



NO.: RZA2008-0144FCC



OET 65

TEST REPORT

| | |
|------------------|--|
| Test name | Electromagnetic Field (Specific Absorption Rate) |
| Product | Cordless Phone |
| Model | ETS8521 |
| FCC ID | QISETS8521 |
| Client | Huawei Technologies Co., Ltd. |

TA Technology (Shanghai) Co., Ltd.



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TA Technology (Shanghai) Co., Ltd.
Test Report

No. RZA2008-0144FCC

Page 3of 82

GENERAL SUMMARY

| | | | |
|--------------------------------|---|-------------------------------|----------------------------|
| Product | Cordless Phone | Model | ETS8521 |
| Client | Huawei Technologies Co., Ltd. | Type of test | Entrusted |
| Manufacturer | Huawei Technologies Co., Ltd. | Arrival Date of sample | Feb.3 rd , 2008 |
| Place of sampling | (Blank) | Carrier of the samples | Yan Xie |
| Quantity of the samples | One | Date of product | (Blank) |
| Base of the samples | (Blank) | Items of test | SAR |
| Series number | 10E4D4AD | | |
| Standard(s) | <p>EN 50360–2001: Product standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones.</p> <p>EN 50361–2001: Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones.</p> <p>ANSI C95.1–1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.</p> <p>IEEE 1528–2003: Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques.</p> <p>OET Bulletin 65 (Edition 97-01) and Supplement C (Edition 01-01): Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits.</p> <p>IEC 62209-1: Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures –Part 1: Procedure to determine the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz).</p> | | |
| Conclusion | <p>Localized Specific Absorption Rate (SAR) of this portable wireless equipment has been measured in all cases requested by the relevant standards cited in Clause 6.2 of this test report. Maximum localized SAR is below exposure limits specified in the relevant standards cited in Clause 6.1 of this test report.</p> <p>General Judgment: Pass</p> <p style="text-align: right;">(Stamp) Date of issue: Mar. 6th, 2008</p> | | |
| Comment | <p>TX Freq. Band: 1851-1909MHz (CDMA) Max. Power: 0.25W(CDMA)</p> <p>The test result only responds to the measured sample.</p> | | |

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TABLE OF CONTENT

| | | |
|-----------|--|-----------|
| 1 | COMPETENCE AND WARRANTIES | 6 |
| 2 | GENERAL CONDITIONS | 6 |
| 3 | DESCRIPTION OF EUT | 7 |
| 3.1 | ADDRESSING INFORMATION RELATED TO EUT | 7 |
| 3.2 | CONSTITUENTS OF EUT | 7 |
| 3.3 | GENERAL DESCRIPTION | 7 |
| 4 | OPERATIONAL CONDITIONS DURING TEST | 8 |
| 4.1 | TEST TO BE PERFORMED | 8 |
| 4.2 | INFORMATION FOR THE MEASUREMENT OF CDMA 1X DEVICES | 8 |
| 4.2.2 | <i>Output Power Verification</i> | 8 |
| 4.2.2 | <i>Head SAR measurement</i> | 8 |
| 4.2.3 | <i>Body SAR measurement</i> | 9 |
| 5 | SAR MEASUREMENTS SYSTEM CONFIGURATION | 10 |
| 5.1 | SAR MEASUREMENT SET-UP | 10 |
| 5.2 | DASY4 E-FIELD PROBE SYSTEM | 11 |
| 5.3 | E-FIELD PROBE CALIBRATION | 12 |
| 5.4 | OTHER TEST EQUIPMENT | 12 |
| 5.4.1 | <i>Device Holder for Transmitters</i> | 12 |
| 5.4.2 | <i>Phantom</i> | 13 |
| 5.5 | EQUIVALENT TISSUES | 14 |
| 5.6 | SYSTEM SPECIFICATIONS | 14 |
| 5.6.1 | <i>Robotic System Specifications</i> | 14 |
| 6 | CHARACTERISTICS OF THE TEST | 15 |
| 6.1 | APPLICABLE LIMIT REGULATIONS | 15 |
| 6.2 | APPLICABLE MEASUREMENT STANDARDS | 15 |
| 7 | LABORATORY ENVIRONMENT | 15 |
| 8 | CONDUCTED OUTPUT POWER MEASUREMENT | 16 |
| 8.1 | SUMMARY | 16 |
| 8.2 | POWER DRIFT | 16 |
| 8.3 | CONDUCTED POWER | 16 |
| 8.3.1 | <i>Measurement Methods</i> | 16 |
| 8.3.2 | <i>Measurement result</i> | 16 |
| 9 | TEST RESULTS | 17 |
| 9.1 | DIELECTRIC PERFORMANCE | 17 |
| 9.2 | SYSTEM VALIDATION | 17 |
| 9.3 | SUMMARY OF MEASUREMENT RESULTS | 18 |
| 9.4 | CONCLUSION | 19 |
| 10 | MEASUREMENT UNCERTAINTY | 20 |
| 11 | MAIN TEST INSTRUMENTS | 21 |

TA Technology (Shanghai) Co., Ltd.
Test Report

No. RZA2008-0144FCC

Page 5 of 82

| | |
|--|-----------|
| 12 TEST PERIOD | 21 |
| 13 TEST LOCATION..... | 21 |
| ANNEX A: MEASUREMENT PROCESS | 22 |
| ANNEX B: TEST LAYOUT | 23 |
| ANNEX C: GRAPH RESULTS | 24 |
| ANNEX D: SYSTEM VALIDATION RESULTS | 60 |
| ANNEX E: PROBE CALIBRATION CERTIFICATE | 61 |
| ANNEX F: D1900V2 DIPOLE CALIBRATION CERTIFICATE | 70 |
| ANNEX G: THE EUT APPEARANCES AND TEST CONFIGURATION | 79 |

1 COMPETENCE AND WARRANTIES

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

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

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3 DESCRIPTION OF EUT

3.1 Addressing Information Related to EUT

Table 1: Applicant (The Client)

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

Table 2: Manufacturer

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

3.2 Constituents of EUT

Table 3: Constituents of Samples

| Description | Model | Serial Number | Manufacturer |
|-----------------|----------|---------------|-----------------------------|
| Handset | ETS8521 | 10E4D4AD | Huawei Technologies Co.,Ltd |
| Lithium Battery | HBC85S | BYD660803555 | Shenzhen BYD Co.,Ltd |
| AC/DC Adapter | XQLCHW04 | AKD7C1200896 | Shenzhen Xinqiao Co.,Ltd |

Note:

The EUT appearances see ANNEX G.

3.3 General Description

Equipment Under Test (EUT) is a model of CDMA 1X portable Mobile Station (MS) with internal antenna. It consists of Handset, Lithium Battery and AC/DC Adapter. The detail about Mobile phone, Lithium Battery and AC/DC Adapter is in Table 3. SAR is tested for CDMA PCS only.

The sample undergoing test was selected by the Client.

Components list please refer to documents of the manufacturer.

4 OPERATIONAL CONDITIONS DURING TEST

4.1 Test to be performed

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 25, 525 and 1175 respectively in the case of CDMA PCS. The EUT is commanded to operate at maximum transmitting power.

Under the loop back mode between mobile station and E5515C, the transmitter continuously emits with maximum power more strong than voice mode, so the SAR test was done with loop back mode. To make the mobile emits maximum power; the output power of E5515C would be adjusted to minimum power with the sensitivity of the mobile station to build steady connection with mobile station. The power level control parameter “all up” and it means that requires mobile station to emit with maximum power.

The EUT shall use its internal transmitter. The antenna(s), battery and accessories shall be those specified by the manufacturer. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output. If a wireless link is used, the antenna connected to the output of the base station simulator shall be placed at least 50 cm away from the handset. The signal transmitted by the simulator to the antenna feeding point shall be lower than the output power level of the handset by at least 30 dB.

4.2 Information for the measurement of CDMA 1x devices

4.2.2 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 |
| Pilot E_c / I_{or} | dB | -7 |
| Traffic E_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.

4.2.2 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.

TA Technology (Shanghai) Co., Ltd.

Test Report

No. RZA2008-0144FCC

Page 9 of 82

4.2.3 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. |

5 SAR MEASUREMENTS SYSTEM CONFIGURATION

5.1 SAR Measurement Set-up

These measurements were performed with the automated near-field scanning system DASY4 from Schmid & Partner Engineering AG (SPEAG). The system is based on a high precision robot (working range greater than 0.9m) which positions the probes with a positional repeatability of better than $\pm 0.02\text{mm}$. Special E- and H-field probes have been developed for measurements close to material discontinuity, the sensors of which are directly loaded with a Schottky diode and connected via highly resistive lines (length = 300mm) to the data acquisition unit.

A cell controller system contains the power supply, robot controller, teaches pendant (Joystick) and remote control, is used to drive the robot motors. The PC consists of the Micron Pentium III 800 MHz computer with Windows 2000 system and SAR Measurement Software DASY4, A/D interface card, monitor, mouse, and keyboard. The Stäubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, meCHanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card.

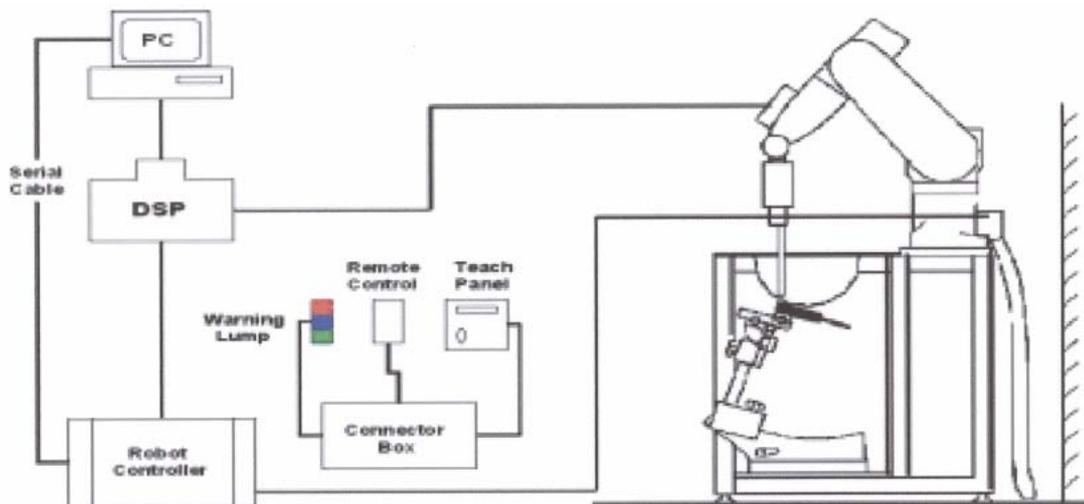


Figure1. SAR Lab Test Measurement Set-up

The DAE3 consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer.

5.2 Dasy4 E-field Probe System

The SAR measurements were conducted with the dosimetric probe ET3DV6 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation. The probe has been calibrated according to the standard procedure with an accuracy of better than $\pm 10\%$. The spherical isotropy was evaluated and found to be better than $\pm 0.25\text{dB}$.

ET3DV6 Probe Specification

| | |
|-------------------|--|
| Construction | Symmetrical design with triangular core Built-in optical fiber for surface detection System(ET3DV6 only) Built-in shielding against static charges PEEK enclosure material(resistant to organic solvents, e.q., glycol) |
| Calibration | In air from 10 MHz to 2.5 GHz In brain and muscle simulating tissue at frequencies of 900MHz, 1750MHz and 1950 MHz (accuracy $\pm 8\%$) Calibration for other liquids and frequencies upon request |
| Frequency | 10 MHz to > 6 GHz; Linearity: $\pm 0.2\text{ dB}$ (30 MHz to 3 GHz) |
| Directivity | $\pm 0.2\text{ dB}$ in brain tissue (rotation around probe axis) $\pm 0.4\text{ dB}$ in brain tissue (rotation normal probe axis) |
| Dynamic Range | 5 $\mu\text{W/g}$ to > 100mW/g; Linearity: $\pm 0.2\text{ dB}$ |
| Surface Detection | $\pm 0.2\text{ mm}$ repeatability in air and clear liquids over diffuse reflecting surface(ET3DV6 only) |
| Dimensions | Overall length: 330mm Tip length: 16mm Body diameter: 12mm Tip diameter: 6.8mm Distance from probe tip to dipole centers: 2.7mm |
| Application | General dosimetry up to 3GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms |

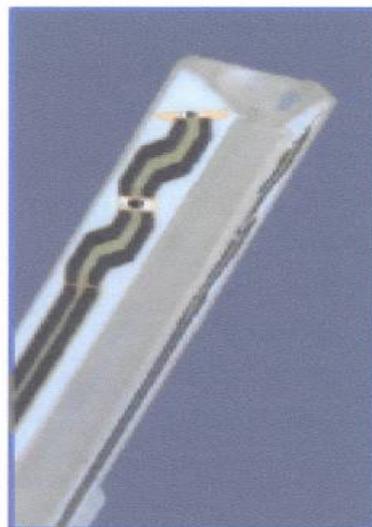


Figure2. ET3DV6 E-field Probe



Figure3. ET3DV6 E-field probe

5.3 E-field Probe Calibration

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

The free space E-field from amplified probe outputs is determined in a test Chamber. This is performed in a TEM cell for frequencies below 1 GHz, and in a wave guide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The measured free space E-field in the medium correlates to temperature rise in a dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

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

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

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

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

5.4 Other Test Equipment

5.4.1 Device Holder for Transmitters

In combination with the Generic Twin Phantom V3.0, the Mounting Device (POM) enables the rotation of the mounted transmitter in spherical coordinates whereby the rotation points is the ear opening. The devices can be easily, accurately, and repeat ably positioned according to the FCC and CENELEC specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).



Figure4. Device Holder

5.4.2 Phantom

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

| | |
|-----------------|---------------------------------|
| Shell Thickness | 2±0.1 mm |
| Filling Volume | Approx. 20 liters |
| Dimensions | 810 x 1000 x 500 mm (H x L x W) |
| Available | Special |



Figure5. Generic Twin Phantom

5.5 Equivalent Tissues

The liquid used for the frequency range of 800-2000 MHz consisted of water, salt and Glycol. The liquid has previously been proven to be suited for worst-case. The Table 4 and Table 5 show the detail solution. It's satisfying the latest tissue dielectric parameters requirements proposed by the IEEE 1528.

Table 4: Composition of the Head Tissue Equivalent Matter

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

Table 5: Composition of the Body Tissue Equivalent Matter

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

5.6 System Specifications

5.6.1 Robotic System Specifications

Specifications

Positioner: Stäubli Unimation Corp. Robot Model: RX90L

Repeatability: ± 0.02 mm

No. of Axis: 6

Data Acquisition Electronic (DAE) System

Cell Controller

Processor: Pentium III

Clock Speed: 800 MHz

Operating System: Windows 2000

Data Converter

Features: Signal Amplifier, multiplexer, A/D converter, and control logic

Software: DASY4 software

Connecting Lines: Optical downlink for data and status info. Optical uplink for commands and clock.

6 CHARACTERISTICS OF THE TEST

6.1 Applicable Limit Regulations

EN 50360–2001: Product standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones.

It specifies the maximum exposure limit of 2.0 W/kg as averaged over any 10 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.

ANSI 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.

6.2 Applicable Measurement Standards

EN 50361–2001: Basic standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones.

It specifies the measurement method for demonstration of compliance with the SAR limits for such equipments.

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

OET Bulletin 65 (Edition 97-01) and Supplement C (Edition 01-01): Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits.

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

7 LABORATORY ENVIRONMENT

Table 6: 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. | |

8 CONDUCTED OUTPUT POWER MEASUREMENT

8.1 Summary

During the process of testing, the EUT was controlled via Digital Radio Communication tester to ensure the maximum power transmission and proper modulation. This result contains conducted output power and ERP for the EUT. In all cases, the measured peak output power should be greater and within 5% than EMI measurement.

8.2 Power Drift

To control the output power stability during the SAR test, DASY4 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in Table 11 to Table 12 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

8.3 Conducted Power

8.3.1 Measurement Methods

The EUT was set up for the maximum output power. The channel power was measured. These measurements were done at 3 channels 25, 525 and 1175 before SAR test and after SAR test.

