SAR TEST REPORT

No. 2009SAR00040

For

TCT Mobile Suzhou Limited

GSM/GPRS 850/1900 dual-band mobile phone

U90CAMA

OT-303A

With

Hardware Version: PIO

Software Version: V127

FCCID: RAD101

Issued Date: 2009-7-1

Deutscher Akkreditierungs Rat

No. **DAT-P-114/01-01**

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 Ministry of Information Industry

No. 52, Huayuan Bei Road, Haidian District, Beijing, P. R. China 100083.

Tel:+86(0)10-62303288-2105, 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 MII
Address:	No 52, Huayuan beilu, Haidian District, Beijing,P.R.China
Postal Code:	100083
Telephone:	+86-10-62303288
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.

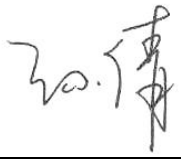
1.3 Project Data

Project Leader:	Sun Qian
Test Engineer:	Lin Xiaojun
Testing Start Date:	February 9, 2009
Testing End Date:	February 10, 2009

1.4 Signature

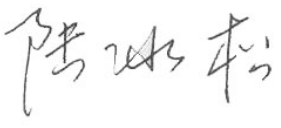
Lin Xiaojun

(Prepared this test report)



Sun Qian

(Reviewed this test report)



Lu Bingsong

Deputy Director of the laboratory

(Approved this test report)

2 Client Information

2.1 Applicant Information

Company Name:	TCT Mobile Suzhou Limited
Address /Post:	4F, South Building, No.2966, JinKe Road, Zhangjiang High-Tech Park Shanghai 201203, P. R. China
City:	Shanghai
Postal Code:	201203
Country:	P. R. China
Telephone:	0086 21 6146 0853
Fax:	0086 21 6146 0602

2.2 Manufacturer Information

Company Name:	TCT Mobile Suzhou Limited
Address /Post:	4F, South Building, No.2966, JinKe Road, Zhangjiang High-Tech Park Shanghai 201203, P. R. China
City:	Shanghai
Postal Code:	201203
Country:	P. R. China
Telephone:	0086 21 6146 0853
Fax:	0086 21 6146 0602

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

3.1 About EUT

EUT Description:	GSM/GPRS 850/1900 dual-band mobile phone
Model Name:	U90CAMA
Marketing Name:	OT-303A
GSM Frequency Band:	GSM 850/GSM 1900

Picture 1: Constituents of the sample

3.2 Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
EUT1	011802000001640	PIO	V127

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

3.3 Internal Identification of AE used during the test

AE ID*	Description	Model	SN	Manufacturer
AE1	Battery	CAB30M0000C1	B324860043A	BYD
AE2	Charger	T5002684AGAC	\	BYD
AE3	Charger	T5002684AGAA	\	Tenpao
AE4	Headset	CCA30B4000C0	\	Shunda/Quancheng

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

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)

IEC 62209-2 (Draft): Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures – Part 2: Procedure to determine the Specific Absorption Rate (SAR)in the head and body for 30MHz to 6GHz Handheld and Body-Mounted Devices used in close proximity to the Body.

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

5 OPERATIONAL CONDITIONS DURING TEST

5.1 Schematic Test Configuration

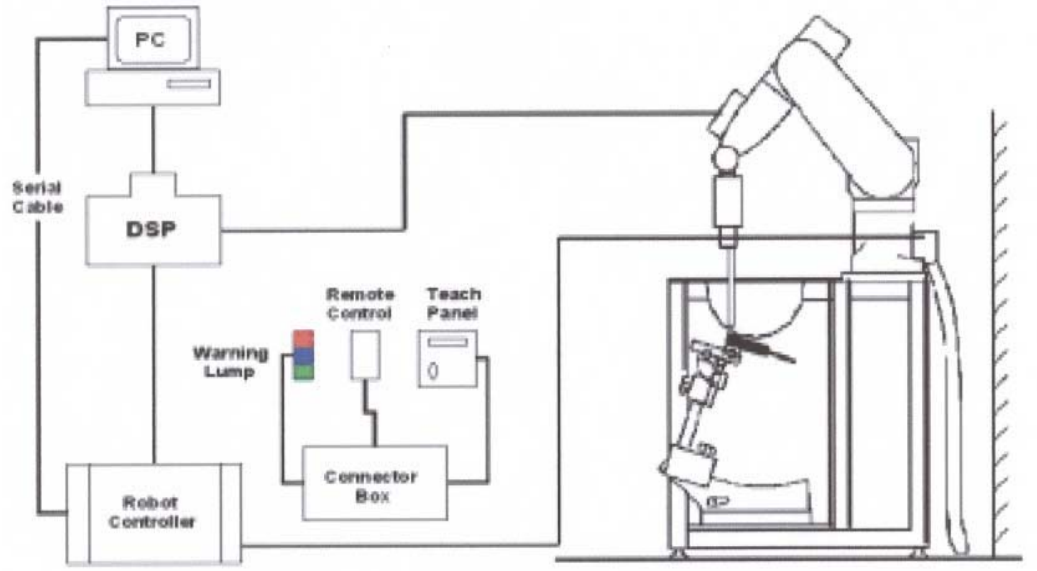
During SAR test, EUT is in Traffic Mode (Channel Allocated) at Normal Voltage Condition. A communication link is set up with a System Simulator (SS) by air link, and a call is established. The Absolute Radio Frequency Channel Number (ARFCN) is allocated to 128, 190 and 251 respectively in the case of GSM 850 MHz, or to 512, 661 and 810 respectively in the case of PCS 1900 MHz. The EUT is commanded to operate at maximum transmitting power.

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

5.2 SAR Measurement Set-up

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

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



Picture 2: SAR Lab Test Measurement Set-up

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

5.3 Dasy4 E-field Probe System

The SAR measurements were conducted with the dosimetric probe ES3DV3 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation. The probe has been calibrated according to the standard procedure with an accuracy of better than ± 10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB.

ES3DV3 Probe Specification

Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	Basic Broad Band Calibration in air Conversion Factors (CF) for HSL 900 and HSL 1810 Additional CF for other liquids and frequencies upon request
Frequency	10 MHz to 4 GHz; Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.3 dB in tissue material (rotation normal to probe axis)

Picture 3: ES3DV3 E-field Probe

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

5.5.2 Phantom

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

Shell Thickness	2±0. l mm
Filling Volume	Approx. 20 liters
Dimensions	810 x l000 x 500 mm (H x L x W)
Available	Special

Picture 6: Generic Twin Phantom

5.6 Equivalent Tissues

The liquid used for the frequency range of 800-2000 MHz consisted of water, sugar, salt and Cellulose. The liquid has been previously proven to be suited for worst-case. The Table 4 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

5.7.1 Robotic System Specifications

Specifications

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

Data Acquisition Electronic (DAE) System

Cell Controller

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

Data Converter

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

6 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 and ERP for the EUT. In all cases, the measured peak 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

Table 4: Conducted Power Measurement Results

850MHZ	**Conducted Power (dBm)**		
	Channel 251(848.8MHz)	**Channel 190(836.6MHz)**	**Channel 128(824.2MHz)**
	31.58	31.56	31.87
1900MHZ	**Conducted Power (dBm)**		
	Channel 810(1909.8MHz)	**Channel 661(1880MHz)**	**Channel 512(1850.2MHz)**
	29.38	29.39	29.25

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 8 to Table 11 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 5: Dielectric Performance of Head Tissue Simulating Liquid

Measurement is made at temperature 23.3 °C and relative humidity 49%. Liquid temperature during the test: 22.5°C Measurement Date : 850 MHz **Feb 9,2009** 1900 MHz **Feb 10,2009**			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	850 MHz	41.5	0.90
	1900 MHz	40.0	1.40
Measurement value (Average of 10 tests)	850 MHz	40.3	0.92
	1900 MHz	39.2	1.42

Table 6: Dielectric Performance of Body Tissue Simulating Liquid

Measurement is made at temperature 23.3 °C and relative humidity 49%. Liquid temperature during the test: 22.5°C Measurement Date : 850 MHz **Feb 9,2009** 1900 MHz **Feb 10,2009**			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	850 MHz	55.2	0.97
	1900 MHz	53.3	1.52
Measurement value (Average of 10 tests)	850 MHz	53.7	1.01
	1900 MHz	52.3	1.56

8.2 System Validation

Table 7: System Validation

Measurement is made at temperature 23.3 °C, relative humidity 49%, input power 250 mW. Liquid temperature during the test: 22.5°C Measurement Date : 850 MHz **Feb 9,2009** 1900 MHz **Feb 10,2009**						
Liquid parameters	Dipole calibration Target value	**Frequency**		**Permittivity ε**		**Conductivity σ (S/m)**
		835 MHz		39.9		0.88
		1900 MHz		38.9		1.38
	Actual Measurement value	835 MHz		40.4		0.90
		1900 MHz		39.2		1.42
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	1.60	2.48	1.62	2.50	1.25%	0.81%
	1900 MHz	5.09	9.73	5.27	9.91	3.54%	1.85%

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

8.3 Summary of Measurement Results (850MHz)

Table 8: 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, Top frequency(See Fig.1)	0.585	0.863	-0.138
Left hand, Touch cheek, Mid frequency(See Fig.3)	0.716	1.06	-0.198
Left hand, Touch cheek, Bottom frequency(See Fig.5)	0.826	1.21	-0.200
Left hand, Tilt 15 Degree, Top frequency(See Fig.7)	0.212	0.296	0.059
Left hand, Tilt 15 Degree, Mid frequency(See Fig.9)	0.276	0.382	0.021
Left hand, Tilt 15 Degree, Bottom frequency(See Fig.11)	0.389	0.536	0.140
Right hand, Touch cheek, Top frequency(See Fig.13)	0.567	0.814	-0.093
Right hand, Touch cheek, Mid frequency(See Fig.15)	0.689	0.987	-0.122
Right hand, Touch cheek, Bottom frequency(See Fig.17)	0.844	1.21	-0.143
Right hand, Tilt 15 Degree, Top frequency(See Fig.19)	0.225	0.312	-0.122
Right hand, Tilt 15 Degree, Mid frequency(See Fig.21)	0.295	0.406	-0.157
Right hand, Tilt 15 Degree, Bottom frequency(See Fig.23)	0.407	0.559	-0.071

Table 9: 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.25)	0.658	0.944	-0.200
Body, Towards Ground, Mid frequency with GPRS (See Fig.27)	0.729	1.04	0.068
Body, Towards Ground, Bottom frequency with GPRS(See Fig.29)	0.587	0.837	0.010
Body, Towards Phantom, Top frequency with GPRS(See Fig.31)	0.590	0.844	-0.195
Body, Towards Phantom, Mid frequency with GPRS(See Fig.33)	0.688	0.985	0.026
Body, Towards Phantom, Bottom frequency with GPRS(See Fig.35)	0.540	0.771	0.072
Body, Towards Ground, Mid frequency with Headset(See Fig.37)	0.389	0.556	0.016

8.4 Summary of Measurement Results (1900MHz)

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, Top frequency(See Fig.39)	0.498	0.847	-0.200
Left hand, Touch cheek, Mid frequency(See Fig.41)	0.534	0.906	-0.013
Left hand, Touch cheek, Bottom frequency(See Fig.43)	0.603	1.02	-0.059
Left hand, Tilt 15 Degree, Top frequency(See Fig.45)	0.209	0.343	0.025
Left hand, Tilt 15 Degree, Mid frequency(See Fig.47)	0.220	0.361	0.076
Left hand, Tilt 15 Degree, Bottom frequency(See Fig.49)	0.260	0.425	-0.200
Right hand, Touch cheek, Top frequency(See Fig.51)	0.484	0.797	-0.200
Right hand, Touch cheek, Mid frequency(See Fig.53)	0.494	0.808	0.071
Right hand, Touch cheek, Bottom frequency(See Fig.55)	0.538	0.868	-0.065
Right hand, Tilt 15 Degree, Top frequency(See Fig.57)	0.197	0.321	-0.028
Right hand, Tilt 15 Degree, Mid frequency(See Fig.59)	0.209	0.338	-0.039
Right hand, Tilt 15 Degree, Bottom frequency(See Fig.61)	0.245	0.395	0.105

Table 11: 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.63)	0.306	0.537	-0.200
Body, Towards Ground, Mid frequency with GPRS(See Fig.65)	0.390	0.684	0.029
Body, Towards Ground, Bottom frequency with GPRS (See Fig.67)	0.533	0.935	-0.005
Body, Towards Phantom, Top frequency with GPRS(See Fig.69)	0.161	0.277	0.020
Body, Towards Phantom, Mid frequency with GPRS(See Fig.71)	0.201	0.344	-0.009
Body, Towards Phantom, Bottom frequency with GPRS(See Fig.73)	0.287	0.490	-0.019
Body, Towards Ground, Bottom frequency with Headset (See Fig.75)	0.276	0.485	0.030

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.

9 Measurement Uncertainty

SN	a	Type	c	d	e = f(d,k)	f	h = c x f / e	k
	Uncertainty Component		Tol. (± %)	Prob. Dist.	Div.	c_i (1 g)	1 g u_i (±%)	v_i
1	System repetivity	A	0.5	N	1	1	0.5	9
	Measurement System							
2	Probe Calibration	B	5	N	2	1	2.5	∞
3	Axial Isotropy	B	4.7	R	√3	$(1\text{-cp})^{1/2}$	4.3	∞
4	Hemispherical Isotropy	B	9.4	R	√3	$\sqrt{c_p}$		∞
5	Boundary Effect	B	0.4	R	√3	1	0.23	∞
6	Linearity	B	4.7	R	√3	1	2.7	∞
7	System Detection Limits	B	1.0	R	√3	1	0.6	∞
8	Readout Electronics	B	1.0	N	1	1	1.0	∞
9	RF Ambient Conditions	B	3.0	R	√3	1	1.73	∞
10	Probe Positioner Mechanical Tolerance	B	0.4	R	√3	1	0.2	∞
11	Probe Positioning with respect to Phantom Shell	B	2.9	R	√3	1	1.7	∞
12	Extrapolation, interpolation and Integration Algorithms for Max. SAR Evaluation	B	3.9	R	√3	1	2.3	∞
	Test sample Related							
13	Test Sample Positioning	A	4.9	N	1	1	4.9	N-1
14	Device Holder Uncertainty	A	6.1	N	1	1	6.1	N-1
15	Output Power Variation - SAR drift measurement	B	5.0	R	√3	1	2.9	∞
	Phantom and Tissue Parameters							
16	Phantom Uncertainty (shape and thickness tolerances)	B	1.0	R	√3	1	0.6	∞
17	Liquid Conductivity - deviation from target values	B	5.0	R	√3	0.64	1.7	∞
18	Liquid Conductivity - measurement uncertainty	B	5.0	N	1	0.64	1.7	M

19	Liquid Permittivity - deviation from target values	B	5.0	R	√3	0.6	1.7	∞
20	Liquid Permittivity - measurement uncertainty	B	5.0	N	1	0.6	1.7	M
	Combined Standard Uncertainty			RSS			11.25	
	Expanded Uncertainty (95% CONFIDENCE INTERVAL)			K=2			22.5	

10 MAIN TEST INSTRUMENTS

Table 12: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	HP 8753E	US38433212	August 30,2008	One year
02	Power meter	NRVD	101253	June 20, 2008	One year
03	Power sensor	NRV-Z5	100333		
04	Power sensor	NRV-Z6	100011	September 2, 2008	One year
05	Signal Generator	E4433B	US37230472	September 4, 2008	One Year
06	Amplifier	VTL5400	0505	No Calibration Requested	
07	BTS	CMU 200	105948	August 15, 2008	One year
08	E-field Probe	SPEAG ES3DV3	3149	October 1, 2008	One year
09	DAE	SPEAG DAE4	771	November 20, 2008	One year
10	Dipole Validation Kit	SPEAG D835V2	443	February 19, 2007	Two years
11	Dipole Validation Kit	SPEAG D1900V2	541	February 20, 2007	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.

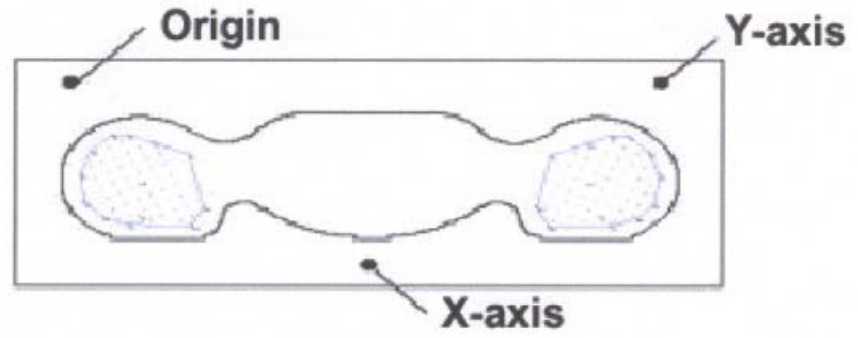
Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7 x 7x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

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.

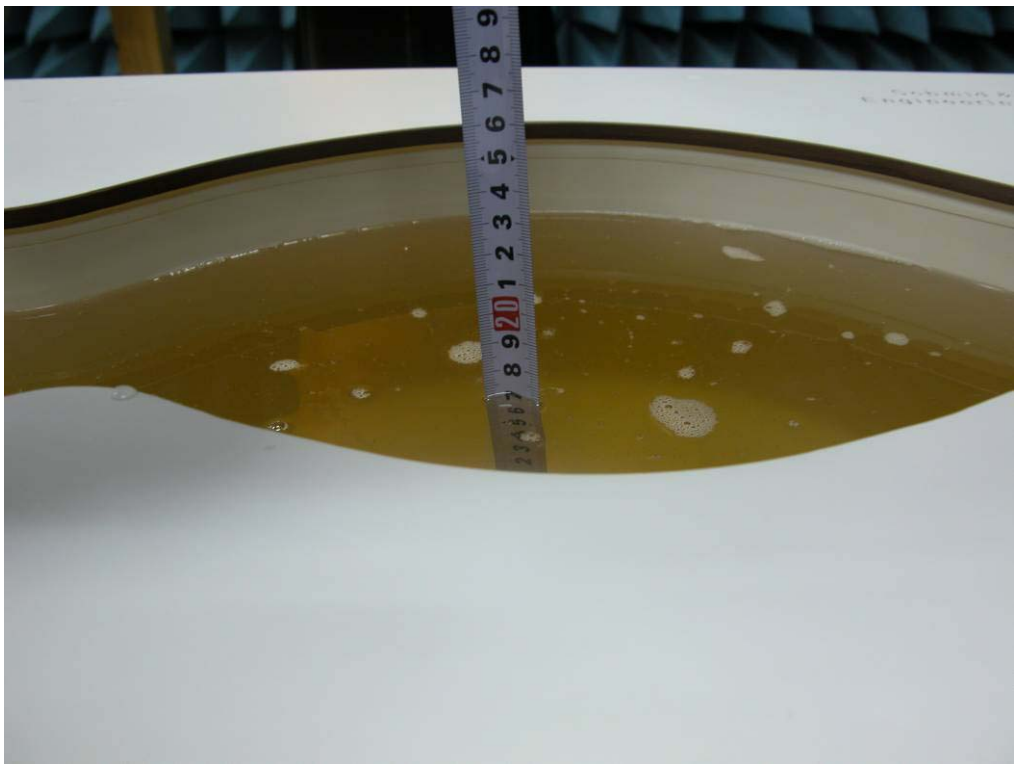
Step 4: Re-measurement the SAR value at the same location as in Step 1. If the value changed by more than 5%, the evaluation is repeated.



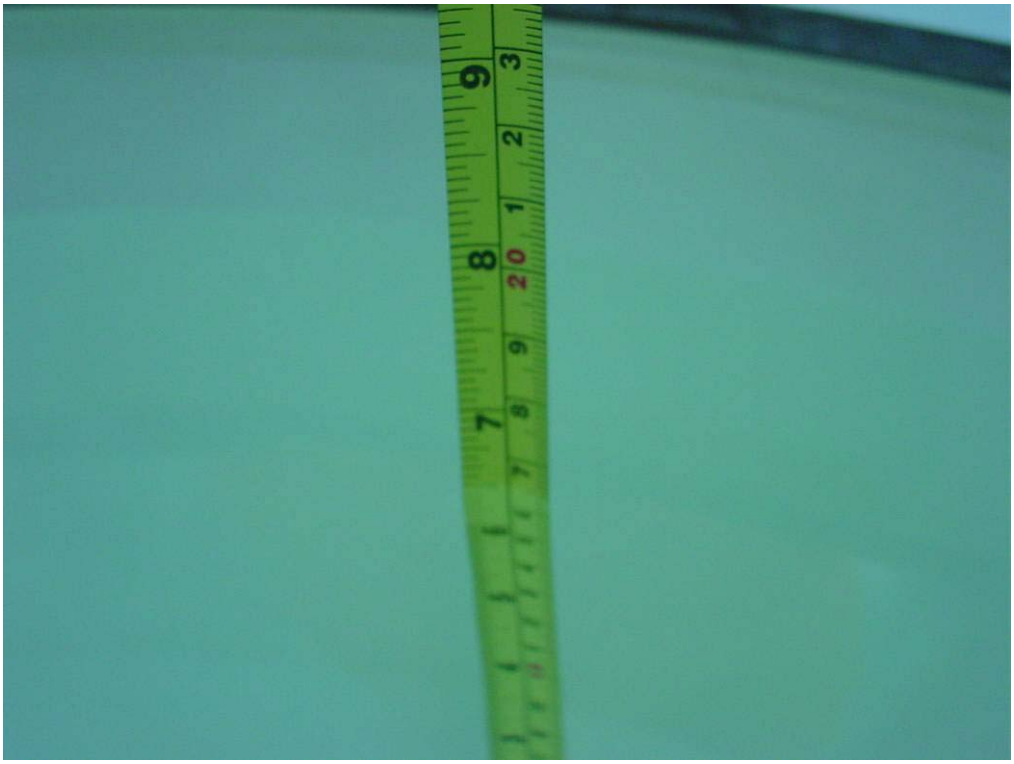
Picture A: SAR Measurement Points in Area Scan

ANNEX B TEST LAYOUT

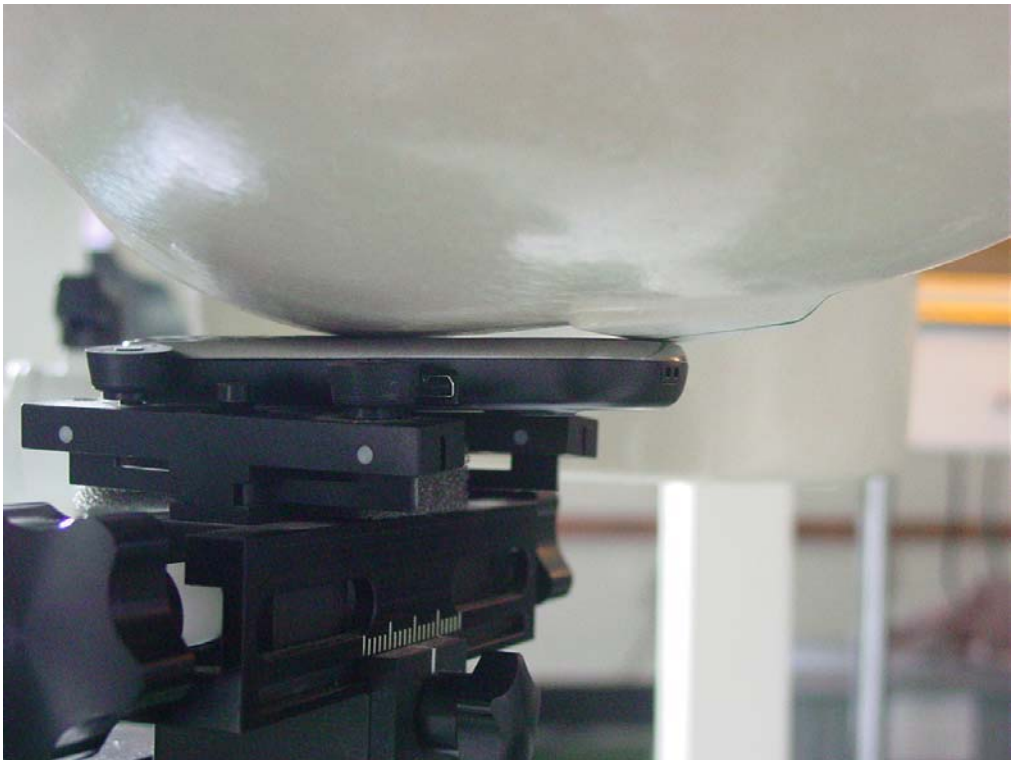
Picture B1: Specific Absorption Rate Test Layout



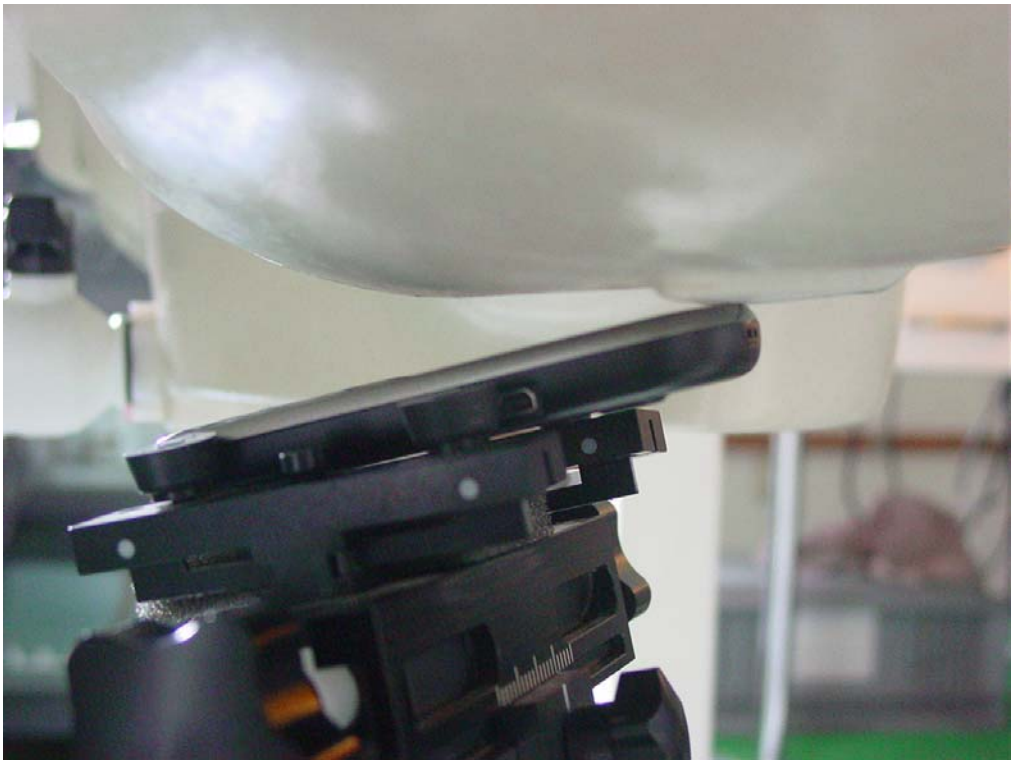
Picture B2: Liquid depth in the Flat Phantom (850 MHz)



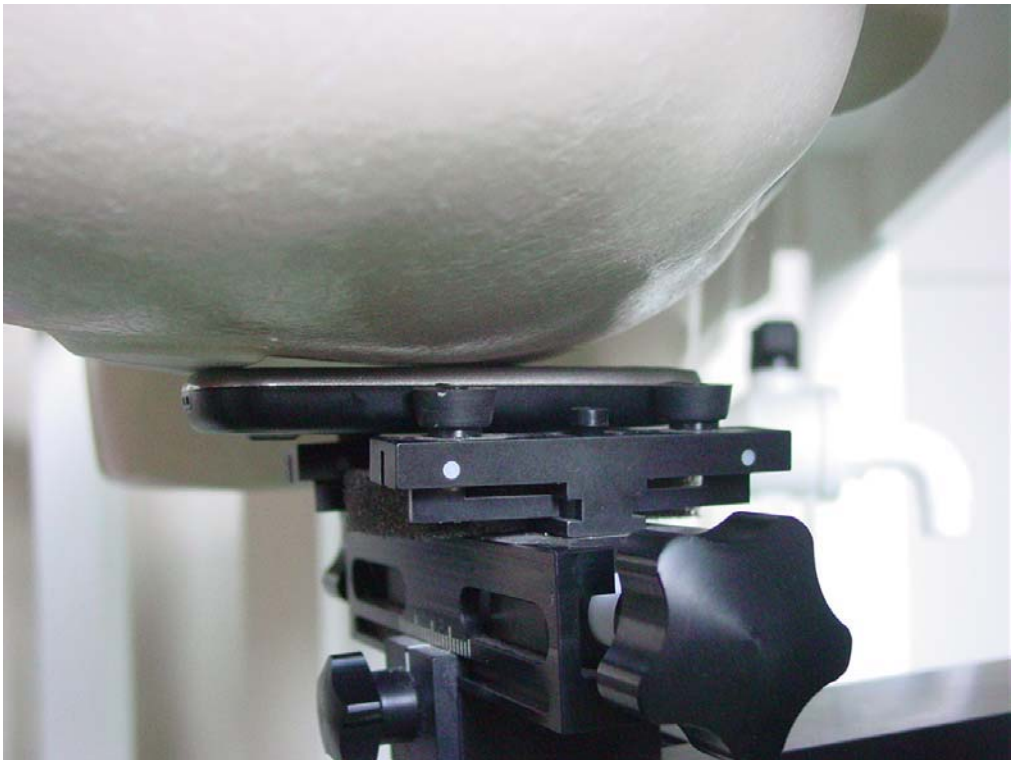
Picture B3 Liquid depth in the Flat Phantom (1900MHz)



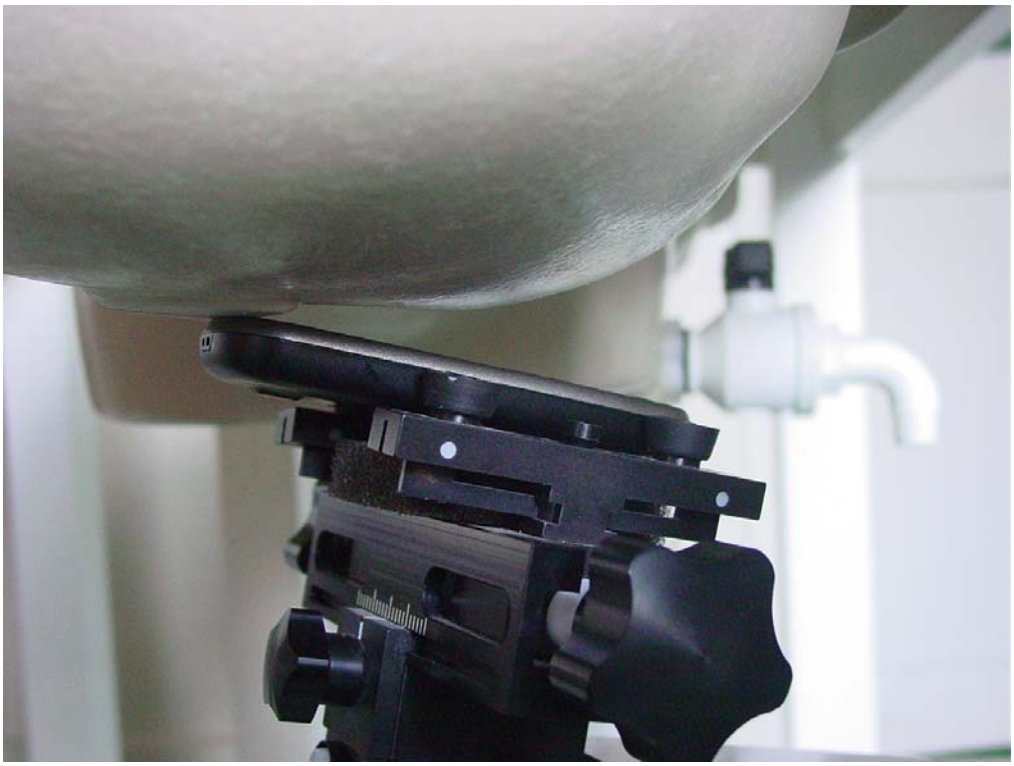
Picture B4: Left Hand Touch Cheek Position



