SAR TEST REPORT

No. 2011SAR00003

For

TCT Mobile Limited

GSM dual bands mobile phone

B11 lite US

one touch 306A

With

Hardware Version: Proto

Software Version: V911

FCCID: RAD164

Issued Date: 2011-01-26

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

1.1 Testing Location

Company Name:	TMC Beijing, Telecommunication Metrology Center of MIIT
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Telephone:	+86-10-62304633
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1.2 Testing Environment

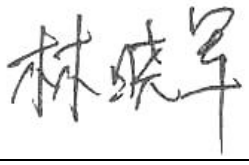
Temperature:	18°C~25 °C,
Relative humidity:	30%~ 70%
Ground system resistance:	< 0.5 Ω

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

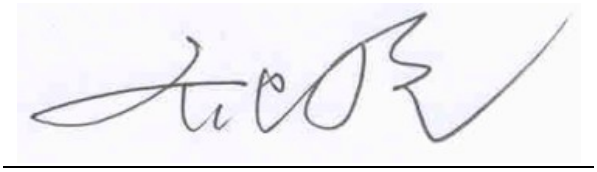
Project Leader:	Qi Dianyuan
Test Engineer:	Lin Xiaojun
Testing Start Date:	January 6, 2011
Testing End Date:	January 7, 2011

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:	5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203
City:	Shanghai
Postal Code:	201203
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2.2 Manufacturer Information

Company Name:	TCT Mobile Limited
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City:	Shanghai
Postal Code:	201203
Country:	P. R. China
Telephone:	0086-21-61460890
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3 Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1 About EUT

EUT Description:	GSM dual bands mobile phone
Model Name:	B11 lite US
Marketing Name:	one touch 306A
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	012594000005320	Proto	V911

*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	CAB2170000C1	/	BYD
AE2	Battery	CAB2170000C2	/	BAK
AE3	Headset	CCA30B4000C3	/	Quancheng
AE4	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)

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

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.

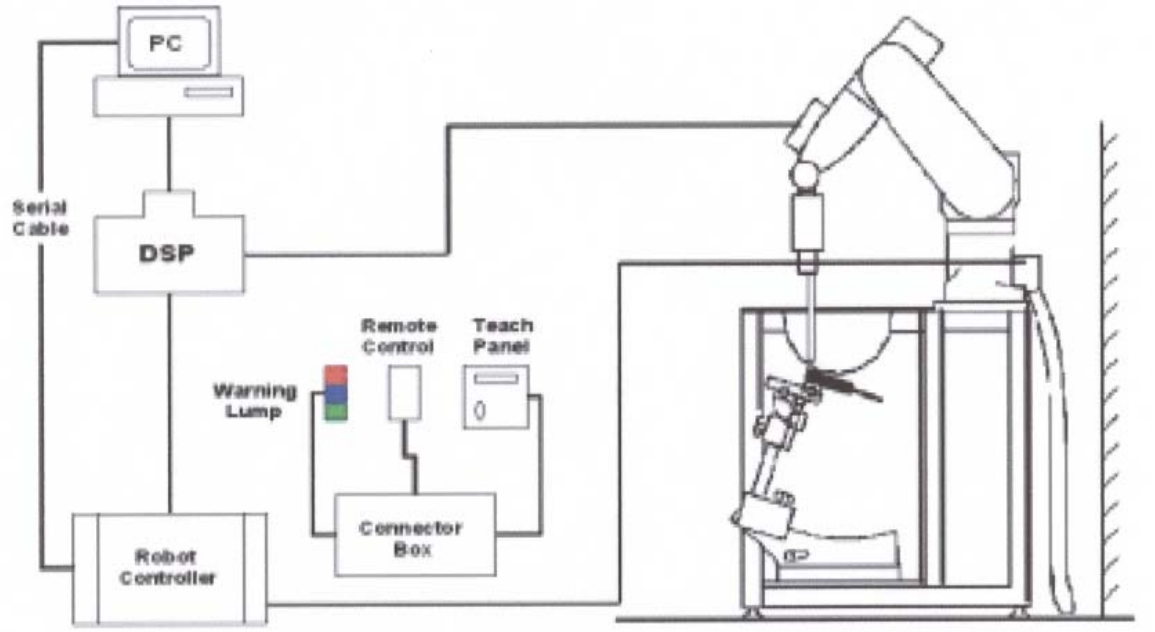
The EUT shall use its internal transmitter. The antenna(s), battery and accessories shall be those specified by the manufacturer. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output. If a wireless link is used, the antenna connected to the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

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 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

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, preventol, glycol monobutyl 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)**
	32.90	32.90	32.54
GSM 1900MHZ	**Conducted Power (dBm)**		
	Channel 810(1909.8MHz)	**Channel 661(1880MHz)**	**Channel 512(1850.2MHz)**
	30.13	30.21	30.38

The conducted power for GPRS and EGPRS 850/1900 is as following:

GSM 850 GPRS	Measured Power (dBm)			calculation	Averaged Power (dBm)		
	251	**190**	**128**		**251**	**190**	**128**
1 Txslot	32.18	32.21	32.25	-9.03dB	23.15	23.18	23.22
2 Txslots	29.80	29.83	29.89	-6.02dB	**23.78**	**23.81**	**23.87**

PCS1900 GPRS	Measured Power (dBm)			calculation	Averaged Power (dBm)		
	810	**661**	**512**		**810**	**661**	**512**
1 Txslot	29.72	29.53	29.66	-9.03dB	20.69	20.5	20.63
2 Txslots	29.69	29.50	29.62	-6.02dB	**23.67**	**23.48**	**23.6**

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 GSM850 and PCS1900.

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 37%. Liquid temperature during the test: 22.5°C Measurement Date : 850 MHz **January 6, 2011** 1900 MHz **January 7, 2011**			
/	**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	40.9	0.89
	1900 MHz	39.0	1.38

Table 5: 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 **January 6, 2011** 1900 MHz **January 7, 2011**			
/	**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	0.94
	1900 MHz	52.0	1.51

8.2 System Validation

Table 6: 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 **January 6, 2011** 1900 MHz **January 7, 2011**							
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		40.9		0.89	
		1900 MHz		39.0		1.38	
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	5.84	8.96	-4.58%	-4.78%
	1900 MHz	20.1	39.4	19.48	38.44	-3.08%	-2.44%

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

Table 7: 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 **January 6, 2011** 1900 MHz **January 7, 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	
	Actural Measurement value	835 MHz		54.2		0.94	
		1900 MHz		52.0		1.51	
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	6.00	9.16	-3.85%	-4.28%
	1900 MHz	20.9	41.4	20.16	40.4	-3.54%	-2.42%

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 (GSM 850 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**
Left hand, Touch cheek, Top frequency (CAB2170000C1)	0.738	1.05
Left hand, Touch cheek, Top frequency (CAB2170000C2)	0.670	0.958

Note: According to the values in the above table, the battery, CAB2170000C1, 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 (PCS 1900 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 (CAB2170000C1)	0.661	1.15
Body, Towards Ground, Bottom frequency (CAB2170000C2)	0.645	1.12

Note: According to the values in the above table, the battery, CAB2170000C1, 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 CAB2170000C1

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)	0.738	1.05	0.129
Left hand, Touch cheek, Mid frequency (See Fig.2)	0.733	1.04	0.001
Left hand, Touch cheek, Bottom frequency (See Fig.3)	0.725	1.03	0.019
Left hand, Tilt 15 Degree, Top frequency (See Fig.4)	0.280	0.392	0.064
Left hand, Tilt 15 Degree, Mid frequency (See Fig.5)	0.318	0.442	0.157
Left hand, Tilt 15 Degree, Bottom frequency (See Fig.6)	0.317	0.439	-0.038
Right hand, Touch cheek, Top frequency (See Fig.7)	0.656	0.957	-0.047
Right hand, Touch cheek, Mid frequency (See Fig.8)	0.722	1.05	-0.015

Right hand, Touch cheek, Bottom frequency (See Fig.9)	0.714	1.03	0.034
Right hand, Tilt 15 Degree, Top frequency (See Fig.10)	0.330	0.466	-0.192
Right hand, Tilt 15 Degree, Mid frequency (See Fig.11)	0.364	0.512	-0.067
Right hand, Tilt 15 Degree, Bottom frequency (See Fig.12)	0.369	0.517	-0.027

Table 11: SAR Values (1900MHz-Head) - with battery CAB2170000C1

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)	0.539	0.902	-0.148
Left hand, Touch cheek, Mid frequency (See Fig.14)	0.584	0.973	-0.080
Left hand, Touch cheek, Bottom frequency (See Fig.15)	0.629	1.04	0.023
Left hand, Tilt 15 Degree, Top frequency (See Fig.16)	0.205	0.340	-0.008
Left hand, Tilt 15 Degree, Mid frequency (See Fig.17)	0.225	0.369	-0.062
Left hand, Tilt 15 Degree, Bottom frequency (See Fig.18)	0.236	0.385	-0.100
Right hand, Touch cheek, Top frequency (See Fig.19)	0.528	0.885	-0.085
Right hand, Touch cheek, Mid frequency (See Fig.20)	0.575	0.957	0.026
Right hand, Touch cheek, Bottom frequency (See Fig.21)	0.617	1.02	-0.148
Right hand, Tilt 15 Degree, Top frequency (See Fig.22)	0.363	0.607	-0.030
Right hand, Tilt 15 Degree, Mid frequency (See Fig.23)	0.393	0.654	-0.020
Right hand, Tilt 15 Degree, Bottom frequency(See Fig.24)	0.422	0.700	-0.002

Table 12: SAR Values (850MHz-Head) - with battery CAB2170000C2

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.25)	0.670	0.958	-0.076

Table 13: SAR Values (850MHz-Body) - with battery CAB2170000C1

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)	0.493	0.712	-0.039
Body, Towards Ground, Mid frequency with GPRS (See Fig.27)	0.569	0.820	-0.038
Body, Towards Ground, Bottom frequency with GPRS (See Fig.28)	0.643	0.926	-0.024
Body, Towards Phantom, Top frequency with GPRS (See Fig.29)	0.410	0.586	-0.056
Body, Towards Phantom, Mid frequency with GPRS (See Fig.30)	0.466	0.664	-0.030
Body, Towards Phantom, Bottom frequency with GPRS (See Fig.31)	0.505	0.722	0.027
Body, Towards Ground, Bottom frequency with Headset_ CCA30B4000C3 (See Fig.32)	0.579	0.830	-0.024
Body, Towards Ground, Bottom frequency with Headset_ CCA30B4000C4 (See Fig.33)	0.524	0.752	-0.021

Table 14: SAR Values (1900MHz-Body) - with battery CAB2170000C1

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.34)	0.575	1.000	-0.135
Body, Towards Ground, Mid frequency with GPRS (See Fig.35)	0.620	1.08	-0.002
Body, Towards Ground, Bottom frequency with GPRS (See Fig.36)	0.661	1.15	-0.046
Body, Towards Phantom, Top frequency with GPRS (See Fig.37)	0.399	0.655	0.051
Body, Towards Phantom, Mid frequency with GPRS (See Fig.38)	0.443	0.720	-0.066
Body, Towards Phantom, Bottom frequency with GPRS (See Fig.39)	0.496	0.800	-0.029
Body, Towards Ground, Bottom frequency with Headset_ CCA30B4000C3 (See Fig.40)	0.346	0.599	0.019
Body, Towards Ground, Bottom frequency with Headset_ CCA30B4000C4 (See Fig.41)	0.338	0.587	-0.029

Table 15: SAR Values (1900MHz-Body) - with battery CAB2170000C2

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 with GPRS (See Fig.42)	0.645	1.12	-0.012

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 values are obtained at the case of **PCS 1900 Body, Towards Ground, Bottom frequency with GPRS (Table 14)**, and the value are: **0.661(10g), 1.15(1g).**

9 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	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞

	phantom shell									
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	

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 4,2010	One year
02	Power meter	NRVD	102083	September 11, 2010	One year
03	Power sensor	NRV-Z5	100542		
04	Signal Generator	E4438C	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	DAE	SPEAG DAE4	771	November 21, 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.

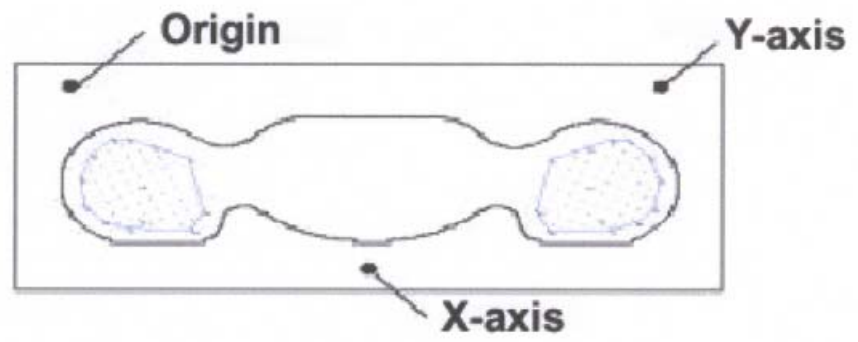
Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7 x 7x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

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.

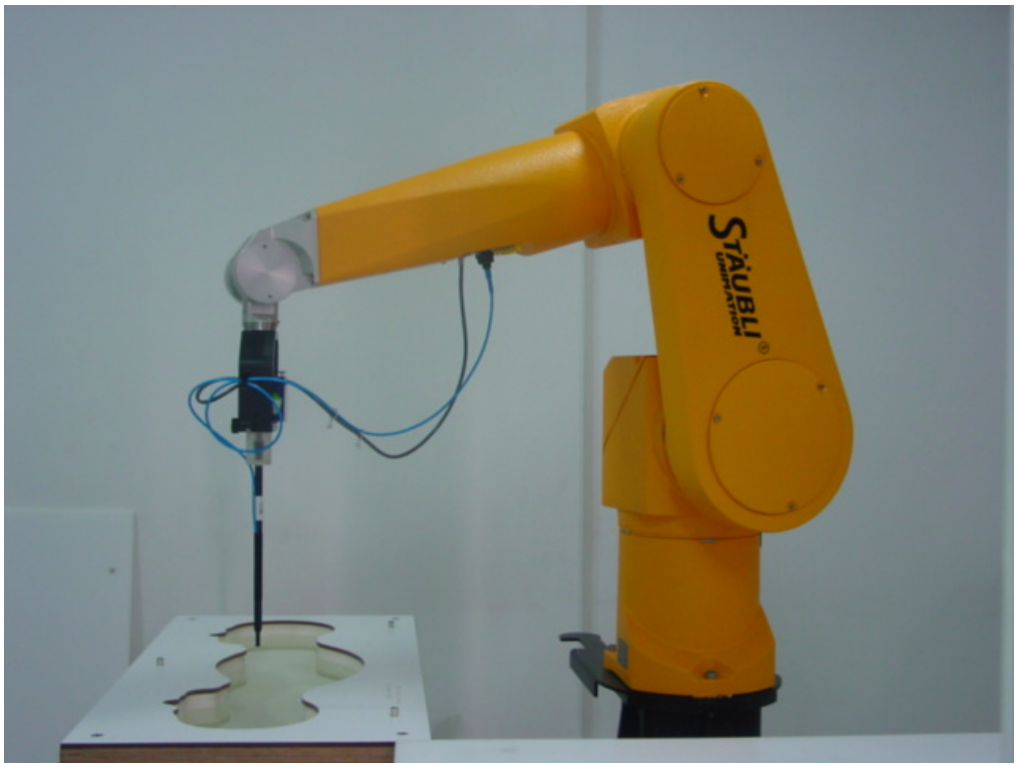
c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

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.

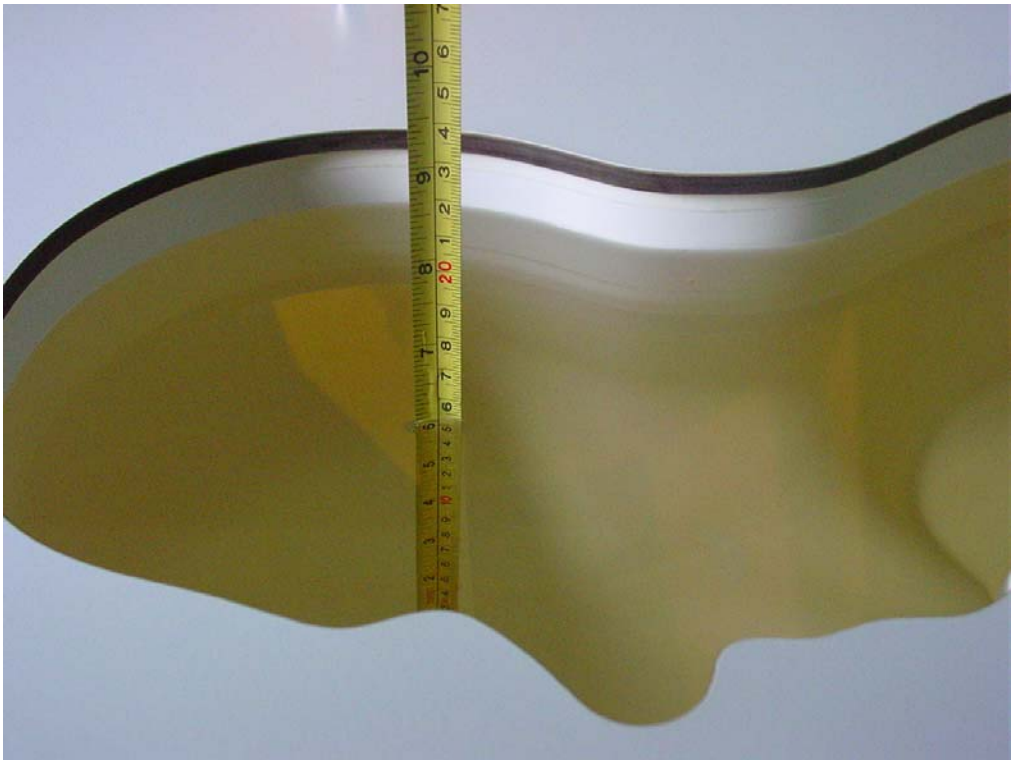


Picture A: SAR Measurement Points in Area Scan

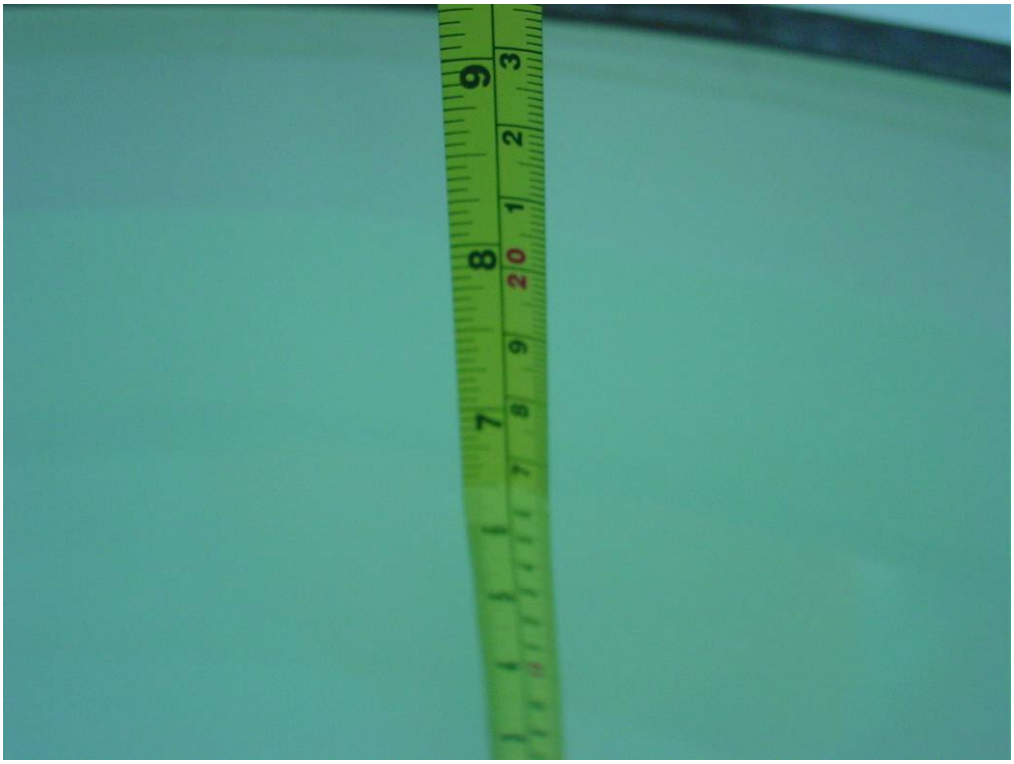
ANNEX B TEST LAYOUT



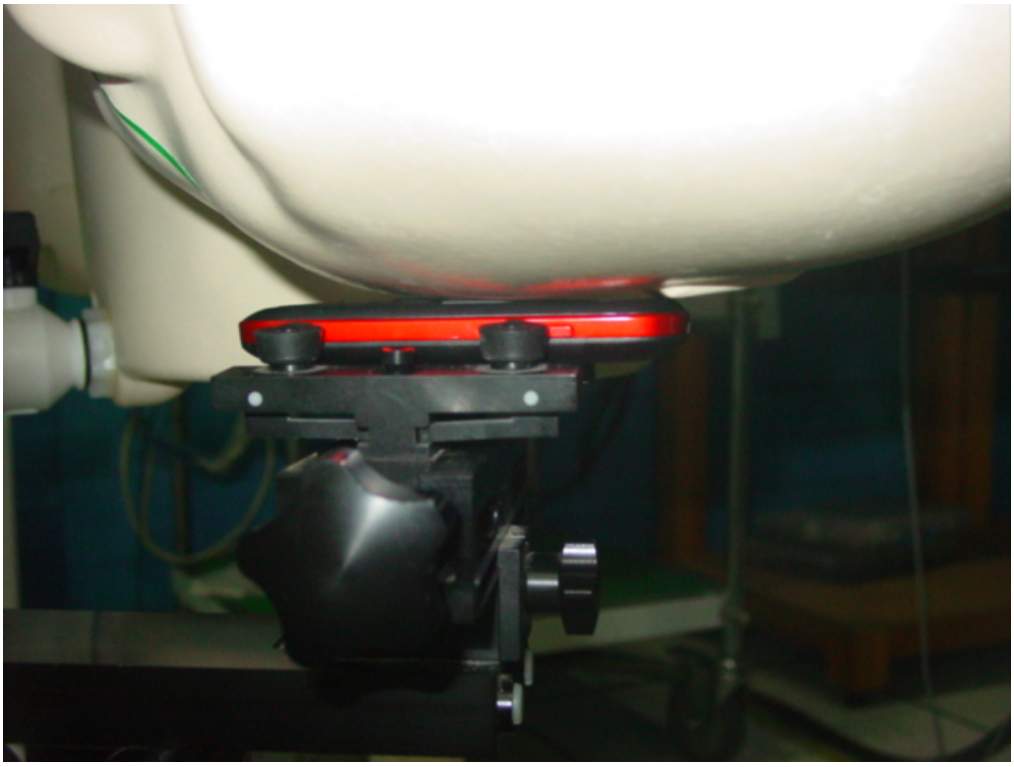
Picture B1: Specific Absorption Rate Test Layout



