SAR TEST REPORT

No. 2010SAR00116

For

TCT Mobile Limited

GSM/GPRS dual bands mobile phone

U10QS Cam US

OT-355A

With

Hardware Version: PIO

Software Version: V460

FCCID: RAD150

Issued Date: 2010-10-18

Deutscher Akkreditierungs Rat

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

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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 6

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 10

6 LABORATORY ENVIRONMENT 11

7 CONDUCTED OUTPUT POWER MEASUREMENT 11

7.1 Summary 11
7.2 Conducted Power 11

8 TEST RESULTS 12

8.1 Dielectric Performance 12
8.2 System Validation 13
8.3 Evaluation of Multi-Batteries 14
8.4 Summary of Measurement Results 14
8.5 Conclusion 17

9 MEASUREMENT UNCERTAINTY 17

10 MAIN TEST INSTRUMENTS 19

ANNEX A MEASUREMENT PROCESS 20

ANNEX B TEST LAYOUT 21

ANNEX C GRAPH RESULTS 26

ANNEX D SYSTEM VALIDATION RESULTS 76

ANNEX E PROBE CALIBRATION CERTIFICATE 80

ANNEX F DIPOLE CALIBRATION CERTIFICATE 89

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

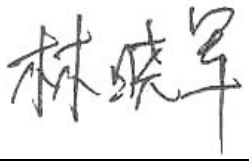
Temperature:	18°C~25 °C,
Relative humidity:	30%~ 70%
Ground system resistance:	< 0.5 Ω

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

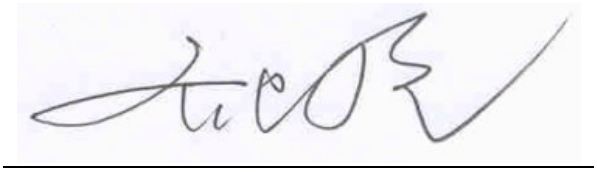
Project Leader:	Qi Dianyuan
Test Engineer:	Lin Xiaojun
Testing Start Date:	October 12, 2010
Testing End Date:	October 13, 2010

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
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2.2 Manufacturer Information

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

3.1 About EUT

EUT Description:	GSM/GPRS dual bands mobile phone
Model Name:	U10QS Cam US
Marketing Name:	OT-355A
GSM Frequency Band:	GSM 850 / PCS 1900
GPRS Multislot Class:	10
GPRS capability Class:	B

3.2 Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
EUT1	012434000012382	PIO	V460

*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	CAB30M0000C1	\	BYD
AE2	Battery	CAB30M0000C2	\	BAK
AE3	Stereo headset	CCA30B4000C0	\	Shunda
AE4	Stereo headset	CCA30B4000C2	\	JUWEI
AE5	Stereo headset	CCA30B4000C3	\	Quancheng
AE6	Stereo headset	CCA30B4000C4	\	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)

They specify the measurement method for demonstration of compliance with the SAR limits for such equipments.

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.

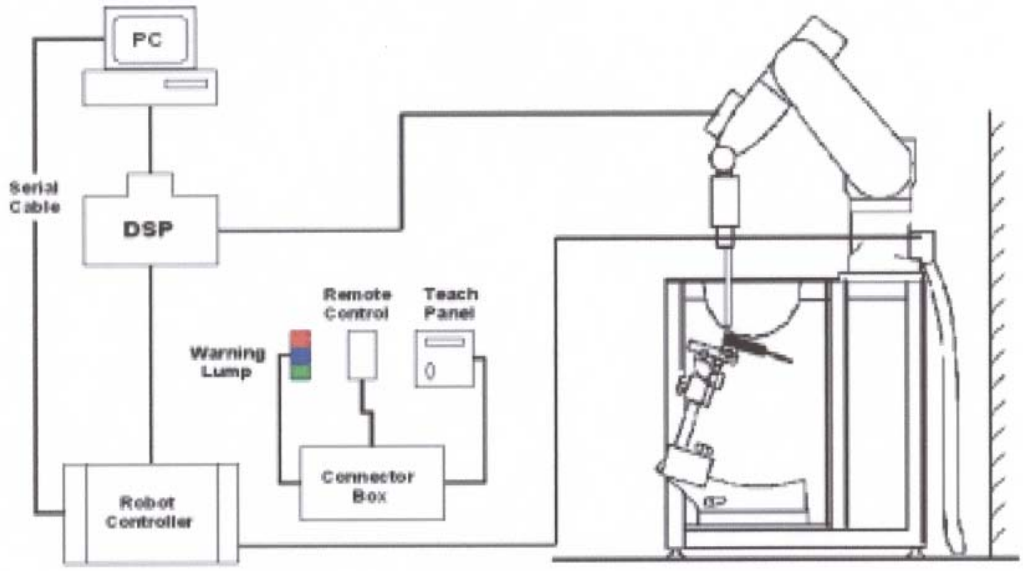
The EUT shall use its internal transmitter. The antenna(s), battery and accessories shall be those specified by the manufacturer. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output. If a wireless link is used, the antenna connected to the 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 DASY4 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 ± 0.02mm. 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 ± 10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB.

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
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 µW/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

Picture 3: ES3DV3 E-field

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 ± 10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.

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

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

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

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

Or

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

Where:
σ = Simulated tissue conductivity,
ρ = Tissue density (kg/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 repeatable 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. l mm
Filling Volume	Approx. 20 liters
Dimensions	810 x l000 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 800-2000 MHz consisted of water, sugar, salt 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 ε=41.5 σ=0.90
MIXTURE %	FREQUENCY 1900MHz
Water	55.242
Glycol monobutyl	44.452
Salt	0.306
Dielectric Parameters Target Value	f=1900MHz ε=40.0 σ=1.40

Table 2. Composition of the Body Tissue Equivalent Matter

MIXTURE %	FREQUENCY 850MHz
Water	52.5
Sugar	45.0
Salt	1.4
Preventol	0.1
Cellulose	1.0
Dielectric Parameters Target Value	f=850MHz ε=55.2 σ=0.97
MIXTURE %	FREQUENCY 1900MHz
Water	69.91
Glycol monobutyl	29.96
Salt	0.13
Dielectric Parameters Target Value	f=1900MHz ε=53.3 σ=1.52

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 LABORATORY ENVIRONMENT

Table 3: The Ambient Conditions during EMF Test

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surroundi objects is minimized and in compliance with requirement of standards.	

7 CONDUCTED OUTPUT POWER MEASUREMENT

7.1 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.

7.2 Conducted Power

7.2.1 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.

7.2.2 Measurement result

The conducted power for GSM 850/1900 is as following:

GSM 850MHZ	**Conducted Power (dBm)**		
	Channel 251(848.8MHz)	**Channel 190(836.6MHz)**	**Channel 128(824.2MHz)**
	32.16	32.23	32.19
GSM 1900MHZ	**Conducted Power (dBm)**		
	Channel 810(1909.8MHz)	**Channel 661(1880MHz)**	**Channel 512(1850.2MHz)**
	29.54	29.49	29.56

The conducted power for GPRS 850/1900

GSM 850	Measured Power (dBm)			calculation	Averaged Power (dBm)		
GPRS	**251**	**190**	**128**		**251**	**190**	**128**
1 Txslot	32.16	32.22	32.16	-9.03dB	23.13	23.19	23.13
2 Txslots	31.30	31.32	31.27	-6.02dB	**25.28**	**25.3**	**25.25**
PCS1900	Measured Power (dBm)			calculation	Averaged Power (dBm)		
GPRS	**810**	**661**	**512**		**810**	**661**	**512**
1 Txslot	29.55	29.50	29.57	-9.03dB	20.52	20.47	20.54
2 Txslots	28.56	28.53	28.67	-6.02dB	**22.54**	**22.51**	**22.65**

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

According to the conducted power as above, the body measurements are performed with 2 Txslots for GPRS.

7.2.3 Power Drift

To control the output power stability during the SAR test, DASY4 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in Table 10 to Table 15 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

8 TEST RESULTS

8.1 Dielectric Performance

Table 4: Dielectric Performance of Head Tissue Simulating Liquid

Measurement is made at temperature 23.0 °C and relative humidity 42%. Liquid temperature during the test: 22.5°C Measurement Date : 850 MHz **October 12, 2010** 1900 MHz **October 13, 2010**			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	835 MHz	41.5	0.90
	1900 MHz	40.0	1.40
Measurement value (Average of 10 tests)	835 MHz	40.6	0.87
	1900 MHz	39.5	1.39

Table 5: Dielectric Performance of Body Tissue Simulating Liquid

Measurement is made at temperature 23.0 °C and relative humidity 42%. Liquid temperature during the test: 22.5°C Measurement Date : 850 MHz **October 12, 2010** 1900 MHz **October 13, 2010**			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	835 MHz	55.2	0.97
	1900 MHz	53.3	1.52
Measurement value (Average of 10 tests)	835 MHz	54.2	0.95
	1900 MHz	52.3	1.53

8.2 System Validation

Table 6: System Validation of Head

Measurement is made at temperature 23.0 °C and relative humidity 42%. Liquid temperature during the test: 22.5°C Measurement Date : 850 MHz **October 12, 2010** 1900 MHz **October 13, 2010**							
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	
	Actural Measurement value	835 MHz		40.6		0.87	
		1900 MHz		39.5		1.39	
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	6.04	9.44	-1.31%	0.32%
	1900 MHz	20.1	39.4	19.7	39.5	-1.99%	0.25%

Table 7: System Validation of Body

Measurement is made at temperature 23.0 °C and relative humidity 42%. Liquid temperature during the test: 22.5°C Measurement Date : 850 MHz **October 12, 2010** 1900 MHz **October 13, 2010**							
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	
	Actural Measurement value	835 MHz		54.2		0.95	
		1900 MHz		52.3		1.53	
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	6.12	9.56	-1.92%	-0.10%
	1900 MHz	20.9	41.4	21.2	41.2	1.44%	-0.48%

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

8.3 Evaluation of Multi-Batteries

Table 8: Pretest SAR Values (PCS 1900 MHz Band)

Limit of SAR (W/kg)	**10 g Average**	**1 g Average**
	2.0	1.6
Test Case	**Measurement Result (W/kg)**	
	10 g Average	**1 g Average**
Right hand, Touch cheek, Mid frequency (CAB30M0000C1)	0.641	1.21
Right hand, Touch cheek, Mid frequency (CAB30M0000C2)	0.602	1.14

Note: According to the values in the above table, the battery, CAB30M0000C1, is the normal battery. We'll perform the head measurement with this battery and retest on highest value point with others.

Table 9: Pretest SAR Values (EGSM 850 MHz Band-Body)

Limit of SAR (W/kg)	**10 g Average**	**1 g Average**
	2.0	1.6
Test Case	**Measurement Result (W/kg)**	
	10 g Average	**1 g Average**
Body, Towards Ground, Bottom frequency (CAB30M0000C1)	0.708	1.02
Body, Towards Ground, Bottom frequency (CAB30M0000C2)	0.692	0.996

Note: According to the values in the above table, the battery, CAB30M0000C1, is the normal battery. We'll perform the body measurement with this battery and retest on highest value point with others.

8.4 Summary of Measurement Results

Table 10: SAR Values (850MHz-Head) - with battery CAB30M0000C1

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, Top frequency (See Fig.1)	0.553	0.840	-0.094
Left hand, Touch cheek, Mid frequency (See Fig.2)	0.626	0.927	0.024
Left hand, Touch cheek, Bottom frequency (See Fig.3)	0.669	0.971	0.002
Left hand, Tilt 15 Degree, Top frequency (See Fig.4)	0.238	0.337	-0.011
Left hand, Tilt 15 Degree, Mid frequency (See Fig.5)	0.277	0.387	-0.055
Left hand, Tilt 15 Degree, Bottom frequency (See Fig.6)	0.289	0.401	-0.025
Right hand, Touch cheek, Top frequency (See Fig.7)	0.547	0.833	-0.175

Right hand, Touch cheek, Mid frequency (See Fig.8)	0.607	0.881	0.002
Right hand, Touch cheek, Bottom frequency (See Fig.9)	0.648	0.918	0.058
Right hand, Tilt 15 Degree, Top frequency (See Fig.10)	0.253	0.357	0.006
Right hand, Tilt 15 Degree, Mid frequency (See Fig.11)	0.277	0.391	0.017
Right hand, Tilt 15 Degree, Bottom frequency (See Fig.12)	0.295	0.411	-0.005

Table 11: SAR Values (1900MHz-Head) - with battery CAB30M0000C1

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, Top frequency (See Fig.13)	0.537	0.943	-0.090
Left hand, Touch cheek, Mid frequency (See Fig.14)	0.527	0.945	-0.036
Left hand, Touch cheek, Bottom frequency (See Fig.15)	0.484	0.868	0.171
Left hand, Tilt 15 Degree, Top frequency (See Fig.16)	0.202	0.358	-0.028
Left hand, Tilt 15 Degree, Mid frequency (See Fig.17)	0.207	0.365	-0.024
Left hand, Tilt 15 Degree, Bottom frequency (See Fig.18)	0.179	0.312	0.047
Right hand, Touch cheek, Top frequency (See Fig.19)	0.615	1.16	0.025
Right hand, Touch cheek, Mid frequency (See Fig.20)	0.641	1.21	-0.052
Right hand, Touch cheek, Bottom frequency (See Fig.21)	0.574	1.09	0.030
Right hand, Tilt 15 Degree, Top frequency (See Fig.22)	0.176	0.289	-0.023
Right hand, Tilt 15 Degree, Mid frequency (See Fig.23)	0.209	0.349	0.073
Right hand, Tilt 15 Degree, Bottom frequency(See Fig.24)	0.198	0.333	-0.155

Table 12: SAR Values (1900MHz-Head) - with battery CAB30M0000C2

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**	
Right hand, Touch cheek, Mid frequency (See Fig.25)	0.602	1.14	0.071

Table 13: SAR Values (850MHz-Body) - with battery CAB30M0000C1

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, Top frequency with GPRS (See Fig.26)	0.494	0.715	-0.091
Body, Towards Ground, Mid frequency with GPRS (See Fig.27)	0.622	0.898	-0.028
Body, Towards Ground, Bottom frequency with GPRS (See Fig.28)	0.708	1.02	-0.027
Body, Towards Phantom, Top frequency with GPRS (See Fig.29)	0.422	0.583	-0.059
Body, Towards Phantom, Mid frequency with GPRS (See Fig.30)	0.500	0.691	-0.026
Body, Towards Phantom, Bottom frequency with GPRS (See Fig.31)	0.573	0.791	0.003
Body, Towards Ground, Bottom frequency with Headset_ CCA30B40000C0 (See Fig.32)	0.432	0.627	0.018
Body, Towards Ground, Bottom frequency with Headset_ CCA30B40000C2 (See Fig.33)	0.431	0.624	0.014
Body, Towards Ground, Bottom frequency with Headset_ CCA30B40000C3 (See Fig.34)	0.429	0.621	-0.049
Body, Towards Ground, Bottom frequency with Headset_ CCA30B40000C4 (See Fig.35)	0.433	0.625	-0.020

Table 14: SAR Values (1900MHz-Body) - with battery CAB30M0000C1

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, Top frequency with GPRS (See Fig.36)	0.352	0.588	-0.036
Body, Towards Ground, Mid frequency with GPRS (See Fig.37)	0.359	0.595	0.038
Body, Towards Ground, Bottom frequency with GPRS (See Fig.38)	0.328	0.549	0.021
Body, Towards Phantom, Top frequency with GPRS (See Fig.39)	0.195	0.324	0.183
Body, Towards Phantom, Mid frequency with GPRS (See Fig.40)	0.192	0.320	0.046
Body, Towards Phantom, Bottom frequency with GPRS (See Fig.41)	0.171	0.285	0.043
Body, Towards Ground, Bottom frequency with Headset_ CCA30B40000C0 (See Fig.42)	0.239	0.396	0.034

Body, Towards Ground, Bottom frequency with Headset_ CCA30B40000C2 (See Fig.43)	0.249	0.412	0.030
Body, Towards Ground, Bottom frequency with Headset_ CCA30B40000C3 (See Fig.44)	0.229	0.382	0.019
Body, Towards Ground, Bottom frequency with Headset_ CCA30B40000C4 (See Fig.45)	0.224	0.367	-0.113

Table 15: SAR Values (850MHz-Body) - with battery CAB30M0000C2

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, Bottom frequency (See Fig.46)	0.692	0.996	0.009

8.5 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 value is obtained at the case of **PCS 1900 MHz Band, Head, Right hand, Touch cheek, Mid frequency (Table 11),** and the value are**: 1.21 (1g).**

9 Measurement Uncertainty

No.	Error Description	Type	Tolerance (±%)	Probability Distribution	Divisor	c_i	Standard Uncertainty (%) u_i' (%)	Degree of freedom V_{eff} or v_i
1	System repeatability	A	0.5	N	1	1	0.5	9
	Measurement system							
2	—probe calibration	B	3.5	N	1	1	3.5	∞
3	—axial isotropy of the probe	B	4.7	R	$\sqrt{3}$	0.5	4.3	∞
4	—hemisphere isotropy of the probe	B	9.4	R	$\sqrt{3}$			
5	—space resolution	B	0	R	$\sqrt{3}$	1	0	∞

6	—boundary effect	B	11.0	R	$\sqrt{3}$	1	6.4	∞
7	—probe linearity	B	4.7	R	$\sqrt{3}$	1	2.7	∞
8	—detection limit	B	1.0	R	$\sqrt{3}$	1	0.6	∞
9	—readout electronics	B	1.0	N	1	1	1.0	∞
10	—RF Ambient Conditions	B	3.0	R	$\sqrt{3}$	1	1.73	∞
11	— Probe Positioner Mechanical Tolerance	B	0.4	R	$\sqrt{3}$	1	0.2	∞
12	— Probe Positioning with respect to Phantom Shell	B	2.9	R	$\sqrt{3}$	1	1.7	∞
13	—Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	B	3.9	R	$\sqrt{3}$	1	2.3	∞
	Test sample Related							
14	—Test Sample Positioning	A	4.9	N	1	1	4.9	5
15	—Device Holder	A	6.1	N	1	1	6.1	5
16	—Output Power Variation - SAR drift measurement	B	5.0	R	$\sqrt{3}$	1	2.9	∞
	Phantom and Tissue Parameters							
17	— Phantom Uncertainty (shape and thickness tolerances)	B	1.0	R	$\sqrt{3}$	1	0.6	∞
18	— liquid conductivity (deviation from target)	B	5.0	R	$\sqrt{3}$	0.6	1.7	∞
19	— liquid conductivity (measurement error)	A	0.23	N	1	1	0.23	9
20	-liquid permittivity (deviation from target)	B	5.0	R	$\sqrt{3}$	0.6	1.7	∞
21	— liquid permittivity (measurement error)	A	0.46	N	1	1	0.46	9
Combined standard uncertainty		$u_c^{'} = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$		/			12.2	88.7
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$		N	k=2		24.4	/

10 MAIN TEST INSTRUMENTS

Table 16: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	HP 8753E	US38433212	August 29,2010	One year
02	Power meter	NRVD	101253	September 4, 2010	One year
03	Power sensor	NRV-Z5	100333		
04	Signal Generator	E4433B	US37230472	September 3, 2010	One Year
05	Amplifier	VTL5400	0505	No Calibration Requested	
06	BTS	CMU 200	105948	August 24, 2010	One year
07	E-field Probe	SPEAG ES3DV3	3149	September 25, 2010	One year
08	DAE	SPEAG DAE4	771	November 19, 2010	One year
09	Dipole Validation Kit	SPEAG D835V2	443	February 26, 2010	Two years
10	Dipole Validation Kit	SPEAG D1900V2	541	February 26, 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.

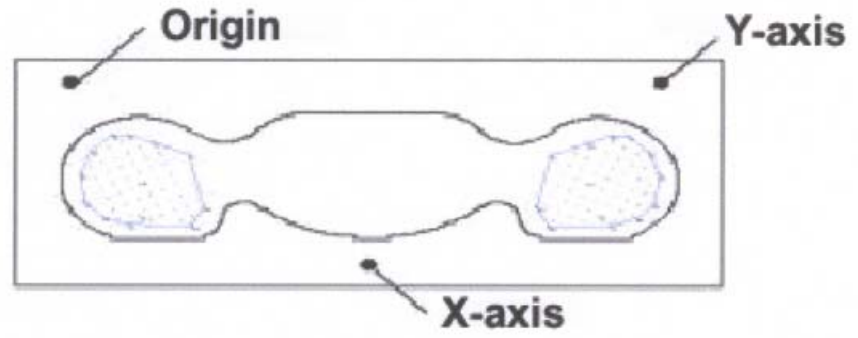
Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7 x 7x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

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.

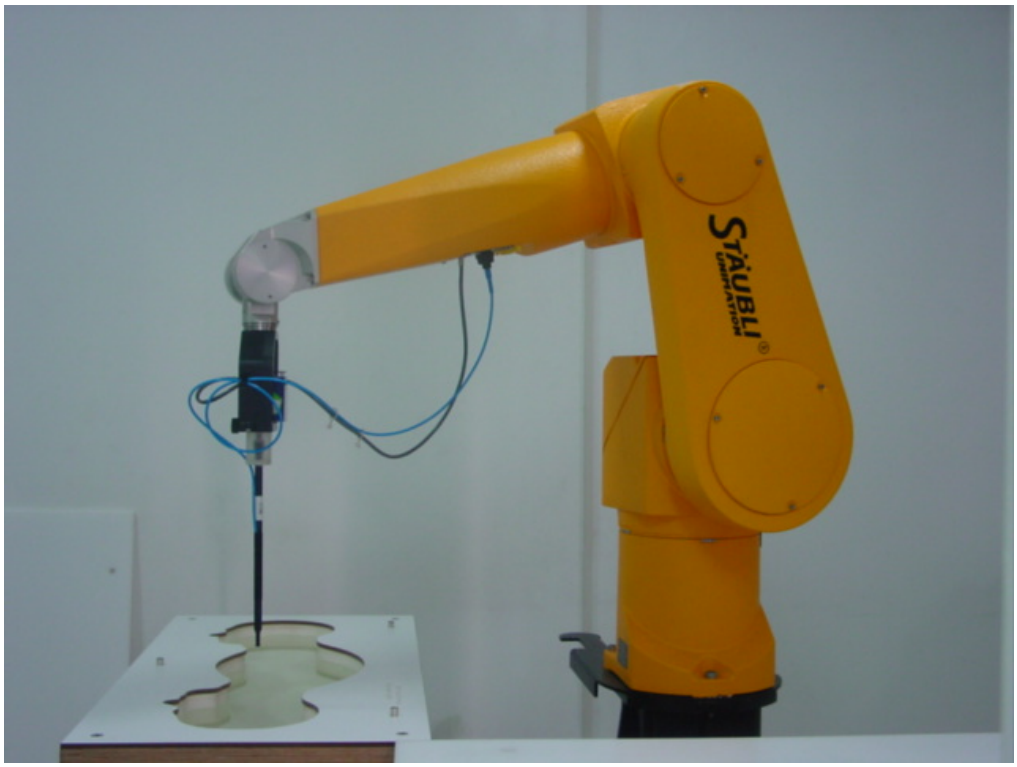
c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

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.

