



SAR TEST REPORT

No. 2011SAR00059

For

TCT Mobile Limited

GSM/GPRS/EDGE 850/1900 dual band mobile phone

Onyx lifestyle WIFI A

one touch 819A

With

Hardware Version: PIO

Software Version: SW460

FCCID: RAD188

Issued Date: 2011-06-02



No. DGA-PL-114/01-02

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of TMC Beijing.

Test Laboratory:

TMC Beijing, Telecommunication Metrology Center of MIIT

No. 52, Huayuan Bei Road, Haidian District, Beijing, P. R. China 100191.

Tel:+86(0)10-62304633-2079, Fax:+86(0)10-62304793 Email:welcome@emcite.com. www.emcite.com

©Copyright. All rights reserved by TMC Beijing.

TABLE OF CONTENT

| | |
|--|------------|
| 1 TEST LABORATORY | 3 |
| 1.1 TESTING LOCATION | 3 |
| 1.2 TESTING ENVIRONMENT..... | 3 |
| 1.3 PROJECT DATA | 3 |
| 1.4 SIGNATURE..... | 3 |
| 2 CLIENT INFORMATION | 4 |
| 2.1 APPLICANT INFORMATION | 4 |
| 2.2 MANUFACTURER INFORMATION | 4 |
| 3 EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE) | 5 |
| 3.1 ABOUT EUT | 5 |
| 3.2 INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST | 5 |
| 3.3 INTERNAL IDENTIFICATION OF AE USED DURING THE TEST..... | 5 |
| 4 CHARACTERISTICS OF THE TEST | 5 |
| 4.1 APPLICABLE LIMIT REGULATIONS | 5 |
| 4.2 APPLICABLE MEASUREMENT STANDARDS..... | 5 |
| 5 OPERATIONAL CONDITIONS DURING TEST | 6 |
| 5.1 SCHEMATIC TEST CONFIGURATION..... | 6 |
| 5.2 SAR MEASUREMENT SET-UP..... | 6 |
| 5.3 DASY4 E-FIELD PROBE SYSTEM..... | 7 |
| 5.4 E-FIELD PROBE CALIBRATION | 8 |
| 5.5 OTHER TEST EQUIPMENT | 9 |
| 5.6 EQUIVALENT TISSUES..... | 10 |
| 5.7 SYSTEM SPECIFICATIONS..... | 11 |
| 6 CONDUCTED OUTPUT POWER MEASUREMENT..... | 11 |
| 6.1 SUMMARY | 11 |
| 6.2 CONDUCTED POWER | 11 |
| 7 TEST RESULTS | 13 |
| 7.1 DIELECTRIC PERFORMANCE | 13 |
| 7.2 SYSTEM VALIDATION..... | 13 |
| 7.3 EVALUATION OF MULTI-BATTERIES..... | 14 |
| 7.4 SUMMARY OF MEASUREMENT RESULTS | 15 |
| 7.5 SUMMARY OF MEASUREMENT RESULTS (BLUETOOTH AND WiFi FUNCTION)..... | 18 |
| 7.6 CONCLUSION..... | 20 |
| 8 MEASUREMENT UNCERTAINTY | 20 |
| 9 MAIN TEST INSTRUMENTS | 21 |
| ANNEX A MEASUREMENT PROCESS..... | 22 |
| ANNEX B TEST LAYOUT | 23 |
| ANNEX C GRAPH RESULTS..... | 29 |
| ANNEX D SYSTEM VALIDATION RESULTS | 85 |
| ANNEX E PROBE CALIBRATION CERTIFICATE..... | 91 |
| ANNEX F DIPOLE CALIBRATION CERTIFICATE | 109 |

1 Test Laboratory

1.1 Testing Location

Company Name: TMC Beijing, Telecommunication Metrology Center of MIIT
Address: No 52, Huayuan beilu, Haidian District, Beijing,P.R.China
Postal Code: 100191
Telephone: +86-10-62304633
Fax: +86-10-62304793

1.2 Testing Environment

Temperature: 18°C~25 °C,
Relative humidity: 30%~ 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.

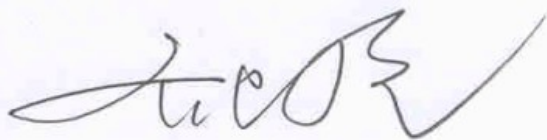
1.3 Project Data

Project Leader: Qi Dianyuan
Test Engineer: Lin Xiaojun
Testing Start Date: May 26, 2011
Testing End Date: May 28, 2011

1.4 Signature



Lin Xiaojun
(Prepared this test report)



Qi Dianyuan
(Reviewed this test report)



Xiao Li
Deputy Director of the laboratory
(Approved this test report)

2 Client Information

2.1 Applicant Information

Company Name: TCT Mobile Limited
Address /Post: 4/F, South Building, No.2966, Jinke Road, Zhangjiang High-Tech Park,
Pudong, Shanghai, 201203, P.R.China
City: Shanghai
Postal Code: 201203
Country: P. R. China
Contact Person: Gong Zhizhou
Contact Email: zhizhou.gong@jrdcom.com
Telephone: 0086-21-61460890
Fax: 0086-21-61460602

2.2 Manufacturer Information

Company Name: TCT Mobile Limited
Address /Post: 4/F, South Building, No.2966, Jinke Road, Zhangjiang High-Tech Park,
Pudong, Shanghai, 201203, P.R.China
City: Shanghai
Postal Code: 201203
Country: P. R. China
Contact Person: Gong Zhizhou
Contact Email: zhizhou.gong@jrdcom.com
Telephone: 0086-21-61460890
Fax: 0086-21-61460602

3 Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1 About EUT

| | |
|------------------------|---|
| EUT Description: | GSM/GPRS/EDGE 850/1900 dual band mobile phone |
| Model Name: | Onyx lifestyle WIFI A |
| Marketing Name: | one touch 819A |
| GSM Frequency Band: | GSM 850 / PCS 1900 / WiFi |
| GPRS Multislot Class: | 12 |
| EGPRS Multislot Class: | 12 |
| GPRS capability Class: | B |
| Hotspot mode: | Be not supported |

3.2 Internal Identification of EUT used during the test

| EUT ID* | SN or IMEI | HW Version | SW Version |
|---------|-----------------|------------|------------|
| EUT1 | 012727000010011 | PIO | SW460 |

*EUT ID: is used to identify the test sample in the lab internally.

3.3 Internal Identification of AE used during the test

| AE ID* | Description | Model | SN | Manufacturer |
|--------|-------------|--------------|----|--------------|
| AE1 | Battery | CAB31L0000C1 | \ | BYD |
| AE2 | Battery | CAB31L0000C2 | \ | BAK |
| AE3 | Headset | CCB3160A10C0 | \ | Juwei |
| AE4 | Headset | CCB3160A10C3 | \ | Lianchuang |

*AE ID: is used to identify the test sample in the lab internally.

4 CHARACTERISTICS OF THE TEST

4.1 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.

4.2 Applicable Measurement Standards

EN 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).

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)

KDB648474 D01 SAR Handsets Multi Xmitter and Ant, v01r05: SAR Evaluation Considerations for Handsets with Multiple Transmitters and Antennas.

KDB248227: SAR measurement procedures for 802.112abg transmitters.

5 OPERATIONAL CONDITIONS DURING TEST

5.1 Schematic Test Configuration

During SAR test, EUT is in Traffic Mode (Channel Allocated) at Normal Voltage Condition. 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 128, 190 and 251 respectively in the case of GSM 850 MHz, or to 512, 661 and 810 respectively in the case of PCS 1900 MHz. The EUT is commanded to operate at maximum transmitting power.

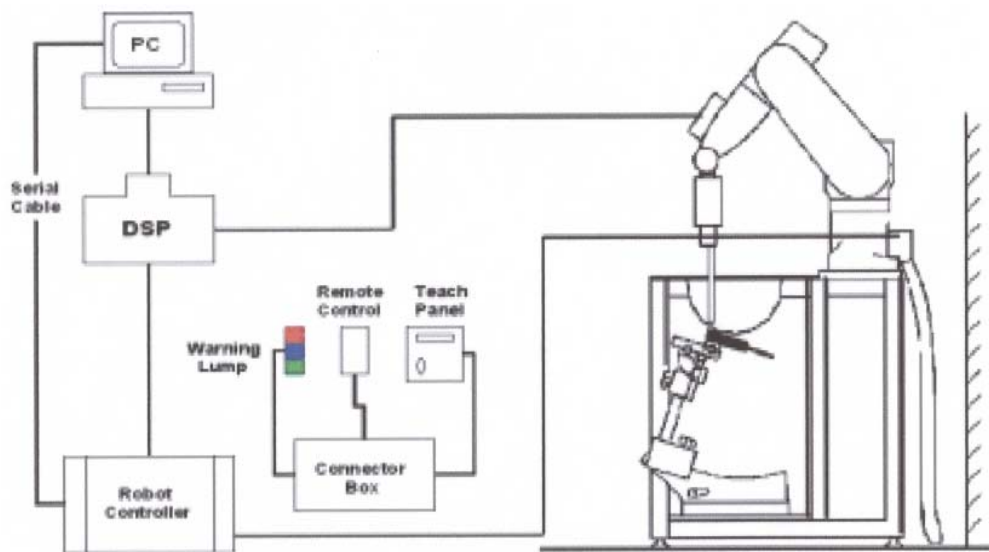
The EUT shall use its internal transmitter. The antenna(s), battery and accessories shall be those specified by the manufacturer. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output. If a wireless link is used, the antenna connected to the 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.

5.2 SAR Measurement Set-up

These measurements were performed with the automated near-field scanning system DAS4 Professional 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 Professional, 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.



Picture 2: SAR Lab Test Measurement Set-up

The DAE 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.

5.3 Dasy4 E-field Probe System

The SAR measurements were conducted with the dosimetric probe ES3DV3 (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 $\pm 0.25\text{dB}$.

ES3DV3 Probe Specification

| | |
|--------------|---|
| Construction | Symmetrical design with triangular core |
| | Interleaved sensors |

Built-in shielding against static charges
PEEK enclosure material (resistant to organic solvents, e.g., DGBE)

Calibration Basic Broad Band Calibration in air
Conversion Factors (CF) for HSL 900 and HSL 1810

Additional CF for other liquids and frequencies upon request



Picture 3: ES3DV3 E-field

Frequency 10 MHz to 4 GHz; Linearity: ± 0.2 dB (30 MHz to 4 GHz)

Directivity ± 0.2 dB in HSL (rotation around probe axis)
 ± 0.3 dB in tissue material (rotation normal to probe axis)

Dynamic Range 5 μ W/g to > 100 mW/g; Linearity: ± 0.2 dB

Dimensions Overall length: 330 mm (Tip: 20 mm)
Tip diameter: 3.9 mm (Body: 12 mm)
Distance from probe tip to dipole centers: 2.0 mm

Application General dosimetry up to 4 GHz
Dosimetry in strong gradient fields
Compliance tests of mobile phones



Picture4:ES3DV3 E-field probe

5.4 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 ± 0.25 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.

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

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

Or

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

Where:

σ = Simulated tissue conductivity,
 ρ = Tissue density (kg/m^3).



Picture 5: Device Holder

5.5 Other Test Equipment

5.5.1 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 repeatably positioned according to the FCC and CENELEC specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).

5.5.2 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 |



Picture 6: Generic Twin Phantom

5.6 Equivalent Tissues

The liquid used for the frequency range of 800-3000 MHz consisted of water, sugar, salt, Glycol monobutyl, Preventol and Cellulose. The liquid has been previously proven to be suited for worst-case. The Table 1 and 2 shows the detail solution. It's satisfying the latest tissue dielectric parameters requirements proposed by the IEEE 1528.

Table 1. Composition of the Head Tissue Equivalent Matter

| MIXTURE % | FREQUENCY 850MHz |
|------------------------------------|---|
| Water | 41.45 |
| Sugar | 56.0 |
| Salt | 1.45 |
| Preventol | 0.1 |
| Cellulose | 1.0 |
| Dielectric Parameters Target Value | f=850MHz $\epsilon=41.5$ $\sigma=0.90$ |
| MIXTURE % | FREQUENCY 1900MHz |
| Water | 55.242 |
| Glycol monobutyl | 44.452 |
| Salt | 0.306 |
| Dielectric Parameters Target Value | f=1900MHz $\epsilon=40.0$ $\sigma=1.40$ |
| MIXTURE % | FREQUENCY 2450MHz |
| Water | 58.79 |
| Glycol monobutyl | 41.15 |
| Salt | 0.06 |
| Dielectric Parameters Target Value | f=2450MHz $\epsilon=39.2$ $\sigma=1.80$ |

Table 2. Composition of the Body Tissue Equivalent Matter

| MIXTURE % | FREQUENCY 850MHz |
|------------------------------------|---|
| Water | 52.5 |
| Sugar | 45.0 |
| Salt | 1.4 |
| Preventol | 0.1 |
| Cellulose | 1.0 |
| Dielectric Parameters Target Value | f=850MHz $\epsilon=55.2$ $\sigma=0.97$ |
| MIXTURE % | FREQUENCY 1900MHz |
| Water | 69.91 |
| Glycol monobutyl | 29.96 |
| Salt | 0.13 |
| Dielectric Parameters Target Value | f=1900MHz $\epsilon=53.3$ $\sigma=1.52$ |
| MIXTURE % | FREQUENCY 2450MHz |
| Water | 72.60 |
| Glycol monobutyl | 27.22 |
| Salt | 0.18 |
| Dielectric Parameters Target Value | f=2450MHz $\epsilon=52.7$ $\sigma=1.95$ |

5.7 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 CONDUCTED OUTPUT POWER MEASUREMENT

6.1 Summary

During the process of testing, the EUT was controlled via Rhode & Schwarz Digital Radio Communication tester (CMU-200) to ensure the maximum power transmission and proper modulation. This result contains conducted output power for the EUT. In all cases, the measured output power should be greater and within 5% than EMI measurement.

6.2 Conducted Power

6.2.1 Measurement Methods

The EUT was set up for the maximum output power. The channel power was measured with Agilent Spectrum Analyzer E4440A. These measurements were done at low, middle and high channels.

6.2.2 Measurement result

Table 3: The conducted power for GSM 850/1900

| GSM | Conducted Power (dBm) | | |
|-----|-----------------------|------------------------|-----------------------|
| | 850MHZ | Channel 251(848.8MHz) | Channel 190(836.6MHz) |
| | 32.55 | 32.47 | 32.42 |
| GSM | Conducted Power (dBm) | | |
| | 1900MHZ | Channel 810(1909.8MHz) | Channel 661(1880MHz) |
| | 30.00 | 30.12 | 30.68 |

Table 4: The conducted power for GPRS 850/1900 and EGPRS 850/1900

| GSM 850 GPRS | Measured Power (dBm) | | | calculation | Averaged Power (dBm) | | |
|------------------|----------------------|-------|-------|-------------|----------------------|--------------|--------------|
| | 251 | 190 | 128 | | 251 | 190 | 128 |
| 1 Txslot | 32.25 | 32.21 | 32.15 | -9.03dB | 23.22 | 23.18 | 23.12 |
| 2 Txslots | 30.02 | 30.00 | 30.01 | -6.02dB | 24.00 | 23.98 | 23.99 |
| 3Txslots | 28.30 | 28.30 | 28.31 | -4.26dB | 24.04 | 24.04 | 24.05 |
| 4 Txslots | 27.07 | 27.06 | 27.08 | -3.01dB | 24.06 | 24.05 | 24.07 |
| GSM 850 EGPRS | Measured Power (dBm) | | | calculation | Averaged Power (dBm) | | |
| | 251 | 190 | 128 | | 251 | 190 | 128 |
| 1 Txslot | 31.86 | 31.82 | 31.79 | -9.03dB | 22.83 | 22.79 | 22.76 |
| 2 Txslots | 29.95 | 29.94 | 29.94 | -6.02dB | 23.93 | 23.92 | 23.92 |
| 3Txslots | 28.29 | 28.28 | 28.26 | -4.26dB | 24.03 | 24.02 | 24.00 |
| 4 Txslots | 27.08 | 27.06 | 27.06 | -3.01dB | 24.07 | 24.05 | 24.05 |
| PCS1900 GPRS | Measured Power (dBm) | | | calculation | Averaged Power (dBm) | | |
| | 810 | 661 | 512 | | 810 | 661 | 512 |
| 1 Txslot | 29.21 | 29.35 | 29.88 | -9.03dB | 20.18 | 20.32 | 20.85 |
| 2 Txslots | 26.52 | 26.53 | 27.06 | -6.02dB | 20.50 | 20.51 | 21.04 |
| 3Txslots | 25.09 | 25.09 | 25.60 | -4.26dB | 20.83 | 20.83 | 21.34 |
| 4 Txslots | 23.49 | 23.47 | 24.01 | -3.01dB | 20.48 | 20.46 | 21.00 |
| PCS1900 EGPRS | Measured Power (dBm) | | | calculation | Averaged Power (dBm) | | |
| | 810 | 661 | 512 | | 810 | 661 | 512 |
| 1 Txslot | 28.69 | 28.72 | 29.24 | -9.03dB | 19.66 | 19.69 | 20.21 |
| 2 Txslots | 26.56 | 26.57 | 27.10 | -6.02dB | 20.54 | 20.55 | 21.08 |
| 3Txslots | 25.13 | 25.12 | 25.63 | -4.26dB | 20.87 | 20.86 | 21.37 |
| 4 Txslots | 23.50 | 23.47 | 24.01 | -3.01dB | 20.49 | 20.46 | 21.00 |

NOTES:

1) Division Factors

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

1TX-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

According to the conducted power as above, the body measurements are performed with 4 Txslots for GSM850 and 3 Txslots for GSM1900.

6.2.3 Power Drift

To control the output power stability during the SAR test, DAS4 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 18 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

7 TEST RESULTS

7.1 Dielectric Performance

Table 5: Dielectric Performance of Head Tissue Simulating Liquid

| Measurement is made at temperature 23.0 °C and relative humidity 37%. | | | |
|--|-----------|-------------------------|-----------------------------|
| Liquid temperature during the test: 22.5°C | | | |
| Measurement Date : 850 MHz <u>May 27, 2011</u> 1900 MHz <u>May 28, 2011</u> 2450 MHz <u>May 26, 2011</u> | | | |
| / | Frequency | Permittivity ϵ | Conductivity σ (S/m) |
| Target value | 835 MHz | 41.5 | 0.90 |
| | 1900 MHz | 40.0 | 1.40 |
| | 2450 MHz | 39.2 | 1.80 |
| Measurement value (Average of 10 tests) | 835 MHz | 41.8 | 0.91 |
| | 1900 MHz | 40.7 | 1.41 |
| | 2450 MHz | 39.6 | 1.82 |

Table 6: Dielectric Performance of Body Tissue Simulating Liquid

| Measurement is made at temperature 23.0 °C and relative humidity 37%. | | | |
|--|-----------|-------------------------|-----------------------------|
| Liquid temperature during the test: 22.5°C | | | |
| Measurement Date : 850 MHz <u>May 27, 2011</u> 1900 MHz <u>May 28, 2011</u> 2450 MHz <u>May 26, 2011</u> | | | |
| / | Frequency | Permittivity ϵ | Conductivity σ (S/m) |
| Target value | 835 MHz | 55.2 | 0.97 |
| | 1900 MHz | 53.3 | 1.52 |
| | 2450 MHz | 52.7 | 1.95 |
| Measurement value (Average of 10 tests) | 835 MHz | 54.8 | 0.96 |
| | 1900 MHz | 53.5 | 1.53 |
| | 2450 MHz | 52.0 | 1.96 |

7.2 System Validation

Table 7: System Validation of Head

| Measurement is made at temperature 23.0 °C and relative humidity 37%. | | | | |
|--|------------------------------------|-----------|-------------------------|-----------------------------|
| Liquid temperature during the test: 22.5°C | | | | |
| Measurement Date : 850 MHz <u>May 27, 2011</u> 1900 MHz <u>May 28, 2011</u> 2450 MHz <u>May 26, 2011</u> | | | | |
| Liquid parameters | Dipole calibration Target value | Frequency | Permittivity ϵ | Conductivity σ (S/m) |
| | | 835 MHz | 41.6 | 0.92 |
| | | 1900 MHz | 39.6 | 1.40 |
| | 2450 MHz | 39.0 | 1.74 | |
| | Actual Measurement value | 835 MHz | 41.8 | 0.91 |
| | | 1900 MHz | 40.7 | 1.41 |
| 2450 MHz | | 39.6 | 1.82 | |

| Verification results | Frequency | Target value (W/kg) | | Measured value (W/kg) | | Deviation | |
|----------------------|-----------|---------------------|-------------|-----------------------|-------------|--------------|-------------|
| | | 10 g Average | 1 g Average | 10 g Average | 1 g Average | 10 g Average | 1 g Average |
| | 835 MHz | 6.12 | 9.41 | 6.00 | 9.36 | -1.96% | -0.53% |
| 1900 MHz | 20.1 | 39.4 | 19.52 | 39.12 | -2.89% | -0.71% | |
| 2450 MHz | 24.6 | 52.4 | 23.72 | 51.2 | -3.58% | -2.29% | |

Note: Target values are the data of the dipole validation results, please check Annex F for the Dipole Calibration Certificate.

Table 8: System Validation of Body

| Measurement is made at temperature 23.0 °C and relative humidity 37%. | | | | | | | |
|--|---------------------------------|---------------------|-------------|-------------------------|-----------------------------|--------------|-------------|
| Liquid temperature during the test: 22.5°C | | | | | | | |
| Measurement Date : 850 MHz May 27, 2011 1900 MHz May 28, 2011 2450 MHz May 26, 2011 | | | | | | | |
| Liquid parameters | Dipole calibration Target value | Frequency | | Permittivity ϵ | Conductivity σ (S/m) | | |
| | | 835 MHz | | 54.5 | 0.97 | | |
| | | 1900 MHz | | 52.5 | 1.51 | | |
| | Actual Measurement value | 835 MHz | | 54.8 | 0.96 | | |
| | | 1900 MHz | | 53.5 | 1.53 | | |
| | | 2450 MHz | | 52.0 | 1.96 | | |
| Verification results | Frequency | Target value (W/kg) | | Measured value (W/kg) | | Deviation | |
| | | 10 g Average | 1 g Average | 10 g Average | 1 g Average | 10 g Average | 1 g Average |
| | 835 MHz | 6.24 | 9.57 | 6.24 | 9.68 | 0.00% | 1.15% |
| | 1900 MHz | 20.9 | 41.4 | 21.0 | 40.8 | 0.49% | -1.45% |
| | 2450 MHz | 23.9 | 51.6 | 23.36 | 51.2 | -2.26% | -0.78% |

Note: Target values are the data of the dipole validation results, please check Annex F for the Dipole Calibration Certificate.

7.3 Evaluation of Multi-Batteries

Table 9: Pretest SAR Values (GSM 850 MHz Band)

| Limit of SAR (W/kg) | 10 g Average | 1 g Average |
|---|---------------------------|-------------|
| | | 2.0 |
| Test Case | Measurement Result (W/kg) | |
| | 10 g Average | 1 g Average |
| Left hand, Touch cheek, High frequency (CAB31L0000C1) | 0.610 | 0.835 |
| Left hand, Touch cheek, High frequency (CAB31L0000C2) | 0.608 | 0.834 |

Note: According to the values in the above table, the battery, CAB31L0000C1, is the normal battery. We'll perform the head measurement with this battery and retest on highest value point with others.

Table 10: Pretest SAR Values (GSM 850 MHz Band-Body)

| Limit of SAR (W/kg) | 10 g Average | 1 g Average |
|---|---------------------------|-------------|
| | | 2.0 |
| Test Case | Measurement Result (W/kg) | |
| | 10 g Average | 1 g Average |
| Body, Towards Ground, Middle frequency (CAB31L0000C1) | 0.690 | 0.951 |
| Body, Towards Ground, Middle frequency (CAB31L0000C2) | 0.699 | 0.965 |

Note: According to the values in the above table, the battery, CAB31L0000C2, is the normal battery. We'll perform the body measurement with this battery and retest on highest value point with others.

7.4 Summary of Measurement Results

Table 11: SAR Values (850MHz-Head) - with battery CAB31L0000C1

| Limit of SAR (W/kg) | 10 g Average | 1 g Average | Power Drift (dB) |
|---|---------------------------|-------------|------------------|
| | | 2.0 | |
| Test Case | Measurement Result (W/kg) | | |
| | 10 g Average | 1 g Average | |
| Left hand, Touch cheek, High frequency (See Fig.1) | 0.610 | 0.835 | -0.126 |
| Left hand, Touch cheek, Middle frequency (See Fig.2) | 0.601 | 0.819 | -0.059 |
| Left hand, Touch cheek, Low frequency (See Fig.3) | 0.582 | 0.791 | 0.019 |
| Left hand, Tilt 15 Degree, High frequency (See Fig.4) | 0.278 | 0.364 | -0.032 |
| Left hand, Tilt 15 Degree, Middle frequency (See Fig.5) | 0.269 | 0.351 | -0.102 |
| Left hand, Tilt 15 Degree, Low frequency (See Fig.6) | 0.257 | 0.336 | 0.026 |
| Right hand, Touch cheek, High frequency (See Fig.7) | 0.595 | 0.814 | -0.033 |
| Right hand, Touch cheek, Middle frequency (See Fig.8) | 0.606 | 0.829 | -0.044 |
| Right hand, Touch cheek, Low frequency (See Fig.9) | 0.598 | 0.812 | 0.0443 |
| Right hand, Tilt 15 Degree, High frequency (See Fig.10) | 0.288 | 0.378 | -0.098 |
| Right hand, Tilt 15 Degree, Middle frequency (See Fig.11) | 0.297 | 0.388 | -0.032 |
| Right hand, Tilt 15 Degree, Low frequency (See Fig.12) | 0.293 | 0.381 | 0.045 |

Table 12: SAR Values (1900MHz-Head) - with battery CAB31L0000C1

| Limit of SAR (W/kg) | 10 g Average | 1 g Average | Power Drift (dB) |
|---|---------------------------|-------------|------------------|
| | | 2.0 | |
| Test Case | Measurement Result (W/kg) | | |
| | 10 g Average | 1 g Average | |
| Left hand, Touch cheek, High frequency (See Fig.13) | 0.377 | 0.659 | -0.159 |

| | | | |
|---|-------|-------|----------|
| Left hand, Touch cheek, Middle frequency (See Fig.14) | 0.331 | 0.583 | 0.124 |
| Left hand, Touch cheek, Low frequency (See Fig.15) | 0.323 | 0.565 | -0.0062 |
| Left hand, Tilt 15 Degree, High frequency (See Fig.16) | 0.107 | 0.179 | -0.076 |
| Left hand, Tilt 15 Degree, Middle frequency (See Fig.17) | 0.127 | 0.211 | 0.000107 |
| Left hand, Tilt 15 Degree, Low frequency (See Fig.18) | 0.136 | 0.225 | 0.055 |
| Right hand, Touch cheek, High frequency (See Fig.19) | 0.328 | 0.523 | 0.110 |
| Right hand, Touch cheek, Middle frequency (See Fig.20) | 0.332 | 0.527 | -0.062 |
| Right hand, Touch cheek, Low frequency (See Fig.21) | 0.333 | 0.531 | 0.019 |
| Right hand, Tilt 15 Degree, High frequency (See Fig.22) | 0.128 | 0.228 | 0.054 |
| Right hand, Tilt 15 Degree, Middle frequency (See Fig.23) | 0.137 | 0.243 | 0.00782 |
| Right hand, Tilt 15 Degree, Low frequency(See Fig.24) | 0.157 | 0.275 | -0.066 |

Table 13: SAR Values (850MHz-Head) - with battery CAB31L0000C2

| Limit of SAR (W/kg) | 10 g Average | 1 g Average | Power Drift (dB) |
|---|------------------------------|----------------|------------------------|
| | 2.0 | 1.6 | |
| Test Case | Measurement Result (W/kg) | | |
| | 10 g Average | 1 g Average | |
| Left hand, Touch cheek, High frequency (See Fig.25) | 0.608 | 0.834 | -0.060 |

Table 14: SAR Values (850MHz-Body) - with battery CAB31L0000C2

| Limit of SAR (W/kg) | 10 g Average | 1g Average | Power Drift (dB) |
|---|------------------------------|----------------|------------------------|
| | 2.0 | 1.6 | |
| Test Case | Measurement Result (W/kg) | | |
| | 10 g Average | 1 g Average | |
| Body, Towards Ground, High frequency with GPRS (See Fig.26) | 0.695 | 0.958 | -0.115 |
| Body, Towards Ground, Middle frequency with GPRS (See Fig.27) | 0.699 | 0.965 | 0.042 |
| Body, Towards Ground, Low frequency with GPRS (See Fig.28) | 0.688 | 0.948 | -0.00362 |
| Body, Towards Phantom, High frequency with GPRS (See Fig.29) | 0.639 | 0.871 | -0.072 |
| Body, Towards Phantom, Middle frequency with GPRS (See Fig.30) | 0.634 | 0.862 | -0.015 |
| Body, Towards Phantom, Low frequency with GPRS (See Fig.31) | 0.622 | 0.842 | 0.019 |
| Body, Towards Ground, Middle frequency with EGPRS (See Fig.32) | 0.684 | 0.943 | -0.137 |
| Body, Towards Ground, Middle frequency with Headset_CCB3160A10C0 (See Fig.33) | 0.329 | 0.465 | 0.046 |
| Body, Towards Ground, Middle frequency with Headset_CCB3160A10C3 (See Fig.34) | .471 | 0.643 | 0.112 |

Table 15: SAR Values (1900MHz-Body) - with battery CAB31L0000C2

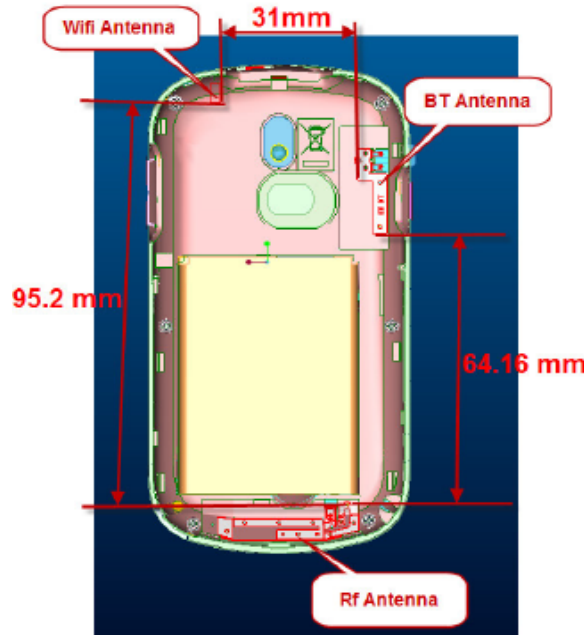
| Limit of SAR (W/kg) | 10 g Average | 1g Average | Power Drift (dB) |
|---|---------------------------|-------------|------------------|
| | 2.0 | 1.6 | |
| Test Case | Measurement Result (W/kg) | | Power Drift (dB) |
| | 10 g Average | 1 g Average | |
| Body, Towards Ground, High frequency with GPRS (See Fig.35) | 0.250 | 0.414 | 0.096 |
| Body, Towards Ground, Middle frequency with GPRS (See Fig.36) | 0.232 | 0.387 | -0.053 |
| Body, Towards Ground, Low frequency with GPRS (See Fig.37) | 0.201 | 0.338 | -0.158 |
| Body, Towards Phantom, High frequency with GPRS (See Fig.38) | 0.223 | 0.372 | 0.024 |
| Body, Towards Phantom, Middle frequency with GPRS (See Fig.39) | 0.201 | 0.337 | 0.135 |
| Body, Towards Phantom, Low frequency with GPRS (See Fig.40) | 0.181 | 0.305 | 0.103 |
| Body, Towards Ground, High frequency with EGPRS (See Fig.41) | 0.248 | 0.413 | 0.087 |
| Body, Towards Ground, High frequency with Headset_CCB3160A10C0 (See Fig.42) | 0.194 | 0.326 | -0.101 |
| Body, Towards Ground, High frequency with Headset_CCB3160A10C3 (See Fig.43) | 0.165 | 0.276 | -0.053 |

Table 16: SAR Values (850MHz-Body) - with battery CAB31L0000C1

| Limit of SAR (W/kg) | 10 g Average | 1g Average | Power Drift (dB) |
|---|---------------------------|-------------|------------------|
| | 2.0 | 1.6 | |
| Test Case | Measurement Result (W/kg) | | Power Drift (dB) |
| | 10 g Average | 1 g Average | |
| Body, Towards Ground, Middle frequency with GPRS (See Fig.44) | 0.690 | 0.951 | -0.176 |

7.5 Summary of Measurement Results (Bluetooth and WiFi function)

The distance between BT antenna and RF antenna is $>5\text{cm}$. The location of the antennas inside mobile phone is shown below:



The output power of BT antenna is as following:

| Channel | Ch 0 2402 MHz | Ch 39 2441 Mhz | Ch 78 2480 MHz |
|----------------------------------|------------------|-------------------|-------------------|
| Peak Conducted Output Power(dBm) | 7.87 | 7.11 | 7.48 |

The output power of BT transmitter is $\leq 2P_{\text{Ref}}$ and its antenna is $>5\text{cm}$ from the RF antenna. So we can draw the conclusion that: stand-alone SAR and simultaneous transmission SAR are not required for BT transmitter.