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

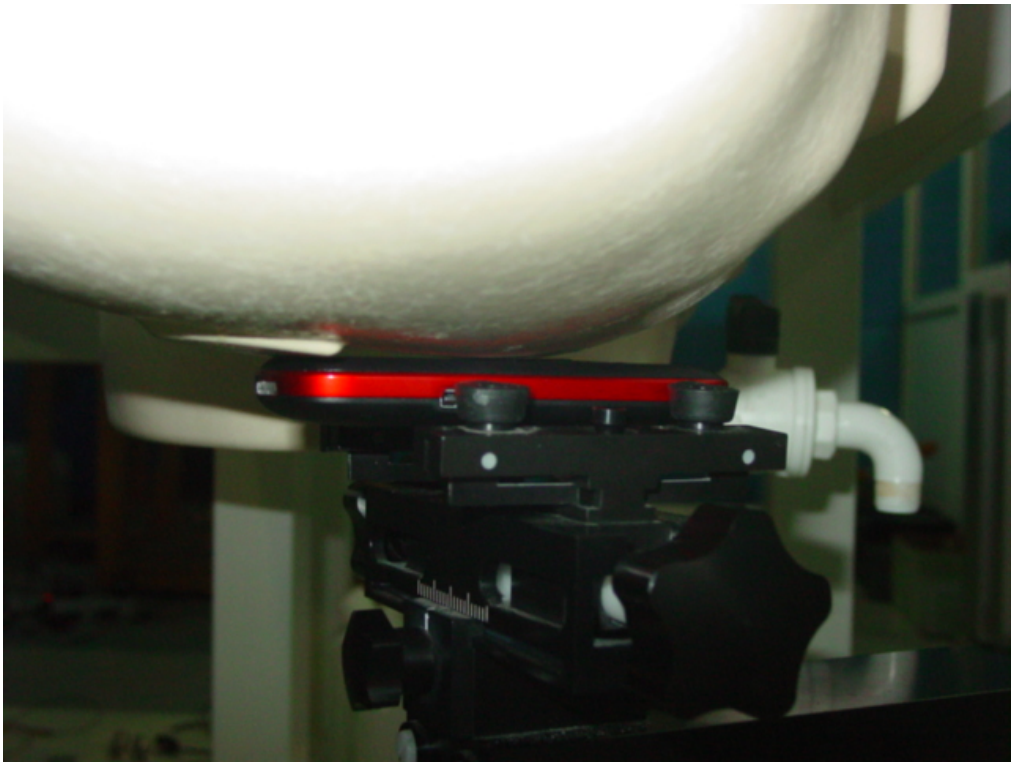


Picture B3 Liquid depth in the Flat Phantom (1900MHz)

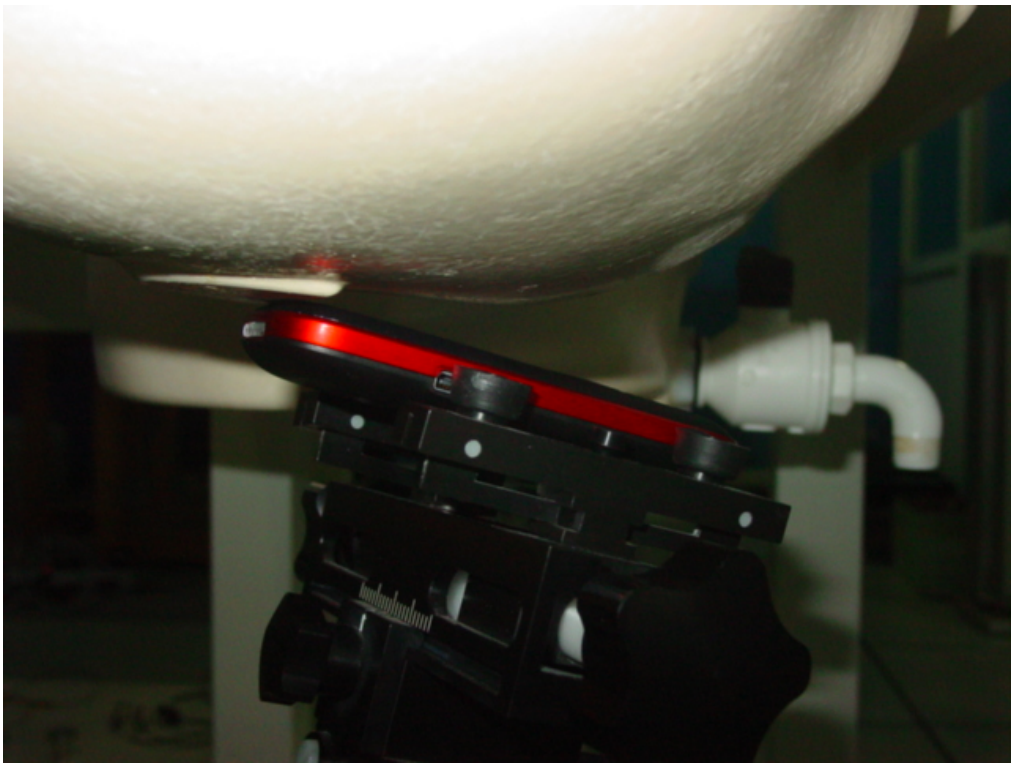


Picture B4: Left Hand Touch Cheek Position

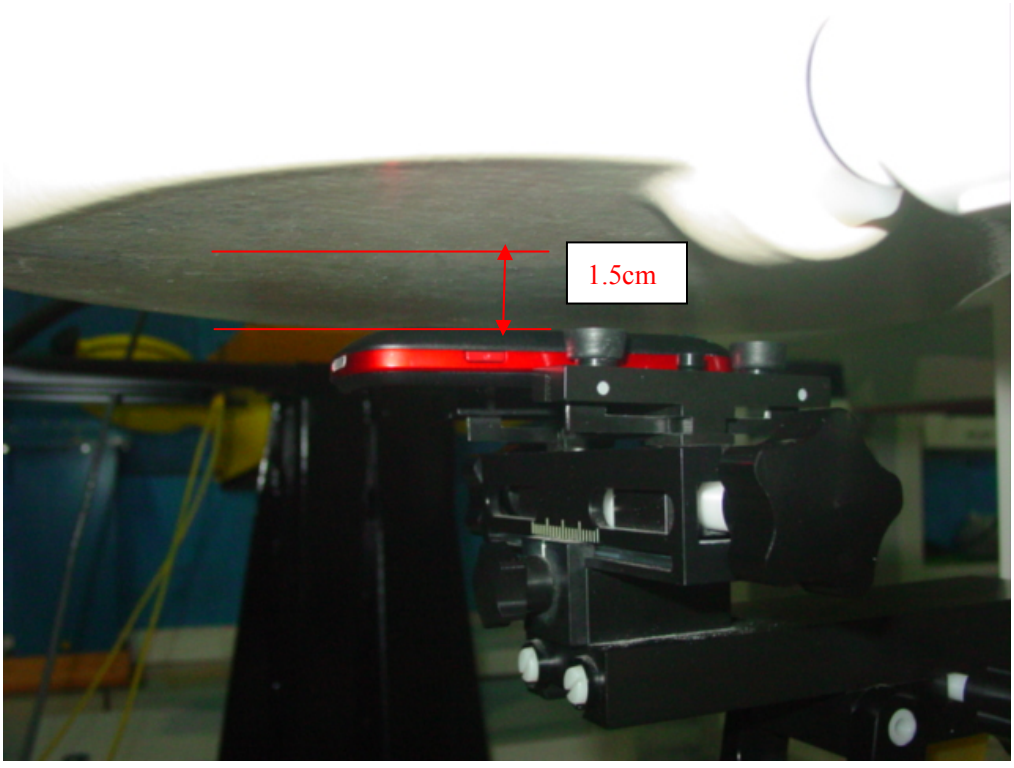
Picture B5: Left Hand Tilt 15° Position



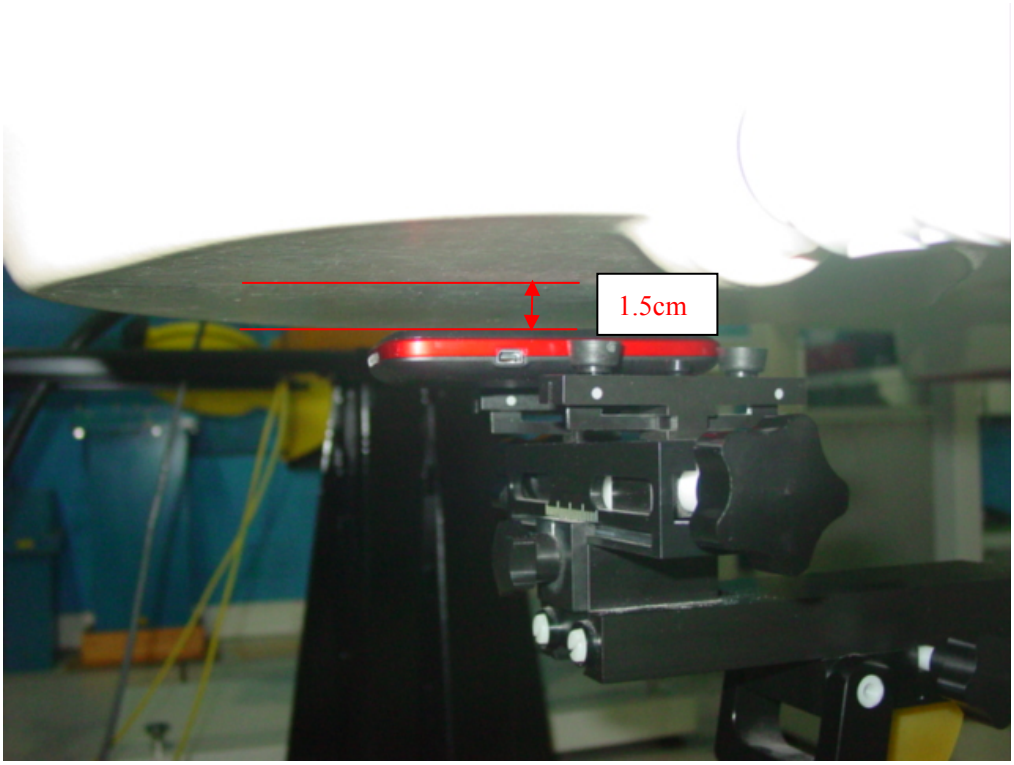
Picture B6: Right Hand Touch Cheek Position



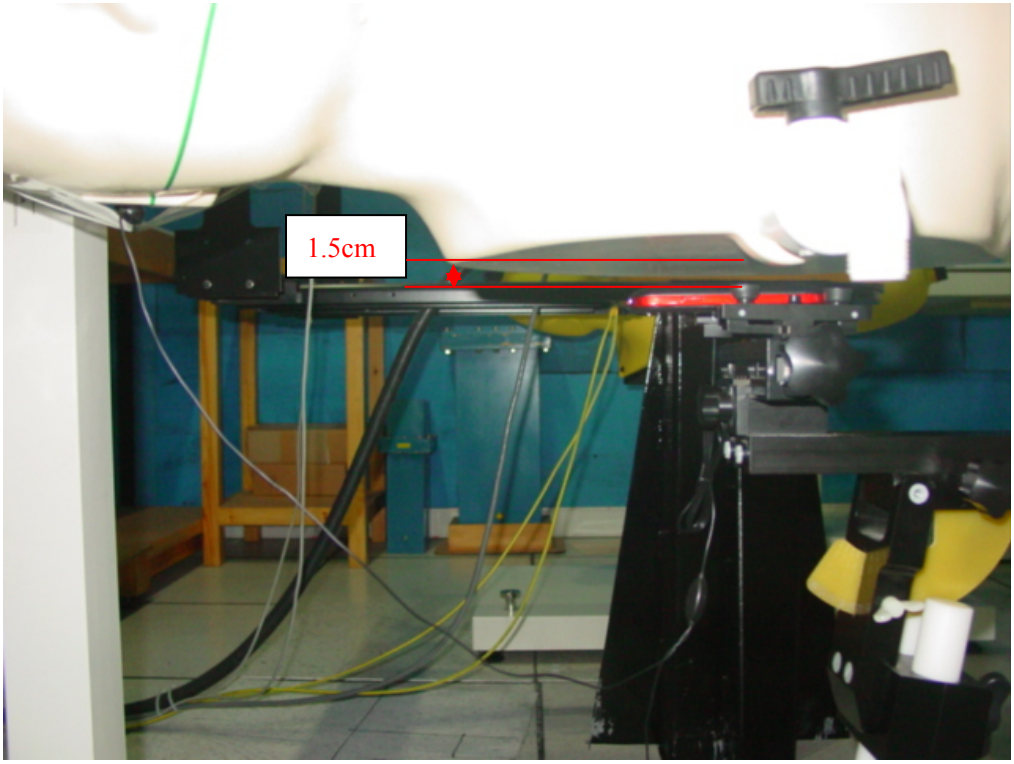
Picture B7: Right Hand Tilt 15° Position



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: 2011-1-6 8:08:21
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.91 mho/m; εr = 40.8; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.15 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.20 V/m; Power Drift = 0.129 dB
Peak SAR (extrapolated) = 1.39 W/kg
SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.738 mW/g
Maximum value of SAR (measured) = 1.12 mW/g

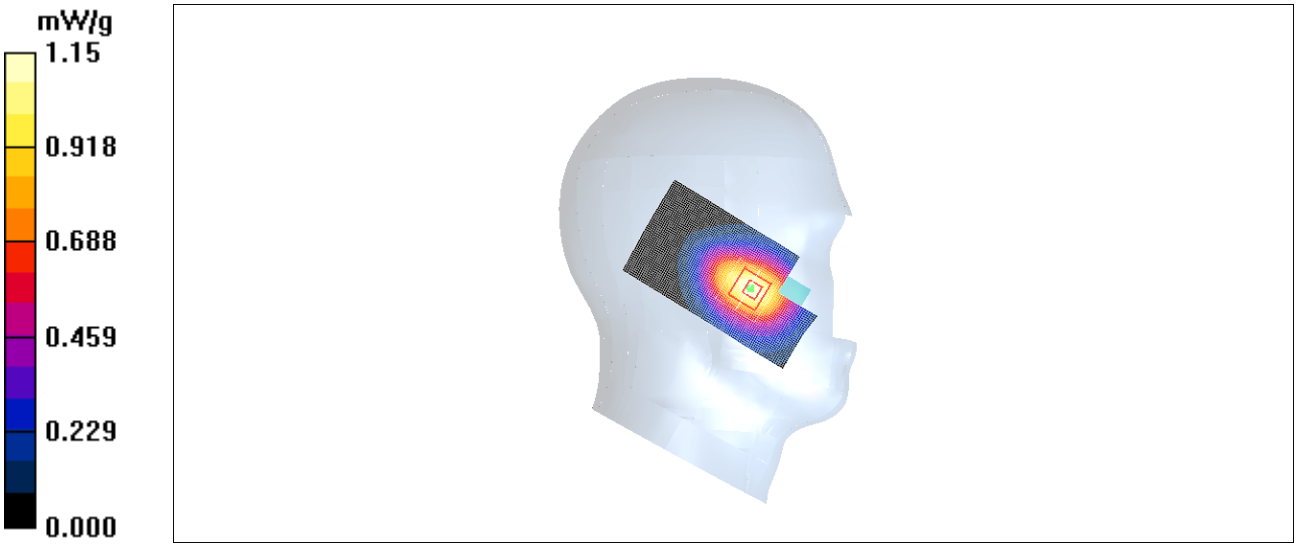


Fig. 1 850MHz CH251

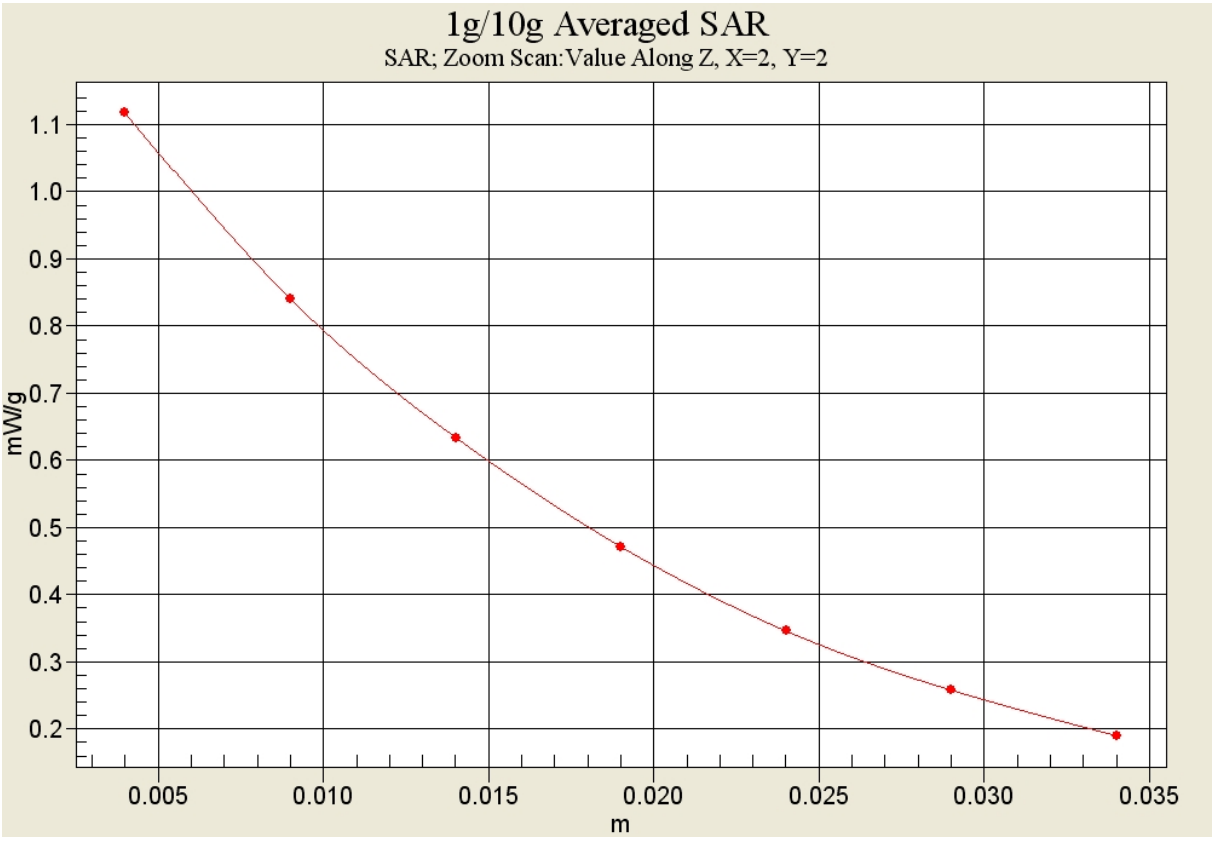


Fig. 1-1 Z-Scan at power reference point (850 MHz CH251)

850 Left Cheek Middle

Date/Time: 2011-1-6 8:22:45
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.898 mho/m; εr = 40.9; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.15 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.11 V/m; Power Drift = 0.001 dB
Peak SAR (extrapolated) = 1.37 W/kg
SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.733 mW/g
Maximum value of SAR (measured) = 1.11 mW/g

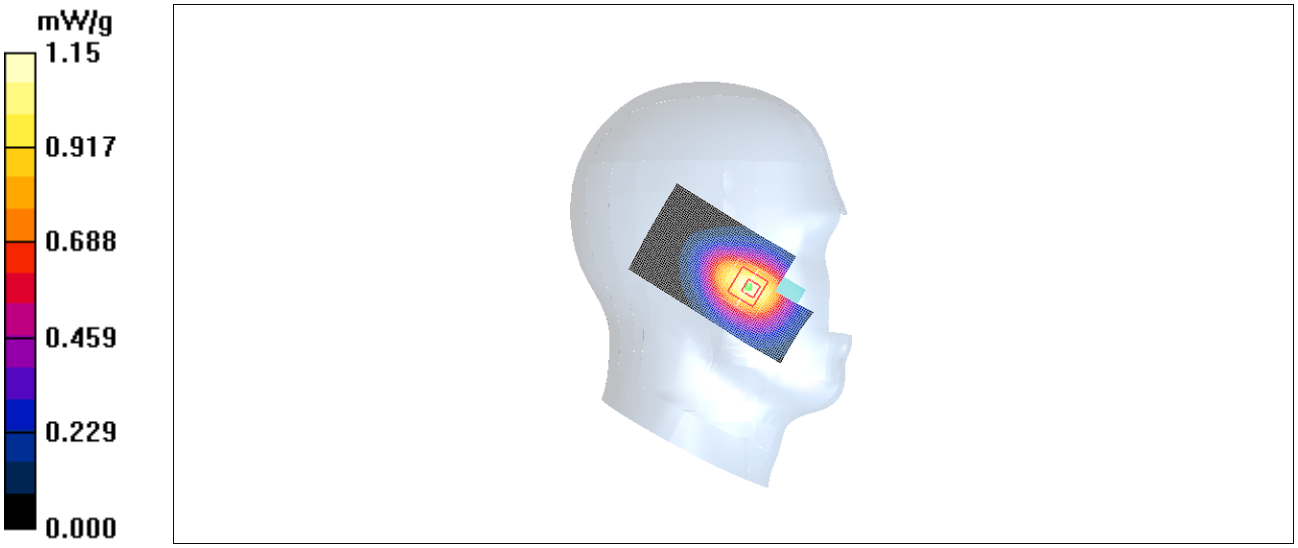


Fig. 2 850 MHz CH190

850 Left Cheek Low

Date/Time: 2011-1-6 8:37:06
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.886 mho/m; εr = 40.9; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.12 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.08 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 1.35 W/kg
SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.725 mW/g
Maximum value of SAR (measured) = 1.09 mW/g

