SAR TEST REPORT

No. 2011SAR00072

For

Sony Ericsson Mobile Communications(China) Co., Ltd.

GSM/GPRS/EDGE & UMTS/HSPA Phone

AAD-3880105-BV

SK17a

With

Hardware Version: AP

Software Version: 4.0.A.2.268

SEMC ID: AAD-3880105-BV

Industry Canada ID: 4170B-A3880105

FCCID: PY7A3880105

Issued Date: 2011-07-20

No. **DGA-PL-114/01-02**

Note:

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

Test Laboratory:

TMC Beijing, Telecommunication Metrology Center of MIIT

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

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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.
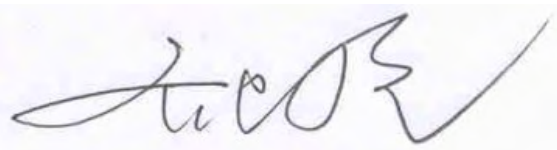
1.3 Project Data

Project Leader:	Qi Dianyuan
Test Engineer:	Lin Xiaojun
Testing Start Date:	June 9, 2011
Testing End Date:	June 11, 2011

1.4 Signature

Lin Xiaojun
(Prepared this test report)

Qi Dianyuan
(Reviewed this test report)

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

2 General Information

2.1 Statement of Compliance

The SAR values found for the AAD-3880105-BV Mobile Phone are below the maximum recommended levels of 1.6 W/Kg as averaged over any 1g tissue according to the FCC rule, the ANSI C95.1-1999.

For body worn operation, this device has been tested and meets FCC RF exposure guidelines when used with any accessory that contains no metal and that positions the handset a minimum of 10mm from the body. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

The measurement together with the test system set-up is described in chapter 5 of this test report.

A detailed description of the equipment under test can be found in chapter 3 of this test report.

2.2 Applicant Information

Company Name:	Sony Ericsson Mobile Communications(China) Co., Ltd.
Address /Post:	1/F, China Digital Kingdom Building, No.1 North Road, Wangjing, Chaoyang District, Beijing, China
City:	Beijing
Postal Code:	/
Country:	China
Contact:	Ma, Gang
Email:	gang.ma@sonyericsson.com
Telephone:	+86-10-58656312
Fax:	+86-10-58656750

2.3 Manufacturer Information

Company Name:	Sony Ericsson Mobile Communications AB
Address /Post:	Nya Vattentornet 22188 Lund Sweden
City:	Lund
Postal Code:	22188
Country:	Sweden
Contact:	Nordlof, Anders
Email:	Anders.Nordlof@sonyericsson.com
Telephone:	+46 46 193919
Fax:	+46 46 193295

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

3.1 About EUT

EUT Description:	GSM/GPRS/EDGE & UMTS/HSPA Phone
Type number:	AAD-3880105-BV
Marketing name:	SK17a
Operating mode(s):	GSM, PCS, WCDMA, Bluetooth, WiFi
GPRS Multislot Class:	12
GPRS capability Class:	B
EGPRS Multislot Class:	12
Test device Production information:	Production unit
Device type:	Portable device
Antenna type:	Integrated antenna
Accessories/Body-worn configurations:	Headset
Form factor:	9.1cm×5.3cm

3.2 Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
EUT1	BX902C9E2K	AP	4.0.A.2.268
	BX902C944R		
	BX902C9S4U		

*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	CBA-0002019	/	Samsung
AE2	Headset	MH410	/	Sony Ericsson

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

3.4 Antenna description

There are two antennae in the EUT, Main antenna and BT/WiFi antenna.

Antenna dimension:

Max length: 21mm

Max width: 48mm

4 CHARACTERISTICS OF THE TEST

4.1 Applicable Limit Regulations

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

IC RSS-102 ISSUE4: Radio Frequency (RF) Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands)

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.

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.

KDB941225 D06 Hot Spot SAR v01: SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities.

5 OPERATIONAL CONDITIONS DURING TEST
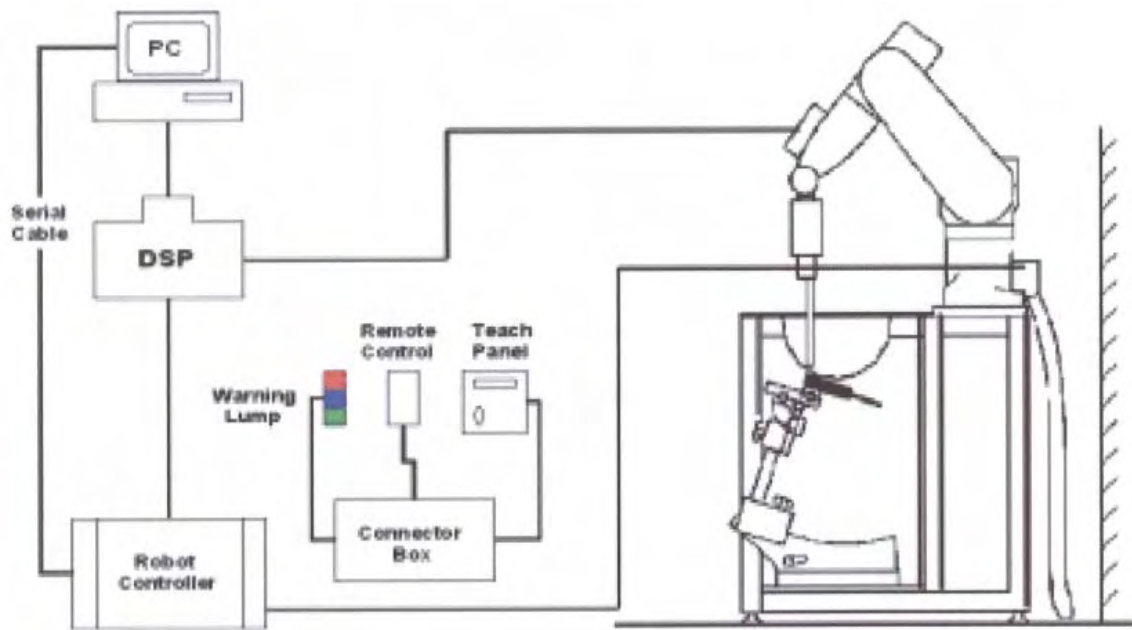
5.1 Schematic Test Configuration

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; 512, 661 and 810 respectively in the case of PCS 1900 MHz; 4132, 4182 and 4233 respectively in the case of WCDMA 850 MHz; 9262, 9400 and 9538 respectively in the case of WCDMA 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 1: 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)

Picture 2: ES3DV3 E-field

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

Picture3:ES3DV3 E-field probe

EX3DV4 Probe Specification

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

Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in HSL (rotation around probe axis)
	± 0.5 dB in tissue material (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
Dimensions	Overall length: 337 mm (Tip: 20 mm)
	Tip diameter: 2.5 mm (Body: 12 mm)
	Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%.

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 4: 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 5: Generic Twin Phantom

5.6 Equivalent Tissues

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

Table 1. Composition of the Head Tissue Equivalent Matter

MIXTURE %	FREQUENCY 850MHz
Water	41.45
Sugar	56.0
Salt	1.45
Preventol	0.1
Cellulose	1.0
Dielectric Parameters Target Value	f=850MHz ε=41.5 σ=0.90
MIXTURE %	FREQUENCY 1900MHz
Water	55.242
Glycol monobutyl	44.452
Salt	0.306
Dielectric Parameters Target Value	f=1900MHz ε=40.0 σ=1.40
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

<u>Specifications</u>
Positioner: Stäubli Unimation Corp. Robot Model: RX90L
Repeatability: ±0.02 mm
No. of Axis: 6

<u>Data Acquisition Electronic (DAE) System</u>
<u>Cell Controller</u>
Processor: Pentium III
Clock Speed: 800 MHz
Operating System: Windows 2000
<u>Data Converter</u>
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 CMU200. These measurements were done at low, middle and high channels.

6.2.2 Measurement result
Table 3: The conducted power for GSM 850/1900

GSM 850MHZ	Conducted Power (dBm)		
	Channel 251(848.8MHz)	**Channel 190(836.6MHz)**	**Channel 128(824.2MHz)**
	33.8	33.8	33.8
GSM 1900MHZ	**Conducted Power (dBm)**		
	Channel 810(1909.8MHz)	**Channel 661(1880MHz)**	**Channel 512(1850.2MHz)**
	31.0	31.0	31.2

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

GSM 850 GPRS	Measured Power (dBm)			calculation	Averaged Power (dBm)		
	251	**190**	**128**		**251**	**190**	**128**
1 Txslot	33.8	33.9	33.9	-9.03dB	24.77	24.87	24.87
2 Txslots	31.6	31.5	31.4	-6.02dB	25.58	25.48	25.38
3Txslots	30.5	30.4	30.5	-4.26dB	26.24	26.14	26.24
4 Txslots	29.7	29.6	29.6	-3.01dB	**26.69**	**26.59**	**26.59**
GSM 850 EGPRS	Measured Power (dBm)			calculation	Averaged Power (dBm)		
	251	**190**	**128**		**251**	**190**	**128**
1 Txslot	33.8	33.8	33.8	-9.03dB	24.77	24.77	24.77
2 Txslots	31.6	31.5	31.4	-6.02dB	25.58	25.48	25.38
3Txslots	30.6	30.4	30.6	-4.26dB	26.34	26.14	26.34
4 Txslots	29.7	29.6	29.7	-3.01dB	**26.69**	**26.59**	**26.69**
PCS1900 GPRS	Measured Power (dBm)			calculation	Averaged Power (dBm)		
	810	**661**	**512**		**810**	**661**	**512**
1 Txslot	31.0	31.0	31.1	-9.03dB	21.97	21.97	22.07
2 Txslots	28.3	28.4	28.6	-6.02dB	22.28	22.38	22.58
3Txslots	27.3	27.4	27.6	-4.26dB	23.04	23.14	23.34
4 Txslots	26.4	26.4	26.7	-3.01dB	**23.39**	**23.39**	**23.69**
PCS1900 EGPRS	Measured Power (dBm)			calculation	Averaged Power (dBm)		
	810	**661**	**512**		**810**	**661**	**512**
1 Txslot	31.0	31.0	31.2	-9.03dB	21.97	21.97	22.17
2 Txslots	28.3	28.4	28.6	-6.02dB	22.28	22.38	22.58
3Txslots	27.3	27.3	27.6	-4.26dB	23.04	23.04	23.34
4 Txslots	26.4	26.5	26.7	-3.01dB	**23.39**	**23.49**	**23.69**

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

Table 5: The conducted Power for WCDMA850

Max. RMS output power 850MHz (FDDV) / dBm			
Mode	**4233 (846.6MHz)**	**4182 (836.4MHz)**	**4132 (826.4MHz)**
RMC 12.2 kbit/s	25.1	25.1	25.2
RMC 64 kbit/s	25.0	25.0	24.9
RMC 144 kbit/s	25.0	25.0	24.9
AMR 4.75 kbit/s	25.0	25.0	25.0
AMR 5.15 kbit/s	25.0	25.0	25.0
AMR 5.9 kbit/s	25.0	25.0	25.1
AMR 6.7 kbit/s	25.0	25.0	25.0

AMR 7.4 kbit/s	25.0	25.0	25.0
AMR 7.95 kbit/s	25.0	25.0	24.9
AMR 10.2 kbit/s	24.9	24.9	25.0
AMR 12.2 kbit/s	25.0	25.0	25.0
HSDPA Sub test 1	24.4	24.2	24.5
HSDPA Sub test 2	24.4	24.3	24.6
HSDPA Sub test 3	23.9	23.8	24.1
HSDPA Sub test 4	23.9	23.8	24.1
HSUPA Sub test 1	24.8	24.8	24.8
HSUPA Sub test 2	24.8	24.8	24.8
HSUPA Sub test 3	24.8	24.8	24.8
HSUPA Sub test 4	24.8	24.8	24.8
HSUPA Sub test 5	24.8	24.8	24.8

Table 6: The conducted Power for WCDMA1900

Max. RMS output power 1900MHz (FDDII) / dBm			
Mode	9538 (1907.6MHz)	9400 (1880MHz)	9262 (1852.4MHz)
RMC 12.2 kbit/s	25.2	25.1	25.1
RMC 64 kbit/s	24.7	24.6	24.6
RMC 144 kbit/s	24.7	24.6	24.6
AMR 4.75 kbit/s	24.7	24.6	24.6
AMR 5.15 kbit/s	25.0	25.1	25.0
AMR 5.9 kbit/s	25.1	25.0	25.0
AMR 6.7 kbit/s	24.6	24.6	24.5
AMR 7.4 kbit/s	24.6	24.6	24.5
AMR 7.95 kbit/s	24.6	24.6	24.5
AMR 10.2 kbit/s	24.6	24.6	24.5
AMR 12.2 kbit/s	24.6	24.6	24.5
HSDPA Sub test 1	25.0	25.0	24.8
HSDPA Sub test 2	25.0	25.1	24.8
HSDPA Sub test 3	24.6	24.6	24.2
HSDPA Sub test 4	24.6	24.5	24.2
HSUPA Sub test 1	24.8	24.8	24.8
HSUPA Sub test 2	24.8	24.8	24.8
HSUPA Sub test 3	24.8	24.8	24.9
HSUPA Sub test 4	24.8	24.9	24.9
HSUPA Sub test 5	24.8	24.9	24.9

Note: HSDPA/HSUPA body SAR are not required, because maximum average output power of each RF channel with HSDPA/HSUPA active is not 1/4 dB higher than that measured without HSDPA/HSUPA.

Hotspot:

There is power reduction enabled for this model (SK17a) for GSM850/1900 and band UMTS 2. The power reduction is enabled when the user enables hotspot mode via the manufacturer software. The tables below show the measured powers with hotspot.

Table 7: The conducted power for GPRS 850/1900 and EGPRS 850/1900 (hotspot on)

GSM 850	Measured Power (dBm)			calculation	Averaged Power (dBm)		
GPRS	**251**	**190**	**128**		**251**	**190**	**128**
1 Txslot	33.80	33.90	33.80	-9.03dB	**24.77**	**24.87**	**24.77**
2 Txslots	30.05	30.06	29.94	-6.02dB	24.03	24.04	23.92
3Txslots	28.03	27.93	28.24	-4.26dB	23.77	23.67	23.98
4 Txslots	26.96	26.90	26.88	-3.01dB	23.95	23.89	23.87
GSM 850	Measured Power (dBm)			calculation	Averaged Power (dBm)		
EGPRS	**251**	**190**	**128**		**251**	**190**	**128**
1 Txslot	33.80	33.80	33.90	-9.03dB	**24.77**	**24.77**	**24.87**
2 Txslots	29.64	28.56	29.50	-6.02dB	23.62	22.54	23.48
3Txslots	27.71	27.50	27.67	-4.26dB	23.45	23.24	23.41
4 Txslots	26.97	26.9	26.89	-3.01dB	23.96	23.89	23.88
PCS1900	Measured Power (dBm)			calculation	Averaged Power (dBm)		
GPRS	**810**	**661**	**512**		**810**	**661**	**512**
1 Txslot	26.66	26.78	26.99	-9.03dB	17.63	17.75	17.96
2 Txslots	24.15	24.46	24.90	-6.02dB	18.13	18.44	18.88
3Txslots	23.19	23.40	23.58	-4.26dB	18.93	19.14	19.32
4 Txslots	22.10	22.44	22.35	-3.01dB	**19.09**	**19.43**	**19.34**
PCS1900	Measured Power (dBm)			calculation	Averaged Power (dBm)		
EGPRS	**810**	**661**	**512**		**810**	**661**	**512**
1 Txslot	26.69	26.81	27.04	-9.03dB	17.66	17.78	18.01
2 Txslots	24.30	24.57	25.03	-6.02dB	18.28	18.55	19.01
3Txslots	23.30	23.50	23.67	-4.26dB	19.04	19.24	19.41
4 Txslots	22.14	22.49	22.44	-3.01dB	**19.13**	**19.48**	**19.43**

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

Table 8: The conducted Power for WCDMA1900 (hotspot on)

Max. RMS output power 1900MHz (FDDII) / dBm			
Mode	9538 (1907.6MHz)	9400 (1880MHz)	9262 (1852.4MHz)
RMC 12.2 kbit/s	20.5	20.4	20.2
RMC 64 kbit/s	20.4	20.4	20.3
RMC 144 kbit/s	20.4	20.3	20.4
AMR 4.75 kbit/s	20.4	20.4	20.4
AMR 5.15 kbit/s	20.3	20.3	20.2
AMR 5.9 kbit/s	20.4	20.3	20.3
AMR 6.7 kbit/s	20.4	20.3	20.4
AMR 7.4 kbit/s	20.2	20.3	20.3
AMR 7.95 kbit/s	20.3	20.4	20.3
AMR 10.2 kbit/s	20.3	20.3	20.3
AMR 12.2 kbit/s	20.4	20.4	20.3
HSDPA Sub test 1	20.2	20.1	19.8
HSDPA Sub test 2	20.3	20.2	19.9
HSDPA Sub test 3	19.8	19.8	19.4
HSDPA Sub test 4	19.9	19.8	19.5
HSUPA Sub test 1	20.1	20.1	20.1
HSUPA Sub test 2	20.1	20.1	20.1
HSUPA Sub test 3	20.1	20.1	20.2
HSUPA Sub test 4	20.1	20.2	20.2
HSUPA Sub test 5	20.1	20.2	20.2

Note: HSDPA/HSUPA body SAR are not required, because maximum average output power of each RF channel with HSDPA/HSUPA active is not 1/4 dB higher than that measured without HSDPA/HSUPA.

6.2.3 Test-set-up information for WCDMA / HSDPA / HSUPA

a) RMC

In RMC (reference measurement channel) mode the conducted power at 4 different bit rater was measured. They correspond with the used spreading factors as follows:

Bit rate	12.2 kbit/s	64 kbit/s	144 kbit/s	384 kbit/s
Spreading factor	64	16	8	4

In RMC mode only DPCCH and DPDCH are active. As bit rate changes do not influence the relative power of any code channel the measured RMS output power remains on the same level which is set to maximum by TPC (Transmit power control) pattern type 'All 1'.

b) HSDPA

HSDPA adds the HS-DPCCH in uplink as a control channel for high speed data transfer in downlink. In HSDPA mode 4 sub-tests are defined by 3GPP 34.121 according to the following table:

Table 9: Sub-tests for UMTS Release 5 HSDPA

Sub-test	β_c	β_d	β_d (SF)	β_c / β_d	$\beta_{hs}^{(1)}$	CM (dB)[2]
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15[3]	15/15[3]	64	12/15[3]	24/15	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

Note 1: Δ_{ACK}, Δ_{NACK}, $\Delta_{CQI} = 8 \iff A_{hs} = \beta_{hs}/\beta_c = 30/15 \iff \beta_{hs} = 30/15 * \beta_c$

Note 2: CM = 1 for $\beta_c / \beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$

Note 3: For subtest 2 the β_c / β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$

The β_c and β_d gain factors for DPCCH and DPDCH were set according to the values in the above table, β_{hs} for HS-DPCCH is set automatically to the correct value when Δ_{ACK}, Δ_{NACK}, $\Delta_{CQI} = 8$. The variation of the β_c / β_d ratio causes a power reduction at sub-tests 2-4.

The measurements were performed with a Fixed Reference Channel (FRC) and H-Set 1 QPSK.

Table 10: settings of required H-Set 1 QPSK acc. To 3GPP 34.121

Parameter	Value
Nominal average inf. Bit rate	534 kbit/s
Inter-TTI Distance	3 TTI's
Number of HARQ Processes	2 Processes
Information Bit Payload	3202 Bits
MAC-d PDU size	336 Bits
Number Code Blocks	1 Block
Binary Channel Bits Per TTI	4800 Bits
Total Available SMLs in UE	19200 SMLs
Number of SMLs per HARQ Process	9600 SMLs
Coding Rate	0.67
Number of Physical Channel Codes	5

c) HSUPA

In HSUPA mode additional code channels (E-DPCCH, E-DPDCHn) are added for data transfer in uplink at higher bit rates.

5 sub-tests are defined by 3GPP 34.121 according to the following table:

Table 11: Subtests for UMTS Release 6 HSUPA

Sub-test	β_c	β_d	β_d (SF)	β_c / β_d	$\beta_{hs}^{(1)}$	β_{ec}	β_{ed}	β_{ec} (SF)	β_{ed} (code)	CM[2] (dB)	MPR (dB)	AG[4] Index	E-TFCI
1	11/15[3]	15/15[3]	64	11/15[3]	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1}:47/15 β_{ed2}:47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71

| 5 | 15/15$^{(4)}$ | 15/15$^{(4)}$ | 64 | 15/15$^{(4)}$ | 30/15 | 24/15 | 134/15 | 4 | 1 | 1.0 | 0.0 | 21 | 81 |

Note 1: Δ_{ACK}, Δ_{NACK}, $\Delta_{CQI} = 8 \Longleftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Longleftrightarrow \beta_{hs} = 30/15 * \beta_c$

Note 2: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCH, DPCCH, HS-DPCCH and E-DPCCH the MPR is based on the relative CM difference

Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 10/15$ and $\beta_d = 15/15$

Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 14/15$ and $\beta_d = 15/15$

Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g

Note 6: β_{ed} can not be set directly; it is set by Absolute Grant Value

To achieve the settings above some additional precedures were defined by 3GPP 34.121. Those have been included in an application note for the CMU200 and were exactly followed:

— Test mode connection (BS signal tab):
  RMC 12.2 kbit/s + HSPA 34.108 with loop mode 1
— HS-DSCH settings (BS signal tab):
— FRC with H-Set 1 QPSK
— ACK-NACK repetition factor = 3
— CQI feedback cycle = 4ms
— CQI repetition factor = 2
— HSUPA-specific signaling settings (UE signal tab)
— E-TFCI table index = 0
— E-DCH minimum set E-TFCI = 9
— Puncturing limit non-max = 0.84
— Max. number of channelization codes = 2x SF4
— Initial Serving Grant Value = Off
— HSDPA and HSUPA Gain factors (UE signal tab)

Sub-test	β_c	β_d	Δ_{ACK}, Δ_{NACK}, Δ_{CQI}	Δ E-DPCCH)*
1	10	15	8	6
2	6	15	8	8
3	15	9	8	8
4	2	15	8	5
5	14	15	8	7

)* : β_{ec} and β_{ed} ratios (relative to β_c and β_d) are set by Δ E-DPCCH

— HSUPA Reference E-TFCIs (UE signal tab > HSUPA gain factors):

Sub-test	1,2,4,5				
Number of E-TFCIs	5				
Reference E-TFCI	11	67	71	75	81
Reference E-TFCI power offset	4	18	23	26	27

Sub-test	3	
Number of E-TFCIs	2	
Reference E-TFCI	11	92
Reference E-TFCI power offset	4	18

— HSUPA-specific generator parameters (BS Signal tab＞HSUPA＞E-AGCH＞AG Pattern):

Sub-test	Absolute Grant Value (AG index)
1	20
2	12
3	15
4	17
5	21

— Power Level settings (BS Signal tab ＞ Node B-settings)
— Level reference: Output Channel Power (Ior)
— Output Channel Power (Ior): -86 dBm

— Downlink Physical Channel Settings (BS signal tab)
— P-CPICH: -10 dB
— S-CPICH: Off
— P-SCH: -15 dB
— S-SCH: -15 dB
— P-CCPCH: -12 dB
— S-CCPCH: -12 dB
— PICH: -15 dB
— AICH: -12 dB
— DPDCH: -10 dB
— HS-SCCH: -8 dB
— HS-PDSCH: -3 dB
— E-AGCH: -20 dB
— E-RGCH/E-HICH: -20dB
— E-RGCH Active: Off

The settings above were stored once for each sub-test and recalled before the measurement.

HSUPA test procedure:

To reach maximum output power in HSUPA mode the following precedures were followed:

3 different TPC patterns were defined:
Set 1: Closed loop with target power 10 dBm
Set 2: Single Pattern + Alternating with binary pattern '11111' for 1 dB steps 'up'
Set 3: Single Pattern + Alternating with binary pattern '00000' for 1 dB steps 'down'

After recalling a certain HSUPA sub-test the HSUPA E-AGCH graph with E-TFCI event counter is displayed.

After starting with the closed loop command the power is increased in 1 dB steps by activating pattern set 2 until the UE decreases the transmitted E-TFCI.

At this point set 3 is activated once to reduce the output power to the value at which the original E-TFCI, which is required for the sub-test, appears again.

For conducted power measurements the same steps are repeated in the power menu to read out the corresponding maximum RMS output power with the target E-TFCI.

For SAR measurements it is useful to switch to Code Domain Power vs. Time display.

Here the CMU200 shows relative power values (max. and min.) of each code channel which should roughly correspond to the numerators of the gain factors e.g.:

Sub-test	β_c	β_d	β_{hs}	β_{ec}	β_{ed}
5	15	15	30	24	134

By this way a surveillance of signaling conditions is possible to make sure that HSUPA code channels are active during the complete SAR measurement.

6.2.4 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 16 to Table 29 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 12: Dielectric Performance of Head Tissue Simulating Liquid

Measurement is made at temperature 23.0 °C and relative humidity 39%. Liquid temperature during the test: 22.5°C Measurement Date : 850 MHz **June 11, 2011**　　1900 MHz **June 9, 2011**　　2450 MHz **June 10, 2011**			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	835 MHz	41.5	0.90
	1900 MHz	40.0	1.40
	2450 MHz	39.2	1.80
Measurement value (Average of 10 tests)	835 MHz	41.7	0.91
	848.8 MHz	41.8	0.90
	846.6 MHz	41.8	0.901
	836.6 MHz	41.9	0.90
	836.4 MHz	41.9	0.90
	826.4 MHz	42.1	0.88
	825 MHz	42.1	0.88

	Frequency	Permittivity	Conductivity
	1900 MHz	40.7	1.41
	1910 MHz	40.5	1.43
	1907.6 MHz	40.6	1.42
	1880 MHz	40.9	1.39
	1852.4 MHz	41.2	1.36
	1850.2 MHz	41.3	1.36
	2450 MHz	39.6	1.82
	2437 MHz	39.7	1.81
	2412 MHz	39.8	1.79

Table 13: Dielectric Performance of Body Tissue Simulating Liquid

/	Frequency	Permittivity ε	Conductivity σ (S/m)
Measurement is made at temperature 23.0 °C and relative humidity 39%. Liquid temperature during the test: 22.5°C Measurement Date : 850 MHz **June 11, 2011** 1900 MHz **June 9, 2011** 2450 MHz **June 10, 2011**			
Target value	835 MHz	55.2	0.97
	1900 MHz	53.3	1.52
	2450 MHz	52.7	1.95
Measurement value **(Average of 10 tests)**	835 MHz	54.8	0.95
	848.8 MHz	54.5	0.94
	846.6 MHz	54.6	0.94
	836.6 MHz	54.8	0.95
	836.4 MHz	54.8	0.95
	826.4 MHz	55.5	0.94
	825 MHz	55.8	0.93
	1900 MHz	53.5	1.53
	1910 MHz	53.3	1.55
	1907.6 MHz	53.4	1.54
	1880 MHz	53.8	1.50
	1852.4 MHz	54.2	1.48
	1850.2 MHz	54.2	1.48
	2450 MHz	52.3	1.97
	2437 MHz	52.2	1.96
	2412 MHz	52.3	1.93

7.2 System Validation

Table 14: System Validation of Head

Measurement is made at temperature 23.0 ℃ and relative humidity 39%.

Liquid temperature during the test: 22.5℃

Measurement Date : 850 MHz **June 11, 2011**   1900 MHz **June 9, 2011**   2450 MHz **June 10, 2011**

Liquid parameters	Dipole calibration Target value	Frequency	Permittivity ε	Conductivity σ (S/m)
		835 MHz	41.6	0.92
		1900 MHz	39.6	1.40
		2450 MHz	39.0	1.74
	Actural Measurement value	835 MHz	41.7	0.91
		1900 MHz	40.7	1.41
		2450 MHz	39.6	1.82

Verification results	Frequency	Target value (W/kg)		Measured value (W/kg)		Deviation	
		10 g Average	1 g Average	10 g Average	1 g Average	10 g Average	1 g Average
	835 MHz	6.12	9.41	5.92	9.12	-3.27%	-3.08%
	1900 MHz	20.1	39.4	19.56	38.96	-2.69%	-1.12%
	2450 MHz	24.6	52.4	23.88	51.2	-2.93%	-2.29%

Table 15: System Validation of Body

Measurement is made at temperature 23.0 ℃ and relative humidity 39%.

Liquid temperature during the test: 22.5℃

Measurement Date : 850 MHz **June 11, 2011**   1900 MHz **June 9, 2011**   2450 MHz **June 10, 2011**

Liquid parameters	Dipole calibration Target value	Frequency	Permittivity ε	Conductivity σ (S/m)
		835 MHz	54.5	0.97
		1900 MHz	52.5	1.51
		2450 MHz	52.5	1.95
	Actural Measurement value	835 MHz	54.8	0.95
		1900 MHz	53.5	1.53
		2450 MHz	52.3	1.97

Verification results	Frequency	Target value (W/kg)		Measured value (W/kg)		Deviation	
		10 g Average	1 g Average	10 g Average	1 g Average	10 g Average	1 g Average
	835 MHz	6.24	9.57	6.24	9.88	0.00%	3.24%
	1900 MHz	20.9	41.4	21.12	41.6	1.05%	0.48%
	2450 MHz	23.9	51.6	23.96	52.0	0.25%	0.78%

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

	Duty Cycle
Speech	**1 : 8.3**
GPRS and EGPRS (AP off)	**1 : 2**
GPRS and EGPRS for 850 (AP on)	**1 : 8.3**
GPRS and EGPRS for 1900 (AP on)	**1 : 2**

Table 16: SAR Values (GSM 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)	0.241	0.329	0.061
Left hand, Tilt 15 Degree, Mid frequency (See Fig.2)	0.129	0.174	-0.155
Left hand, Touch cheek, High frequency (See Fig.3)	0.237	0.324	0.161
Left hand, Touch cheek, Low frequency (See Fig.4)	0.208	0.285	0.049
Right hand, Touch cheek, Mid frequency (See Fig.5)	0.225	0.328	-0.030
Right hand, Tilt 15 Degree, Mid frequency (See Fig.6)	0.151	0.202	0.153
Right hand, Touch cheek, High frequency (See Fig.7)	0.210	0.308	-0.084
Right hand, Touch cheek, Low frequency (See Fig.8)	0.193	0.275	-0.131
Left hand, Touch cheek, Mid frequency, Slide up (See Fig.9)	0.181	0.250	-0.060

Table 17: SAR Values (PCS 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.10)	0.105	0.173	0.036
Left hand, Tilt 15 Degree, Mid frequency (See Fig.11)	0.078	0.130	-0.105
Left hand, Touch cheek, High frequency (See Fig.12)	0.107	0.175	-0.185
Left hand, Touch cheek, Low frequency (See Fig.13)	0.122	0.197	0.006
Right hand, Touch cheek, Mid frequency (See Fig.14)	0.185	0.324	-0.101
Right hand, Tilt 15 Degree, Mid frequency (See Fig.15)	0.099	0.165	0.054
Right hand, Touch cheek, High frequency (See Fig.16)	0.187	0.329	-0.164
Right hand, Touch cheek, Low frequency (See Fig.17)	0.220	0.382	0.153
Right hand, Touch cheek, Low frequency, Slide up (See Fig.18)	0.054	0.094	0.166

Table 18: SAR Values (WCDMA 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.19)	0.282	0.381	-0.125
Left hand, Tilt 15 Degree, Mid frequency (See Fig.20)	0.161	0.216	0.087
Left hand, Touch cheek, High frequency (See Fig.21)	0.201	0.277	-0.188
Left hand, Touch cheek, Low frequency (See Fig.22)	0.264	0.358	-0.188
Right hand, Touch cheek, Mid frequency (See Fig.23)	0.255	0.350	-0.188
Right hand, Tilt 15 Degree, Mid frequency (See Fig.24)	0.197	0.265	-0.138
Right hand, Touch cheek, High frequency (See Fig.25)	0.262	0.362	-0.011
Right hand, Touch cheek, Low frequency (See Fig.26)	0.242	0.331	0.082
Left hand, Touch cheek, Mid frequency, Slide up (See Fig.27)	0.230	0.327	-0.124

Table 19: SAR Values (WCDMA 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.28)	0.247	0.397	0.076
Left hand, Tilt 15 Degree, Mid frequency (See Fig.29)	0.182	0.305	-0.022
Left hand, Touch cheek, High frequency (See Fig.30)	0.233	0.373	-0.136
Left hand, Touch cheek, Low frequency (See Fig.31)	0.249	0.400	0.019
Right hand, Touch cheek, Mid frequency (See Fig.32)	0.340	0.587	0.096
Right hand, Tilt 15 Degree, Mid frequency (See Fig.33)	0.179	0.279	-0.156
Right hand, Touch cheek, High frequency (See Fig.34)	0.343	0.597	-0.020
Right hand, Touch cheek, Low frequency (See Fig.35)	0.308	0.531	0.103
Right hand, Touch cheek, High frequency, Slide up (See Fig.36)	0.090	0.155	0.025

Table 20: SAR Values (GSM 850MHz-Body) – AP off 15mm

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	
Towards Ground, High frequency with GPRS (See Fig.37)	0.670	0.935	-0.078
Towards Phantom, High frequency with GPRS (See Fig.38)	0.237	0.335	0.136
Towards Ground, Mid frequency with GPRS (See Fig.39)	0.520	0.736	0.178
Towards Ground, Low frequency with GPRS (See Fig.40)	0.469	0.677	-0.111
Towards Ground, High frequency with Headset (See Fig.41)	0.400	0.565	-0.163
Towards Ground, High frequency with Bluetooth (See Fig.42)	0.489	0.683	-0.051

Table 21: SAR Values (GSM 850MHz-Body) – AP on 10mm

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	
Towards Ground, Mid frequency with GPRS (See Fig.43)	0.736	1.08	-0.085
Towards Phantom, Mid frequency with GPRS (See Fig.44)	0.227	0.320	-0.119
Left Side, Mid frequency with GPRS (See Fig.45)	0.409	0.603	-0.057
Right Side, Mid frequency with GPRS (See Fig.46)	0.362	0.558	0.013
Bottom Side, Mid frequency with GPRS (See Fig.47)	0.245	0.447	-0.181
Towards Ground, High frequency with GPRS (See Fig.48)	0.591	0.864	0.016
Towards Ground, Low frequency with GPRS (See Fig.49)	0.716	1.04	-0.029
Towards Ground, Mid frequency with EGPRS (See Fig.50)	0.745	1.05	-0.194
Towards Ground, Mid frequency with Headset (See Fig.51)	0.684	0.962	-0.089
Towards Ground, Mid frequency with Bluetooth (See Fig.52)	0.713	1.01	-0.102
Towards Ground, Slide up, Mid frequency with GPRS (See Fig.53)	0.519	0.803	0.005

Table 22: SAR Values (PCS 1900MHz-Body) – AP off 15mm

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	
Towards Ground, Low frequency with GPRS (See Fig.54)	0.530	0.984	-0.198
Towards Phantom, Low frequency with GPRS (See Fig.55)	0.068	0.105	-0.115
Towards Ground, High frequency with GPRS (See Fig.56)	0.422	0.807	-0.117
Towards Ground, Mid frequency with GPRS (See Fig.57)	0.507	0.971	0.144
Towards Ground, Low frequency with EGPRS (See Fig.58)	0.485	0.905	-0.125
Towards Ground, Low frequency with Headset (See Fig.59)	0.405	0.765	0.168
Towards Ground, Low frequency with Bluetooth (See Fig.60)	0.412	0.779	-0.017
Towards Ground, Slide up, Low frequency with GPRS (See Fig.61)	0.514	0.981	0.102

Table 23: SAR Values (PCS 1900MHz-Body) – AP on 10mm

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	
Towards Ground, Mid frequency with GPRS (See Fig.62)	0.251	0.513	-0.078
Towards Phantom, Mid frequency with GPRS (See Fig.63)	0.037	0.067	0.136
Left Side, Mid frequency with GPRS (See Fig.64)	0.030	0.052	-0.069
Right Side, Mid frequency with GPRS (See Fig.65)	0.061	0.101	0.032
Bottom Side, Mid frequency with GPRS (See Fig.66)	0.109	0.193	0.056
Towards Ground, High frequency with GPRS (See Fig.67)	0.321	0.674	-0.177
Towards Ground, Low frequency with GPRS (See Fig.68)	0.334	0.683	-0.133

Table 24: SAR Values (WCDMA 850MHz-Body) – AP off 10mm

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	
Towards Ground, Mid frequency (See Fig.69)	0.856	1.25	-0.114
Towards Phantom, Mid frequency (See Fig.70)	0.315	0.449	-0.054
Left Side, Mid frequency (See Fig.71)	0.457	0.673	-0.108

Right Side, Mid frequency (See Fig.72)	0.430	0.661	-0.157
Bottom Side, Mid frequency (See Fig.73)	0.280	0.518	-0.000312
Towards Ground, High frequency (See Fig.74)	0.816	1.2	-0.041
Towards Ground, Low frequency (See Fig.75)	0.829	1.22	0.066
Towards Ground, Mid frequency with Headset (See Fig.76)	0.543	0.837	0.129
Towards Ground, Mid frequency with Bluetooth (See Fig.77)	0.804	1.2	-0.031
Towards Ground, Slide up, Mid frequency (See Fig.78)	0.623	0.953	0.069

Table 25: SAR Values (WCDMA 850MHz-Body) – AP off 15mm

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	
Towards Ground, Mid frequency with Headset (See Fig.79)	0.435	0.630	-0.063
Towards Ground, Mid frequency with Bluetooth (See Fig.80)	0.603	0.839	0.045

Table 26: SAR Values (WCDMA 1900MHz-Body) – AP off 15mm

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	
Towards Ground, High frequency (See Fig.81)	0.689	1.33	-0.069
Towards Phantom, High frequency (See Fig.82)	0.093	0.154	0.176
Towards Ground, Mid frequency (See Fig.83)	0.642	1.22	0.021
Towards Ground, Low frequency (See Fig.84)	0.611	1.15	0.042
Towards Ground, High frequency with Headset (See Fig.85)	0.635	1.22	-0.081
Towards Ground, High frequency with Bluetooth (See Fig.86)	0.656	1.26	-0.003
Towards Ground, Slide up, High frequency (See Fig.87)	0.622	1.31	0.105

Table 27: SAR Values (WCDMA 1900MHz-Body) – AP on 10mm

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	
Towards Ground, High frequency (See Fig.88)	0.452	0.955	0.103
Towards Phantom, High frequency (See Fig.89)	0.049	0.084	0.115

Left Side, High frequency (See Fig.90)	0.040	0.069	0.172
Right Side, High frequency (See Fig.91)	0.080	0.134	0.016
Bottom Side, High frequency (See Fig.92)	0.113	0.208	-0.041
Towards Ground, Mid frequency (See Fig.93)	0.451	0.951	-0.056
Towards Ground, Low frequency (See Fig.94)	0.440	0.914	0.016

7.4 Summary of Measurement Results (Bluetooth and WiFi function)

The distance between BT antenna and RF antenna is 5.769cm.

The output power of BT antenna is 4.5mW.

According to the output 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 output power of BT transmitter is $\leqslant 2P_{Ref}$ and its antenna is >5cm from other antenna

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

The average conducted power for WiFi is as following:

802.11b（dBm）

Channel\data rate	1Mbps	2Mbps	5.5Mbps	11Mbps
1	19.2	19.1	19.2	18.8
6	19.2	19.2	19.0	18.9
11	19.1	19.1	18.8	19.0

802.11g（dBm）

Channel\data rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
1	17.0	16.9	16.8	16.9	16.9	17.1	16.9	17.1
6	16.9	17.1	17.0	16.9	17.1	17.0	16.8	16.9
11	16.9	16.8	17.0	17.0	16.9	16.9	16,88	16.8

802.11n（dBm）

Channel\data rate	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
1	17.1	17.0	16.9	17.1	17.0	16.9	15.0	15.0
6	17.2	17.0	17.1	17.1	17.0	16.9	15.0	15.0
11	16.9	17.2	17.2	17.2	17.1	17.0	15.0	14.9

The peak conducted power for WiFi is as following:

802.11b（dBm）

Channel\data rate	1Mbps	2Mbps	5.5Mbps	11Mbps
1	21.9	22.1	21.5	21.3
6	21.9	21.8	21.3	21.3
11	21.8	21.1	20.9	21.0

802.11g（dBm）

Channel\data rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
1	24.8	24.7	24.8	24.8	24.1	24.1	24.3	24.4
6	24.7	24.8	24.7	24.7	24.7	24.6	24.7	24.7
11	23.9	24.0	23.8	24.2	24.1	24.1	23.9	23.8

802.11n（dBm）

Channel\data rate	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
1	24.2	24.3	24.4	24.3	24.6	24.6	24.5	22.4
6	24.4	24.8	24.1	24.7	24.4	24.8	24.6	22.3
11	24.8	24.6	24.7	24.8	24.8	24.8	24.6	22.2

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

SAR is not required for 802.11g/n channels if the output power is less than 0.25dB higher than that measured on the corresponding 802.11b channels, and for each frequency band, testing at higher data rates and higher order modulations is not required when the maximum average output power for each of these configurations is less than 0.25dB higher than those measured at the lowest data rate. According to the above conducted power, the EUT should be tested for "802.11b, 1Mbps, channel 1 and 6".

Table 28: SAR Values (WIFI 802.b -Head)

	10 g Average	1 g Average	Power Drift (dB)
Limit of SAR (W/kg)	2.0	1.6	
Test Case	**Measurement Result (W/kg)**		
	10 g Average	**1 g Average**	
Left hand, Touch cheek, 1Mbps,channel 1 (See Fig.95)	0.147	0.295	0.194
Left hand, Tilt 15 Degree, 1Mbps,channel 1 (See Fig.96)	0.127	0.233	0.073
Right hand, Touch cheek, 1Mbps,channel 1 (See Fig.97)	0.250	0.547	-0.171
Right hand, Tilt 15 Degree, 1Mbps,channel 1 (See Fig.98)	0.187	0.374	0.150
Left hand, Touch cheek, 1Mbps,channel 6 (See Fig.99)	0.176	0.349	-0.056

Left hand, Tilt 15 Degree, 1Mbps,channel 6 (See Fig.100)	0.157	0.309	-0.042
Right hand, Touch cheek, 1Mbps,channel 6 (See Fig.101)	0.290	0.631	0.179
Right hand, Tilt 15 Degree, 1Mbps,channel 6 (See Fig.102)	0.211	0.422	-0.048
Right hand, Touch cheek, 1Mbps,channel 6, Slide up (See Fig.103)	0.137	0.250	-0.056

Table 29: SAR Values (WIFI 802.b -Body)

Limit of SAR (W/kg)	10 g Average	1 g Average	Power Drift (dB)
	2.0	1.6	
Test Case	Measurement Result (W/kg)		
	10 g Average	1 g Average	
Toward Phantom, 1Mbps,channel 1 (See Fig.104)	0.126	0.241	0.148
Toward Ground, 1Mbps,channel 1 (See Fig.105)	0.302	0.531	-0.040
Left Side, 1Mbps,channel 1 (See Fig.106)	0.149	0.280	-0.079
Right Side, 1Mbps,channel 1 (See Fig.107)	0.074	0.132	0.166
Top Side, 1Mbps,channel 1 (See Fig.108)	0.314	0.660	-0.050
Toward Phantom, 1Mbps,channel 6 (See Fig.109)	0.141	0.269	-0.015
Toward Ground, 1Mbps,channel 6 (See Fig.110)	0.299	0.524	-0.176
Left Side, 1Mbps,channel 6 (See Fig.111)	0.179	0.334	-0.118
Right Side, 1Mbps,channel 6 (See Fig.112)	0.086	0.157	0.097
Top Side, 1Mbps,channel 6 (See Fig.113)	0.377	0.797	-0.152
Top Side, 1Mbps,channel 6, Slide up (See Fig.114)	0.302	0.659	-0.071

Table 30: The sum of SAR values for GSM/WCDMA and WiFi

	Position	GSM/WCDMA	WiFi	Sum
Maximum SAR value for Head	Right hand, Touch cheek	0.597	0.631	1.228
Maximum SAR value for Body	Toward Ground	1.25	0.531	1.781
	Top Side	/	0.797	/

Since the much difference between the SAR values of WCDMA and WiFi, it is not clear for WiFI peak SAR point in the combined picture made by SEMCAD software. So the WCDMA and WiFi plots are presented respectively to show clearly peak SAR point. It is showed by X, Y and Z coordinates (unit: cm) for peak SAR points in the combined picture.