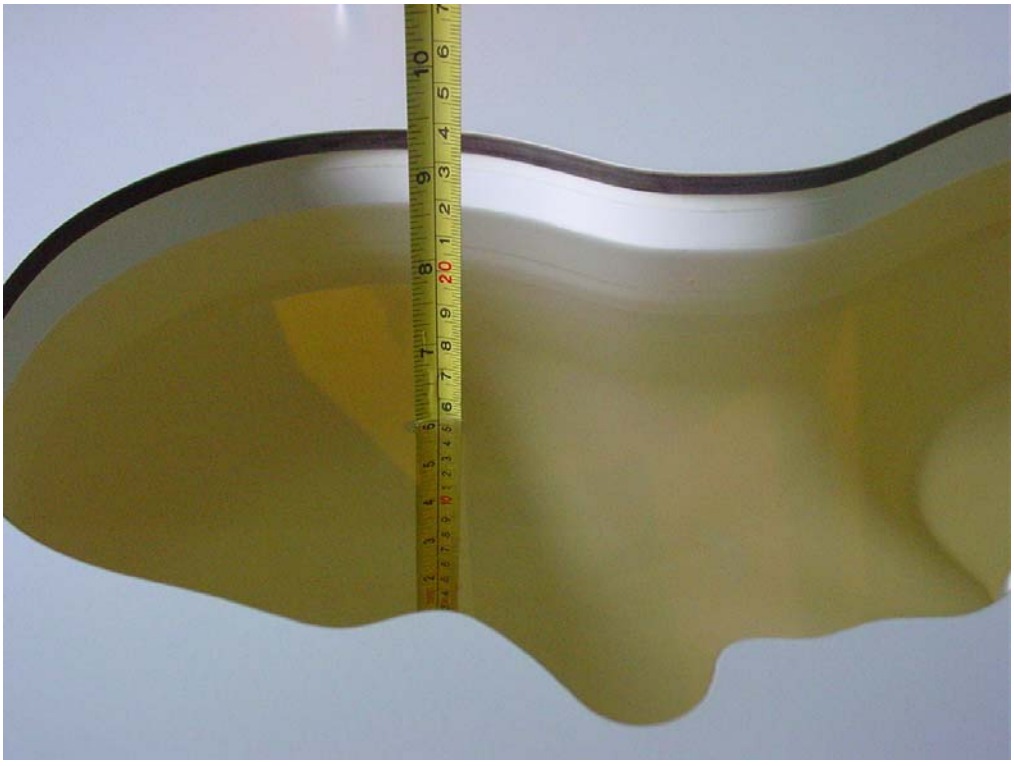


Picture A: SAR Measurement Points in Area Scan

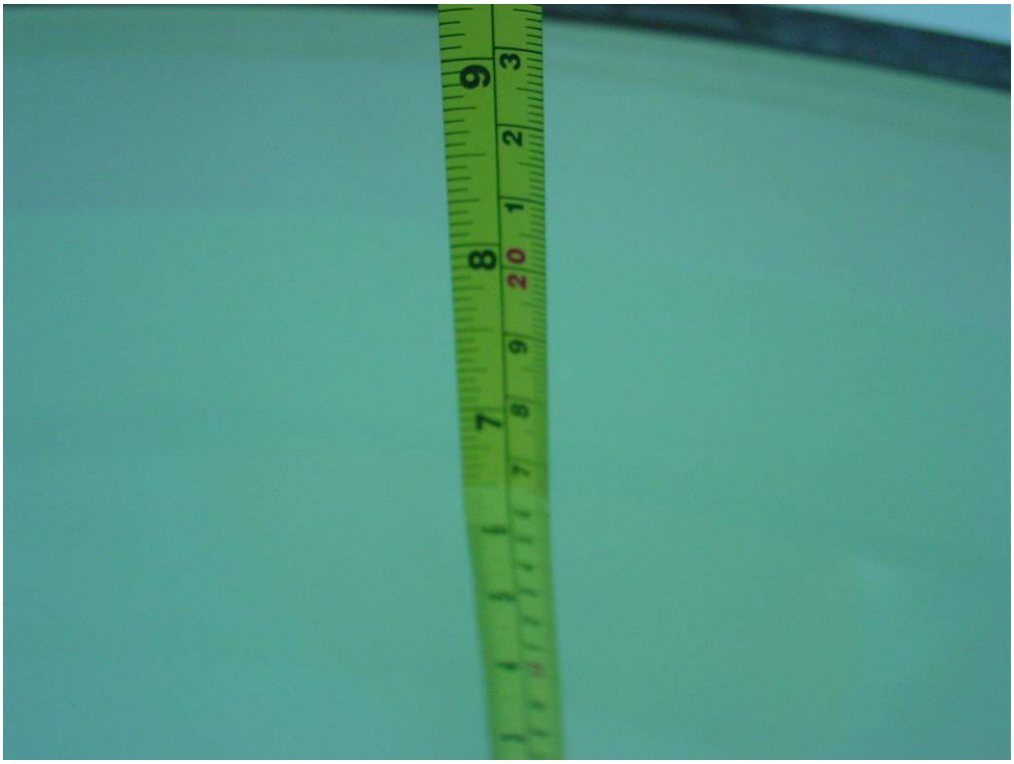
ANNEX B TEST LAYOUT



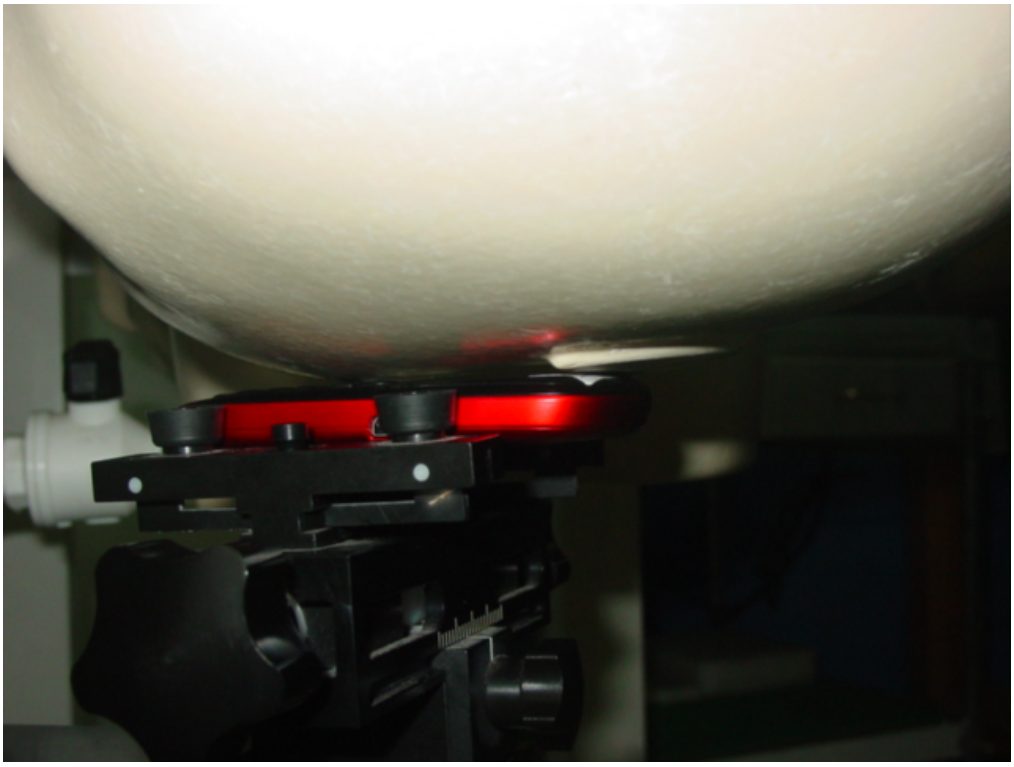
Picture B1: Specific Absorption Rate Test Layout



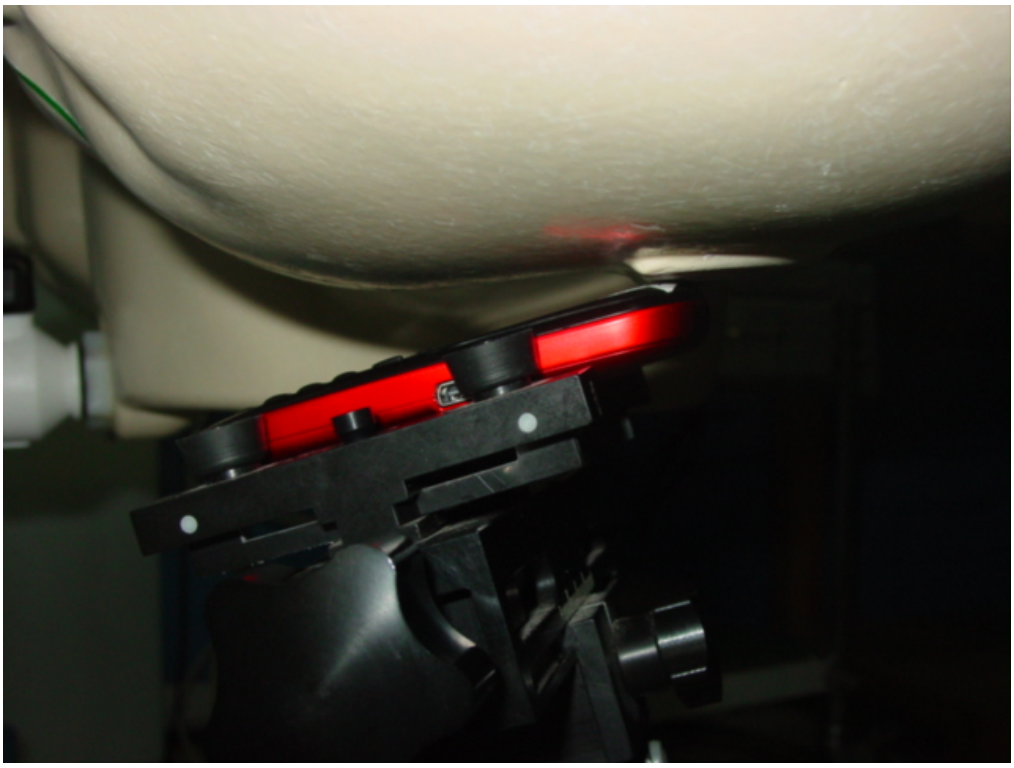
Picture B2: Liquid depth in the Flat Phantom (850 MHz)



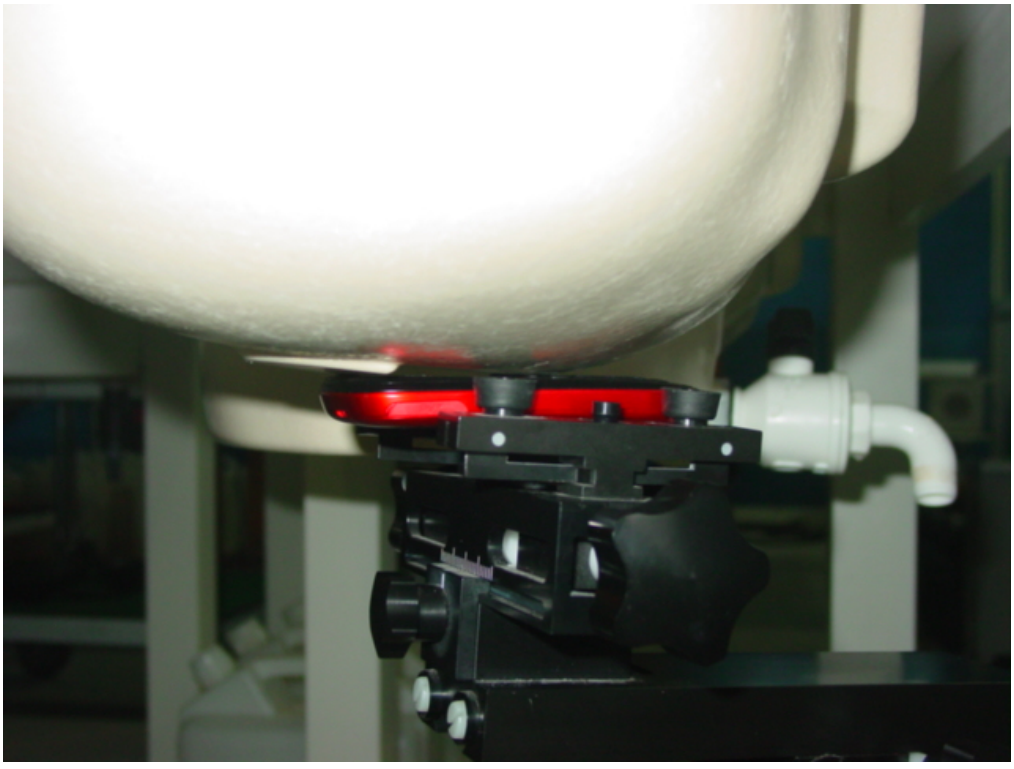
Picture B3 Liquid depth in the Flat Phantom (1900MHz)



Picture B4: Left Hand Touch Cheek Position

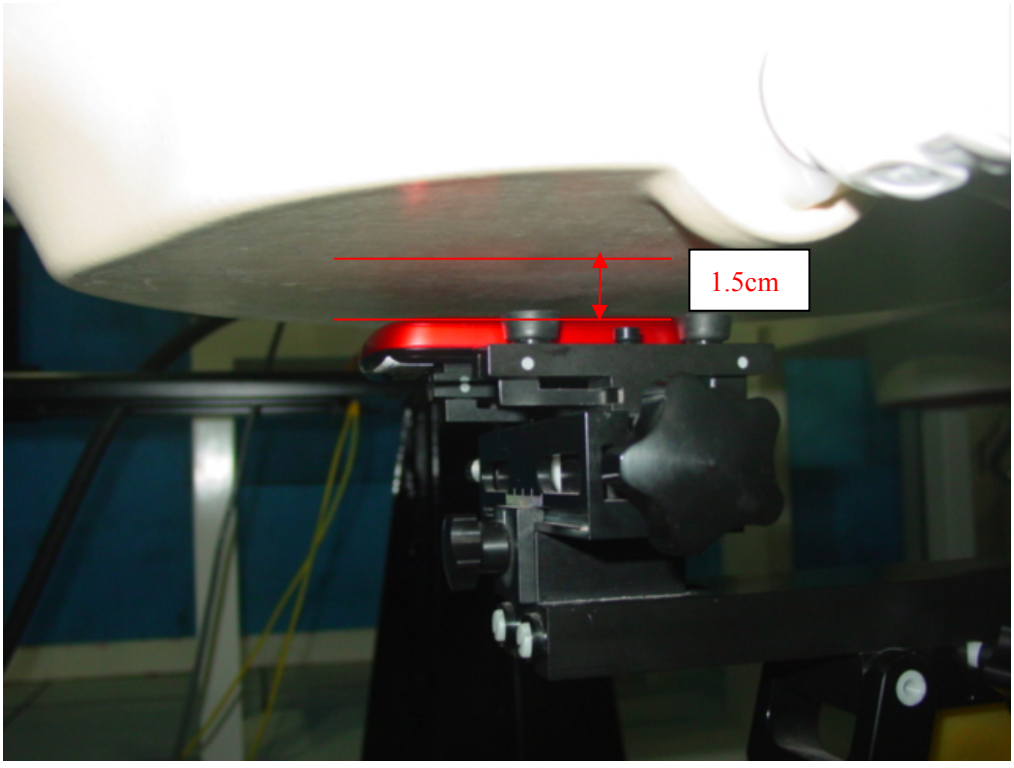


Picture B5: Left Hand Tilt 15° Position

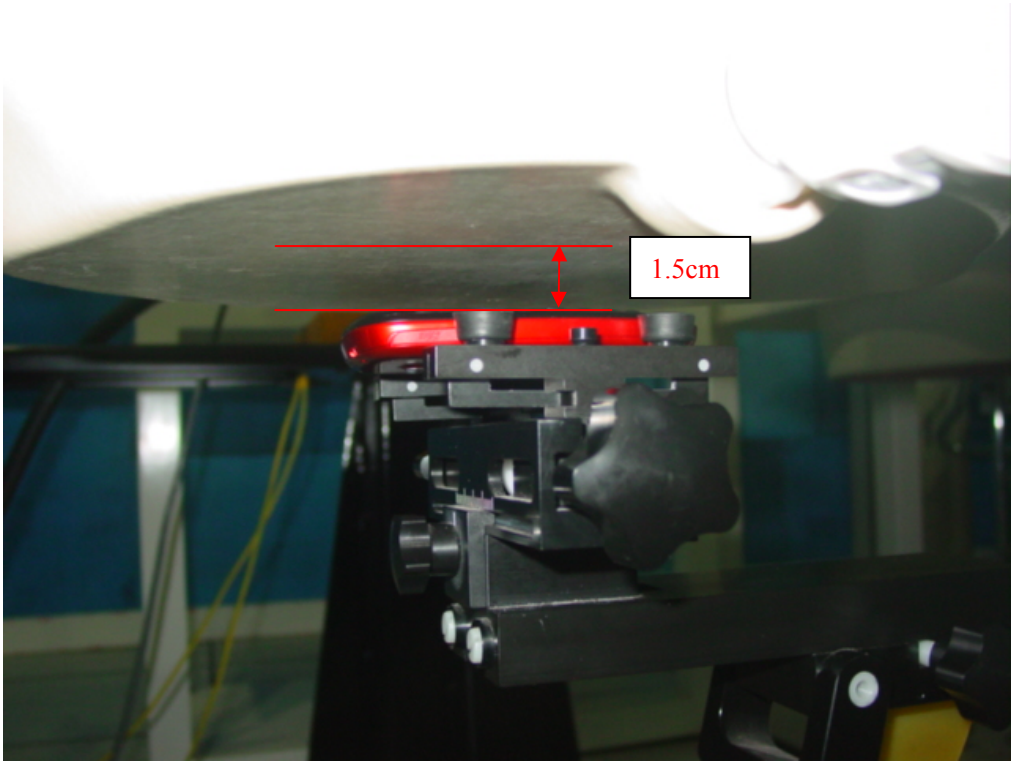


Picture B6: Right Hand Touch Cheek Position

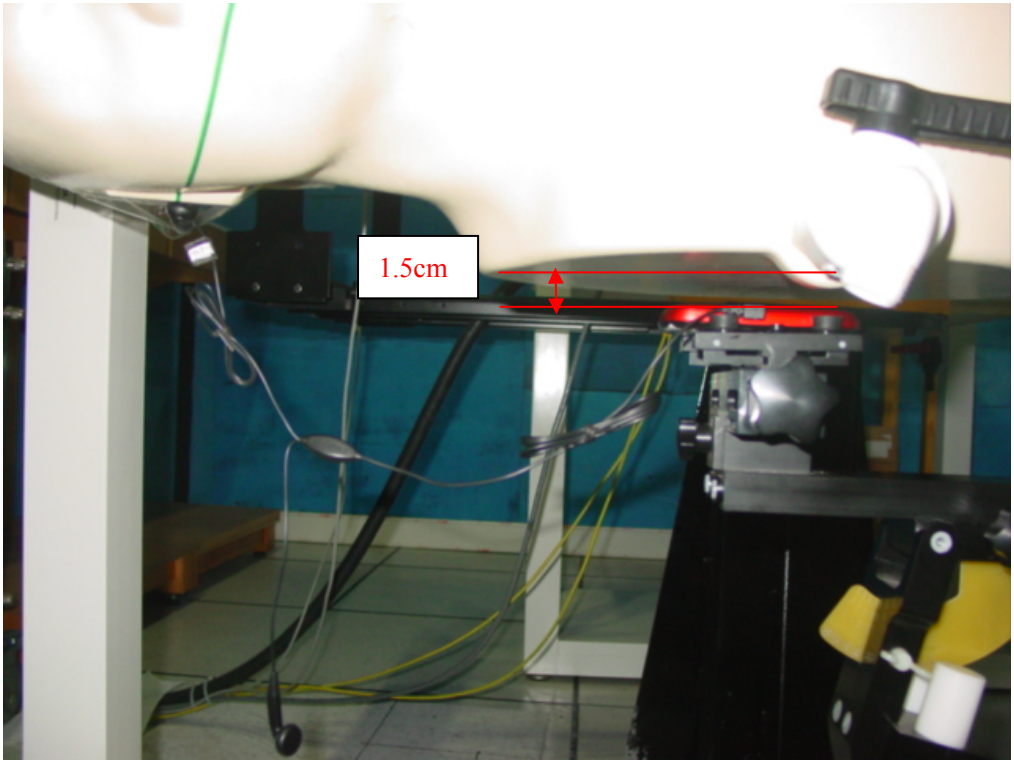
Picture B7: Right Hand Tilt 15° Position



Picture B8: Body-worn Position (towards ground, the distance from handset to the bottom of the Phantom is 1.5cm)



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



Picture B10: 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: 2010-10-12 8:06:23
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.89 mho/m; εr = 40.5; ρ = 1000 kg/m^3
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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.946 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.39 V/m; Power Drift = -0.094 dB
Peak SAR (extrapolated) = 1.36 W/kg
SAR(1 g) = 0.840 mW/g; SAR(10 g) = 0.553 mW/g
Maximum value of SAR (measured) = 0.906 mW/g

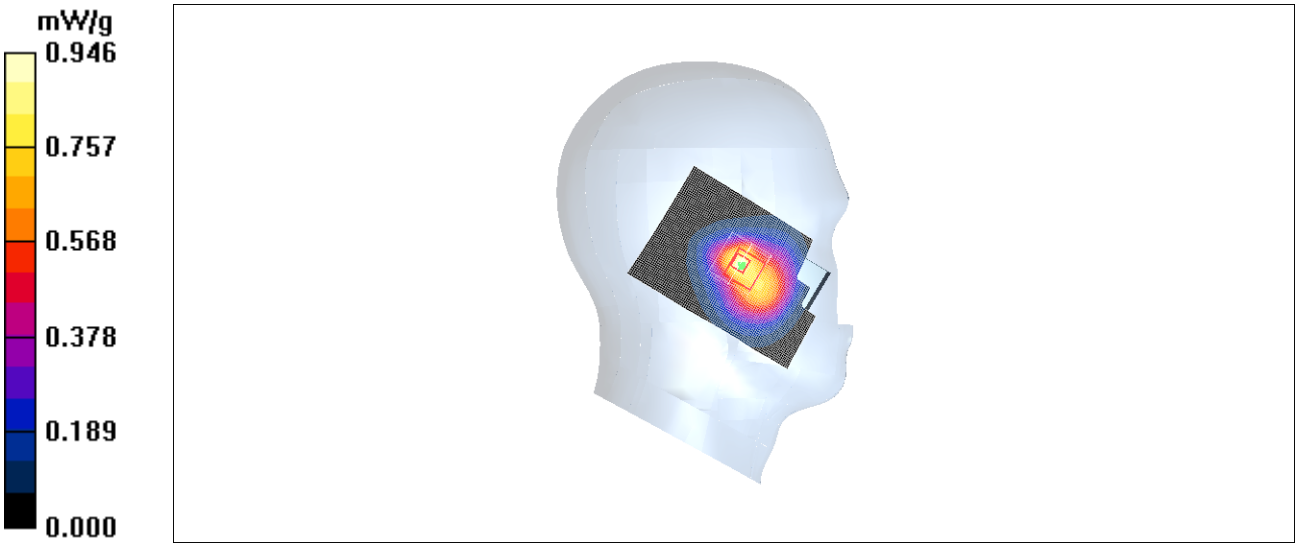


Fig. 1 850MHz CH251

850 Left Cheek Middle

Date/Time: 2010-10-12 8:20:47
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.878 mho/m; εr = 40.6; ρ = 1000 kg/m^3
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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.03 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.67 V/m; Power Drift = 0.024 dB
Peak SAR (extrapolated) = 1.46 W/kg
SAR(1 g) = 0.927 mW/g; SAR(10 g) = 0.626 mW/g
Maximum value of SAR (measured) = 1.00 mW/g

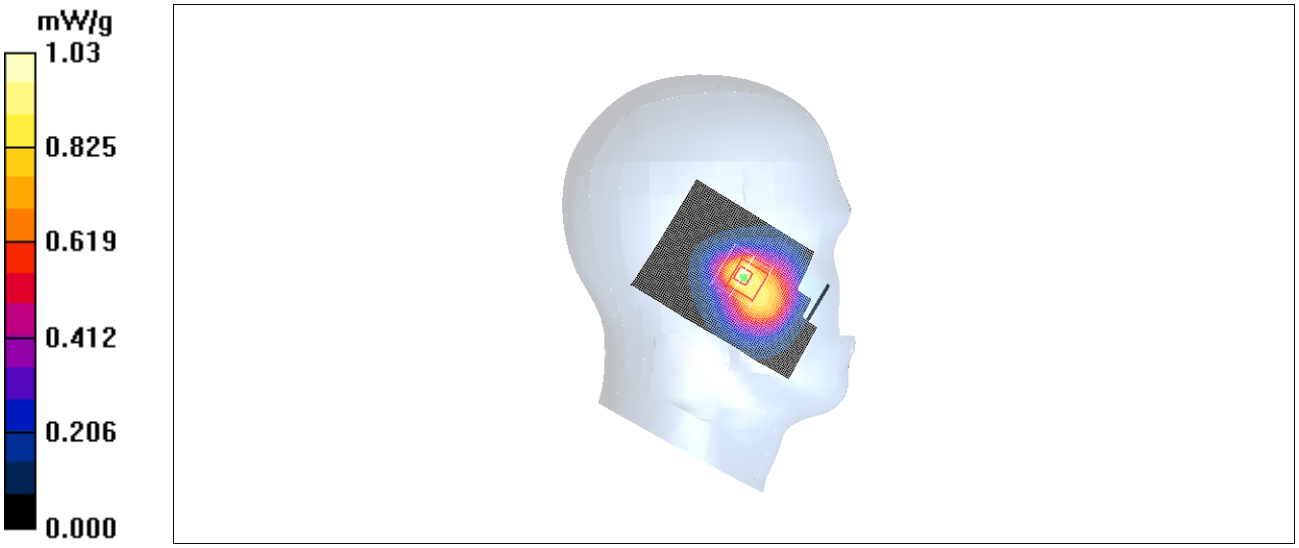


Fig. 2 850 MHz CH190

850 Left Cheek Low

Date/Time: 2010-10-12 8:35:05
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.866 mho/m; εr = 40.6; ρ = 1000 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)