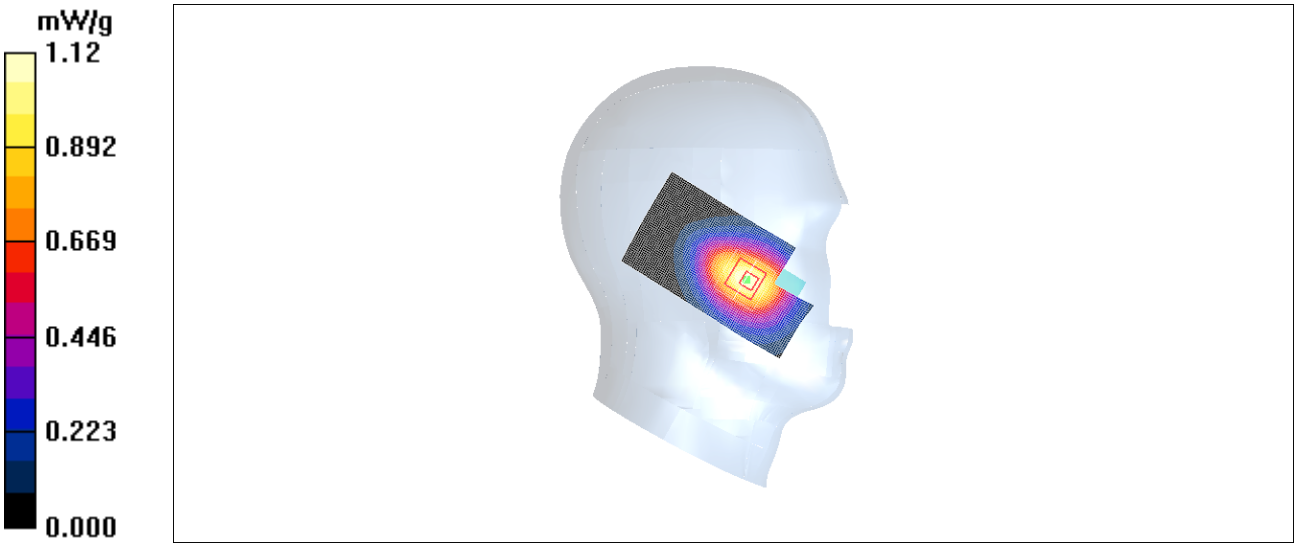


Fig. 3 850 MHz CH128

850 Left Tilt High

Date/Time: 2011-1-6 8:52:02
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.91 mho/m; εr = 40.8; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.420 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.40 V/m; Power Drift = 0.064 dB
Peak SAR (extrapolated) = 0.516 W/kg
SAR(1 g) = 0.392 mW/g; SAR(10 g) = 0.280 mW/g
Maximum value of SAR (measured) = 0.417 mW/g

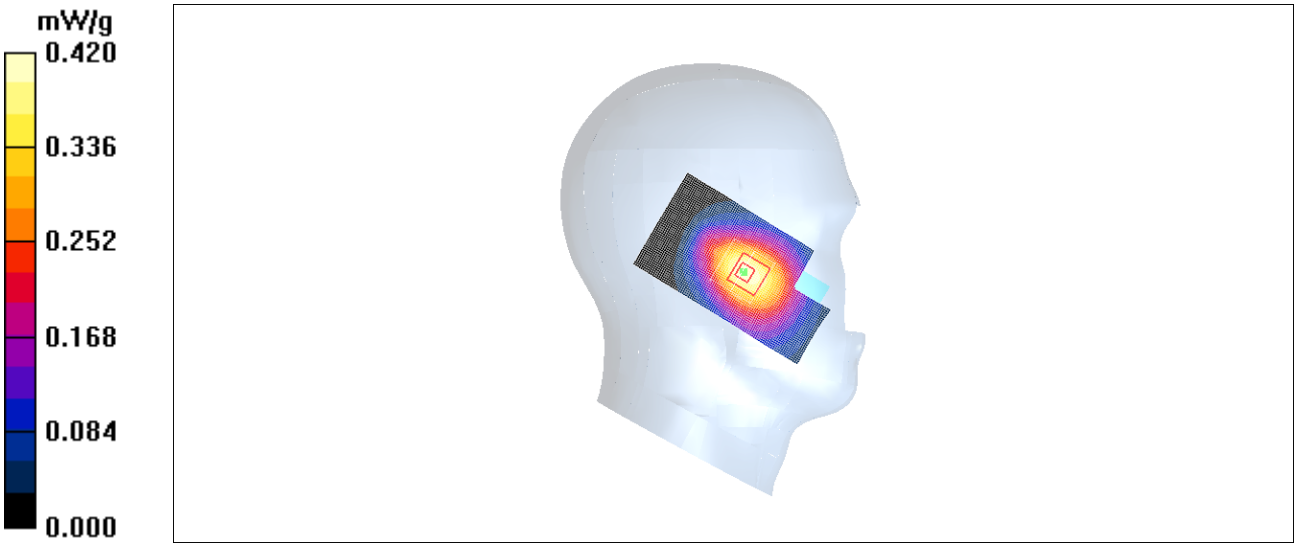


Fig.4 850 MHz CH251

850 Left Tilt Middle

Date/Time: 2011-1-6 9:06:20
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.898 mho/m; εr = 40.9; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.475 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.0 V/m; Power Drift = 0.157 dB
Peak SAR (extrapolated) = 0.582 W/kg
SAR(1 g) = 0.442 mW/g; SAR(10 g) = 0.318 mW/g
Maximum value of SAR (measured) = 0.466 mW/g

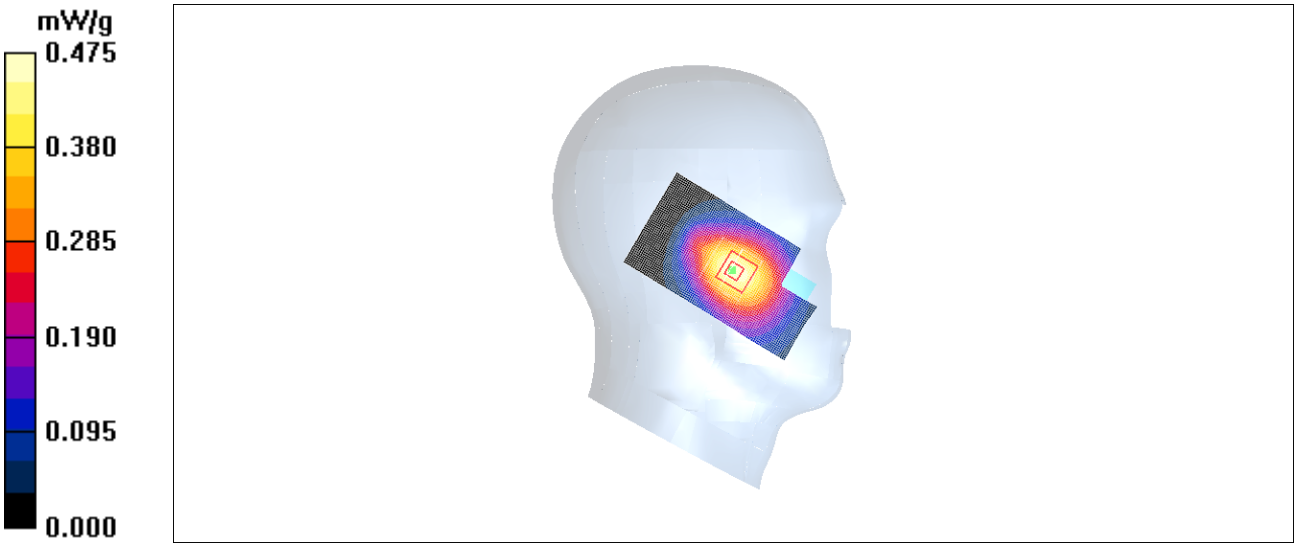


Fig.5 850 MHz CH190

850 Left Tilt Low

Date/Time: 2011-1-6 9:20:43
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.886 mho/m; εr = 40.9; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.473 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = -0.038 dB
Peak SAR (extrapolated) = 0.577 W/kg
SAR(1 g) = 0.439 mW/g; SAR(10 g) = 0.317 mW/g
Maximum value of SAR (measured) = 0.465 mW/g

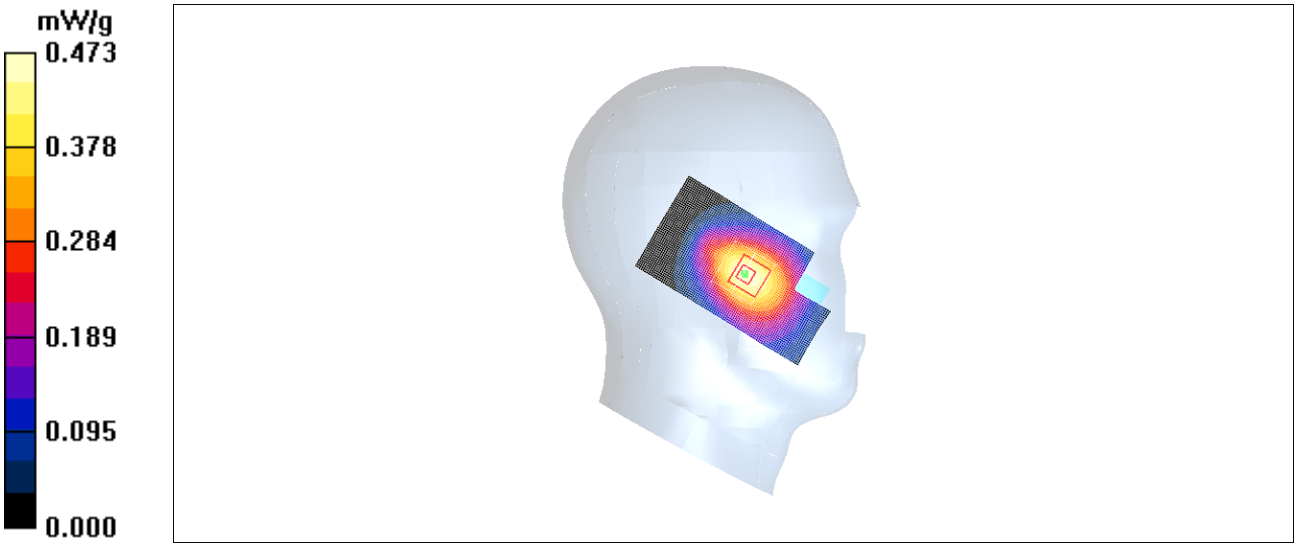


Fig. 6 850 MHz CH128

850 Right Cheek High

Date/Time: 2011-1-6 9:35:27
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.91 mho/m; εr = 40.8; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.05 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.45 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 1.30 W/kg
SAR(1 g) = 0.957 mW/g; SAR(10 g) = 0.656 mW/g
Maximum value of SAR (measured) = 1.02 mW/g

Fig. 7 850 MHz CH251

850 Right Cheek Middle

Date/Time: 2011-1-6 9:49:48
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.898 mho/m; εr = 40.9; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.14 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.94 V/m; Power Drift = -0.015 dB
Peak SAR (extrapolated) = 1.43 W/kg
SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.722 mW/g
Maximum value of SAR (measured) = 1.12 mW/g

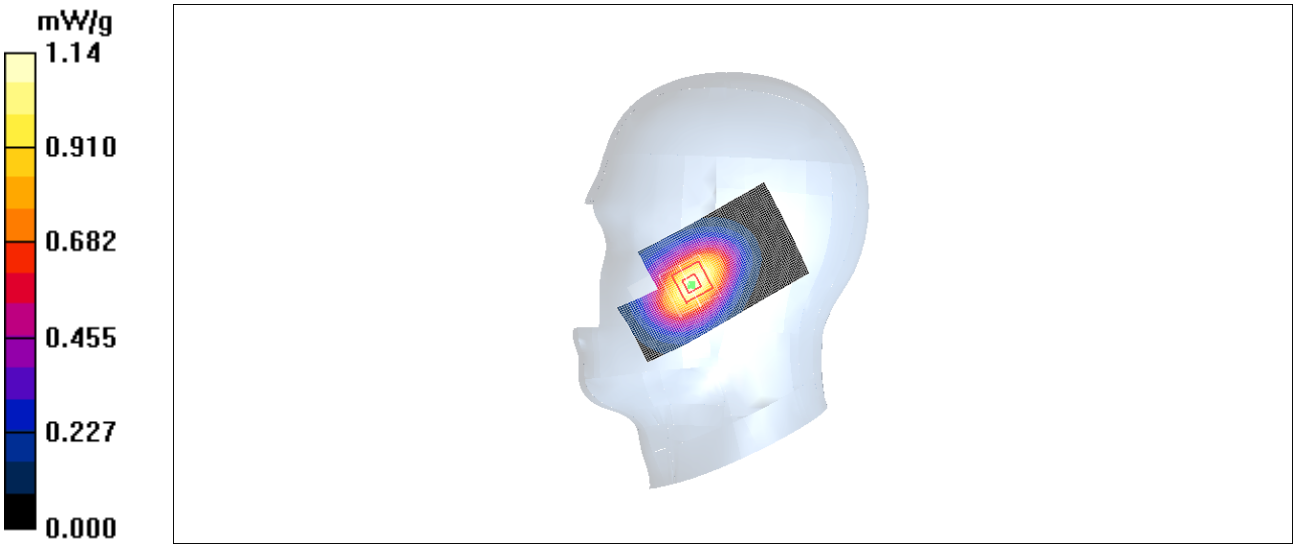


Fig. 8 850 MHz CH190

850 Right Cheek Low

Date/Time: 2011-1-6 10:04:01
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.886 mho/m; εr = 40.9; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.12 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.1 V/m; Power Drift = 0.034 dB
Peak SAR (extrapolated) = 1.39 W/kg
SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.714 mW/g
Maximum value of SAR (measured) = 1.10 mW/g

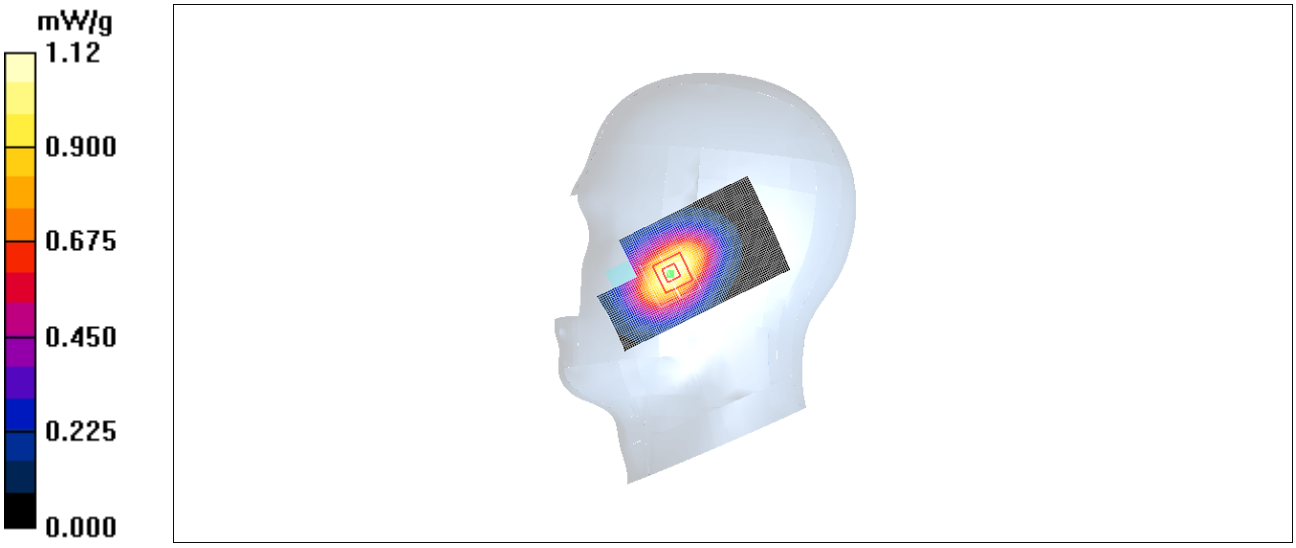


Fig. 9 850 MHz CH128

850 Right Tilt High

Date/Time: 2011-1-6 10:18:42
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.91 mho/m; εr = 40.8; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.507 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.5 V/m; Power Drift = -0.192 dB
Peak SAR (extrapolated) = 0.617 W/kg
SAR(1 g) = 0.466 mW/g; SAR(10 g) = 0.330 mW/g
Maximum value of SAR (measured) = 0.492 mW/g

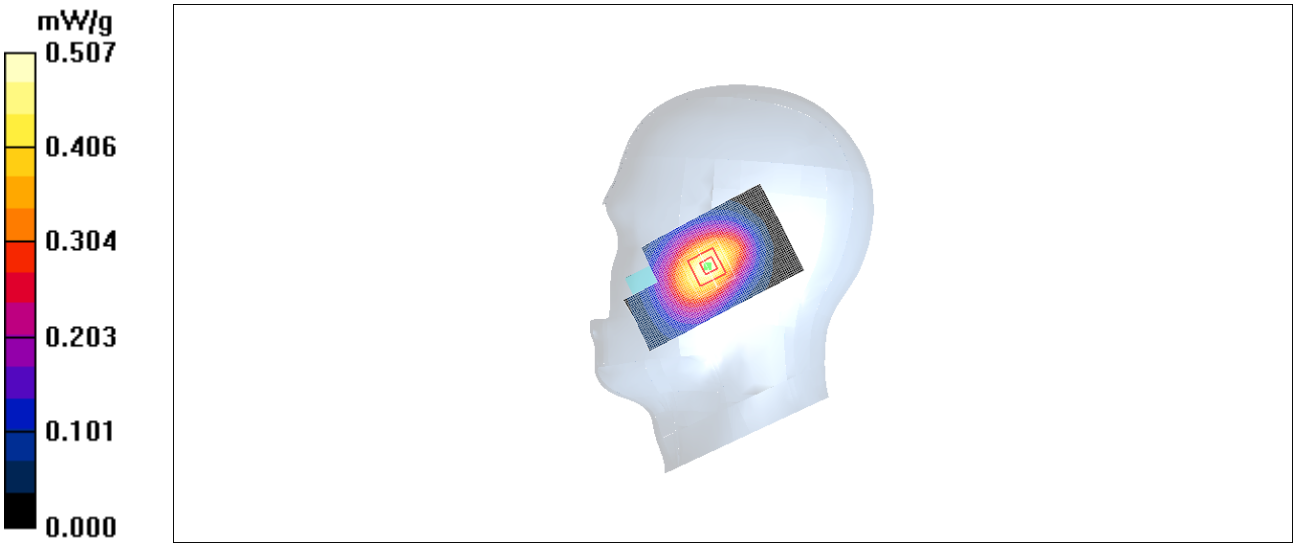


Fig.10 850 MHz CH251

850 Right Tilt Middle

Date/Time: 2011-1-6 10:33:04
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.898 mho/m; εr = 40.9; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.549 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.0 V/m; Power Drift = -0.067 dB
Peak SAR (extrapolated) = 0.677 W/kg
SAR(1 g) = 0.512 mW/g; SAR(10 g) = 0.364 mW/g
Maximum value of SAR (measured) = 0.542 mW/g

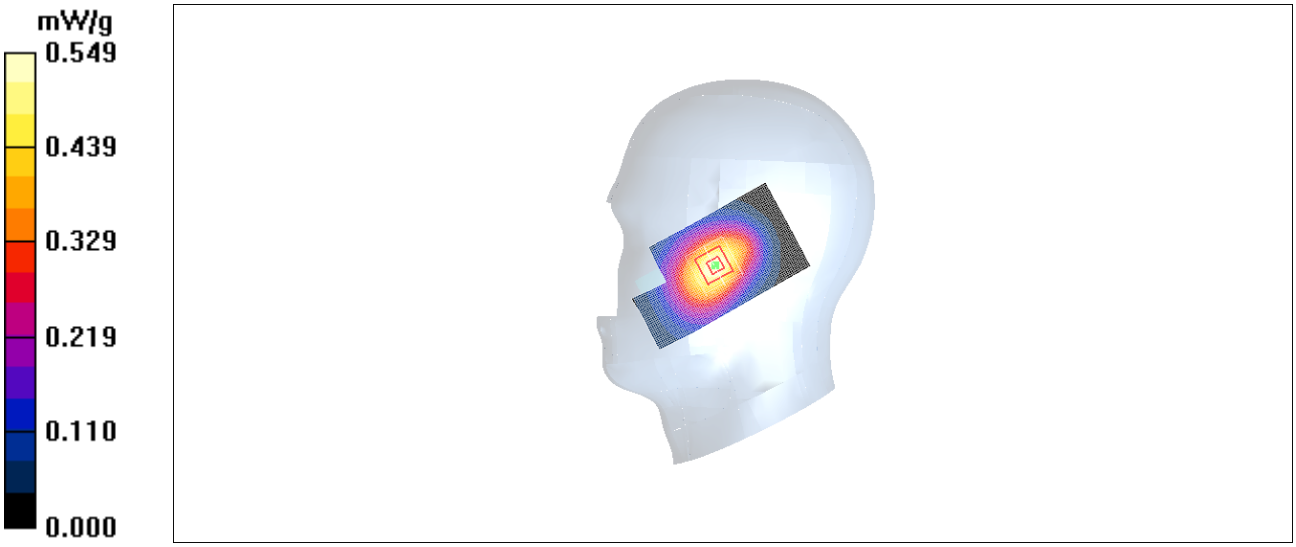


Fig.11 850 MHz CH190

850 Right Tilt Low

Date/Time: 2011-1-6 10:47:29
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.886 mho/m; εr = 40.9; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.552 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.3 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 0.683 W/kg
SAR(1 g) = 0.517 mW/g; SAR(10 g) = 0.369 mW/g
Maximum value of SAR (measured) = 0.548 mW/g

