SAR TEST REPORT For FCC

No. 2010EEE05940

For

Motorola Mobility, Inc.

GSM/Edge mobile phone

Model Name: A1260

Type Name: IQ6-4411A11

With

FCCID: IHDP56LW1

Issued Date: 2010-10-08

Deutscher Akkreditierungs Rat

No. DGA-PL-114/01-02

ilac-MRA CNAS 检 测 CNAS L0442

Note:

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

Test Laboratory:

TMC Beijing, Telecommunication Metrology Center of MIIT

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

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

TABLE OF CONTENT

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:	September 18, 2010
Testing End Date:	September 24, 2010

1.4 Signature

Lin Xiaojun
(Prepared this test report)

Qi Dianyuan
(Reviewed this test report)

Lu Bingsong
Deputy Director of the laboratory
(Approved this test report)

2 Client Information

2.1 Applicant Information

Company Name:	Motorola Mobility, Inc.
Address /Post:	600 N. U.S. Highway 45 Libertyville, IL 60048-5343 U.S.A
City:	Libertyville
Postal Code:	60048-1286
Country:	U.S.A.
Contact Person:	AndyLi
Contact Email	Li.Andy@inventec.com.cn
Telephone:	021-54261366
Fax:	021-54261295

2.2 Manufacturer Information

Company Name:	Motorola (Beijing) Mobility Technologies Co. Ltd
Address /Post:	No.1 Wang Jing East Road,Chao Yang District, 100102 Beijing,P. R. China
City:	Beijing
Postal Code:	100102
Country:	P.R. China
Contact Person:	Joseph Niu
Contact Email	cptx34@motorola.com
Telephone:	+86-10-84733707
Fax:	+86-10-64391774

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

3.1 About EUT

EUT Description:	GSM/Edge mobile phone
Model Name:	A1260
Type Name:	IQ6-4411A11
FCCID:	IHDP56LW1
GSM Frequency Band:	GSM 850 / PCS 1900 / WiFi
GPRS Multislot Class:	12
GPRS capability Class:	B
EGPRS Multislot Class:	12

3.2 Internal Identification of EUT used during the test

EUT ID*	SN or IMEI
EUT	353634040002742

*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	BT60	/	Motorola (China) Electronics Ltd.
AE2	Travel Charger	DC4050US0301	/	Motorola (China) Electronics Ltd.
AE3	Stereo headset	SJYN0182A	/	MERRY ELECTRONICS CO., LTD.

*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.
KDB248227: SAR measurement procedures for 802.112abg transmitters.

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.

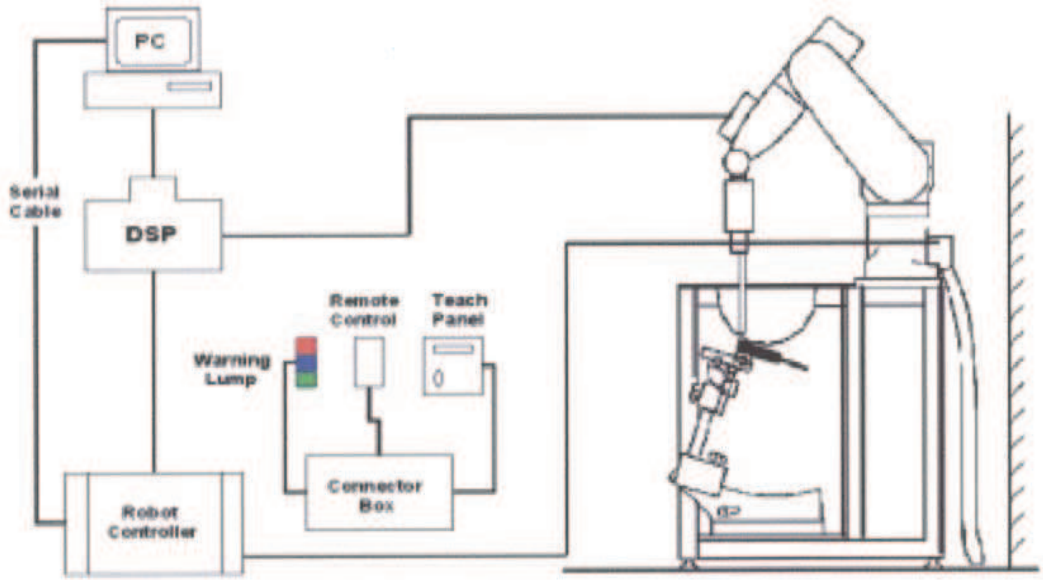
The EUT shall use its internal transmitter. The antenna(s), battery and accessories shall be those specified by the manufacturer. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output. If a wireless link is used, the antenna connected to the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

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

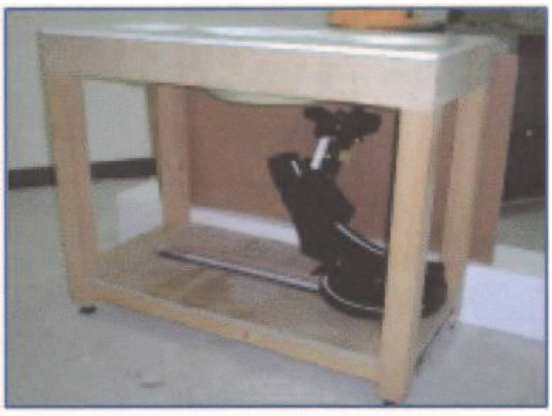
5.5.1 Device Holder for Transmitters

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 800-3000 MHz consisted of water, sugar, salt, 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
MIXTURE %	FREQUENCY 2450MHz
Water	58.79
Glycol monobutyl	41.15
Salt	0.06
Dielectric Parameters Target Value	f=2450MHz ε=39.2 σ=1.80

Table 2. Composition of the Body Tissue Equivalent Matter

MIXTURE %	FREQUENCY 850MHz
Water	52.5
Sugar	45.0
Salt	1.4
Preventol	0.1
Cellulose	1.0
Dielectric Parameters Target Value	f=850MHz 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
MIXTURE %	FREQUENCY 2450MHz
Water	72.60
Glycol monobutyl	27.22
Salt	0.18
Dielectric Parameters Target Value	f=2450MHz ε=52.7 σ=1.95

5.7 System Specifications

Specifications

Positioner: Stäubli Unimation Corp. Robot Model: RX90L
Repeatability: ±0.02 mm
No. of Axis: 6

Data Acquisition Electronic (DAE) System

Cell Controller

Processor: Pentium III
Clock Speed: 800 MHz
Operating System: Windows 2000

Data Converter

Features: Signal Amplifier, multiplexer, A/D converter, and control logic
Software: DASY4 software
Connecting Lines: Optical downlink for data and status info.
Optical uplink for commands and clock

6 CONDUCTED OUTPUT POWER MEASUREMENT

6.1 Summary

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

6.2 Conducted Power

6.2.1 Measurement Methods

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

6.2.2 Measurement result

Table 3: Conducted Power Measurement Results

GSM 850MHZ	**Conducted Power (dBm)**		
	Channel 251(848.8MHz)	**Channel 190(836.6MHz)**	**Channel 128(824.2MHz)**
	33.66	33.69	33.71
GSM 1900MHZ	**Conducted Power (dBm)**		
	Channel 810(1909.8MHz)	**Channel 661(1880MHz)**	**Channel 512(1850.2MHz)**
	31.24	31.16	31.00
EGPRS 850MHZ (8PSK)	**Conducted Power (dBm)**		
	Channel 251(848.8MHz)	**Channel 190(836.6MHz)**	**Channel 128(824.2MHz)**
	27.65	27.74	27.70
EGPRS 1900MHZ (8PSK)	**Conducted Power (dBm)**		
	Channel 810(1909.8MHz)	**Channel 661(1880MHz)**	**Channel 512(1850.2MHz)**
	26.81	26.70	26.66

Table 4: Conducted Power Measurement Results for GPRS and EGPRS (GMSK)

GSM 850 GPRS	Measured Power (dBm)			calculation	Averaged Power (dBm)		
	251	**190**	**128**		**251**	**190**	**128**
1 Txslot	33.61	33.64	33.66	-9.03dB	24.58	24.61	24.63
2 Txslots	31.20	31.22	31.23	-6.02dB	**25.18**	**25.20**	**25.21**
3Txslots	29.11	29.12	29.12	-4.26dB	24.85	24.86	24.86
4 Txslots	27.04	27.06	27.07	-3.01dB	24.03	24.05	24.06
GSM 850 EGPRS	Measured Power (dBm)				Averaged Power (dBm)		
	251	**190**	**128**		**251**	**190**	**128**
1 Txslot	33.61	33.65	33.67	-9.03dB	24.58	24.62	24.64
2 Txslots	31.20	31.22	31.23	-6.02dB	**25.18**	**25.20**	**25.21**
3Txslots	29.11	29.12	29.13	-4.26dB	24.85	24.86	24.87
4 Txslots	27.05	27.06	27.07	-3.01dB	24.04	24.05	24.06
DCS1900 GPRS	Measured Power (dBm)				Averaged Power (dBm)		
	810	**661**	**512**		**810**	**661**	**512**
1 Txslot	31.19	31.19	31.16	-9.03dB	22.16	22.16	22.13
2 Txslots	28.76	28.74	28.69	-6.02dB	**22.74**	**22.72**	**22.67**
3Txslots	26.29	26.28	26.25	-4.26dB	22.03	22.02	21.99
4 Txslots	24.33	24.30	24.26	-3.01dB	21.32	21.29	21.25
DCS1900 EGPRS	Measured Power (dBm)				Averaged Power (dBm)		
	810	**661**	**512**		**810**	**661**	**512**
1 Txslot	31.20	31.20	31.17	-9.03dB	22.17	22.17	22.14
2 Txslots	28.77	28.75	28.70	-6.02dB	**22.75**	**22.73**	**22.68**
3Txslots	26.31	26.30	26.26	-4.26dB	22.05	22.04	22.00
4 Txslots	24.35	24.33	24.29	-3.01dB	21.34	21.32	21.28

NOTES:

1) Division Factors

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

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

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

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

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

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

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 9 to Table 14 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

7 TEST RESULTS

7.1 Dielectric Performance

Table 5: Dielectric Performance of Head Tissue Simulating Liquid

Measurement is made at temperature 23.0 °C and relative humidity 42%. Liquid temperature during the test: 22.5°C Measurement Date: 850 MHz **Sep 23, 2010** 1900 MHz **Sep 24, 2010** 2450 MHz **Sep 18, 2010**			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	850 MHz	41.5	0.90
	1900 MHz	40.0	1.40
	2450 MHz	39.2	1.80
Measurement value (Average of 10 tests)	850 MHz	40.6	0.89
	1900 MHz	38.8	1.40
	2450 MHz	39.4	1.81

Table 6: 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 **Sep 23, 2010** 1900 MHz **Sep 24, 2010** 2450 MHz **Sep 18, 2010**			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	850 MHz	55.2	0.97
	1900 MHz	53.3	1.52
	2450 MHz	52.7	1.95
Measurement value (Average of 10 tests)	850 MHz	53.9	0.96
	1900 MHz	52.0	1.54
	2450 MHz	51.9	1.96

7.2 System Validation

Table 7: 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 **Sep 23, 2010** 1900 MHz **Sep 24, 2010** 2450 MHz **Sep 18, 2010**				
		Frequency	**Permittivity ε**	**Conductivity σ (S/m)**
Liquid parameters	Dipole calibration Target value	835 MHz	41.6	0.92
		1900 MHz	39.6	1.40
		2450 MHz	40.5	1.85
	Actual Measurement value	835 MHz	40.7	0.87
		1900 MHz	38.8	1.40
		2450 MHz	39.4	1.81

	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
Verification results	835 MHz	6.12	9.41	6.40	9.68	4.58%	2.87%
	1900 MHz	20.1	39.4	19.56	39.04	-2.69%	-0.91%
	2450 MHz	23.65	52.26	22.96	50.4	-2.92%	-3.56%

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

Table 8: System Validation of Body

Measurement is made at temperature 23.0 °C and relative humidity 42%. Liquid temperature during the test: 22.5°C Measurement Date: 850 MHz **Sep 23, 2010** 1900 MHz **Sep 24, 2010** 2450 MHz **Sep 18, 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
		2450 MHz	51.8	1.93
	Actual Measurement value	835 MHz	54.0	0.94
		1900 MHz	52.0	1.54
		2450 MHz	51.9	1.96

	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
Verification results	835 MHz	6.24	9.57	6.00	9.48	-3.85%	-0.94%
	1900 MHz	20.9	41.4	21.52	41.6	2.97%	0.48%
	2450 MHz	23.28	51.13	23.92	52.4	2.75%	2.48%

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

7.3 Summary of Measurement Results

Table 9: SAR Values (850MHz-Head)

Limit of SAR (W/kg)	10 g Average	1 g Average	Power Drift (dB)
	2.0	1.6	
Test Case	Measurement Result (W/kg)		
	10 g Average	1 g Average	
Left hand, Touch cheek, Mid frequency (See Fig.1)	0.246	0.334	-0.00529
Left hand, Tilt 15 Degree, Mid frequency (See Fig.2)	0.120	0.157	0.177
Right hand, Touch cheek, Mid frequency (See Fig.3)	0.254	0.357	0.117
Right hand, Tilt 15 Degree, Mid frequency (See Fig.4)	0.073	0.126	0.037
Right hand, Touch cheek, Top frequency (See Fig.5)	0.234	0.332	0.050
Right hand, Touch cheek, Bottom frequency (See Fig.6)	0.233	0.336	-0.080

Table 10: SAR Values (1900MHz-Head)

Limit of SAR (W/kg)	10 g Average	1 g Average	Power Drift (dB)
	2.0	1.6	
Test Case	Measurement Result (W/kg)		
	10 g Average	1 g Average	
Left hand, Touch cheek, Mid frequency (See Fig.7)	0.113	0.171	0.026
Left hand, Tilt 15 Degree, Mid frequency (See Fig.8)	0.020	0.028	0.184
Right hand, Touch cheek, Mid frequency (See Fig.9)	0.129	0.189	0.129
Right hand, Tilt 15 Degree, Mid frequency (See Fig.10)	0.024	0.036	-0.0121
Right hand, Touch cheek, Top frequency (See Fig.11)	0.136	0.198	-0.117
Right hand, Touch cheek, Bottom frequency (See Fig.12)	0.163	0.239	-0.157

Table 11: SAR Values (850MHz-Body)

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.13)	0.597	0.864	-0.033
Body, Towards Ground, Mid frequency with GPRS (See Fig.14)	0.620	0.895	-0.062

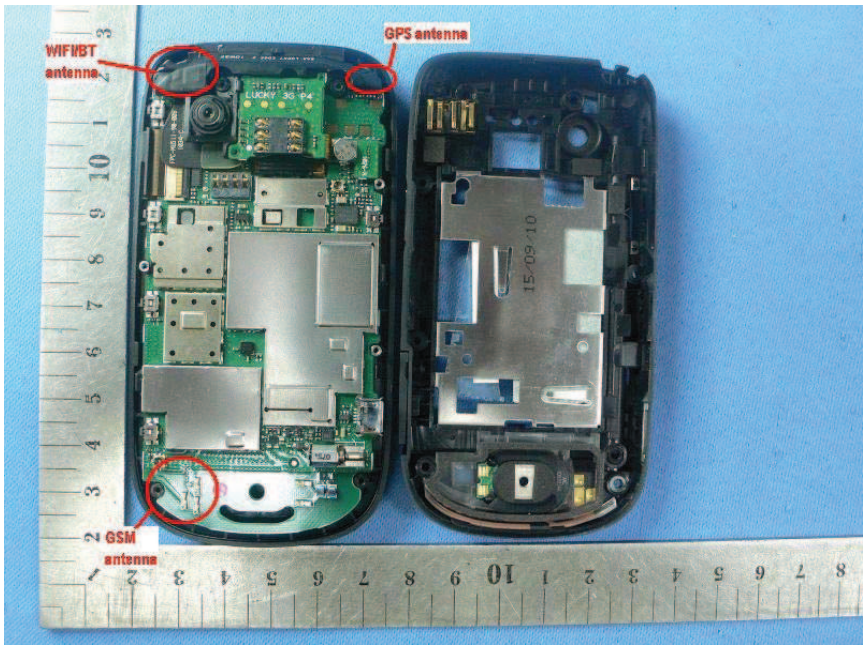
Body, Towards Ground, Bottom frequency with GPRS (See Fig.15)	0.636	0.915	-0.105
Body, Towards Ground, Top frequency with EGPRS (See Fig.16)	0.565	0.815	-0.050
Body, Towards Ground, Mid frequency with EGPRS (See Fig.17)	0.580	0.835	0.061
Body, Towards Ground, Bottom frequency with EGPRS (See Fig.18)	0.600	0.861	-0.088
Body, Towards Ground, Bottom frequency with Headset (See Fig.19)	0.315	0.459	-0.044
Body closed, Towards Ground, Bottom frequency with GPRS (See Fig.20)	0.604	0.865	-0.084
Body closed, Towards Phantom, Bottom frequency with GPRS (See Fig.21)	0.501	0.692	-0.042

Table 12: SAR Values (1900MHz-Body)

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.22)	0.226	0.365	-0.00898
Body, Towards Ground, Mid frequency with GPRS (See Fig.23)	0.242	0.396	0.175
Body, Towards Ground, Bottom frequency with GPRS (See Fig.24)	0.272	0.446	0.012
Body, Towards Ground, Top frequency with EGPRS (See Fig.25)	0.183	0.294	0.077
Body, Towards Ground, Mid frequency with EGPRS (See Fig.26)	0.202	0.326	-0.021
Body, Towards Ground, Bottom frequency with EGPRS (See Fig.27)	0.238	0.384	-0.057
Body, Towards Ground, Bottom frequency with Headset (See Fig.28)	0.235	0.380	0.028
Body closed, Towards Ground, Bottom frequency with GPRS (See Fig.29)	0.224	0.376	-0.028
Body closed, Towards Phantom, Bottom frequency with GPRS (See Fig.30)	0.174	0.289	0.019

7.4 Summary of Measurement Results (WiFi and Bluetooth function)

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



The conducted power for BT antenna is 1.5dBm.

The conducted power for WiFi is as following:

802.11b（dBm）

Channel\data rate	1Mbps	2Mbps	5.5Mbps	11Mbps
1	14.1	14.2	14.1	14.1
6	14.2	14.2	14.2	14.3
11	14.5	14.1	14.2	14.2

802.11g（dBm）

Channel\data rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
1	12.9	12.8	12.6	12.7	12.8	12.9	12.8	12.8
6	12.6	12.7	12.8	12.8	12.6	12.7	12.9	12.8
11	12.9	12.6	12.8	12.8	12.8	12.7	12.6	12.5

According to the conducted power measurement result and the distance between the two antennas, we can draw the conclusion that: stand-alone SAR and simultaneous transmission SAR are not required for BT transmitter, because the conducted power for BT transmitter is $\leqslant 2P_{Ref}$ and its antenna is ＞5cm from other antenna. Because the conducted power for WiFi transmitter is ＞ $2P_{Ref}$ and its antenna is ＞5cm from other antenna, stand-alone SAR for WiFi should be performed. Then, simultaneous transmission SAR for WiFi is considered with measurement results of GSM and WiFi.

Because SAR is not required for 802.11g channels since the output power is less than 0.25dB higher than that measured on the corresponding 802.11b channels, and for each frequency band, testing at higher data rates and higher order modulations is not required when the maximum average output power for each of these configurations is less than 0.25dB higher than those measured at the lowest data rate. According to the above conducted power, the EUT should be tested for “802.11b, 1Mbps, channel 11”. If SAR for highest output channel is ＞ 50% of SAR limit, test all channels.

Table 13: SAR Values (WiFi 802.11b -Head)

Limit of SAR (W/kg)	10 g Average	1 g Average	Power Drift (dB)
	2.0	1.6	
Test Case	**Measurement Result (W/kg)**		
	10 g Average	**1 g Average**	
Left hand, Touch cheek, 1Mbps, channel 11 (See Fig.31)	0.109	0.208	0.174
Left hand, Tilt 15 Degree, 1Mbps, channel 11 (See Fig.32)	0.011	0.023	0.147
Right hand, Touch cheek, 1Mbps, channel 11 (See Fig.33)	0.130	0.254	0.198
Right hand, Tilt 15 Degree, 1Mbps, channel 11 (See Fig.34)	0.00813	0.024	-0.159

Table 14: SAR Values (WiFi 802.11b -Body)

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, 1Mbps, channel 11 (See Fig.35)	0.041	0.074	-0.0156
Body closed, Towards Ground, 1Mbps, channel 11 (See Fig.36)	0.040	0.069	0.123
Body closed, Towards Phantom, 1Mbps, channel 11 (See Fig.37)	0.030	0.052	-0.168

Table 15: The sum of SAR values for GSM and WiFi

	Maximum SAR value for Head	Maximum SAR value for Body
GSM	0.357	0.915
WiFi	0.254	0.074
Sum	**0.611**	**0.989**

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

7.5 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 **GSM 850 Body, Towards Ground, Bottom frequency with GPRS (Table 11)**, and the value are: **0.636(10g), 0.915(1g).**

8 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	B	1.0	R	$\sqrt{3}$	1	0.6	∞

	tolerances)							
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	/

9 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, 2009	One year
08	E-field Probe	SPEAG EX3DV4	3617	July 9, 2010	One year
09	DAE	SPEAG DAE4	771	November 19, 2009	One year
10	Dipole Validation Kit	SPEAG D835V2	443	February 26, 2010	Two years
11	Dipole Validation Kit	SPEAG D1900V2	541	February 26, 2010	Two years
12	Dipole Validation Kit	IndexSAR IXD-245	40102	October, 2008	Two years

END OF REPORT BODY

ANNEX A MEASUREMENT PROCESS

The evaluation was performed with the following procedure:

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

Step 2: The SAR distribution at the exposed side of the phantom was measured at a distance of 3.9 mm from the inner surface of the shell. The area covered the entire dimension of the flat phantom and the horizontal grid spacing was 10 mm x 10 mm. Based on this data, the area of the maximum absorption was determined by spline interpolation.

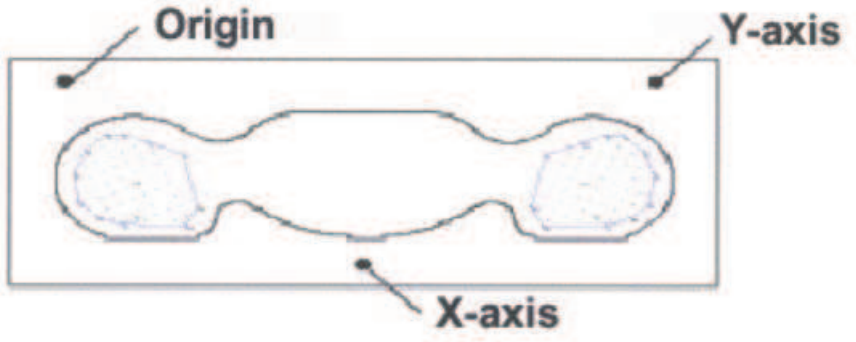
Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7 x 7x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

a. The data at the surface were extrapolated, since the center of the dipoles is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

b. The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot"-condition (in x ~ y and z-directions). The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.