8.3.2 Measurement result

Table 7: Conducted Power Measurement Results

| CDMA2000 1× (RC3) | Conducted Power | | |
|----------------------|-----------------|-------------|--------------|
| | Channel 25 | Channel 525 | Channel 1175 |
| Before Test (dBm) | 24.1 | 24.2 | 24.1 |
| After Test (dBm) | 24.1 | 24.1 | 24.1 |
| CDMA2000 1× (RC1) | Conducted Power | | |
| | Channel 25 | Channel 525 | Channel 1175 |
| Before Test (dBm) | 24.1 | 24.1 | 24.1 |
| After Test (dBm) | 24.1 | 24.2 | 24.2 |

9 TEST RESULTS

9.1 Dielectric Performance

Table 8: Dielectric Performance of Head Tissue Simulating Liquid

| Measurement is made at temperature 22.5 °C and relative humidity 51%. Liquid temperature during the test: 22.3°C | | | | | |
|---|---------------------------|--------------|-------------------|-----------------------|---|
| Frequency (MHz) | | Target value | Measurement value | Difference percentage | |
| 1900 (Head) | Permittivity ϵ_r | 40.0 | 40.32 | 0.80 | % |
| | Conductivity σ | 1.40 | 1.42 | 1.43 | % |

Table 9: Dielectric Performance of Body Tissue Simulating Liquid

| Measurement is made at temperature 22.5 °C and relative humidity 51%. Liquid temperature during the test: 22.3°C | | | | | |
|---|---------------------------|--------------|-------------------|-----------------------|---|
| Frequency (MHz) | | Target value | Measurement value | Difference percentage | |
| 1900 (Body) | Permittivity ϵ_r | 53.3 | 52.64 | -1.24 | % |
| | Conductivity σ | 1.52 | 1.53 | 0.66 | % |

9.2 System Validation

Table 10: System Validation

| Measurement is made at temperature 23.2 °C, relative humidity 50%, and input power 250 mW. Liquid temperature during the test: 22.3°C | | | | | | | |
|--|-----------|-------------------------|-------------|-----------------------------|-------------|-----------------------|-------------|
| Liquid parameters | Frequency | Permittivity ϵ | | Conductivity σ (S/m) | | | |
| | 1900MHz | 39.5 | | 1.46 | | | |
| Verification results | Frequency | Target value (W/kg) | | Measurement value (W/kg) | | Difference percentage | |
| | | 10 g Average | 1 g Average | 10 g Average | 1 g Average | 10 g Average | 1 g Average |
| | 1900MHz | 4.94 | 9.35 | 4.93 | 9.36 | -0.20% | 0.11% |

Note:

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

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Test Report

9.3 Summary of Measurement Results

Table 11: SAR Values (CDMA PCS, Head)

| Liquid Temperature: 22.5°C | | | | | |
|----------------------------|---------|---------------------------|-------------|------------------|---------------|
| Limit of SAR (W/kg) | | 10 g Average | 1 g Average | Power Drift (dB) | Graph Results |
| | | 2.0 | 1.6 | ± 0.2 | |
| Test Case Of Head | | Measurement Result (W/kg) | | Power Drift (dB) | |
| | | 10 g Average | 1 g Average | | |
| Different Test Position | Channel | 10 g Average | 1 g Average | Power Drift (dB) | |
| Left hand, Touch cheek | High | 0.621 | 1.110 | -0.166 | Figure 7 |
| | Middle | 0.769 | 1.370 | -0.042 | Figure 8 |
| | Low | 0.405 | 0.716 | -0.075 | Figure 9 |
| Left hand, Tilt 15 Degree | High | 0.410 | 0.670 | -0.074 | Figure 10 |
| | Middle | 0.512 | 0.834 | -0.186 | Figure 11 |
| | Low | 0.306 | 0.498 | 0.058 | Figure 12 |
| Right hand, Touch cheek | High | 0.604 | 1.070 | 0.116 | Figure 13 |
| | Middle | 0.777 | 1.360 | 0.078 | Figure 14 |
| | Low | 0.379 | 0.665 | 0.133 | Figure 15 |
| Right hand, Tilt 15 Degree | High | 0.507 | 0.839 | -0.182 | Figure 16 |
| | Middle | 0.549 | 0.908 | -0.105 | Figure 17 |
| | Low | 0.297 | 0.487 | -0.078 | Figure 18 |

Remark: The value with blue color is the maximum SAR Value of each test band.

Table 12: SAR Values (CDMA PCS, Body, Distance 15mm)

| Liquid Temperature: 22.5°C | | | | | |
|----------------------------|---------|---------------------------|-------------|------------------|---------------|
| Limit of SAR (W/kg) | | 10 g Average | 1 g Average | Power Drift (dB) | Graph Results |
| | | 2.0 | 1.6 | ± 0.2 | |
| Test Case Of Body | | Measurement Result (W/kg) | | Power Drift (dB) | |
| | | 10 g Average | 1 g Average | | |
| Different Test Position | Channel | 10 g Average | 1 g Average | Power Drift (dB) | |
| Towards Ground | High | 0.262 | 0.415 | -0.045 | Figure 19 |
| | Middle | 0.376 | 0.593 | 0.186 | Figure 20 |
| | Low | 0.179 | 0.282 | 0.073 | Figure 21 |
| Towards Phantom | High | 0.211 | 0.338 | -0.134 | Figure 22 |
| | Middle | 0.311 | 0.490 | -0.103 | Figure 23 |
| | Low | 0.161 | 0.253 | 0.122 | Figure 24 |

9.4 Conclusion

Localized Specific Absorption Rate (SAR) of this portable wireless device has been measured in all cases requested by the relevant standards cited in Clause 6.2 of this report. Maximum localized SAR is below exposure limits specified in the relevant standards cited in Clause 6.1 of this test report.

TA Technology (Shanghai) Co., Ltd.

Test Report

No. RZA2008-0144FCC

Page 20 of 82

10 MEASUREMENT UNCERTAINTY

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

TA Technology (Shanghai) Co., Ltd.

Test Report

No. RZA2008-0144FCC

Page 21 of 82

11 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 15, 2007 | One year |
| 02 | Dielectric Probe Kit | Agilent 85070E | US44020115 | No Calibration Requested | |
| 03 | Power meter | Agilent E4417A | GB41291714 | March 16, 2007 | One year |
| 04 | Power sensor | Agilent 8481H | MY41091316 | March 16, 2007 | |
| 05 | Signal Generator | HP 8341B | 2730A00804 | September 15, 2007 | One year |
| 06 | Amplifier | IXA-020 | 0401 | No Calibration Requested | |
| 07 | Validation Kit 1900MHz | SPEAG D1900V2 | 5d018 | April 23, 2007 | One year |
| 08 | BTS | E5515C | GB46490218 | September 15, 2007 | One year |
| 09 | E-field Probe | ET3DV6 | 1531 | January 29, 2008 | One year |
| 10 | DAE | DAE3 | 452 | September 06, 2007 | One year |

12 TEST PERIOD

The test is performed from Mar. 1st, 2008 to Mar. 2nd, 2008.

13 TEST LOCATION

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

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

ANNEX A: MEASUREMENT PROCESS

The evaluation was performed with the following procedure:

Step 1: Measurement of the SAR value at a fixed location above the ear point was measured and was used as a reference value for assessing the power drop.

Step 2: The SAR distribution at the exposed side of the head was measured at a distance of 3.9 mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 20 mm x 20 mm. Based on this data, the area of the maximum absorption was determined by spline interpolation.

Step 3: Around this point, a volume of 32 mm x 32 mm x 34 mm was assessed by measuring 7 x 7 x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

- a. The data at the surface were extrapolated, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.
- b. The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot"-condition (in x ~ y and z-directions). The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.
- c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Re-measurement the SAR value at the same location as in Step 1. If the value changed by more than 5%, the evaluation is repeated.

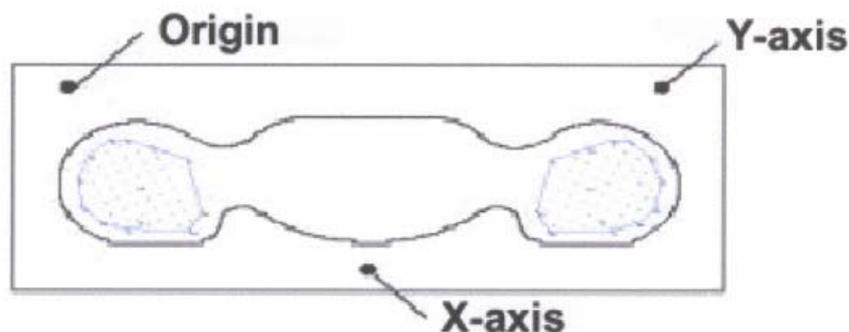


Figure 6 SAR Measurement Points in Area Scan

ANNEX B: TEST LAYOUT



Picture 1: Specific Absorption Rate Test Layout



Picture 2: Liquid depth in the Flat Phantom (1900 MHz)

ANNEX C: GRAPH RESULTS

CDMA PCS Left Cheek High

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

Medium parameters used (interpolated): $f = 1908.75$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Probe: ET3DV6 – SN1531; ConvF(5.15, 5.15, 5.15);

Electronics: DAE3 Sn452;

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

Maximum value of SAR (interpolated) = 1.32 mW/g

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

Reference Value = 21.9 V/m; Power Drift = -0.166 dB

Peak SAR (extrapolated) = 1.72 W/kg

SAR(1 g) = 1.11 mW/g; SAR(10 g) = 0.621 mW/g

Maximum value of SAR (measured) = 1.24 mW/g

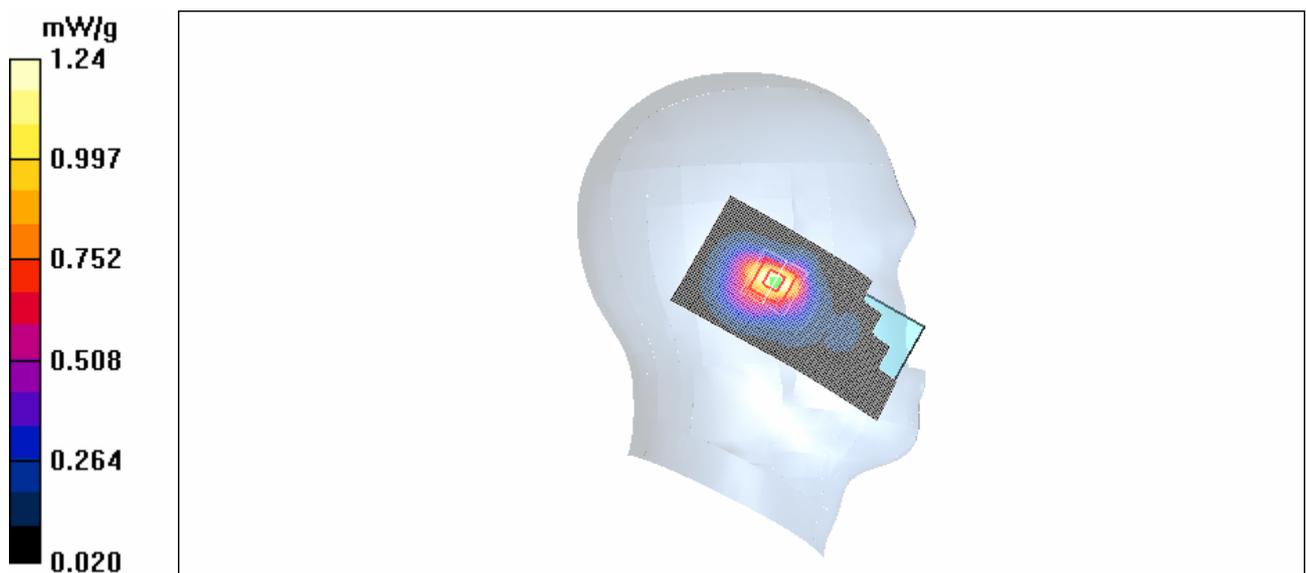


Figure.7 Left Hand Touch Cheek CDMA PCS Channel 1175

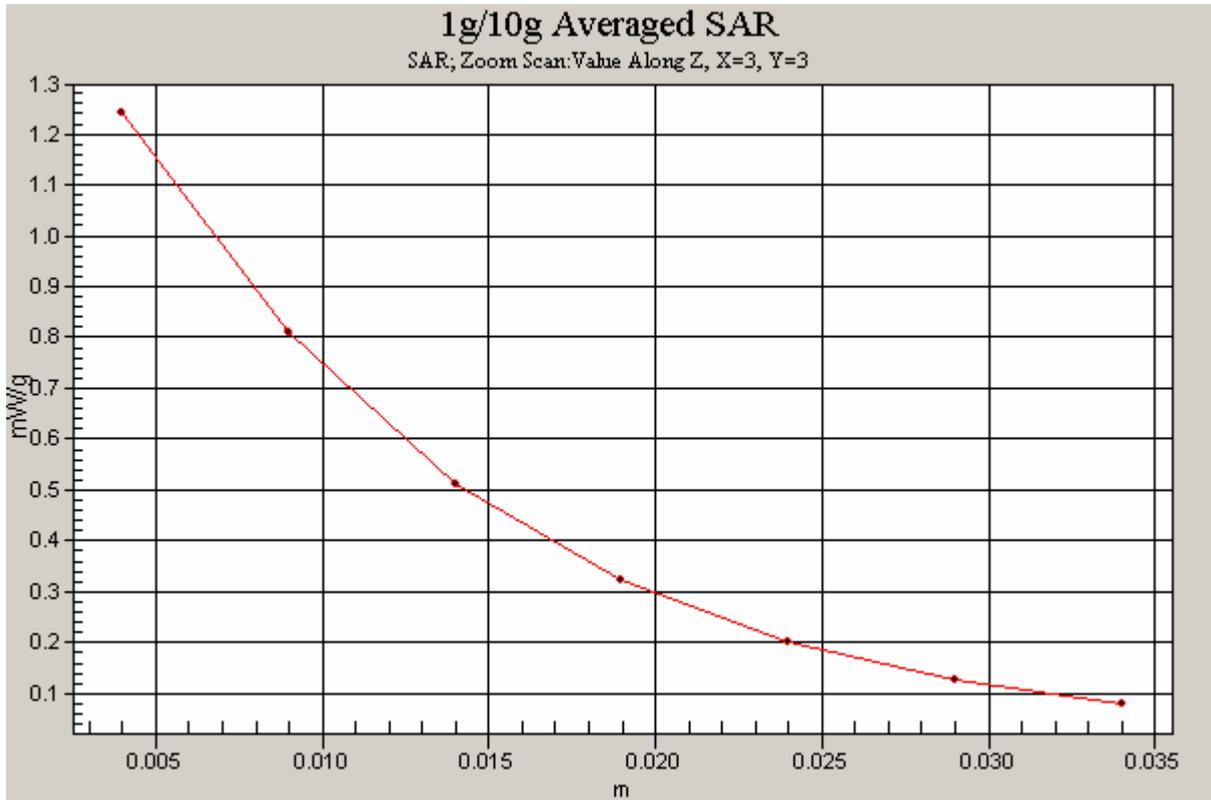


Figure.8 Z-Scan at power reference point (Left Hand Touch Cheek CDMA PCS Channel 1175)

CDMA PCS Left Cheek Middle

Communication System: CDMA PCS; Frequency: 1876.25 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1876.25$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(5.15, 5.15, 5.15);

Electronics: DAE3 Sn452;

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

Maximum value of SAR (interpolated) = 1.60 mW/g

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

Reference Value = 24.8 V/m; Power Drift = -0.042 dB

Peak SAR (extrapolated) = 2.12 W/kg

SAR(1 g) = 1.37 mW/g; SAR(10 g) = 0.769 mW/g

Maximum value of SAR (measured) = 1.55 mW/g

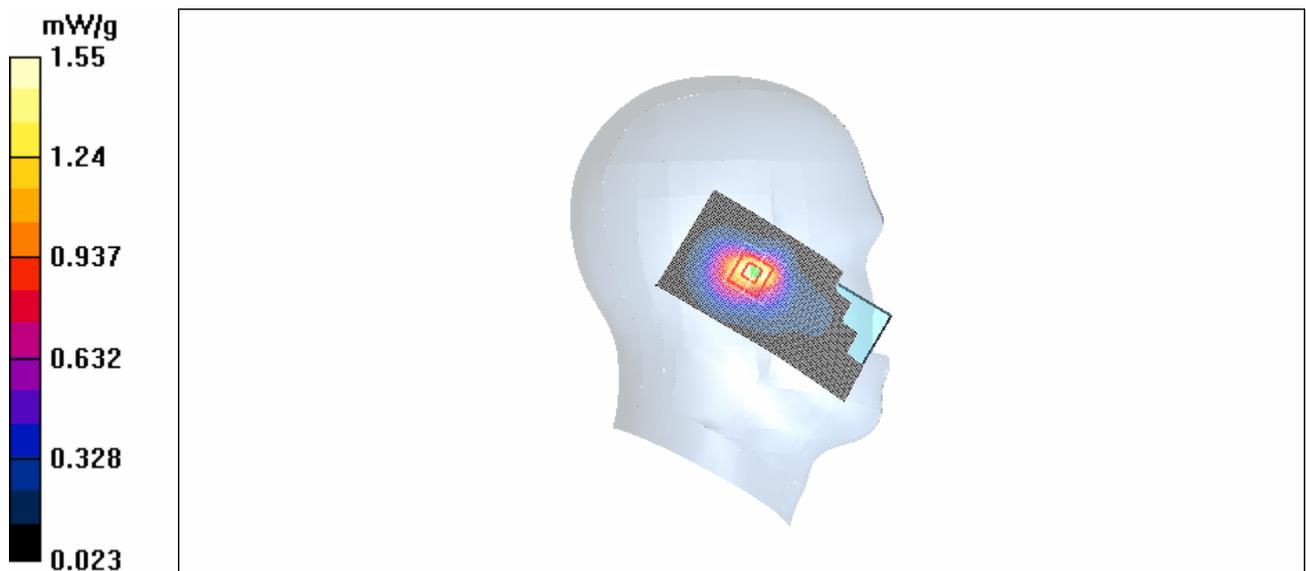


Figure.9 Left Hand Touch Cheek CDMA PCS Channel 525

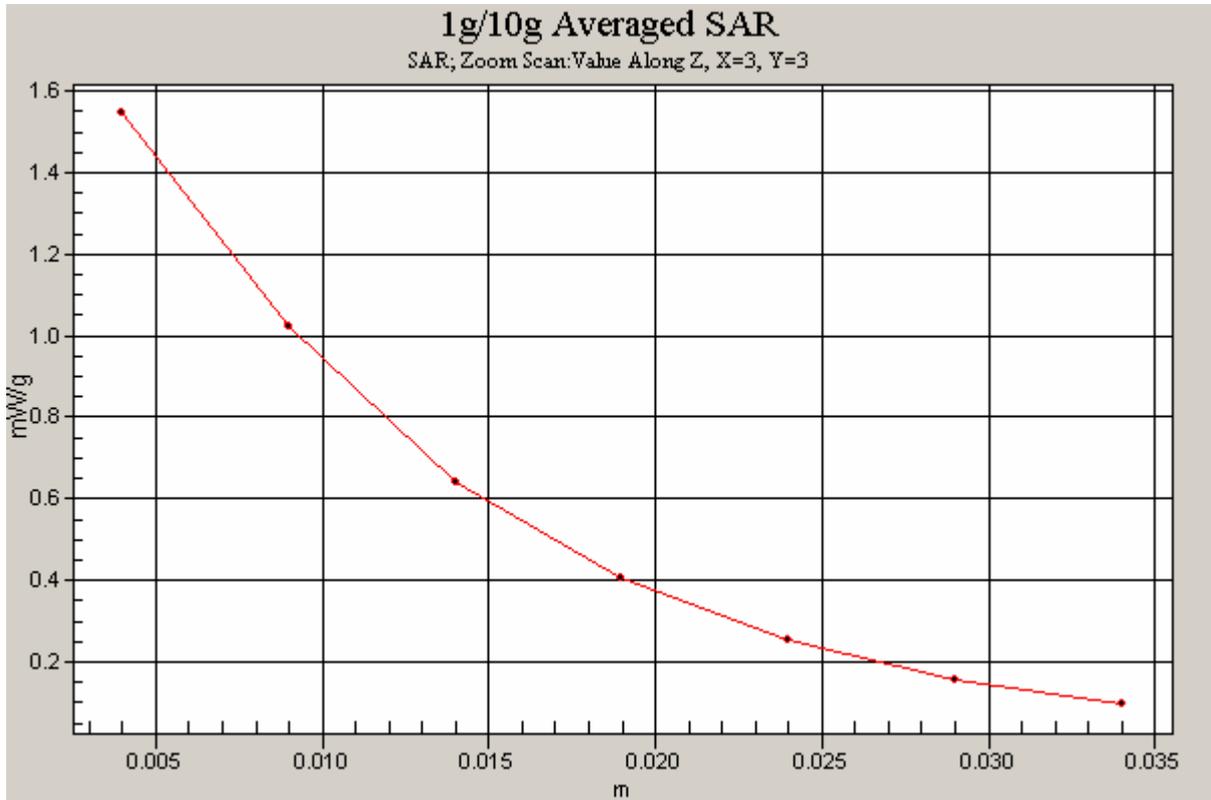


Figure. 10 Z-Scan at power reference point (Left Hand Touch Cheek CDMA PCS Channel 525)