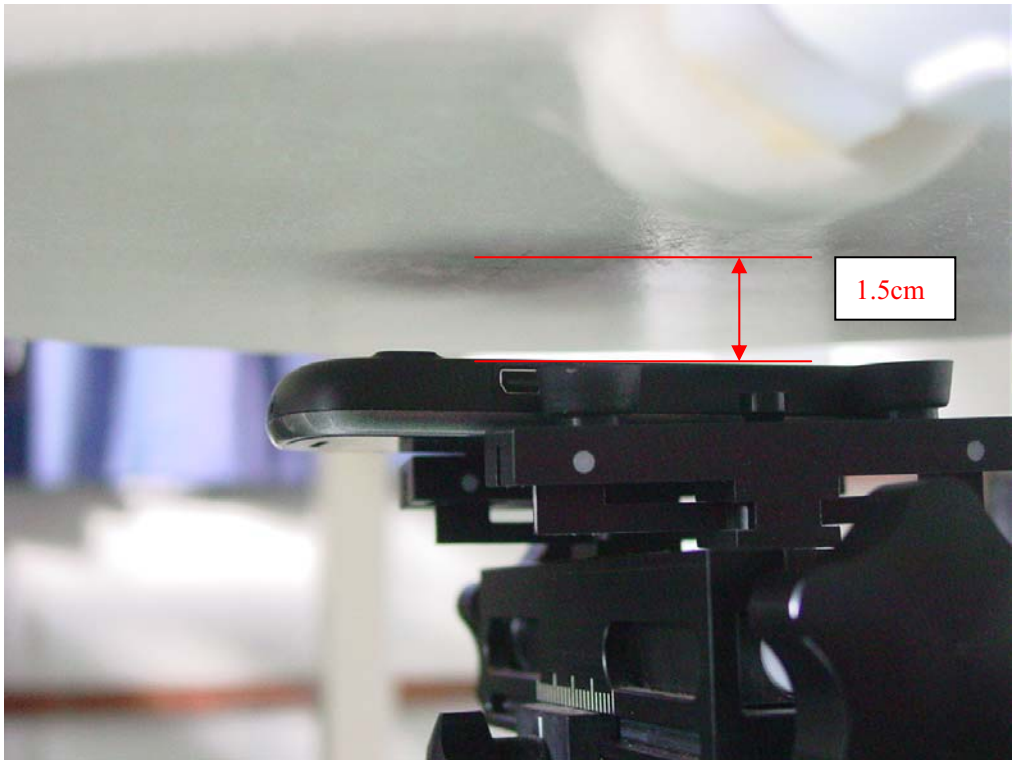
Picture B5: Left Hand Tilt 15° Position



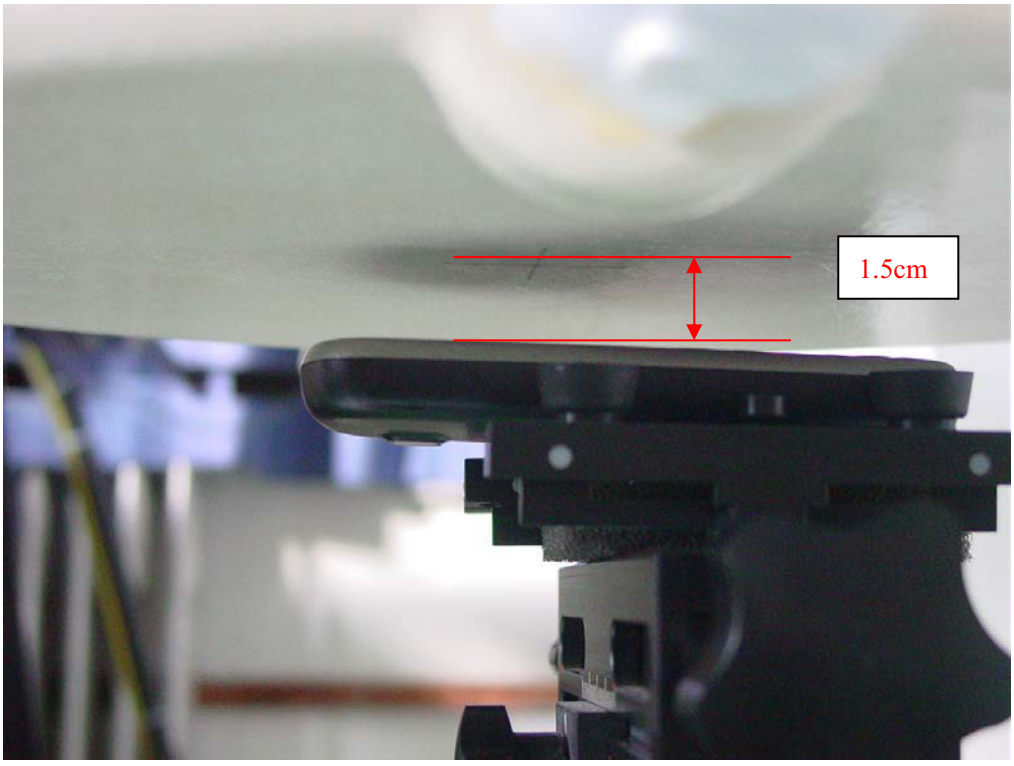
Picture B6: Right Hand Touch Cheek Position



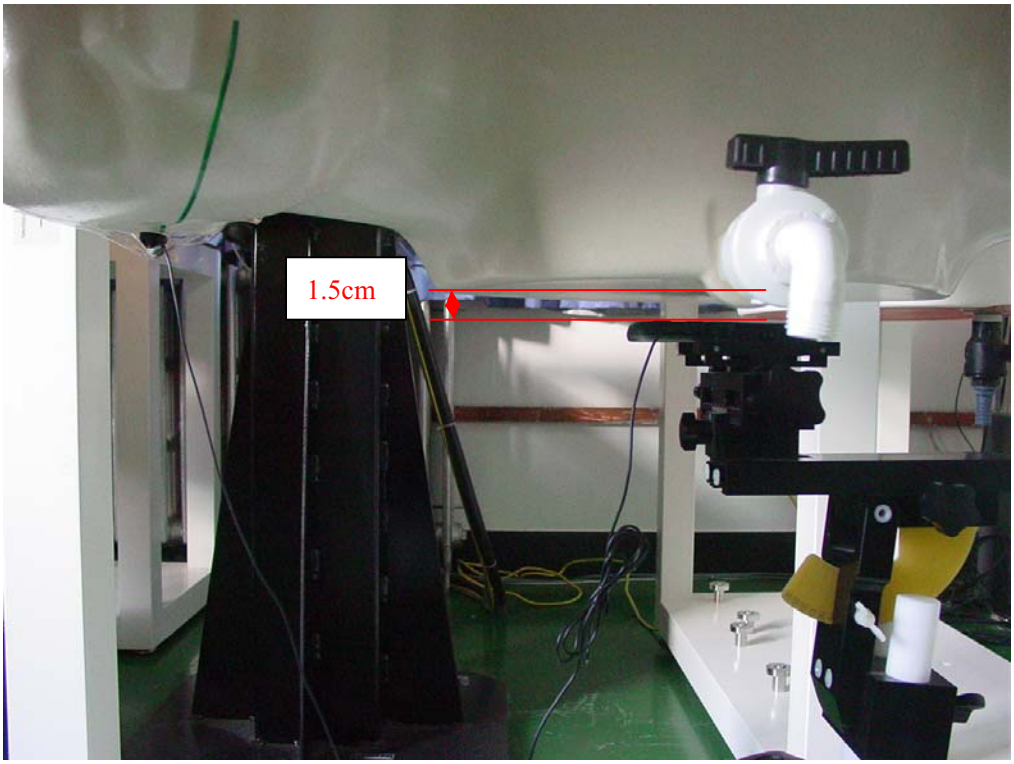
Picture B7: Right Hand Tilt 15° Position



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)

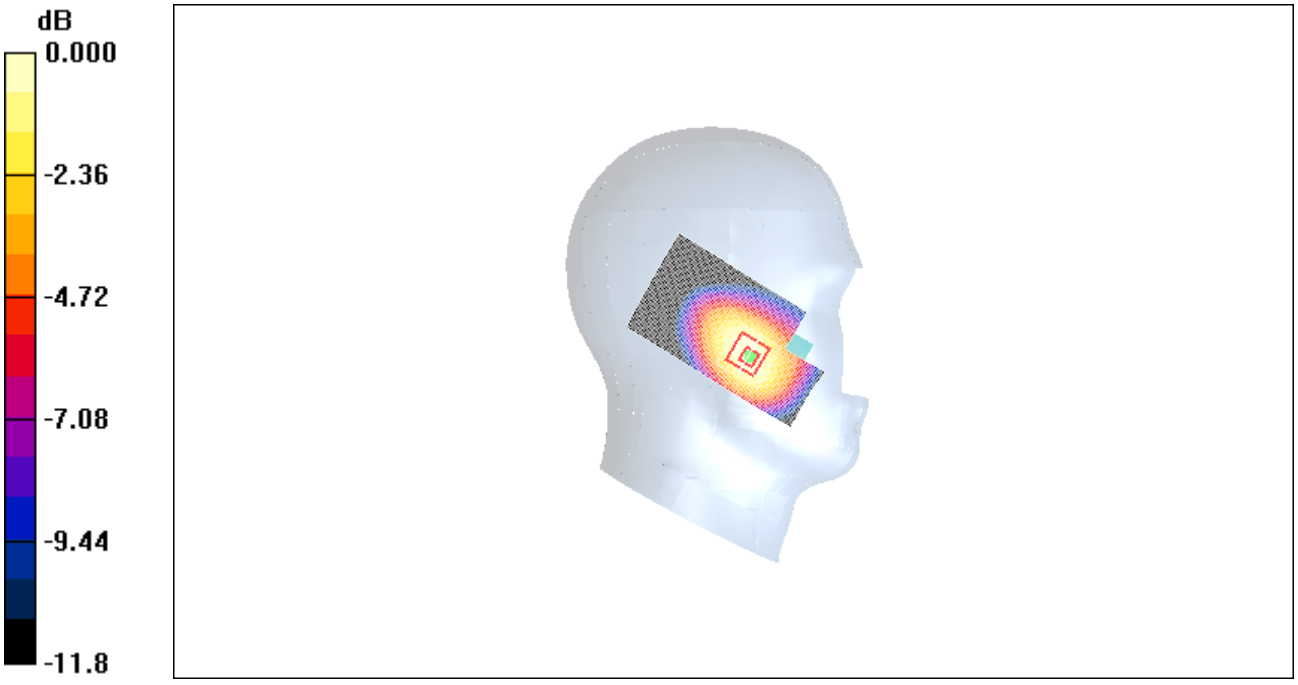
ANNEX C GRAPH RESULTS

850 Left Cheek High

Date/Time: 2009-2-9 8:13:26
Electronics: DAE4 Sn771
Medium: Head 850
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.92 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.934 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.44 V/m; Power Drift = -0.138 dB
Peak SAR (extrapolated) = 1.22 W/kg
SAR(1 g) = 0.863 mW/g; SAR(10 g) = 0.585 mW/g
Maximum value of SAR (measured) = 0.931 mW/g



0 dB = 0.931mW/g

Fig. 1 850MHz CH251

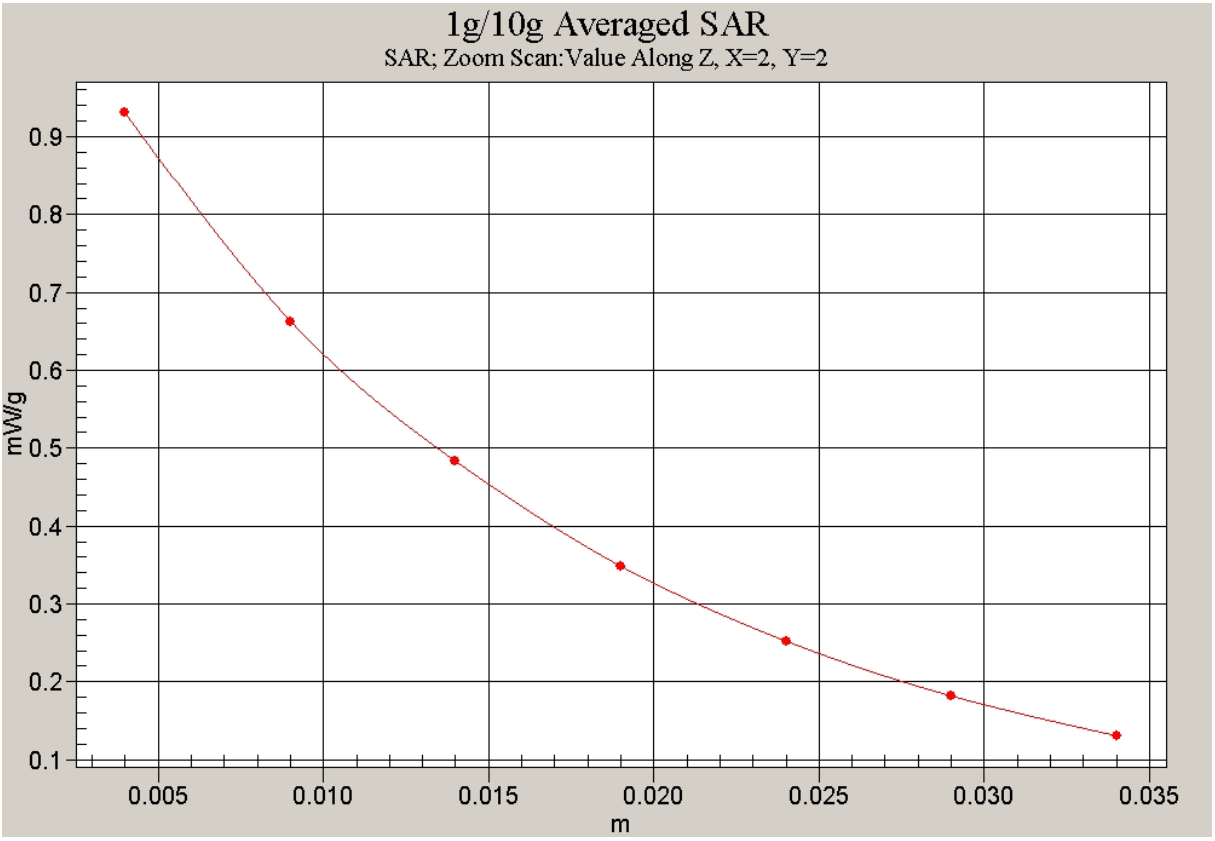
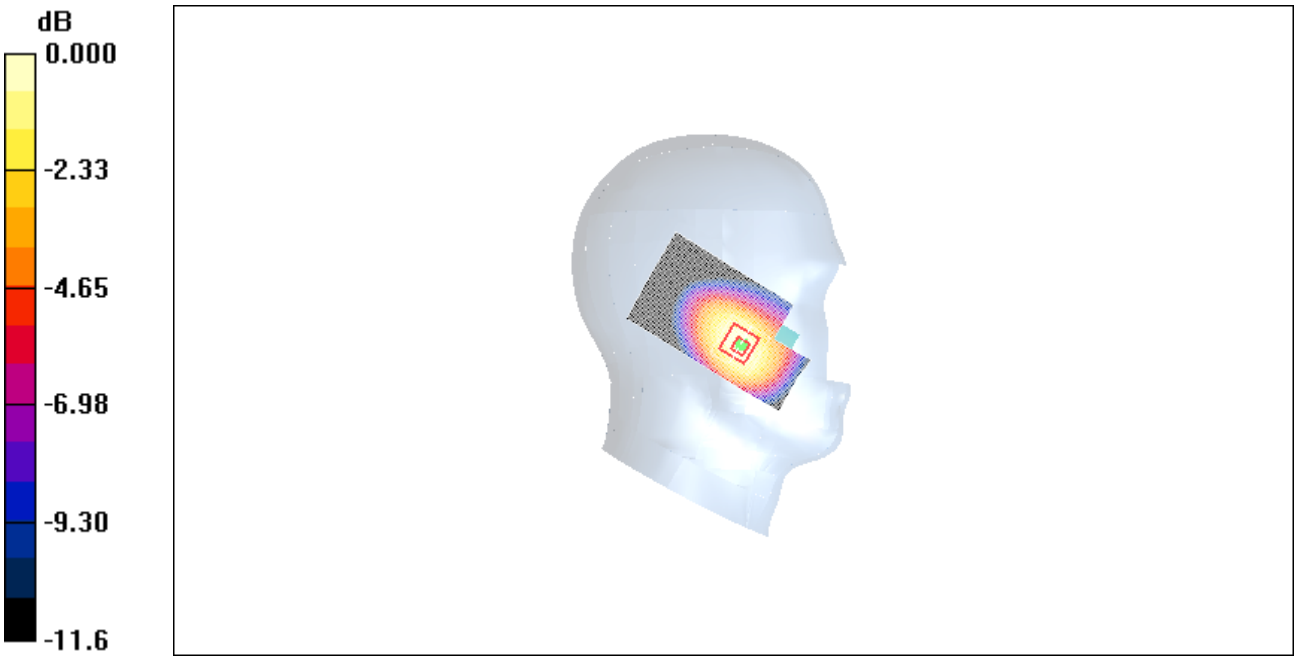


Fig. 2 Z-Scan at power reference point (850 MHz CH251)

850 Left Cheek Middle
Date/Time: 2009-2-9 8:27:54
Electronics: DAE4 Sn771
Medium: Head 850
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.908 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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 = 10.5 V/m; Power Drift = -0.198 dB
Peak SAR (extrapolated) = 1.47 W/kg
SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.716 mW/g
Maximum value of SAR (measured) = 1.14 mW/g



0 dB = 1.14mW/g

Fig. 3 850 MHz CH190

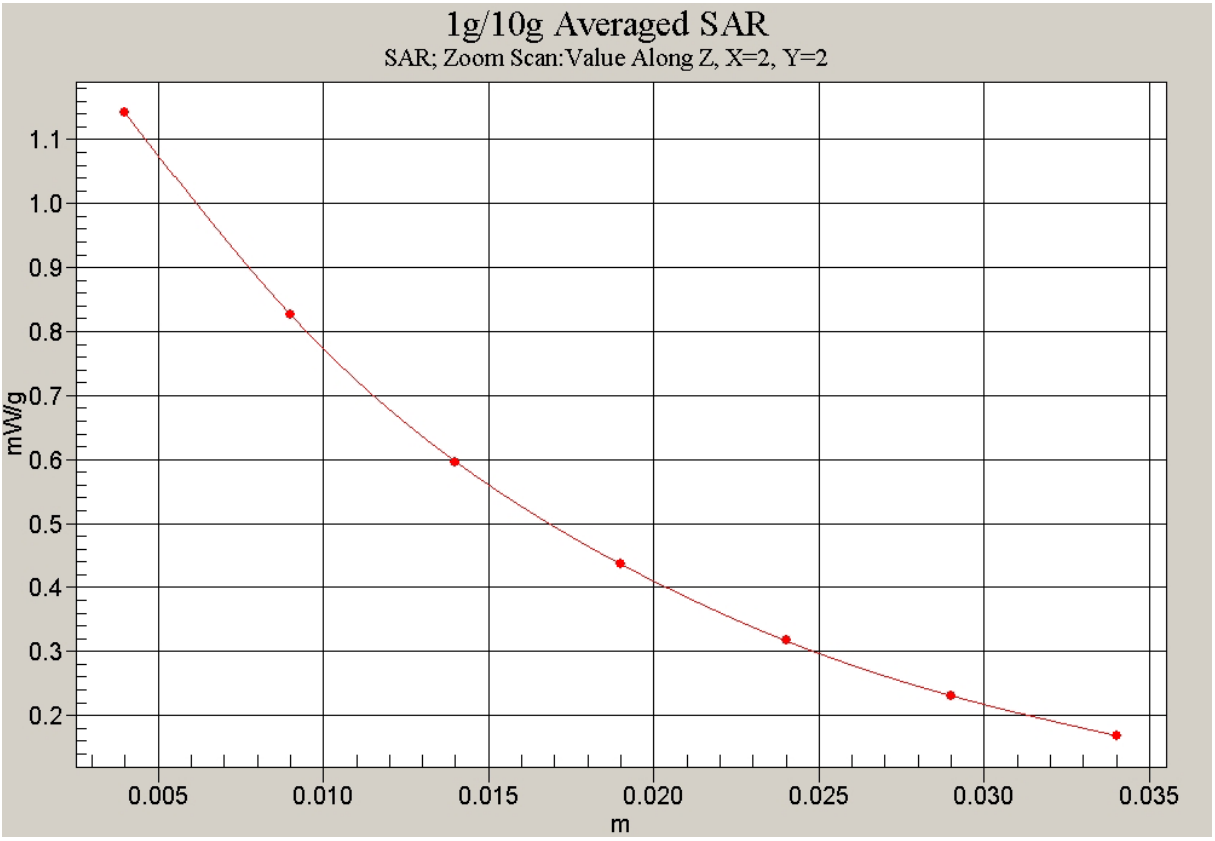
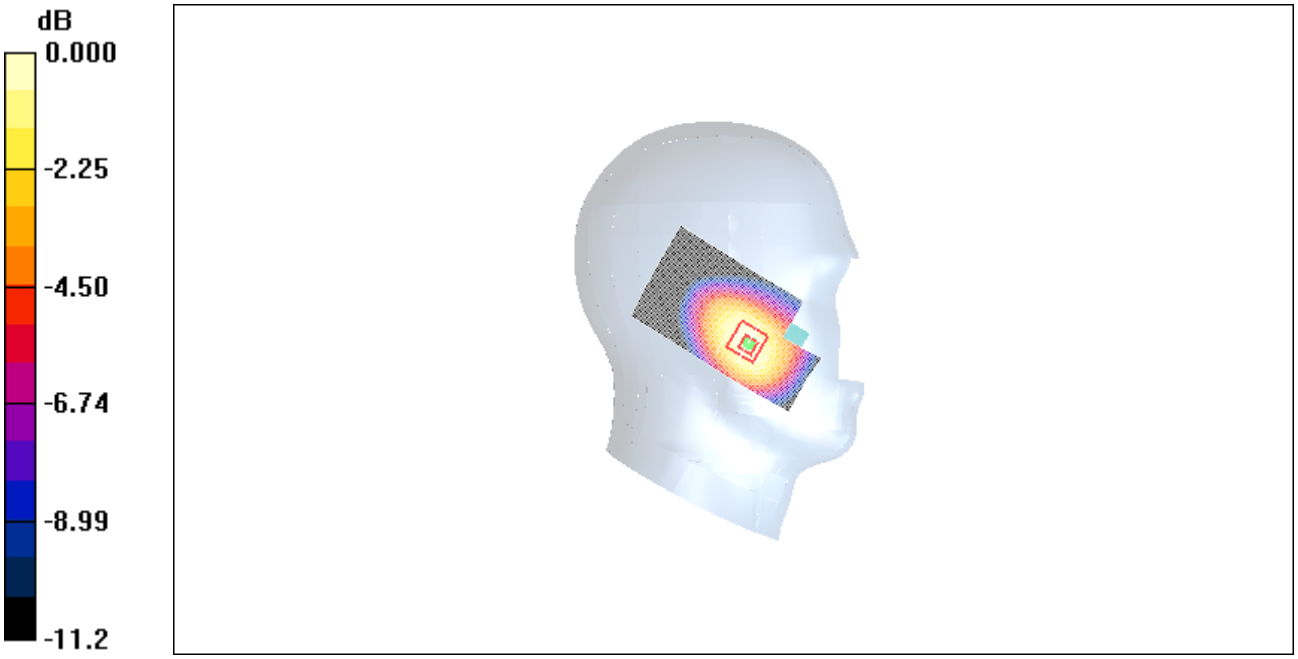


Fig. 4 Z-Scan at power reference point (850 MHz CH190)

850 Left Cheek Low
Date/Time: 2009-2-9 8:41:36
Electronics: DAE4 Sn771
Medium: Head 850
Medium parameters used: f = 825 MHz; σ = 0.896 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 1.30 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.4 V/m; Power Drift = -0.200 dB
Peak SAR (extrapolated) = 1.68 W/kg
SAR(1 g) = 1.21 mW/g; SAR(10 g) = 0.826 mW/g
Maximum value of SAR (measured) = 1.30 mW/g



0 dB = 1.30mW/g

Fig. 5 850 MHz CH128

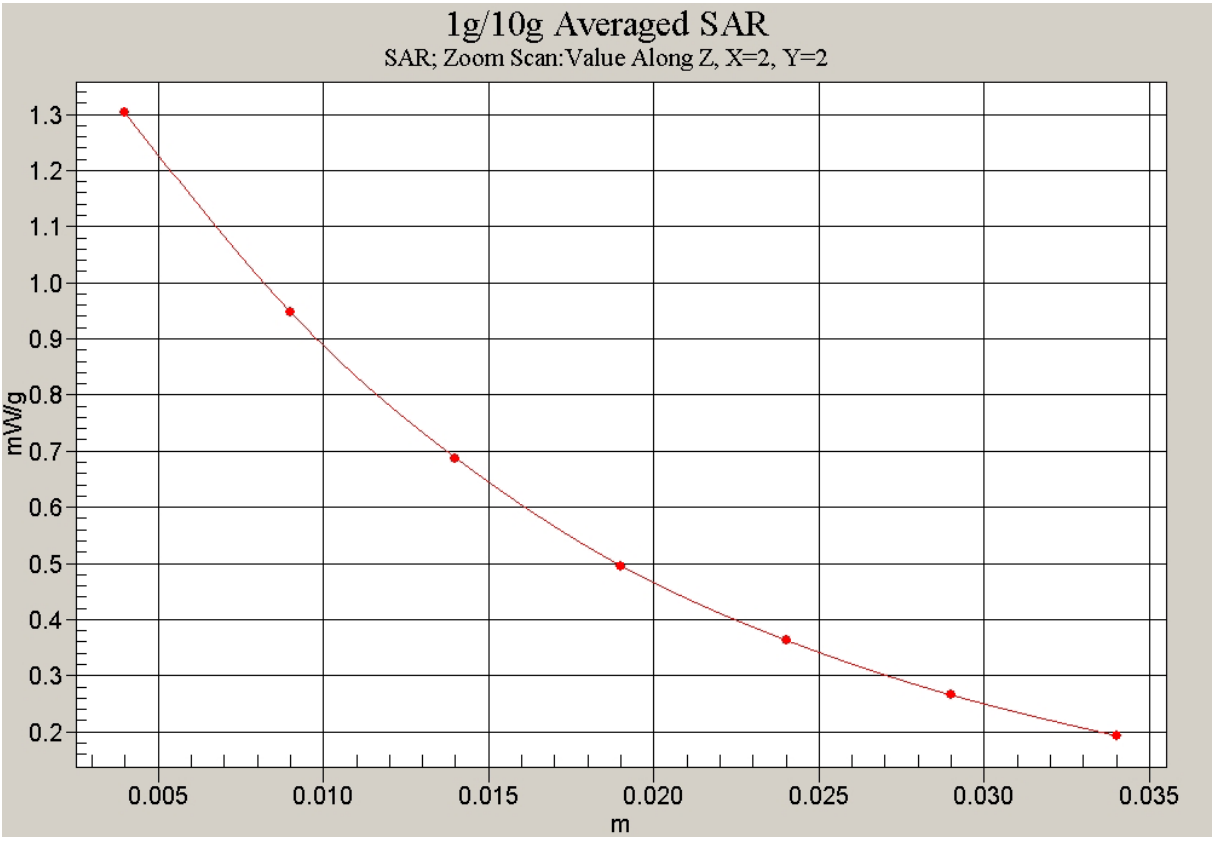


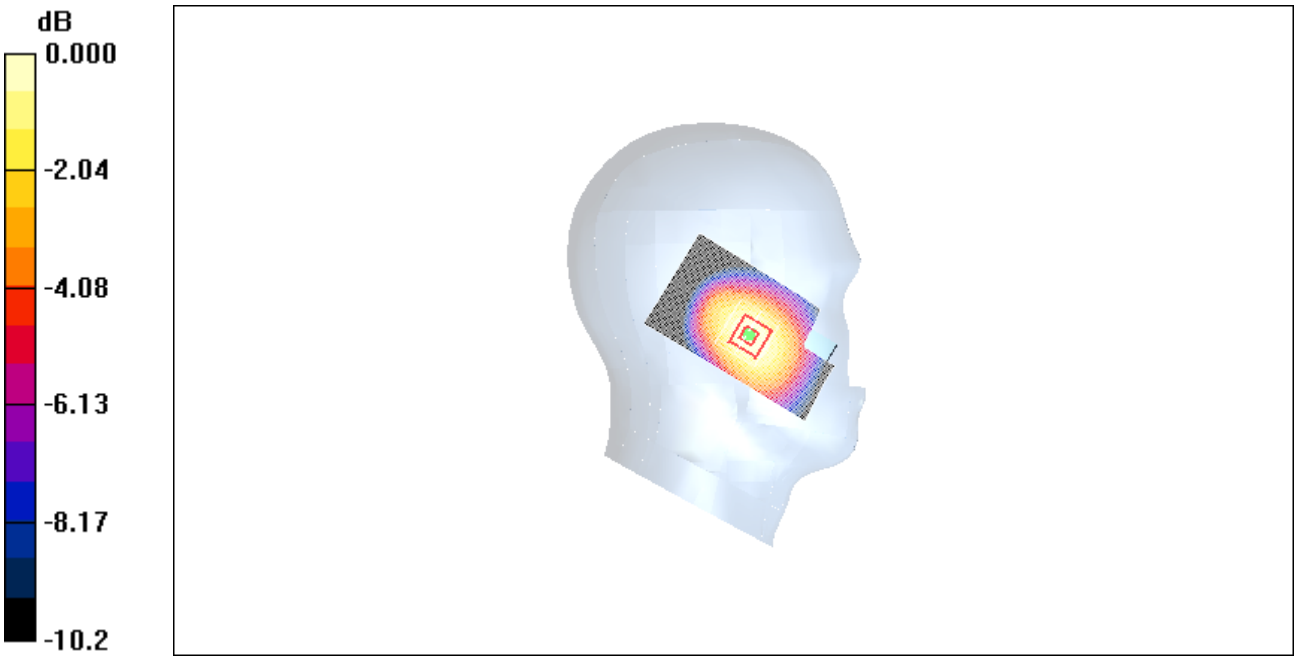
Fig. 6 Z-Scan at power reference point (850 MHz CH190)