RF Peak SAR
(-1.1, 3.05, -20.4)

6.15cm

WiFi Peak SAR
(-3.75, -2.5, -20.4)

Combined picture for WCDMA850 and WiFi

The peak location separation = $[(-1.1-(-3.75))^2+(3.05-(-2.5))^2+(-20.4-(-20.4))^2]^{0.5}$ = 6.15

RF Peak SAR

WCDMA 850MHz, Body, Towards Ground, Mid frequency

WiFi, Body, Towards Ground, 1Mbps,channel 1

According to the above table and pictures, the sum of SAR values for GSM and WiFi is 1.781W/kg and peak location separation is 6.15cm. So antenna pair SAR to peak SAR location separation ratio is 1.781/6.15=0.290＜0.3, 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 **WCDMA 1900 MHz Band, Body, AP off 15mm, Towards Ground, High frequency (Table 26)**, and the value are: **1.33(1g).**

8 Measurement Uncertainty

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
Measurement system										
1	Probe calibration	B	5.5	N	1	1	1	5.5	5.5	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞

3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	N	1	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
Test sample related										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	∞
21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty	$u_c^{'} = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$							9.25	9.12	257
Expanded uncertainty (confidence interval of 95 %)	$u_e = 2u_c$							18.5	18.2	

9 MAIN TEST INSTRUMENTS

Table 31: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	HP 8753E	US38433212	August 4,2010	One year
02	Power meter	NRVD	102083	September 11, 2010	One year
03	Power sensor	NRV-Z5	100542		
04	Signal Generator	E4433C	MY49070393	November 13, 2010	One Year
05	Amplifier	VTL5400	0505	No Calibration Requested	
06	BTS	8960	MY48365192	November 18, 2010	One year
07	BTS	CMU200	105948	August 24, 2010	One year
08	E-field Probe	SPEAG ES3DV3	3149	September 25, 2010	One year
09	E-field Probe	SPEAG EX3DV4	3617	July 9, 2010	One year
10	DAE	SPEAG DAE4	771	November 21, 2010	One year
11	Dipole Validation Kit	SPEAG D835V2	443	February 26, 2010	Two years
12	Dipole Validation Kit	SPEAG D1900V2	541	February 26, 2010	Two years
13	Dipole Validation Kit	SPEAG D2450V2	853	September 27, 2010	Two years

END OF REPORT BODY

ANNEX A   MEASUREMENT PROCESS

The evaluation was performed with the following procedure:

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

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

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

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

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

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

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

Picture A: SAR Measurement Points in Area Scan

ANNEX B   TEST LAYOUT

Picture B1: Specific Absorption Rate Test Layout

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

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

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

ANNEX C   GRAPH RESULTS

850 Left Cheek Middle

Date/Time: 2011-6-11 8:22:15

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.90 mho/m; εr = 41.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.357 mW/g

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

Reference Value = 7.72 V/m; Power Drift = 0.061 dB

Peak SAR (extrapolated) = 0.404 W/kg

SAR(1 g) = 0.329 mW/g; SAR(10 g) = 0.241 mW/g

Maximum value of SAR (measured) = 0.349 mW/g

Fig. 1   850 MHz CH190

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

850 Left Tilt Middle

Date/Time: 2011-6-11 9:05:27

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.90 mho/m; εr = 41.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm
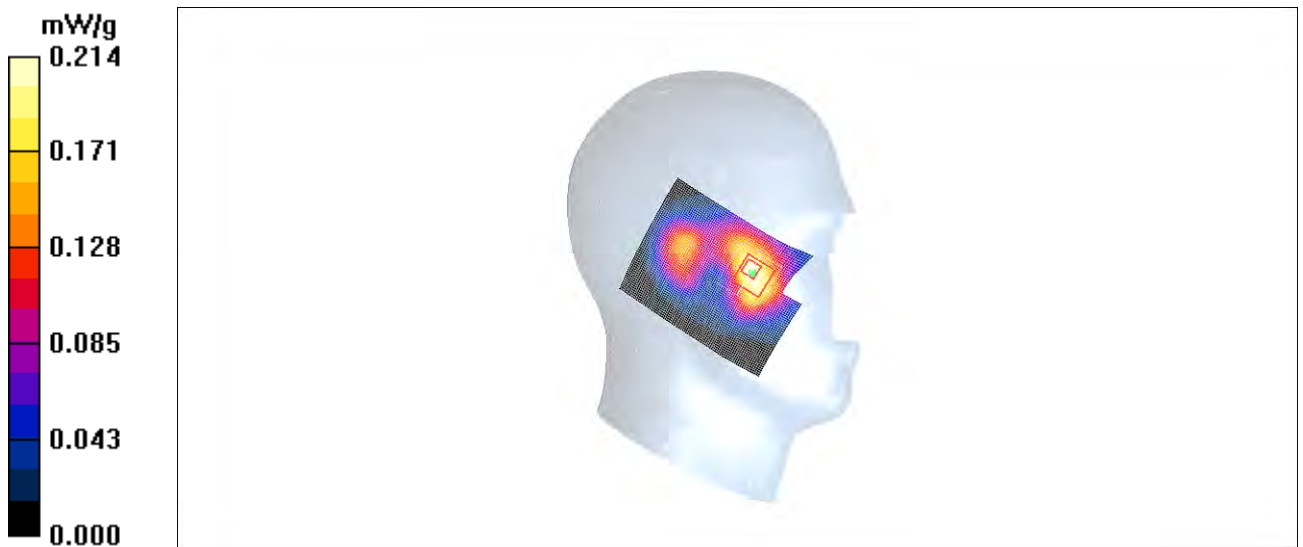
Maximum value of SAR (interpolated) = 0.179 mW/g

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

Reference Value = 11.3 V/m; Power Drift = -0.155 dB

Peak SAR (extrapolated) = 0.220 W/kg

SAR(1 g) = 0.174 mW/g; SAR(10 g) = 0.129 mW/g

Maximum value of SAR (measured) = 0.184 mW/g

Fig. 2   850 MHz CH190

850 Left Cheek High

Date/Time: 2011-6-11 8:36:34

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.90 mho/m; εr = 41.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

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

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

Reference Value = 7.40 V/m; Power Drift = 0.161 dB

Peak SAR (extrapolated) = 0.396 W/kg

SAR(1 g) = 0.324 mW/g; SAR(10 g) = 0.237 mW/g

Maximum value of SAR (measured) = 0.338 mW/g

Fig. 3   850MHz CH251

850 Left Cheek Low

Date/Time: 2011-6-11 8:50:52

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used: f = 825 MHz; σ = 0.88 mho/m; εr = 42.1; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.304 mW/g

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

Reference Value = 7.16 V/m; Power Drift = 0.049 dB

Peak SAR (extrapolated) = 0.350 W/kg

SAR(1 g) = 0.285 mW/g; SAR(10 g) = 0.208 mW/g

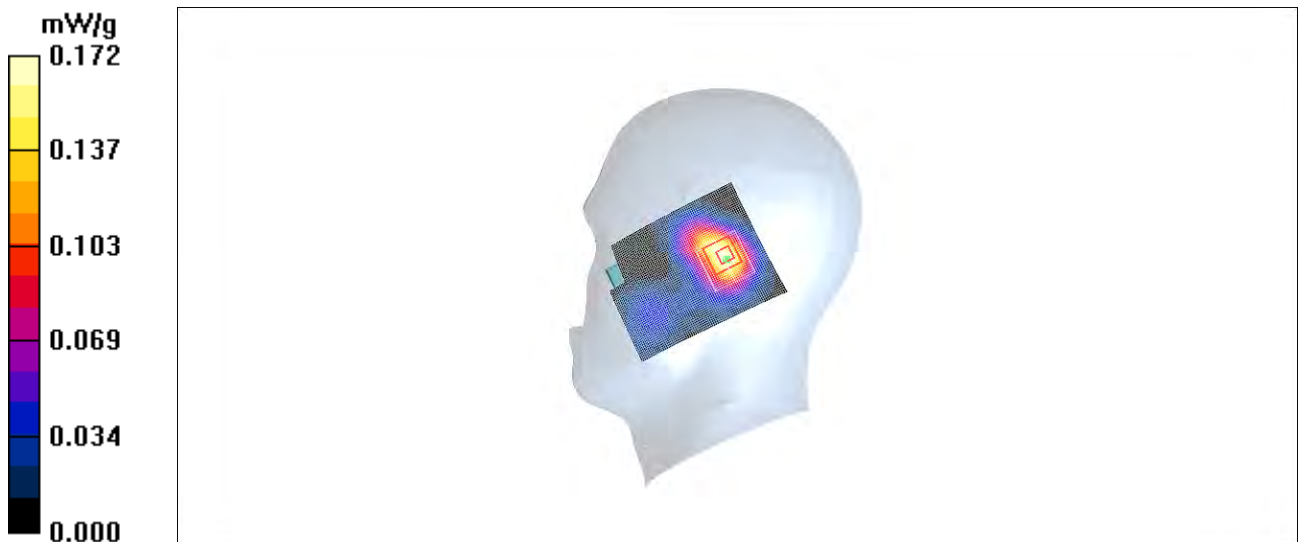Maximum value of SAR (measured) = 0.302 mW/g

Fig. 4   850 MHz CH128

850 Right Cheek Middle

Date/Time: 2011-6-11 9:20:01

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.90 mho/m; εr = 41.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.363 mW/g

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

Reference Value = 6.44 V/m; Power Drift = -0.030 dB

Peak SAR (extrapolated) = 0.496 W/kg

SAR(1 g) = 0.328 mW/g; SAR(10 g) = 0.225 mW/g

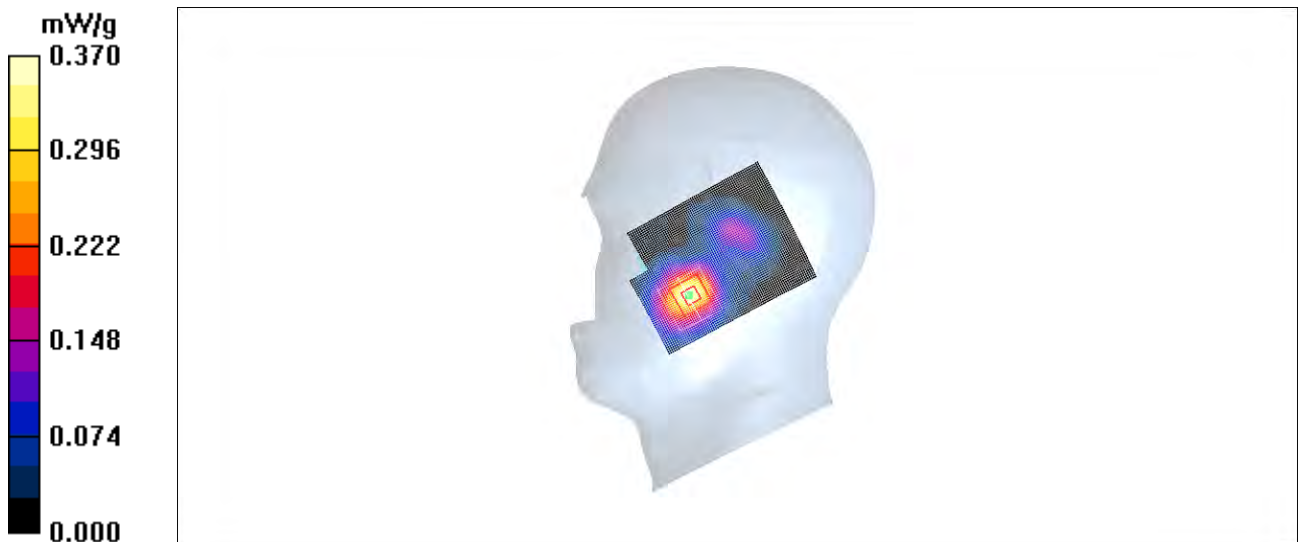Maximum value of SAR (measured) = 0.349 mW/g

Fig. 5   850 MHz CH190

850 Right Tilt Middle

Date/Time: 2011-6-11 10:03:18

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.90 mho/m; εr = 41.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.216 mW/g

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

Reference Value = 10.2 V/m; Power Drift = 0.153 dB

Peak SAR (extrapolated) = 0.252 W/kg

SAR(1 g) = 0.202 mW/g; SAR(10 g) = 0.151 mW/g

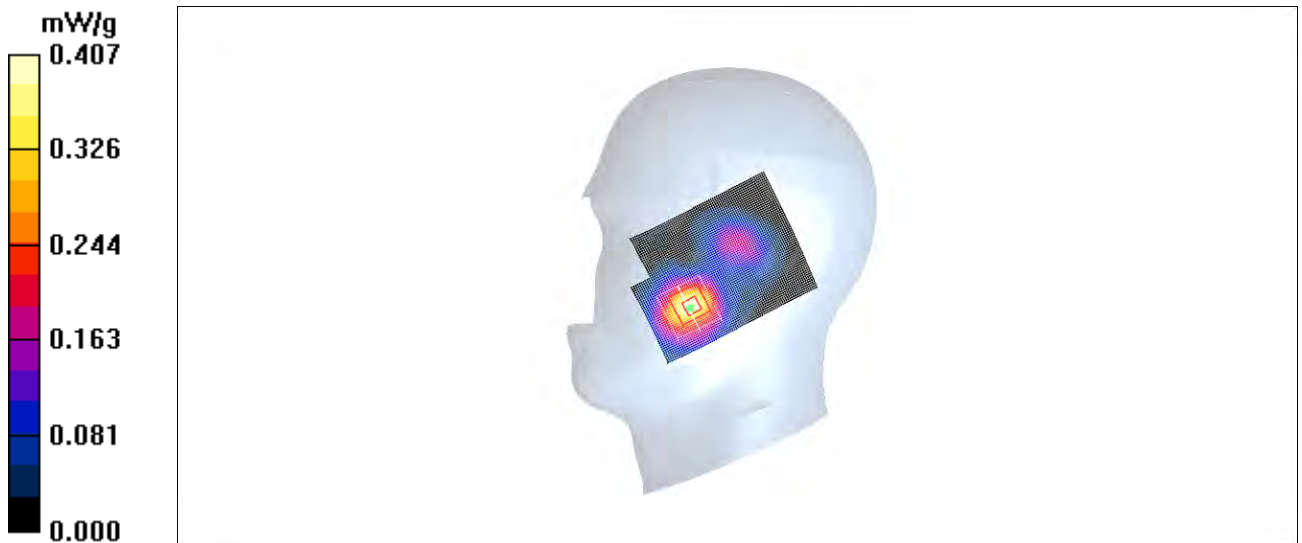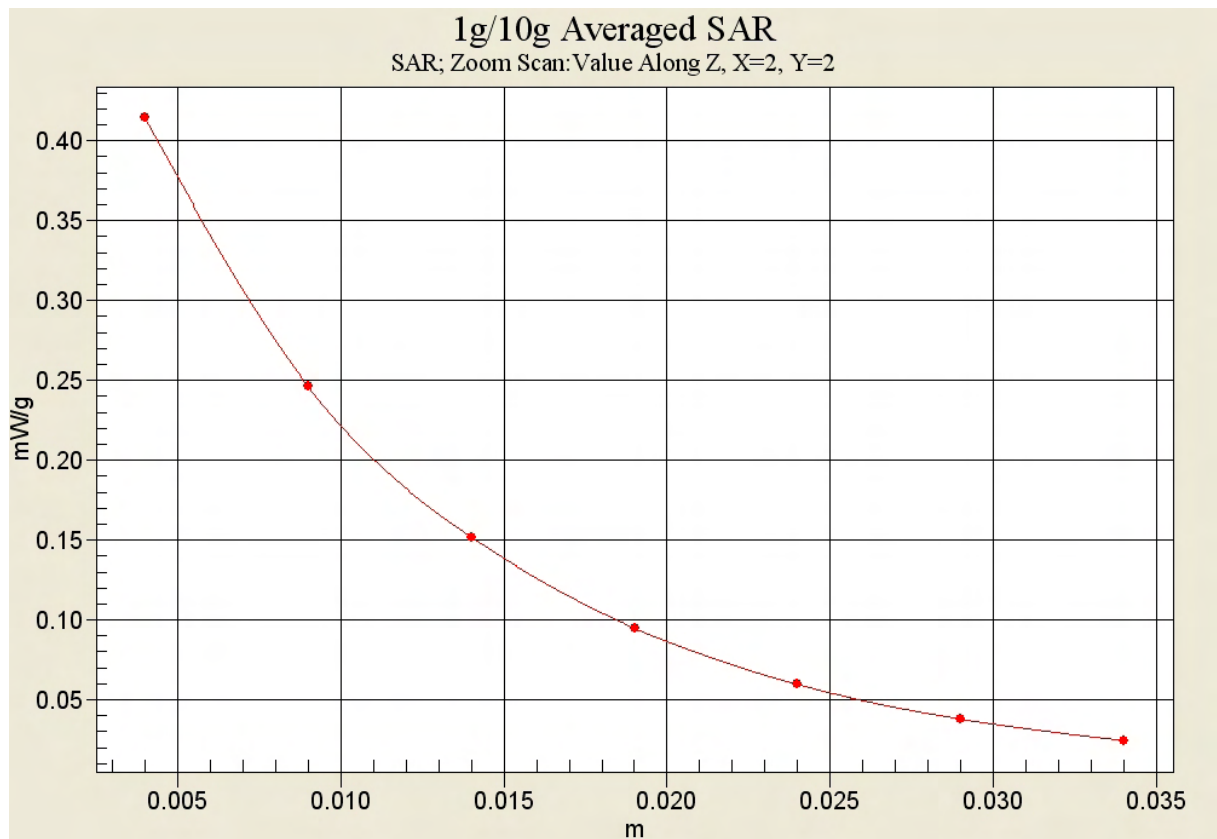Maximum value of SAR (measured) = 0.212 mW/g

Fig. 6   850 MHz CH190

850 Right Cheek High

Date/Time: 2011-6-11 9:34:23

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.90 mho/m; εr = 41.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.346 mW/g

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

Reference Value = 6.02 V/m; Power Drift = -0.084 dB

Peak SAR (extrapolated) = 0.473 W/kg

SAR(1 g) = 0.308 mW/g; SAR(10 g) = 0.210 mW/g

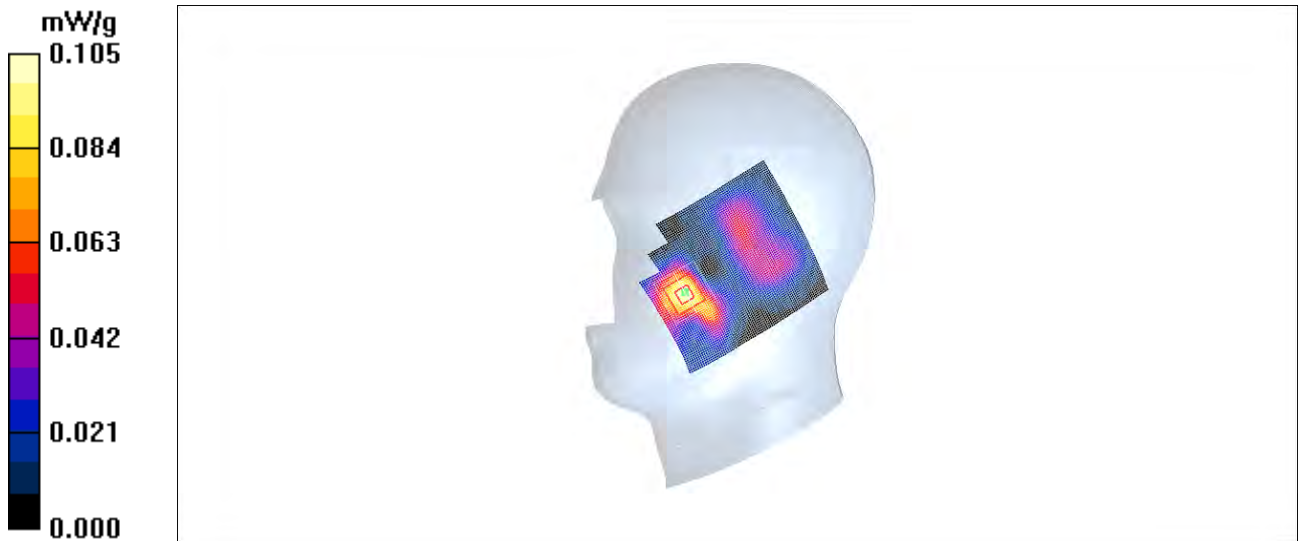Maximum value of SAR (measured) = 0.326 mW/g

Fig. 7   850 MHz CH251

850 Right Cheek Low

Date/Time: 2011-6-11 9:48:50

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used: f = 825 MHz; σ = 0.88 mho/m; εr = 42.1; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

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

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
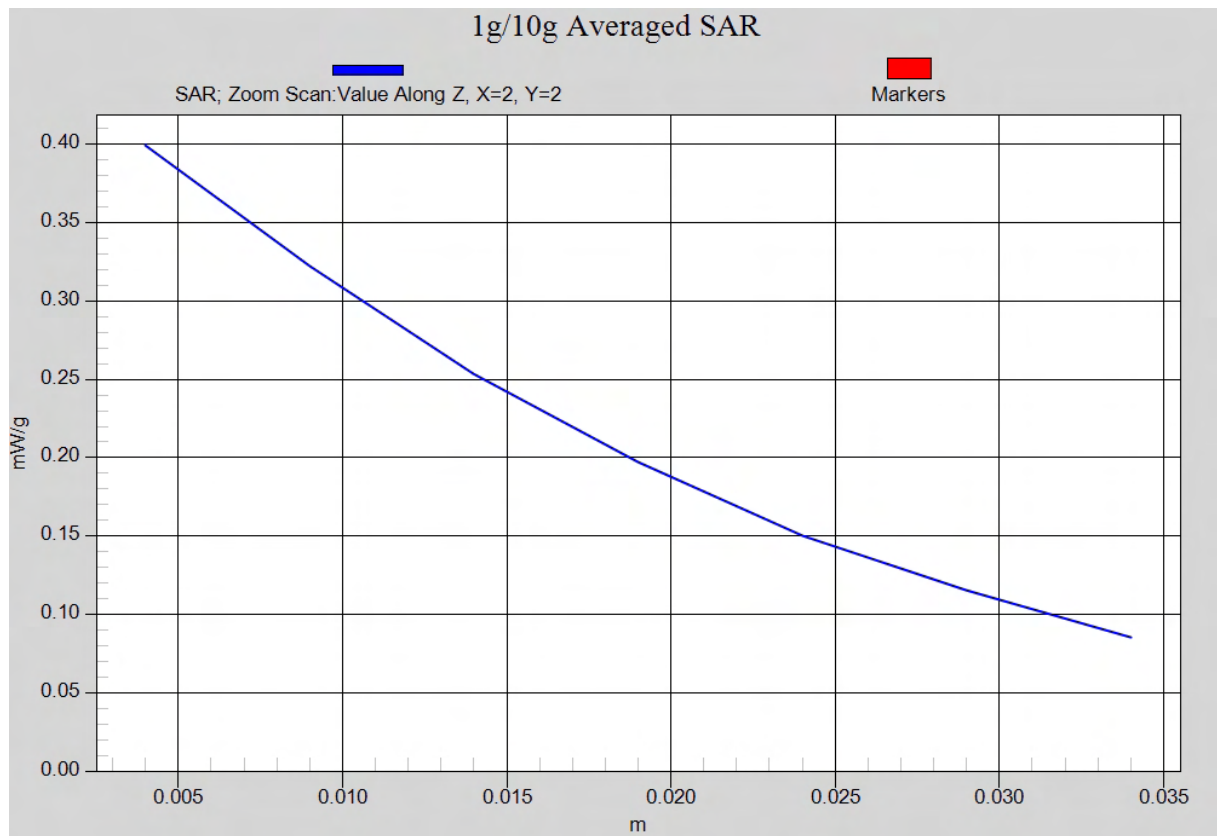
Reference Value = 6.07 V/m; Power Drift = -0.131 dB

Peak SAR (extrapolated) = 0.421 W/kg

SAR(1 g) = 0.275 mW/g; SAR(10 g) = 0.193 mW/g

Maximum value of SAR (measured) = 0.290 mW/g

Fig. 8   850 MHz CH128

850 Left Cheek Middle Slide up

Date/Time: 2011-6-11 10:18:55

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.90 mho/m; εr = 41.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (71x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.273 mW/g

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

Reference Value = 9.56 V/m; Power Drift = -0.060 dB

Peak SAR (extrapolated) = 0.322 W/kg

SAR(1 g) = 0.250 mW/g; SAR(10 g) = 0.181 mW/g

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

Fig. 9   850 MHz CH190

1900 Left Cheek Middle

Date/Time: 2011-6-9 13:24:06

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 40.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.187 mW/g

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

Reference Value = 8.81 V/m; Power Drift = 0.036 dB

Peak SAR (extrapolated) = 0.262 W/kg

SAR(1 g) = 0.173 mW/g; SAR(10 g) = 0.105 mW/g

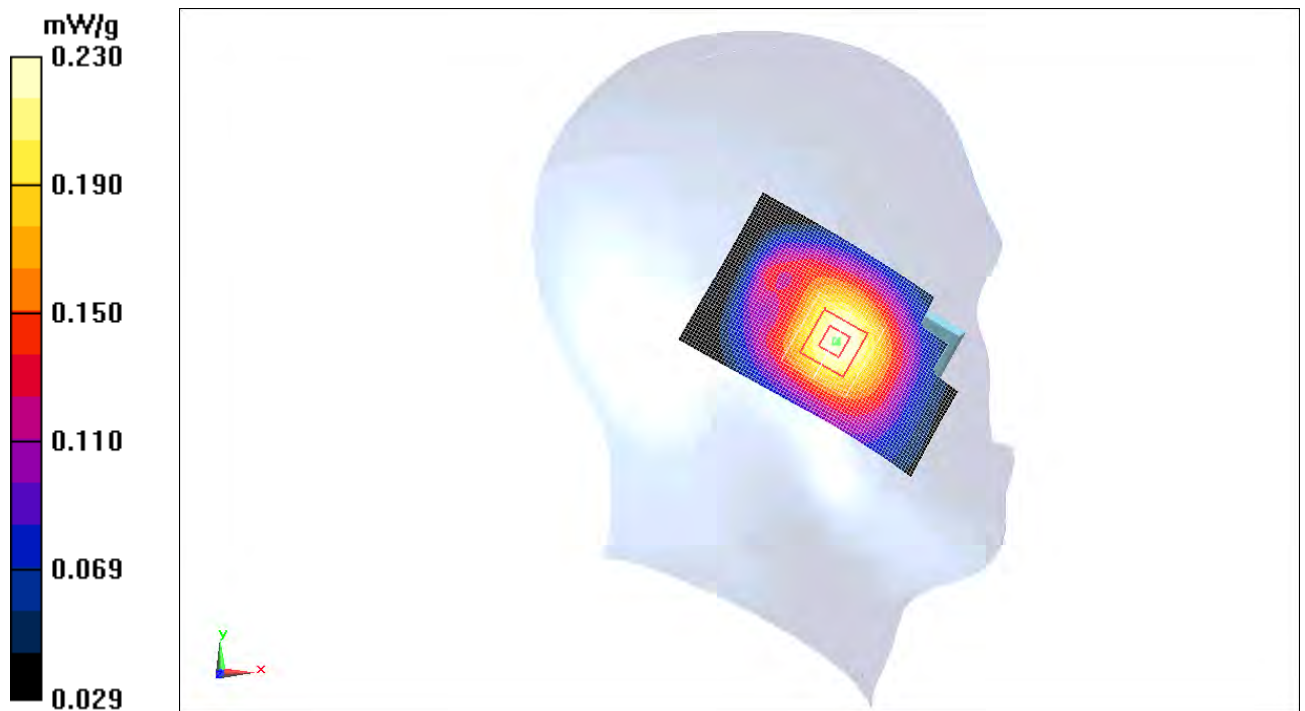Maximum value of SAR (measured) = 0.186 mW/g

Fig. 10 1900 MHz CH661

1900 Left Tilt Middle

Date/Time: 2011-6-9 14:07:15

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 40.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.152 mW/g

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

Reference Value = 9.58 V/m; Power Drift = -0.105 dB

Peak SAR (extrapolated) = 0.200 W/kg

SAR(1 g) = 0.130 mW/g; SAR(10 g) = 0.078 mW/g

Maximum value of SAR (measured) = 0.143 mW/g

Fig. 11 1900 MHz CH661

1900 Left Cheek High

Date/Time: 2011-6-9 13:38:27

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; εr = 40.5; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.188 mW/g

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

Reference Value = 8.74 V/m; Power Drift = -0.185 dB

Peak SAR (extrapolated) = 0.270 W/kg

SAR(1 g) = 0.175 mW/g; SAR(10 g) = 0.107 mW/g
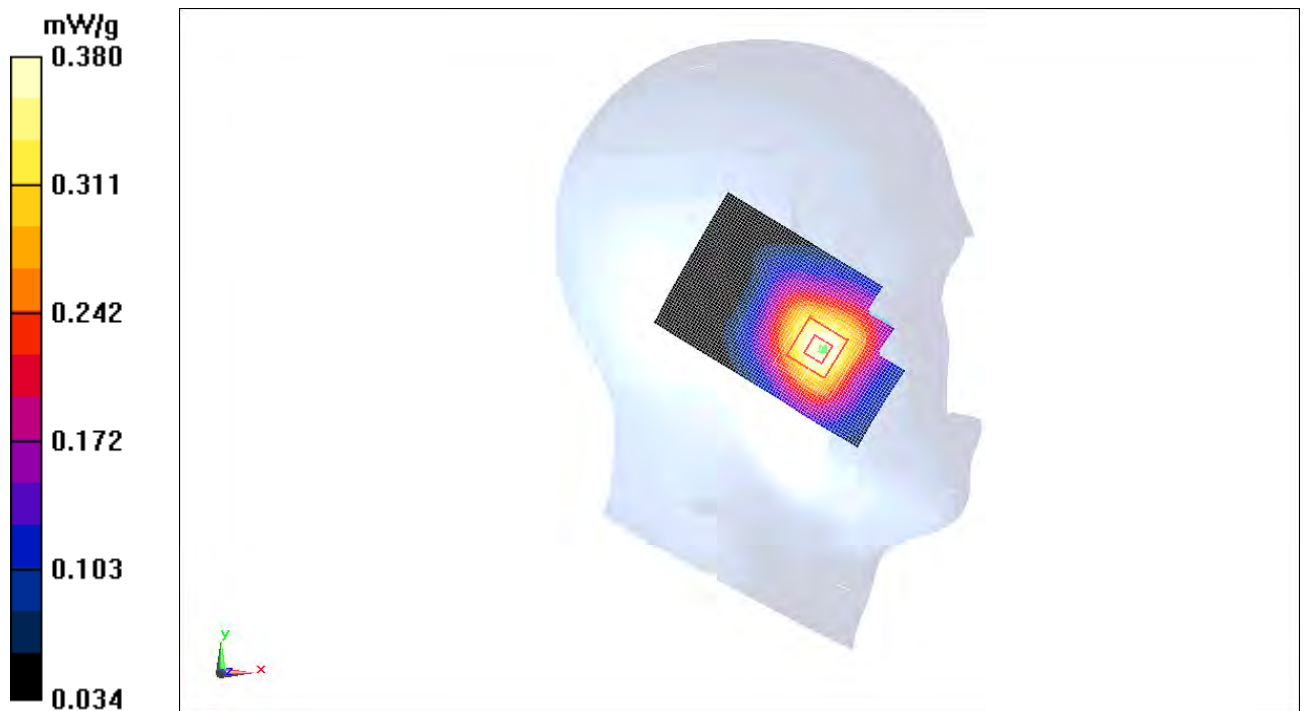
Maximum value of SAR (measured) = 0.188 mW/g

Fig. 12   1900 MHz CH810

1900 Left Cheek Low

Date/Time: 2011-6-9 13:52:49

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.36 mho/m; εr = 41.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

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

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

Reference Value = 9.63 V/m; Power Drift = 0.006 dB

Peak SAR (extrapolated) = 0.300 W/kg

SAR(1 g) = 0.197 mW/g; SAR(10 g) = 0.122 mW/g
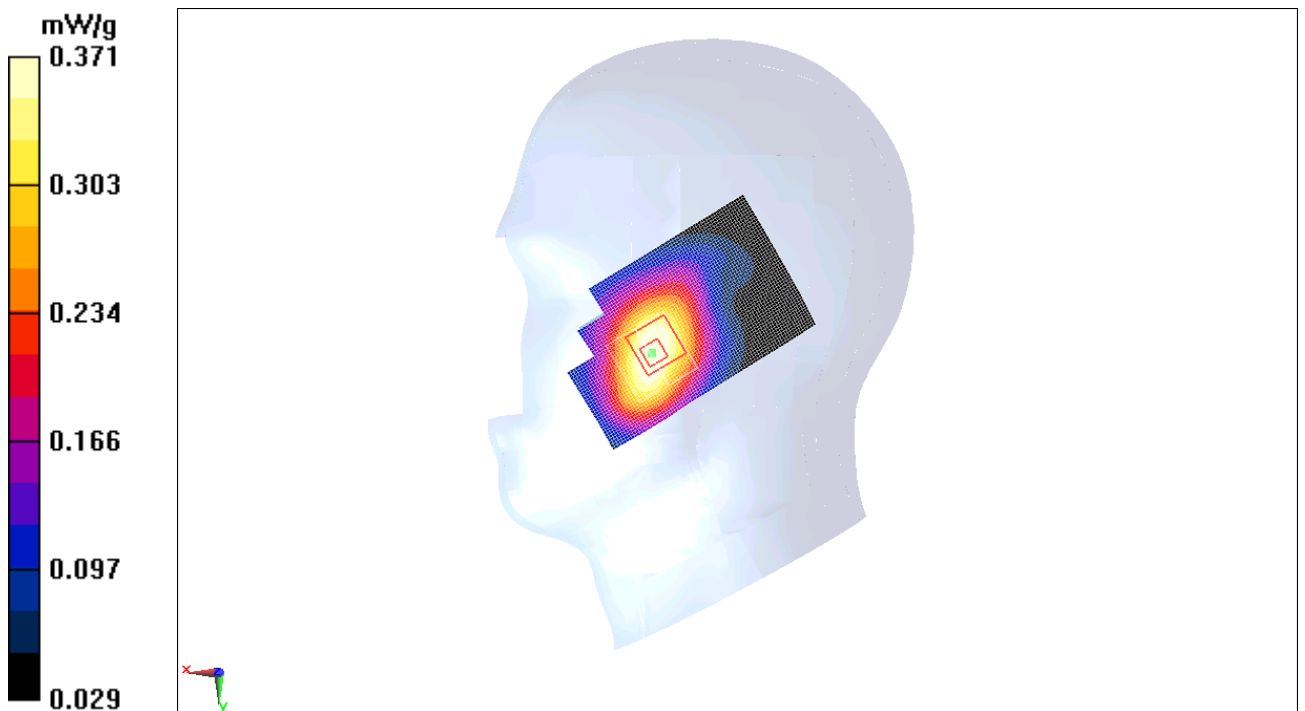
Maximum value of SAR (measured) = 0.208 mW/g

Fig. 13 1900 MHz CH512

1900 Right Cheek Middle

Date/Time: 2011-6-9 14:21:53

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 40.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): 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 = 8.69 V/m; Power Drift = -0.101 dB

Peak SAR (extrapolated) = 0.537 W/kg

SAR(1 g) = 0.324 mW/g; SAR(10 g) = 0.185 mW/g

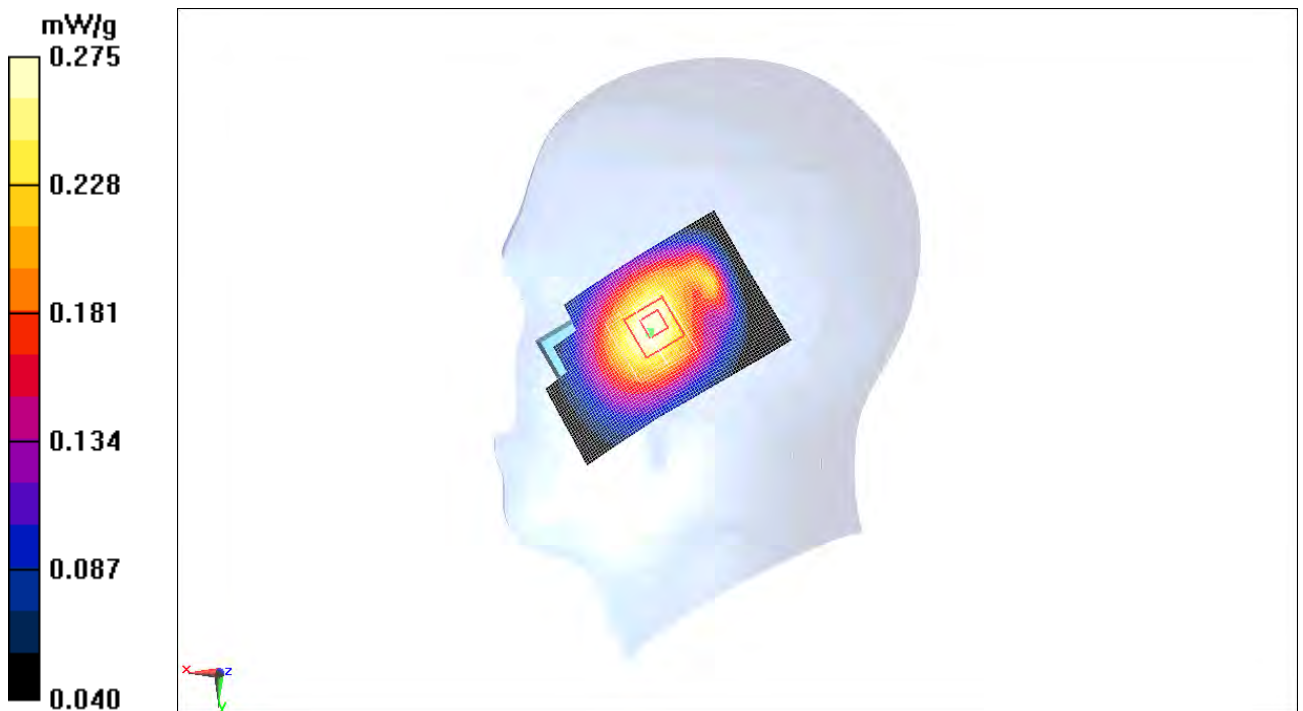Maximum value of SAR (measured) = 0.361 mW/g

Fig. 14 1900 MHz CH661

1900 Right Tilt Middle

Date/Time: 2011-6-9 15:05:17

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 40.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.172 mW/g

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

Reference Value = 11.5 V/m; Power Drift = 0.054 dB

Peak SAR (extrapolated) = 0.254 W/kg

SAR(1 g) = 0.165 mW/g; SAR(10 g) = 0.099 mW/g

Maximum value of SAR (measured) = 0.174 mW/g
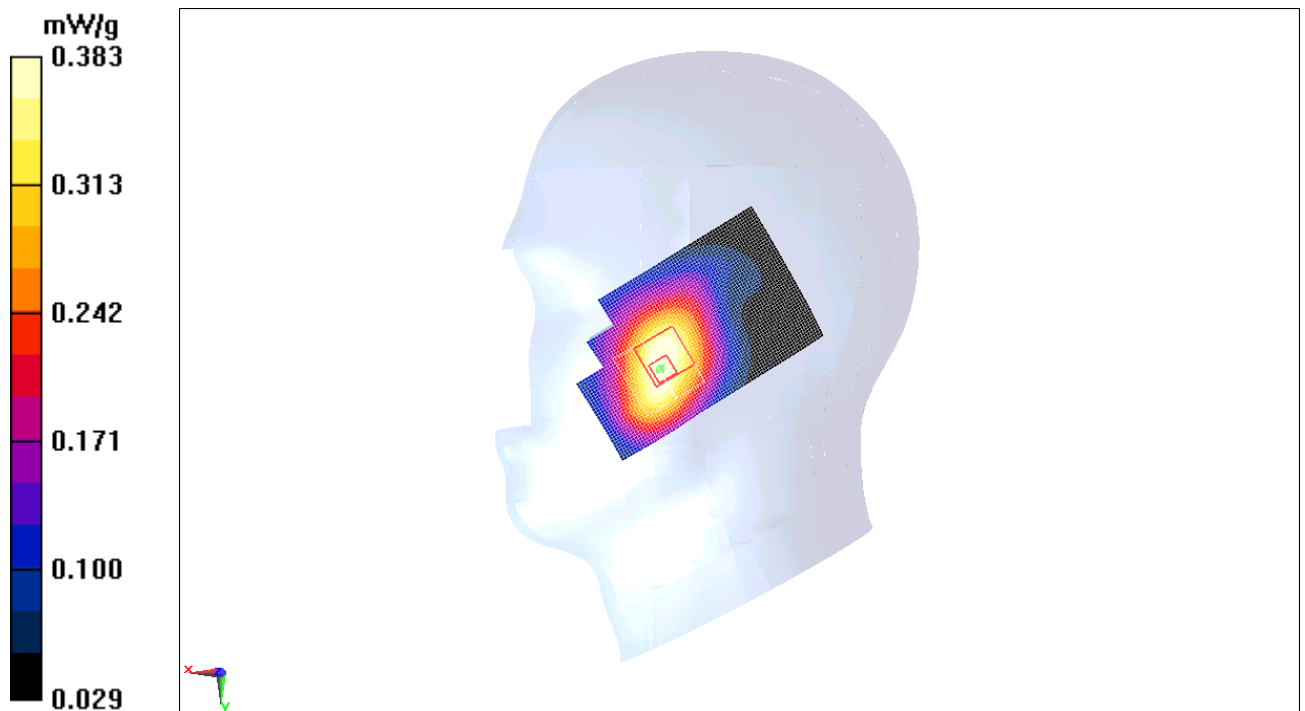

Fig. 15 1900 MHz CH661

1900 Right Cheek High

Date/Time: 2011-6-9 14:36:22

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; εr = 40.5; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

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

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

Reference Value = 8.62 V/m; Power Drift = -0.164 dB

Peak SAR (extrapolated) = 0.545 W/kg

SAR(1 g) = 0.329 mW/g; SAR(10 g) = 0.187 mW/g
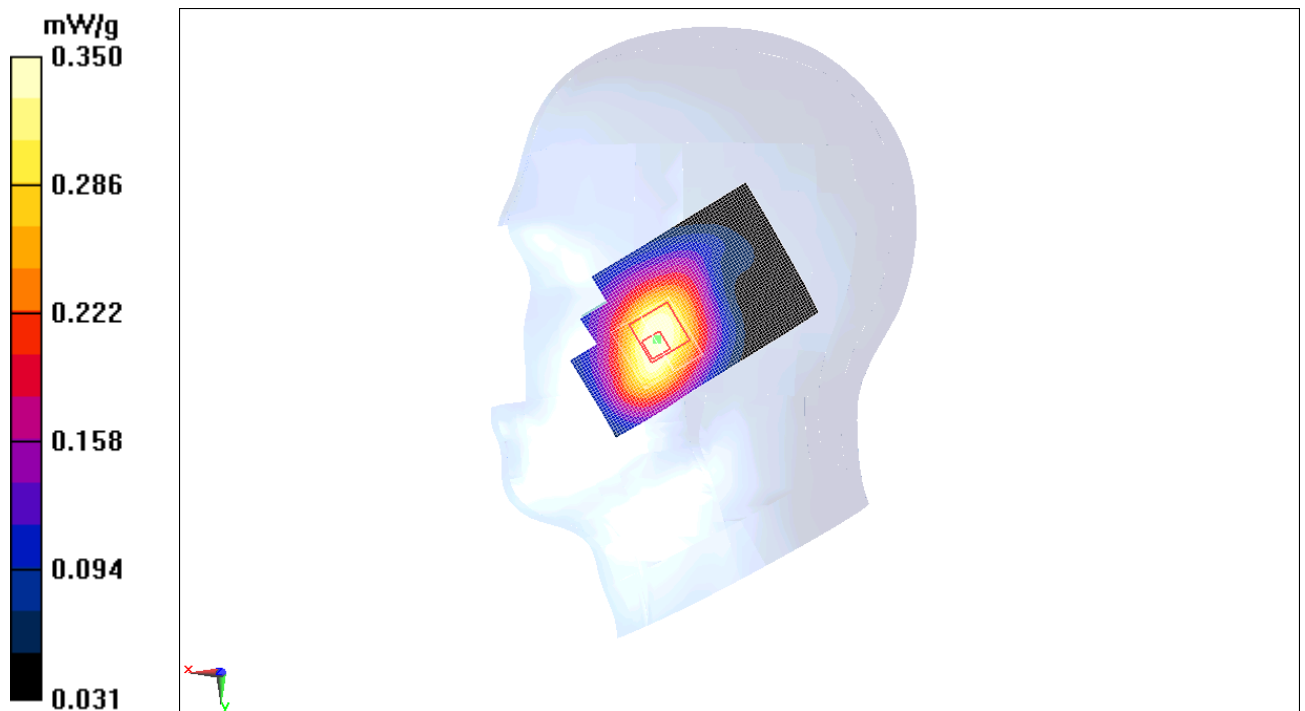
Maximum value of SAR (measured) = 0.362 mW/g

Fig. 16 1900 MHz CH810

1900 Right Cheek Low

Date/Time: 2011-6-9 14:50:45

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.36 mho/m; εr = 41.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.407 mW/g

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

Reference Value = 9.49 V/m; Power Drift = 0.153 dB

Peak SAR (extrapolated) = 0.636 W/kg

SAR(1 g) = 0.382 mW/g; SAR(10 g) = 0.220 mW/g
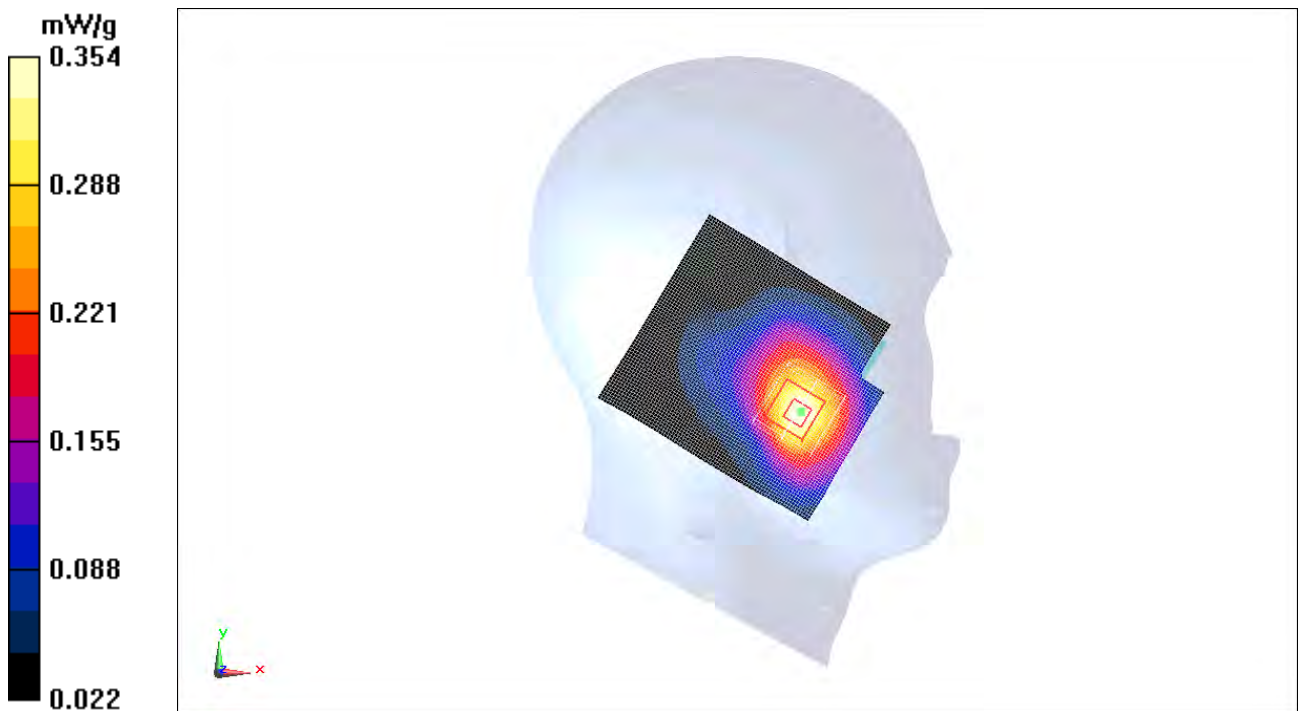
Maximum value of SAR (measured) = 0.414 mW/g