Note: Power thresholds (P_{Ref}) is derived from multiples of $0.5 \times 60/f_{(\text{GHz})}$, that is 12mW (10.79dBm) for BT/WiFi frequency.

The average conducted power for WiFi is as following:

802.11b (dBm)

| Channel\data rate | 1Mbps | 2Mbps | 5.5Mbps | 11Mbps |
|-------------------|-------|-------|---------|--------|
| 1 | 16.61 | 16.48 | 16.41 | 16.35 |
| 6 | 16.52 | 16.50 | 16.52 | 16.51 |
| 11 | 16.86 | 16.85 | 16.83 | 16.85 |

802.11g (dBm)

| Channel\data rate | 6Mbps | 9Mbps | 12Mbps | 18Mbps | 24Mbps | 36Mbps | 48Mbps | 54Mbps |
|-------------------|-------|-------|--------|--------|--------|--------|--------|--------|
| 1 | 13.56 | 13.55 | 13.51 | 13.52 | 13.46 | 13.43 | 13.46 | 13.48 |
| 6 | 13.99 | 13.97 | 13.99 | 13.98 | 13.95 | 13.96 | 13.96 | 13.96 |
| 11 | 14.22 | 14.21 | 14.21 | 14.22 | 14.18 | 14.19 | 14.17 | 14.17 |

The peak conducted power for WiFi is as following:
802.11b (dBm)

| Channel\data rate | 1Mbps | 2Mbps | 5.5Mbps | 11Mbps |
|-------------------|-------|-------|---------|--------|
| 1 | 20.27 | 20.38 | 21.55 | 23.02 |
| 6 | / | / | / | 23.43 |
| 11 | / | / | / | 23.59 |

802.11g (dBm)

| Channel\data rate | 6Mbps | 9Mbps | 12Mbps | 18Mbps | 24Mbps | 36Mbps | 48Mbps | 54Mbps |
|-------------------|-------|-------|--------|--------|--------|--------|--------|--------|
| 1 | 22.27 | 22.23 | 21.92 | 21.88 | 22.31 | 22.32 | 22.39 | 22.40 |
| 6 | / | / | / | / | / | / | / | 22.87 |
| 11 | / | / | / | / | / | / | / | 23.06 |

According to the conducted power measurement result, we can draw the conclusion that: stand-alone SAR for WiFi should be performed. Then, simultaneous transmission SAR for WiFi is considered with measurement results of GSM and WiFi.

SAR is not required for 802.11g channels if the output power is less than 0.25dB higher than that measured on the corresponding 802.11b channels, and for each frequency band, testing at higher data rates and higher order modulations is not required when the maximum average output power for each of these configurations is less than 0.25dB higher than those measured at the lowest data rate. According to the above conducted power, the EUT should be tested for "802.11b, 1Mbps, channel 11".

Table 17: SAR Values (WIFI 802.b - Head)

| Limit of SAR (W/kg) | 10 g Average | 1 g Average | Power Drift (dB) |
|---|---------------------------|-------------|------------------|
| | 2.0 | 1.6 | |
| Test Case | Measurement Result (W/kg) | | Power Drift (dB) |
| | 10 g Average | 1 g Average | |
| Left hand, Touch cheek, 1Mbps,channel 11 (See Fig.45) | 0.205 | 0.438 | -0.137 |
| Left hand, Tilt 15 Degree, 1Mbps,channel 11 (See Fig.46) | 0.159 | 0.355 | -0.117 |
| Right hand, Touch cheek, 1Mbps,channel 11 (See Fig.47) | 0.269 | 0.510 | 0.104 |
| Right hand, Tilt 15 Degree, 1Mbps,channel 11 (See Fig.48) | 0.221 | 0.435 | -0.034 |

Table 18: SAR Values (WIFI 802.b - Body)

| Limit of SAR (W/kg) | 10 g Average | 1 g Average | Power Drift (dB) |
|--|---------------------------|-------------|------------------|
| | 2.0 | 1.6 | |
| Test Case | Measurement Result (W/kg) | | Power Drift (dB) |
| | 10 g Average | 1 g Average | |
| Toward Ground, 1Mbps,channel 11 (See Fig.49) | 0.047 | 0.087 | -0.182 |
| Toward Phantom, 1Mbps,channel 11(See Fig.50) | 0.046 | 0.081 | -0.124 |

Table 19: The sum of SAR values for GSM and WiFi

| | Maximum SAR value for Head | Maximum SAR value for Body |
|-------------|----------------------------|----------------------------|
| GSM | 0.835 | 0.965 |
| WiFi | 0.510 | 0.087 |
| Sum | 1.345 | 1.052 |

According to the above tables, the sum of SAR values for GSM and WiFi < 1.6W/kg. So simultaneous transmission SAR are not required for WiFi transmitter.

7.6 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 4.2 of this report. Maximum localized SAR is below exposure limits specified in the relevant standards cited in Clause 4.1 of this test report.

The maximum SAR values are obtained at the case of **GSM 850 MHz Band, Body, Towards Ground, Middle frequency with GPRS (Table 14)**, and the value are: **0.965(1g)**.

8 Measurement Uncertainty

| No. | Error Description | Type | Uncertainty value | Probably Distribution | Div. | (Ci) 1g | (Ci) 10g | Std. Unc. (1g) | Std. Unc. (10g) | Degree of freedom |
|----------------------------|---|------|-------------------|-----------------------|------------|---------|----------|----------------|-----------------|-------------------|
| Measurement system | | | | | | | | | | |
| 1 | Probe calibration | B | 5.5 | N | 1 | 1 | 1 | 5.5 | 5.5 | ∞ |
| 2 | Isotropy | B | 4.7 | R | $\sqrt{3}$ | 0.7 | 0.7 | 1.9 | 1.9 | ∞ |
| 3 | Boundary effect | B | 1.0 | R | $\sqrt{3}$ | 1 | 1 | 0.6 | 0.6 | ∞ |
| 4 | Linearity | B | 4.7 | R | $\sqrt{3}$ | 1 | 1 | 2.7 | 2.7 | ∞ |
| 5 | Detection limit | B | 1.0 | N | 1 | 1 | 1 | 0.6 | 0.6 | ∞ |
| 6 | Readout electronics | B | 0.3 | R | $\sqrt{3}$ | 1 | 1 | 0.3 | 0.3 | ∞ |
| 7 | Response time | B | 0.8 | R | $\sqrt{3}$ | 1 | 1 | 0.5 | 0.5 | ∞ |
| 8 | Integration time | B | 2.6 | R | $\sqrt{3}$ | 1 | 1 | 1.5 | 1.5 | ∞ |
| 9 | RF ambient conditions-noise | B | 0 | R | $\sqrt{3}$ | 1 | 1 | 0 | 0 | ∞ |
| 10 | RF ambient conditions-reflection | B | 0 | R | $\sqrt{3}$ | 1 | 1 | 0 | 0 | ∞ |
| 11 | Probe positioned mech. restrictions | B | 0.4 | R | $\sqrt{3}$ | 1 | 1 | 0.2 | 0.2 | ∞ |
| 12 | Probe positioning with respect to phantom shell | B | 2.9 | R | $\sqrt{3}$ | 1 | 1 | 1.7 | 1.7 | ∞ |
| 13 | Post-processing | B | 1.0 | R | $\sqrt{3}$ | 1 | 1 | 0.6 | 0.6 | ∞ |
| Test sample related | | | | | | | | | | |

| | | | | | | | | | | |
|--|------------------------------|---|------|---|------------|------|------|------|------|----------|
| 14 | Test sample positioning | A | 3.3 | N | 1 | 1 | 1 | 3.3 | 3.3 | 71 |
| 15 | Device holder uncertainty | A | 3.4 | N | 1 | 1 | 1 | 3.4 | 3.4 | 5 |
| 16 | Drift of output power | B | 5.0 | R | $\sqrt{3}$ | 1 | 1 | 2.9 | 2.9 | ∞ |
| Phantom and set-up | | | | | | | | | | |
| 17 | Phantom uncertainty | B | 4.0 | R | $\sqrt{3}$ | 1 | 1 | 2.3 | 2.3 | ∞ |
| 18 | Liquid conductivity (target) | B | 5.0 | R | $\sqrt{3}$ | 0.64 | 0.43 | 1.8 | 1.2 | ∞ |
| 19 | Liquid conductivity (meas.) | A | 2.06 | N | 1 | 0.64 | 0.43 | 1.32 | 0.89 | 43 |
| 20 | Liquid permittivity (target) | B | 5.0 | R | $\sqrt{3}$ | 0.6 | 0.49 | 1.7 | 1.4 | ∞ |
| 21 | Liquid permittivity (meas.) | A | 1.6 | N | 1 | 0.6 | 0.49 | 1.0 | 0.8 | 521 |
| Combined standard uncertainty | | $u_c' = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$ | | | | | | 9.25 | 9.12 | 257 |
| Expanded uncertainty (confidence interval of 95 %) | | $u_e = 2u_c$ | | | | | | 18.5 | 18.2 | |

9 MAIN TEST INSTRUMENTS

Table 20: List of Main Instruments

| No. | Name | Type | Serial Number | Calibration Date | Valid Period |
|-----|-----------------------|---------------|---------------|--------------------------|--------------|
| 01 | Network analyzer | HP 8753E | US38433212 | August 4,2010 | One year |
| 02 | Power meter | NRVD | 102083 | September 11, 2010 | One year |
| 03 | Power sensor | NRV-Z5 | 100542 | | |
| 04 | Signal Generator | E4433C | MY49070393 | November 13, 2010 | One Year |
| 05 | Amplifier | VTL5400 | 0505 | No Calibration Requested | |
| 06 | BTS | 8960 | MY48365192 | November 18, 2010 | One year |
| 07 | E-field Probe | SPEAG ES3DV3 | 3149 | September 25, 2010 | One year |
| 08 | E-field Probe | SPEAG EX3DV4 | 3617 | July 9, 2010 | One year |
| 09 | DAE | SPEAG DAE4 | 771 | November 21, 2010 | One year |
| 10 | Dipole Validation Kit | SPEAG D835V2 | 443 | February 26, 2010 | Two years |
| 11 | Dipole Validation Kit | SPEAG D1900V2 | 541 | February 26, 2010 | Two years |
| 12 | Dipole Validation Kit | SPEAG D2450V2 | 853 | September 27, 2010 | Two years |

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 reference 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 phantom was measured at a distance of 3.9 mm from the inner surface of the shell. The area covered the entire dimension of the flat phantom and the horizontal grid spacing was 10 mm x 10 mm. Based on this data, the area of the maximum absorption was determined by spline interpolation.

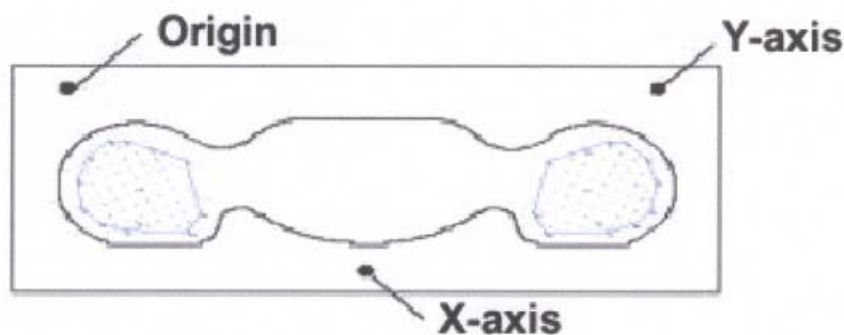
Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7 x 7x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

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.

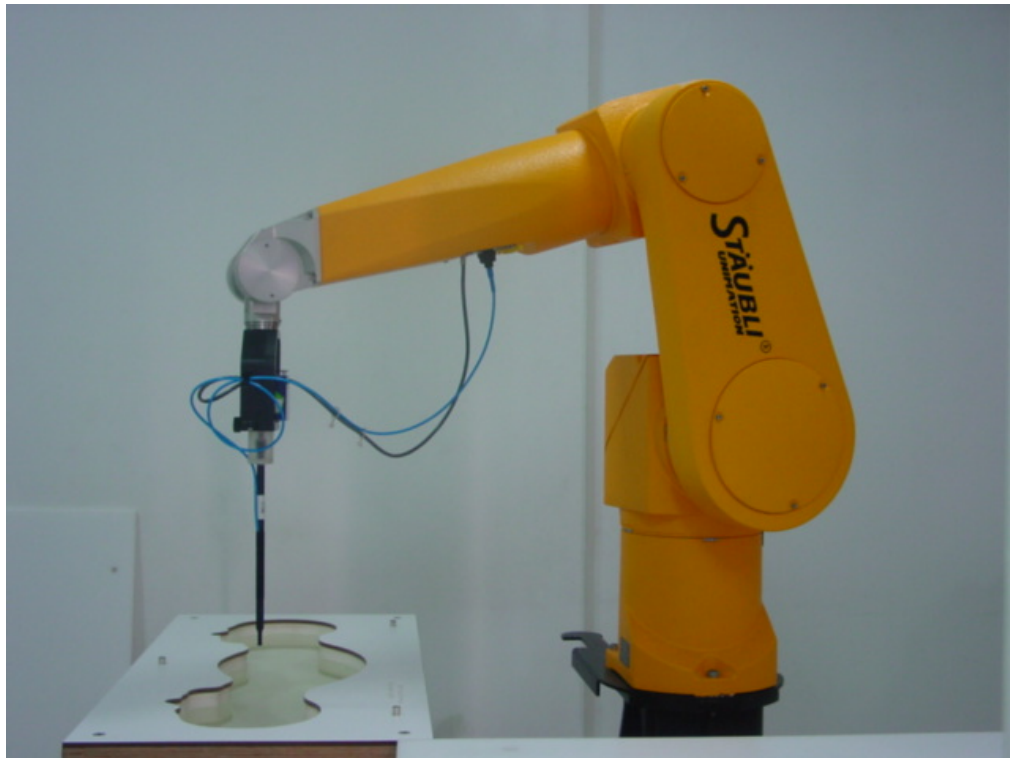
c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

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.

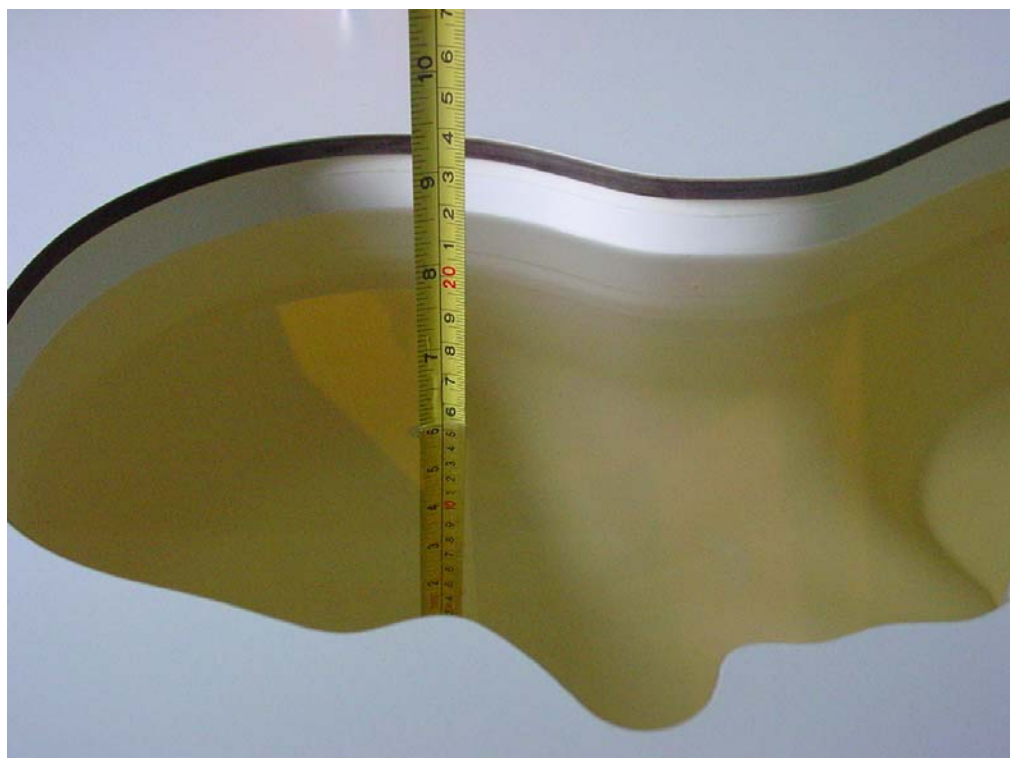


Picture A: SAR Measurement Points in Area Scan

ANNEX B TEST LAYOUT



Picture B1: Specific Absorption Rate Test Layout



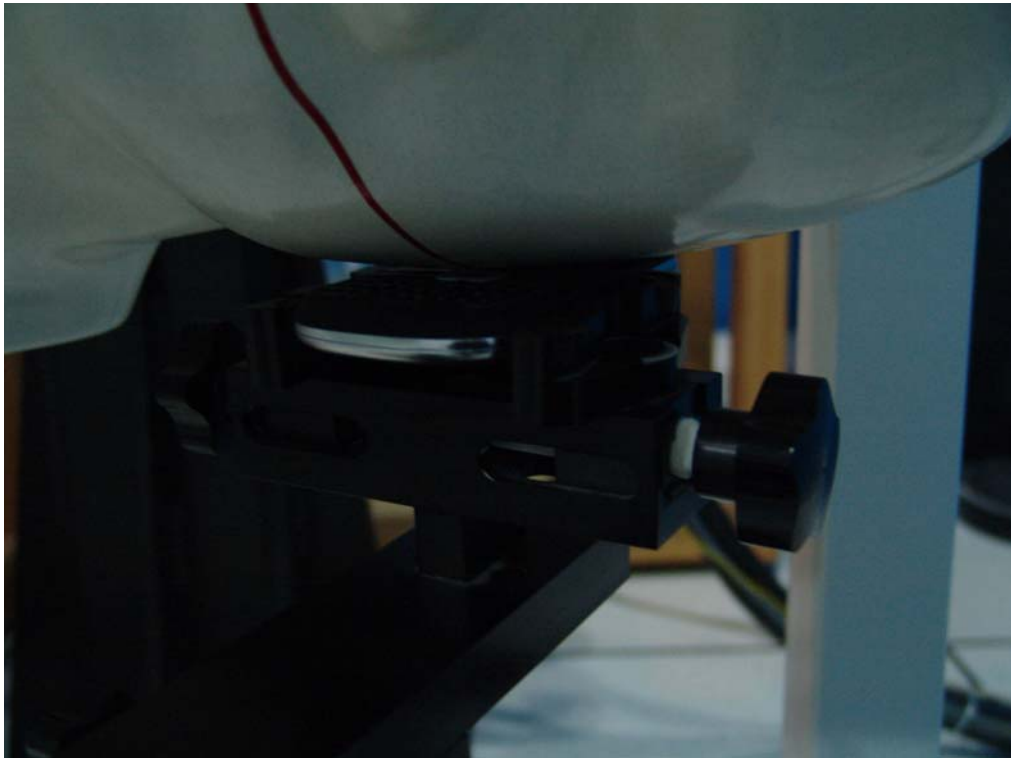
Picture B2: Liquid depth in the Flat Phantom (850 MHz)



Picture B3 Liquid depth in the Flat Phantom (1900MHz)



Picture B4 Liquid depth in the Flat Phantom (2450MHz)



Picture B5: Left Hand Touch Cheek Position



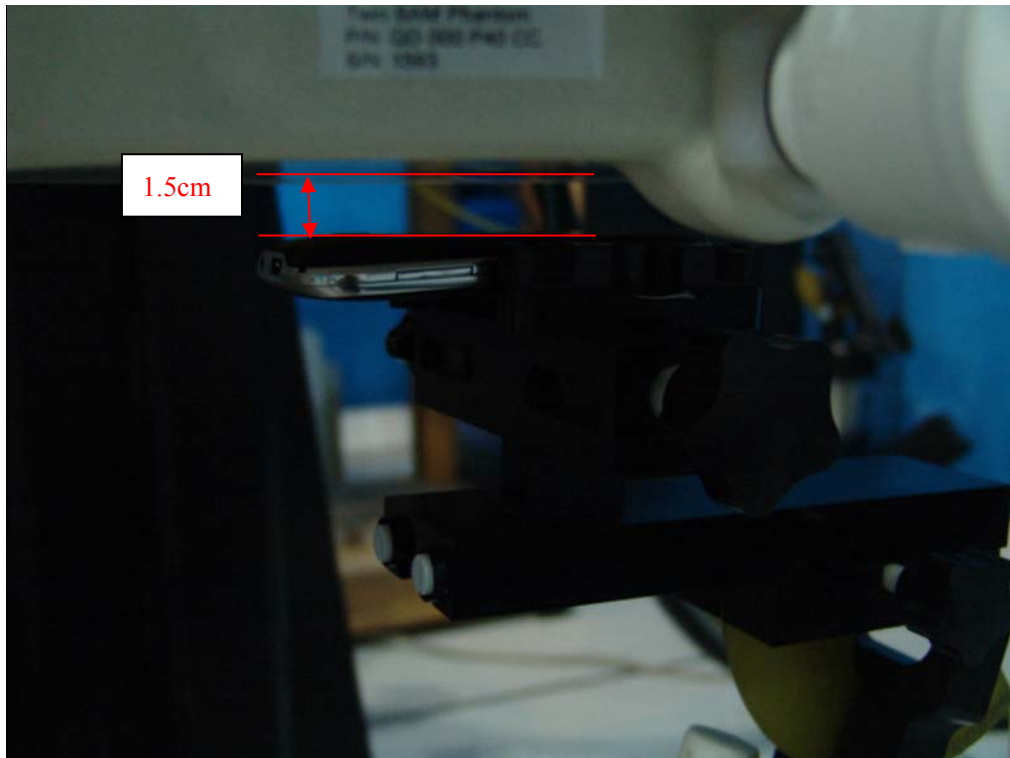
Picture B6: Left Hand Tilt 15° Position



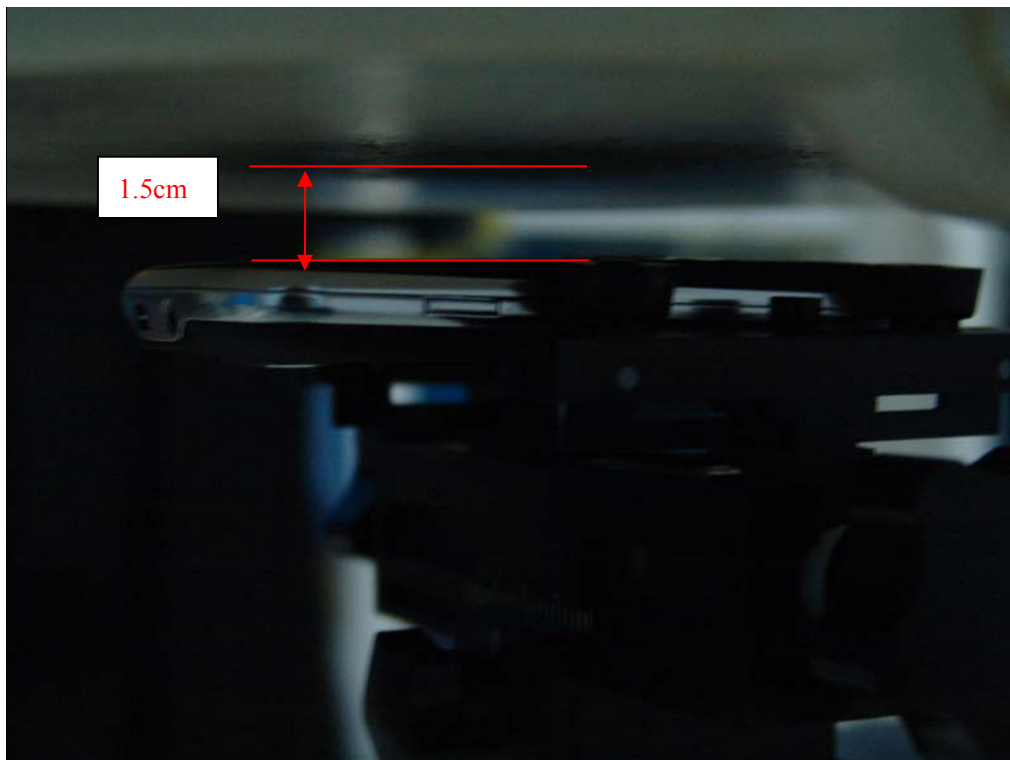
Picture B7: Right Hand Touch Cheek Position