850 Left Tilt High

Date/Time: 2009-2-9 8:55:03
Electronics: DAE4 Sn771
Medium: Head 850
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.92 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.319 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.3 V/m; Power Drift = 0.059 dB
Peak SAR (extrapolated) = 0.387 W/kg
SAR(1 g) = 0.296 mW/g; SAR(10 g) = 0.212 mW/g
Maximum value of SAR (measured) = 0.314 mW/g



0 dB = 0.314mW/g

Fig.7 850 MHz CH251

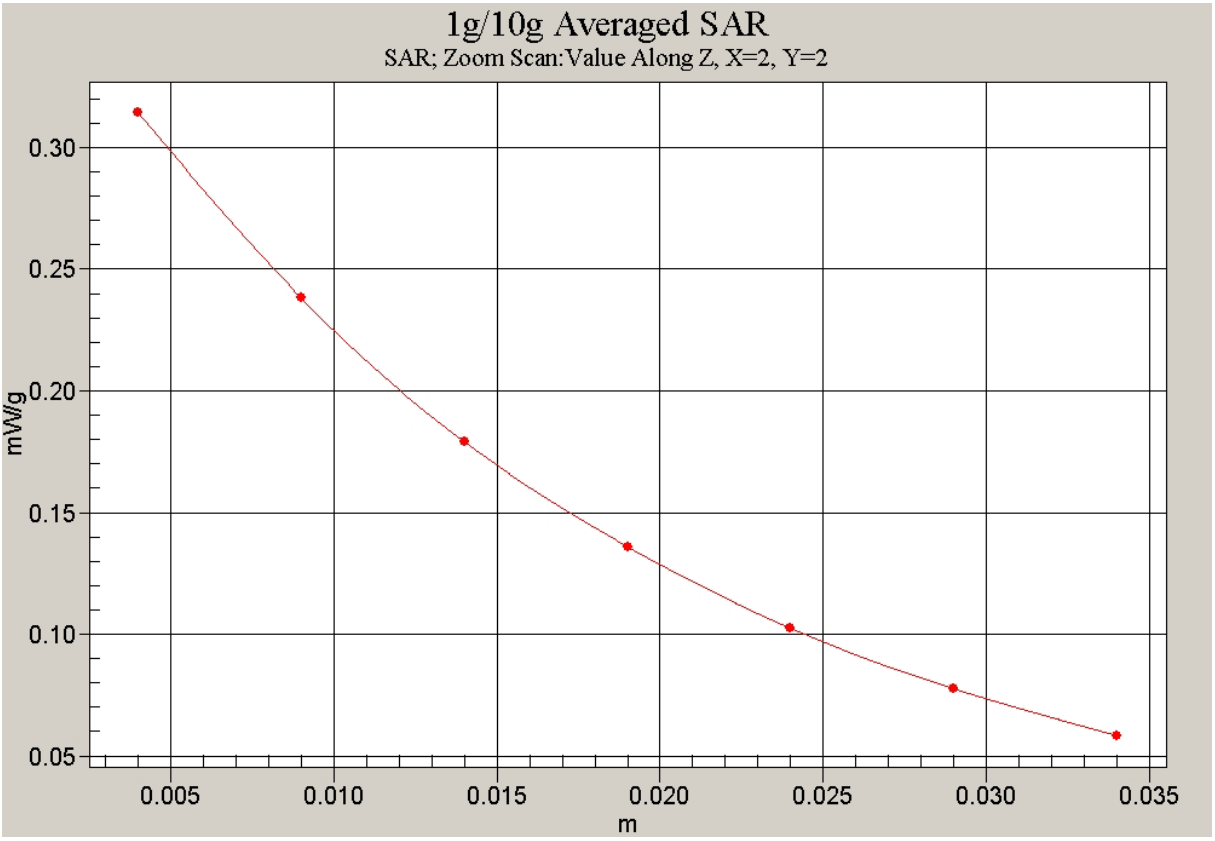


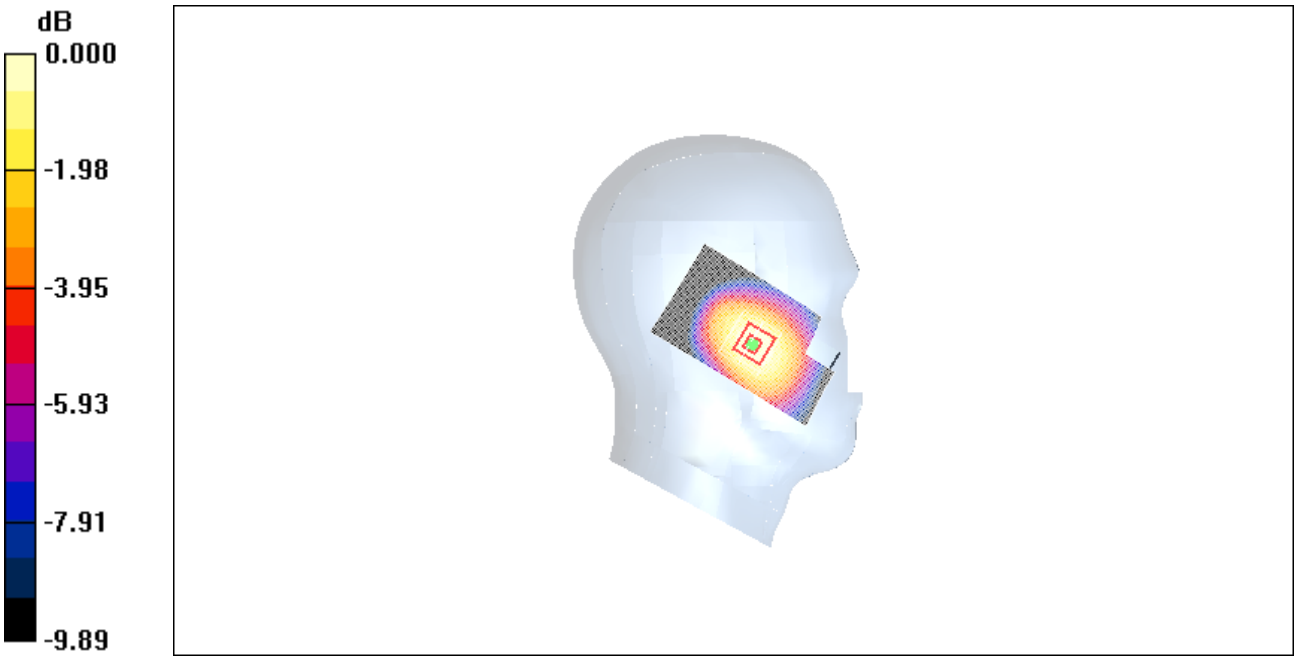
Fig. 8 Z-Scan at power reference point (850 MHz CH251)

850 Left Tilt Middle

Date/Time: 2009-2-9 9:09:31
Electronics: DAE4 Sn771
Medium: Head 850
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.908 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.412 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.9 V/m; Power Drift = 0.021 dB
Peak SAR (extrapolated) = 0.496 W/kg
SAR(1 g) = 0.382 mW/g; SAR(10 g) = 0.276 mW/g
Maximum value of SAR (measured) = 0.404 mW/g



0 dB = 0.404mW/g

Fig.9 850 MHz CH190

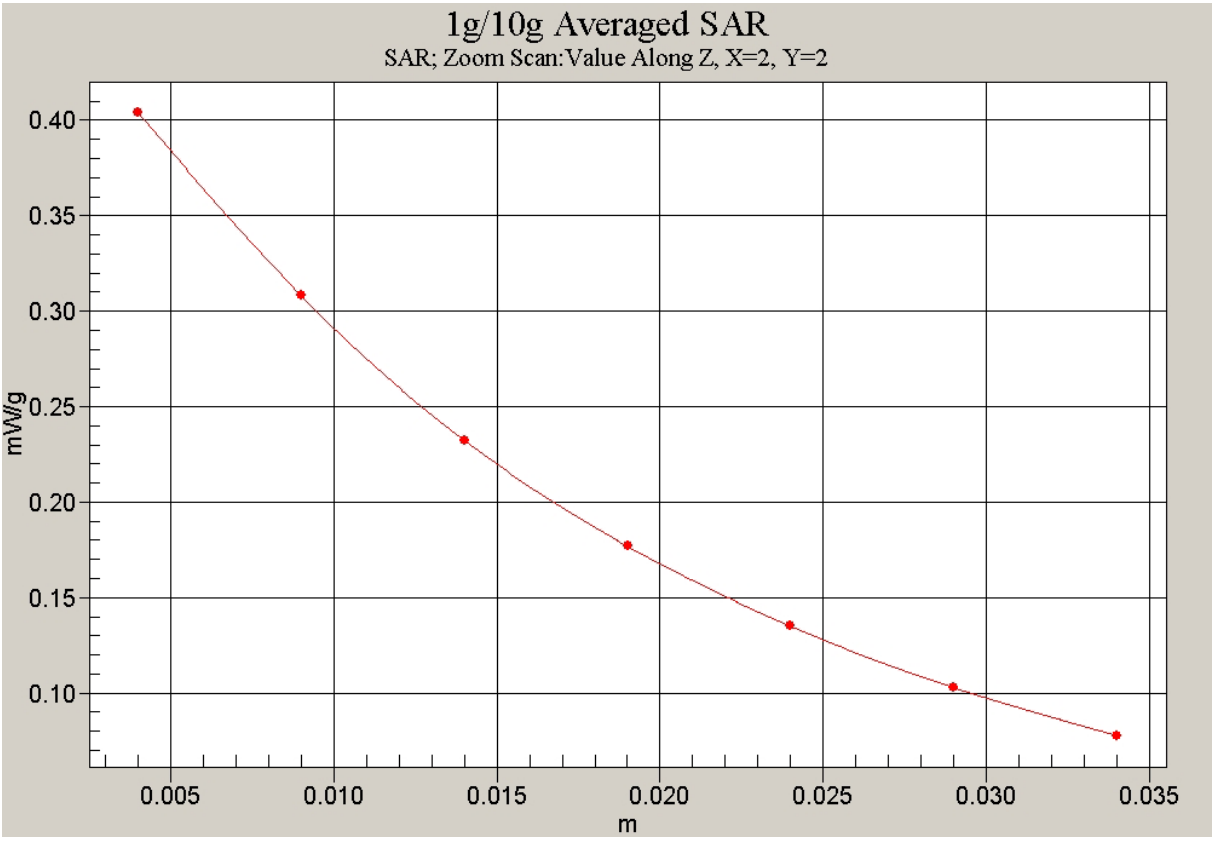


Fig. 10 Z-Scan at power reference point (850 MHz CH190)

850 Left Tilt Low
Date/Time: 2009-2-9 9:23:47
Electronics: DAE4 Sn771
Medium: Head 850
Medium parameters used: f = 825 MHz; σ = 0.896 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.580 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.1 V/m; Power Drift = 0.140 dB
Peak SAR (extrapolated) = 0.698 W/kg
SAR(1 g) = 0.536 mW/g; SAR(10 g) = 0.389 mW/g
Maximum value of SAR (measured) = 0.564 mW/g

0 dB = 0.564mW/g

Fig. 11 850 MHz CH128

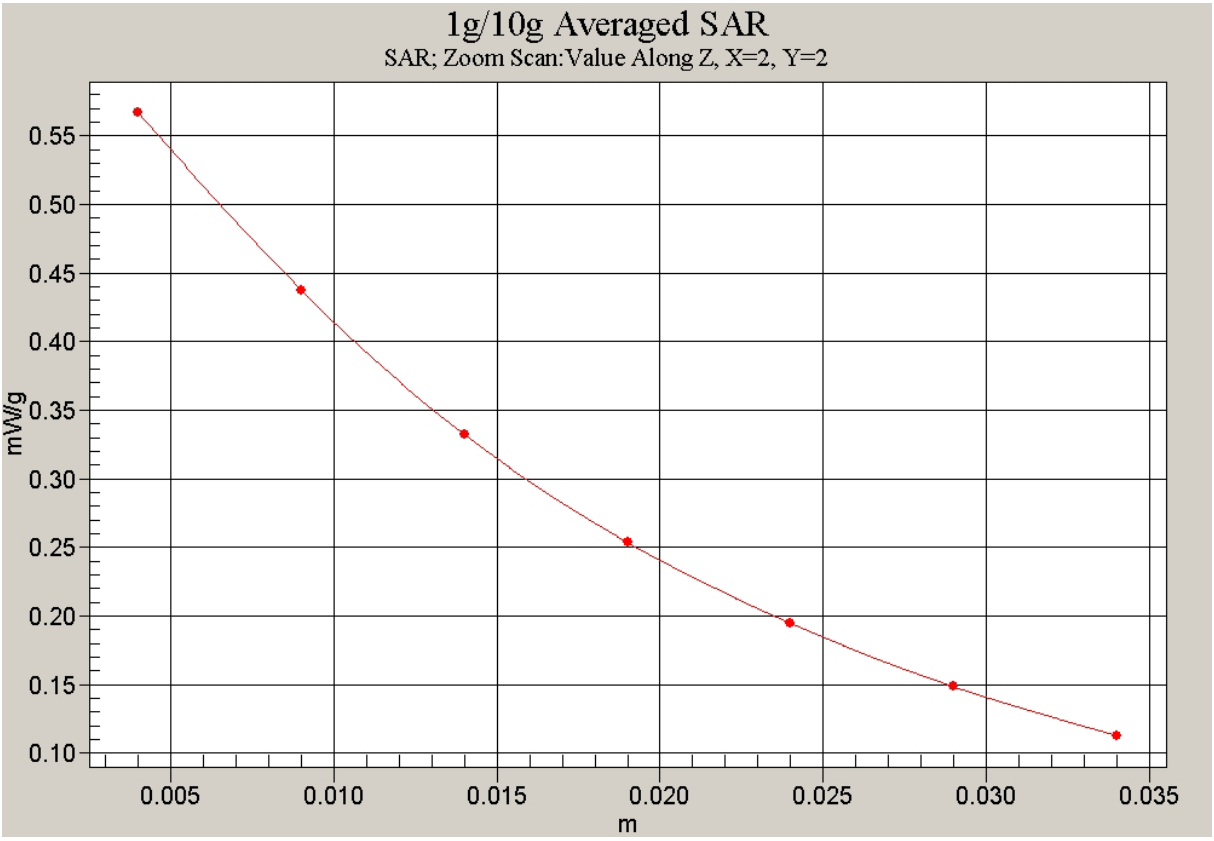


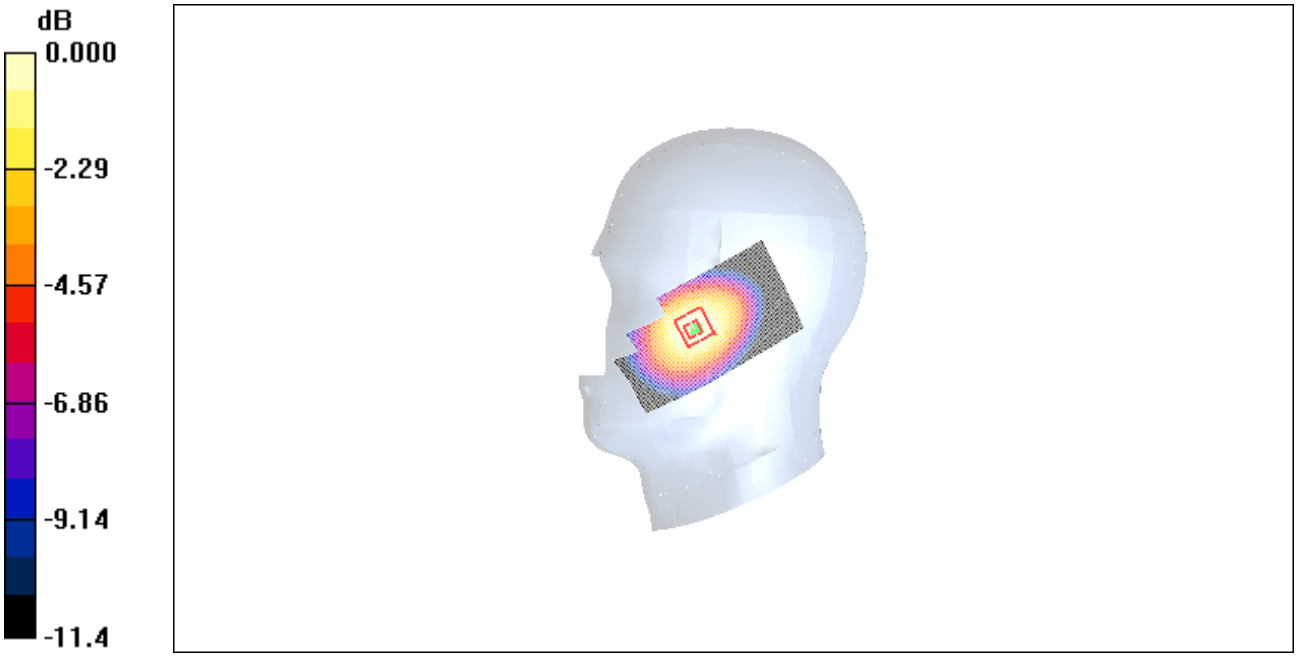
Fig. 12 Z-Scan at power reference point (850 MHz CH128)

850 Right Cheek High

Date/Time: 2009-2-9 9:37:18
Electronics: DAE4 Sn771
Medium: Head 850
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.92 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.884 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.89 V/m; Power Drift = -0.093 dB
Peak SAR (extrapolated) = 1.08 W/kg
SAR(1 g) = 0.814 mW/g; SAR(10 g) = 0.567 mW/g
Maximum value of SAR (measured) = 0.866 mW/g



0 dB = 0.866mW/g

Fig. 13 850 MHz CH251

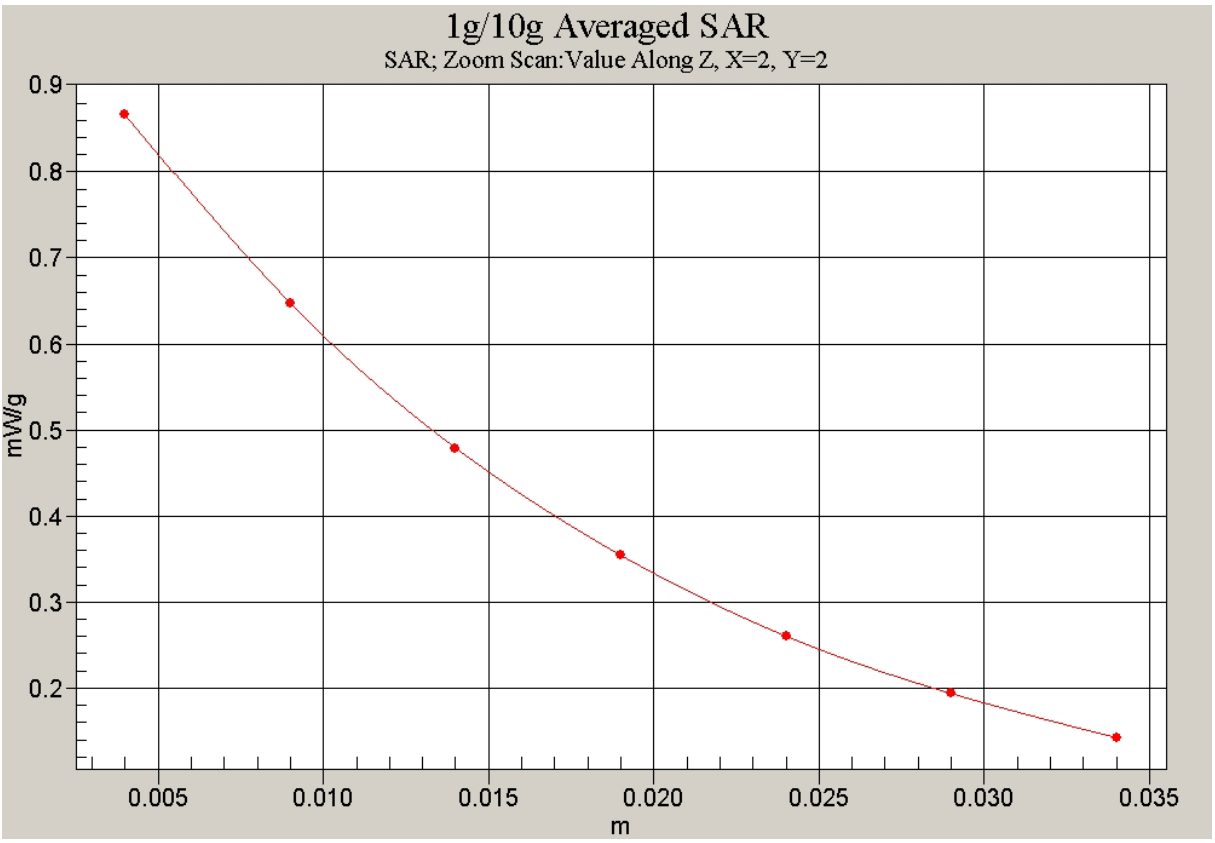


Fig. 14 Z-Scan at power reference point (850 MHz CH251)

850 Right Cheek Middle
Date/Time: 2009-2-9 9:51:33
Electronics: DAE4 Sn771
Medium: Head 850
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.908 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 1.08 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.0 V/m; Power Drift = -0.122 dB
Peak SAR (extrapolated) = 1.33 W/kg
SAR(1 g) = 0.987 mW/g; SAR(10 g) = 0.689 mW/g
Maximum value of SAR (measured) = 1.06 mW/g

0 dB = 1.06mW/g

Fig. 15 850 MHz CH128

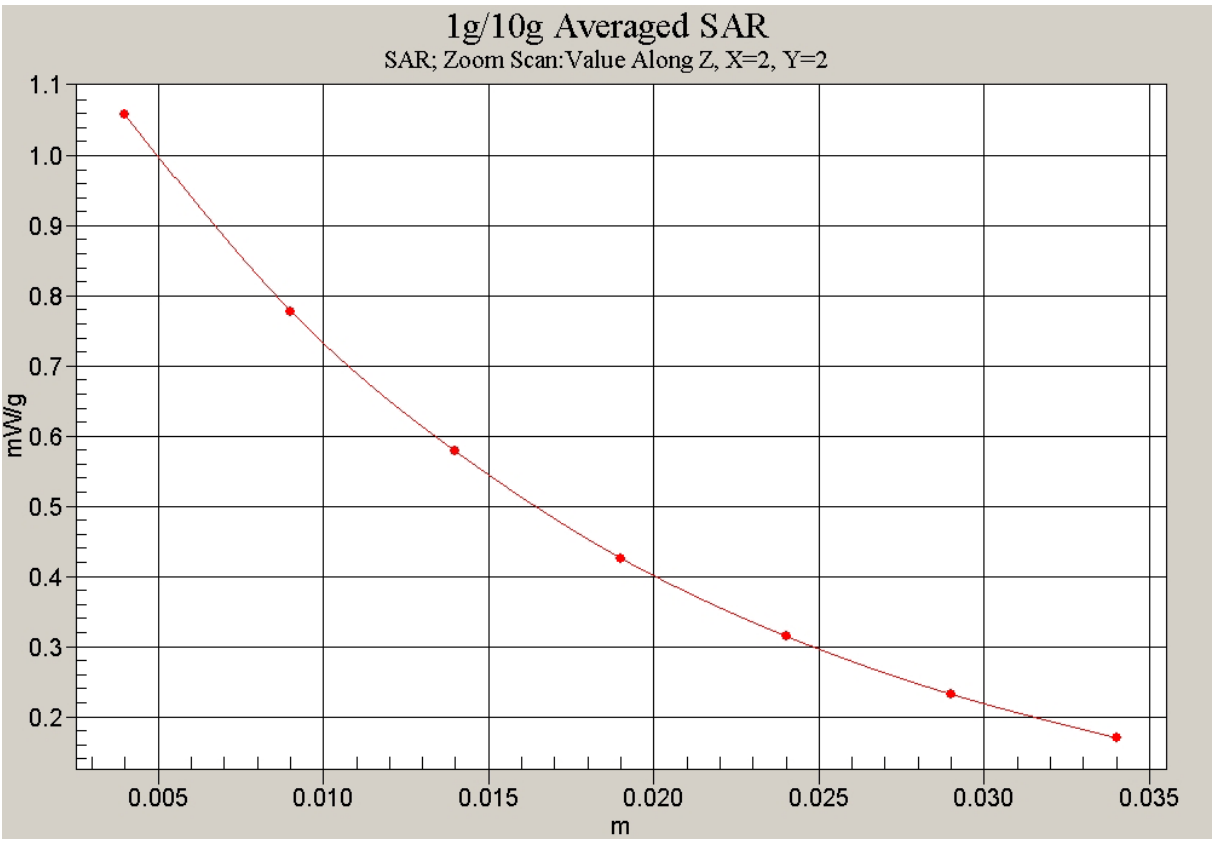


Fig. 16 Z-Scan at power reference point (850 MHz CH190)

850 Right Cheek Low

Date/Time: 2009-2-9 10:05:29
Electronics: DAE4 Sn771
Medium: Head 850
Medium parameters used: f = 825 MHz; σ = 0.896 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 1.31 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.7 V/m; Power Drift = -0.143 dB
Peak SAR (extrapolated) = 1.64 W/kg
SAR(1 g) = 1.21 mW/g; SAR(10 g) = 0.844 mW/g
Maximum value of SAR (measured) = 1.30 mW/g

0 dB = 1.30mW/g

Fig. 17 850 MHz CH128

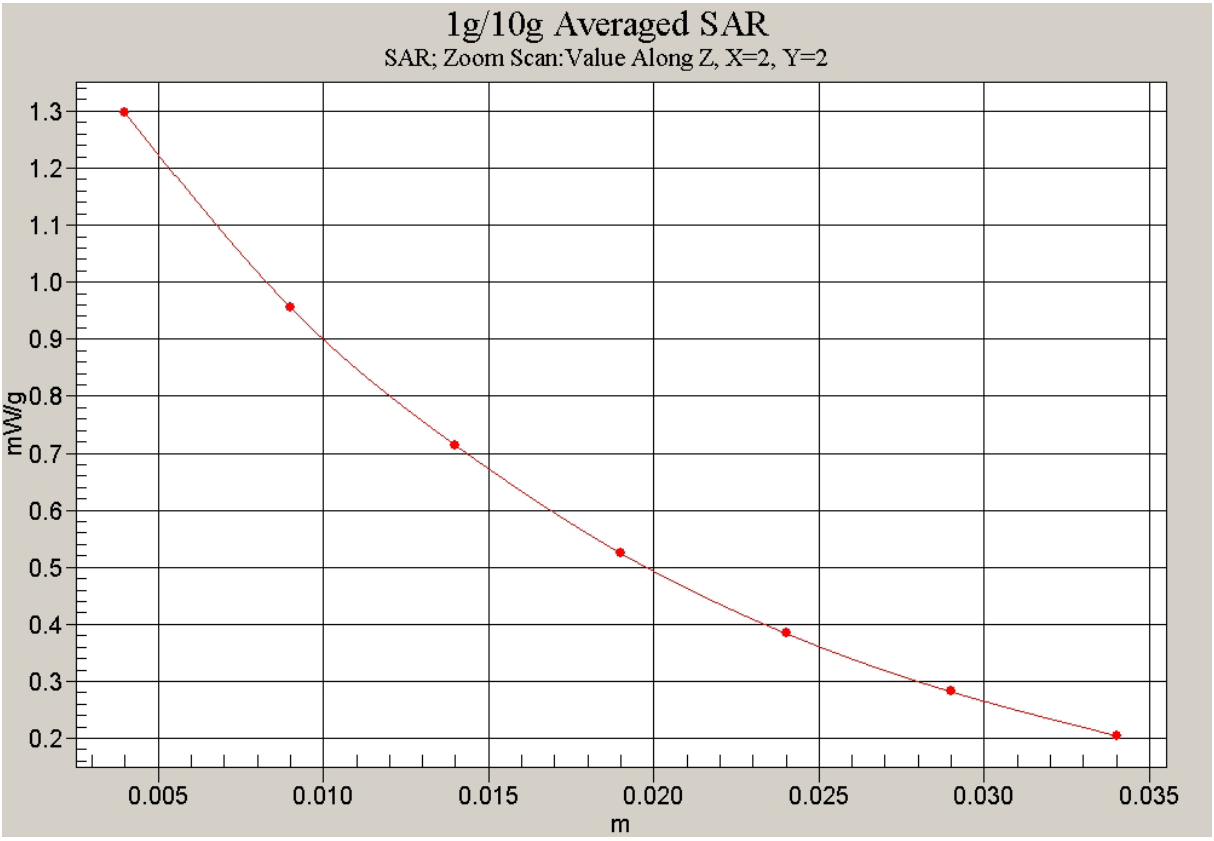


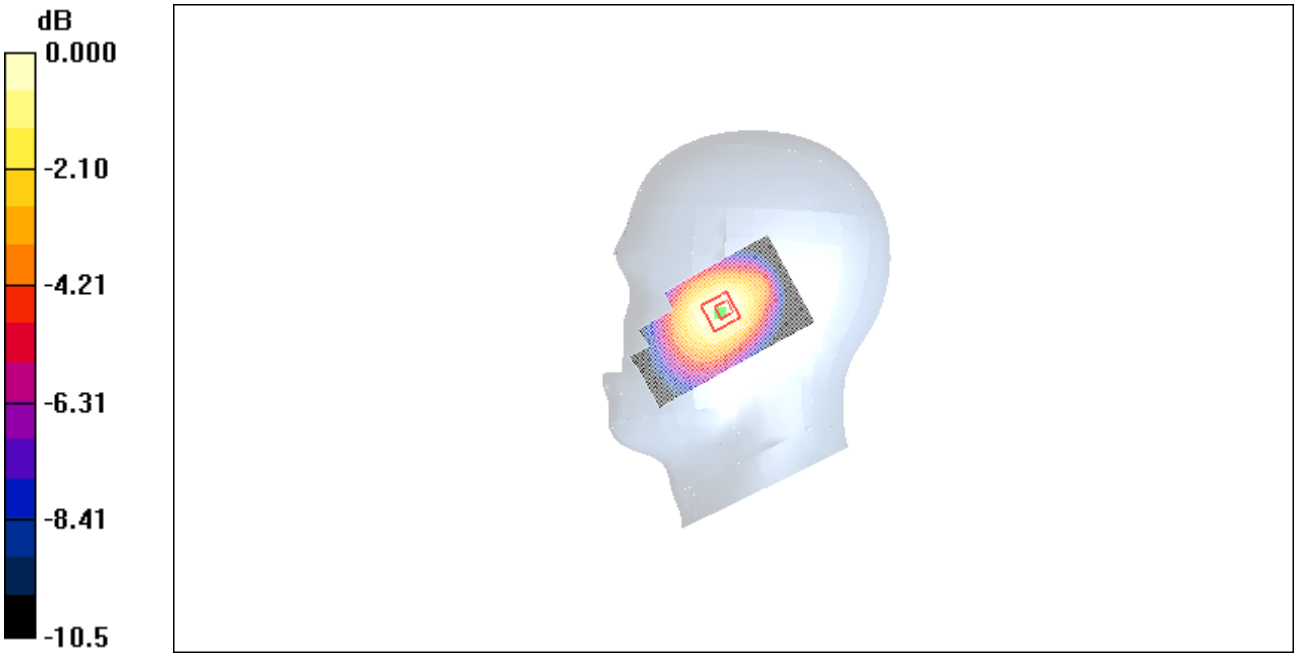
Fig. 18 Z-Scan at power reference point (850 MHz CH128)

