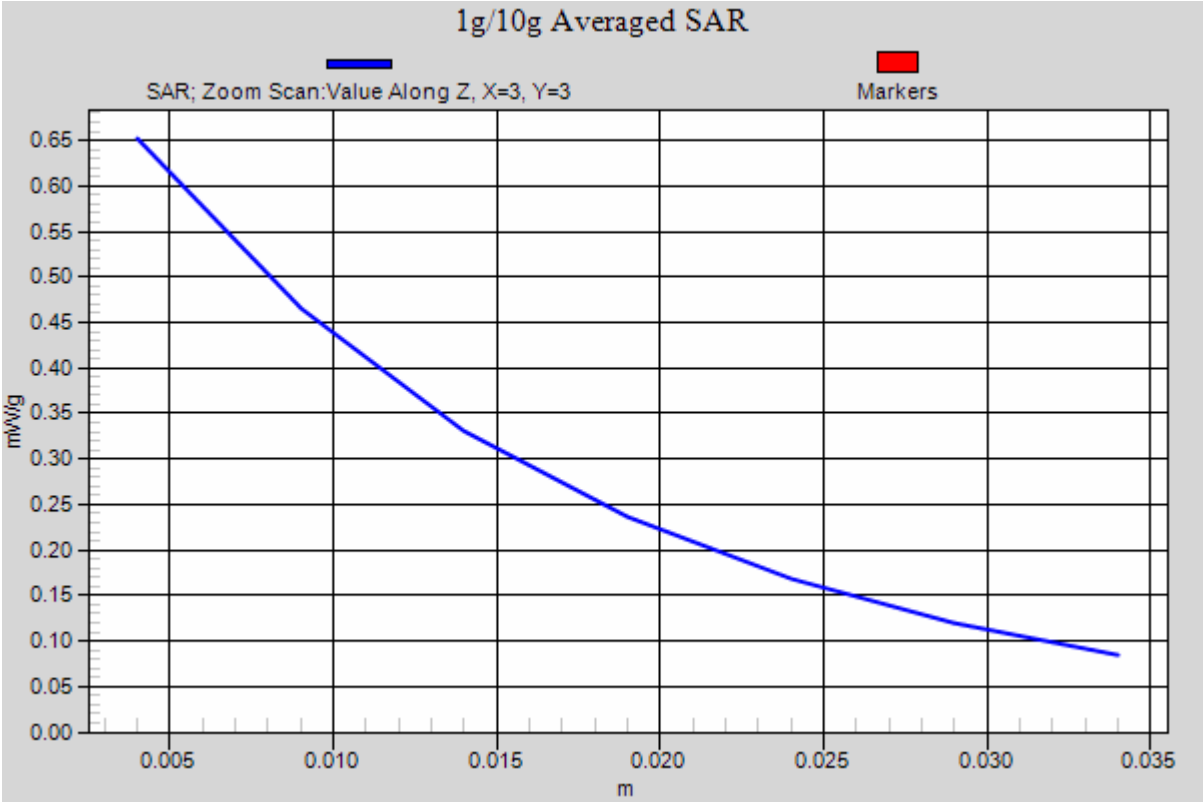


Figure 48 Z-Scan at power reference point (Body, Slide Close, Towards Ground, CDMA Cellular Channel 777)

CDMA Cellular Towards Ground Middle Slide Close

Date/Time: 1/12/2010 5:05:24 PM

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

Medium parameters used: f = 837 MHz; σ = 0.989 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.11, 9.11, 9.11); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

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

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

Reference Value = 9.29 V/m; Power Drift = -0.165 dB

Peak SAR (extrapolated) = 0.945 W/kg

SAR(1 g) = 0.640 mW/g; SAR(10 g) = 0.439 mW/g

Maximum value of SAR (measured) = 0.688 mW/g

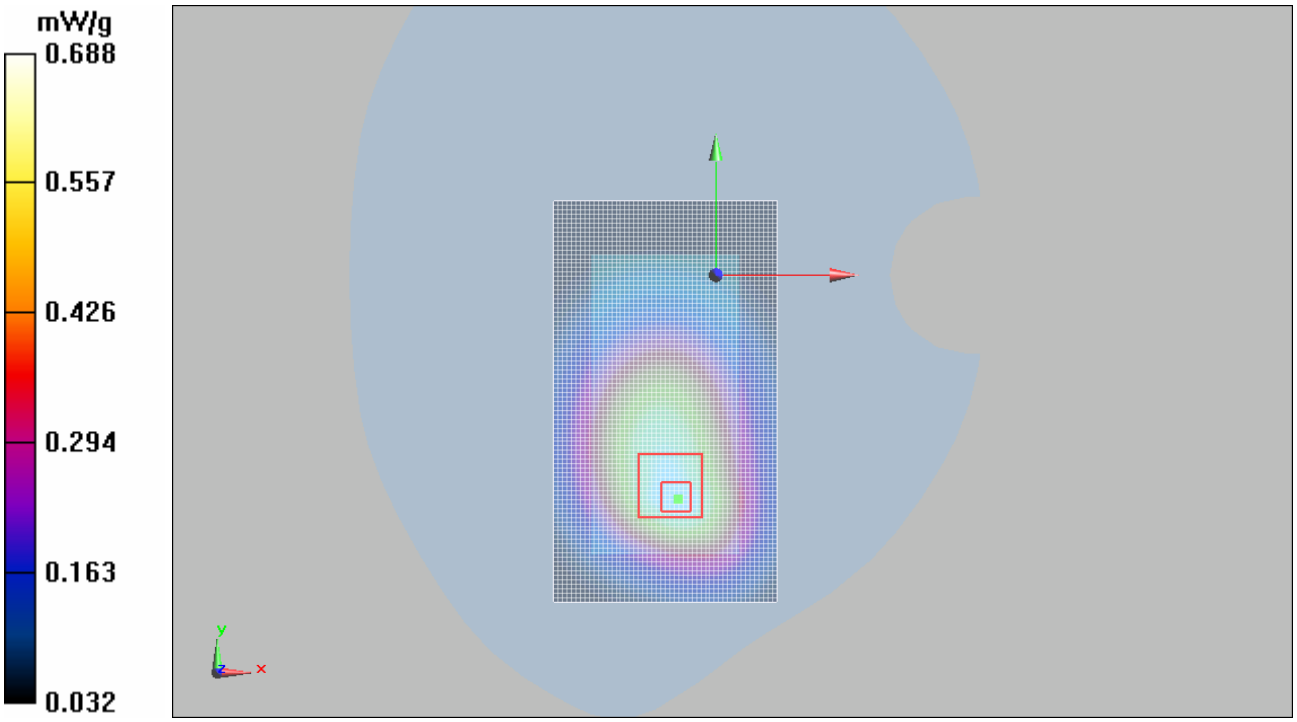


Figure 49 Body, Slide Close, Towards Ground, CDMA Cellular Channel 384

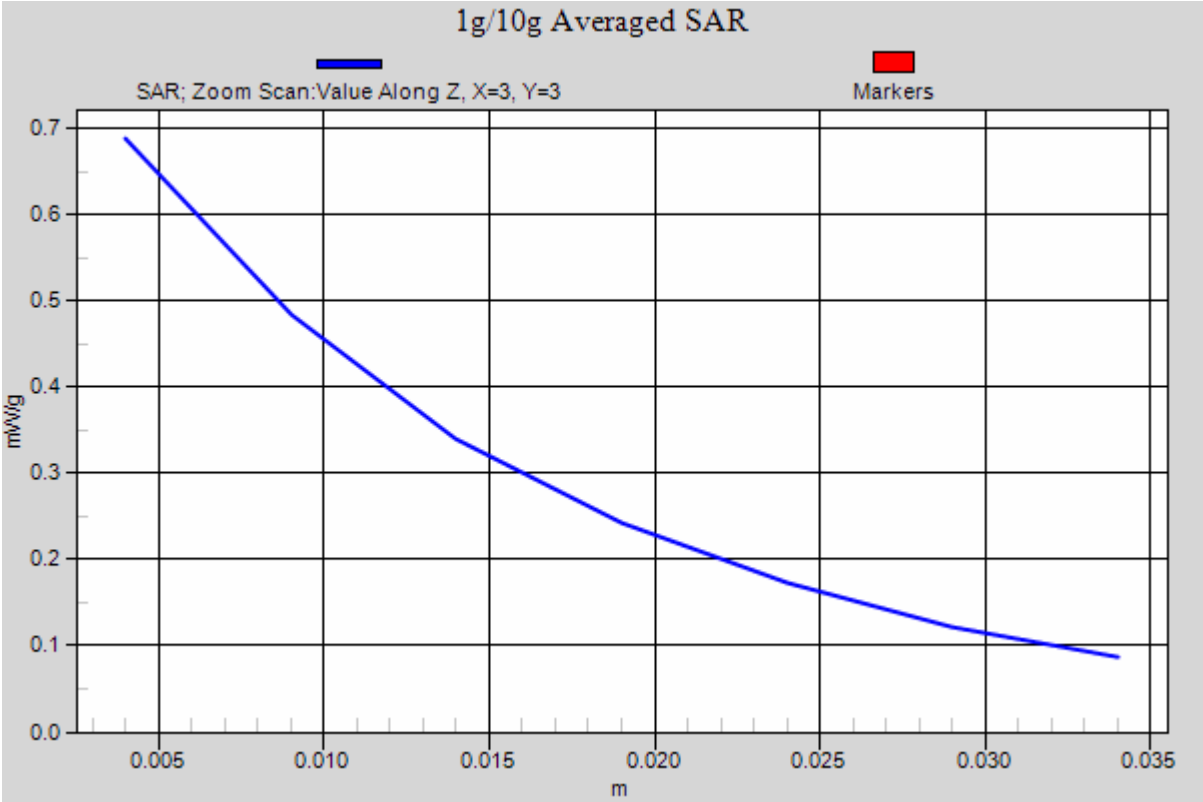


Figure 50 Z-Scan at power reference point (Body, Slide Close, Towards Ground, CDMA Cellular Channel 384)

CDMA Cellular Towards Ground Low Slide Close

Date/Time: 1/12/2010 7:02:26 PM

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

Medium parameters used: f = 825 MHz; σ = 0.971 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.11, 9.11, 9.11); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.723 mW/g

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

Reference Value = 8.63 V/m; Power Drift = 0.032 dB

Peak SAR (extrapolated) = 0.912 W/kg

SAR(1 g) = 0.643 mW/g; SAR(10 g) = 0.448 mW/g

Maximum value of SAR (measured) = 0.690 mW/g

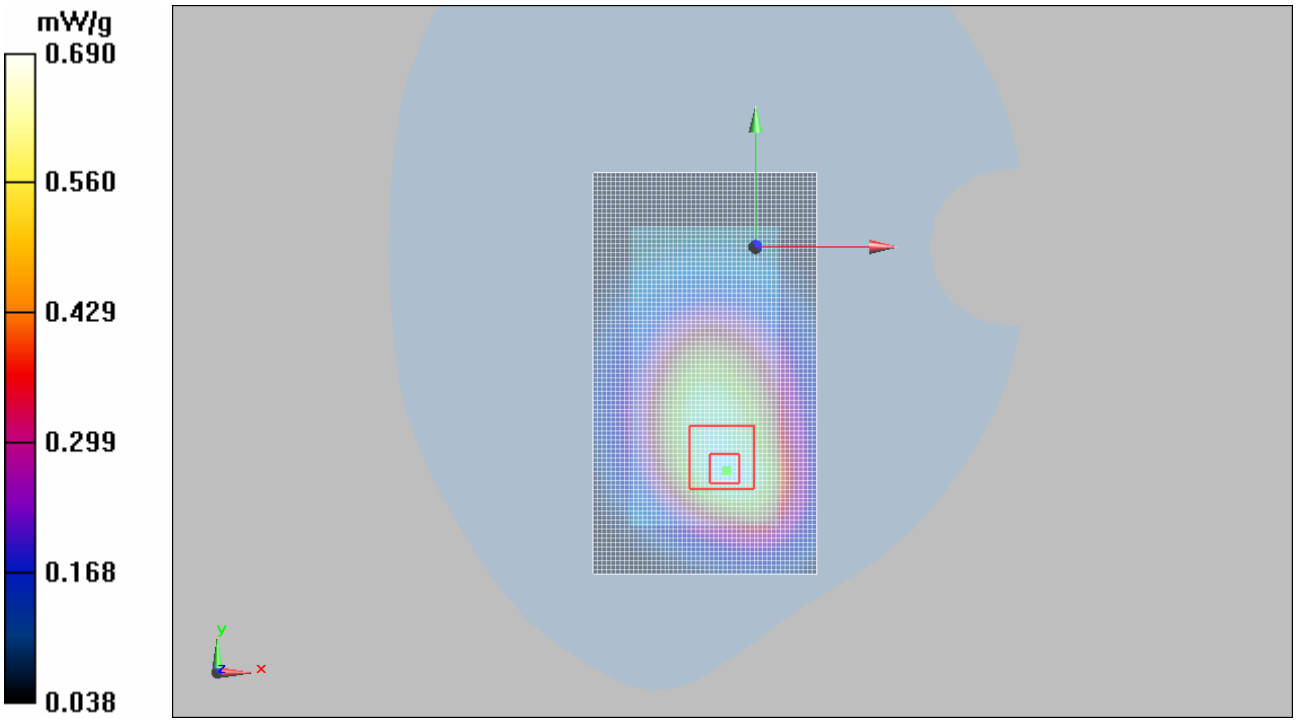


Figure 51 Body, Slide Close, Towards Ground, CDMA Cellular Channel 1013

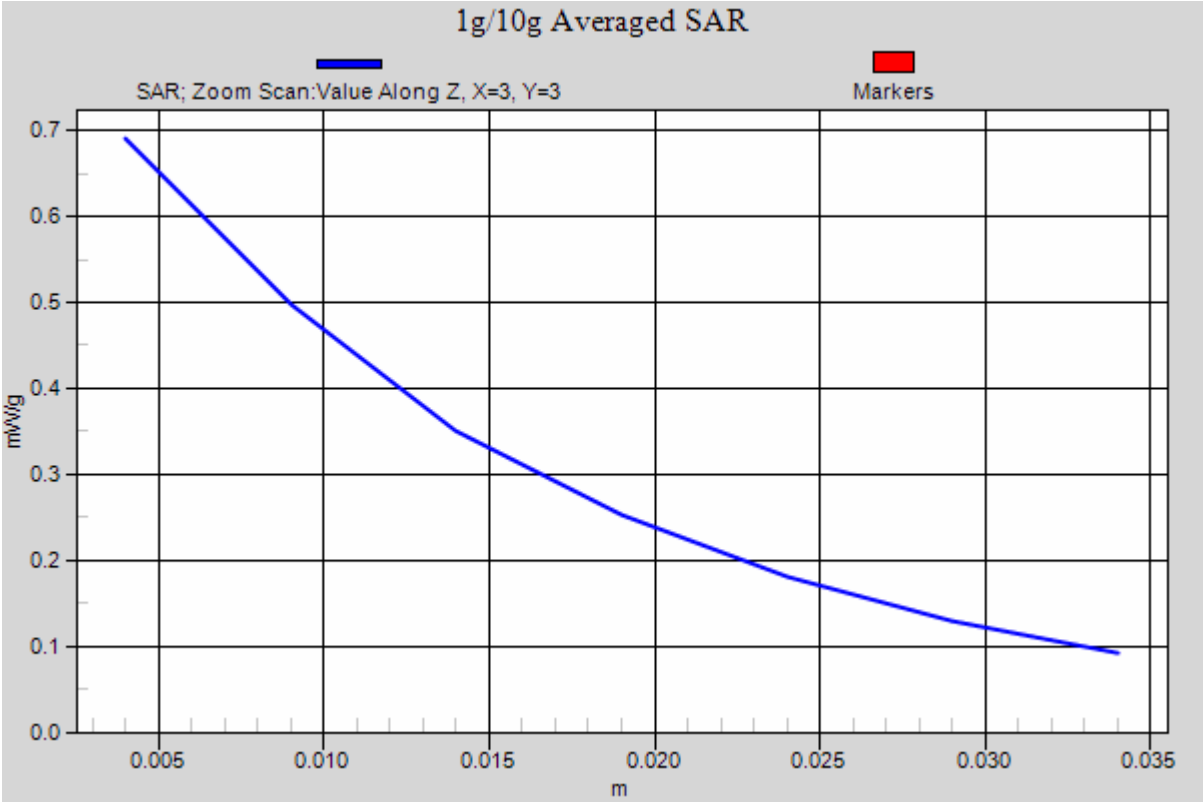


Figure 52 Z-Scan at power reference point (Body, Slide Close, Towards Ground, CDMA Cellular Channel 1013)

CDMA Cellular Towards Phantom Middle Slide Close

Date/Time: 1/12/2010 6:09:51 PM

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

Medium parameters used: f = 837 MHz; σ = 0.989 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(9.11, 9.11, 9.11); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM1; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.264 mW/g

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

Reference Value = 6.63 V/m; Power Drift = -0.062 dB

Peak SAR (extrapolated) = 0.281 W/kg

SAR(1 g) = 0.209 mW/g; SAR(10 g) = 0.156 mW/g

Maximum value of SAR (measured) = 0.221 mW/g

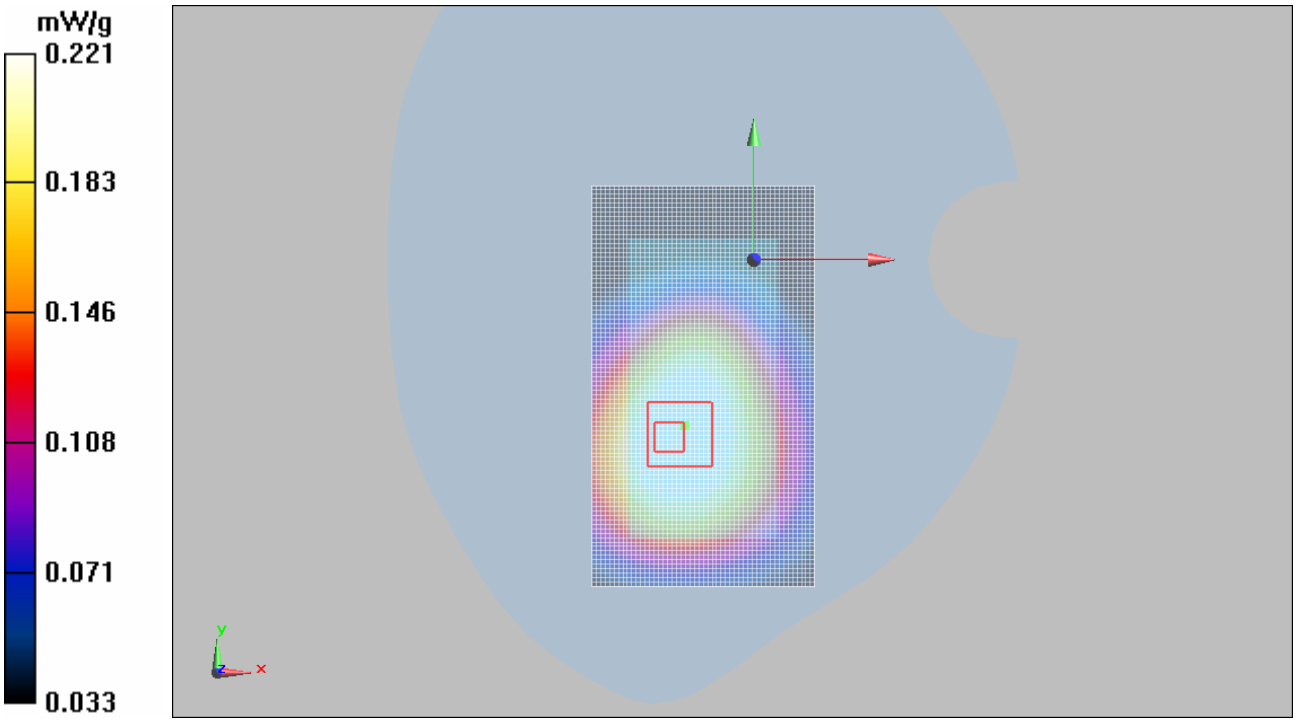


Figure 53 Body, Slide Close, Towards Phantom, CDMA Cellular Channel 384

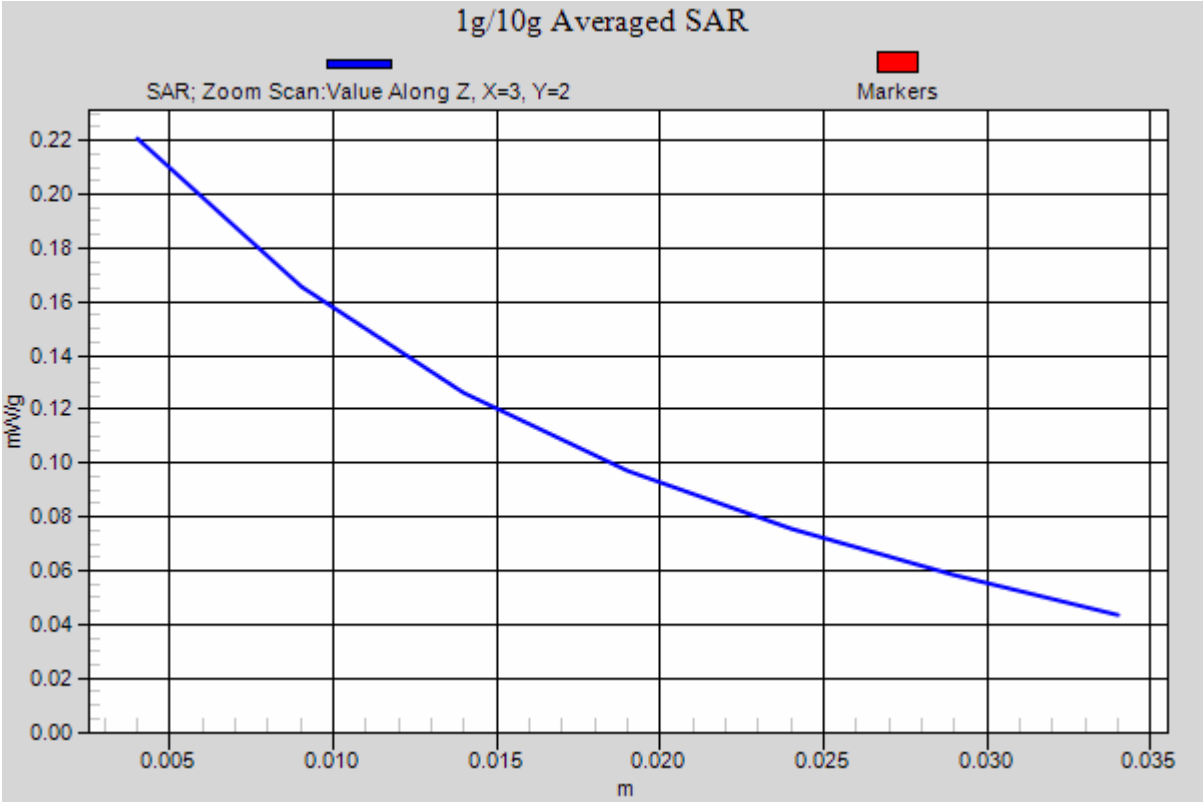


Figure 54 Z-Scan at power reference point (Body, Slide Close, Towards Phantom, CDMA Cellular Channel 384)