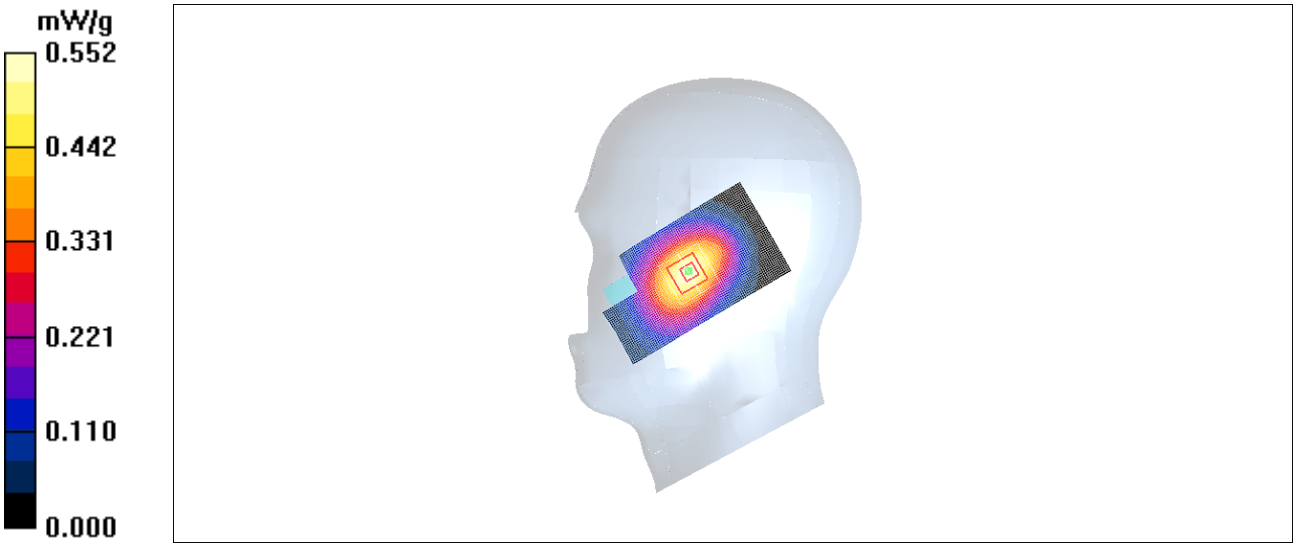


Fig. 12 850 MHz CH128

1900 Left Cheek High
Date/Time: 2011-1-7 8:09:23
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.40 mho/m; εr = 38.9; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.13 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.2 V/m; Power Drift = -0.148 dB
Peak SAR (extrapolated) = 1.36 W/kg
SAR(1 g) = 0.902 mW/g; SAR(10 g) = 0.539 mW/g
Maximum value of SAR (measured) = 0.966 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.2 V/m; Power Drift = -0.148 dB
Peak SAR (extrapolated) = 1.08 W/kg
SAR(1 g) = 0.690 mW/g; SAR(10 g) = 0.405 mW/g
Maximum value of SAR (measured) = 0.758 mW/g

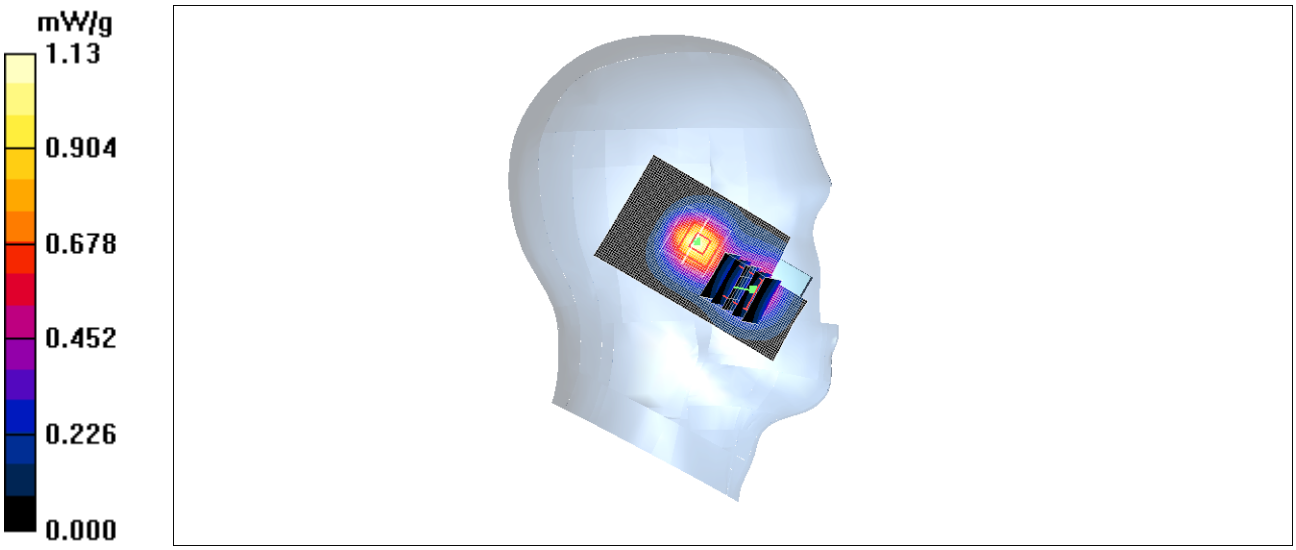


Fig. 13 1900 MHz CH810

1900 Left Cheek Middle

Date/Time: 2011-1-7 8:23:51
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; εr = 39.0; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.17 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = -0.080 dB
Peak SAR (extrapolated) = 1.44 W/kg
SAR(1 g) = 0.973 mW/g; SAR(10 g) = 0.584 mW/g
Maximum value of SAR (measured) = 1.03 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = -0.080 dB
Peak SAR (extrapolated) = 1.07 W/kg
SAR(1 g) = 0.690 mW/g; SAR(10 g) = 0.409 mW/g
Maximum value of SAR (measured) = 0.762 mW/g

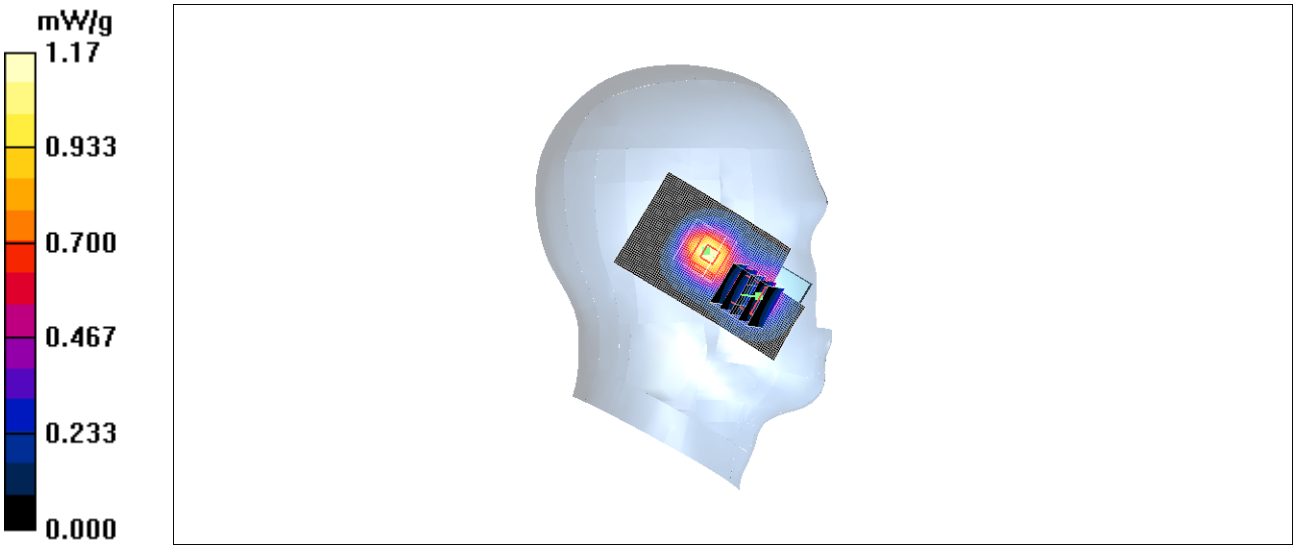


Fig. 14 1900 MHz CH661

1900 Left Cheek Low
Date/Time: 2011-1-7 8:38:19
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.35 mho/m; εr = 39.1; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.23 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = 0.023 dB
Peak SAR (extrapolated) = 1.52 W/kg
SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.629 mW/g
Maximum value of SAR (measured) = 1.11 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.4 V/m; Power Drift = 0.023 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.685 mW/g; SAR(10 g) = 0.414 mW/g
Maximum value of SAR (measured) = 0.751 mW/g

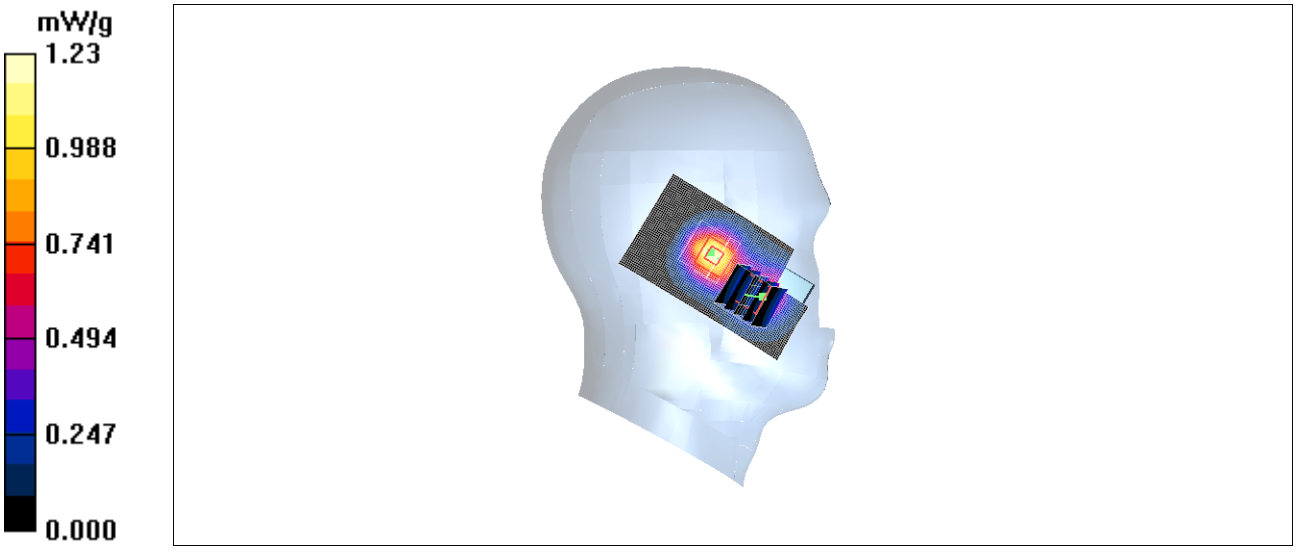


Fig. 15 1900 MHz CH512

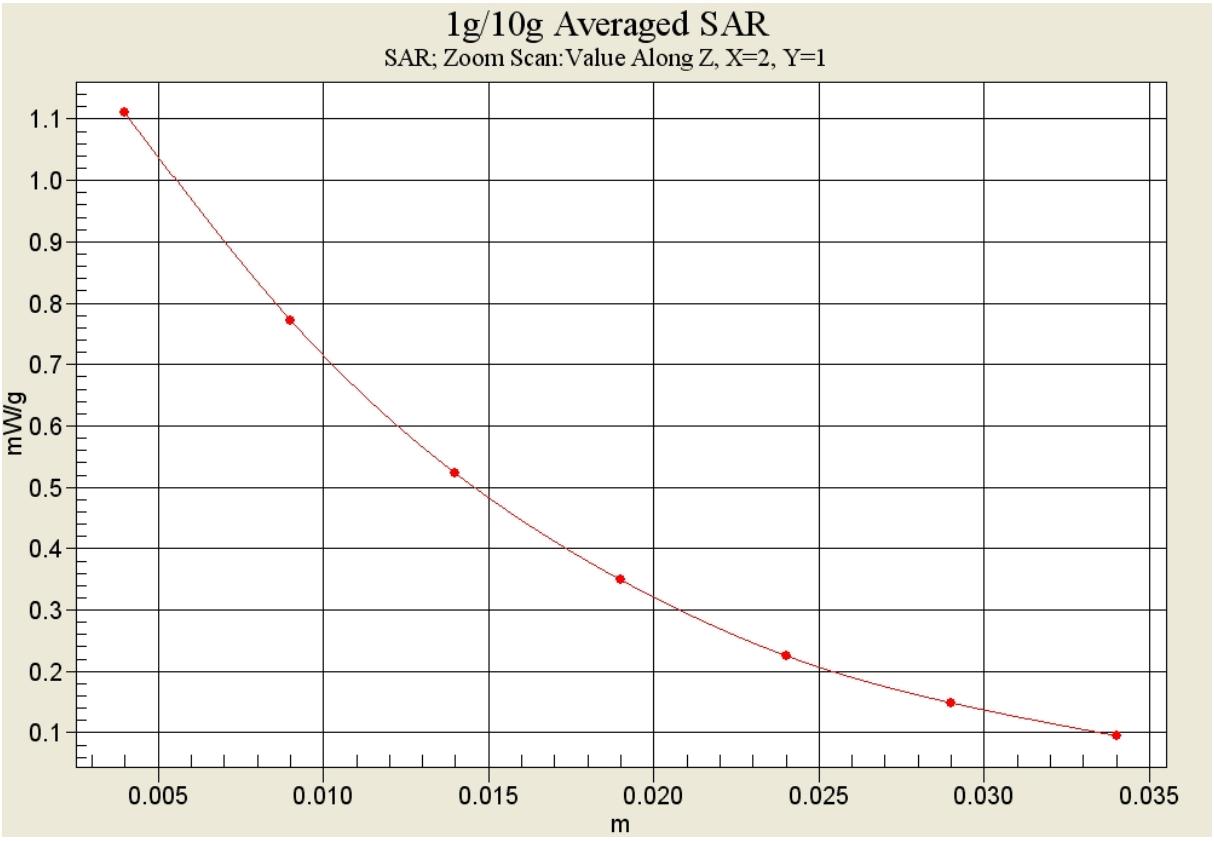


Fig. 15-1 Z-Scan at power reference point (1900 MHz CH512)

1900 Left Tilt High

Date/Time: 2011-1-7 8:52:50
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.40 mho/m; εr = 38.9; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.388 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.80 V/m; Power Drift = -0.008 dB
Peak SAR (extrapolated) = 0.529 W/kg
SAR(1 g) = 0.340 mW/g; SAR(10 g) = 0.205 mW/g
Maximum value of SAR (measured) = 0.371 mW/g

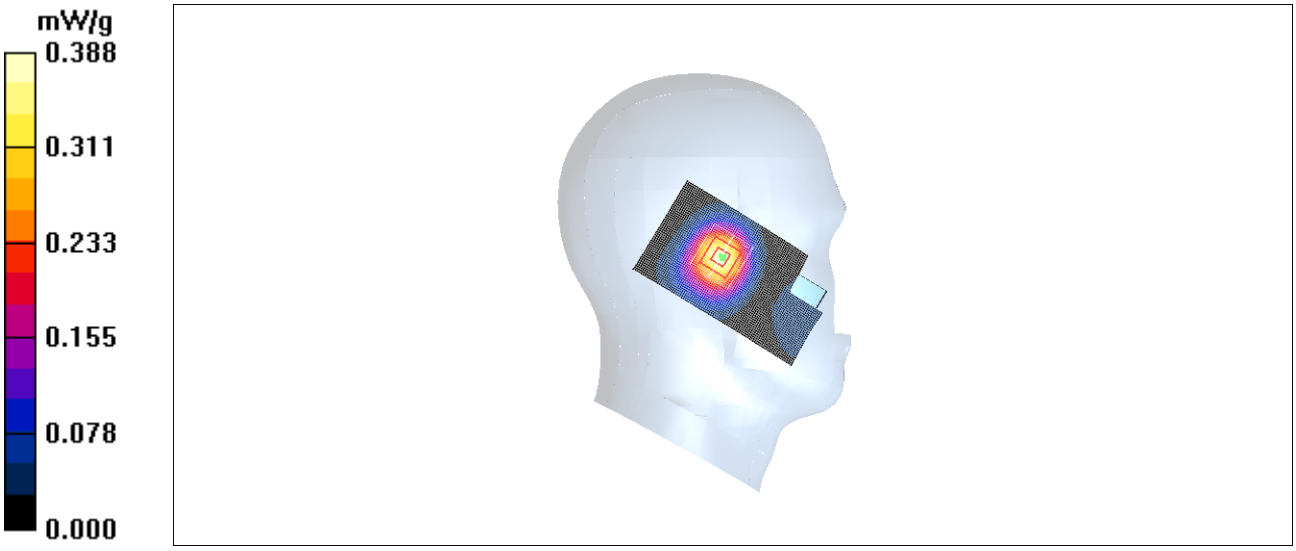


Fig.16 1900 MHz CH810

1900 Left Tilt Middle

Date/Time: 2011-1-7 9:07:12
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; εr = 39.0; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.426 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.2 V/m; Power Drift = -0.062 dB
Peak SAR (extrapolated) = 0.567 W/kg
SAR(1 g) = 0.369 mW/g; SAR(10 g) = 0.225 mW/g
Maximum value of SAR (measured) = 0.402 mW/g

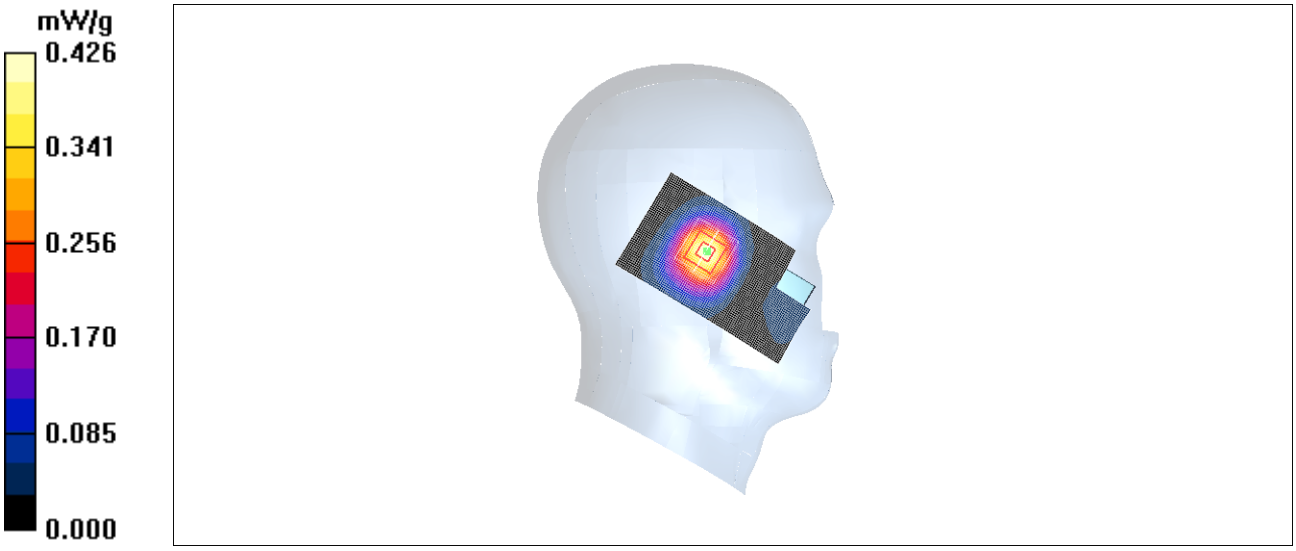


Fig. 17 1900 MHz CH661

1900 Left Tilt Low

Date/Time: 2011-1-7 9:21:35
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.35 mho/m; εr = 39.1; 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) = 0.440 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.2 V/m; Power Drift = -0.100 dB
Peak SAR (extrapolated) = 0.584 W/kg
SAR(1 g) = 0.385 mW/g; SAR(10 g) = 0.236 mW/g
Maximum value of SAR (measured) = 0.419 mW/g