Cheek Low/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.06 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.95 V/m; Power Drift = 0.002 dB
Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 0.971 mW/g; SAR(10 g) = 0.669 mW/g
Maximum value of SAR (measured) = 1.05 mW/g

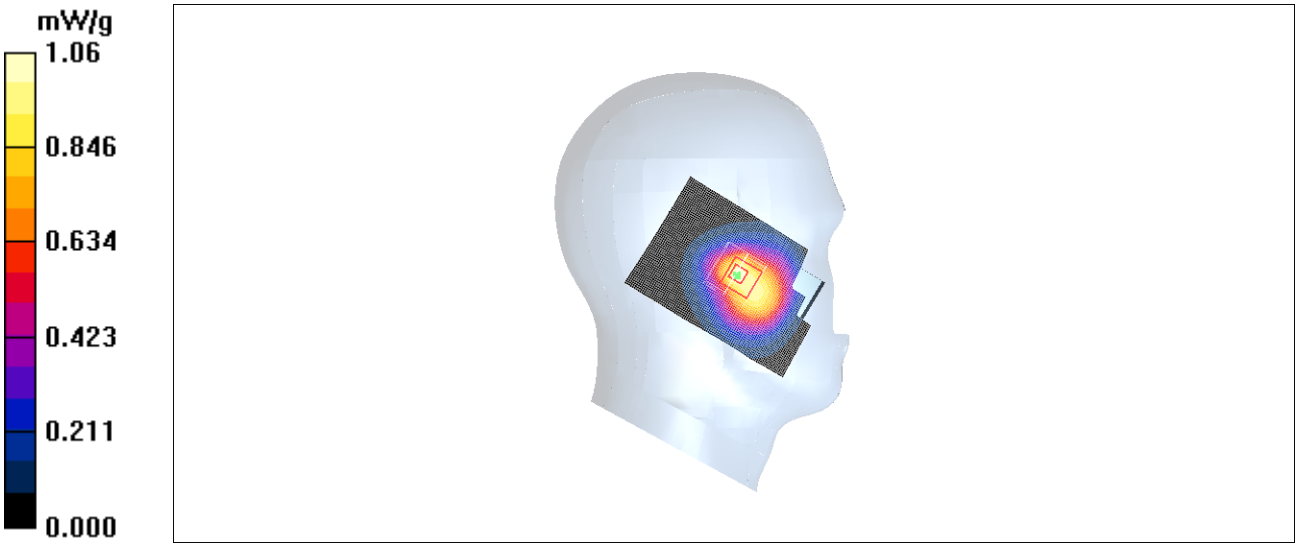


Fig. 3 850 MHz CH128

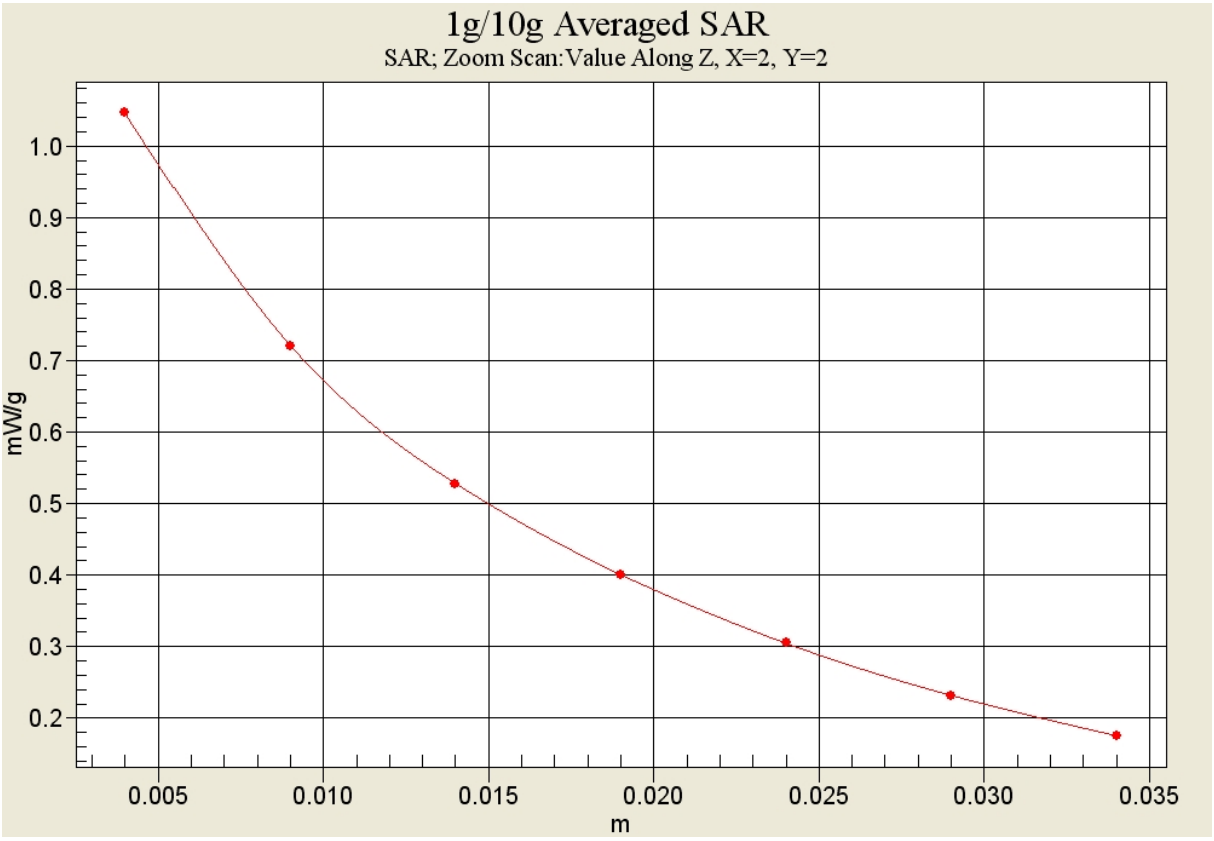


Fig. 3-1 Z-Scan at power reference point (850 MHz CH128)

850 Left Tilt High

Date/Time: 2010-10-12 8:49:38
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.89 mho/m; εr = 40.5; ρ = 1000 kg/m^3
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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.365 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.84 V/m; Power Drift = -0.011 dB
Peak SAR (extrapolated) = 0.459 W/kg
SAR(1 g) = 0.337 mW/g; SAR(10 g) = 0.238 mW/g
Maximum value of SAR (measured) = 0.362 mW/g

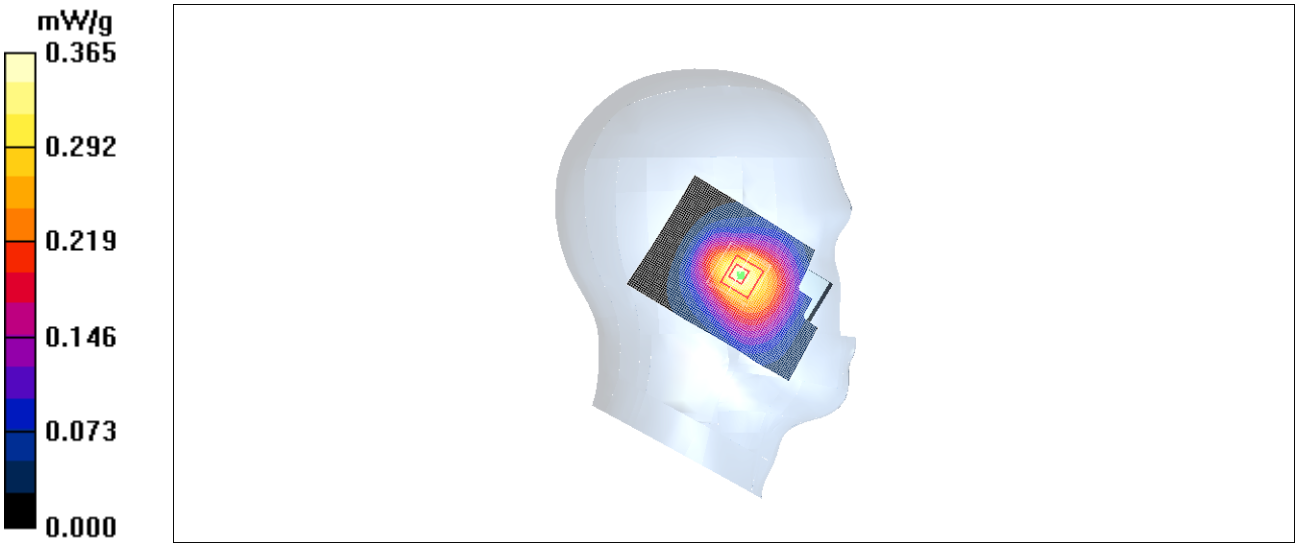


Fig.4 850 MHz CH251

850 Left Tilt Middle

Date/Time: 2010-10-12 9:03:07
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.878 mho/m; εr = 40.6; ρ = 1000 kg/m^3
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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.424 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.8 V/m; Power Drift = -0.055 dB
Peak SAR (extrapolated) = 0.528 W/kg
SAR(1 g) = 0.387 mW/g; SAR(10 g) = 0.277 mW/g
Maximum value of SAR (measured) = 0.411 mW/g

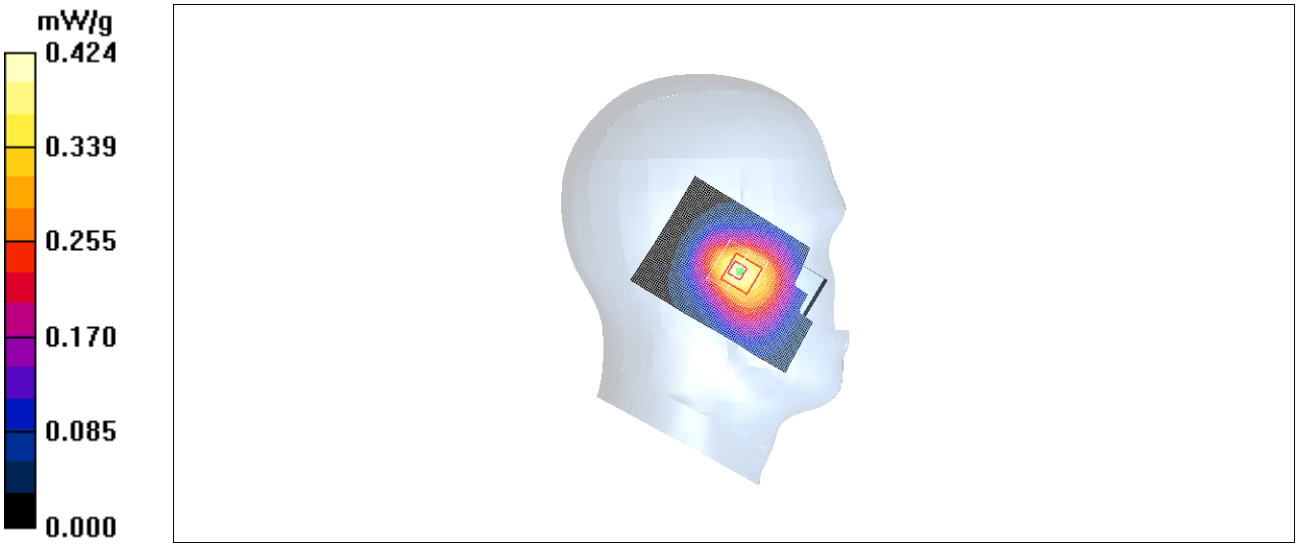


Fig.5 850 MHz CH190

850 Left Tilt Low

Date/Time: 2010-10-12 9:17:22
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.866 mho/m; εr = 40.6; ρ = 1000 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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.434 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.2 V/m; Power Drift = -0.025 dB
Peak SAR (extrapolated) = 0.540 W/kg
SAR(1 g) = 0.401 mW/g; SAR(10 g) = 0.289 mW/g
Maximum value of SAR (measured) = 0.426 mW/g

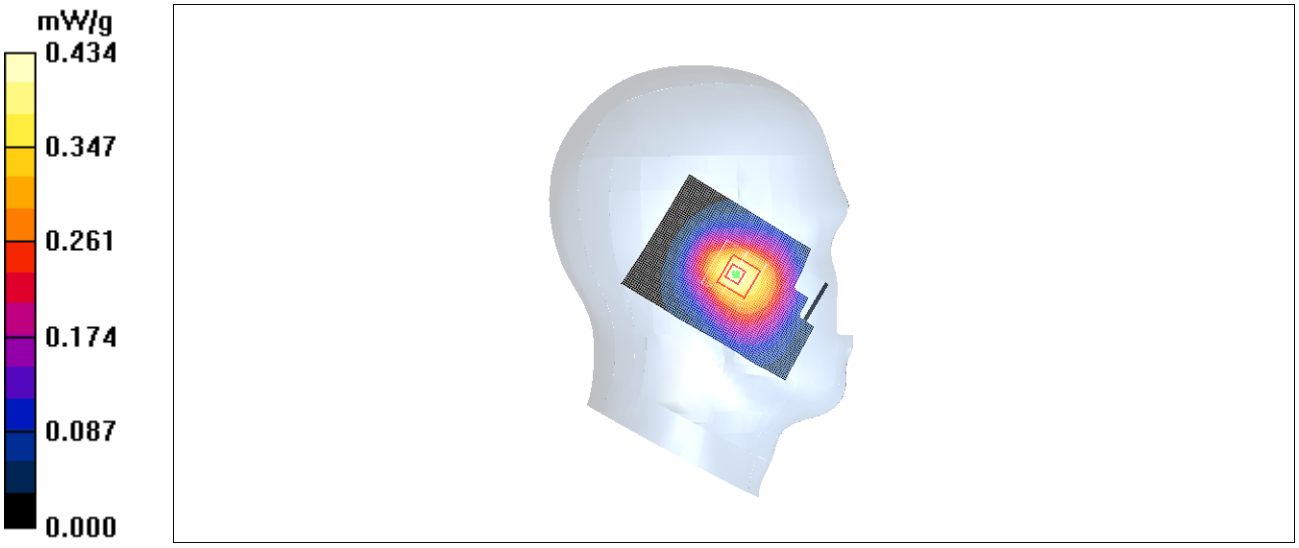


Fig. 6 850 MHz CH128

850 Right Cheek High

Date/Time: 2010-10-12 9:31:45
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.89 mho/m; εr = 40.5; ρ = 1000 kg/m^3
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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.972 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.23 V/m; Power Drift = -0.175 dB
Peak SAR (extrapolated) = 1.35 W/kg
SAR(1 g) = 0.833 mW/g; SAR(10 g) = 0.547 mW/g
Maximum value of SAR (measured) = 0.886 mW/g

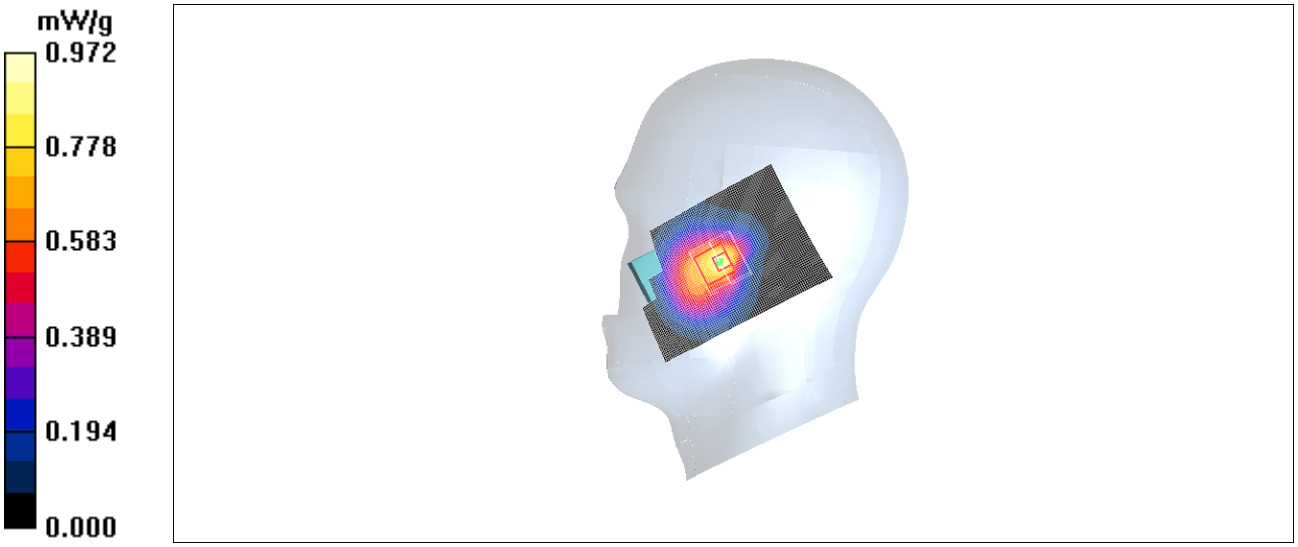


Fig. 7 850 MHz CH251

850 Right Cheek Middle

Date/Time: 2010-10-12 9:46:14
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.878 mho/m; εr = 40.6; ρ = 1000 kg/m^3
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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.03 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.27 V/m; Power Drift = 0.002 dB
Peak SAR (extrapolated) = 1.38 W/kg
SAR(1 g) = 0.881 mW/g; SAR(10 g) = 0.607 mW/g
Maximum value of SAR (measured) = 0.921 mW/g

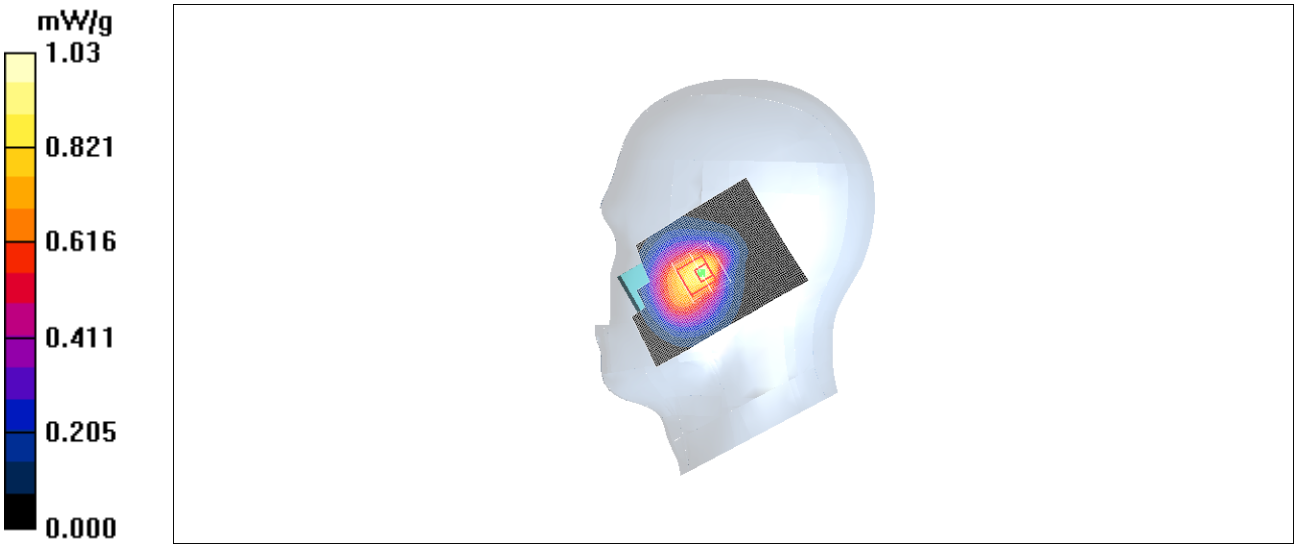


Fig. 8 850 MHz CH190

850 Right Cheek Low

Date/Time: 2010-10-12 10:00:36
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.866 mho/m; εr = 40.6; ρ = 1000 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)

Cheek Low/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.06 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.54 V/m; Power Drift = 0.058 dB
Peak SAR (extrapolated) = 1.36 W/kg
SAR(1 g) = 0.918 mW/g; SAR(10 g) = 0.648 mW/g
Maximum value of SAR (measured) = 0.973 mW/g

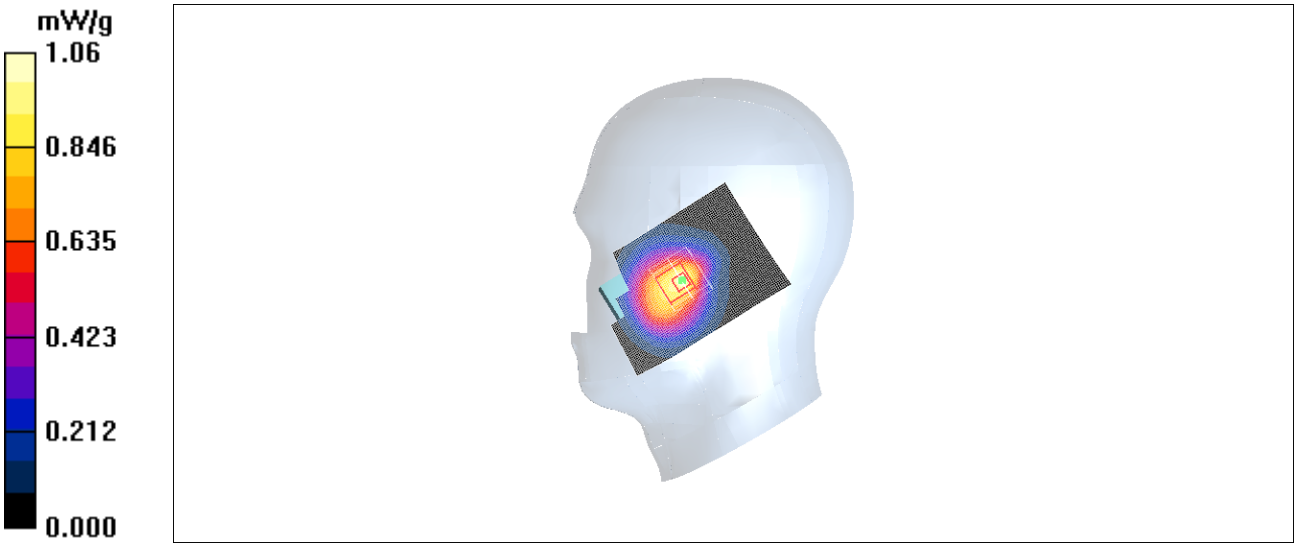


Fig. 9 850 MHz CH128

850 Right Tilt High

Date/Time: 2010-10-12 10:15:02
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.89 mho/m; εr = 40.5; ρ = 1000 kg/m^3
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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.389 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.1 V/m; Power Drift = 0.006 dB
Peak SAR (extrapolated) = 0.485 W/kg
SAR(1 g) = 0.357 mW/g; SAR(10 g) = 0.253 mW/g
Maximum value of SAR (measured) = 0.379 mW/g

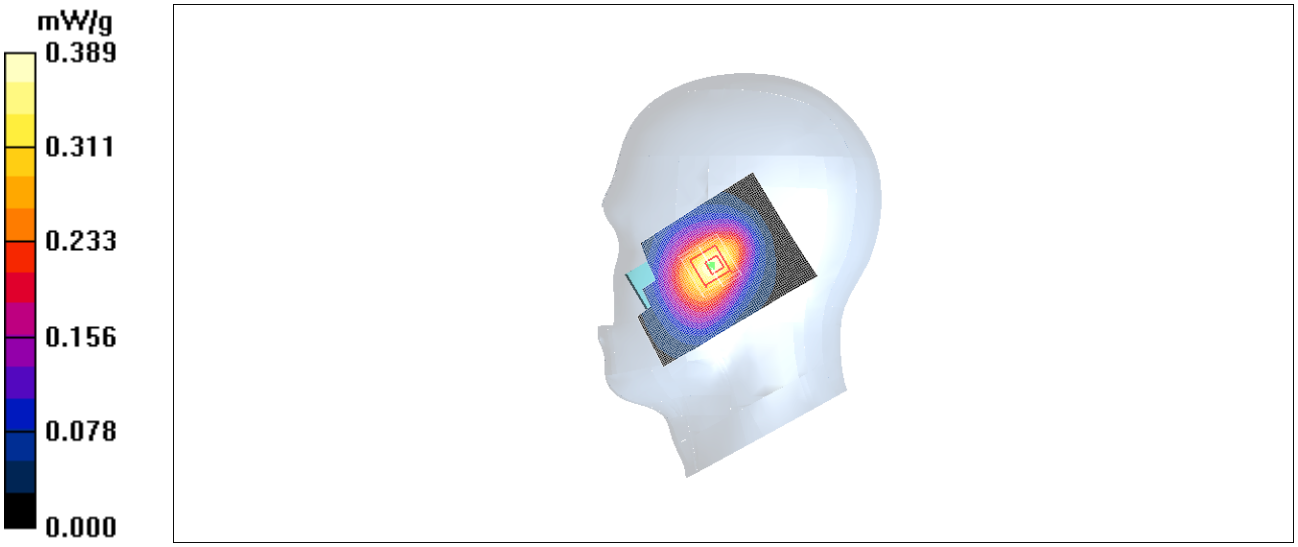


Fig.10 850 MHz CH251

850 Right Tilt Middle

Date/Time: 2010-10-12 10:29:21
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.878 mho/m; εr = 40.6; ρ = 1000 kg/m^3
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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.420 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 = 0.017 dB
Peak SAR (extrapolated) = 0.527 W/kg
SAR(1 g) = 0.391 mW/g; SAR(10 g) = 0.277 mW/g
Maximum value of SAR (measured) = 0.412 mW/g