CDMA PCS Left Cheek High Slide Open

Date/Time: 1/13/2010 2:55:33 PM

Communication System: CDMA PCS; Frequency: 1908.75 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1908.75 MHz; σ = 1.42 mho/m; ε_r = 40; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.53, 7.53, 7.53); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.482 mW/g

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

Reference Value = 4.7 V/m; Power Drift = 0.144 dB

Peak SAR (extrapolated) = 0.666 W/kg

SAR(1 g) = 0.430 mW/g; SAR(10 g) = 0.256 mW/g

Maximum value of SAR (measured) = 0.470 mW/g

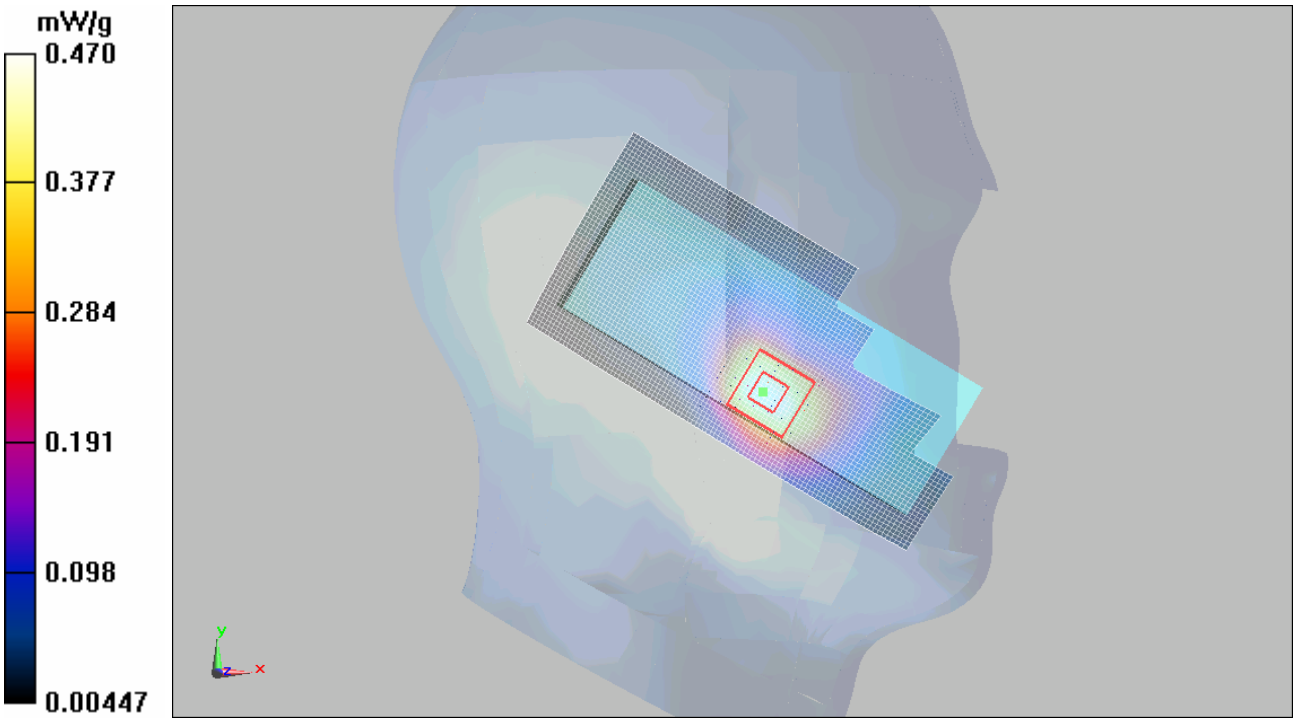


Figure 55 Slide Open, Left Hand Touch Cheek CDMA PCS Channel 1175

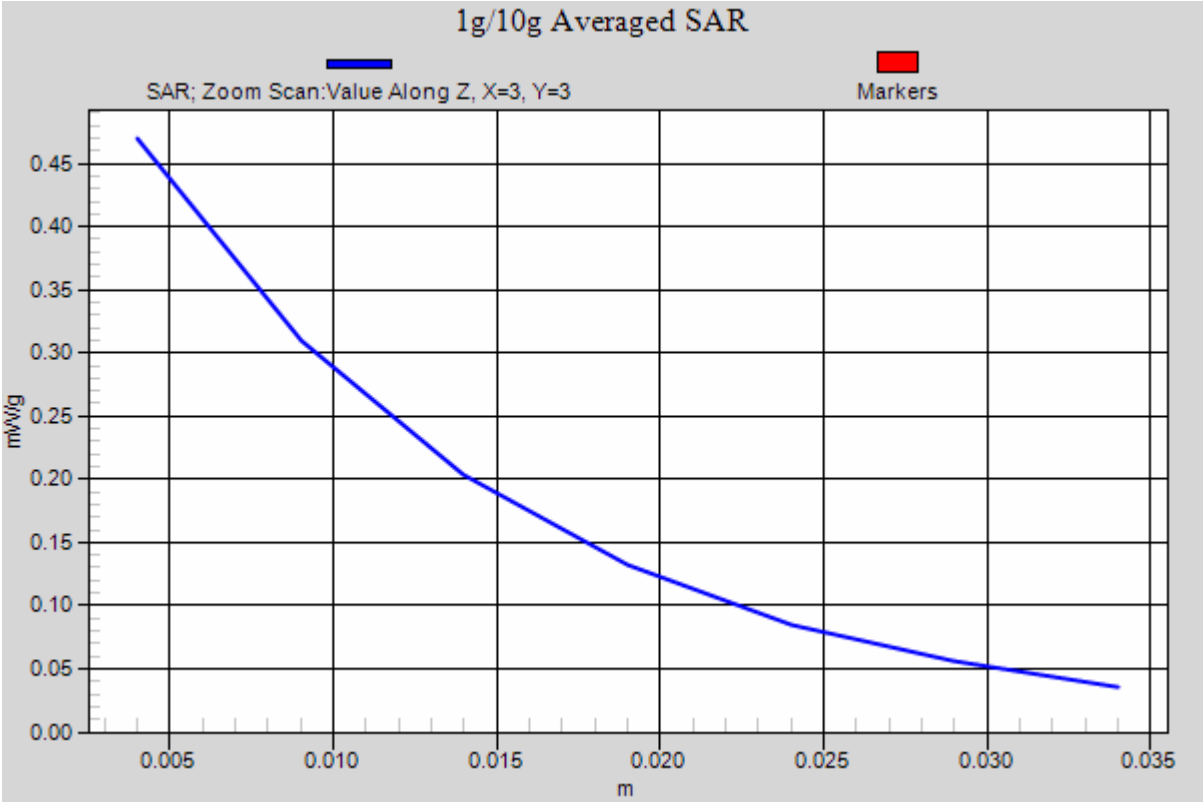


Figure 56 Z-Scan at power reference point (Slide Open, Left Hand Touch Cheek CDMA PCS Channel 1175)

CDMA PCS Left Cheek Middle Slide Open

Date/Time: 1/13/2010 2:34:16 PM

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

Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.53, 7.53, 7.53); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.415 mW/g

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

Reference Value = 4.02 V/m; Power Drift = 0.155 dB

Peak SAR (extrapolated) = 0.573 W/kg

SAR(1 g) = 0.368 mW/g; SAR(10 g) = 0.221 mW/g

Maximum value of SAR (measured) = 0.406 mW/g

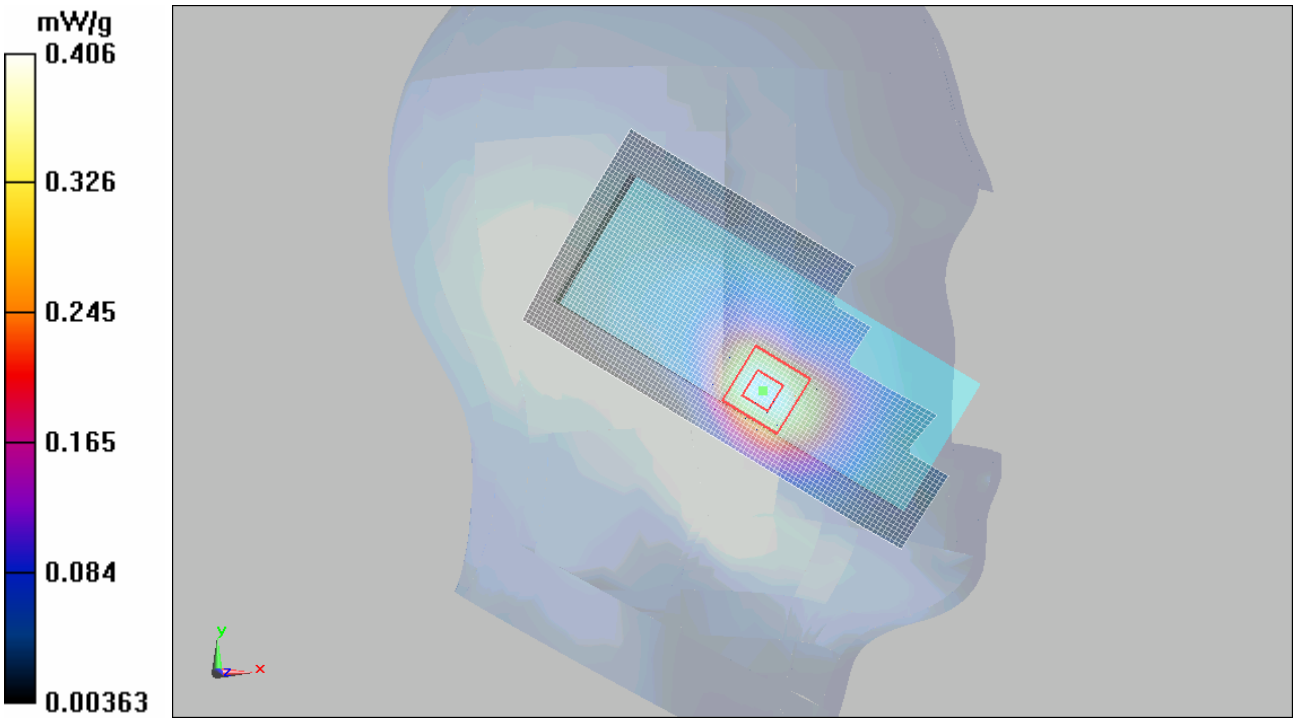


Figure 57 Slide Open, Left Hand Touch Cheek CDMA PCS Channel 600

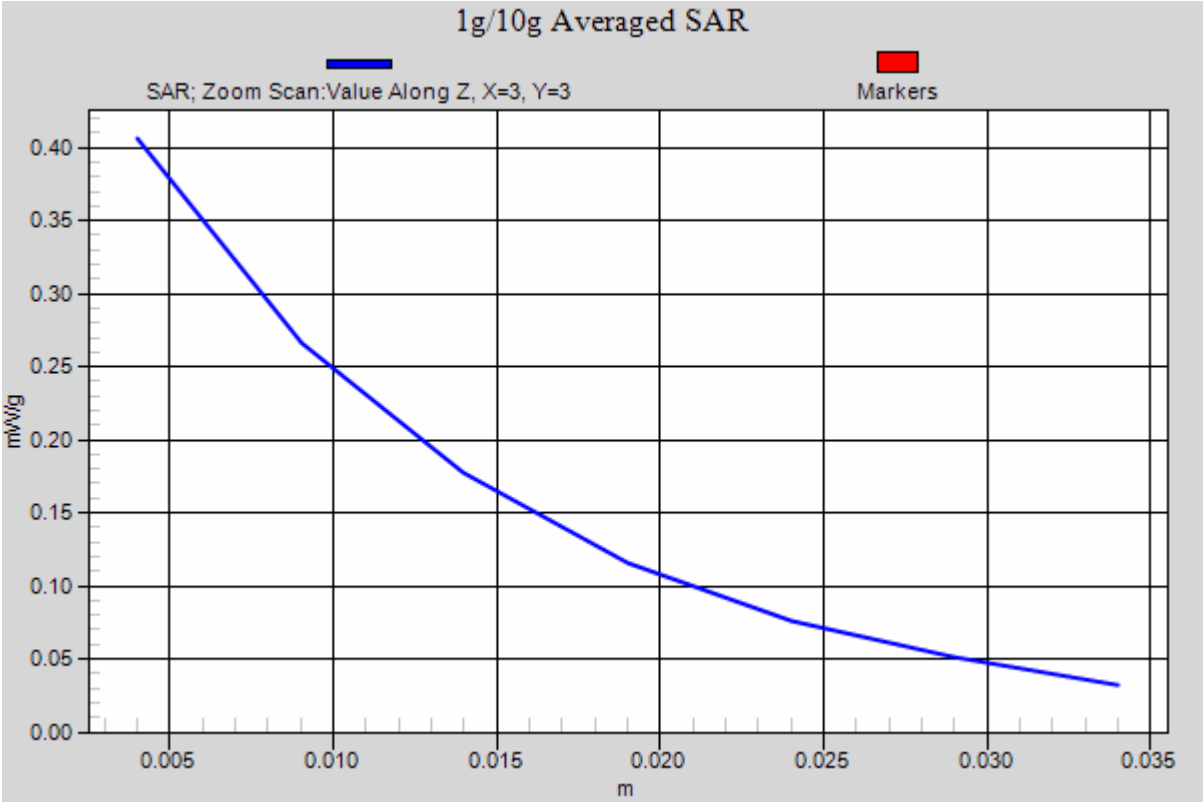


Figure 58 Z-Scan at power reference point (Slide Open, Left Hand Touch Cheek CDMA PCS Channel 600)

CDMA PCS Left Cheek Low Slide Open

Date/Time: 1/13/2010 3:16:54 PM

Communication System: CDMA PCS; Frequency: 1851.25 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1852 MHz; σ = 1.37 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.53, 7.53, 7.53); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.690 mW/g

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

Reference Value = 5.56 V/m; Power Drift = 0.030 dB

Peak SAR (extrapolated) = 1.02 W/kg

SAR(1 g) = 0.646 mW/g; SAR(10 g) = 0.379 mW/g

Maximum value of SAR (measured) = 0.682 mW/g

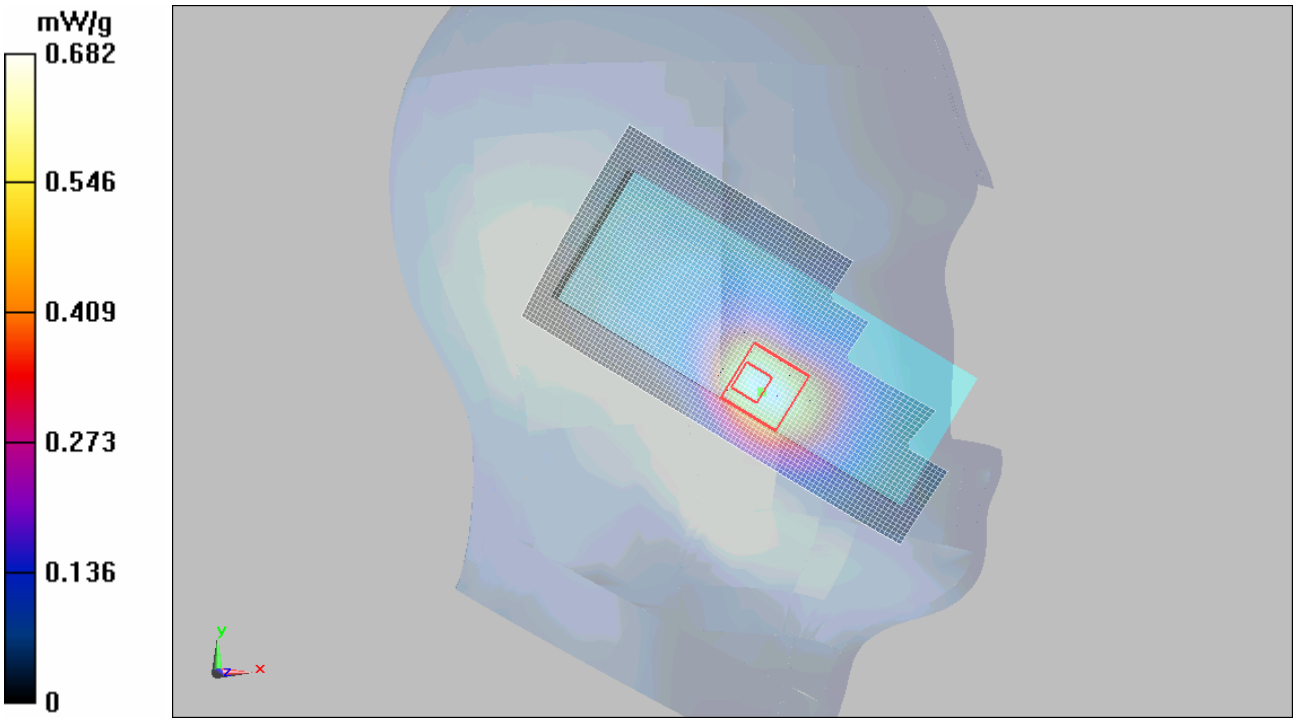


Figure 59 Slide Open, Left Hand Touch Cheek CDMA PCS Channel 25

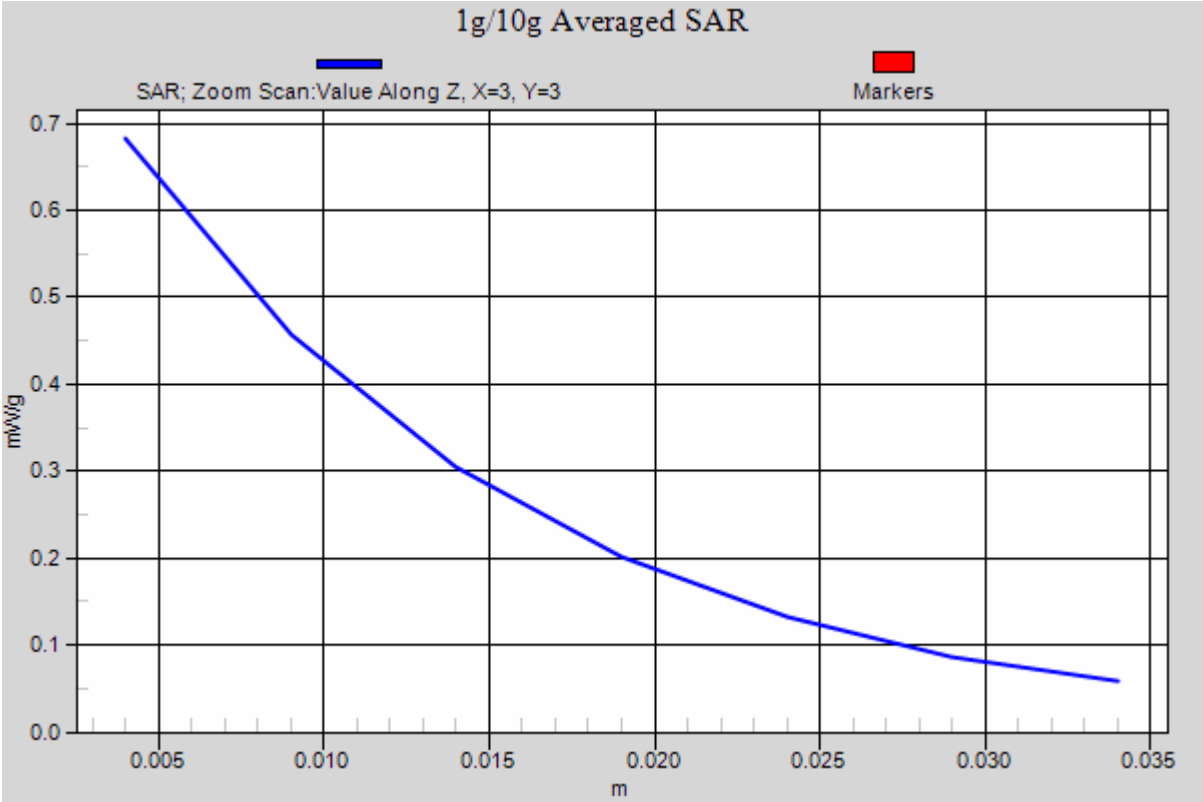


Figure 60 Z-Scan at power reference point (Slide Open, Left Hand Touch Cheek CDMA PCS Channel 25)