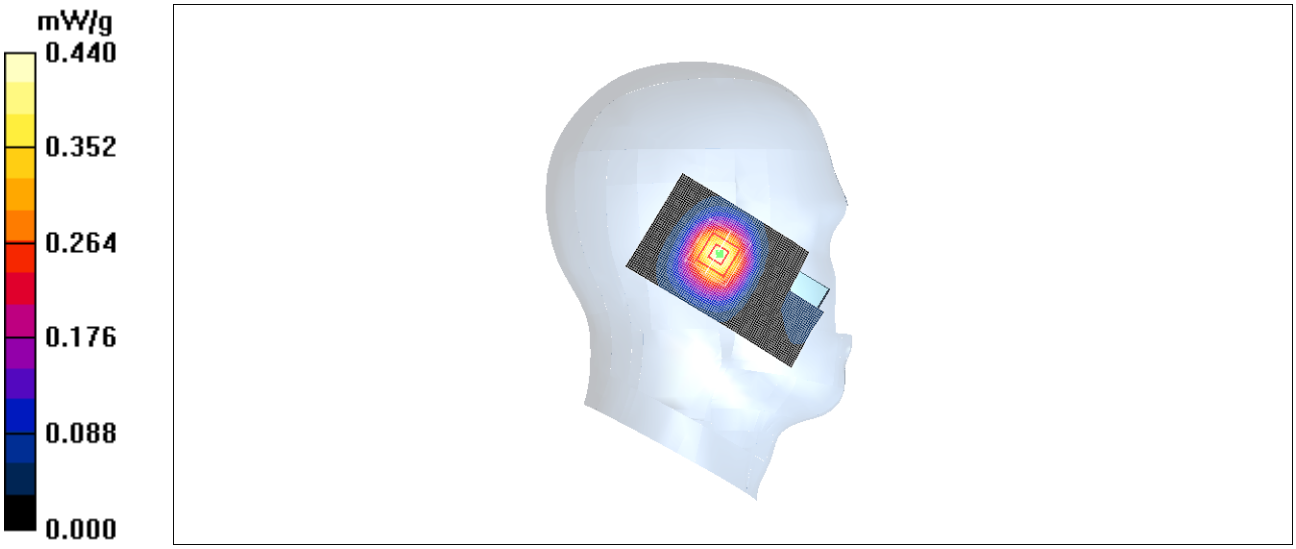


Fig. 18 1900 MHz CH512

1900 Right Cheek High

Date/Time: 2011-1-7 9:36:04
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.40 mho/m; εr = 38.9; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.05 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.6 V/m; Power Drift = -0.085 dB
Peak SAR (extrapolated) = 1.31 W/kg
SAR(1 g) = 0.885 mW/g; SAR(10 g) = 0.528 mW/g
Maximum value of SAR (measured) = 0.964 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.6 V/m; Power Drift = -0.085 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.698 mW/g; SAR(10 g) = 0.418 mW/g
Maximum value of SAR (measured) = 0.757 mW/g

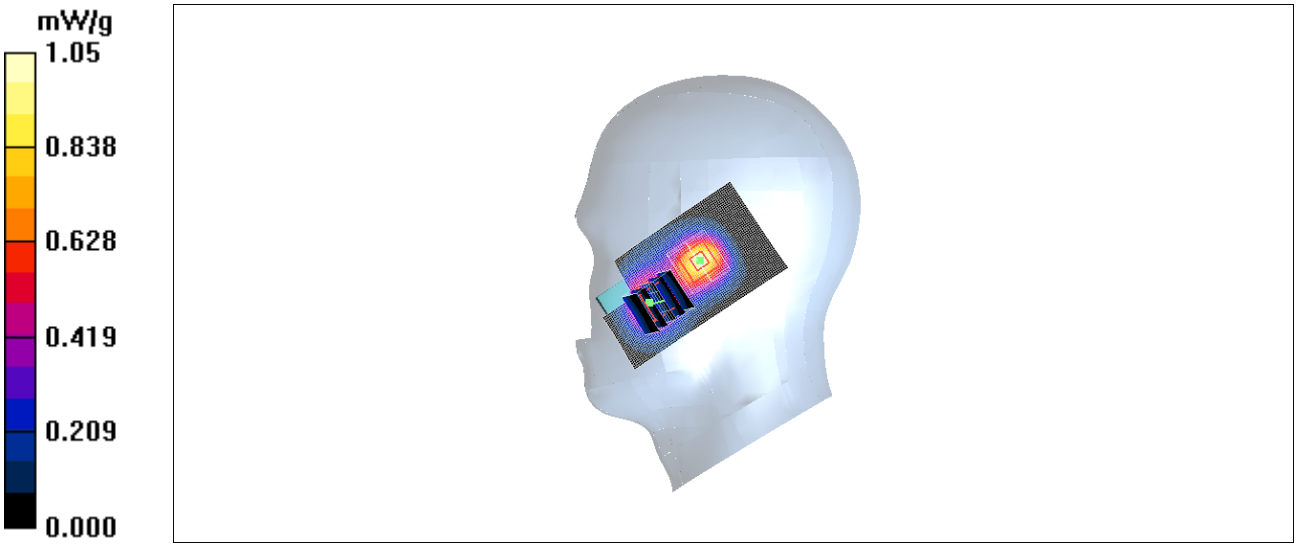


Fig. 19 1900 MHz CH810

1900 Right Cheek Middle

Date/Time: 2011-1-7 9:50:21
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; εr = 39.0; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.15 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.8 V/m; Power Drift = 0.026 dB
Peak SAR (extrapolated) = 1.40 W/kg
SAR(1 g) = 0.957 mW/g; SAR(10 g) = 0.575 mW/g
Maximum value of SAR (measured) = 1.05 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.8 V/m; Power Drift = 0.026 dB
Peak SAR (extrapolated) = 1.11 W/kg
SAR(1 g) = 0.715 mW/g; SAR(10 g) = 0.428 mW/g
Maximum value of SAR (measured) = 0.772 mW/g

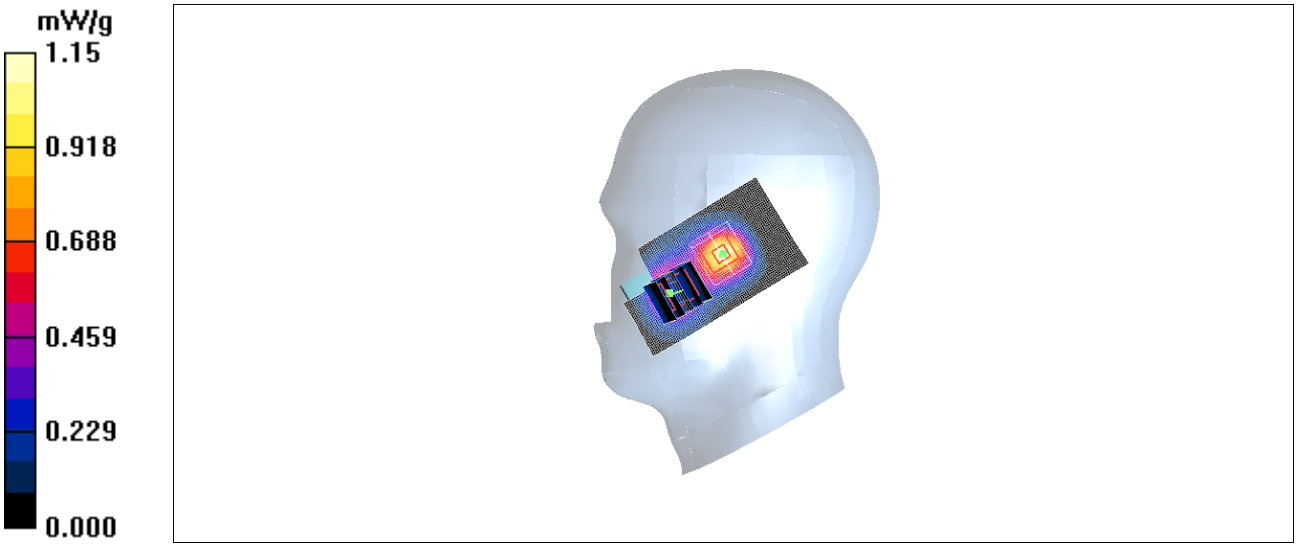


Fig. 20 1900 MHz CH661

1900 Right Cheek Low
Date/Time: 2011-1-7 10:04:42
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.35 mho/m; εr = 39.1; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.21 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = -0.148 dB
Peak SAR (extrapolated) = 1.49 W/kg
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.617 mW/g
Maximum value of SAR (measured) = 1.11 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.9 V/m; Power Drift = -0.148 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.724 mW/g; SAR(10 g) = 0.438 mW/g
Maximum value of SAR (measured) = 0.785 mW/g

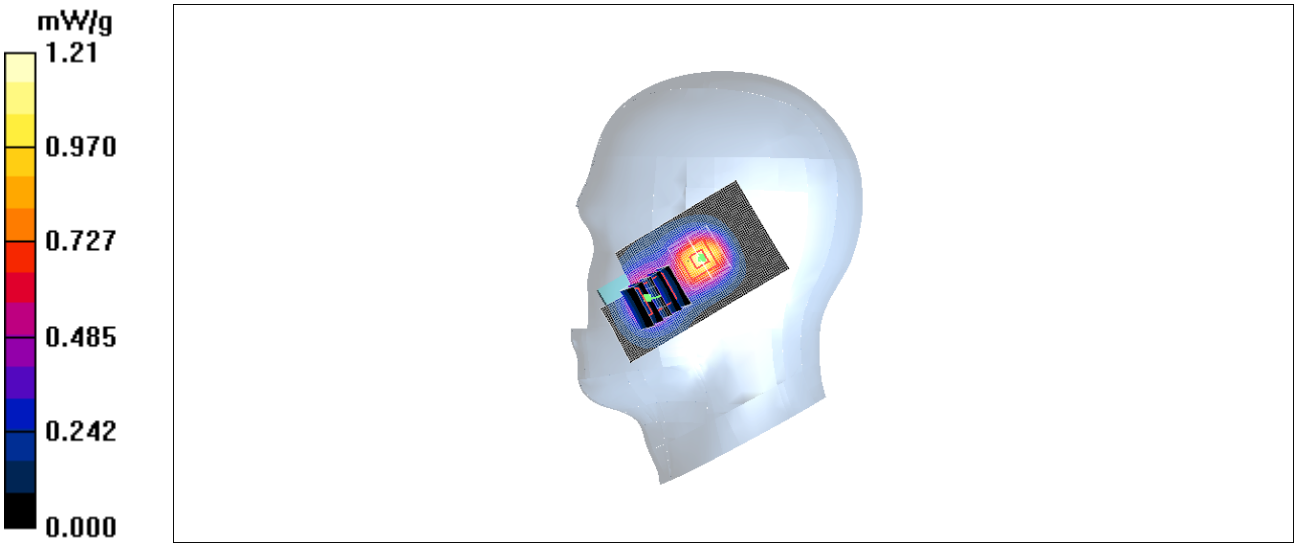


Fig. 21 1900 MHz CH512

1900 Right Tilt High

Date/Time: 2011-1-7 10:19:22
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.40 mho/m; εr = 38.9; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.729 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.3 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 0.929 W/kg
SAR(1 g) = 0.607 mW/g; SAR(10 g) = 0.363 mW/g
Maximum value of SAR (measured) = 0.642 mW/g

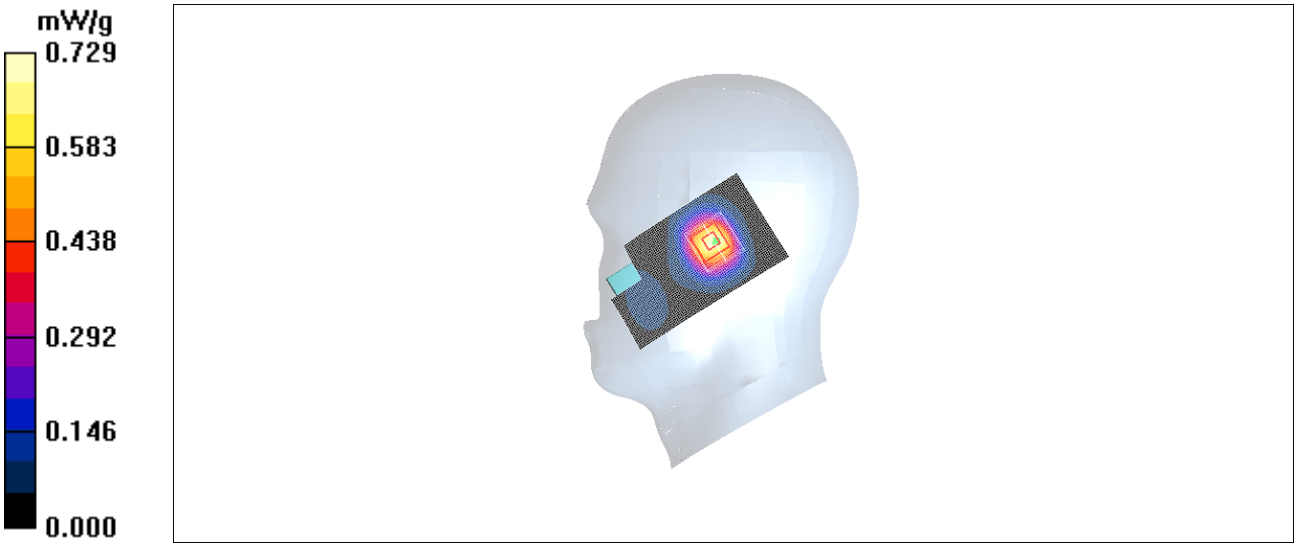


Fig. 22 1900 MHz CH810

1900 Right Tilt Middle
Date/Time: 2011-1-7 10:33:49
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.38 mho/m; εr = 39.0; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.782 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = -0.020 dB
Peak SAR (extrapolated) = 0.993 W/kg
SAR(1 g) = 0.654 mW/g; SAR(10 g) = 0.393 mW/g
Maximum value of SAR (measured) = 0.697 mW/g

Fig.23 1900 MHz CH661

1900 Right Tilt Low

Date/Time: 2011-1-7 10:48:07
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.35 mho/m; εr = 39.1; 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) = 0.829 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.2 V/m; Power Drift = -0.002 dB
Peak SAR (extrapolated) = 1.05 W/kg
SAR(1 g) = 0.700 mW/g; SAR(10 g) = 0.422 mW/g
Maximum value of SAR (measured) = 0.750 mW/g

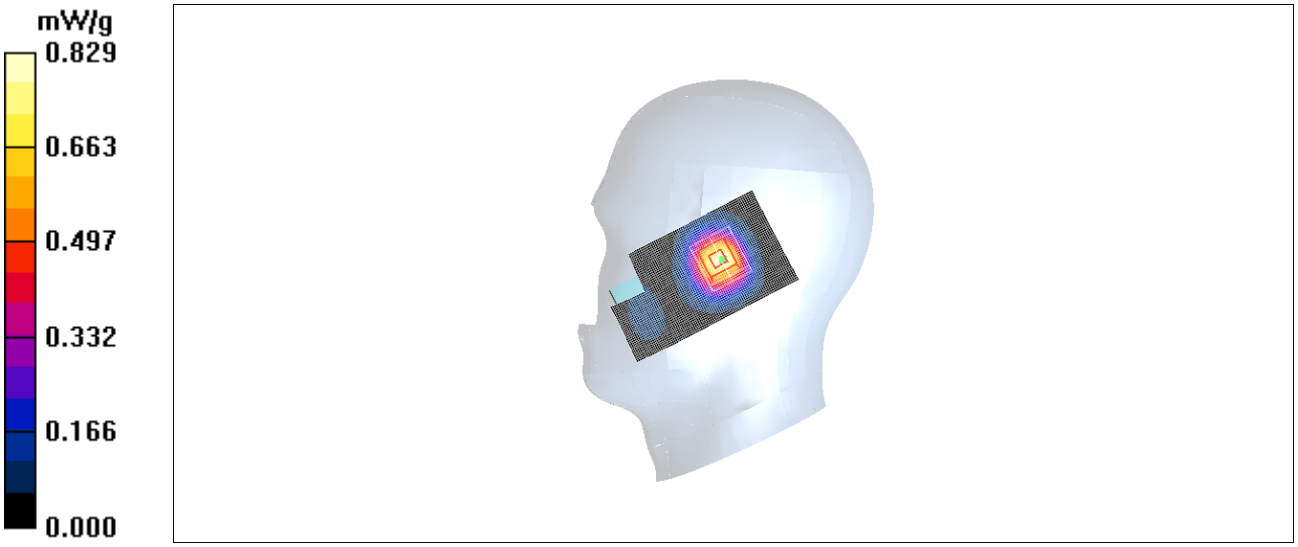


Fig.24 1900 MHz CH512

850 Left Cheek High with battery CAB2170000C2

Date/Time: 2011-1-6 11:06:44
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.91 mho/m; εr = 40.8; 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.05 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.13 V/m; Power Drift = -0.076 dB
Peak SAR (extrapolated) = 1.27 W/kg
SAR(1 g) = 0.958 mW/g; SAR(10 g) = 0.670 mW/g
Maximum value of SAR (measured) = 1.02 mW/g

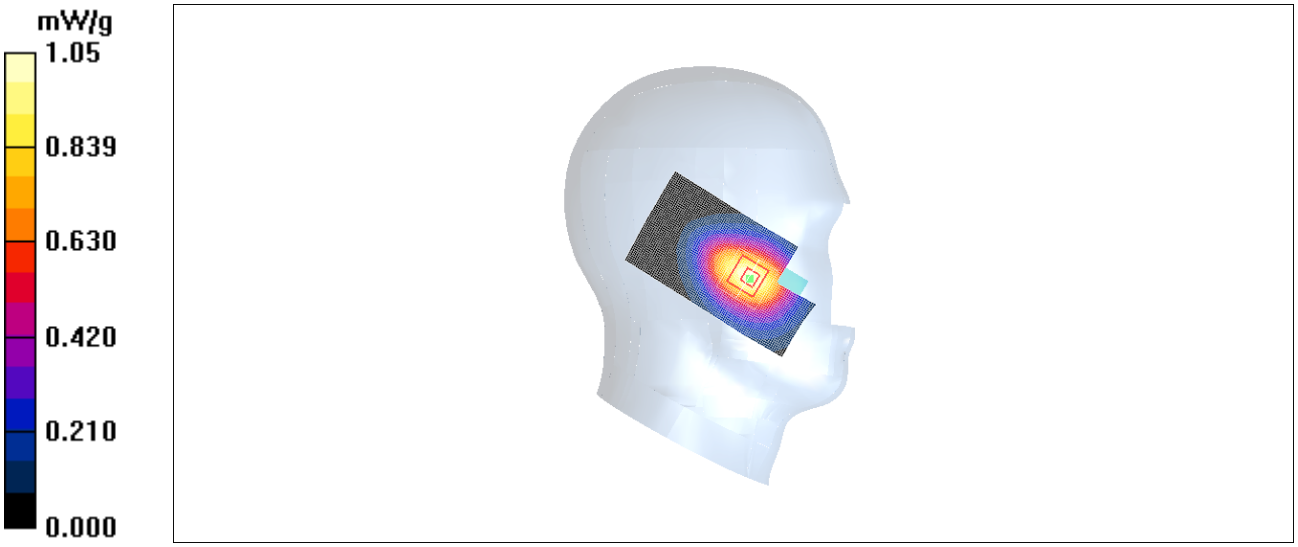


Fig. 25 850MHz CH251

850 Body Towards Ground High with GPRS

Date/Time: 2011-1-6 13:43:01
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.96 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) = 0.762 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.8 V/m; Power Drift = -0.039 dB
Peak SAR (extrapolated) = 0.967 W/kg
SAR(1 g) = 0.712 mW/g; SAR(10 g) = 0.493 mW/g
Maximum value of SAR (measured) = 0.736 mW/g

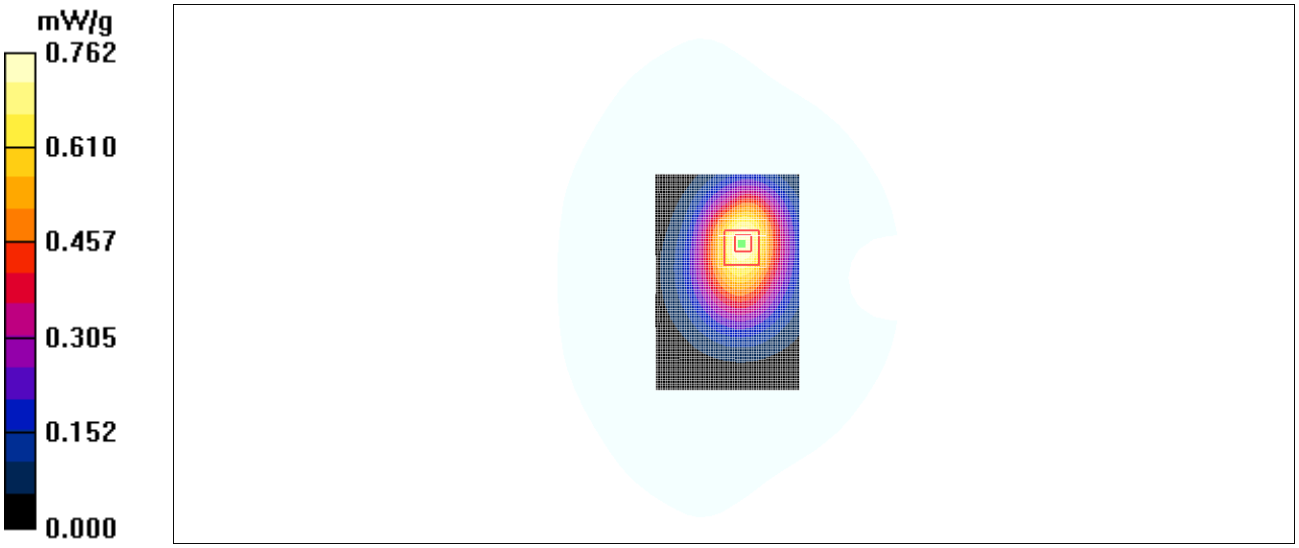


Fig. 26 850 MHz CH251

850 Body Towards Ground Middle with GPRS

Date/Time: 2011-1-6 13:58:37
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.95 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) = 0.882 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.5 V/m; Power Drift = -0.038 dB
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.820 mW/g; SAR(10 g) = 0.569 mW/g
Maximum value of SAR (measured) = 0.839 mW/g