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

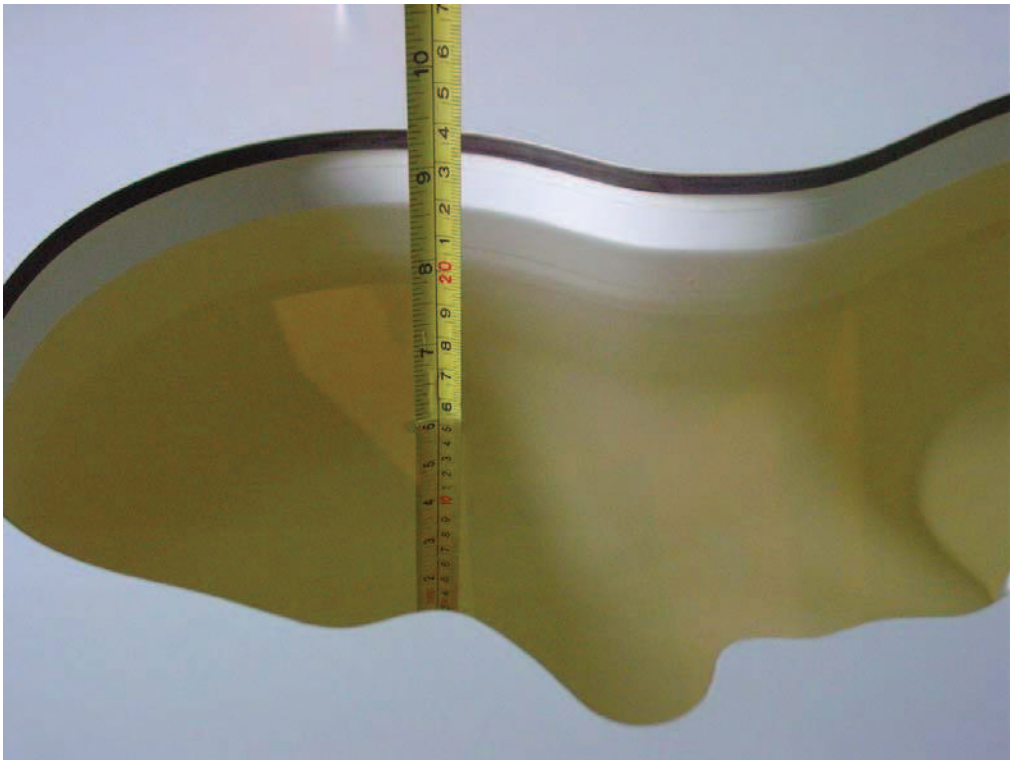
Step 4: Re-measurement the SAR value at the same location as in Step 1. If the value changed by more than 5%, the evaluation is repeated.



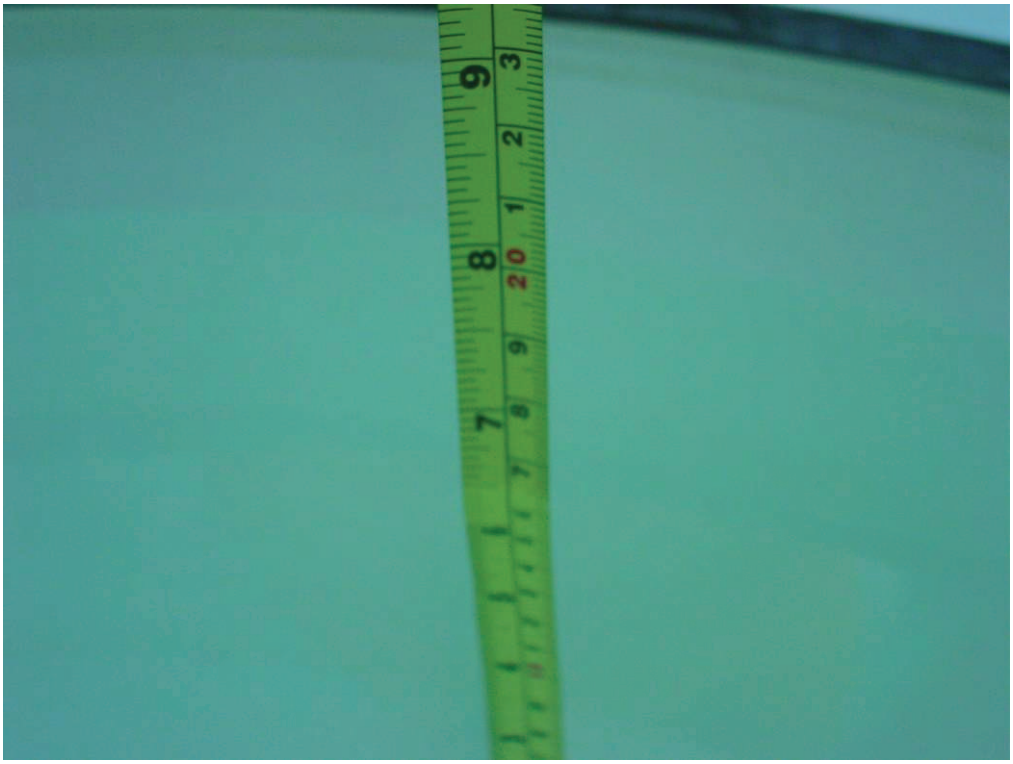
Picture A: SAR Measurement Points in Area Scan

ANNEX B TEST LAYOUT

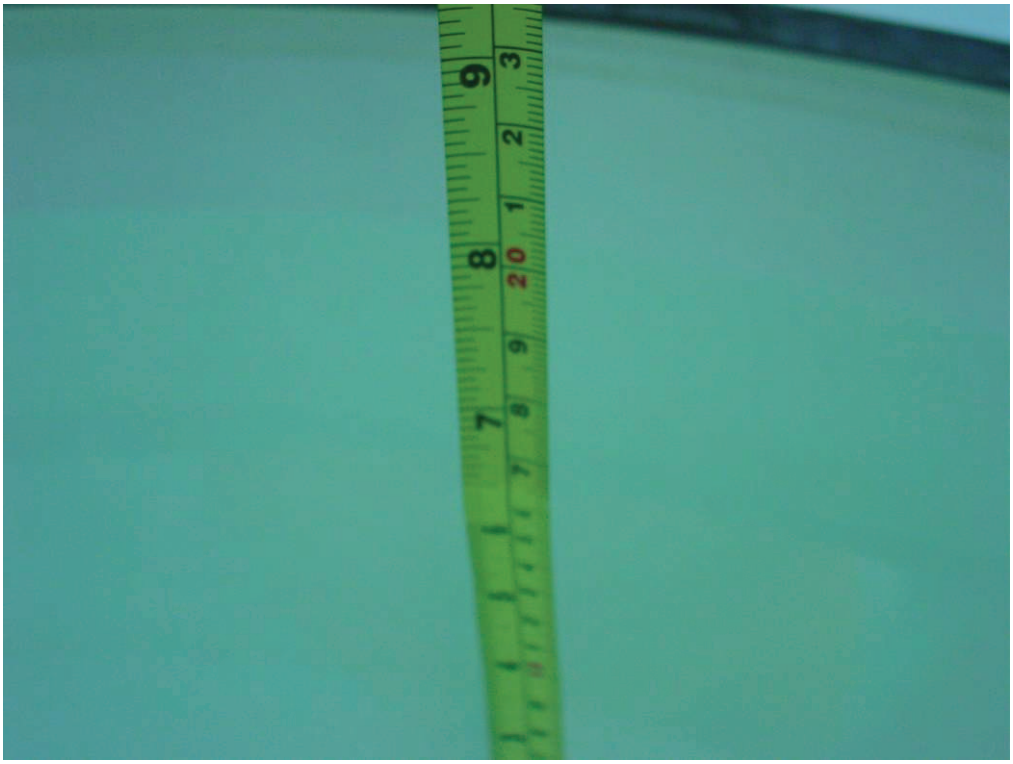
Picture B1: Specific Absorption Rate Test Layout



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

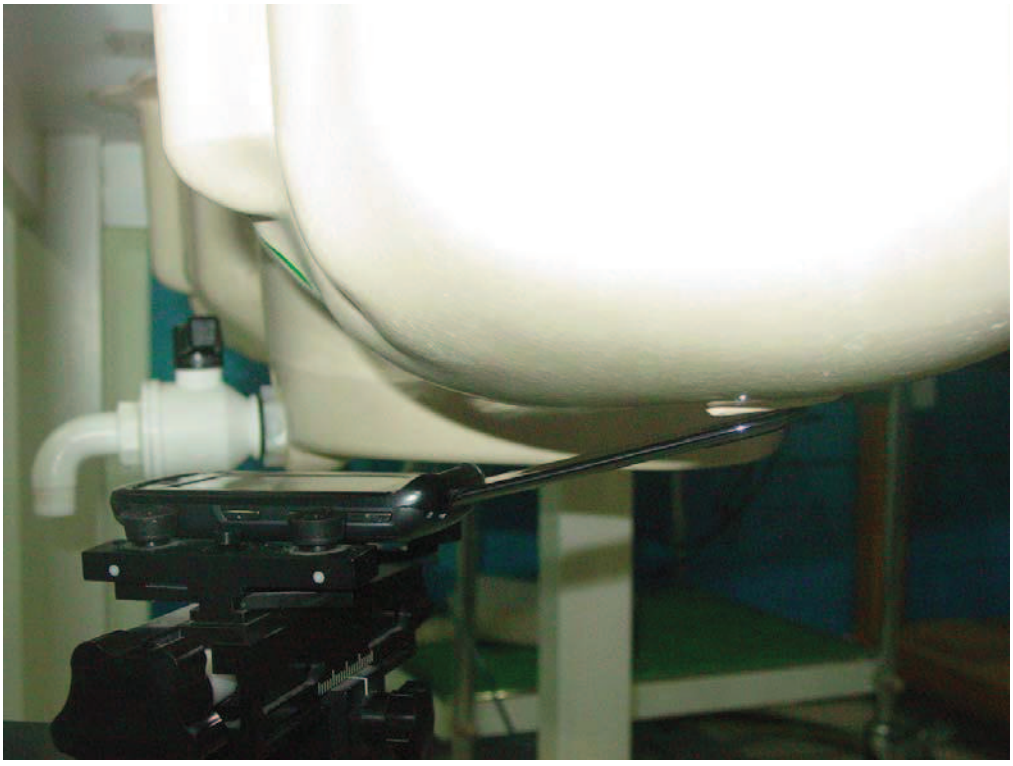


Picture B3 Liquid depth in the Flat Phantom (1900MHz)

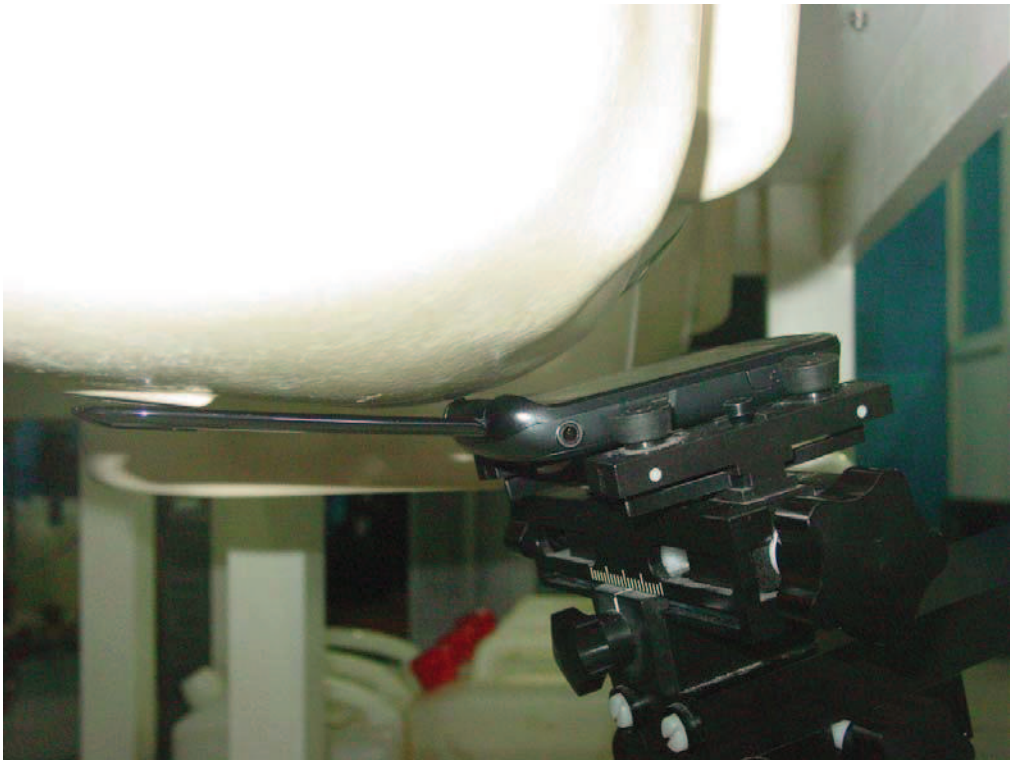


Picture B4 Liquid depth in the Flat Phantom (2450MHz)

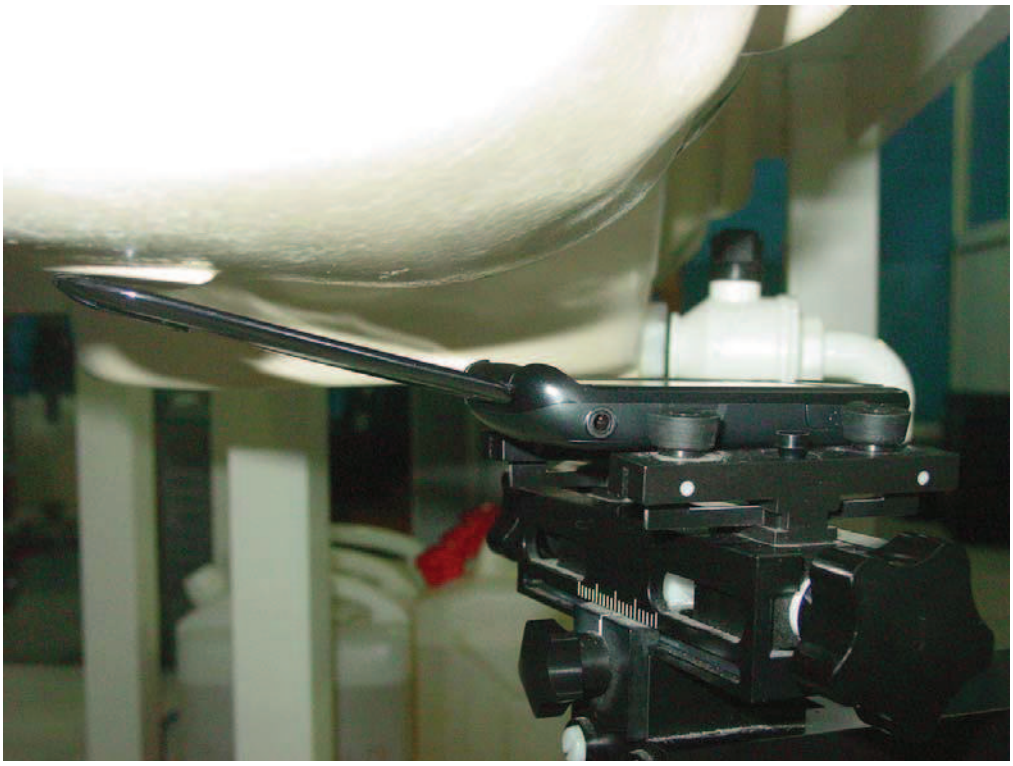
Picture B5: Left Hand Touch Cheek Position



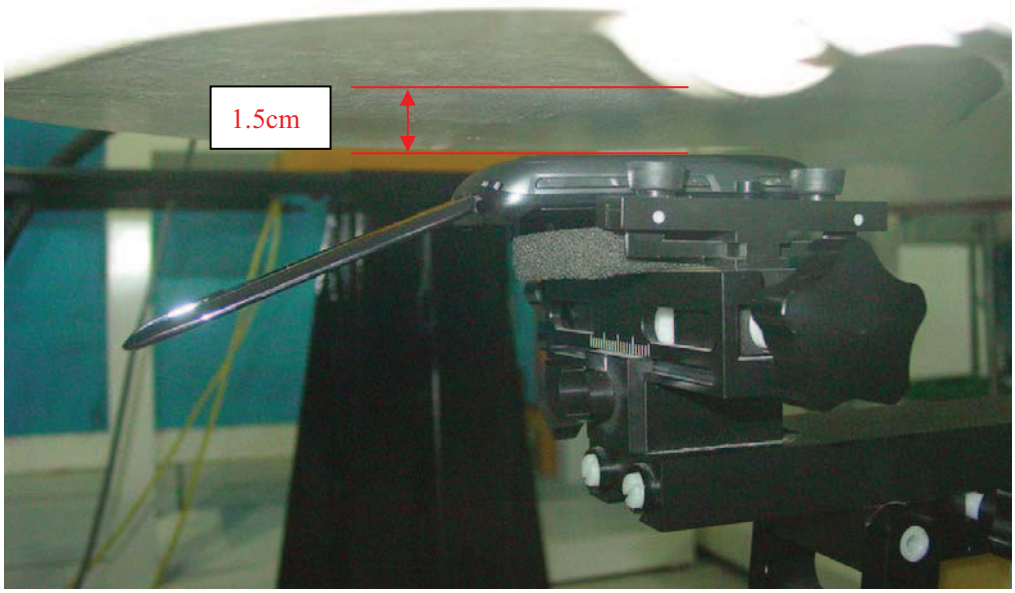
Picture B6: Left Hand Tilt 15° Position



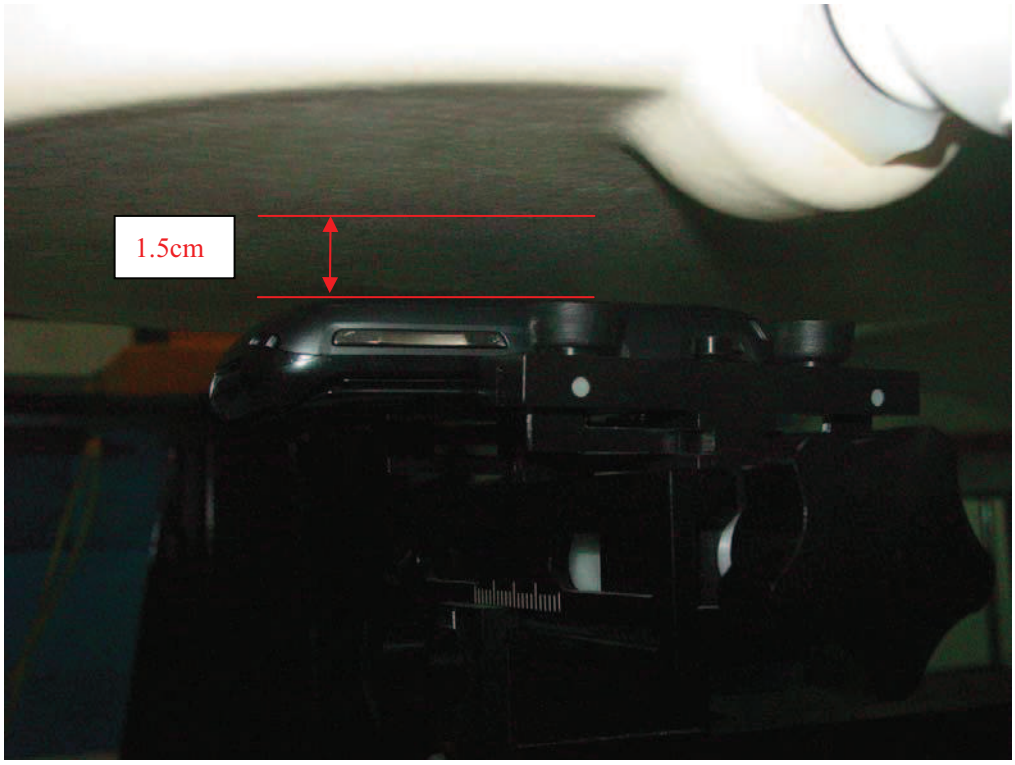
Picture B7: Right Hand Touch Cheek Position



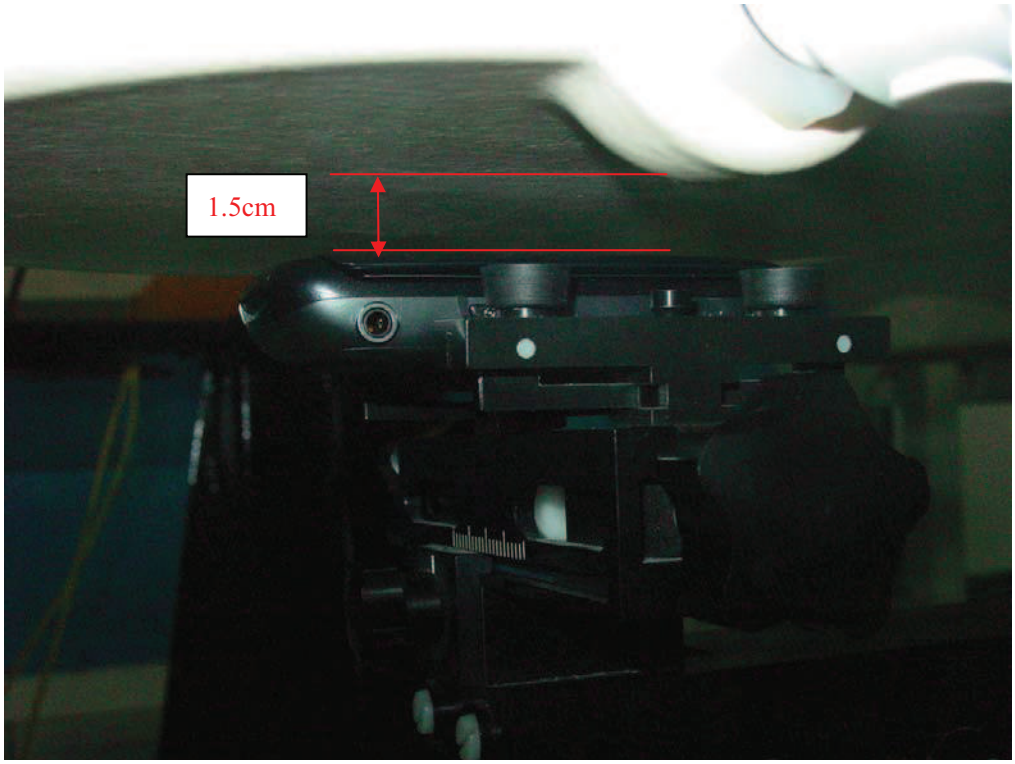
Picture B8: Right Hand Tilt 15° Position



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



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



Picture B11: Body-worn Position (towards phantom, the distance from handset to the bottom of the Phantom is 1.5cm) – Handset Closed

Picture B12: 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 Middle

Date/Time: 2010-9-23 8:12:37
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.878 mho/m; εr = 40.7; 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 (61x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.345 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.22 V/m; Power Drift = -0.00529 dB
Peak SAR (extrapolated) = 0.429 W/kg
SAR(1 g) = 0.334 mW/g; SAR(10 g) = 0.246 mW/g
Maximum value of SAR (measured) = 0.355 mW/g