850 Right Tilt High

Date/Time: 2009-2-9 10:19:51
Electronics: DAE4 Sn771
Medium: Head 850
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.92 mho/m; ε_r = 40.3; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.329 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.5 V/m; Power Drift = -0.112 dB
Peak SAR (extrapolated) = 0.409 W/kg
SAR(1 g) = 0.312 mW/g; SAR(10 g) = 0.225 mW/g
Maximum value of SAR (measured) = 0.327 mW/g



0 dB = 0.327mW/g

Fig.19 850 MHz CH251

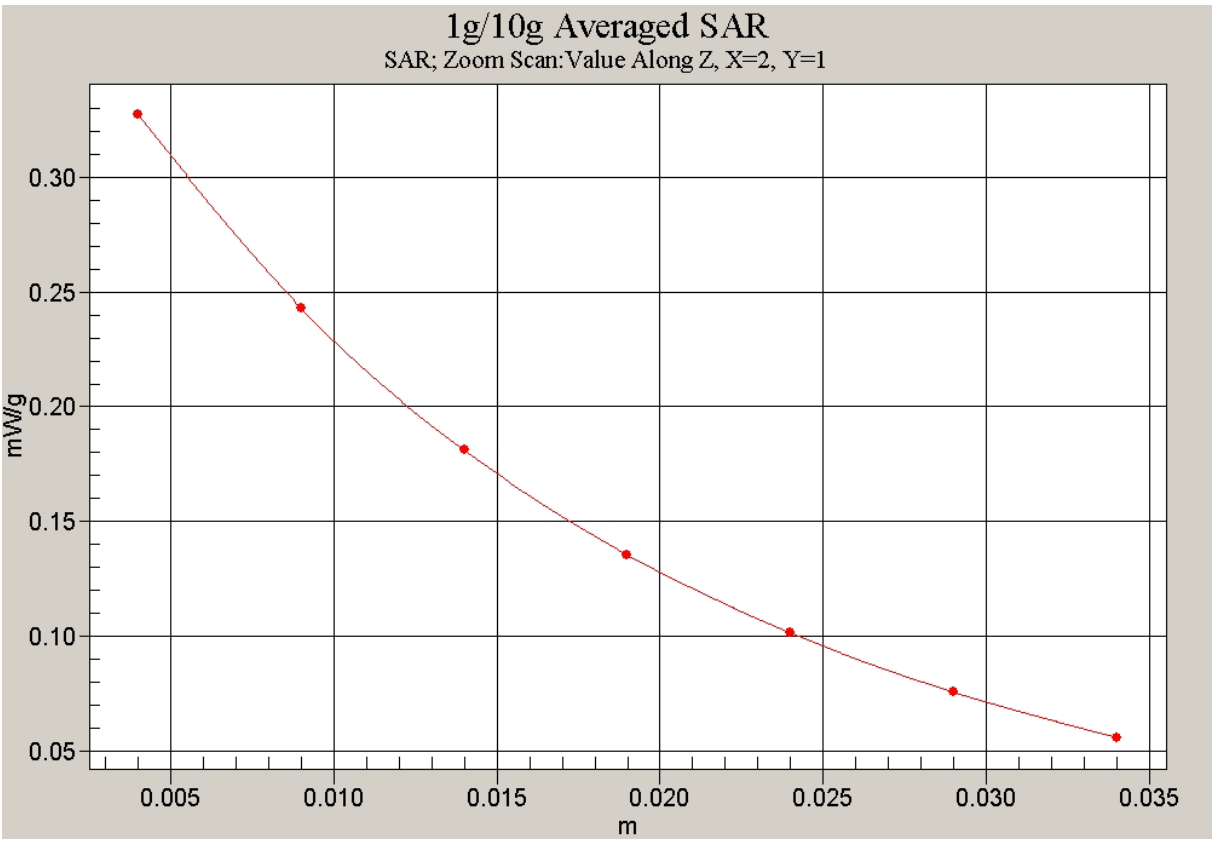


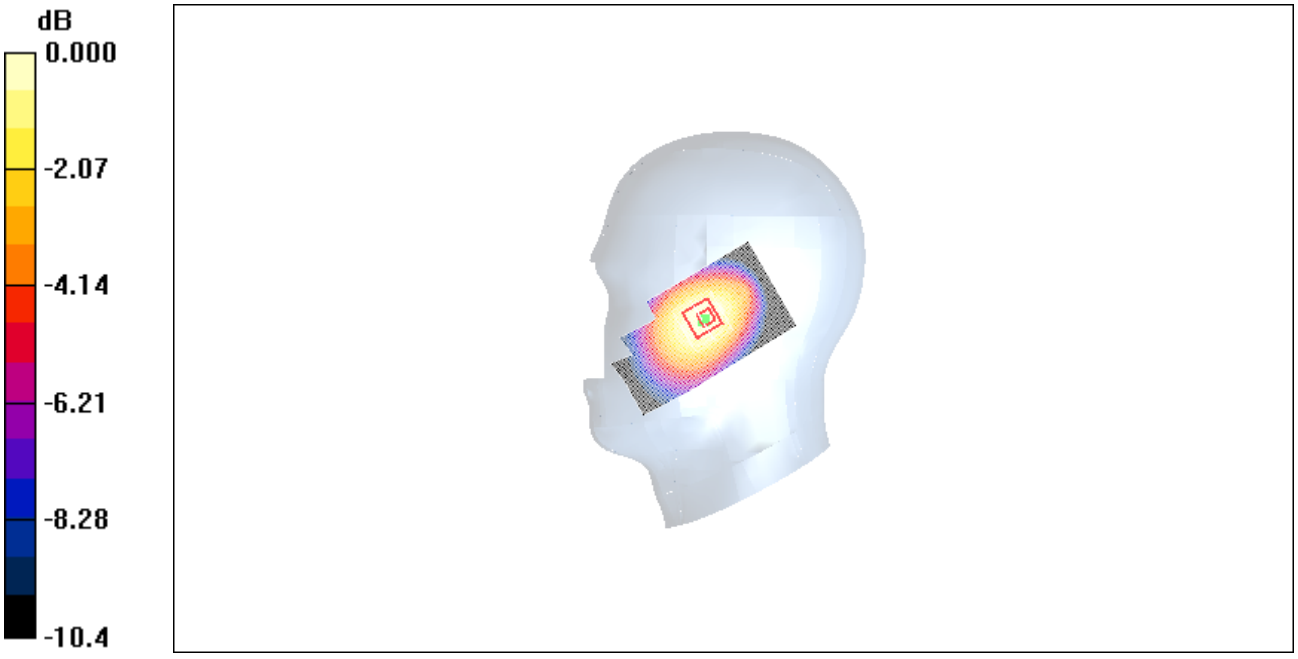
Fig. 20 Z-Scan at power reference point (850 MHz CH251)

850 Right Tilt Middle

Date/Time: 2009-2-9 10:33:42
Electronics: DAE4 Sn771
Medium: Head 850
Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.908 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.434 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.2 V/m; Power Drift = -0.157 dB
Peak SAR (extrapolated) = 0.530 W/kg
SAR(1 g) = 0.406 mW/g; SAR(10 g) = 0.295 mW/g
Maximum value of SAR (measured) = 0.425 mW/g



0 dB = 0.425mW/g

Fig.21 850 MHz CH190

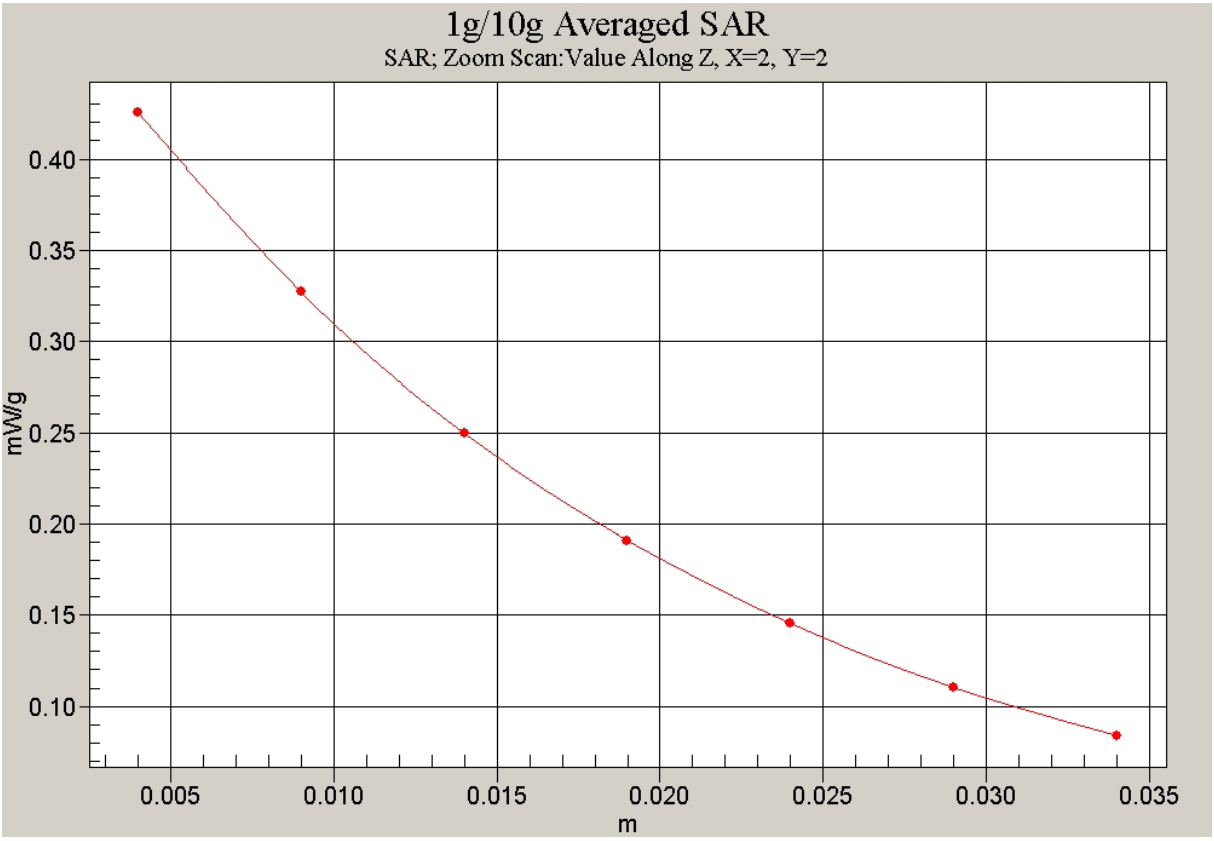
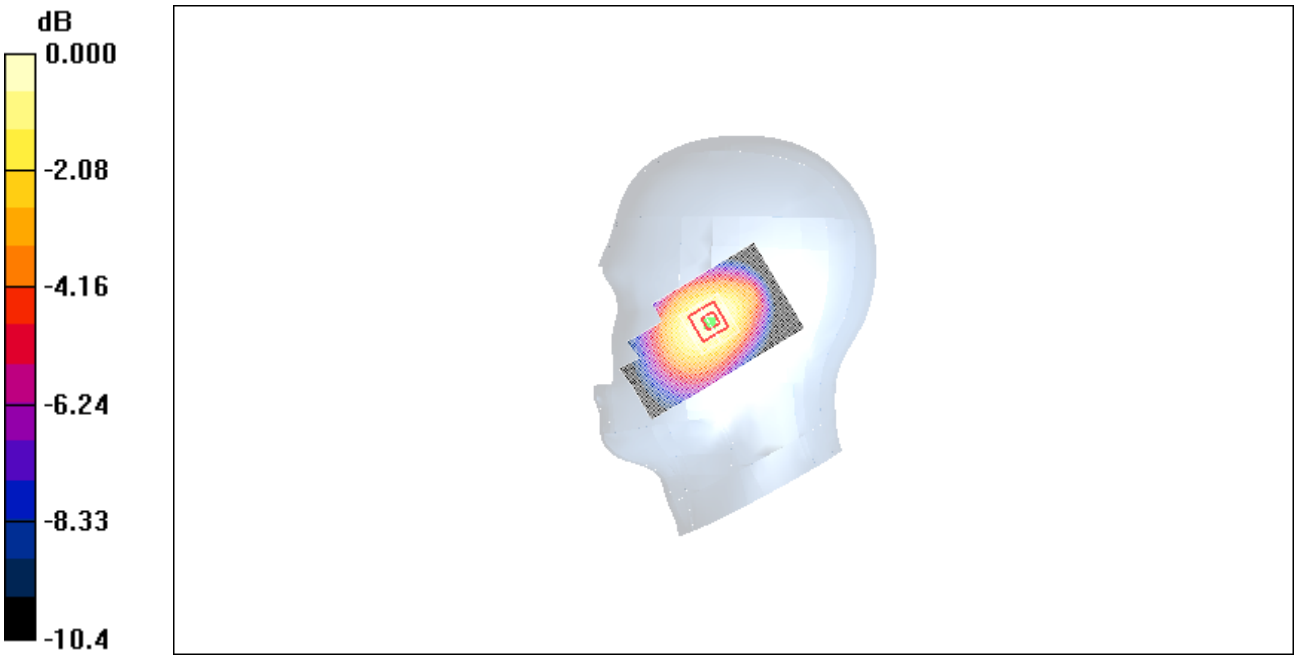


Fig. 22 Z-Scan at power reference point (850 MHz CH190)

850 Right Tilt Low
Date/Time: 2009-2-9 10:47:30
Electronics: DAE4 Sn771
Medium: Head 850
Medium parameters used: f = 825 MHz; σ = 0.896 mho/m; ε_r = 40.4; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.593 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.4 V/m; Power Drift = -0.071 dB
Peak SAR (extrapolated) = 0.727 W/kg
SAR(1 g) = 0.559 mW/g; SAR(10 g) = 0.407 mW/g
Maximum value of SAR (measured) = 0.589 mW/g



0 dB = 0.589mW/g

Fig. 23 850 MHz CH128

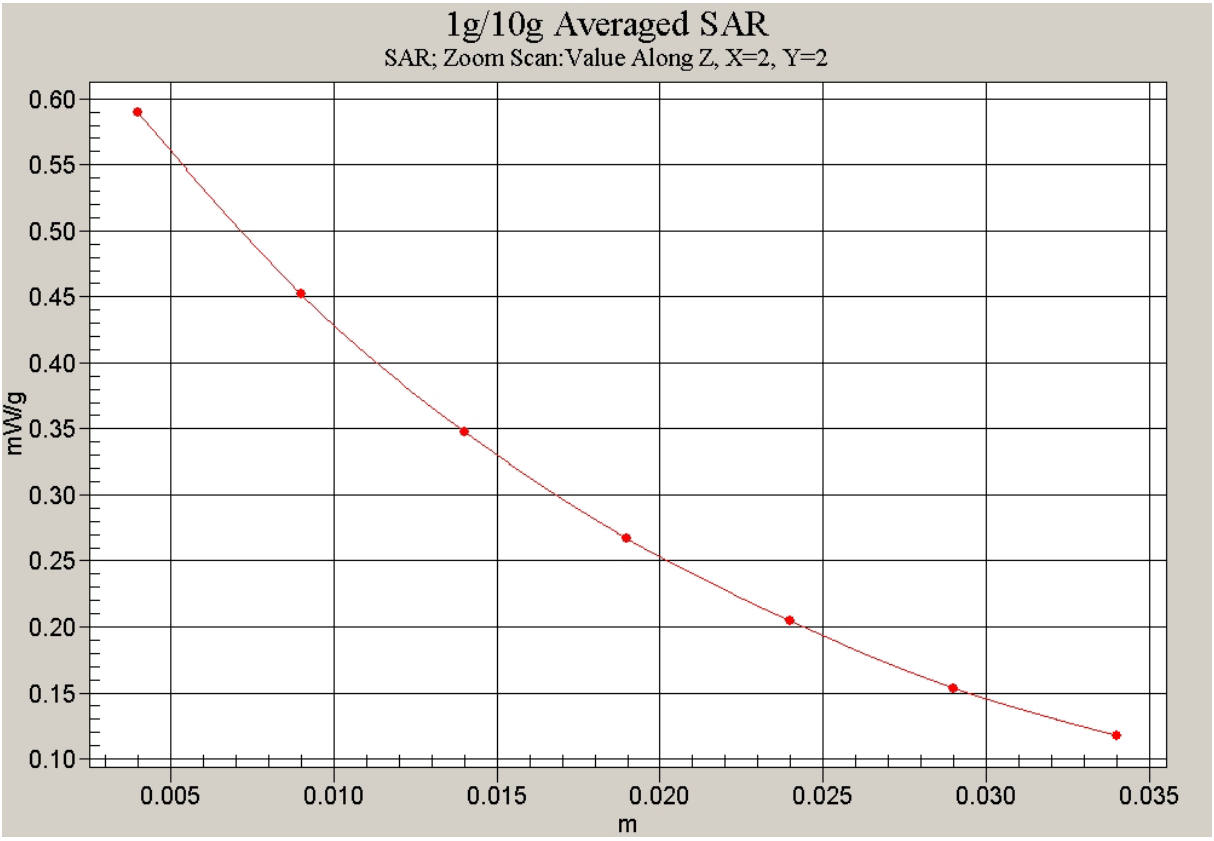


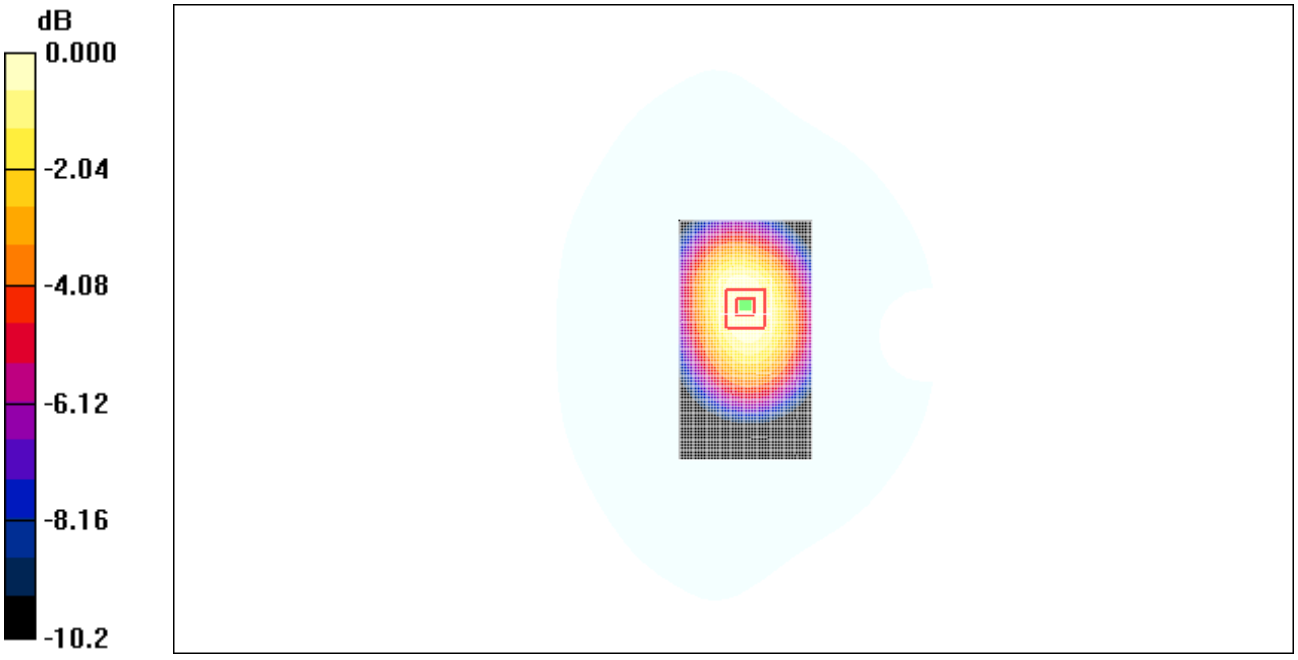
Fig. 24 Z-Scan at power reference point (850 MHz CH128)

850 Body Towards Ground High With GPRS

Date/Time: 2009-2-9 13:23:45
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used (interpolated): f = 848.8 MHz; σ = 1.01 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.03 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 30.2 V/m; Power Drift = -0.200 dB
Peak SAR (extrapolated) = 1.27 W/kg
SAR(1 g) = 0.944 mW/g; SAR(10 g) = 0.658 mW/g
Maximum value of SAR (measured) = 0.970 mW/g



0 dB = 0.970mW/g

Fig. 25 850 MHz CH251

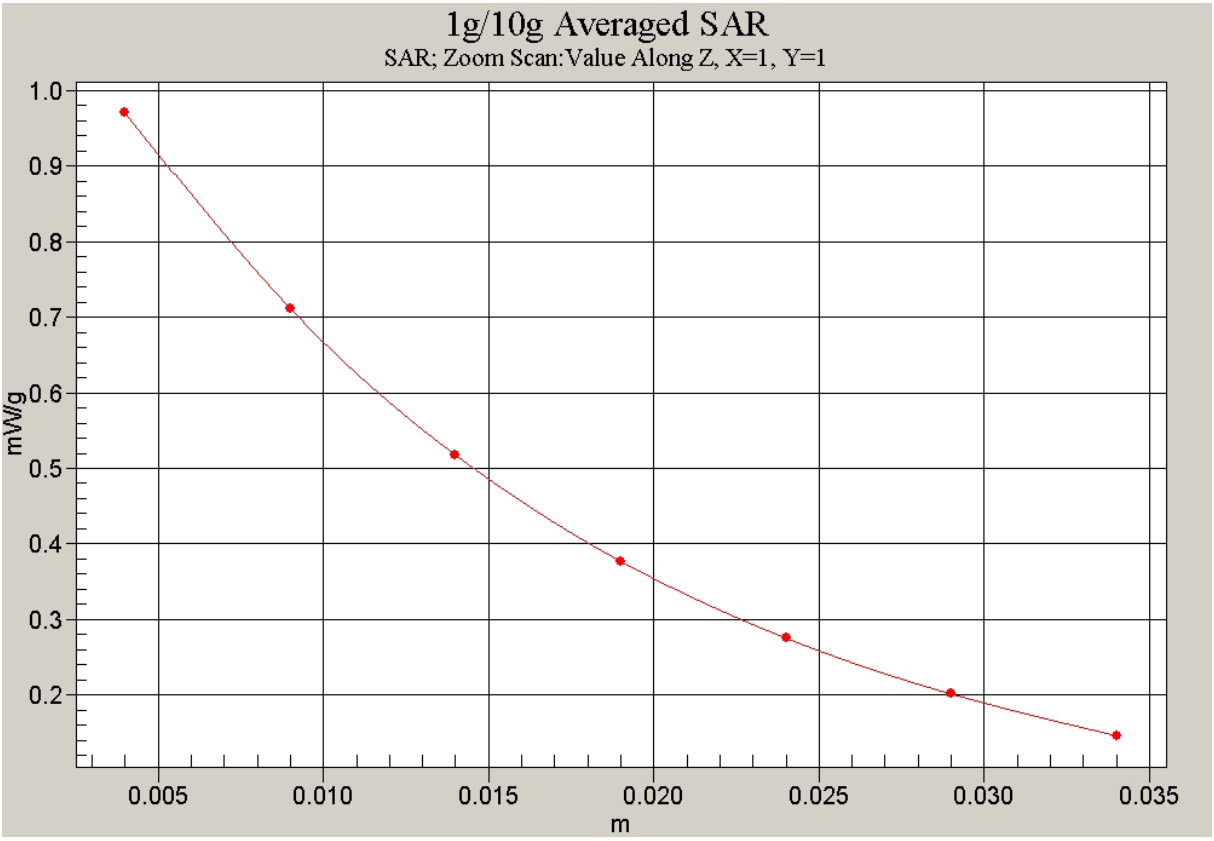


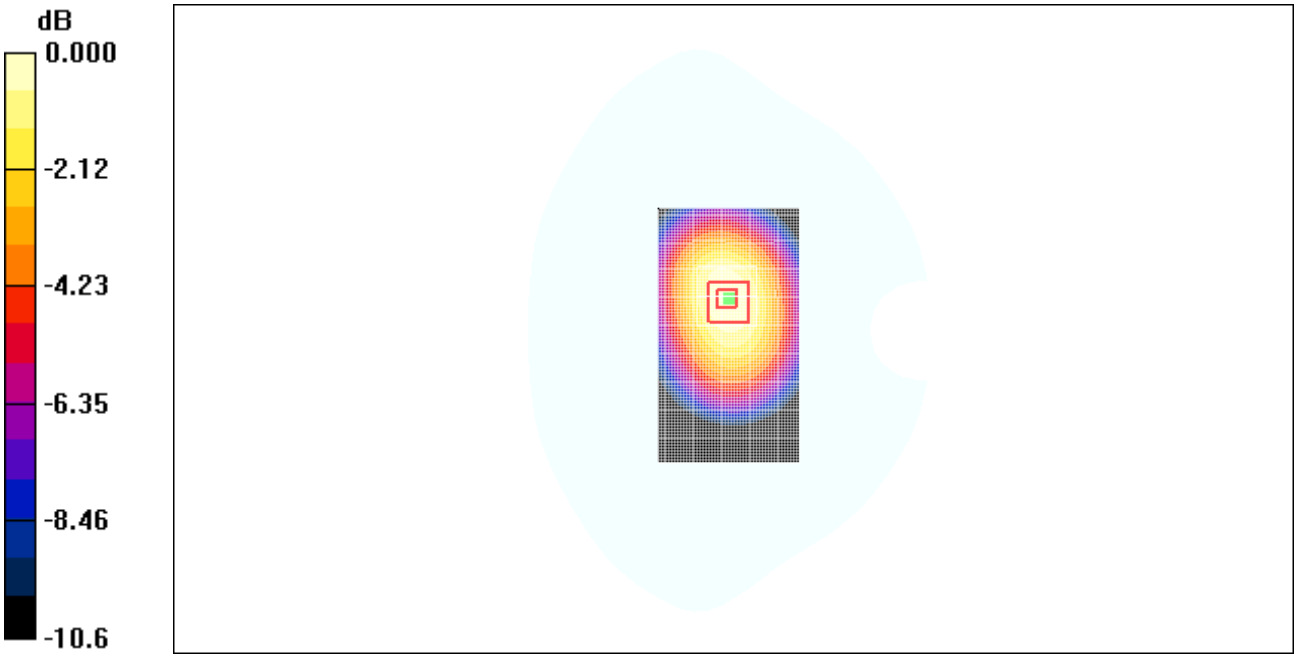
Fig. 26 Z-Scan at power reference point (850 MHz CH251)

850 Body Towards Ground Middle With GPRS

Date/Time: 2009-2-9 13:38:38
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used (interpolated): f = 836.6 MHz; σ = 1.00 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.11 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 31.1 V/m; Power Drift = 0.068 dB
Peak SAR (extrapolated) = 1.42 W/kg
SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.729 mW/g
Maximum value of SAR (measured) = 1.10 mW/g



0 dB = 1.10mW/g

Fig. 27 850 MHz CH190

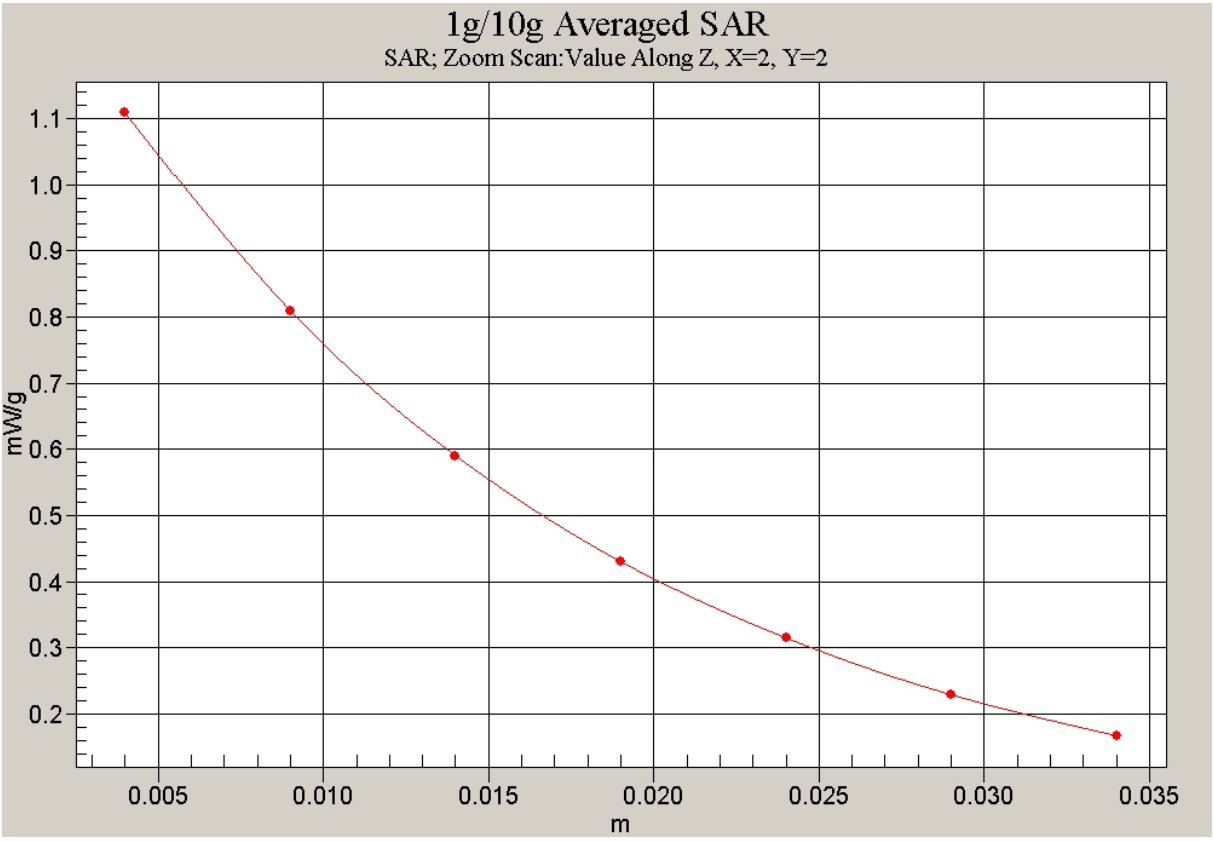


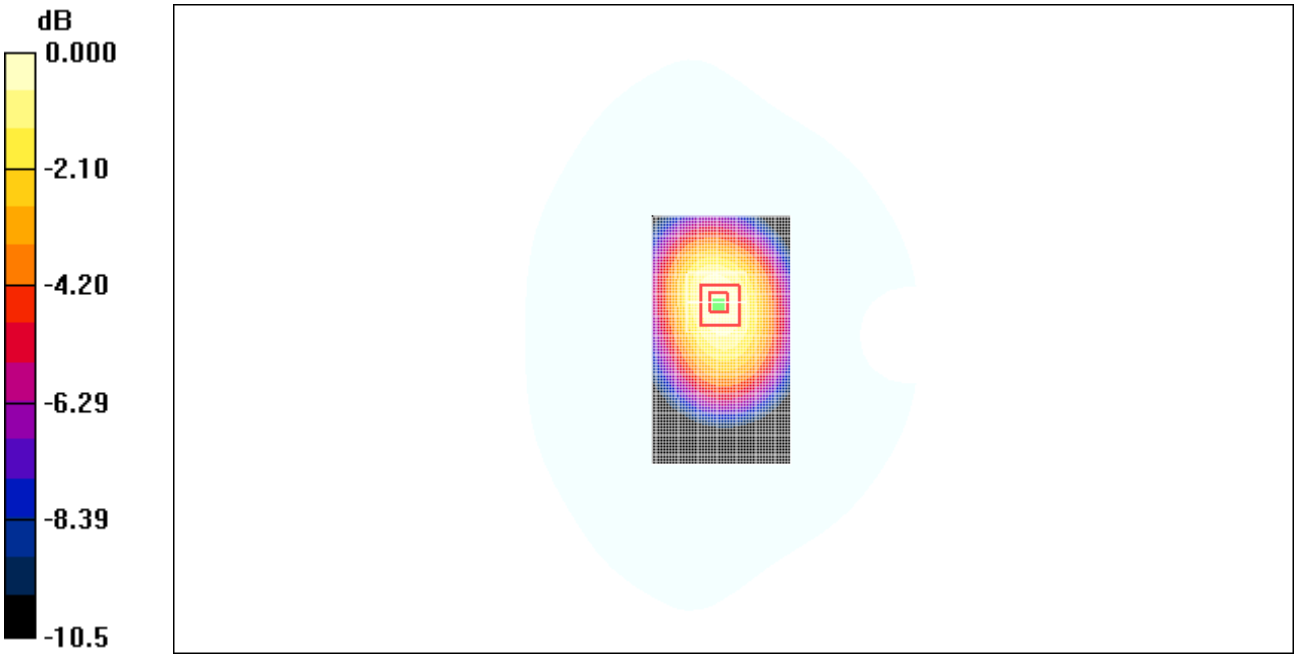
Fig. 28 Z-Scan at power reference point (850 MHz CH190)