CDMA PCS Left Cheek Low

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

Medium parameters used: $f = 1852$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(5.15, 5.15, 5.15);

Electronics: DAE3 Sn452;

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

Maximum value of SAR (interpolated) = 0.845 mW/g

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

Reference Value = 18.1 V/m; Power Drift = -0.075 dB

Peak SAR (extrapolated) = 1.08 W/kg

SAR(1 g) = 0.716 mW/g; SAR(10 g) = 0.405 mW/g

Maximum value of SAR (measured) = 0.803 mW/g

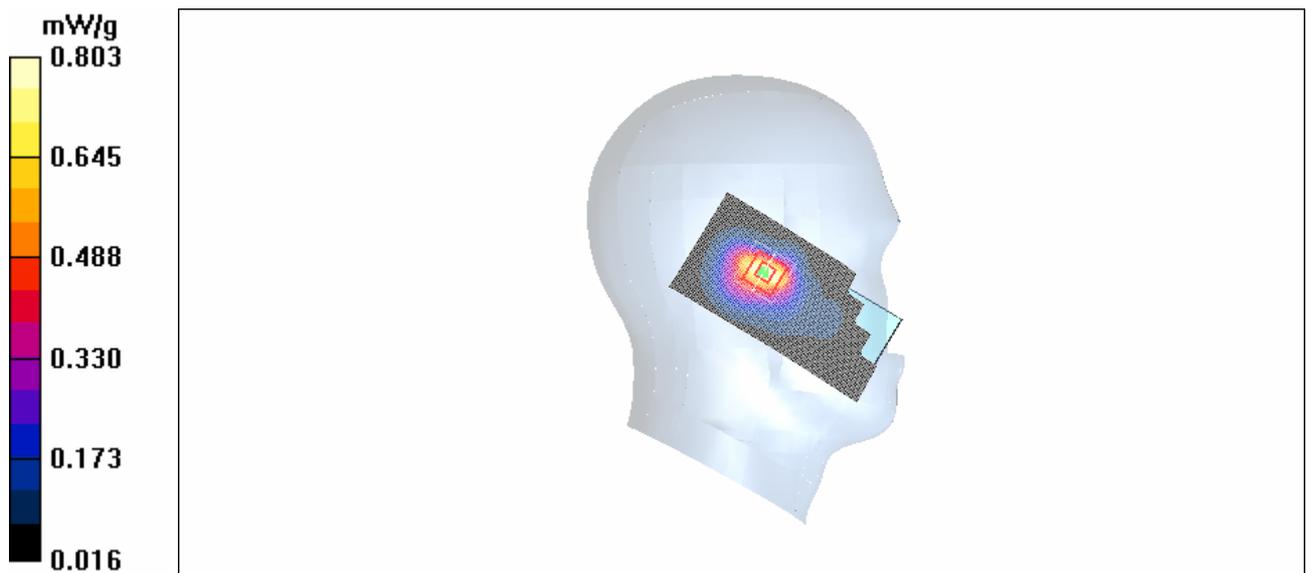


Figure.11 Left Hand Touch Cheek CDMA PCS Channel 25

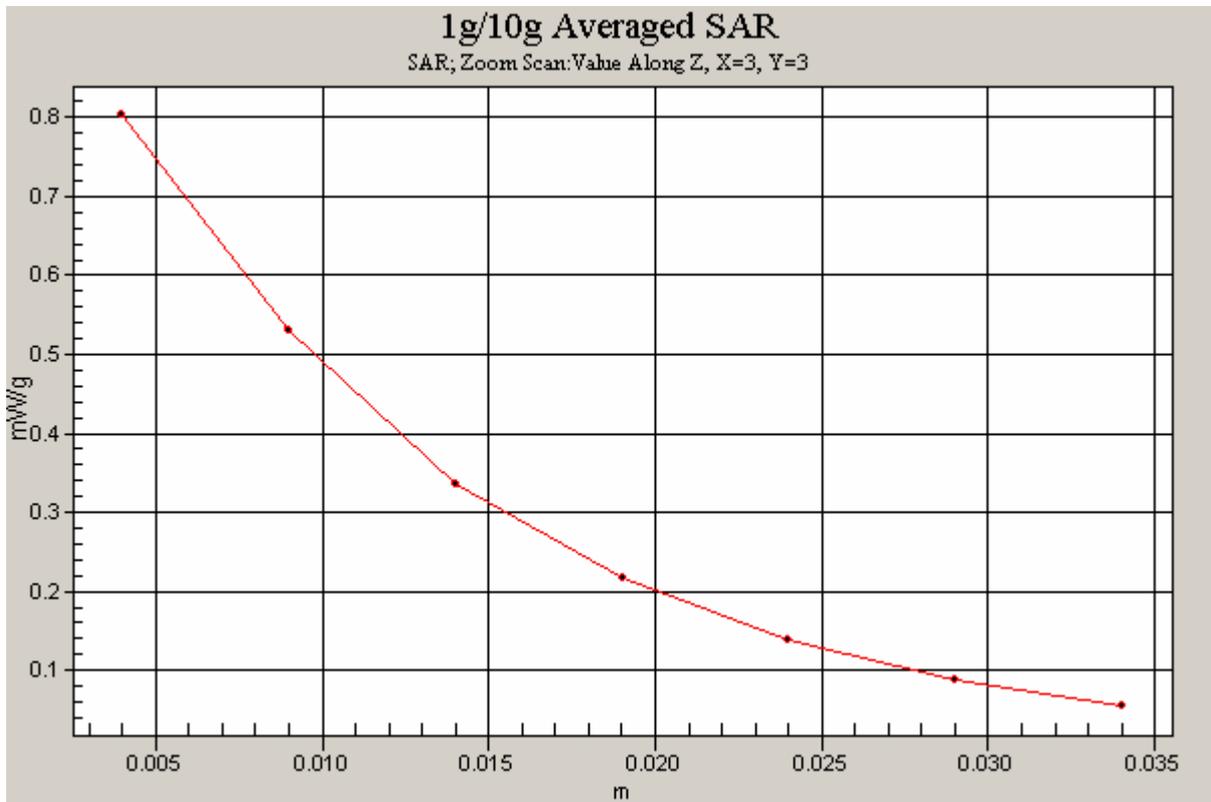


Figure. 12 Z-Scan at power reference point (Left Hand Touch Cheek CDMA PCS Channel 25)

CDMA PCS Left Tilt High

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

Medium parameters used (interpolated): $f = 1908.75$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(5.15, 5.15, 5.15);

Electronics: DAE3 Sn452;

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

Maximum value of SAR (interpolated) = 0.786 mW/g

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

Reference Value = 22.4 V/m; Power Drift = -0.074 dB

Peak SAR (extrapolated) = 0.909 W/kg

SAR(1 g) = 0.670 mW/g; SAR(10 g) = 0.410 mW/g

Maximum value of SAR (measured) = 0.736 mW/g

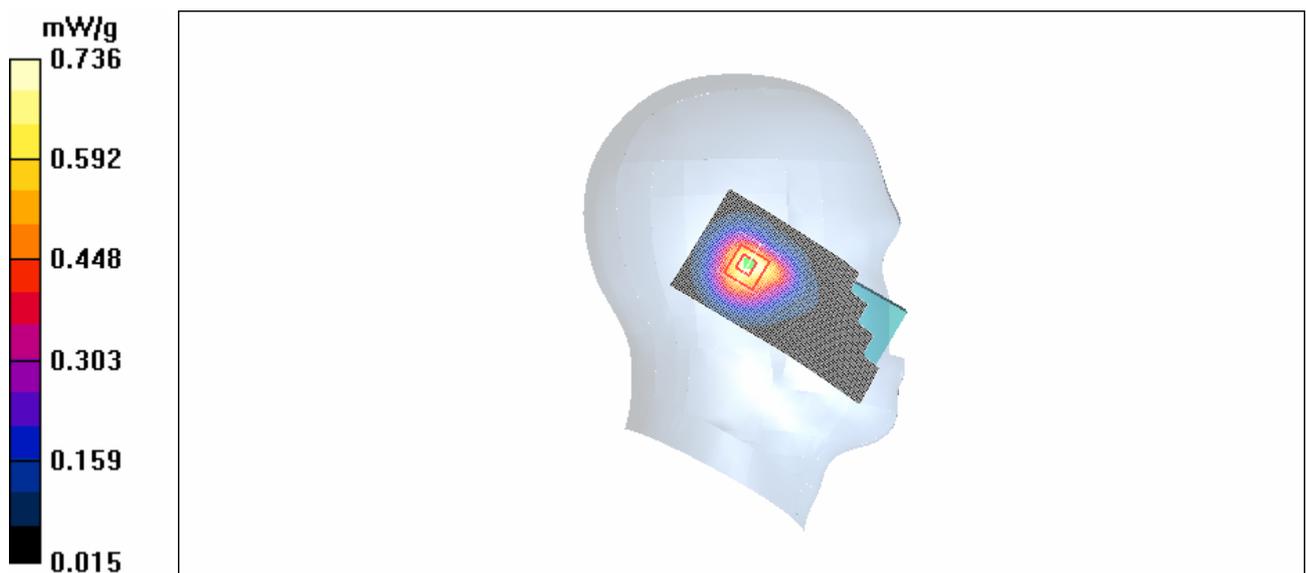


Figure. 13 Left Hand Tilt 15° CDMA PCS Channel 1175

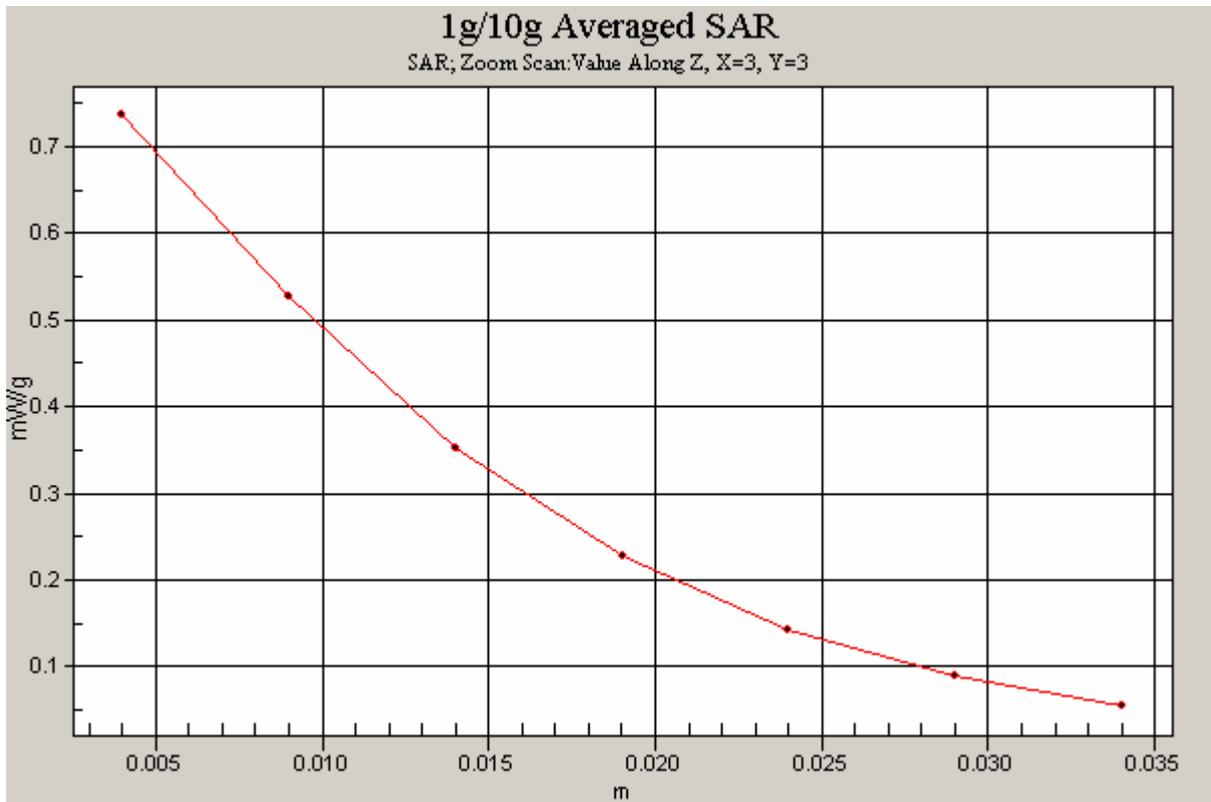


Figure.14 Z-Scan at power reference point (Left Hand Tilt 15° CDMA PCS Channel 1175)

CDMA PCS Left Tilt Middle

Communication System: CDMA PCS; Frequency: 1876.25 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1876.25$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(5.15, 5.15, 5.15);

Electronics: DAE3 Sn452;