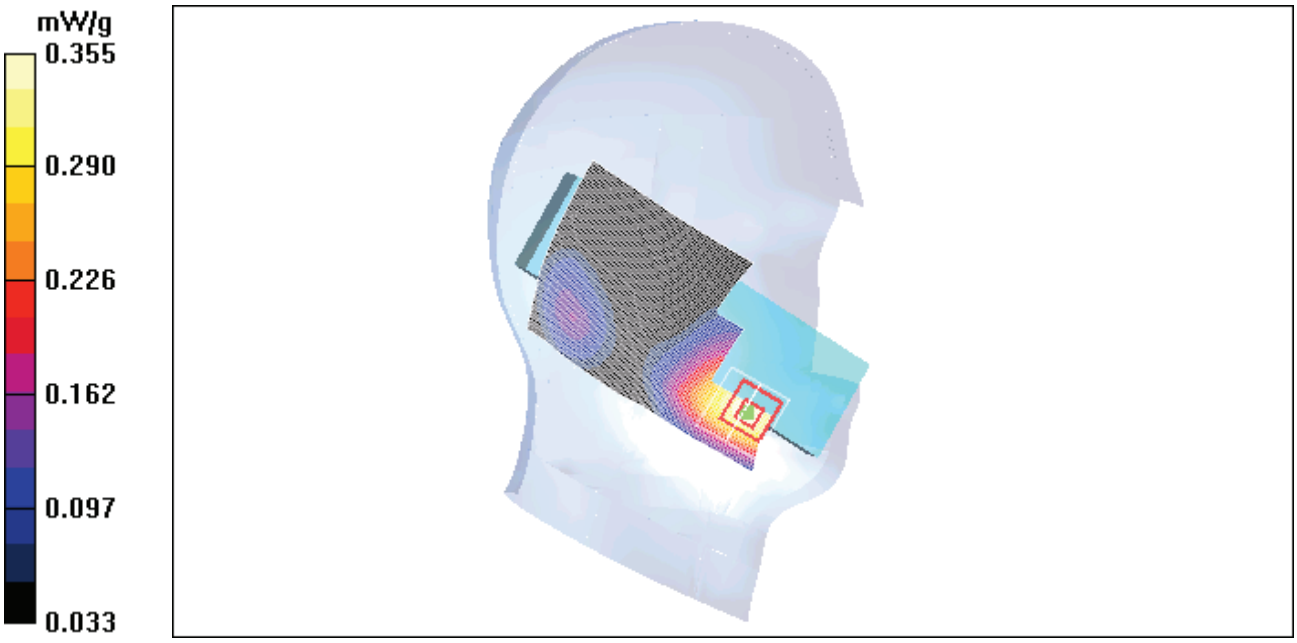


Fig. 1 850 MHz CH190

850 Left Tilt Middle

Date/Time: 2010-9-23 8:26:58
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.878 mho/m; εr = 40.7; 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 (61x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.165 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.98 V/m; Power Drift = 0.177 dB
Peak SAR (extrapolated) = 0.196 W/kg
SAR(1 g) = 0.157 mW/g; SAR(10 g) = 0.120 mW/g
Maximum value of SAR (measured) = 0.165 mW/g

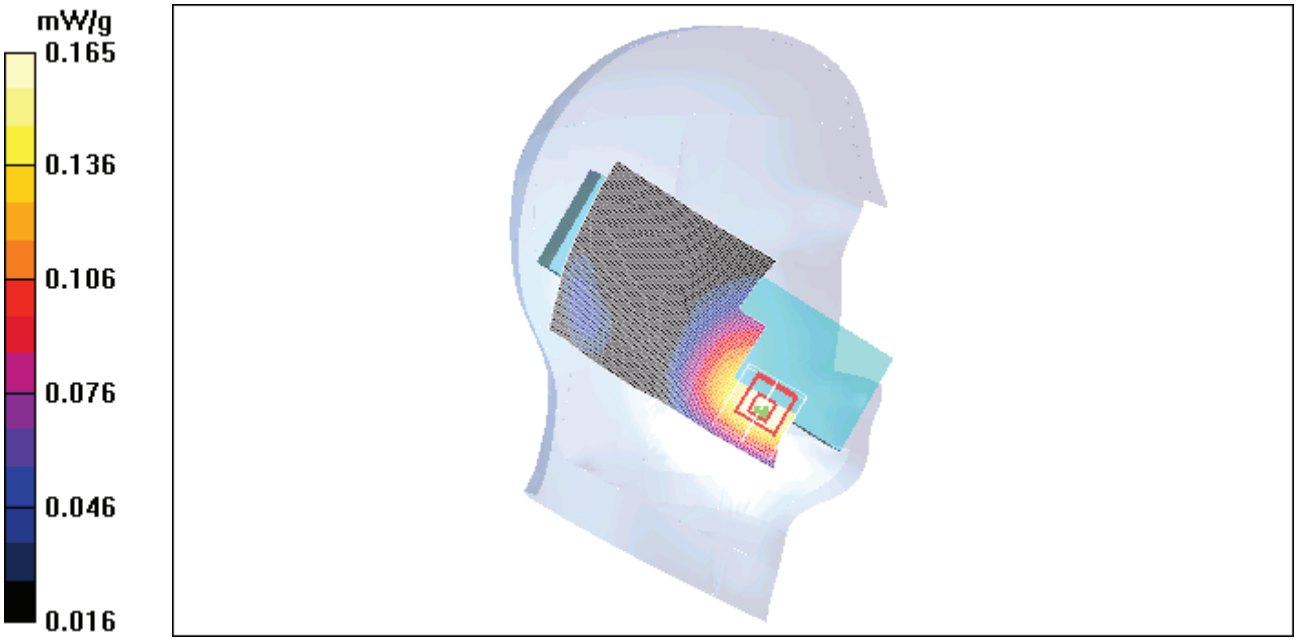


Fig.2 850 MHz CH190

850 Right Cheek Middle
Date/Time: 2010-9-23 8:41:32
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.878 mho/m; εr = 40.7; 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.378 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.01 V/m; Power Drift = 0.117 dB
Peak SAR (extrapolated) = 0.486 W/kg
SAR(1 g) = 0.357 mW/g; SAR(10 g) = 0.254 mW/g
Maximum value of SAR (measured) = 0.381 mW/g

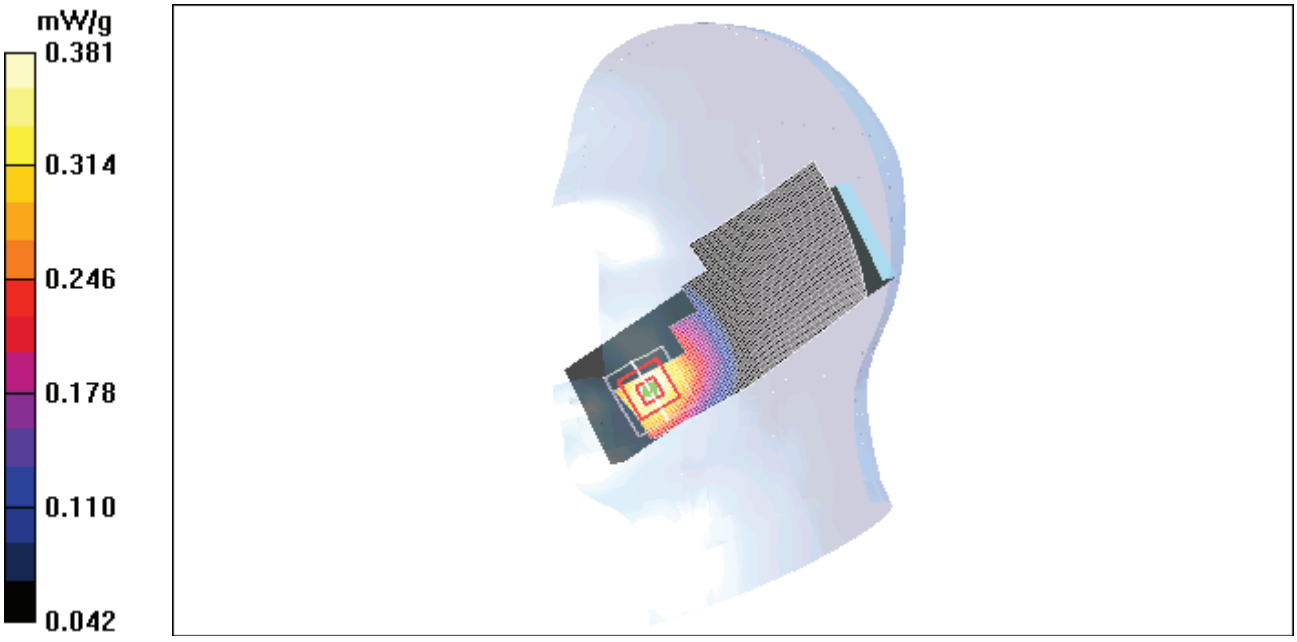


Fig. 3 850 MHz CH190

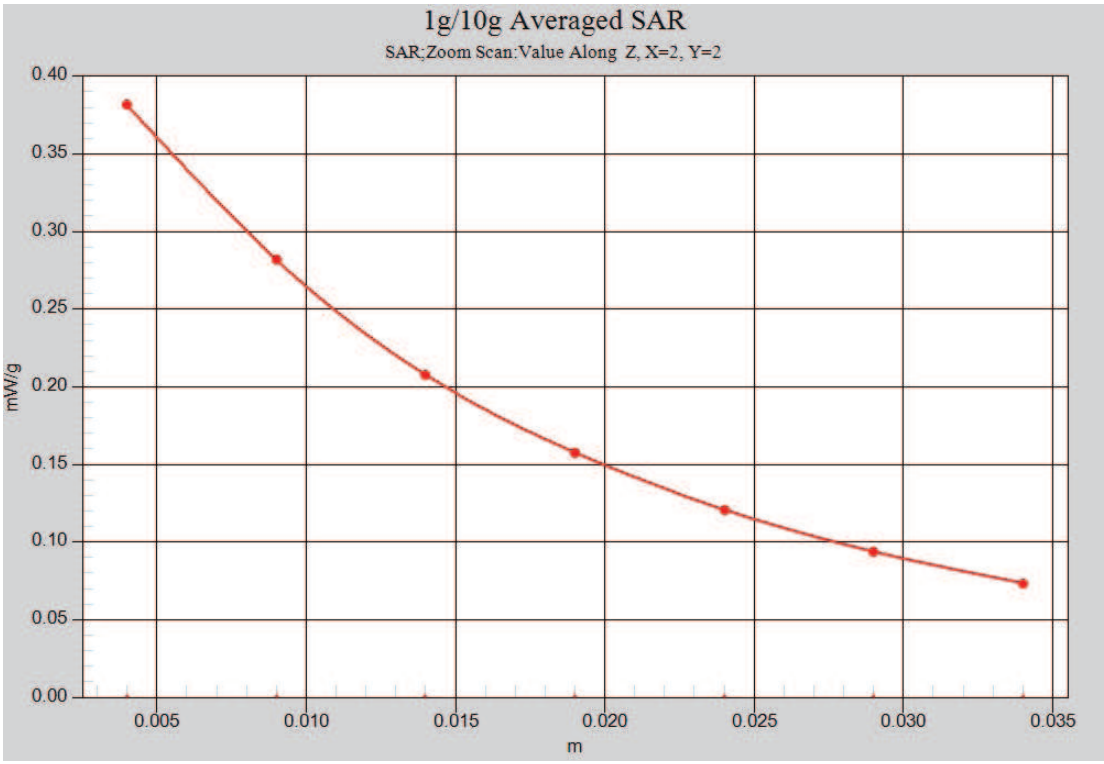


Fig. 3-1 Z-Scan at power reference point (850 MHz CH190)

850 Right Tilt Middle

Date/Time: 2010-9-23 8:57:01
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.878 mho/m; εr = 40.7; 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.137 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.48 V/m; Power Drift = 0.037 dB
Peak SAR (extrapolated) = 0.264 W/kg
SAR(1 g) = 0.126 mW/g; SAR(10 g) = 0.073 mW/g
Maximum value of SAR (measured) = 0.153 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.48 V/m; Power Drift = 0.037 dB
Peak SAR (extrapolated) = 0.115 W/kg
SAR(1 g) = 0.092 mW/g; SAR(10 g) = 0.072 mW/g
Maximum value of SAR (measured) = 0.096 mW/g

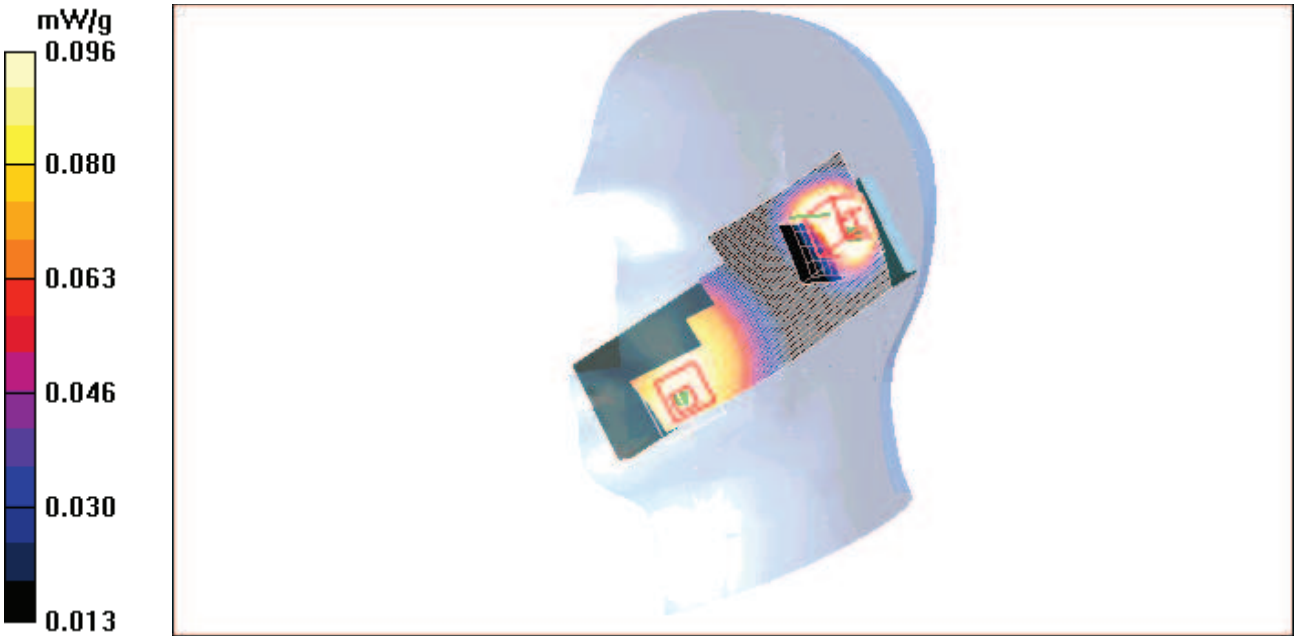


Fig.4 850 MHz CH190

850 Right Cheek High

Date/Time: 2010-9-23 9:13:20
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.89 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: 848.8 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Cheek High/Area Scan (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.353 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.73 V/m; Power Drift = 0.050 dB
Peak SAR (extrapolated) = 0.450 W/kg
SAR(1 g) = 0.332 mW/g; SAR(10 g) = 0.234 mW/g
Maximum value of SAR (measured) = 0.354 mW/g

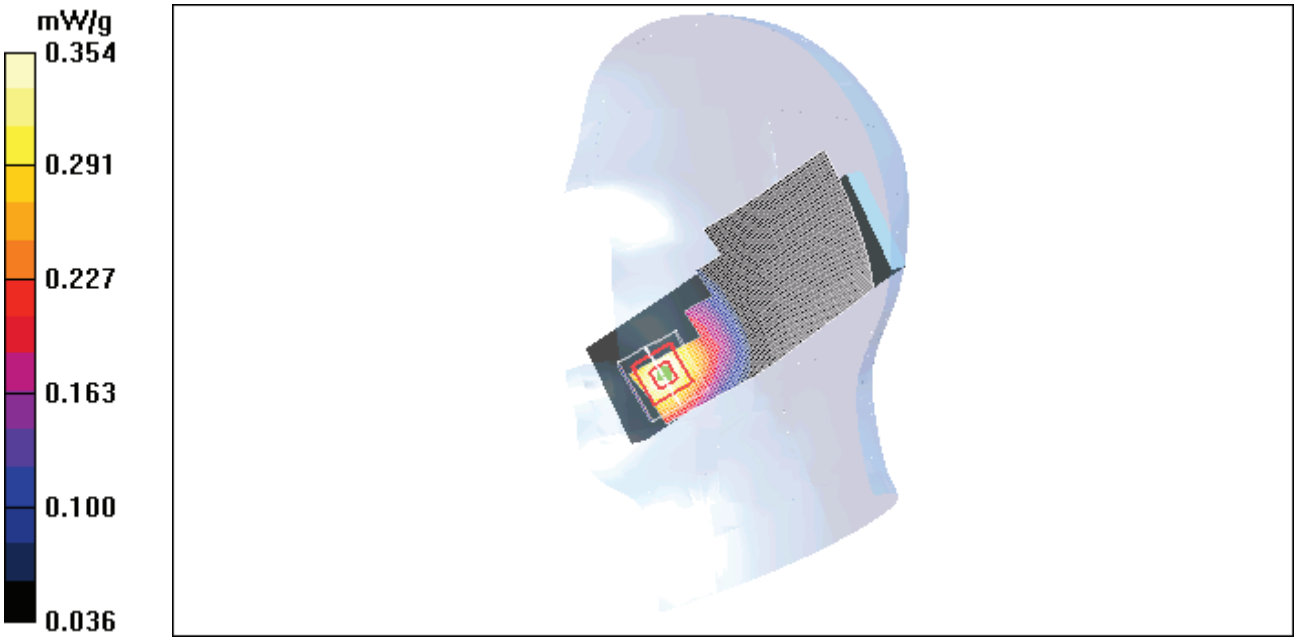


Fig. 5 850 MHz CH251

850 Right Cheek Low

Date/Time: 2010-9-23 9:27:45
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used: f = 825 MHz; σ = 0.866 mho/m; εr = 40.7; 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.354 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.74 V/m; Power Drift = -0.080 dB
Peak SAR (extrapolated) = 0.455 W/kg
SAR(1 g) = 0.336 mW/g; SAR(10 g) = 0.233 mW/g
Maximum value of SAR (measured) = 0.354 mW/g

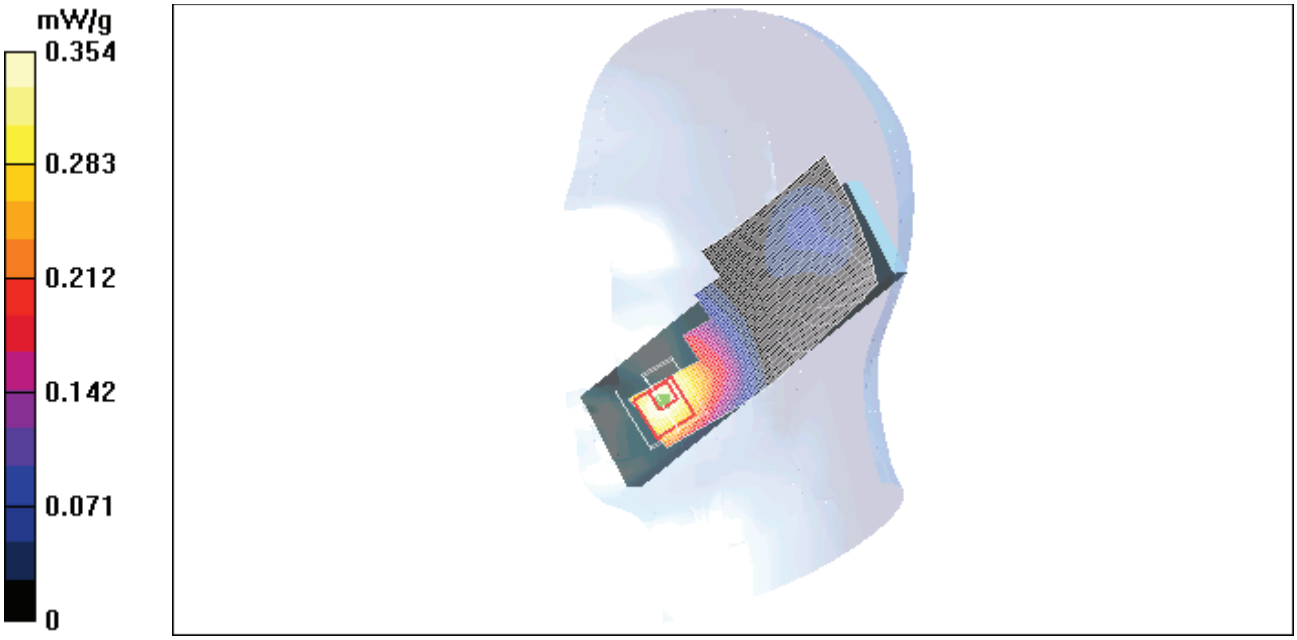


Fig. 6 850 MHz CH128

1900 Left Cheek Middle
Date/Time: 2010-9-24 8:10:42
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 38.8; 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.203 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.7 V/m; Power Drift = -0.026 dB
Peak SAR (extrapolated) = 0.285 W/kg
SAR(1 g) = 0.171 mW/g; SAR(10 g) = 0.113 mW/g
Maximum value of SAR (measured) = 0.189 mW/g

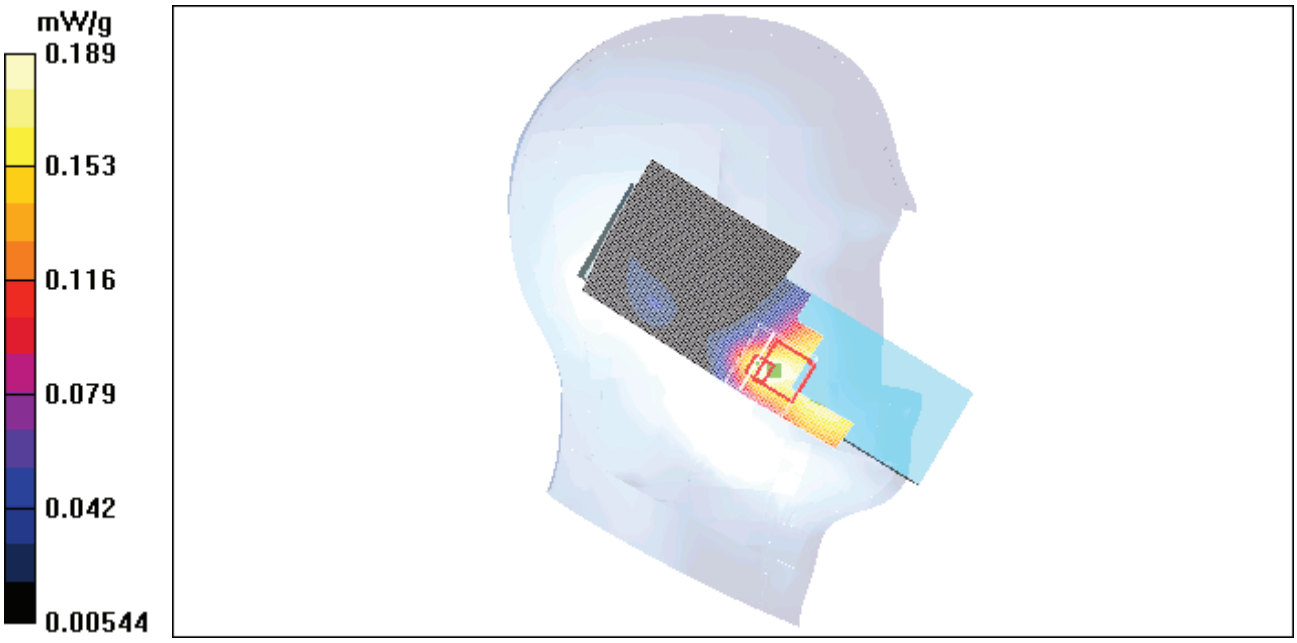


Fig. 7 1900 MHz CH661

1900 Left Tilt Middle
Date/Time: 2010-9-24 8:25:11
Electronics: DAE4 Sn771
Medium: 1900 Head
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 38.8; 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 (61x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.030 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.06 V/m; Power Drift = 0.184 dB
Peak SAR (extrapolated) = 0.042 W/kg
SAR(1 g) = 0.028 mW/g; SAR(10 g) = 0.018 mW/g
Maximum value of SAR (measured) = 0.030 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.06 V/m; Power Drift = 0.184 dB
Peak SAR (extrapolated) = 0.037 W/kg
SAR(1 g) = 0.028 mW/g; SAR(10 g) = 0.020 mW/g