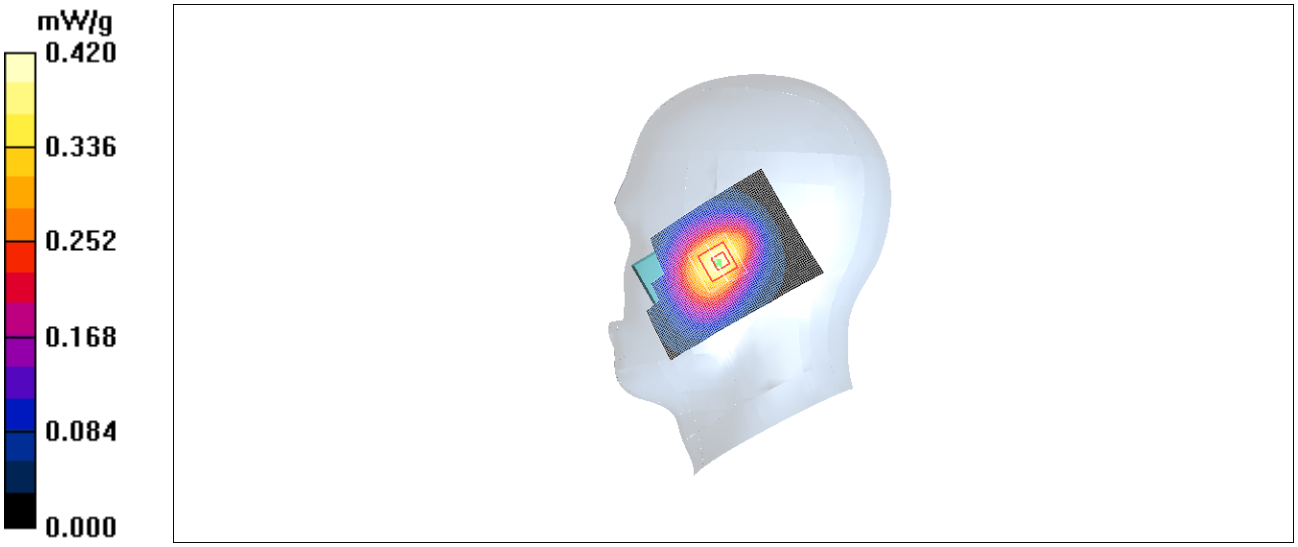


Fig.11 850 MHz CH190

850 Right Tilt Low

Date/Time: 2010-10-12 10:43:42
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.866 mho/m; εr = 40.6; ρ = 1000 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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.439 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.4 V/m; Power Drift = -0.005 dB
Peak SAR (extrapolated) = 0.553 W/kg
SAR(1 g) = 0.411 mW/g; SAR(10 g) = 0.295 mW/g
Maximum value of SAR (measured) = 0.434 mW/g

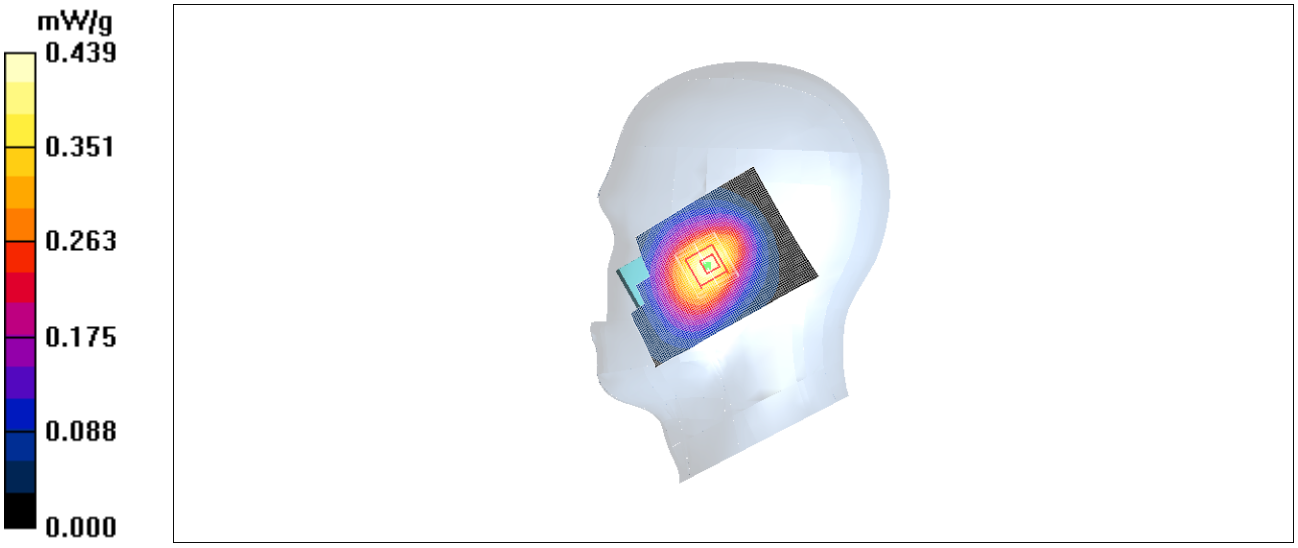


Fig. 12 850 MHz CH128

1900 Left Cheek High

Date/Time: 2010-10-13 8:07:34
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.40 mho/m; εr = 39.4; ρ = 1000 kg/m^3
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 (51x81x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.1 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11 V/m; Power Drift = -0.090 dB
Peak SAR (extrapolated) = 1.66 W/kg
SAR(1 g) = 0.943 mW/g; SAR(10 g) = 0.537 mW/g
Maximum value of SAR (measured) = 0.995 mW/g

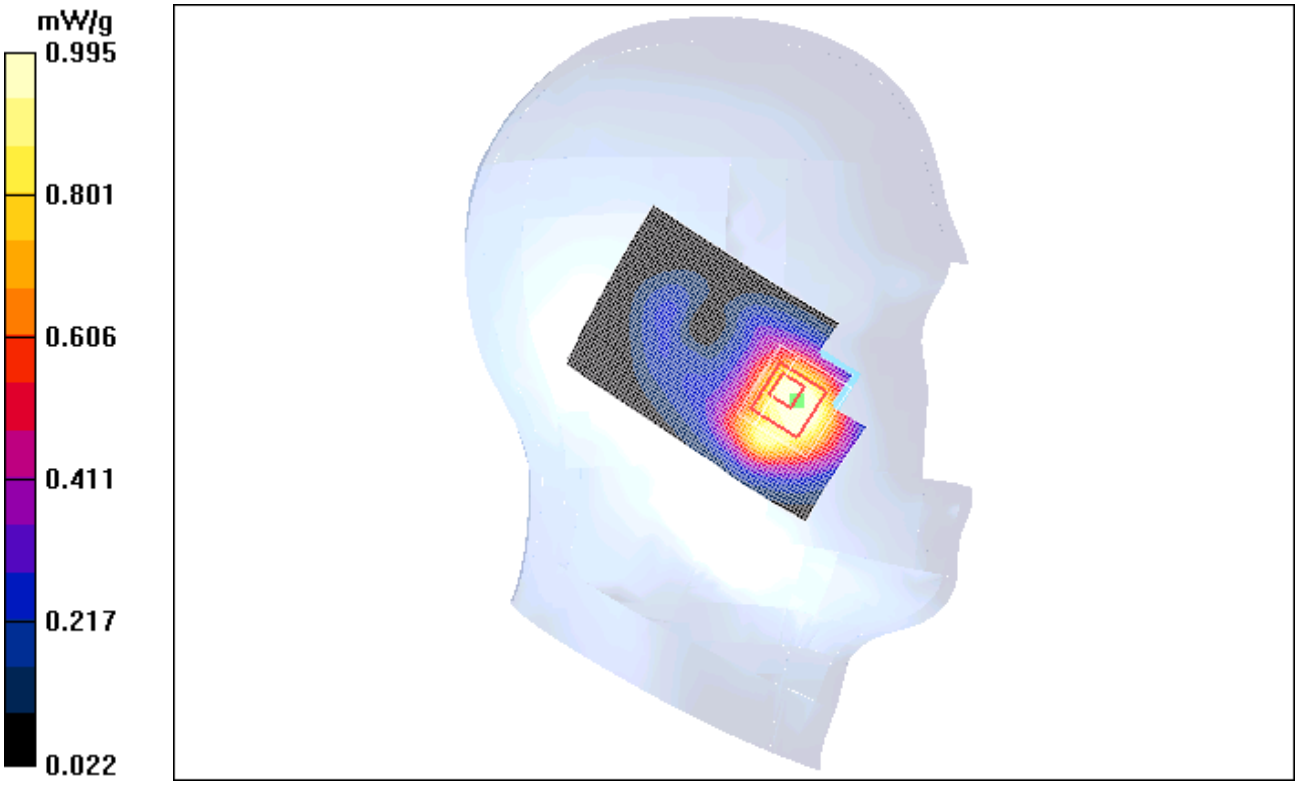


Fig. 13 1900 MHz CH810

1900 Left Cheek Middle

Date/Time: 2010-10-13 8:21:53
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; εr = 39.5; ρ = 1000 kg/m^3
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 (51x81x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.09 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.2 V/m; Power Drift = -0.036 dB
Peak SAR (extrapolated) = 1.68 W/kg
SAR(1 g) = 0.945 mW/g; SAR(10 g) = 0.527 mW/g
Maximum value of SAR (measured) = 0.986 mW/g

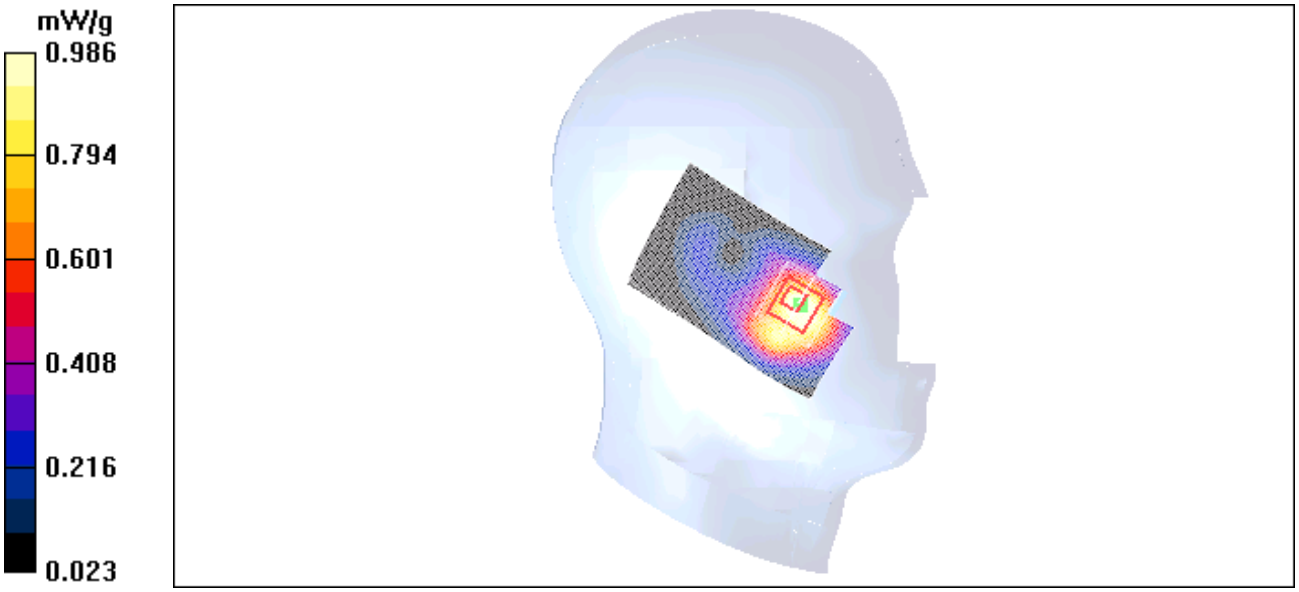


Fig. 14 1900 MHz CH661

1900 Left Cheek Low

Date/Time: 2010-10-13 8:36:20
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.35 mho/m; εr = 39.6; ρ = 1000 kg/m^3
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 (51x81x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.01 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.3 V/m; Power Drift = 0.171 dB
Peak SAR (extrapolated) = 1.55 W/kg
SAR(1 g) = 0.868 mW/g; SAR(10 g) = 0.484 mW/g
Maximum value of SAR (measured) = 0.905 mW/g

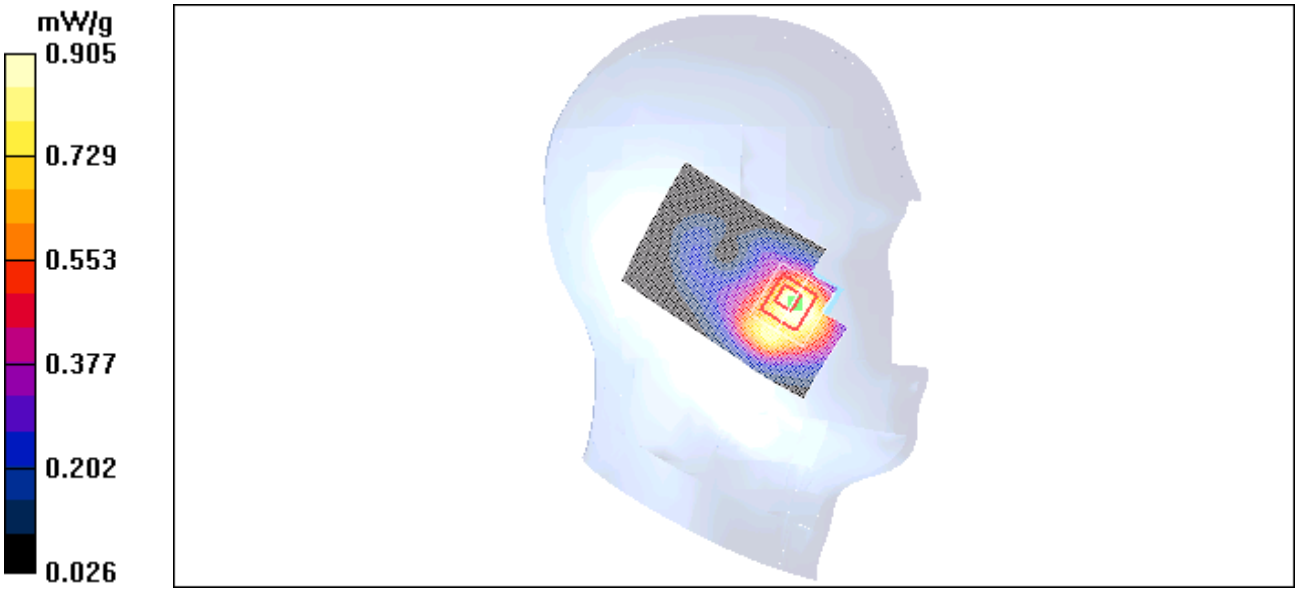


Fig. 15 1900 MHz CH512

1900 Left Tilt High

Date/Time: 2010-10-13 8:50:56
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.40 mho/m; εr = 39.4; ρ = 1000 kg/m^3
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 (51x81x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.415 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.6 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.594 W/kg
SAR(1 g) = 0.358 mW/g; SAR(10 g) = 0.202 mW/g
Maximum value of SAR (measured) = 0.396 mW/g

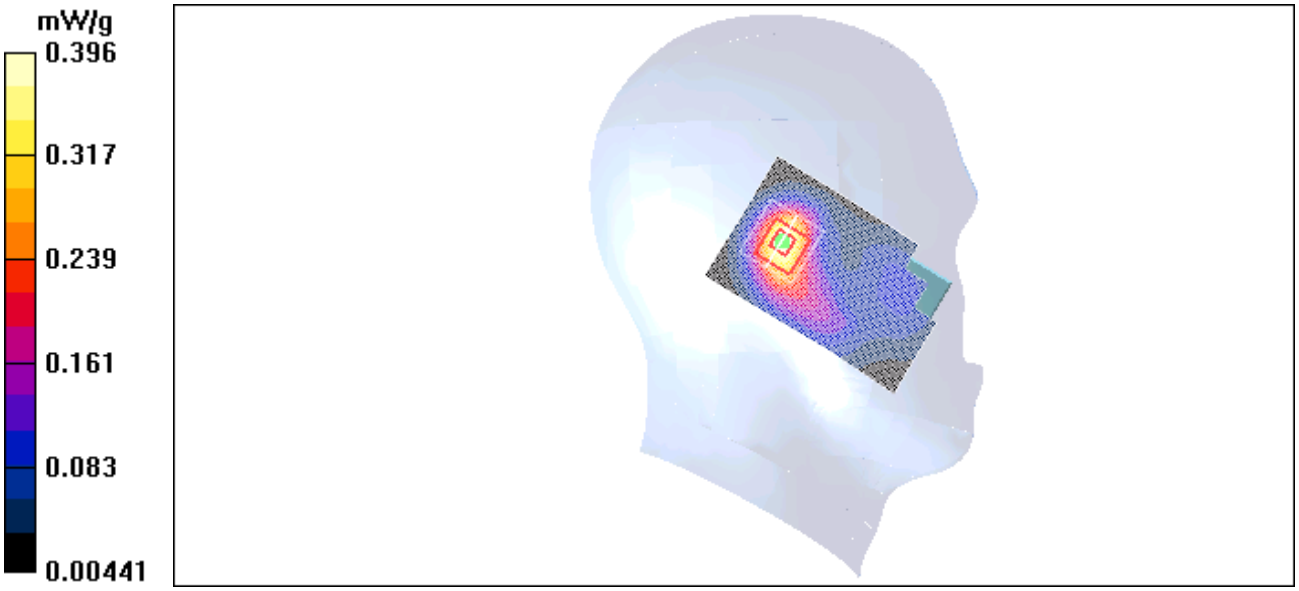


Fig.16 1900 MHz CH810

1900 Left Tilt Middle

Date/Time: 2010-10-13 9:05:19
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; εr = 39.5; ρ = 1000 kg/m^3
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 (51x81x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.415 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.9 V/m; Power Drift = -0.024 dB
Peak SAR (extrapolated) = 0.605 W/kg
SAR(1 g) = 0.365 mW/g; SAR(10 g) = 0.207 mW/g
Maximum value of SAR (measured) = 0.405 mW/g

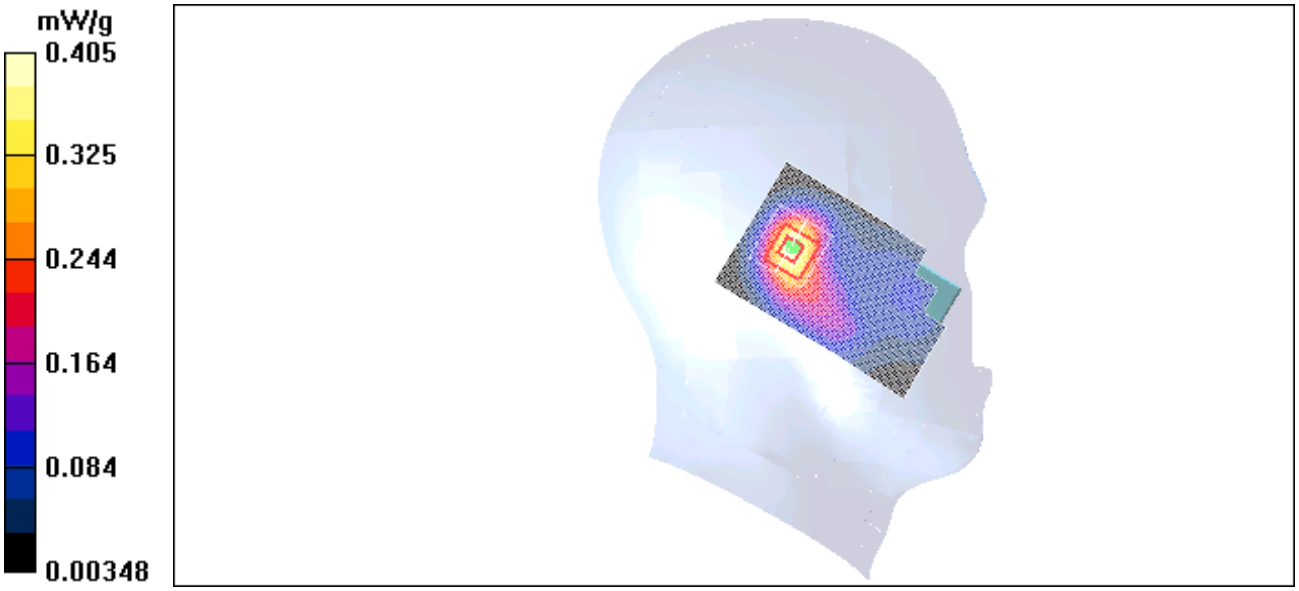


Fig. 17 1900 MHz CH661

1900 Left Tilt Low

Date/Time: 2010-10-13 9:19:33
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.35 mho/m; εr = 39.6; ρ = 1000 kg/m^3
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 (51x81x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.351 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.8 V/m; Power Drift = 0.047 dB
Peak SAR (extrapolated) = 0.512 W/kg
SAR(1 g) = 0.312 mW/g; SAR(10 g) = 0.179 mW/g
Maximum value of SAR (measured) = 0.346 mW/g

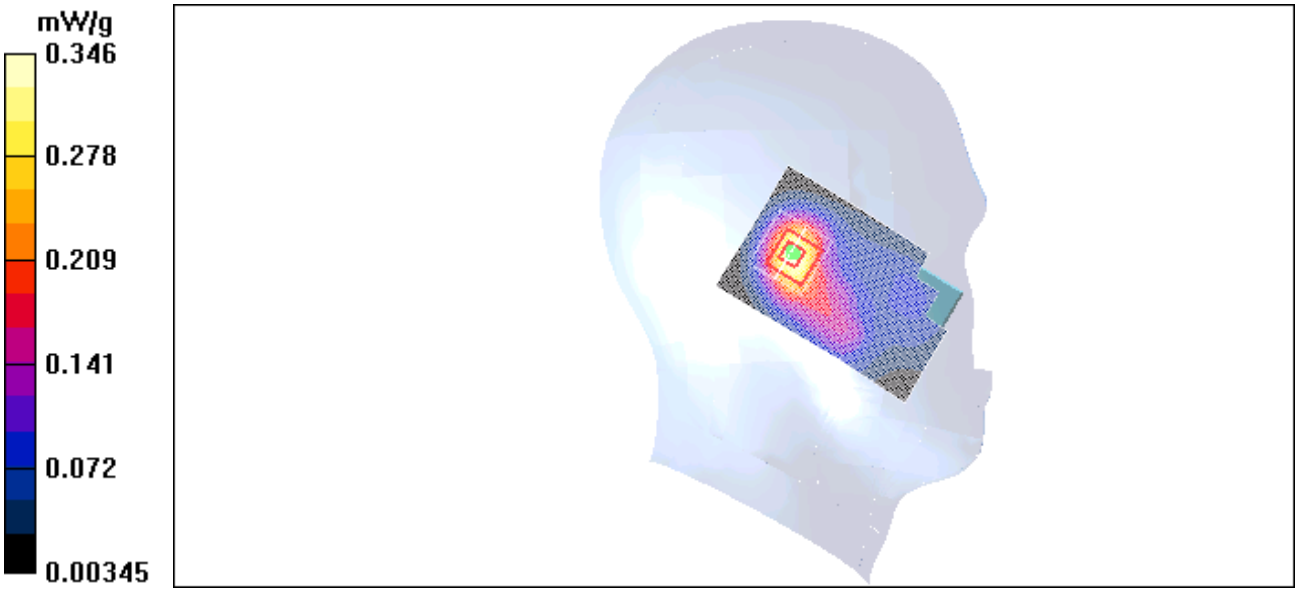


Fig. 18 1900 MHz CH512

1900 Right Cheek High

Date/Time: 2010-10-13 9:35:10
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.40 mho/m; εr = 39.4; ρ = 1000 kg/m^3
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 (51x81x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.2 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.6 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 2.08 W/kg
SAR(1 g) = 1.16 mW/g; SAR(10 g) = 0.615 mW/g
Maximum value of SAR (measured) = 1.24 mW/g