Fig. 17 1900 MHz CH512

Fig. 17-1   Z-Scan at power reference point (1900 MHz CH512)

1900 Right Cheek Low Slide up

Date/Time: 2011-6-9 15:21:35

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.36 mho/m; εr = 41.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (71x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.105 mW/g

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

Reference Value = 4.66 V/m; Power Drift = 0.166 dB

Peak SAR (extrapolated) = 0.152 W/kg

SAR(1 g) = 0.094 mW/g; SAR(10 g) = 0.054 mW/g

Maximum value of SAR (measured) = 0.103 mW/g

Fig. 18 1900 MHz CH512

WCDMA 850 Left Cheek Middle

Date/Time: 2011-6-11 10:36:10

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.90 mho/m; εr = 41.9; ρ = 1000 kg/m^3

Ambient Temperature:23°C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1

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

Cheek Middle/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

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

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

Reference Value = 8.08 V/m; Power Drift = -0.125 dB

Peak SAR (extrapolated) = 0.467 W/kg

SAR(1 g) = 0.381 mW/g; SAR(10 g) = 0.282 mW/g
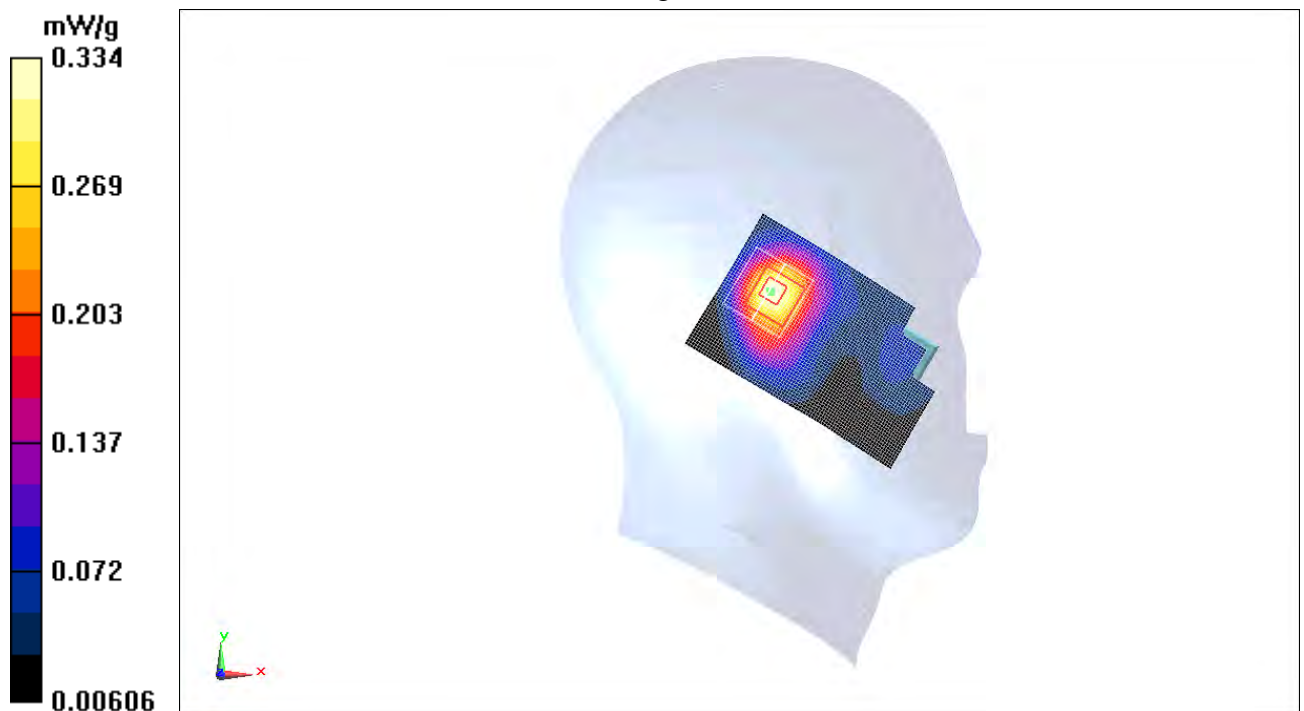
Maximum value of SAR (measured) = 0.399 mW/g

Fig. 19   850 MHz CH4182

Fig. 19-1 Z-Scan at power reference point (850 MHz CH4182)

WCDMA 850 Left Tilt Middle

Date/Time: 2011-6-11 11:19:34

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.90 mho/m; εr = 41.9; ρ = 1000 kg/m^3

Ambient Temperature:23°C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1

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

Tilt Middle/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.232 mW/g

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

Reference Value = 11.6 V/m; Power Drift = 0.087 dB

Peak SAR (extrapolated) = 0.270 W/kg

SAR(1 g) = 0.216 mW/g; SAR(10 g) = 0.161 mW/g
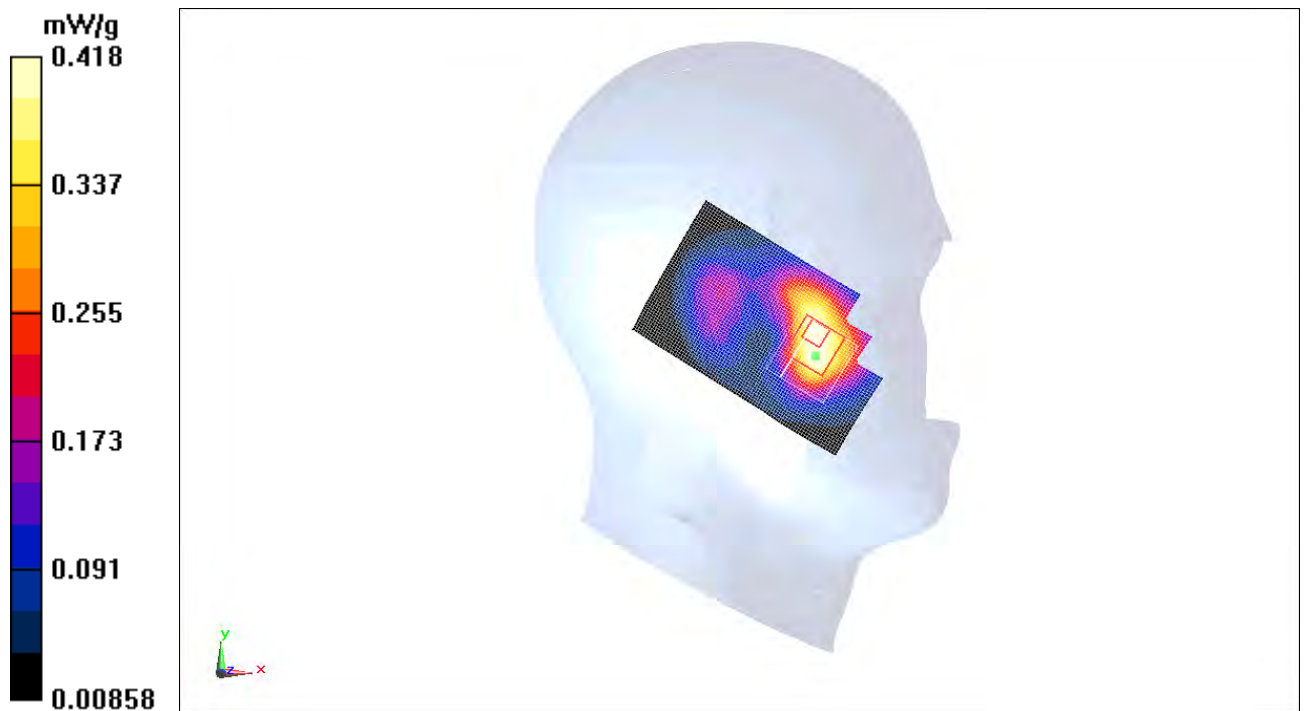
Maximum value of SAR (measured) = 0.230 mW/g

Fig. 20   850 MHz CH4182

WCDMA850 Left Cheek High

Date/Time: 2011-6-11 10:50:34

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.901 mho/m; εr = 41.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 846.6 MHz Duty Cycle: 1:1

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

Cheek High/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.300 mW/g

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

Reference Value = 6.44 V/m; Power Drift = -0.188 dB

Peak SAR (extrapolated) = 0.343 W/kg

SAR(1 g) = 0.277 mW/g; SAR(10 g) = 0.201 mW/g

Maximum value of SAR (measured) = 0.294 mW/g

Fig. 21   850MHz CH4233

WCDMA 850 Left Cheek Low

Date/Time: 2011-6-11 11:04:56

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.88 mho/m; εr = 42.1; ρ = 1000 kg/m^3

Ambient Temperature:23°C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 826.4 MHz Duty Cycle: 1:1

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

Cheek Low/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.388 mW/g

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

Reference Value = 7.3 V/m; Power Drift = -0.188 dB

Peak SAR (extrapolated) = 0.439 W/kg

SAR(1 g) = 0.358 mW/g; SAR(10 g) = 0.264 mW/g

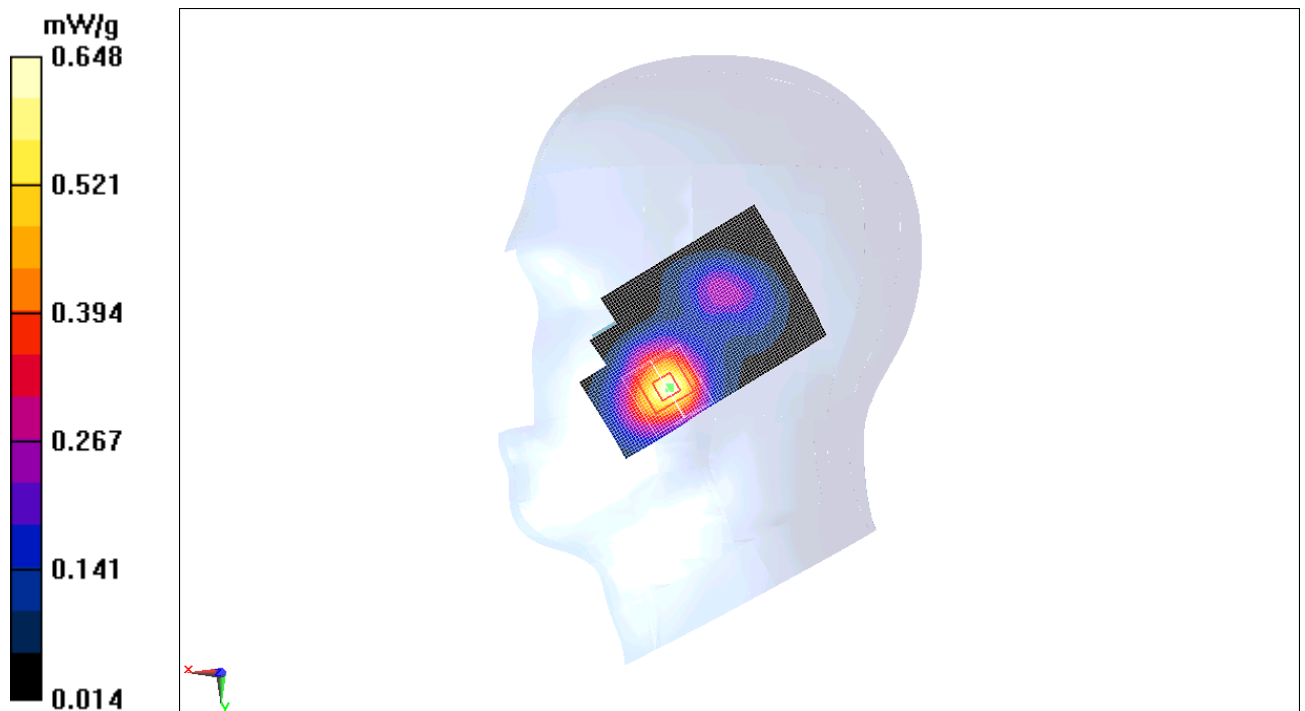Maximum value of SAR (measured) = 0.380 mW/g

Fig. 22   850 MHz CH4132

WCDMA 850 Right Cheek Middle

Date/Time: 2011-6-11 11:34:03

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.90 mho/m; εr = 41.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1

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

Cheek Middle/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.380 mW/g

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

Reference Value = 8.03 V/m; Power Drift = -0.188 dB

Peak SAR (extrapolated) = 0.502 W/kg

SAR(1 g) = 0.350 mW/g; SAR(10 g) = 0.255 mW/g

Maximum value of SAR (measured) = 0.371 mW/g

Fig. 23   850 MHz CH4182

WCDMA 850 Right Tilt Middle

Date/Time: 2011-6-11 12:17:12

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.90 mho/m; εr = 41.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5 ^{o}C

Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1

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

Tilt Middle/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.274 mW/g

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

Reference Value = 13.4 V/m; Power Drift = -0.138 dB

Peak SAR (extrapolated) = 0.333 W/kg

SAR(1 g) = 0.265 mW/g; SAR(10 g) = 0.197 mW/g
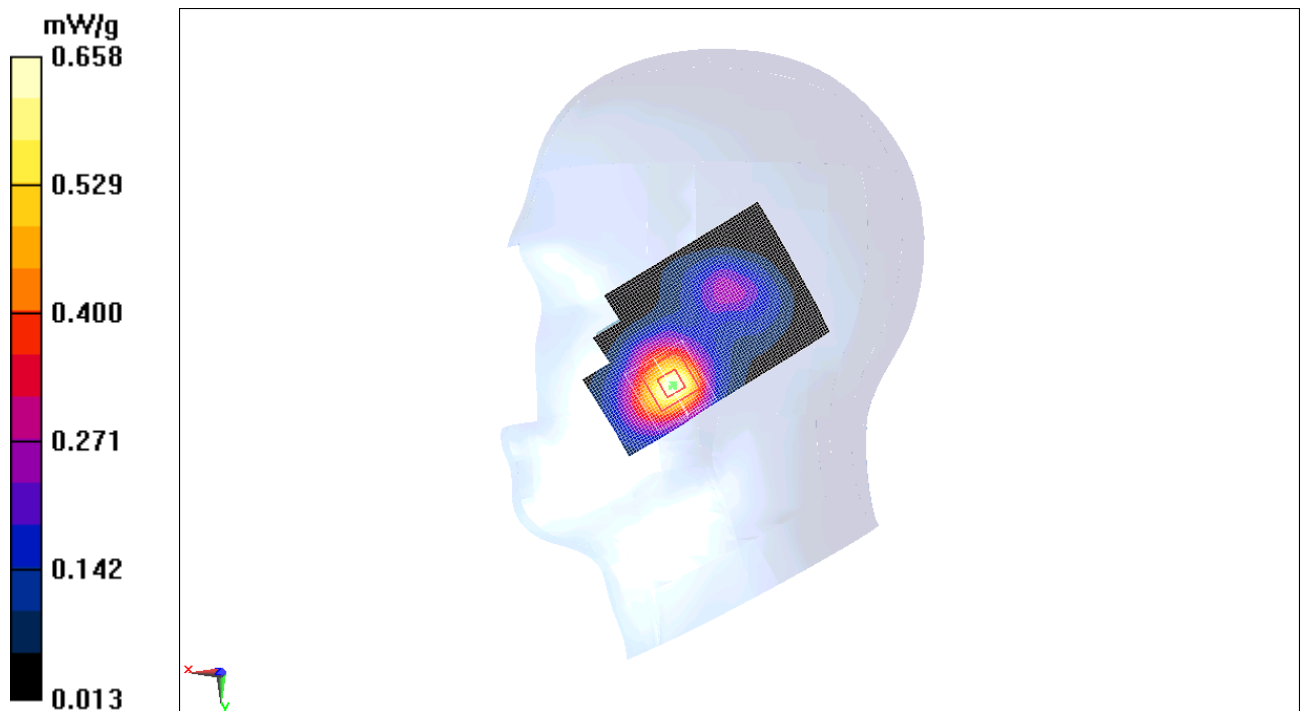
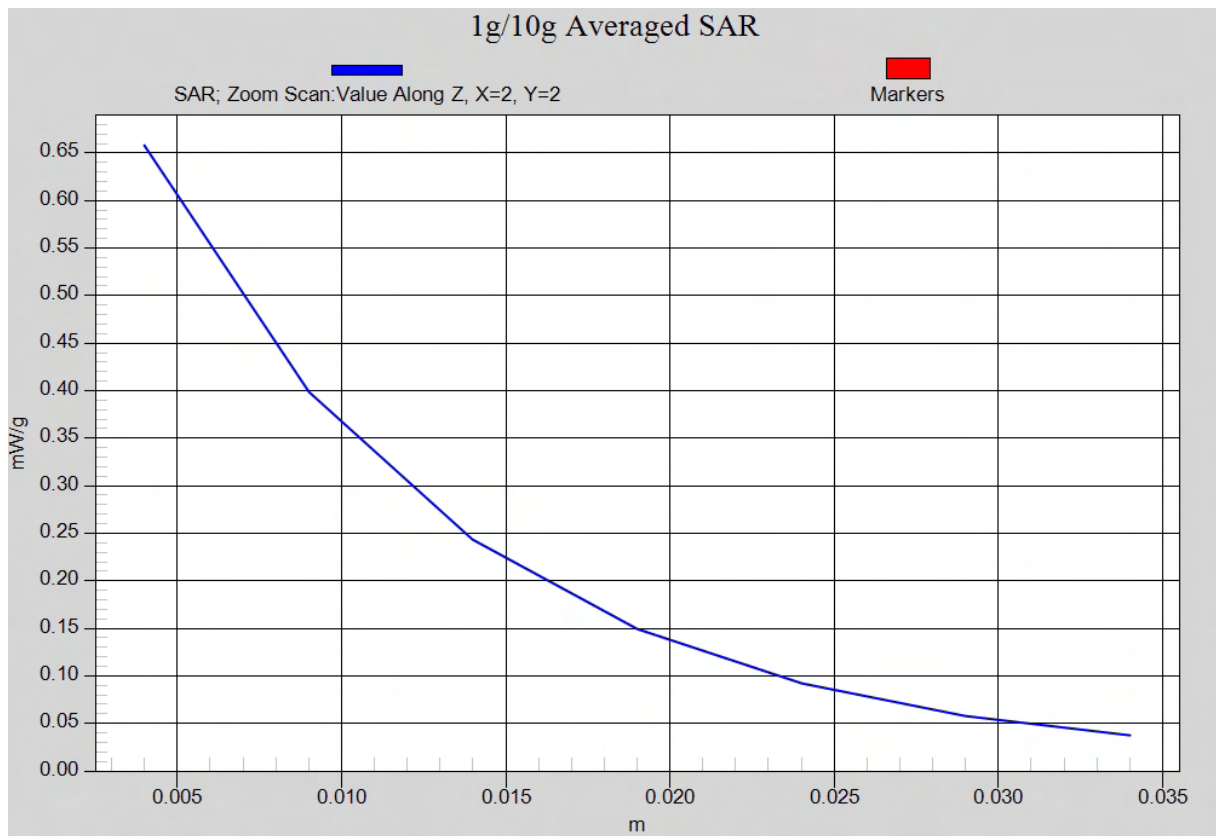Maximum value of SAR (measured) = 0.275 mW/g

Fig. 24   850 MHz CH4182

WCDMA 850 Right Cheek High

Date/Time: 2011-6-11 11:48:20

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.901 mho/m; εr = 41.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 846.6 MHz Duty Cycle: 1:1

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

Cheek High/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.384 mW/g

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

Reference Value = 7.85 V/m; Power Drift = -0.011 dB

Peak SAR (extrapolated) = 0.524 W/kg

SAR(1 g) = 0.362 mW/g; SAR(10 g) = 0.262 mW/g

Maximum value of SAR (measured) = 0.383 mW/g

Fig. 25   850 MHz CH4233

WCDMA 850 Right Cheek Low

Date/Time: 2011-6-11 12:02:41

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.88 mho/m; εr = 42.1; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 826.4 MHz Duty Cycle: 1:1

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

Cheek Low/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.357 mW/g

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

Reference Value = 7.68 V/m; Power Drift = 0.082 dB

Peak SAR (extrapolated) = 0.467 W/kg

SAR(1 g) = 0.331 mW/g; SAR(10 g) = 0.242 mW/g

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

Fig. 26   850 MHz CH4132

WCDMA 850 Left Cheek Middle Slide up

Date/Time: 2011-6-11 12:33:25

Electronics: DAE4 Sn771

Medium: Head 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.90 mho/m; εr = 41.9; ρ = 1000 kg/m^3

Ambient Temperature:23°C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1

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

Cheek Middle/Area Scan (71x81x1): Measurement grid: dx=10mm, dy=10mm

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

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

Reference Value = 7.36 V/m; Power Drift = -0.124 dB

Peak SAR (extrapolated) = 0.447 W/kg

SAR(1 g) = 0.327 mW/g; SAR(10 g) = 0.230 mW/g
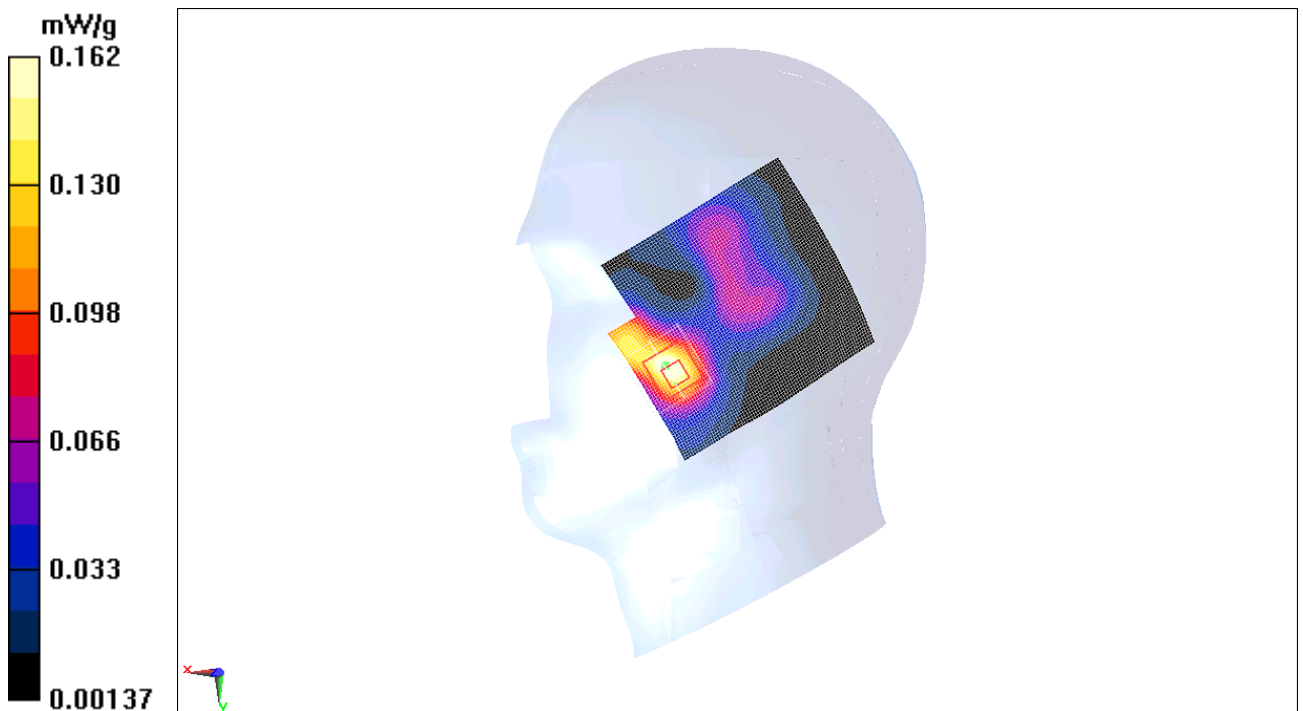
Maximum value of SAR (measured) = 0.354 mW/g

Fig. 27   850 MHz CH4182

WCDMA 1900 Left Cheek Middle

Date/Time: 2011-6-9 15:43:16

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 40.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1880 MHz Duty Cycle: 1:1

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

Cheek Middle/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.430 mW/g

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

Reference Value = 10 V/m; Power Drift = 0.076 dB

Peak SAR (extrapolated) = 0.624 W/kg

SAR(1 g) = 0.397 mW/g; SAR(10 g) = 0.247 mW/g

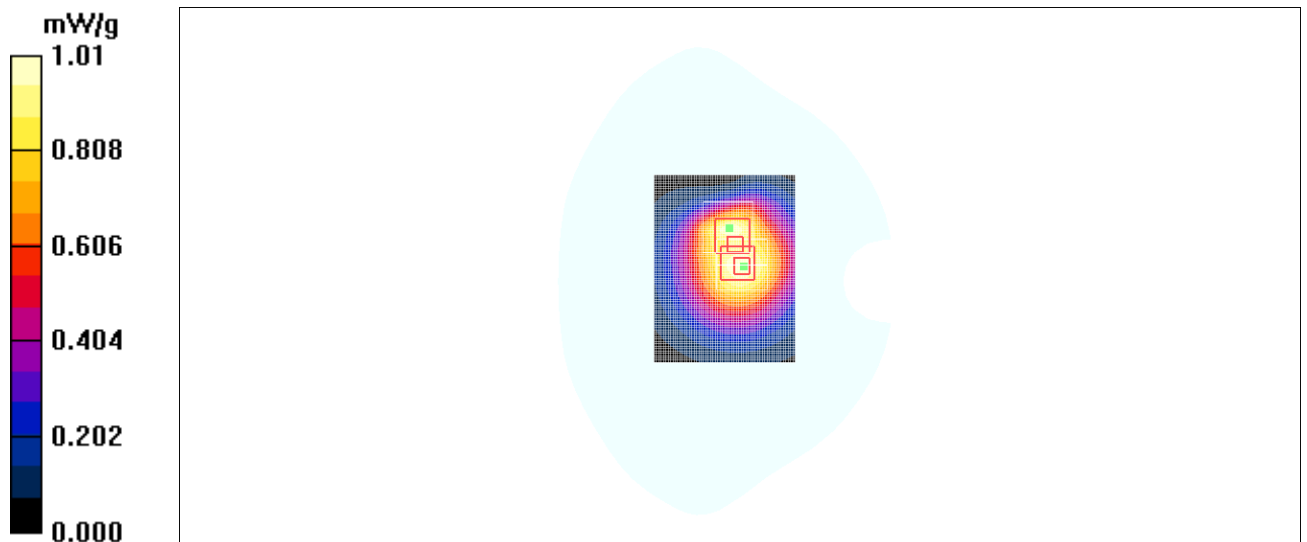Maximum value of SAR (measured) = 0.433 mW/g

Fig. 28 1900 MHz CH9400

WCDMA 1900 Left Tilt Middle

Date/Time: 2011-6-9 16:26:20

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 40.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1880 MHz Duty Cycle: 1:1

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

Tilt Middle/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.331 mW/g

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

Reference Value = 14.2 V/m; Power Drift = -0.022 dB

Peak SAR (extrapolated) = 0.480 W/kg

SAR(1 g) = 0.305 mW/g; SAR(10 g) = 0.182 mW/g
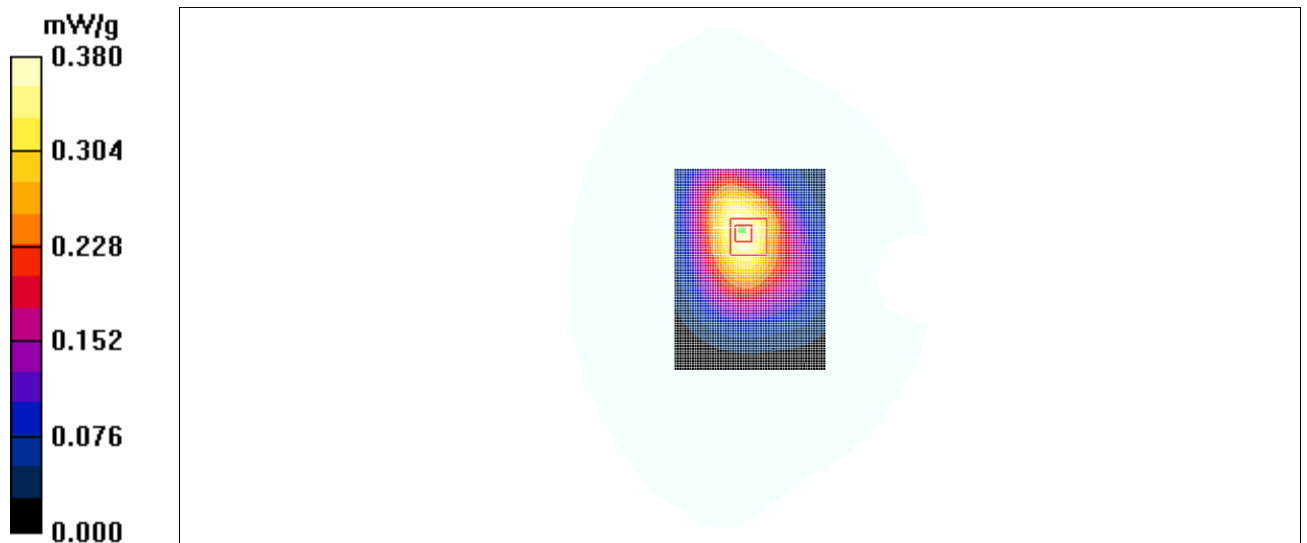
Maximum value of SAR (measured) = 0.334 mW/g

Fig. 29 1900 MHz CH9400

WCDMA 1900 Left Cheek High

Date/Time: 2011-6-9 15:57:38

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.42 mho/m; εr = 40.6; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1

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

Cheek High/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.424 mW/g

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

Reference Value = 10.3 V/m; Power Drift = -0.136 dB

Peak SAR (extrapolated) = 0.597 W/kg

SAR(1 g) = 0.373 mW/g; SAR(10 g) = 0.233 mW/g

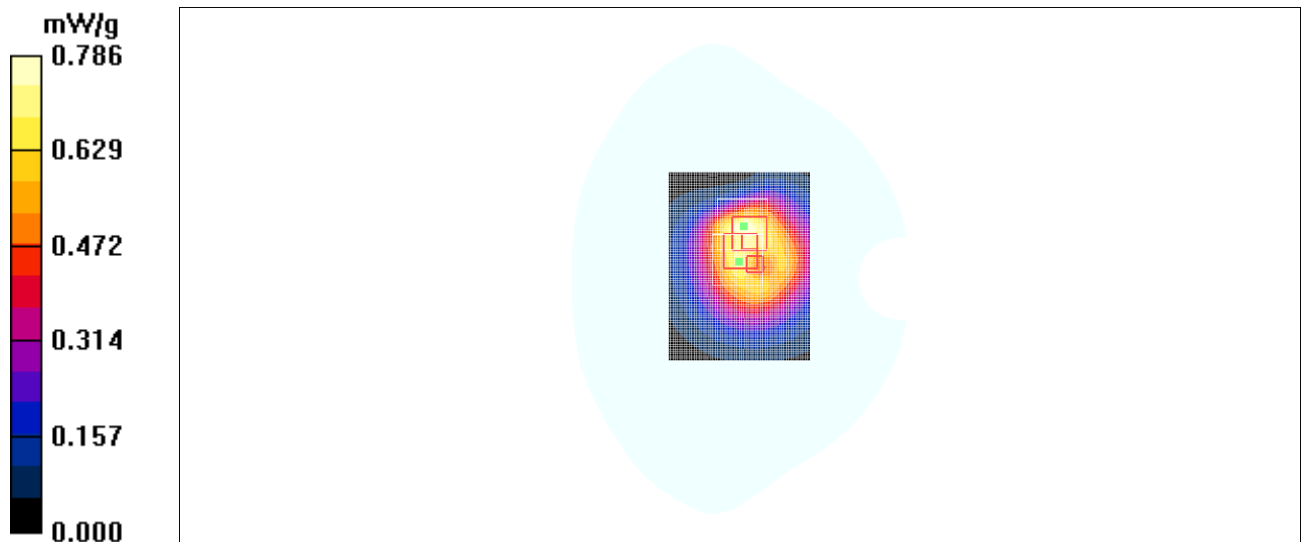Maximum value of SAR (measured) = 0.418 mW/g

Fig. 30   1900 MHz CH9538

WCDMA 1900 Left Cheek Low

Date/Time: 2011-6-9 16:11:56

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.36 mho/m; εr = 41.2; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5 ^{o}C

Communication System: WCDMA 1900 Frequency: 1852.4 MHz Duty Cycle: 1:1

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

Cheek Low/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

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

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

Reference Value = 10.7 V/m; Power Drift = 0.019 dB

Peak SAR (extrapolated) = 0.611 W/kg

SAR(1 g) = 0.400 mW/g; SAR(10 g) = 0.249 mW/g

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

Fig. 31 1900 MHz CH9262

WCDMA 1900 Right Cheek Middle

Date/Time: 2011-6-9 16:41:00

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 40.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5 ^{o}C

Communication System: WCDMA 1900 Frequency: 1880 MHz Duty Cycle: 1:1

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

Cheek Middle/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.634 mW/g

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

Reference Value = 10.4 V/m; Power Drift = 0.096 dB

Peak SAR (extrapolated) = 0.953 W/kg

SAR(1 g) = 0.587 mW/g; SAR(10 g) = 0.340 mW/g
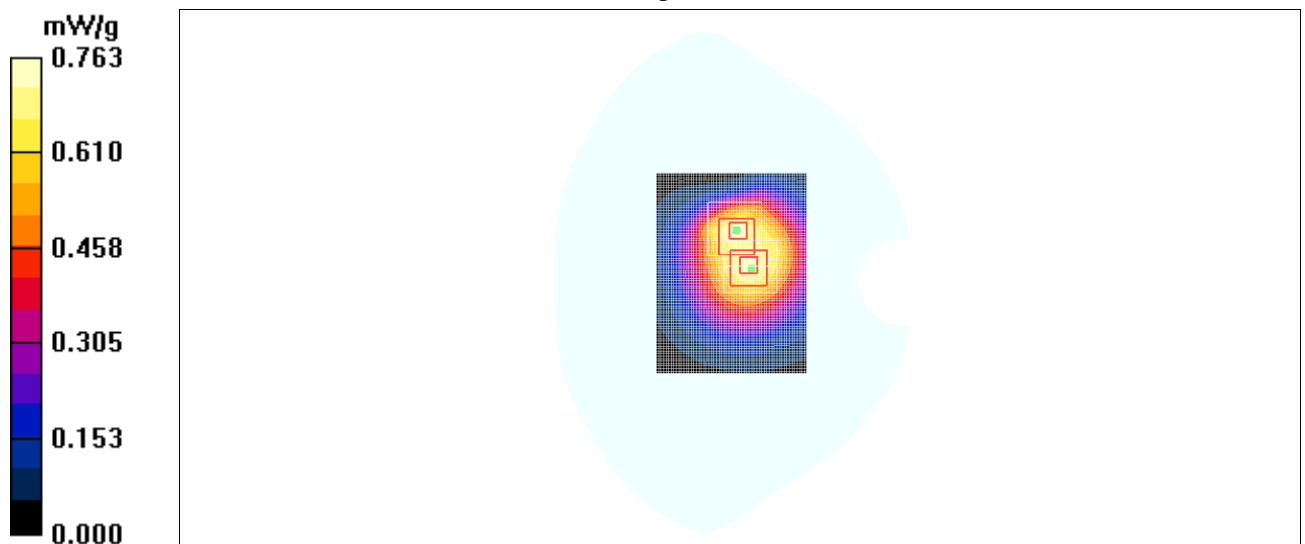
Maximum value of SAR (measured) = 0.648 mW/g

Fig. 32 1900 MHz CH9400

WCDMA 1900 Right Tilt Middle

Date/Time: 2011-6-9 17:24:08

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 40.9; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1880 MHz Duty Cycle: 1:1

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

Tilt Middle/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.327 mW/g

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

Reference Value = 15 V/m; Power Drift = -0.156 dB

Peak SAR (extrapolated) = 0.416 W/kg

SAR(1 g) = 0.279 mW/g; SAR(10 g) = 0.179 mW/g

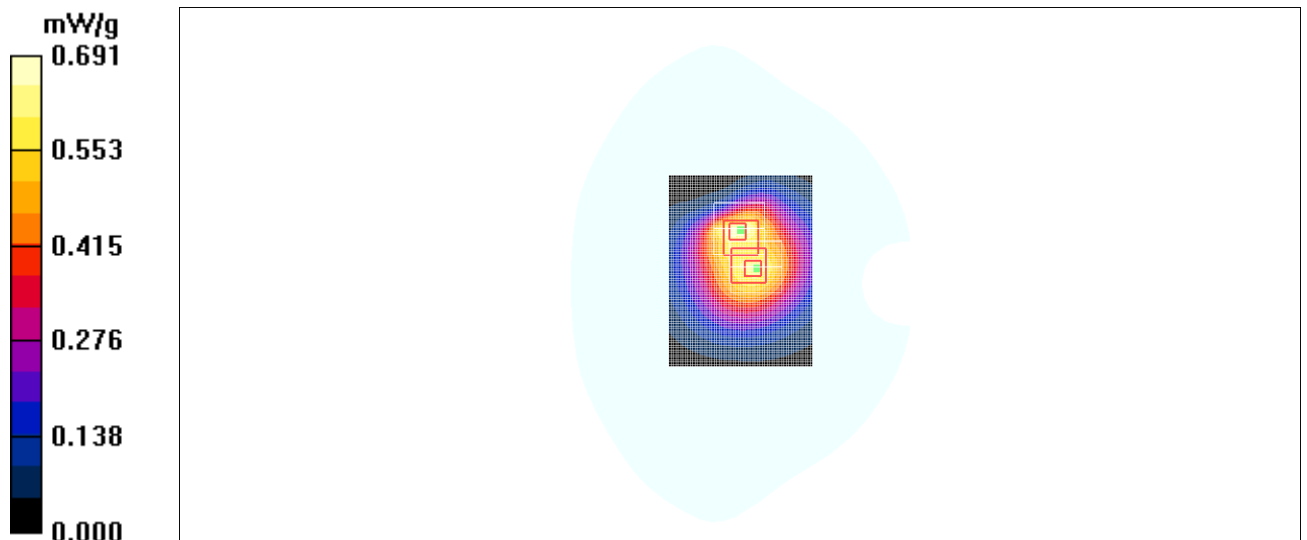Maximum value of SAR (measured) = 0.298 mW/g

Fig. 33 1900 MHz CH9400

WCDMA 1900 Right Cheek High

Date/Time: 2011-6-9 16:55:23

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.42 mho/m; εr = 40.6; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1

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

Cheek High/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.664 mW/g

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

Reference Value = 10.5 V/m; Power Drift = -0.070 dB

Peak SAR (extrapolated) = 0.988 W/kg

SAR(1 g) = 0.597 mW/g; SAR(10 g) = 0.343 mW/g

Maximum value of SAR (measured) = 0.658 mW/g

Fig. 34 1900 MHz CH9538

Fig. 34-1   Z-Scan at power reference point (1900 MHz CH9538)

WCDMA 1900 Right Cheek Low

Date/Time: 2011-6-9 17:09:46

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.36 mho/m; εr = 41.2; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5 ^{o}C

Communication System: WCDMA 1900 Frequency: 1852.4 MHz Duty Cycle: 1:1

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

Cheek Low/Area Scan (51x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.591 mW/g

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

Reference Value = 10.9 V/m; Power Drift = 0.103 dB

Peak SAR (extrapolated) = 0.876 W/kg

SAR(1 g) = 0.531 mW/g; SAR(10 g) = 0.308 mW/g
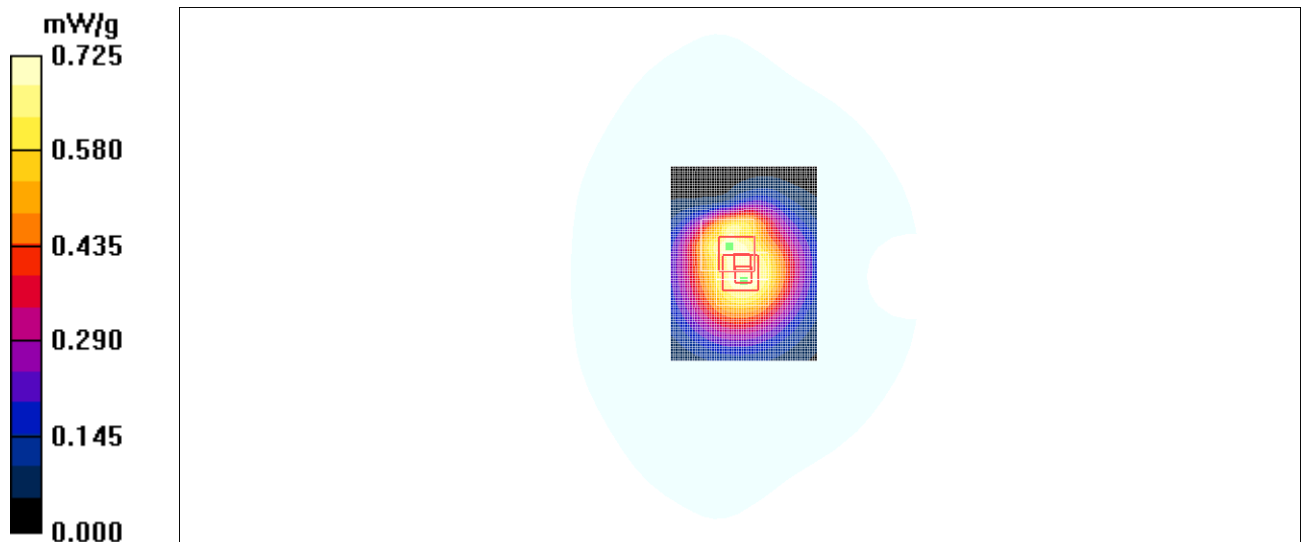
Maximum value of SAR (measured) = 0.589 mW/g

Fig. 35 1900 MHz CH9262

WCDMA 1900 Right Cheek High Slide up

Date/Time: 2011-6-9 17:38:57

Electronics: DAE4 Sn771

Medium: Head 1900 MHz

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.42 mho/m; εr = 40.6; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1

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

Cheek High/Area Scan (71x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.166 mW/g

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

Reference Value = 6.33 V/m; Power Drift = 0.025 dB

Peak SAR (extrapolated) = 0.234 W/kg

SAR(1 g) = 0.155 mW/g; SAR(10 g) = 0.090 mW/g
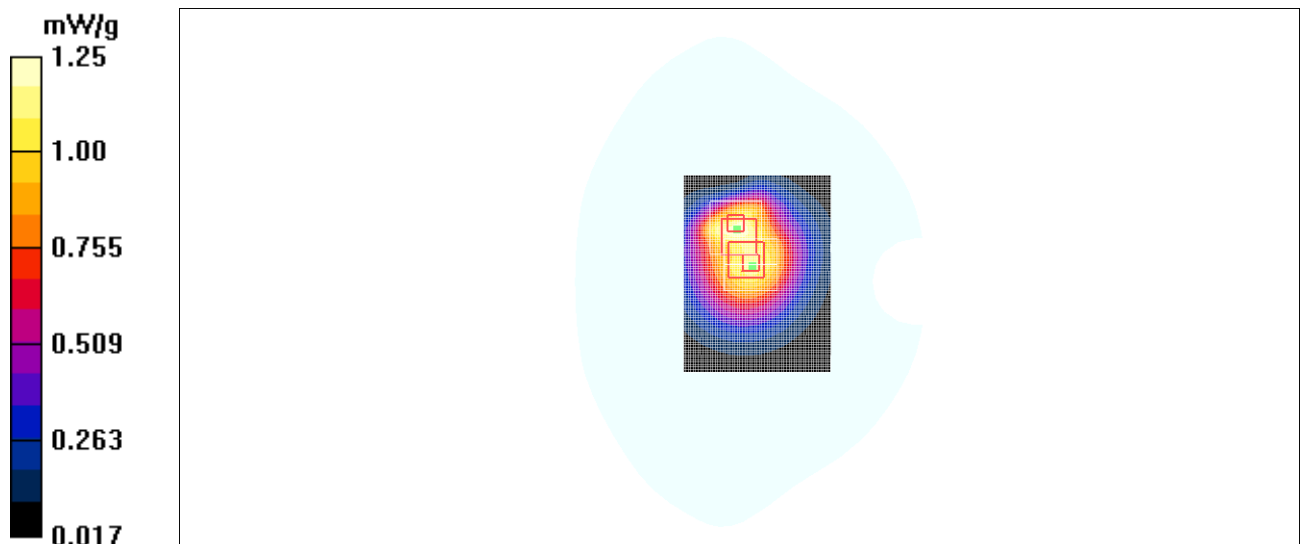
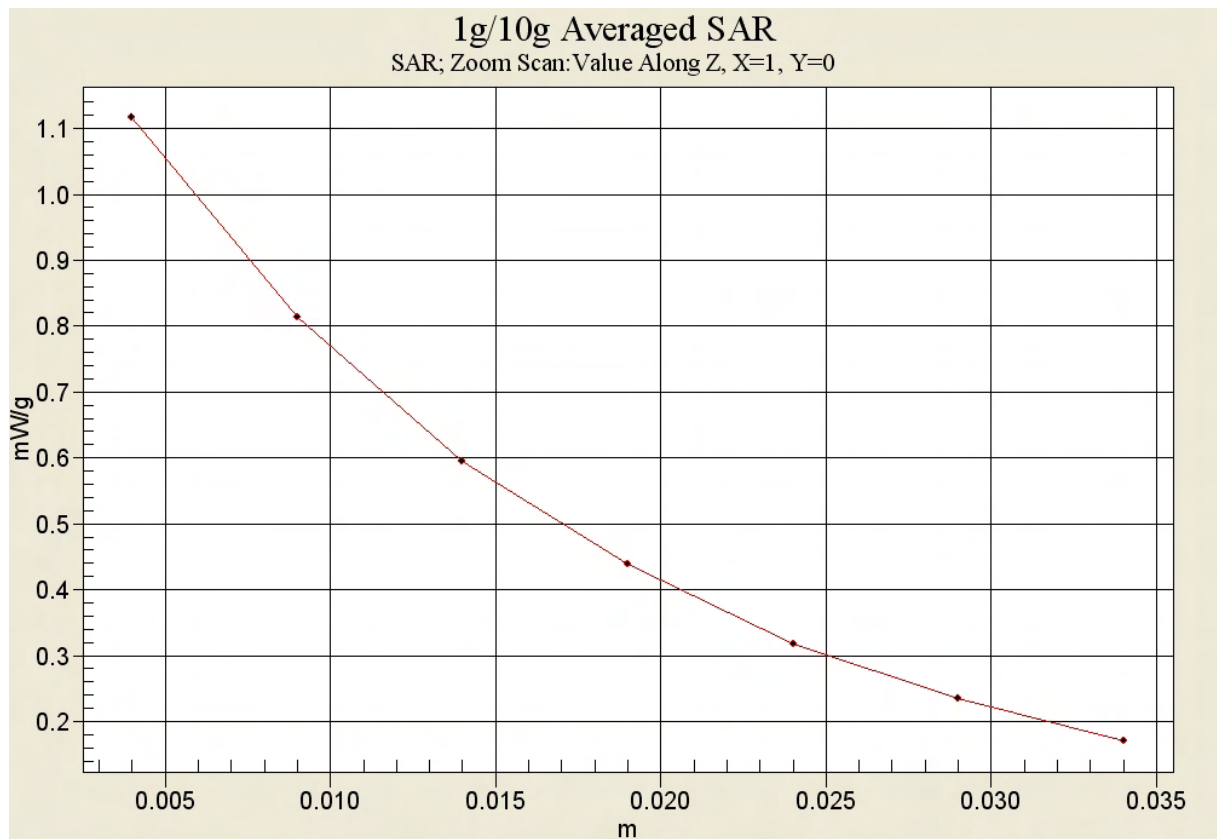Maximum value of SAR (measured) = 0.162 mW/g