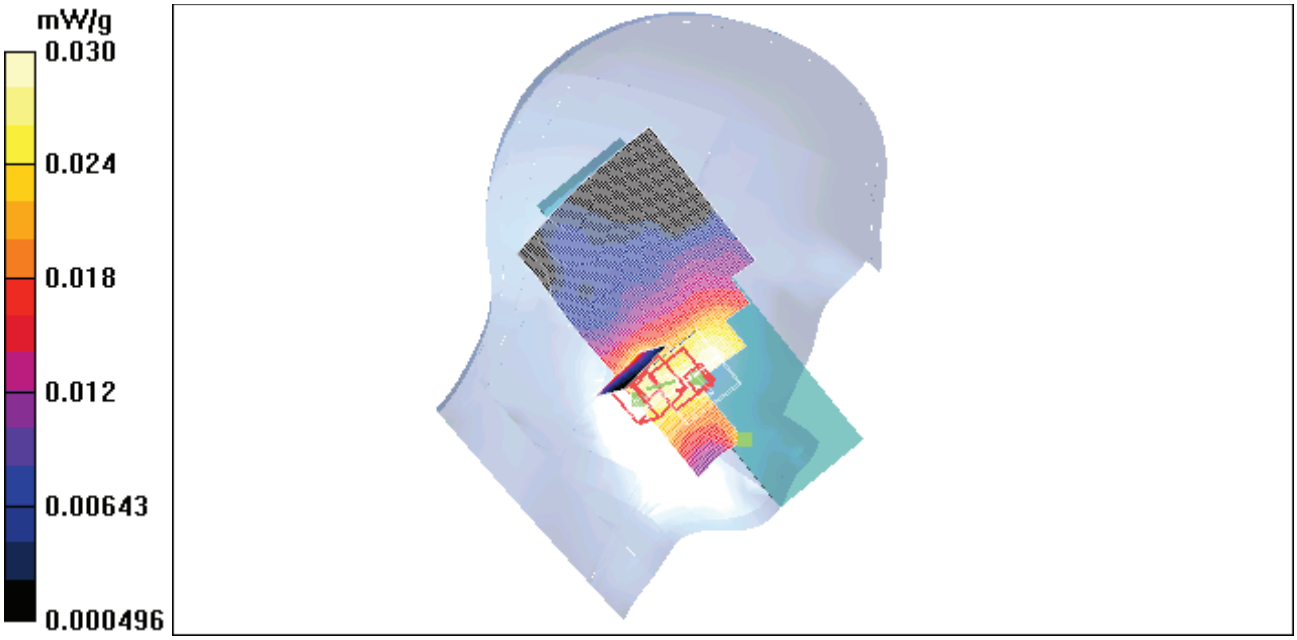


Fig. 8 1900 MHz CH661

1900 Right Cheek Middle
Date/Time: 2010-9-24 8:40:02
Electronics: DAE4 Sn771
Medium: 1900 Head
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 38.8; 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.209 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.08 V/m; Power Drift = 0.129 dB
Peak SAR (extrapolated) = 0.266 W/kg
SAR(1 g) = 0.189 mW/g; SAR(10 g) = 0.129 mW/g
Maximum value of SAR (measured) = 0.197 mW/g

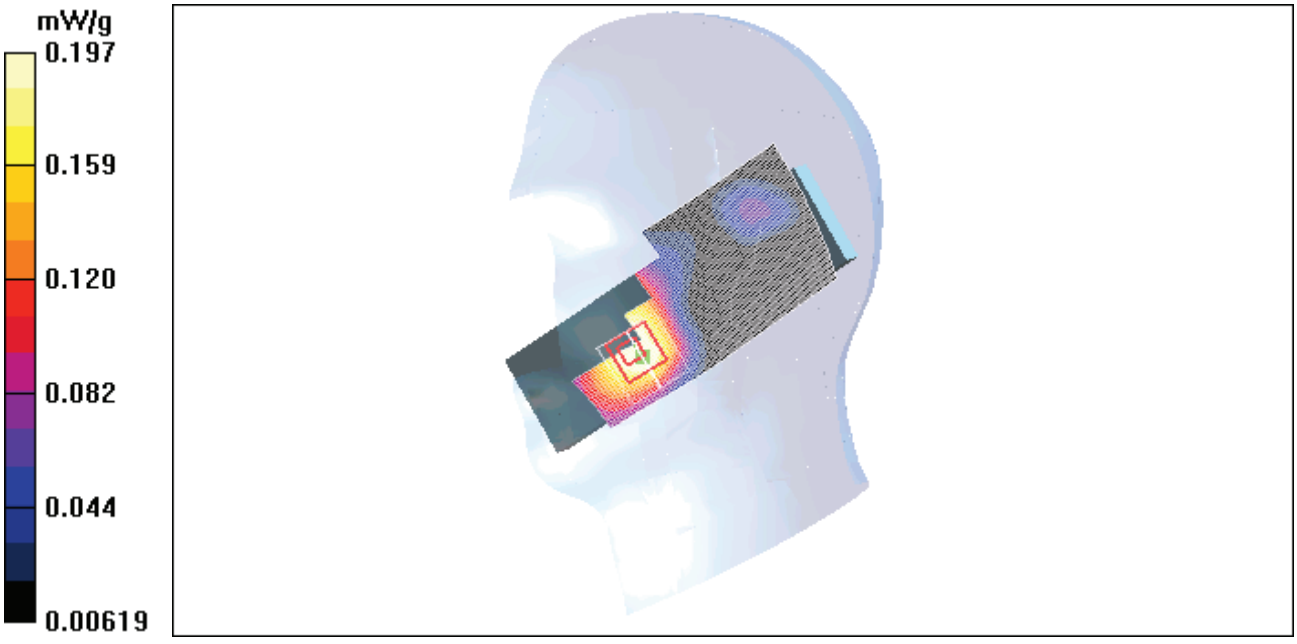


Fig. 9 1900 MHz CH661

1900 Right Tilt Middle
Date/Time: 2010-9-24 8:55:31
Electronics: DAE4 Sn771
Medium: 1900 Head
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 38.8; 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.038 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.45 V/m; Power Drift = -0.121 dB
Peak SAR (extrapolated) = 0.051 W/kg
SAR(1 g) = 0.036 mW/g; SAR(10 g) = 0.024 mW/g
Maximum value of SAR (measured) = 0.038 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.45 V/m; Power Drift = -0.121 dB
Peak SAR (extrapolated) = 0.045 W/kg
SAR(1 g) = 0.030 mW/g; SAR(10 g) = 0.017 mW/g
Maximum value of SAR (measured) = 0.032 mW/g

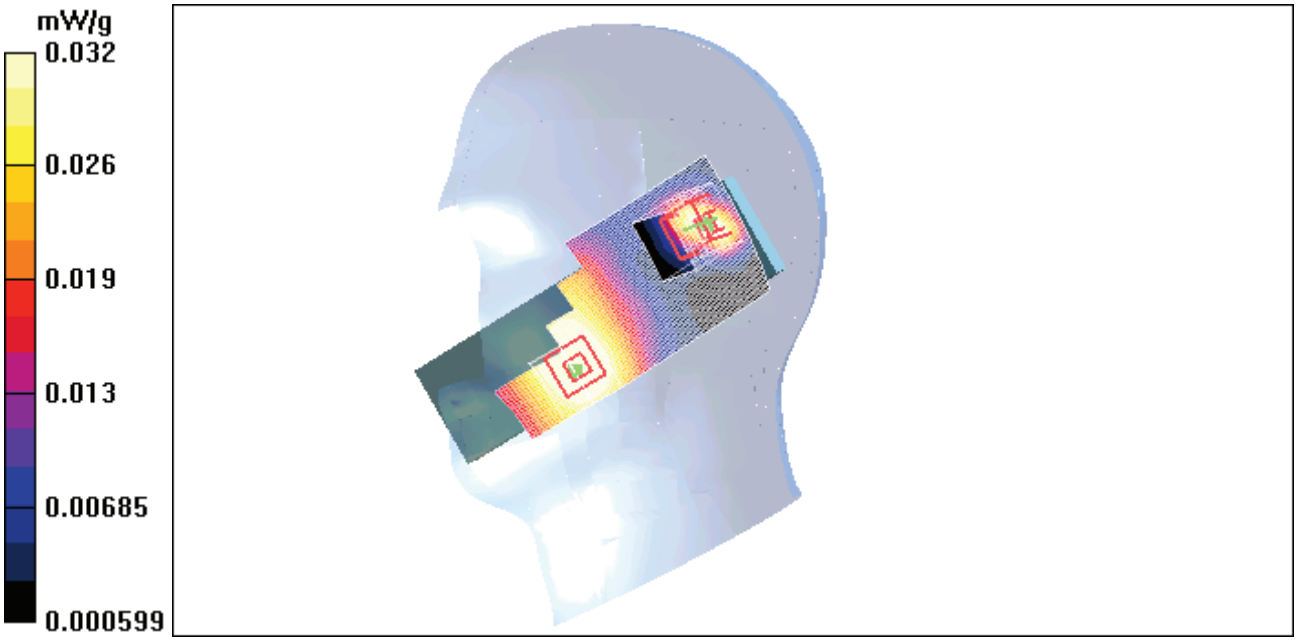


Fig.10 1900 MHz CH661

1900 Right Cheek High
Date/Time: 2010-9-24 9:11:20
Electronics: DAE4 Sn771
Medium: 1900 Head
Medium parameters used: f = 1910 MHz; σ = 1.41 mho/m; εr = 38.7; 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.220 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.19 V/m; Power Drift = -0.117 dB
Peak SAR (extrapolated) = 0.272 W/kg
SAR(1 g) = 0.198 mW/g; SAR(10 g) = 0.136 mW/g
Maximum value of SAR (measured) = 0.208 mW/g

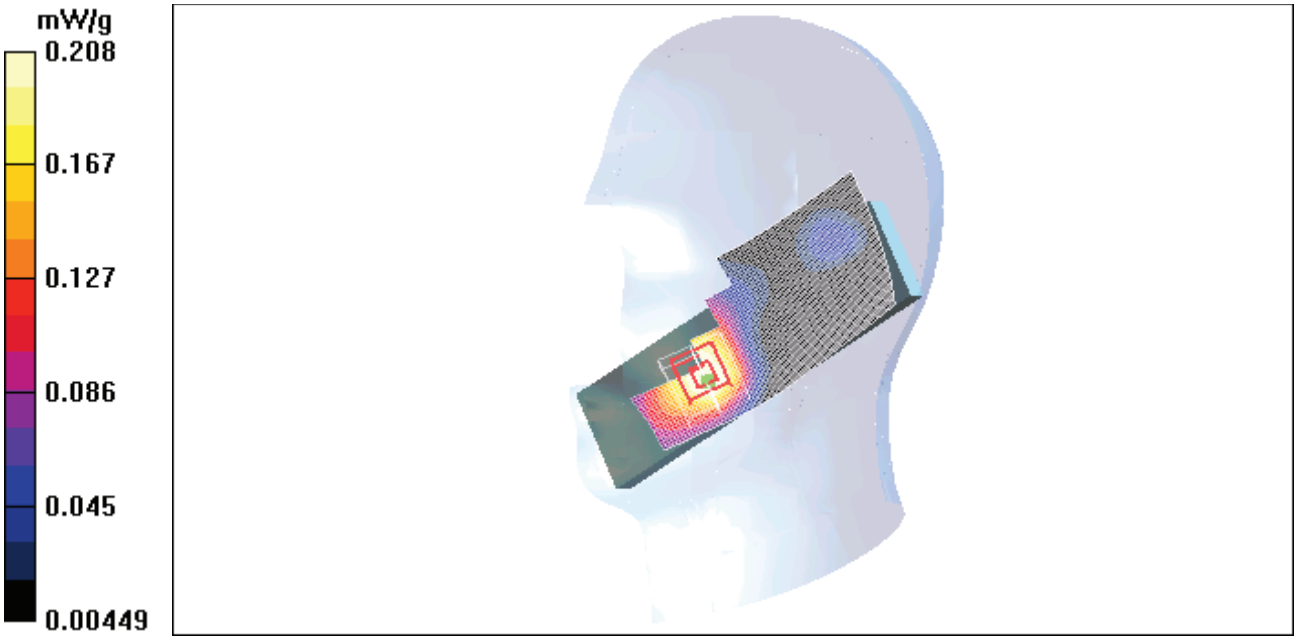


Fig. 11 1900 MHz CH810

1900 Right Cheek Low
Date/Time: 2010-9-24 9:25:51
Electronics: DAE4 Sn771
Medium: 1900 Head
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.36 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: 1850.2 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Cheek Low/Area Scan (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.261 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.68 V/m; Power Drift = -0.157 dB
Peak SAR (extrapolated) = 0.324 W/kg
SAR(1 g) = 0.239 mW/g; SAR(10 g) = 0.163 mW/g
Maximum value of SAR (measured) = 0.249 mW/g

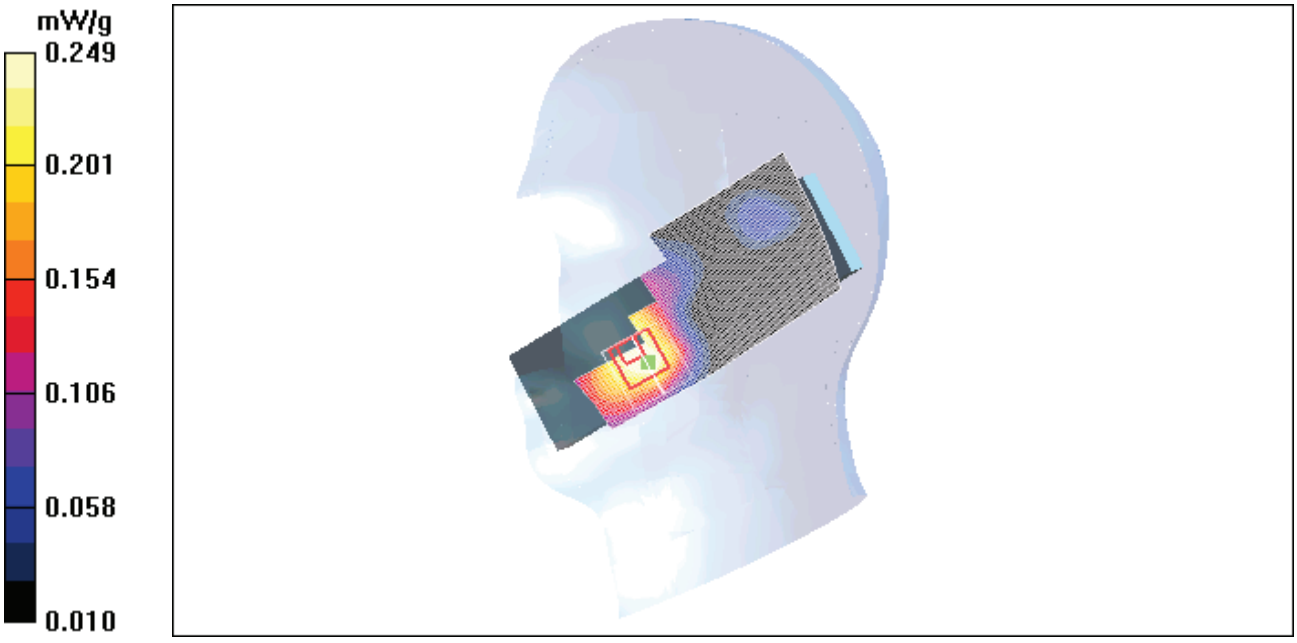


Fig. 12 1900 MHz CH512

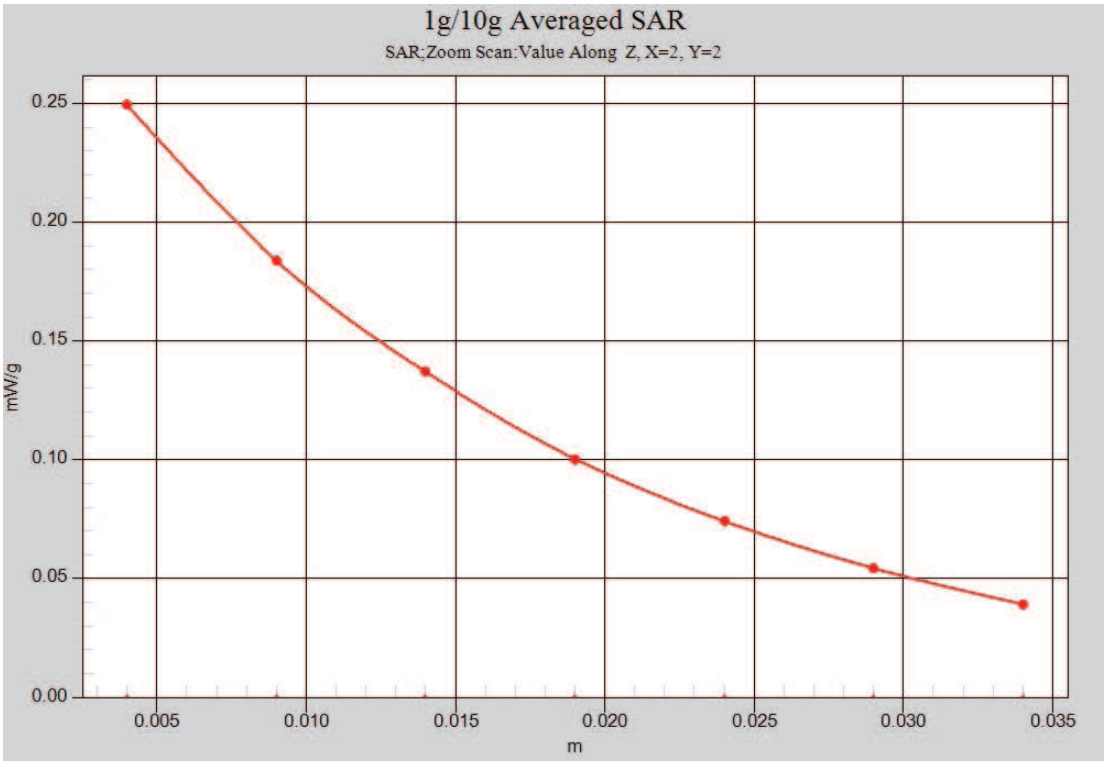


Fig. 12-1 Z-Scan at power reference point (1900 MHz CH512)

850 Body Towards Ground High with GPRS

Date/Time: 2010-9-23 13:41:06
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.96 mho/m; εr = 53.9; 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.927 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.9 V/m; Power Drift = -0.033 dB
Peak SAR (extrapolated) = 1.2 W/kg
SAR(1 g) = 0.864 mW/g; SAR(10 g) = 0.597 mW/g
Maximum value of SAR (measured) = 0.922 mW/g

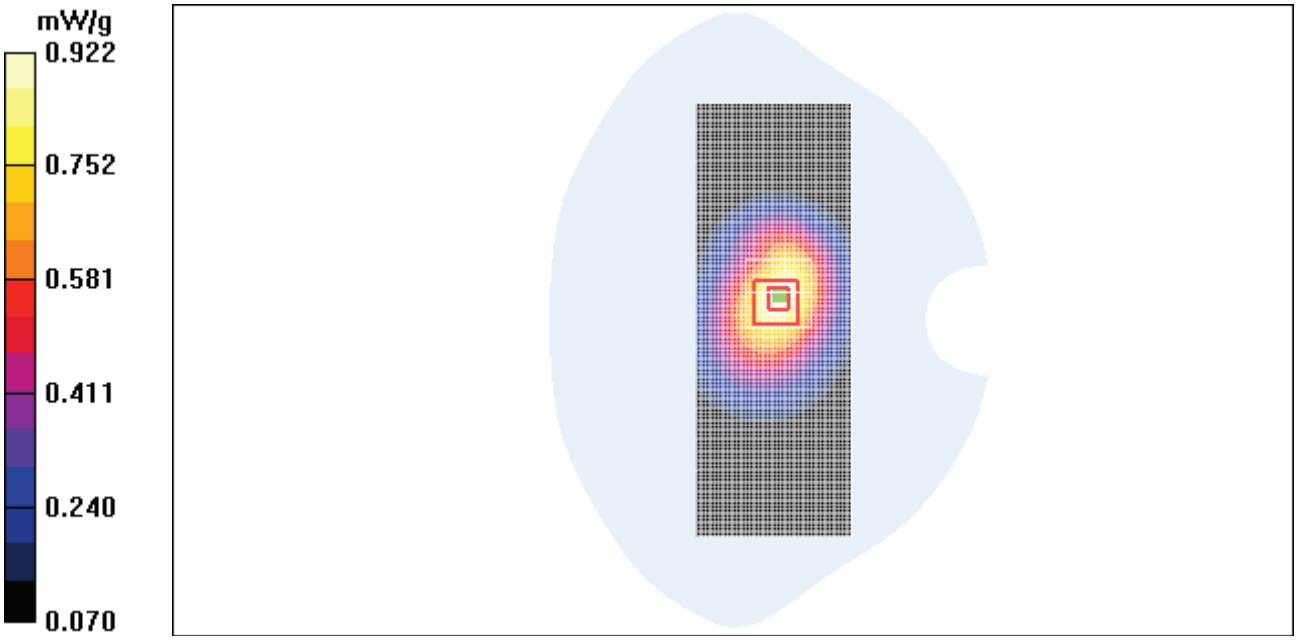


Fig. 13 850 MHz CH251

850 Body Towards Ground Middle with GPRS

Date/Time: 2010-9-23 13:56:34
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.95 mho/m; εr = 54.0; 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.967 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 29.6 V/m; Power Drift = -0.062 dB
Peak SAR (extrapolated) = 1.24 W/kg
SAR(1 g) = 0.895 mW/g; SAR(10 g) = 0.620 mW/g
Maximum value of SAR (measured) = 0.951 mW/g

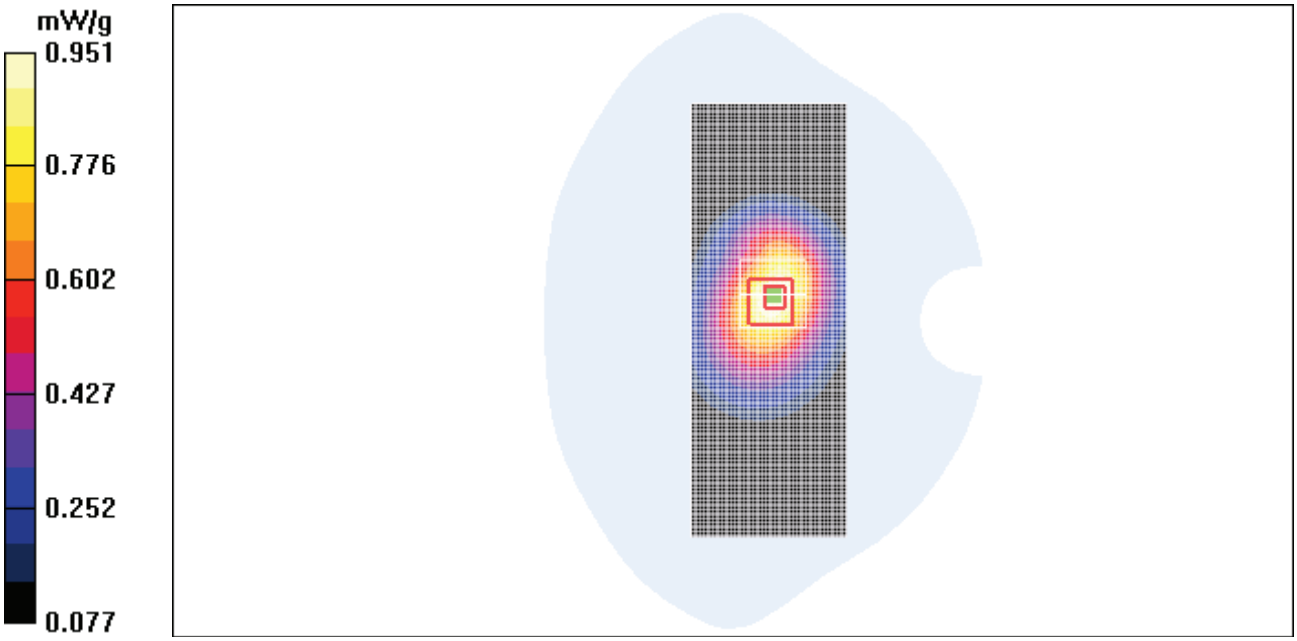


Fig. 14 850 MHz CH190

850 Body Towards Ground Low with GPRS

Date/Time: 2010-9-23 14:11:57
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used: f = 825 MHz; σ = 0.933 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: 824.2 MHz Duty Cycle: 1:4
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Low/Area Scan (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.992 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 30 V/m; Power Drift = -0.105 dB
Peak SAR (extrapolated) = 1.27 W/kg
SAR(1 g) = 0.915 mW/g; SAR(10 g) = 0.636 mW/g
Maximum value of SAR (measured) = 0.975 mW/g