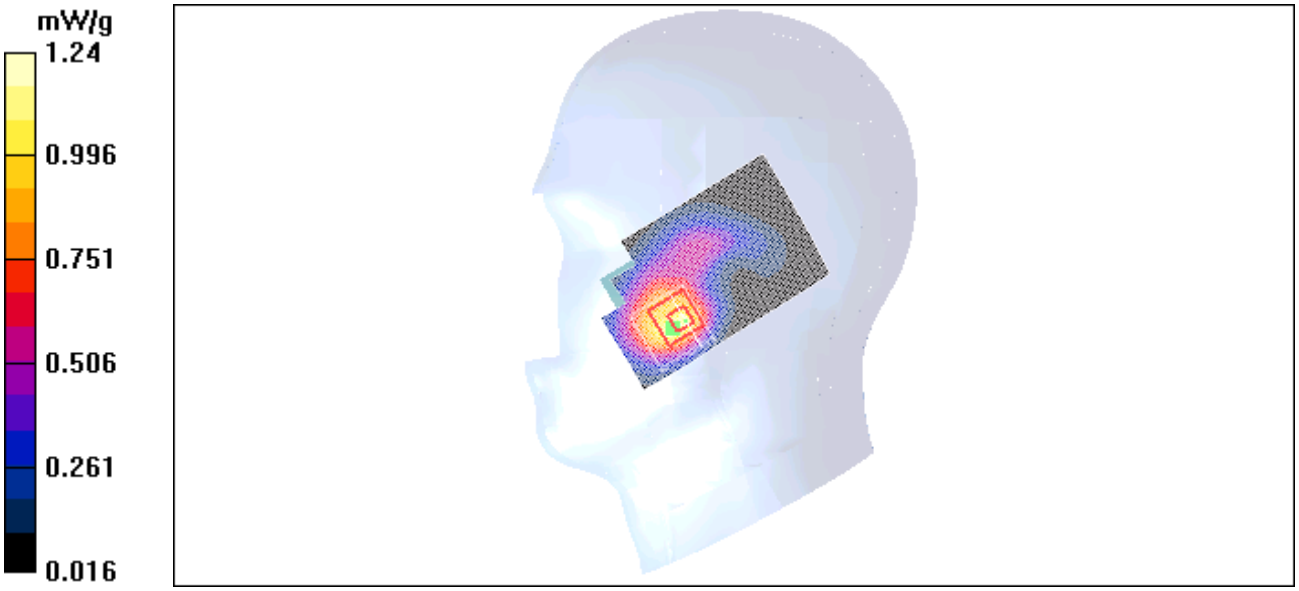


Fig. 19 1900 MHz CH810

1900 Right Cheek Middle

Date/Time: 2010-10-13 9:49:31
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; εr = 39.5; ρ = 1000 kg/m^3
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 (51x81x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.28 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.8 V/m; Power Drift = -0.052 dB
Peak SAR (extrapolated) = 2.15 W/kg
SAR(1 g) = 1.21 mW/g; SAR(10 g) = 0.641 mW/g
Maximum value of SAR (measured) = 1.3 mW/g

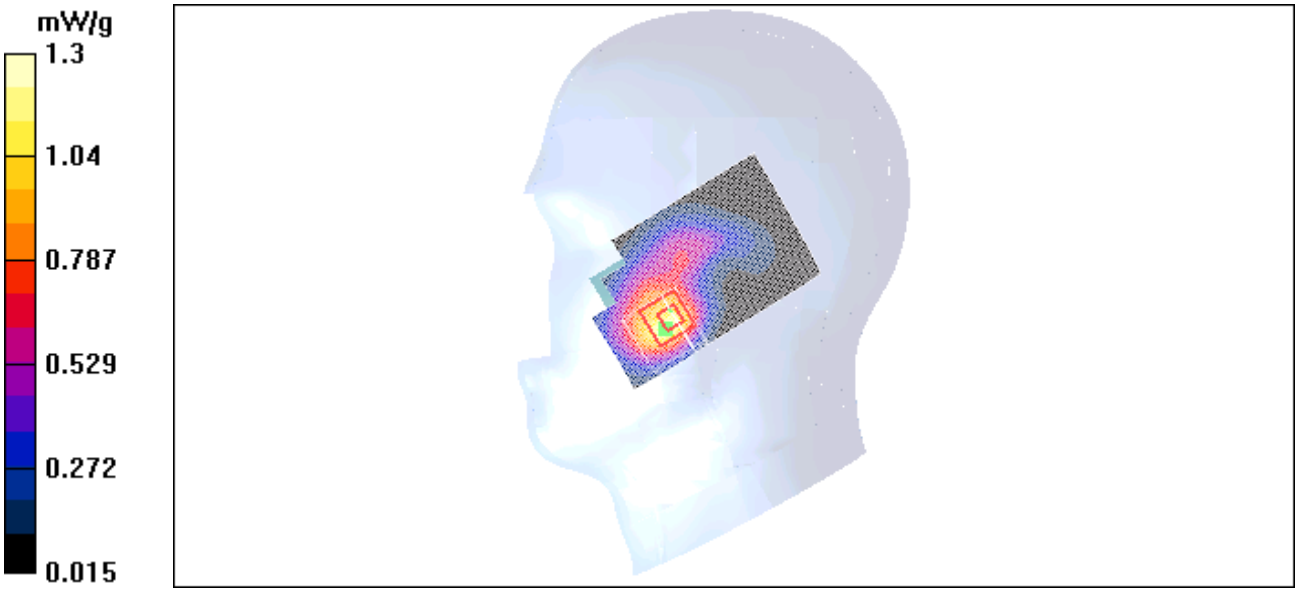


Fig. 20 1900 MHz CH661

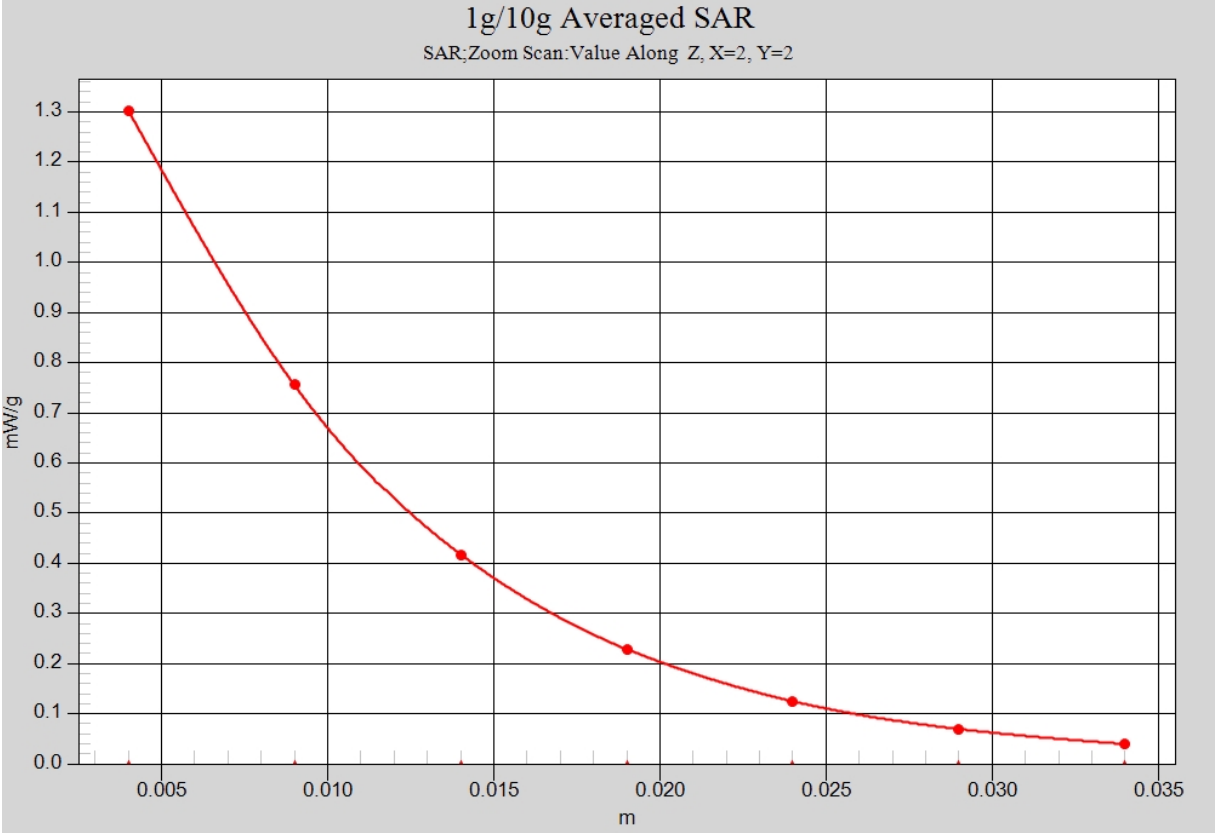


Fig. 20-1 Z-Scan at power reference point (1900 MHz CH661)

1900 Right Cheek Low

Date/Time: 2010-10-13 10:03:52
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.35 mho/m; εr = 39.6; ρ = 1000 kg/m^3
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 (51x81x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.16 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.3 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 1.97 W/kg
SAR(1 g) = 1.09 mW/g; SAR(10 g) = 0.574 mW/g
Maximum value of SAR (measured) = 1.16 mW/g

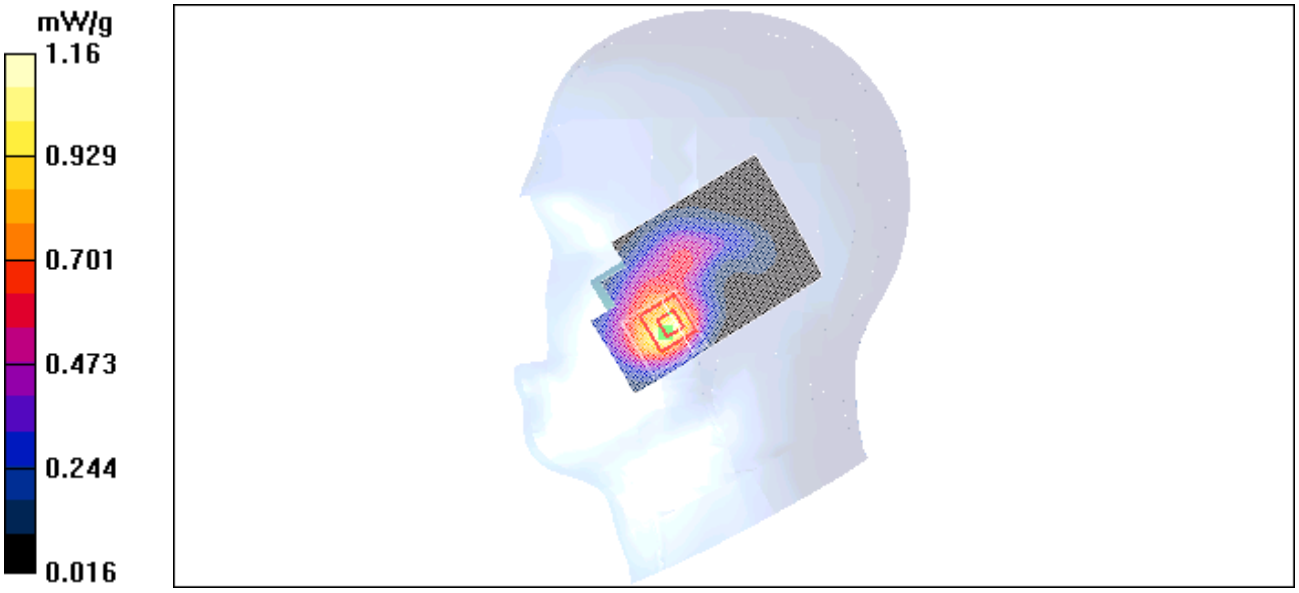


Fig. 21 1900 MHz CH512

1900 Right Tilt High

Date/Time: 2010-10-13 10:18:38
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.40 mho/m; εr = 39.4; ρ = 1000 kg/m^3
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 (51x81x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.340 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.3 V/m; Power Drift = -0.023 dB
Peak SAR (extrapolated) = 0.459 W/kg
SAR(1 g) = 0.289 mW/g; SAR(10 g) = 0.176 mW/g
Maximum value of SAR (measured) = 0.311 mW/g

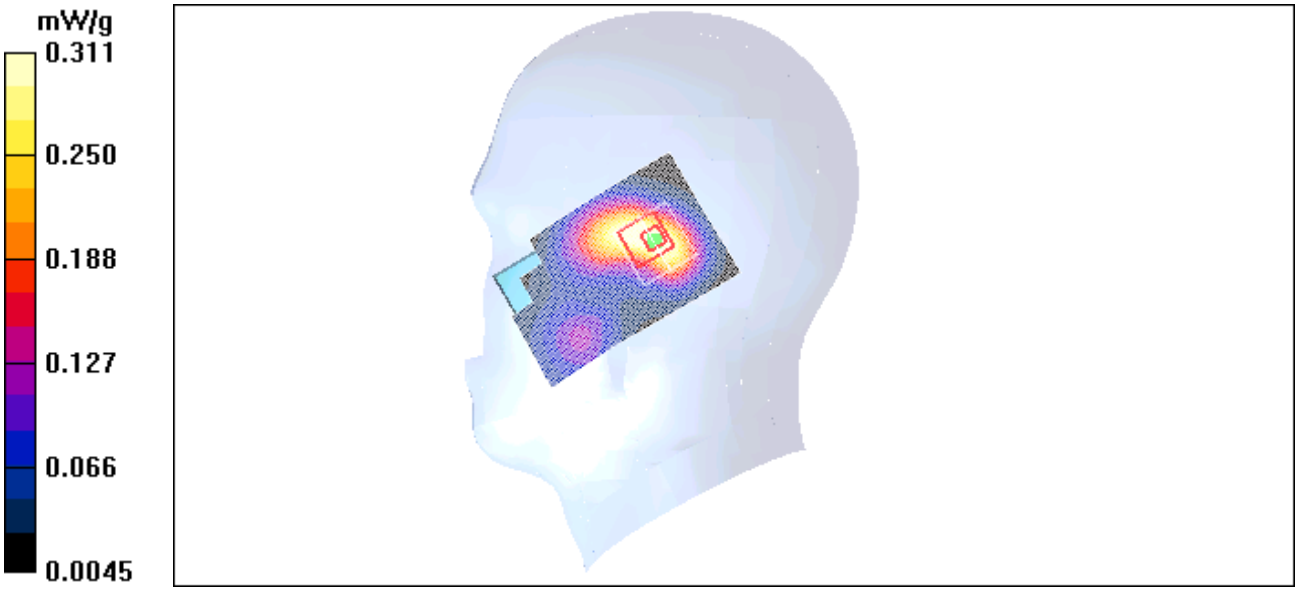


Fig. 22 1900 MHz CH810

1900 Right Tilt Middle

Date/Time: 2010-10-13 10:32:55
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; εr = 39.5; ρ = 1000 kg/m^3
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 (51x81x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.406 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.7 V/m; Power Drift = 0.073 dB
Peak SAR (extrapolated) = 0.550 W/kg
SAR(1 g) = 0.349 mW/g; SAR(10 g) = 0.209 mW/g
Maximum value of SAR (measured) = 0.370 mW/g

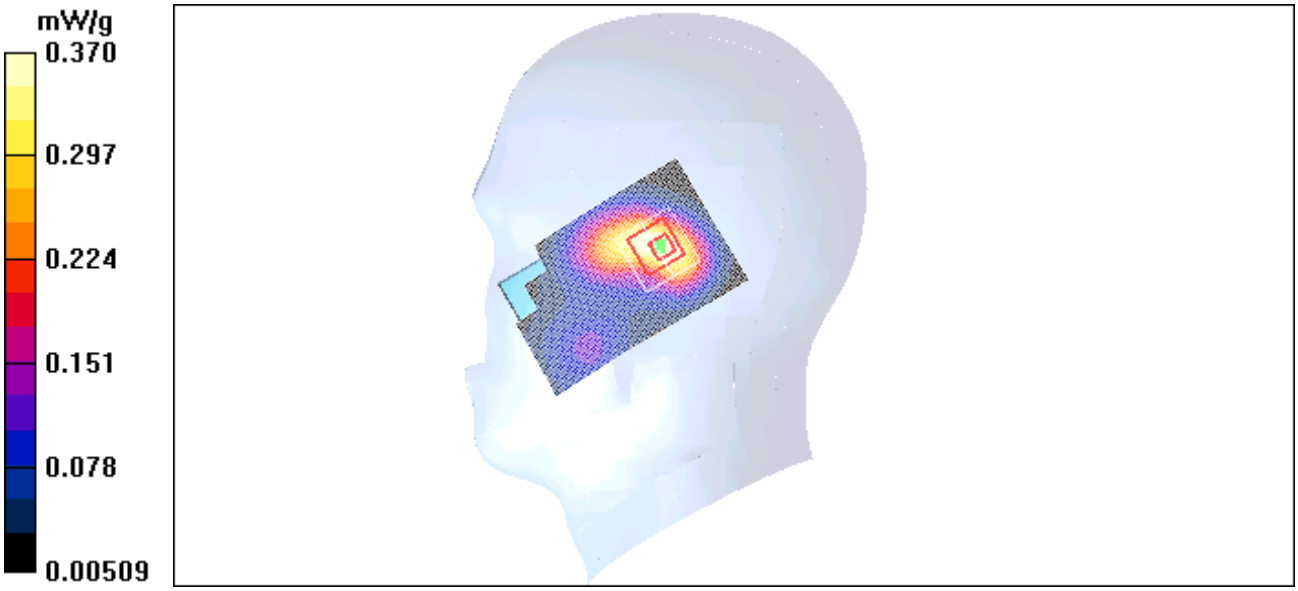


Fig.23 1900 MHz CH661

1900 Right Tilt Low

Date/Time: 2010-10-13 10:47:18
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.35 mho/m; εr = 39.6; ρ = 1000 kg/m^3
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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.386 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 = -0.155 dB
Peak SAR (extrapolated) = 0.526 W/kg
SAR(1 g) = 0.333 mW/g; SAR(10 g) = 0.198 mW/g
Maximum value of SAR (measured) = 0.350 mW/g

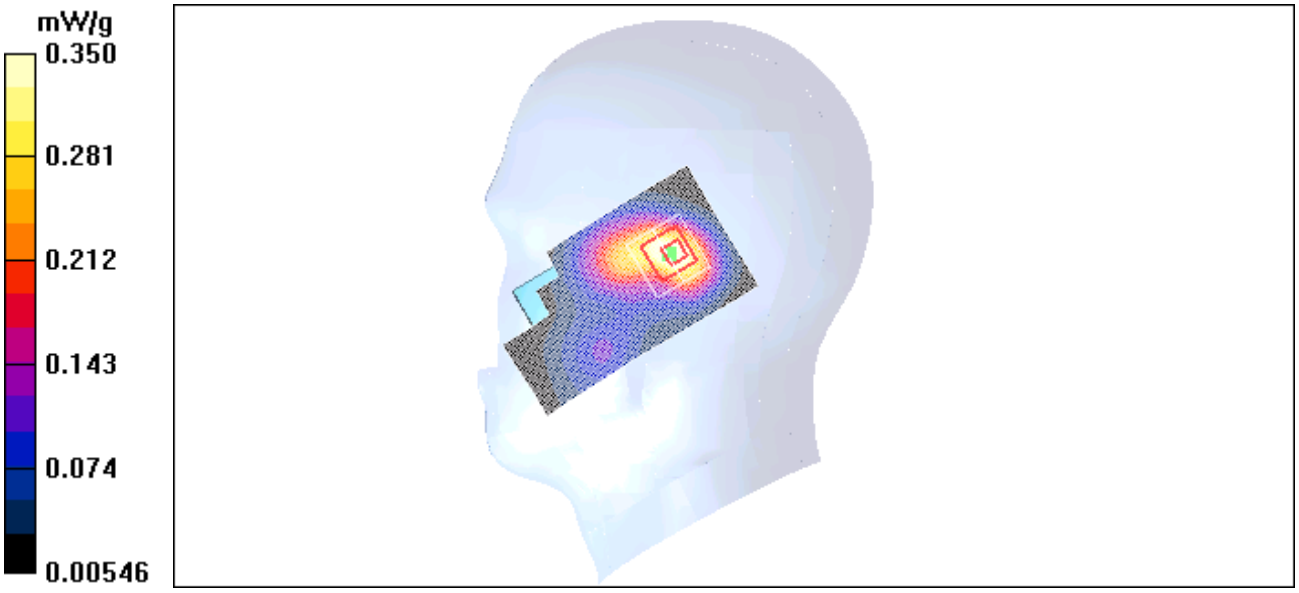


Fig.24 1900 MHz CH512

1900 Right Cheek Middle with battery CAB30M0000C2

Date/Time: 2010-10-13 11:03:34
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; εr = 39.5; ρ = 1000 kg/m^3
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 (51x81x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.20 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.19 V/m; Power Drift = 0.071 dB
Peak SAR (extrapolated) = 2.02 W/kg
SAR(1 g) = 1.14 mW/g; SAR(10 g) = 0.602 mW/g
Maximum value of SAR (measured) = 1.22 mW/g

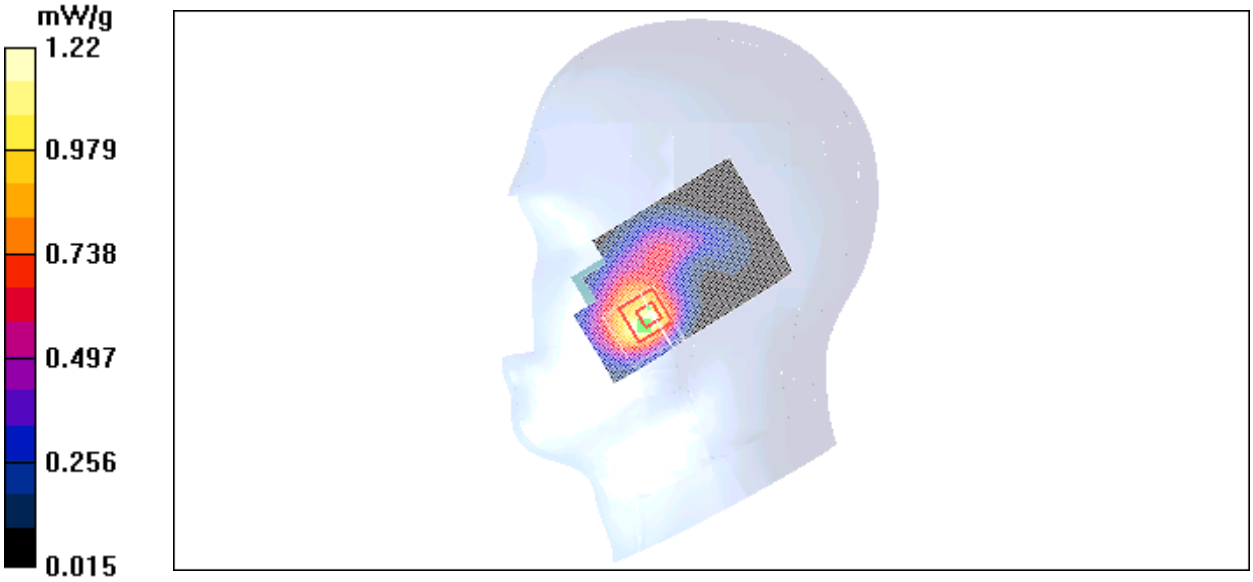


Fig. 25 1900 MHz CH661

850 Body Towards Ground High with GPRS

Date/Time: 2010-10-12 14:42:07
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.97 mho/m; εr = 54.1; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 848.8 MHz Duty Cycle: 1:4
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) = 0.755 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.0 V/m; Power Drift = -0.091 dB
Peak SAR (extrapolated) = 0.996 W/kg
SAR(1 g) = 0.715 mW/g; SAR(10 g) = 0.494 mW/g
Maximum value of SAR (measured) = 0.737 mW/g