850 Body Towards Ground Low With GPRS

Date/Time: 2009-2-9 13:52:16
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used: f = 825 MHz; σ = 0.983 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.896 mW/g

Toward Ground Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.1 V/m; Power Drift = 0.010 dB
Peak SAR (extrapolated) = 1.12 W/kg
SAR(1 g) = 0.837 mW/g; SAR(10 g) = 0.587 mW/g
Maximum value of SAR (measured) = 0.894 mW/g



0 dB = 0.894mW/g

Fig. 29 850 MHz CH128

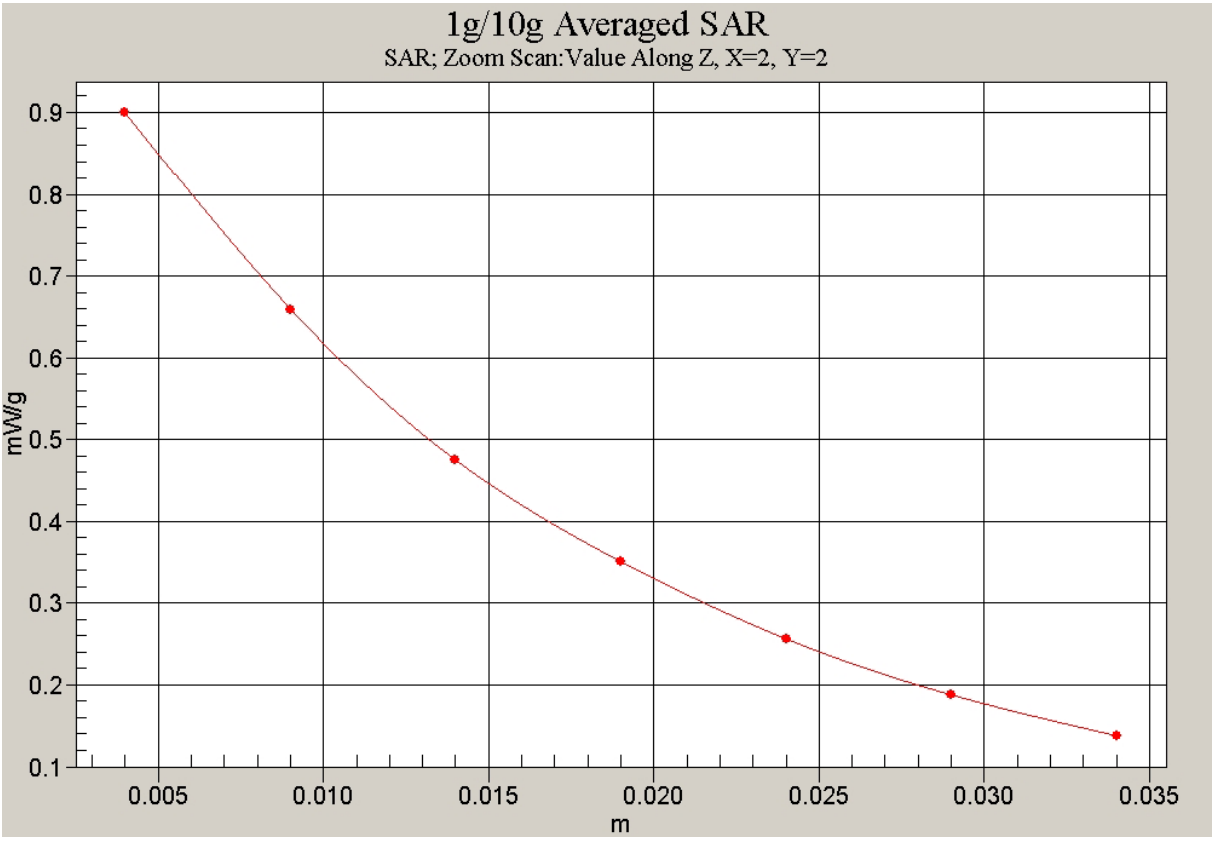


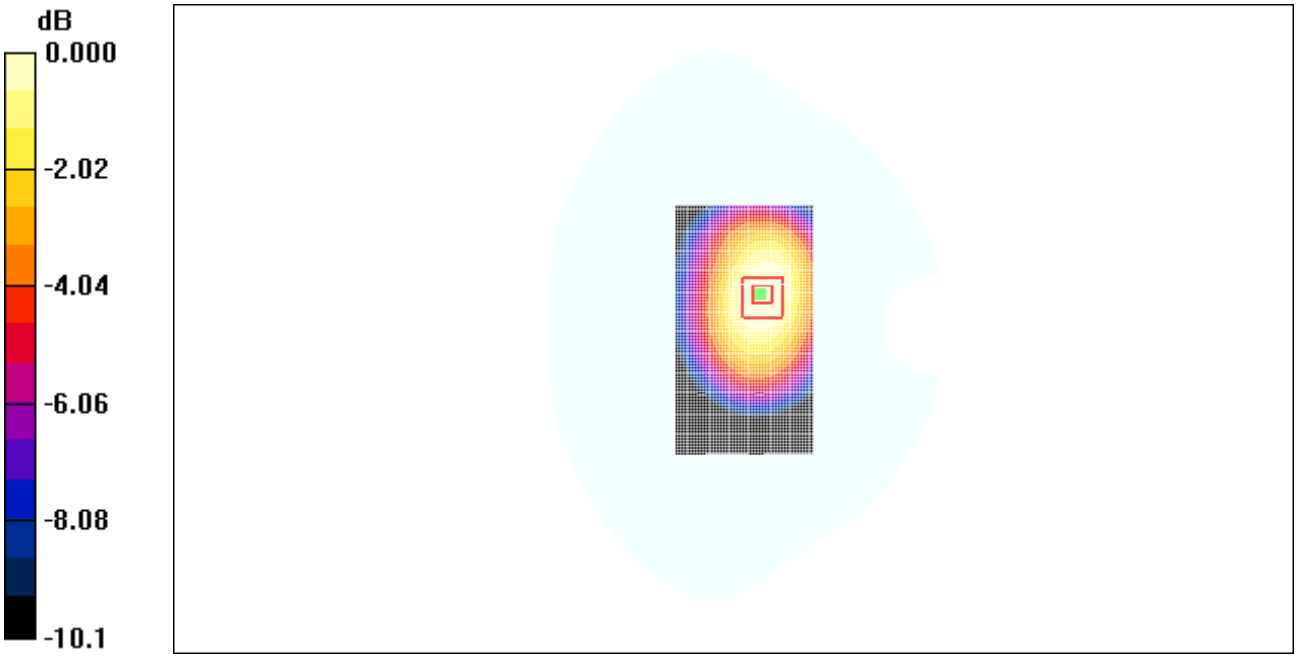
Fig. 30 Z-Scan at power reference point (850 MHz CH128)

850 Body Towards Phantom High With GPRS

Date/Time: 2009-2-9 14:06:43
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used (interpolated): f = 848.8 MHz; σ = 1.01 mho/m; ε_r = 53.7; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.919 mW/g

Toward Phantom High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 27.4 V/m; Power Drift = -0.195 dB
Peak SAR (extrapolated) = 1.13 W/kg
SAR(1 g) = 0.844 mW/g; SAR(10 g) = 0.590 mW/g
Maximum value of SAR (measured) = 0.874 mW/g



0 dB = 0.874mW/g

Fig. 31 850 MHz CH251

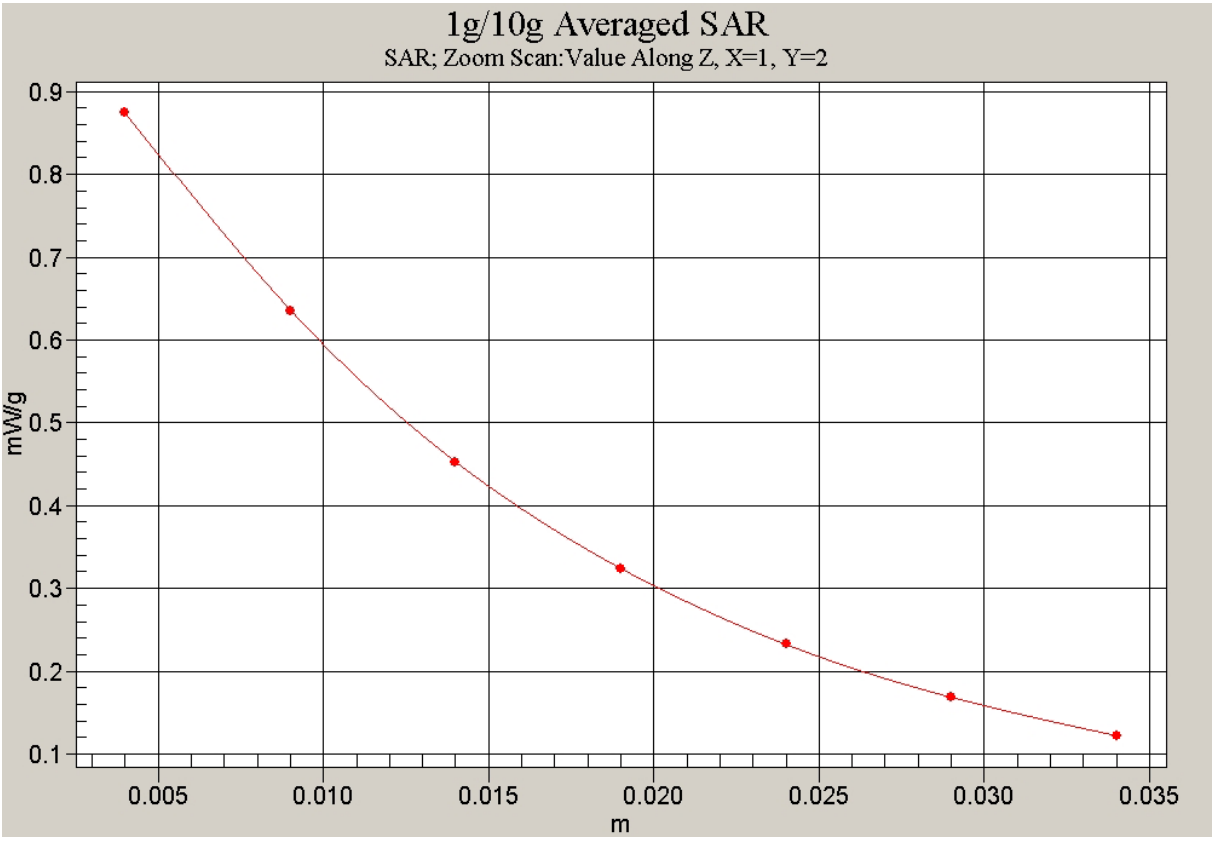


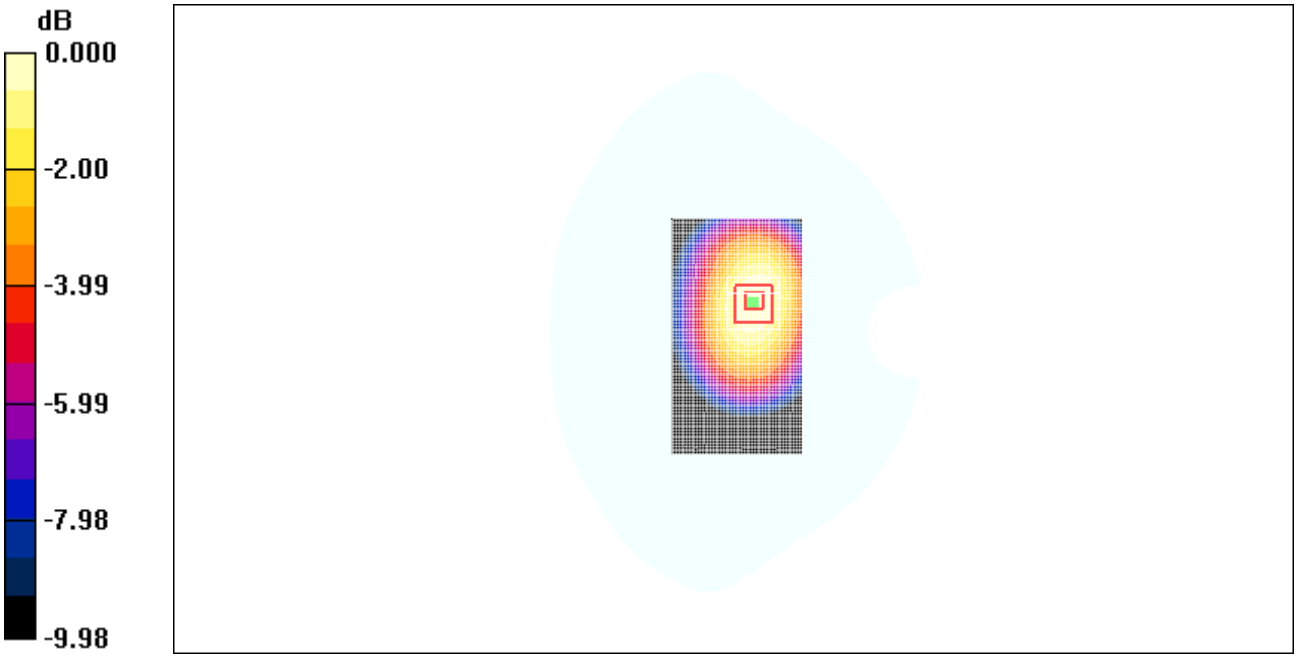
Fig. 32 Z-Scan at power reference point (850 MHz CH251)

850 Body Towards Phantom Middle With GPRS

Date/Time: 2009-2-9 14:20:11
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used (interpolated): f = 836.6 MHz; σ = 1.00 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 1.05 mW/g

Toward Phantom Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 28.9 V/m; Power Drift = 0.026 dB
Peak SAR (extrapolated) = 1.33 W/kg
SAR(1 g) = 0.985 mW/g; SAR(10 g) = 0.688 mW/g
Maximum value of SAR (measured) = 1.03 mW/g



0 dB = 1.03mW/g

Fig. 33 850 MHz CH190

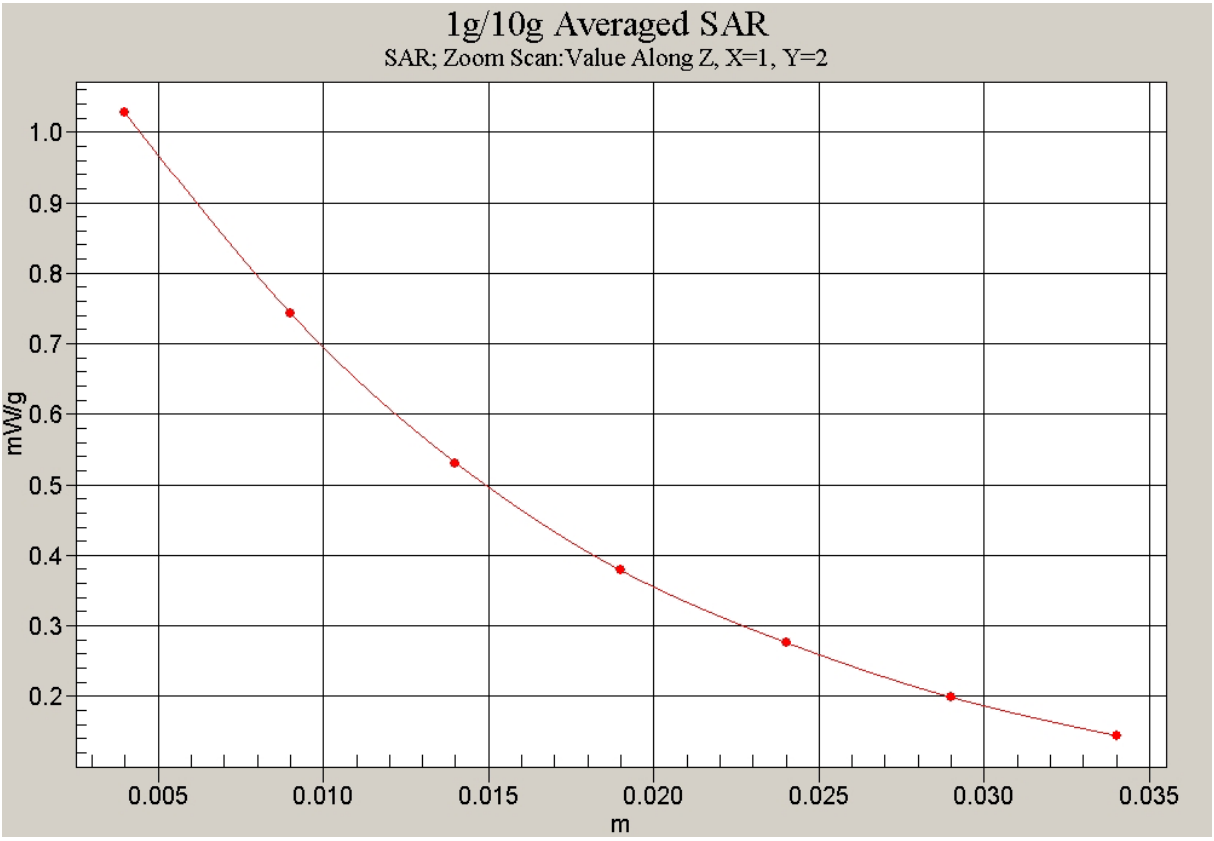


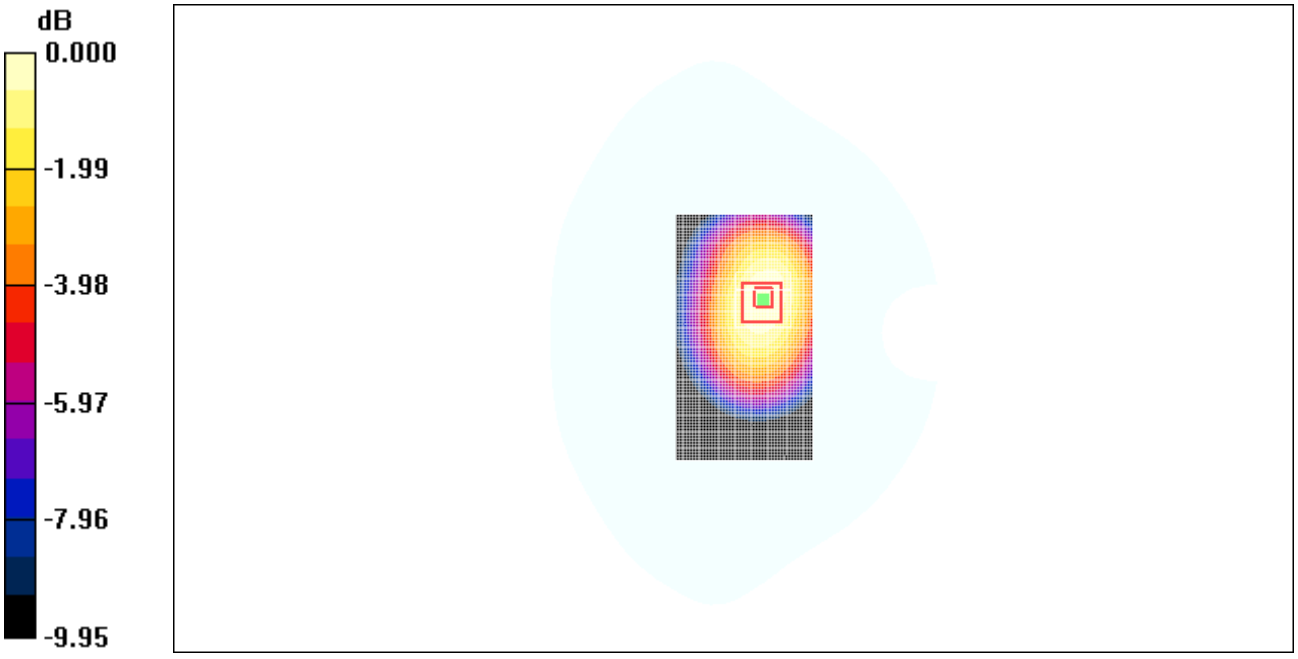
Fig. 34 Z-Scan at power reference point (850 MHz CH190)

850 Body Towards Phantom Low With GPRS

Date/Time: 2009-2-9 14:34:51
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used: f = 825 MHz; σ = 0.983 mho/m; ε_r = 53.9; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.818 mW/g

Toward Phantom Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.5 V/m; Power Drift = 0.072 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.771 mW/g; SAR(10 g) = 0.540 mW/g
Maximum value of SAR (measured) = 0.793 mW/g



0 dB = 0.793mW/g

Fig. 35 850 MHz CH128

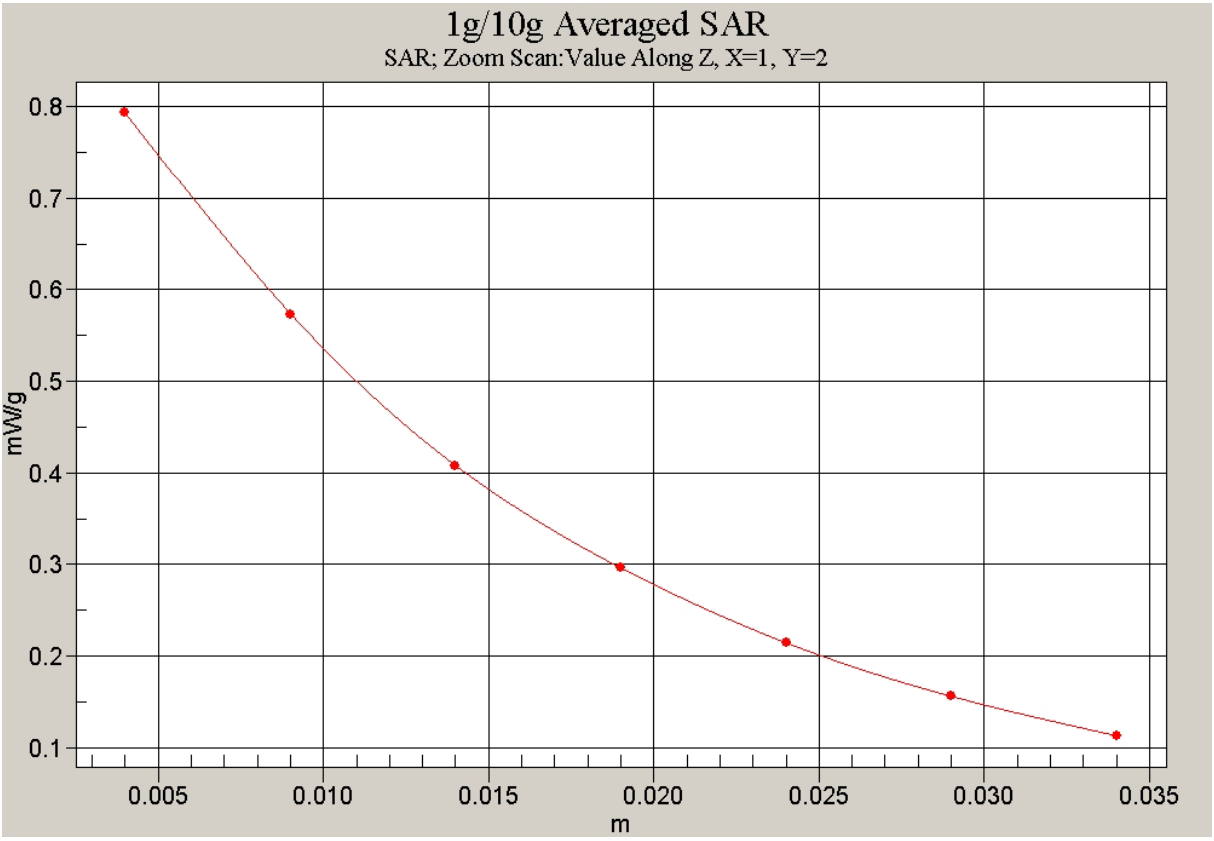


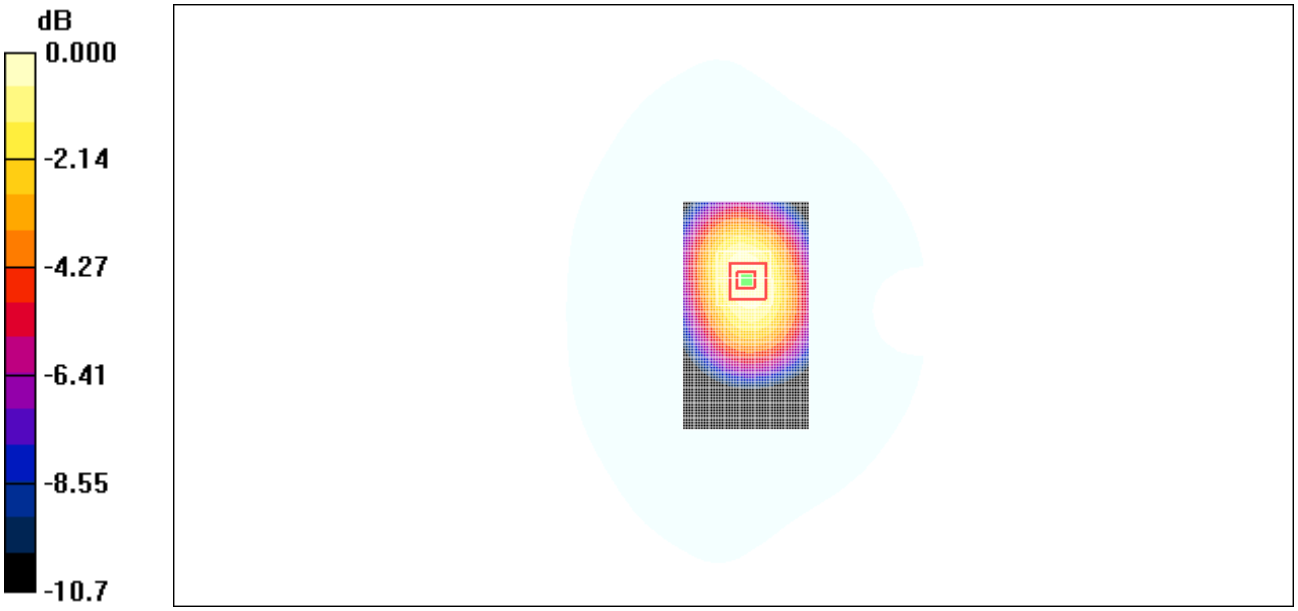
Fig. 36 Z-Scan at power reference point (850 MHz CH128)

850 Body Towards Ground Low with Headset

Date/Time: 2009-2-9 14:50:07
Electronics: DAE4 Sn771
Medium: 850 Body
Medium parameters used (interpolated): f = 836.6 MHz; σ = 1.00 mho/m; ε_r = 53.8; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud Temperature: 22.5°C
Communication System: GSM 850 Frequency: 836.6 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(6.22, 6.22, 6.22)

Toward Ground Middle/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.599 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.4 V/m; Power Drift = 0.016 dB
Peak SAR (extrapolated) = 0.756 W/kg
SAR(1 g) = 0.556 mW/g; SAR(10 g) = 0.389 mW/g
Maximum value of SAR (measured) = 0.591 mW/g