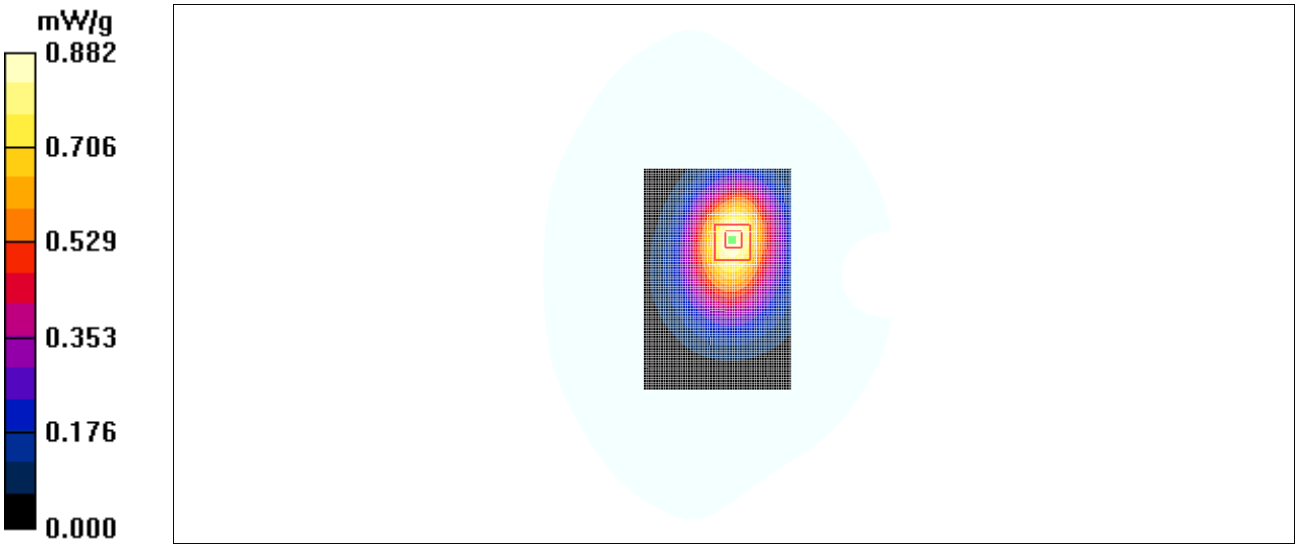


Fig. 27 850 MHz CH190

850 Body Towards Ground Low with GPRS

Date/Time: 2011-1-6 14:13:59
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.933 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) = 0.997 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.5 V/m; Power Drift = -0.024 dB
Peak SAR (extrapolated) = 1.26 W/kg
SAR(1 g) = 0.926 mW/g; SAR(10 g) = 0.643 mW/g
Maximum value of SAR (measured) = 0.949 mW/g

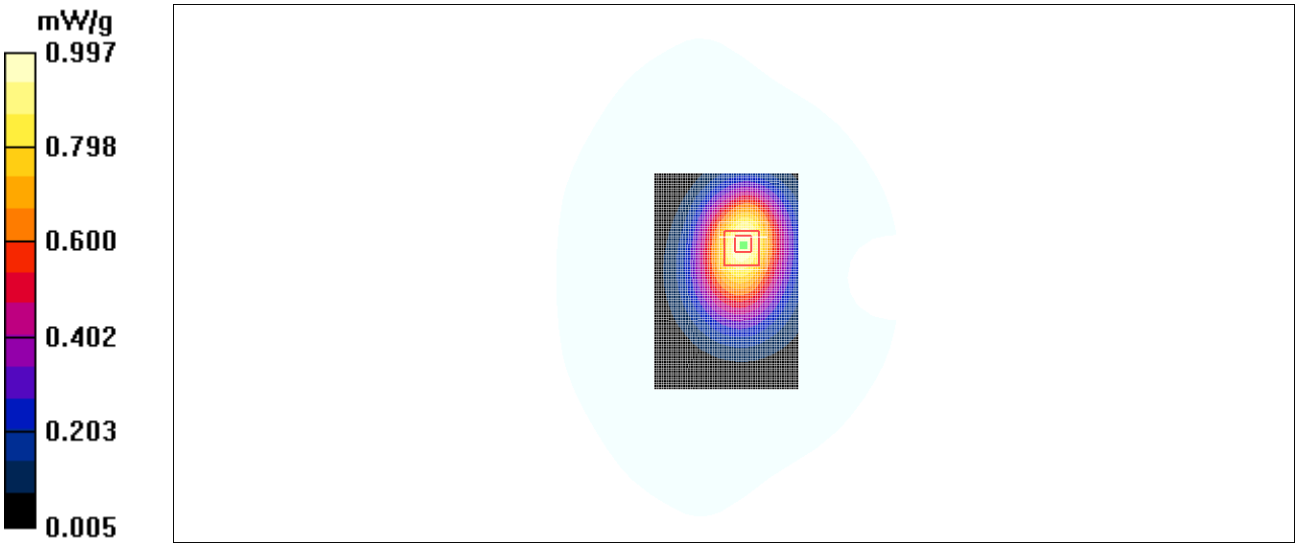


Fig. 28 850 MHz CH128

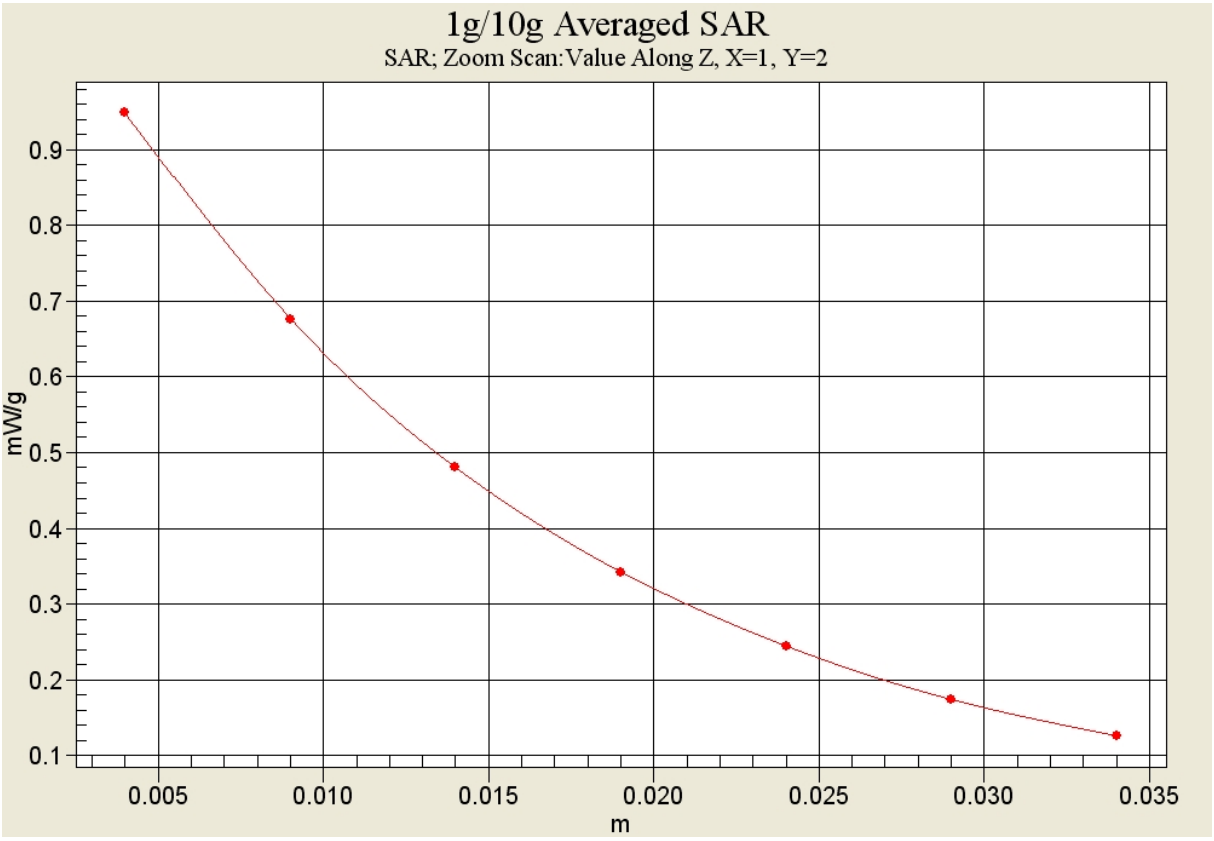


Fig. 28-1 Z-Scan at power reference point (850 MHz CH128)

850 Body Towards Phantom High with GPRS

Date/Time: 2011-1-6 14:30:12
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.96 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) = 0.627 mW/g

Toward Phantom High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 23.4 V/m; Power Drift = -0.056 dB
Peak SAR (extrapolated) = 0.788 W/kg
SAR(1 g) = 0.586 mW/g; SAR(10 g) = 0.410 mW/g
Maximum value of SAR (measured) = 0.610 mW/g

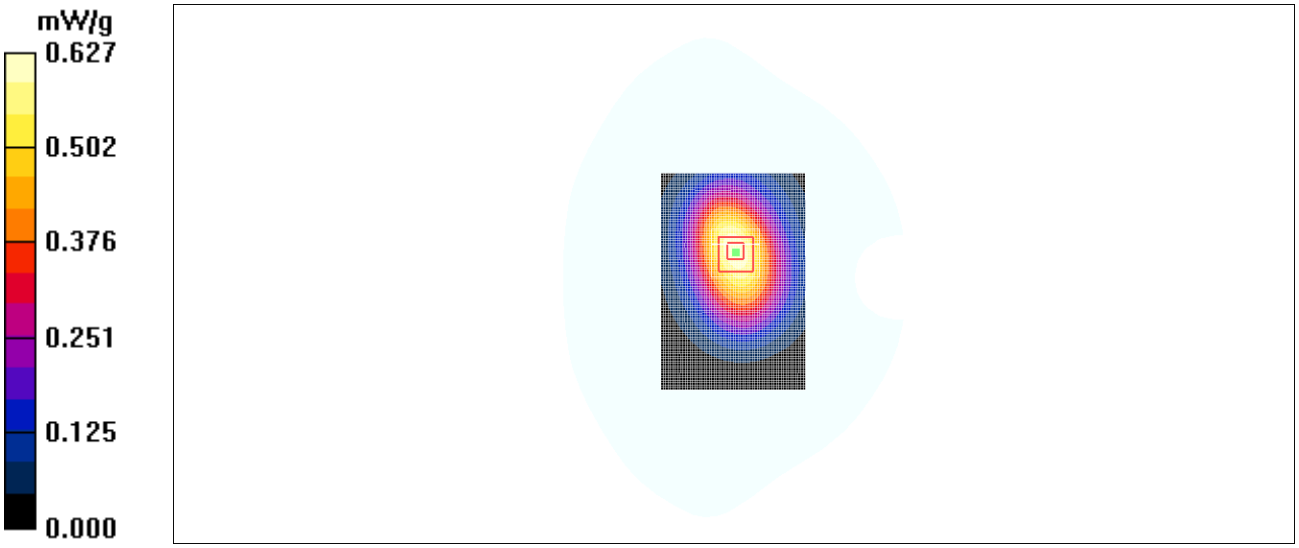


Fig. 29 850 MHz CH251

850 Body Towards Phantom Middle with GPRS

Date/Time: 2011-1-6 14:45:33
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.95 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) = 0.710 mW/g

Toward Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.1 V/m; Power Drift = -0.030 dB
Peak SAR (extrapolated) = 0.889 W/kg
SAR(1 g) = 0.664 mW/g; SAR(10 g) = 0.466 mW/g
Maximum value of SAR (measured) = 0.687 mW/g

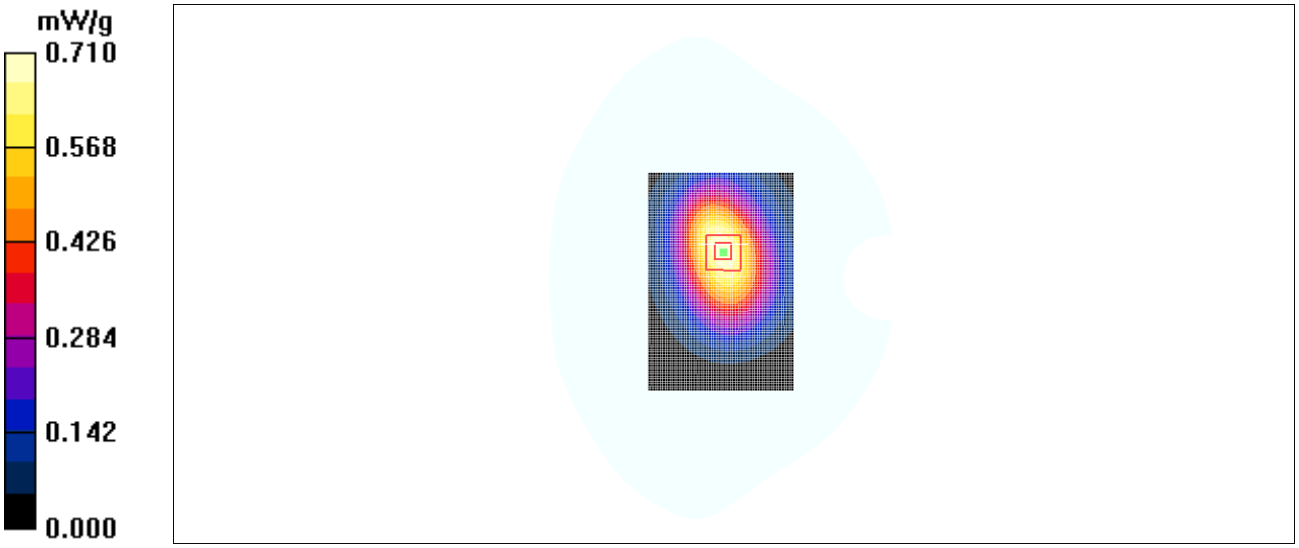


Fig. 30 850 MHz CH190

850 Body Towards Phantom Low with GPRS

Date/Time: 2011-1-6 15:00:57
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.933 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) = 0.753 mW/g

Toward Phantom Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.9 V/m; Power Drift = 0.027 dB
Peak SAR (extrapolated) = 0.978 W/kg
SAR(1 g) = 0.722 mW/g; SAR(10 g) = 0.505 mW/g
Maximum value of SAR (measured) = 0.753 mW/g

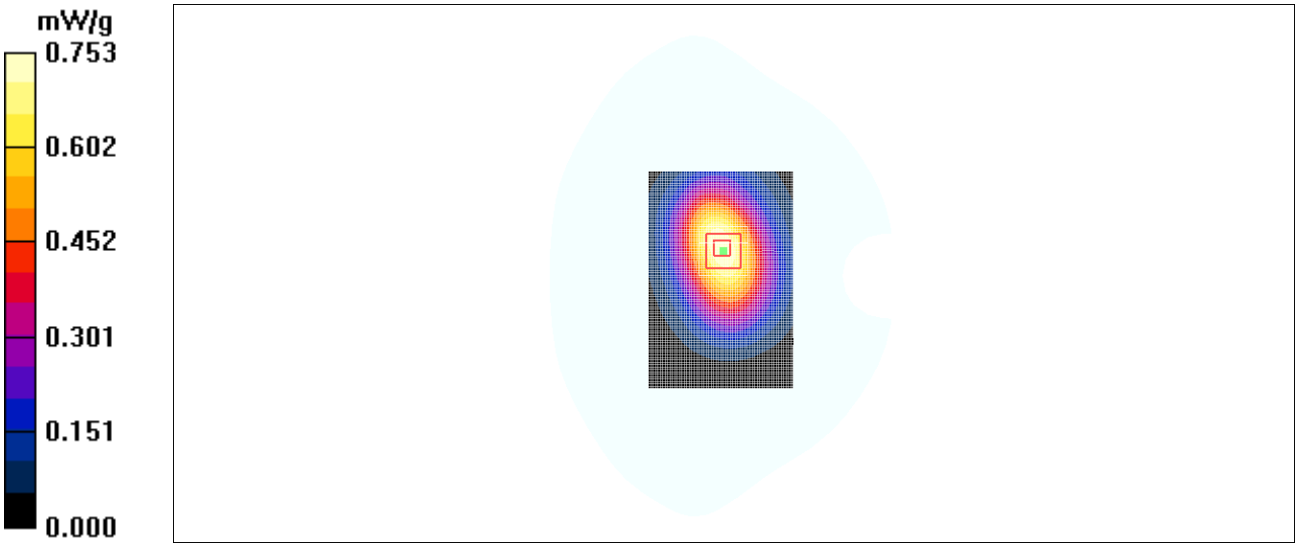


Fig. 31 850 MHz CH128

850 Body Towards Ground Low with Headset_CCA30B4000C3

Date/Time: 2011-1-6 15:17:46
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.933 mho/m; εr = 54.3; 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(6.22, 6.22, 6.22)

Toward Ground Low/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.886 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.2 V/m; Power Drift = -0.024 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.830 mW/g; SAR(10 g) = 0.579 mW/g
Maximum value of SAR (measured) = 0.856 mW/g

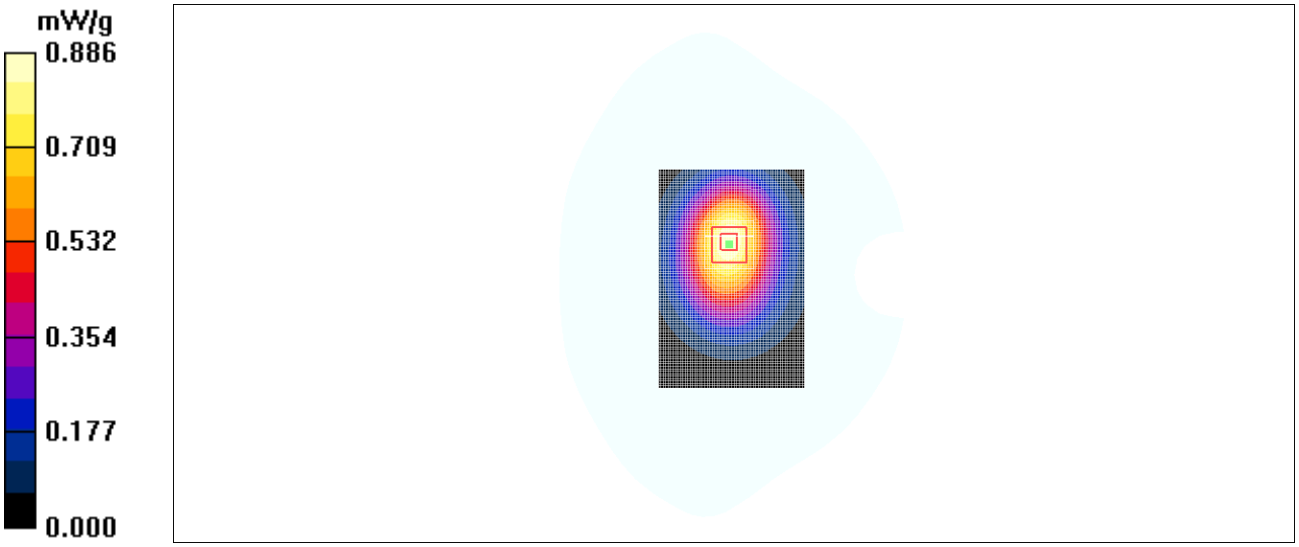


Fig. 32 850 MHz CH128

850 Body Towards Ground Low with Headset_CCA30B4000C4

Date/Time: 2011-1-6 15:34:55
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.933 mho/m; εr = 54.3; 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(6.22, 6.22, 6.22)

Toward Ground Low/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.797 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 24.8 V/m; Power Drift = -0.021 dB
Peak SAR (extrapolated) = 1.02 W/kg
SAR(1 g) = 0.752 mW/g; SAR(10 g) = 0.524 mW/g
Maximum value of SAR (measured) = 0.782 mW/g

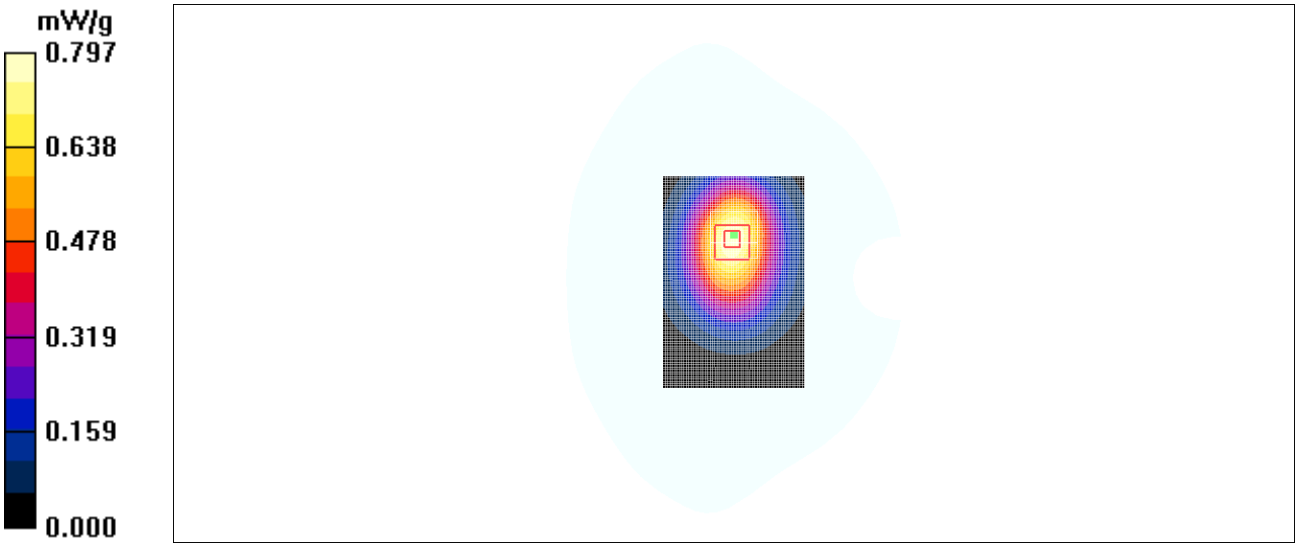


Fig. 33 850 MHz CH128

1900 Body Towards Ground High with GPRS

Date/Time: 2011-1-7 13:41:09
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.52 mho/m; εr = 52.0; 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) = 1.14 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.86 V/m; Power Drift = -0.135 dB
Peak SAR (extrapolated) = 1.68 W/kg
SAR(1 g) = 1.000 mW/g; SAR(10 g) = 0.575 mW/g
Maximum value of SAR (measured) = 1.03 mW/g