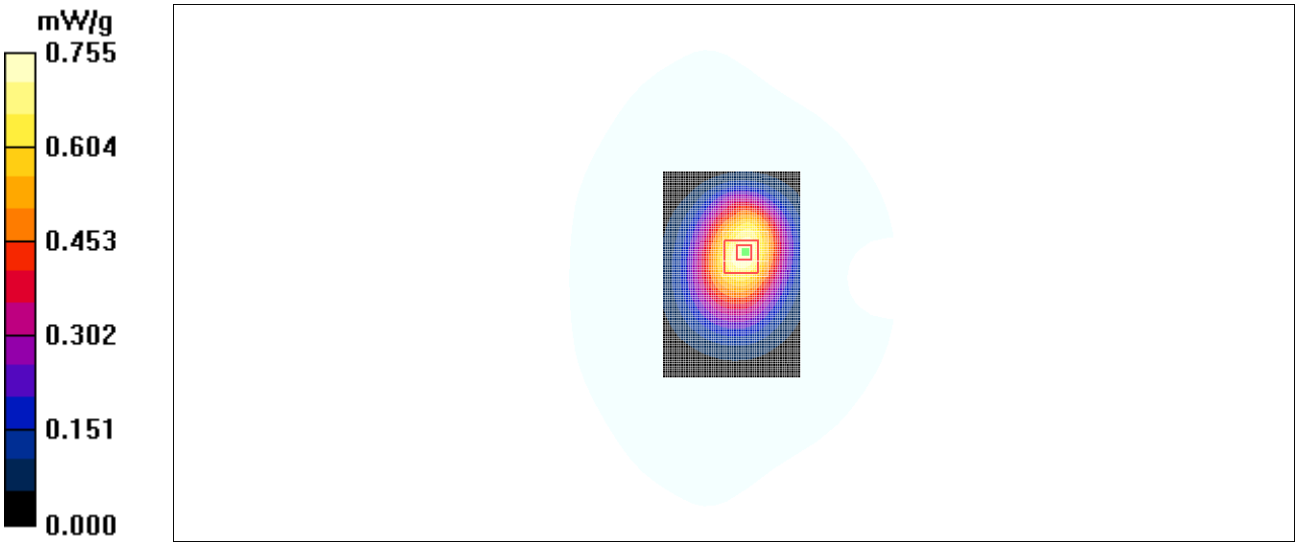


Fig. 26 850 MHz CH251

850 Body Towards Ground Middle with GPRS

Date/Time: 2010-10-12 14:57:26
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 mho/m; εr = 54.2; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 836.6 MHz Duty Cycle: 1:4
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) = 0.952 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.3 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.898 mW/g; SAR(10 g) = 0.622 mW/g
Maximum value of SAR (measured) = 0.931 mW/g

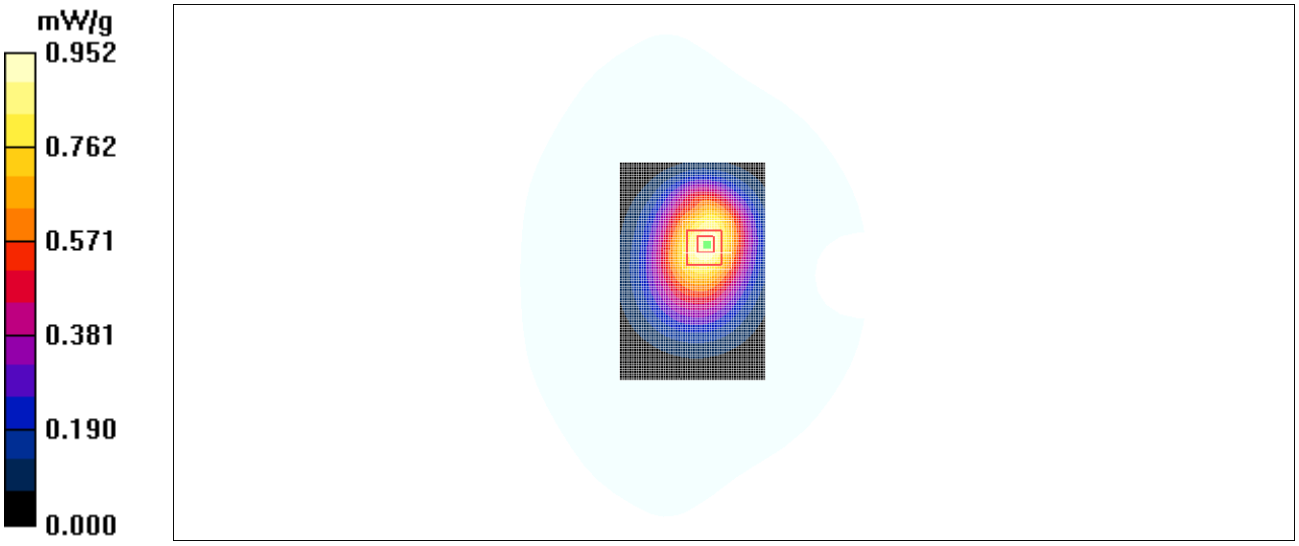


Fig. 27 850 MHz CH190

850 Body Towards Ground Low with GPRS

Date/Time: 2010-10-12 15:12:50
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.943 mho/m; εr = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:4
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) = 1.10 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.2 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 1.41 W/kg
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.708 mW/g
Maximum value of SAR (measured) = 1.08 mW/g

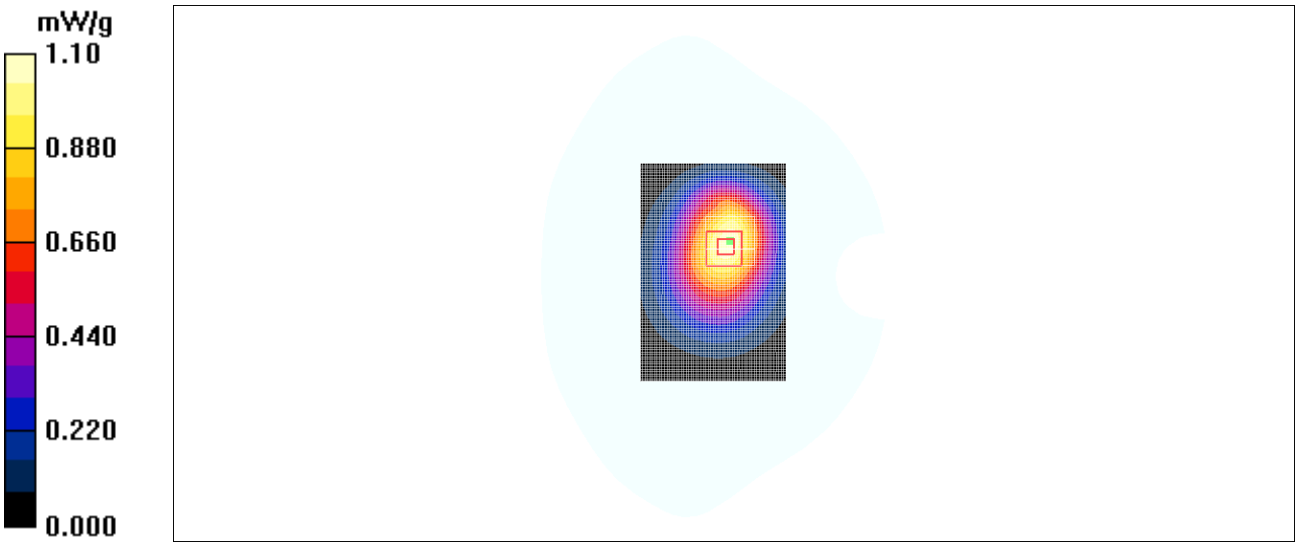


Fig. 28 850 MHz CH128

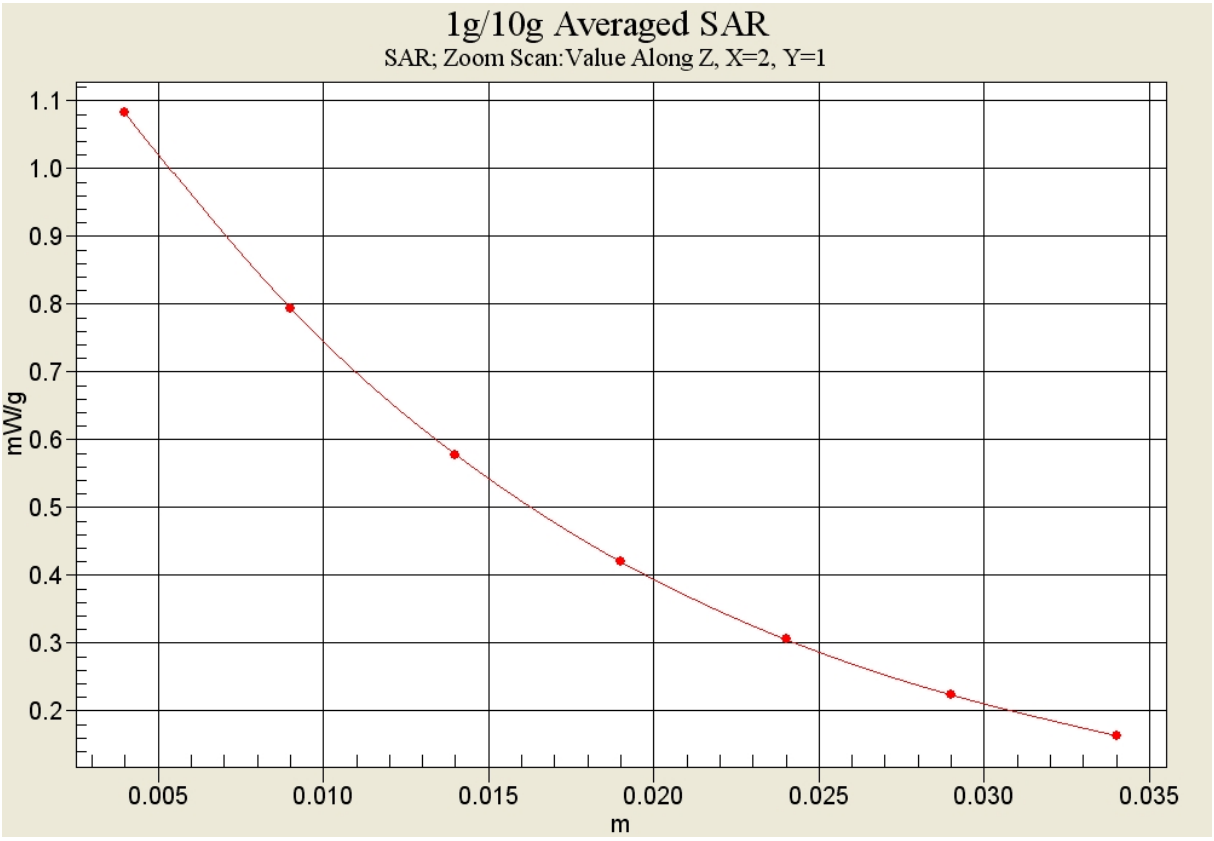


Fig. 28-1 Z-Scan at power reference point (850 MHz CH128)

850 Body Towards Phantom High with GPRS

Date/Time: 2010-10-12 15:28:33
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.97 mho/m; εr = 54.1; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 848.8 MHz Duty Cycle: 1:4
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) = 0.622 mW/g

Toward Phantom High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.0 V/m; Power Drift = -0.059 dB
Peak SAR (extrapolated) = 0.758 W/kg
SAR(1 g) = 0.583 mW/g; SAR(10 g) = 0.422 mW/g
Maximum value of SAR (measured) = 0.599 mW/g

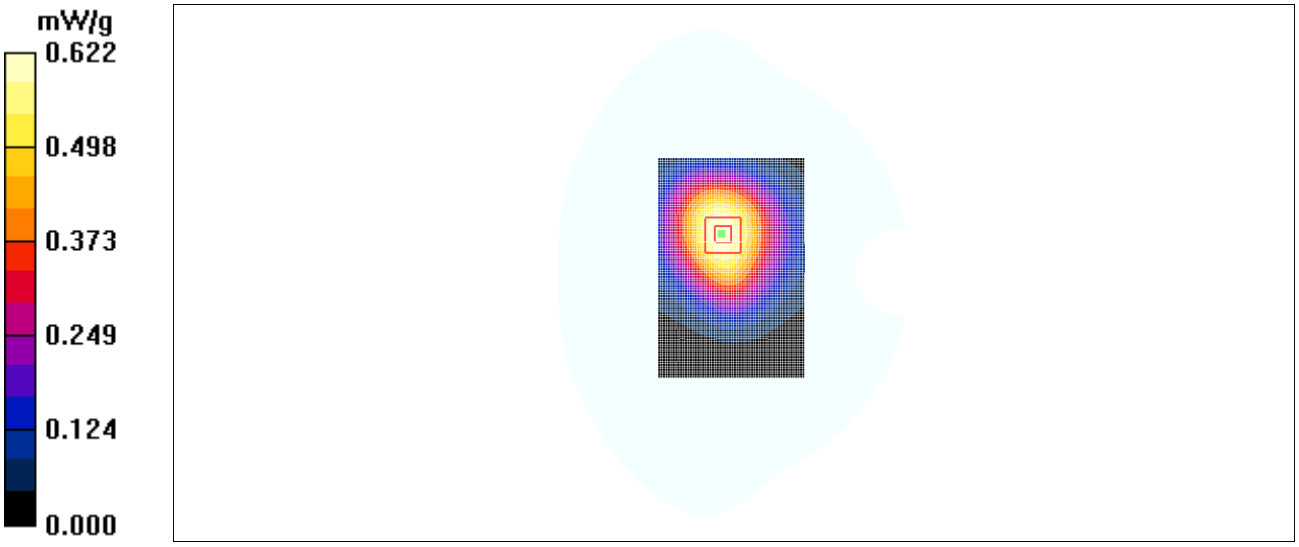


Fig. 29 850 MHz CH251

850 Body Towards Phantom Middle with GPRS

Date/Time: 2010-10-12 15:43:52
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.96 mho/m; εr = 54.2; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 836.6 MHz Duty Cycle: 1:4
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) = 0.731 mW/g

Toward Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.6 V/m; Power Drift = -0.026 dB
Peak SAR (extrapolated) = 0.894 W/kg
SAR(1 g) = 0.691 mW/g; SAR(10 g) = 0.500 mW/g
Maximum value of SAR (measured) = 0.717 mW/g

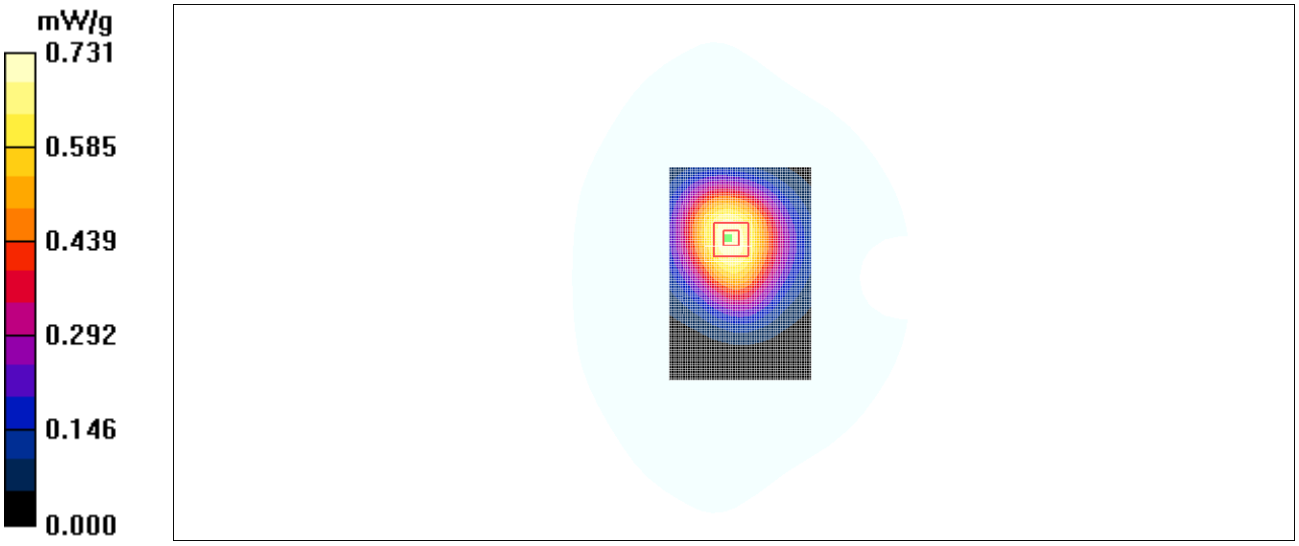


Fig. 30 850 MHz CH190

850 Body Towards Phantom Low with GPRS

Date/Time: 2010-10-12 15:59:26
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.943 mho/m; εr = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:4
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) = 0.838 mW/g

Toward Phantom Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.8 V/m; Power Drift = 0.003 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.791 mW/g; SAR(10 g) = 0.573 mW/g
Maximum value of SAR (measured) = 0.827 mW/g

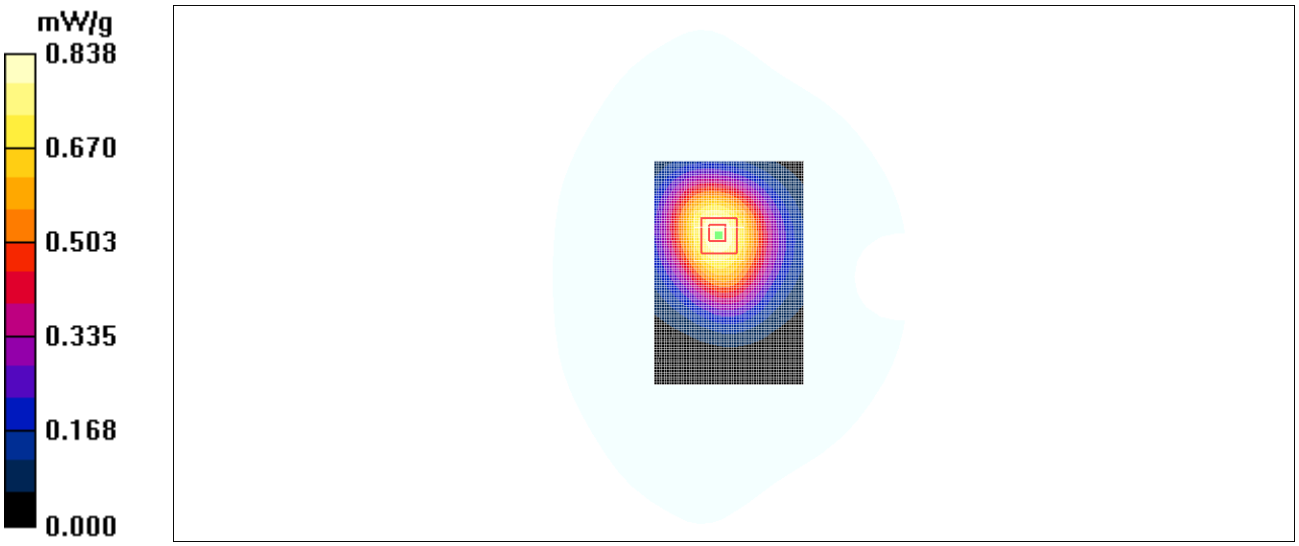


Fig. 31 850 MHz CH128

850 Body Towards Ground Low with Headset__CCA30B4000C0

Date/Time: 2010-10-12 16:16:32
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.943 mho/m; εr = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:8.3
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) = 0.666 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.8 V/m; Power Drift = 0.018 dB
Peak SAR (extrapolated) = 0.873 W/kg
SAR(1 g) = 0.627 mW/g; SAR(10 g) = 0.432 mW/g
Maximum value of SAR (measured) = 0.649 mW/g

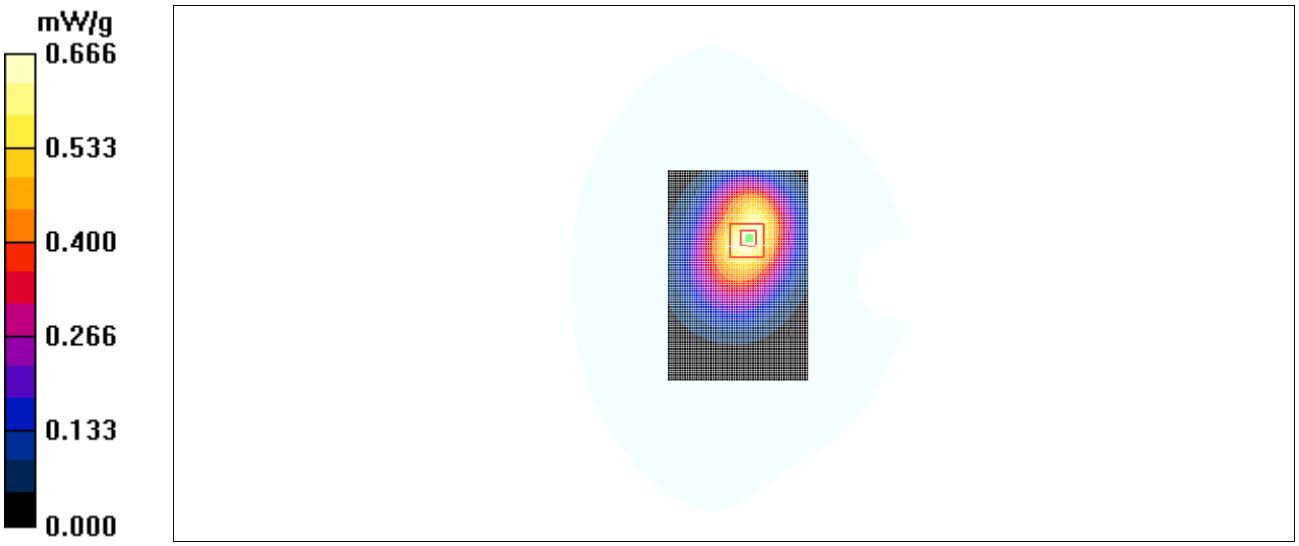


Fig. 32 850 MHz CH128

850 Body Towards Ground Low with Headset__CCA30B4000C2

Date/Time: 2010-10-12 16:32:58
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.943 mho/m; εr = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:8.3
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) = 0.663 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.8 V/m; Power Drift = 0.014 dB
Peak SAR (extrapolated) = 0.867 W/kg
SAR(1 g) = 0.624 mW/g; SAR(10 g) = 0.431 mW/g
Maximum value of SAR (measured) = 0.648 mW/g

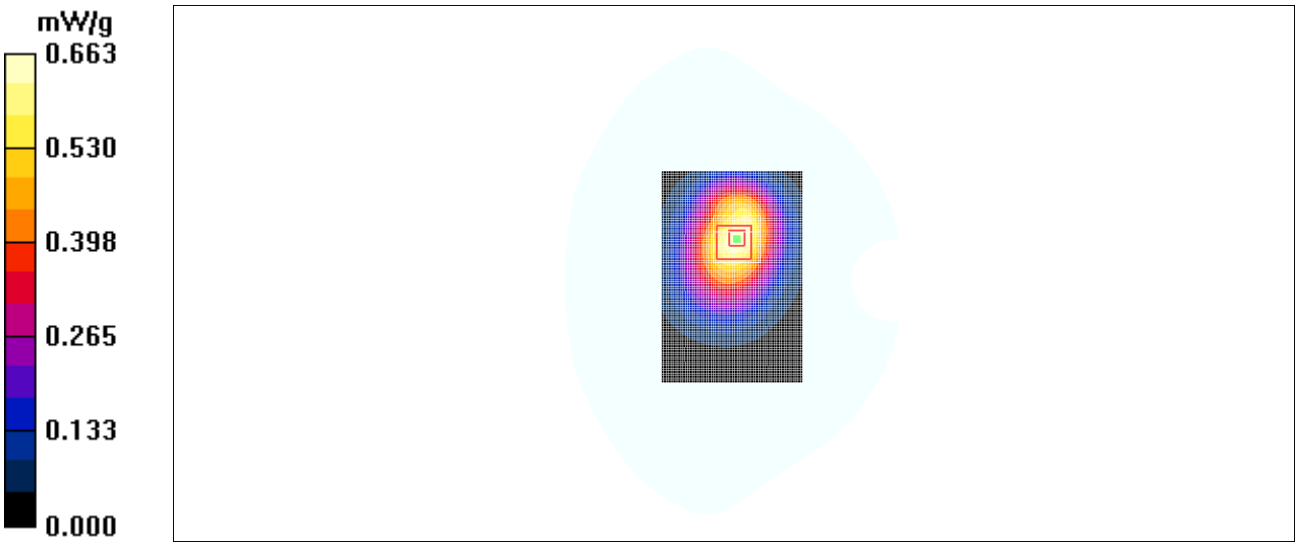


Fig. 33 850 MHz CH128

850 Body Towards Ground Low with Headset__CCA30B4000C3

Date/Time: 2010-10-12 16:49:13
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.943 mho/m; εr = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:8.3
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) = 0.652 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.6 V/m; Power Drift = -0.049 dB
Peak SAR (extrapolated) = 0.865 W/kg
SAR(1 g) = 0.621 mW/g; SAR(10 g) = 0.429 mW/g
Maximum value of SAR (measured) = 0.637 mW/g