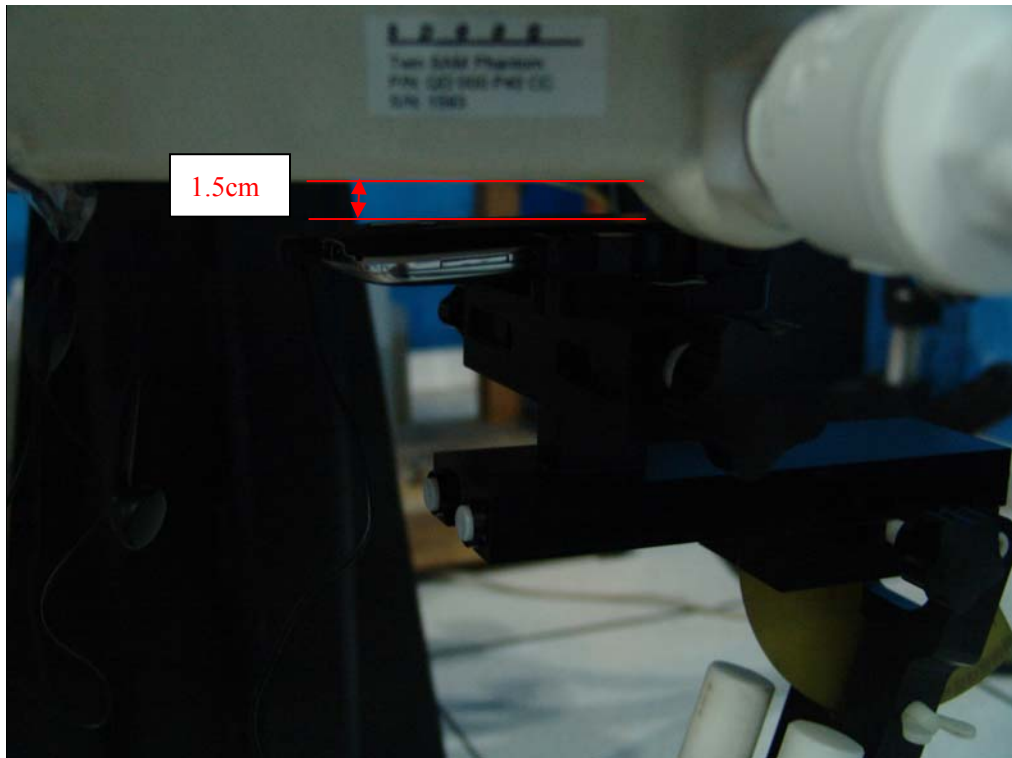
Picture B8: Right Hand Tilt 15° Position



Picture B9: Body-worn Position (towards ground, the distance from handset to the bottom of the Phantom is 1.5cm)



Picture B10: Body-worn Position (towards phantom, the distance from handset to the bottom of the Phantom is 1.5cm)



Picture B11: Body-worn Position with Headset (towards ground, the distance from handset to the bottom of the Phantom is 1.5cm)

ANNEX C GRAPH RESULTS

850 Left Cheek High

Date/Time: 2011-5-27 8:09:31

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.93$ mho/m; $\epsilon_r = 41.7$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 848.8 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Cheek High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.904 mW/g

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

Reference Value = 7.51 V/m; Power Drift = -0.126 dB

Peak SAR (extrapolated) = 1.05 W/kg

SAR(1 g) = 0.835 mW/g; SAR(10 g) = 0.610 mW/g

Maximum value of SAR (measured) = 0.887 mW/g

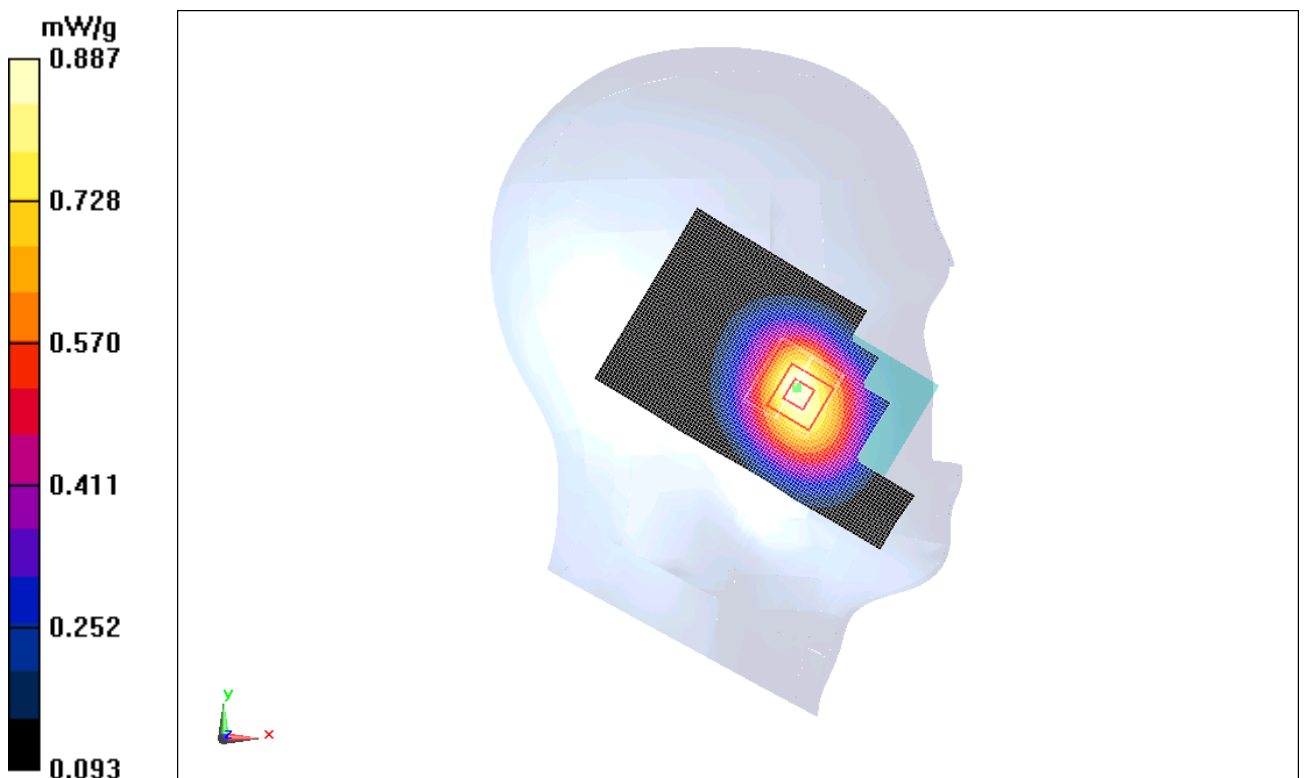


Fig. 1 850MHz CH251

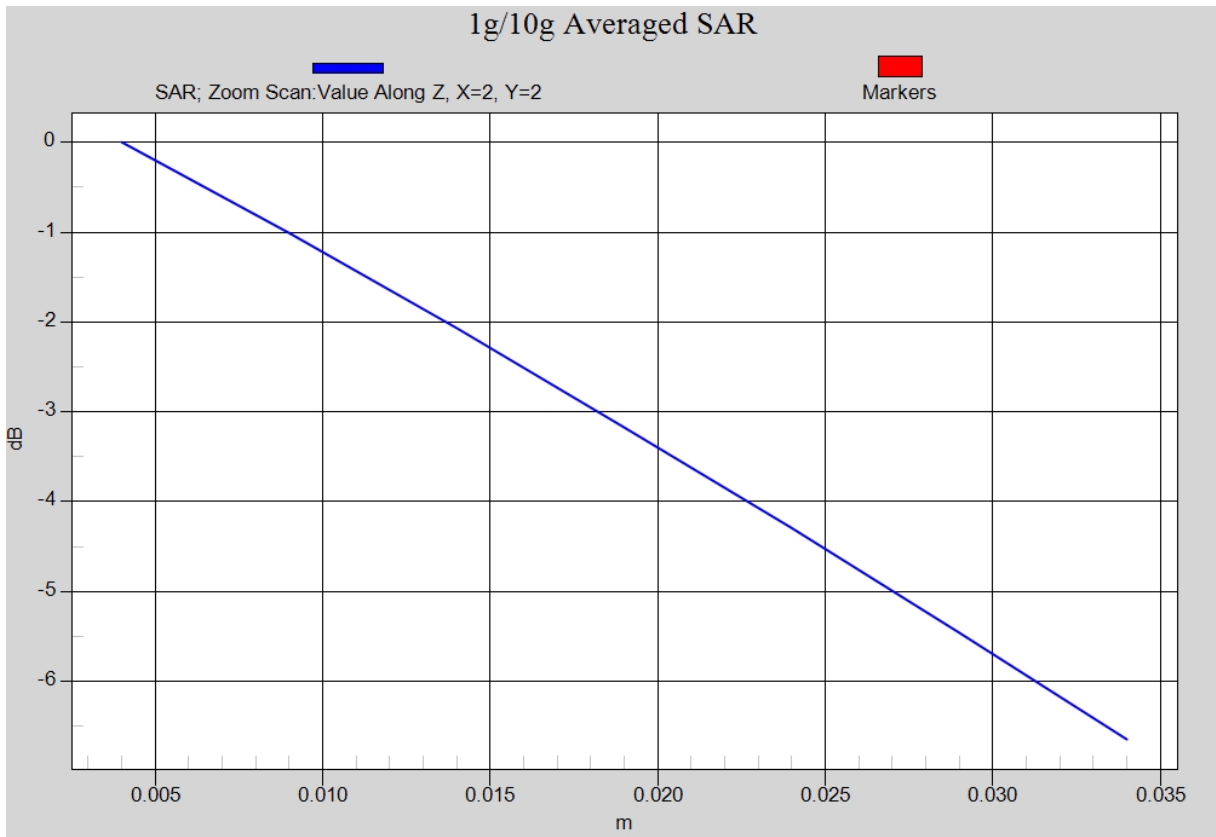


Fig. 1-1 Z-Scan at power reference point (850 MHz CH251)

850 Left Cheek Middle

Date/Time: 2011-5-27 8:23:44

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.918$ mho/m; $\epsilon_r = 41.8$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 836.6 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.879 mW/g

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

Reference Value = 7.33 V/m; Power Drift = -0.059 dB

Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.819 mW/g; SAR(10 g) = 0.601 mW/g

Maximum value of SAR (measured) = 0.866 mW/g

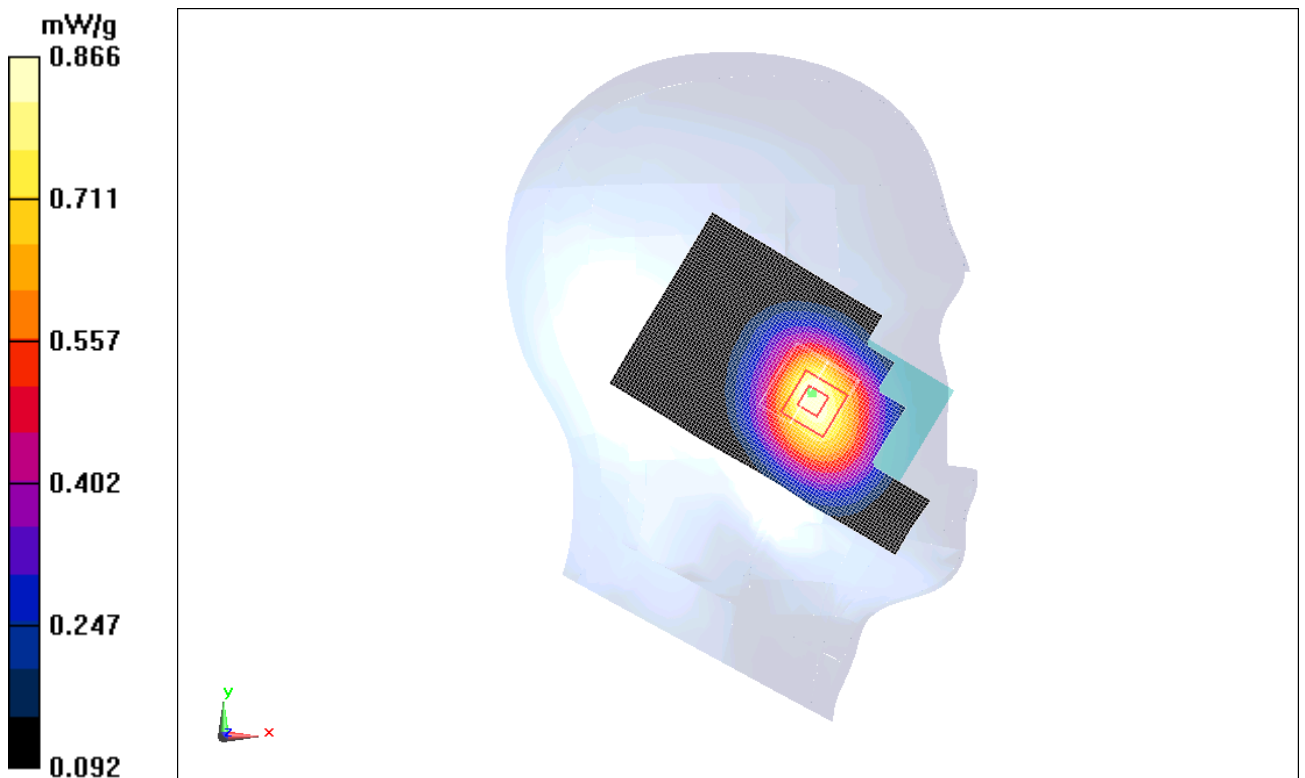


Fig. 2 850 MHz CH190

850 Left Cheek Low

Date/Time: 2011-5-27 8:38:03

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used: $f = 825$ MHz; $\sigma = 0.906$ mho/m; $\epsilon_r = 41.8$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 824.2 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Cheek Low/Area Scan (61x101x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.850 mW/g

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

Reference Value = 7.42 V/m; Power Drift = 0.019 dB

Peak SAR (extrapolated) = 0.997 W/kg

SAR(1 g) = 0.791 mW/g; SAR(10 g) = 0.582 mW/g

Maximum value of SAR (measured) = 0.836 mW/g

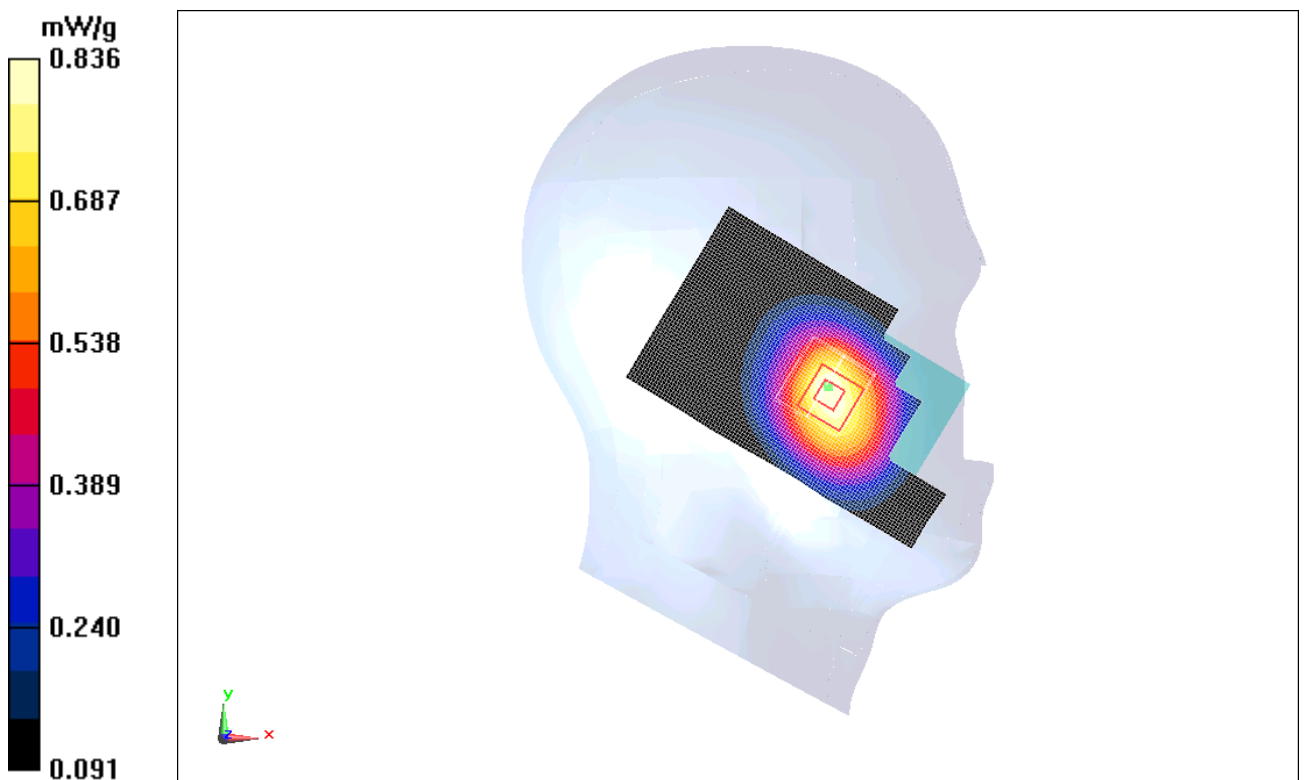


Fig. 3 850 MHz CH128

850 Left Tilt High

Date/Time: 2011-5-27 8:52:34

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.93$ mho/m; $\epsilon_r = 41.7$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 848.8 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Tilt High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.385 mW/g

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

Reference Value = 11.7 V/m; Power Drift = -0.032 dB

Peak SAR (extrapolated) = 0.448 W/kg

SAR(1 g) = 0.364 mW/g; SAR(10 g) = 0.278 mW/g

Maximum value of SAR (measured) = 0.382 mW/g

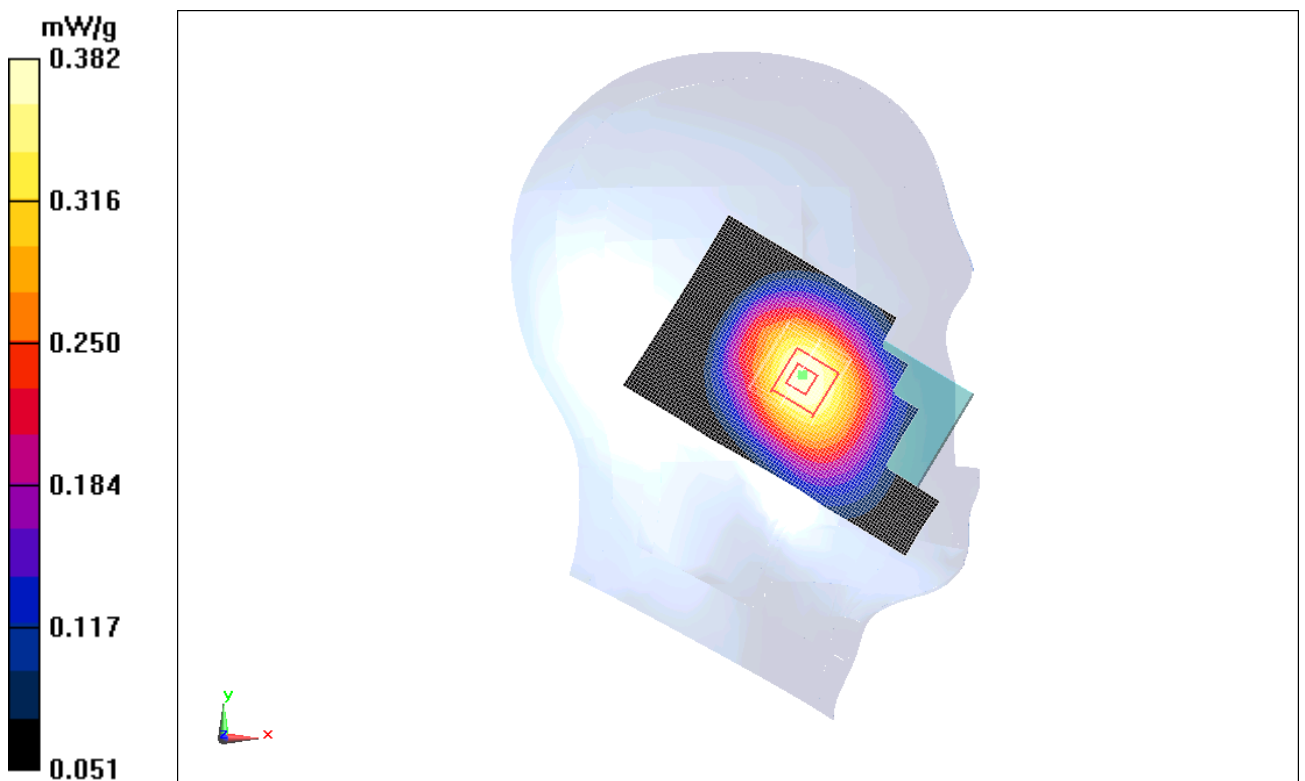


Fig.4 850 MHz CH251

850 Left Tilt Middle

Date/Time: 2011-5-27 9:06:50

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.918$ mho/m; $\epsilon_r = 41.8$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 836.6 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.376 mW/g

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

Reference Value = 11.8 V/m; Power Drift = -0.102 dB

Peak SAR (extrapolated) = 0.434 W/kg

SAR(1 g) = 0.351 mW/g; SAR(10 g) = 0.269 mW/g

Maximum value of SAR (measured) = 0.370 mW/g

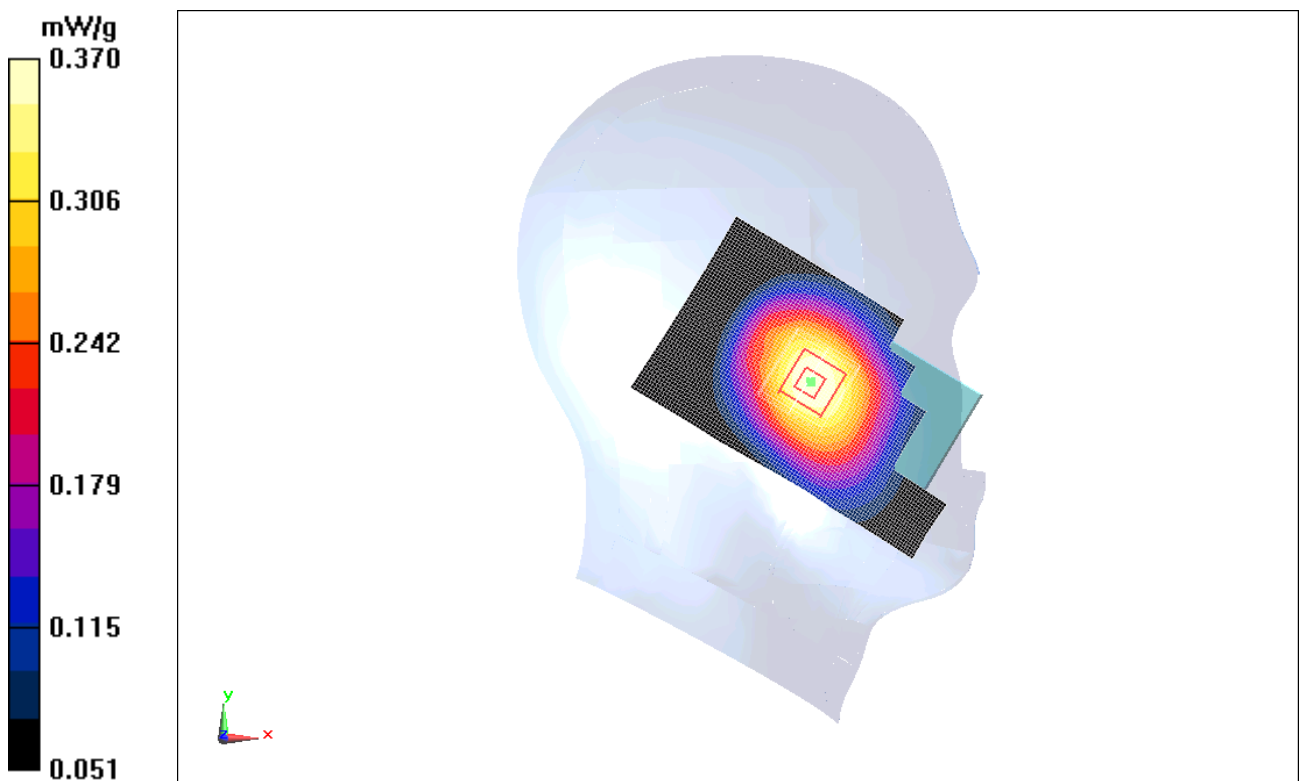


Fig.5 850 MHz CH190

850 Left Tilt Low

Date/Time: 2011-5-27 9:21:08

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used: $f = 825$ MHz; $\sigma = 0.906$ mho/m; $\epsilon_r = 41.8$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 824.2 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Tilt Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.353 mW/g

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

Reference Value = 11.6 V/m; Power Drift = 0.026 dB

Peak SAR (extrapolated) = 0.412 W/kg

SAR(1 g) = 0.336 mW/g; SAR(10 g) = 0.257 mW/g

Maximum value of SAR (measured) = 0.355 mW/g

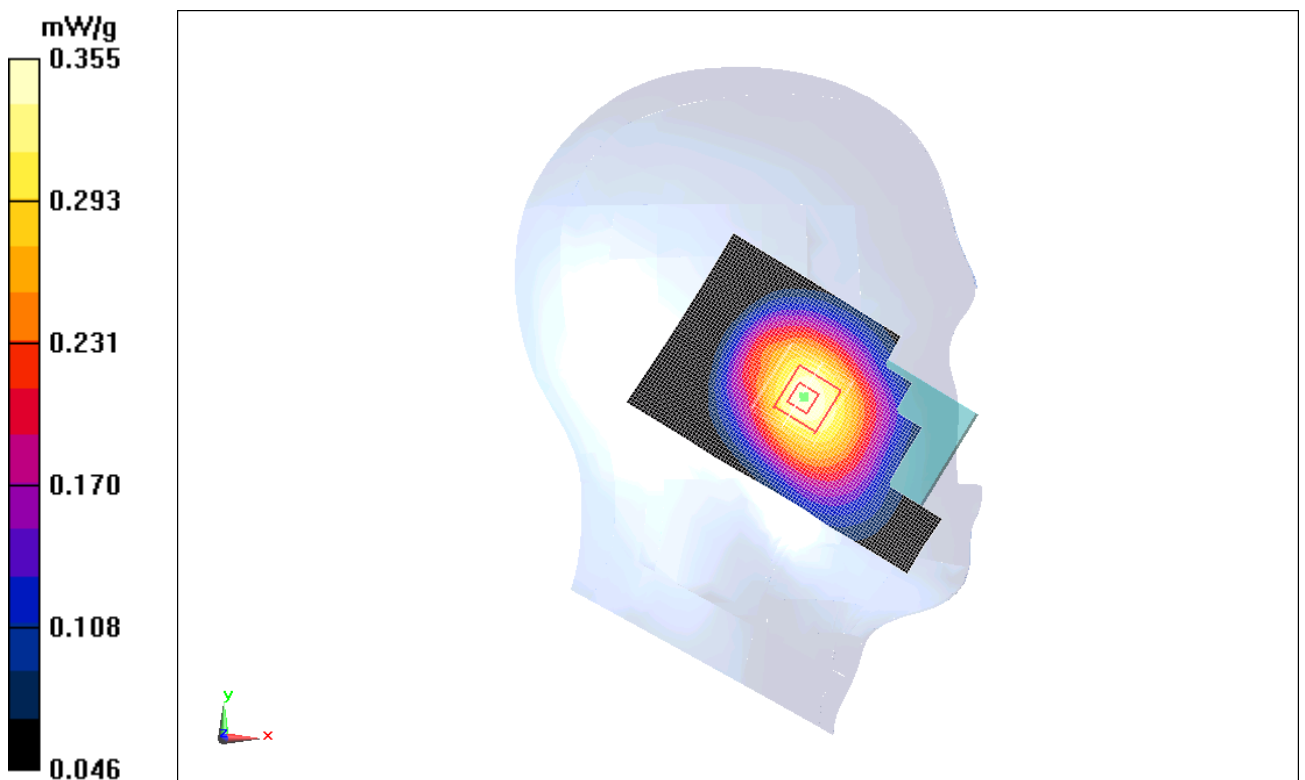


Fig. 6 850 MHz CH128

850 Right Cheek High

Date/Time: 2011-5-27 9:36:38

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.93$ mho/m; $\epsilon_r = 41.7$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 848.8 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Cheek High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.908 mW/g

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

Reference Value = 8.84 V/m; Power Drift = -0.033 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.814 mW/g; SAR(10 g) = 0.595 mW/g