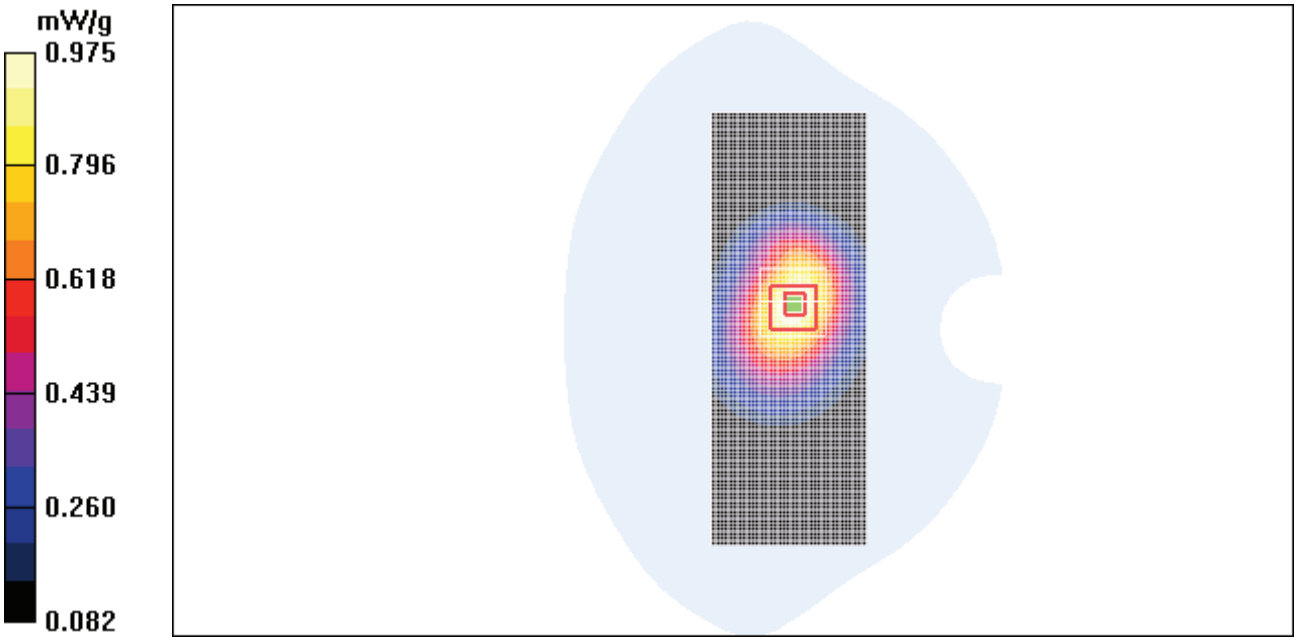


Fig. 15 850 MHz CH128

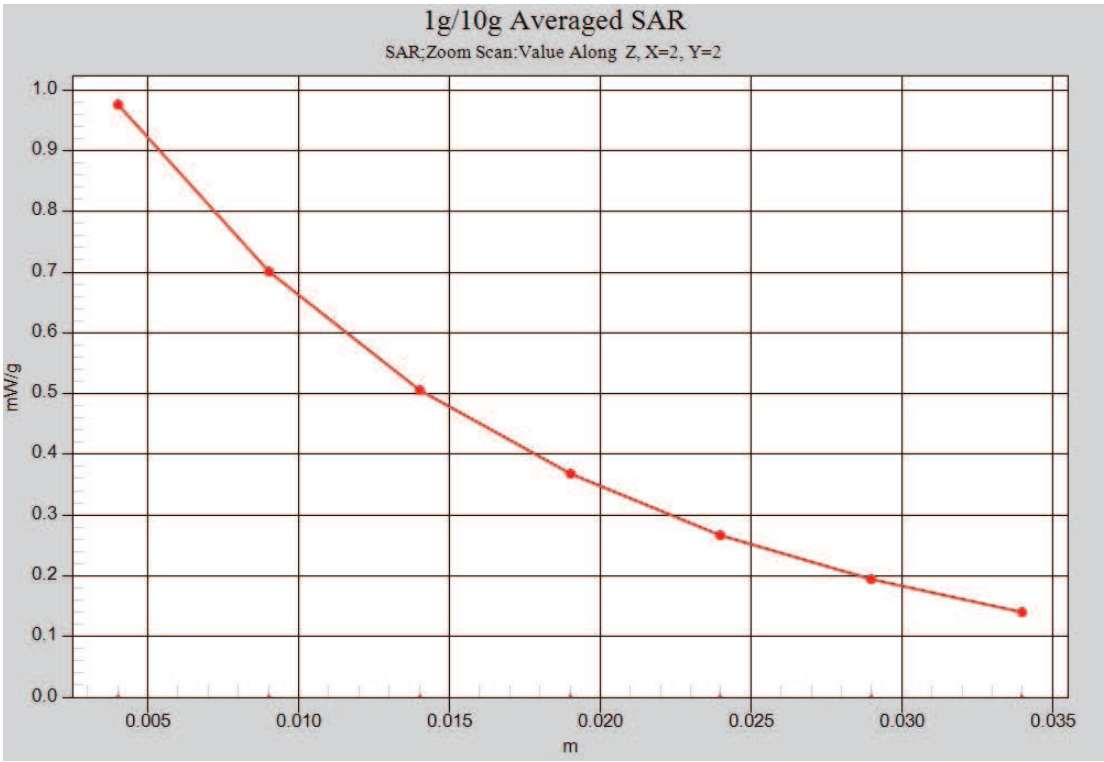


Fig. 15-1 Z-Scan at power reference point (850 MHz CH128)

850 Body Towards Ground High with EGPRS

Date/Time: 2010-9-23 14:28:09
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.96 mho/m; εr = 53.9; 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.865 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.2 V/m; Power Drift = -0.050 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.815 mW/g; SAR(10 g) = 0.565 mW/g
Maximum value of SAR (measured) = 0.872 mW/g

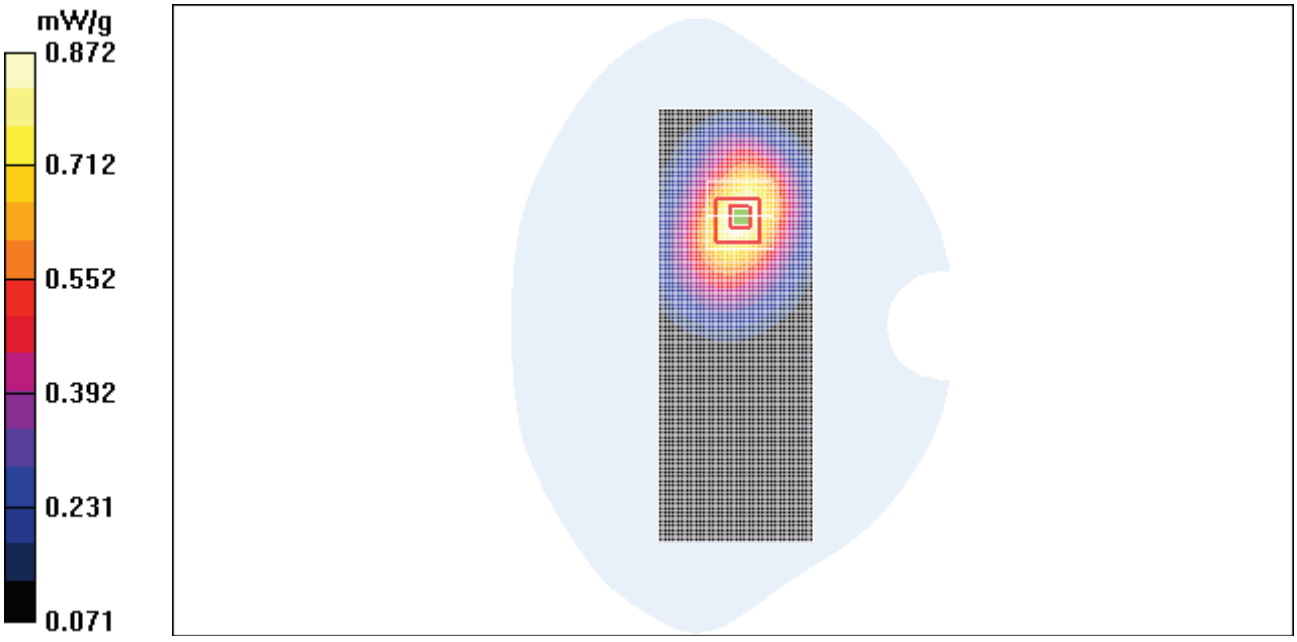


Fig. 16 850 MHz CH251

850 Body Towards Ground Middle with EGPRS

Date/Time: 2010-9-23 14:43:30
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.95 mho/m; εr = 54.0; 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.879 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.1 V/m; Power Drift = 0.061 dB
Peak SAR (extrapolated) = 1.16 W/kg
SAR(1 g) = 0.835 mW/g; SAR(10 g) = 0.580 mW/g
Maximum value of SAR (measured) = 0.886 mW/g

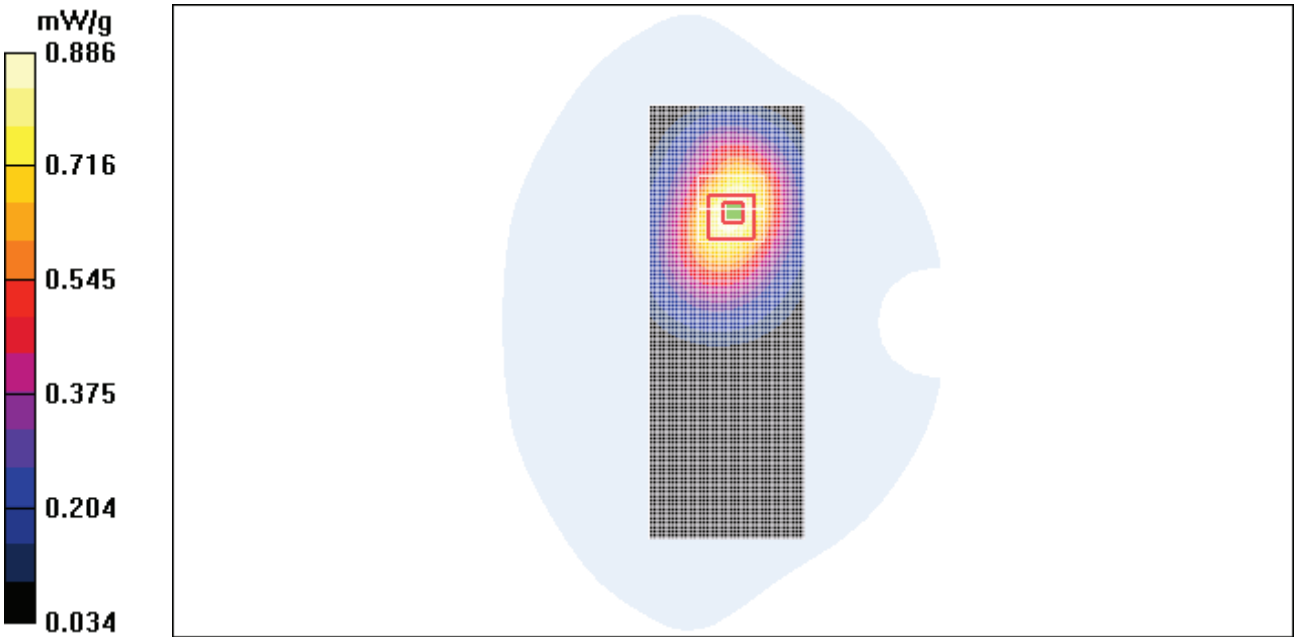


Fig. 17 850 MHz CH190

850 Body Towards Ground Low with EGPRS

Date/Time: 2010-9-23 14:58:55
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used: f = 825 MHz; σ = 0.933 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: 824.2 MHz Duty Cycle: 1:4
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Low/Area Scan (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.924 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.3 V/m; Power Drift = -0.088 dB
Peak SAR (extrapolated) = 1.19 W/kg
SAR(1 g) = 0.861 mW/g; SAR(10 g) = 0.600 mW/g
Maximum value of SAR (measured) = 0.912 mW/g

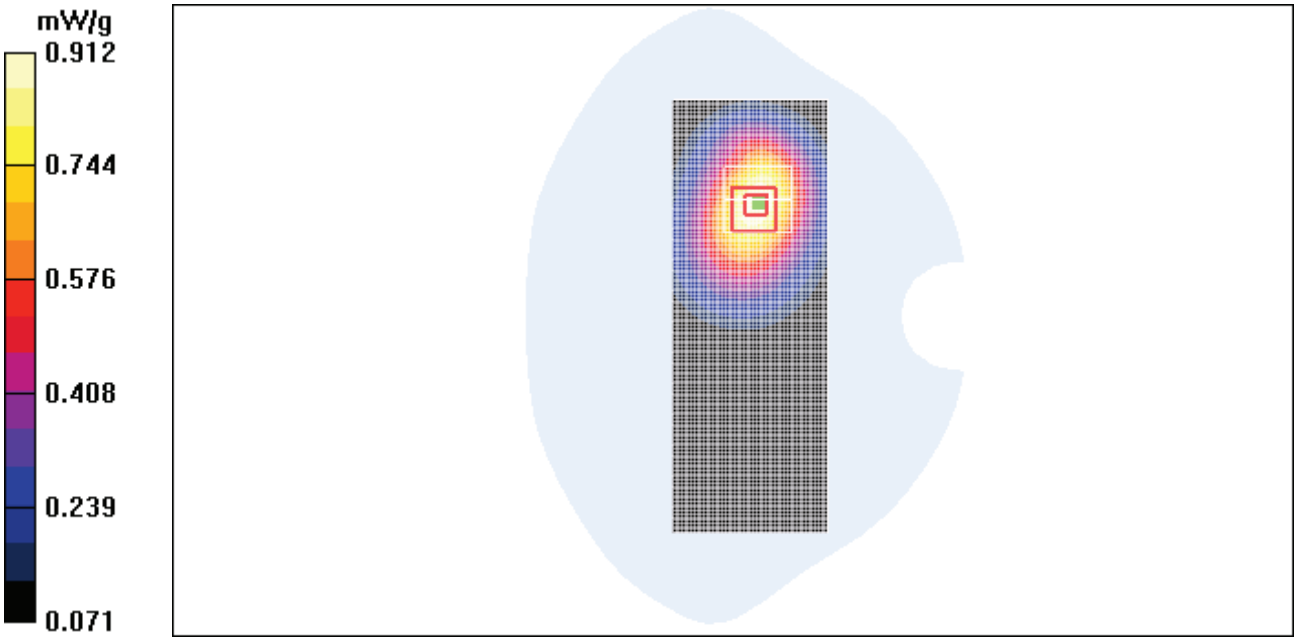


Fig. 18 850 MHz CH128

850 Body Towards Ground Low with Headset

Date/Time: 2010-9-23 15:15:36
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used: f = 825 MHz; σ = 0.933 mho/m; εr = 54.1; 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.498 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.7 V/m; Power Drift = -0.044 dB
Peak SAR (extrapolated) = 0.652 W/kg
SAR(1 g) = 0.459 mW/g; SAR(10 g) = 0.315 mW/g
Maximum value of SAR (measured) = 0.488 mW/g

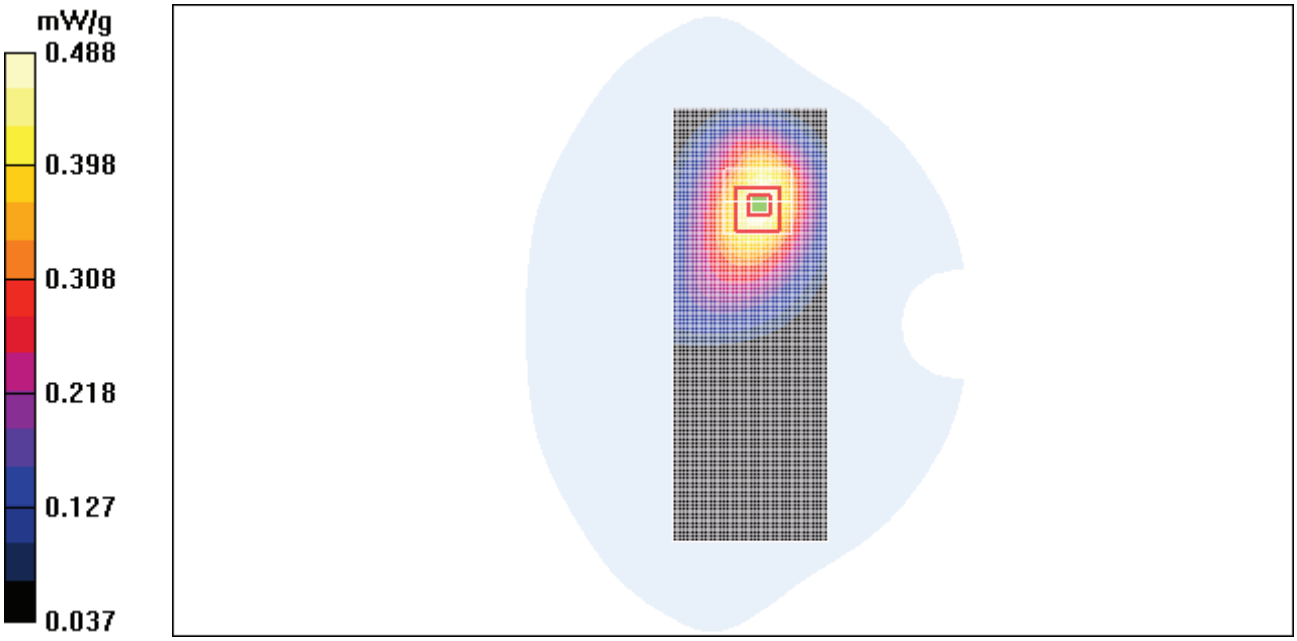


Fig. 19 850 MHz CH128

850 Body Closed Towards Ground Low with GPRS

Date/Time: 2010-9-23 15:32:08
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used: f = 825 MHz; σ = 0.933 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: 824.2 MHz Duty Cycle: 1:4
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Low/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.936 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.0 V/m; Power Drift = -0.084 dB
Peak SAR (extrapolated) = 1.23 W/kg
SAR(1 g) = 0.865 mW/g; SAR(10 g) = 0.604 mW/g
Maximum value of SAR (measured) = 0.935 mW/g

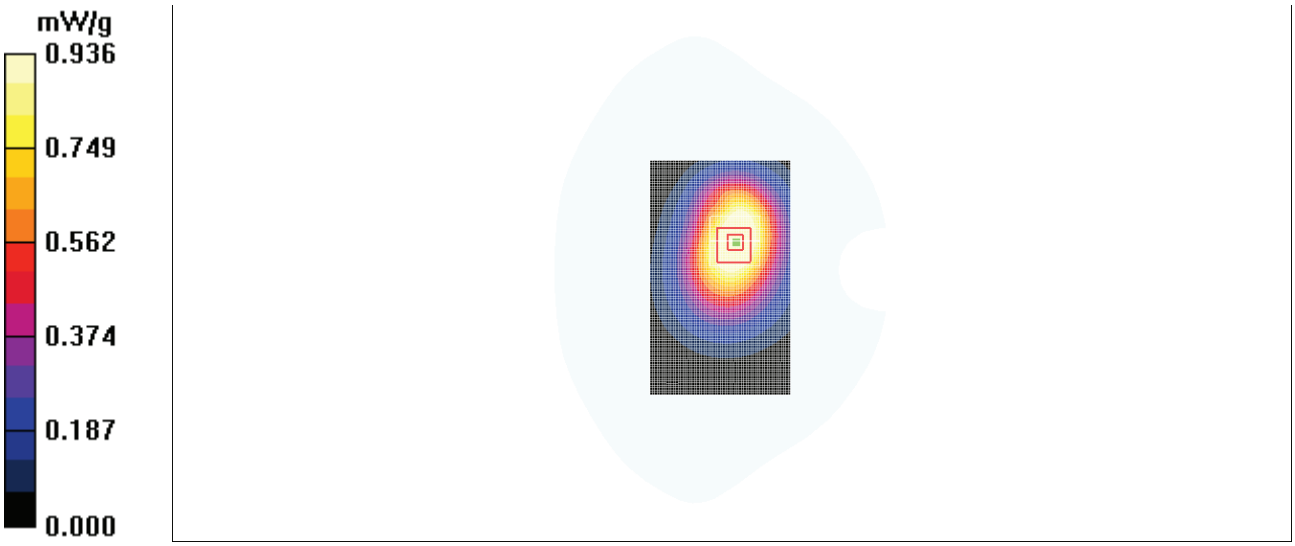


Fig. 20 850 MHz CH128

850 Body Closed Towards Phantom Low with GPRS

Date/Time: 2010-9-23 15:47:42
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used: f = 825 MHz; σ = 0.933 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: 824.2 MHz Duty Cycle: 1:4
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Phantom Low/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.734 mW/g

Toward Phantom Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 26.5 V/m; Power Drift = -0.042 dB
Peak SAR (extrapolated) = 0.896 W/kg
SAR(1 g) = 0.692 mW/g; SAR(10 g) = 0.501 mW/g
Maximum value of SAR (measured) = 0.734 mW/g