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

Maximum value of SAR (interpolated) = 0.957 mW/g

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

Reference Value = 25.2 V/m; Power Drift = -0.186 dB

Peak SAR (extrapolated) = 1.14 W/kg

SAR(1 g) = 0.834 mW/g; SAR(10 g) = 0.512 mW/g

Maximum value of SAR (measured) = 0.912 mW/g

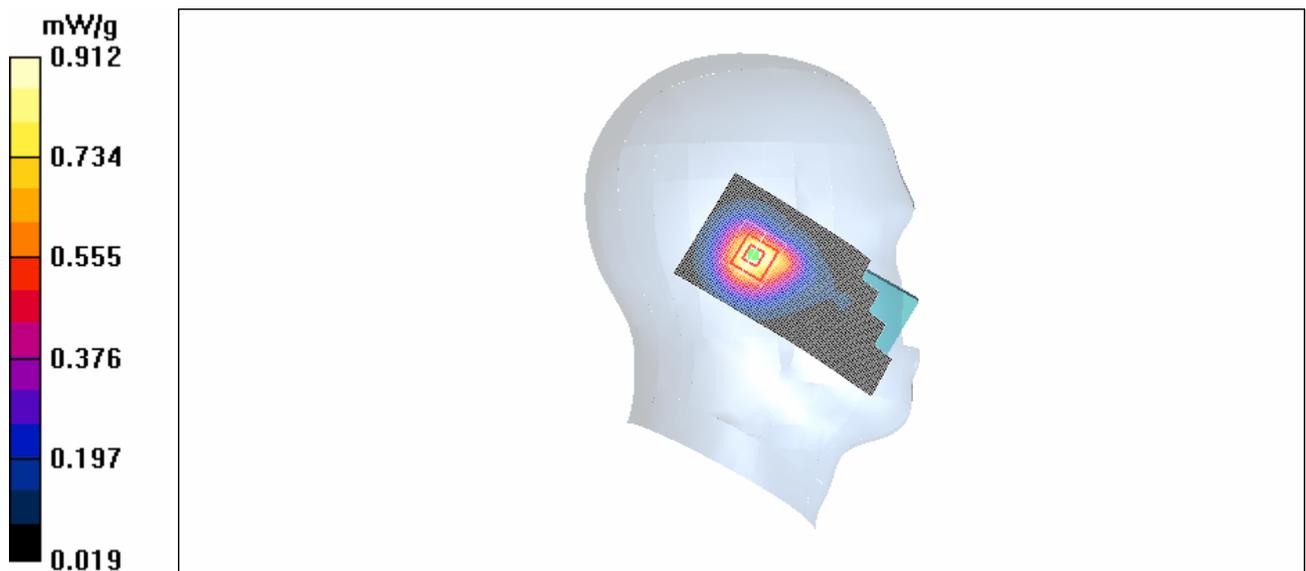


Figure. 15 Left Hand Tilt 15° CDMA PCS Channel 525

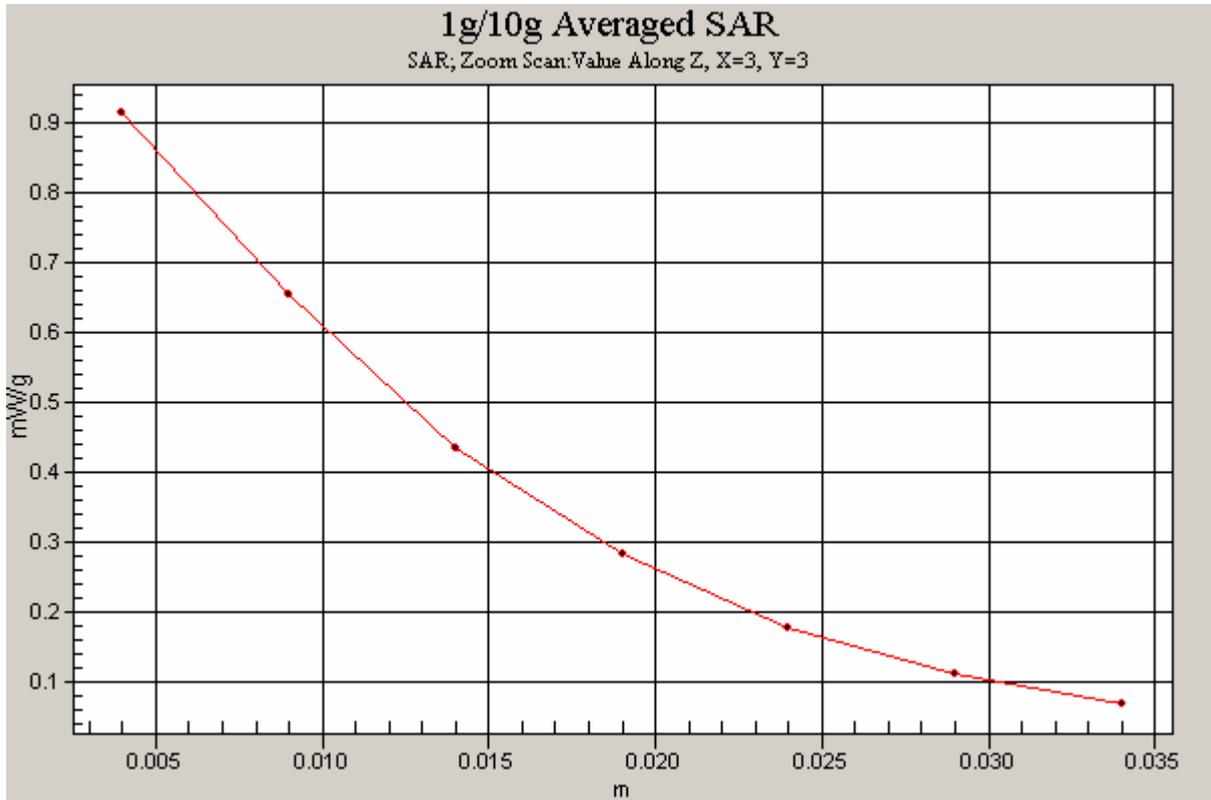


Figure.16 Z-Scan at power reference point (Left Hand Tilt 15° CDMA PCS Channel 525)

CDMA PCS Left Tilt Low

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

Medium parameters used: $f = 1852$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(5.15, 5.15, 5.15);

Electronics: DAE3 Sn452;

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

Maximum value of SAR (interpolated) = 0.563 mW/g

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

Reference Value = 19.4 V/m; Power Drift = 0.058 dB

Peak SAR (extrapolated) = 0.670 W/kg

SAR(1 g) = 0.498 mW/g; SAR(10 g) = 0.306 mW/g

Maximum value of SAR (measured) = 0.547 mW/g

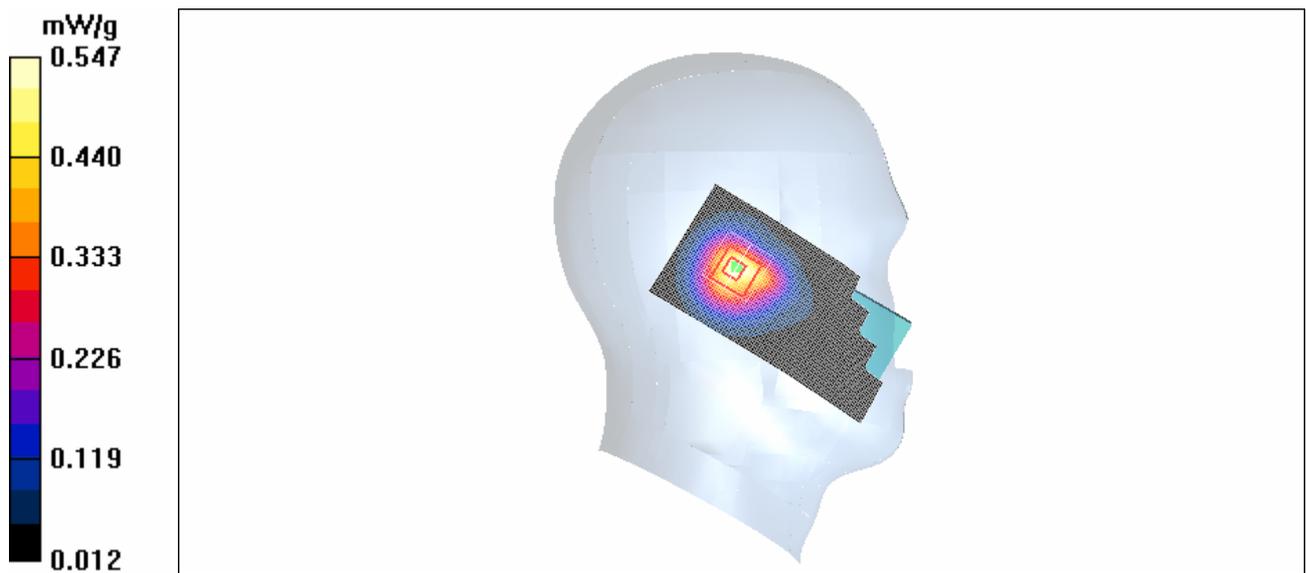


Figure.17 Left Hand Tilt 15° CDMA PCS Channel 25

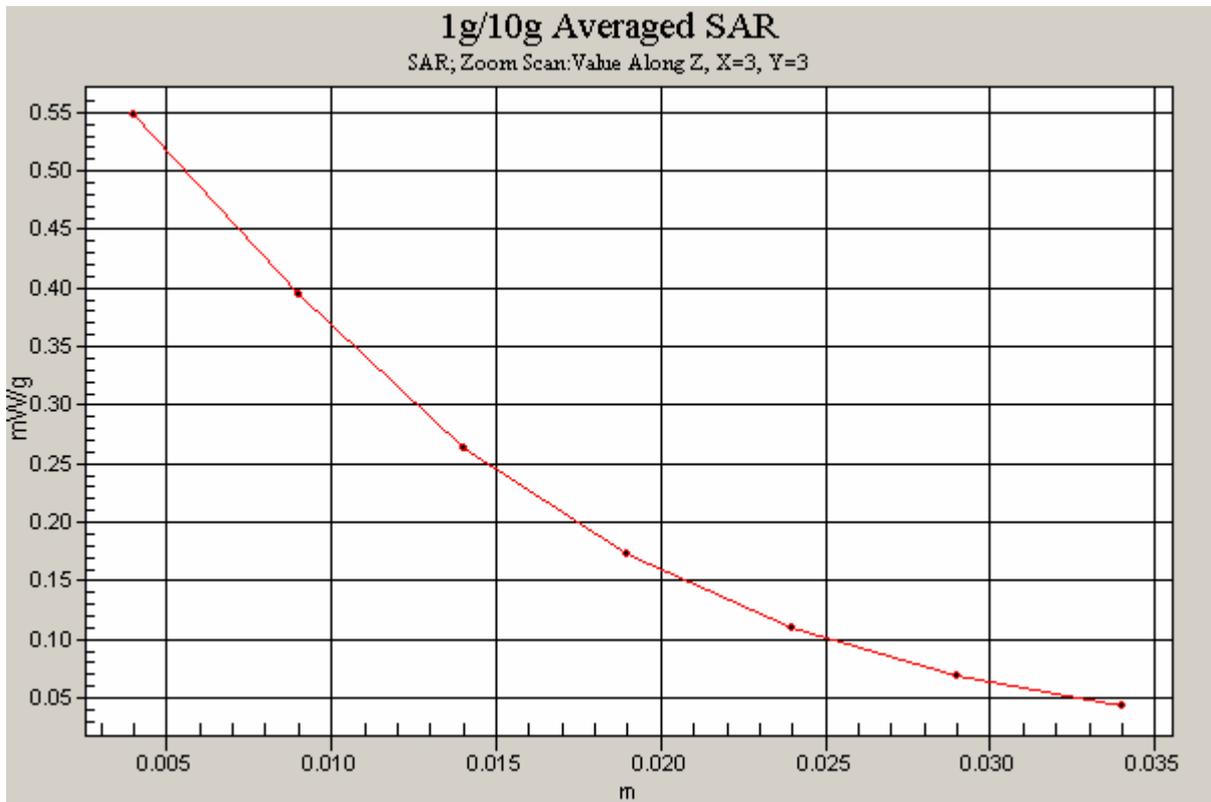


Figure.18 Z-Scan at power reference point (Left Hand Tilt 15° CDMA PCS Channel 25)

CDMA PCS Right Cheek High

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

Medium parameters used (interpolated): $f = 1908.75$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(5.15, 5.15, 5.15);

Electronics: DAE3 Sn452;

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

Maximum value of SAR (interpolated) = 1.16 mW/g

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

Reference Value = 25.7 V/m; Power Drift = 0.116 dB

Peak SAR (extrapolated) = 1.71 W/kg

SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.604 mW/g

Maximum value of SAR (measured) = 1.19 mW/g

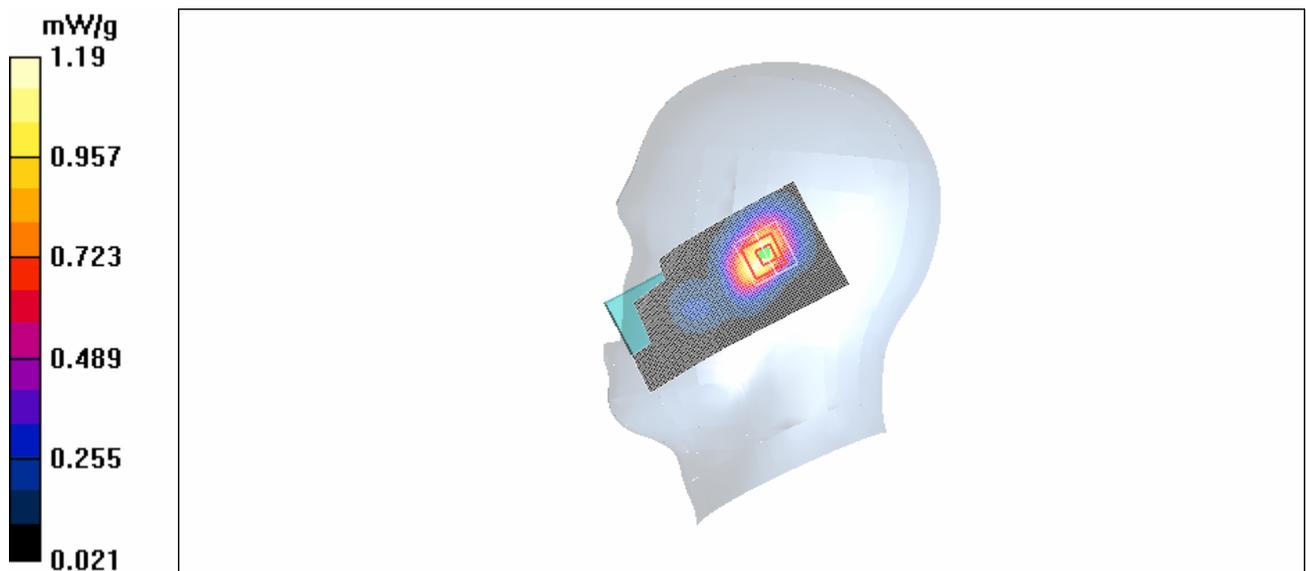


Figure.19 Right Hand Touch Cheek CDMA PCS Channel 1175

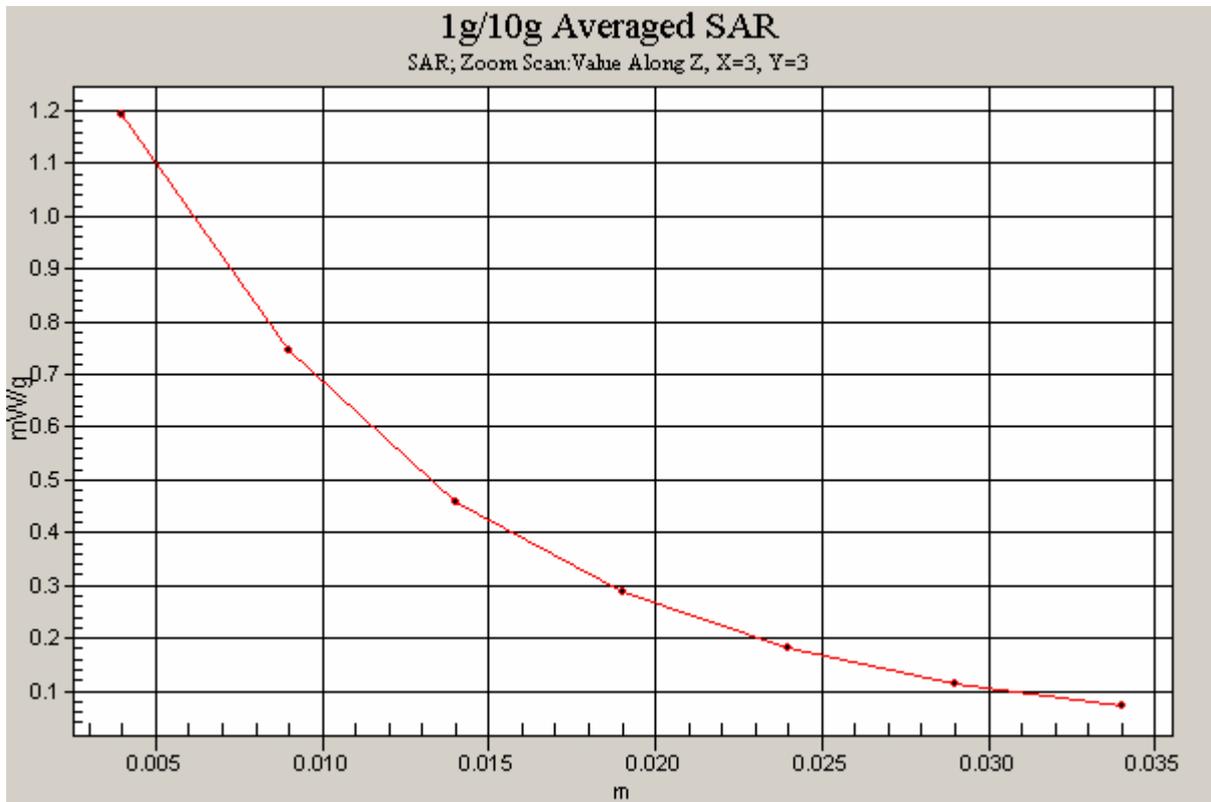


Figure. 20 Z-Scan at power reference point (Right Hand Touch Cheek CDMA PCS Channel 1175)

CDMA PCS Right Cheek Middle

Communication System: CDMA PCS; Frequency: 1876.25 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1876.25$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(5.15, 5.15, 5.15);

Electronics: DAE3 Sn452;