Maximum value of SAR (measured) = 0.853 mW/g

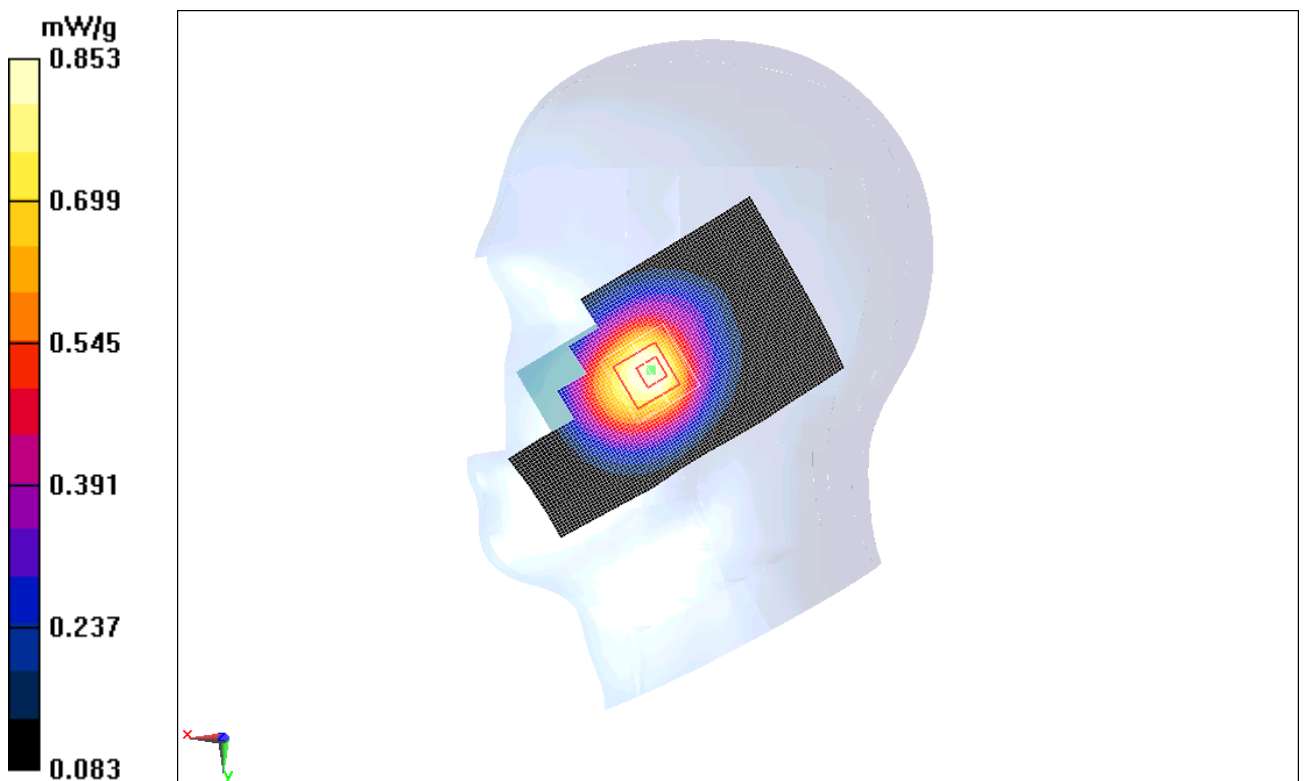


Fig. 7 850 MHz CH251

850 Right Cheek Middle

Date/Time: 2011-5-27 9:50:56

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.918$ mho/m; $\epsilon_r = 41.8$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 836.6 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.890 mW/g

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

Reference Value = 9.03 V/m; Power Drift = -0.044 dB

Peak SAR (extrapolated) = 1.07 W/kg

SAR(1 g) = 0.829 mW/g; SAR(10 g) = 0.606 mW/g

Maximum value of SAR (measured) = 0.861 mW/g

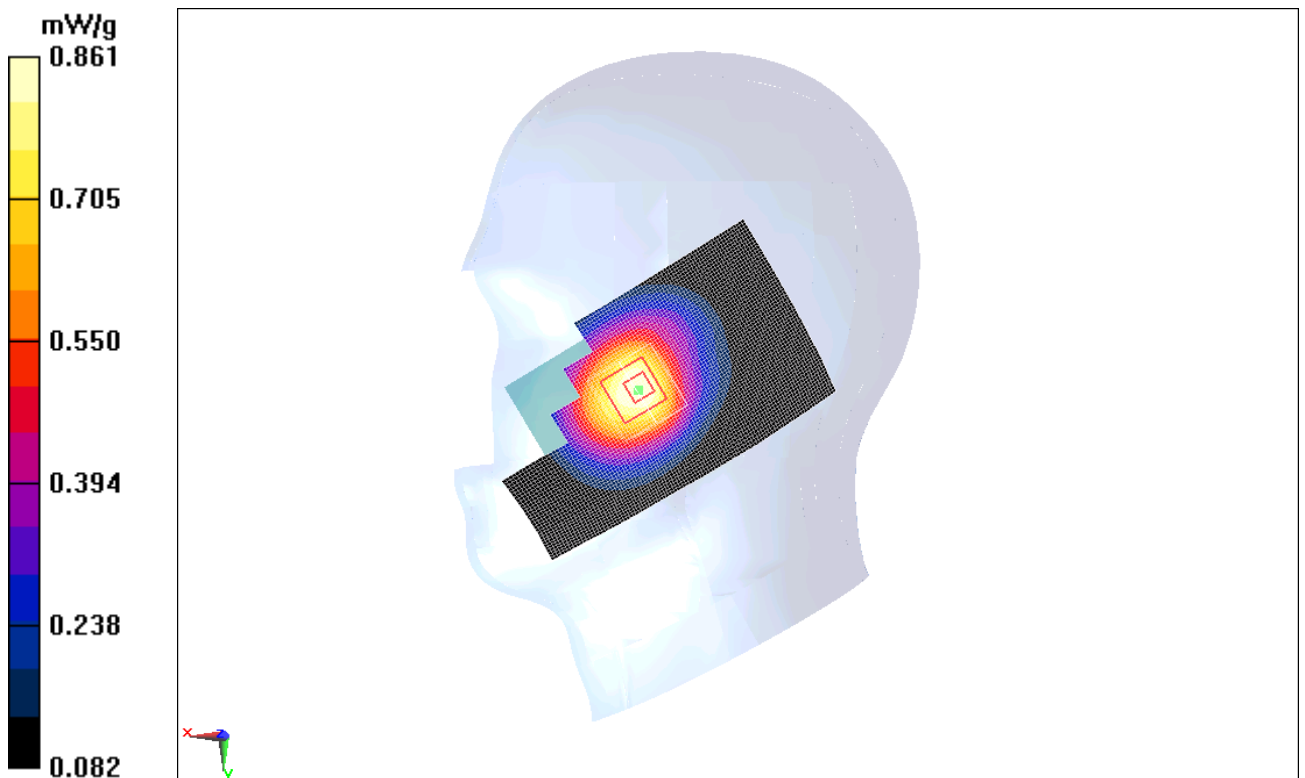


Fig. 8 850 MHz CH190

850 Right Cheek Low

Date/Time: 2011-5-27 10:05:14

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used: $f = 825$ MHz; $\sigma = 0.906$ mho/m; $\epsilon_r = 41.8$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 824.2 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Cheek Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.880 mW/g

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

Reference Value = 9.15 V/m; Power Drift = 0.00443 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.812 mW/g; SAR(10 g) = 0.598 mW/g

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

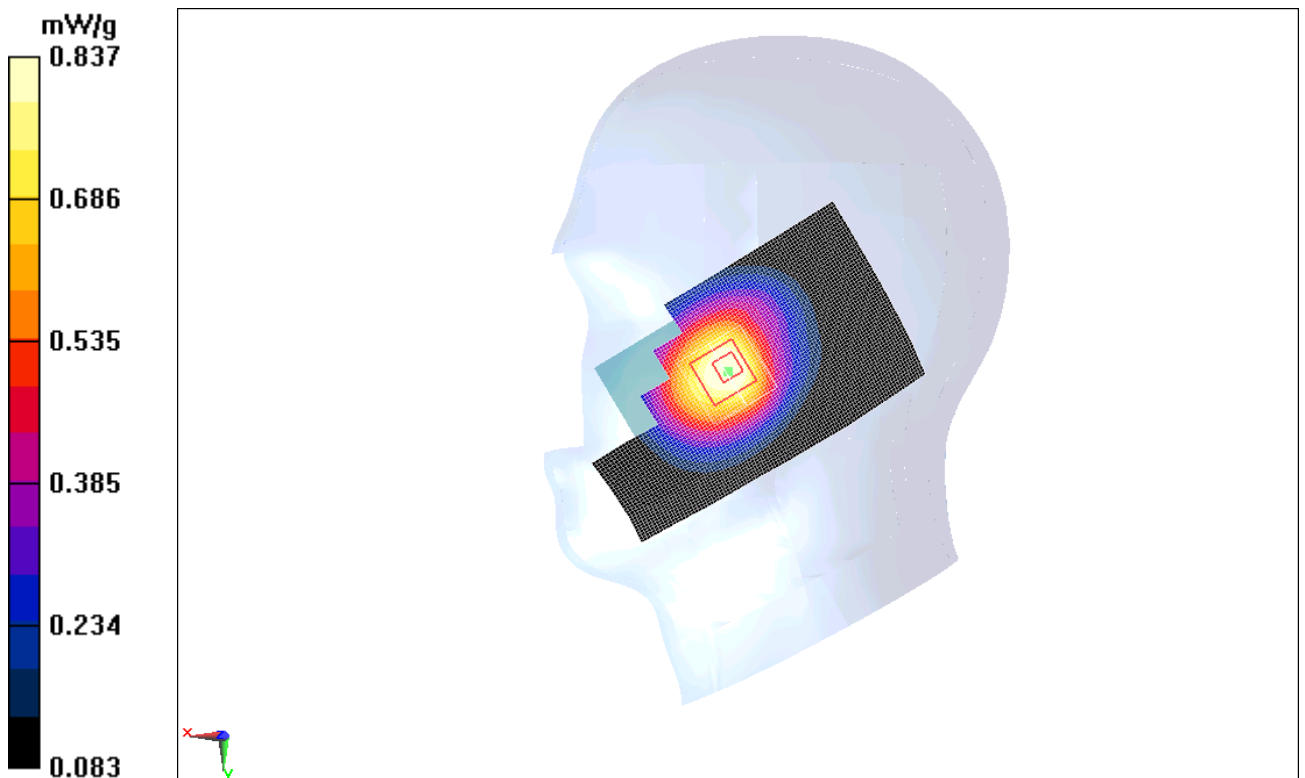


Fig. 9 850 MHz CH128

850 Right Tilt High

Date/Time: 2011-5-27 10:19:50

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.93$ mho/m; $\epsilon_r = 41.7$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 848.8 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Tilt High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.400 mW/g

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

Reference Value = 12.9 V/m; Power Drift = -0.098 dB

Peak SAR (extrapolated) = 0.465 W/kg

SAR(1 g) = 0.378 mW/g; SAR(10 g) = 0.288 mW/g

Maximum value of SAR (measured) = 0.392 mW/g



Fig.10 850 MHz CH251

850 Right Tilt Middle

Date/Time: 2011-5-27 10:34:05

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.918$ mho/m; $\epsilon_r = 41.8$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 836.6 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.410 mW/g

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

Reference Value = 13 V/m; Power Drift = -0.032 dB

Peak SAR (extrapolated) = 0.475 W/kg

SAR(1 g) = 0.388 mW/g; SAR(10 g) = 0.297 mW/g

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

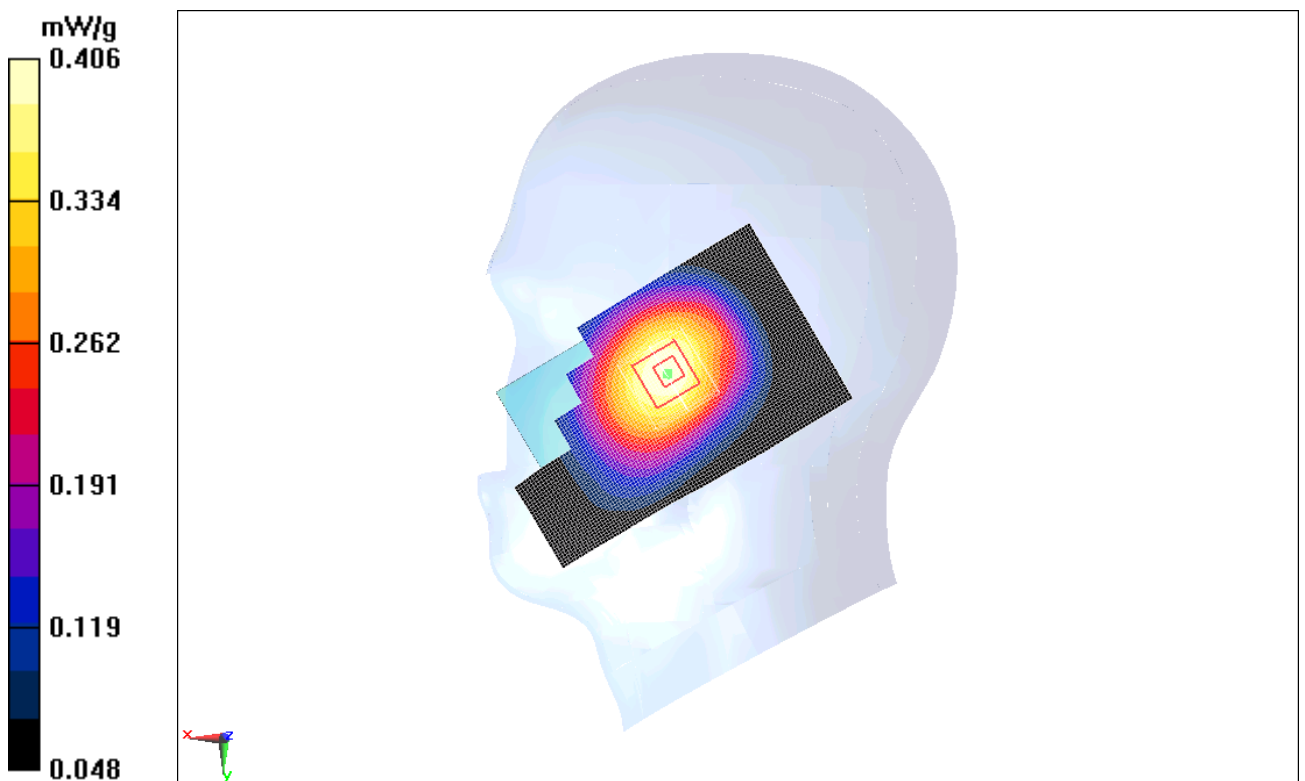


Fig.11 850 MHz CH190

850 Right Tilt Low

Date/Time: 2011-5-27 10:48:24

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used: $f = 825 \text{ MHz}$; $\sigma = 0.906 \text{ mho/m}$; $\epsilon_r = 41.8$; $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 824.2 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Tilt Low/Area Scan (61x101x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 0.403 mW/g

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

Reference Value = 13.1 V/m ; Power Drift = 0.045 dB

Peak SAR (extrapolated) = 0.466 W/kg

SAR(1 g) = 0.381 mW/g ; SAR(10 g) = 0.293 mW/g

Maximum value of SAR (measured) = 0.397 mW/g



Fig. 12 850 MHz CH128

1900 Left Cheek High

Date/Time: 2011-5-28 13:44:03

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40.6$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Cheek High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.731 mW/g

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

Reference Value = 9.13 V/m; Power Drift = -0.159 dB

Peak SAR (extrapolated) = 1.04 W/kg

SAR(1 g) = 0.659 mW/g; SAR(10 g) = 0.377 mW/g

Maximum value of SAR (measured) = 0.725 mW/g

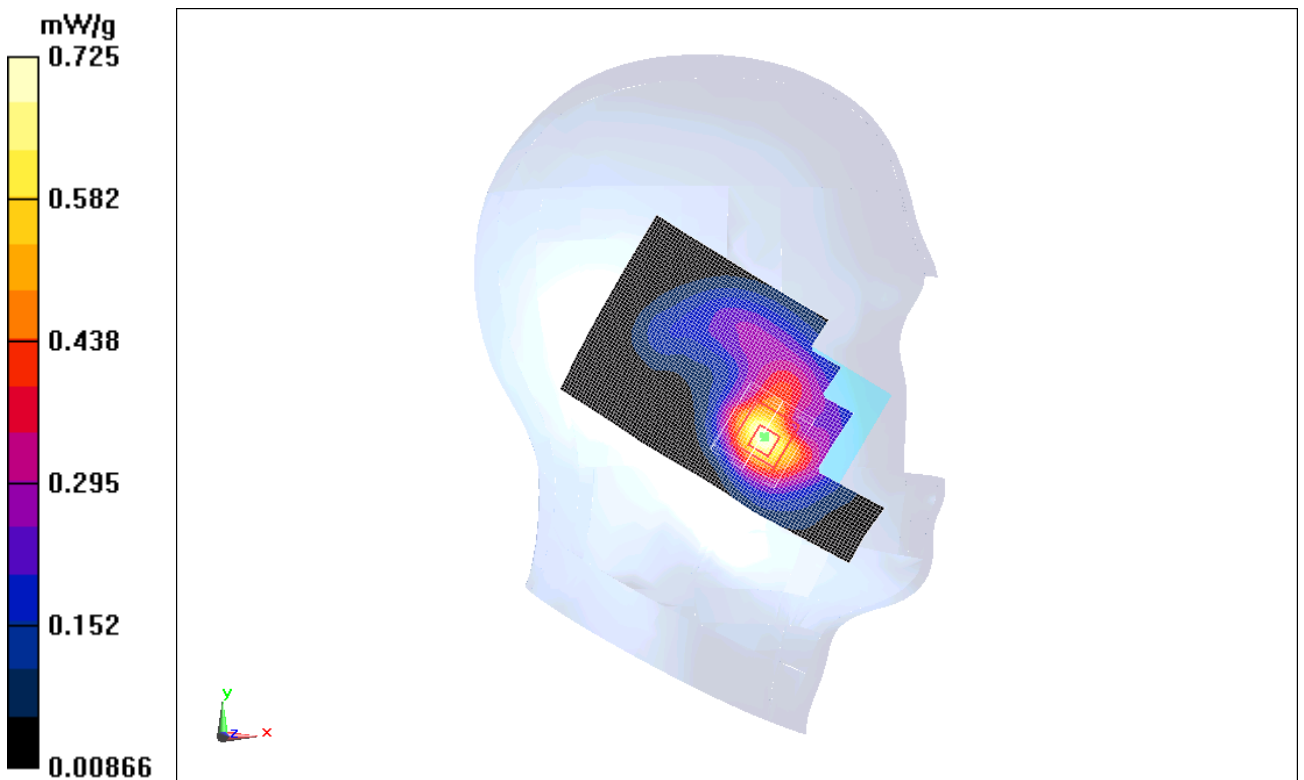


Fig. 13 1900 MHz CH810

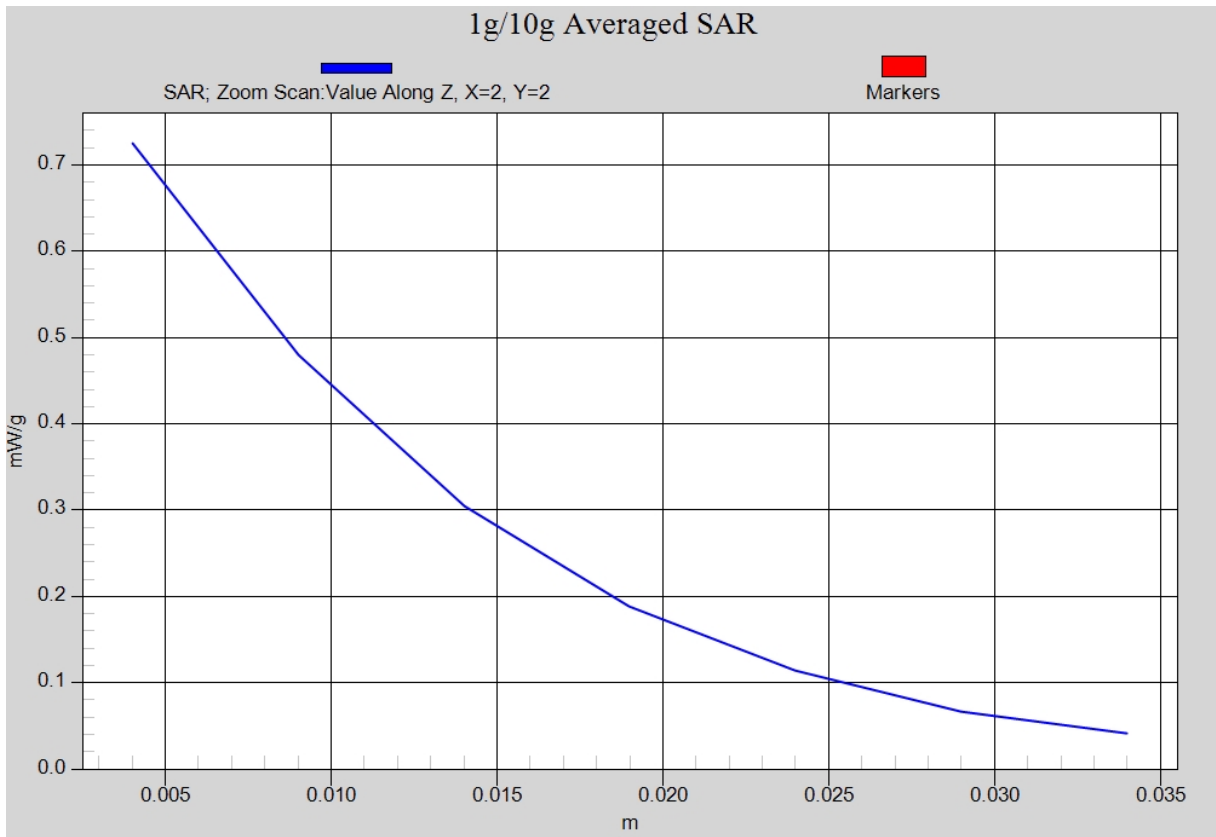


Fig. 13-1 Z-Scan at power reference point (1900 MHz CH810)

1900 Left Cheek Middle

Date/Time: 2011-5-28 13:58:21

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.40$ mho/m; $\epsilon_r = 40.7$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1880 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.621 mW/g

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

Reference Value = 6.51 V/m; Power Drift = 0.124 dB

Peak SAR (extrapolated) = 0.934 W/kg

SAR(1 g) = 0.583 mW/g; SAR(10 g) = 0.331 mW/g

Maximum value of SAR (measured) = 0.645 mW/g

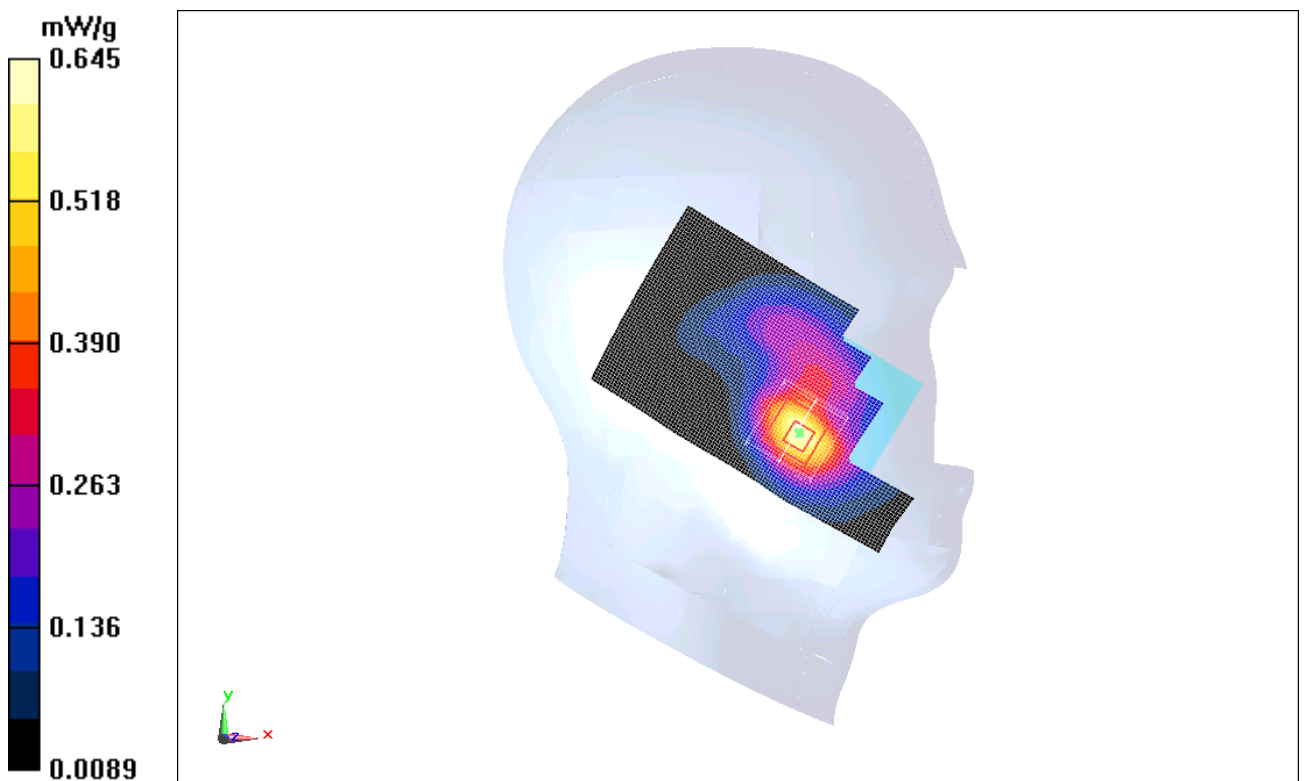


Fig. 14 1900 MHz CH661

1900 Left Cheek Low

Date/Time: 2011-5-28 14:12:42

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1850.2 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Cheek Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

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

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

Reference Value = 6.13 V/m; Power Drift = -0.0062 dB

Peak SAR (extrapolated) = 0.896 W/kg

SAR(1 g) = 0.565 mW/g; SAR(10 g) = 0.323 mW/g

Maximum value of SAR (measured) = 0.628 mW/g

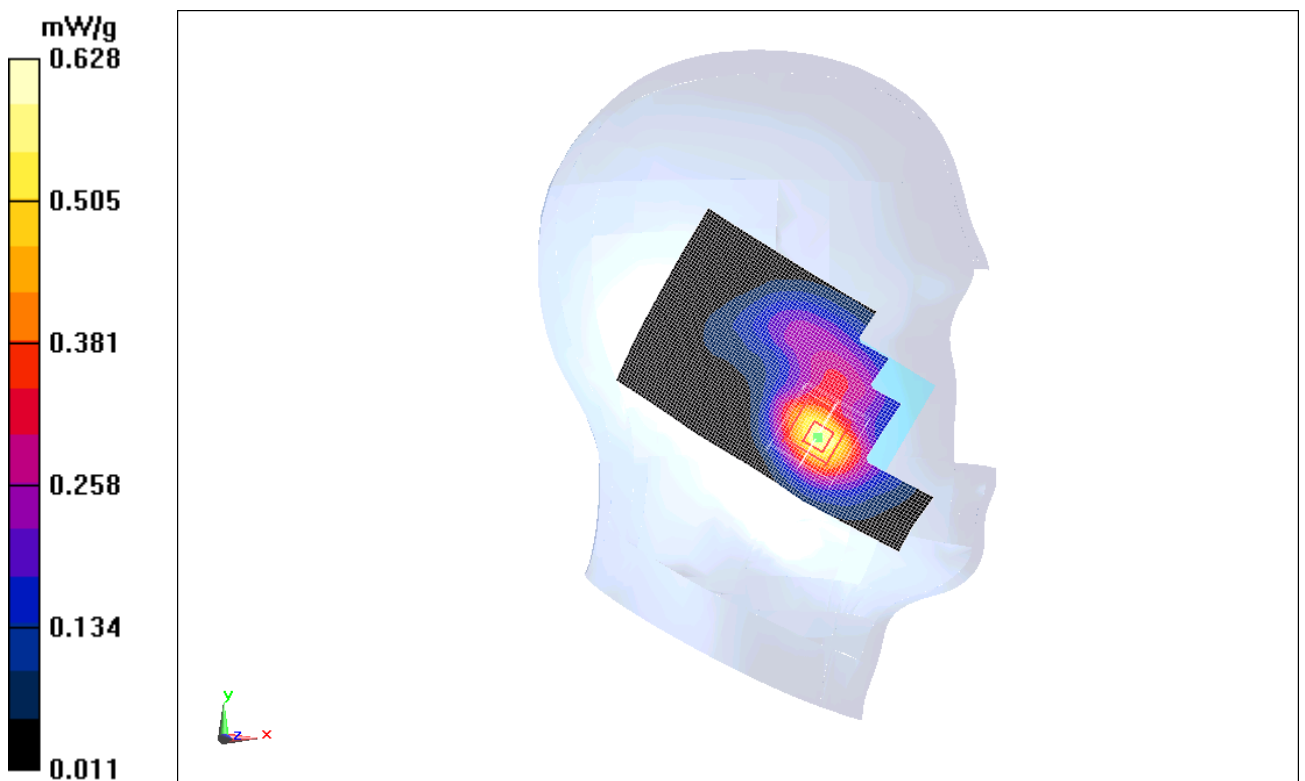


Fig. 15 1900 MHz CH512

1900 Left Tilt High

Date/Time: 2011-5-28 14:27:09

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40.6$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Tilt High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.214 mW/g