0 dB = 0.591mW/g

Fig. 37 850 MHz CH128

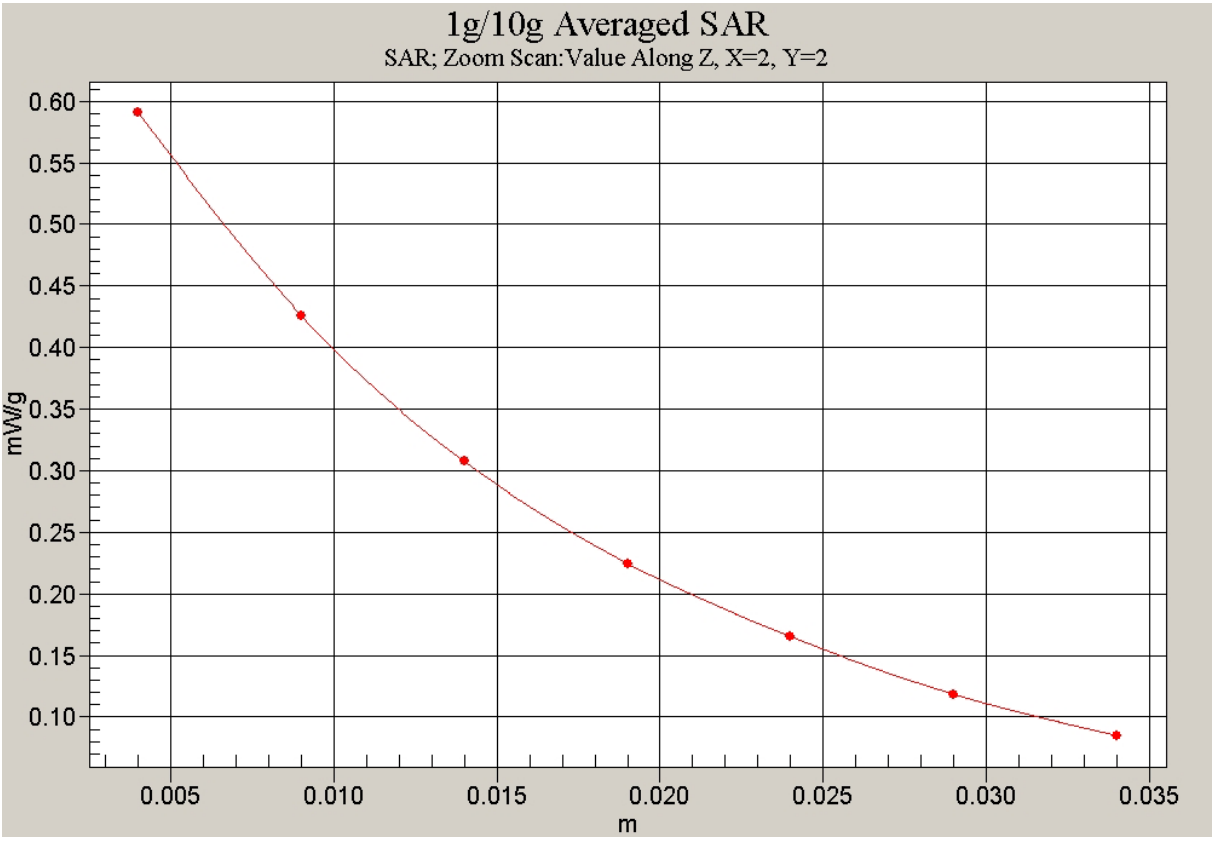
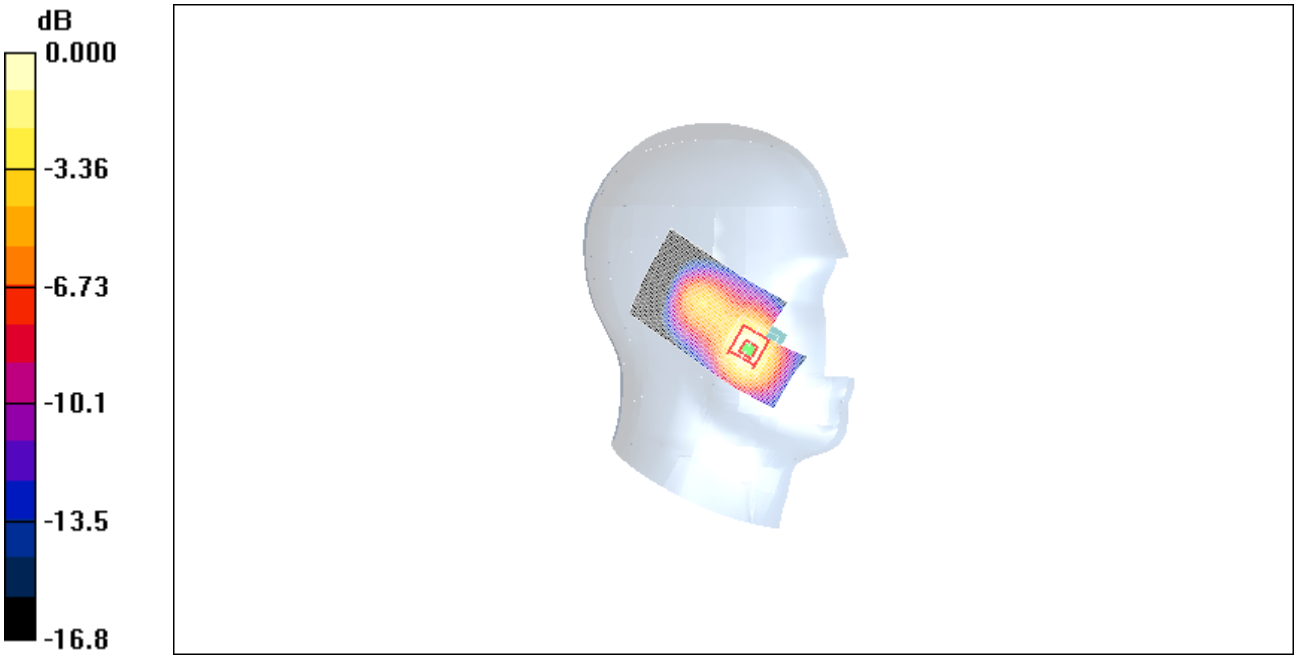


Fig. 38 Z-Scan at power reference point (850 MHz CH128)

1900 Left Cheek High
Date/Time: 2009-2-10 8:28:12
Electronics: DAE4 Sn771
Medium: 1900 Head
Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.991 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.47 V/m; Power Drift = -0.200 dB
Peak SAR (extrapolated) = 1.33 W/kg
SAR(1 g) = 0.847 mW/g; SAR(10 g) = 0.498 mW/g
Maximum value of SAR (measured) = 0.923 mW/g



0 dB = 0.923mW/g

Fig. 39 1900 MHz CH810

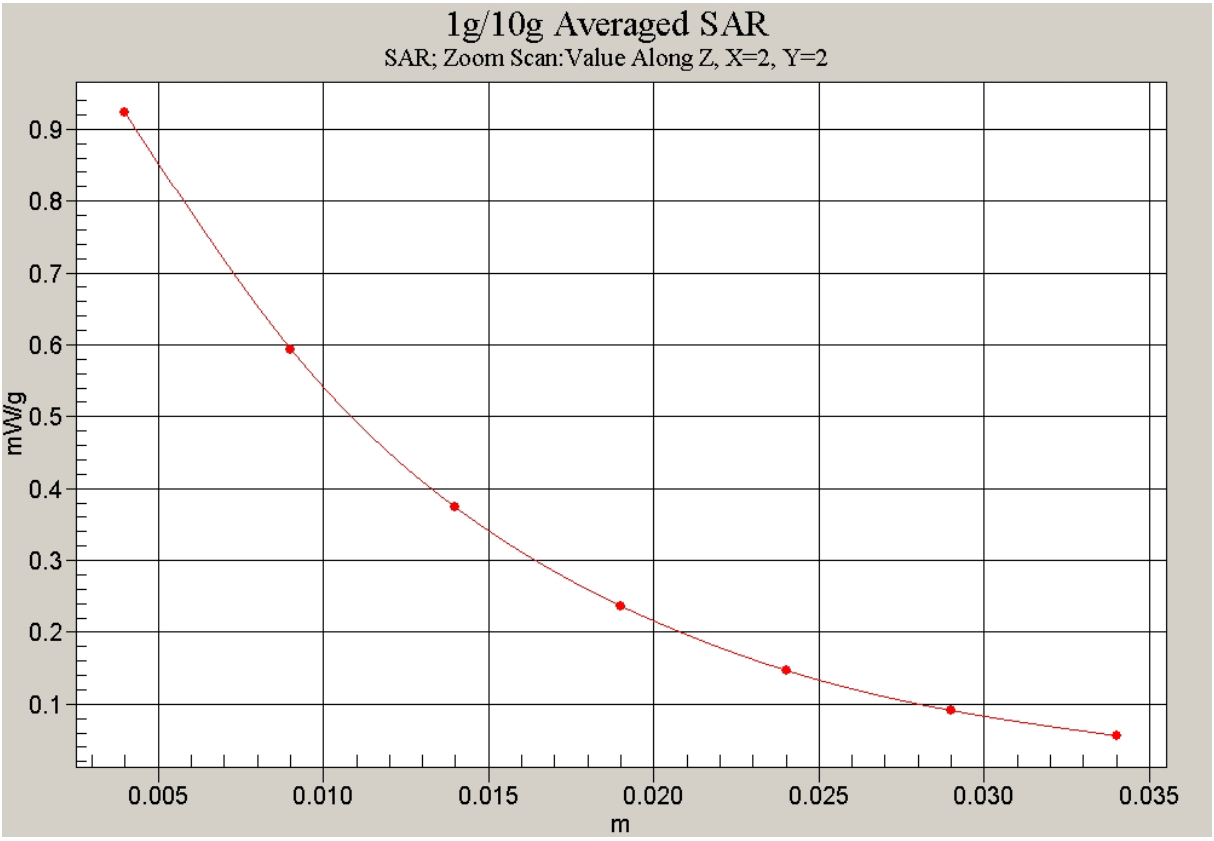
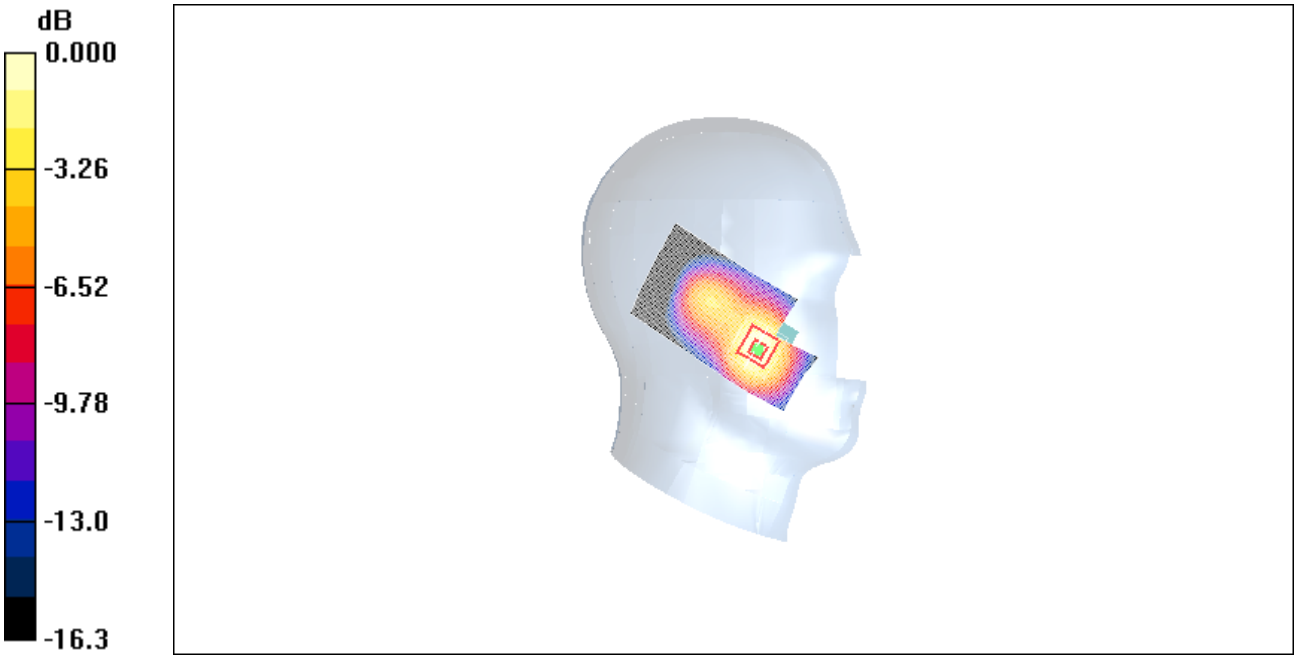


Fig. 40 Z-Scan at power reference point (1900 MHz CH810)

1900 Left Cheek Middle
Date/Time: 2009-2-10 8:42:22
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.41 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 1.05 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.49 V/m; Power Drift = -0.013 dB
Peak SAR (extrapolated) = 1.43 W/kg
SAR(1 g) = 0.906 mW/g; SAR(10 g) = 0.534 mW/g
Maximum value of SAR (measured) = 0.982 mW/g



0 dB = 0.982mW/g

Fig. 41 1900 MHz CH661

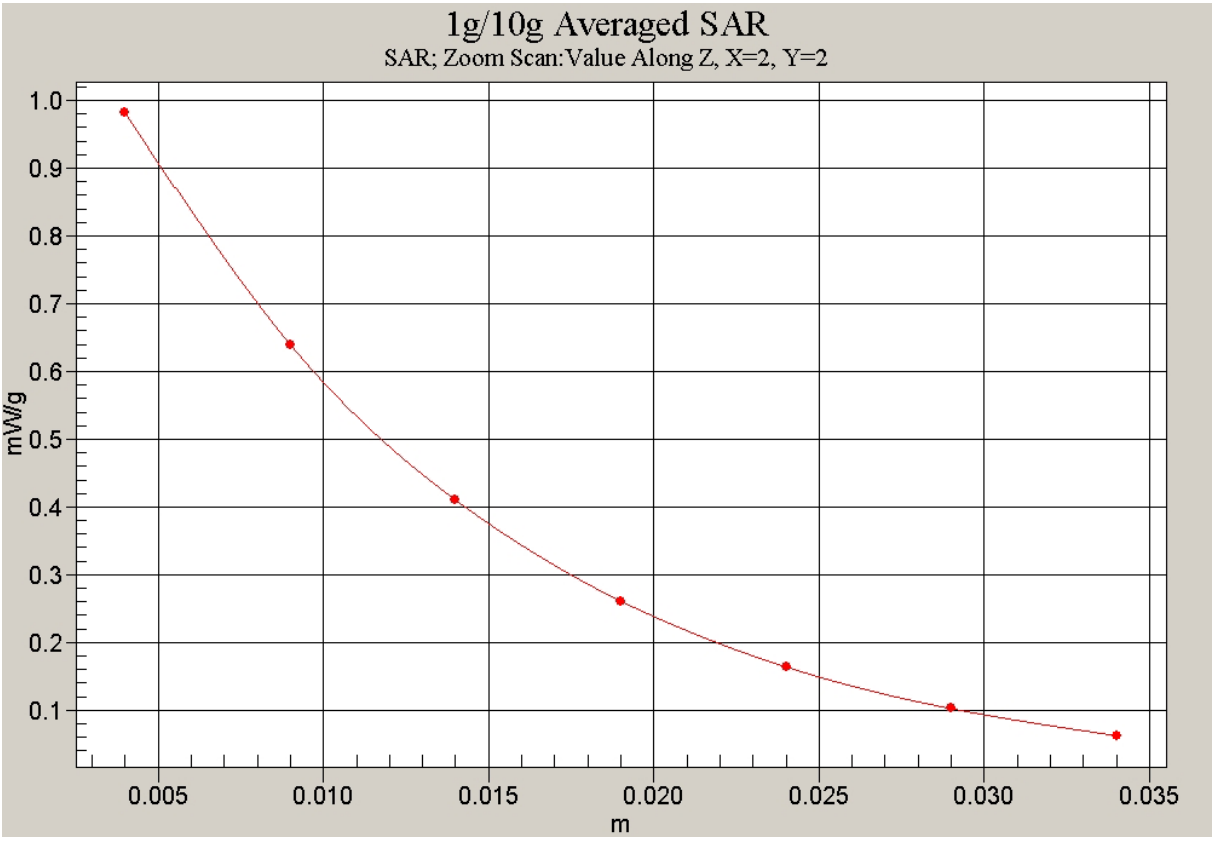
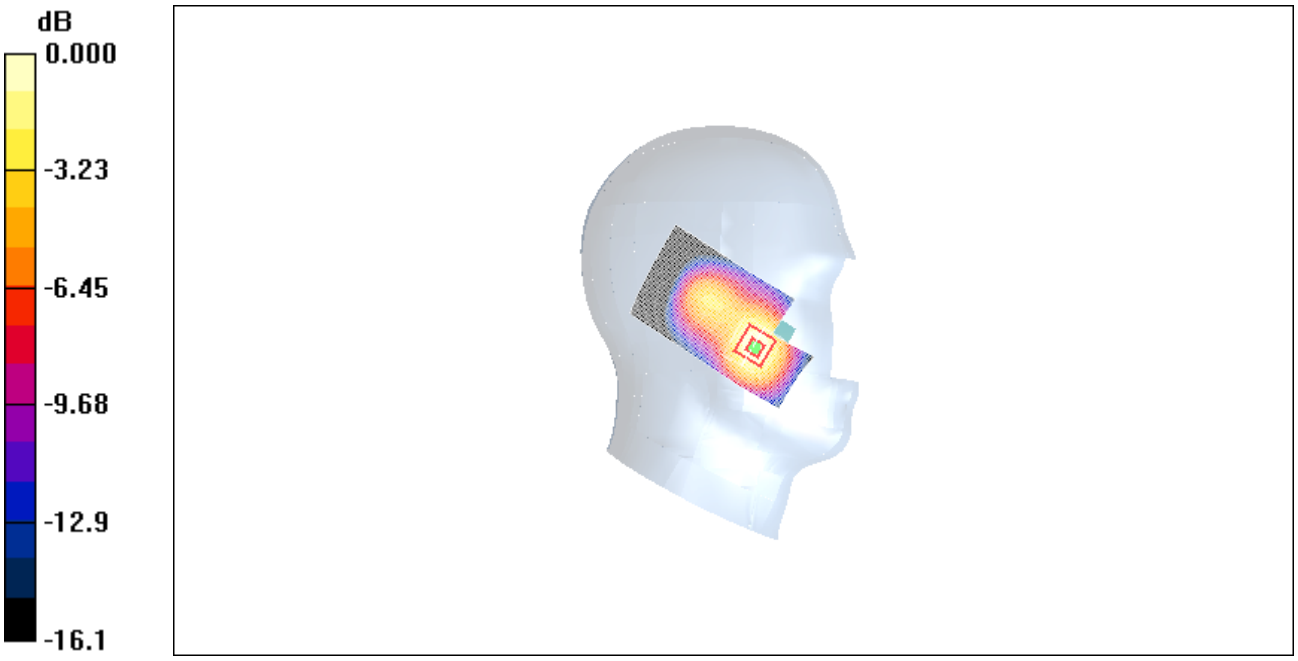


Fig. 42 Z-Scan at power reference point (1900 MHz CH661)

1900 Left Cheek Low
Date/Time: 2009-2-10 8:56:09
Electronics: DAE4 Sn771
Medium: 1900 Head
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.38 mho/m; ε_r = 39.3; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 1.18 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.14 V/m; Power Drift = -0.059 dB
Peak SAR (extrapolated) = 1.59 W/kg
SAR(1 g) = 1.02 mW/g; SAR(10 g) = 0.603 mW/g
Maximum value of SAR (measured) = 1.10 mW/g



0 dB = 1.10mW/g

Fig. 43 1900 MHz CH512

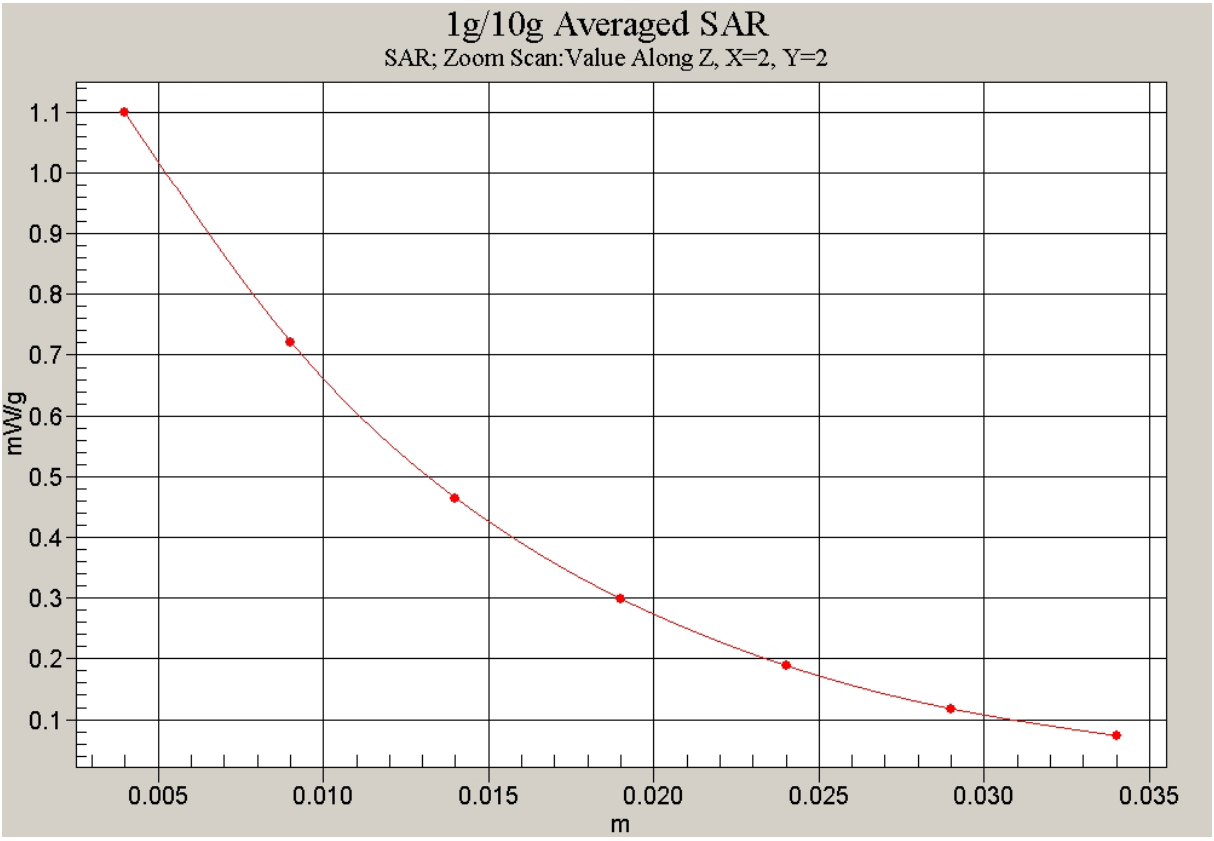


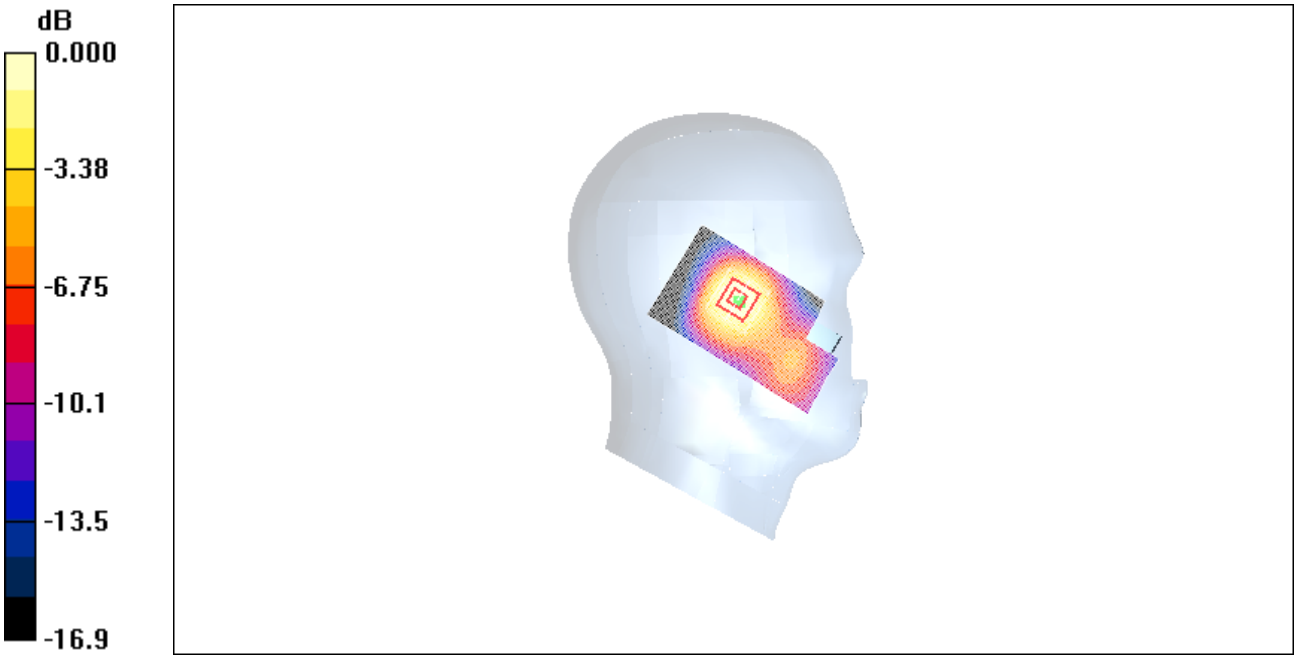
Fig. 44 Z-Scan at power reference point (1900 MHz CH512)

1900 Left Tilt High

Date/Time: 2009-2-10 9:10:14
Electronics: DAE4 Sn771
Medium: 1900 Head
Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.408 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.89 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 0.517 W/kg
SAR(1 g) = 0.343 mW/g; SAR(10 g) = 0.209 mW/g
Maximum value of SAR (measured) = 0.369 mW/g



0 dB = 0.369mW/g

Fig.45 1900 MHz CH810

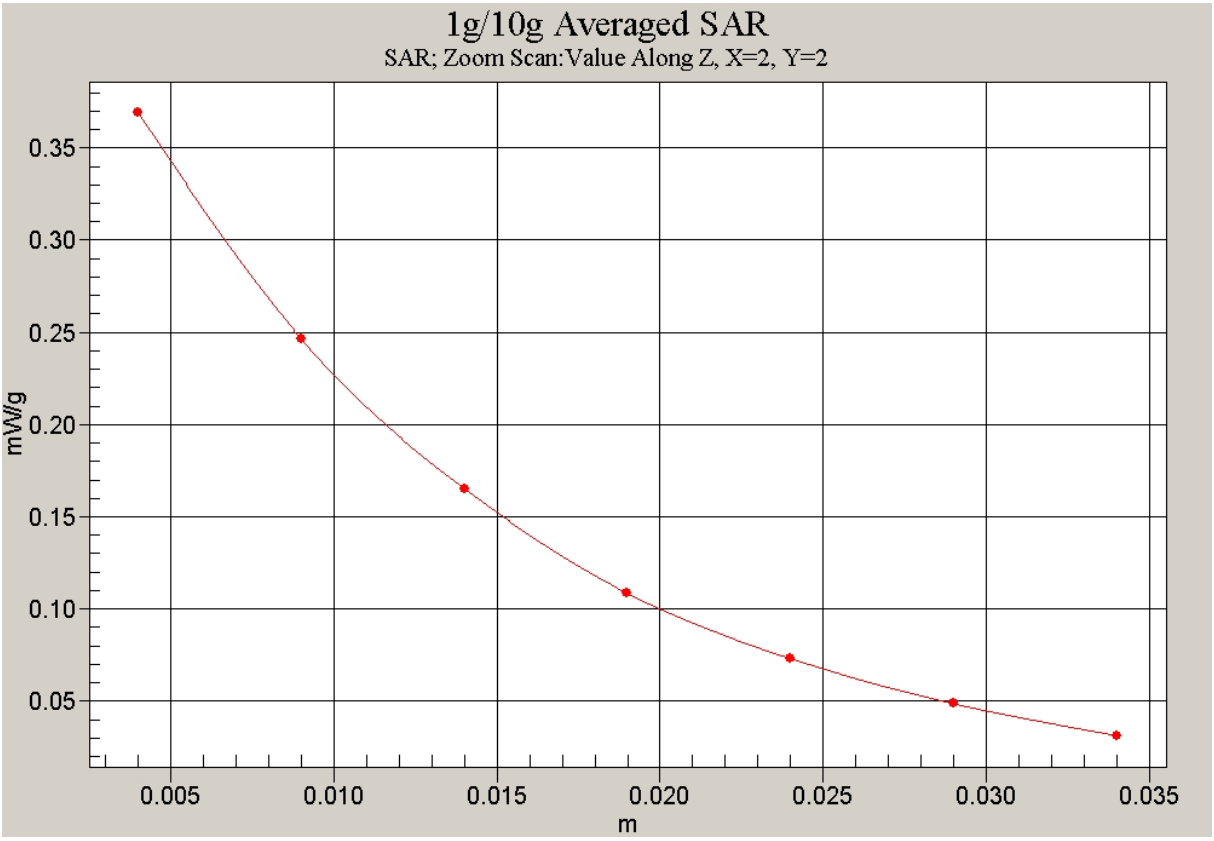
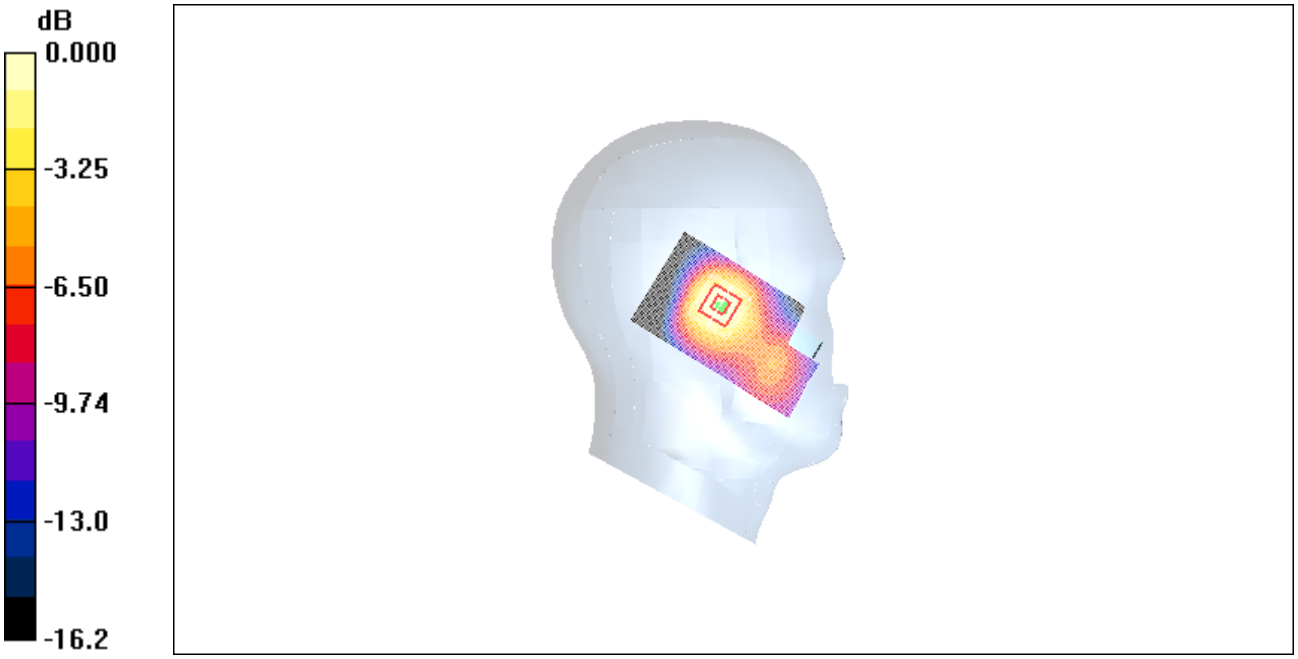


Fig. 46 Z-Scan at power reference point (1900 MHz CH810)

1900 Left Tilt Middle
Date/Time: 2009-2-10 9:24:37
Electronics: DAE4 Sn771
Medium: 1900 Head
Medium parameters used: f = 1880 MHz; σ = 1.41 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.428 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.03 V/m; Power Drift = 0.076 dB
Peak SAR (extrapolated) = 0.549 W/kg
SAR(1 g) = 0.361 mW/g; SAR(10 g) = 0.220 mW/g
Maximum value of SAR (measured) = 0.387 mW/g