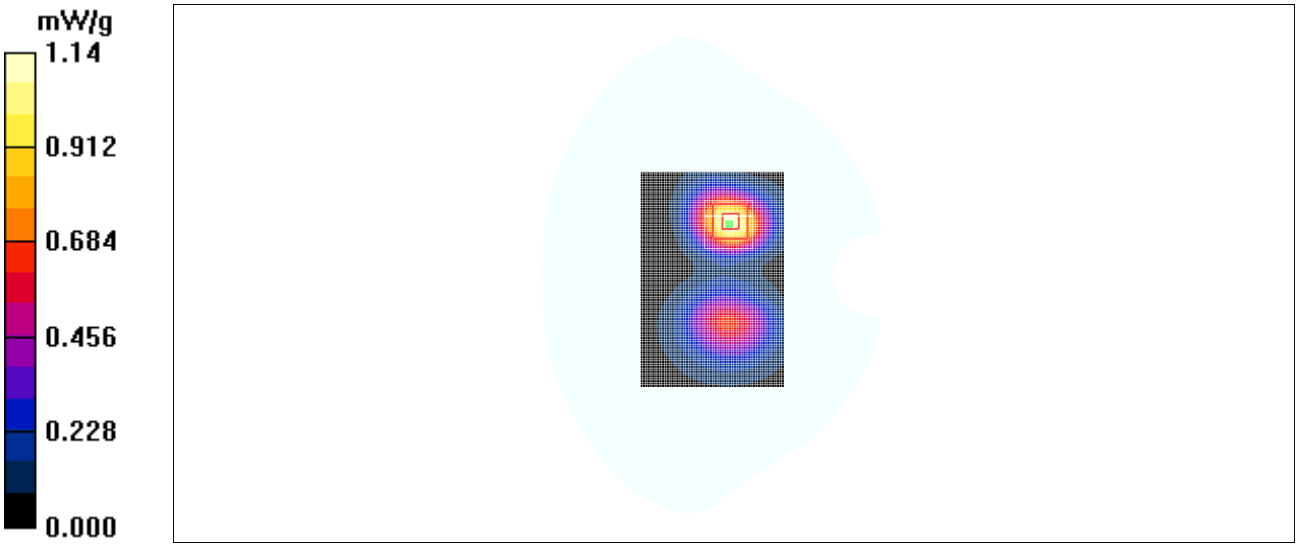


Fig. 34 1900 MHz CH810

1900 Body Towards Ground Middle with GPRS

Date/Time: 2011-1-7 13:56:23
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; εr = 52.1; 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) = 1.23 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.82 V/m; Power Drift = -0.002 dB
Peak SAR (extrapolated) = 1.82 W/kg
SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.620 mW/g
Maximum value of SAR (measured) = 1.10 mW/g

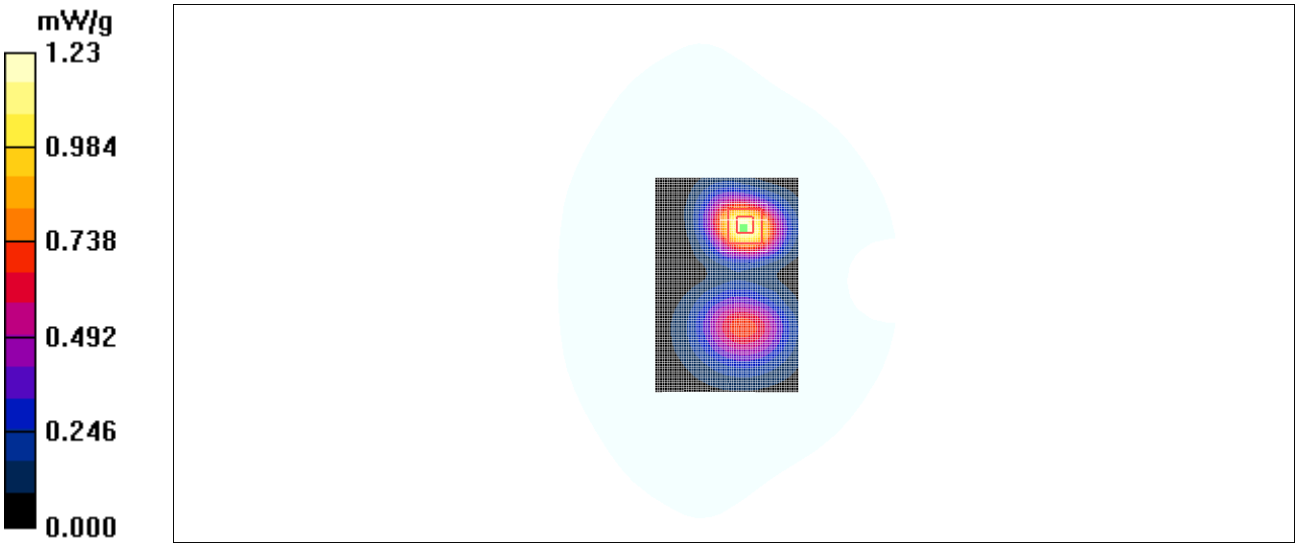


Fig. 35 1900 MHz CH661

1900 Body Towards Ground Low with GPRS

Date/Time: 2011-1-7 14:11:49
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.47 mho/m; εr = 52.1; 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) = 1.30 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.8 V/m; Power Drift = -0.046 dB
Peak SAR (extrapolated) = 1.91 W/kg
SAR(1 g) = 1.15 mW/g; SAR(10 g) = 0.661 mW/g
Maximum value of SAR (measured) = 1.20 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.8 V/m; Power Drift = -0.046 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.740 mW/g; SAR(10 g) = 0.459 mW/g
Maximum value of SAR (measured) = 0.758 mW/g

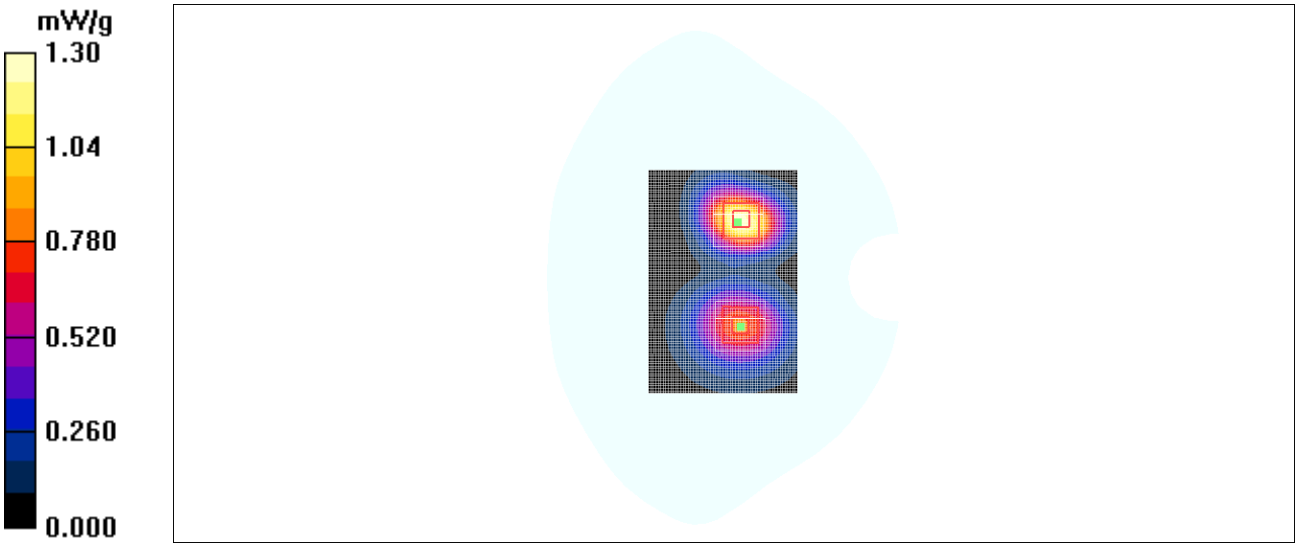


Fig. 36 1900 MHz CH512

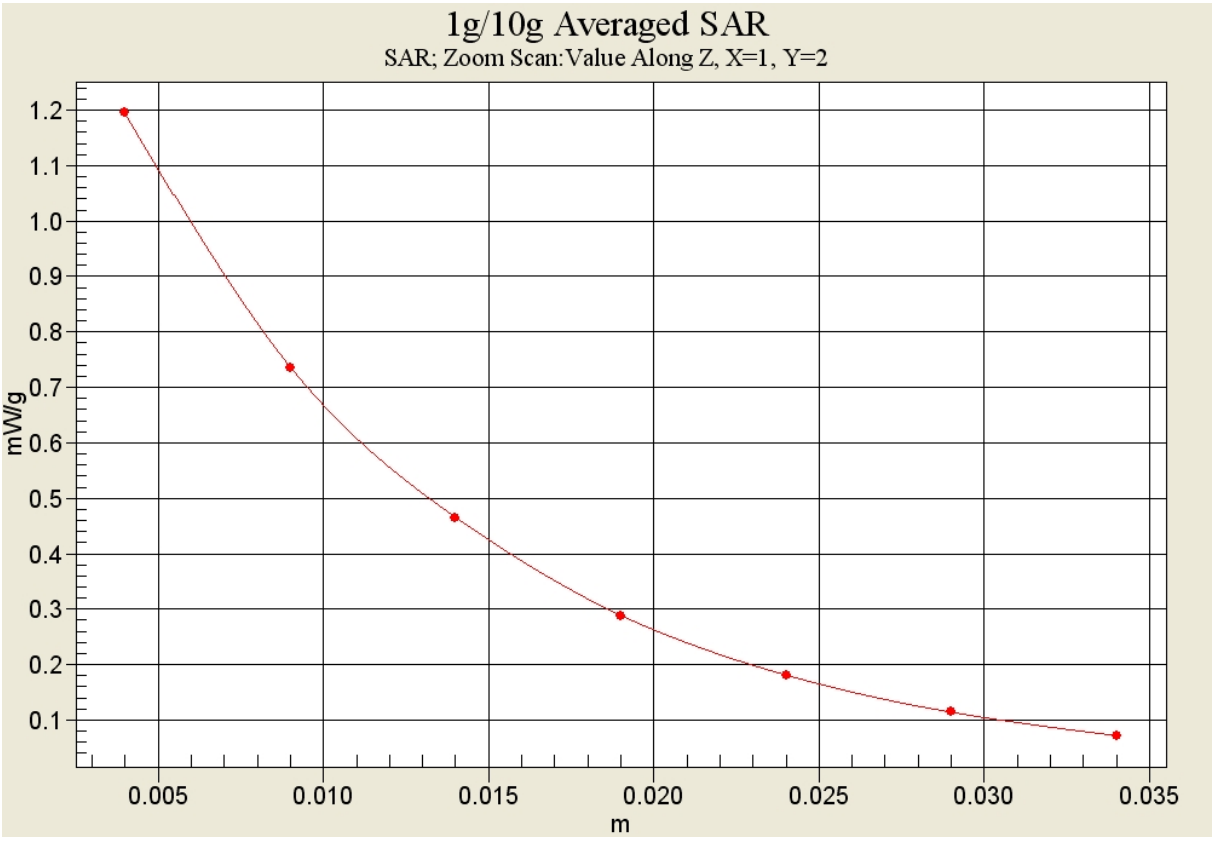


Fig. 36-1 Z-Scan at power reference point (1900 MHz CH512)

1900 Body Towards Phantom High with GPRS

Date/Time: 2011-1-7 14:27:06
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.52 mho/m; εr = 52.0; 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) = 0.725 mW/g

Toward Phantom High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.27 V/m; Power Drift = 0.051 dB
Peak SAR (extrapolated) = 1.04 W/kg
SAR(1 g) = 0.655 mW/g; SAR(10 g) = 0.399 mW/g
Maximum value of SAR (measured) = 0.655 mW/g

Toward Phantom High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.27 V/m; Power Drift = 0.051 dB
Peak SAR (extrapolated) = 0.999 W/kg
SAR(1 g) = 0.603 mW/g; SAR(10 g) = 0.349 mW/g
Maximum value of SAR (measured) = 0.603 mW/g

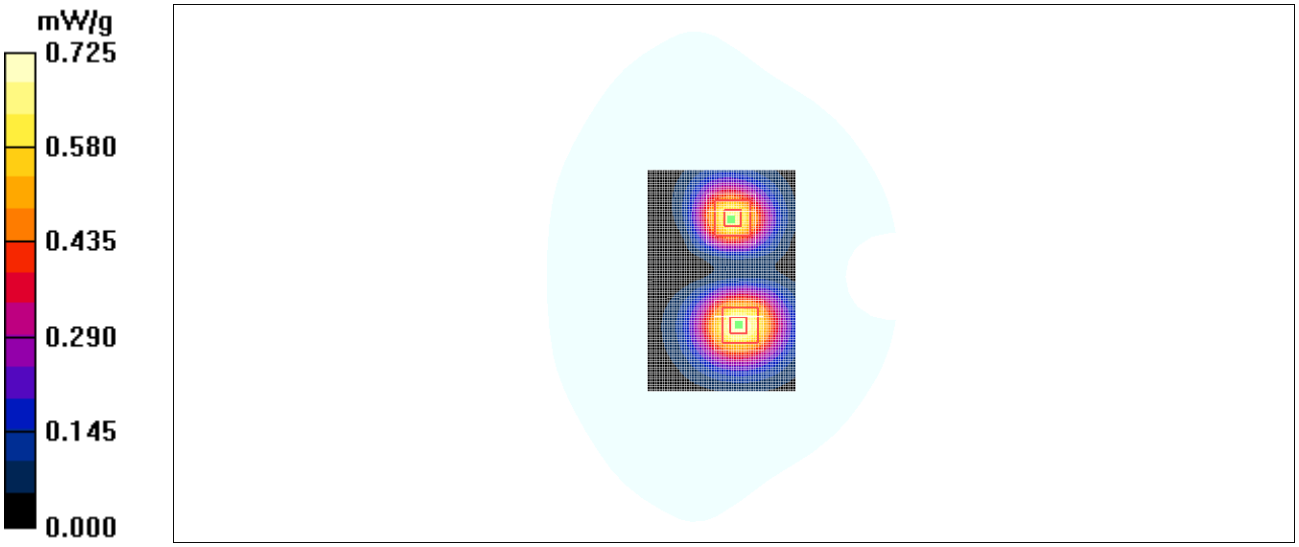


Fig. 37 1900 MHz CH810

1900 Body Towards Phantom Middle with GPRS

Date/Time: 2011-1-7 14:42:31
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.49 mho/m; εr = 52.1; 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) = 0.793 mW/g

Toward Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.28 V/m; Power Drift = -0.066 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.720 mW/g; SAR(10 g) = 0.443 mW/g
Maximum value of SAR (measured) = 0.736 mW/g

Toward Phantom Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.28 V/m; Power Drift = -0.066 dB
Peak SAR (extrapolated) = 1.06 W/kg
SAR(1 g) = 0.641 mW/g; SAR(10 g) = 0.371 mW/g
Maximum value of SAR (measured) = 0.629 mW/g

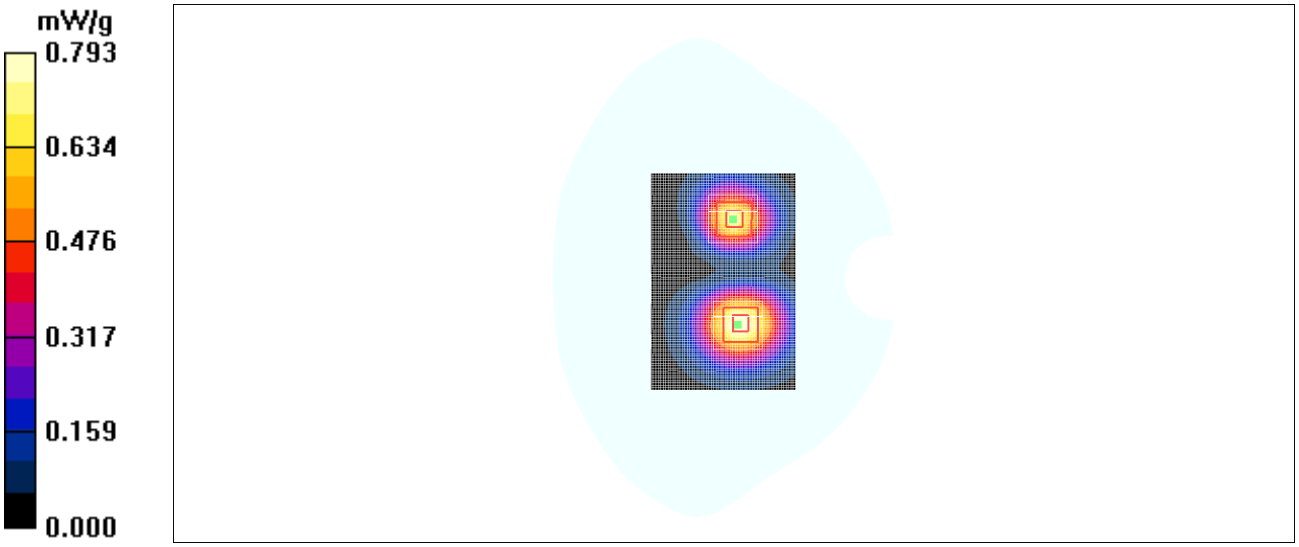


Fig. 38 1900 MHz CH661

1900 Body Towards Phantom Low with GPRS
Date/Time: 2011-1-7 14:58:00
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.47 mho/m; εr = 52.1; 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) = 0.888 mW/g

Toward Phantom Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.60 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.800 mW/g; SAR(10 g) = 0.496 mW/g
Maximum value of SAR (measured) = 0.815 mW/g

Toward Phantom Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.60 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 1.10 W/kg
SAR(1 g) = 0.668 mW/g; SAR(10 g) = 0.388 mW/g
Maximum value of SAR (measured) = 0.672 mW/g

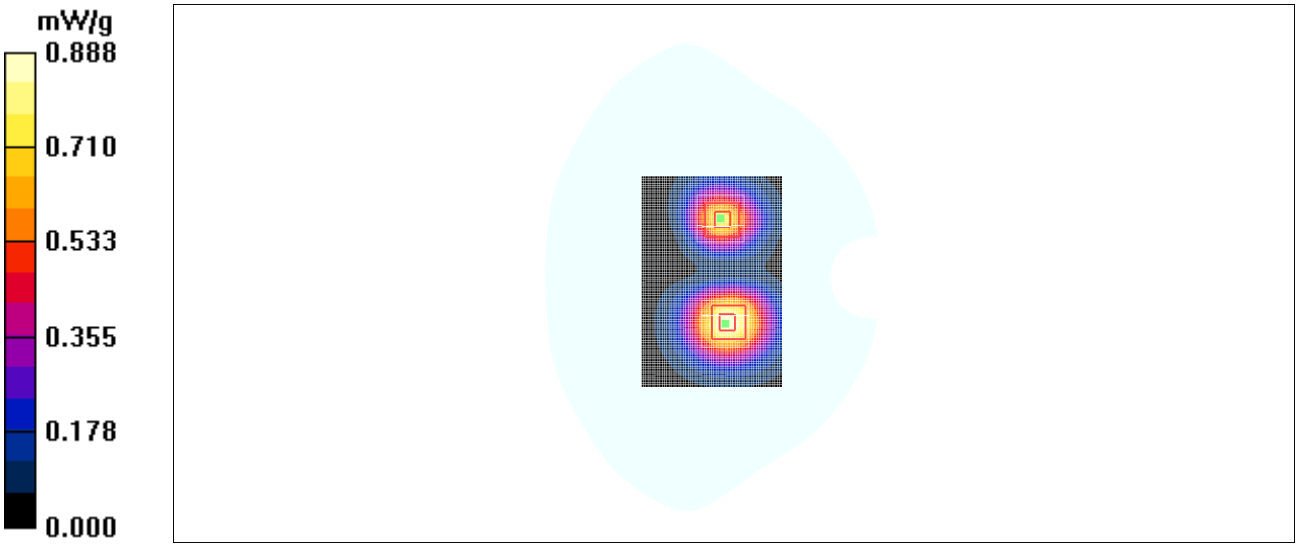


Fig. 39 1900 MHz CH512

1900 Body Towards Ground Low with Headset_CCA30B4000C3
Date/Time: 2011-1-7 15:16:03
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.47 mho/m; εr = 52.1; 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(4.68, 4.68, 4.68)

Toward Ground Low/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.678 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.04 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 0.985 W/kg
SAR(1 g) = 0.599 mW/g; SAR(10 g) = 0.346 mW/g
Maximum value of SAR (measured) = 0.628 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.04 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 0.628 W/kg
SAR(1 g) = 0.405 mW/g; SAR(10 g) = 0.252 mW/g
Maximum value of SAR (measured) = 0.411 mW/g