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

Reference Value = 10.4 V/m; Power Drift = -0.076 dB

Peak SAR (extrapolated) = 0.295 W/kg

SAR(1 g) = 0.179 mW/g; SAR(10 g) = 0.107 mW/g

Maximum value of SAR (measured) = 0.195 mW/g

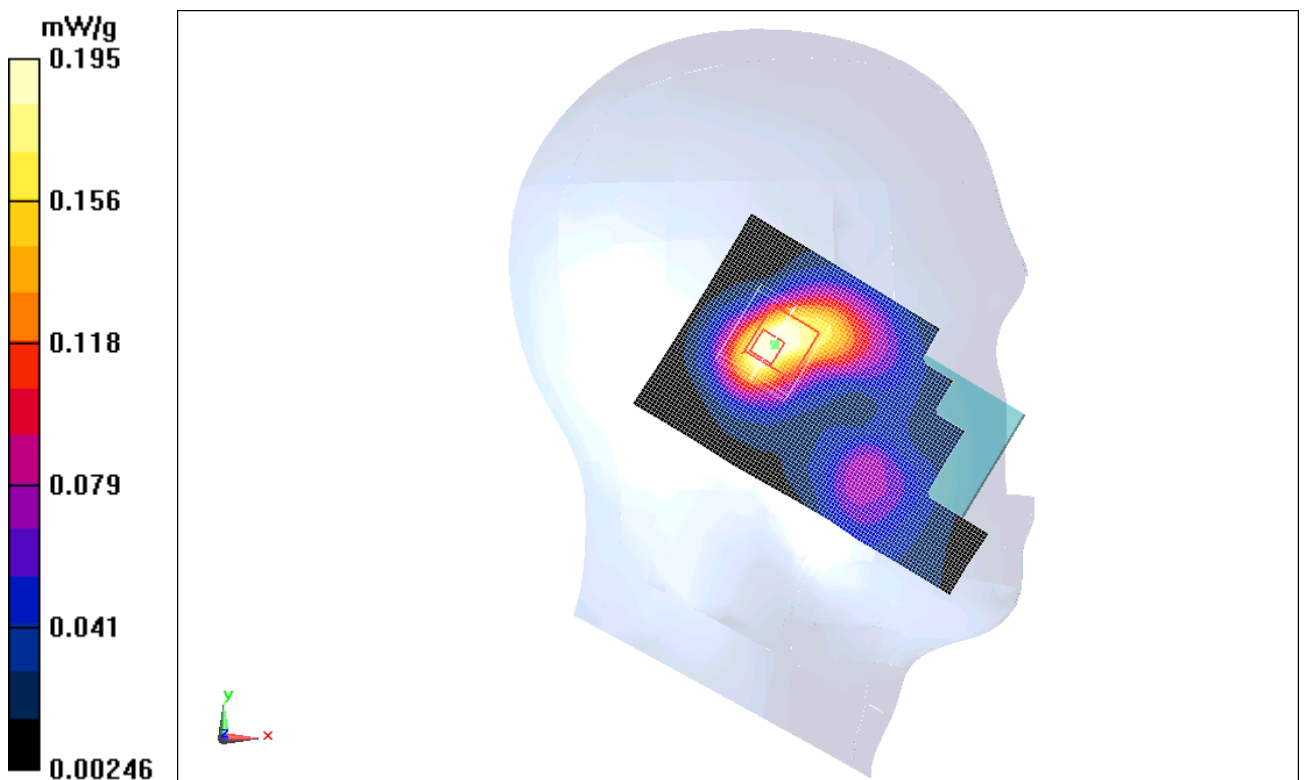


Fig.16 1900 MHz CH810

1900 Left Tilt Middle

Date/Time: 2011-5-28 14:41:30

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.40$ mho/m; $\epsilon_r = 40.7$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1880 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.246 mW/g

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

Reference Value = 11.2 V/m; Power Drift = 0.000107 dB

Peak SAR (extrapolated) = 0.337 W/kg

SAR(1 g) = 0.211 mW/g; SAR(10 g) = 0.127 mW/g

Maximum value of SAR (measured) = 0.229 mW/g

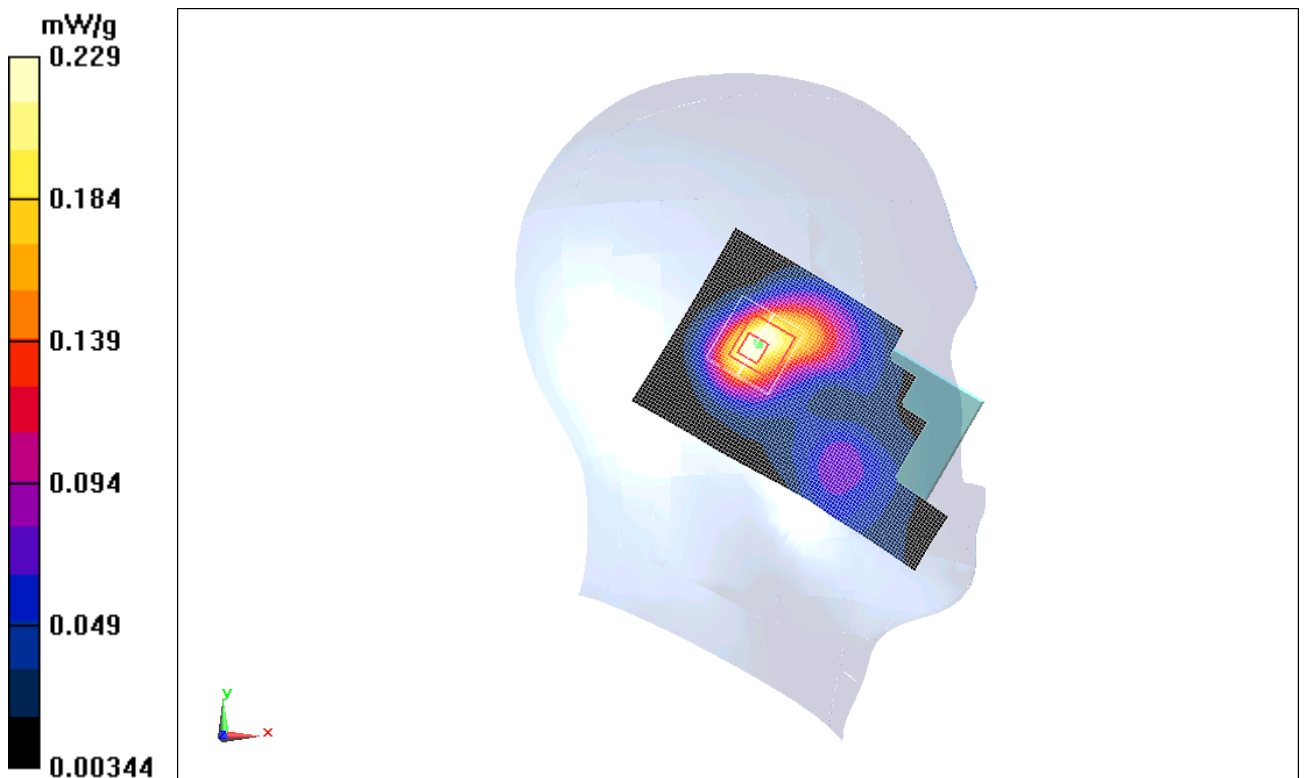


Fig. 17 1900 MHz CH661

1900 Left Tilt Low

Date/Time: 2011-5-28 14:55:48

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1850.2 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Tilt Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.263 mW/g

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

Reference Value = 11.5 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 0.362 W/kg

SAR(1 g) = 0.225 mW/g; SAR(10 g) = 0.136 mW/g

Maximum value of SAR (measured) = 0.246 mW/g

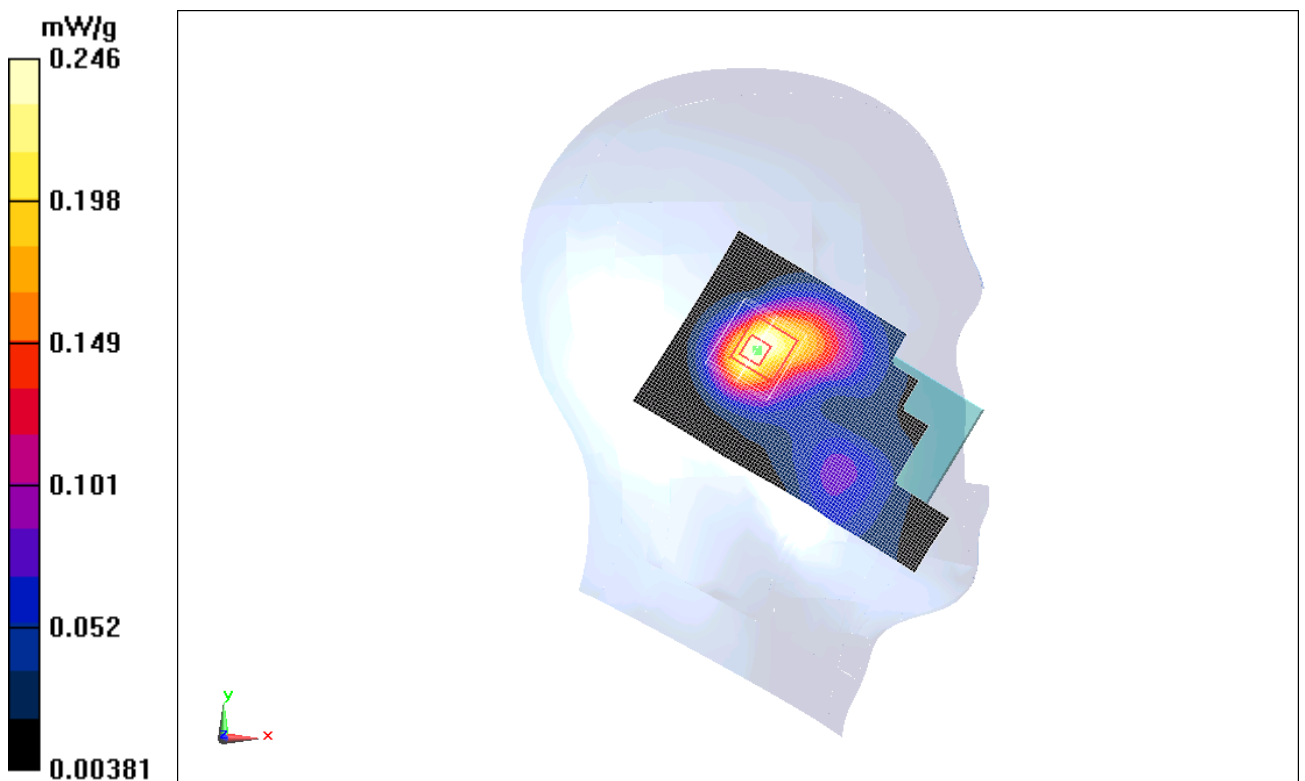


Fig. 18 1900 MHz CH512

1900 Right Cheek High

Date/Time: 2011-5-28 15:10:32

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40.6$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Cheek High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.575 mW/g

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

Reference Value = 10 V/m; Power Drift = 0.110 dB

Peak SAR (extrapolated) = 0.784 W/kg

SAR(1 g) = 0.523 mW/g; SAR(10 g) = 0.328 mW/g

Maximum value of SAR (measured) = 0.562 mW/g

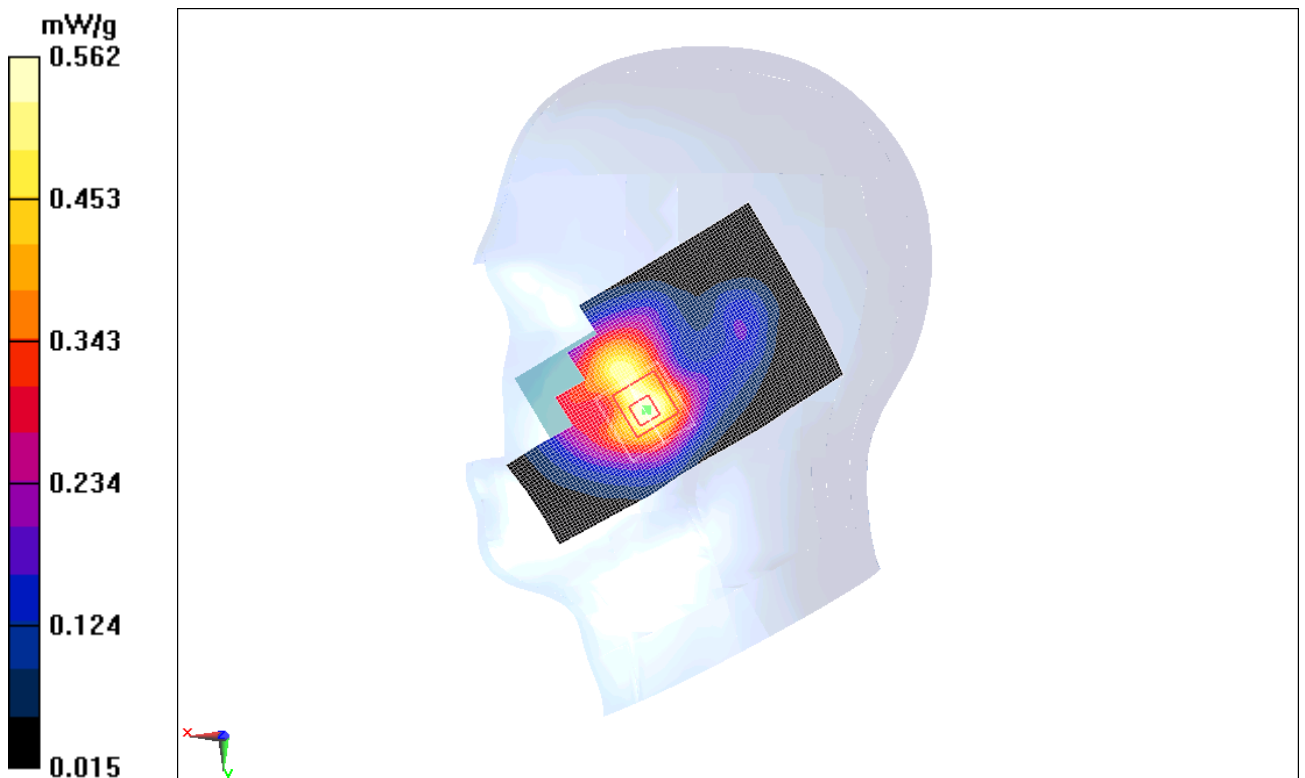


Fig. 19 1900 MHz CH810

1900 Right Cheek Middle

Date/Time: 2011-5-28 15:24:49

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.40$ mho/m; $\epsilon_r = 40.7$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1880 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.569 mW/g

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

Reference Value = 9.69 V/m; Power Drift = -0.062 dB

Peak SAR (extrapolated) = 0.775 W/kg

SAR(1 g) = 0.527 mW/g; SAR(10 g) = 0.332 mW/g

Maximum value of SAR (measured) = 0.558 mW/g

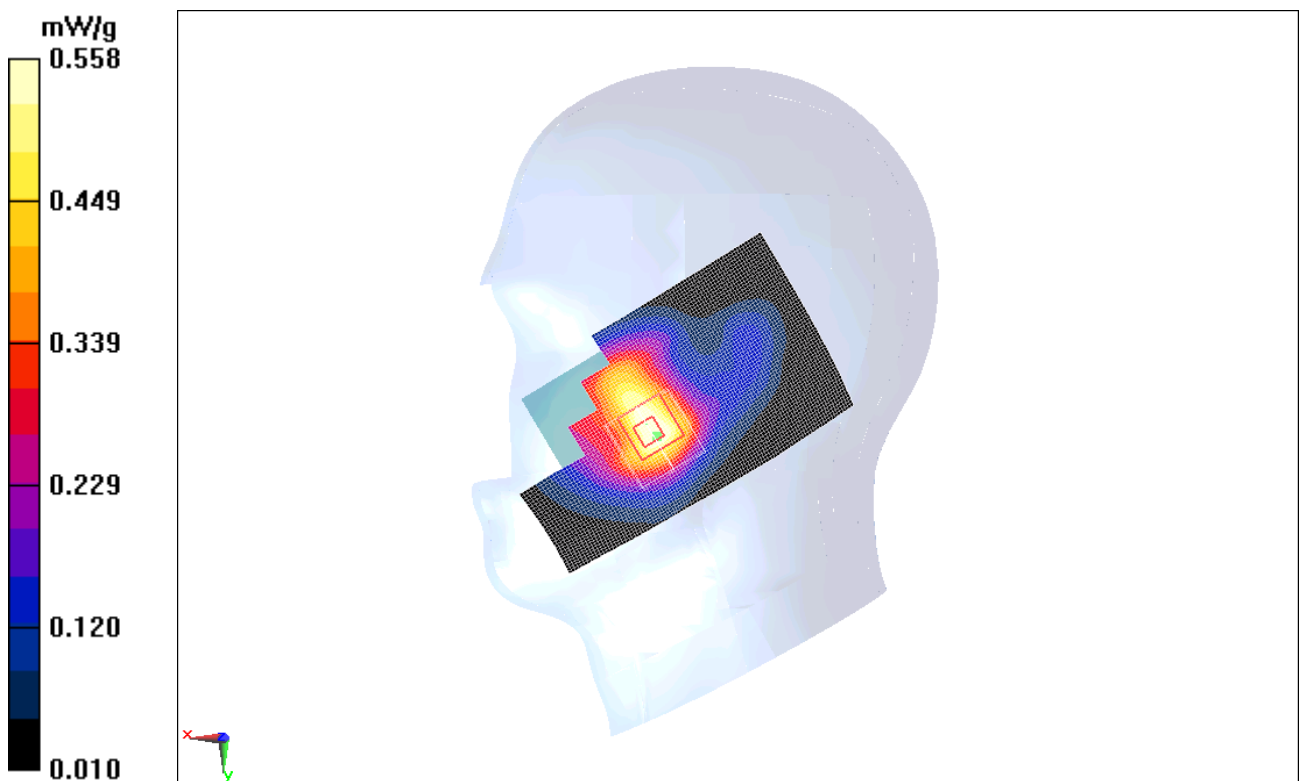


Fig. 20 1900 MHz CH661

1900 Right Cheek Low

Date/Time: 2011-5-28 15:39:11

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1850.2 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Cheek Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.565 mW/g

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

Reference Value = 9.24 V/m; Power Drift = 0.019 dB

Peak SAR (extrapolated) = 0.783 W/kg

SAR(1 g) = 0.531 mW/g; SAR(10 g) = 0.333 mW/g

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

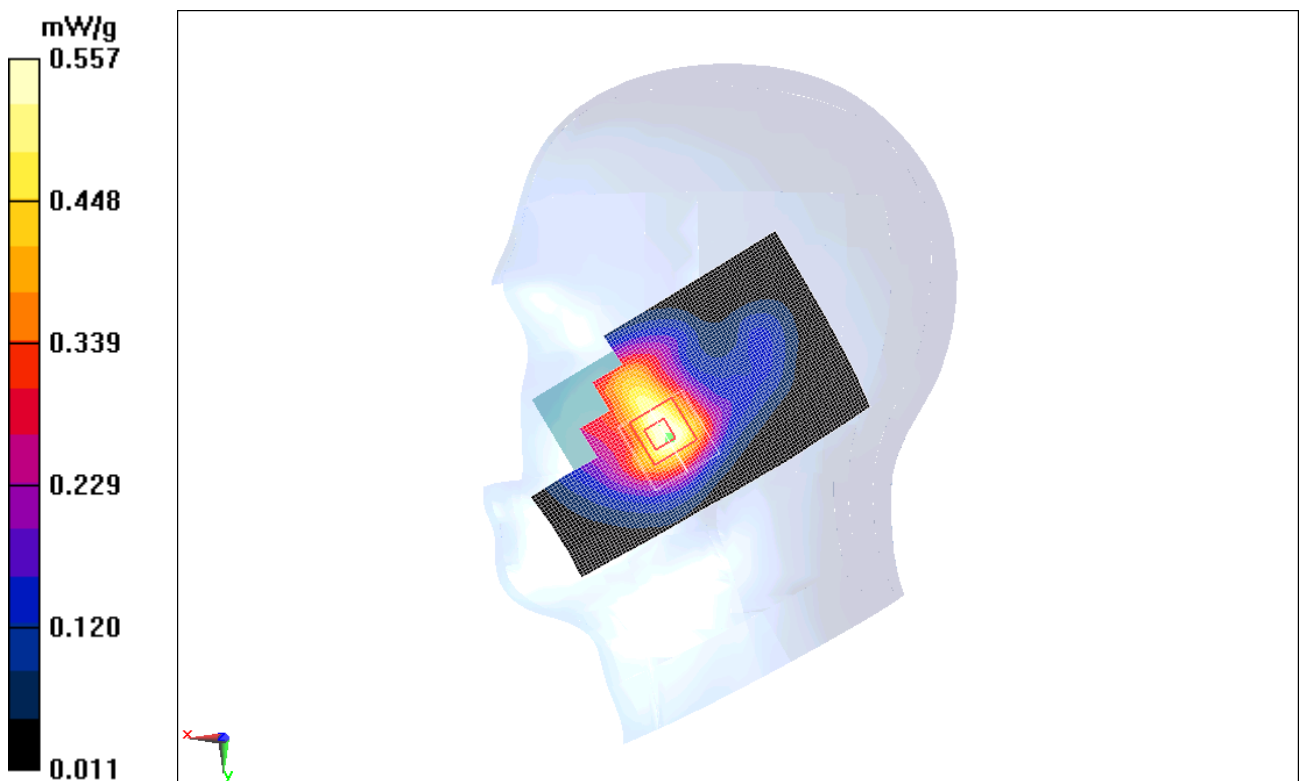


Fig. 21 1900 MHz CH512

1900 Right Tilt High

Date/Time: 2011-5-28 15:53:45

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.42$ mho/m; $\epsilon_r = 40.6$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Tilt High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.257 mW/g

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

Reference Value = 13.1 V/m; Power Drift = 0.054 dB

Peak SAR (extrapolated) = 0.385 W/kg

SAR(1 g) = 0.228 mW/g; SAR(10 g) = 0.128 mW/g

Maximum value of SAR (measured) = 0.251 mW/g

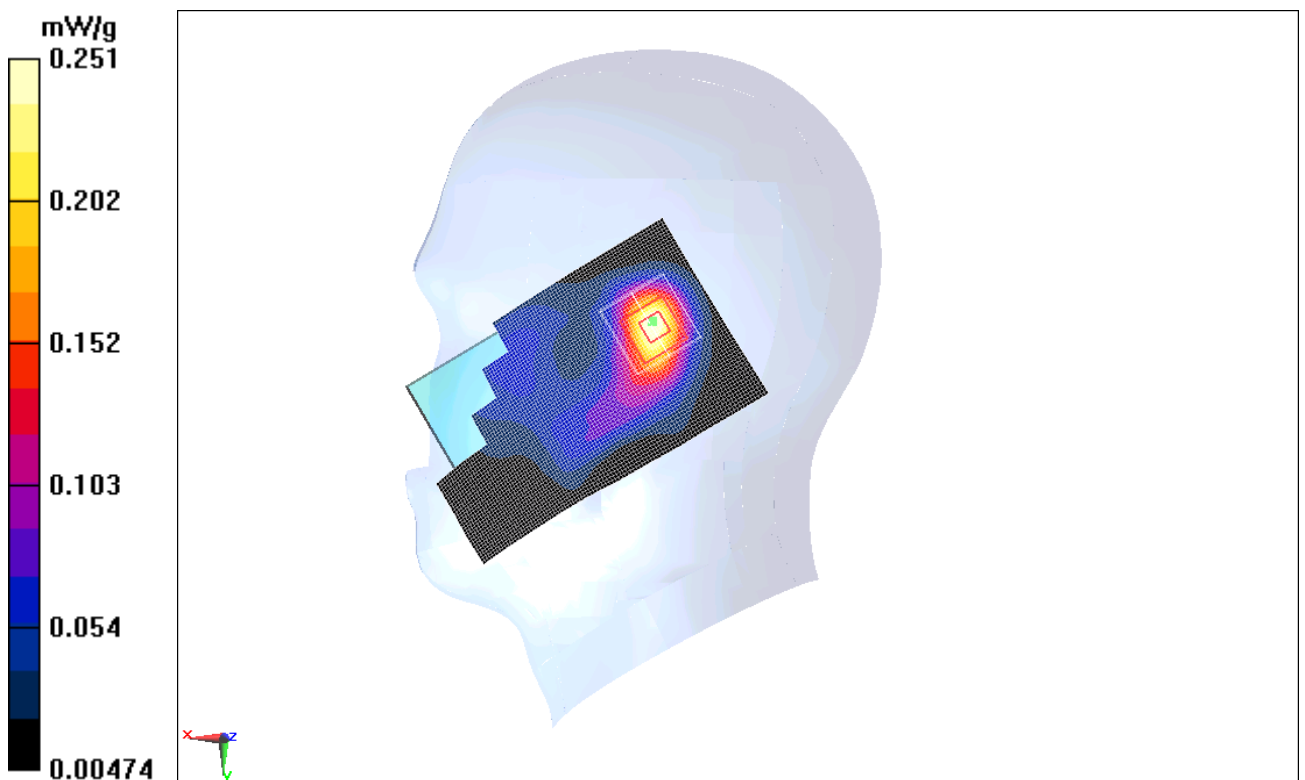


Fig. 22 1900 MHz CH810

1900 Right Tilt Middle

Date/Time: 2011-5-28 16:08:04

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.40$ mho/m; $\epsilon_r = 40.7$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1880 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.276 mW/g

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

Reference Value = 13.6 V/m; Power Drift = 0.00782 dB

Peak SAR (extrapolated) = 0.400 W/kg

SAR(1 g) = 0.243 mW/g; SAR(10 g) = 0.137 mW/g

Maximum value of SAR (measured) = 0.267 mW/g

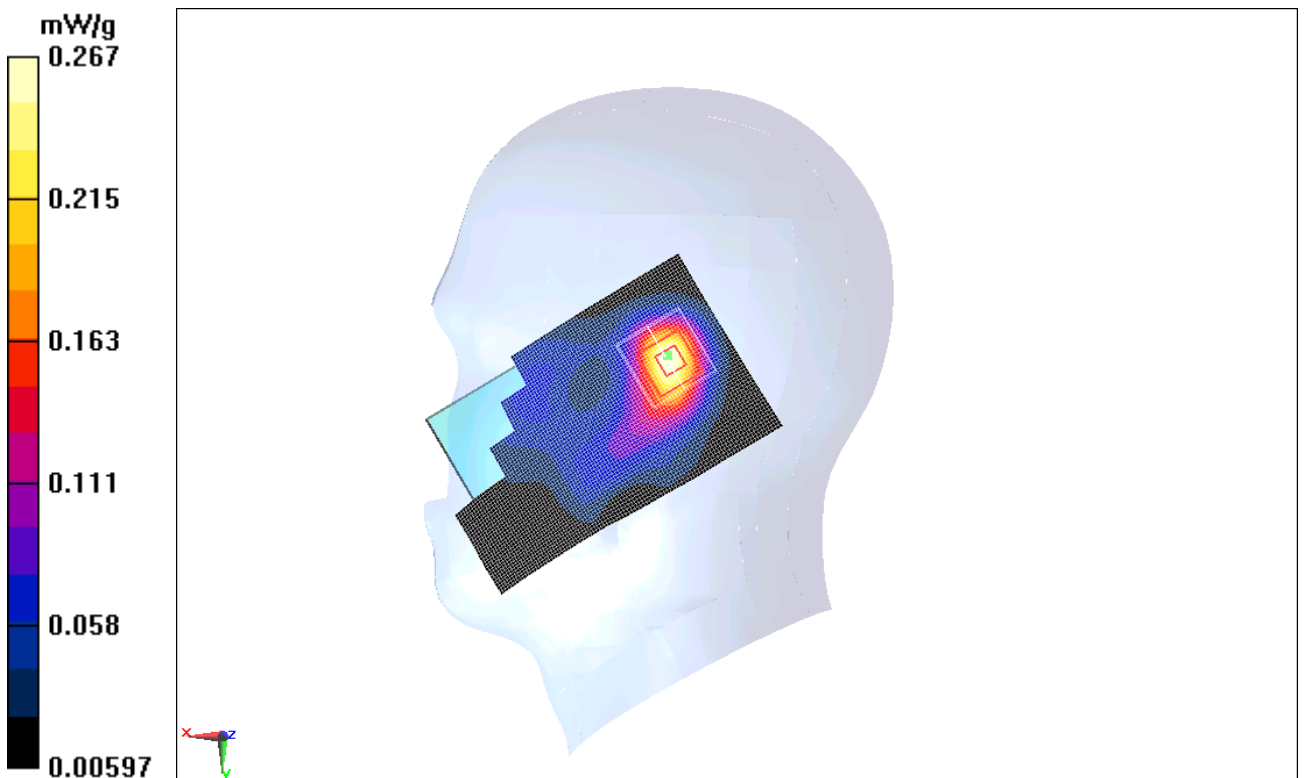


Fig.23 1900 MHz CH661

1900 Right Tilt Low

Date/Time: 2011-5-28 16:22:26

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.37$ mho/m; $\epsilon_r = 40.8$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1850.2 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Tilt Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