Fig. 36 1900 MHz CH9538

850 Body Towards Ground High with GPRS

Date/Time: 2011-6-11 12:57:06

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.94 mho/m; εr = 54.5; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

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

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

Toward Ground High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

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

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

Reference Value = 29.6 V/m; Power Drift = -0.078 dB

Peak SAR (extrapolated) = 1.26 W/kg

SAR(1 g) = 0.935 mW/g; SAR(10 g) = 0.670 mW/g

Maximum value of SAR (measured) = 0.994 mW/g

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

Reference Value = 29.6 V/m; Power Drift = -0.078 dB

Peak SAR (extrapolated) = 1.24 W/kg

SAR(1 g) = 0.865 mW/g; SAR(10 g) = 0.618 mW/g
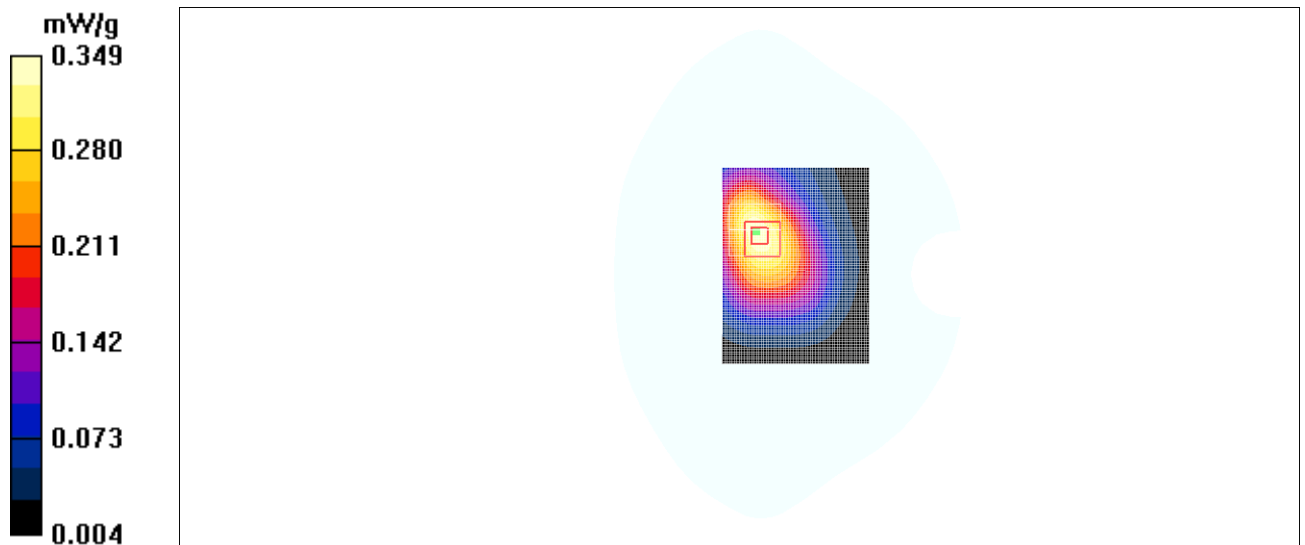
Maximum value of SAR (measured) = 0.944 mW/g

Fig. 37   850 MHz CH251

850 Body Towards Phantom High with GPRS

Date/Time: 2011-6-11 13:43:39

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.94 mho/m; εr = 54.5; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

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

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

Toward Phantom High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.380 mW/g

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

Reference Value = 15.6 V/m; Power Drift = 0.136 dB

Peak SAR (extrapolated) = 0.591 W/kg

SAR(1 g) = 0.335 mW/g; SAR(10 g) = 0.237 mW/g
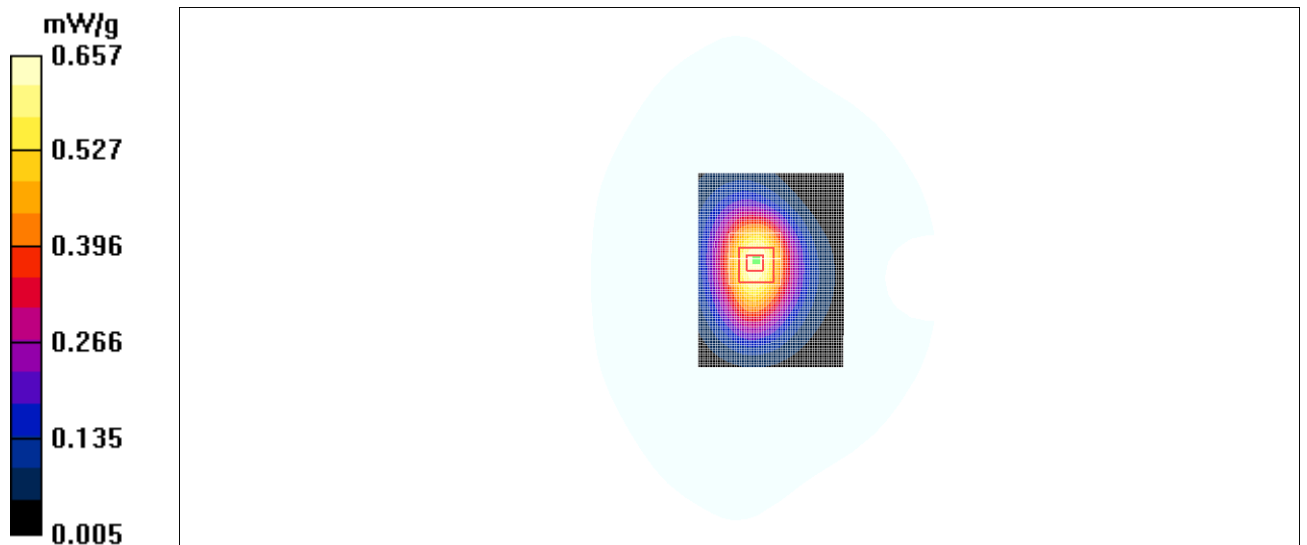
Maximum value of SAR (measured) = 0.350 mW/g

Fig. 38   850 MHz CH251

850 Body Towards Ground Middle with GPRS

Date/Time: 2011-6-11 13:12:24

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

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

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

Toward Ground Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.786 mW/g

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

Reference Value = 26.9 V/m; Power Drift = 0.178 dB

Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.736 mW/g; SAR(10 g) = 0.520 mW/g

Maximum value of SAR (measured) = 0.793 mW/g

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

Reference Value = 26.9 V/m; Power Drift = 0.178 dB

Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.731 mW/g; SAR(10 g) = 0.533 mW/g
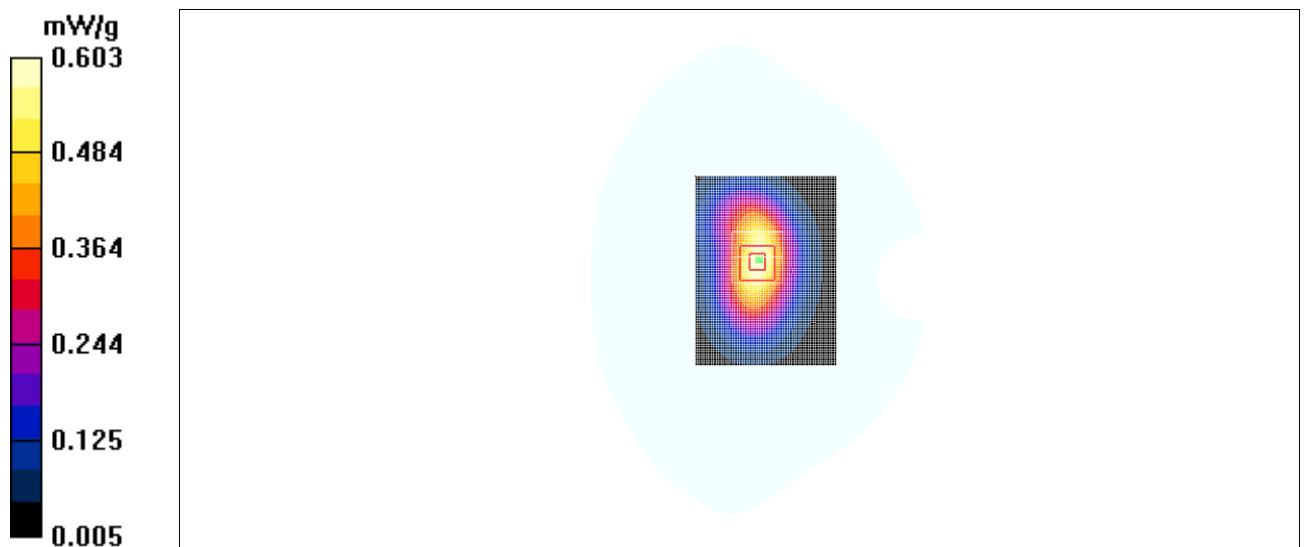
Maximum value of SAR (measured) = 0.839 mW/g

Fig. 39   850 MHz CH190

850 Body Towards Ground Low with GPRS

Date/Time: 2011-6-11 13:27:44

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used: f = 825 MHz; σ = 0.93 mho/m; εr = 55.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

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

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

Toward Ground Low/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.763 mW/g

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

Reference Value = 26.6 V/m; Power Drift = -0.111 dB

Peak SAR (extrapolated) = 0.908 W/kg

SAR(1 g) = 0.642 mW/g; SAR(10 g) = 0.448 mW/g

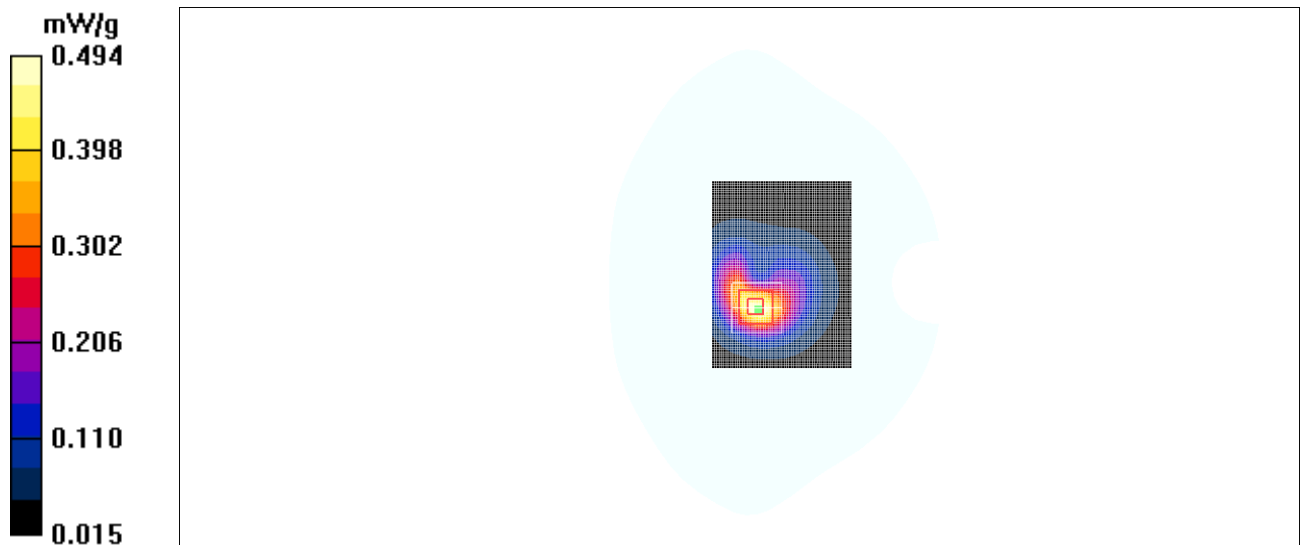Maximum value of SAR (measured) = 0.675 mW/g

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

Reference Value = 26.6 V/m; Power Drift = -0.111 dB

Peak SAR (extrapolated) = 0.931 W/kg

SAR(1 g) = 0.677 mW/g; SAR(10 g) = 0.469 mW/g

Maximum value of SAR (measured) = 0.698 mW/g

Fig. 40   850 MHz CH128

850 Body Towards Ground High with Headset

Date/Time: 2011-6-11 14:00:31

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.94 mho/m; εr = 54.5; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

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

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

Toward Ground High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.691 mW/g

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

Reference Value = 23.8 V/m; Power Drift = -0.163 dB

Peak SAR (extrapolated) = 0.824 W/kg

SAR(1 g) = 0.563 mW/g; SAR(10 g) = 0.391 mW/g

Maximum value of SAR (measured) = 0.605 mW/g

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

Reference Value = 23.8 V/m; Power Drift = -0.163 dB

Peak SAR (extrapolated) = 0.773 W/kg

SAR(1 g) = 0.565 mW/g; SAR(10 g) = 0.400 mW/g
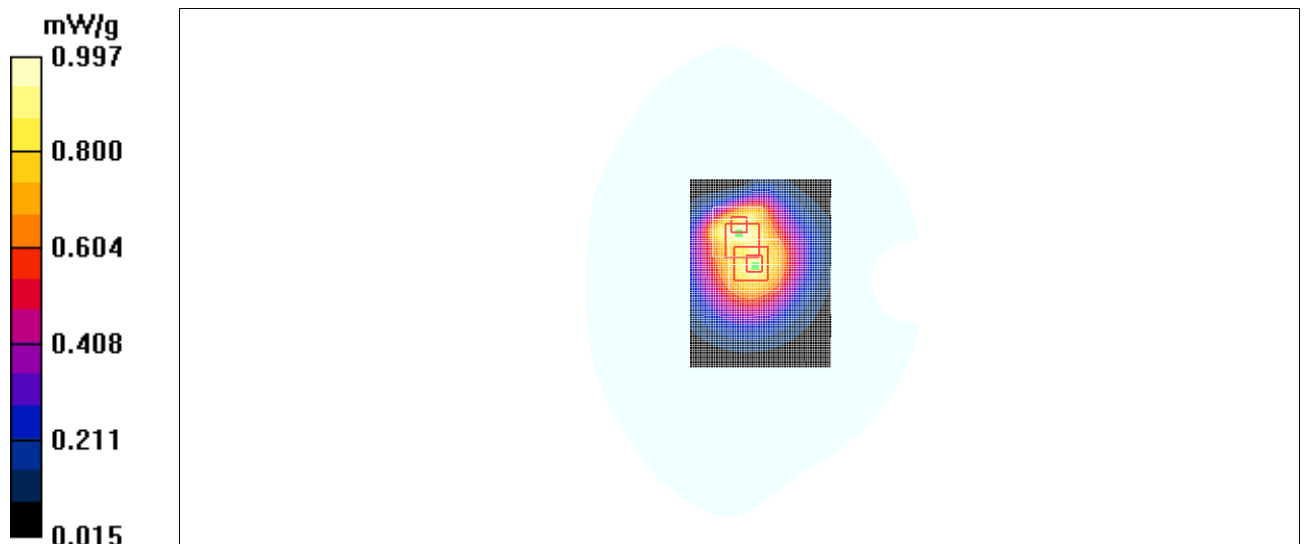
Maximum value of SAR (measured) = 0.602 mW/g

Fig. 41   850 MHz CH251

850 Body Towards Ground High with Bluetooth

Date/Time: 2011-6-11 14:16:58

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.94 mho/m; εr = 54.5; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

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

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

Toward Ground High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

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

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

Reference Value = 27.3 V/m; Power Drift = -0.051 dB

Peak SAR (extrapolated) = 0.909 W/kg

SAR(1 g) = 0.683 mW/g; SAR(10 g) = 0.489 mW/g

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

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

Reference Value = 27.3 V/m; Power Drift = -0.051 dB

Peak SAR (extrapolated) = 0.925 W/kg

SAR(1 g) = 0.656 mW/g; SAR(10 g) = 0.464 mW/g

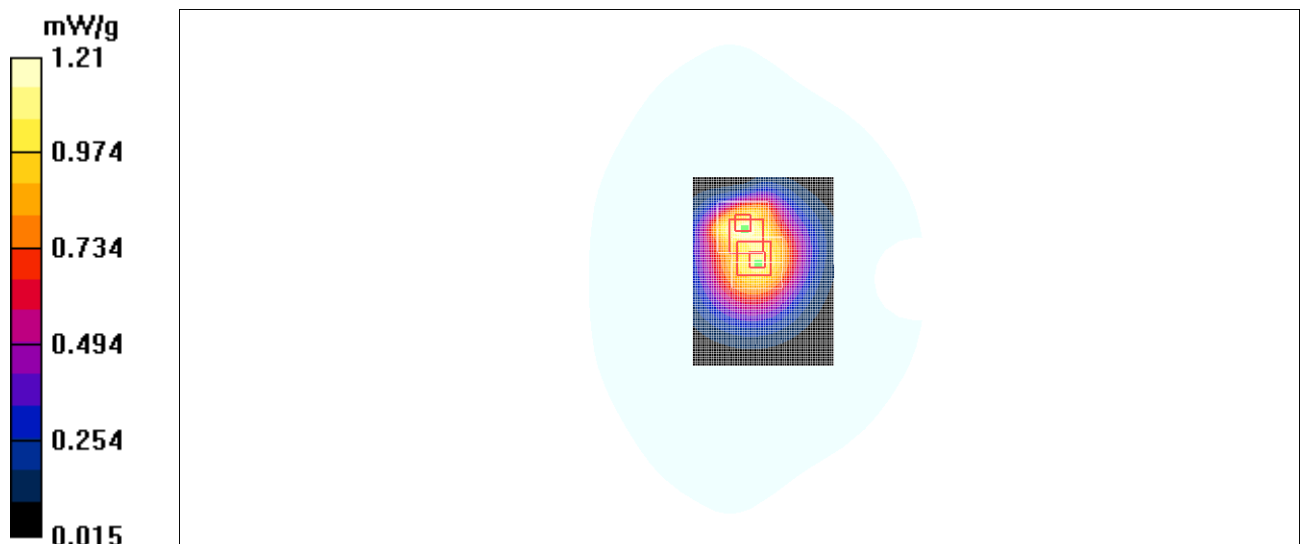Maximum value of SAR (measured) = 0.719 mW/g

Fig. 42   850 MHz CH251

850 Body Towards Ground Middle with GPRS

Date/Time: 2011-6-11 14:35:22

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

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

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

Toward Ground Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.25 mW/g

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

Reference Value = 32.3 V/m; Power Drift = -0.085 dB

Peak SAR (extrapolated) = 1.67 W/kg

SAR(1 g) = 1.08 mW/g; SAR(10 g) = 0.736 mW/g

Maximum value of SAR (measured) = 1.12 mW/g

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

Reference Value = 32.3 V/m; Power Drift = -0.085 dB

Peak SAR (extrapolated) = 1.44 W/kg

SAR(1 g) = 1.07 mW/g; SAR(10 g) = 0.759 mW/g
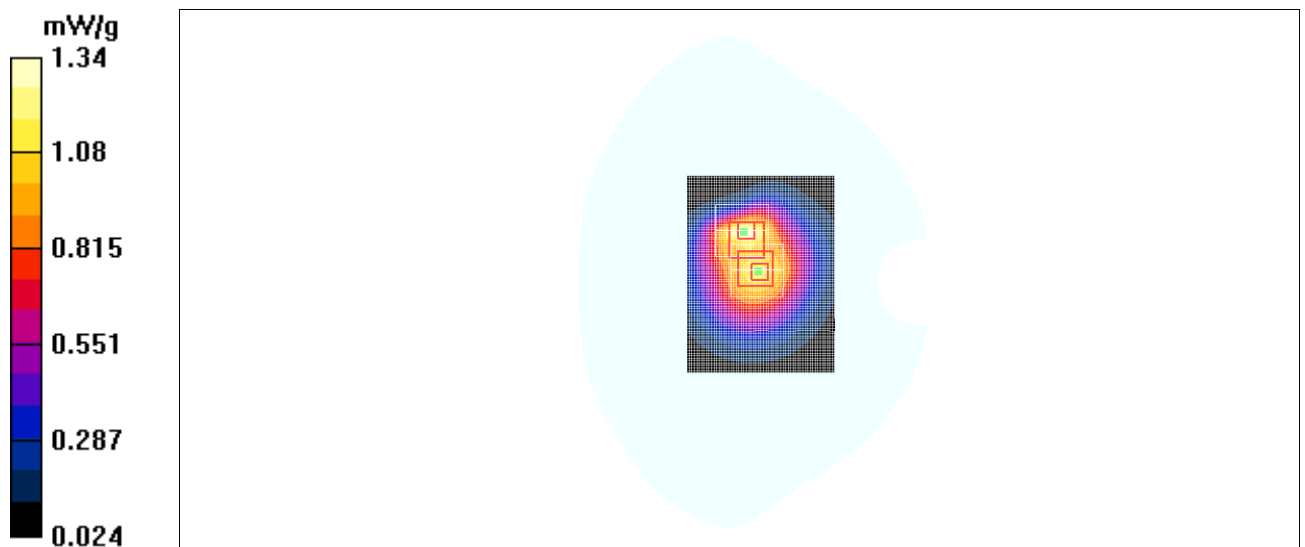
Maximum value of SAR (measured) = 1.14 mW/g

Fig. 43   850 MHz CH190

Fig. 43-1   Z-Scan at power reference point (850 MHz CH190)

850 Body Towards Phantom Middle with GPRS

Date/Time: 2011-6-11 14:50:52

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

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

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

Toward Phantom Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.349 mW/g

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

Reference Value = 15.6 V/m; Power Drift = -0.119 dB

Peak SAR (extrapolated) = 0.430 W/kg

SAR(1 g) = 0.320 mW/g; SAR(10 g) = 0.227 mW/g

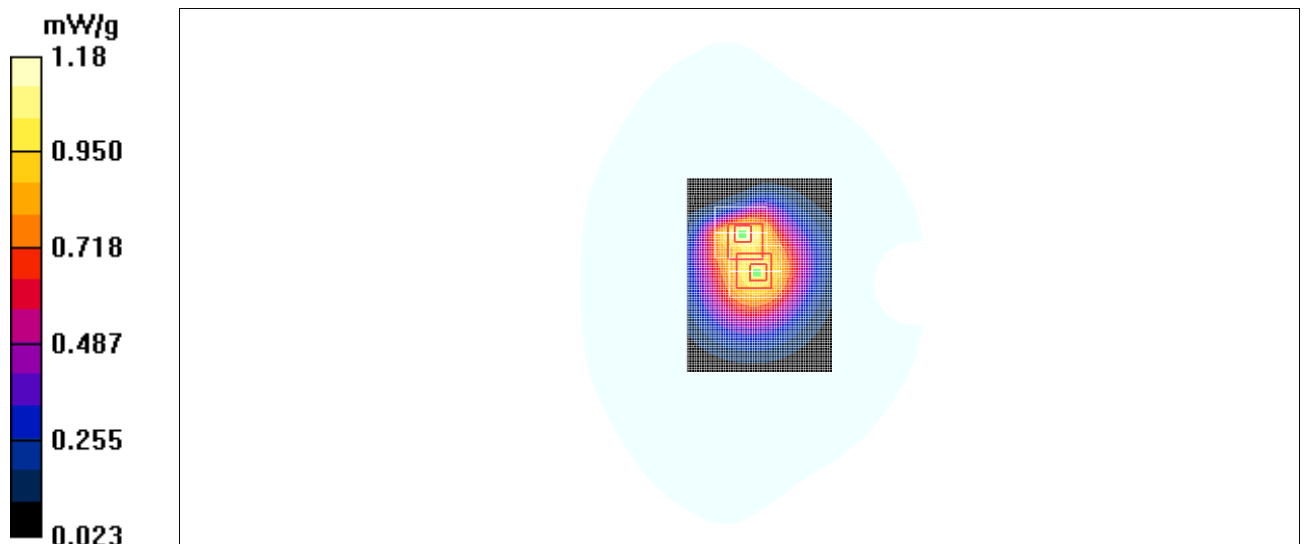Maximum value of SAR (measured) = 0.335 mW/g

Fig. 44   850 MHz CH190

850 Body Left Side Middle with GPRS

Date/Time: 2011-6-11 15:06:32

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

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

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

Left Side Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.657 mW/g

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

Reference Value = 24.8 V/m; Power Drift = -0.057 dB

Peak SAR (extrapolated) = 0.847 W/kg

SAR(1 g) = 0.603 mW/g; SAR(10 g) = 0.409 mW/g

Maximum value of SAR (measured) = 0.646 mW/g

Fig. 45   850 MHz CH190

850 Body Right Side Middle with GPRS

Date/Time: 2011-6-11 15:22:58

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

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

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

Right Side Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.603 mW/g

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

Reference Value = 23.8 V/m; Power Drift = 0.013 dB

Peak SAR (extrapolated) = 0.833 W/kg

SAR(1 g) = 0.558 mW/g; SAR(10 g) = 0.362 mW/g
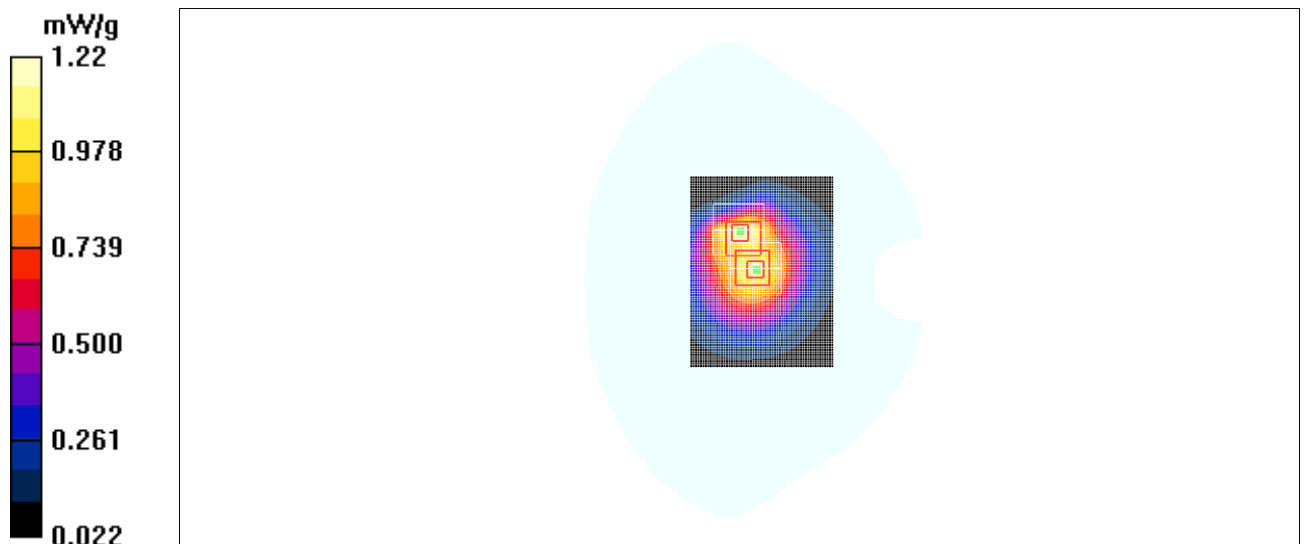
Maximum value of SAR (measured) = 0.604 mW/g

Fig. 46   850 MHz CH190

850 Body Bottom Side Middle with GPRS

Date/Time: 2011-6-11 15:38:54

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

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

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

Bottom Side Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

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

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

Reference Value = 12.5 V/m; Power Drift = -0.181 dB

Peak SAR (extrapolated) = 0.823 W/kg

SAR(1 g) = 0.447 mW/g; SAR(10 g) = 0.245 mW/g
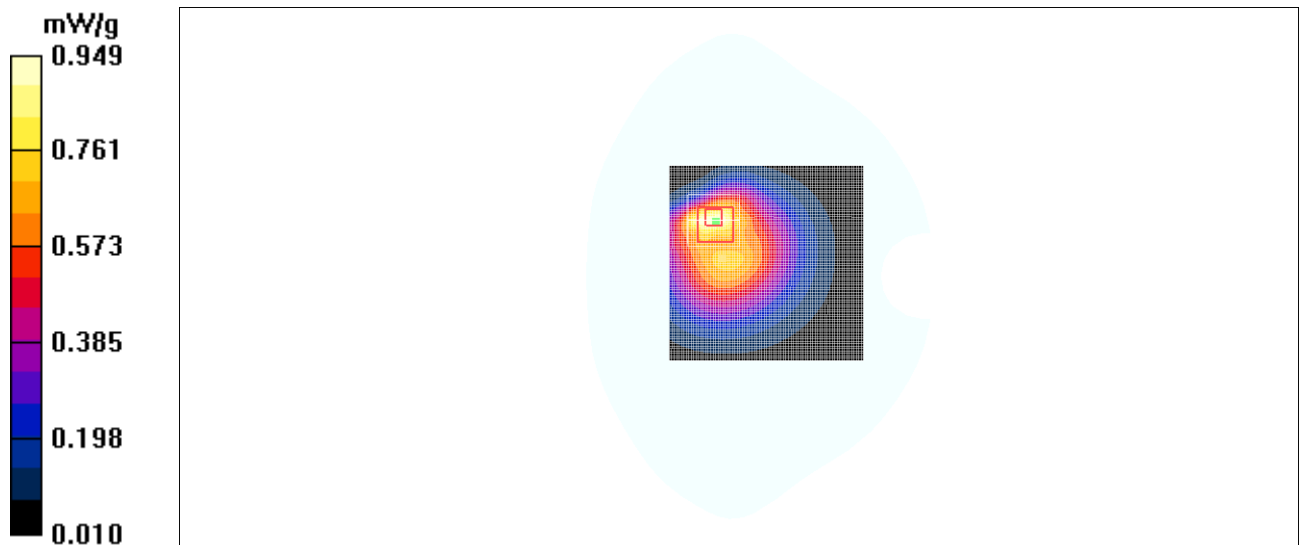
Maximum value of SAR (measured) = 0.507 mW/g

Fig. 47   850 MHz CH190

850 Body Towards Ground High with GPRS

Date/Time: 2011-6-11 15:55:20

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.94 mho/m; εr = 54.5; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

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

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

Toward Ground High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

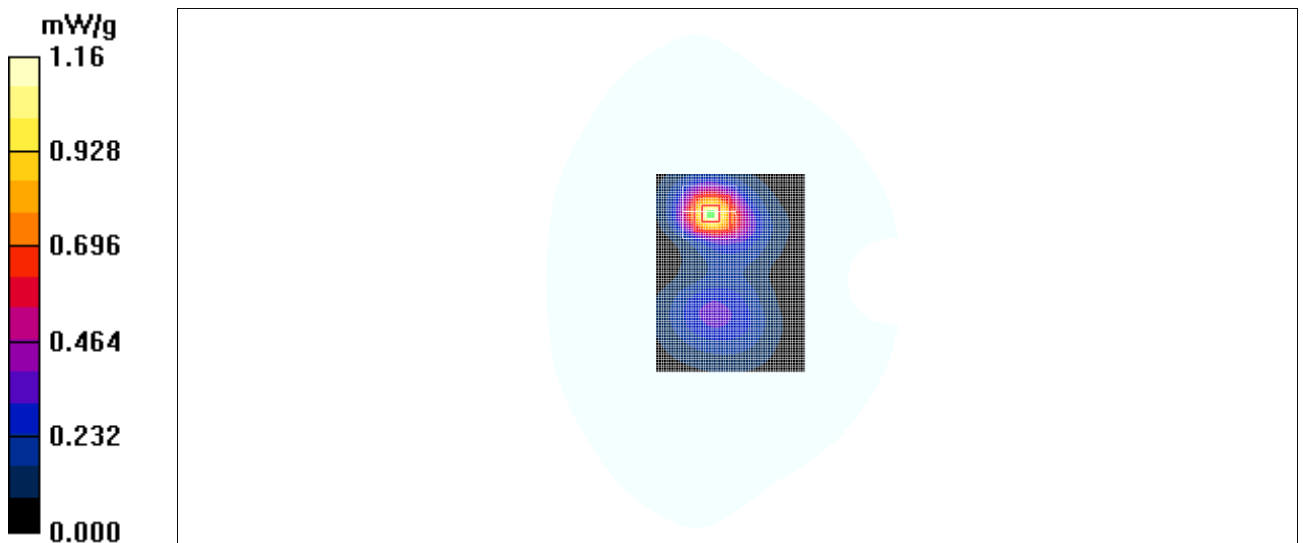Maximum value of SAR (interpolated) = 0.997 mW/g

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
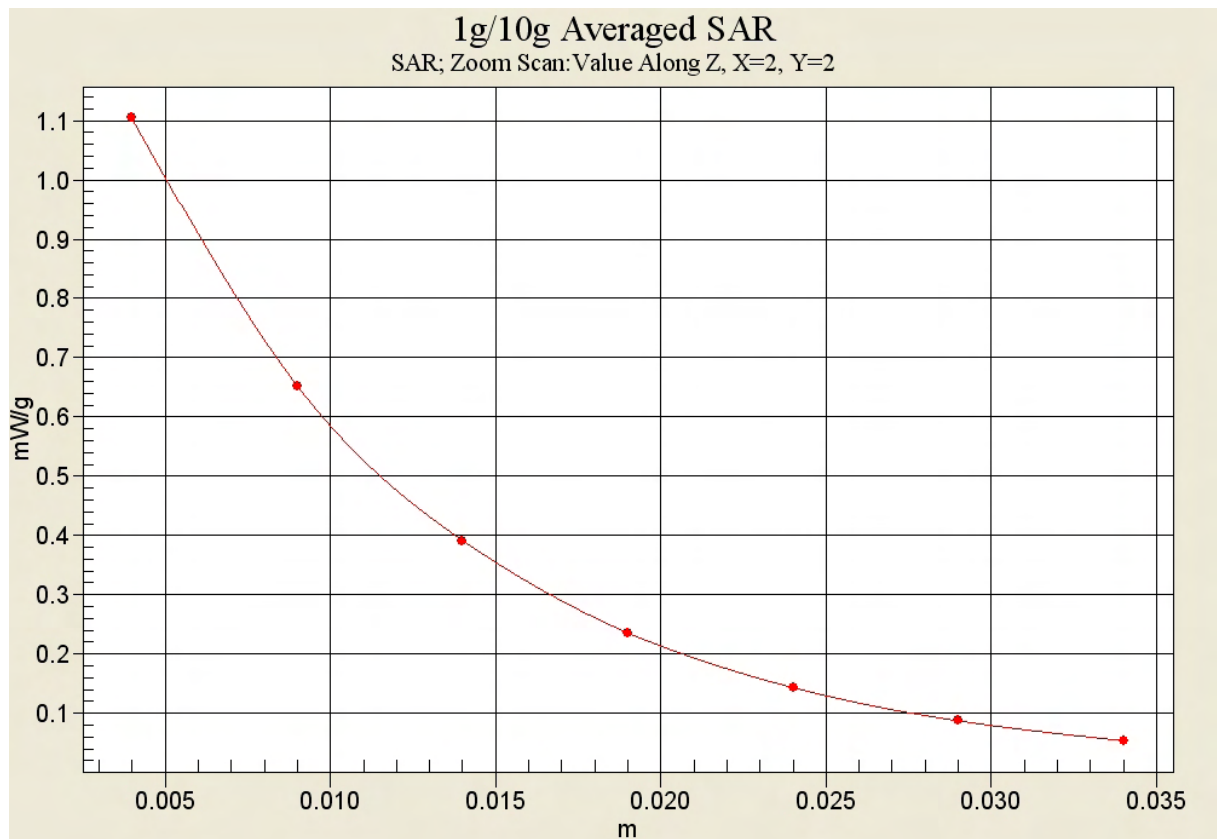
Reference Value = 28.7 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 1.35 W/kg

SAR(1 g) = 0.864 mW/g; SAR(10 g) = 0.591 mW/g

Maximum value of SAR (measured) = 0.916 mW/g

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

Reference Value = 28.7 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 1.16 W/kg

SAR(1 g) = 0.863 mW/g; SAR(10 g) = 0.609 mW/g

Maximum value of SAR (measured) = 0.925 mW/g

Fig. 48   850 MHz CH251

850 Body Towards Ground Low with GPRS

Date/Time: 2011-6-11 16:10:43

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used: f = 825 MHz; σ = 0.93 mho/m; εr = 55.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

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

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

Toward Ground Low/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.21 mW/g

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

Reference Value = 31.7 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 1.62 W/kg

SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.716 mW/g

Maximum value of SAR (measured) = 1.09 mW/g

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

Reference Value = 31.7 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 1.39 W/kg

SAR(1 g) = 1.03 mW/g; SAR(10 g) = 0.737 mW/g
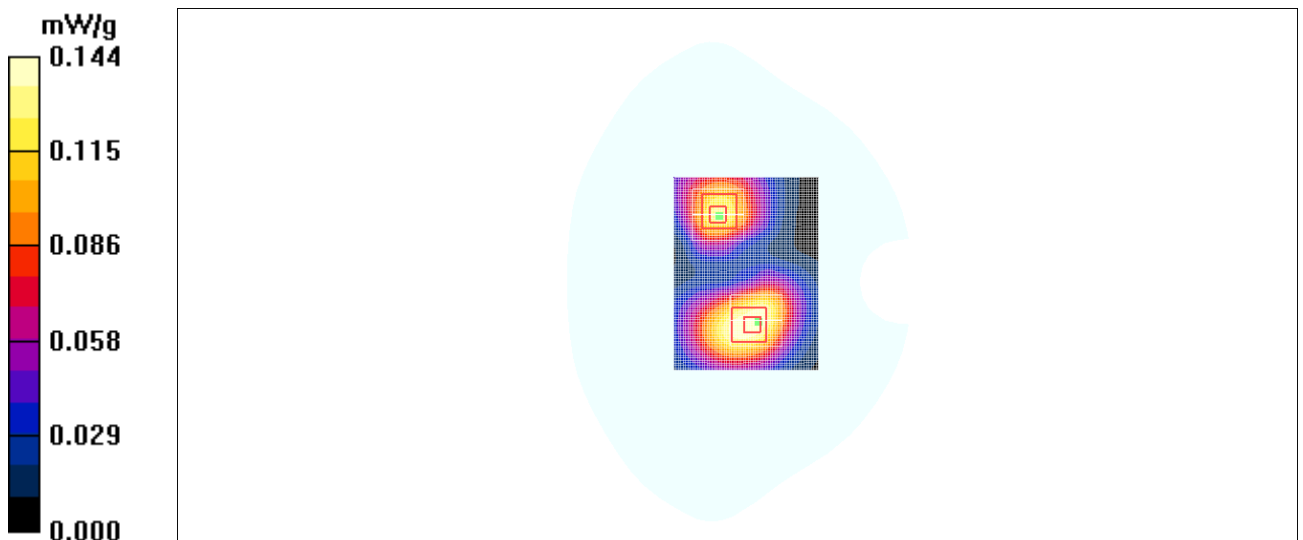
Maximum value of SAR (measured) = 1.11 mW/g

Fig. 49   850 MHz CH128

850 Body Towards Ground Middle with EGPRS

Date/Time: 2011-6-11 16:27:14

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

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

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

Toward Ground Middle EGPRS/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.34 mW/g

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

Reference Value = 33.5 V/m; Power Drift = -0.194 dB

Peak SAR (extrapolated) = 1.63 W/kg

SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.704 mW/g
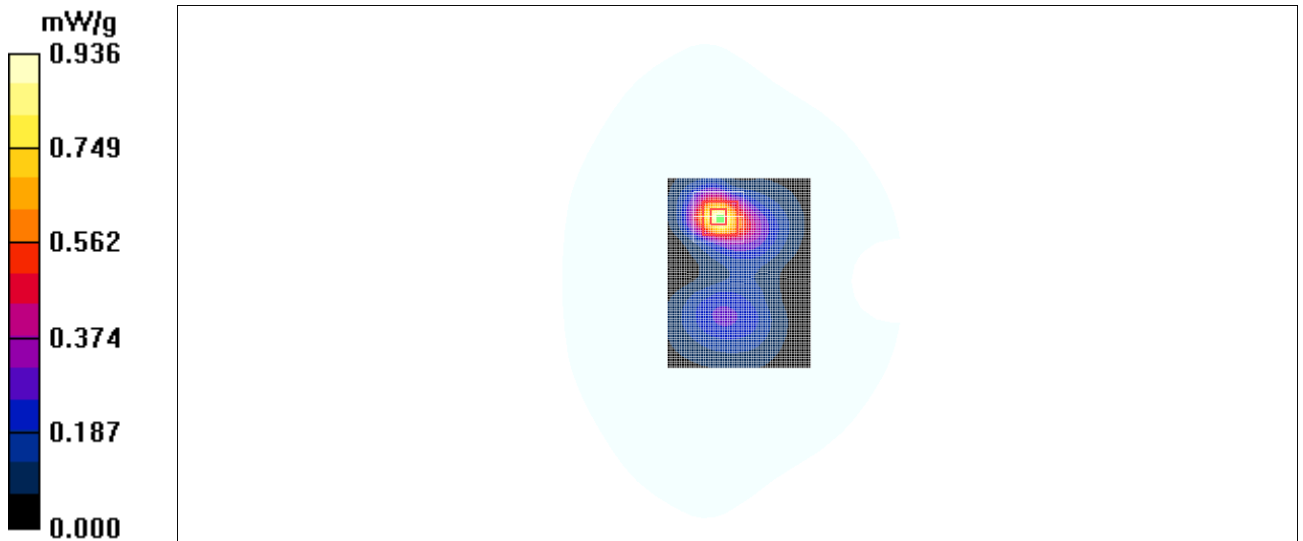
Maximum value of SAR (measured) = 1.13 mW/g

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

Reference Value = 33.5 V/m; Power Drift = -0.194 dB

Peak SAR (extrapolated) = 1.44 W/kg

SAR(1 g) = 1.05 mW/g; SAR(10 g) = 0.745 mW/g

Maximum value of SAR (measured) = 1.12 mW/g

Fig. 50   850 MHz CH190

850 Body Towards Ground Middle with Headset

Date/Time: 2011-6-11 16:43:37

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m³

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

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

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

Toward Ground Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.18 mW/g

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

Reference Value = 32.0 V/m; Power Drift = -0.089 dB

Peak SAR (extrapolated) = 1.44 W/kg

SAR(1 g) = 0.938 mW/g; SAR(10 g) = 0.646 mW/g

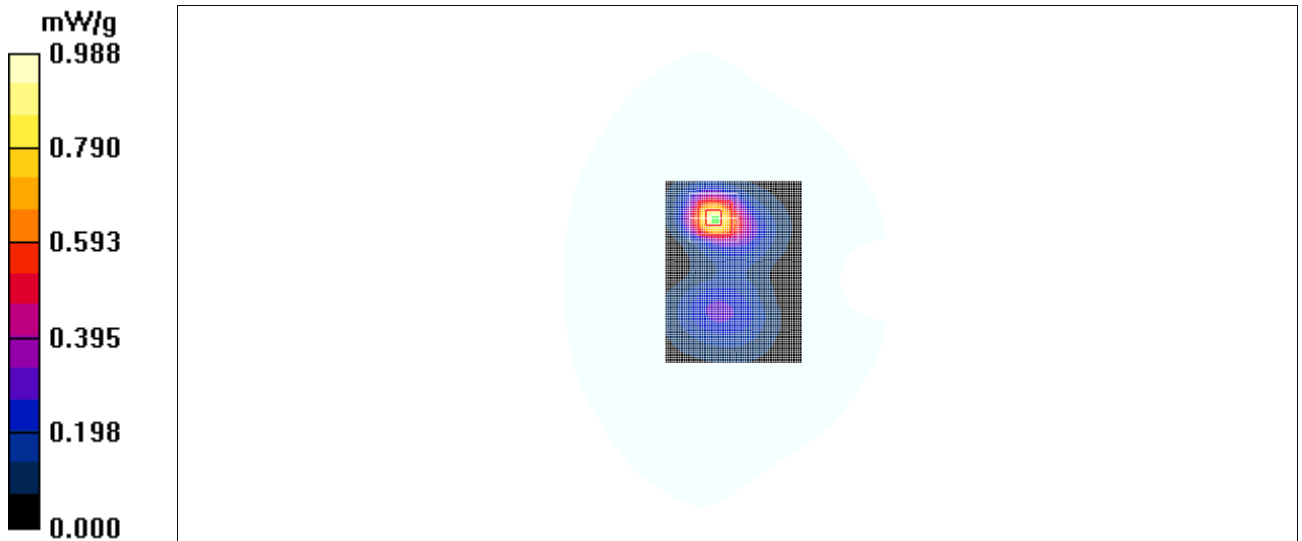Maximum value of SAR (measured) = 1.01 mW/g