CDMA PCS Left Tilt Middle Slide Open

Date/Time: 1/13/2010 3:46:23 PM

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

Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.53, 7.53, 7.53); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.138 mW/g

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

Reference Value = 8.14 V/m; Power Drift = 0.061 dB

Peak SAR (extrapolated) = 0.200 W/kg

SAR(1 g) = 0.120 mW/g; SAR(10 g) = 0.069 mW/g

Maximum value of SAR (measured) = 0.134 mW/g

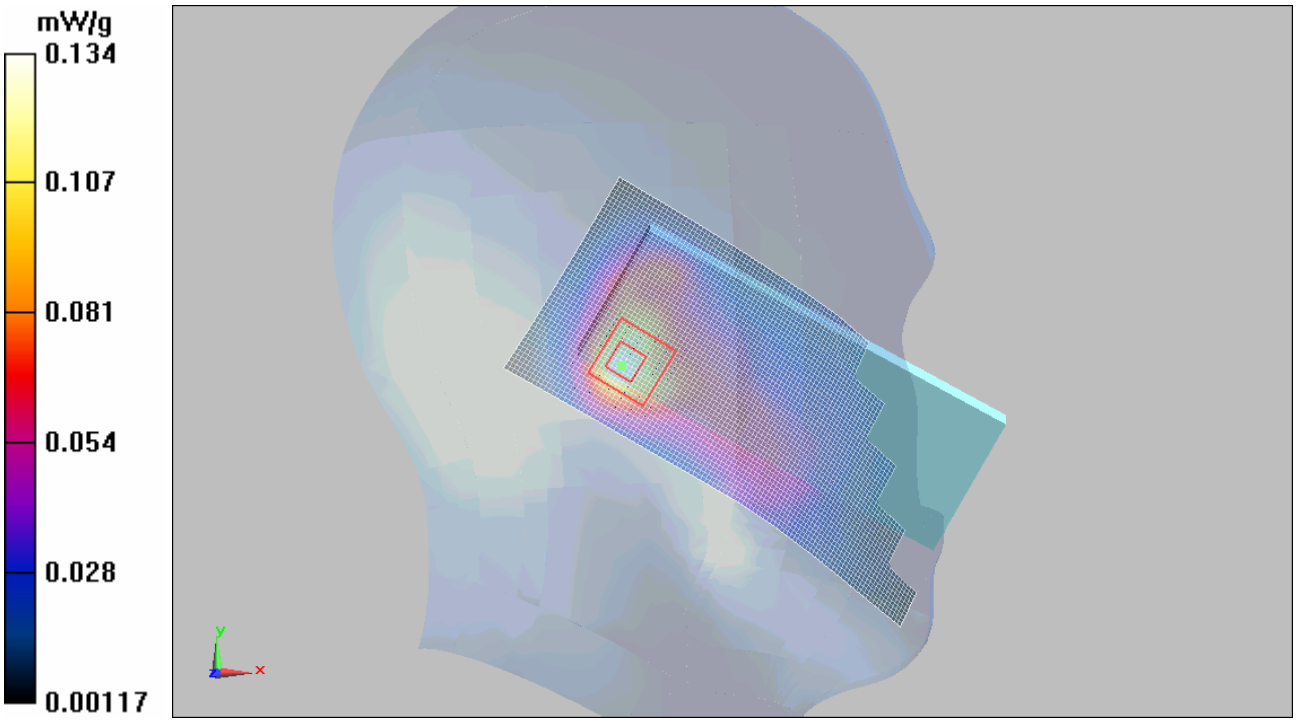


Figure 61 Slide Open, Left Hand Tilt 15° CDMA PCS Channel 600

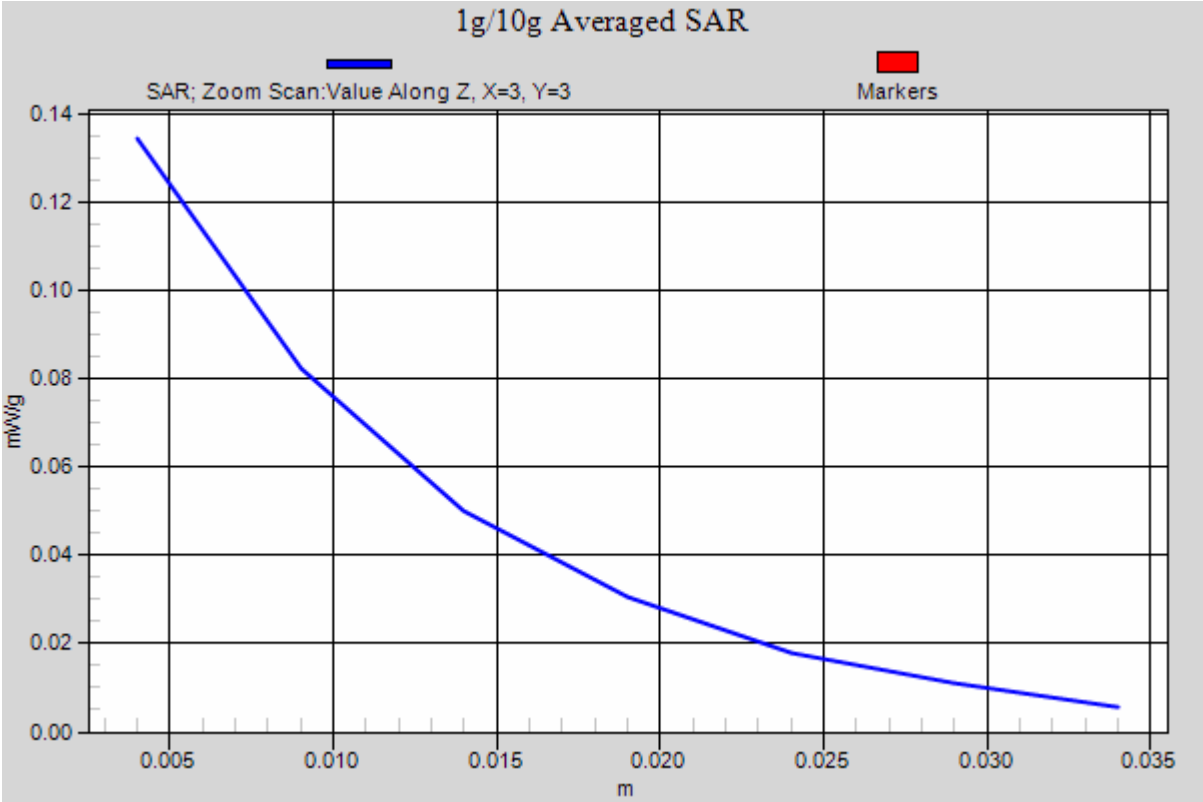


Figure 62 Z-Scan at power reference point (Slide Open, Left Hand Tilt 15° CDMA PCS Channel 600)

CDMA PCS Right Cheek Middle Slide Open

Date/Time: 1/13/2010 1:49:37 PM

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

Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.53, 7.53, 7.53); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.320 mW/g

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

Reference Value = 4.05 V/m; Power Drift = -0.127 dB

Peak SAR (extrapolated) = 0.462 W/kg

SAR(1 g) = 0.300 mW/g; SAR(10 g) = 0.187 mW/g

Maximum value of SAR (measured) = 0.324 mW/g

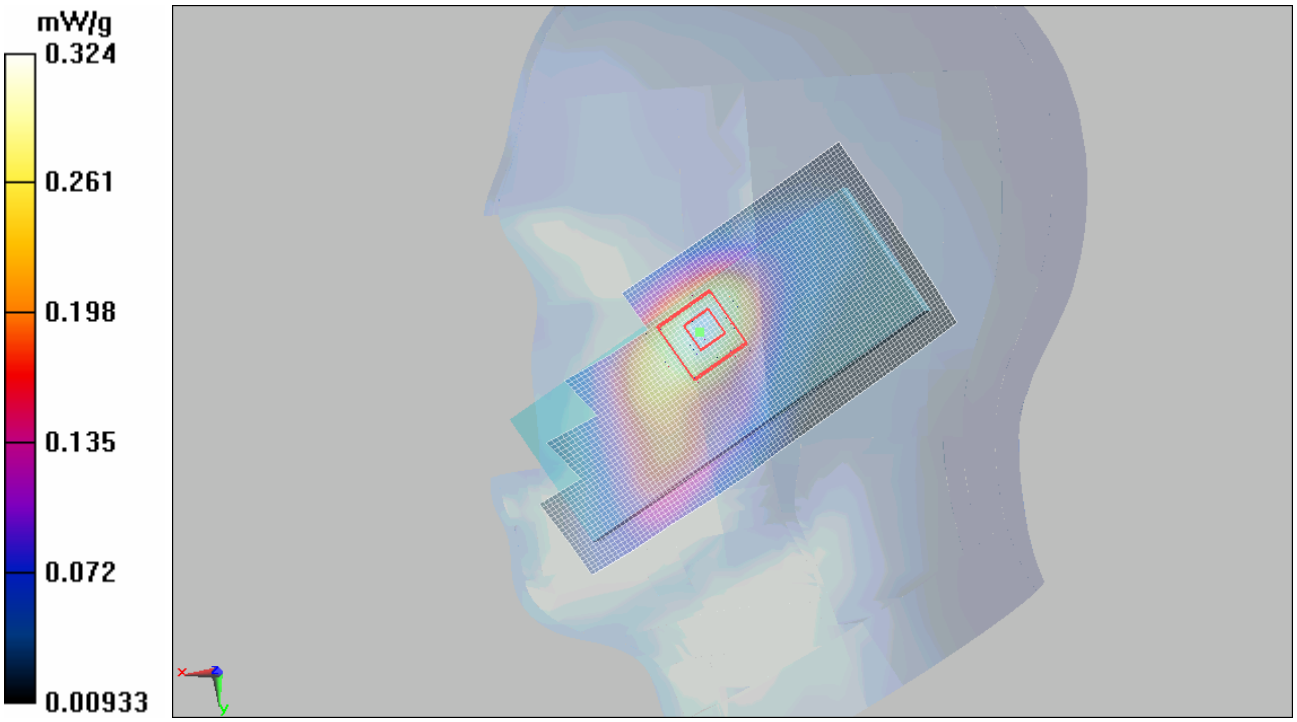


Figure 63 Slide Open, Right Hand Touch Cheek CDMA PCS Channel 600

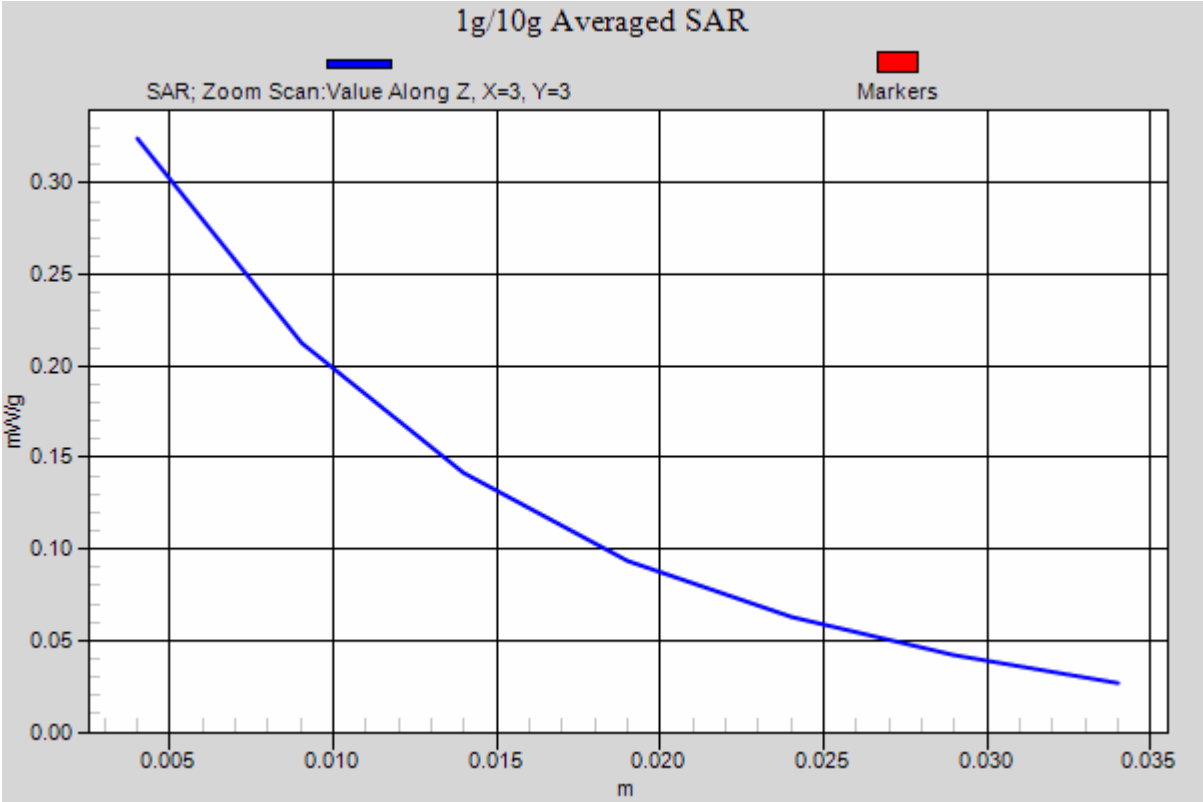


Figure 64 Z-Scan at power reference point (Slide Open, Right Hand Touch Cheek CDMA PCS Channel 600)

CDMA PCS Right Tilt Middle Slide Open

Date/Time: 1/13/2010 2:11:16 PM

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

Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.53, 7.53, 7.53); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.245 mW/g

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

Reference Value = 8.29 V/m; Power Drift = 0.060 dB

Peak SAR (extrapolated) = 0.388 W/kg

SAR(1 g) = 0.199 mW/g; SAR(10 g) = 0.105 mW/g

Maximum value of SAR (measured) = 0.221 mW/g

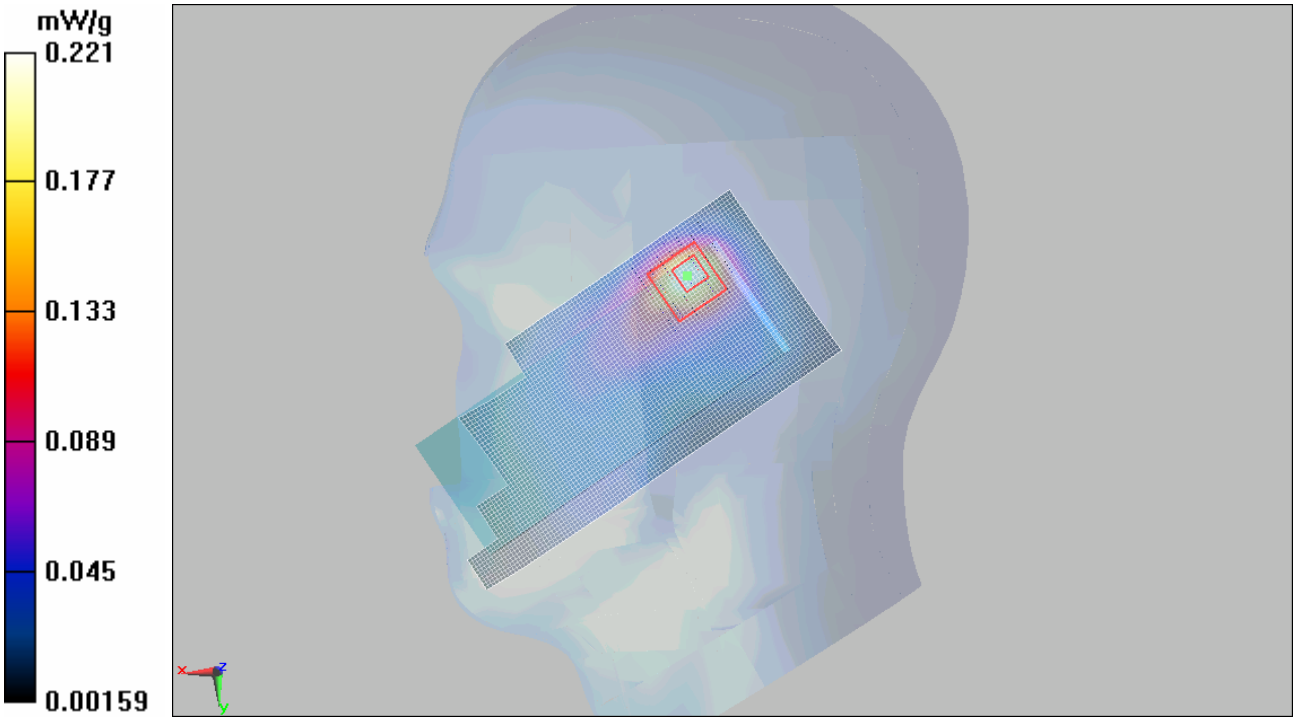


Figure 65 Slide Open, Right Hand Tilt 15° CDMA PCS Channel 600

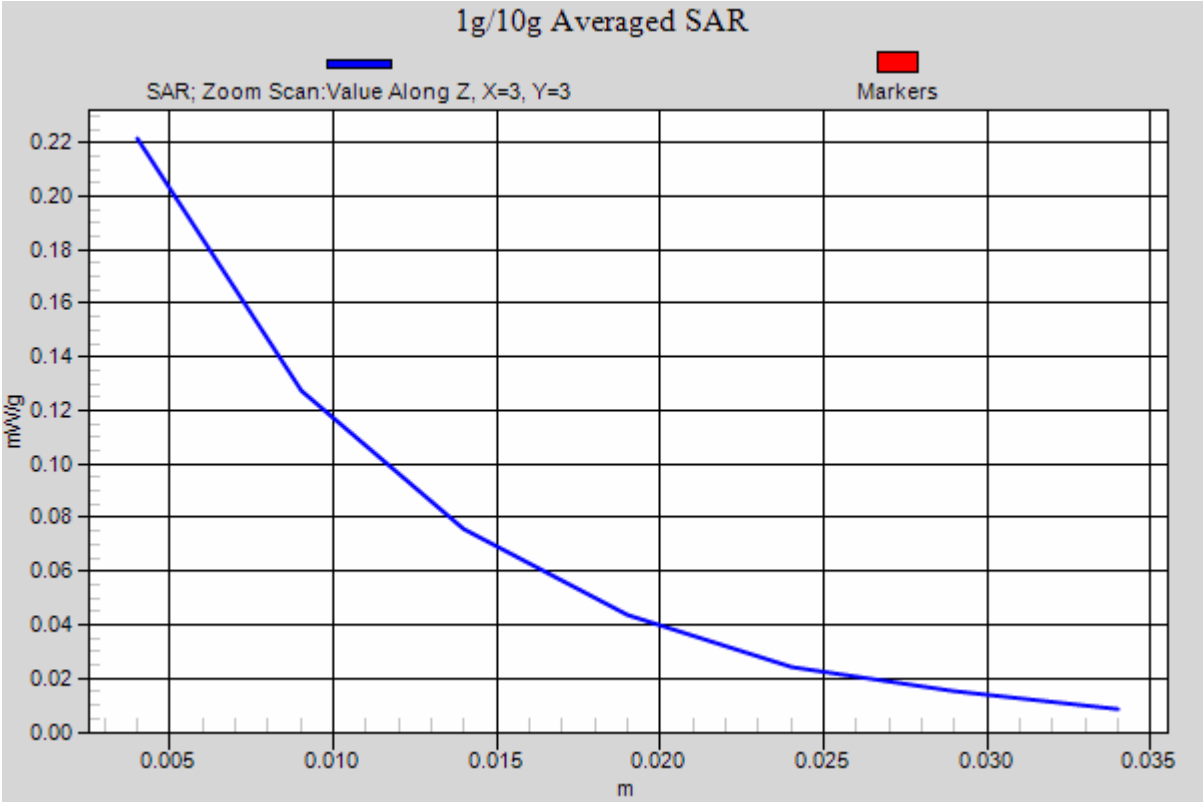


Figure 66 Z-Scan at power reference point (Slide Open, Right Hand Tilt 15° CDMA PCS Channel 600)