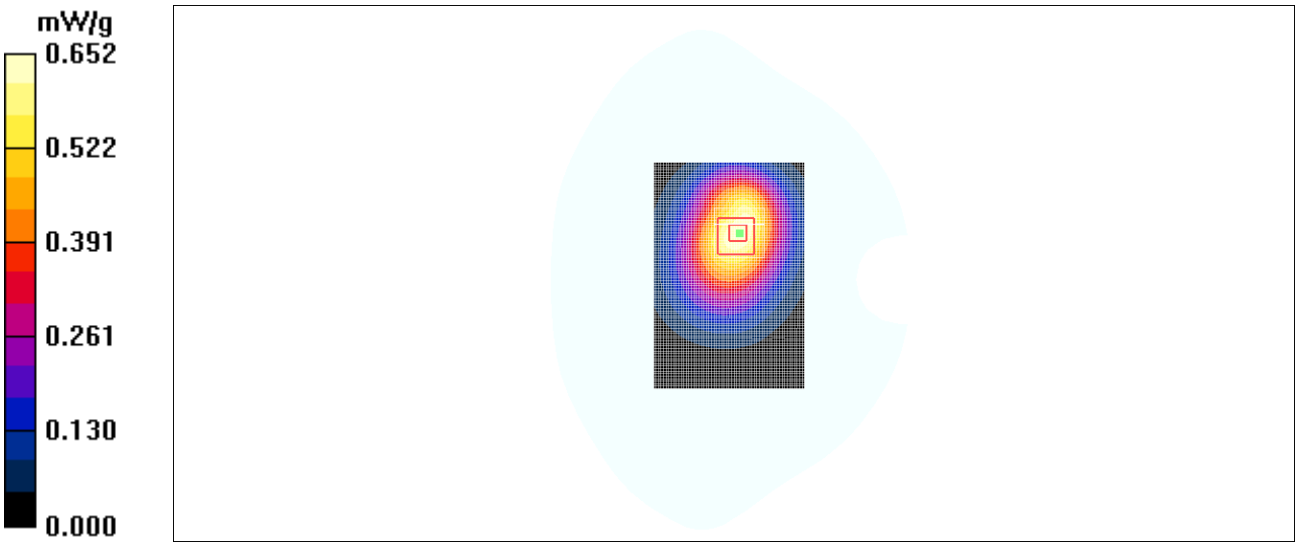


Fig. 34 850 MHz CH128

850 Body Towards Ground Low with Headset__CCA30B4000C4

Date/Time: 2010-10-12 17:05:42
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.943 mho/m; εr = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:8.3
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) = 0.671 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 21.3 V/m; Power Drift = -0.020 dB
Peak SAR (extrapolated) = 0.858 W/kg
SAR(1 g) = 0.625 mW/g; SAR(10 g) = 0.433 mW/g
Maximum value of SAR (measured) = 0.650 mW/g

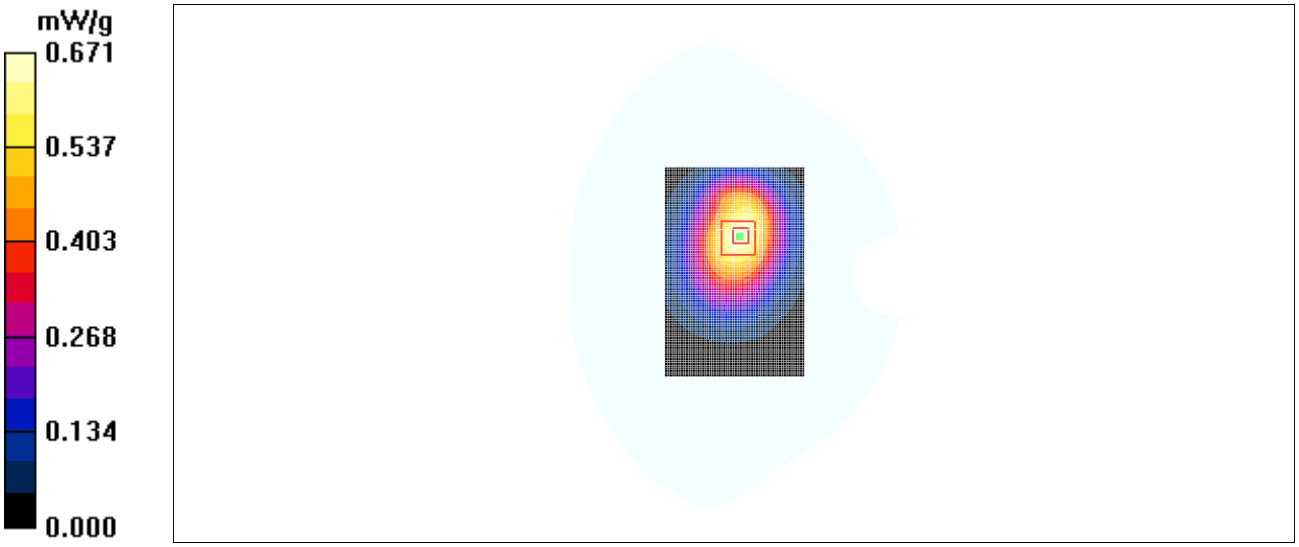


Fig. 35 850 MHz CH128

1900 Body Towards Ground High with GPRS

Date/Time: 2010-10-13 14:56:34
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.54 mho/m; εr = 52.3; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:4
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) = 0.662 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.9 V/m; Power Drift = -0.036 dB
Peak SAR (extrapolated) = 1.00 W/kg
SAR(1 g) = 0.588 mW/g; SAR(10 g) = 0.352 mW/g
Maximum value of SAR (measured) = 0.643 mW/g

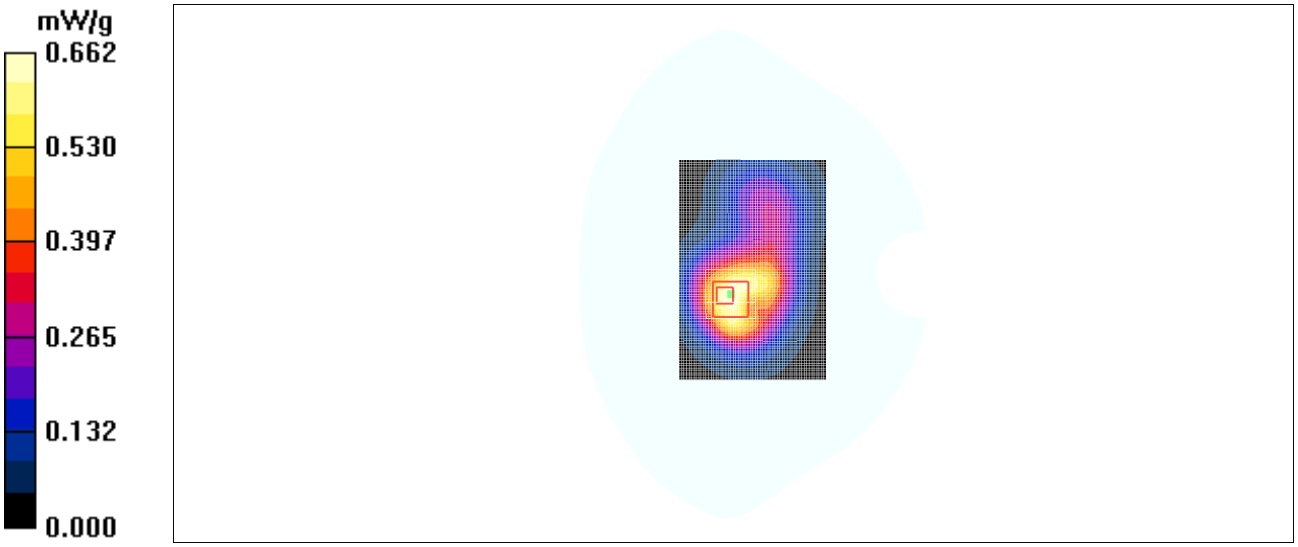


Fig. 36 1900 MHz CH810

1900 Body Towards Ground Middle with GPRS

Date/Time: 2010-10-13 15:11:58
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.51 mho/m; εr = 52.4; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:4
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) = 0.664 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.5 V/m; Power Drift = 0.038 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.595 mW/g; SAR(10 g) = 0.359 mW/g
Maximum value of SAR (measured) = 0.647 mW/g

Fig. 37 1900 MHz CH661

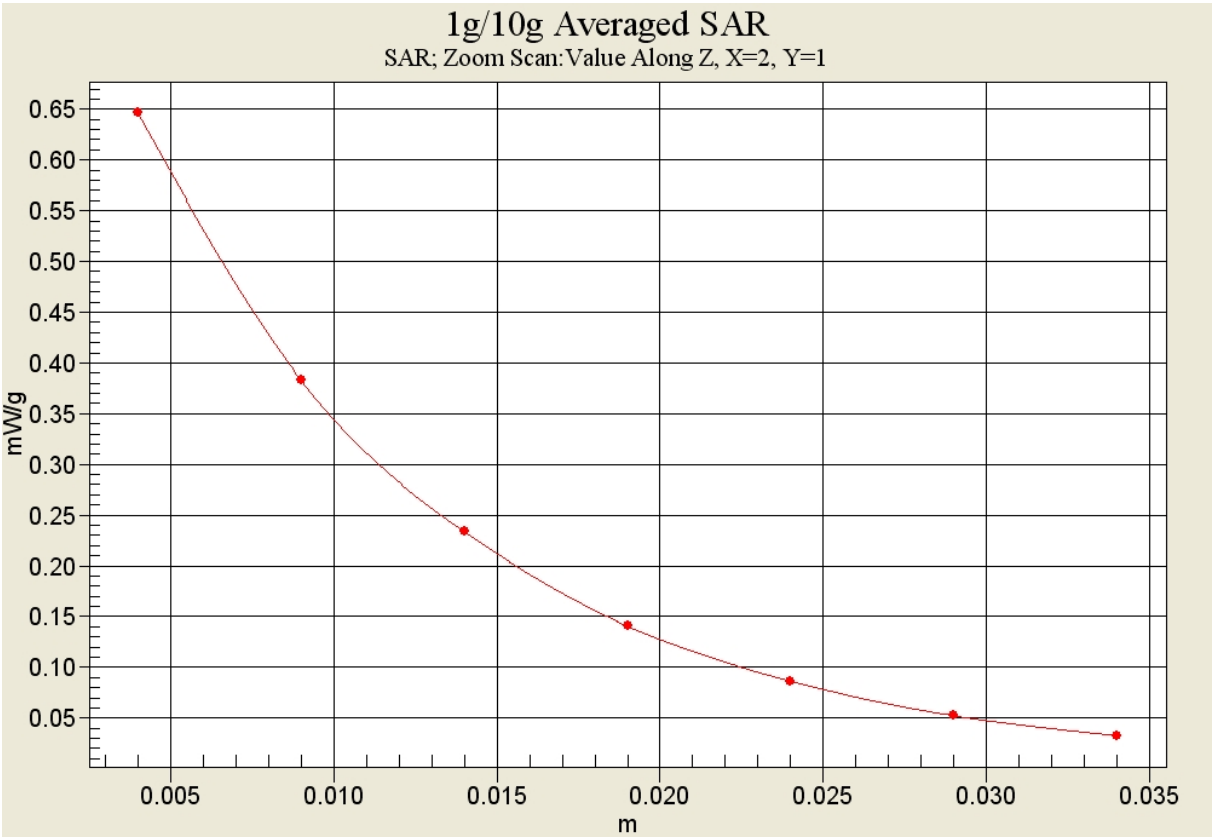


Fig. 37-1 Z-Scan at power reference point (1900 MHz CH661)

1900 Body Towards Ground Low with GPRS

Date/Time: 2010-10-13 15:27:26
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.49 mho/m; εr = 52.4; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:4
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) = 0.601 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.8 V/m; Power Drift = 0.021 dB
Peak SAR (extrapolated) = 0.926 W/kg
SAR(1 g) = 0.549 mW/g; SAR(10 g) = 0.328 mW/g
Maximum value of SAR (measured) = 0.599 mW/g

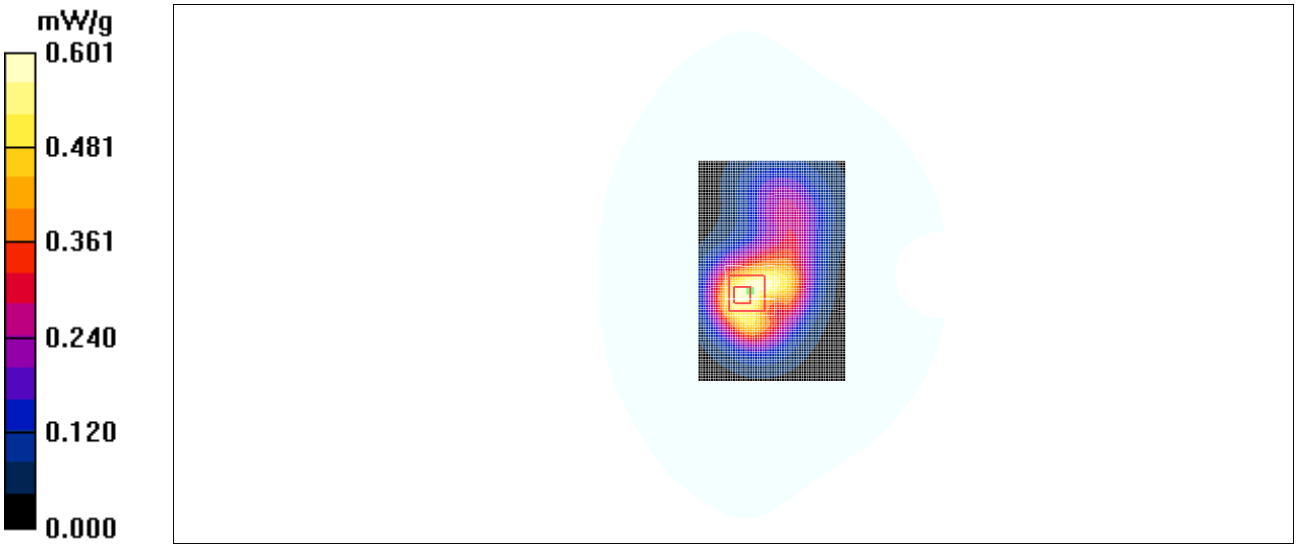


Fig. 38 1900 MHz CH512

1900 Body Towards Phantom High with GPRS

Date/Time: 2010-10-13 15:43:02
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.54 mho/m; εr = 52.3; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:4
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) = 0.355 mW/g

Toward Phantom High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.5 V/m; Power Drift = 0.183 dB
Peak SAR (extrapolated) = 0.534 W/kg
SAR(1 g) = 0.324 mW/g; SAR(10 g) = 0.195 mW/g
Maximum value of SAR (measured) = 0.334 mW/g

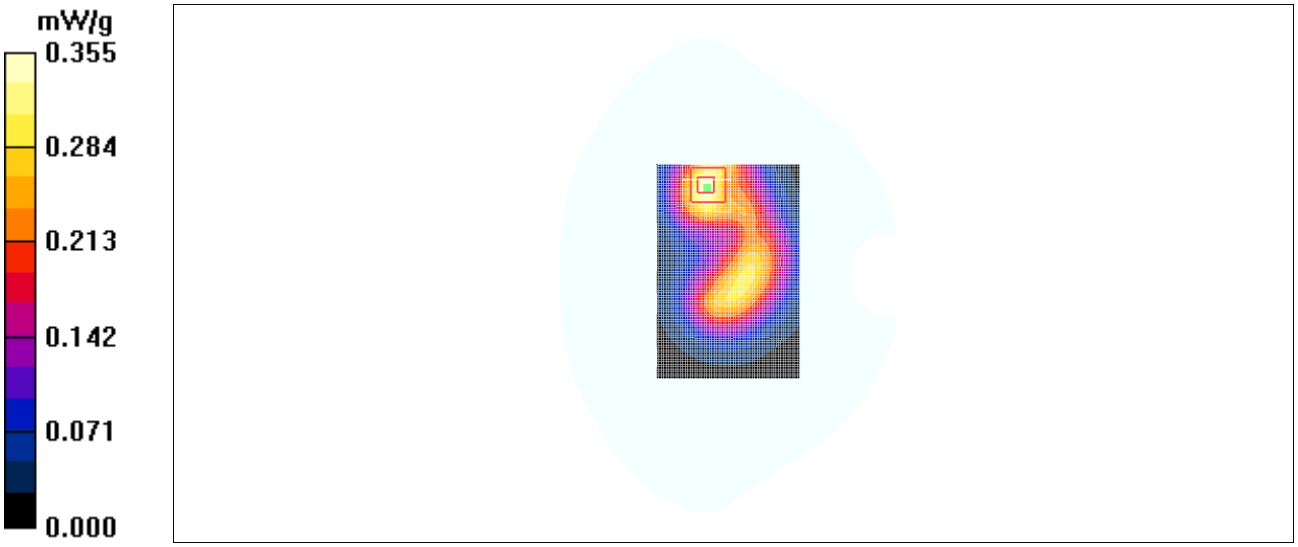


Fig. 39 1900 MHz CH810

1900 Body Towards Phantom Middle with GPRS

Date/Time: 2010-10-13 15:58:25
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.51 mho/m; εr = 52.4; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:4
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) = 0.362 mW/g

Toward Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.1 V/m; Power Drift = 0.046 dB
Peak SAR (extrapolated) = 0.520 W/kg
SAR(1 g) = 0.320 mW/g; SAR(10 g) = 0.192 mW/g
Maximum value of SAR (measured) = 0.339 mW/g

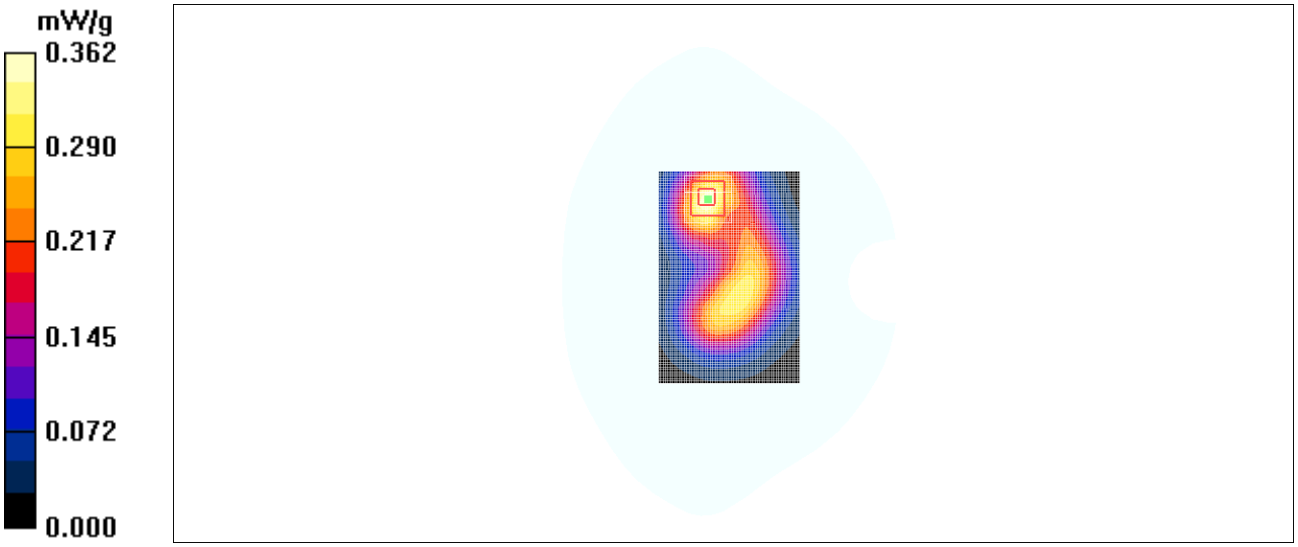


Fig. 40 1900 MHz CH661

1900 Body Towards Phantom Low with GPRS

Date/Time: 2010-10-13 16:13:49
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.49 mho/m; εr = 52.4; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:4
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) = 0.316 mW/g

Toward Phantom Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.7 V/m; Power Drift = 0.043 dB
Peak SAR (extrapolated) = 0.464 W/kg
SAR(1 g) = 0.285 mW/g; SAR(10 g) = 0.171 mW/g
Maximum value of SAR (measured) = 0.302 mW/g

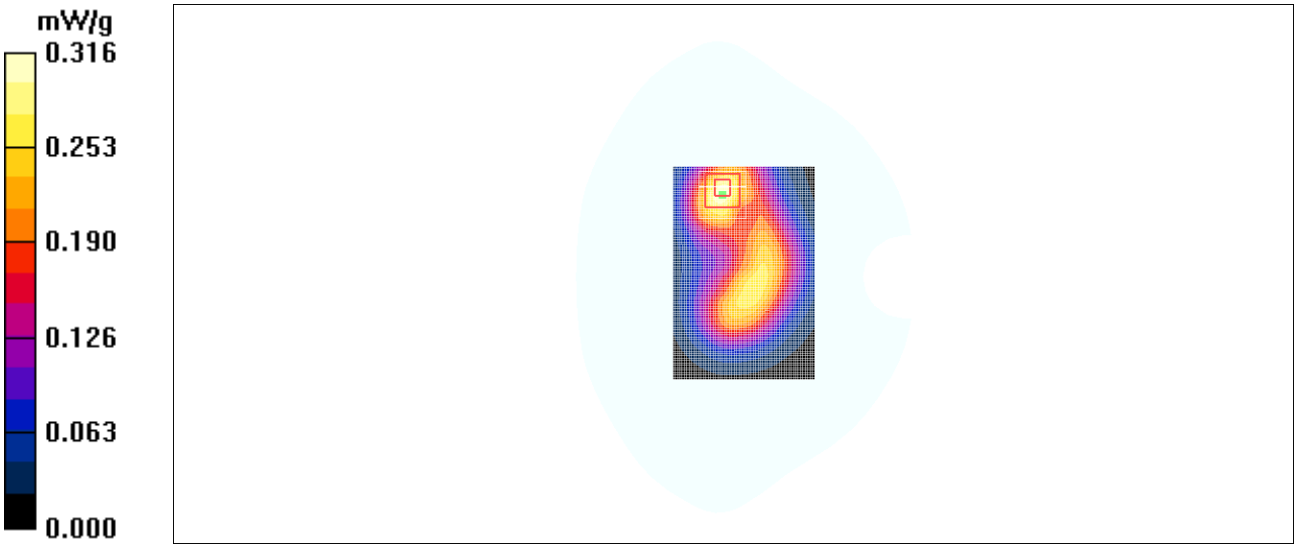


Fig. 41 1900 MHz CH512

1900 Body Towards Ground Middle with Headset__CCA30B4000C0
Date/Time: 2010-10-13 16:30:22
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.51 mho/m; εr = 52.4; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:8.3
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) = 0.463 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 16.6 V/m; Power Drift = 0.034 dB
Peak SAR (extrapolated) = 0.672 W/kg
SAR(1 g) = 0.396 mW/g; SAR(10 g) = 0.239 mW/g
Maximum value of SAR (measured) = 0.427 mW/g

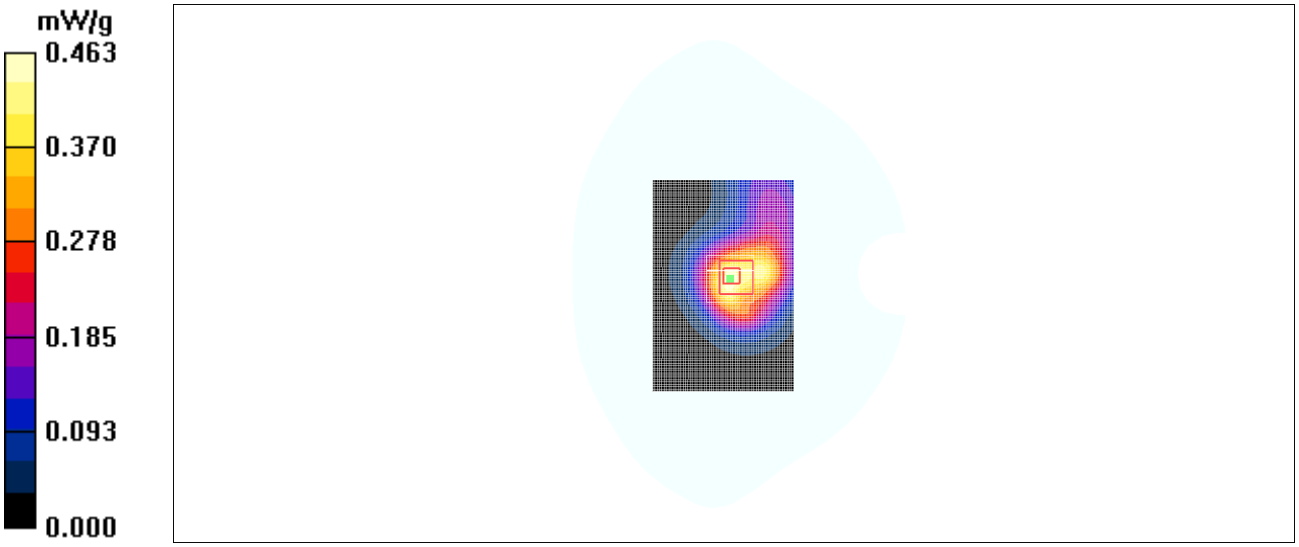


Fig. 42 1900 MHz CH661

1900 Body Towards Ground Middle with Headset__CCA30B4000C2

Date/Time: 2010-10-13 16:46:51
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.51 mho/m; εr = 52.4; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:8.3
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) = 0.467 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.0 V/m; Power Drift = 0.030 dB
Peak SAR (extrapolated) = 0.700 W/kg
SAR(1 g) = 0.412 mW/g; SAR(10 g) = 0.249 mW/g
Maximum value of SAR (measured) = 0.441 mW/g