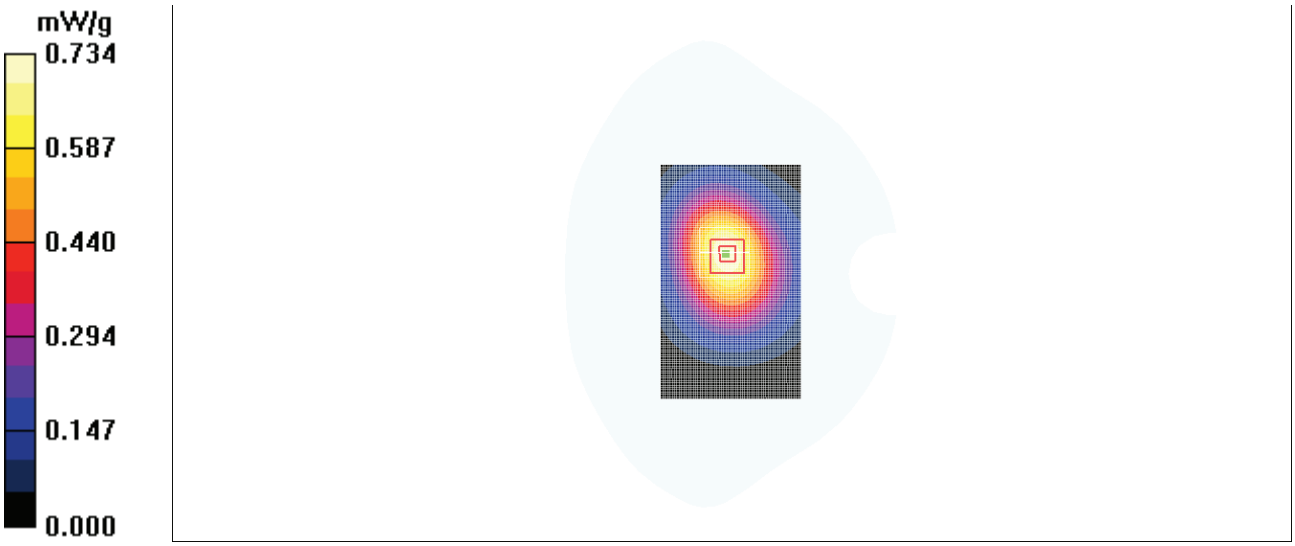


Fig. 21 850 MHz CH128

1900 Body Towards Ground High with GPRS

Date/Time: 2010-9-24 13:46:32
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.55 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.392 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.3 V/m; Power Drift = -0.00898 dB
Peak SAR (extrapolated) = 0.591 W/kg
SAR(1 g) = 0.365 mW/g; SAR(10 g) = 0.226 mW/g
Maximum value of SAR (measured) = 0.393 mW/g

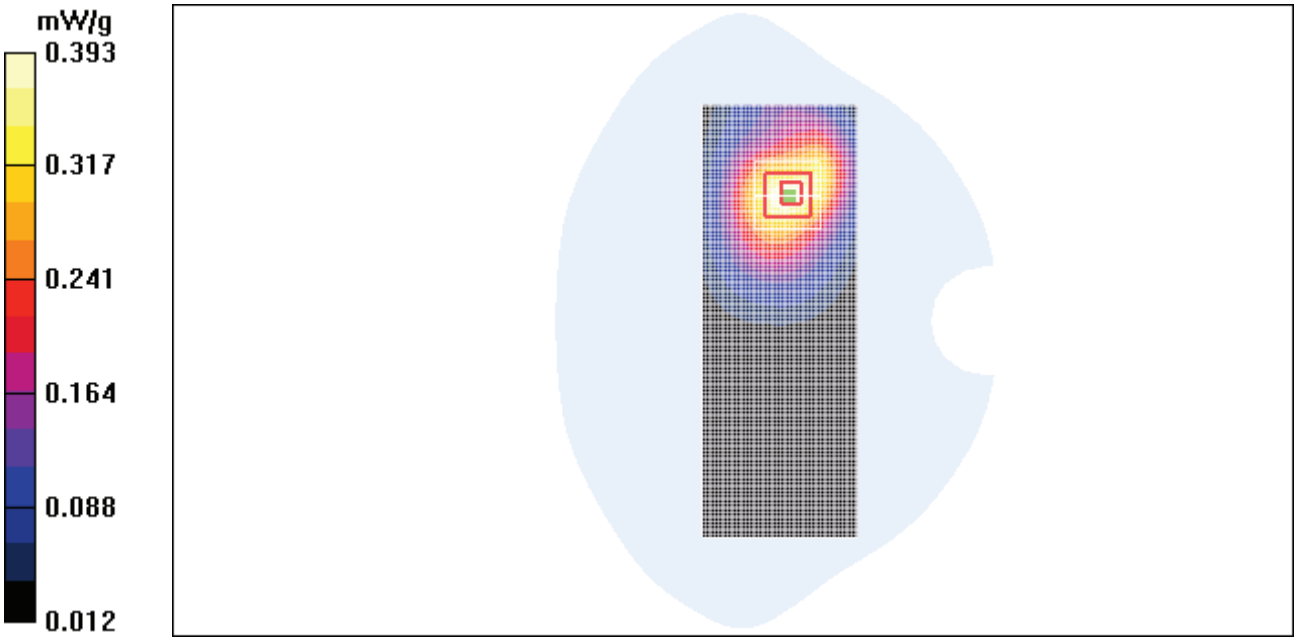


Fig. 22 1900 MHz CH810

1900 Body Towards Ground Middle with GPRS

Date/Time: 2010-9-24 14:02:06
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.52 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.416 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.44 V/m; Power Drift = 0.175 dB
Peak SAR (extrapolated) = 0.742 W/kg
SAR(1 g) = 0.396 mW/g; SAR(10 g) = 0.242 mW/g
Maximum value of SAR (measured) = 0.423 mW/g

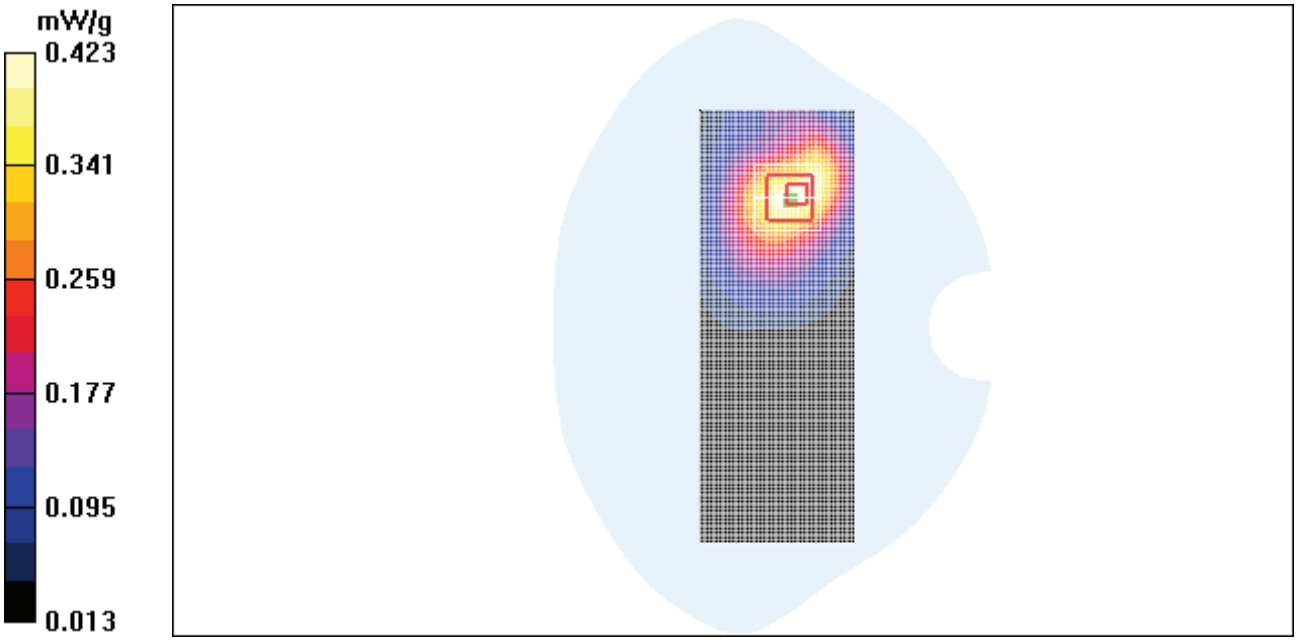


Fig. 23 1900 MHz CH661

1900 Body Towards Ground Low with GPRS

Date/Time: 2010-9-24 14:17:30
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.50 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.473 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.54 V/m; Power Drift = 0.012 dB
Peak SAR (extrapolated) = 0.735 W/kg
SAR(1 g) = 0.446 mW/g; SAR(10 g) = 0.272 mW/g
Maximum value of SAR (measured) = 0.474 mW/g

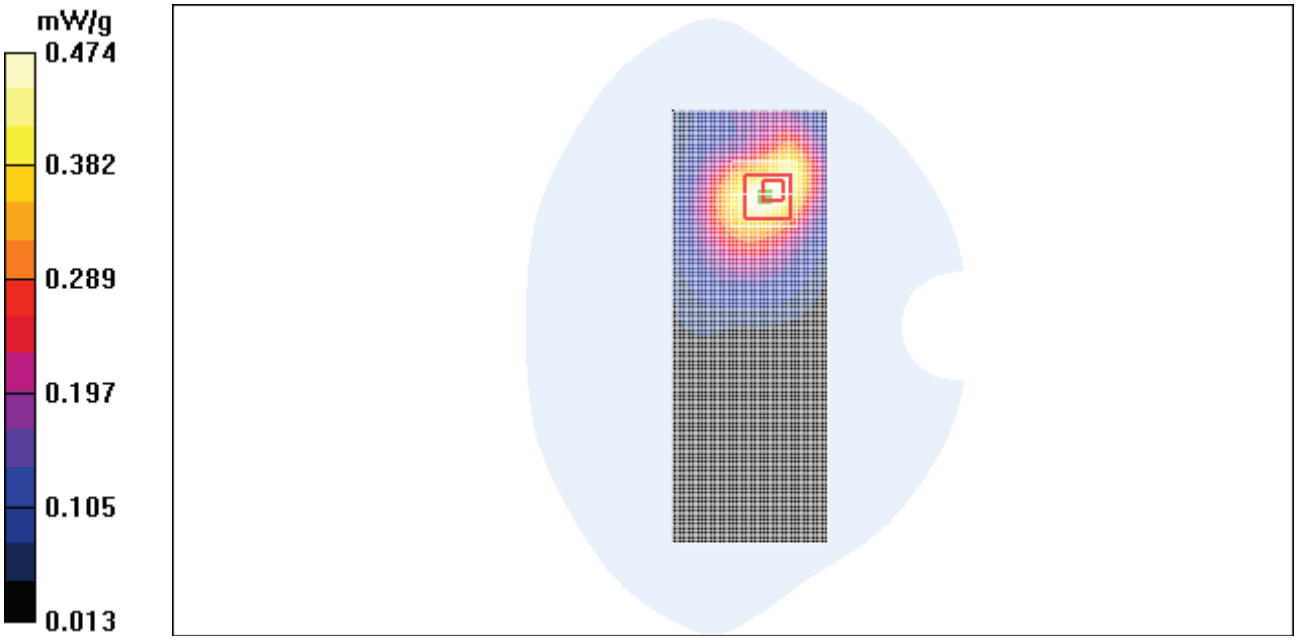


Fig. 24 1900 MHz CH512

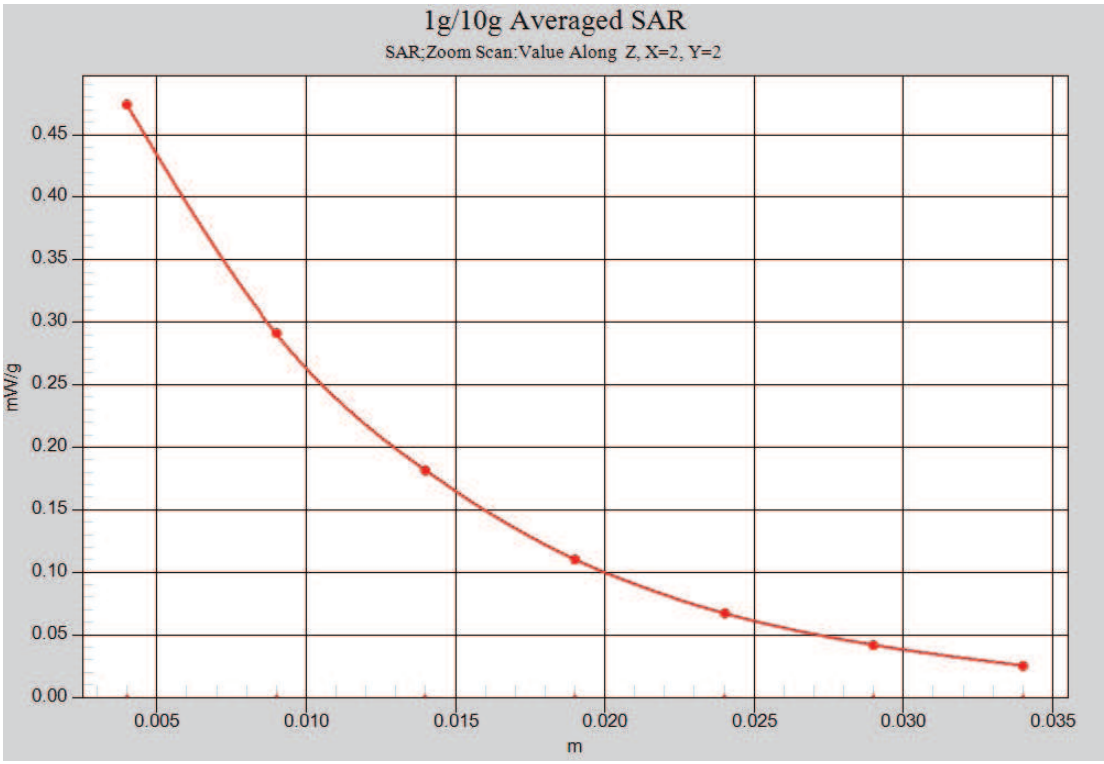


Fig. 24-1 Z-Scan at power reference point (1900 MHz CH512)

1900 Body Towards Ground High with EGPRS

Date/Time: 2010-9-24 14:34:22
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.55 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.320 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.4 V/m; Power Drift = 0.077 dB
Peak SAR (extrapolated) = 0.479 W/kg
SAR(1 g) = 0.294 mW/g; SAR(10 g) = 0.183 mW/g
Maximum value of SAR (measured) = 0.315 mW/g

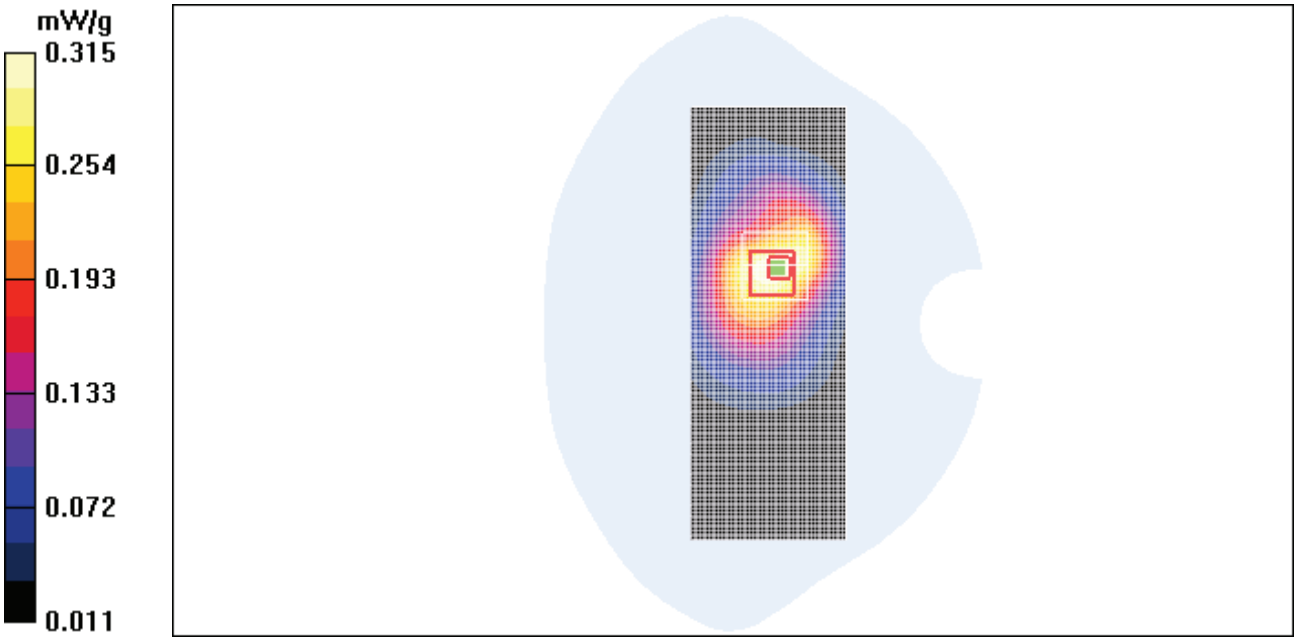


Fig. 25 1900 MHz CH810

1900 Body Towards Ground Middle with EGPRS

Date/Time: 2010-9-24 14:49:45
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.52 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.359 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.8 V/m; Power Drift = -0.021 dB
Peak SAR (extrapolated) = 0.526 W/kg
SAR(1 g) = 0.326 mW/g; SAR(10 g) = 0.202 mW/g
Maximum value of SAR (measured) = 0.350 mW/g

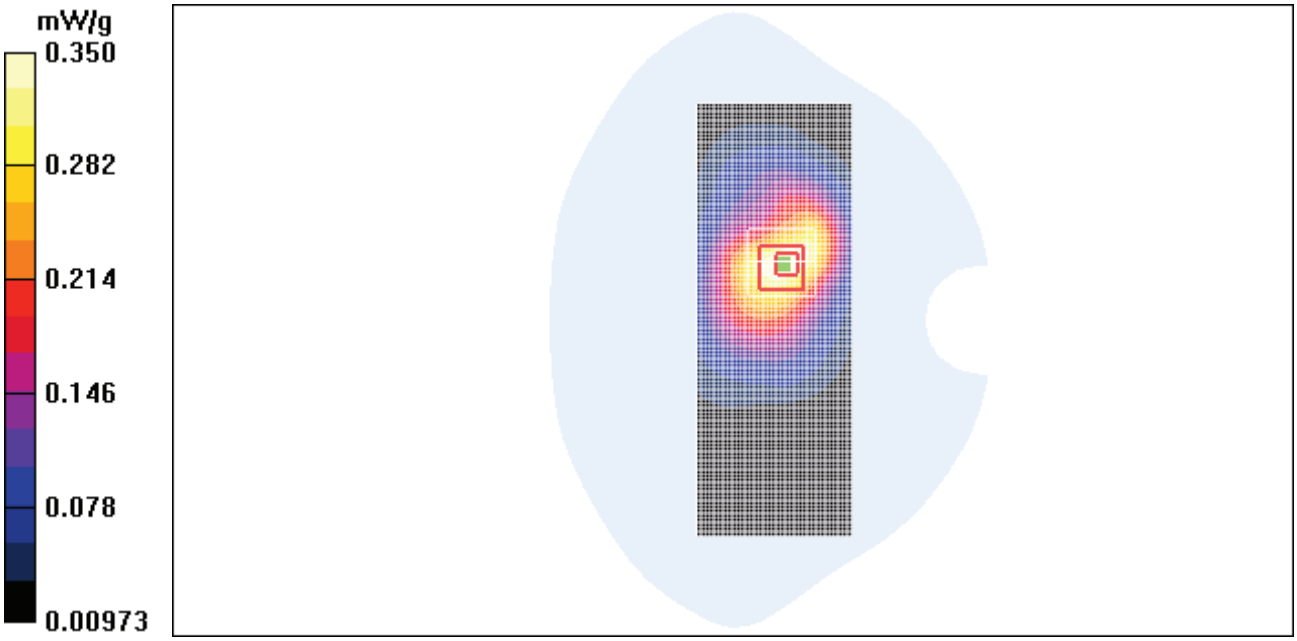


Fig. 26 1900 MHz CH661

1900 Body Towards Ground Low with EGPRS

Date/Time: 2010-9-24 15:05:27
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.50 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.418 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.3 V/m; Power Drift = -0.057 dB
Peak SAR (extrapolated) = 0.617 W/kg
SAR(1 g) = 0.384 mW/g; SAR(10 g) = 0.238 mW/g
Maximum value of SAR (measured) = 0.409 mW/g

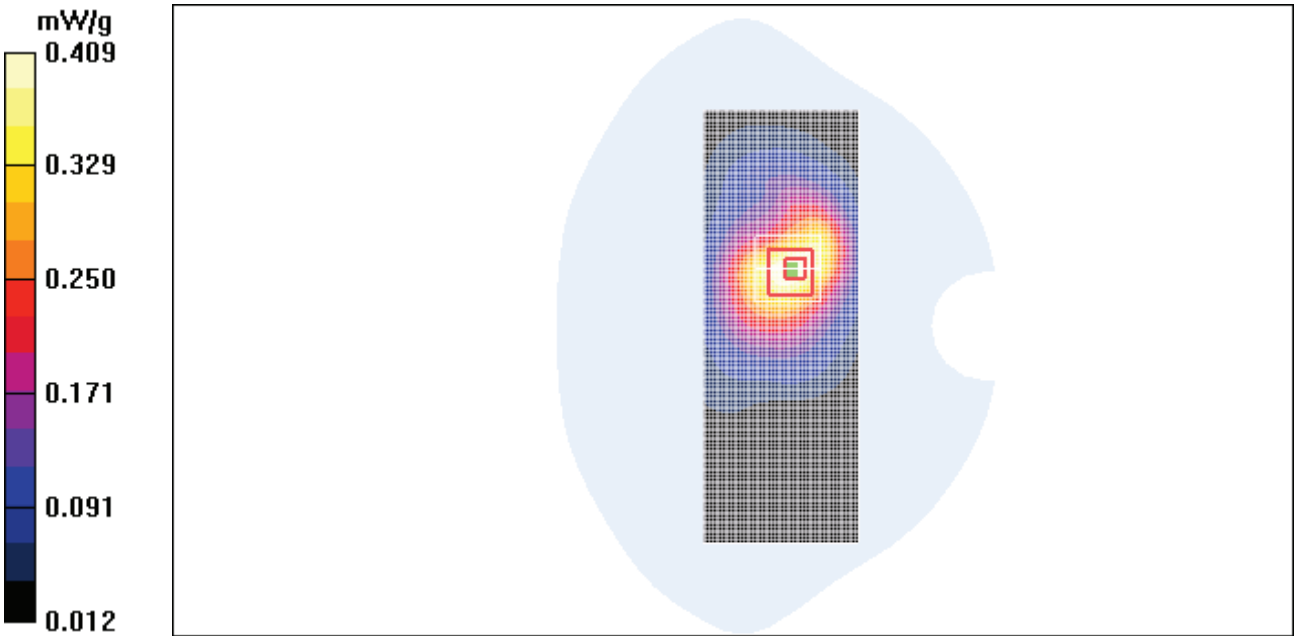


Fig. 27 1900 MHz CH512

1900 Body Towards Ground Low with Headset

Date/Time: 2010-9-24 15:22:19
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.50 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 (51x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.459 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.5 V/m; Power Drift = 0.028 dB
Peak SAR (extrapolated) = 0.615 W/kg
SAR(1 g) = 0.380 mW/g; SAR(10 g) = 0.235 mW/g
Maximum value of SAR (measured) = 0.407 mW/g