CDMA PCS Towards Ground High Slide Open

Date/Time: 1/13/2010 10:14:14 AM

Communication System: CDMA PCS; Frequency: 1908.75 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1908.75 MHz; σ = 1.54 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.62, 7.62, 7.62); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.788 mW/g

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

Reference Value = 5.98 V/m; Power Drift = -0.156 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.657 mW/g; SAR(10 g) = 0.404 mW/g

Maximum value of SAR (measured) = 0.709 mW/g

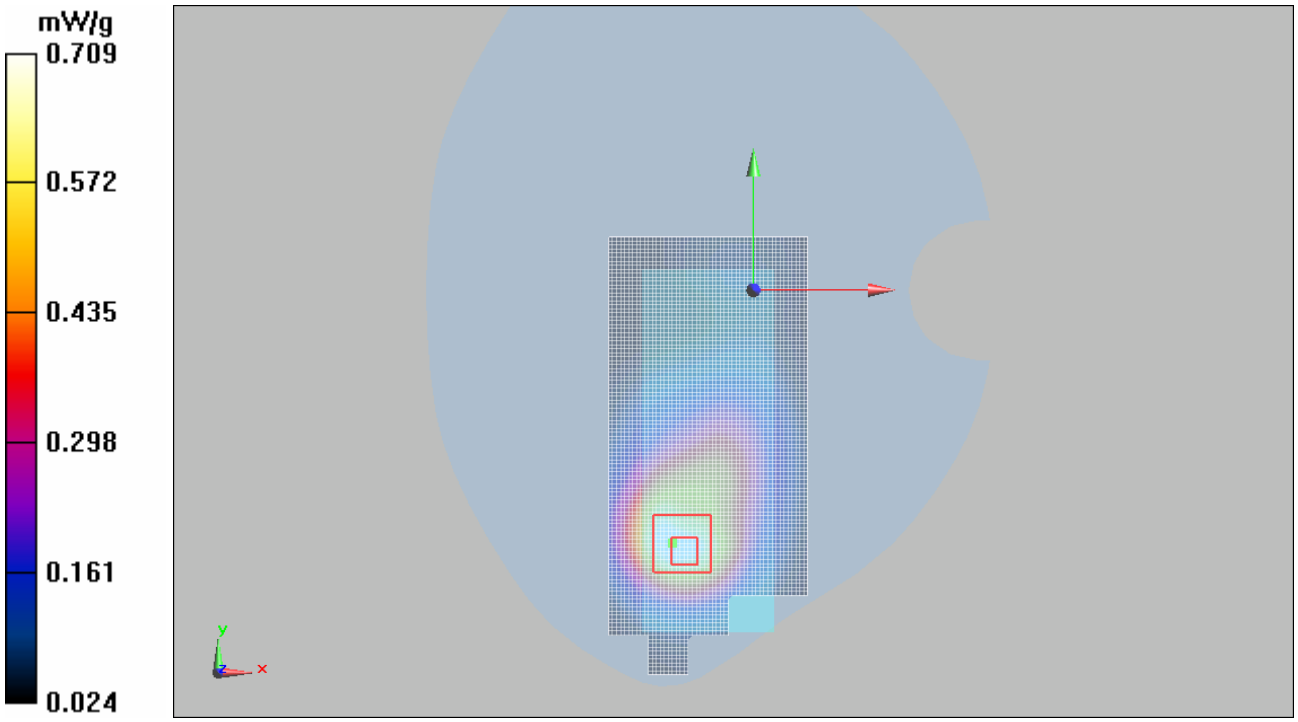


Figure 67 Body, Slide Open, Towards Ground, CDMA PCS Channel 1175

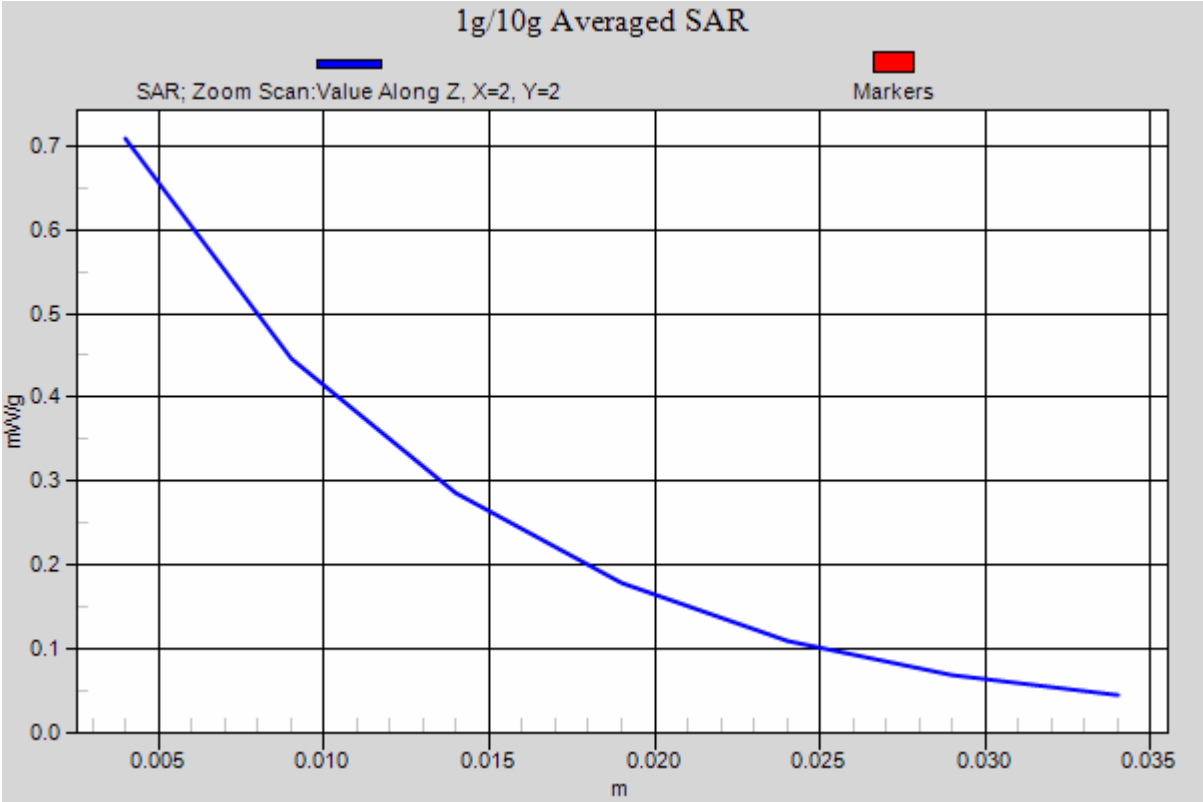


Figure 68 Z-Scan at power reference point (Body, Slide Open, Towards Ground, CDMA PCS Channel 1175)

CDMA PCS Towards Ground Middle Slide Open

Date/Time: 1/13/2010 9:52:20 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 = 52.9; ρ = 1000 kg/m^3
Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃
DASY5 Configuration:
Probe: EX3DV4 - SN3677; ConvF(7.62, 7.62, 7.62); Calibrated: 9/23/2009
Electronics: DAE4 Sn905; Calibrated: 6/24/2009
Phantom: SAM2; Type: SAM;
Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

Towards Ground Middle/Area Scan (51x111x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 0.610 mW/g

Towards Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.77 V/m; Power Drift = 0.081 dB
Peak SAR (extrapolated) = 0.798 W/kg
SAR(1 g) = 0.512 mW/g; SAR(10 g) = 0.315 mW/g
Maximum value of SAR (measured) = 0.553 mW/g

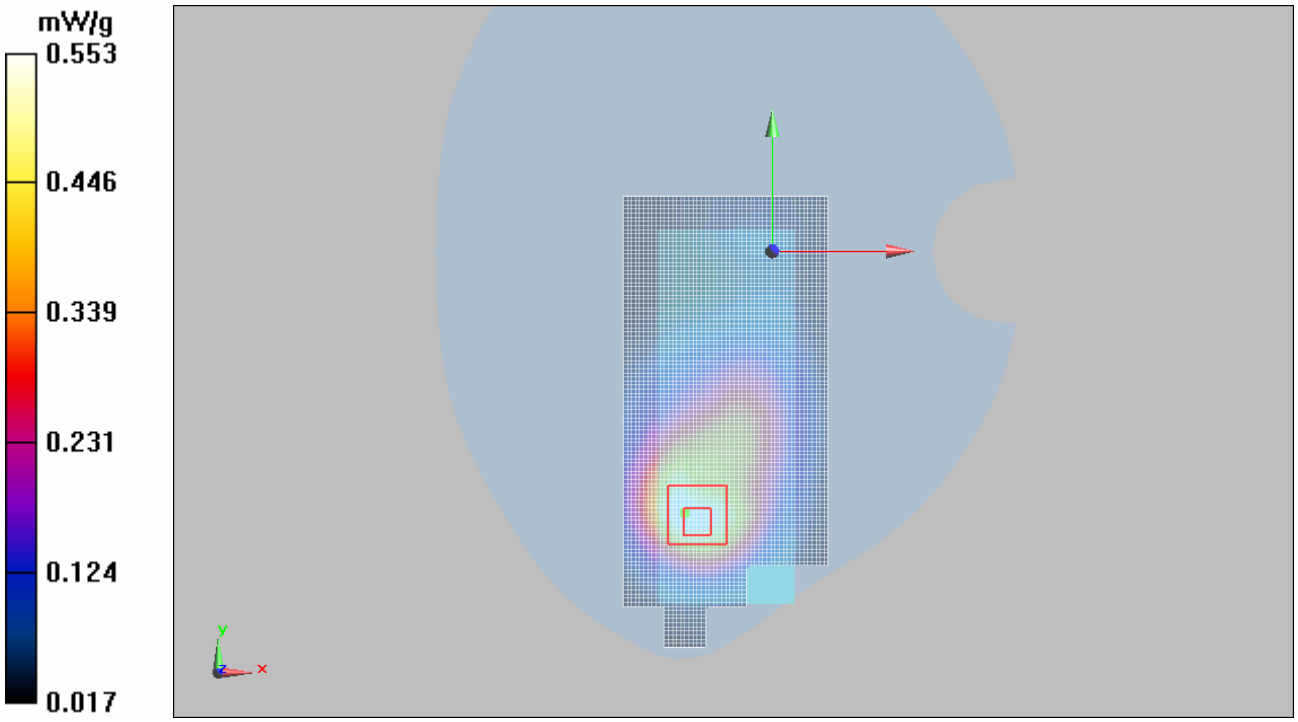


Figure 69 Body, Slide Open, Towards Ground, CDMA PCS Channel 600

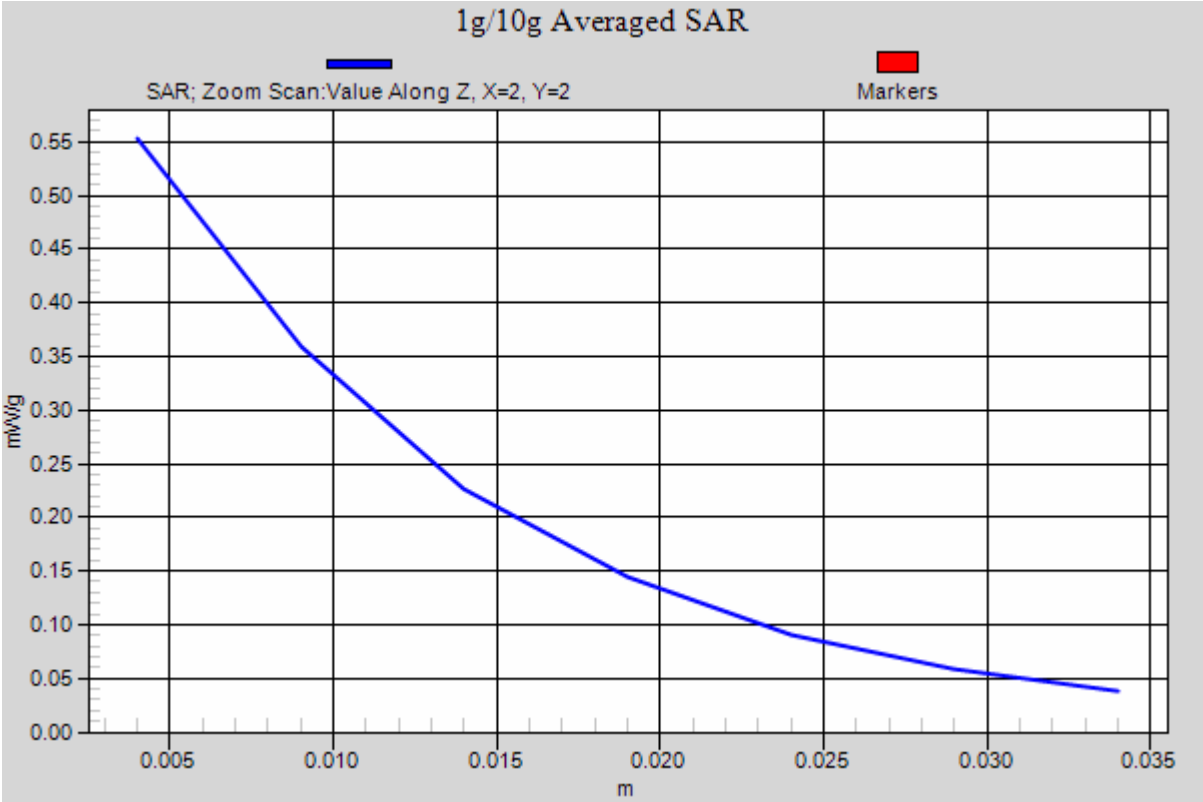


Figure 70 Z-Scan at power reference point (Body, Slide Open, Towards Ground, CDMA PCS Channel 600)

CDMA PCS Towards Ground Low Slide Open

Date/Time: 1/13/2010 10:36:11 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 = 52.9; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.62, 7.62, 7.62); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.846 mW/g

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

Reference Value = 7.53 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 1.11 W/kg

SAR(1 g) = 0.718 mW/g; SAR(10 g) = 0.439 mW/g

Maximum value of SAR (measured) = 0.782 mW/g

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

Reference Value = 7.53 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 0.888 W/kg

SAR(1 g) = 0.524 mW/g; SAR(10 g) = 0.342 mW/g

Maximum value of SAR (measured) = 0.593 mW/g

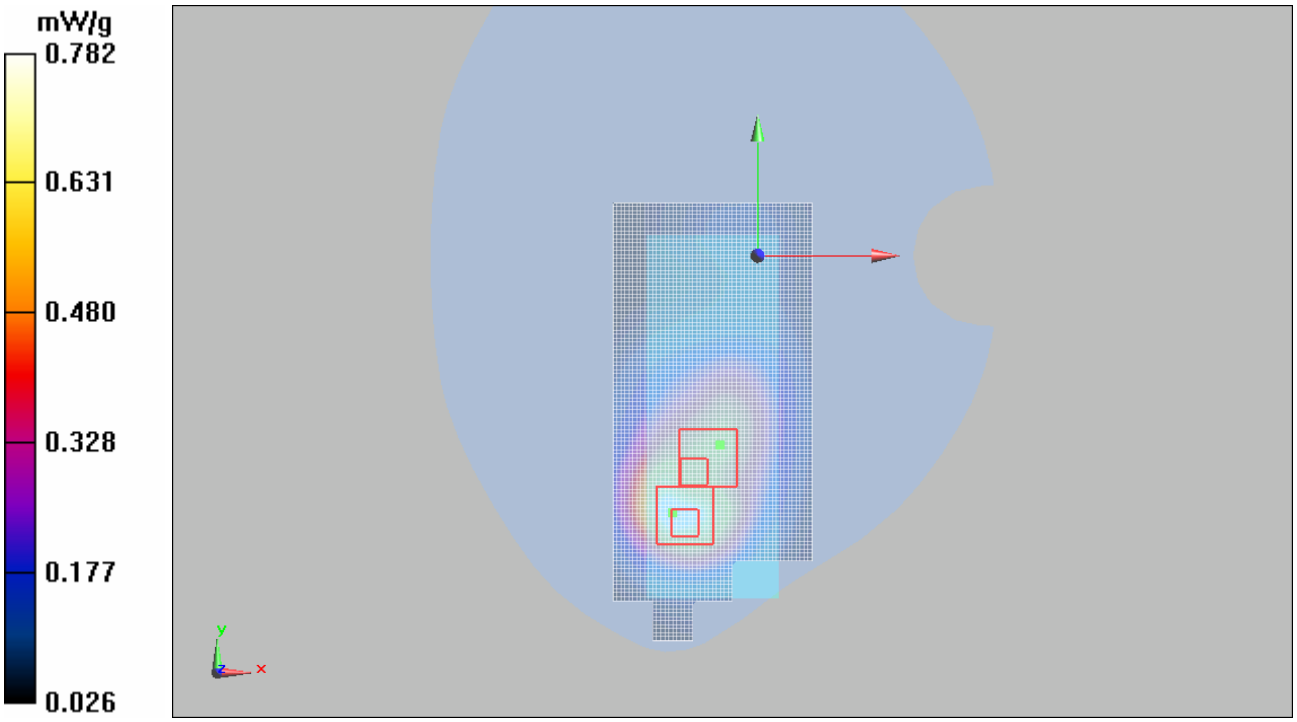
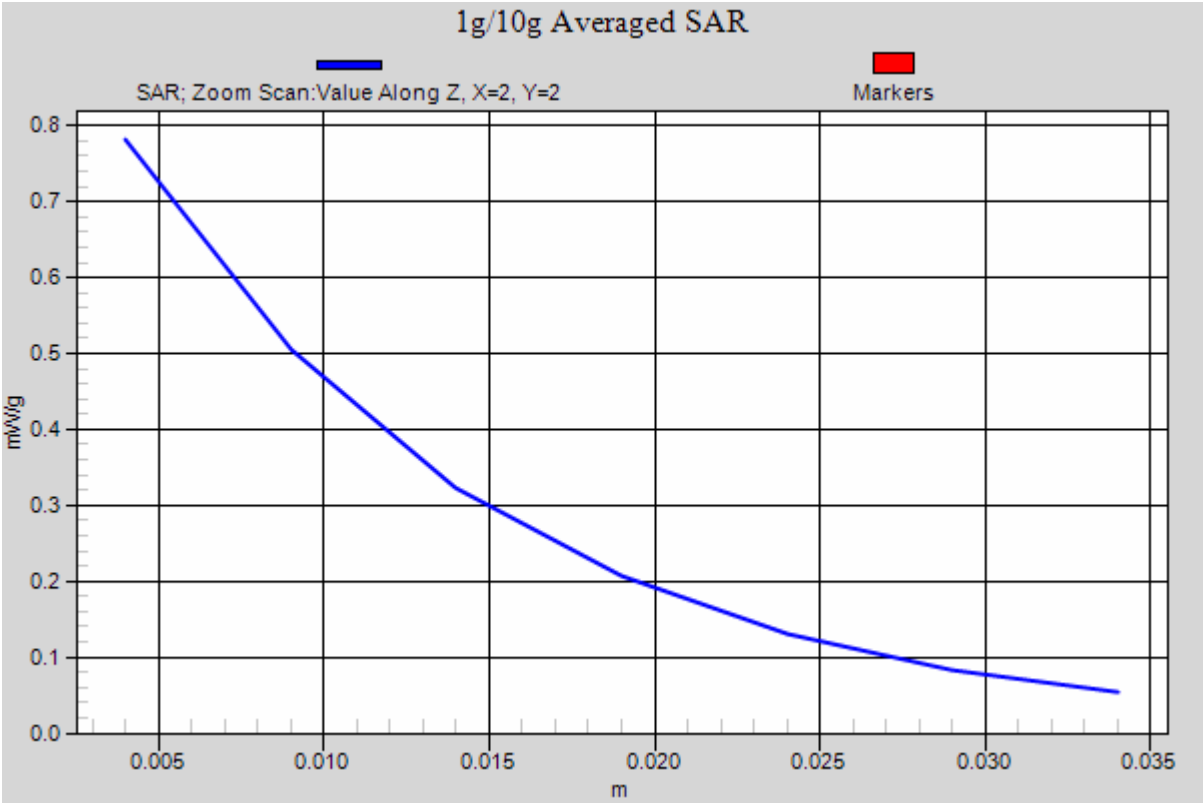