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

Reference Value = 32.0 V/m; Power Drift = -0.089 dB

Peak SAR (extrapolated) = 1.32 W/kg

SAR(1 g) = 0.962 mW/g; SAR(10 g) = 0.684 mW/g

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

Fig. 51   850 MHz CH190

850 Body Towards Ground Middle with Bluetooth

Date/Time: 2011-6-11 16:59:58

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.22 mW/g

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

Reference Value = 32.9 V/m; Power Drift = -0.102 dB

Peak SAR (extrapolated) = 1.50 W/kg

SAR(1 g) = 0.982 mW/g; SAR(10 g) = 0.673 mW/g
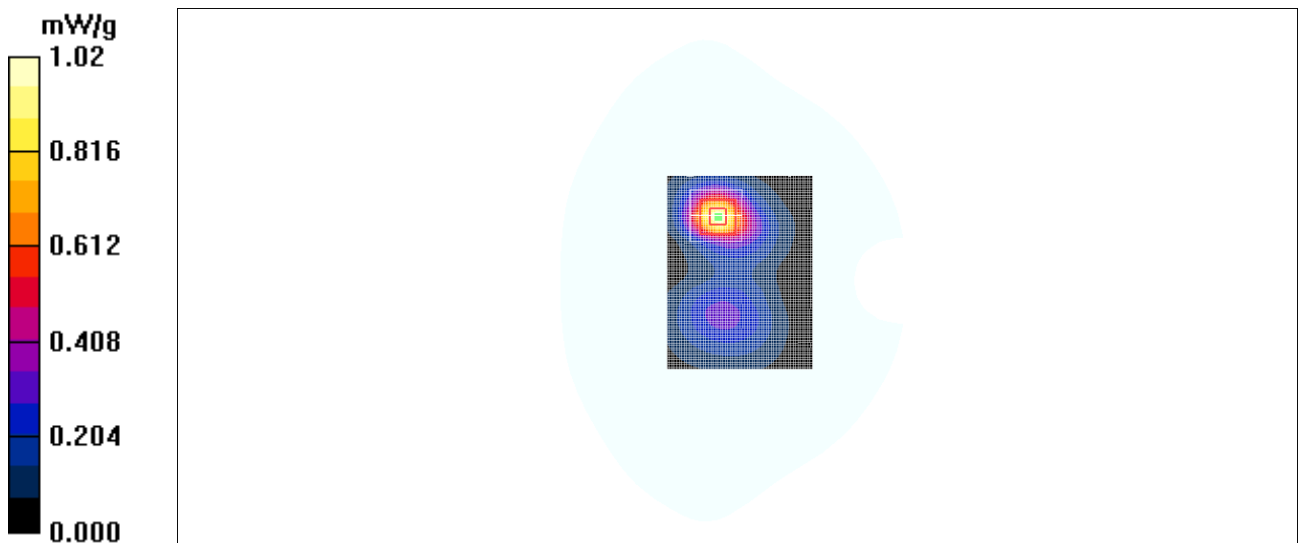
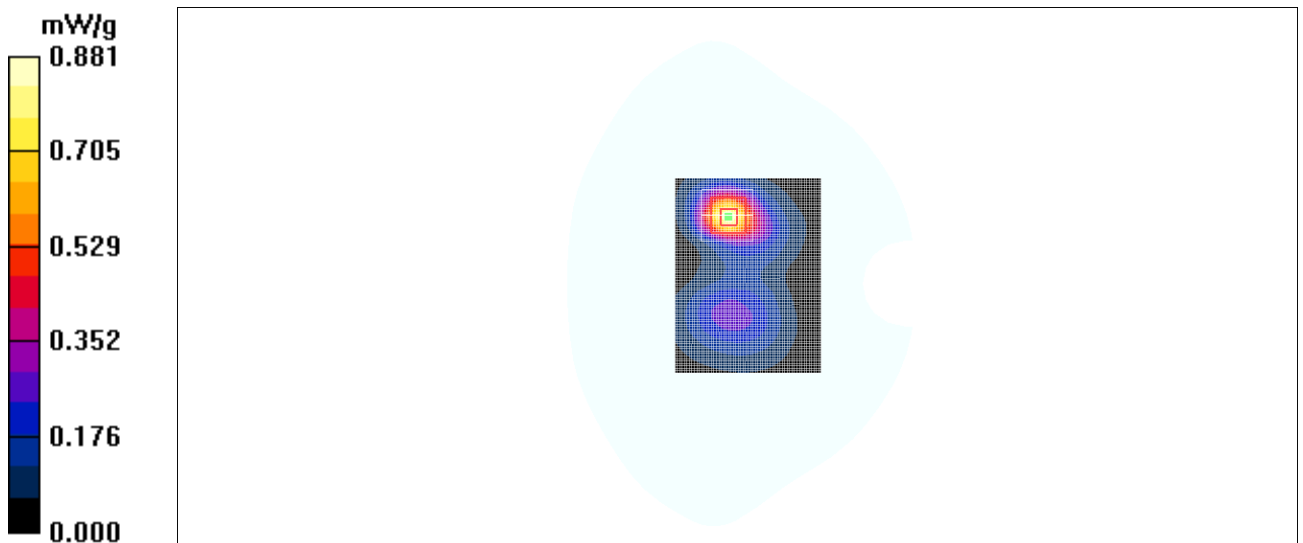Maximum value of SAR (measured) = 1.06 mW/g

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

Reference Value = 32.9 V/m; Power Drift = -0.102 dB

Peak SAR (extrapolated) = 1.37 W/kg

SAR(1 g) = 1.01 mW/g; SAR(10 g) = 0.713 mW/g

Maximum value of SAR (measured) = 1.08 mW/g

Fig. 52   850 MHz CH190

850 Body Slide up Towards Ground Middle with GPRS

Date/Time: 2011-6-11 17:15:48

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

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

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

Toward Ground Middle/Area Scan (81x81x1): Measurement grid: dx=10mm, dy=10mm

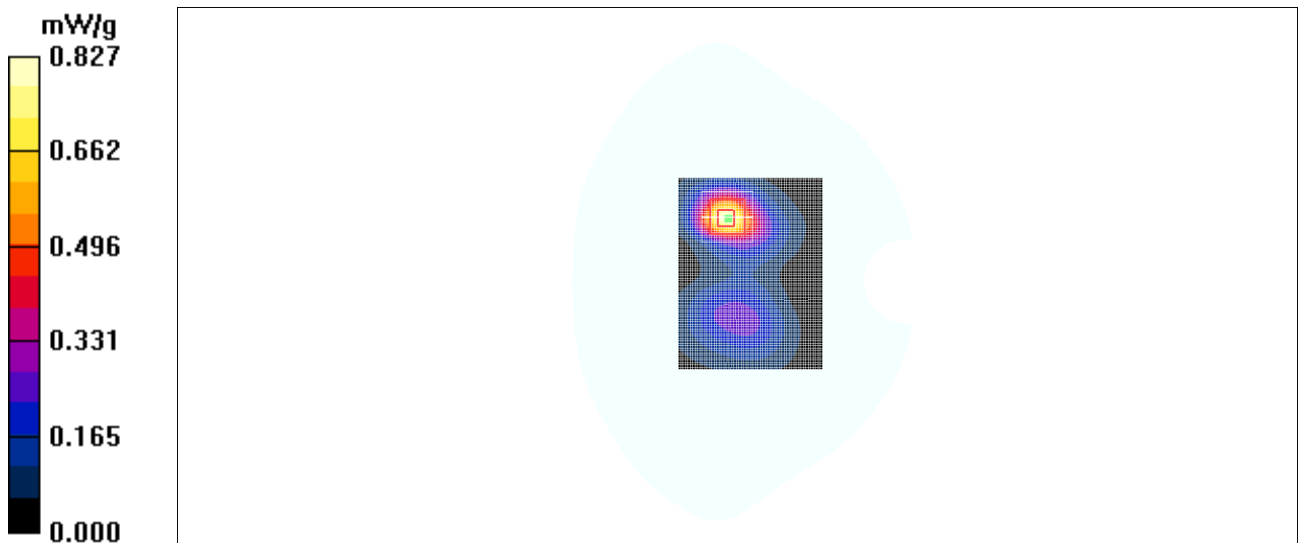Maximum value of SAR (interpolated) = 0.949 mW/g

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

Reference Value = 23.2 V/m; Power Drift = 0.005 dB

Peak SAR (extrapolated) = 1.26 W/kg

SAR(1 g) = 0.803 mW/g; SAR(10 g) = 0.519 mW/g

Maximum value of SAR (measured) = 0.868 mW/g

Fig. 53   850 MHz CH190

1900 Body Towards Ground Low with GPRS

Date/Time: 2011-6-9 18:32:11

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.48 mho/m; εr = 54.2; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:2

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

Toward Ground Low/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.16 mW/g

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

Reference Value = 11.9 V/m; Power Drift = -0.198 dB

Peak SAR (extrapolated) = 1.75 W/kg

SAR(1 g) = 0.984 mW/g; SAR(10 g) = 0.530 mW/g
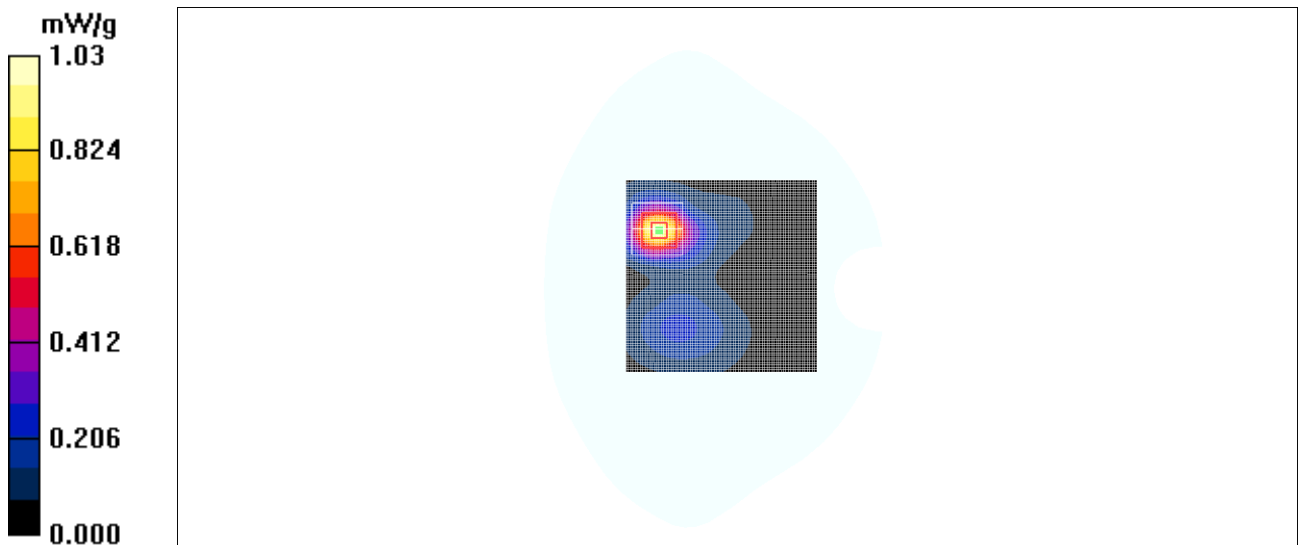
Maximum value of SAR (measured) = 1.10 mW/g

Fig. 54 1900 MHz CH512

Fig. 54-1   Z-Scan at power reference point (1900 MHz CH512)

1900 Body Towards Phantom Low with GPRS

Date/Time: 2011-6-9 19:18:27

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.48 mho/m; εr = 54.2; ρ = 1000 kg/m³

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

Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:2

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

Toward Phantom Low/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.144 mW/g

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

Reference Value = 5.41 V/m; Power Drift = -0.115 dB

Peak SAR (extrapolated) = 0.160 W/kg

SAR(1 g) = 0.105 mW/g; SAR(10 g) = 0.068 mW/g

Maximum value of SAR (measured) = 0.112 mW/g

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

Reference Value = 5.41 V/m; Power Drift = -0.115 dB

Peak SAR (extrapolated) = 0.168 W/kg

SAR(1 g) = 0.105 mW/g; SAR(10 g) = 0.064 mW/g
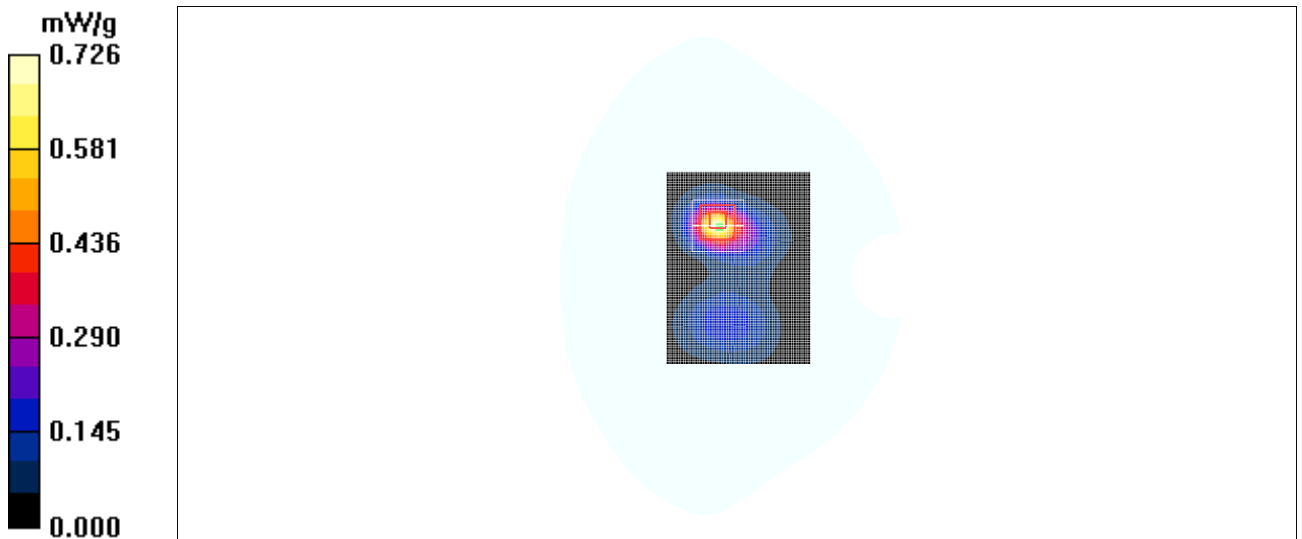
Maximum value of SAR (measured) = 0.114 mW/g

Fig. 55 1900 MHz CH512

1900 Body Towards Ground High with GPRS

Date/Time: 2011-6-9 18:47:30

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1910 MHz; σ = 1.55 mho/m; εr = 53.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:2

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

Toward Ground High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.936 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 = -0.117 dB

Peak SAR (extrapolated) = 1.48 W/kg

SAR(1 g) = 0.807 mW/g; SAR(10 g) = 0.422 mW/g

Maximum value of SAR (measured) = 0.914 mW/g

Fig. 56 1900 MHz CH810

1900 Body Towards Ground Middle with GPRS

Date/Time: 2011-6-9 19:02:52

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.50 mho/m; εr = 53.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:2

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

Toward Ground Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.988 mW/g

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

Reference Value = 10.5 V/m; Power Drift = 0.144 dB

Peak SAR (extrapolated) = 1.76 W/kg

SAR(1 g) = 0.971 mW/g; SAR(10 g) = 0.507 mW/g
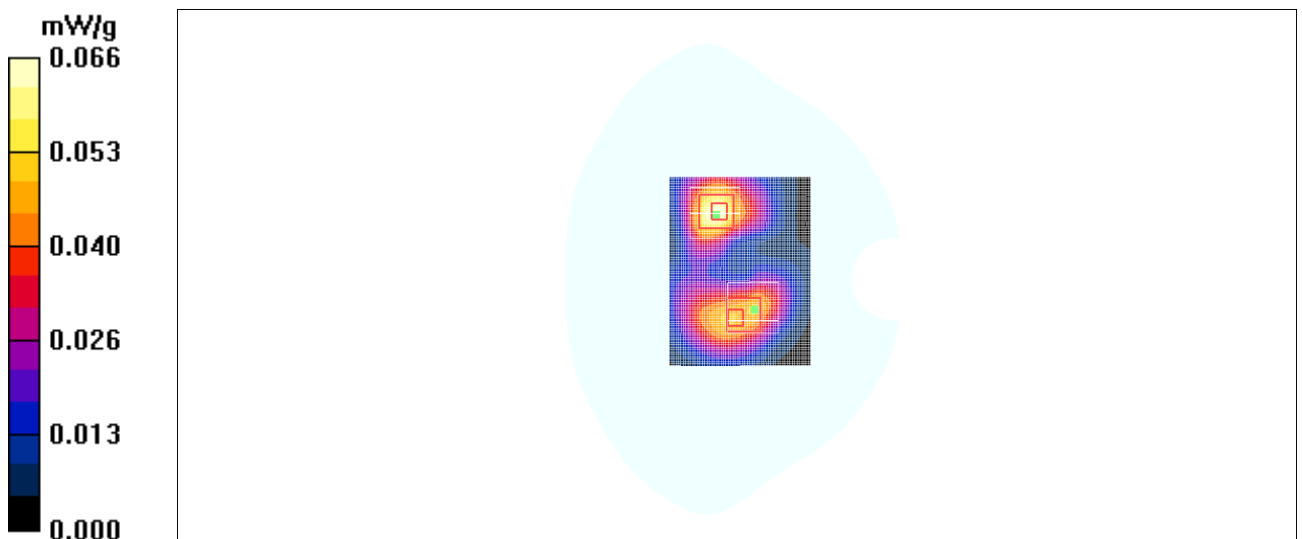
Maximum value of SAR (measured) = 1.10 mW/g

Fig. 57 1900 MHz CH661

1900 Body Towards Ground Low with EGPRS

Date/Time: 2011-6-9 19:34:40

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.48 mho/m; εr = 54.2; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:2

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

Toward Ground Low/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

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

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

Reference Value = 11.3 V/m; Power Drift = -0.125 dB

Peak SAR (extrapolated) = 1.62 W/kg

SAR(1 g) = 0.905 mW/g; SAR(10 g) = 0.485 mW/g
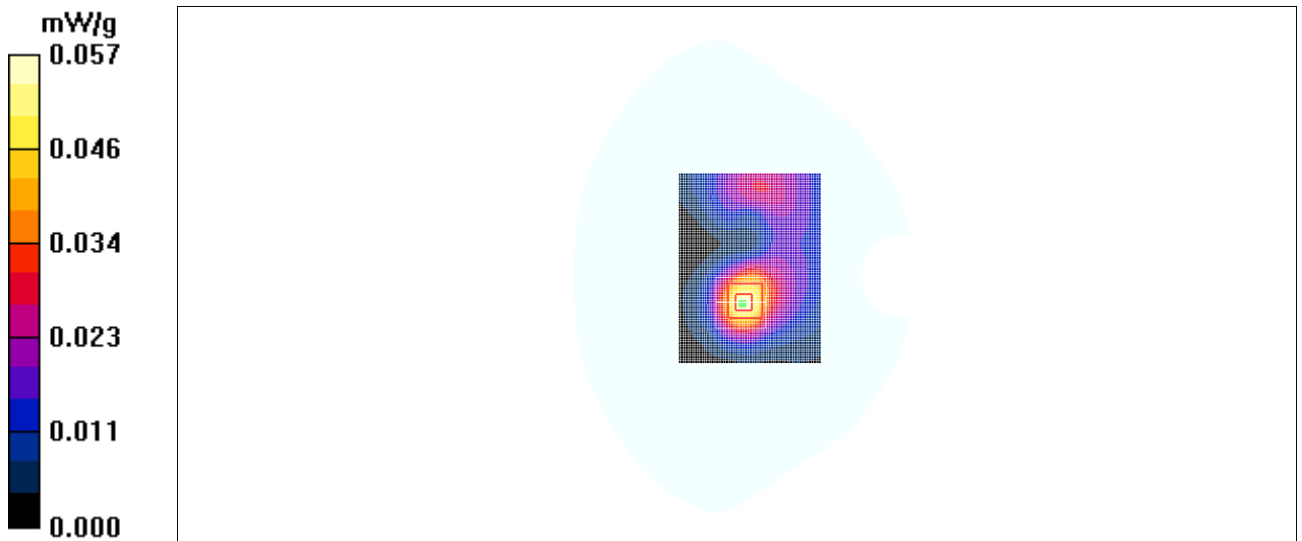
Maximum value of SAR (measured) = 1.01 mW/g

Fig. 58 1900 MHz CH512

1900 Body Towards Ground Low with Headset

Date/Time: 2011-6-9 19:51:14

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.48 mho/m; εr = 54.2; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.881 mW/g

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

Reference Value = 10.2 V/m; Power Drift = 0.168 dB

Peak SAR (extrapolated) = 1.39 W/kg

SAR(1 g) = 0.765 mW/g; SAR(10 g) = 0.405 mW/g
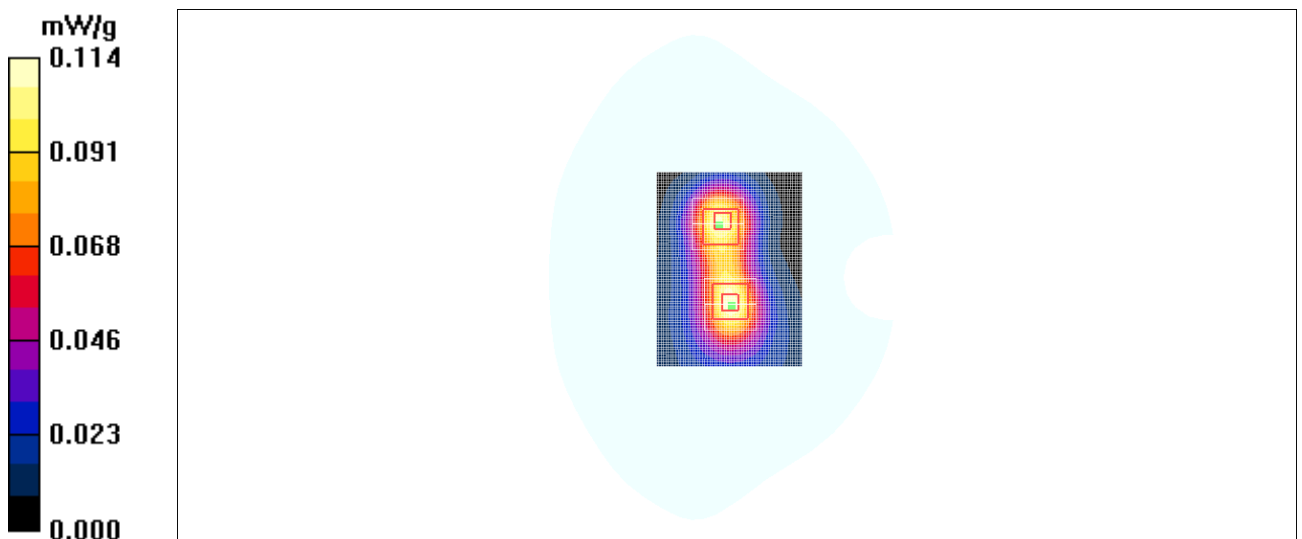
Maximum value of SAR (measured) = 0.861 mW/g

Fig. 59 1900 MHz CH512

1900 Body Towards Ground Low with Bluetooth

Date/Time: 2011-6-9 20:07:33

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.48 mho/m; ϵr = 54.2; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.827 mW/g

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

Reference Value = 9.83 V/m; Power Drift = -0.017 dB

Peak SAR (extrapolated) = 1.40 W/kg

SAR(1 g) = 0.779 mW/g; SAR(10 g) = 0.412 mW/g
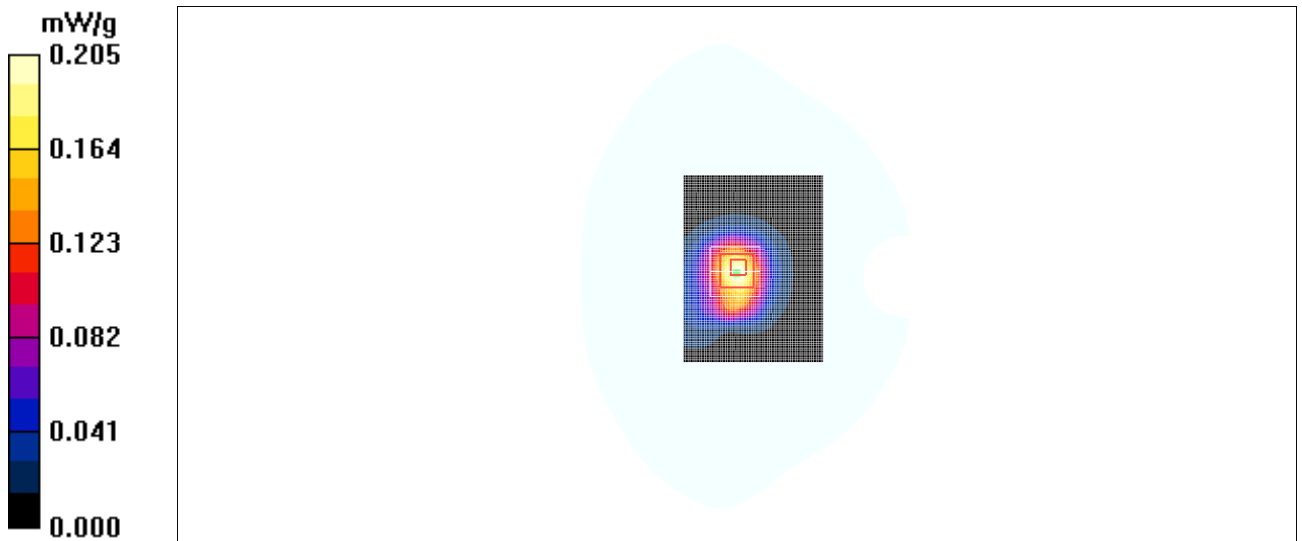
Maximum value of SAR (measured) = 0.876 mW/g

Fig. 60 1900 MHz CH512

1900 Body Slide up Towards Ground Low with GPRS

Date/Time: 2011-6-9 20:24:40

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.48 mho/m; εr = 54.2; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:2

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

Toward Ground Low/Area Scan (81x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.03 mW/g

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

Reference Value = 7.87 V/m; Power Drift = 0.102 dB

Peak SAR (extrapolated) = 1.75 W/kg

SAR(1 g) = 0.981 mW/g; SAR(10 g) = 0.514 mW/g
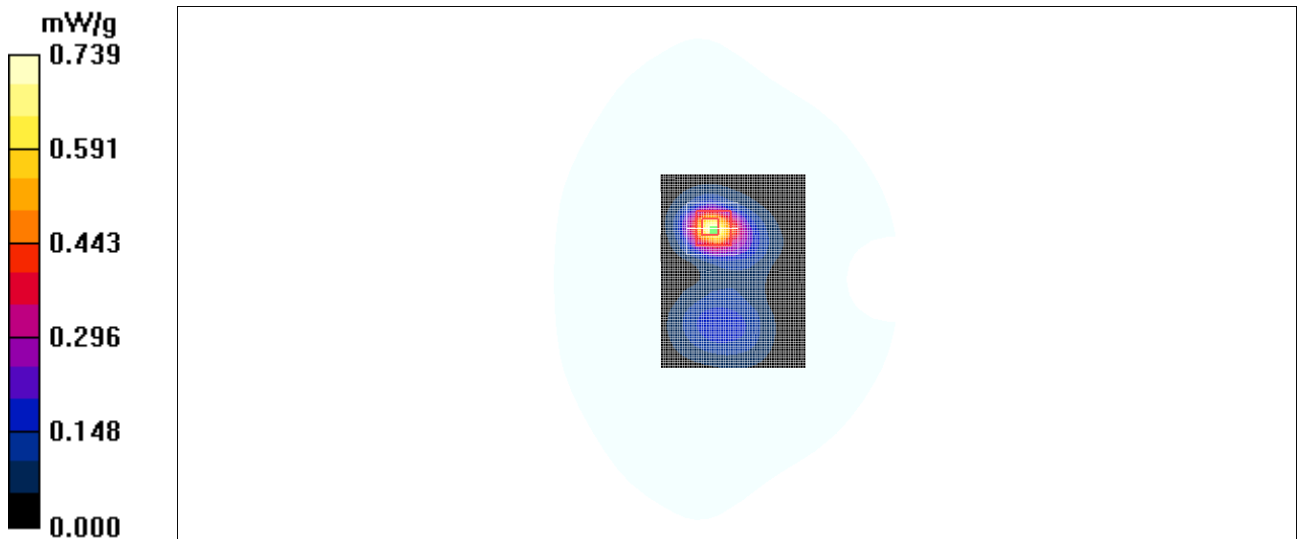
Maximum value of SAR (measured) = 1.10 mW/g

Fig. 61 1900 MHz CH512

1900 Body Towards Ground Middle with GPRS

Date/Time: 2011-6-9 20:41:32

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.50 mho/m; εr = 53.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:2

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

Toward Ground Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

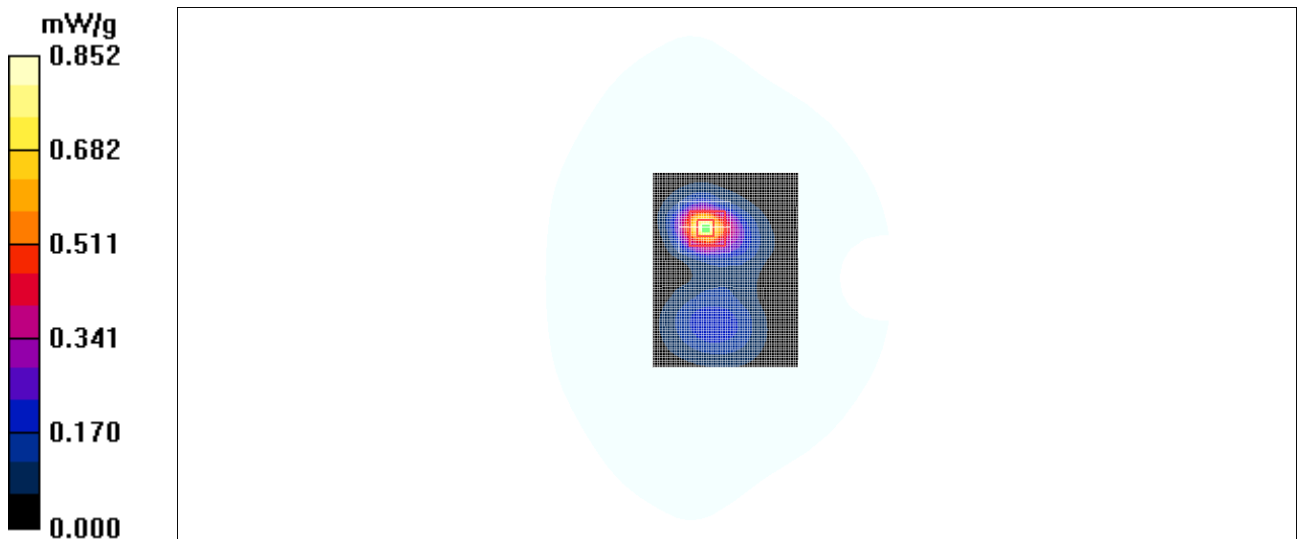Maximum value of SAR (interpolated) = 0.726 mW/g

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

Reference Value = 7.03 V/m; Power Drift = -0.078 dB

Peak SAR (extrapolated) = 0.866 W/kg

SAR(1 g) = 0.513 mW/g; SAR(10 g) = 0.251 mW/g

Maximum value of SAR (measured) = 0.709 mW/g

Fig. 62 1900 MHz CH661

1900 Body Towards Phantom Middle with GPRS

Date/Time: 2011-6-9 20:57:08

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.50 mho/m; εr = 53.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:2

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

Toward Phantom Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.066 mW/g

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

Reference Value = 3.66 V/m; Power Drift = 0.136 dB

Peak SAR (extrapolated) = 0.310 W/kg

SAR(1 g) = 0.067 mW/g; SAR(10 g) = 0.037 mW/g

Maximum value of SAR (measured) = 0.065 mW/g

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

Reference Value = 3.56 V/m; Power Drift = 0.136 dB

Peak SAR (extrapolated) = 0.071 W/kg

SAR(1 g) = 0.045 mW/g; SAR(10 g) = 0.029 mW/g
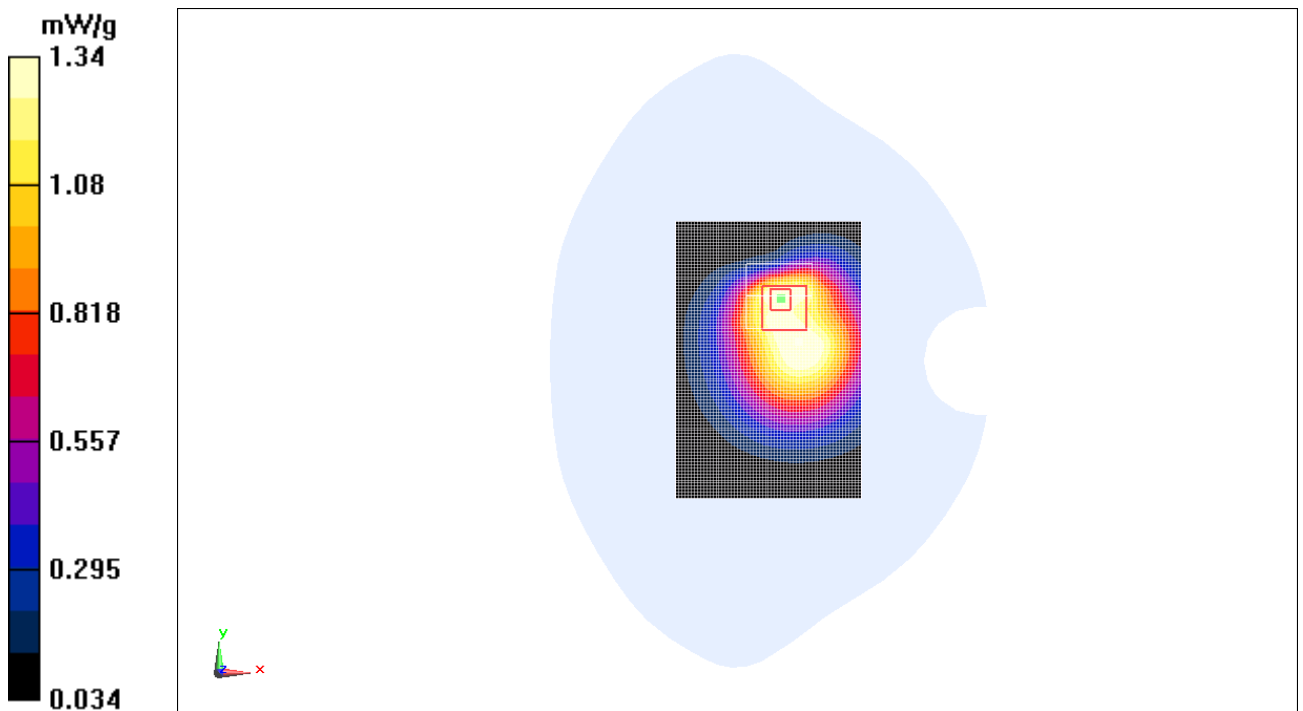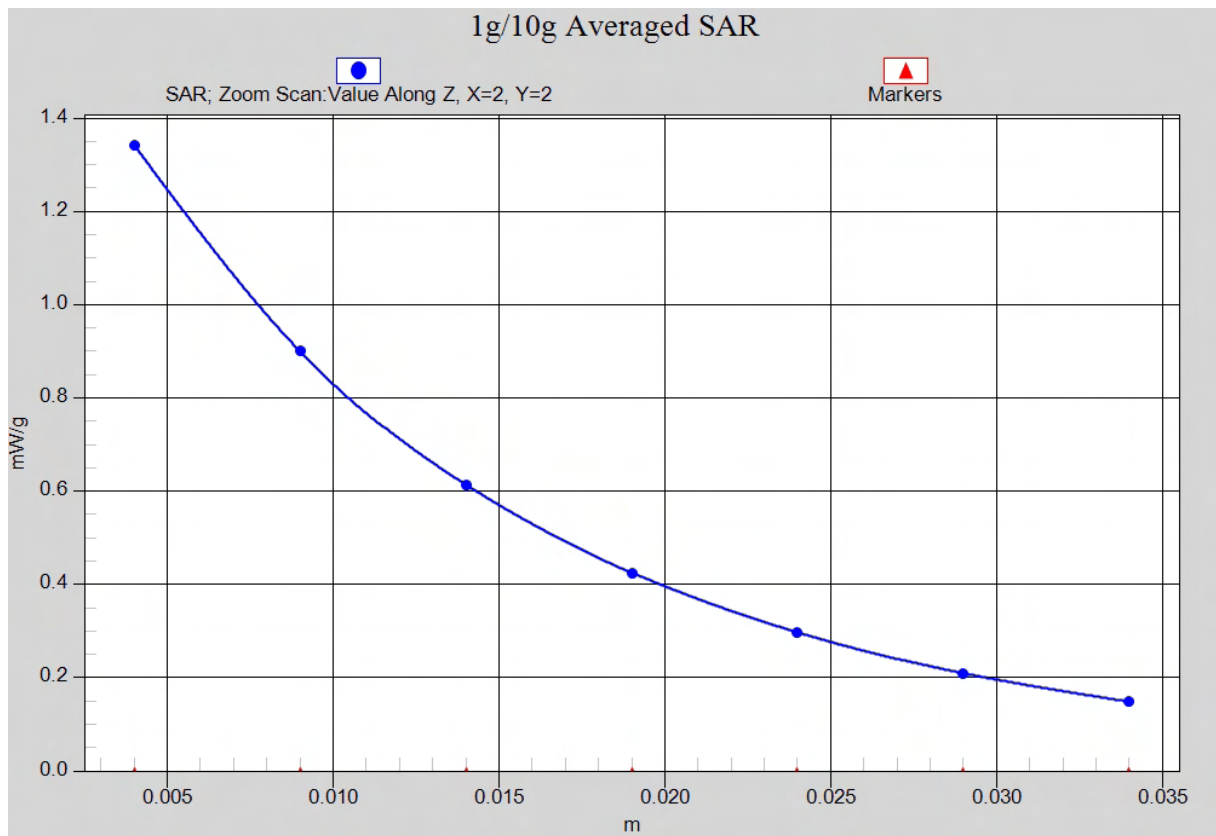
Maximum value of SAR (measured) = 0.049 mW/g

Fig. 63 1900 MHz CH661

1900 Body Left Side Middle with GPRS

Date/Time: 2011-6-9 21:12:55

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.50 mho/m; εr = 53.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:2

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

Left Side Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.057 mW/g

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

Reference Value = 5.00 V/m; Power Drift = -0.069 dB

Peak SAR (extrapolated) = 0.086 W/kg

SAR(1 g) = 0.052 mW/g; SAR(10 g) = 0.030 mW/g

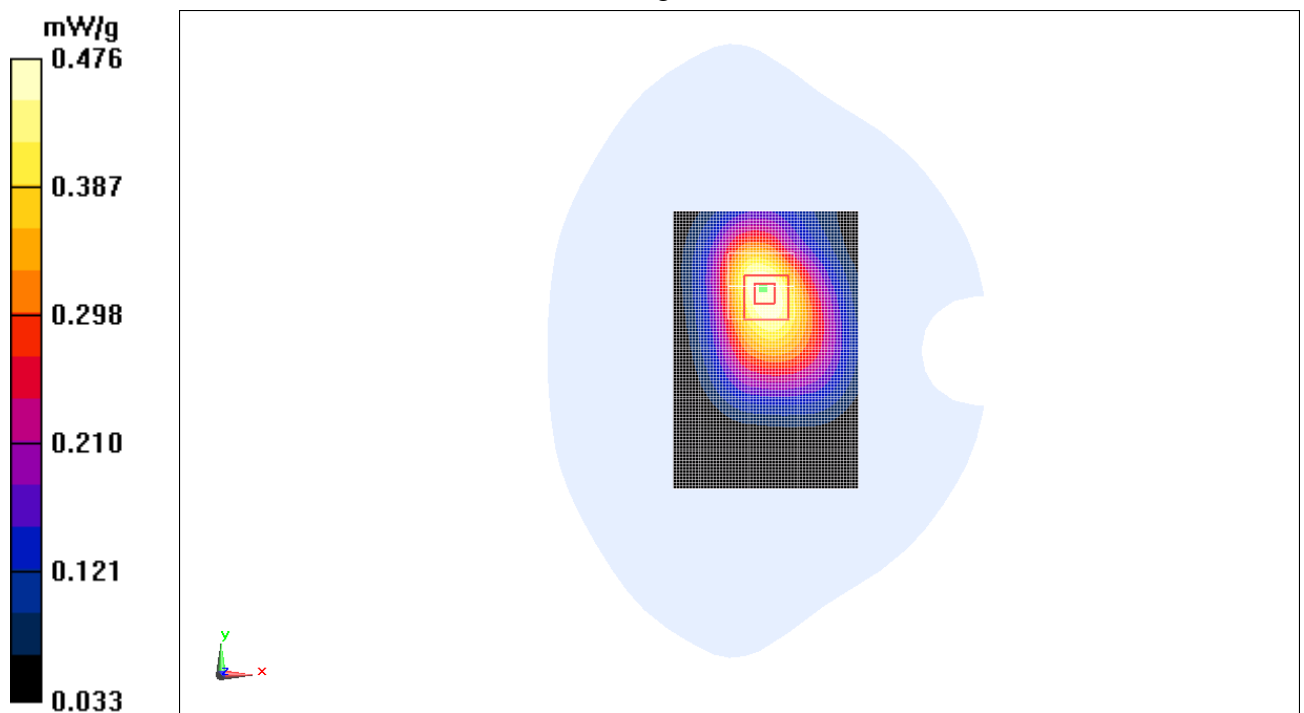Maximum value of SAR (measured) = 0.055 mW/g

Fig. 64 1900 MHz CH661

1900 Body Right Side Middle with GPRS

Date/Time: 2011-6-9 21:28:39

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.50 mho/m; εr = 53.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:2

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

Right Side Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.114 mW/g

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

Reference Value = 7.88 V/m; Power Drift = 0.032 dB

Peak SAR (extrapolated) = 0.163 W/kg

SAR(1 g) = 0.101 mW/g; SAR(10 g) = 0.061 mW/g

Maximum value of SAR (measured) = 0.110 mW/g

Right Side Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.88 V/m; Power Drift = 0.032 dB

Peak SAR (extrapolated) = 0.166 W/kg

SAR(1 g) = 0.093 mW/g; SAR(10 g) = 0.055 mW/g
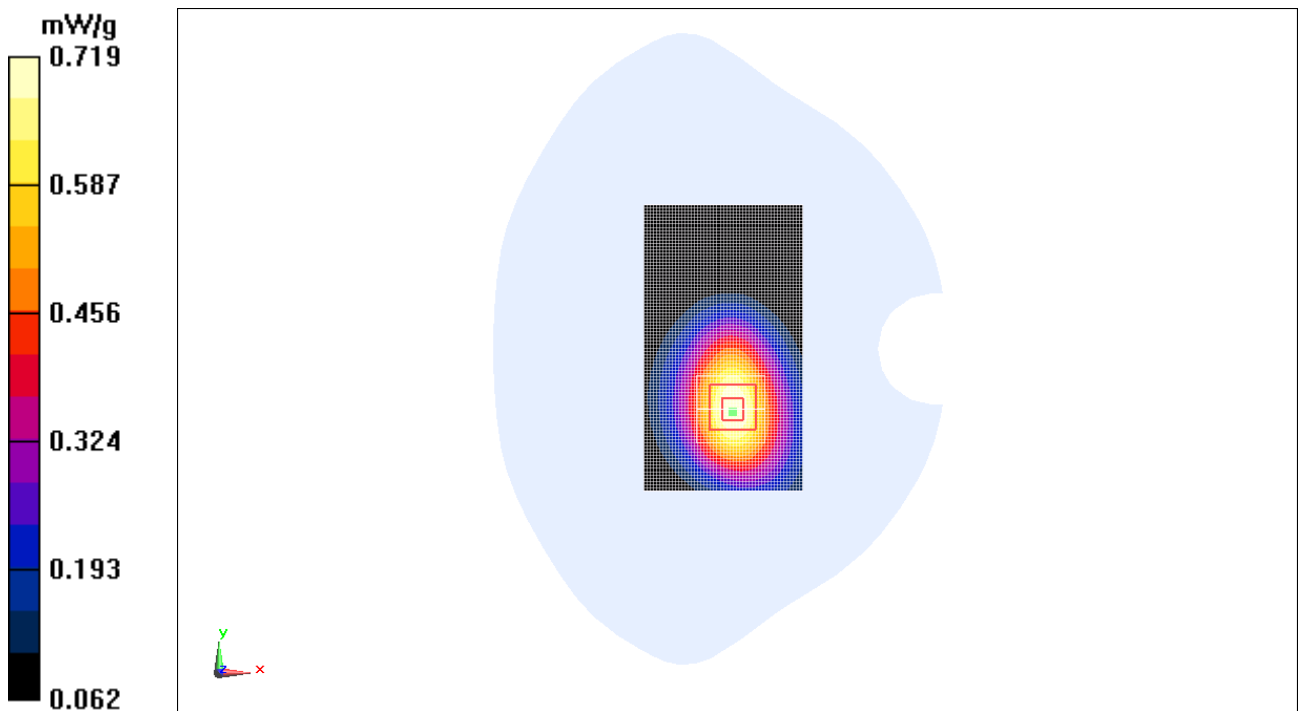
Maximum value of SAR (measured) = 0.098 mW/g

Fig. 65 1900 MHz CH661

1900 Body Bottom Side Middle with GPRS

Date/Time: 2011-6-9 21:44:58

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.50 mho/m; εr = 53.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1880 MHz Duty Cycle: 1:2