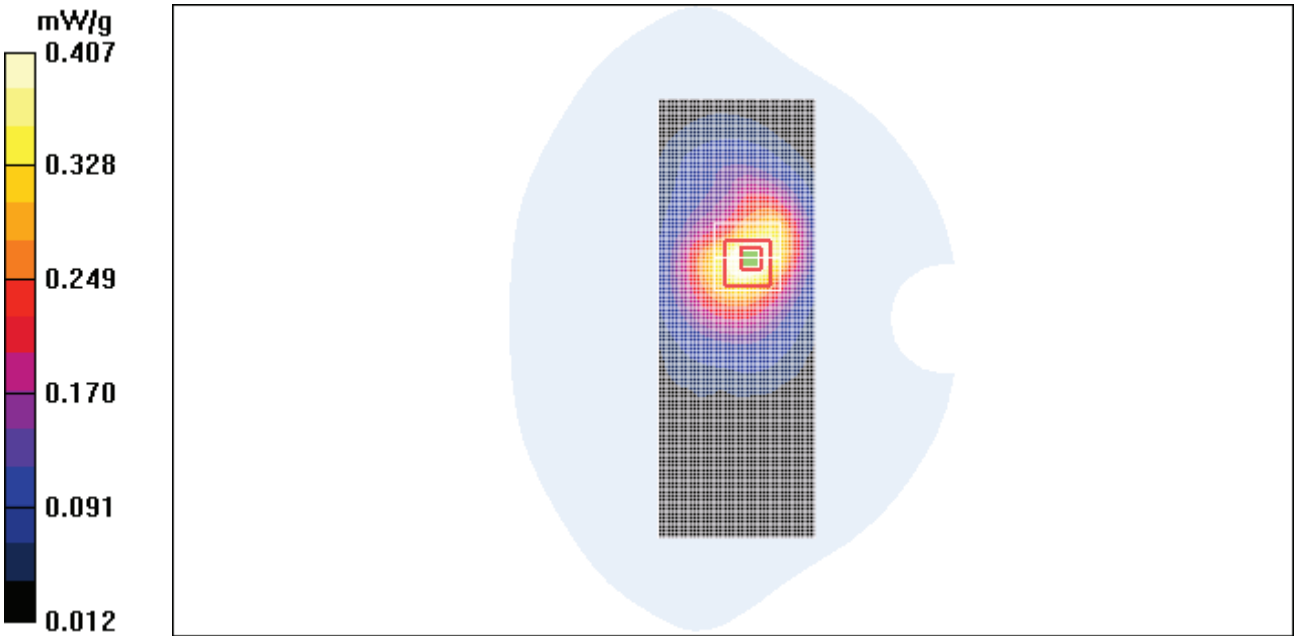


Fig. 28 1900 MHz CH512

1900 Body Closed Towards Ground Low with GPRS

Date/Time: 2010-9-24 15:39:12
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.50 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.420 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.3 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.613 W/kg
SAR(1 g) = 0.376 mW/g; SAR(10 g) = 0.224 mW/g
Maximum value of SAR (measured) = 0.407 mW/g

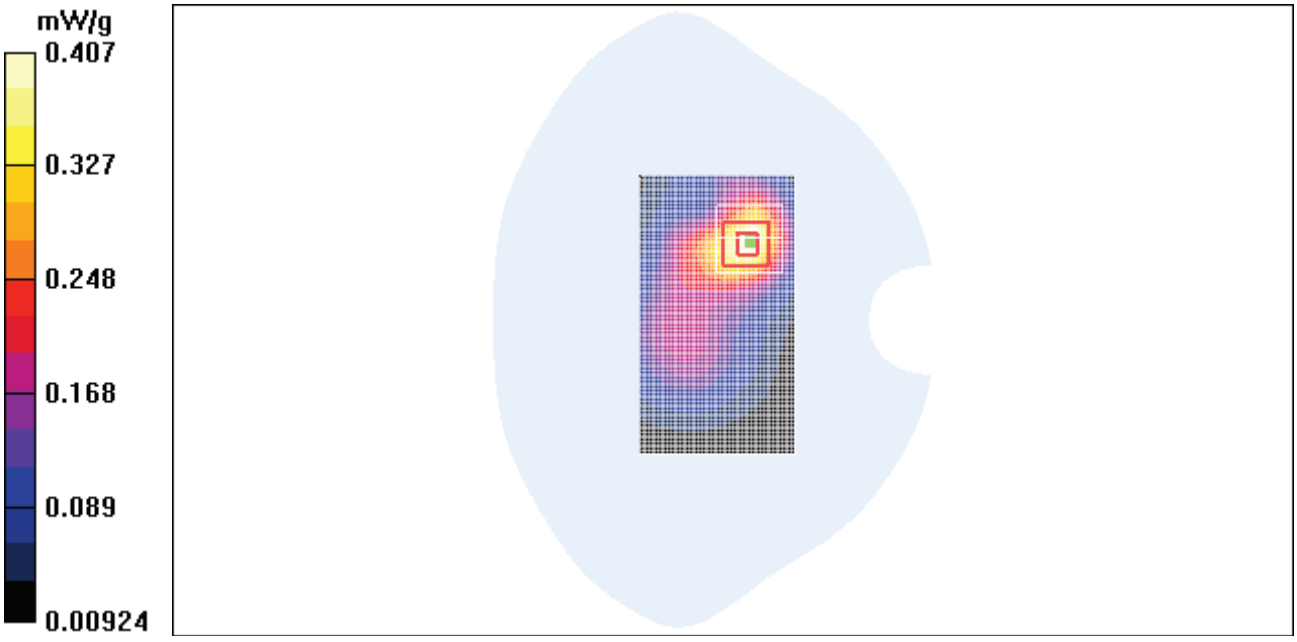


Fig. 29 1900 MHz CH512

1900 Body Closed Towards Phantom Low with GPRS

Date/Time: 2010-9-24 15:54:36
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.50 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 High/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.304 mW/g

Toward Phantom High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.75 V/m; Power Drift = 0.019 dB
Peak SAR (extrapolated) = 0.427 W/kg
SAR(1 g) = 0.289 mW/g; SAR(10 g) = 0.174 mW/g
Maximum value of SAR (measured) = 0.304 mW/g

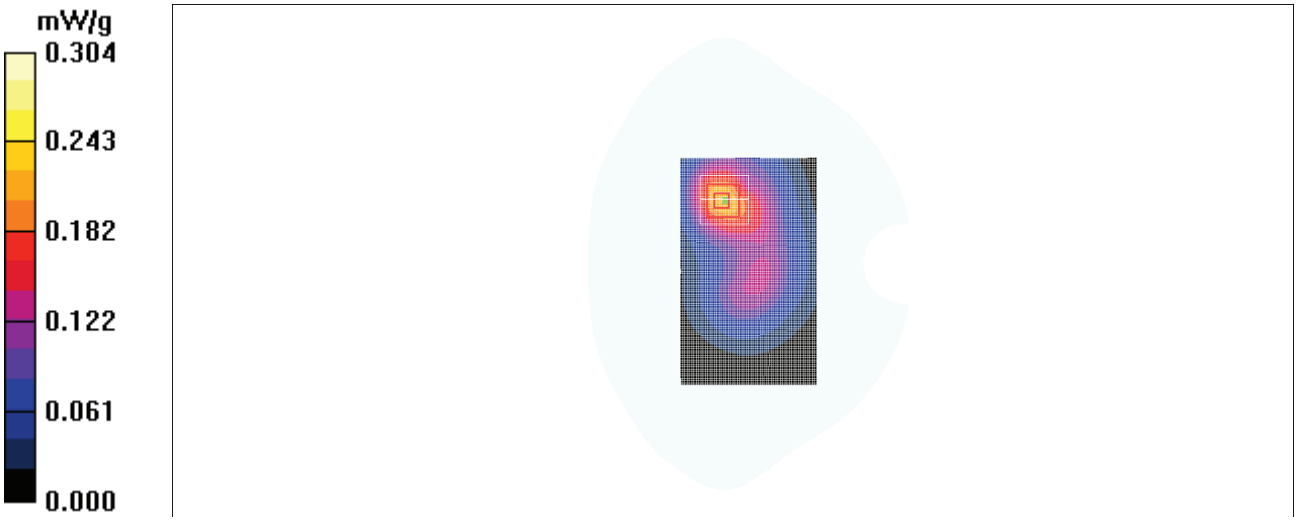


Fig. 30 1900 MHz CH512

WiFi 802.11b 1Mbps Left Cheek Channel 11
Date/Time: 2010-9-18 16:35:14
Electronics: DAE4 Sn771
Medium: Head 2450 MHz
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.83 mho/m; εr = 39.4; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC Liquid Temperature: 22.5°C
Communication System: WLan 2450 Frequency: 2462 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

Cheek High/Area Scan (61x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.260 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.314 V/m; Power Drift = 0.174 dB
Peak SAR (extrapolated) = 0.383 W/kg
SAR(1 g) = 0.208 mW/g; SAR(10 g) = 0.109 mW/g
Maximum value of SAR (measured) = 0.224 mW/g

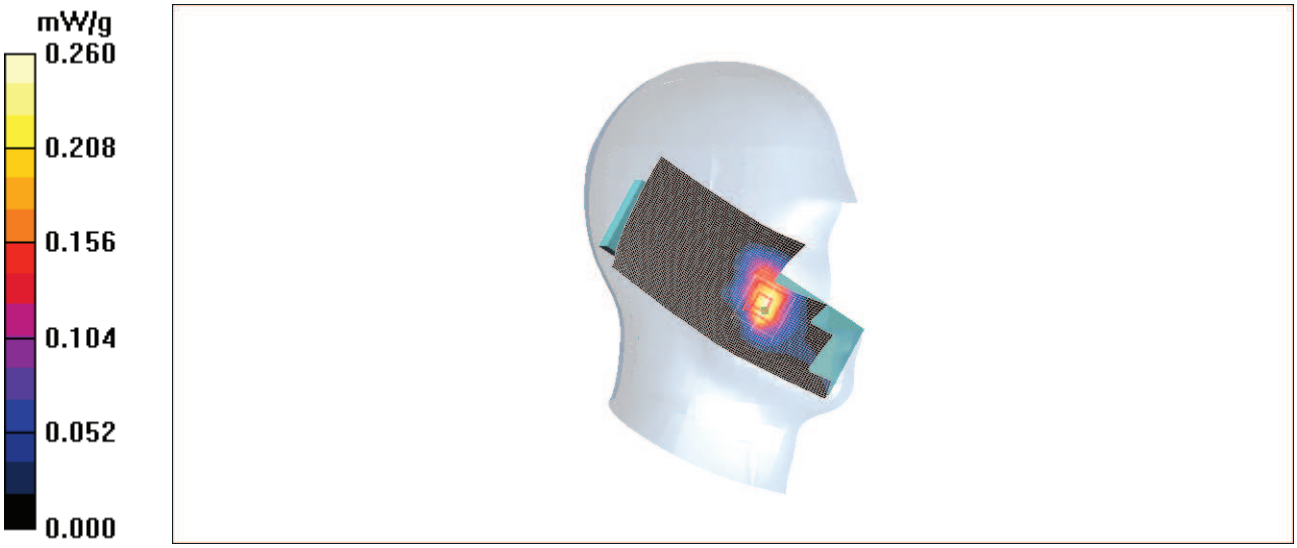


Fig.31 802.11b 1Mbps CH11

WiFi 802.11b 1Mbps Left Tilt Channel 11
Date/Time: 2010-9-18 16:49:40
Electronics: DAE4 Sn771
Medium: Head 2450 MHz
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.83 mho/m; εr = 39.4; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC Liquid Temperature: 22.5°C
Communication System: WLan 2450 Frequency: 2462 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

Tilt High/Area Scan (61x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.047 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 1.29 V/m; Power Drift = 0.147 dB
Peak SAR (extrapolated) = 0.048 W/kg
SAR(1 g) = 0.023 mW/g; SAR(10 g) = 0.011 mW/g
Maximum value of SAR (measured) = 0.027 mW/g

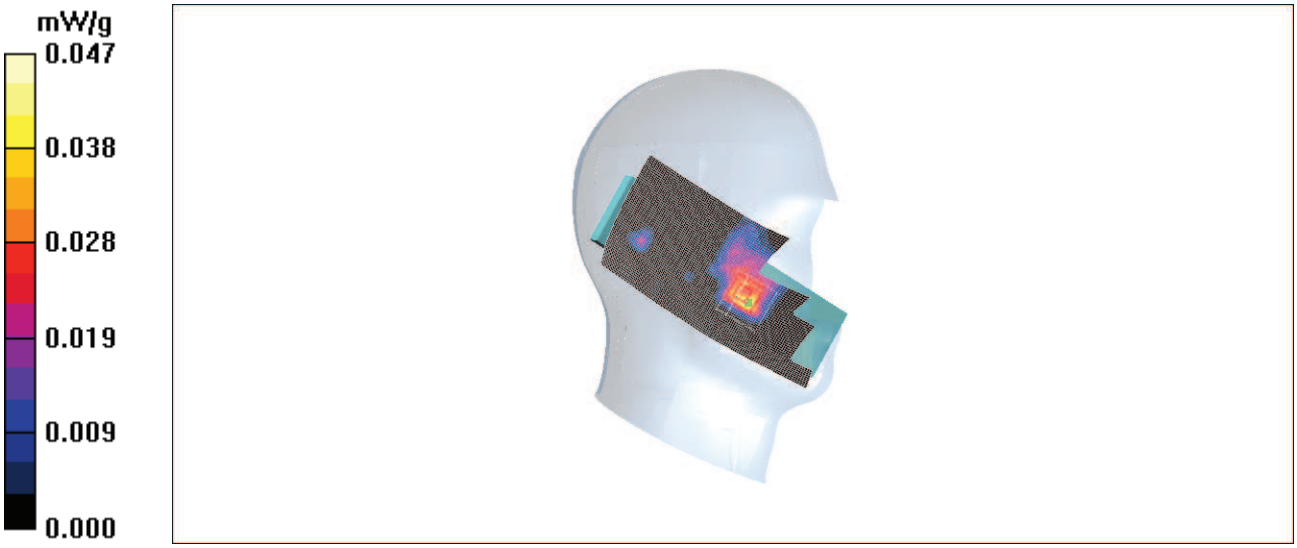


Fig.32 802.11b 1Mbps CH11

WiFi 802.11b 1Mbps Right Cheek Channel 11
Date/Time: 2010-9-18 17:04:21
Electronics: DAE4 Sn771
Medium: Head 2450 MHz
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.83 mho/m; εr = 39.4; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC Liquid Temperature: 22.5°C
Communication System: WLan 2450 Frequency: 2462 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

Cheek High/Area Scan (61x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.307 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.528 V/m; Power Drift = 0.198 dB
Peak SAR (extrapolated) = 0.508 W/kg
SAR(1 g) = 0.254 mW/g; SAR(10 g) = 0.130 mW/g
Maximum value of SAR (measured) = 0.270 mW/g

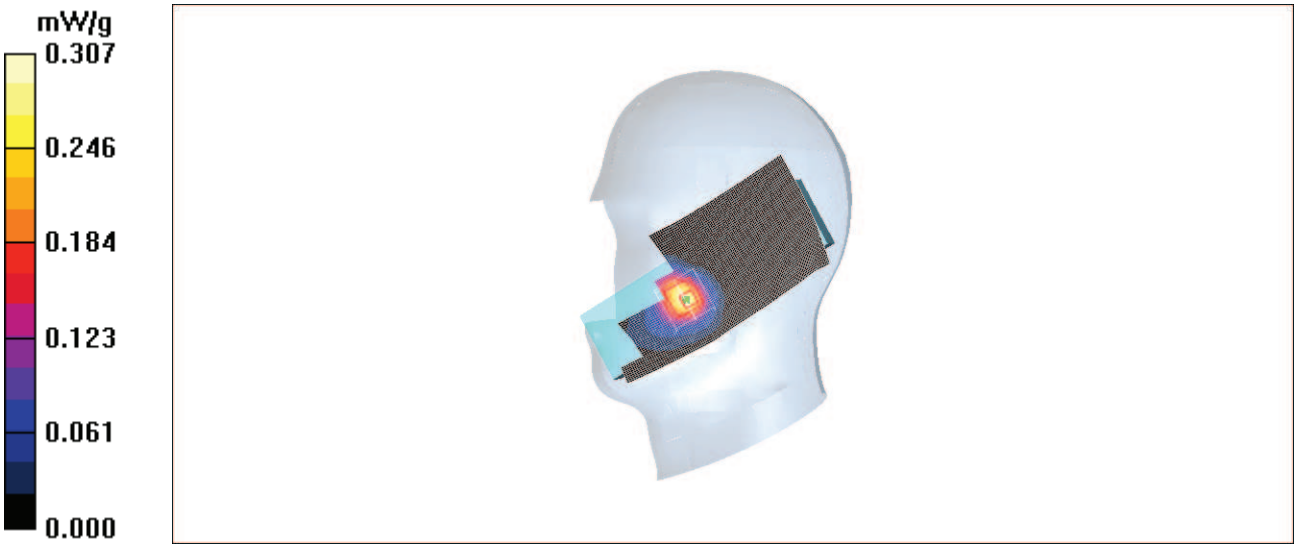


Fig.33 802.11b 1Mbps CH11

WiFi 802.11b 1Mbps Right Tilt Channel 11

Date/Time: 2010-9-18 17:18:50
Electronics: DAE4 Sn771
Medium: Head 2450 MHz
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.83 mho/m; εr = 39.4; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC Liquid Temperature: 22.5°C
Communication System: WLan 2450 Frequency: 2462 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

Tilt High/Area Scan (61x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.058 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.437 V/m; Power Drift = -0.159 dB
Peak SAR (extrapolated) = 0.051 W/kg
SAR(1 g) = 0.024 mW/g; SAR(10 g) = 0.00813 mW/g
Maximum value of SAR (measured) = 0.027 mW/g

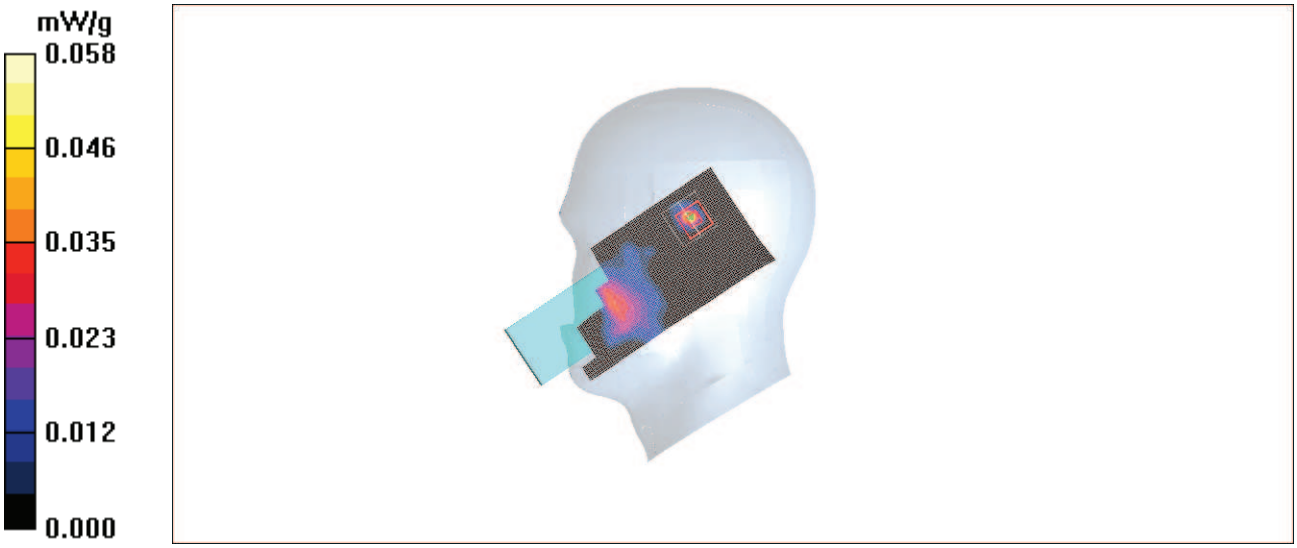


Fig.34 802.11b 1Mbps CH11

WiFi 802.11b 1Mbps Toward Ground Channel 11

Date/Time: 2010-9-18 17:40:16
Electronics: DAE4 Sn771
Medium: Body 2450 MHz
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.98 mho/m; εr = 51.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC Liquid Temperature: 22.5°C
Communication System: WLan 2450 Frequency: 2462 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN3617 ConvF(6.88, 6.88, 6.88)

Toward Ground High/Area Scan (61x141x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.087 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.05 V/m; Power Drift = -0.156 dB
Peak SAR (extrapolated) = 0.129 W/kg
SAR(1 g) = 0.074 mW/g; SAR(10 g) = 0.041 mW/g
Maximum value of SAR (measured) = 0.079 mW/g

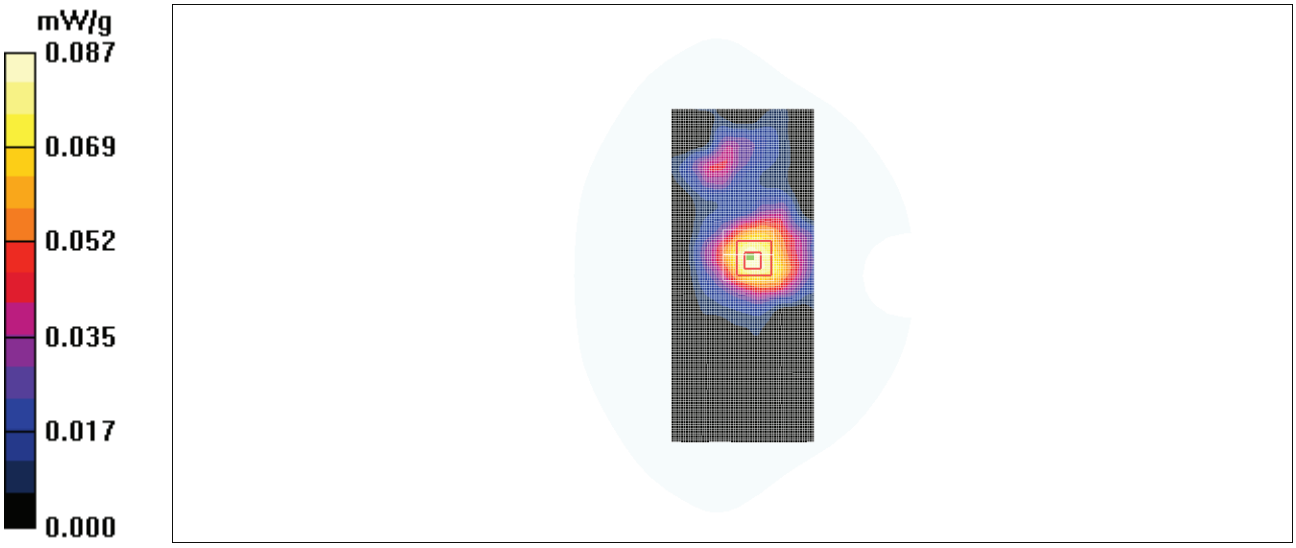


Fig.35 802.11b 1Mbps CH11

WiFi 802.11b 1Mbps Closed Toward Ground Channel 11

Date/Time: 2010-9-18 17:57:21
Electronics: DAE4 Sn771
Medium: Body 2450 MHz
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.98 mho/m; εr = 51.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC Liquid Temperature: 22.5°C
Communication System: WLan 2450 Frequency: 2462 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN3617 ConvF(6.88, 6.88, 6.88)

Toward Ground High/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.078 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.13 V/m; Power Drift = 0.123 dB
Peak SAR (extrapolated) = 0.126 W/kg
SAR(1 g) = 0.069 mW/g; SAR(10 g) = 0.040 mW/g
Maximum value of SAR (measured) = 0.074 mW/g