Figure 71 Body, Slide Open, Towards Ground, CDMA PCS Channel 25



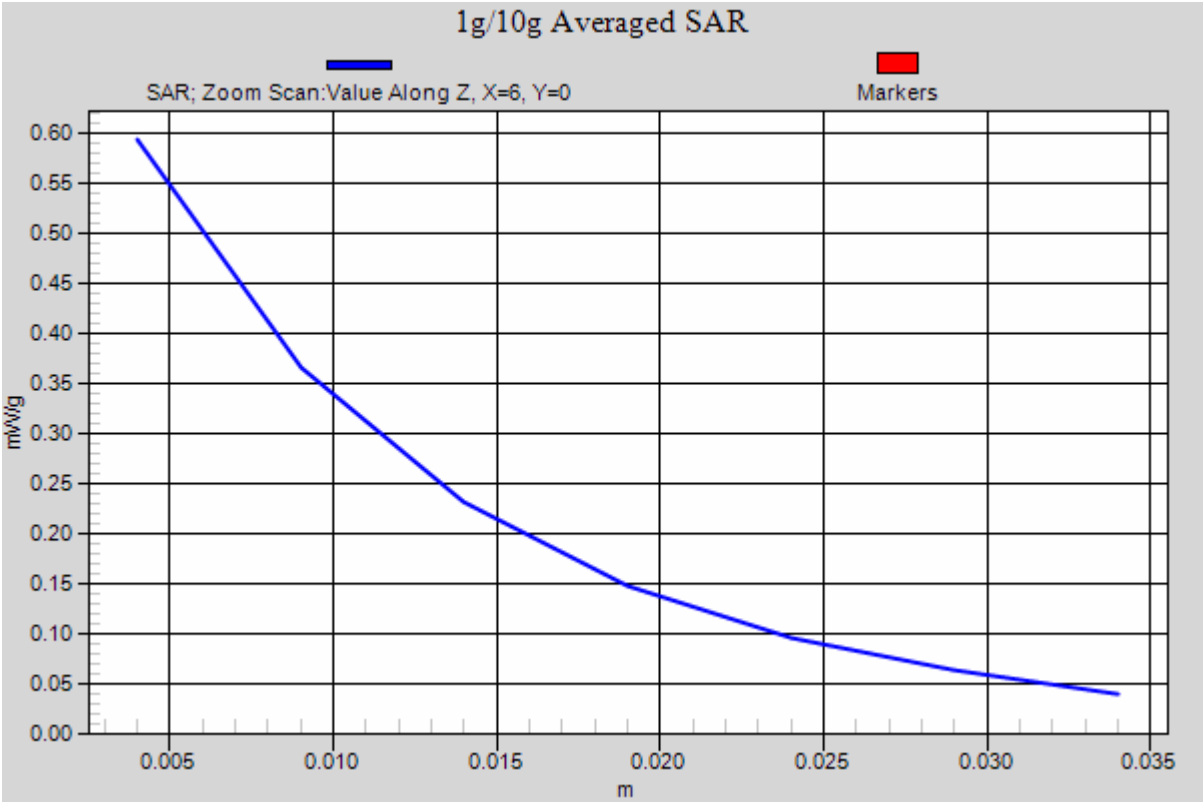


Figure 72 Z-Scan at power reference point (Body, Slide Open, Towards Ground, CDMA PCS Channel 25)

CDMA PCS Towards Phantom Middle Slide Open

Date/Time: 1/13/2010 9:21:47 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 = 52.9; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.62, 7.62, 7.62); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.224 mW/g

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

Reference Value = 8.91 V/m; Power Drift = -0.045 dB

Peak SAR (extrapolated) = 0.311 W/kg

SAR(1 g) = 0.198 mW/g; SAR(10 g) = 0.126 mW/g

Maximum value of SAR (measured) = 0.212 mW/g

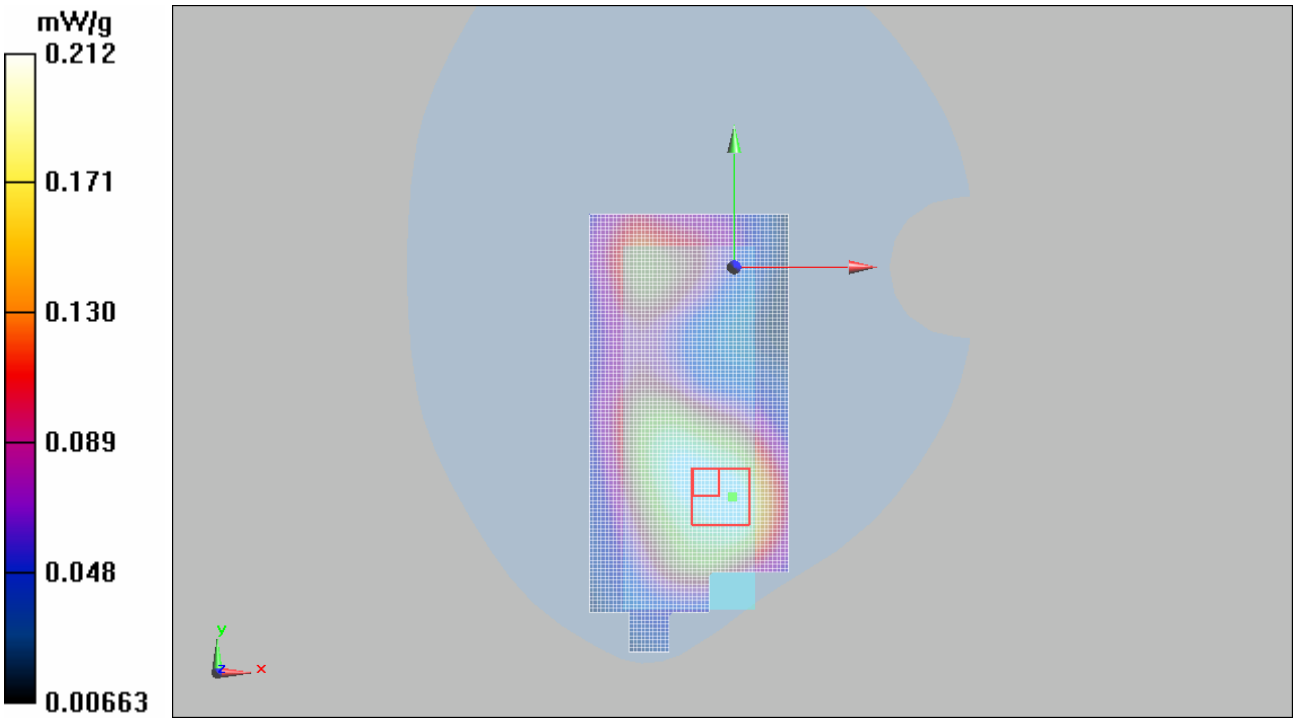


Figure 73 Body, Slide Open, Towards Phantom, CDMA PCS Channel 600

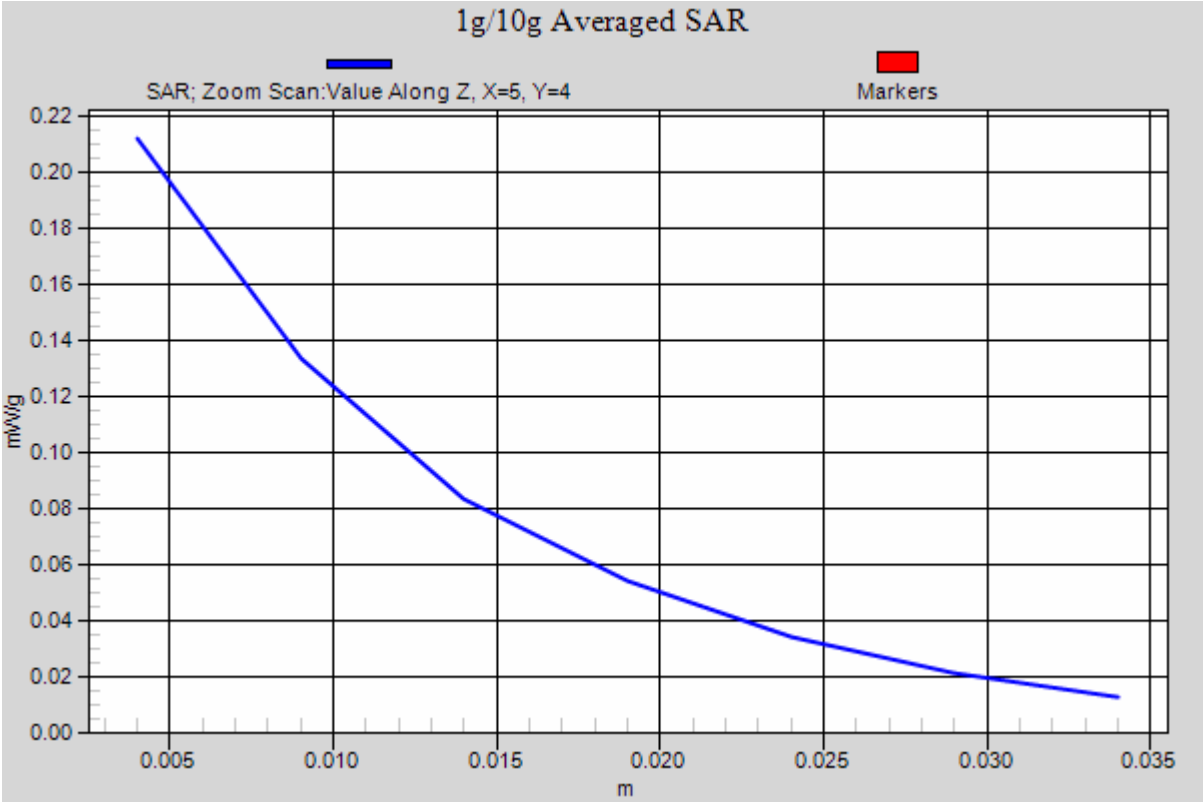


Figure 74 Z-Scan at power reference point (Body, Slide Open, Towards Phantom, CDMA PCS Channel 600)

CDMA PCS Left Cheek Middle Slide Close

Date/Time: 1/13/2010 4:36:33 PM

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

Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.53, 7.53, 7.53); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM000 T01 ; Type: SAM V4.0;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.862 mW/g

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

Reference Value = 11.1 V/m; Power Drift = 0.010 dB

Peak SAR (extrapolated) = 1.14 W/kg

SAR(1 g) = 0.778 mW/g; SAR(10 g) = 0.488 mW/g

Maximum value of SAR (measured) = 0.851 mW/g

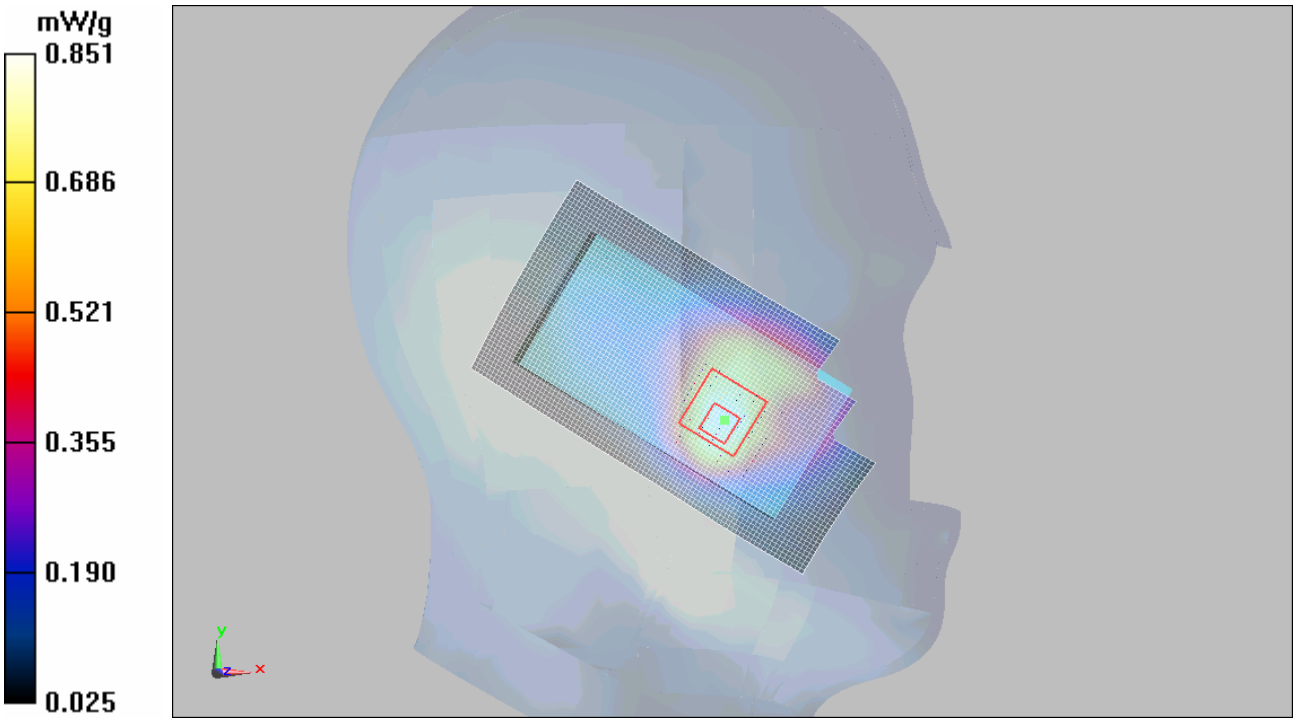


Figure 75 Slide Close, Left Hand Touch Cheek CDMA PCS Channel 600

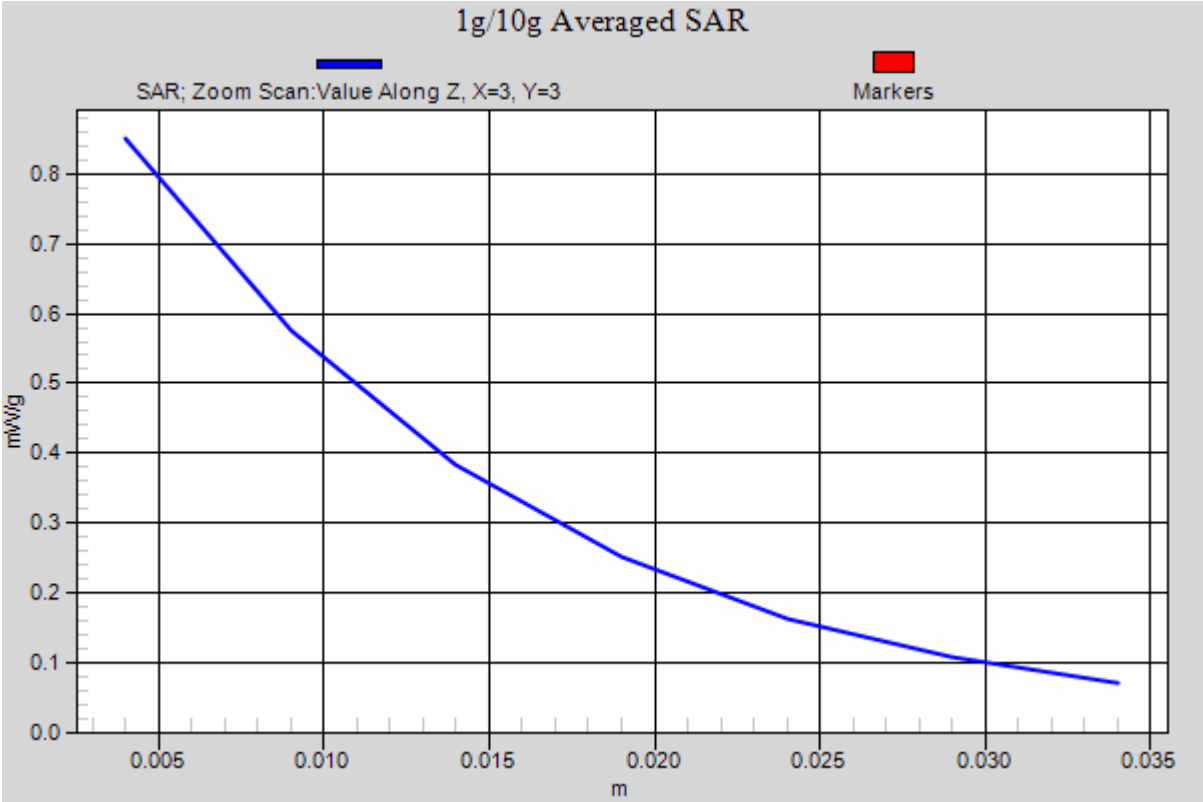


Figure 76 Z-Scan at power reference point (Slide Close, Left Hand Touch Cheek CDMA PCS Channel 600)

CDMA PCS Left Tilt Middle Slide Close

Date/Time: 1/13/2010 6:10:01 PM

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

Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.53, 7.53, 7.53); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM000 T01 ; Type: SAM V4.0;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.317 mW/g