0 dB = 0.387mW/g

Fig. 47 1900 MHz CH661

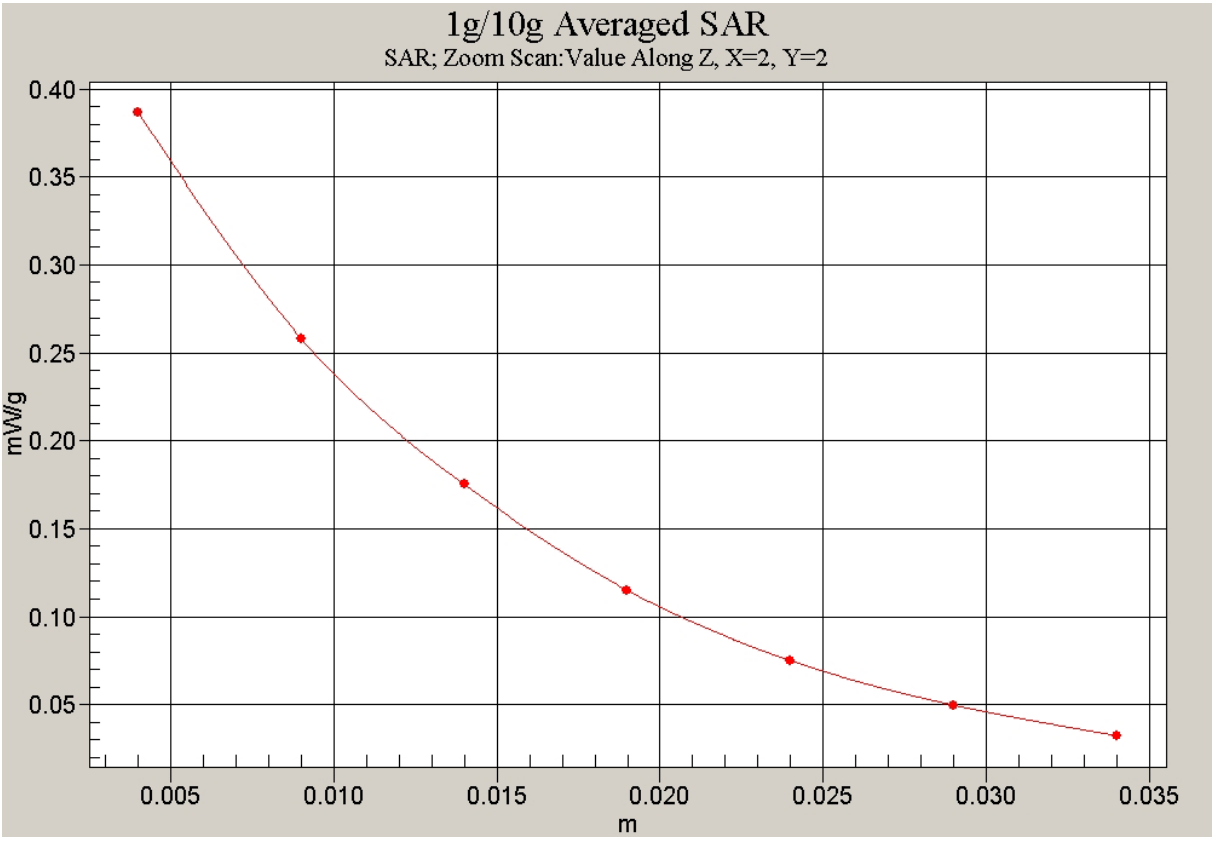
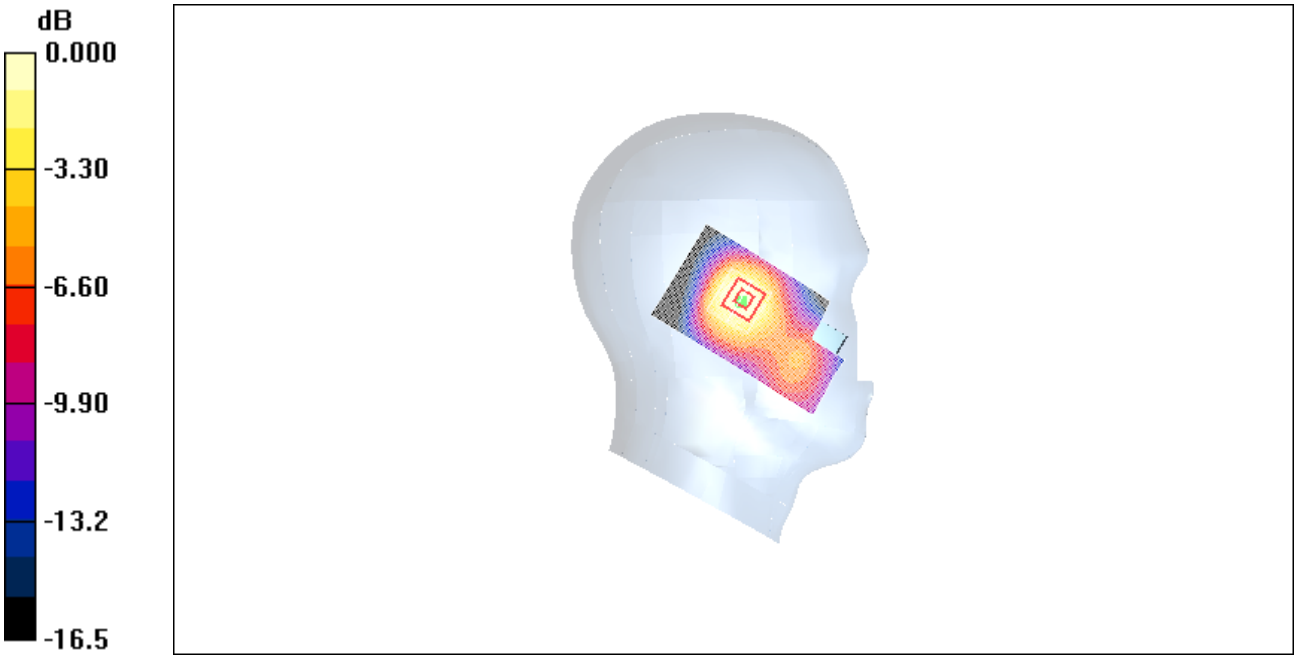


Fig. 48 Z-Scan at power reference point (1900 MHz CH661)

1900 Left Tilt Low
Date/Time: 2009-2-10 9:38:57
Electronics: DAE4 Sn771
Medium: 1900 Head
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.38 mho/m; ε_r = 39.3; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.518 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.1 V/m; Power Drift = -0.200 dB
Peak SAR (extrapolated) = 0.635 W/kg
SAR(1 g) = 0.425 mW/g; SAR(10 g) = 0.260 mW/g
Maximum value of SAR (measured) = 0.446 mW/g



0 dB = 0.446mW/g

Fig. 49 1900 MHz CH512

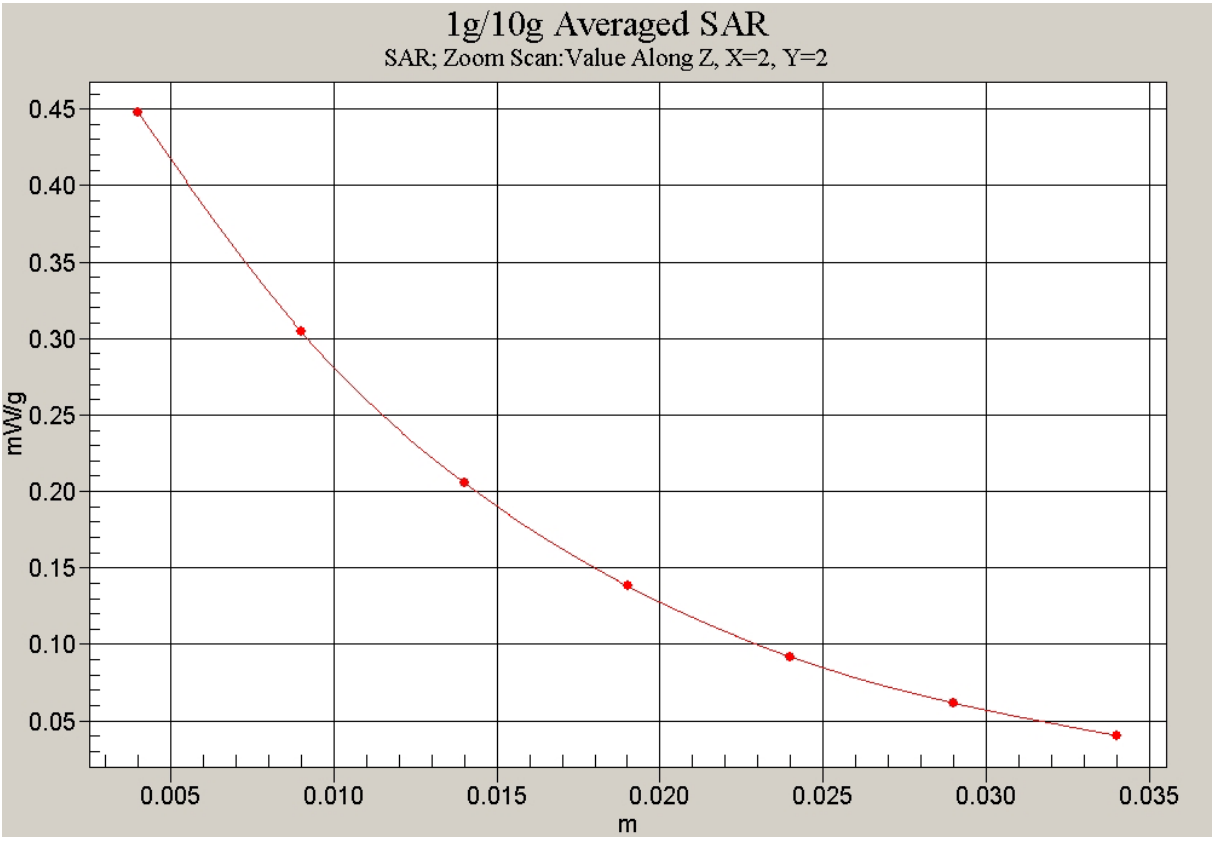
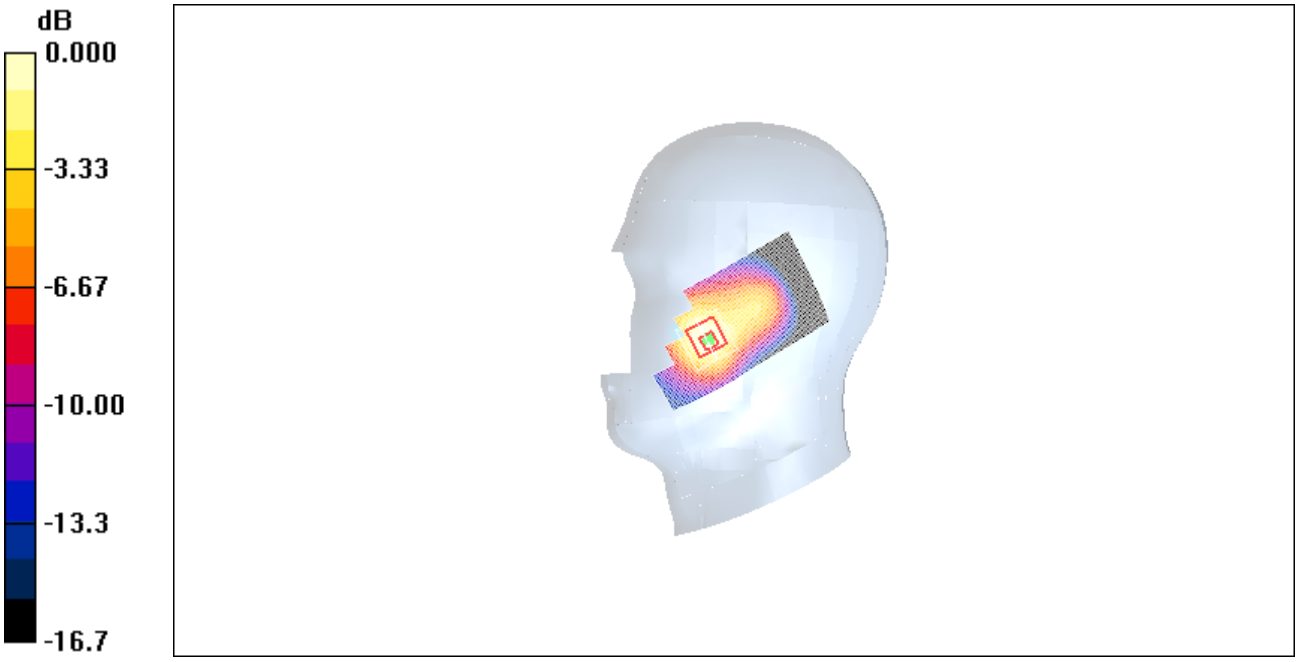


Fig. 50 Z-Scan at power reference point (1900 MHz CH512)

1900 Right Cheek High
Date/Time: 2009-2-10 9:52:35
Electronics: DAE4 Sn771
Medium: 1900 Head
Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.944 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.07 V/m; Power Drift = -0.200 dB
Peak SAR (extrapolated) = 1.17 W/kg
SAR(1 g) = 0.797 mW/g; SAR(10 g) = 0.484 mW/g
Maximum value of SAR (measured) = 0.867 mW/g



0 dB = 0.867mW/g

Fig. 51 1900 MHz CH810

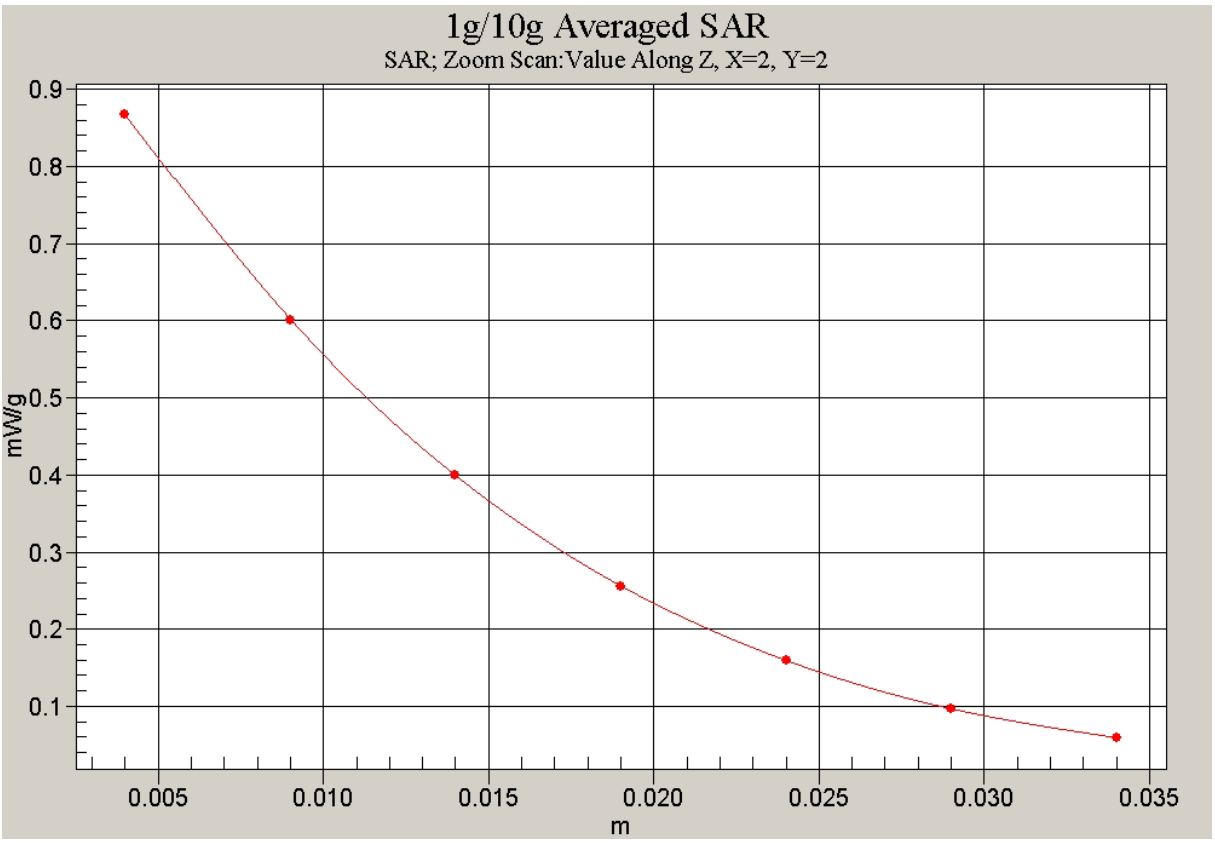
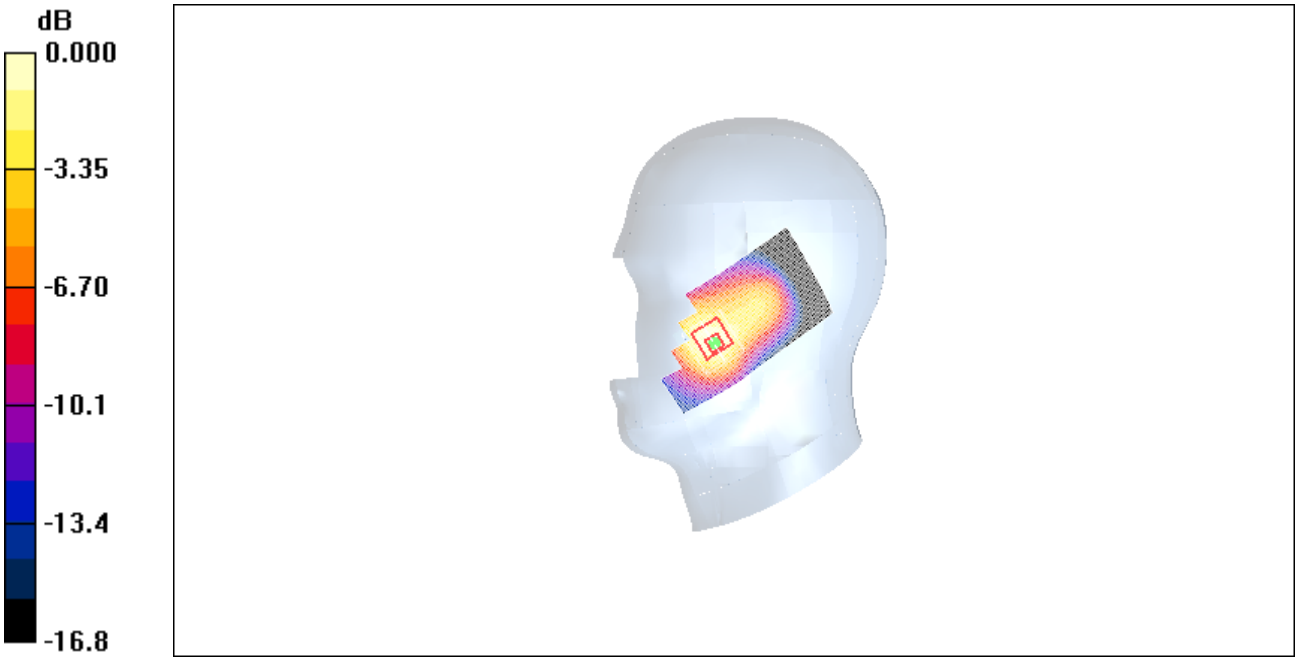


Fig. 52 Z-Scan at power reference point (1900 MHz CH810)

1900 Right Cheek Middle
Date/Time: 2009-2-10 10:06:41
Electronics: DAE4 Sn771
Medium: 1900 Head
Medium parameters used: f = 1880 MHz; σ = 1.41 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.950 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.89 V/m; Power Drift = 0.071 dB
Peak SAR (extrapolated) = 1.18 W/kg
SAR(1 g) = 0.808 mW/g; SAR(10 g) = 0.494 mW/g
Maximum value of SAR (measured) = 0.882 mW/g



0 dB = 0.882mW/g

Fig. 53 1900 MHz CH661

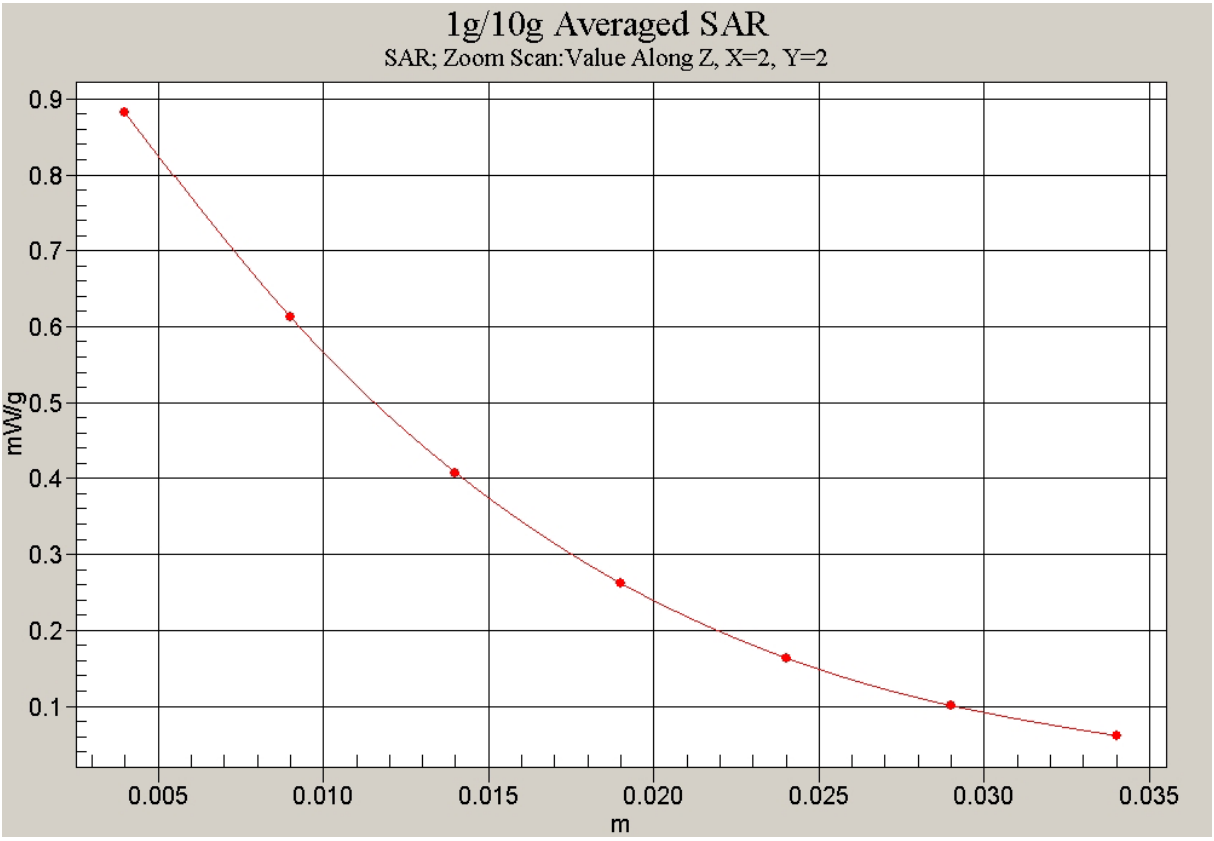
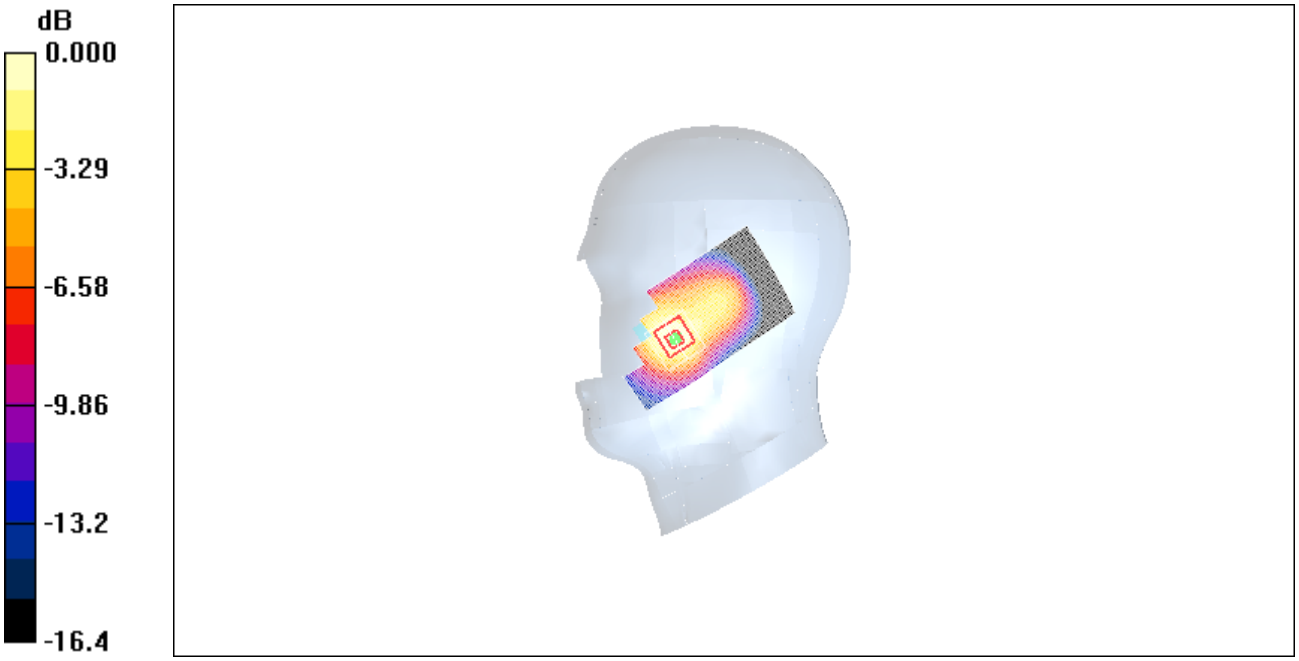


Fig. 54 Z-Scan at power reference point (1900 MHz CH661)

1900 Right Cheek Low
Date/Time: 2009-2-10 10:20:50
Electronics: DAE4 Sn771
Medium: 1900 Head
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.38 mho/m; ε_r = 39.3; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 1.03 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.20 V/m; Power Drift = -0.065 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 0.868 mW/g; SAR(10 g) = 0.538 mW/g
Maximum value of SAR (measured) = 0.947 mW/g



0 dB = 0.947mW/g

Fig. 55 1900 MHz CH512

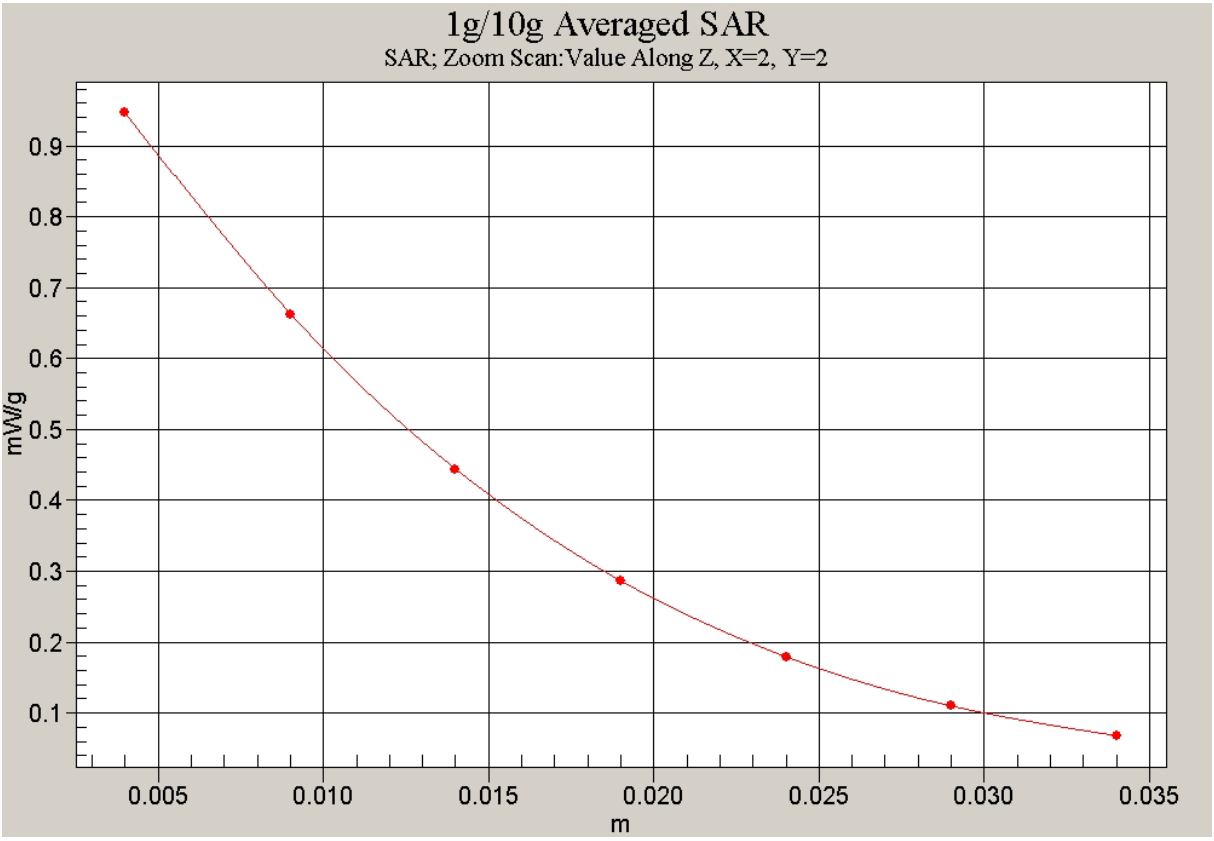
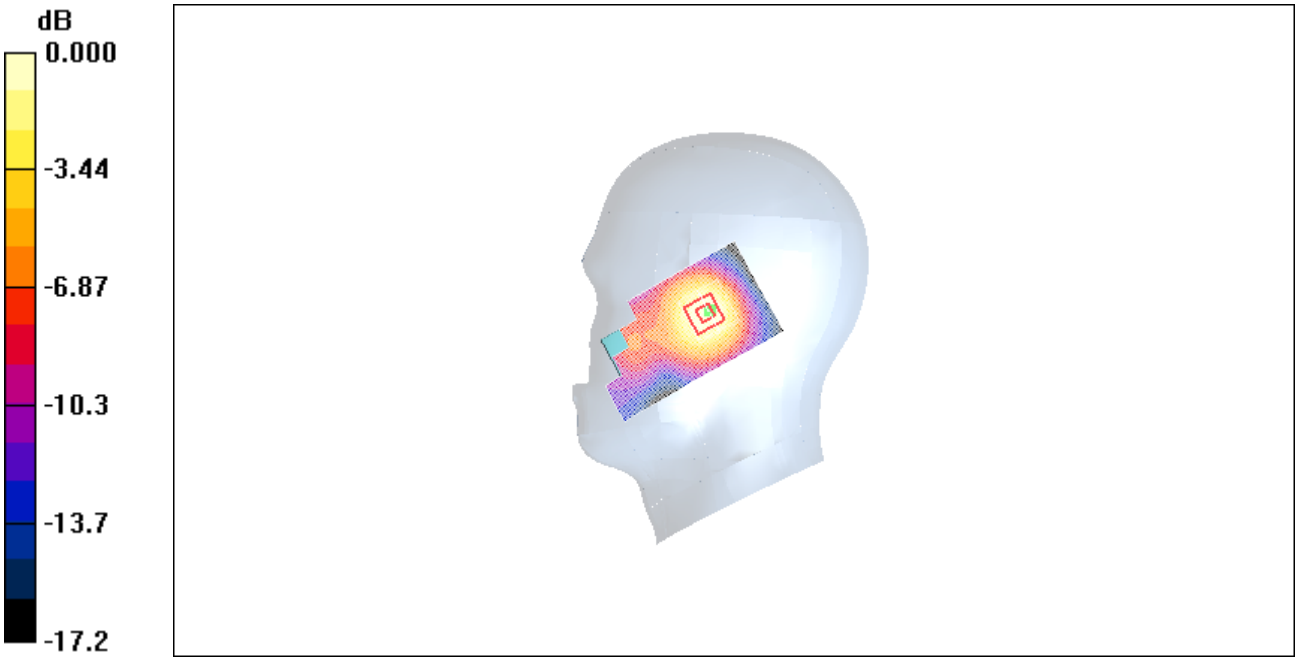