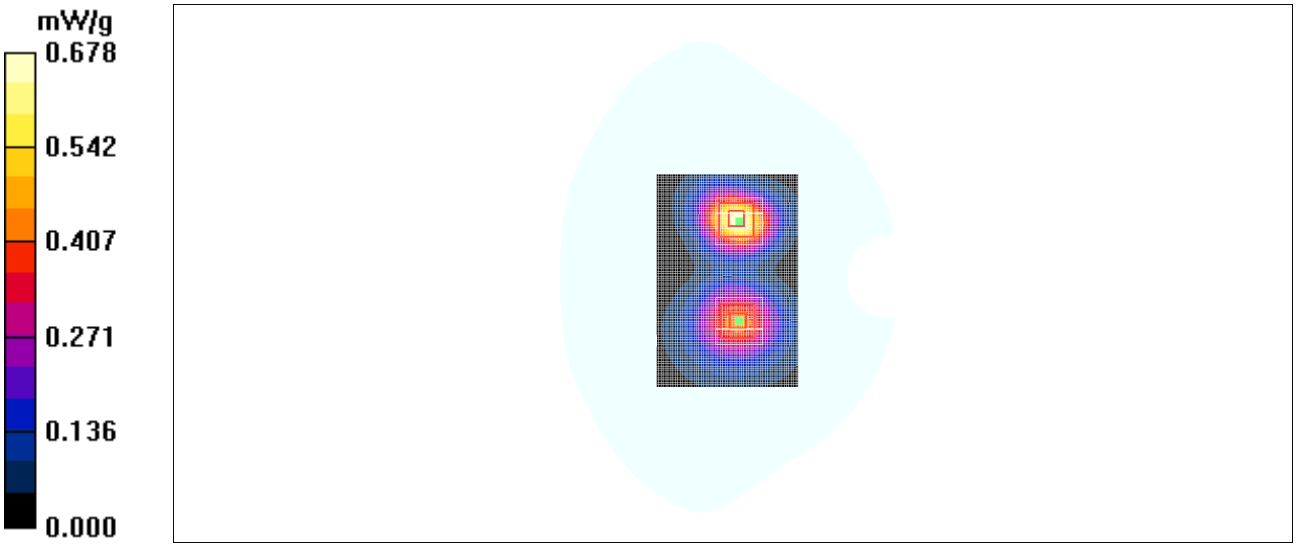


Fig. 40 1900 MHz CH512

1900 Body Towards Ground Low with Headset_CCA30B4000C4

Date/Time: 2011-1-7 15:32:25
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.47 mho/m; εr = 52.1; 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(4.68, 4.68, 4.68)

Toward Ground Low/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.660 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.50 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 0.968 W/kg
SAR(1 g) = 0.587 mW/g; SAR(10 g) = 0.338 mW/g
Maximum value of SAR (measured) = 0.604 mW/g

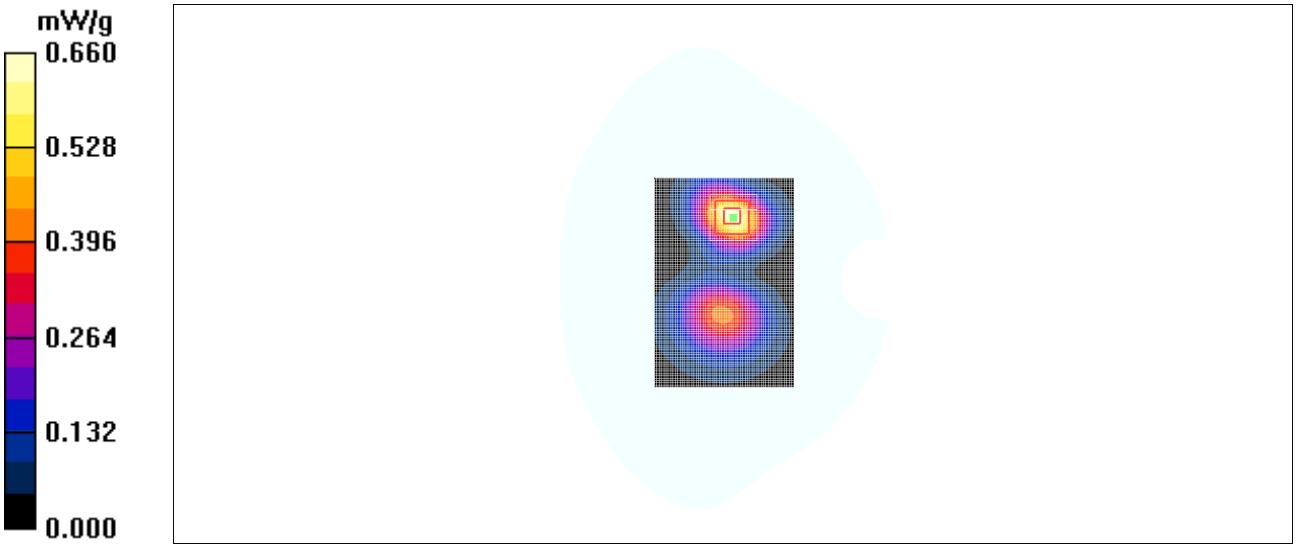


Fig. 41 1900 MHz CH512

1900 Body Towards Ground Low with GPRS with battery CAB2170000C2
Date/Time: 2011-1-7 15:49:55
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.47 mho/m; εr = 52.1; 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) = 1.27 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.2 V/m; Power Drift = -0.012 dB
Peak SAR (extrapolated) = 1.86 W/kg
SAR(1 g) = 1.12 mW/g; SAR(10 g) = 0.645 mW/g
Maximum value of SAR (measured) = 1.14 mW/g

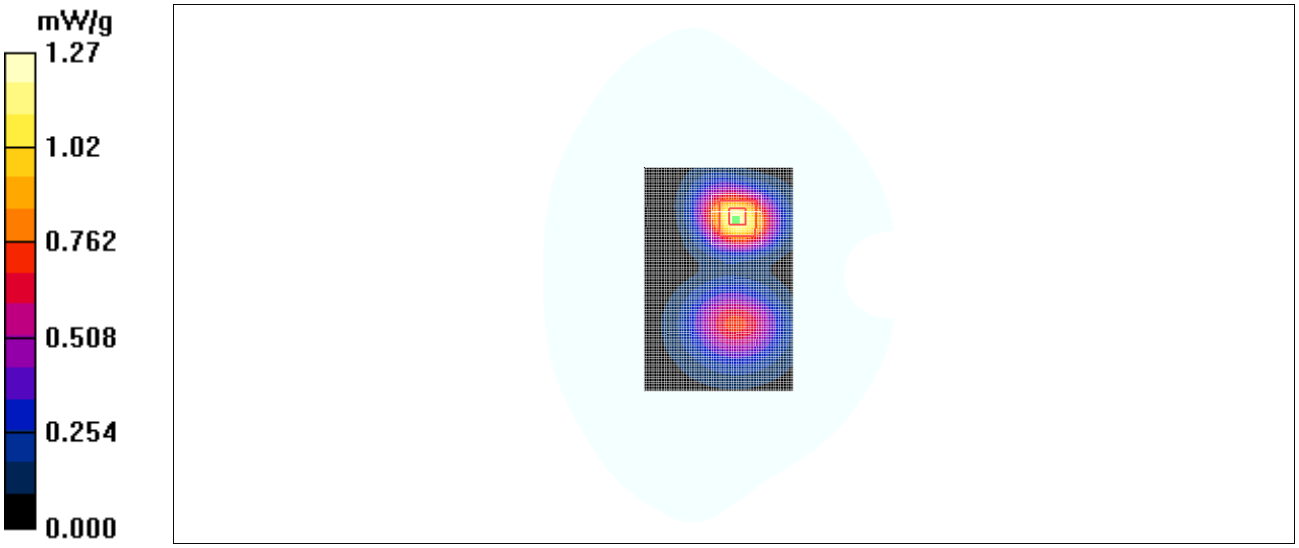


Fig. 42 1900 MHz CH512

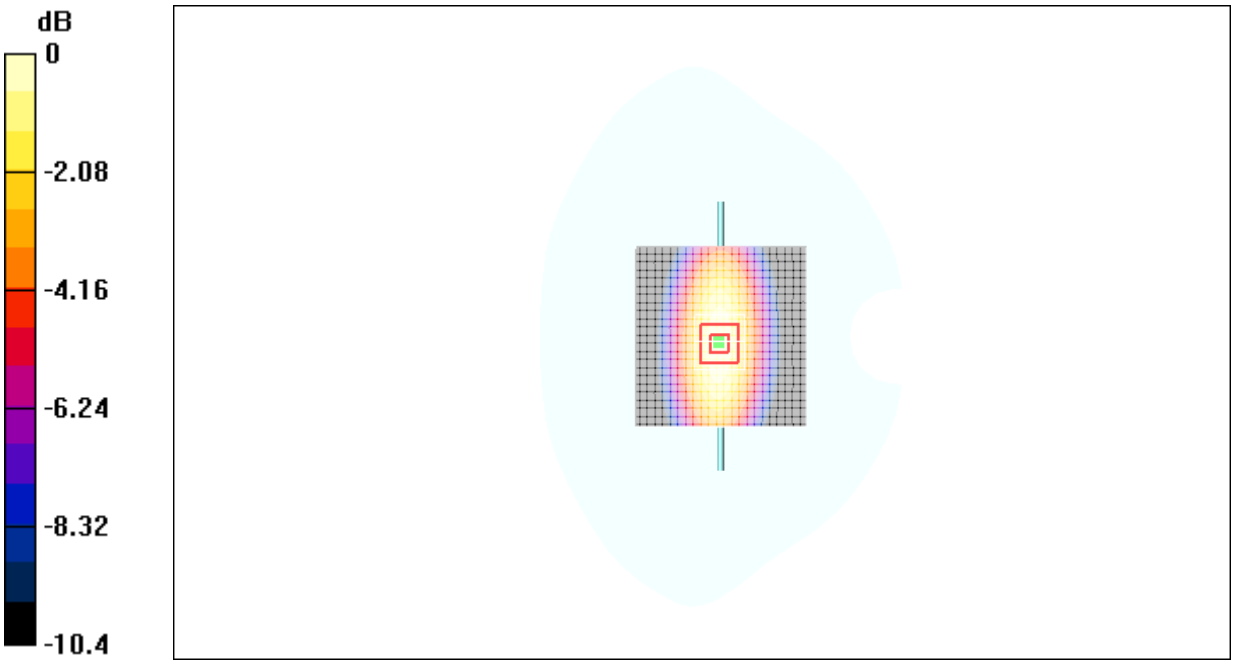
ANNEX D SYSTEM VALIDATION RESULTS

835MHz

Date/Time: 2011-1-6 7:27:30
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used: f = 835 MHz; σ = 0.89 mho/m; ε_r = 40.9; 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) = 2.47 mW/g

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 53.3 V/m; Power Drift = -0.092 dB
Peak SAR (extrapolated) = 3.21 W/kg
SAR(1 g) = 2.24 mW/g; SAR(10 g) = 1.46 mW/g
Maximum value of SAR (measured) = 2.38 mW/g



0 dB = 2.38mW/g

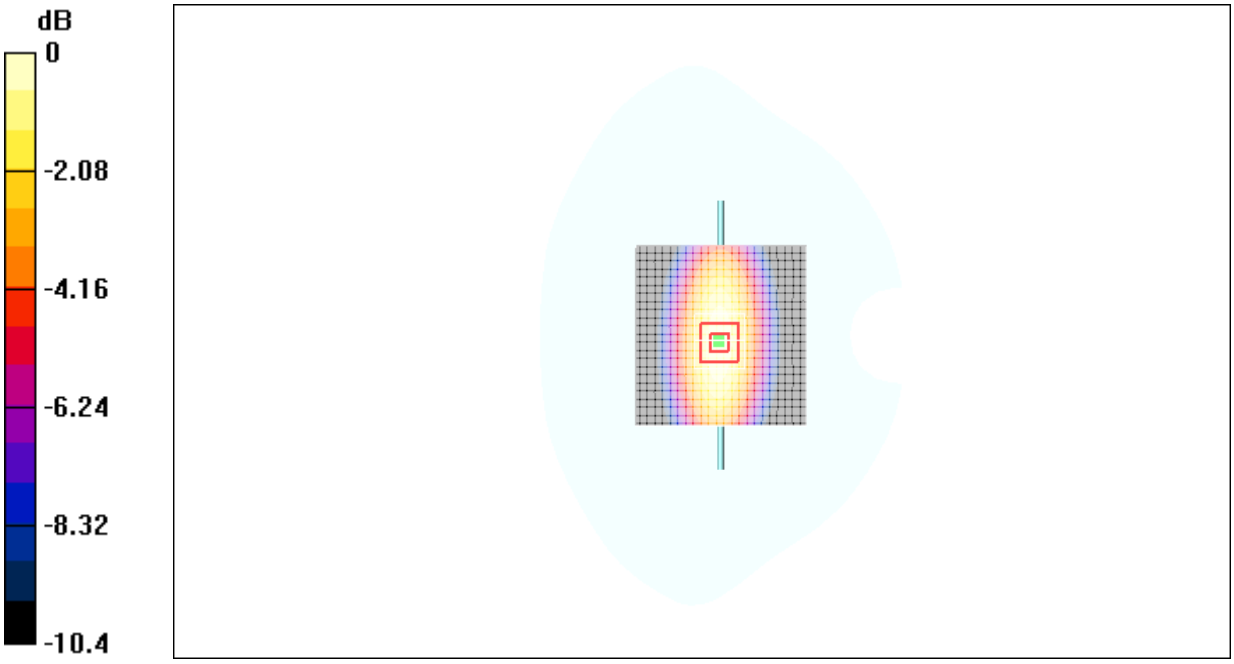
Fig.43 validation 835MHz 250mW

835MHz

Date/Time: 2011-1-6 13:16:31
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 835 MHz; σ = 0.94 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) = 2.50 mW/g

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 49.8 V/m; Power Drift = 0.081 dB
Peak SAR (extrapolated) = 3.25 W/kg
SAR(1 g) = 2.29 mW/g; SAR(10 g) = 1.50 mW/g
Maximum value of SAR (measured) = 2.36 mW/g



0 dB = 2.36mW/g

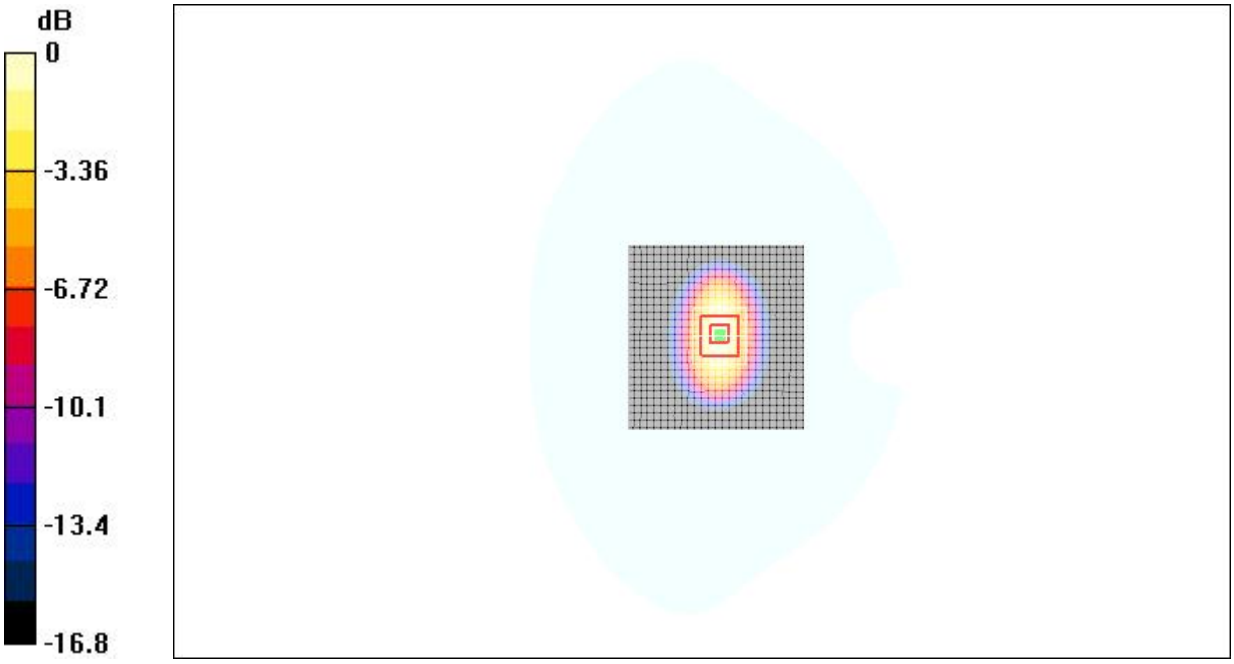
Fig.44 validation 835MHz 250mW

1900MHz

Date/Time: 2011-1-7 7:28:01
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.38 mho/m; ε_r = 39.0; 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) = 11.2 mW/g

System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 87.5 V/m; Power Drift = -0.057 dB
Peak SAR (extrapolated) = 14.5 W/kg
SAR(1 g) = 9.61 mW/g; SAR(10 g) = 4.87 mW/g
Maximum value of SAR (measured) = 10.3 mW/g



0 dB = 10.3mW/g

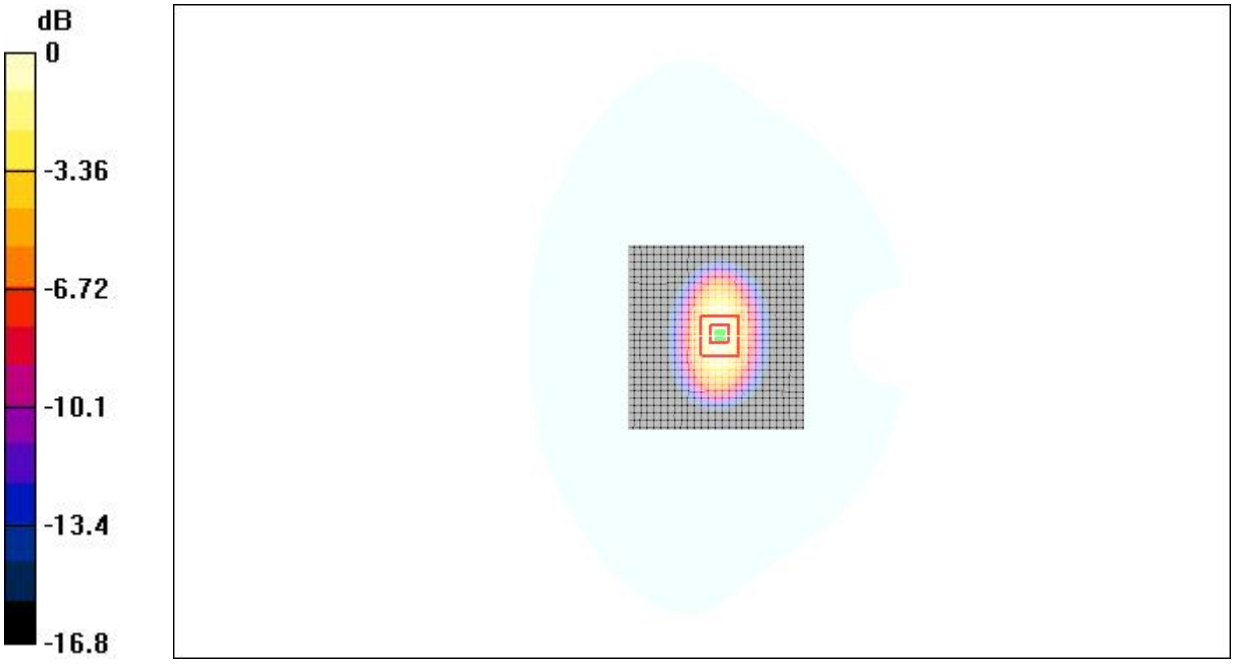
Fig.45 validation 1900MHz 250mW

1900MHz

Date/Time: 2011-1-7 13:18:35
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.51 mho/m; ε_r = 52.0; 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 = 90.4 V/m; Power Drift = 0.046 dB
Peak SAR (extrapolated) = 15.2 W/kg
SAR(1 g) = 10.1 mW/g; SAR(10 g) = 5.04 mW/g
Maximum value of SAR (measured) = 10.6 mW/g



0 dB = 10.6mW/g

Fig.46 validation 1900MHz 250mW

ANNEX E PROBE CALIBRATION CERTIFICATE

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

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

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

Accreditation No.: SCS 108

Client TMC China Certificate No: ES3DV3-3149_Sep10

CALIBRATION CERTIFICATE

Object	ES3DV3-SN: 3149
Calibration procedure(s)	QA CAL-01.v6 Calibration procedure for dosimetric E-field probes
Calibration date:	September 25, 2010
Condition of the calibrated item	In Tolerance

This calibration certify documents the traceability to national standards, which realize the physical units of measurements(SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.
All calibrations have been conducted at an environment temperature (22±3)°C and humidity<70%

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID#	Cal Data (Calibrated by, Certification NO.)	Scheduled Calibration
Power meter E4419B	GB41293874	5-May-10 (METAS, NO. 251-00388)	May-11
Power sensor E4412A	MY41495277	5-May-10 (METAS, NO. 251-00388)	May-11
Reference 3 dB Attenuator	SN:S5054 (3c)	10-Aug-10 (METAS, NO. 251-00403)	Aug-11
Reference 20 dB Attenuator	SN:S5086 (20b)	3-May-10 (METAS, NO. 251-00389)	May-11
Reference 30 dB Attenuator	SN:S5129 (30b)	10-Aug-10 (METAS, NO. 251-00404)	Aug-11
DAE4	SN:617	10-Jun-10 (SPEAG, NO.DAE4-907_Jun10)	Jun-11
Reference Probe ES3DV2	SN: 3013	12-Jan-10 (SPEAG, NO. ES3-3013_Jan10)	Jan-11

Secondary Standards	ID#	Check Data (in house)	Scheduled Calibration
RF generator HP8648C	US3642U01700	4-Aug-99(SPEAG, in house check Oct-09)	In house check: Oct-10
Network Analyzer HP 8753E	US37390585	18-Oct-01(SPEAG, in house check Nov-09)	In house check: Nov-10

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

Issued: September 25, 2010

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