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

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

Reference Value = 14.7 V/m; Power Drift = -0.066 dB

Peak SAR (extrapolated) = 0.451 W/kg

SAR(1 g) = 0.275 mW/g; SAR(10 g) = 0.157 mW/g

Maximum value of SAR (measured) = 0.303 mW/g

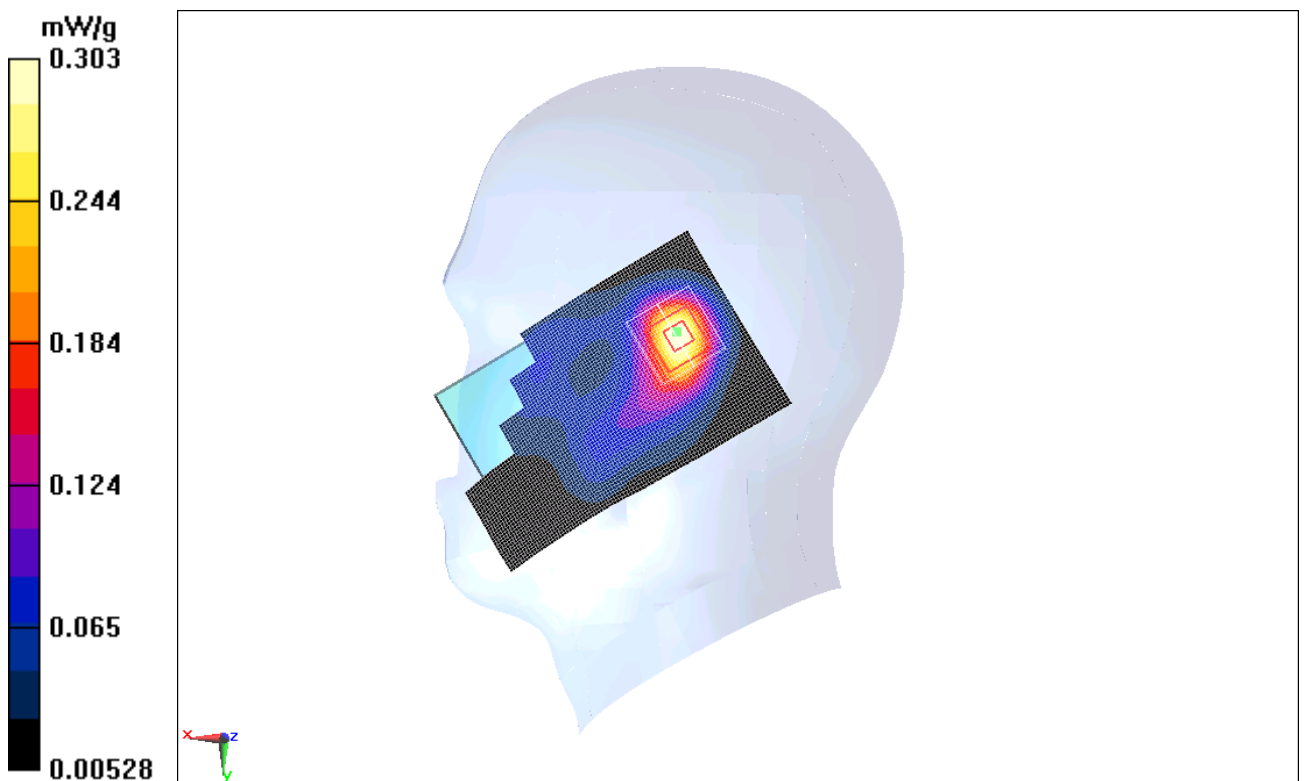


Fig.24 1900 MHz CH512

850 Left Cheek High with battery CAB31L0000C2

Date/Time: 2011-5-27 11:05:29

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.93$ mho/m; $\epsilon_r = 41.7$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 848.8 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Cheek High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.893 mW/g

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

Reference Value = 7.4 V/m; Power Drift = -0.060 dB

Peak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.834 mW/g; SAR(10 g) = 0.608 mW/g

Maximum value of SAR (measured) = 0.885 mW/g

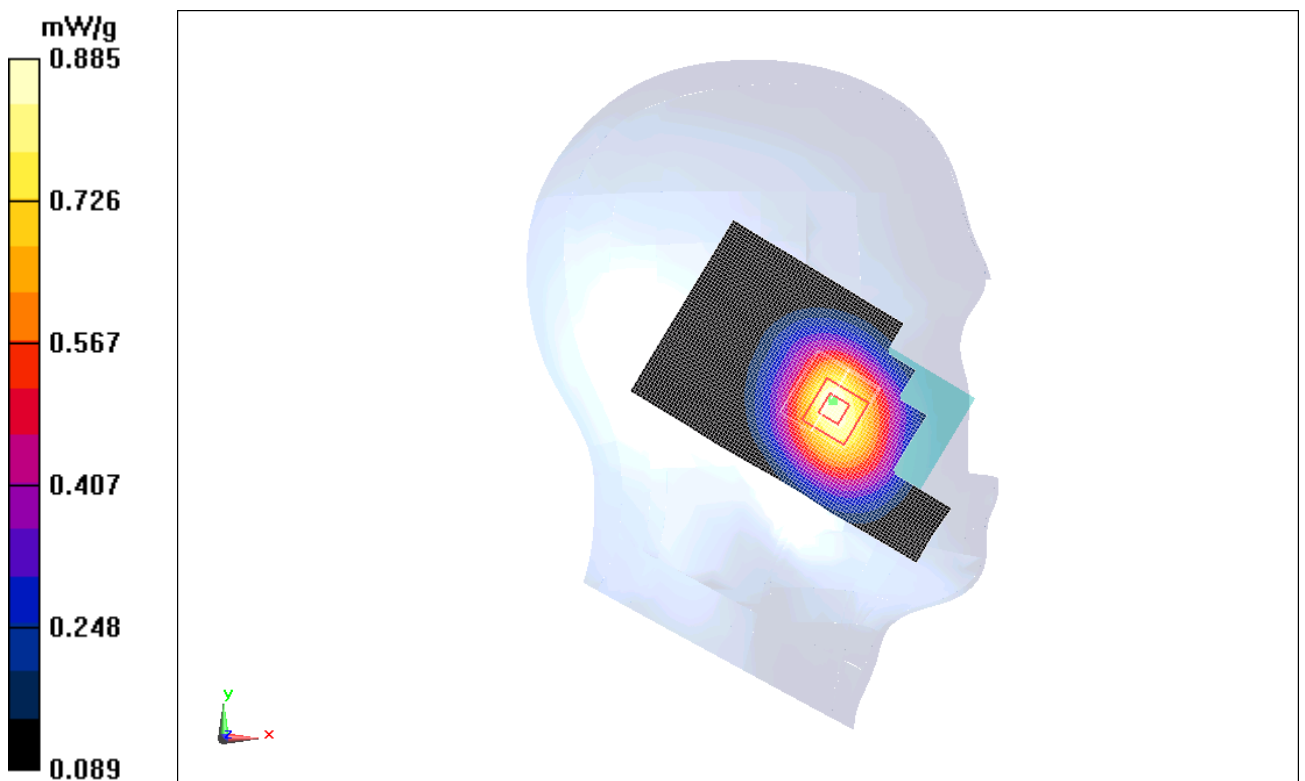


Fig. 25 850MHz CH251

850 Body Towards Ground High with GPRS

Date/Time: 2011-5-27 13:41:15

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.96$ mho/m; $\epsilon_r = 54.8$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 GPRS Frequency: 848.8 MHz Duty Cycle: 1:2

Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground High/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

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

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

Reference Value = 28 V/m; Power Drift = -0.115 dB

Peak SAR (extrapolated) = 1.27 W/kg

SAR(1 g) = 0.958 mW/g; SAR(10 g) = 0.695 mW/g

Maximum value of SAR (measured) = 1.01 mW/g

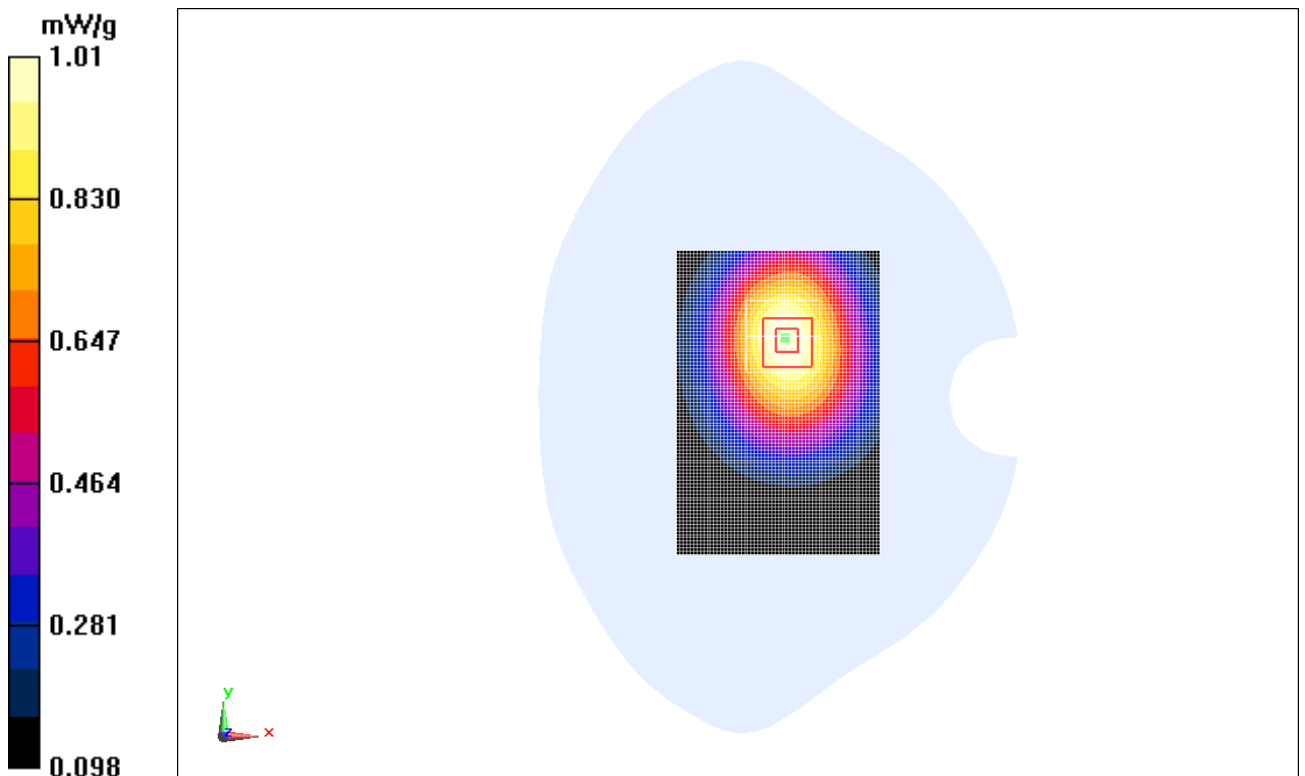


Fig. 26 850 MHz CH251

850 Body Towards Ground Middle with GPRS

Date/Time: 2011-5-27 13:56:37

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.95$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 GPRS Frequency: 836.6 MHz Duty Cycle: 1:2

Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Middle/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.01 mW/g

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

Reference Value = 27.2 V/m; Power Drift = 0.042 dB

Peak SAR (extrapolated) = 1.28 W/kg

SAR(1 g) = 0.965 mW/g; SAR(10 g) = 0.699 mW/g

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

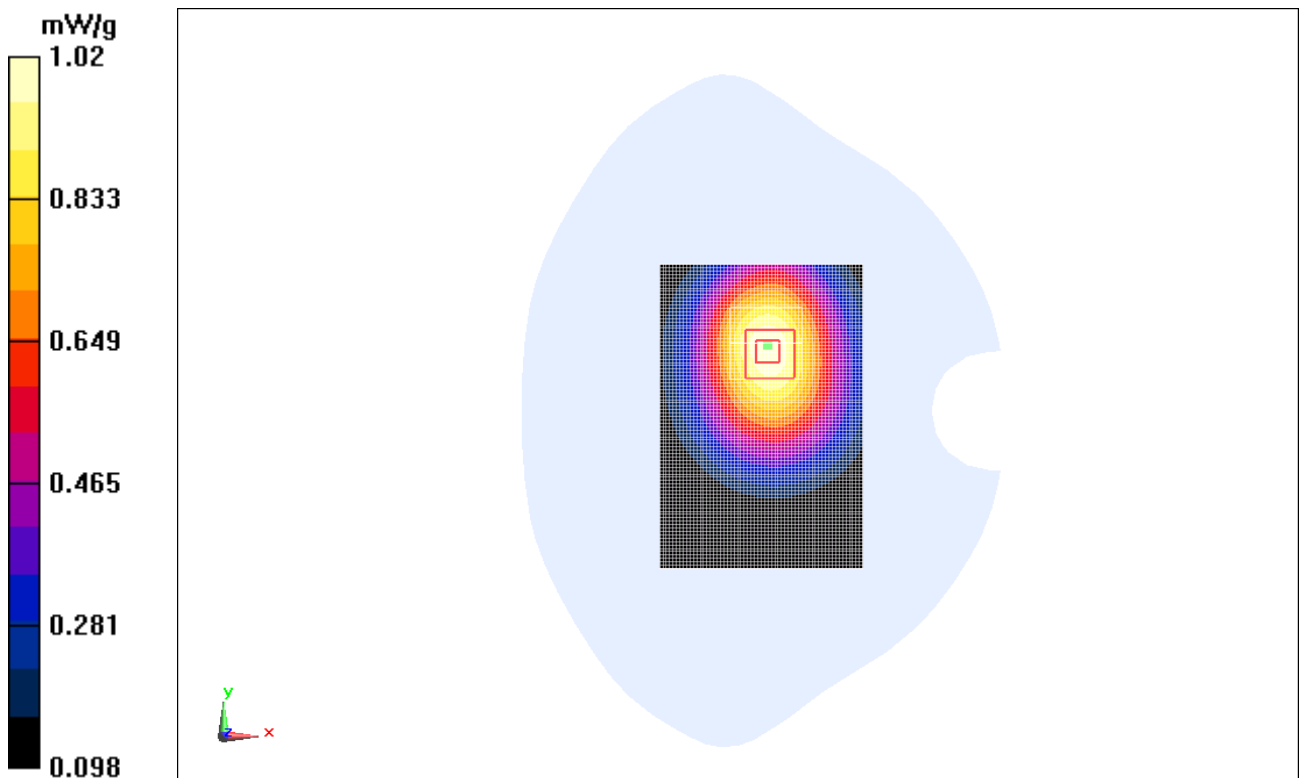


Fig. 27 850 MHz CH190

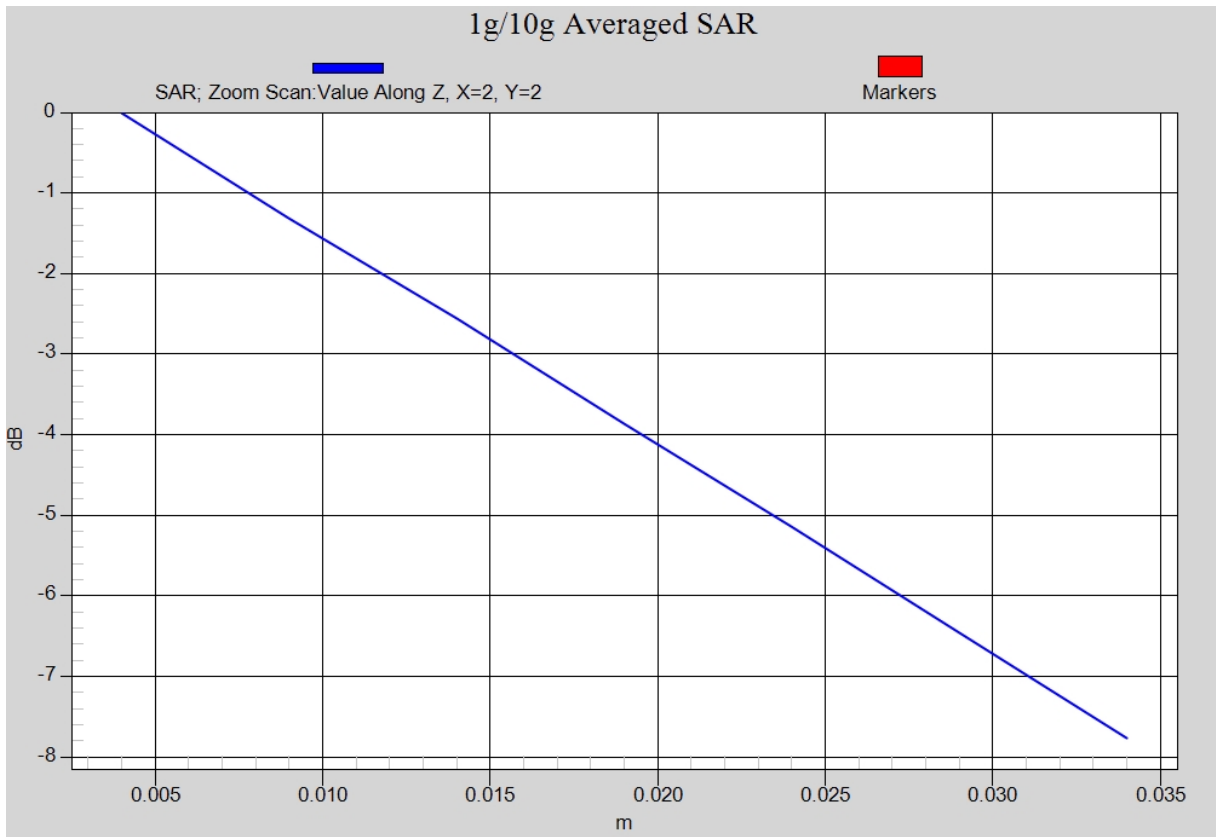


Fig. 27-1 Z-Scan at power reference point (850 MHz CH190)

850 Body Towards Ground Low with GPRS

Date/Time: 2011-5-27 14:12:00

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used: $f = 825$ MHz; $\sigma = 0.933$ mho/m; $\epsilon_r = 55.0$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:2

Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Low/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1 mW/g

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

Reference Value = 27.1 V/m; Power Drift = -0.00362 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.948 mW/g; SAR(10 g) = 0.688 mW/g

Maximum value of SAR (measured) = 1 mW/g

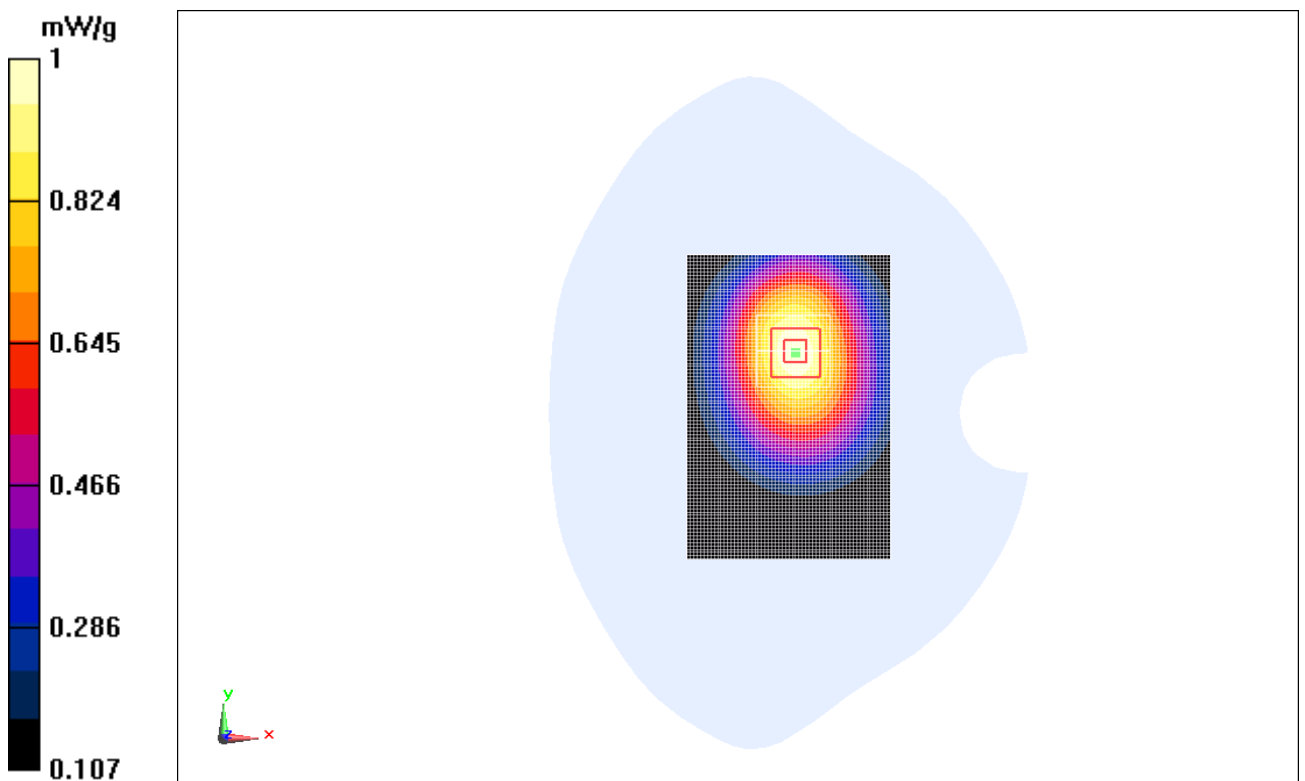


Fig. 28 850 MHz CH128

850 Body Towards Phantom High with GPRS

Date/Time: 2011-5-27 14:27:41

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 848.8$ MHz; $\sigma = 0.96$ mho/m; $\epsilon_r = 54.8$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 GPRS Frequency: 848.8 MHz Duty Cycle: 1:2

Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Phantom High/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.922 mW/g

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

Reference Value = 27.1 V/m; Power Drift = -0.072 dB

Peak SAR (extrapolated) = 1.13 W/kg

SAR(1 g) = 0.871 mW/g; SAR(10 g) = 0.639 mW/g

Maximum value of SAR (measured) = 0.918 mW/g

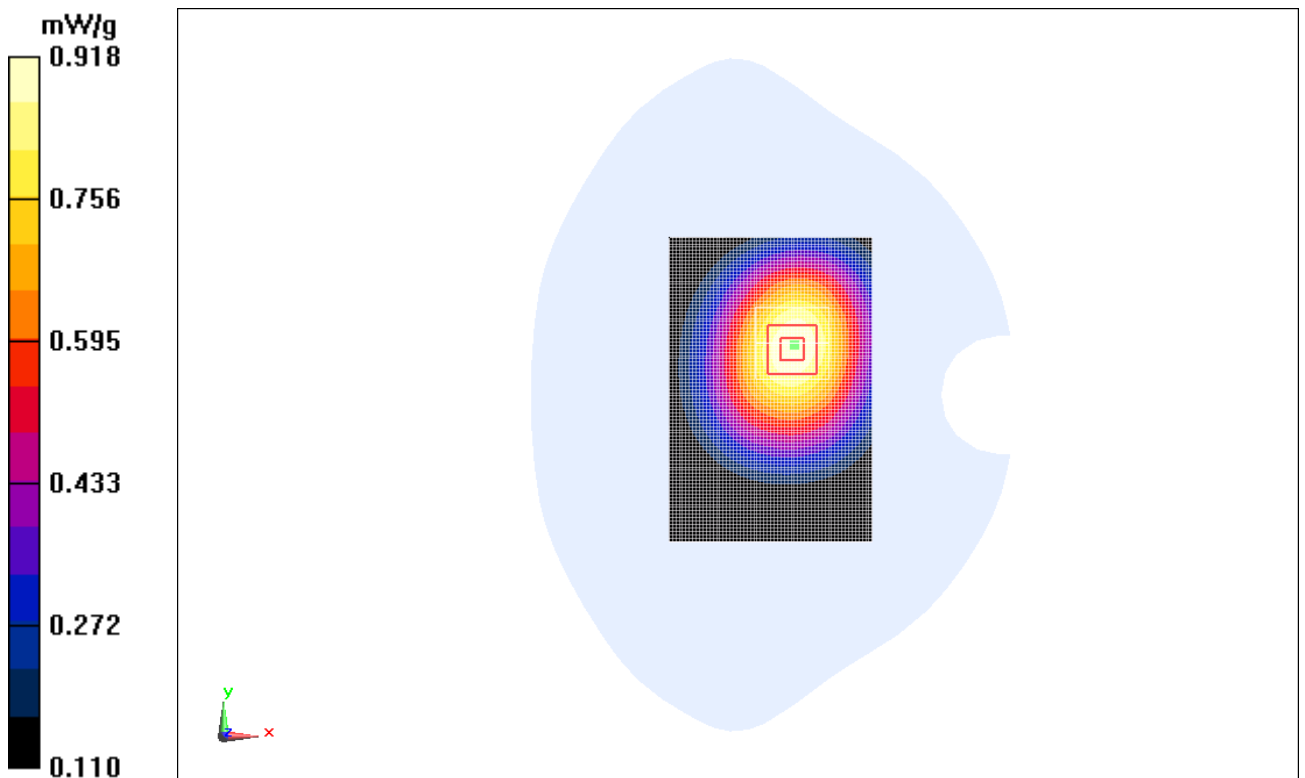


Fig. 29 850 MHz CH251

850 Body Towards Phantom Middle with GPRS

Date/Time: 2011-5-27 14:43:03

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.95$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 GPRS Frequency: 836.6 MHz Duty Cycle: 1:2

Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Phantom Middle/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.915 mW/g

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

Reference Value = 26.6 V/m; Power Drift = -0.015 dB

Peak SAR (extrapolated) = 1.12 W/kg

SAR(1 g) = 0.862 mW/g; SAR(10 g) = 0.634 mW/g

Maximum value of SAR (measured) = 0.913 mW/g

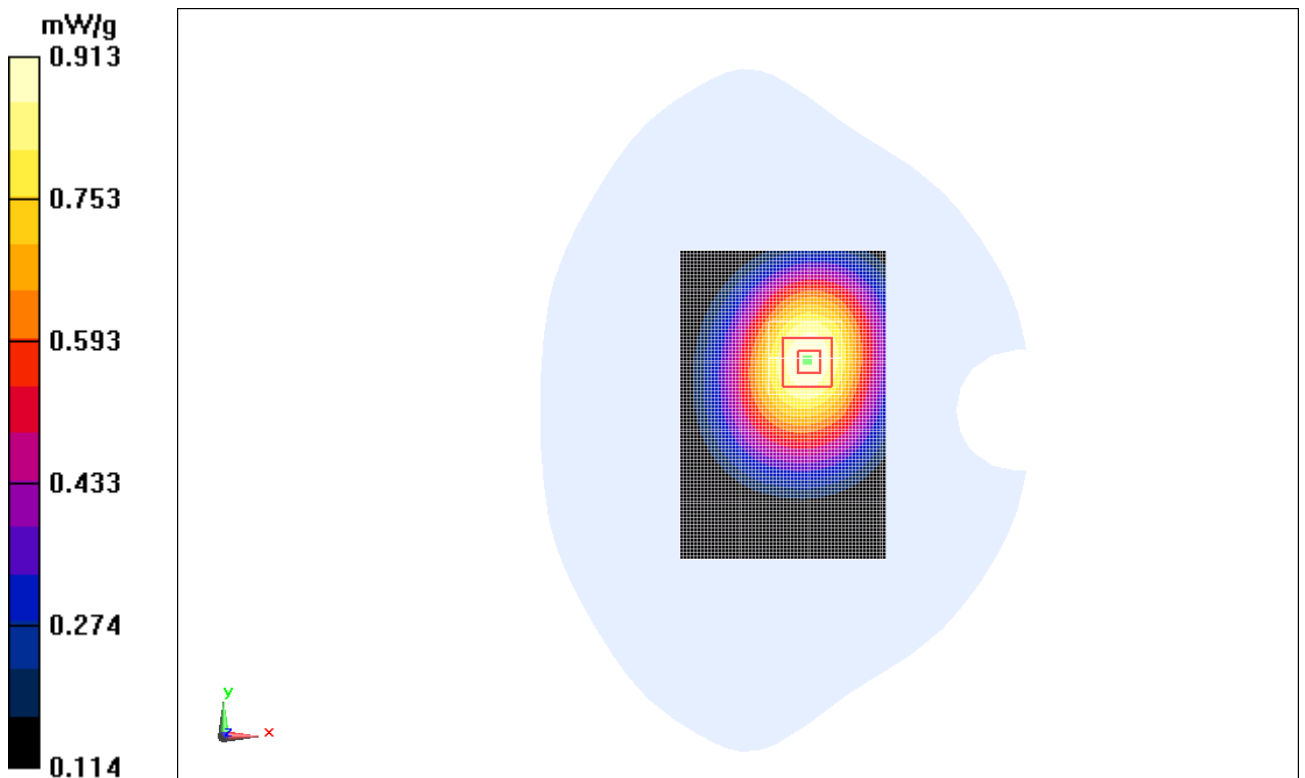


Fig. 30 850 MHz CH190

850 Body Towards Phantom Low with GPRS

Date/Time: 2011-5-27 14:58:30

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used: $f = 825$ MHz; $\sigma = 0.933$ mho/m; $\epsilon_r = 55.0$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:2

Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Phantom Low/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.891 mW/g