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

Maximum value of SAR (interpolated) = 1.56 mW/g

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

Reference Value = 26.8 V/m; Power Drift = 0.078 dB

Peak SAR (extrapolated) = 2.13 W/kg

SAR(1 g) = 1.36 mW/g; SAR(10 g) = 0.777 mW/g

Maximum value of SAR (measured) = 1.49 mW/g

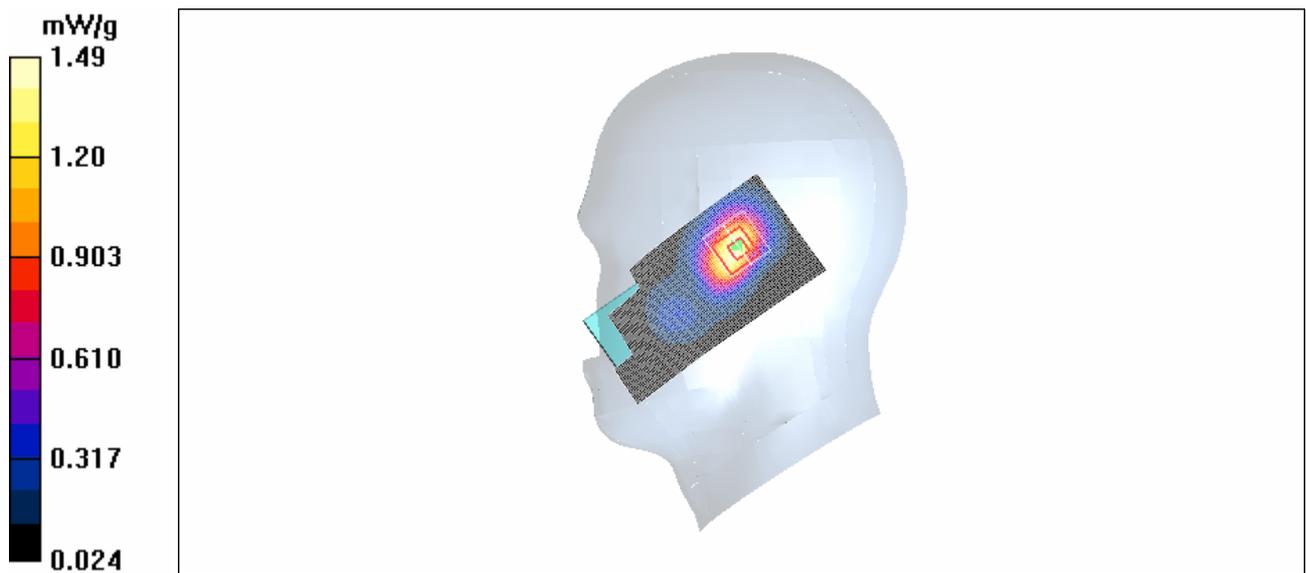


Figure.21 Right Hand Touch Cheek CDMA PCS Channel 525

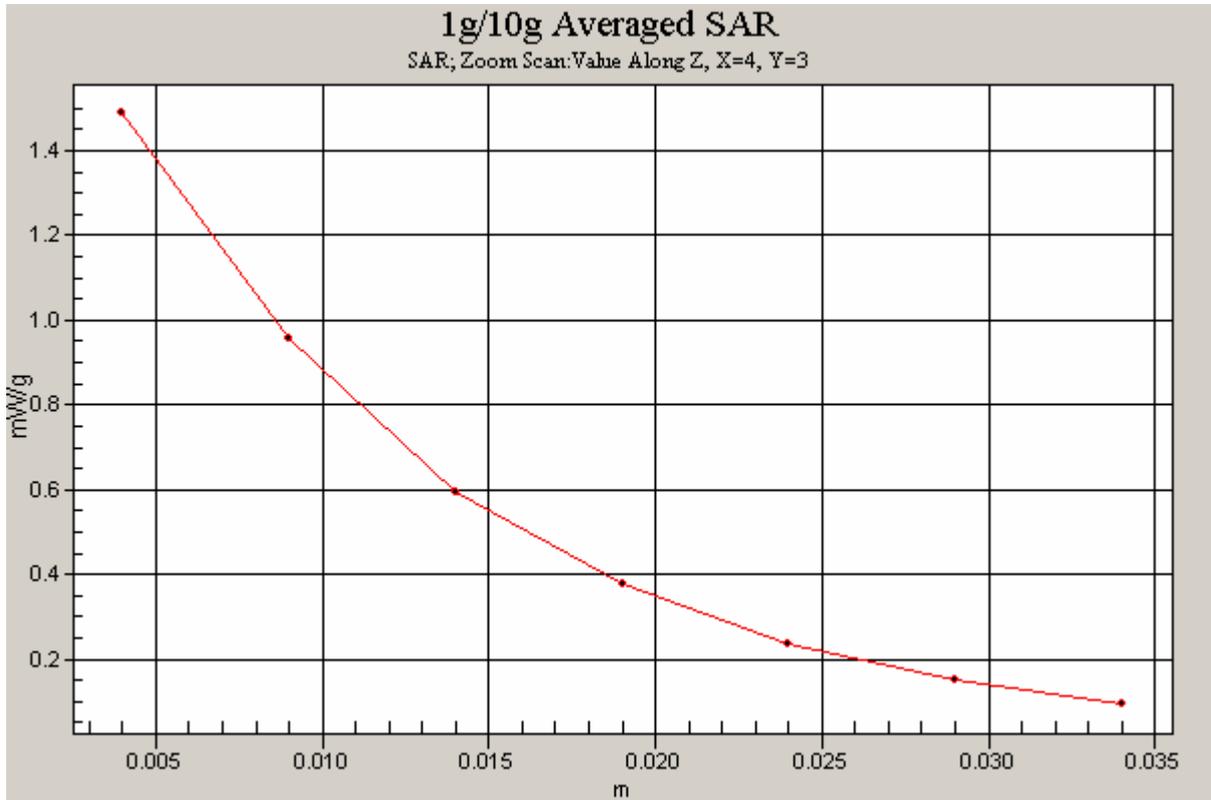


Figure.22 Z-Scan at power reference point (Right Hand Touch Cheek CDMA PCS Channel 525)

CDMA PCS Right Cheek Low

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

Medium parameters used: $f = 1852$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(5.15, 5.15, 5.15);

Electronics: DAE3 Sn452;

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

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

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

Reference Value = 19.4 V/m; Power Drift = 0.133 dB

Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.665 mW/g; SAR(10 g) = 0.379 mW/g

Maximum value of SAR (measured) = 0.740 mW/g

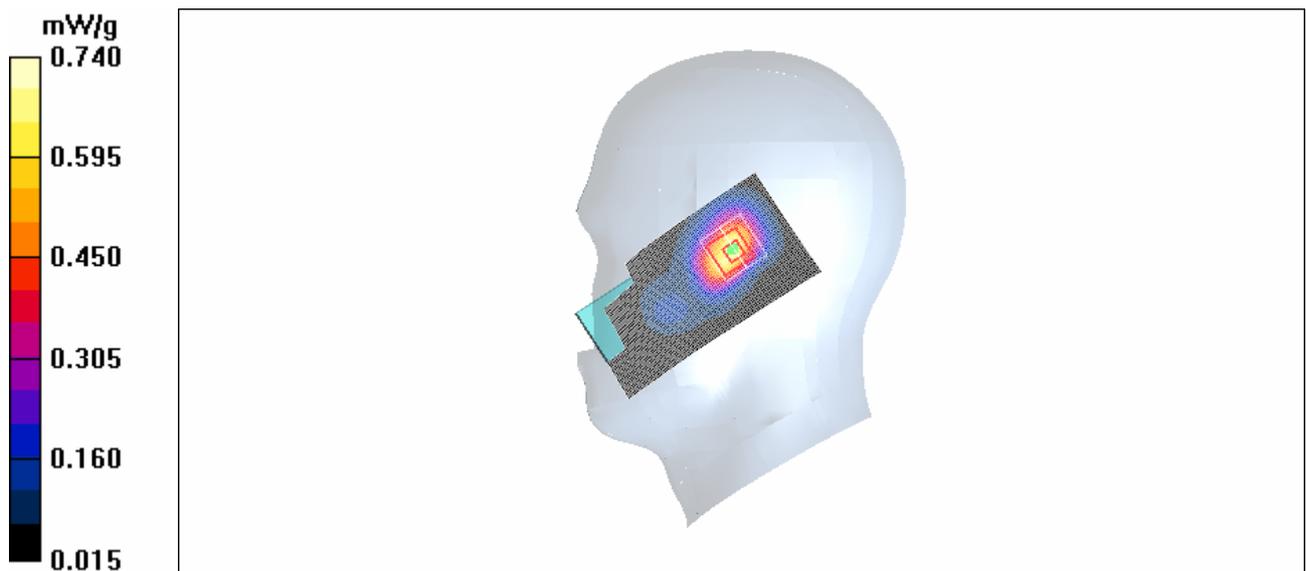


Figure.23 Right Hand Touch Cheek CDMA PCS Channel 25

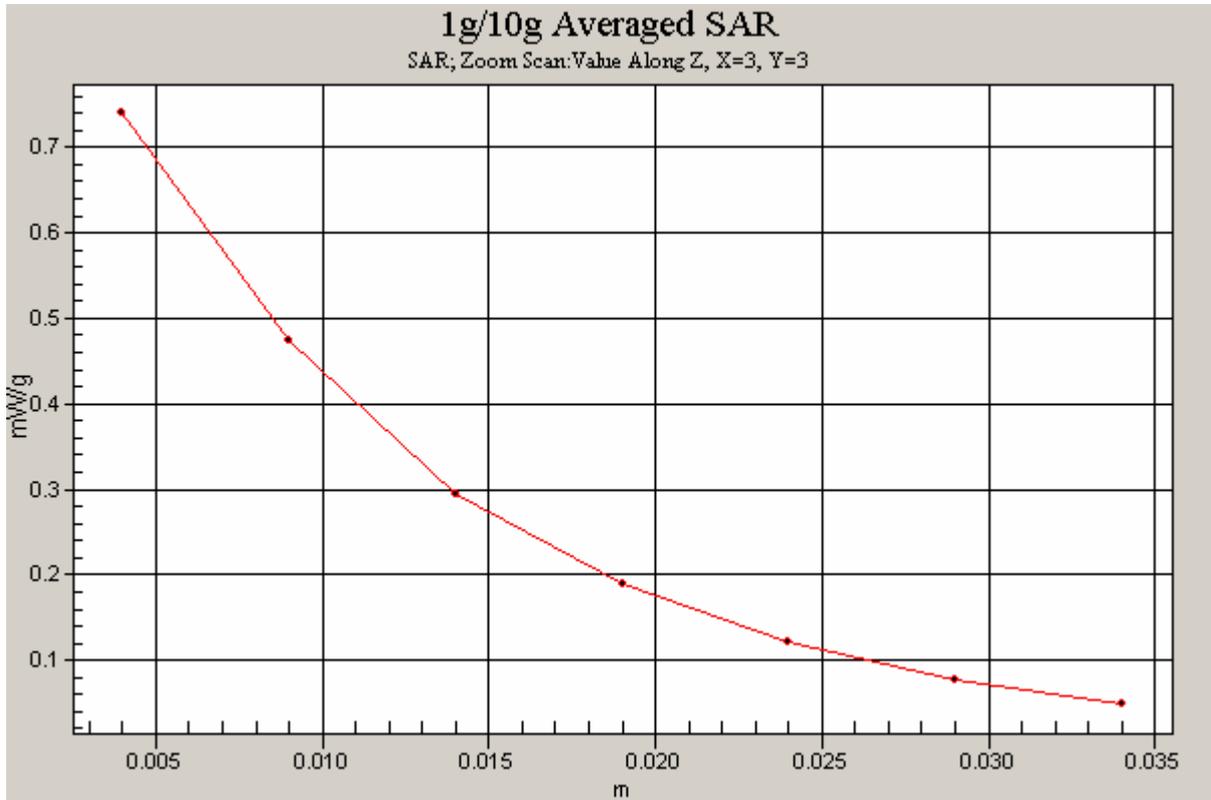


Figure. 24 Z-Scan at power reference point (Right Hand Touch Cheek CDMA PCS Channel 25)

CDMA PCS Right Tilt High

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

Medium parameters used (interpolated): $f = 1908.75$ MHz; $\sigma = 1.43$ mho/m; $\epsilon_r = 40.3$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(5.15, 5.15, 5.15);

Electronics: DAE3 Sn452;

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

Maximum value of SAR (interpolated) = 0.943 mW/g

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

Reference Value = 26.1 V/m; Power Drift = -0.182 dB

Peak SAR (extrapolated) = 1.17 W/kg

SAR(1 g) = 0.839 mW/g; SAR(10 g) = 0.507 mW/g

Maximum value of SAR (measured) = 0.917 mW/g

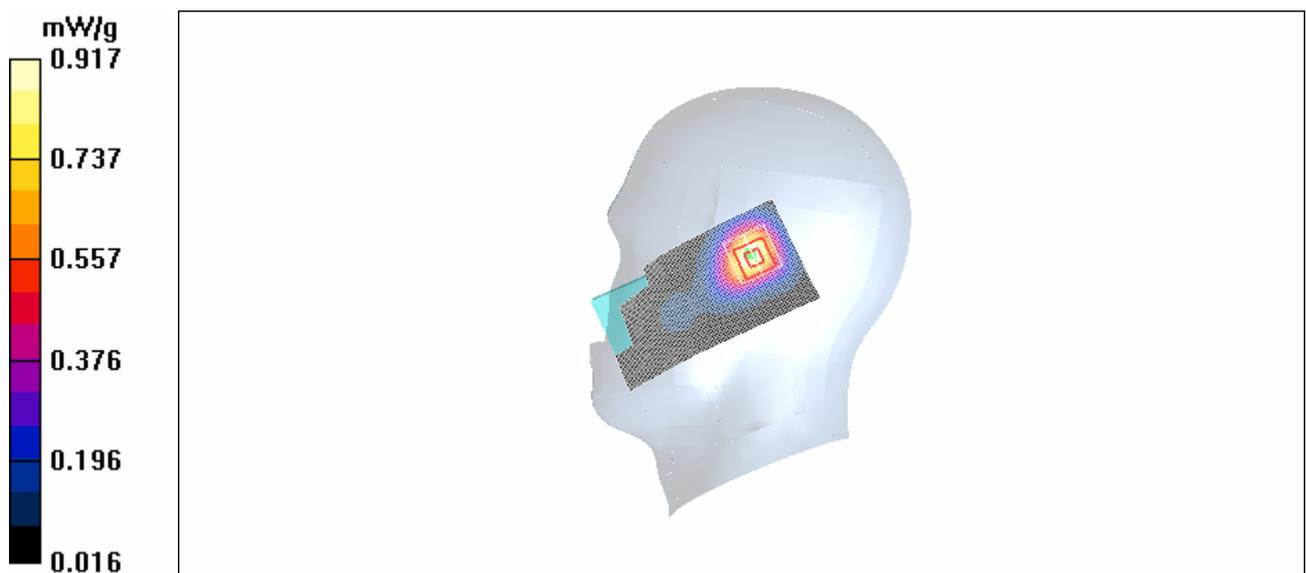


Figure.25 Right Hand Tilt 15° CDMA PCS Channel 1175

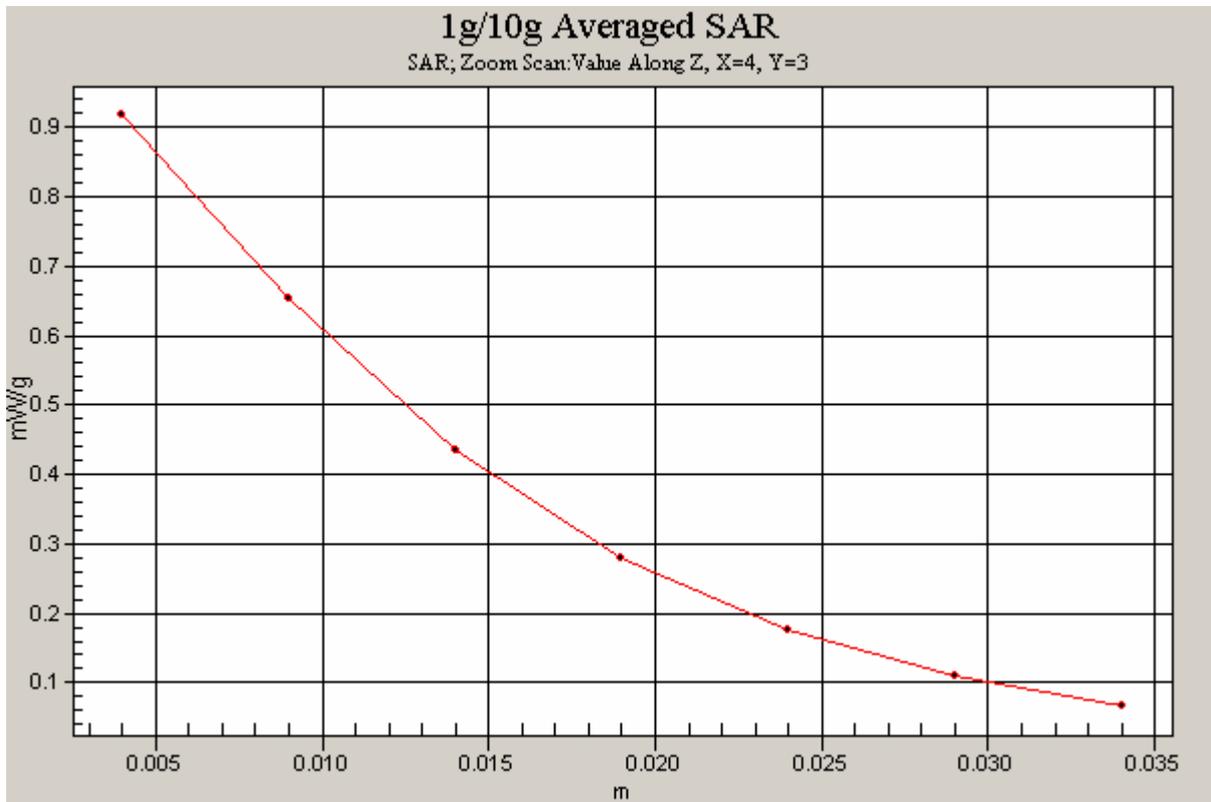


Figure. 26 Z-Scan at power reference point (Right Hand Tilt 15° CDMA PCS Channel 1175)

CDMA PCS Right Tilt Middle

Communication System: CDMA PCS; Frequency: 1876.25 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1876.25$ MHz; $\sigma = 1.39$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(5.15, 5.15, 5.15);

Electronics: DAE3 Sn452;