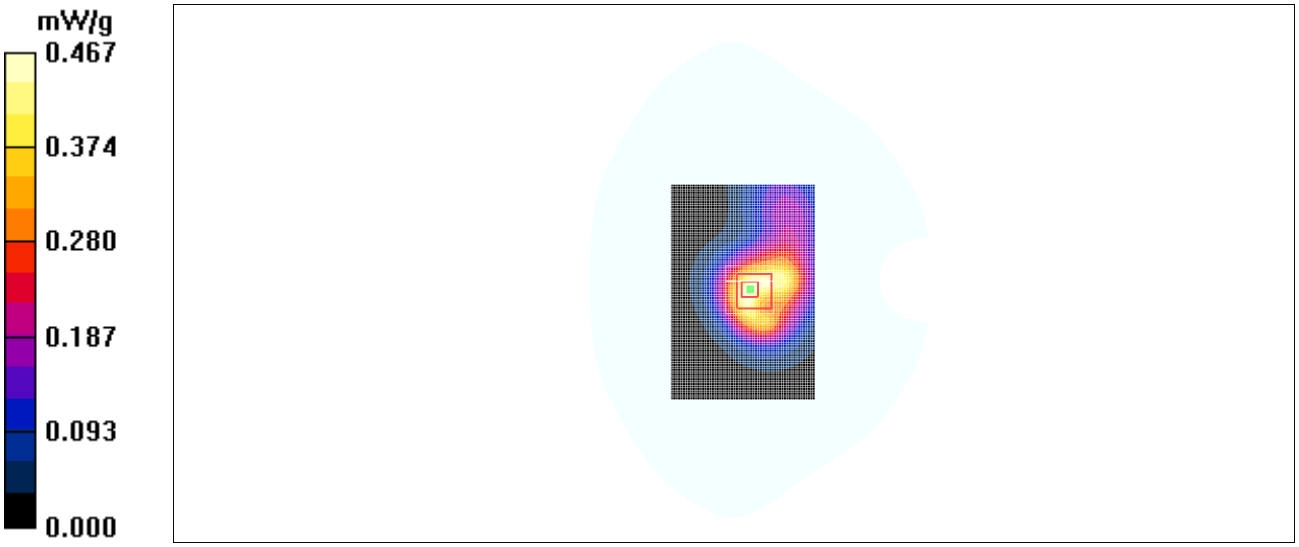


Fig. 43 1900 MHz CH661

1900 Body Towards Ground Middle with Headset__CCA30B4000C3

Date/Time: 2010-10-13 17:03:16
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.51 mho/m; εr = 52.4; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:8.3
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) = 0.444 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.8 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 0.645 W/kg
SAR(1 g) = 0.382 mW/g; SAR(10 g) = 0.229 mW/g
Maximum value of SAR (measured) = 0.403 mW/g

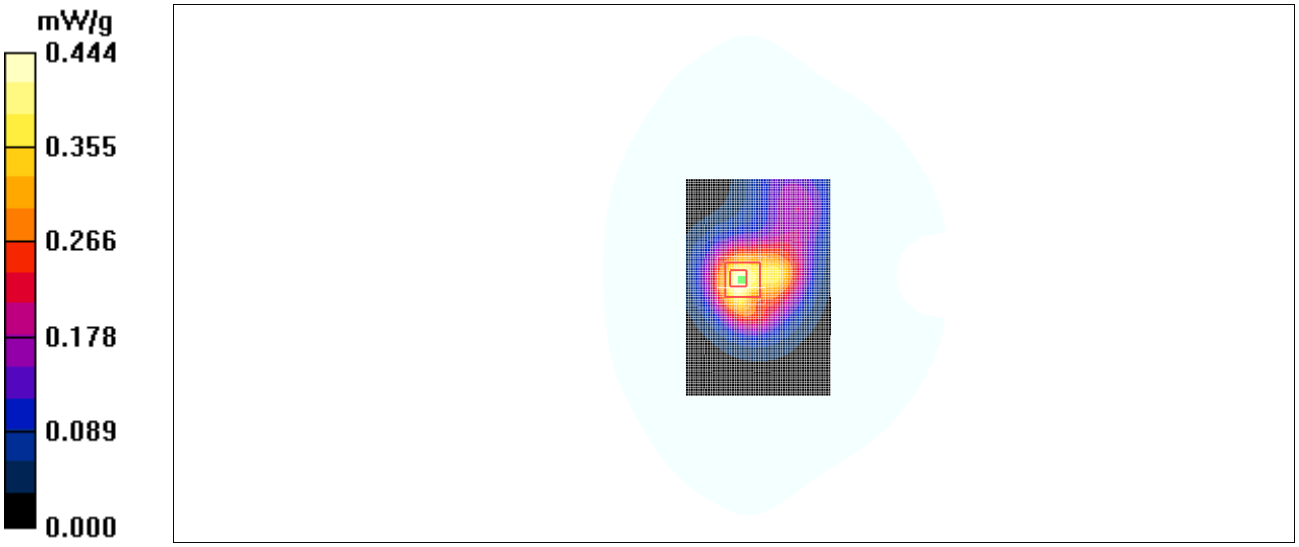


Fig. 44 1900 MHz CH661

1900 Body Towards Ground Middle with Headset__CCA30B4000C4
Date/Time: 2010-10-13 17:19:38
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.51 mho/m; εr = 52.4; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:8.3
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) = 0.419 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.9 V/m; Power Drift = -0.113 dB
Peak SAR (extrapolated) = 0.614 W/kg
SAR(1 g) = 0.367 mW/g; SAR(10 g) = 0.224 mW/g
Maximum value of SAR (measured) = 0.391 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.9 V/m; Power Drift = -0.113 dB
Peak SAR (extrapolated) = 0.601 W/kg
SAR(1 g) = 0.357 mW/g; SAR(10 g) = 0.204 mW/g
Maximum value of SAR (measured) = 0.389 mW/g

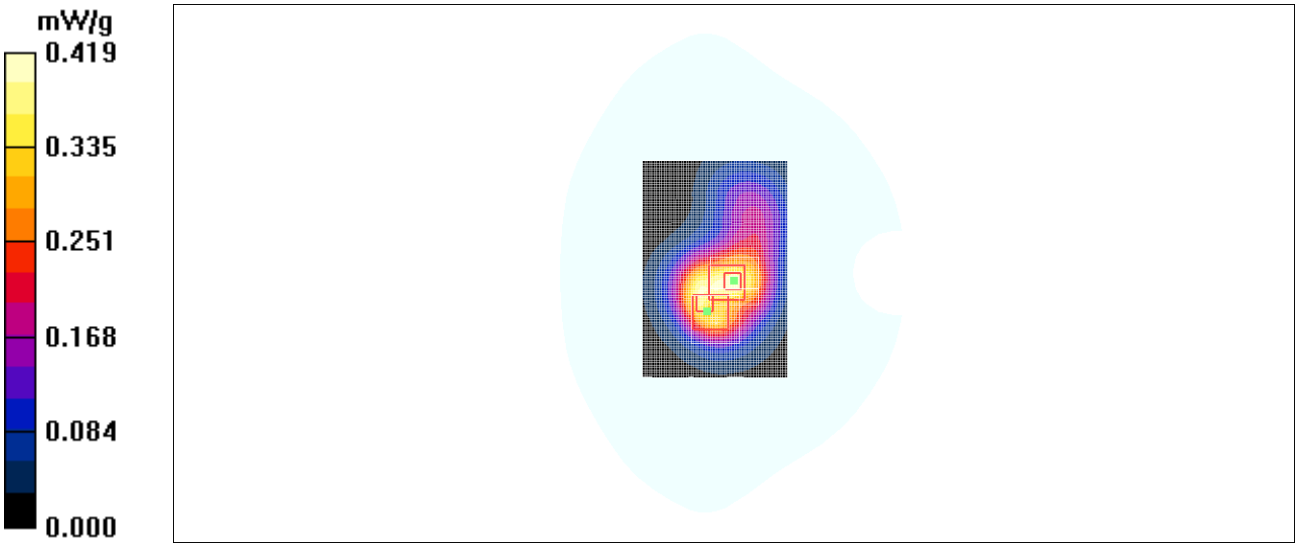


Fig. 45 1900 MHz CH661

850 Body Towards Ground Low with GPRS with battery CAB30M0000C2
Date/Time: 2010-10-12 17:23:19
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.943 mho/m; εr = 54.3; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: GSM 850 GPRS Frequency: 824.2 MHz Duty Cycle: 1:4
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) = 1.06 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.9 V/m; Power Drift = 0.009 dB
Peak SAR (extrapolated) = 1.35 W/kg
SAR(1 g) = 0.996 mW/g; SAR(10 g) = 0.692 mW/g
Maximum value of SAR (measured) = 1.03 mW/g

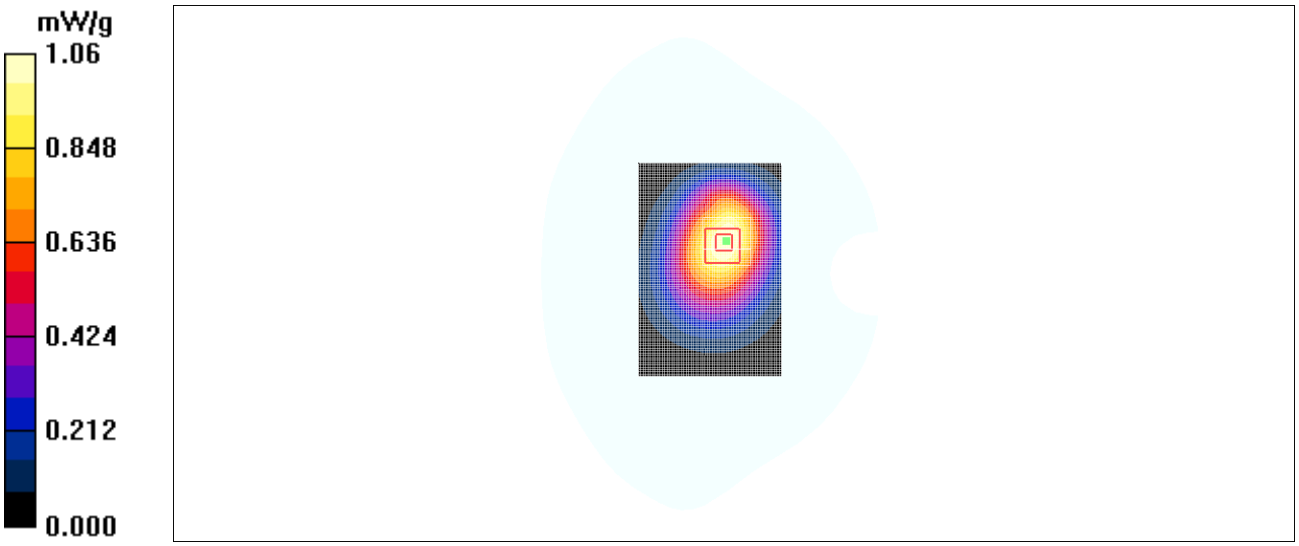


Fig. 46 850 MHz CH128

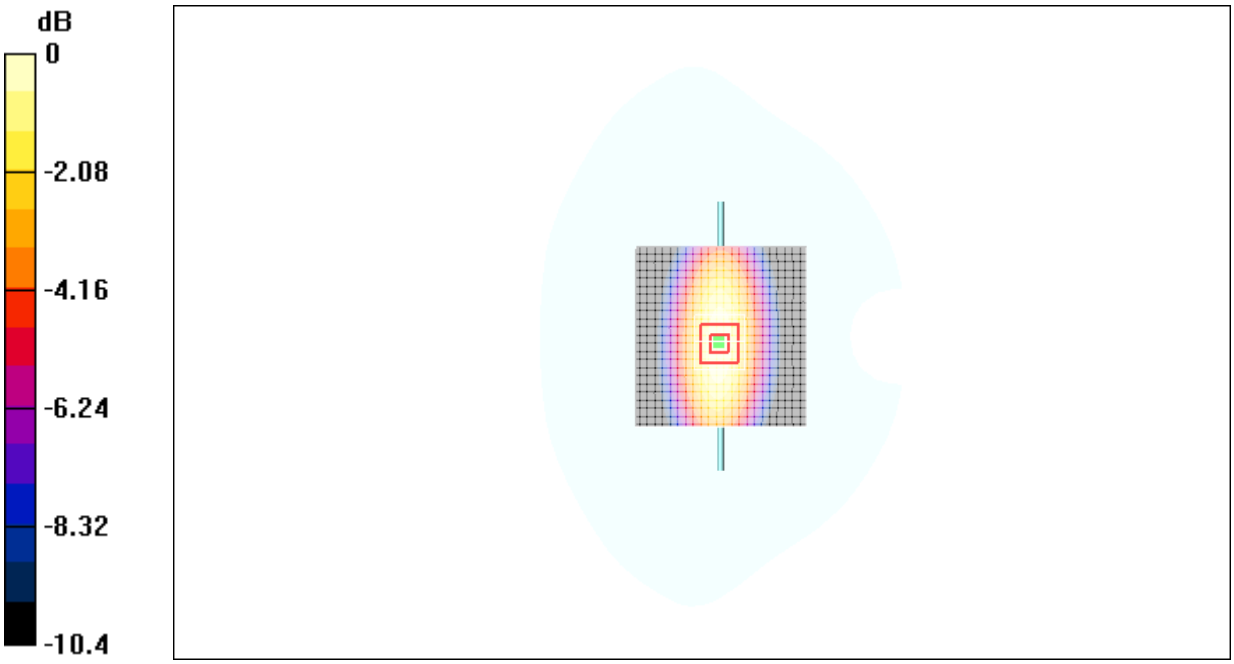
ANNEX D SYSTEM VALIDATION RESULTS

835MHz

Date/Time: 2010-10-12 7:25:14
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used: f = 835 MHz; σ = 0.87 mho/m; ε_r = 40.6; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: CW Frequency: 835 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

System Validation /Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 2.57 mW/g

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.5 V/m; Power Drift = -0.088 dB
Peak SAR (extrapolated) = 3.42 W/kg
SAR(1 g) = 2.36 mW/g; SAR(10 g) = 1.51 mW/g
Maximum value of SAR (measured) = 2.50 mW/g



0 dB = 2.50mW/g

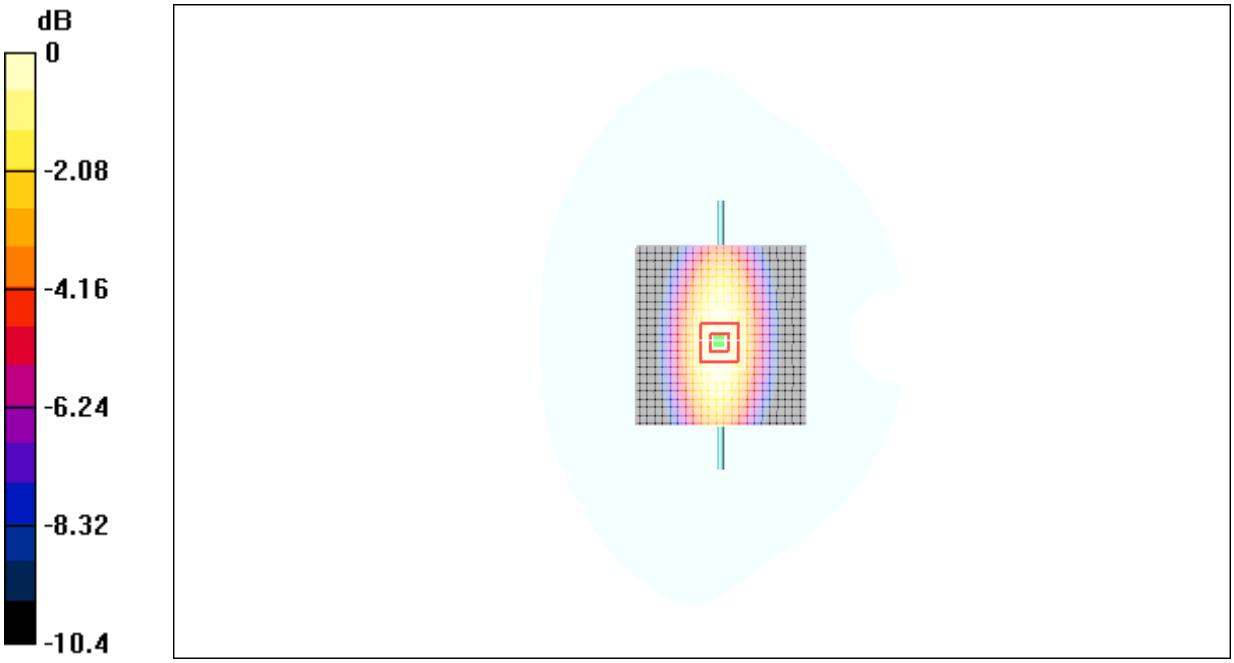
Fig.47 validation 835MHz 250mW

835MHz

Date/Time: 2010-10-12 14:12:36
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 835 MHz; σ = 0.95 mho/m; ε_r = 54.2; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: CW Frequency: 835 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

System Validation /Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 2.58 mW/g

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 51.9 V/m; Power Drift = 0.072 dB
Peak SAR (extrapolated) = 3.41 W/kg
SAR(1 g) = 2.39 mW/g; SAR(10 g) = 1.53 mW/g
Maximum value of SAR (measured) = 2.47 mW/g



0 dB = 2.47mW/g

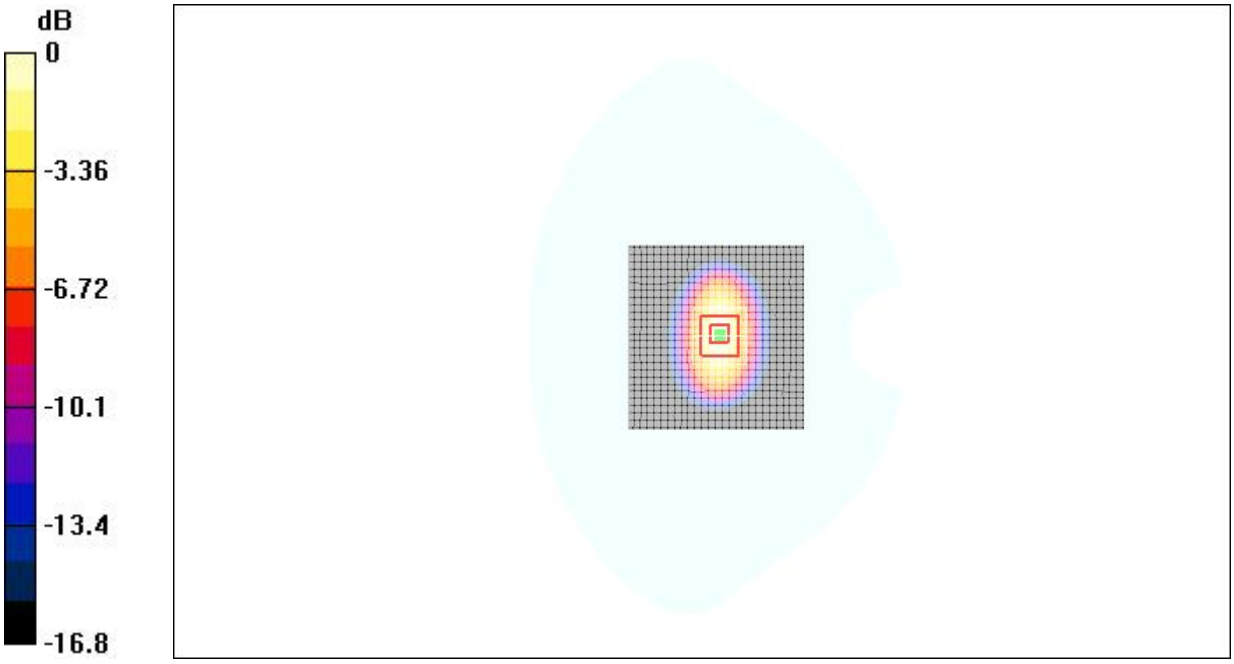
Fig.48 validation 835MHz 250mW

1900MHz

Date/Time: 2010-10-13 7:26:01
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.39 mho/m; ε_r = 39.5; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: CW Frequency: 1900 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

System Validation/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.6 mW/g

System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.0 V/m; Power Drift = 0.038 dB
Peak SAR (extrapolated) = 14.9 W/kg
SAR(1 g) = 9.87 mW/g; SAR(10 g) = 4.92 mW/g
Maximum value of SAR (measured) = 10.5 mW/g



0 dB = 10.5mW/g

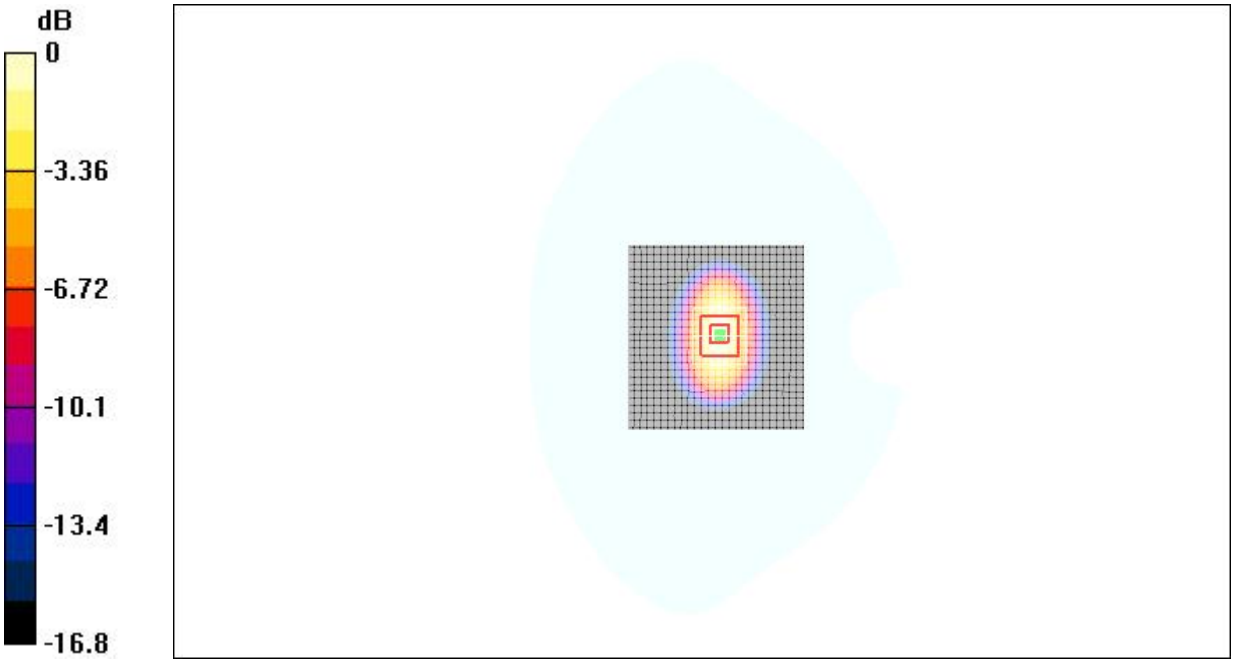
Fig.49 validation 1900MHz 250mW

1900MHz

Date/Time: 2010-10-13 14:29:17
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.53 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: CW Frequency: 1900 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(4.68, 4.68, 4.68)

System Validation/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 11.3 mW/g

System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.8 V/m; Power Drift = -0.053 dB
Peak SAR (extrapolated) = 16.2 W/kg
SAR(1 g) = 10.3 mW/g; SAR(10 g) = 5.29 mW/g
Maximum value of SAR (measured) = 10.8 mW/g



0 dB = 10.8mW/g

Fig.50 validation 1900MHz 250mW