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

Reference Value = 15.5 V/m; Power Drift = -0.013 dB

Peak SAR (extrapolated) = 0.475 W/kg

SAR(1 g) = 0.280 mW/g; SAR(10 g) = 0.163 mW/g

Maximum value of SAR (measured) = 0.307 mW/g

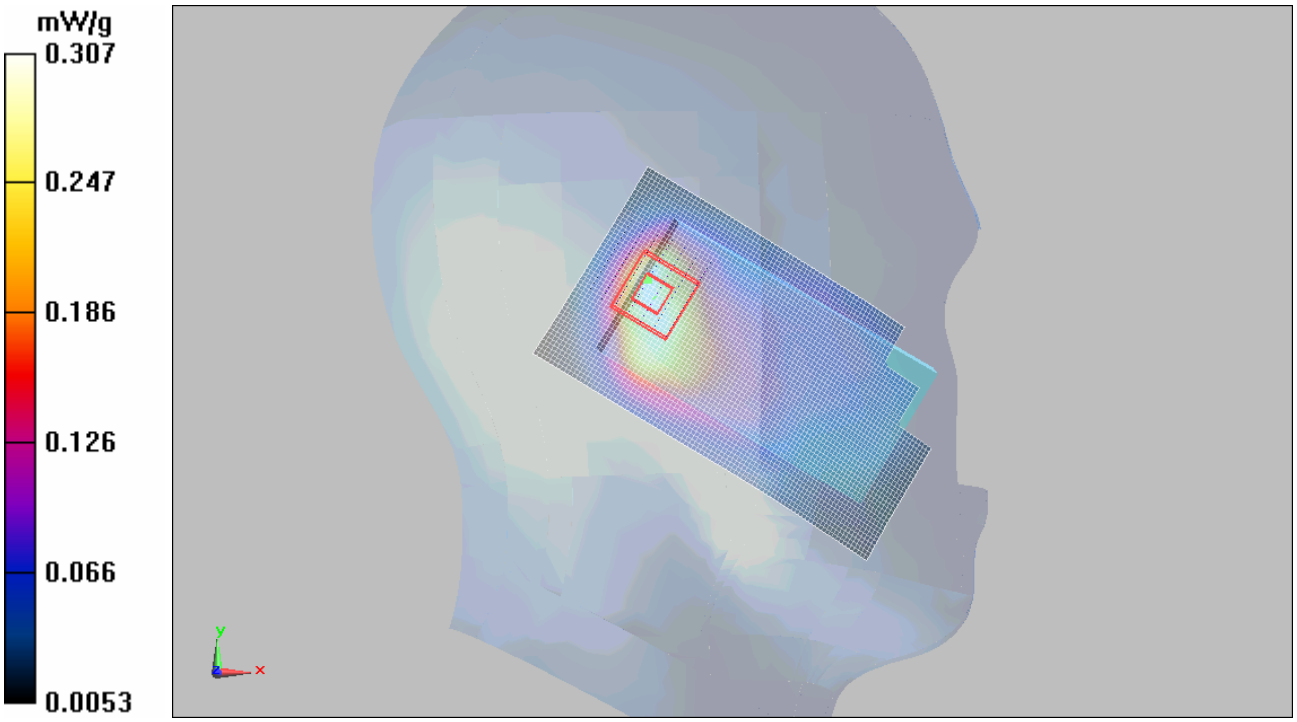


Figure 77 Slide Close, Left Hand Tilt 15° CDMA PCS Channel 600

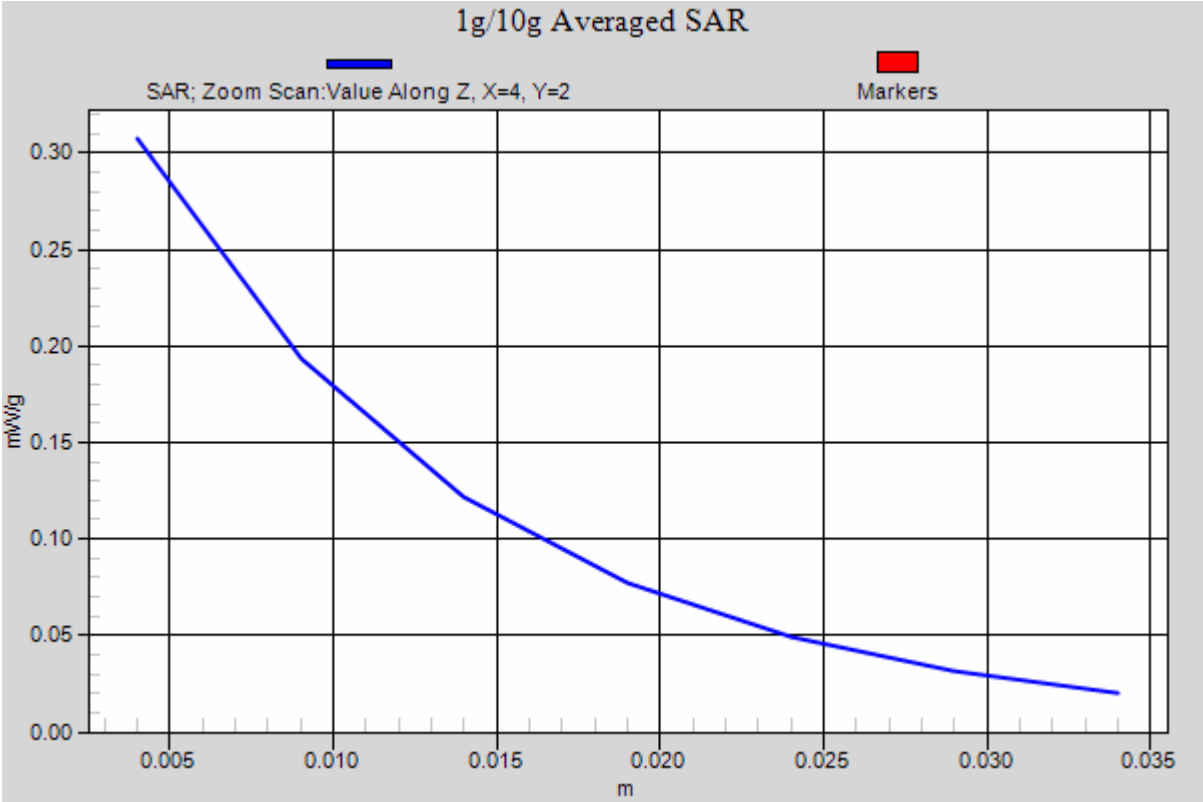


Figure 78 Z-Scan at power reference point (Slide Close, Left Hand Tilt 15° CDMA PCS Channel 600)

CDMA PCS Right Cheek High Slide Close

Date/Time: 1/13/2010 12:23:04 PM

Communication System: CDMA PCS; Frequency: 1908.75 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1908.75 MHz; σ = 1.42 mho/m; ε_r = 40; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.53, 7.53, 7.53); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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 = 12.5 V/m; Power Drift = -0.045 dB

Peak SAR (extrapolated) = 2.18 W/kg

SAR(1 g) = 1.2 mW/g; SAR(10 g) = 0.655 mW/g

Maximum value of SAR (measured) = 1.36 mW/g

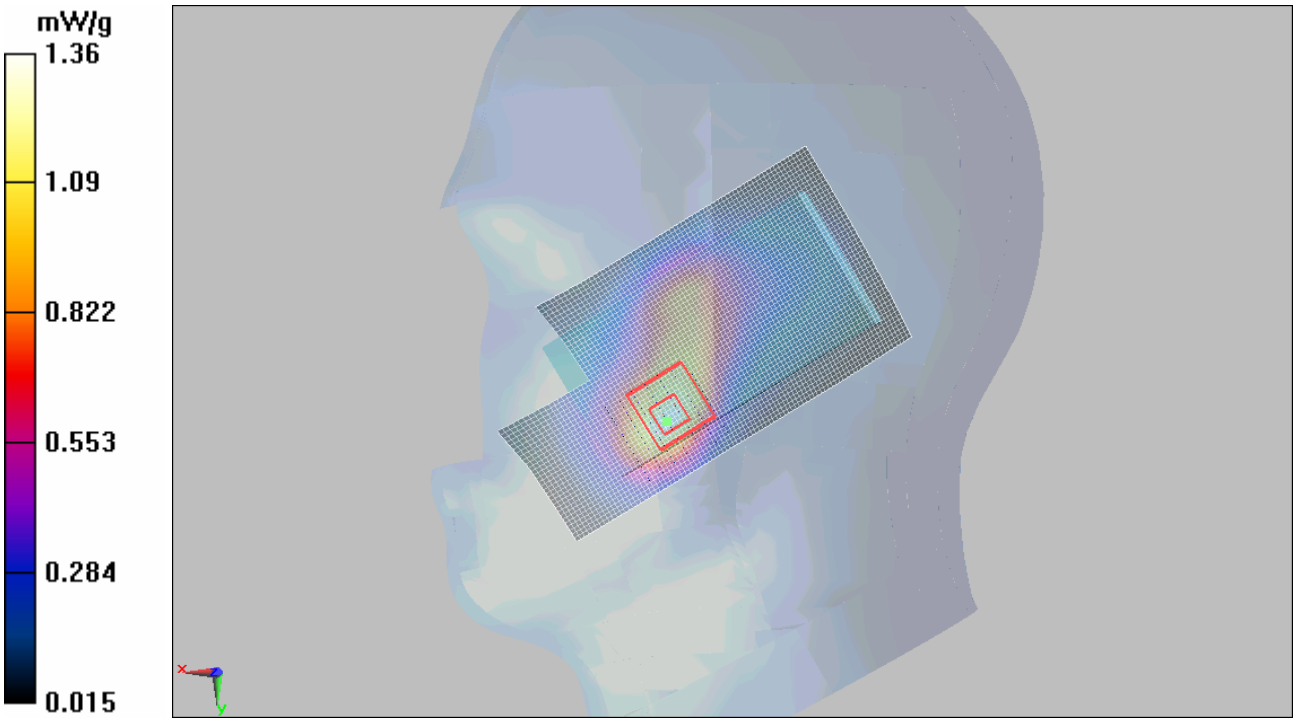


Figure 79 Slide Close, Right Hand Touch Cheek CDMA PCS Channel 1175

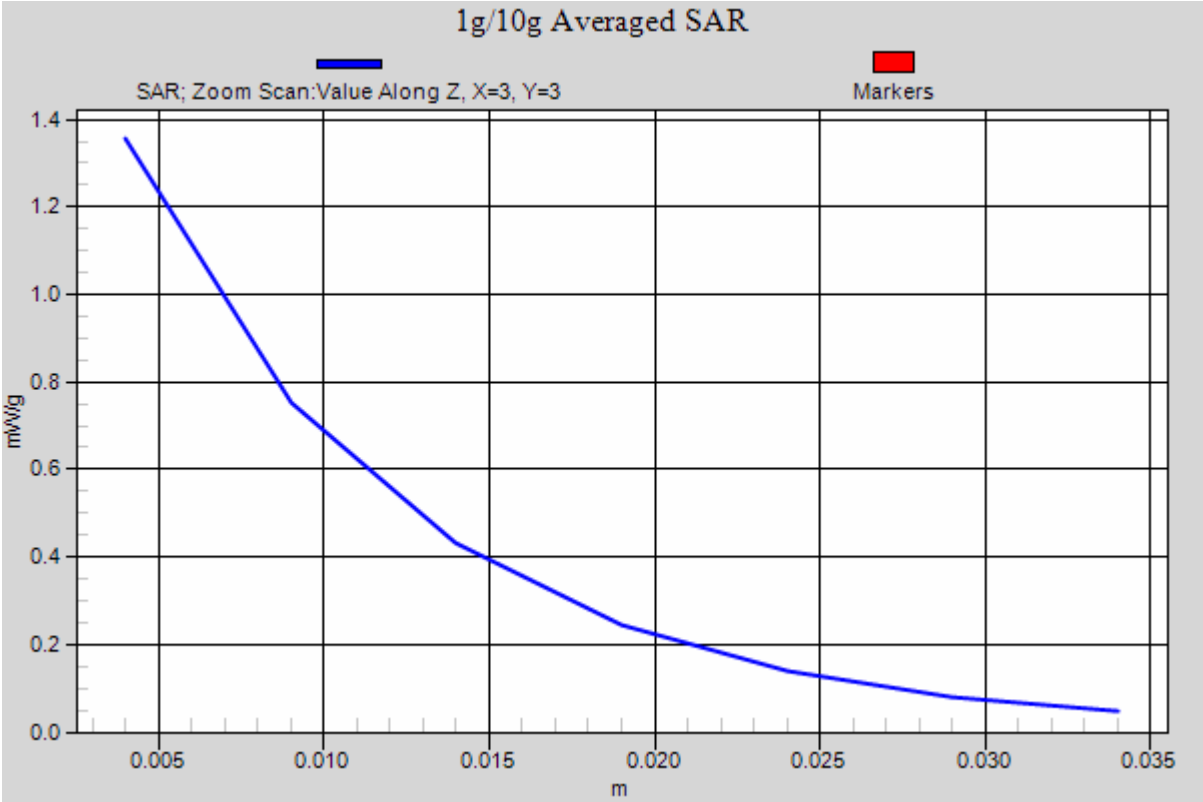


Figure 80 Z-Scan at power reference point (Slide Close, Right Hand Touch Cheek CDMA PCS Channel 1175)

CDMA PCS Right Cheek Middle Slide Close

Date/Time: 1/13/2010 6:30:20 PM

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

Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3

Ambient Temper ature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.53, 7.53, 7.53); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM000 T01 ; Type: SAM V4.0;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 1.09 mW/g

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

Reference Value = 12.2 V/m; Power Drift = 0.007 dB

Peak SAR (extrapolated) = 1.62 W/kg

SAR(1 g) = 0.929 mW/g; SAR(10 g) = 0.521 mW/g

Maximum value of SAR (measured) = 1.05 mW/g

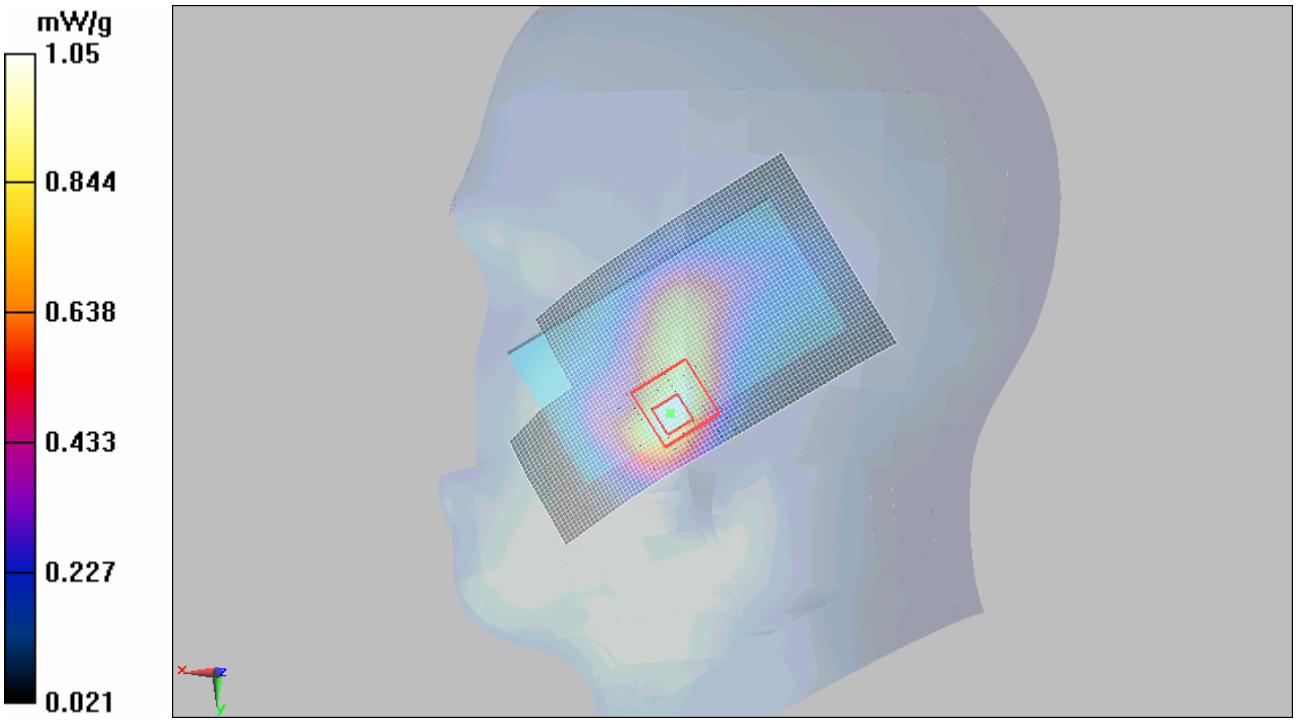


Figure 81 Slide Close, Right Hand Touch Cheek CDMA PCS Channel 600

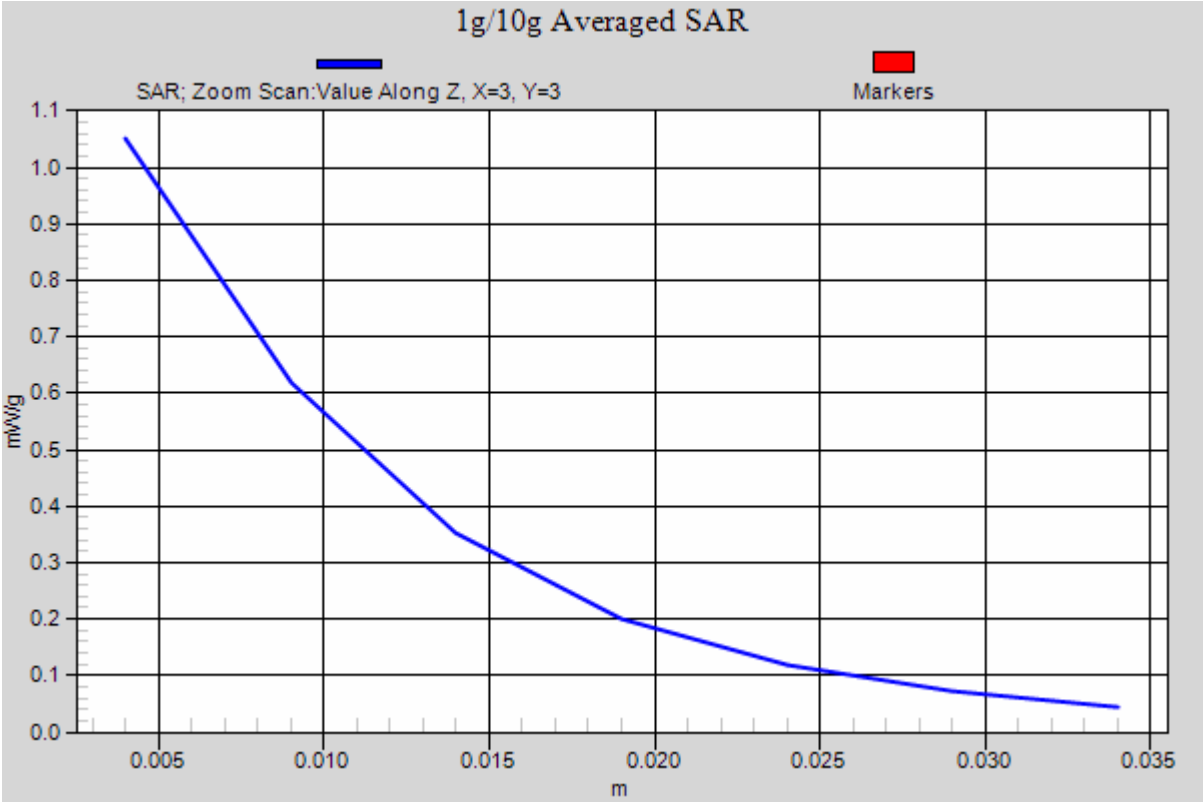


Figure 82 Z-Scan at power reference point (Slide Close, Right Hand Touch Cheek CDMA PCS Channel 600)

CDMA PCS Right Cheek Low Slide Close

Date/Time: 1/13/2010 12:44:00 PM

Communication System: CDMA PCS; Frequency: 1851.25 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1852 MHz; σ = 1.37 mho/m; ε_r = 40.2; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.53, 7.53, 7.53); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 1.67 mW/g