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

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

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

Reference Value = 27.0 V/m; Power Drift = -0.105 dB

Peak SAR (extrapolated) = 1.26 W/kg

SAR(1 g) = 0.908 mW/g; SAR(10 g) = 0.549 mW/g

Maximum value of SAR (measured) = 1.00 mW/g

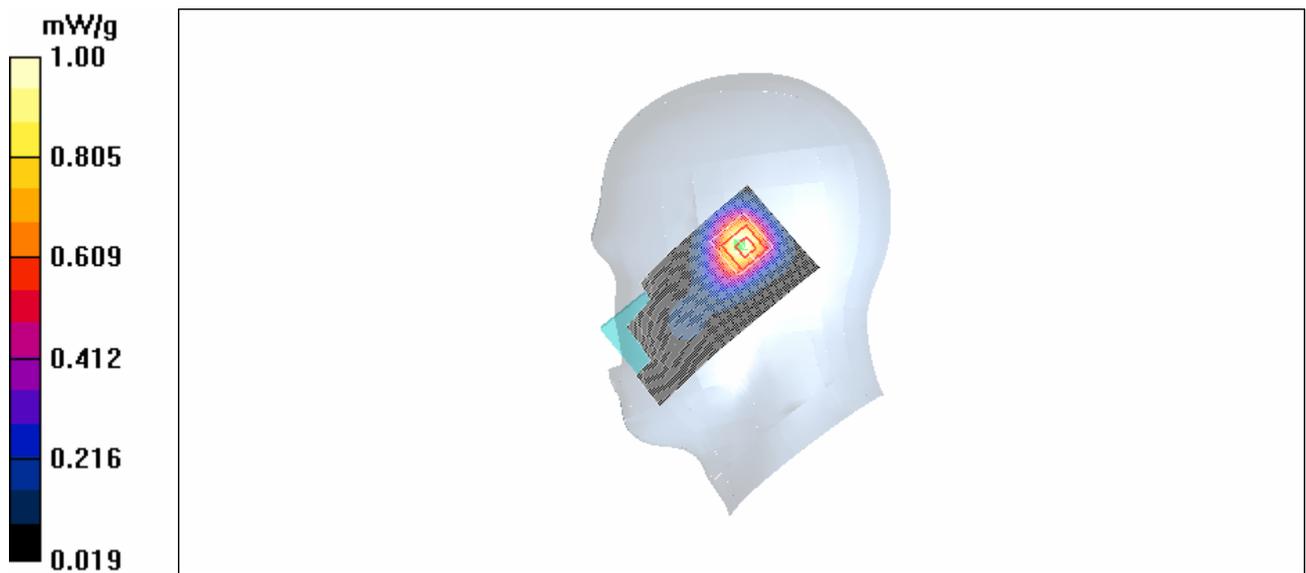


Figure.27 Right Hand Tilt 15° CDMA PCS Channel 525

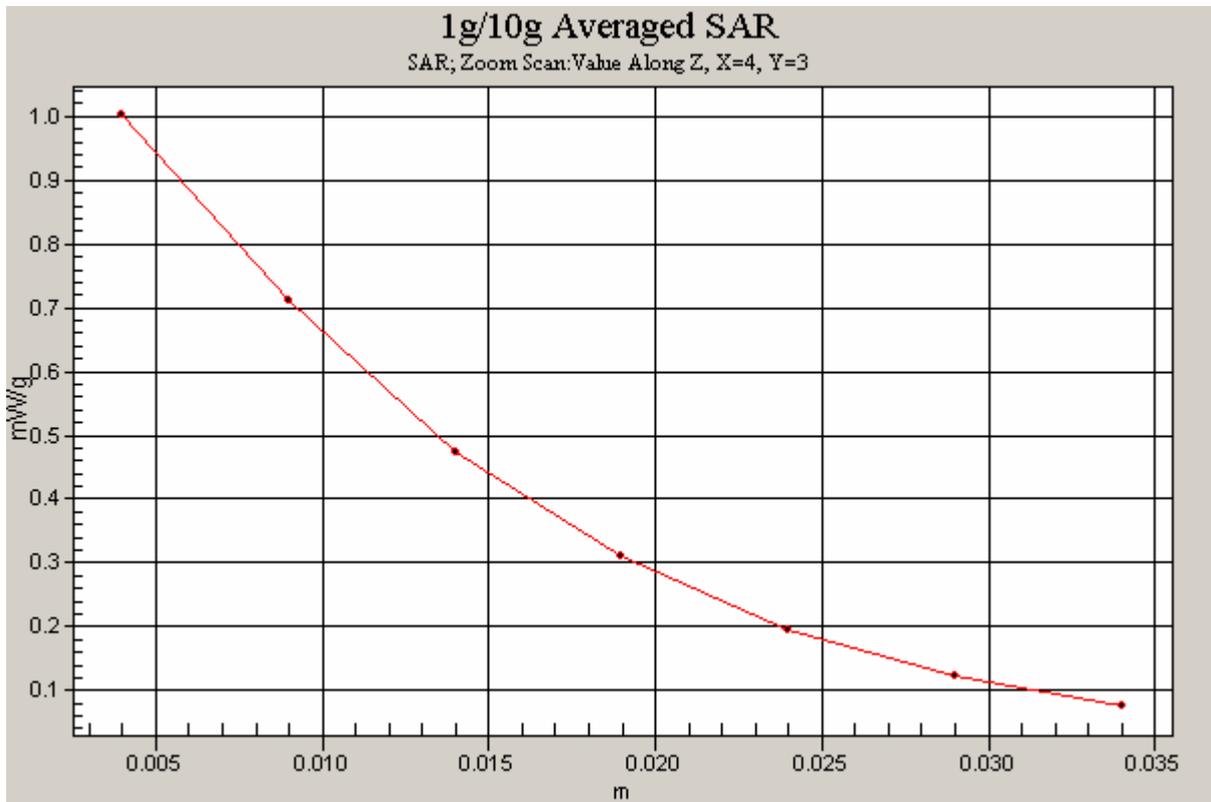


Figure.28 Z-Scan at power reference point (Right Hand Tilt 15° CDMA PCS Channel 525)

CDMA PCS Right Tilt Low

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

Medium parameters used: $f = 1852$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 40.4$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(5.15, 5.15, 5.15);

Electronics: DAE3 Sn452;

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

Maximum value of SAR (interpolated) = 0.532 mW/g

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

Reference Value = 19.9 V/m; Power Drift = -0.078 dB

Peak SAR (extrapolated) = 0.670 W/kg

SAR(1 g) = 0.487 mW/g; SAR(10 g) = 0.297 mW/g

Maximum value of SAR (measured) = 0.539 mW/g

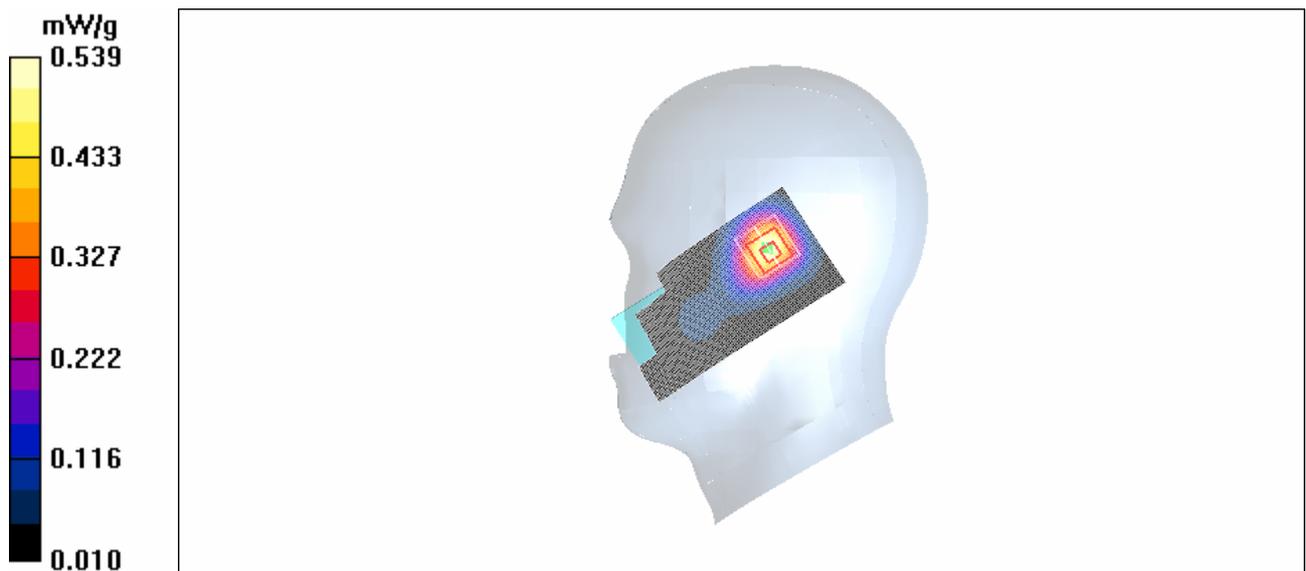


Figure.29 Right Hand Tilt 15° CDMA PCS Channel 25

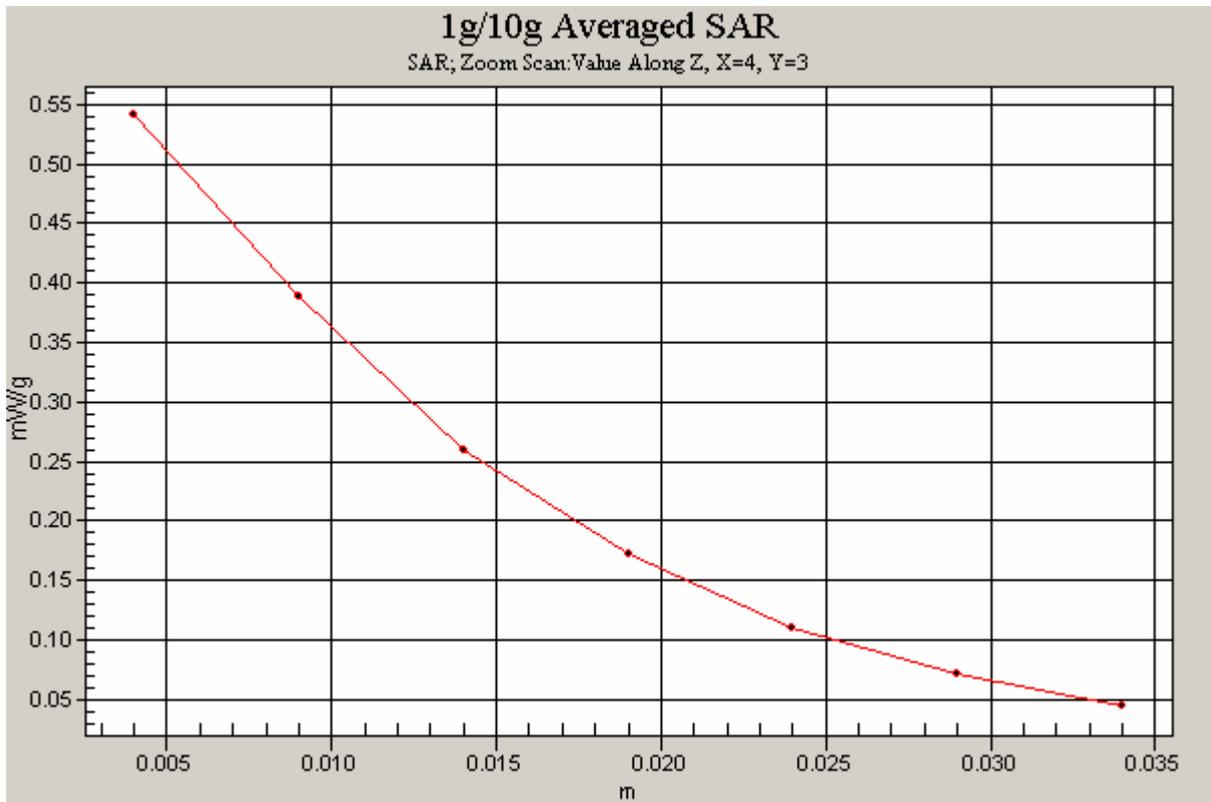


Figure. 30 Z-Scan at power reference point (Right Hand Tilt 15° CDMA PCS Channel 25)

CDMA PCS Towards Ground High

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

Medium parameters used (interpolated): $f = 1908.75$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);

Electronics: DAE3 Sn452;

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

Maximum value of SAR (interpolated) = 0.471 mW/g

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

Reference Value = 11.0 V/m; Power Drift = -0.045 dB

Peak SAR (extrapolated) = 0.628 W/kg

SAR(1 g) = 0.415 mW/g; SAR(10 g) = 0.262 mW/g

Maximum value of SAR (measured) = 0.447 mW/g

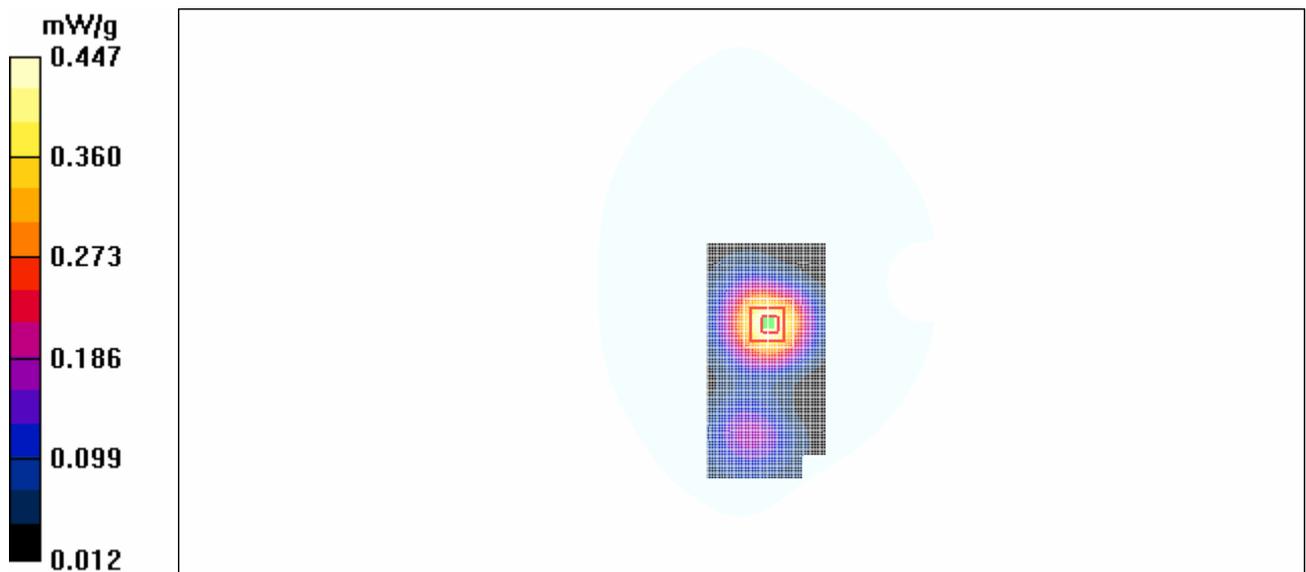


Figure.31 Body, Towards Ground, CDMA PCS Channel 1175

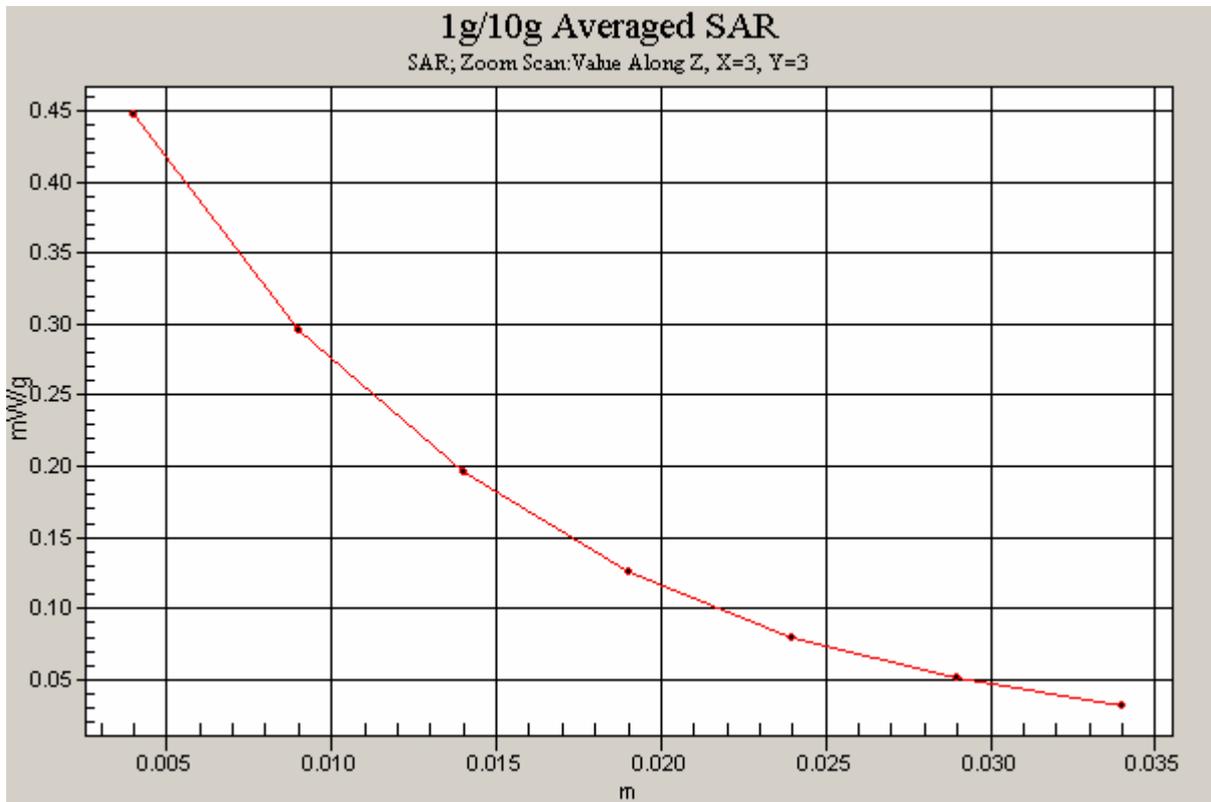


Figure.32 Z-Scan at power reference point (Body, Towards Ground, CDMA PCS Channel 1175)

CDMA PCS Towards Ground Middle

Communication System: CDMA PCS; Frequency: 1876.25 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1876.25$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);

Electronics: DAE3 Sn452;