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

Bottom Side Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.205 mW/g

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

Reference Value = 11.0 V/m; Power Drift = 0.056 dB

Peak SAR (extrapolated) = 0.320 W/kg

SAR(1 g) = 0.193 mW/g; SAR(10 g) = 0.109 mW/g

Maximum value of SAR (measured) = 0.208 mW/g
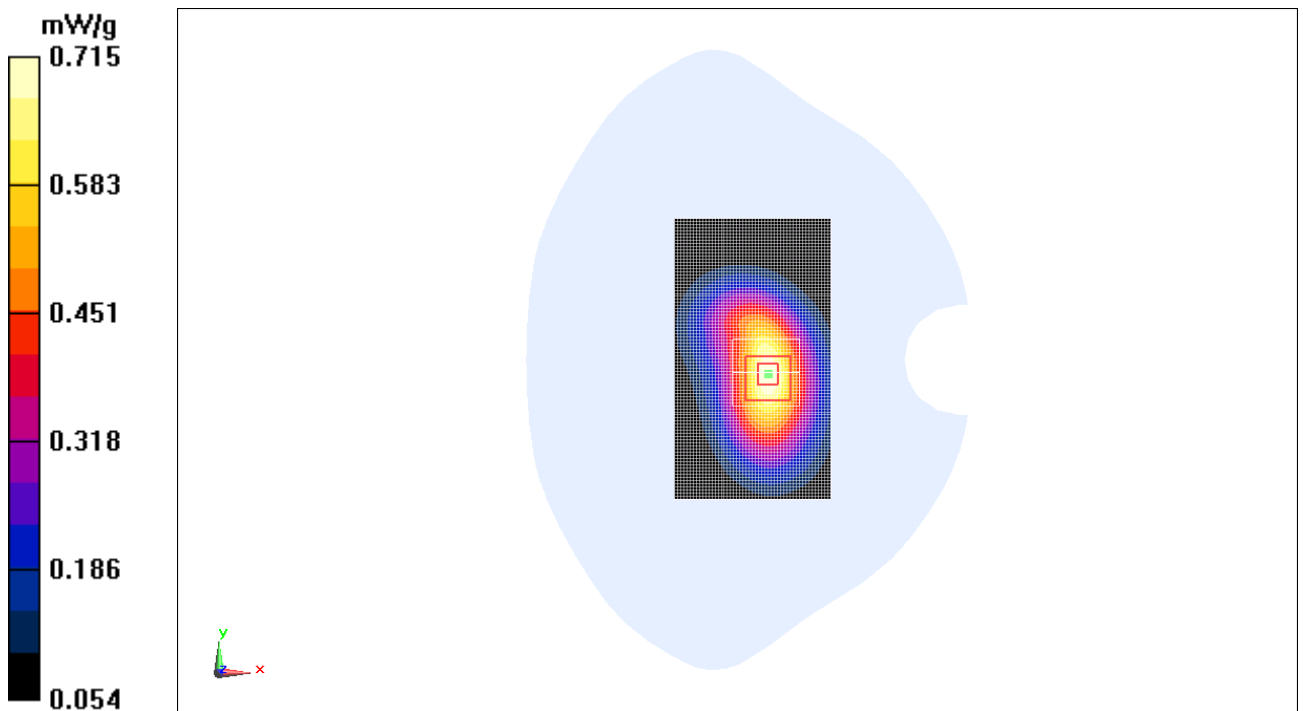

Fig. 66 1900 MHz CH661

1900 Body Towards Ground High with GPRS

Date/Time: 2011-6-9 22:01:17

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1910 MHz; σ = 1.55 mho/m; εr = 53.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1909.8 MHz Duty Cycle: 1:2

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

Toward Ground High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.739 mW/g

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

Reference Value = 7.55 V/m; Power Drift = -0.177 dB

Peak SAR (extrapolated) = 2.37 W/kg

SAR(1 g) = 0.674 mW/g; SAR(10 g) = 0.321 mW/g
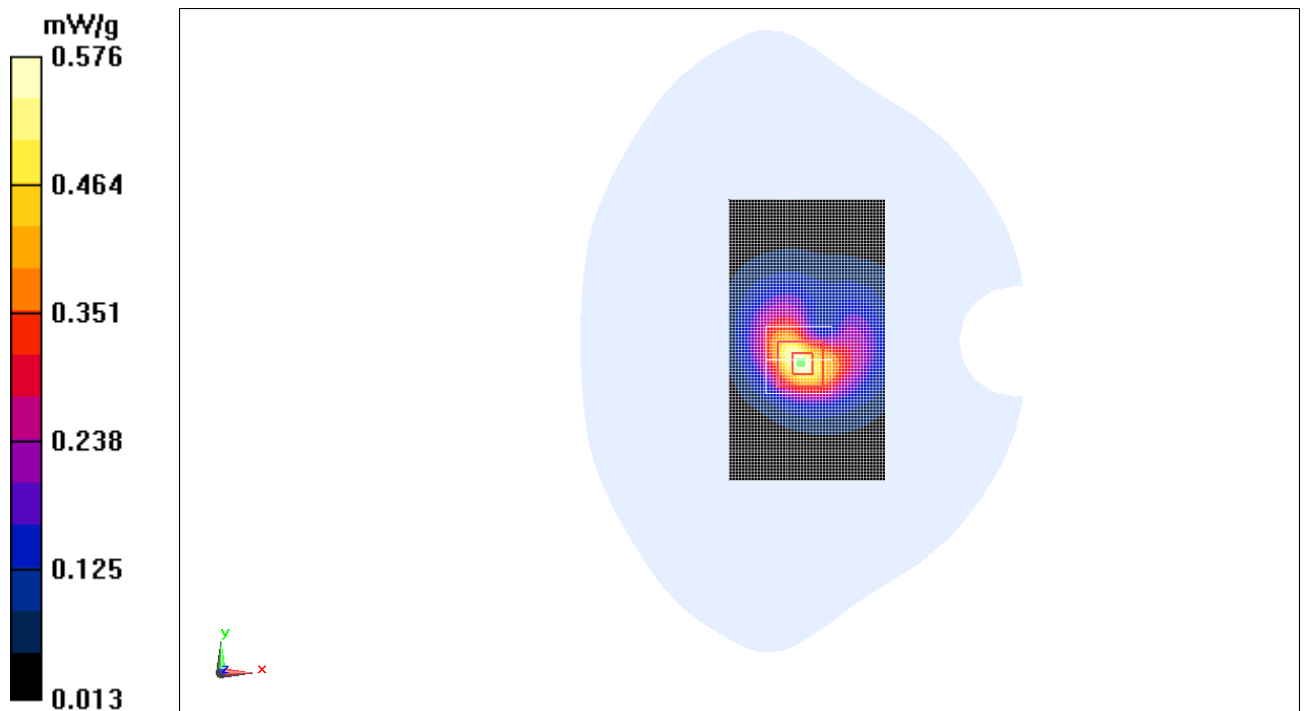
Maximum value of SAR (measured) = 0.720 mW/g

Fig. 67 1900 MHz CH810

1900 Body Towards Ground Low with GPRS

Date/Time: 2011-6-9 22:16:40

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.48 mho/m; εr = 54.2; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: GSM 1900MHz GPRS Frequency: 1850.2 MHz Duty Cycle: 1:2

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

Toward Ground Low/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.852 mW/g

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

Reference Value = 7.95 V/m; Power Drift = -0.133 dB

Peak SAR (extrapolated) = 1.23 W/kg

SAR(1 g) = 0.688 mW/g; SAR(10 g) = 0.336 mW/g

Maximum value of SAR (measured) = 0.817 mW/g

Fig. 68 1900 MHz CH512

WCDMA 850 Body Towards Ground Middle

Date/Time: 2011-6-11 17:36:29

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 1.48 mW/g

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

Reference Value = 33.2 V/m; Power Drift = -0.114 dB

Peak SAR (extrapolated) = 1.9 W/kg

SAR(1 g) = 1.25 mW/g; SAR(10 g) = 0.856 mW/g

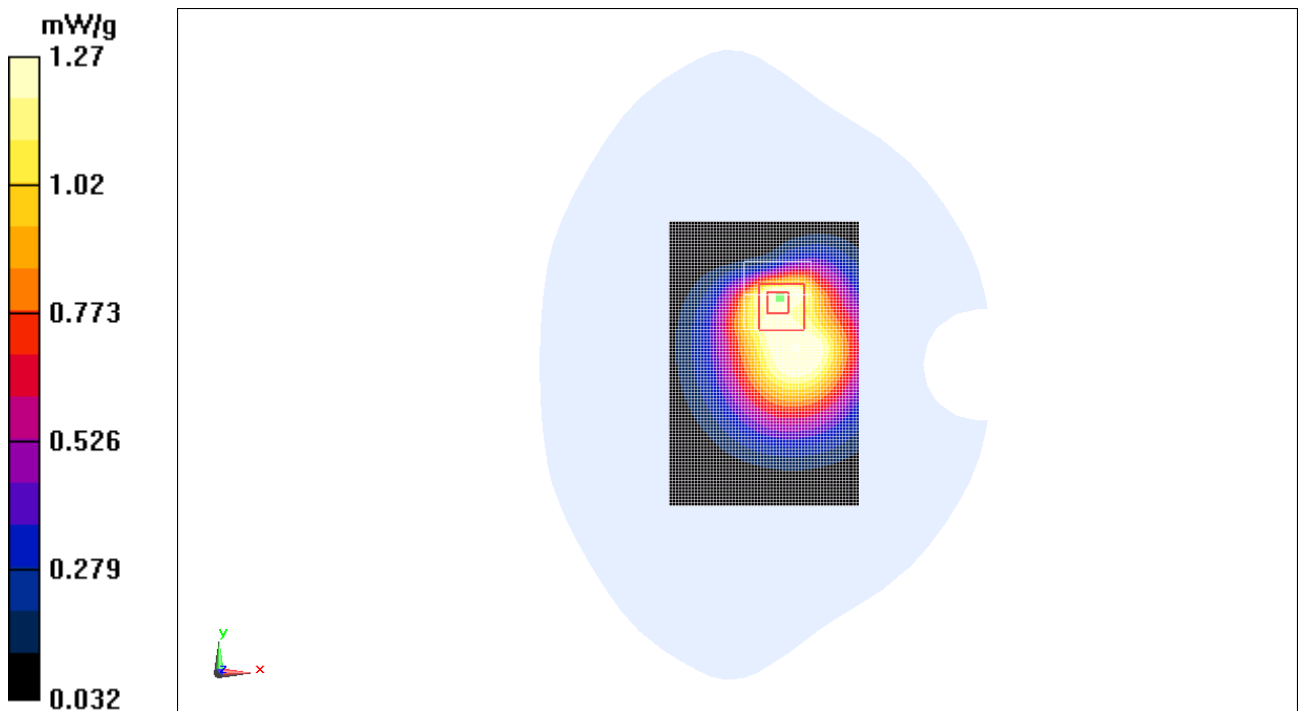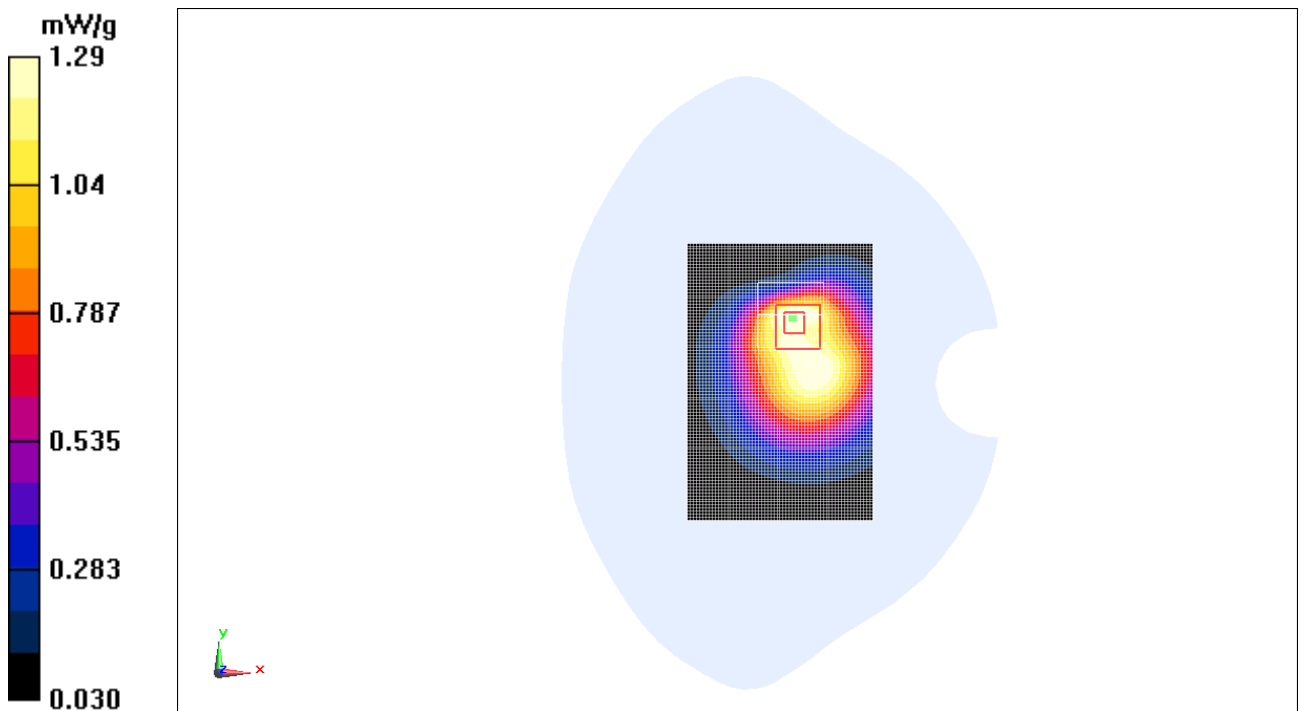Maximum value of SAR (measured) = 1.34 mW/g

Fig. 69   850 MHz CH4182

Fig. 69-1   Z-Scan at power reference point (850 MHz CH4182)

WCDMA 850 Body Towards Phantom Middle

Date/Time: 2011-6-11 17:52:23

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 0.485 mW/g

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

Reference Value = 18.7 V/m; Power Drift = -0.054 dB

Peak SAR (extrapolated) = 0.633 W/kg

SAR(1 g) = 0.449 mW/g; SAR(10 g) = 0.315 mW/g

Maximum value of SAR (measured) = 0.476 mW/g

Fig. 70   850 MHz CH4182

WCDMA 850 Body Left Side Middle

Date/Time: 2011-6-11 18:08:52

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1

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

Left Side Middle/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.732 mW/g

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

Reference Value = 20.9 V/m; Power Drift = -0.108 dB

Peak SAR (extrapolated) = 0.951 W/kg

SAR(1 g) = 0.673 mW/g; SAR(10 g) = 0.457 mW/g

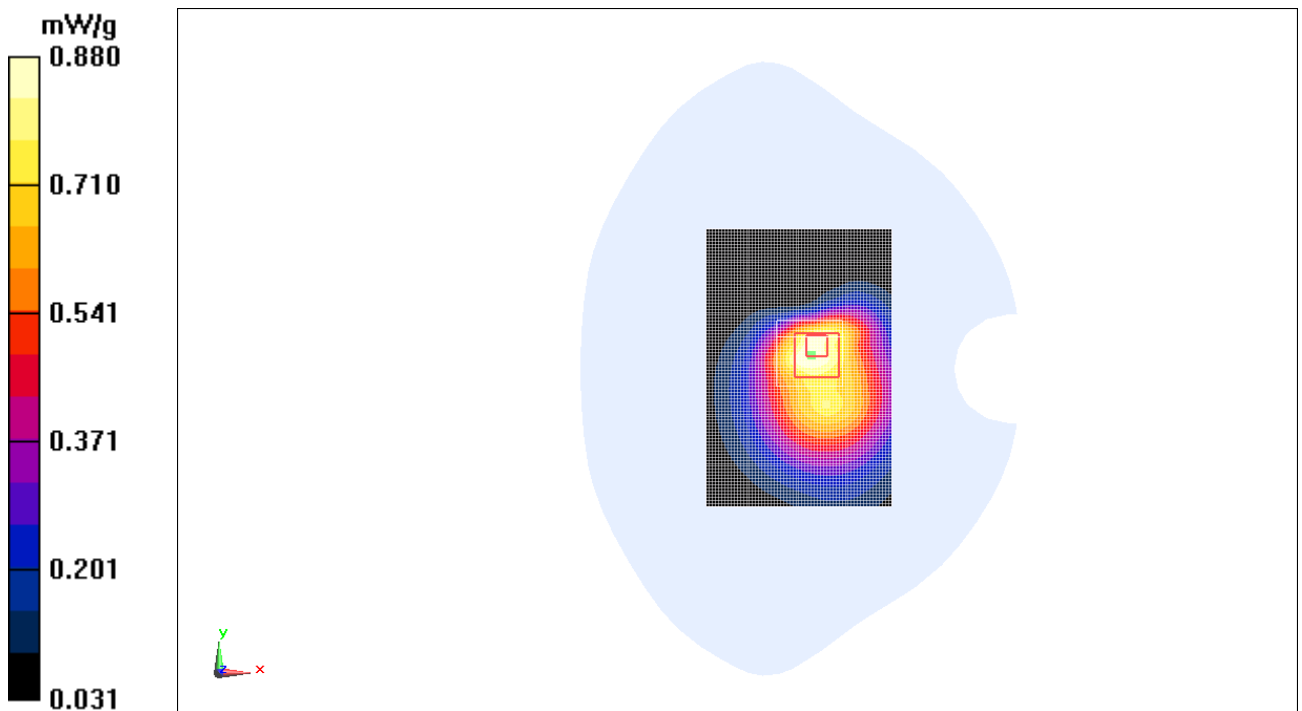Maximum value of SAR (measured) = 0.719 mW/g

Fig. 71   850 MHz CH4182

WCDMA 850 Body Right Side Middle

Date/Time: 2011-6-11 18:25:26

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5 ^{o}C

Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1

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

Right Side Middle/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.712 mW/g

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

Reference Value = 23.8 V/m; Power Drift = -0.157 dB

Peak SAR (extrapolated) = 0.996 W/kg

SAR(1 g) = 0.661 mW/g; SAR(10 g) = 0.430 mW/g
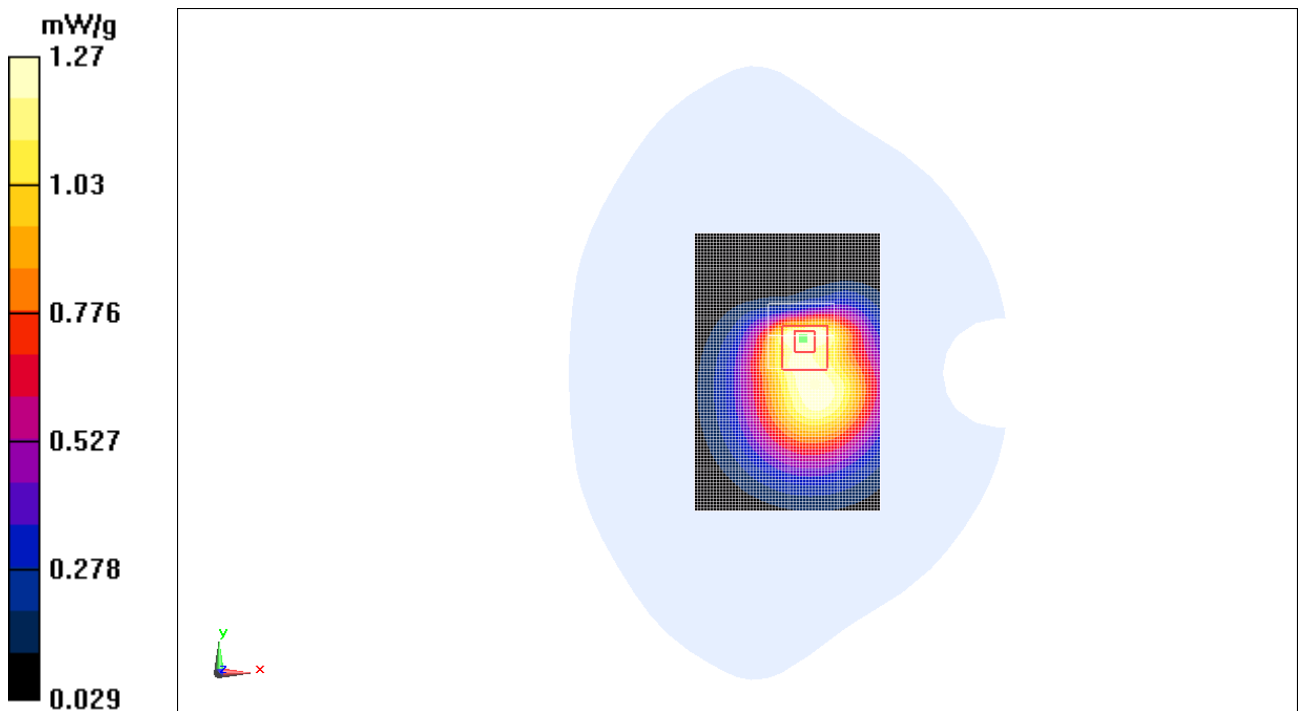
Maximum value of SAR (measured) = 0.715 mW/g

Fig. 72   850 MHz CH4182

WCDMA 850 Body Bottom Side Middle

Date/Time: 2011-6-11 18:41:55

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1

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

Bottom Middle/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm

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

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

Reference Value = 19.4 V/m; Power Drift = -0.000312 dB

Peak SAR (extrapolated) = 0.975 W/kg

SAR(1 g) = 0.518 mW/g; SAR(10 g) = 0.280 mW/g
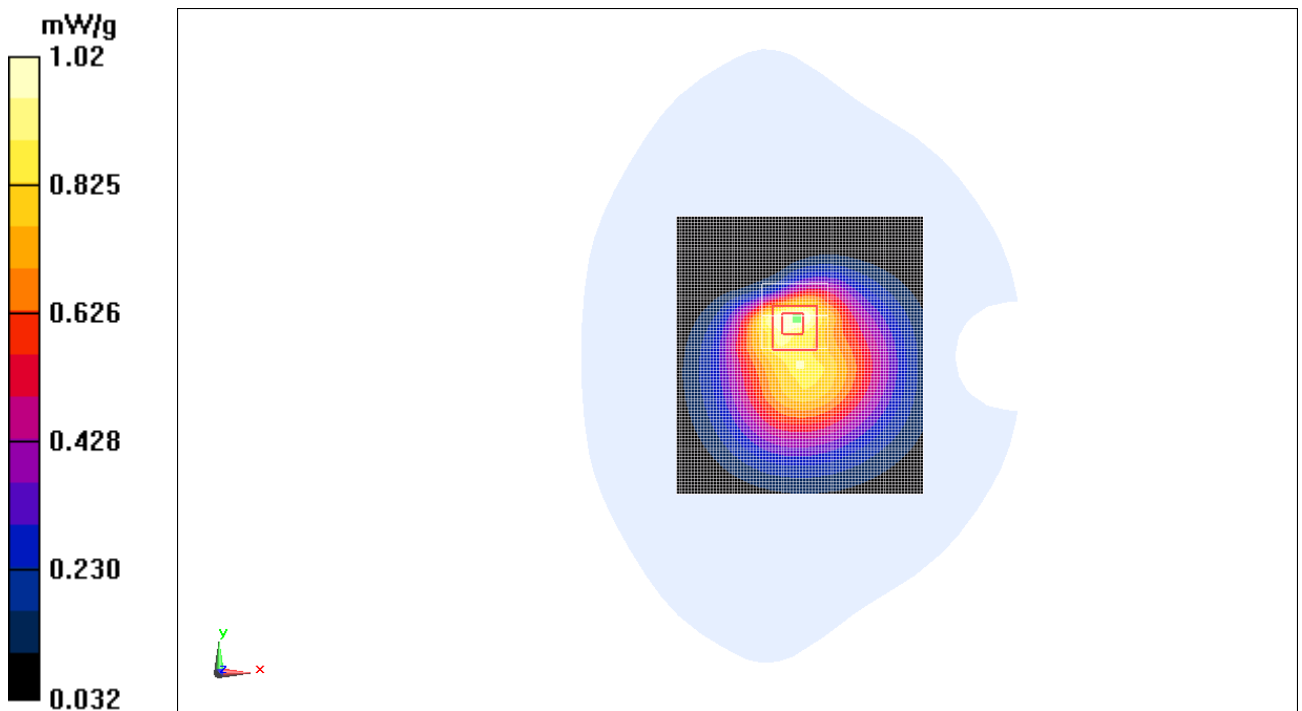
Maximum value of SAR (measured) = 0.576 mW/g

Fig. 73   850 MHz CH4182

WCDMA 850 Body Towards Ground High

Date/Time: 2011-6-11 18:58:14

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.94 mho/m; εr = 54.6; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 846.6 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 1.4 mW/g

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

Reference Value = 32.5 V/m; Power Drift = -0.041 dB

Peak SAR (extrapolated) = 1.81 W/kg

SAR(1 g) = 1.2 mW/g; SAR(10 g) = 0.816 mW/g
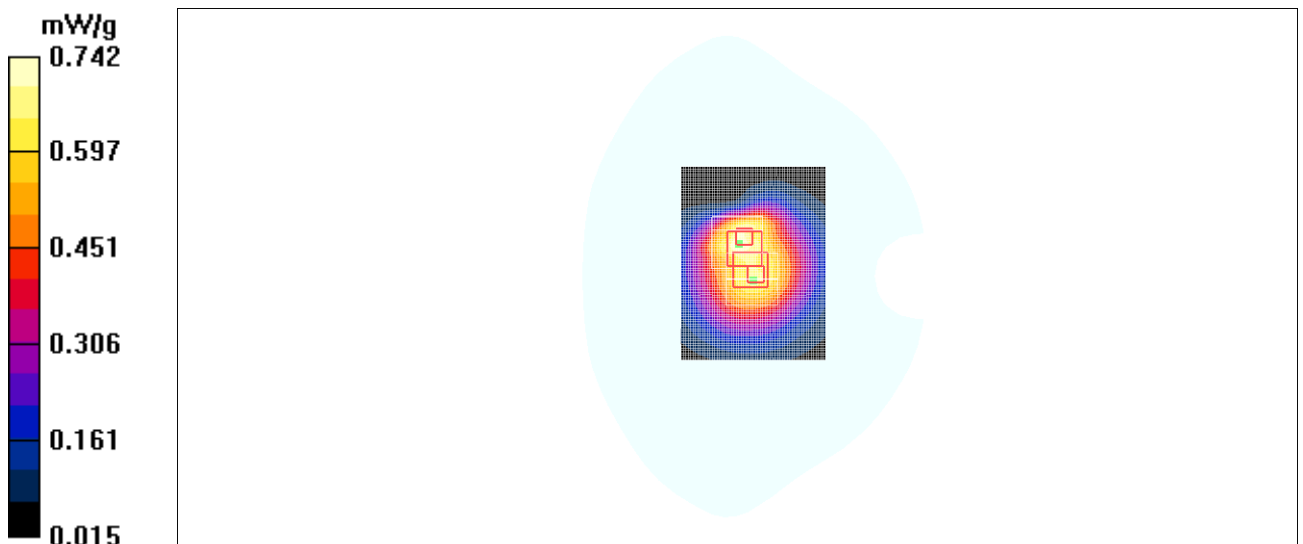
Maximum value of SAR (measured) = 1.27 mW/g

Fig. 74   850 MHz CH4233

WCDMA 850 Body Towards Ground Low

Date/Time: 2011-6-11 19:13:40

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.94 mho/m; εr = 55.5; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 826.4 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 1.41 mW/g

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

Reference Value = 32.2 V/m; Power Drift = 0.066 dB

Peak SAR (extrapolated) = 1.88 W/kg

SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.829 mW/g
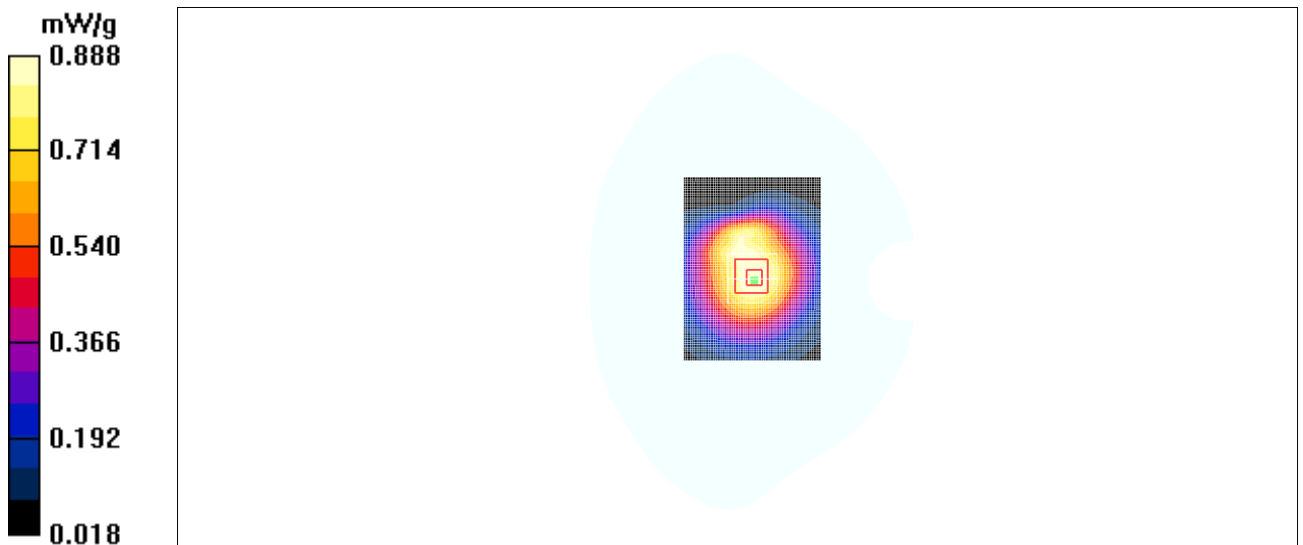
Maximum value of SAR (measured) = 1.29 mW/g

Fig. 75   850 MHz CH4132

WCDMA 850 Body Towards Ground Middle with Headset

Date/Time: 2011-6-11 19:30:22

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5 ^{o}C

Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1

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

Toward Ground Middle/Area Scan (61x91x1): Measurement grid: dx=10mm, dy=10mm
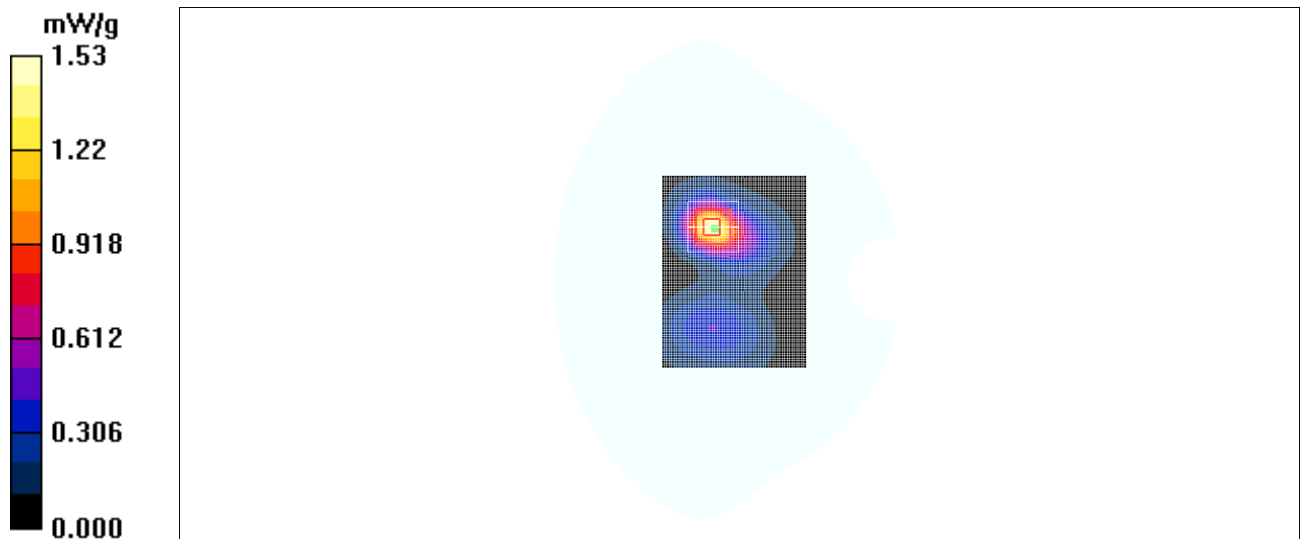
Maximum value of SAR (interpolated) = 0.919 mW/g

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

Reference Value = 26.6 V/m; Power Drift = 0.129 dB

Peak SAR (extrapolated) = 1.31 W/kg

SAR(1 g) = 0.837 mW/g; SAR(10 g) = 0.543 mW/g

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

Fig. 76   850 MHz CH4182

WCDMA 850 Body Towards Ground Middle with Bluetooth

Date/Time: 2011-6-11 19:46:49

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0 $^{\circ}$C   Liquid Temperature: 22.5°C

Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 1.4 mW/g

Toward Ground Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
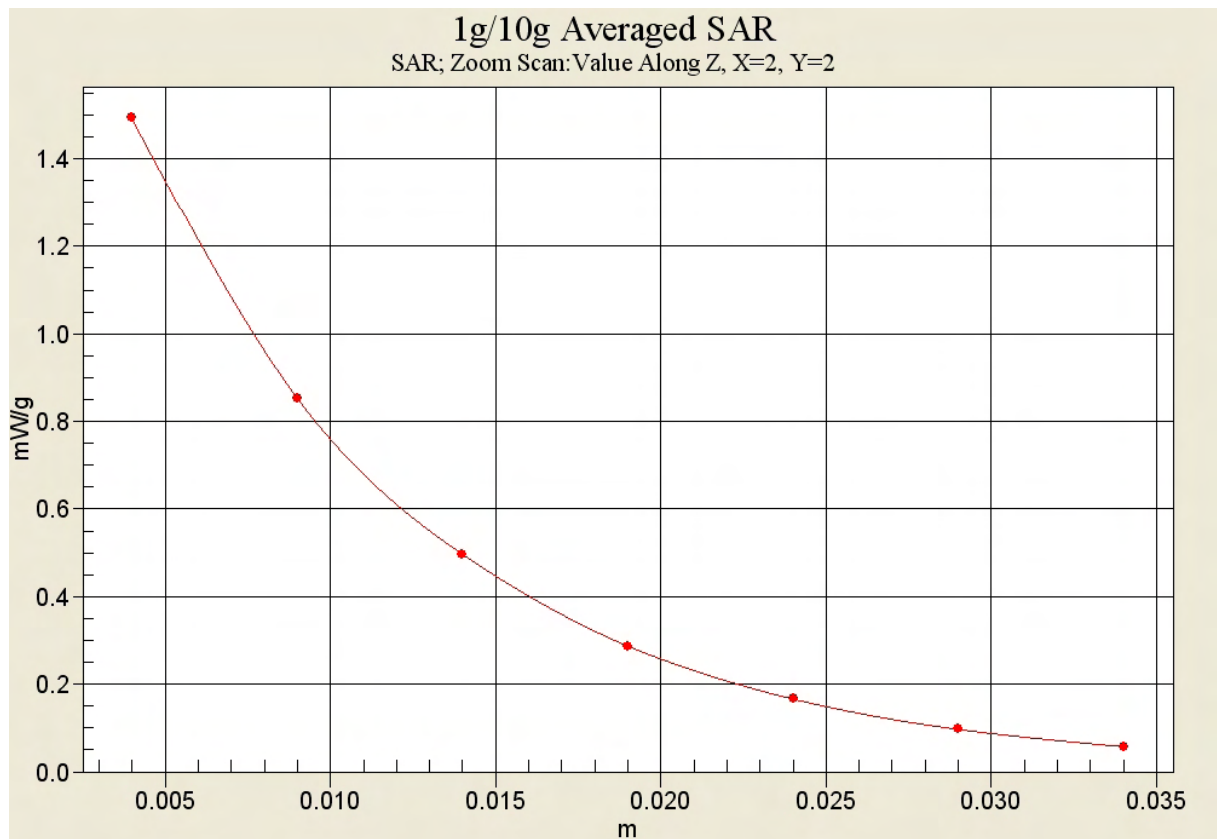
Reference Value = 32.8 V/m; Power Drift = -0.031 dB

Peak SAR (extrapolated) = 1.86 W/kg

SAR(1 g) = 1.2 mW/g; SAR(10 g) = 0.804 mW/g

Maximum value of SAR (measured) = 1.27 mW/g

Fig. 77   850 MHz CH4182

WCDMA 850 Body Slide up Towards Ground Middle

Date/Time: 2011-6-11 20:03:25

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1

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

Toward Ground Middle/Area Scan (81x91x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.06 mW/g

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

Reference Value = 28.9 V/m; Power Drift = 0.069 dB

Peak SAR (extrapolated) = 1.48 W/kg

SAR(1 g) = 0.953 mW/g; SAR(10 g) = 0.623 mW/g
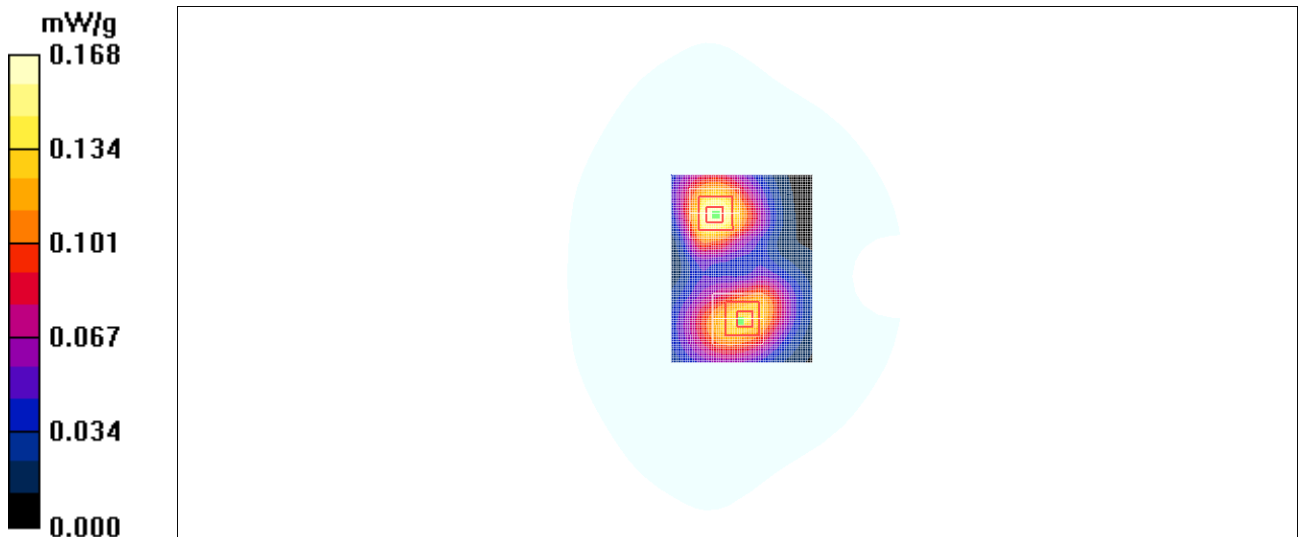
Maximum value of SAR (measured) = 1.02 mW/g

Fig. 78   850 MHz CH4182

WCDMA 850 Body Towards Ground Middle with Headset

Date/Time: 2011-6-11 20:20:43

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1

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

Toward Ground High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.742 mW/g

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

Reference Value = 26.1 V/m; Power Drift = -0.063 dB

Peak SAR (extrapolated) = 0.926 W/kg

SAR(1 g) = 0.630 mW/g; SAR(10 g) = 0.435 mW/g
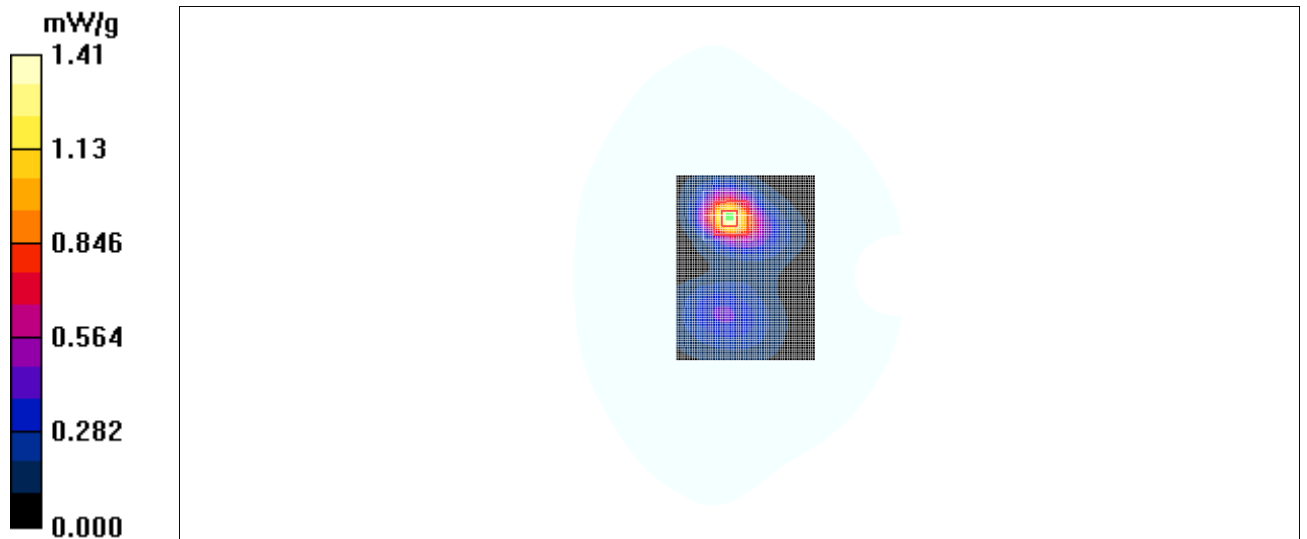
Maximum value of SAR (measured) = 0.661 mW/g

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

Reference Value = 26.1 V/m; Power Drift = -0.063 dB

Peak SAR (extrapolated) = 0.839 W/kg

SAR(1 g) = 0.612 mW/g; SAR(10 g) = 0.440 mW/g

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

Fig. 79   850 MHz CH4182

WCDMA 850 Body Towards Ground Middle with Bluetooth

Date/Time: 2011-6-11 20:37:29

Electronics: DAE4 Sn771

Medium: Body 850 MHz

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.95 mho/m; εr = 54.8; ρ = 1000 kg/m^3

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

Communication System: WCDMA 850 Frequency: 836.4 MHz Duty Cycle: 1:1

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

Toward Ground High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

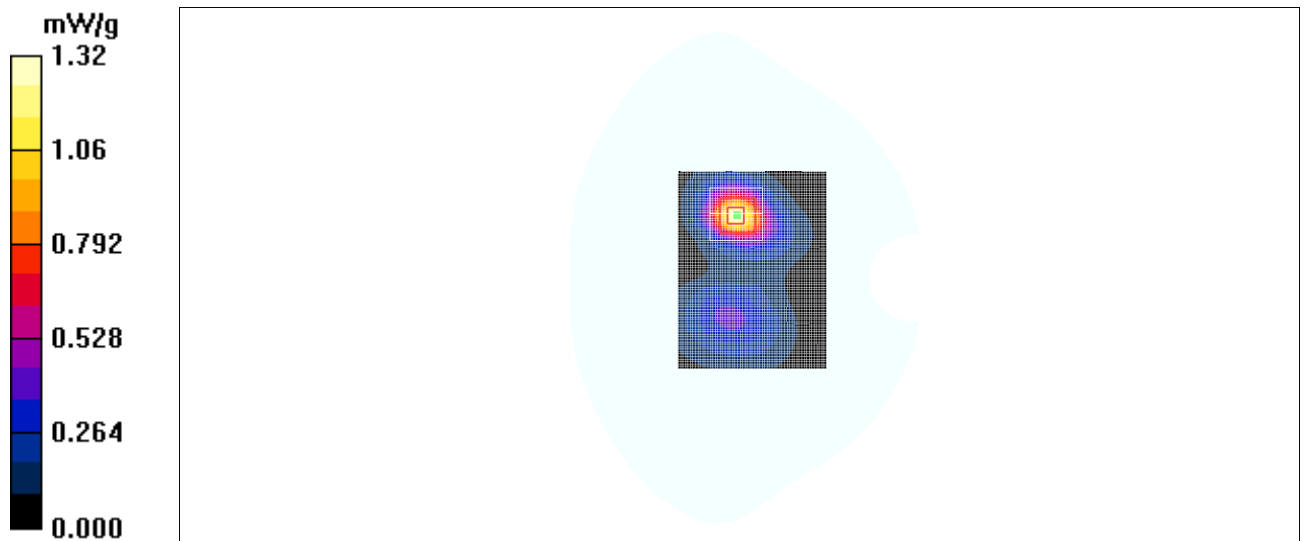Maximum value of SAR (interpolated) = 0.888 mW/g

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

Reference Value = 30.4 V/m; Power Drift = 0.045 dB

Peak SAR (extrapolated) = 1.12 W/kg

SAR(1 g) = 0.839 mW/g; SAR(10 g) = 0.603 mW/g

Maximum value of SAR (measured) = 0.892 mW/g

Fig. 80   850 MHz CH4182

WCDMA 1900 Body Towards Ground High

Date/Time: 2011-6-9 22:38:03

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.54 mho/m; εr = 53.4; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1

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

Toward Ground High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

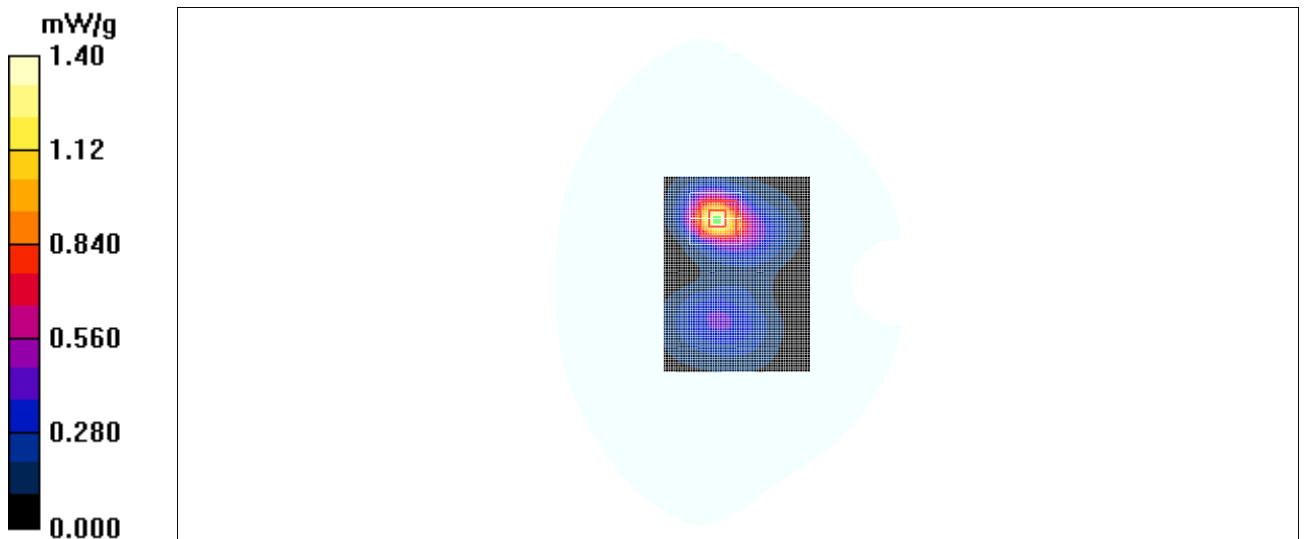Maximum value of SAR (interpolated) = 1.53 mW/g
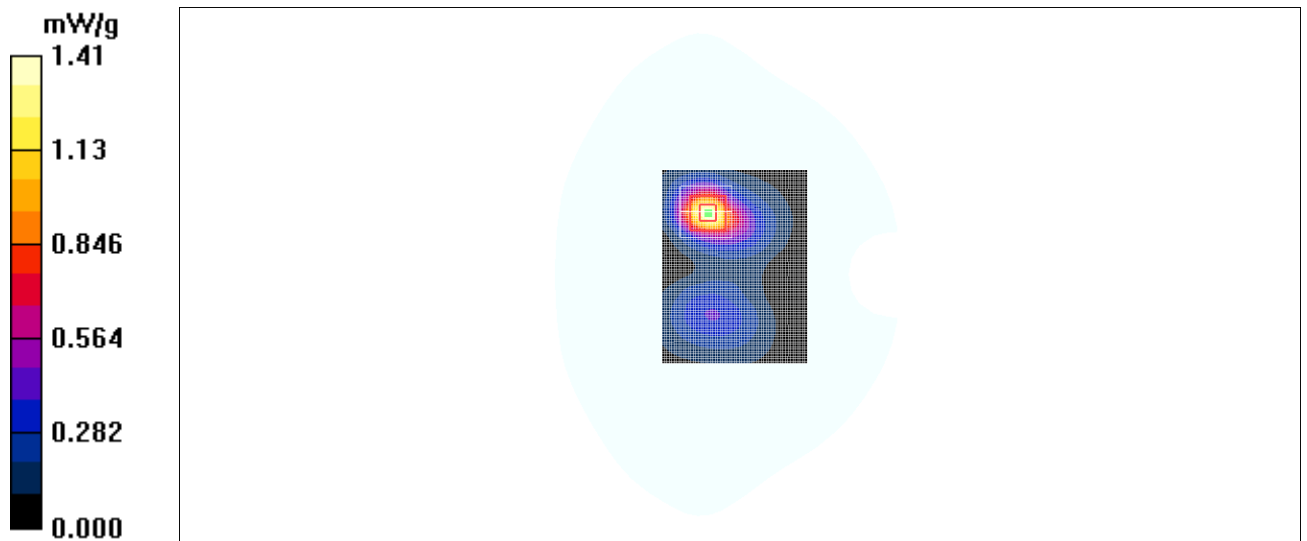