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

Reference Value = 26.2 V/m; Power Drift = 0.019 dB

Peak SAR (extrapolated) = 1.09 W/kg

SAR(1 g) = 0.842 mW/g; SAR(10 g) = 0.622 mW/g

Maximum value of SAR (measured) = 0.883 mW/g

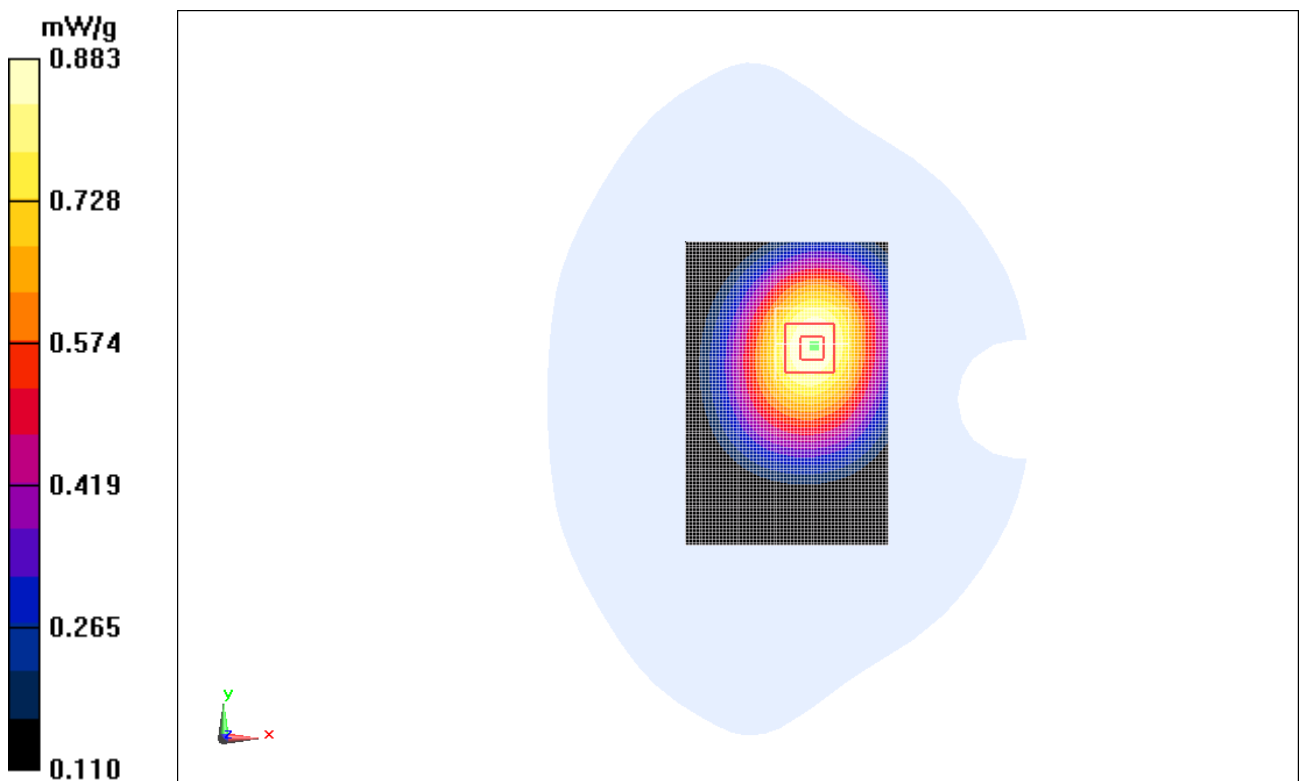


Fig. 31 850 MHz CH128

850 Body Towards Ground Middle with EGPRS

Date/Time: 2011-5-27 15:15:11

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.95$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 GPRS Frequency: 836.6 MHz Duty Cycle: 1:2

Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Middle/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1 mW/g

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

Reference Value = 27.5 V/m; Power Drift = -0.137 dB

Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.943 mW/g; SAR(10 g) = 0.684 mW/g

Maximum value of SAR (measured) = 0.998 mW/g

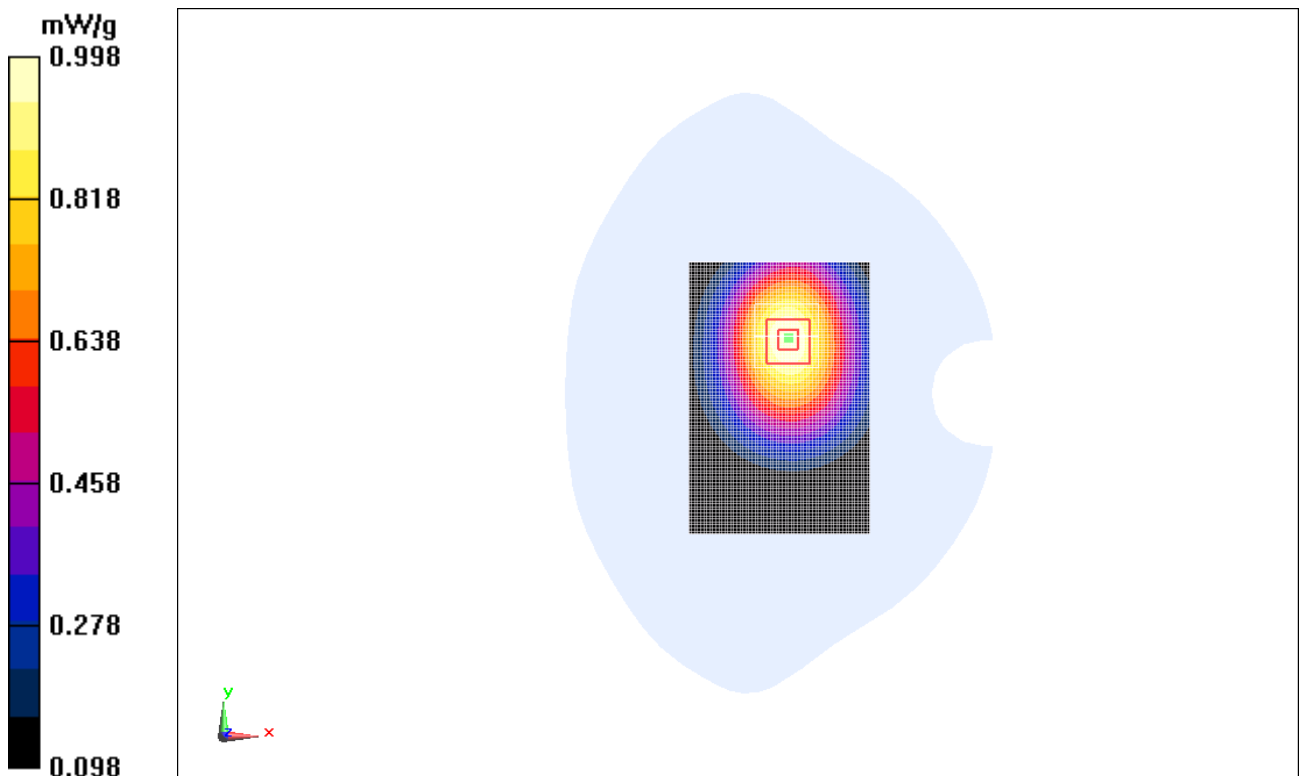


Fig. 32 850 MHz CH190

850 Body Towards Ground Middle with Headset__CCB3160A10C0

Date/Time: 2011-5-27 15:31:49

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.95$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 836.6 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Middle/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.494 mW/g

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

Reference Value = 16.3 V/m; Power Drift = 0.046 dB

Peak SAR (extrapolated) = 0.639 W/kg

SAR(1 g) = 0.465 mW/g; SAR(10 g) = 0.329 mW/g

Maximum value of SAR (measured) = 0.491 mW/g

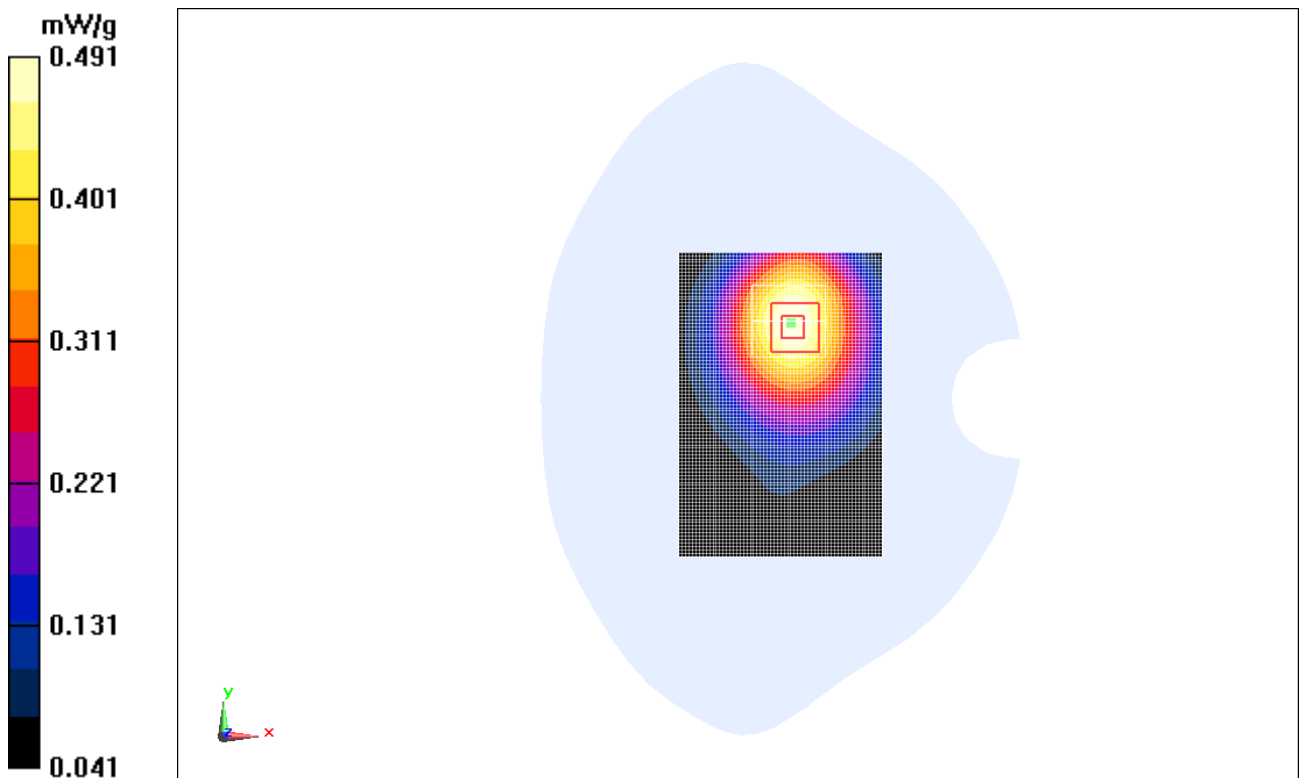


Fig. 33 850 MHz CH190

850 Body Towards Ground Middle with Headset__CCB3160A10C3

Date/Time: 2011-5-27 15:47:42

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.95$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 Frequency: 836.6 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Middle/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.674 mW/g

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

Reference Value = 25.3 V/m; Power Drift = 0.112 dB

Peak SAR (extrapolated) = 0.841 W/kg

SAR(1 g) = 0.643 mW/g; SAR(10 g) = 0.471 mW/g

Maximum value of SAR (measured) = 0.680 mW/g

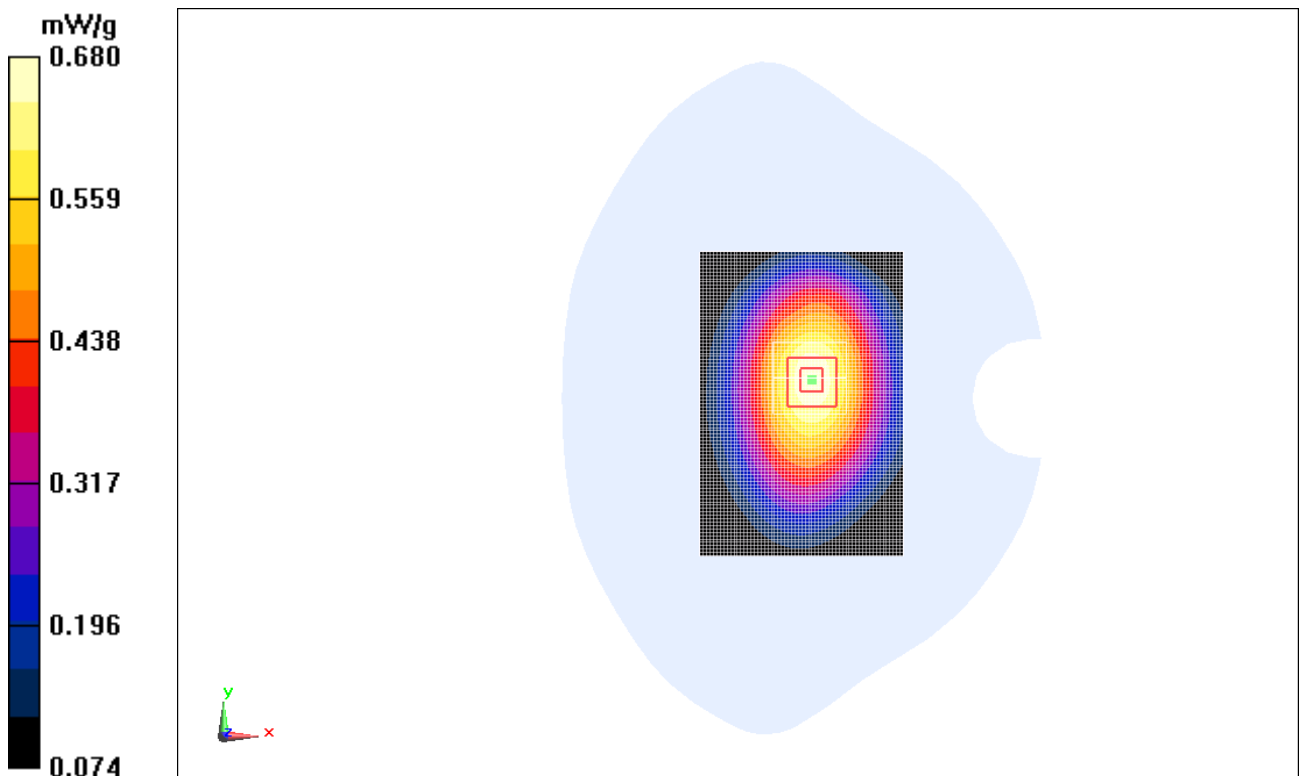


Fig. 34 850 MHz CH190

1900 Body Towards Ground High with GPRS

Date/Time: 2011-5-28 08:07:16

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 53.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:2.67

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Toward Ground High/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.451 mW/g

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

Reference Value = 6.09 V/m; Power Drift = 0.096 dB

Peak SAR (extrapolated) = 0.686 W/kg

SAR(1 g) = 0.414 mW/g; SAR(10 g) = 0.250 mW/g

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

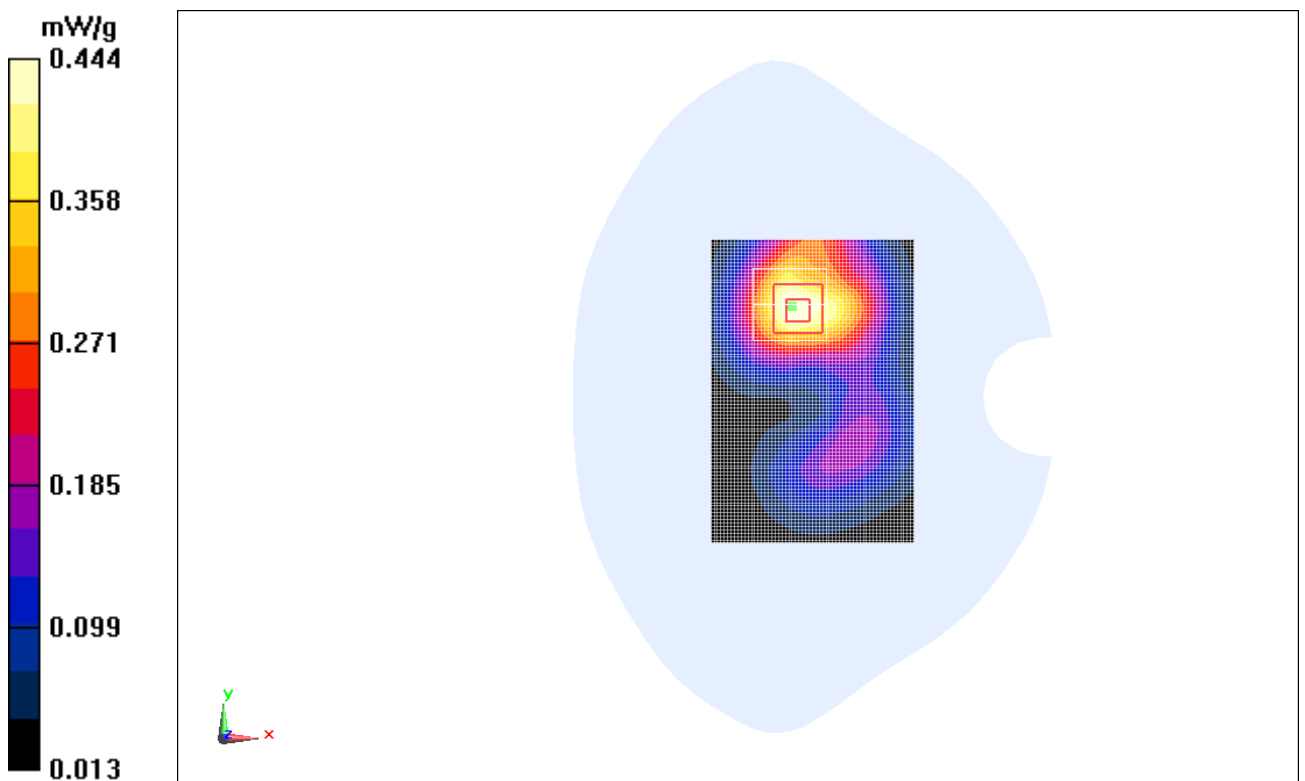


Fig. 35 1900 MHz CH810

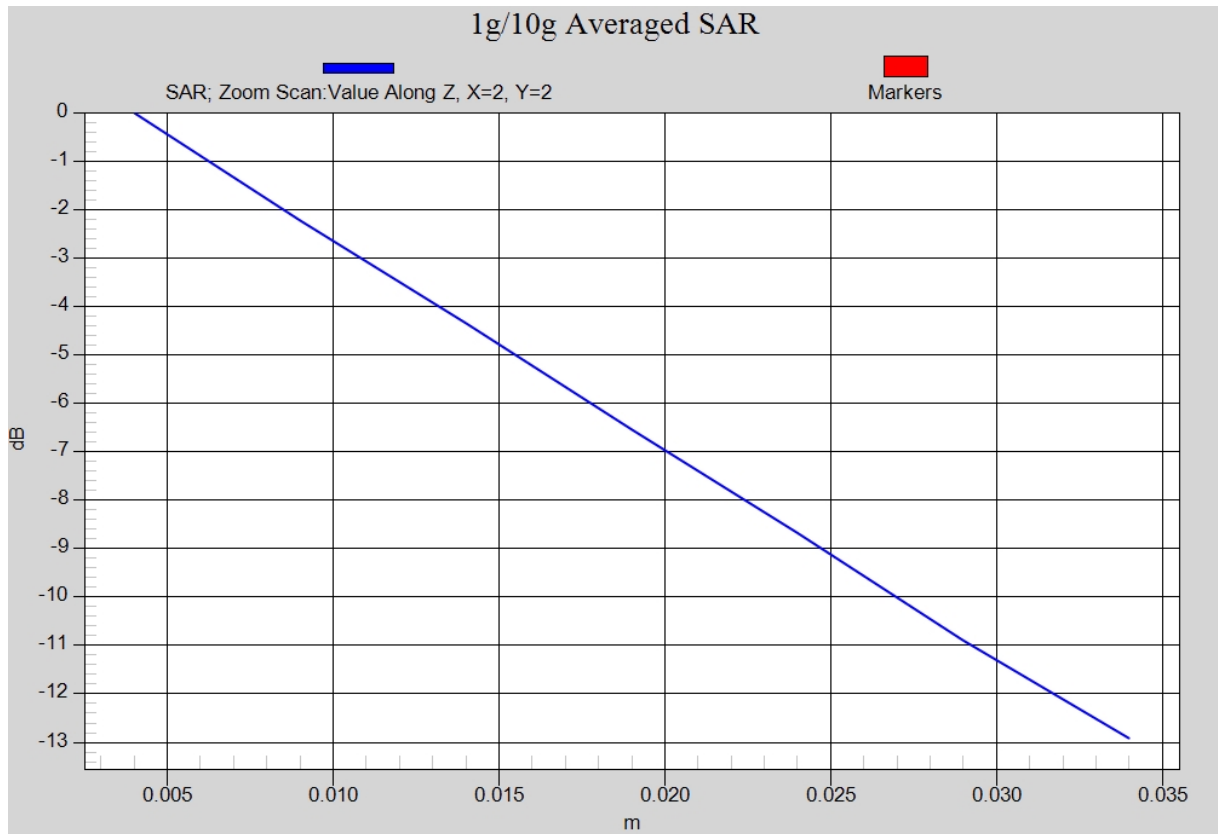


Fig. 35-1 Z-Scan at power reference point (1900 MHz CH810)

1900 Body Towards Ground Middle with GPRS

Date/Time: 2011-5-28 08:22:40

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 53.6$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:2.67

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Toward Ground Middle/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.428 mW/g

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

Reference Value = 5.92 V/m; Power Drift = -0.053 dB

Peak SAR (extrapolated) = 0.636 W/kg

SAR(1 g) = 0.387 mW/g; SAR(10 g) = 0.232 mW/g

Maximum value of SAR (measured) = 0.417 mW/g

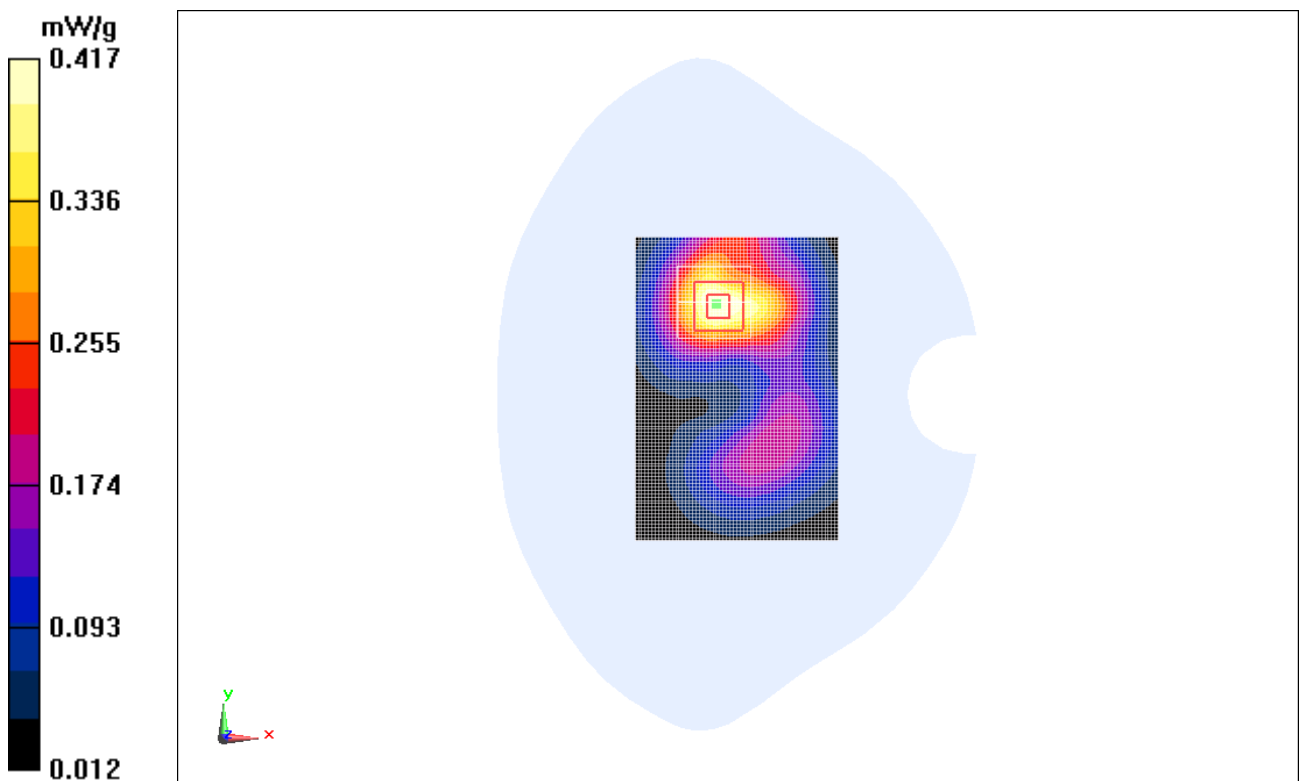


Fig. 36 1900 MHz CH661

1900 Body Towards Ground Low with GPRS

Date/Time: 2011-5-28 08:37:58

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 53.6$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:2.67

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Toward Ground Low/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.375 mW/g

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

Reference Value = 6.26 V/m; Power Drift = -0.158 dB

Peak SAR (extrapolated) = 0.555 W/kg

SAR(1 g) = 0.338 mW/g; SAR(10 g) = 0.201 mW/g

Maximum value of SAR (measured) = 0.366 mW/g

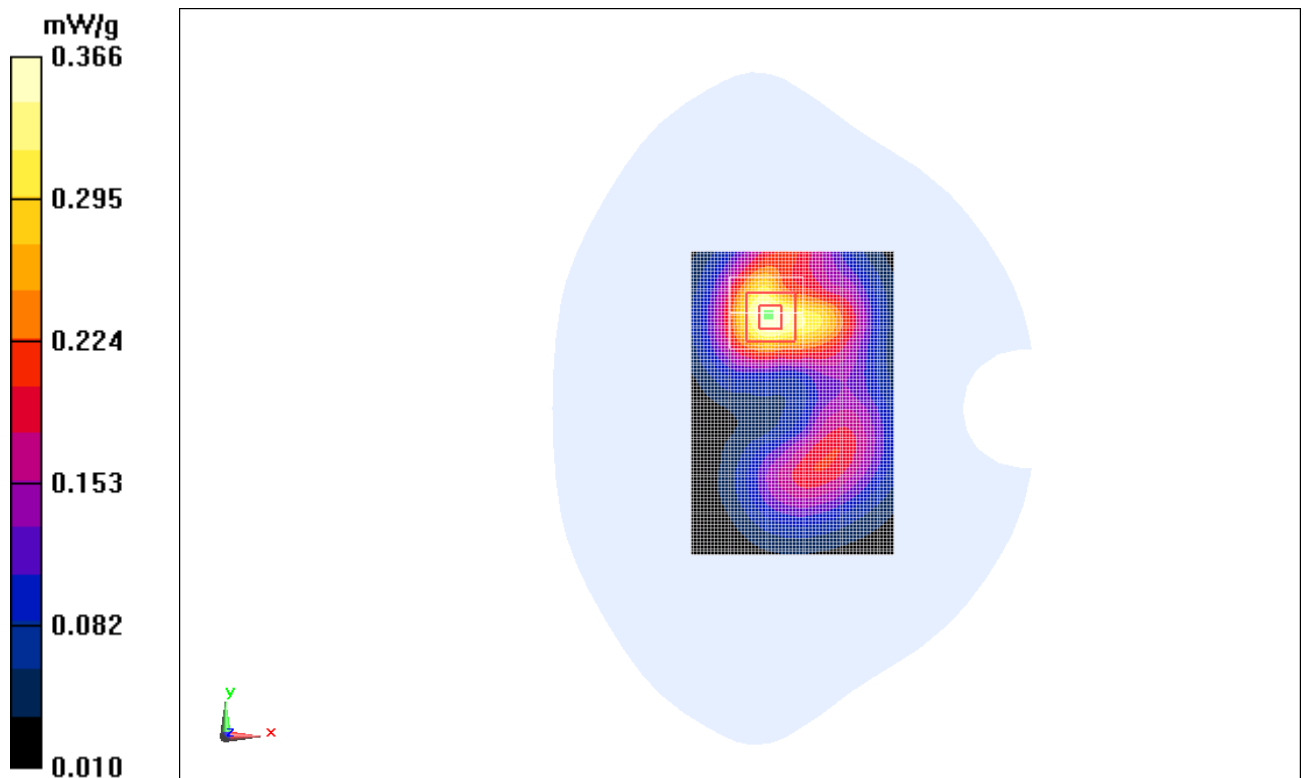


Fig. 37 1900 MHz CH512

1900 Body Towards Phantom High with GPRS

Date/Time: 2011-5-28 08:53:26

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 53.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:2.67

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Toward Phantom High/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.386 mW/g

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

Reference Value = 7.25 V/m; Power Drift = 0.024 dB

Peak SAR (extrapolated) = 0.619 W/kg

SAR(1 g) = 0.372 mW/g; SAR(10 g) = 0.223 mW/g

Maximum value of SAR (measured) = 0.403 mW/g



Fig. 38 1900 MHz CH810

1900 Body Towards Phantom Middle with GPRS

Date/Time: 2011-5-28 09:08:49

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: $f = 1880$ MHz; $\sigma = 1.51$ mho/m; $\epsilon_r = 53.6$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:2.67

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Toward Phantom Middle/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.354 mW/g