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

Reference Value = 11 V/m; Power Drift = -0.100 dB

Peak SAR (extrapolated) = 2.65 W/kg

SAR(1 g) = 1.48 mW/g; SAR(10 g) = 0.817 mW/g

Maximum value of SAR (measured) = 1.66 mW/g

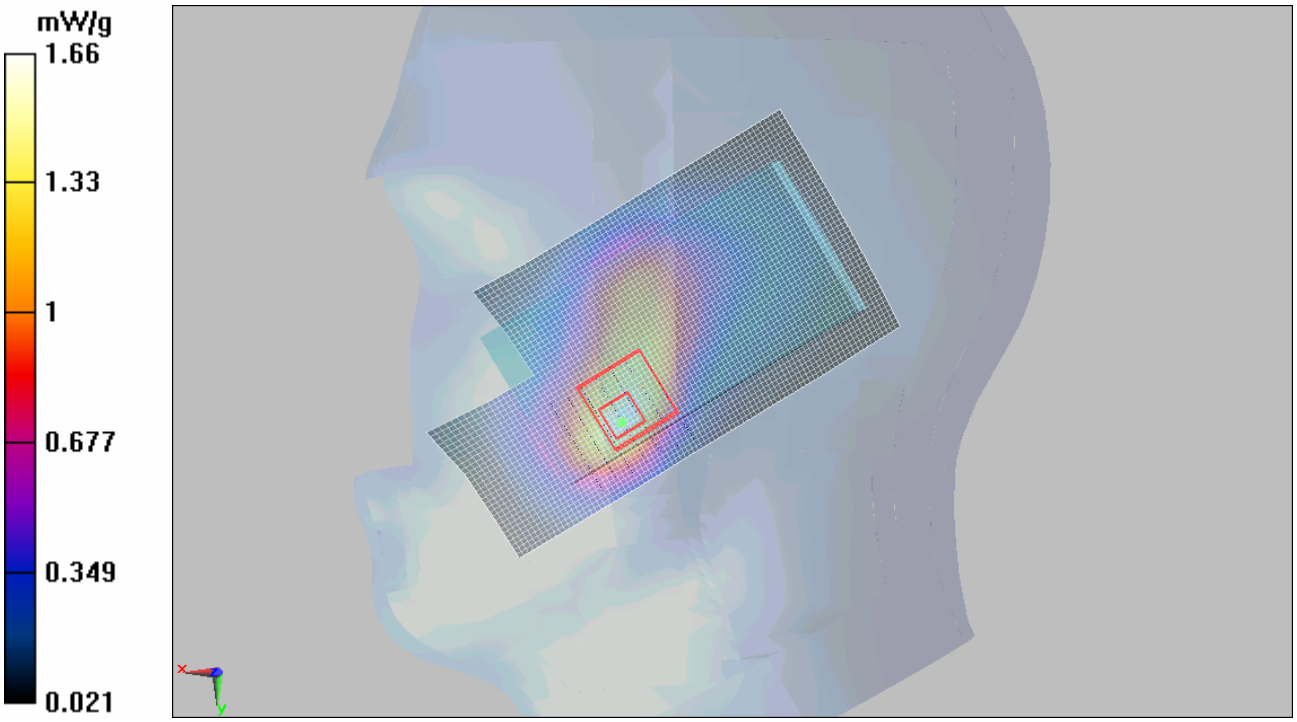


Figure 83 Slide Close, Right Hand Touch Cheek CDMA PCS Channel 25

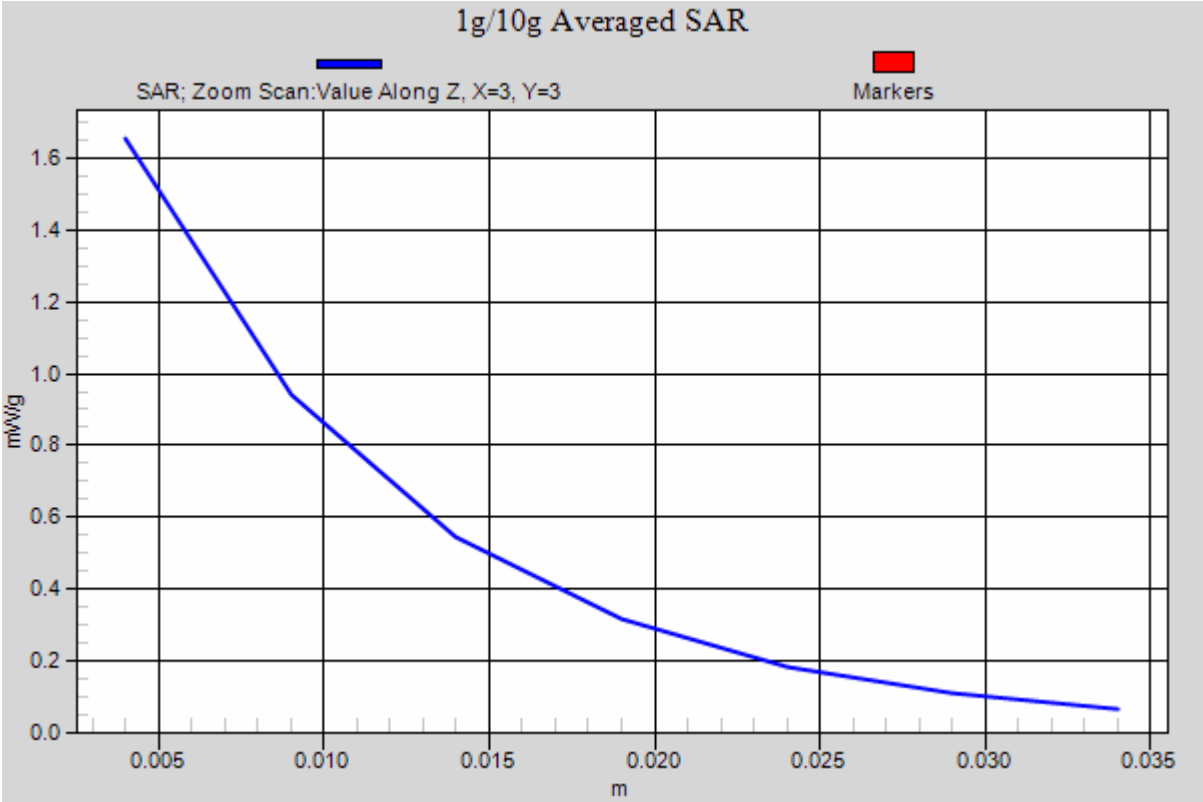


Figure 84 Z-Scan at power reference point (Slide Close, Right Hand Touch Cheek CDMA PCS Channel 25)

CDMA PCS Right Tilt Middle Slide Close

Date/Time: 1/13/2010 1:06:03 PM

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

Medium parameters used: f = 1880 MHz; σ = 1.4 mho/m; ε_r = 40.1; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.53, 7.53, 7.53); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.324 mW/g

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

Reference Value = 13.8 V/m; Power Drift = -0.110 dB

Peak SAR (extrapolated) = 0.484 W/kg

SAR(1 g) = 0.297 mW/g; SAR(10 g) = 0.180 mW/g

Maximum value of SAR (measured) = 0.325 mW/g

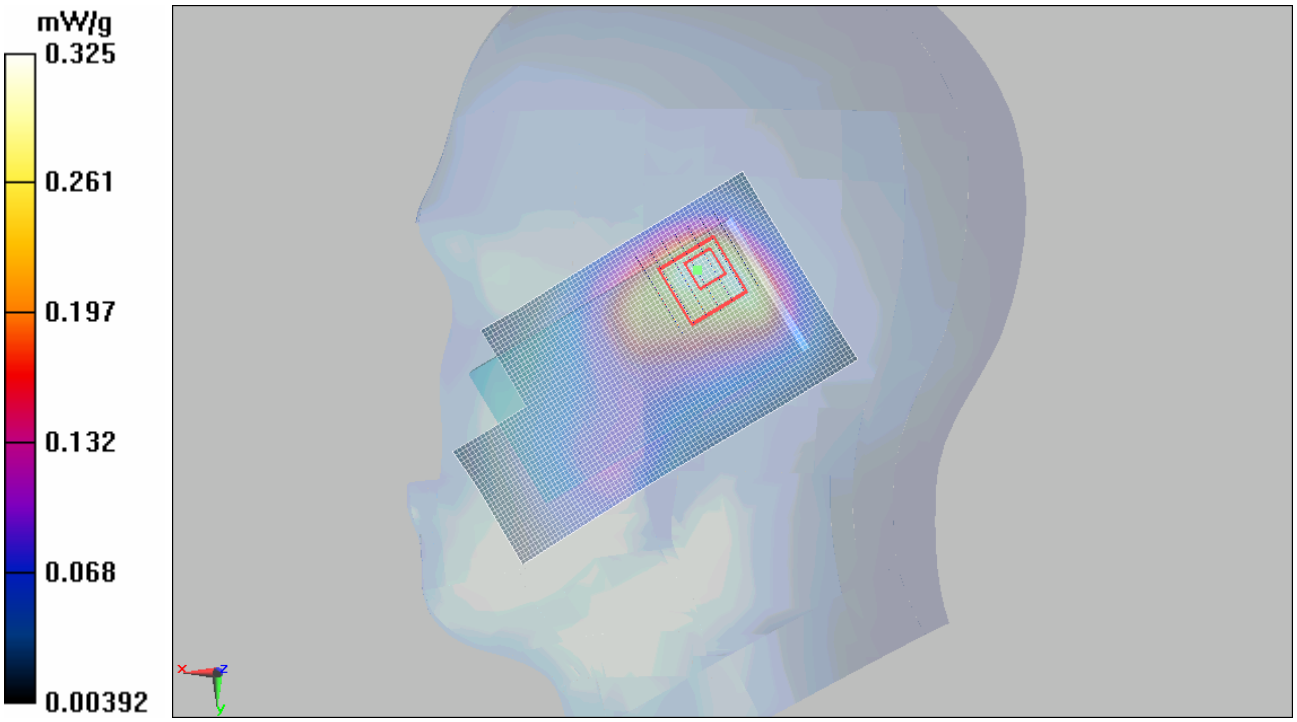


Figure 85 Slide Close, Right Hand Tilt 15° CDMA PCS Channel 600

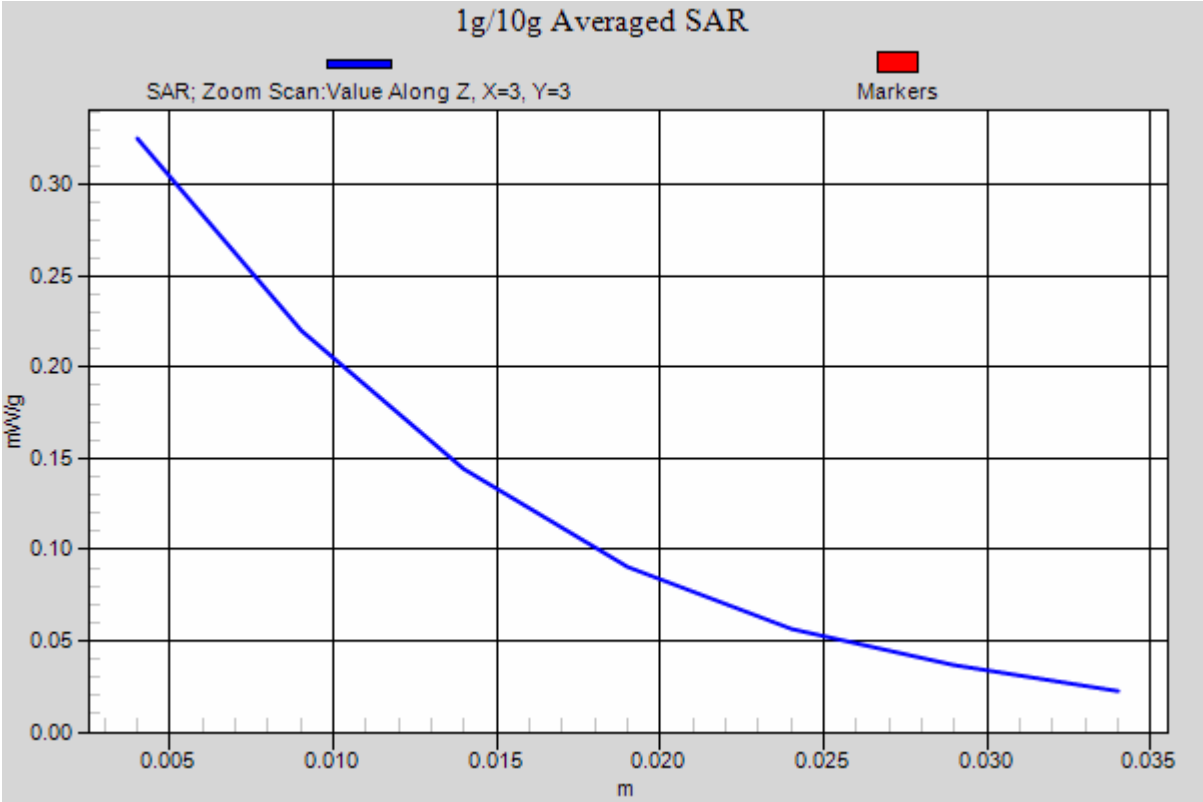


Figure 86 Z-Scan at power reference point (Slide Close, Right Hand Tilt 15° CDMA PCS Channel 600)

CDMA PCS Towards Ground High Slide Close

Date/Time: 1/12/2010 10:30:15 PM

Communication System: CDMA PCS; Frequency: 1908.75 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1908.75 MHz; σ = 1.54 mho/m; ε_r = 52.8; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.62, 7.62, 7.62); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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 = 9.25 V/m; Power Drift = -0.088 dB

Peak SAR (extrapolated) = 1.23 W/kg

SAR(1 g) = 0.716 mW/g; SAR(10 g) = 0.420 mW/g

Maximum value of SAR (measured) = 0.784 mW/g

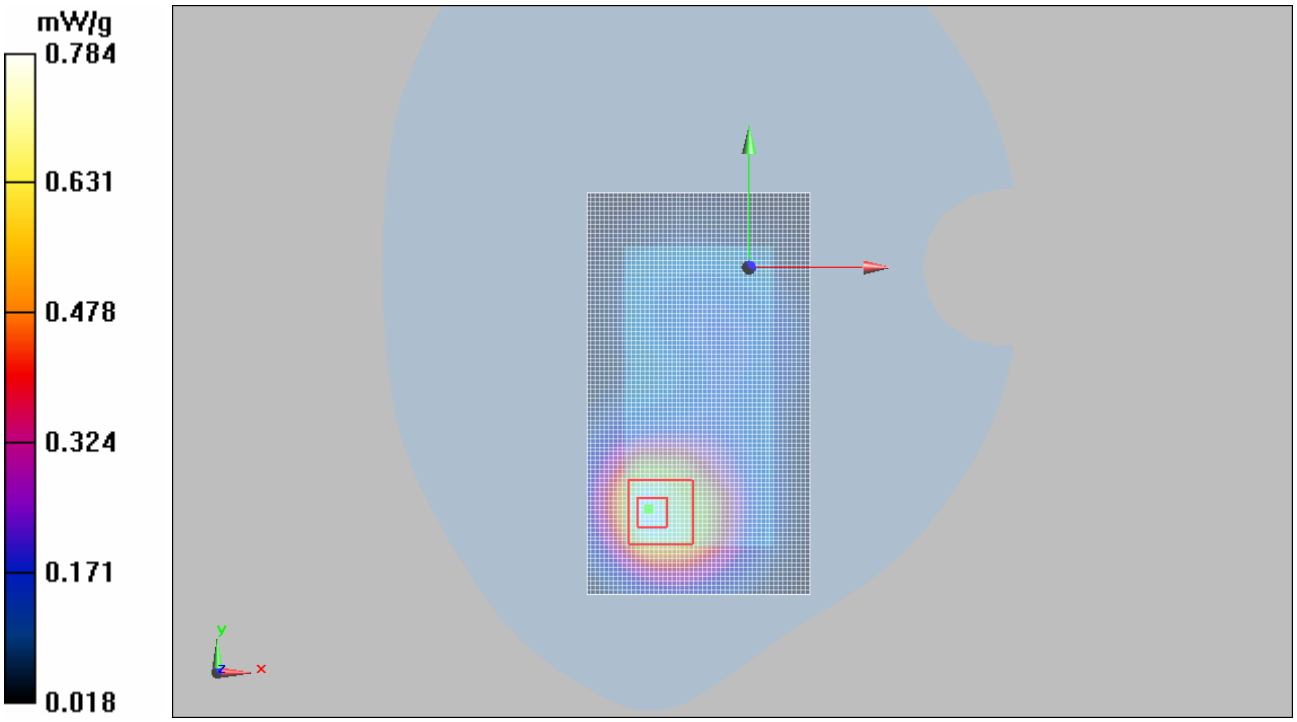


Figure 87 Body, Slide Close, Towards Ground, CDMA PCS Channel 1175

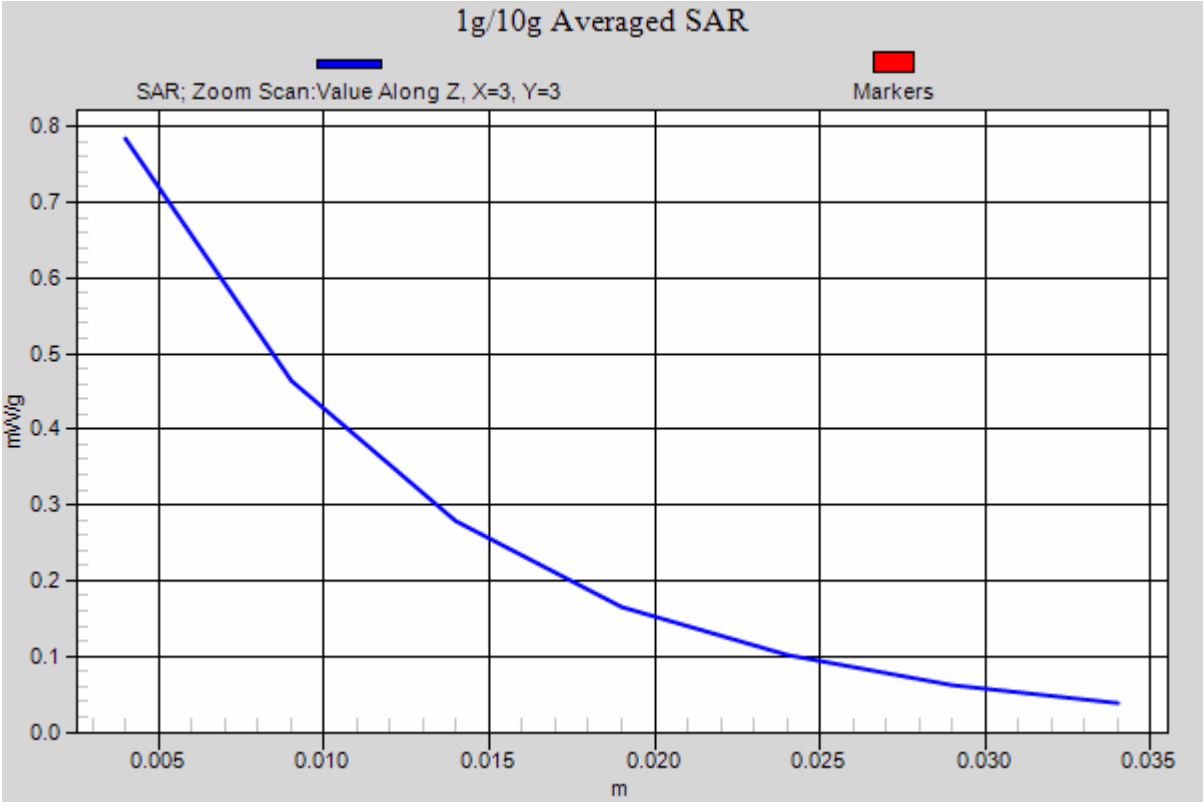


Figure 88 Z-Scan at power reference point (Body, Slide Close, Towards Ground, CDMA PCS Channel 1175)

CDMA PCS Towards Ground Middle Slide Close

Date/Time: 1/12/2010 10:03:10 PM

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

Medium parameters used: f = 1880 MHz; σ = 1.51 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.62, 7.62, 7.62); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.639 mW/g