Toward Ground High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.8 V/m; Power Drift = -0.069 dB

Peak SAR (extrapolated) = 2.44 W/kg

SAR(1 g) = 1.33 mW/g; SAR(10 g) = 0.689 mW/g

Maximum value of SAR (measured) = 1.49 mW/g

Fig. 81 1900 MHz CH9538

Fig. 81-1   Z-Scan at power reference point (1900 MHz CH9538)

WCDMA 1900 Body Towards Phantom High

Date/Time: 2011-6-9 23:24:33

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.54 mho/m; εr = 53.4; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1

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

Toward Phantom High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.168 mW/g

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

Reference Value = 5.60 V/m; Power Drift = 0.176 dB

Peak SAR (extrapolated) = 0.251 W/kg

SAR(1 g) = 0.154 mW/g; SAR(10 g) = 0.093 mW/g

Maximum value of SAR (measured) = 0.167 mW/g

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

Reference Value = 5.60 V/m; Power Drift = 0.176 dB

Peak SAR (extrapolated) = 0.194 W/kg

SAR(1 g) = 0.126 mW/g; SAR(10 g) = 0.081 mW/g

Maximum value of SAR (measured) = 0.134 mW/g

Fig. 82 1900 MHz CH9538

WCDMA 1900 Body Towards Ground Middle

Date/Time: 2011-6-9 22:53:26

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.50 mho/m; εr = 53.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1880 MHz Duty Cycle: 1:1

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

Toward Ground Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm
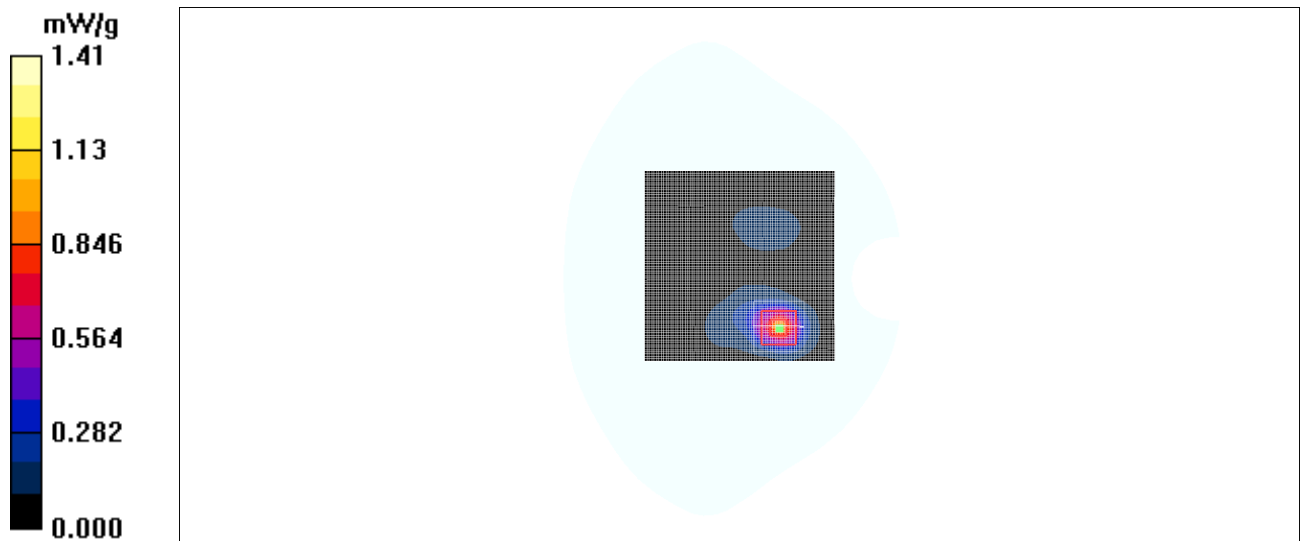
Maximum value of SAR (interpolated) = 1.41 mW/g

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

Reference Value = 10.5 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 2.21 W/kg

SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.642 mW/g

Maximum value of SAR (measured) = 1.35 mW/g

Fig. 83 1900 MHz CH9400

WCDMA 1900 Body Towards Ground Low

Date/Time: 2011-6-9 23:08:51

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.48 mho/m; εr = 54.2; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1852.4 MHz Duty Cycle: 1:1

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

Toward Ground Low/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm
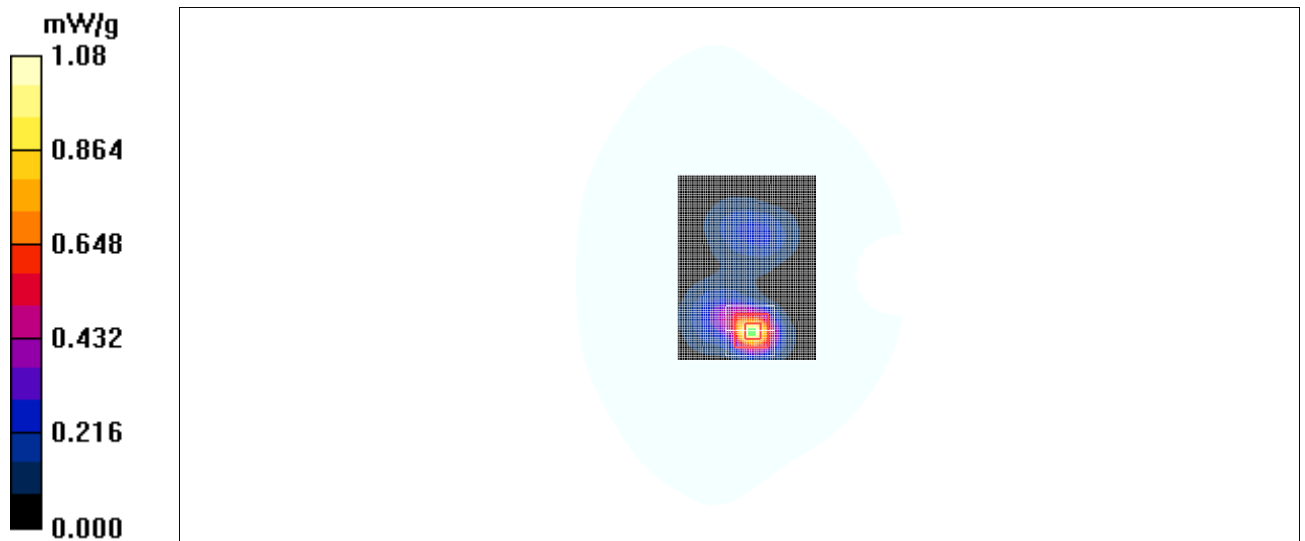
Maximum value of SAR (interpolated) = 1.32 mW/g

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

Reference Value = 10.6 V/m; Power Drift = 0.042 dB

Peak SAR (extrapolated) = 2.09 W/kg

SAR(1 g) = 1.15 mW/g; SAR(10 g) = 0.611 mW/g

Maximum value of SAR (measured) = 1.29 mW/g

Fig. 84 1900 MHz CH9262

WCDMA 1900 Body Towards Ground High with Headset

Date/Time: 2011-6-9 23:41:05

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.54 mho/m; εr = 53.4; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1

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

Toward Ground High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.40 mW/g

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

Reference Value = 10.9 V/m; Power Drift = -0.081 dB

Peak SAR (extrapolated) = 2.24 W/kg

SAR(1 g) = 1.22 mW/g; SAR(10 g) = 0.635 mW/g
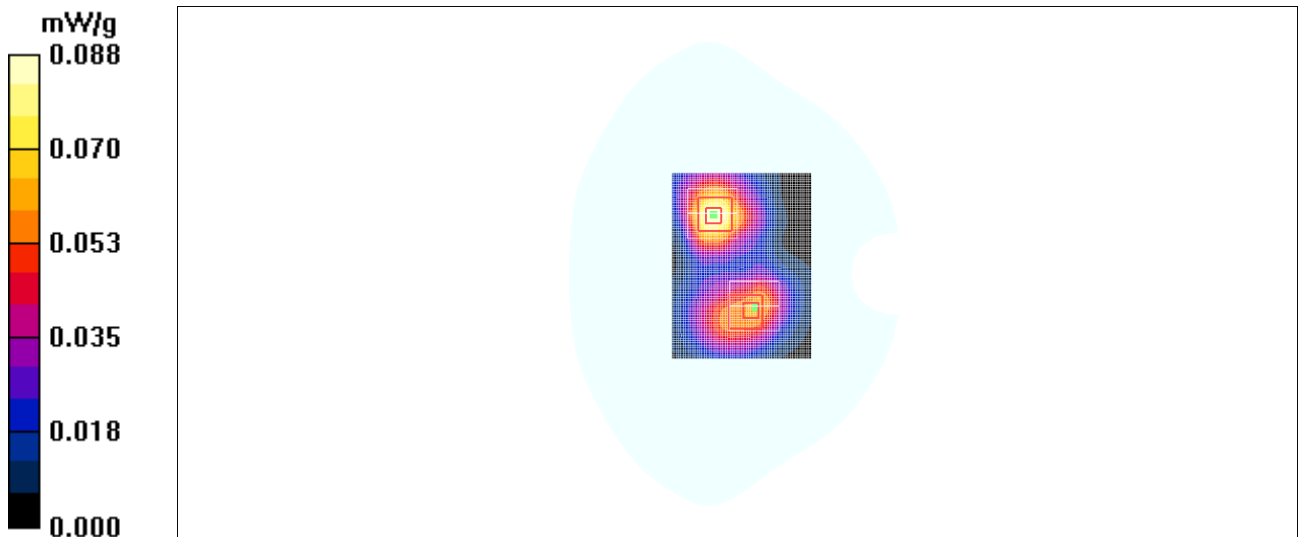
Maximum value of SAR (measured) = 1.37 mW/g

Fig. 85 1900 MHz CH9538

WCDMA 1900 Body Towards Ground High with Bluetooth

Date/Time: 2011-6-9 23:57:48

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.54 mho/m; εr = 53.4; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1

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

Toward Ground High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm
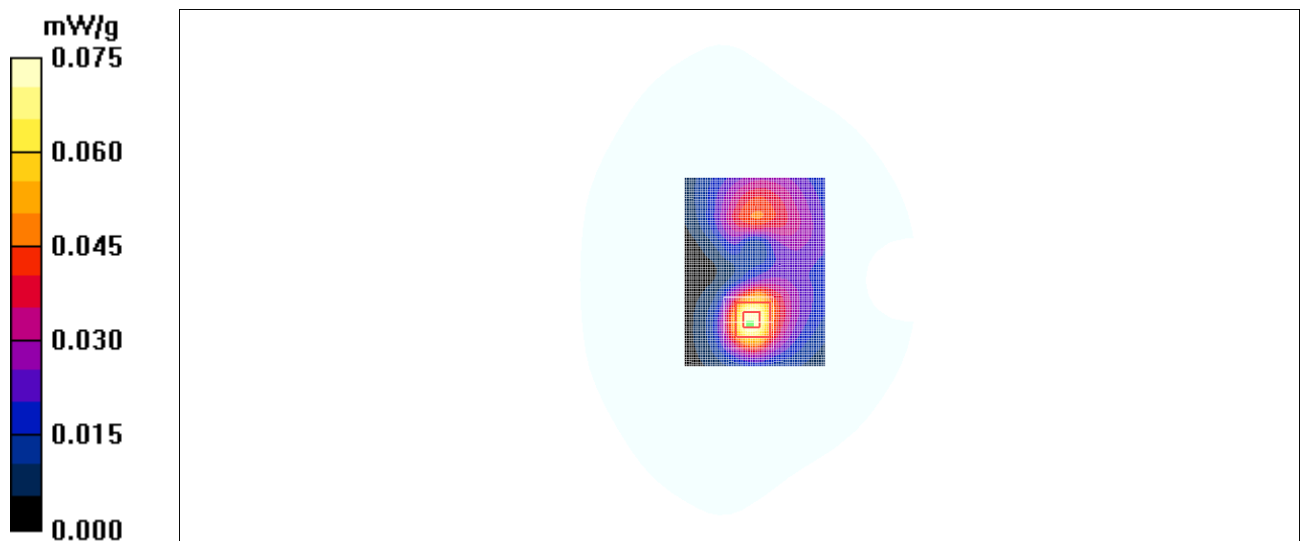
Maximum value of SAR (interpolated) = 1.41 mW/g

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

Reference Value = 10.4 V/m; Power Drift = -0.003 dB

Peak SAR (extrapolated) = 2.33 W/kg

SAR(1 g) = 1.26 mW/g; SAR(10 g) = 0.656 mW/g

Maximum value of SAR (measured) = 1.41 mW/g

Fig. 86 1900 MHz CH9538

WCDMA 1900 Body Slide up Towards Ground High

Date/Time: 2011-6-10 00:14:22

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.54 mho/m; εr = 53.4; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1

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

Toward Ground Low/Area Scan (81x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.41 mW/g

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

Reference Value = 9.18 V/m; Power Drift = 0.105 dB

Peak SAR (extrapolated) = 2.15 W/kg

SAR(1 g) = 1.31 mW/g; SAR(10 g) = 0.622 mW/g

Maximum value of SAR (measured) = 1.45 mW/g

Fig. 87 1900 MHz CH9538

WCDMA 1900 Body Towards Ground High

Date/Time: 2011-6-10 00:31:35

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.54 mho/m; εr = 53.4; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5 ^{o}C

Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1

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

Toward Ground High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.08 mW/g

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

Reference Value = 7.31 V/m; Power Drift = 0.103 dB

Peak SAR (extrapolated) = 1.95 W/kg

SAR(1 g) = 0.955 mW/g; SAR(10 g) = 0.452 mW/g
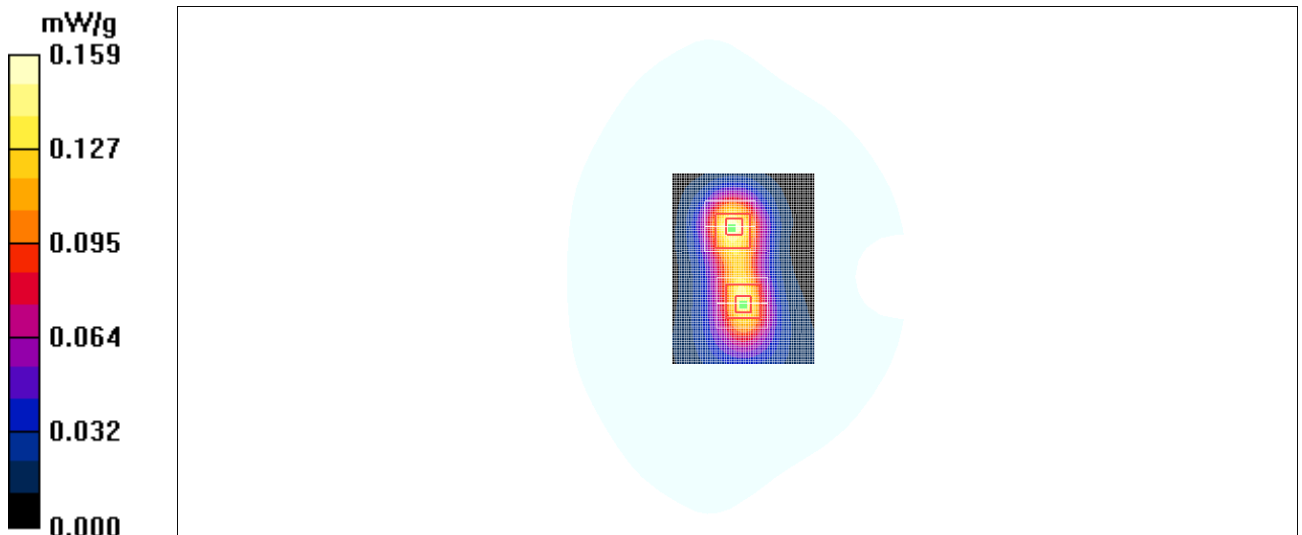
Maximum value of SAR (measured) = 1.11 mW/g

Fig. 88 1900 MHz CH9538

WCDMA 1900 Body Towards Phantom High

Date/Time: 2011-6-10 00:47:59

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.54 mho/m; εr = 53.4; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1

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

Toward Phantom High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.088 mW/g

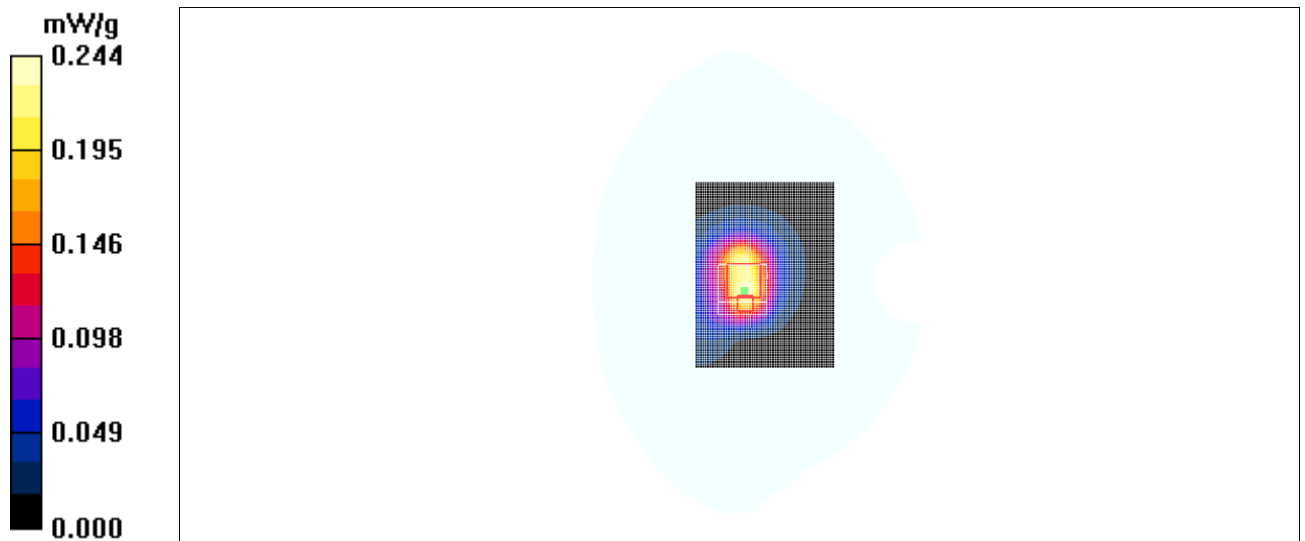**Toward Phantom High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.08 V/m; Power Drift = 0.115 dB

Peak SAR (extrapolated) = 0.138 W/kg

SAR(1 g) = 0.084 mW/g; SAR(10 g) = 0.049 mW/g

Maximum value of SAR (measured) = 0.089 mW/g

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

Reference Value = 4.08 V/m; Power Drift = 0.115 dB

Peak SAR (extrapolated) = 0.089 W/kg

SAR(1 g) = 0.056 mW/g; SAR(10 g) = 0.036 mW/g

Maximum value of SAR (measured) = 0.060 mW/g

Fig. 89 1900 MHz CH9538

WCDMA 1900 Body Left Side High

Date/Time: 2011-6-10 01:04:26

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.54 mho/m; εr = 53.4; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5 ^{o}C

Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1

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

Left Side High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.075 mW/g

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

Reference Value = 3.88 V/m; Power Drift = 0.172 dB

Peak SAR (extrapolated) = 0.119 W/kg

SAR(1 g) = 0.069 mW/g; SAR(10 g) = 0.040 mW/g

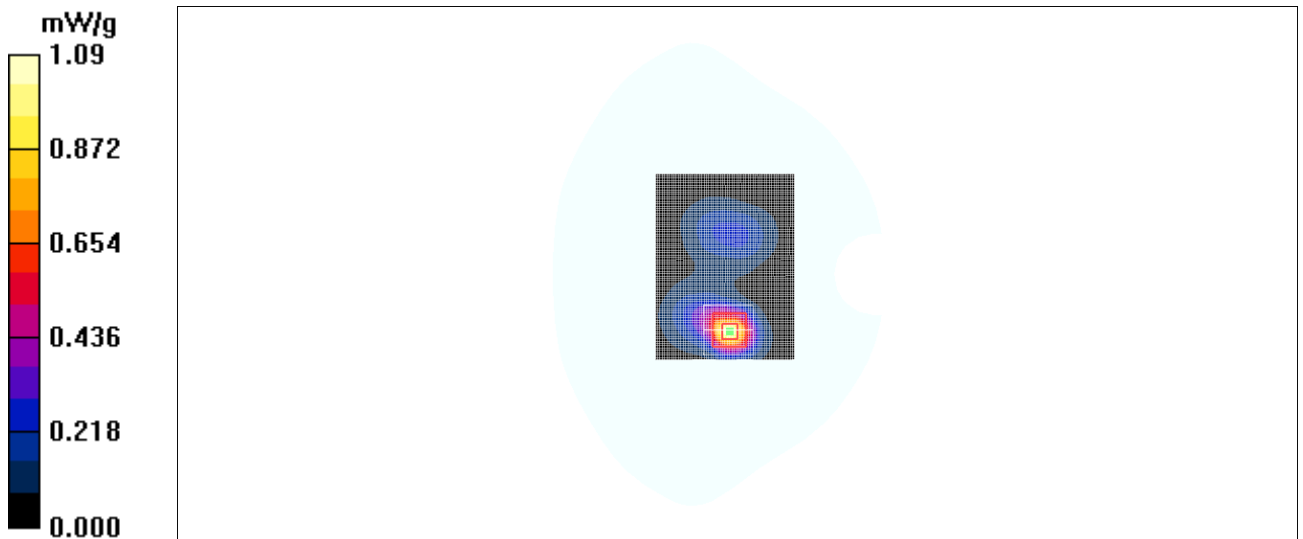Maximum value of SAR (measured) = 0.076 mW/g

Fig. 90 1900 MHz CH9538

WCDMA 1900 Body Right Side High

Date/Time: 2011-6-10 01:20:55

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.54 mho/m; εr = 53.4; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1

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

Right Side High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm
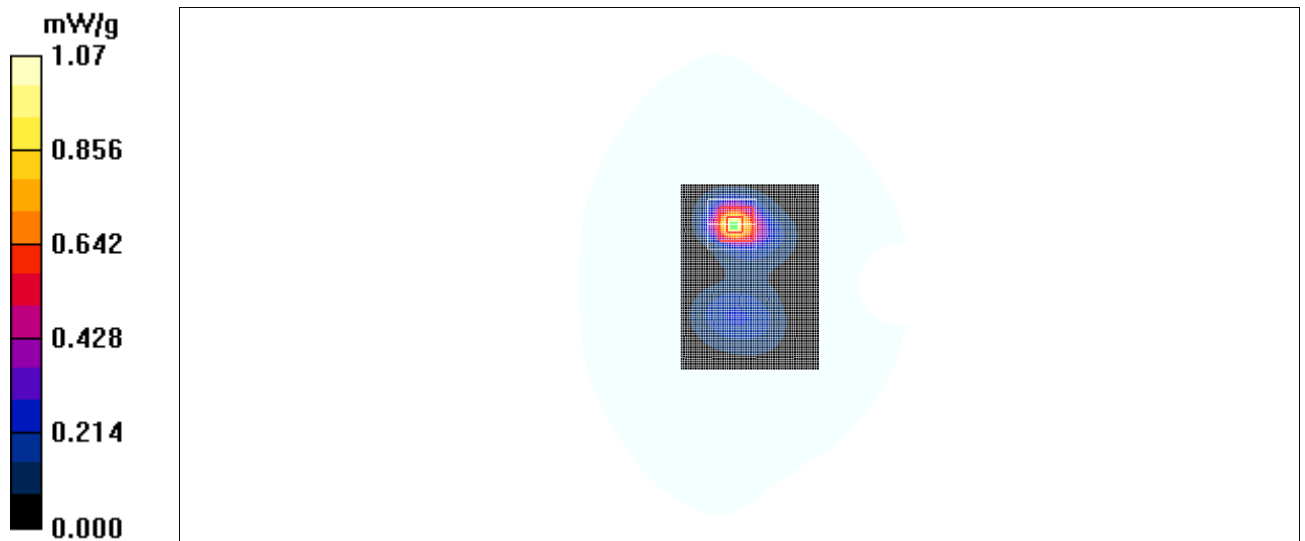
Maximum value of SAR (interpolated) = 0.159 mW/g

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

Reference Value = 8.94 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 0.230 W/kg

SAR(1 g) = 0.134 mW/g; SAR(10 g) = 0.080 mW/g

Maximum value of SAR (measured) = 0.136 mW/g

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

Reference Value = 8.94 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 0.207 W/kg

SAR(1 g) = 0.127 mW/g; SAR(10 g) = 0.075 mW/g

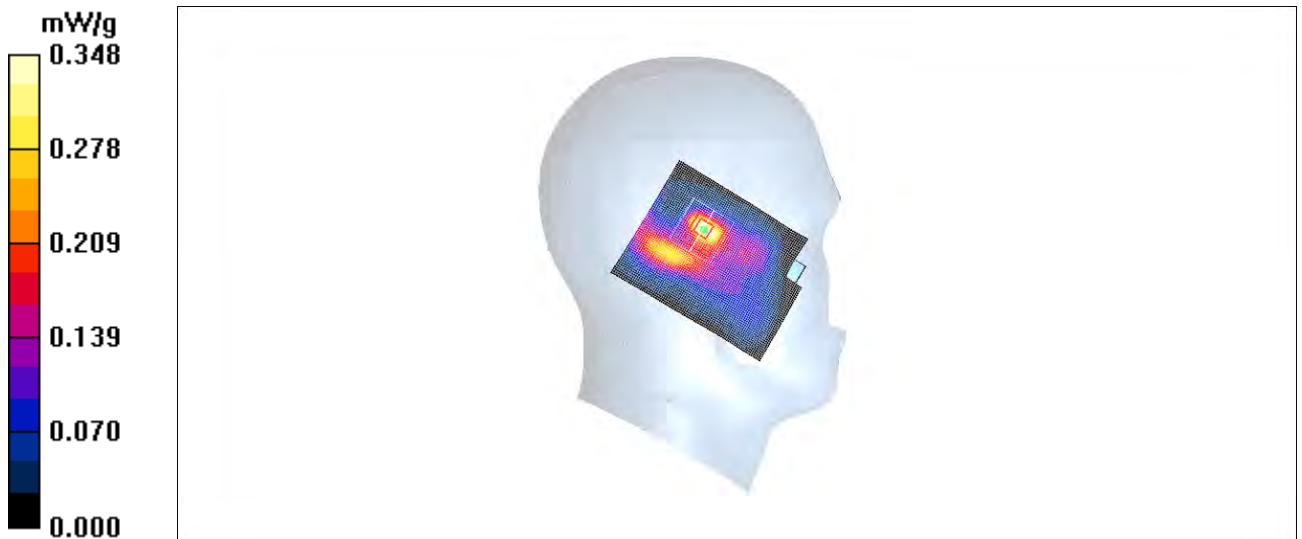Maximum value of SAR (measured) = 0.138 mW/g

Fig. 91 1900 MHz CH9538

WCDMA 1900 Body Bottom Side High

Date/Time: 2011-6-10 01:37:30

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.54 mho/m; εr = 53.4; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5 ^{o}C

Communication System: WCDMA 1900 Frequency: 1907.6 MHz Duty Cycle: 1:1

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

Bottom Side High/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.244 mW/g

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

Reference Value = 10.4 V/m; Power Drift = -0.041 dB

Peak SAR (extrapolated) = 0.403 W/kg

SAR(1 g) = 0.208 mW/g; SAR(10 g) = 0.113 mW/g

Maximum value of SAR (measured) = 0.250 mW/g

Fig. 92 1900 MHz CH9538

WCDMA 1900 Body Towards Ground Middle

Date/Time: 2011-6-10 01:54:12

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1880 MHz; σ = 1.50 mho/m; εr = 53.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1880 MHz Duty Cycle: 1:1

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

Toward Ground Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.09 mW/g

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

Reference Value = 7.81 V/m; Power Drift = -0.056 dB

Peak SAR (extrapolated) = 1.91 W/kg

SAR(1 g) = 0.951 mW/g; SAR(10 g) = 0.451 mW/g
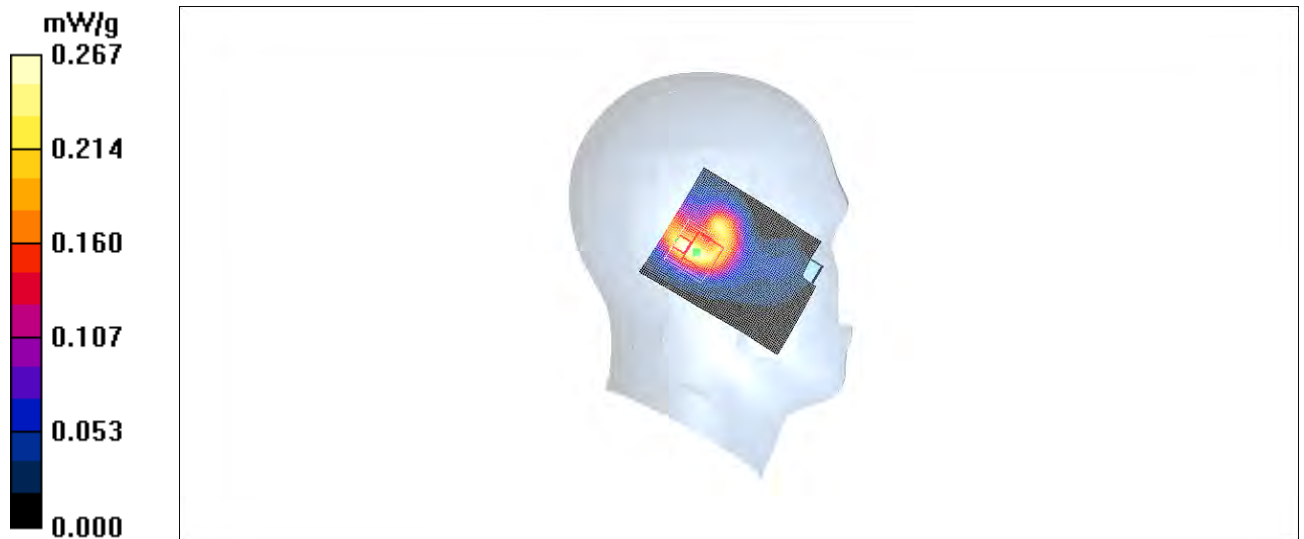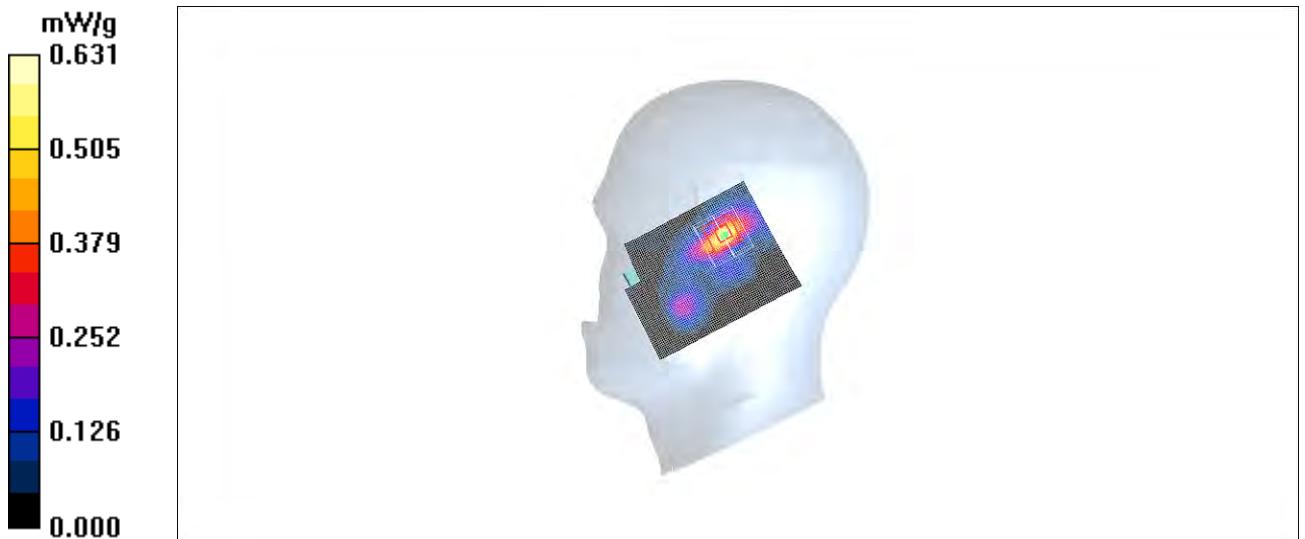
Maximum value of SAR (measured) = 1.11 mW/g

Fig. 93 1900 MHz CH9400

WCDMA 1900 Body Towards Ground Low

Date/Time: 2011-6-10 02:09:38

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.48 mho/m; εr = 54.2; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WCDMA 1900 Frequency: 1852.4 MHz Duty Cycle: 1:1

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

Toward Ground Low/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 1.07 mW/g

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

Reference Value = 8.49 V/m; Power Drift = 0.016 dB

Peak SAR (extrapolated) = 1.79 W/kg

SAR(1 g) = 0.914 mW/g; SAR(10 g) = 0.440 mW/g

Maximum value of SAR (measured) = 1.04 mW/g

Fig. 94 1900 MHz CH9262

WiFi 802.11b 1Mbps Left Cheek Channel 1

Date/Time: 2011-6-10 11:23:07

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.79 mho/m; εr = 39.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

Cheek Low/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.348 mW/g

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

Reference Value = 5.82 V/m; Power Drift = 0.194 dB

Peak SAR (extrapolated) = 0.549 W/kg

SAR(1 g) = 0.295 mW/g; SAR(10 g) = 0.147 mW/g
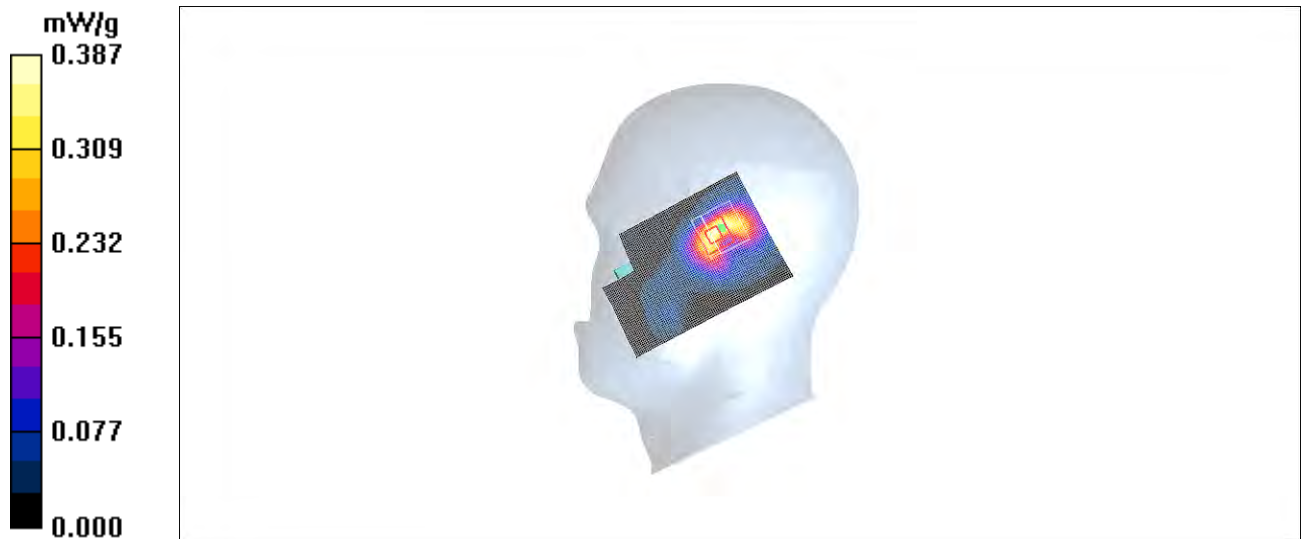
Maximum value of SAR (measured) = 0.319 mW/g

Fig.95   802.11b 1Mbps CH1

WiFi 802.11b 1Mbps Left Tilt Channel 1

Date/Time: 2011-6-10 11:37:30

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.79 mho/m; εr = 39.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

Tilt Low/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm
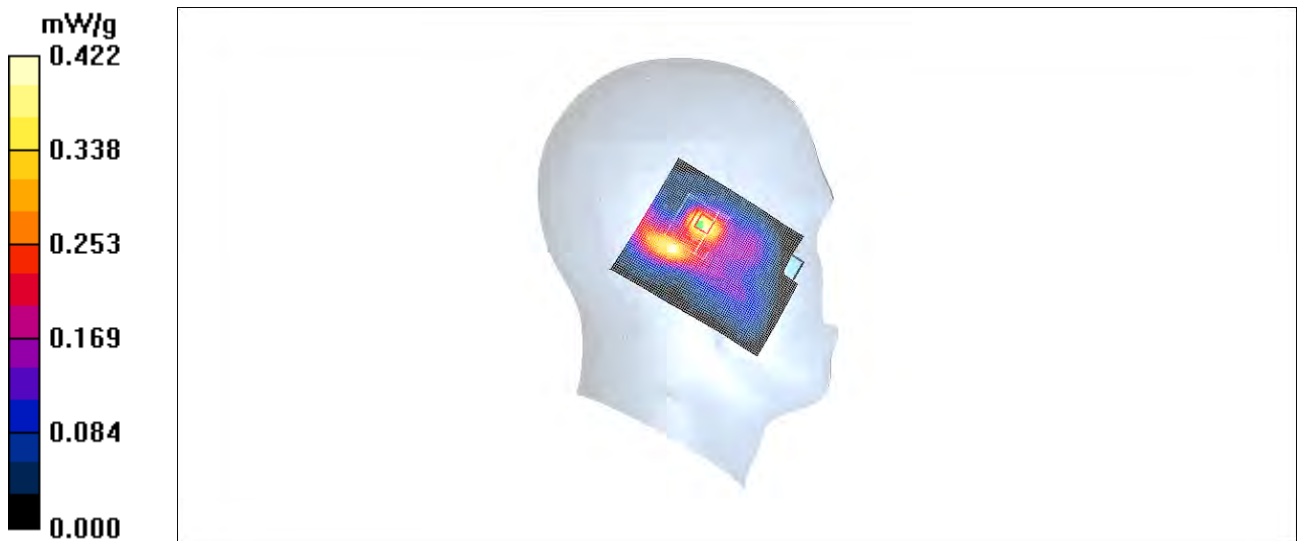
Maximum value of SAR (interpolated) = 0.267 mW/g

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

Reference Value = 7.71 V/m; Power Drift = 0.073 dB

Peak SAR (extrapolated) = 0.490 W/kg

SAR(1 g) = 0.233 mW/g; SAR(10 g) = 0.127 mW/g

Maximum value of SAR (measured) = 0.271 mW/g

Fig.96   802.11b 1Mbps CH1

WiFi 802.11b 1Mbps Right Cheek Channel 1

Date/Time: 2011-6-10 11:52:02

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.79 mho/m; εr = 39.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5 ^{o}C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

Cheek Low/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.631 mW/g

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

Reference Value = 5.80 V/m; Power Drift = -0.171 dB

Peak SAR (extrapolated) = 1.10 W/kg

SAR(1 g) = 0.547 mW/g; SAR(10 g) = 0.250 mW/g

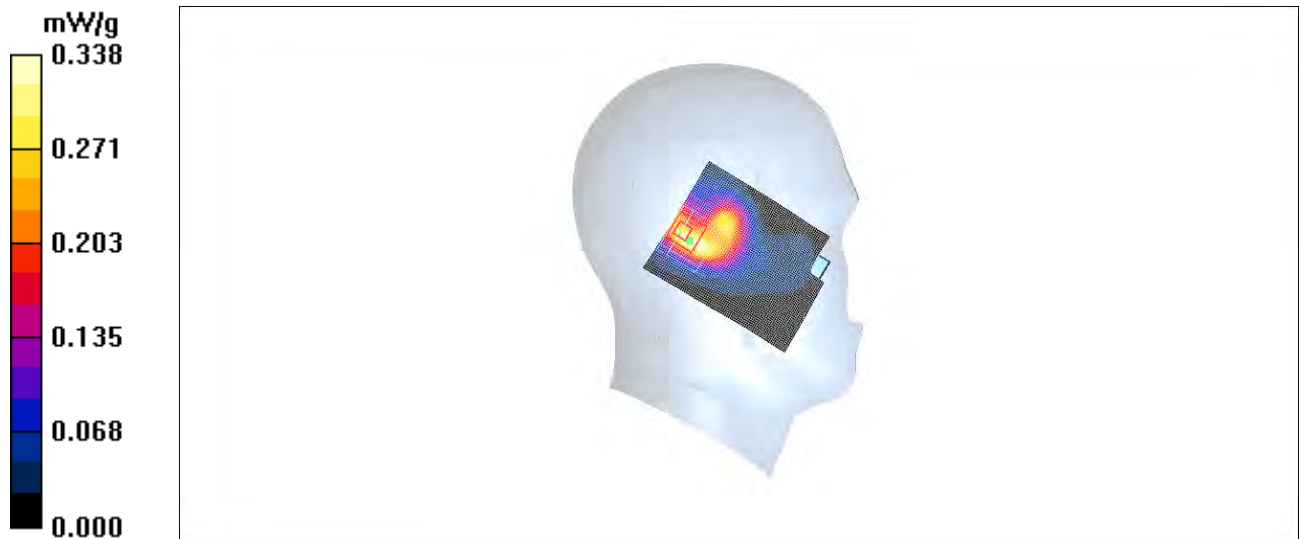Maximum value of SAR (measured) = 0.627 mW/g

Fig.97   802.11b 1Mbps CH1

WiFi 802.11b 1Mbps Right Tilt Channel 1

Date/Time: 2011-6-10 12:06:25

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.79 mho/m; εr = 39.8; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 0.387 mW/g

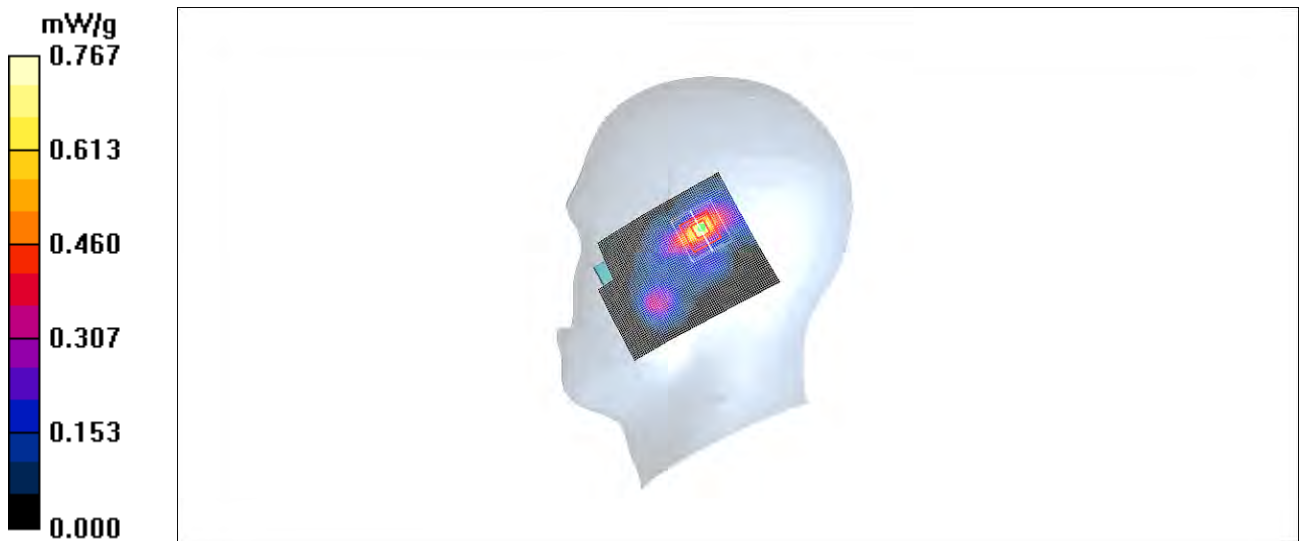**Tilt Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