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

Maximum value of SAR (interpolated) = 0.659 mW/g

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

Reference Value = 16.7 V/m; Power Drift = 0.186 dB

Peak SAR (extrapolated) = 0.897 W/kg

SAR(1 g) = 0.593 mW/g; SAR(10 g) = 0.376 mW/g

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

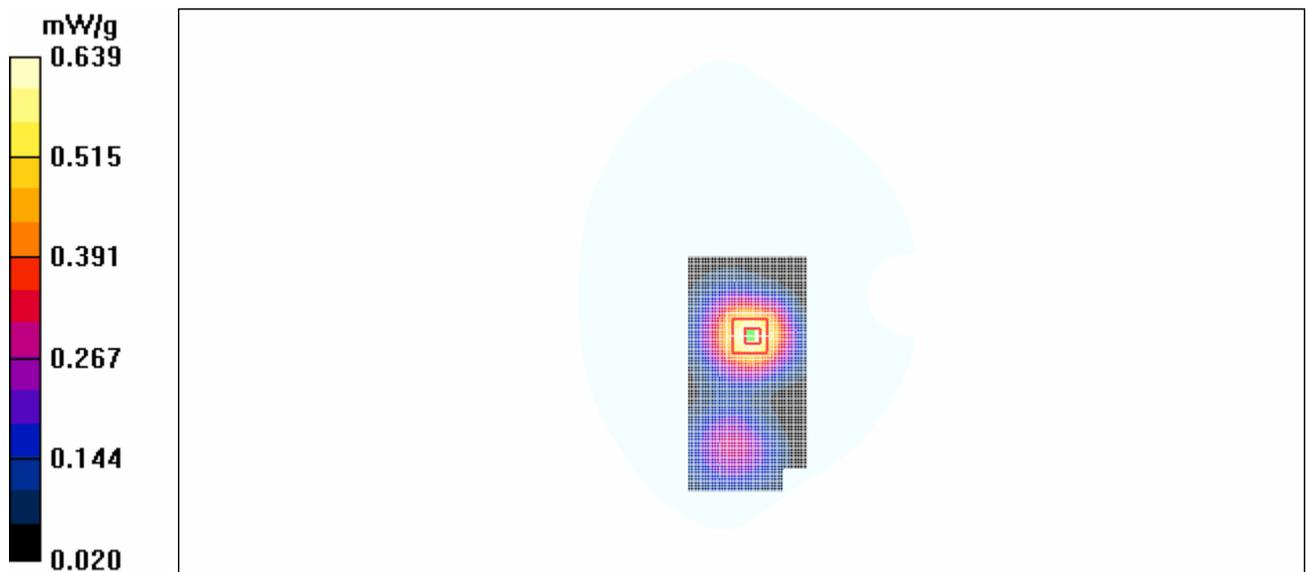


Figure.33 Body, Towards Ground, CDMA PCS Channel 525

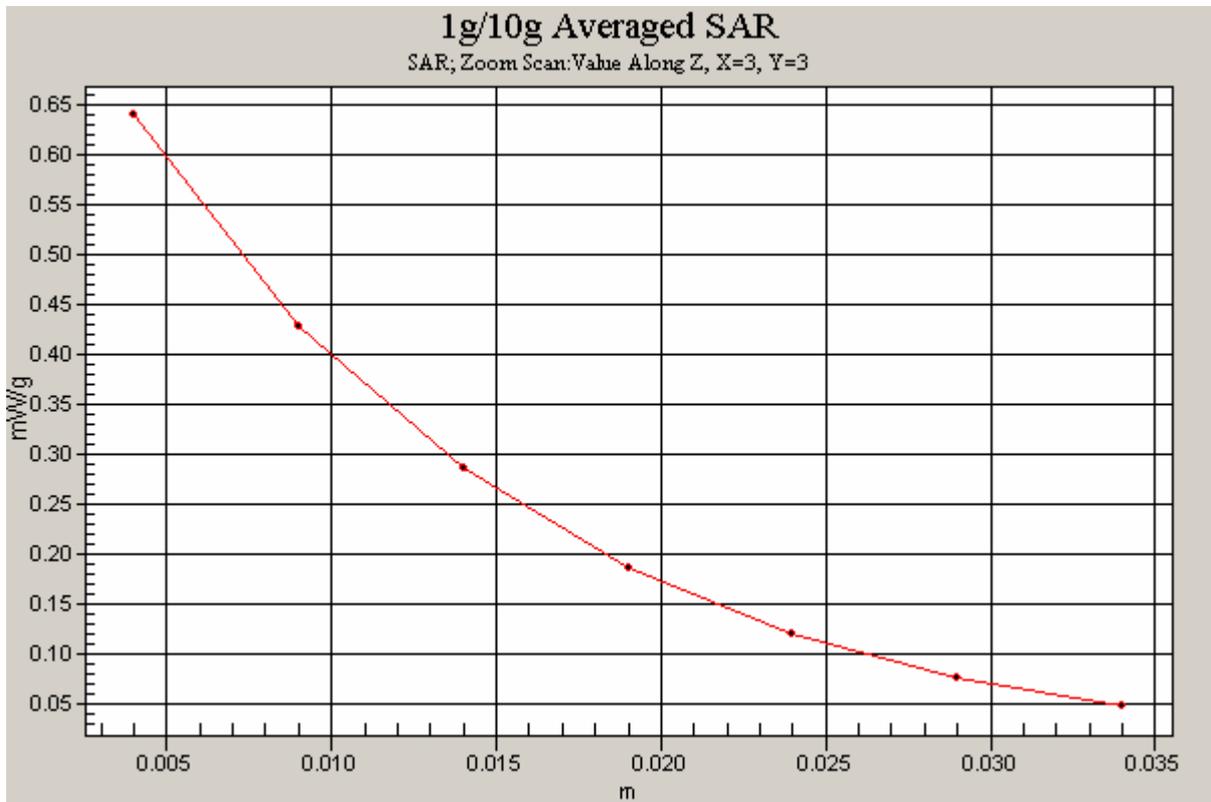


Figure. 34 Z-Scan at power reference point (Body, Towards Ground, CDMA PCS Channel 525)

CDMA PCS Towards Ground Low

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

Medium parameters used: $f = 1852$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);

Electronics: DAE3 Sn452;

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

Maximum value of SAR (interpolated) = 0.319 mW/g

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

Reference Value = 9.29 V/m; Power Drift = 0.073 dB

Peak SAR (extrapolated) = 0.419 W/kg

SAR(1 g) = 0.282 mW/g; SAR(10 g) = 0.179 mW/g

Maximum value of SAR (measured) = 0.305 mW/g

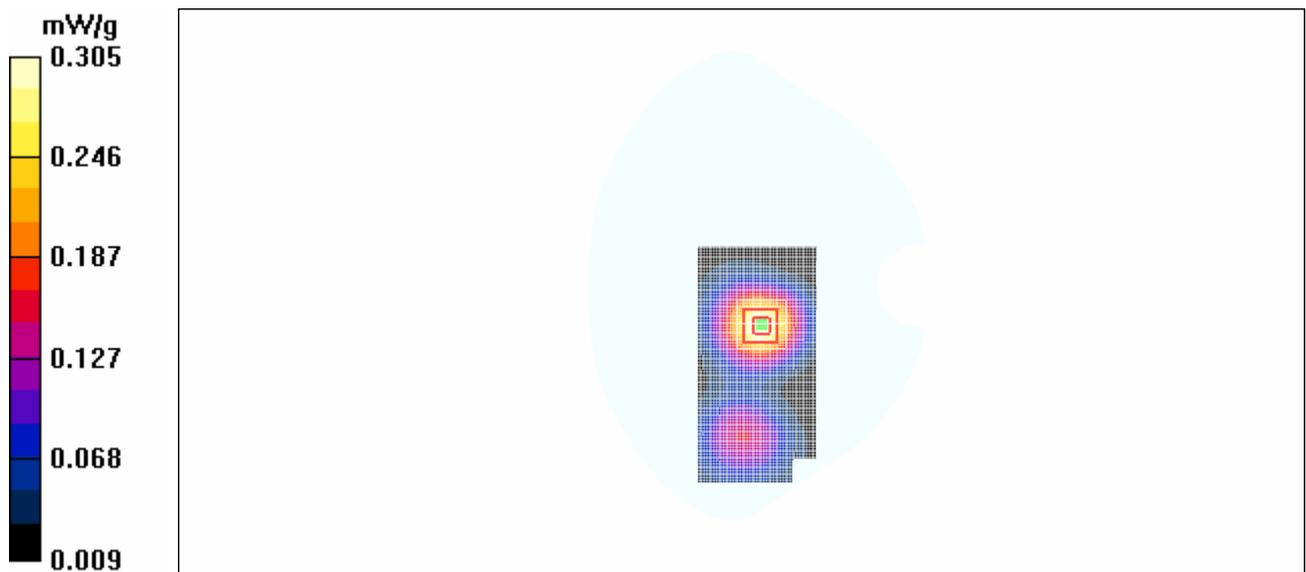


Figure.35 Body, Towards Ground, CDMA PCS Channel 25

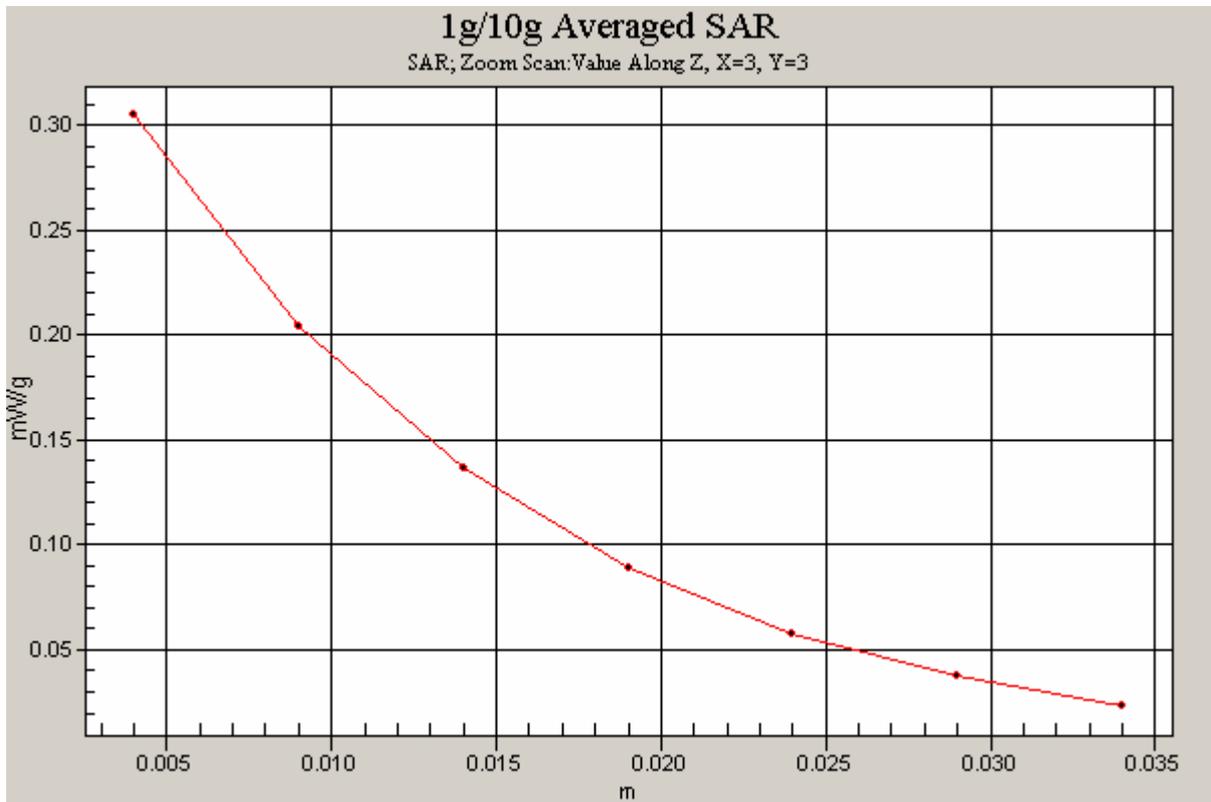


Figure. 36 Z-Scan at power reference point (Body, Towards Ground, CDMA PCS Channel 25)

CDMA PCS Towards Phantom High

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

Medium parameters used (interpolated): $f = 1908.75$ MHz; $\sigma = 1.53$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);

Electronics: DAE3 Sn452;

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

Maximum value of SAR (interpolated) = 0.371 mW/g

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

Reference Value = 12.9 V/m; Power Drift = -0.134 dB

Peak SAR (extrapolated) = 0.518 W/kg

SAR(1 g) = 0.338 mW/g; SAR(10 g) = 0.211 mW/g

Maximum value of SAR (measured) = 0.362 mW/g

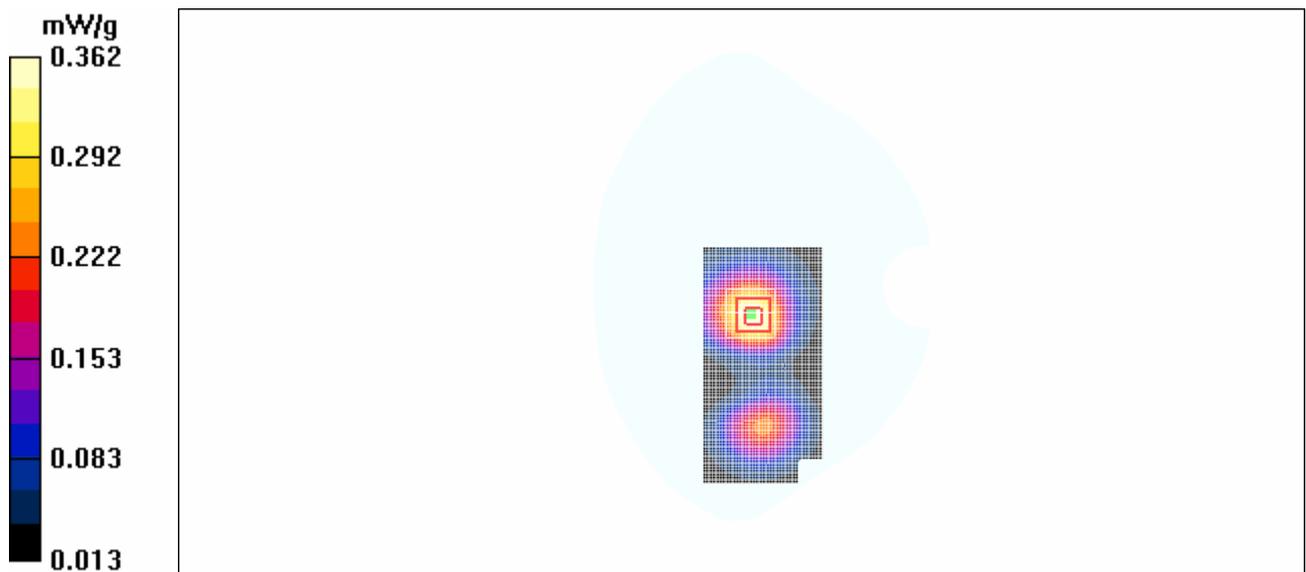


Figure.37 Body, Towards Phantom, CDMA PCS Channel 1175

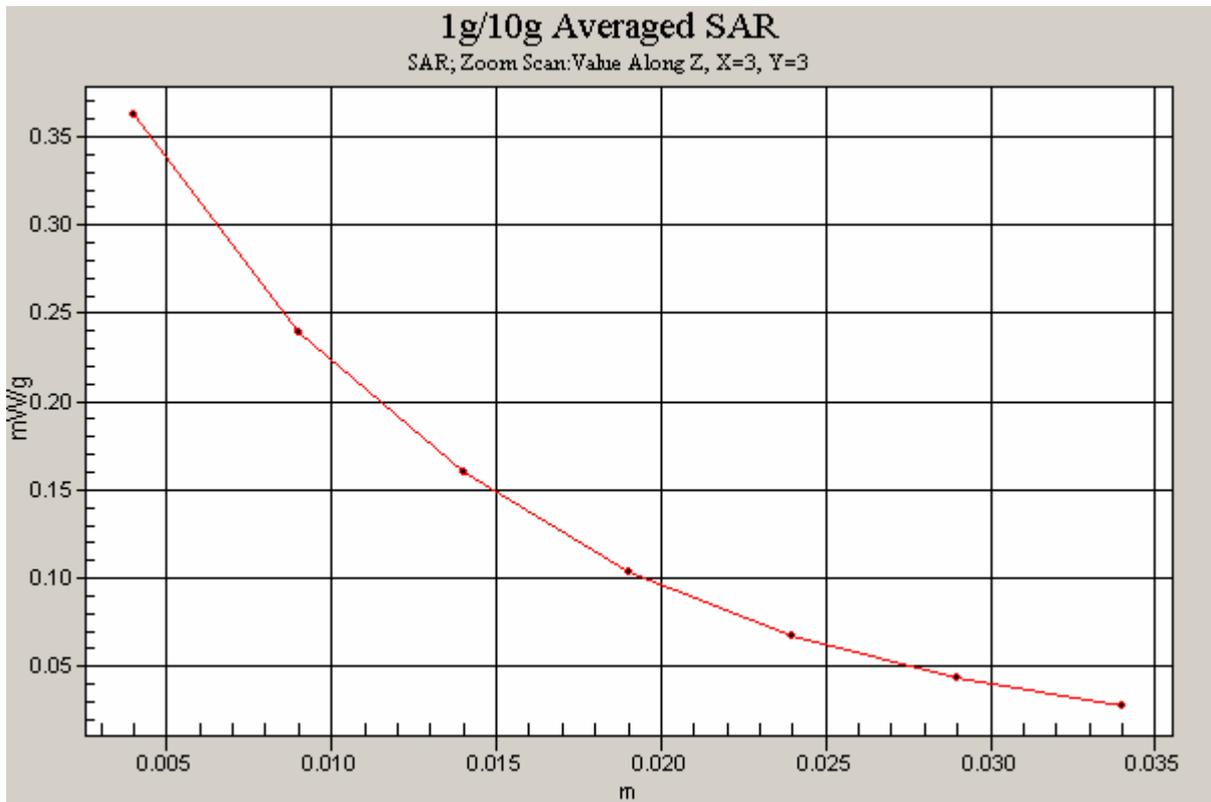


Figure. 38 Z-Scan at power reference point (Body, Towards Phantom, CDMA PCS Channel 1175)

CDMA PCS Towards Phantom Middle

Communication System: CDMA PCS; Frequency: 1876.25 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1876.25$ MHz; $\sigma = 1.5$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);

Electronics: DAE3 Sn452;