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

Reference Value = 8.44 V/m; Power Drift = 0.073 dB

Peak SAR (extrapolated) = 0.989 W/kg

SAR(1 g) = 0.573 mW/g; SAR(10 g) = 0.329 mW/g

Maximum value of SAR (measured) = 0.634 mW/g

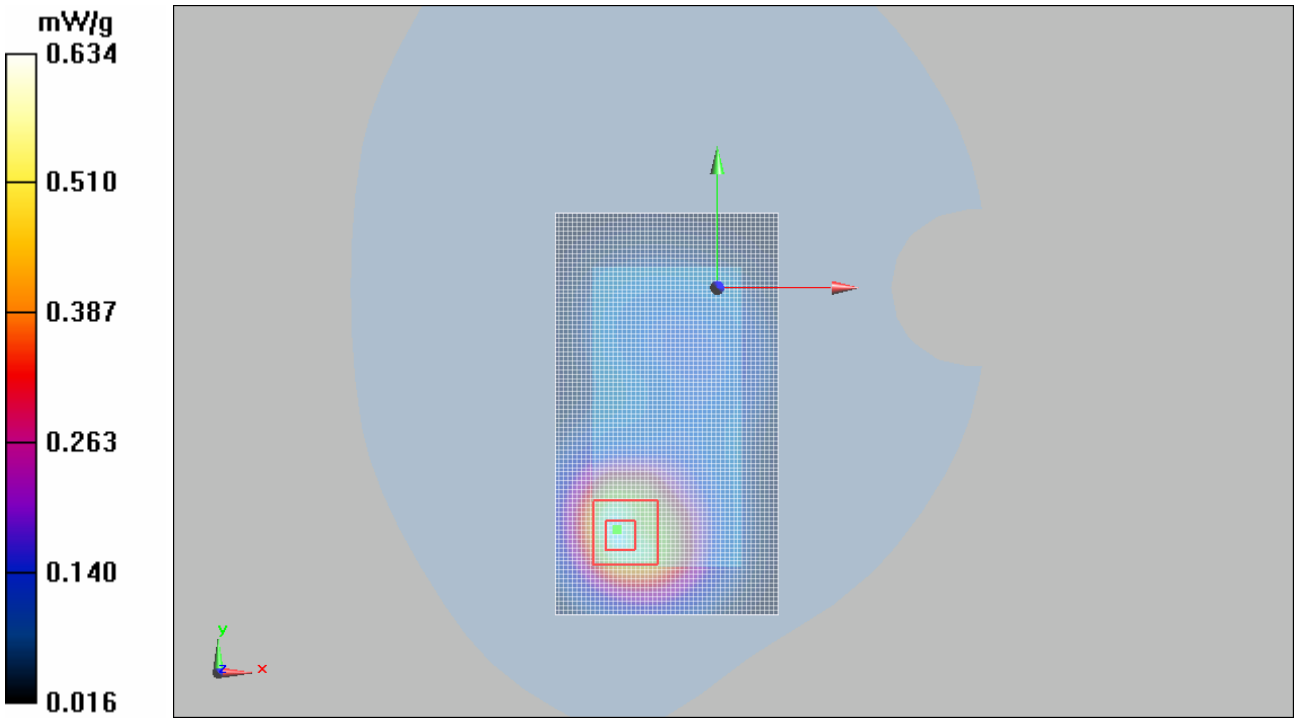


Figure 89 Body, Slide Close, Towards Ground, CDMA PCS Channel 600

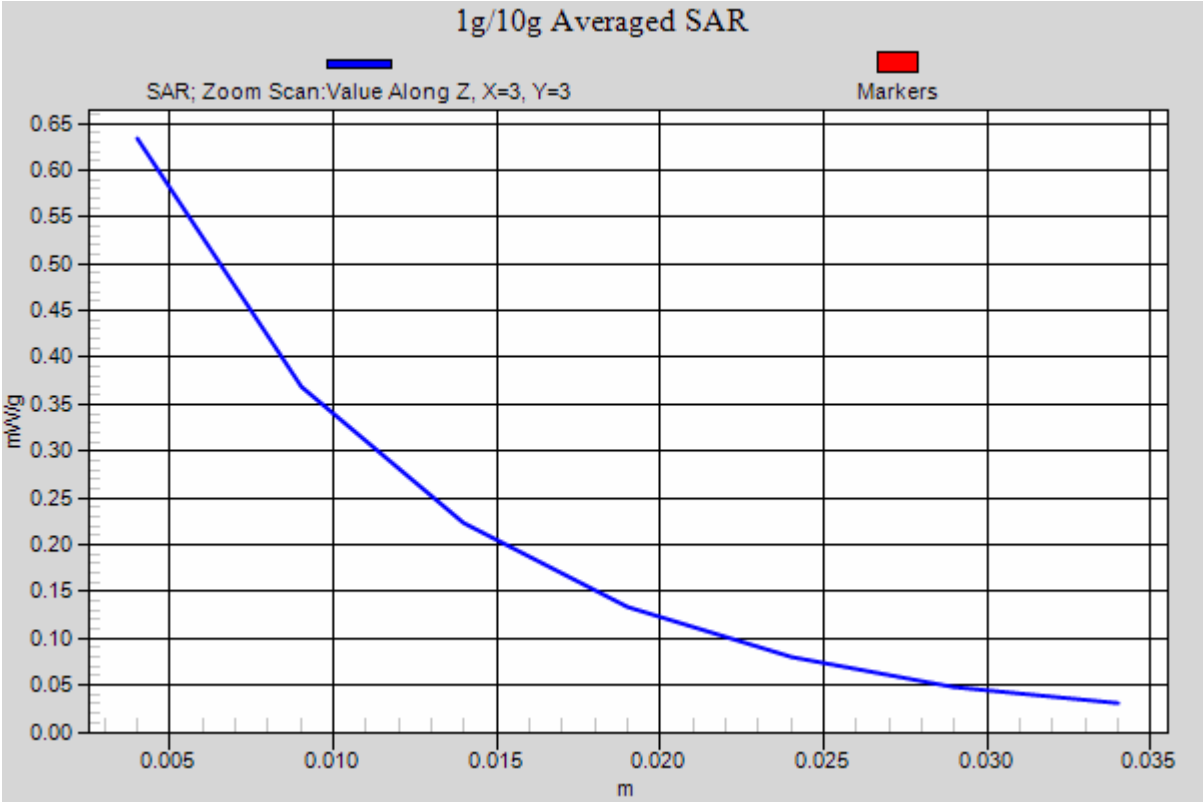


Figure 90 Z-Scan at power reference point (Body, Slide Close, Towards Ground, CDMA PCS Channel 600)

CDMA PCS Towards Ground Low Slide Close

Date/Time: 1/12/2010 11:05:21 PM

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 = 52.9; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.62, 7.62, 7.62); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

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

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

Reference Value = 11.1 V/m; Power Drift = 0.010 dB

Peak SAR (extrapolated) = 1.53 W/kg

SAR(1 g) = 0.901 mW/g; SAR(10 g) = 0.519 mW/g

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

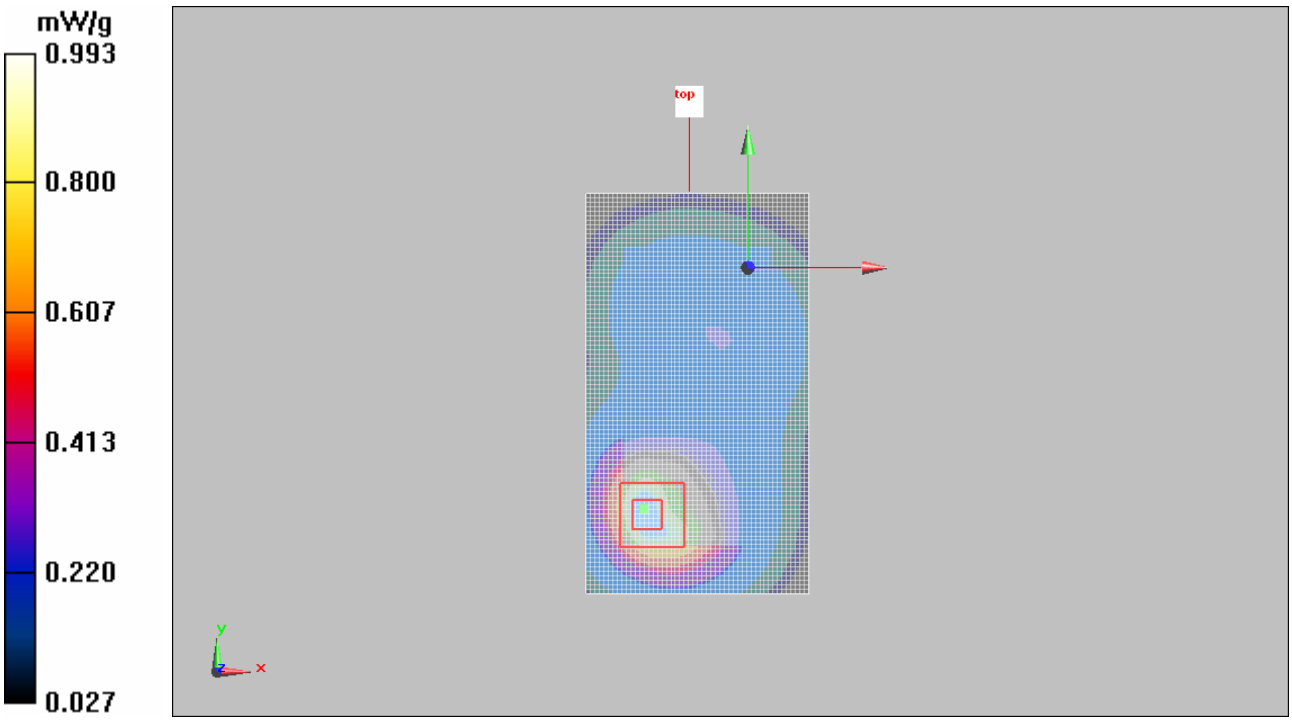


Figure 91 Body, Slide Close, Towards Ground, CDMA PCS Channel 25

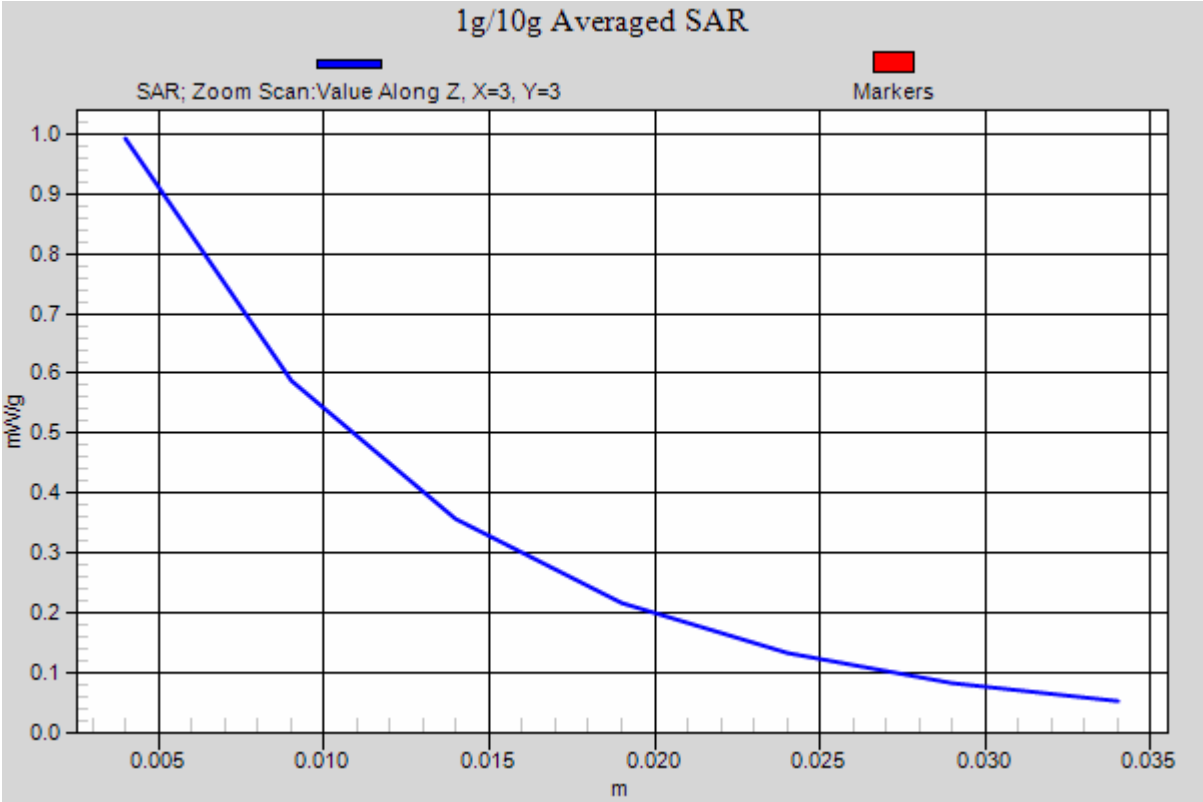


Figure 92 Z-Scan at power reference point (Body, Slide Close, Towards Ground, CDMA PCS Channel 25)

CDMA PCS Towards Phantom Middle Slide Close

Date/Time: 1/12/2010 9:25:38 PM

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

Medium parameters used: f = 1880 MHz; σ = 1.51 mho/m; ε_r = 52.9; ρ = 1000 kg/m^3

Ambient Temperature:22.3 ℃ Liqiud Temperature: 21.5℃

DASY5 Configuration:

Probe: EX3DV4 - SN3677; ConvF(7.62, 7.62, 7.62); Calibrated: 9/23/2009

Electronics: DAE4 Sn905; Calibrated: 6/24/2009

Phantom: SAM2; Type: SAM;

Measurement SW: DASY5, V5.0 Build 120; SEMCAD X Version 13.4 Build 45

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

Maximum value of SAR (interpolated) = 0.254 mW/g

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

Reference Value = 8.22 V/m; Power Drift = -0.155 dB

Peak SAR (extrapolated) = 0.347 W/kg

SAR(1 g) = 0.218 mW/g; SAR(10 g) = 0.132 mW/g

Maximum value of SAR (measured) = 0.236 mW/g

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

Reference Value = 8.22 V/m; Power Drift = -0.155 dB

Peak SAR (extrapolated) = 0.255 W/kg

SAR(1 g) = 0.168 mW/g; SAR(10 g) = 0.110 mW/g

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

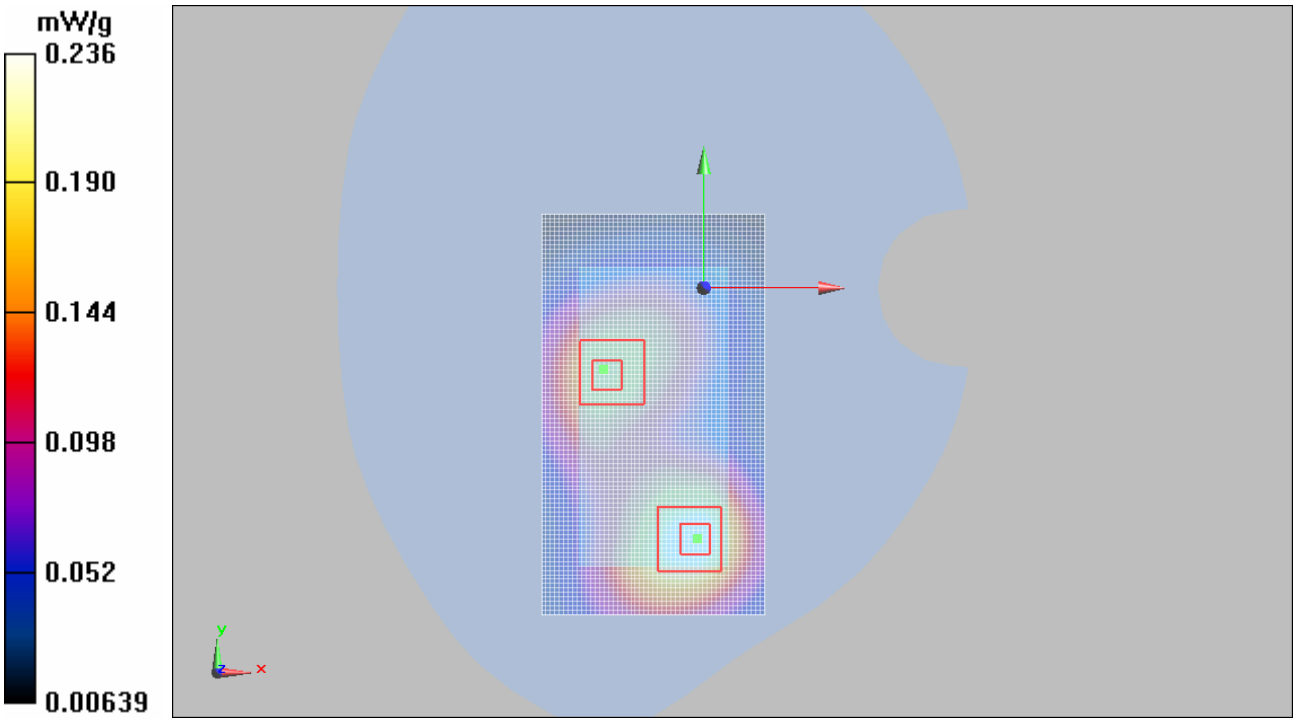
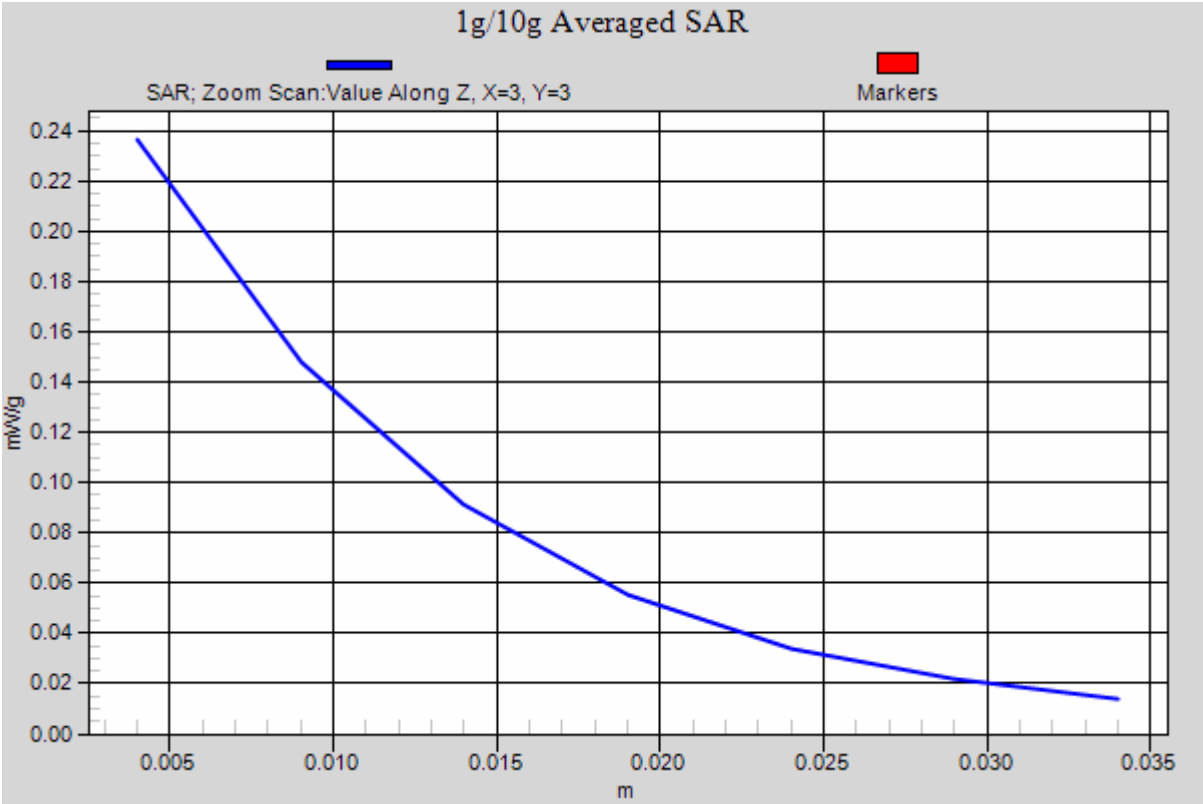


Figure 93 Body, Slide Close, Towards Phantom, CDMA PCS Channel 600



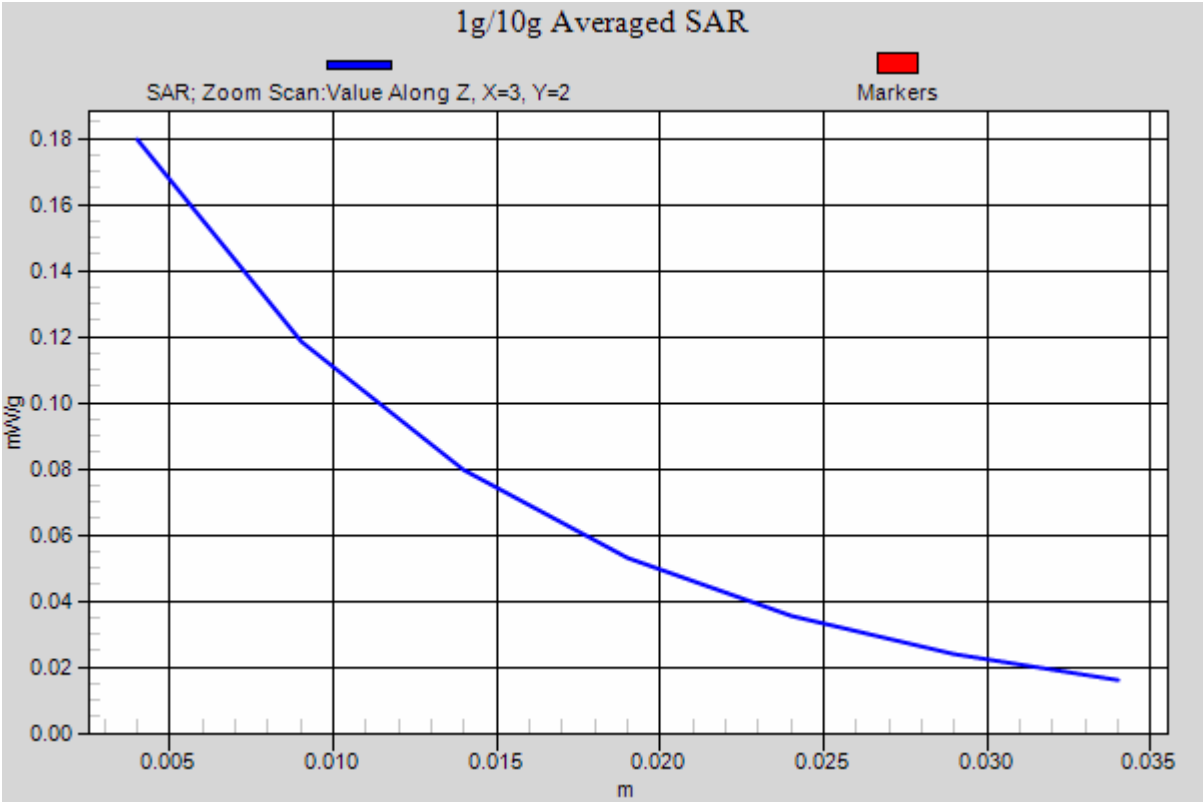


Figure 94 Z-Scan at power reference point (Body, Slide Close, Towards Phantom, CDMA PCS Channel 600)