Fig. 56 Z-Scan at power reference point (1900 MHz CH512)

1900 Right Tilt High
Date/Time: 2009-2-10 10:34:29
Electronics: DAE4 Sn771
Medium: 1900 Head
Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; ε_r = 39.1; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.382 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.83 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.481 W/kg
SAR(1 g) = 0.321 mW/g; SAR(10 g) = 0.197 mW/g
Maximum value of SAR (measured) = 0.345 mW/g



0 dB = 0.345mW/g

Fig. 57 1900 MHz CH810

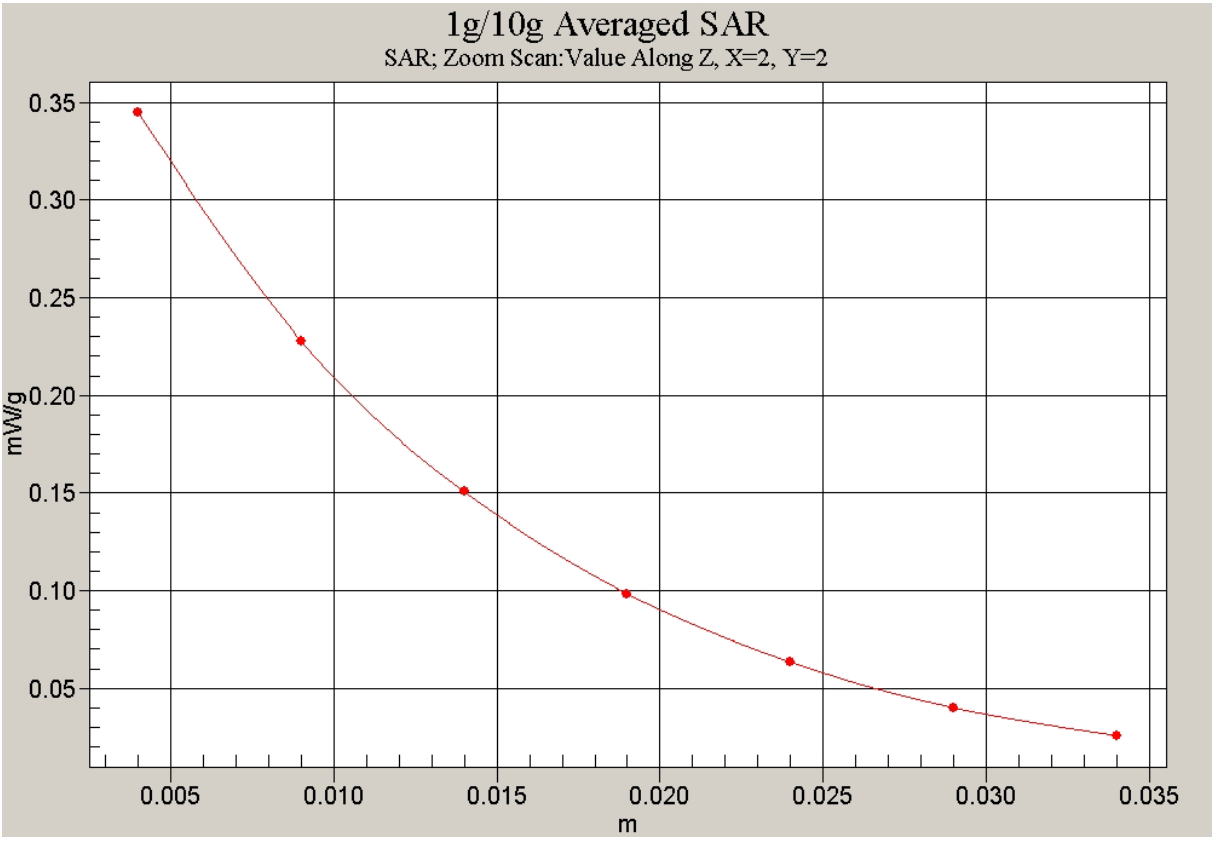
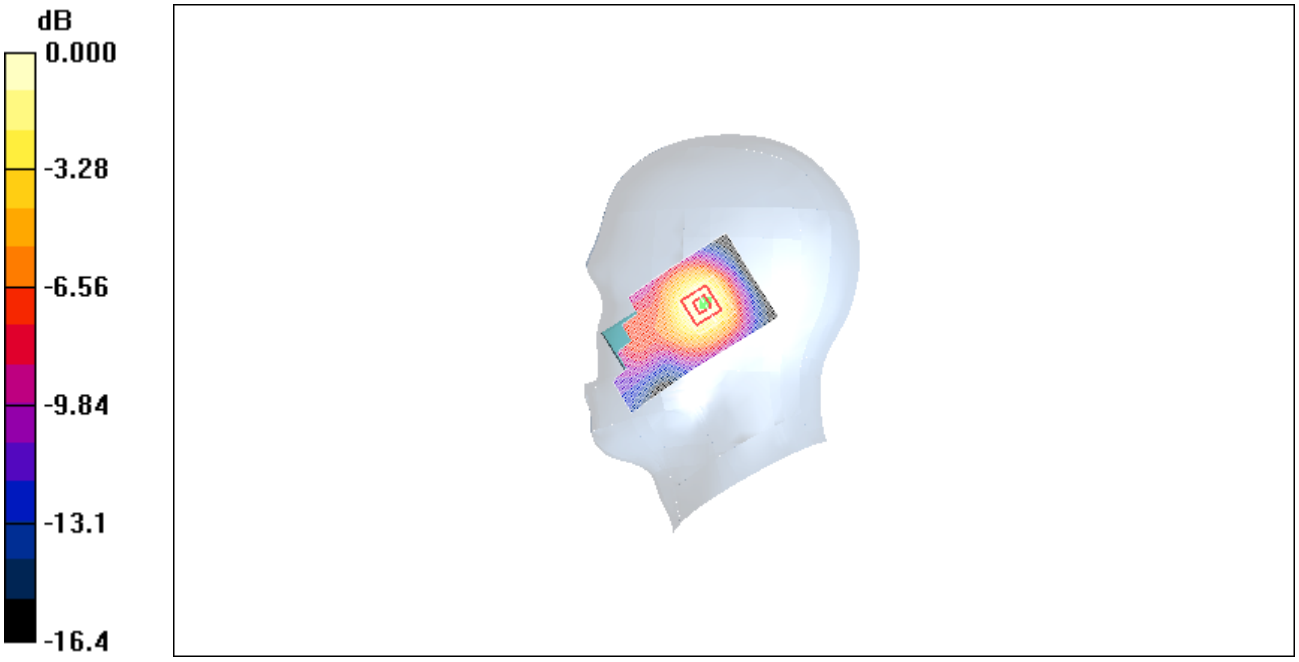


Fig. 58 Z-Scan at power reference point (1900 MHz CH810)

1900 Right Tilt Middle
Date/Time: 2009-2-10 10:48:28
Electronics: DAE4 Sn771
Medium: 1900 Head
Medium parameters used: f = 1880 MHz; σ = 1.41 mho/m; ε_r = 39.2; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.401 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.93 V/m; Power Drift = -0.039 dB
Peak SAR (extrapolated) = 0.504 W/kg
SAR(1 g) = 0.338 mW/g; SAR(10 g) = 0.209 mW/g
Maximum value of SAR (measured) = 0.363 mW/g



0 dB = 0.363mW/g

Fig.59 1900 MHz CH661

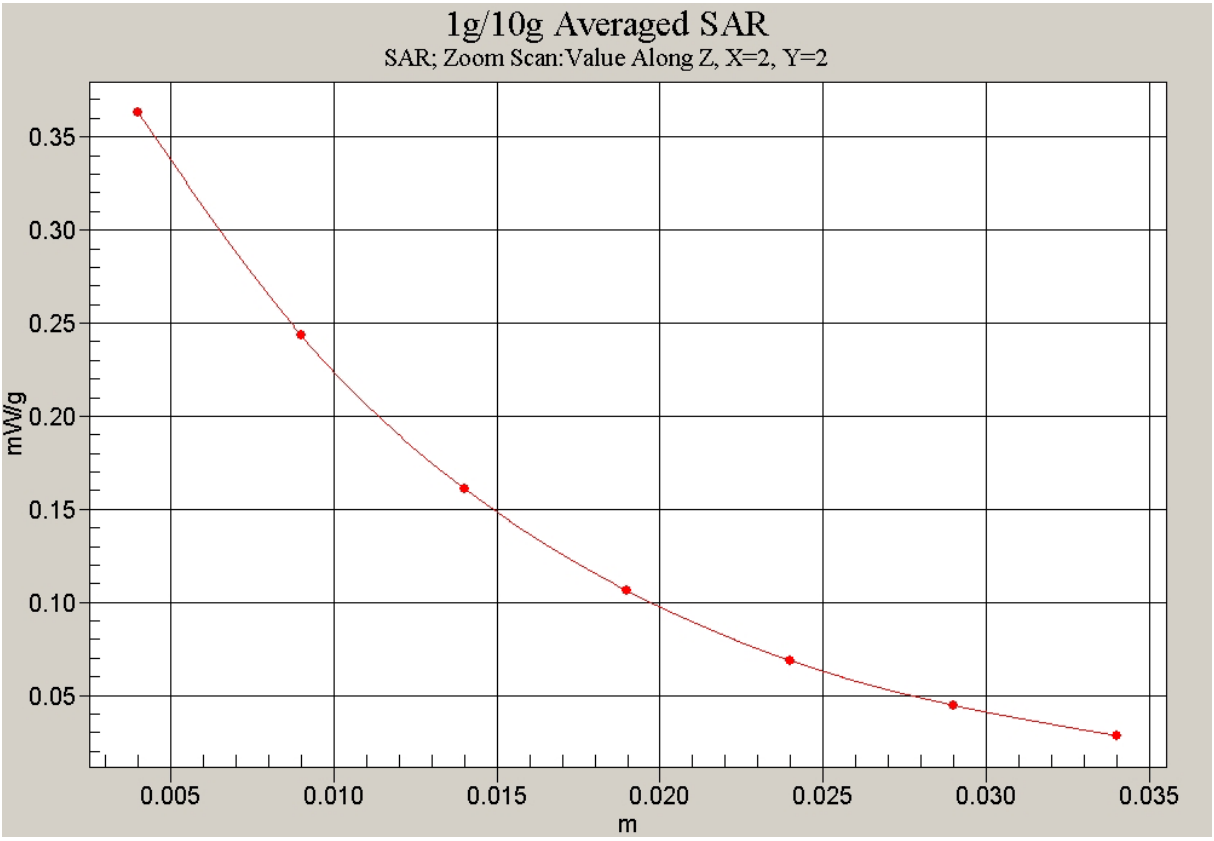
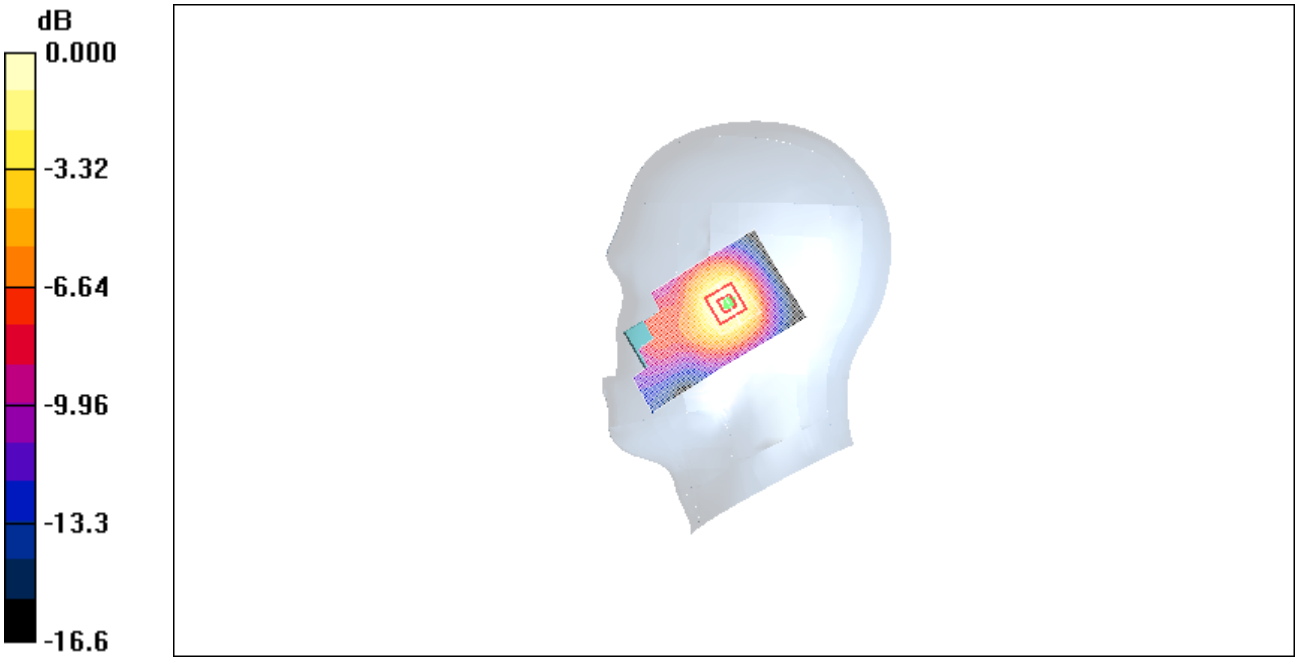


Fig. 60 Z-Scan at power reference point (1900 MHz CH661)

1900 Right Tilt Low
Date/Time: 2009-2-10 11:02:34
Electronics: DAE4 Sn771
Medium: 1900 Head
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.38 mho/m; ε_r = 39.3; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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) = 0.466 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.23 V/m; Power Drift = 0.105 dB
Peak SAR (extrapolated) = 0.585 W/kg
SAR(1 g) = 0.395 mW/g; SAR(10 g) = 0.245 mW/g
Maximum value of SAR (measured) = 0.426 mW/g



0 dB = 0.426mW/g

Fig.61 1900 MHz CH512

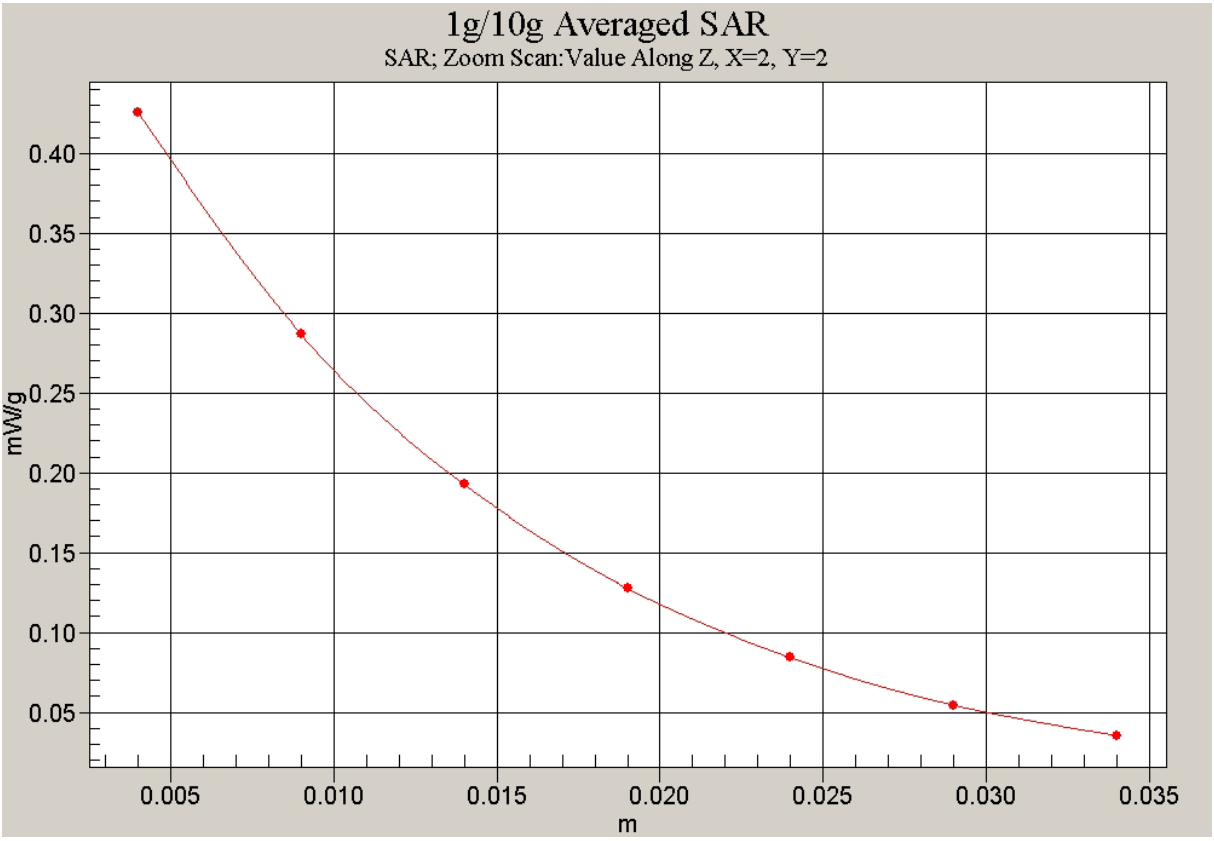


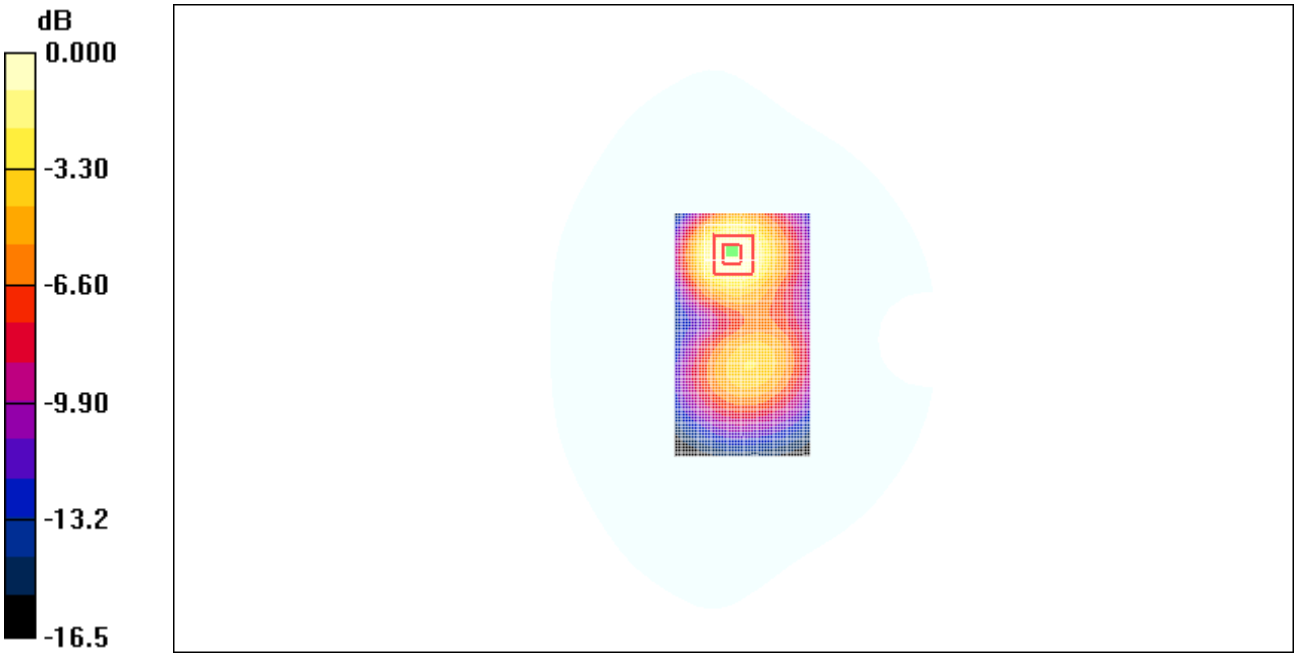
Fig. 62 Z-Scan at power reference point (1900 MHz CH512)

1900 Body Towards Ground High With GPRS

Date/Time: 2009-2-10 13:38:02
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.57 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.628 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.8 V/m; Power Drift = -0.200 dB
Peak SAR (extrapolated) = 0.917 W/kg
SAR(1 g) = 0.537 mW/g; SAR(10 g) = 0.306 mW/g
Maximum value of SAR (measured) = 0.537 mW/g



0 dB = 0.537mW/g

Fig. 63 1900 MHz CH810

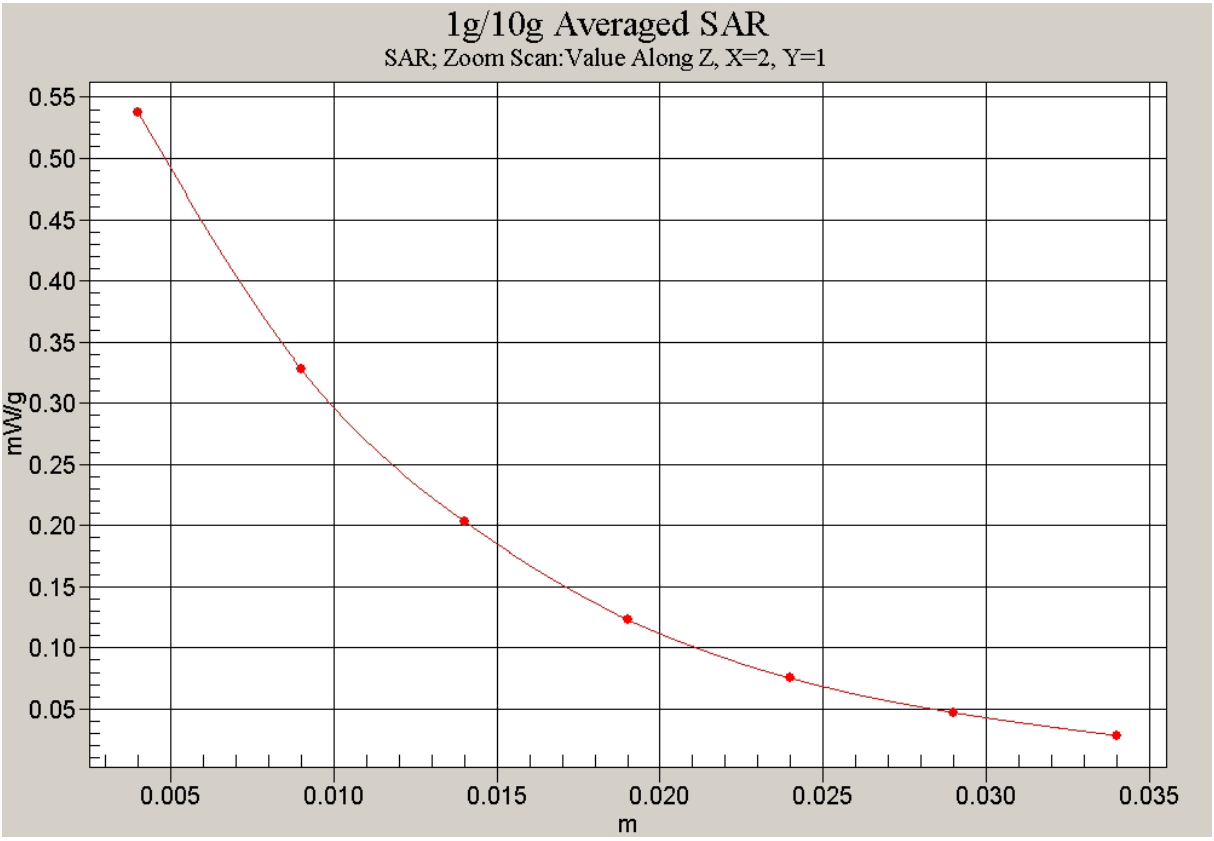


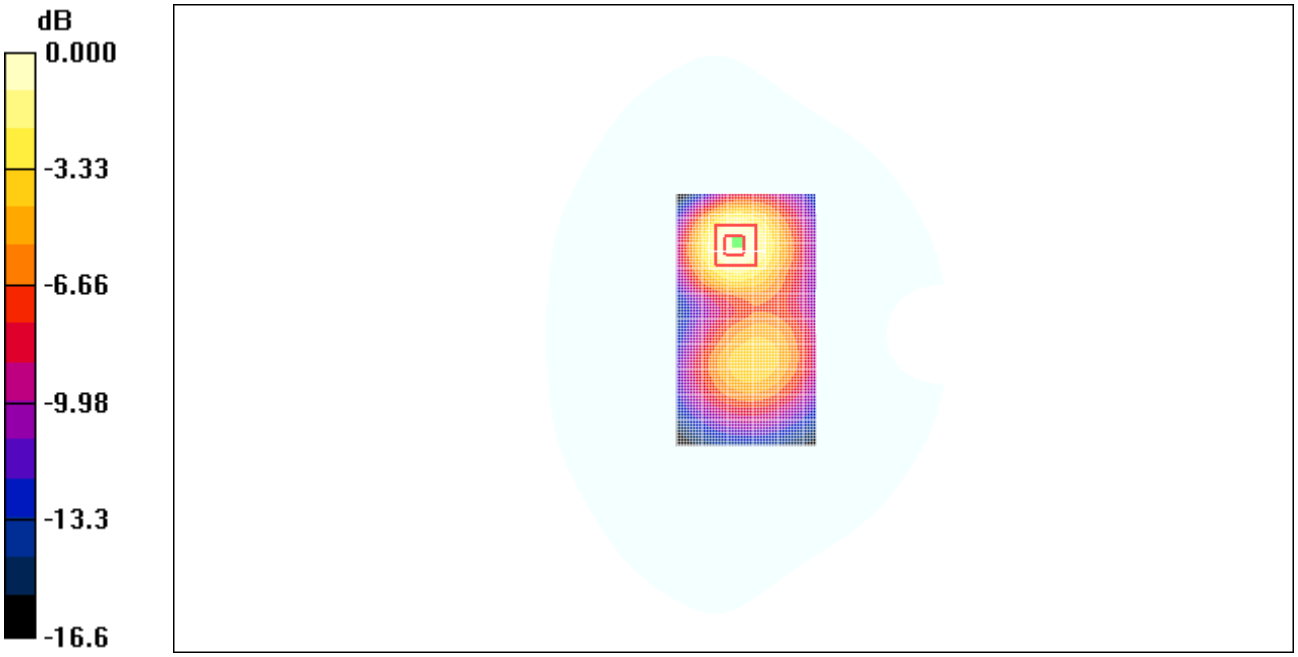
Fig. 64 Z-Scan at power reference point (1900 MHz CH810)

1900 Body Towards Ground Middle With GPRS

Date/Time: 2009-2-10 13:52:04
Electronics: DAE4 Sn771
Medium: Body 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.54 mho/m; ε_r = 52.4; ρ = 1000 kg/m^3
Ambient Temperature:23.3°C Liqiud 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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.784 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.2 V/m; Power Drift = 0.029 dB
Peak SAR (extrapolated) = 1.15 W/kg
SAR(1 g) = 0.684 mW/g; SAR(10 g) = 0.390 mW/g
Maximum value of SAR (measured) = 0.711 mW/g



0 dB = 0.711mW/g

Fig. 65 1900 MHz CH661

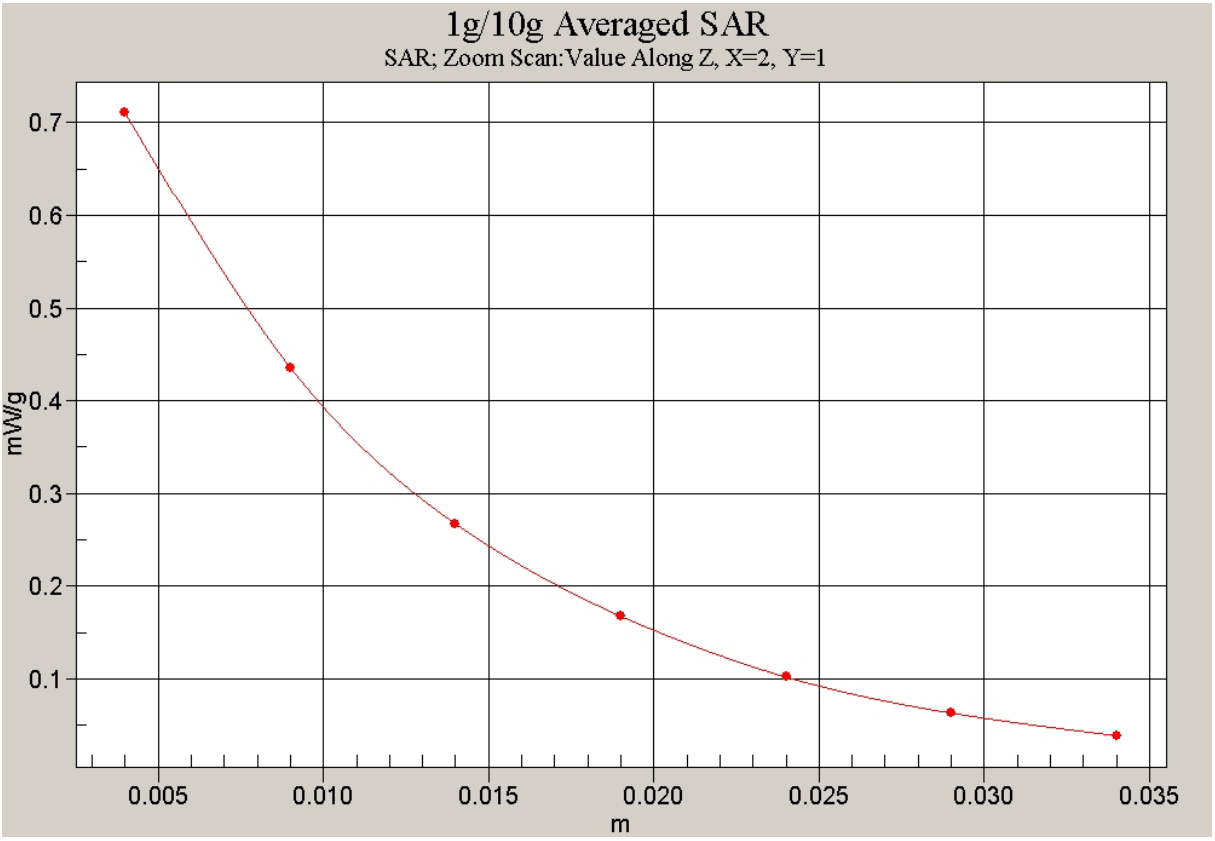


Fig. 66 Z-Scan at power reference point (1900 MHz CH661)