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

Reference Value = 6.82 V/m; Power Drift = 0.135 dB

Peak SAR (extrapolated) = 0.556 W/kg

SAR(1 g) = 0.337 mW/g; SAR(10 g) = 0.201 mW/g

Maximum value of SAR (measured) = 0.365 mW/g

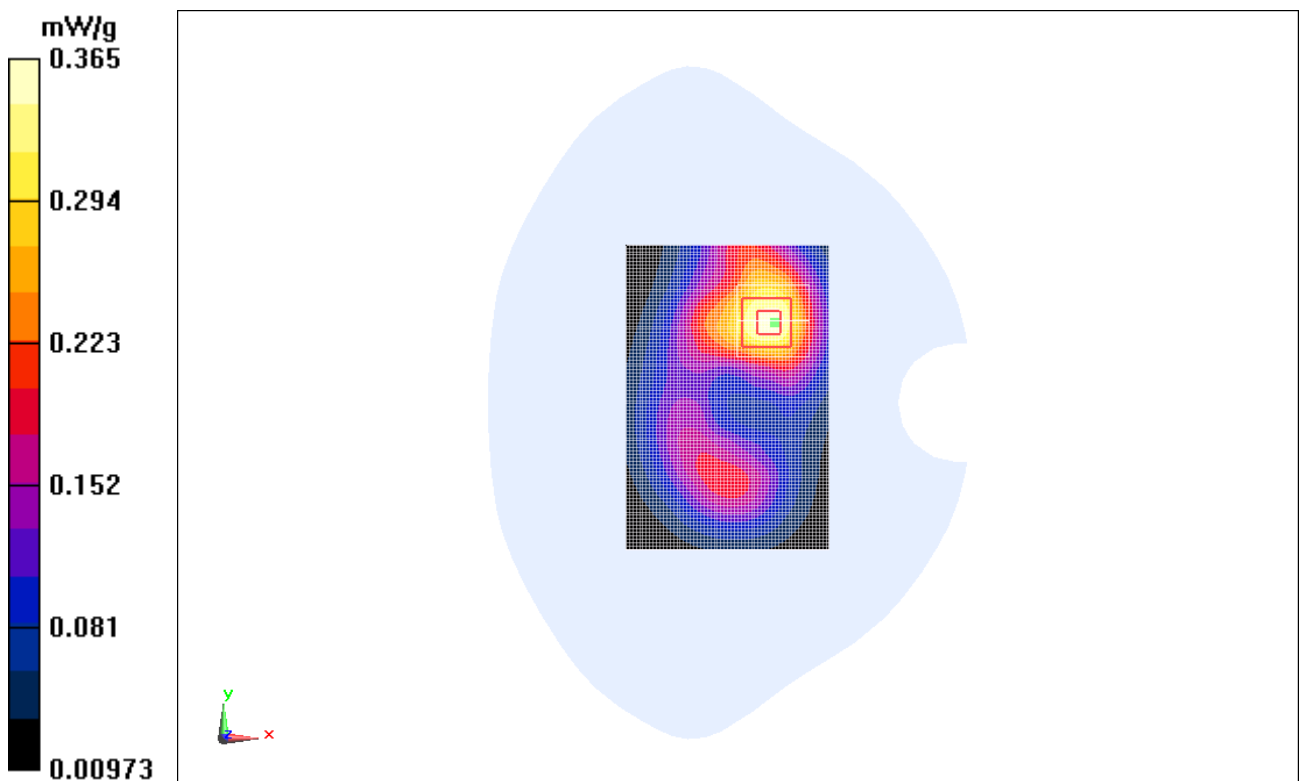


Fig. 39 1900 MHz CH661

1900 Body Towards Phantom Low with GPRS

Date/Time: 2011-5-28 09:24:05

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): $f = 1850.2$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 53.6$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:2.67

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Toward Phantom Low/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.322 mW/g

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

Reference Value = 7.47 V/m; Power Drift = 0.103 dB

Peak SAR (extrapolated) = 0.499 W/kg

SAR(1 g) = 0.305 mW/g; SAR(10 g) = 0.181 mW/g

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

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

Reference Value = 7.47 V/m; Power Drift = 0.103 dB

Peak SAR (extrapolated) = 0.304 W/kg

SAR(1 g) = 0.196 mW/g; SAR(10 g) = 0.124 mW/g

Maximum value of SAR (measured) = 0.207 mW/g

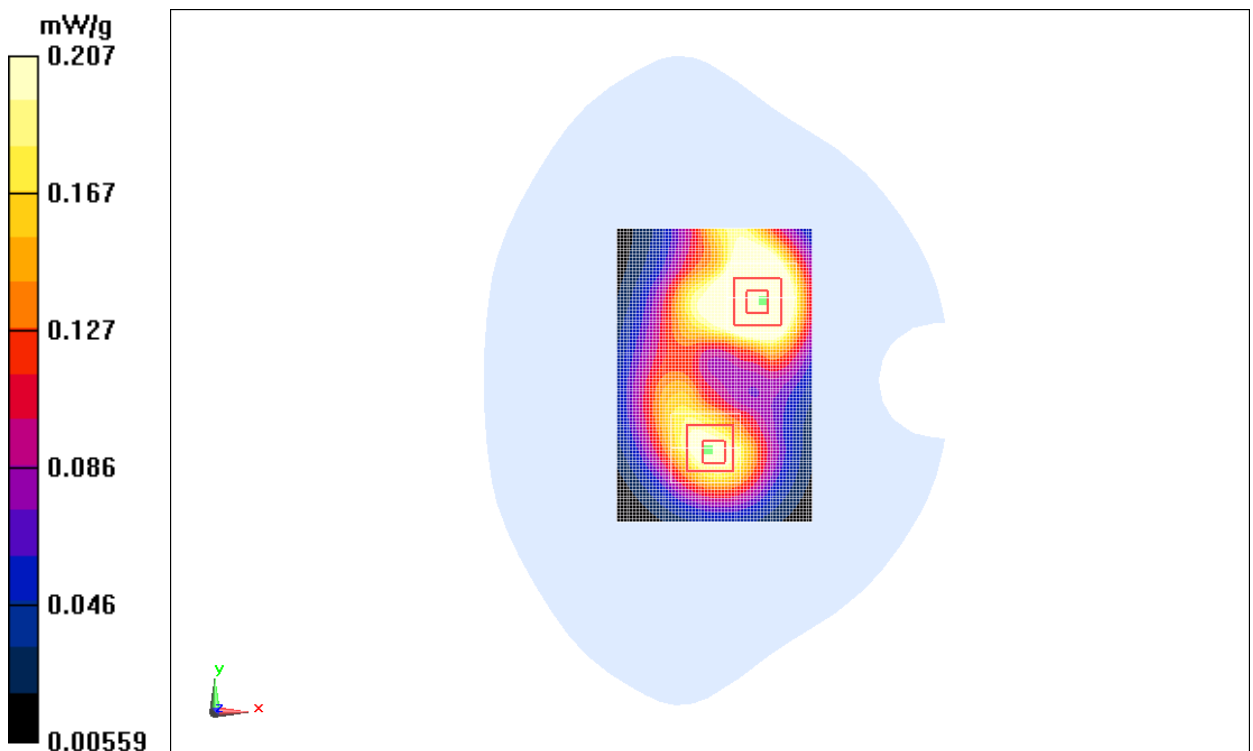


Fig. 40 1900 MHz CH512

1900 Body Towards Ground High with EGPRS

Date/Time: 2011-5-28 09:40:17

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 53.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:2.67

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Toward Ground High/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.450 mW/g

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

Reference Value = 5.98 V/m; Power Drift = 0.087 dB

Peak SAR (extrapolated) = 0.683 W/kg

SAR(1 g) = 0.413 mW/g; SAR(10 g) = 0.248 mW/g

Maximum value of SAR (measured) = 0.445 mW/g

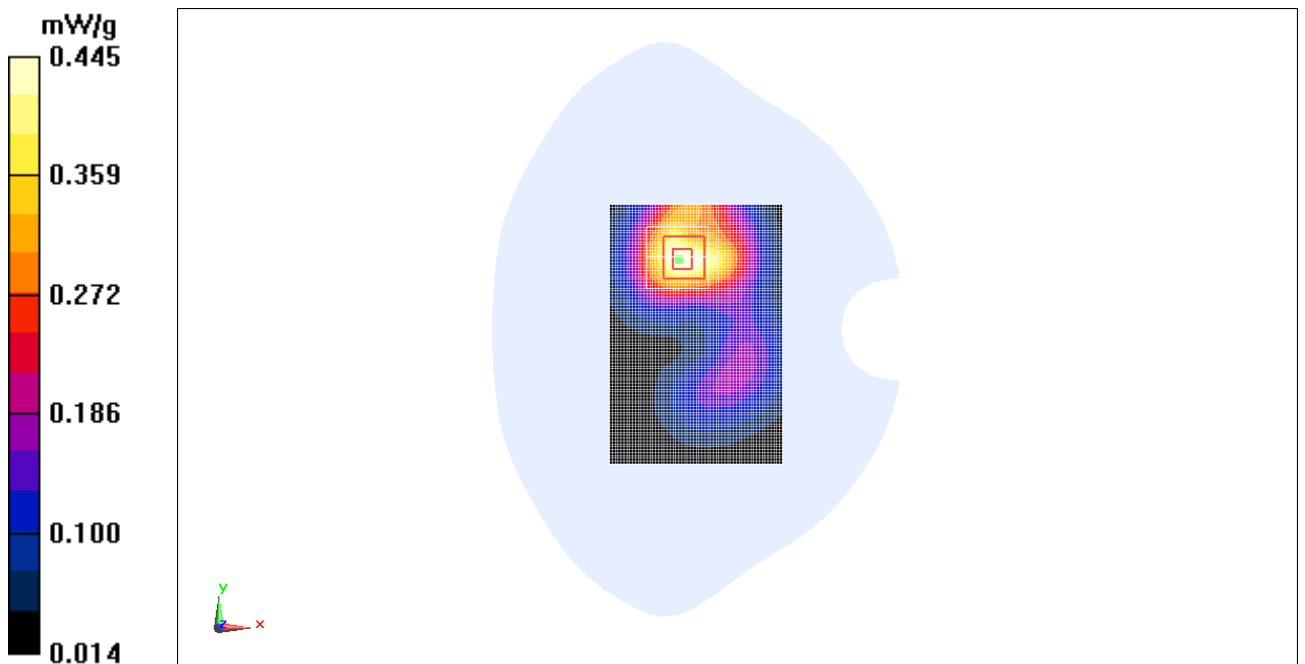


Fig. 41 1900 MHz CH810

1900 Body Towards Ground High with Headset__CCB3160A10C0

Date/Time: 2011-5-28 09:56:48

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 53.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Toward Ground High/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.356 mW/g

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

Reference Value = 6.6 V/m; Power Drift = -0.101 dB

Peak SAR (extrapolated) = 0.545 W/kg

SAR(1 g) = 0.326 mW/g; SAR(10 g) = 0.194 mW/g

Maximum value of SAR (measured) = 0.350 mW/g



Fig. 42 1900 MHz CH810

1900 Body Towards Ground High with Headset__CCB3160A10C3

Date/Time: 2011-5-28 10:12:55

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: $f = 1910$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 53.5$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3

Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

Toward Ground High/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

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

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

Reference Value = 8.63 V/m; Power Drift = -0.053 dB

Peak SAR (extrapolated) = 0.464 W/kg

SAR(1 g) = 0.276 mW/g; SAR(10 g) = 0.165 mW/g

Maximum value of SAR (measured) = 0.303 mW/g

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

Reference Value = 8.63 V/m; Power Drift = -0.053 dB

Peak SAR (extrapolated) = 0.448 W/kg

SAR(1 g) = 0.255 mW/g; SAR(10 g) = 0.154 mW/g

Maximum value of SAR (measured) = 0.287 mW/g

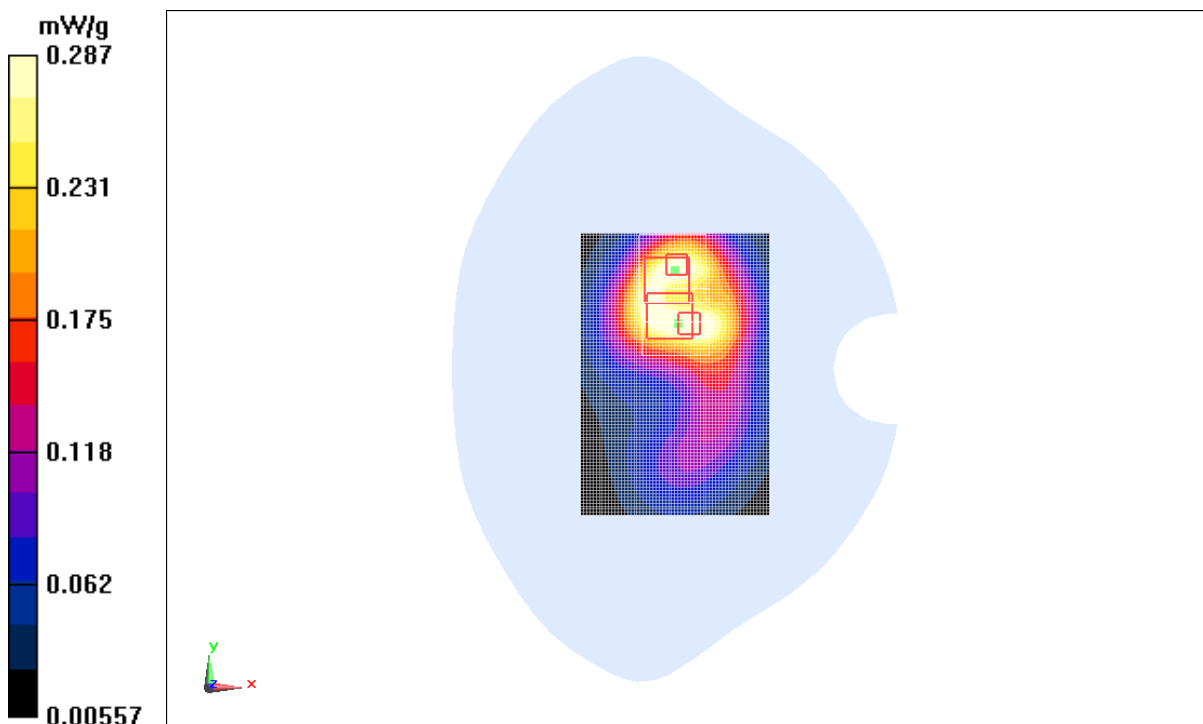


Fig. 43 1900 MHz CH810

850 Body Towards Ground Middle with GPRS with battery CAB31L0000C1

Date/Time: 2011-5-27 16:05:10

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.95$ mho/m; $\epsilon_r = 54.9$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0°C Liquid Temperature: 22.5°C

Communication System: GSM 850 GPRS Frequency: 836.6 MHz Duty Cycle: 1:2

Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Middle/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm

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

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

dy=5mm, dz=5mm

Reference Value = 28 V/m; Power Drift = -0.176 dB

Peak SAR (extrapolated) = 1.25 W/kg

SAR(1 g) = 0.951 mW/g; SAR(10 g) = 0.690 mW/g

Maximum value of SAR (measured) = 1.01 mW/g

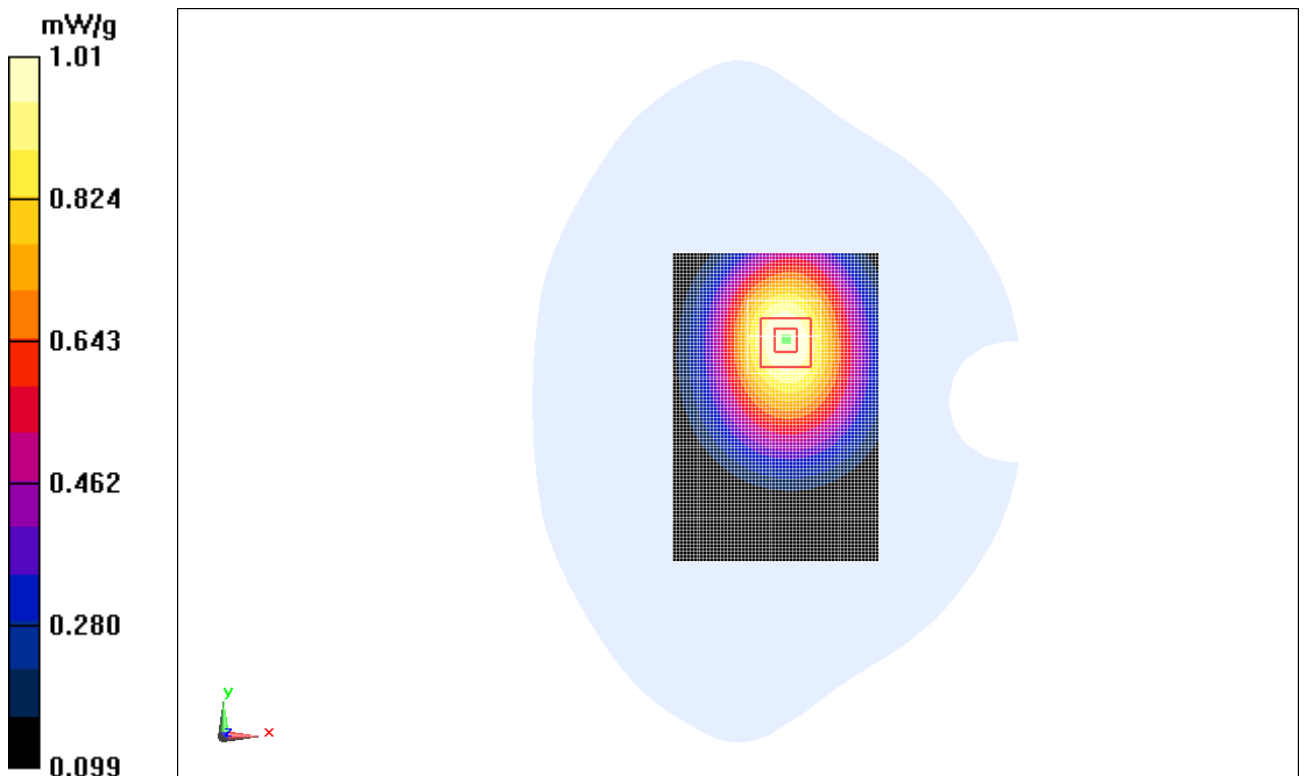


Fig. 44 850 MHz CH190

WiFi 802.11b 1Mbps Left Cheek Channel 11

Date/Time: 2011-5-26 11:15:22

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): $f = 2462$ MHz; $\sigma = 1.84$ mho/m; $\epsilon_r = 39.6$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WLAN 2450 Frequency: 2462 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

Cheek High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.479 mW/g

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

Reference Value = 14.1 V/m; Power Drift = -0.137 dB

Peak SAR (extrapolated) = 0.982 W/kg

SAR(1 g) = 0.438 mW/g; SAR(10 g) = 0.205 mW/g

Maximum value of SAR (measured) = 0.509 mW/g

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

Reference Value = 14.1 V/m; Power Drift = -0.137 dB

Peak SAR (extrapolated) = 0.685 W/kg

SAR(1 g) = 0.353 mW/g; SAR(10 g) = 0.190 mW/g

Maximum value of SAR (measured) = 0.397 mW/g

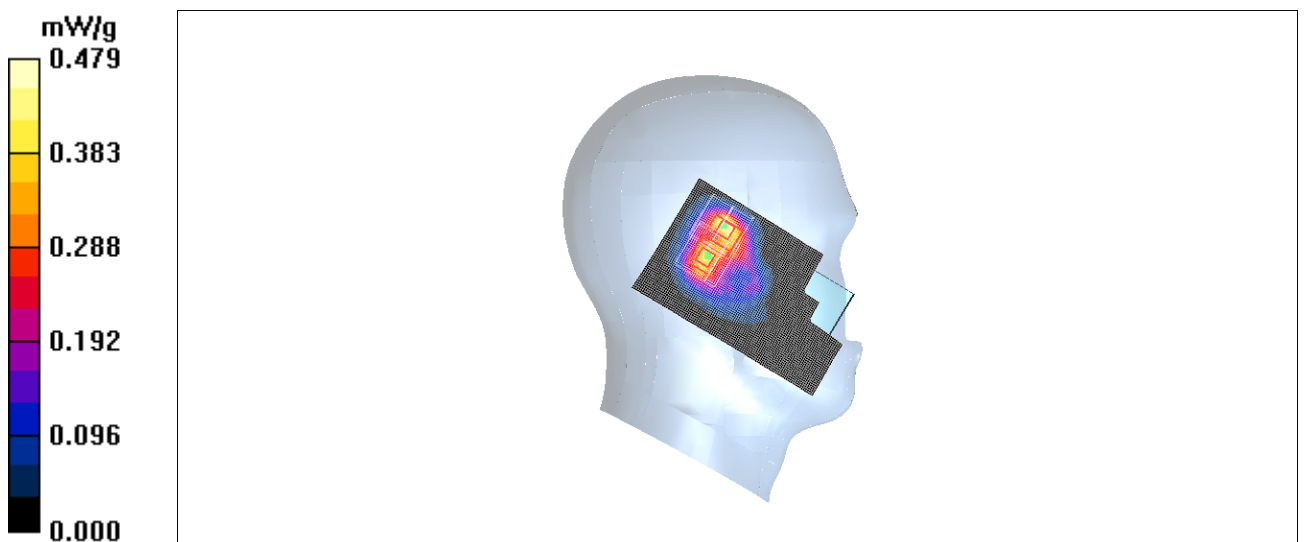


Fig.45 802.11b 1Mbps CH11

WiFi 802.11b 1Mbps Left Tilt Channel 11

Date/Time: 2011-5-26 11:29:58

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): $f = 2462$ MHz; $\sigma = 1.84$ mho/m; $\epsilon_r = 39.6$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WLAN 2450 Frequency: 2462 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

Tilt High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.422 mW/g

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

Reference Value = 12.5 V/m; Power Drift = -0.117 dB

Peak SAR (extrapolated) = 0.815 W/kg

SAR(1 g) = 0.355 mW/g; SAR(10 g) = 0.159 mW/g

Maximum value of SAR (measured) = 0.427 mW/g

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

Reference Value = 12.5 V/m; Power Drift = -0.117 dB

Peak SAR (extrapolated) = 0.695 W/kg

SAR(1 g) = 0.333 mW/g; SAR(10 g) = 0.175 mW/g

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

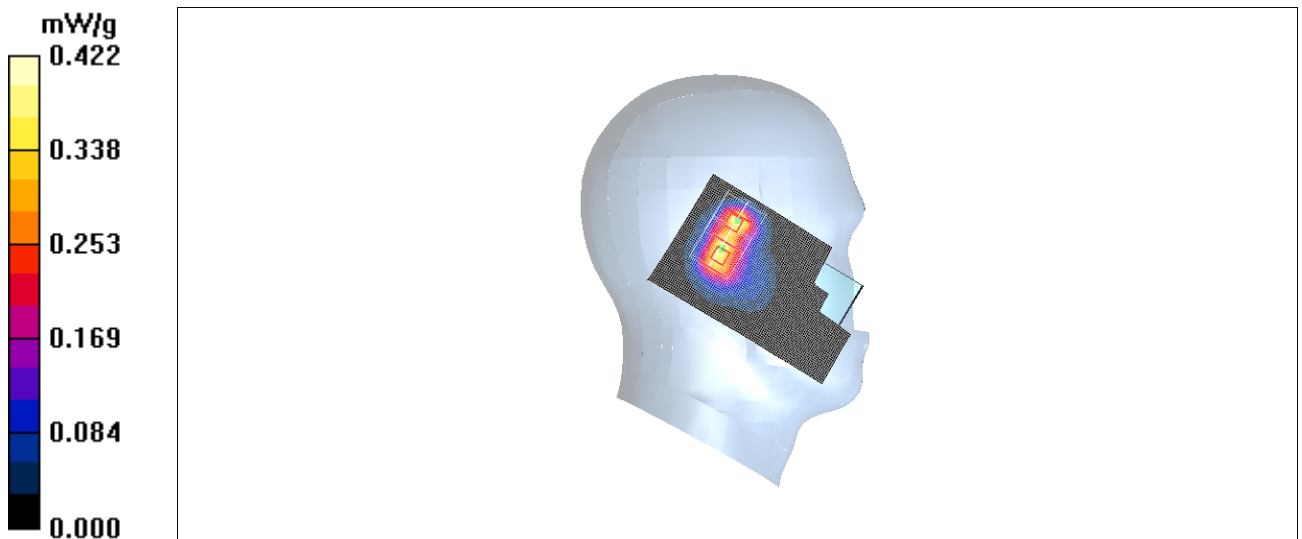


Fig.46 802.11b 1Mbps CH11

WiFi 802.11b 1Mbps Right Cheek Channel 11

Date/Time: 2011-5-26 11:44:36

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): $f = 2462$ MHz; $\sigma = 1.84$ mho/m; $\epsilon_r = 39.6$; $\rho = 1000$ kg/m³

Ambient Temperature: 23.0 °C Liquid Temperature: 22.5 °C

Communication System: WLAN 2450 Frequency: 2462 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

Cheek High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.622 mW/g

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

Reference Value = 15.1 V/m; Power Drift = 0.104 dB

Peak SAR (extrapolated) = 0.918 W/kg

SAR(1 g) = 0.510 mW/g; SAR(10 g) = 0.269 mW/g

Maximum value of SAR (measured) = 0.561 mW/g

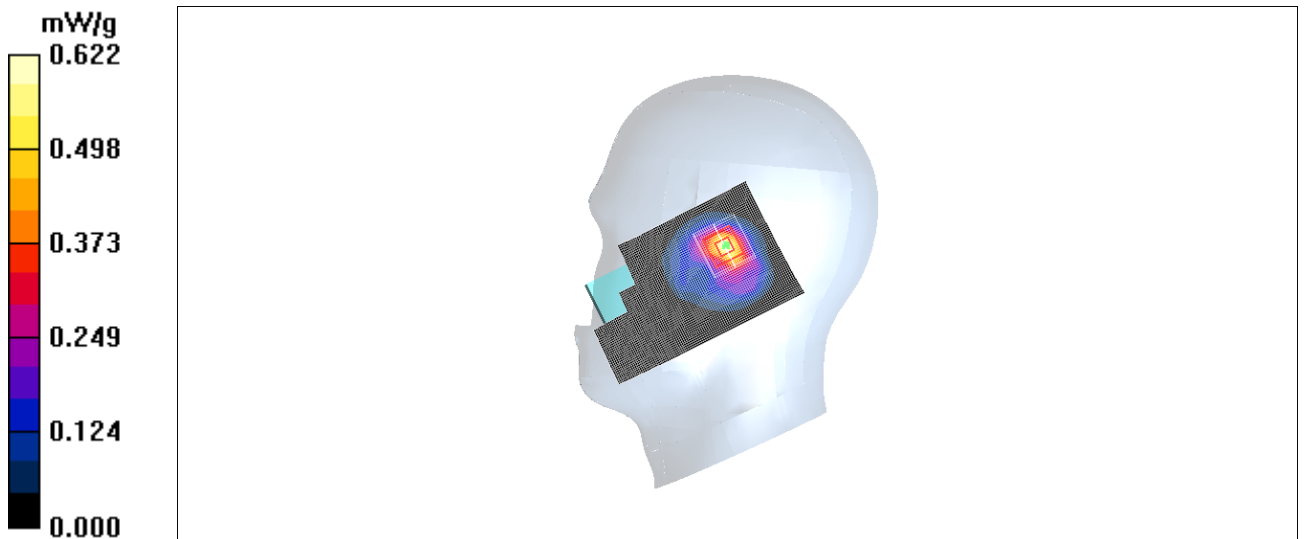


Fig.47 802.11b 1Mbps CH11

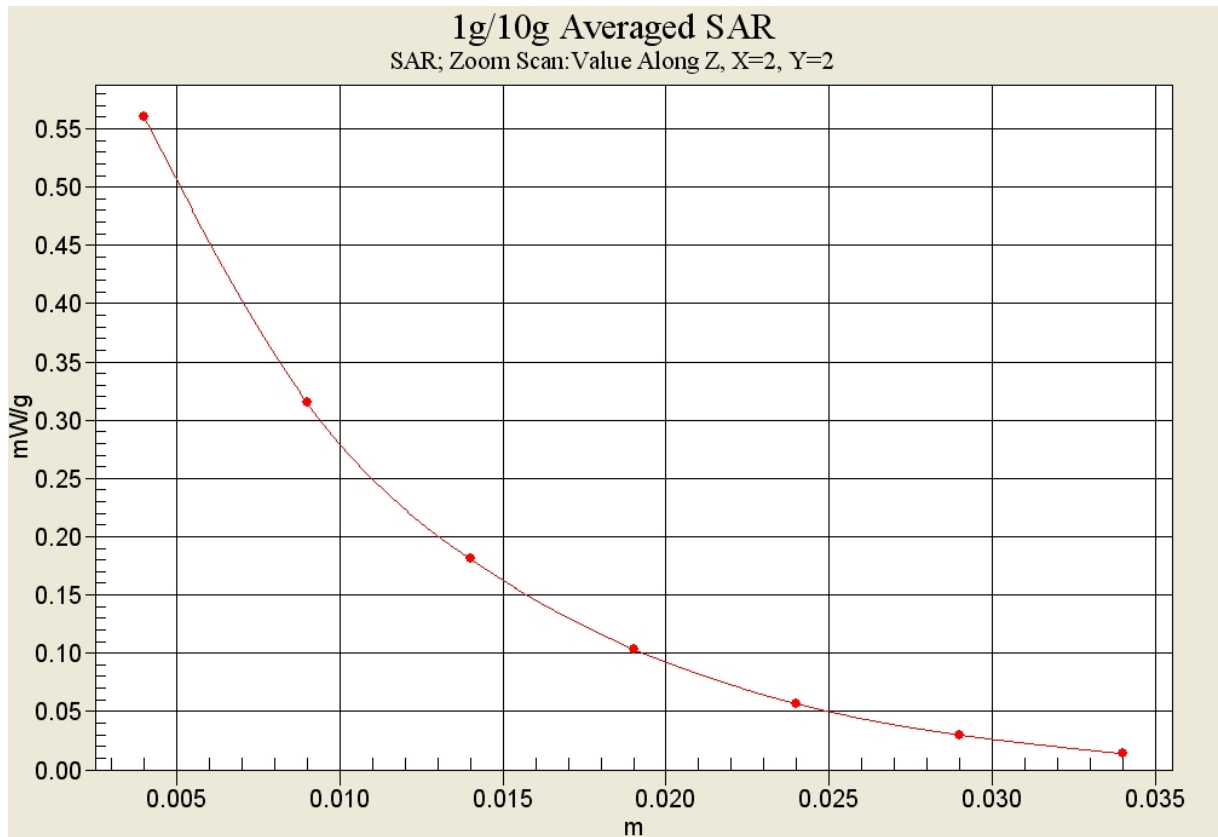


Fig. 47-1 Z-Scan at power reference point (2462 MHz CH11)