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

Maximum value of SAR (interpolated) = 0.554 mW/g

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

Reference Value = 16.0 V/m; Power Drift = -0.103 dB

Peak SAR (extrapolated) = 0.732 W/kg

SAR(1 g) = 0.490 mW/g; SAR(10 g) = 0.311 mW/g

Maximum value of SAR (measured) = 0.529 mW/g

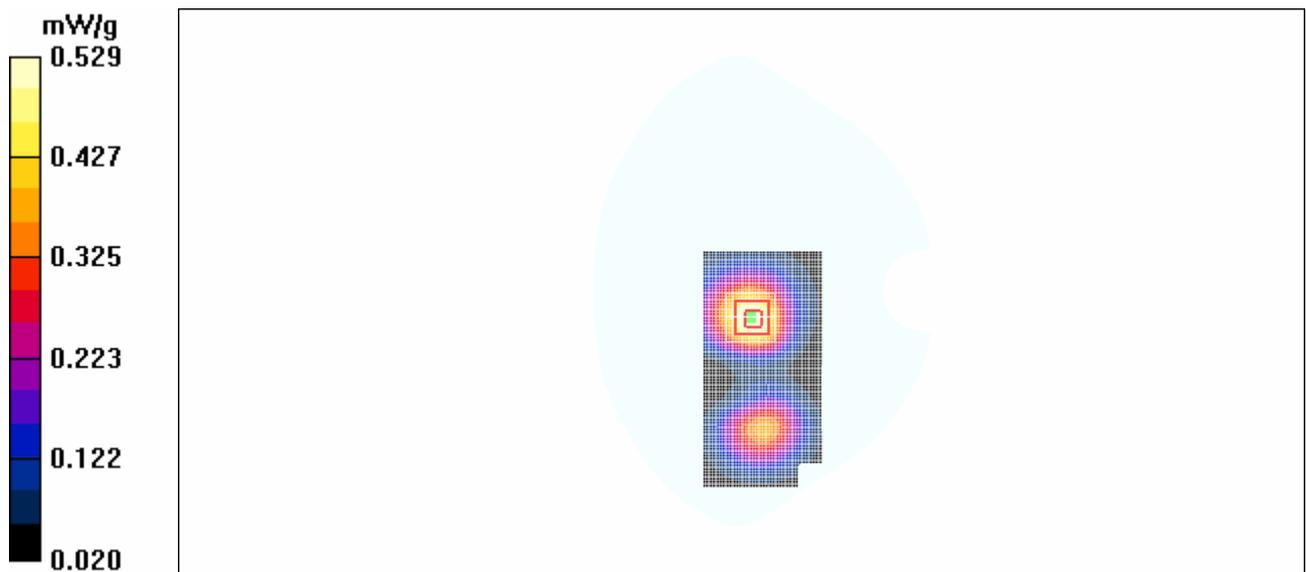


Figure. 39 Body, Towards Phantom, CDMA PCS Channel 525

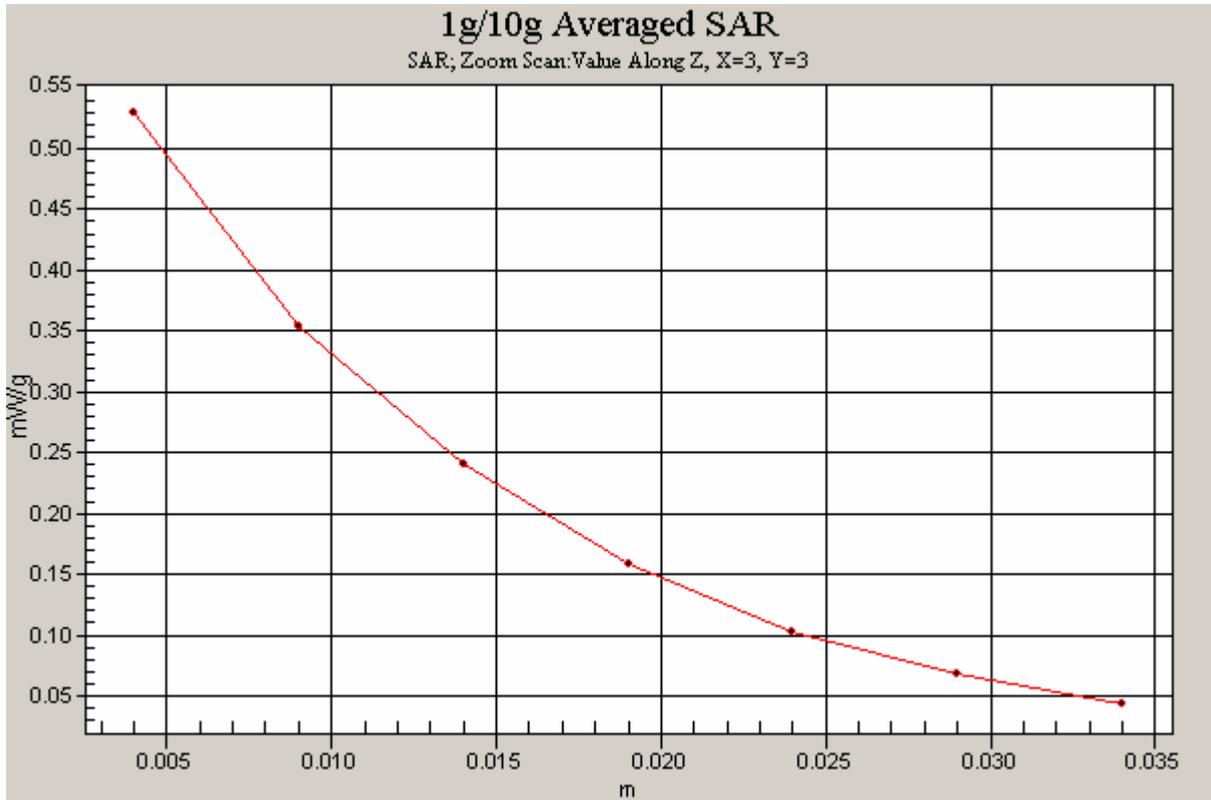


Figure.40 Z-Scan at power reference point (Body, Towards Phantom, CDMA PCS Channel 525)

CDMA PCS Towards Phantom Low

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

Medium parameters used: $f = 1852$ MHz; $\sigma = 1.45$ mho/m; $\epsilon_r = 52.6$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(4.64, 4.64, 4.64);

Electronics: DAE3 Sn452;

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

Maximum value of SAR (interpolated) = 0.271 mW/g

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

Reference Value = 11.5 V/m; Power Drift = 0.122 dB

Peak SAR (extrapolated) = 0.377 W/kg

SAR(1 g) = 0.253 mW/g; SAR(10 g) = 0.161 mW/g

Maximum value of SAR (measured) = 0.275 mW/g

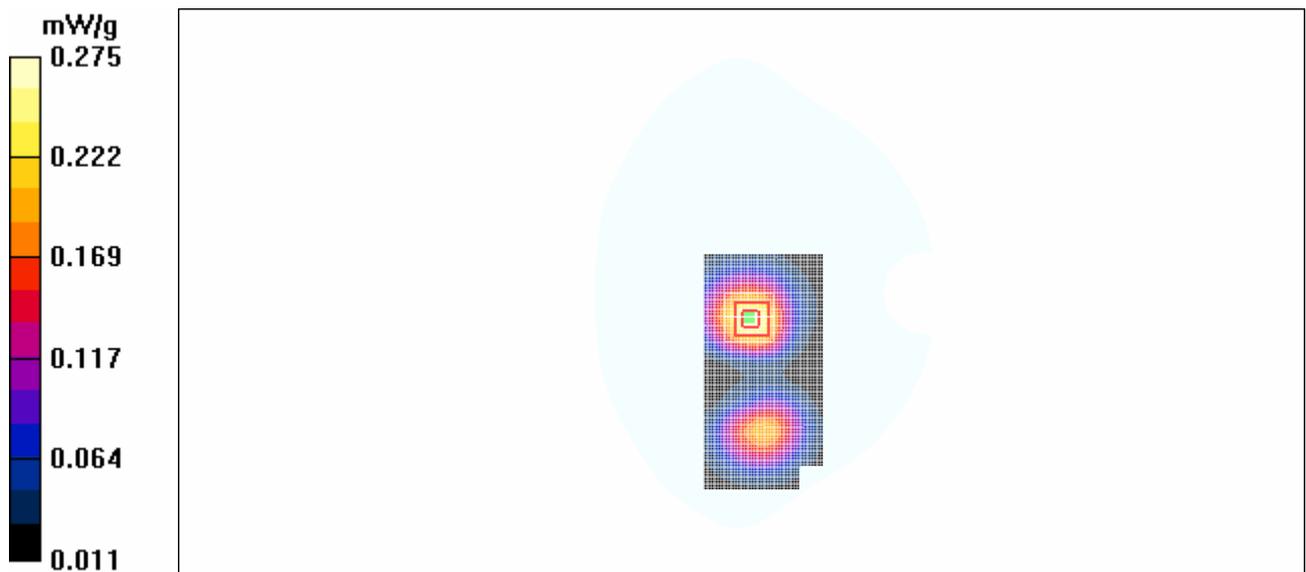


Figure.41 Body, Towards Phantom, CDMA PCS Channel 25

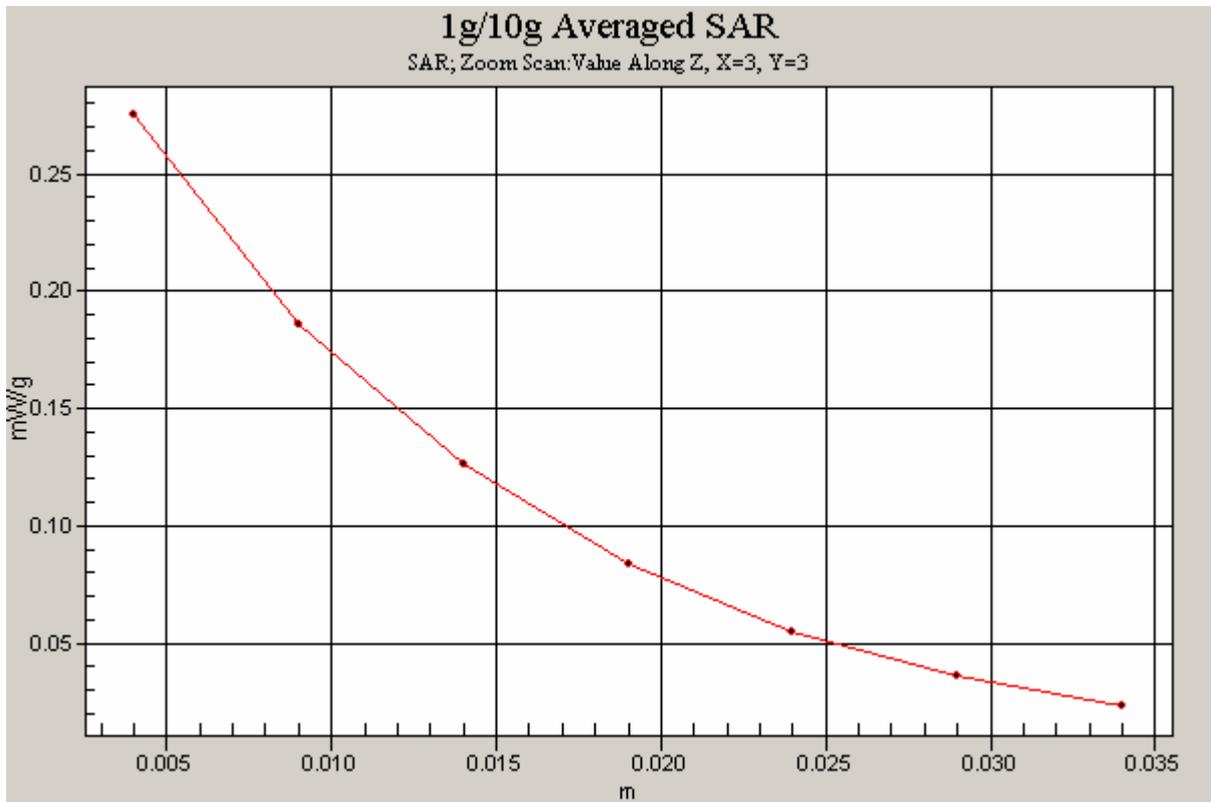


Figure. 42 Z-Scan at power reference point (Body, Towards Phantom, CDMA PCS Channel 25)

ANNEX D: SYSTEM VALIDATION RESULTS

System Performance Check at 1900 MHz

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

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

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 39.7$; $\rho = 1000$ kg/m³

Probe: ET3DV6 - SN1531; ConvF(5.15, 5.15, 5.15);

Electronics: DAE3 Sn452;

d=10mm, Pin=250mW 2/Area Scan (101x121x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 10.8 mW/g

d=10mm, Pin=250mW 2/Zoom Scan (7x7x7) /Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 92.8 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 16.0 W/kg

SAR(1 g) = 9.36 mW/g; SAR(10 g) = 4.93 mW/g

Maximum value of SAR (measured) = 10.7 mW/g

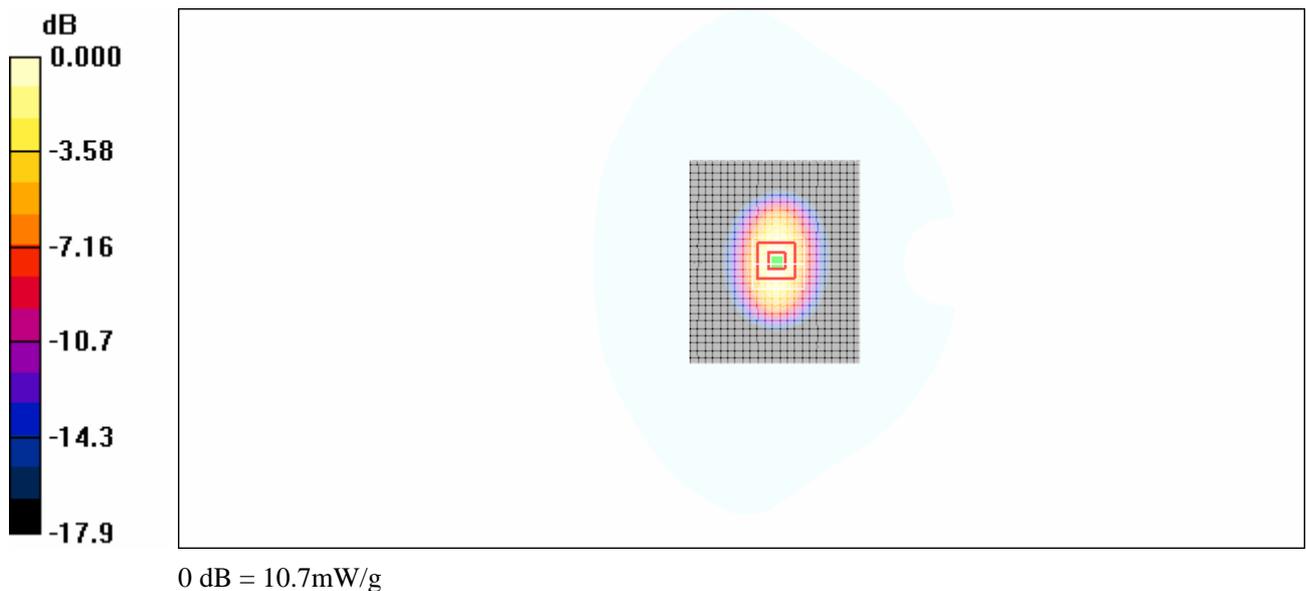


Figure.43 System Performance Check 1900MHz 250mW

TA Technology (Shanghai) Co., Ltd. Test Report

No. RZA2008-0144FCC

Page 61 of 82

ANNEX E: PROBE CALIBRATION CERTIFICATE

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



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

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

Accreditation No.: **SCS 108**

Client **ATL (Auden)**

Certificate No: **ET3-1531_Jan08**

CALIBRATION CERTIFICATE

Object: **ET3DV6 - SN: 1531**

Calibration procedure(s): **QA CAL-01 v6 and QA CAL-12 v5
Calibration procedure for dosimetric E-field probes**

Calibration date: **January 29, 2008**

Condition of the calibrated item: **In Tolerance**

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

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

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards | ID # | Cal Date (Calibrated by, Certificate No.) | Scheduled Calibration |
|----------------------------|-----------------|---|------------------------|
| Power meter E4419B | GB41293874 | 29-Mar-07 (METAS, No. 217-00670) | Mar-08 |
| Power sensor E4412A | MY41495277 | 29-Mar-07 (METAS, No. 217-00670) | Mar-08 |
| Power sensor E4412A | MY41498087 | 29-Mar-07 (METAS, No. 217-00670) | Mar-08 |
| Reference 3 dB Attenuator | SN: S5054 (3c) | 8-Aug-07 (METAS, No. 217-00719) | Aug-08 |
| Reference 20 dB Attenuator | SN: S5088 (20b) | 29-Mar-07 (METAS, No. 217-00671) | Mar-08 |
| Reference 30 dB Attenuator | SN: S5129 (30b) | 8-Aug-07 (METAS, No. 217-00720) | Aug-08 |
| Reference Probe ES3DV2 | SN: 3013 | 2-Jan-08 (SPEAG, No. ES3-3013_Jan08) | Jan-09 |
| DAE4 | SN: 654 | 20-Apr-07 (SPEAG, No. DAE4-654_Apr07) | Apr-08 |
| Secondary Standards | ID # | Check Date (in house) | Scheduled Check |
| RF generator HP 8648C | US3642U01700 | 4-Aug-99 (SPEAG, in house check Oct-07) | in house check: Oct-09 |
| Network Analyzer HP 8753E | US37390585 | 18-Oct-01 (SPEAG, in house check Oct-07) | in house check: Oct-08 |

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

Issued: January 29, 2008

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: ET3-1531_Jan08

Page 1 of 9