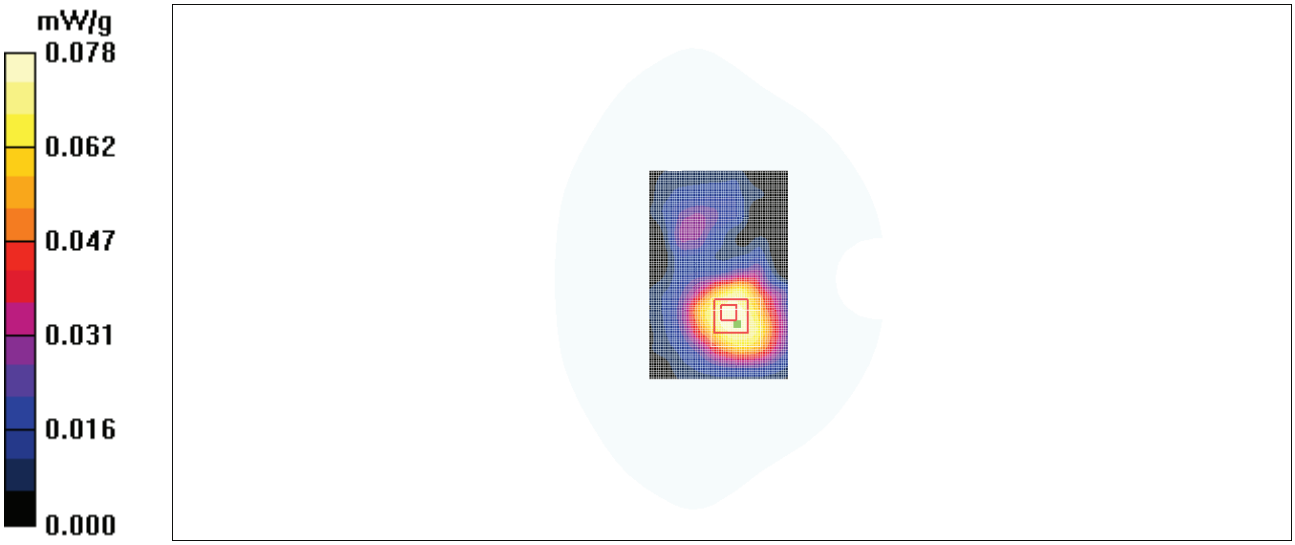


Fig.36 802.11b 1Mbps CH11

WiFi 802.11b 1Mbps Closed Toward Ground Channel 11

Date/Time: 2010-9-18 18:12:56
Electronics: DAE4 Sn771
Medium: Body 2450 MHz
Medium parameters used (interpolated): f = 2462 MHz; σ = 1.98 mho/m; εr = 51.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC Liquid Temperature: 22.5°C
Communication System: WLan 2450 Frequency: 2462 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN3617 ConvF(6.88, 6.88, 6.88)

Toward Phantom High/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.059 mW/g

Toward Phantom High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.67 V/m; Power Drift = -0.168 dB
Peak SAR (extrapolated) = 0.102 W/kg
SAR(1 g) = 0.052 mW/g; SAR(10 g) = 0.030 mW/g
Maximum value of SAR (measured) = 0.056 mW/g

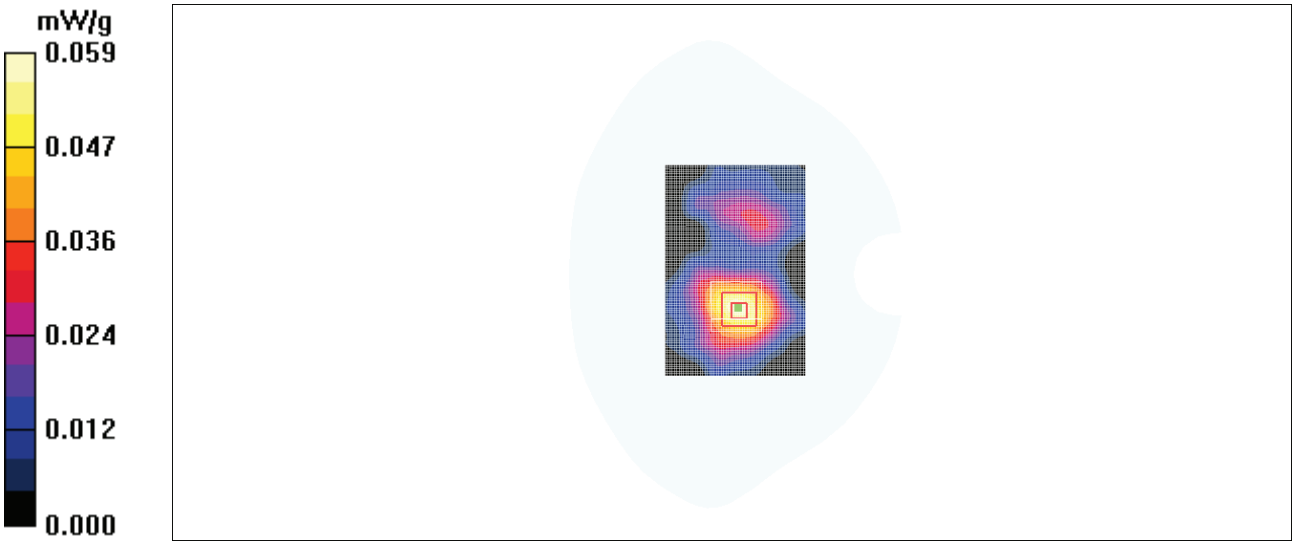


Fig.37 802.11b 1Mbps CH11

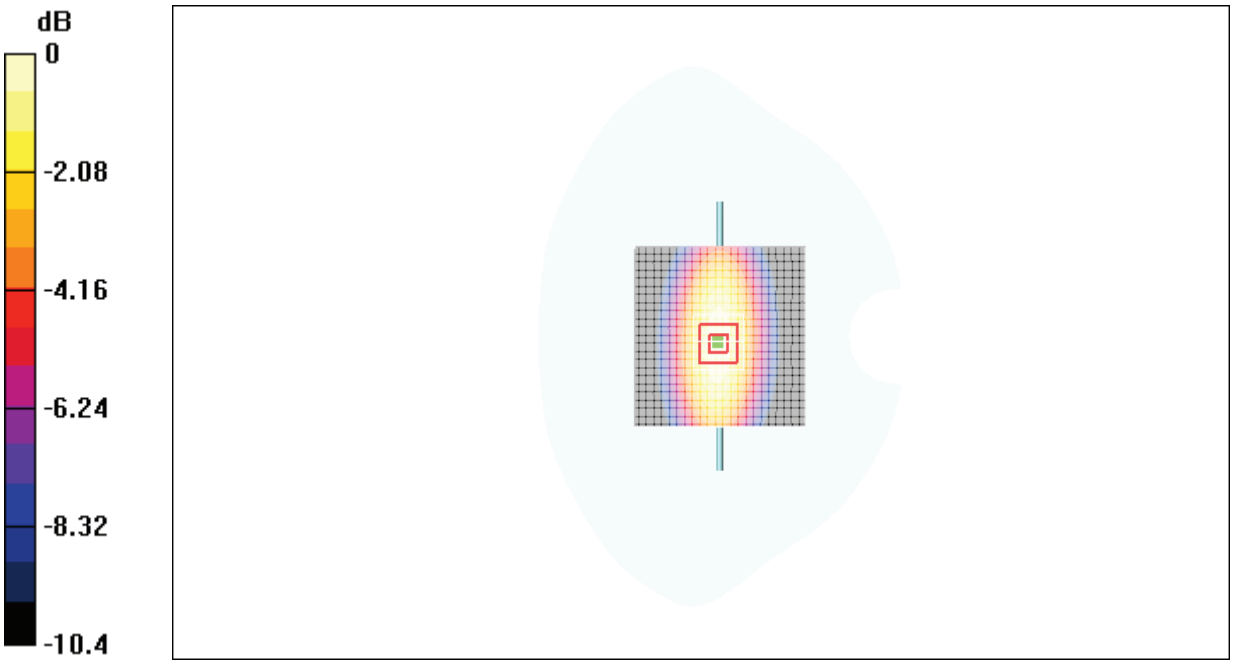
ANNEX D SYSTEM VALIDATION RESULTS

835MHz

Date/Time: 2010-9-23 7:31:24
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used: f = 835 MHz; σ = 0.87 mho/m; ε_r = 40.7; 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) = 2.61 mW/g

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 55.8 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 3.50 W/kg
SAR(1 g) = 2.42 mW/g; SAR(10 g) = 1.60 mW/g
Maximum value of SAR (measured) = 2.57 mW/g



0 dB = 2.57mW/g

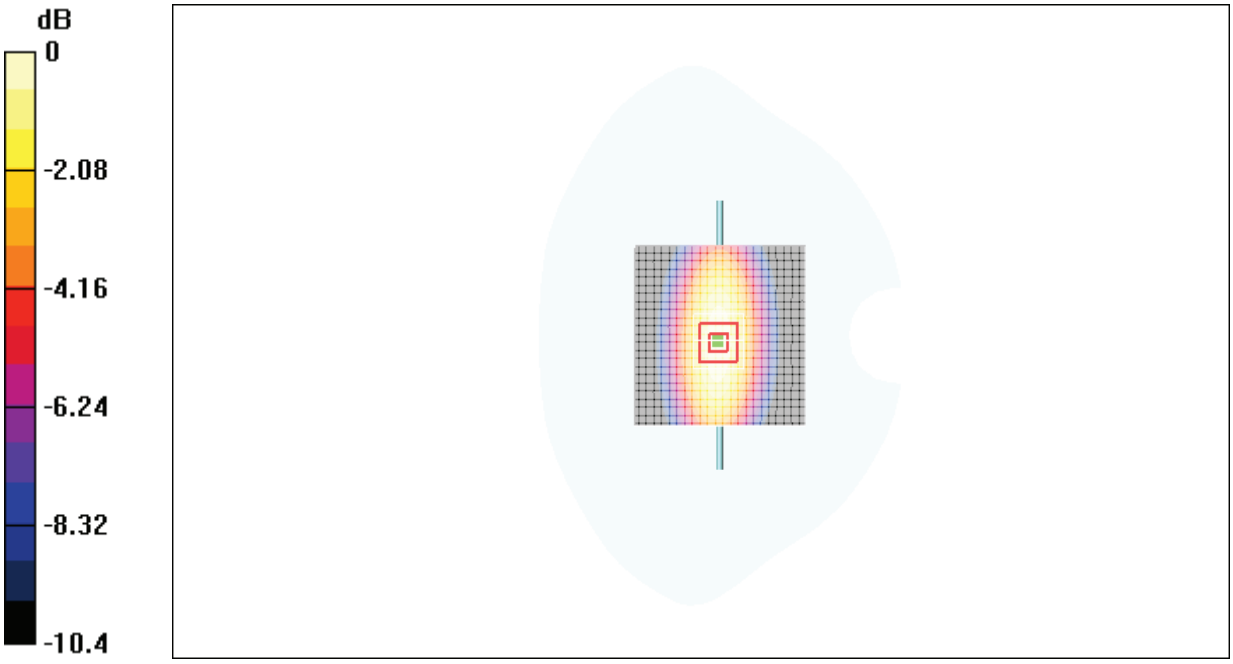
Fig.38 validation 835MHz 250mW

835MHz

Date/Time: 2010-9-23 13:17:22
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used: f = 835 MHz; σ = 0.94 mho/m; ε_r = 54.0; 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) = 2.56 mW/g

System Validation /Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 50.7 V/m; Power Drift = 0.065 dB
Peak SAR (extrapolated) = 3.41 W/kg
SAR(1 g) = 2.37 mW/g; SAR(10 g) = 1.50 mW/g
Maximum value of SAR (measured) = 2.44 mW/g



0 dB = 2.44mW/g

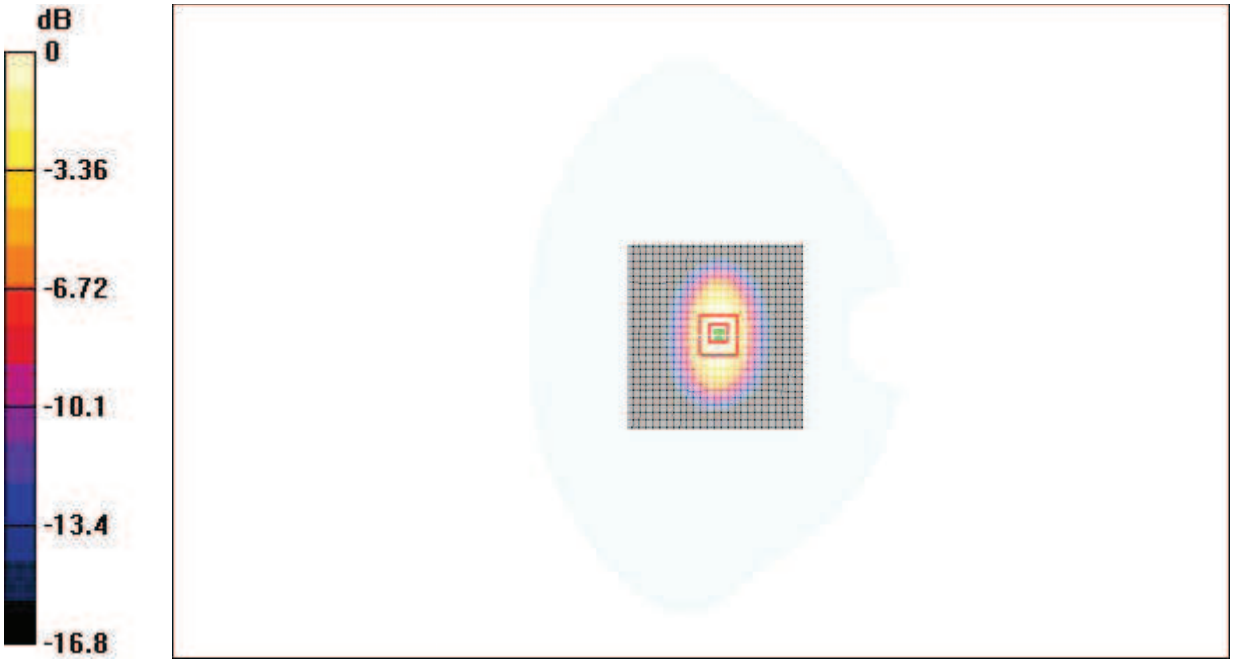
Fig.39 validation 835MHz 250mW

1900MHz

Date/Time: 2010-9-24 7:29:53
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.40 mho/m; ε_r = 38.8; 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) = 11.4 mW/g

System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 90.7 V/m; Power Drift = 0.071 dB
Peak SAR (extrapolated) = 16.0 W/kg
SAR(1 g) = 9.76 mW/g; SAR(10 g) = 4.89 mW/g
Maximum value of SAR (measured) = 10.5 mW/g



0 dB = 10.5mW/g

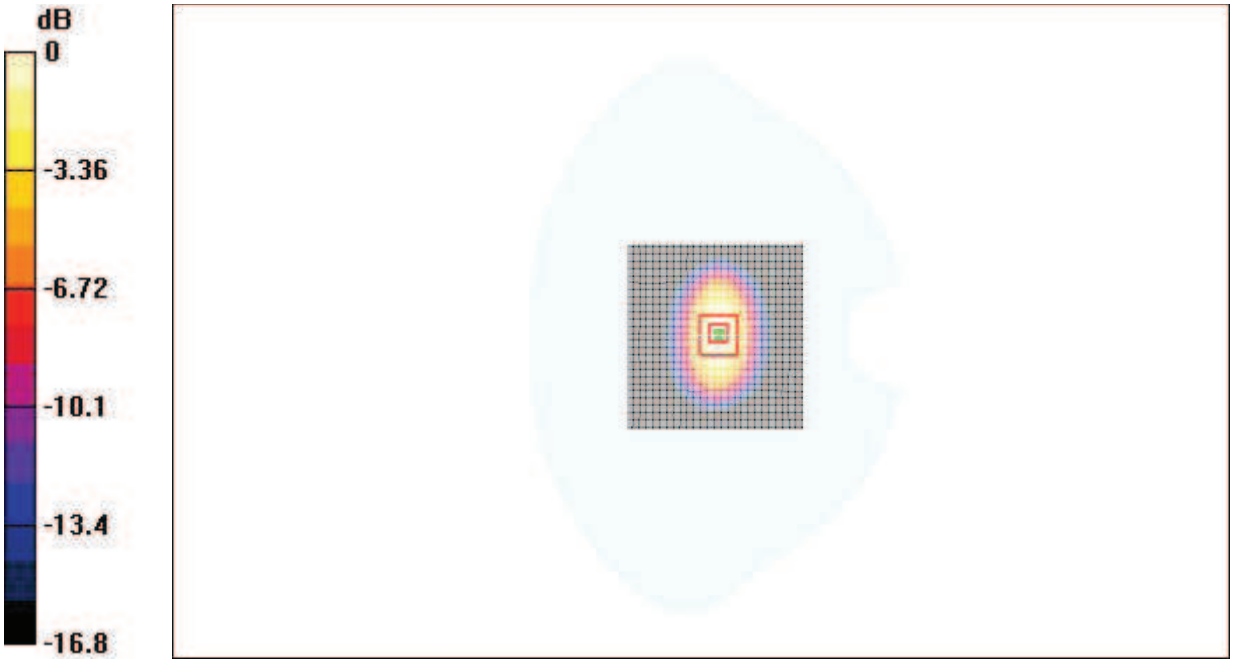
Fig.40 validation 1900MHz 250mW

1900MHz

Date/Time: 2010-9-24 13:15:44
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.54 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) = 11.6 mW/g

System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 93.8 V/m; Power Drift = -0.042 dB
Peak SAR (extrapolated) = 16.3 W/kg
SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.38 mW/g
Maximum value of SAR (measured) = 11.2 mW/g



0 dB = 11.2mW/g

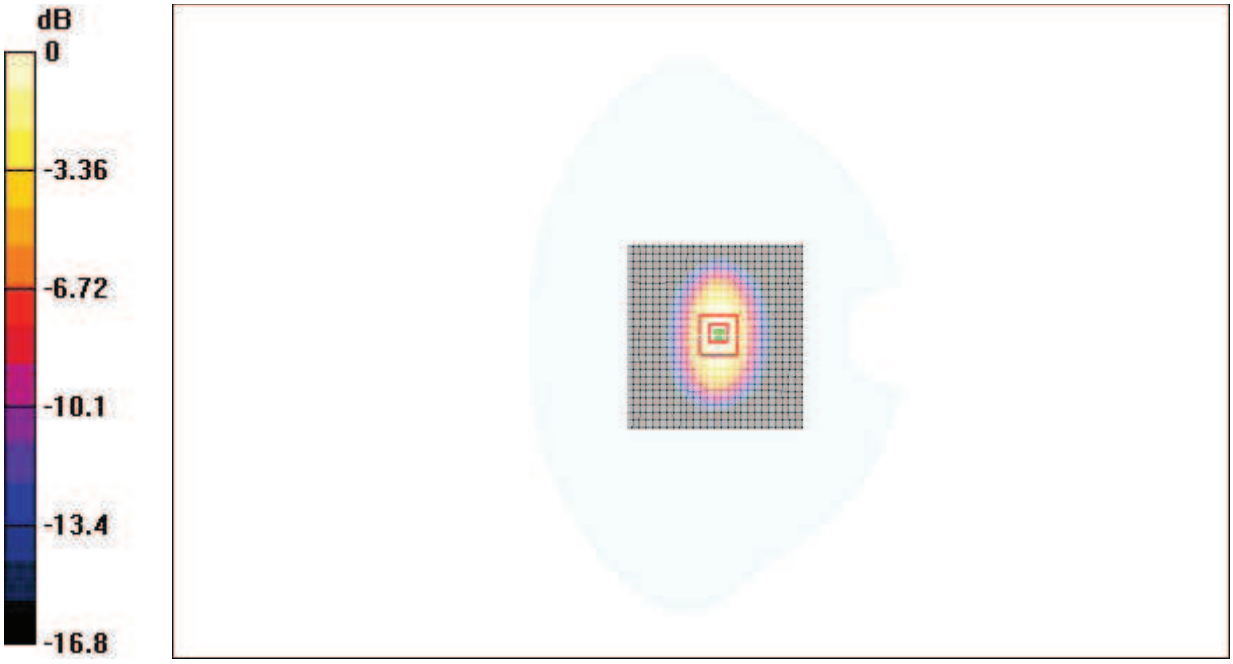
Fig.41 validation 1900MHz 250mW

2450MHz

Date/Time: 2010-9-18 7:27:30
Electronics: DAE4 Sn771
Medium: Head 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.81 mho/m; ε_r = 39.4; ρ = 1000 kg/m^3
Ambient Temperature:23.0°C Liquid Temperature: 22.5°C
Communication System: CW Frequency: 2450 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN3617 ConvF(7.19, 7.19, 7.19)

System Validation/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 14.4 mW/g

System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 83.9 V/m; Power Drift = 0.092 dB
Peak SAR (extrapolated) = 18.2 W/kg
SAR(1 g) = 12.6 mW/g; SAR(10 g) = 5.74 mW/g
Maximum value of SAR (measured) = 13.7 mW/g



0 dB = 13.7mW/g

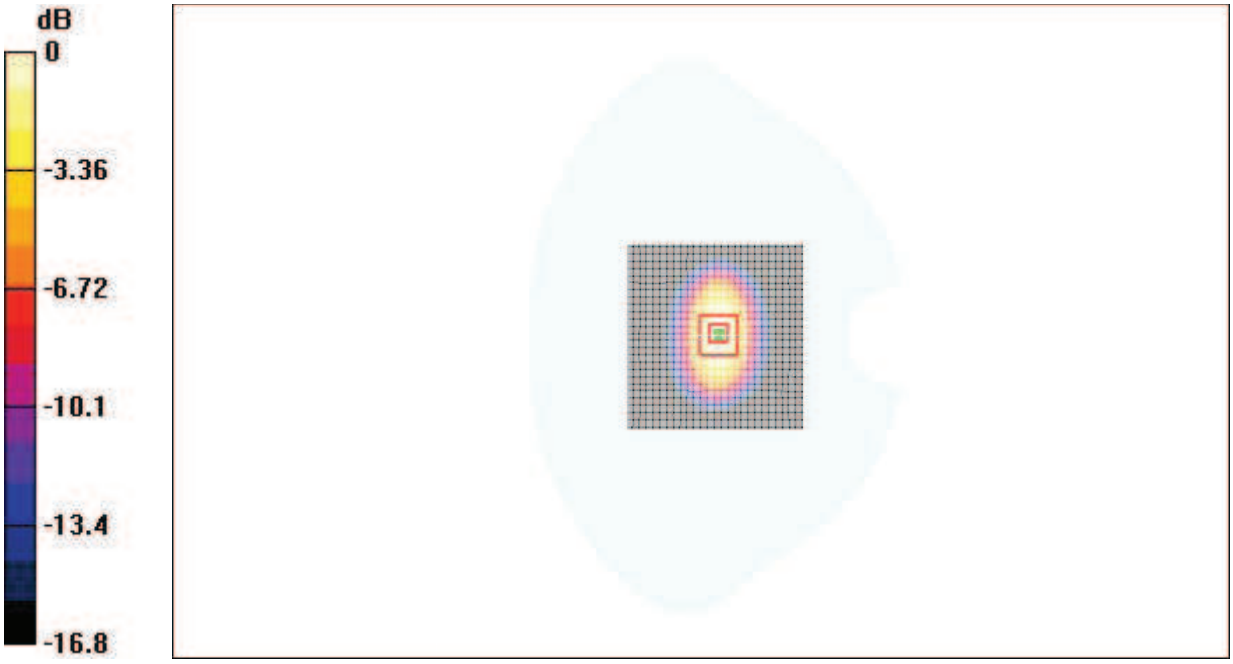
Fig.42 validation 2450MHz 250mW

2450MHz

Date/Time: 2010-9-18 13:15:23
Electronics: DAE4 Sn771
Medium: Body 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.96 mho/m; ε_r = 51.9; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC Liquid Temperature: 22.5°C
Communication System: CW Frequency: 2450 MHz Duty Cycle: 1:1
Probe: EX3DV4 - SN3617 ConvF(6.88, 6.88, 6.88)

System Validation/Area Scan (101x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 16.0 mW/g

System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 84.3 V/m; Power Drift = 0.077 dB
Peak SAR (extrapolated) = 24.5 W/kg
SAR(1 g) = 13.1 mW/g; SAR(10 g) = 5.98 mW/g
Maximum value of SAR (measured) = 14.5 mW/g



0 dB = 14.5mW/g

Fig.43 validation 2450MHz 250mW