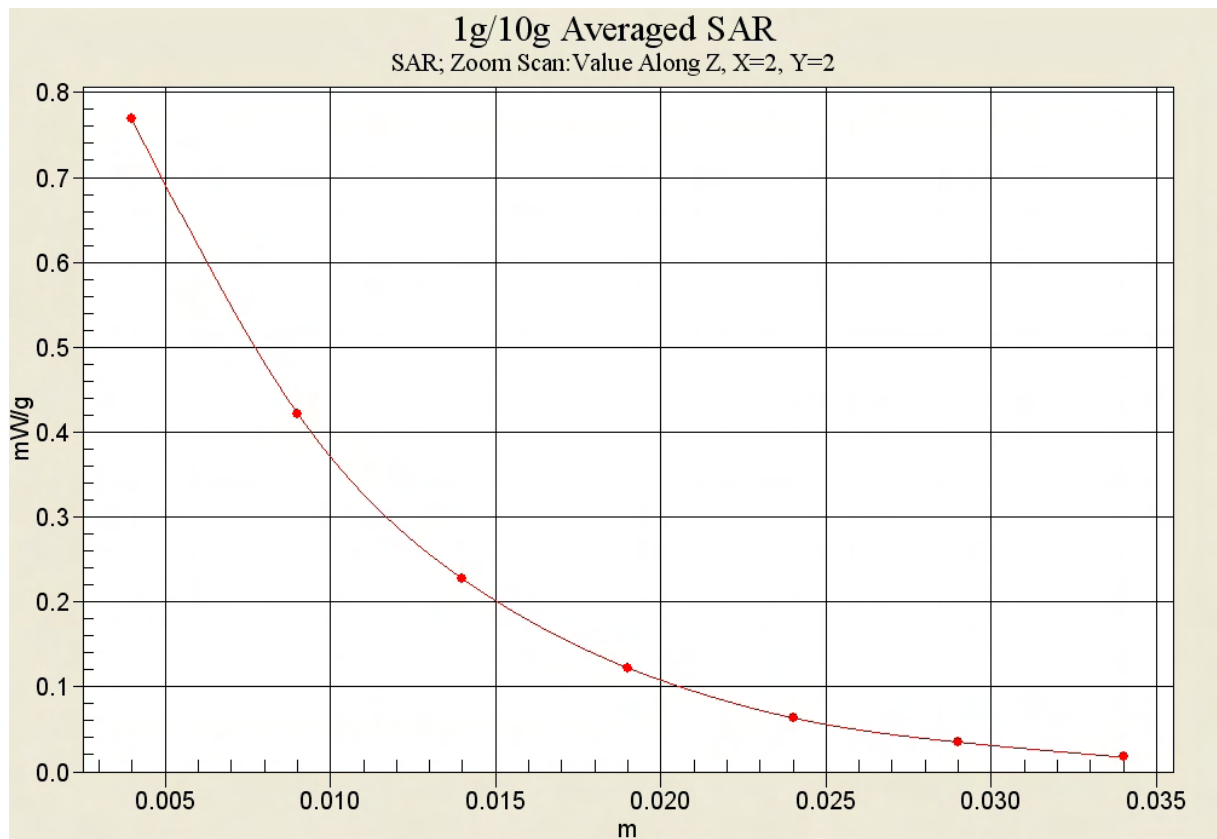Reference Value = 6.63 V/m; Power Drift = 0.150 dB

Peak SAR (extrapolated) = 0.695 W/kg

SAR(1 g) = 0.374 mW/g; SAR(10 g) = 0.187 mW/g

Maximum value of SAR (measured) = 0.434 mW/g

Fig.98   802.11b 1Mbps CH1

WiFi 802.11b 1Mbps Left Cheek Channel 6

Date/Time: 2011-6-10 12:21:14

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.81 mho/m; εr = 39.7; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

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

Cheek Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

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

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

Reference Value = 8.13 V/m; Power Drift = -0.056 dB

Peak SAR (extrapolated) = 0.658 W/kg

SAR(1 g) = 0.349 mW/g; SAR(10 g) = 0.176 mW/g

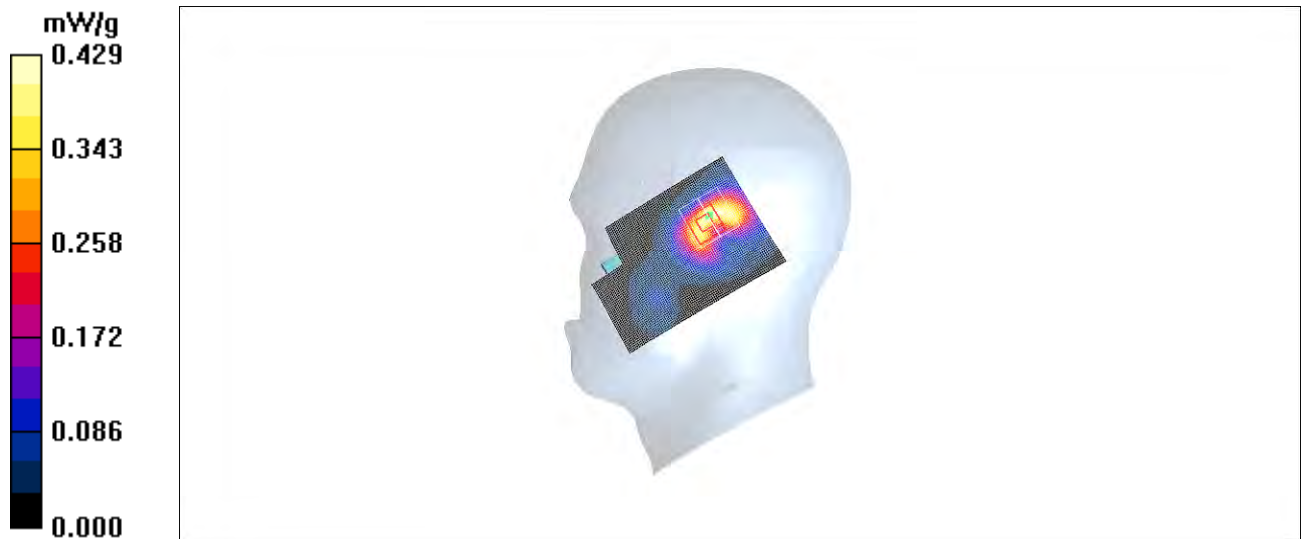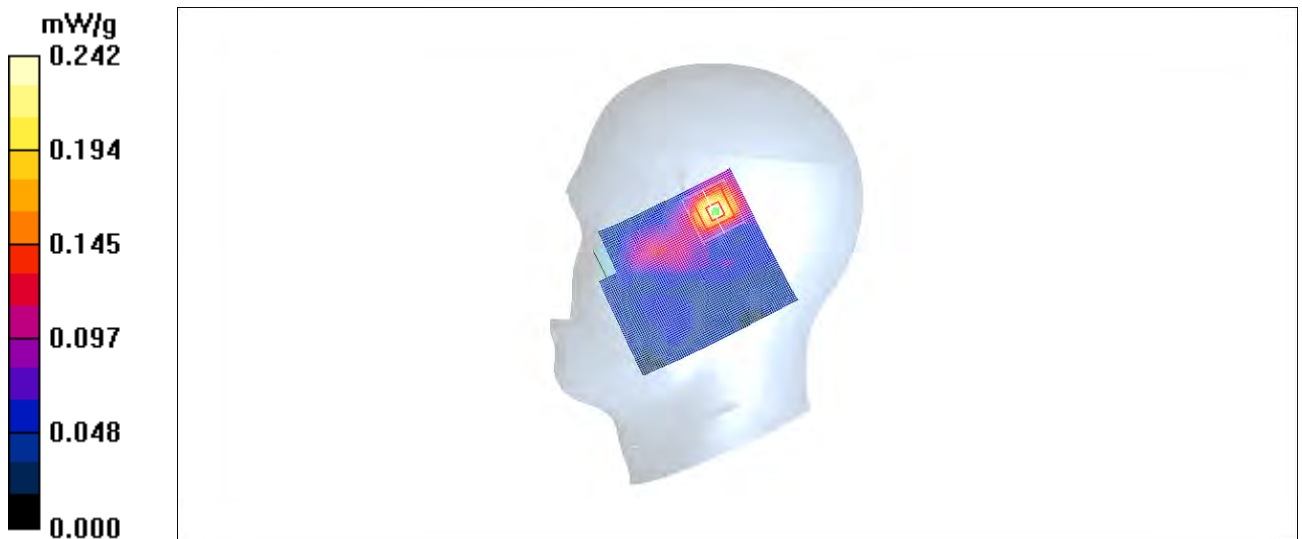Maximum value of SAR (measured) = 0.353 mW/g

Fig.99   802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Left Tilt Channel 6

Date/Time: 2011-6-10 12:35:37

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.81 mho/m; εr = 39.7; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

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

Tilt Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.338 mW/g

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

Reference Value = 9.11 V/m; Power Drift = -0.042 dB

Peak SAR (extrapolated) = 0.611 W/kg

SAR(1 g) = 0.309 mW/g; SAR(10 g) = 0.157 mW/g

Maximum value of SAR (measured) = 0.333 mW/g

Fig.100   802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Right Cheek Channel 6

Date/Time: 2011-6-10 12:50:07

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.81 mho/m; εr = 39.7; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

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

Cheek Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.767 mW/g

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

Reference Value = 7.57 V/m; Power Drift = 0.179 dB

Peak SAR (extrapolated) = 1.23 W/kg

SAR(1 g) = 0.631 mW/g; SAR(10 g) = 0.290 mW/g

Maximum value of SAR (measured) = 0.769 mW/g

Fig.101   802.11b 1Mbps CH6

Fig. 101-1　Z-Scan at power reference point (802.11b 1Mbps CH6)

WiFi 802.11b 1Mbps Right Tilt Channel 6

Date/Time: 2011-6-10 13:04:32

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.81 mho/m; εr = 39.7; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

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

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

Maximum value of SAR (interpolated) = 0.429 mW/g

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

Reference Value = 7.78 V/m; Power Drift = -0.048 dB

Peak SAR (extrapolated) = 0.779 W/kg

SAR(1 g) = 0.422 mW/g; SAR(10 g) = 0.211 mW/g

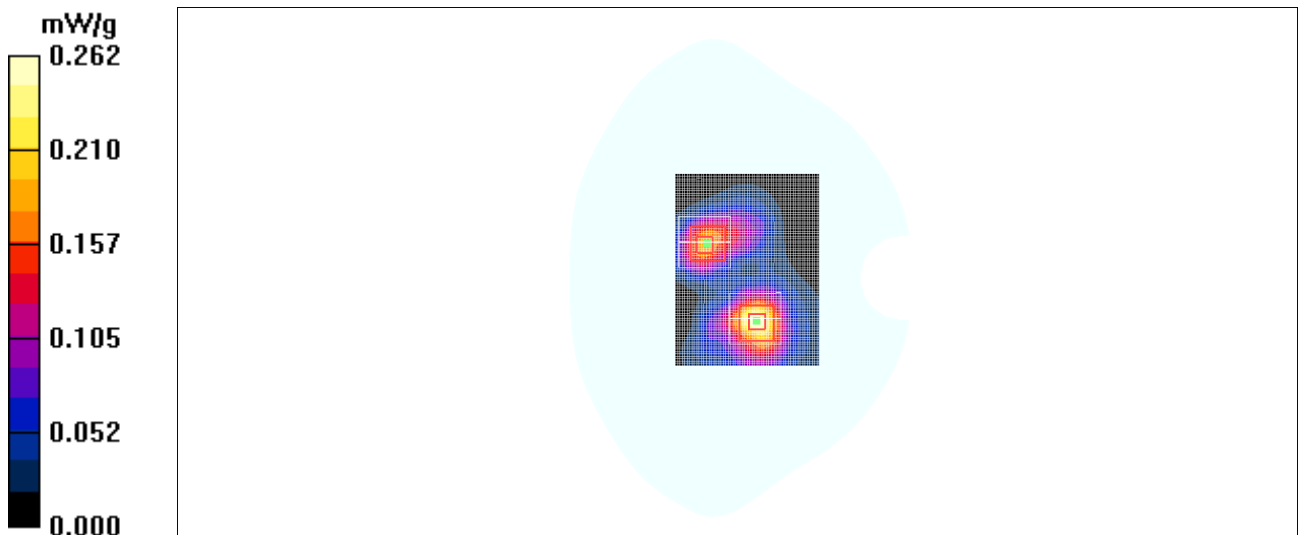Maximum value of SAR (measured) = 0.470 mW/g

Fig.102   802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Right Cheek Channel 6 Slide up

Date/Time: 2011-6-10 13:21:42

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.81 mho/m; εr = 39.7; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

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

Cheek Middle/Area Scan (71x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.242 mW/g

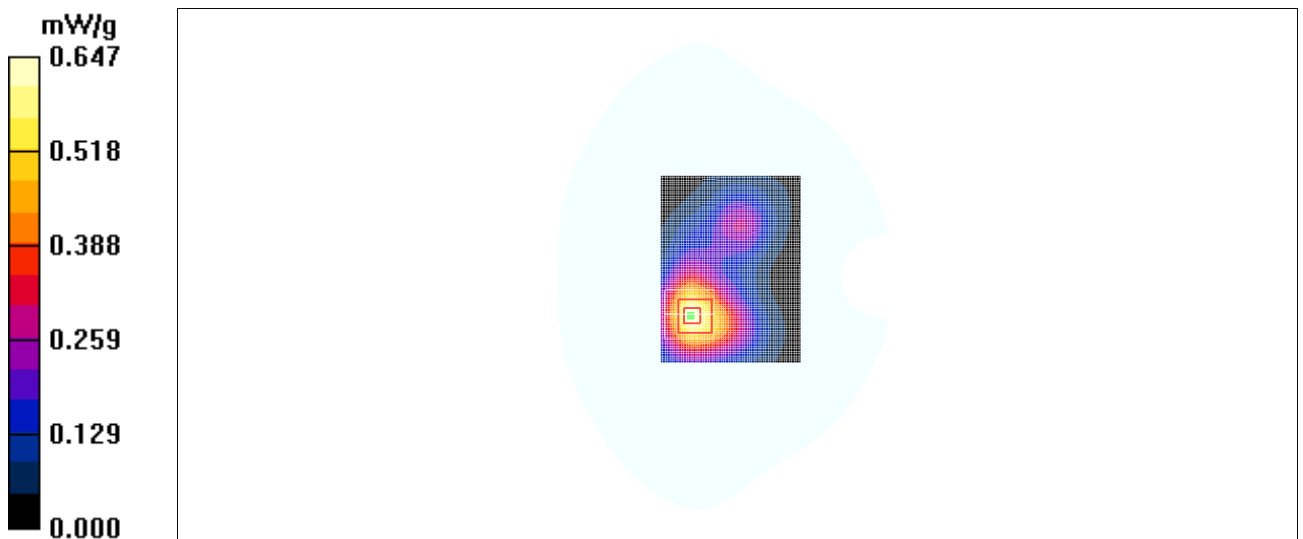**Cheek Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.02 V/m; Power Drift = -0.056 dB

Peak SAR (extrapolated) = 0.532 W/kg

SAR(1 g) = 0.250 mW/g; SAR(10 g) = 0.137 mW/g

Maximum value of SAR (measured) = 0.269 mW/g

Fig.103   802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Toward Phantom Channel 1

Date/Time: 2011-6-10 14:22:00

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; εr = 52.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

Toward Phantom Low/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.262 mW/g

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

Reference Value = 4.26 V/m; Power Drift = 0.148 dB

Peak SAR (extrapolated) = 0.432 W/kg

SAR(1 g) = 0.241 mW/g; SAR(10 g) = 0.126 mW/g

Maximum value of SAR (measured) = 0.266 mW/g

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

Reference Value = 4.26 V/m; Power Drift = 0.148 dB

Peak SAR (extrapolated) = 0.276 W/kg

SAR(1 g) = 0.160 mW/g; SAR(10 g) = 0.089 mW/g

Maximum value of SAR (measured) = 0.173 mW/g
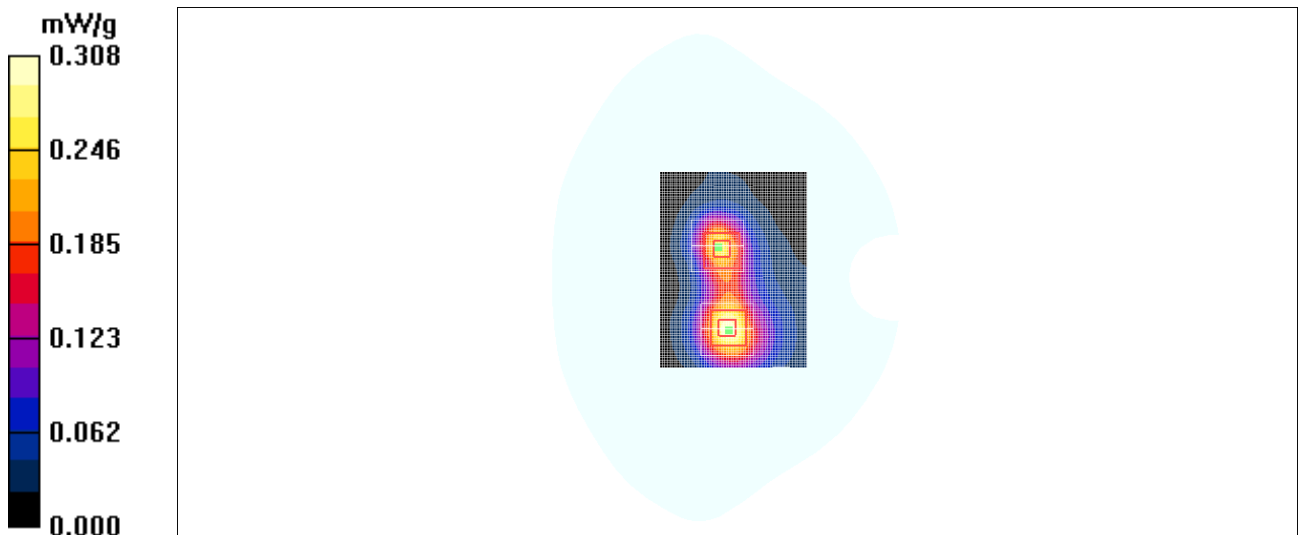

Fig.104   802.11b 1Mbps CH1

WiFi 802.11b 1Mbps Toward Ground Channel 1

Date/Time: 2011-6-10 14:37:46

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; εr = 52.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

Toward Ground Low/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.647 mW/g

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

Reference Value = 10.0 V/m; Power Drift = -0.040 dB

Peak SAR (extrapolated) = 0.973 W/kg

SAR(1 g) = 0.531 mW/g; SAR(10 g) = 0.302 mW/g

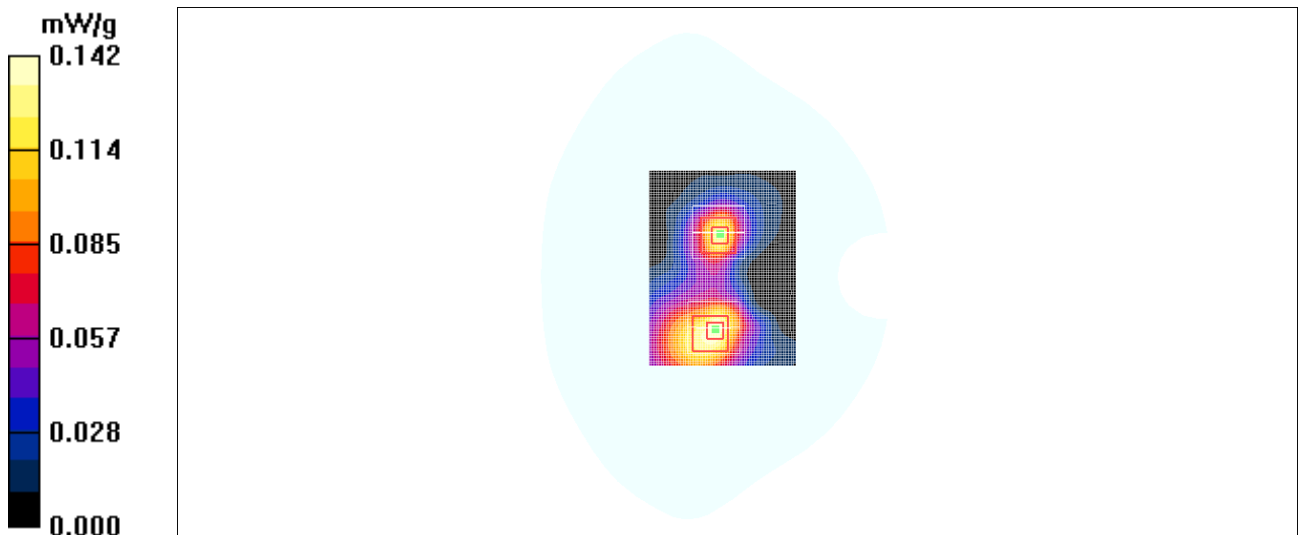Maximum value of SAR (measured) = 0.601 mW/g

Fig.105   802.11b 1Mbps CH1

WiFi 802.11b 1Mbps Left Side Channel 1

Date/Time: 2011-6-10 14:54:18

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; εr = 52.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

Left Side Low/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm
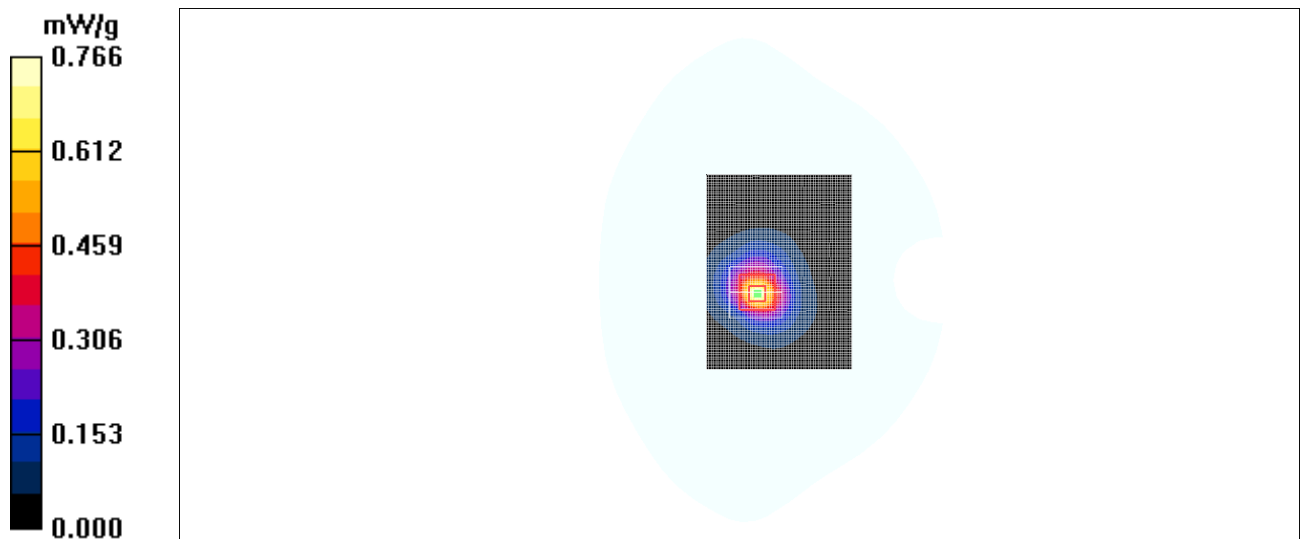
Maximum value of SAR (interpolated) = 0.308 mW/g

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

Reference Value = 10.1 V/m; Power Drift = -0.079 dB

Peak SAR (extrapolated) = 0.520 W/kg

SAR(1 g) = 0.280 mW/g; SAR(10 g) = 0.149 mW/g

Maximum value of SAR (measured) = 0.311 mW/g

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

Reference Value = 10.1 V/m; Power Drift = -0.079 dB

Peak SAR (extrapolated) = 0.416 W/kg

SAR(1 g) = 0.232 mW/g; SAR(10 g) = 0.124 mW/g

Maximum value of SAR (measured) = 0.252 mW/g

Fig.106   802.11b 1Mbps CH1

WiFi 802.11b 1Mbps Right Side Channel 1

Date/Time: 2011-6-10 15:10:54

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; εr = 52.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

Right Side Low/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.142 mW/g

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

Reference Value = 5.27 V/m; Power Drift = 0.166 dB

Peak SAR (extrapolated) = 0.228 W/kg

SAR(1 g) = 0.132 mW/g; SAR(10 g) = 0.074 mW/g

Maximum value of SAR (measured) = 0.143 mW/g

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

Reference Value = 5.27 V/m; Power Drift = 0.166 dB

Peak SAR (extrapolated) = 0.216 W/kg

SAR(1 g) = 0.117 mW/g; SAR(10 g) = 0.060 mW/g

Maximum value of SAR (measured) = 0.130 mW/g
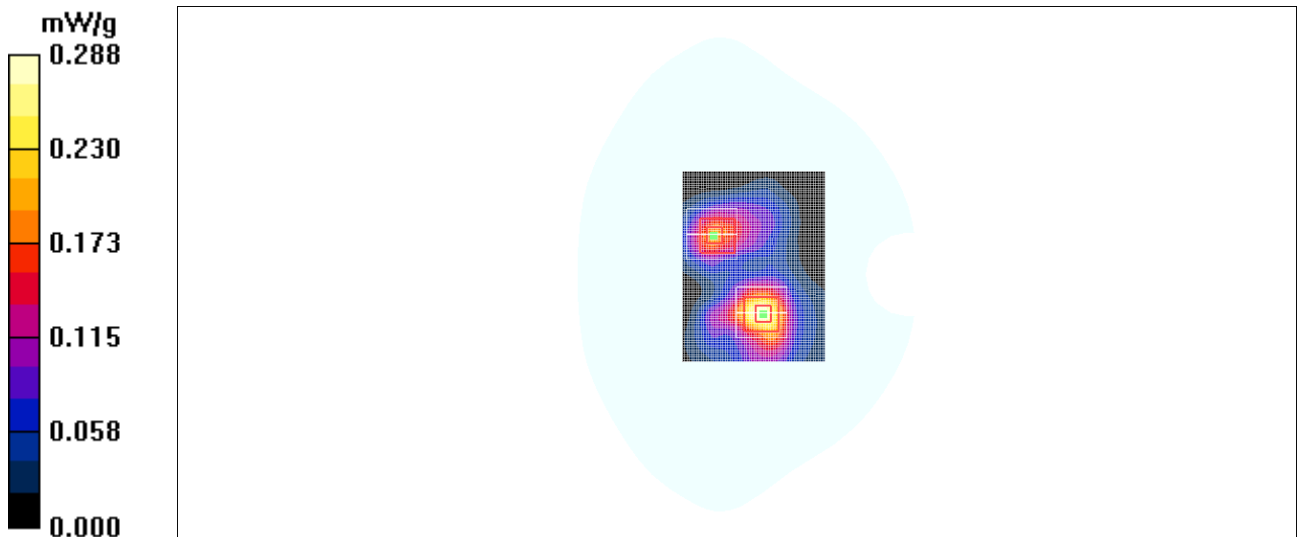

Fig.107   802.11b 1Mbps CH1

WiFi 802.11b 1Mbps Top Side Channel 1

Date/Time: 2011-6-10 15:27:25

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): f = 2412 MHz; σ = 1.93 mho/m; εr = 52.3; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2412 MHz Duty Cycle: 1:1

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

Top Side Low/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm
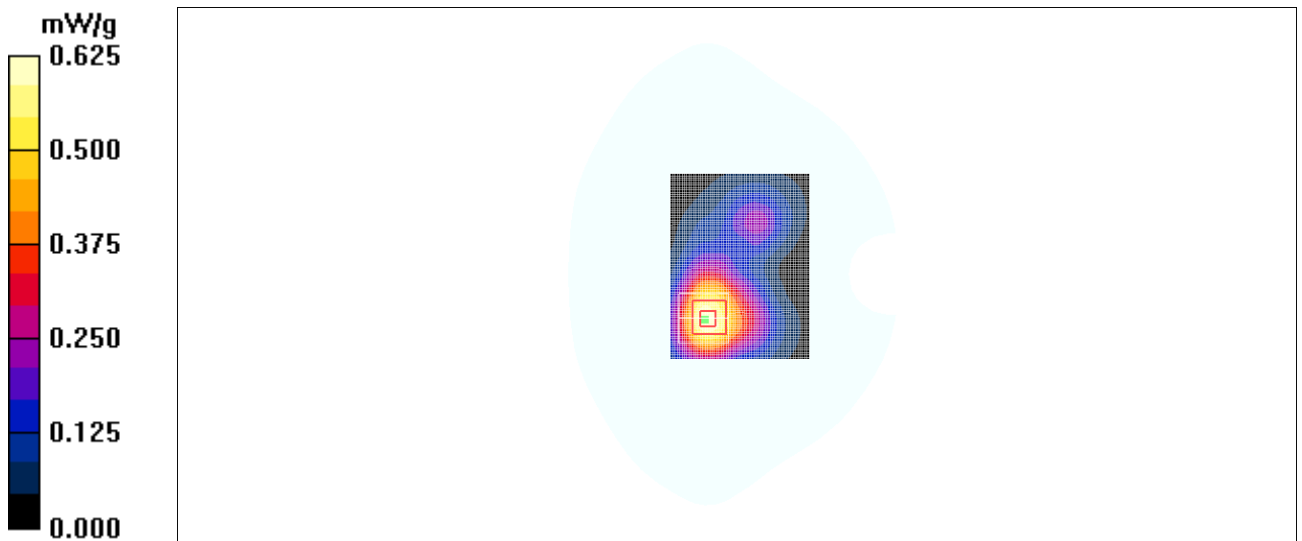
Maximum value of SAR (interpolated) = 0.766 mW/g

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

Reference Value = 14.5 V/m; Power Drift = -0.050 dB

Peak SAR (extrapolated) = 1.33 W/kg

SAR(1 g) = 0.660 mW/g; SAR(10 g) = 0.314 mW/g

Maximum value of SAR (measured) = 0.763 mW/g

Fig.108   802.11b 1Mbps CH1

WiFi 802.11b 1Mbps Toward Phantom Channel 6

Date/Time: 2011-6-10 15:44:50

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.96 mho/m; εr = 52.2; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

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

Toward Phantom Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.288 mW/g

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

Reference Value = 5.82 V/m; Power Drift = -0.115 dB

Peak SAR (extrapolated) = 0.481 W/kg

SAR(1 g) = 0.269 mW/g; SAR(10 g) = 0.141 mW/g

Maximum value of SAR (measured) = 0.299 mW/g

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

Reference Value = 5.82 V/m; Power Drift = -0.115 dB

Peak SAR (extrapolated) = 0.299 W/kg

SAR(1 g) = 0.171 mW/g; SAR(10 g) = 0.094 mW/g

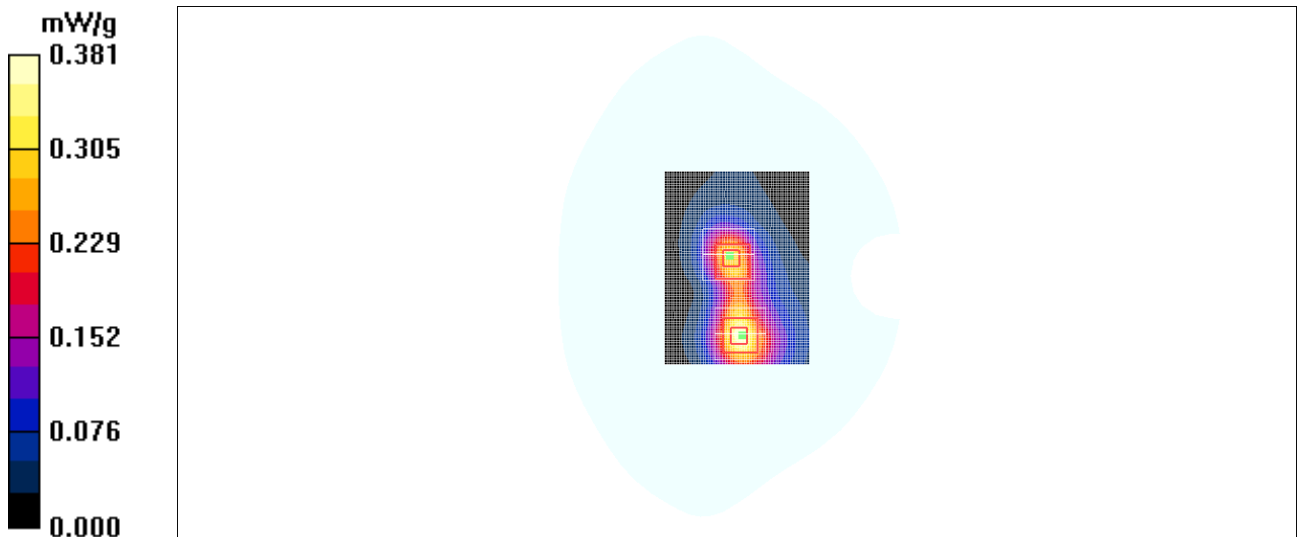Maximum value of SAR (measured) = 0.187 mW/g

Fig.109   802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Toward Ground Channel 6

Date/Time: 2011-6-10 16:01:13

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.96 mho/m; εr = 52.2; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

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

Toward Ground Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.625 mW/g

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

Reference Value = 11.0 V/m; Power Drift = -0.176 dB

Peak SAR (extrapolated) = 0.981 W/kg

SAR(1 g) = 0.524 mW/g; SAR(10 g) = 0.299 mW/g

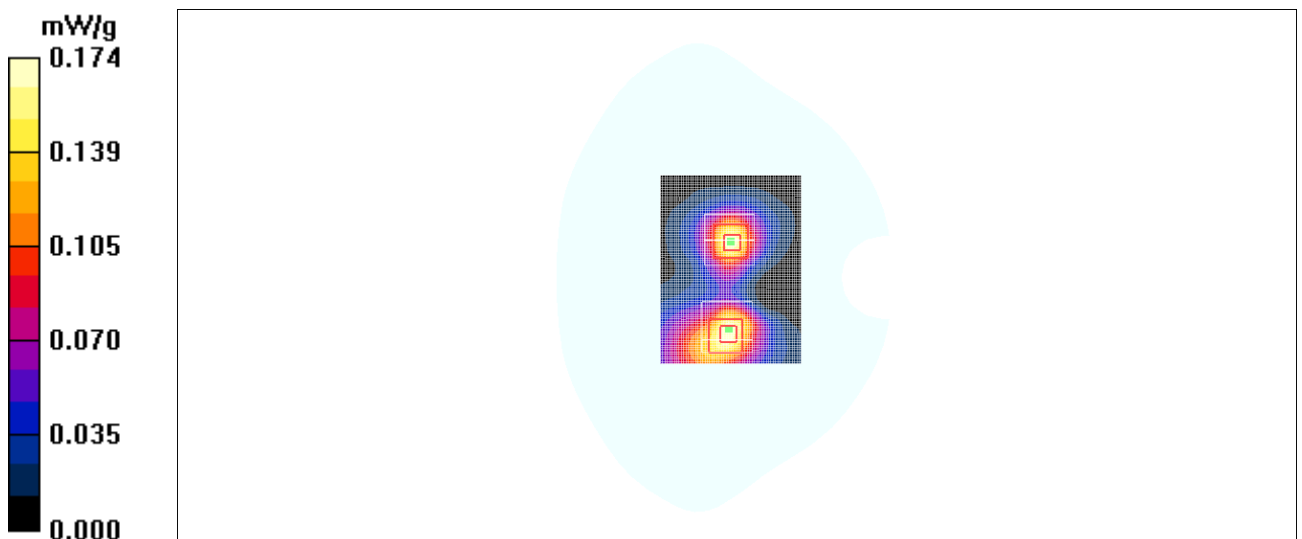Maximum value of SAR (measured) = 0.575 mW/g

Fig.110   802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Left Side Channel 6

Date/Time: 2011-6-10 16:17:38

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.96 mho/m; εr = 52.2; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

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

Left Side Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.381 mW/g

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

Reference Value = 11.9 V/m; Power Drift = -0.118 dB

Peak SAR (extrapolated) = 0.609 W/kg

SAR(1 g) = 0.334 mW/g; SAR(10 g) = 0.179 mW/g

Maximum value of SAR (measured) = 0.369 mW/g

Left Side Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.9 V/m; Power Drift = -0.118 dB

Peak SAR (extrapolated) = 0.499 W/kg

SAR(1 g) = 0.281 mW/g; SAR(10 g) = 0.151 mW/g

Maximum value of SAR (measured) = 0.309 mW/g

Fig.111   802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Right Side Channel 6

Date/Time: 2011-6-10 16:34:13

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.96 mho/m; εr = 52.2; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

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

Right Side Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.174 mW/g

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

Reference Value = 5.45 V/m; Power Drift = 0.097 dB

Peak SAR (extrapolated) = 0.277 W/kg

SAR(1 g) = 0.153 mW/g; SAR(10 g) = 0.080 mW/g

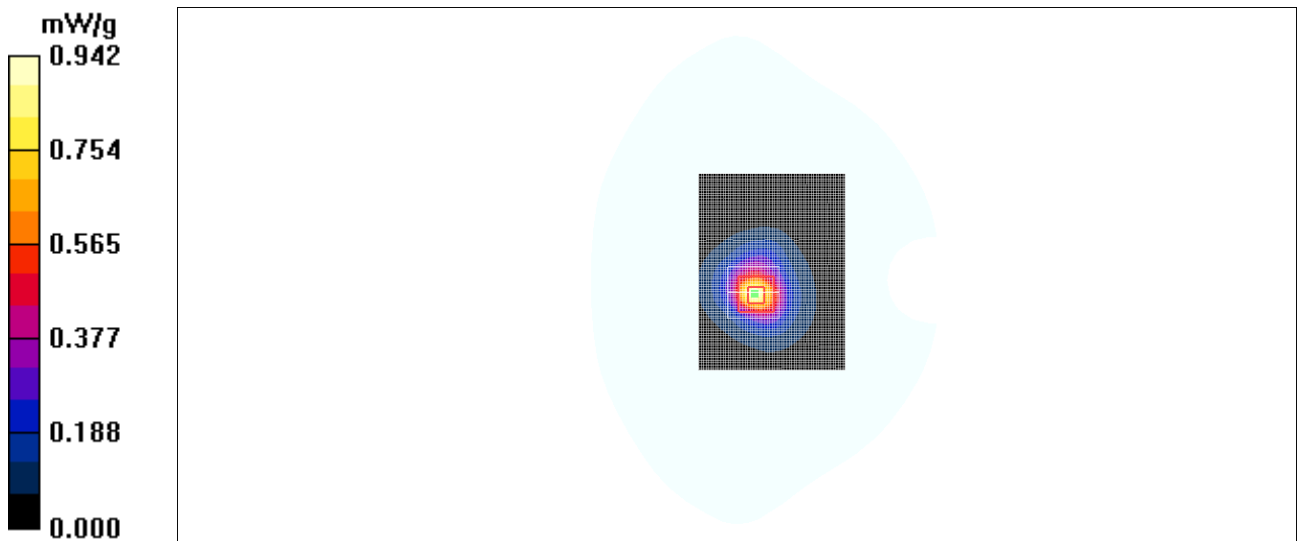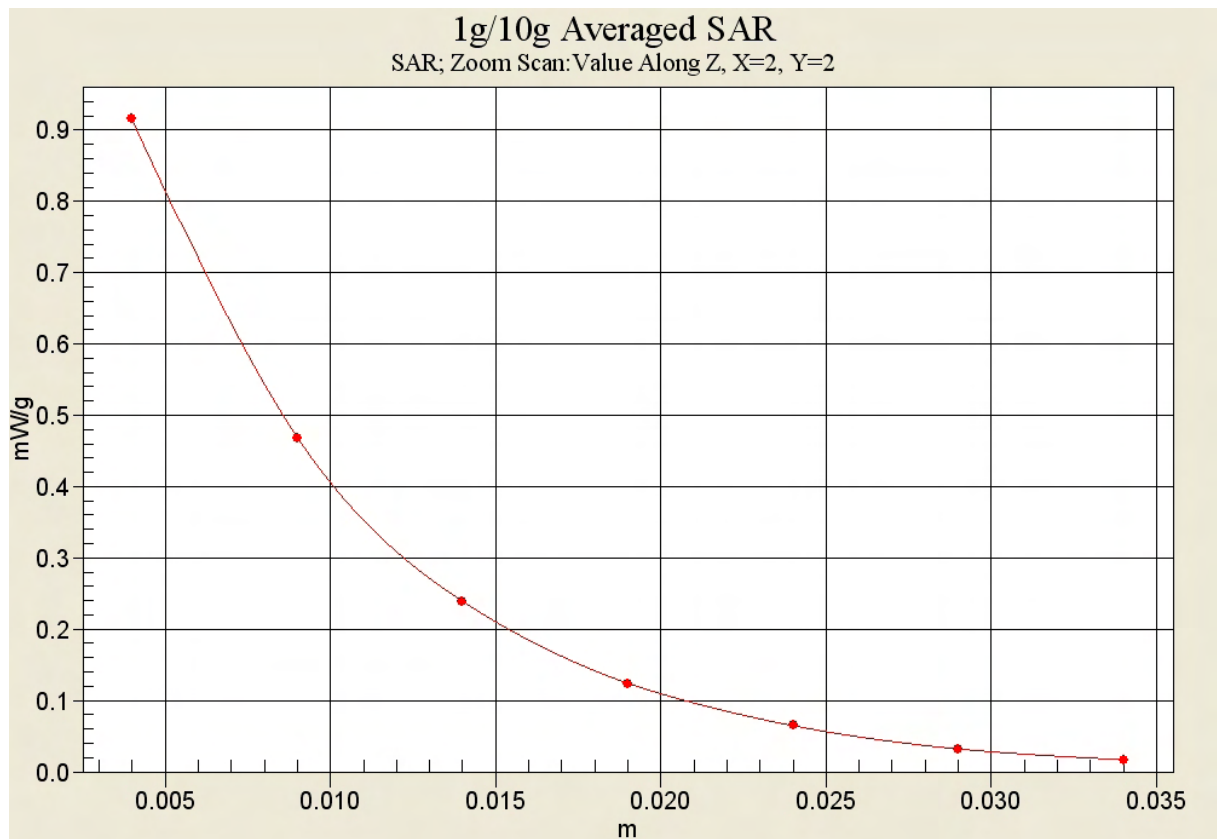Maximum value of SAR (measured) = 0.169 mW/g

Right Side Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.45 V/m; Power Drift = 0.097 dB

Peak SAR (extrapolated) = 0.281 W/kg

SAR(1 g) = 0.157 mW/g; SAR(10 g) = 0.086 mW/g

Fig.112   802.11b 1Mbps CH6

WiFi 802.11b 1Mbps Top Side Channel 6

Date/Time: 2011-6-10 16:50:53

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.96 mho/m; εr = 52.2; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C   Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

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

Top Side Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.942 mW/g

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

Reference Value = 16.8 V/m; Power Drift = -0.152 dB

Peak SAR (extrapolated) = 1.62 W/kg

SAR(1 g) = 0.797 mW/g; SAR(10 g) = 0.377 mW/g

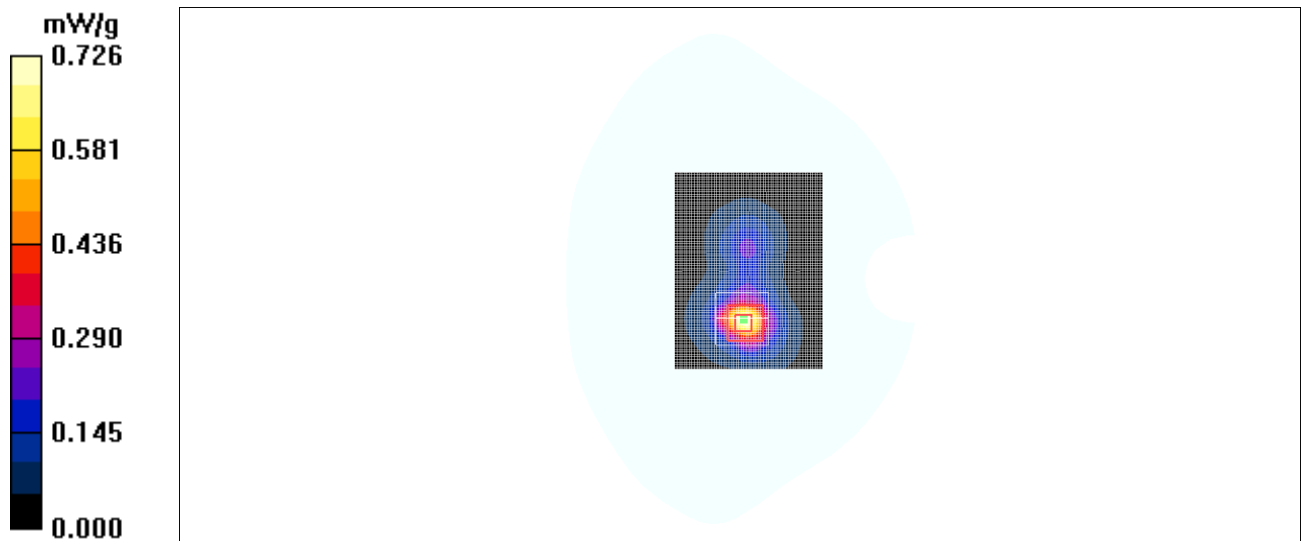Maximum value of SAR (measured) = 0.916 mW/g

Fig.113   802.11b 1Mbps CH6

Fig. 113-1   Z-Scan at power reference point (802.11b 1Mbps CH6)

WiFi 802.11b 1Mbps Top Side Channel 6 Slide up

Date/Time: 2011-6-10 17:07:51

Electronics: DAE4 Sn771

Medium: Body 2450 MHz

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.96 mho/m; εr = 52.2; ρ = 1000 kg/m^3

Ambient Temperature:23.0 ^{o}C　　　Liquid Temperature: 22.5^{o}C

Communication System: WLan 2450 Frequency: 2437 MHz Duty Cycle: 1:1

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

Top Side Middle/Area Scan (61x81x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.726 mW/g

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

Reference Value = 9.16 V/m; Power Drift = -0.071 dB

Peak SAR (extrapolated) = 1.36 W/kg

SAR(1 g) = 0.659 mW/g; SAR(10 g) = 0.302 mW/g

Maximum value of SAR (measured) = 0.722 mW/g

Fig.114　802.11b 1Mbps CH6

ANNEX D   SYSTEM VALIDATION RESULTS

835MHz

Date/Time: 2011-6-11 7:25:52
Electronics: DAE4 Sn771
Medium: Head 850 MHz
Medium parameters used: f = 835 MHz; σ = 0.91 mho/m; ε_r = 41.7; ρ = 1000 kg/m^3
Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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) = 2.50 mW/g

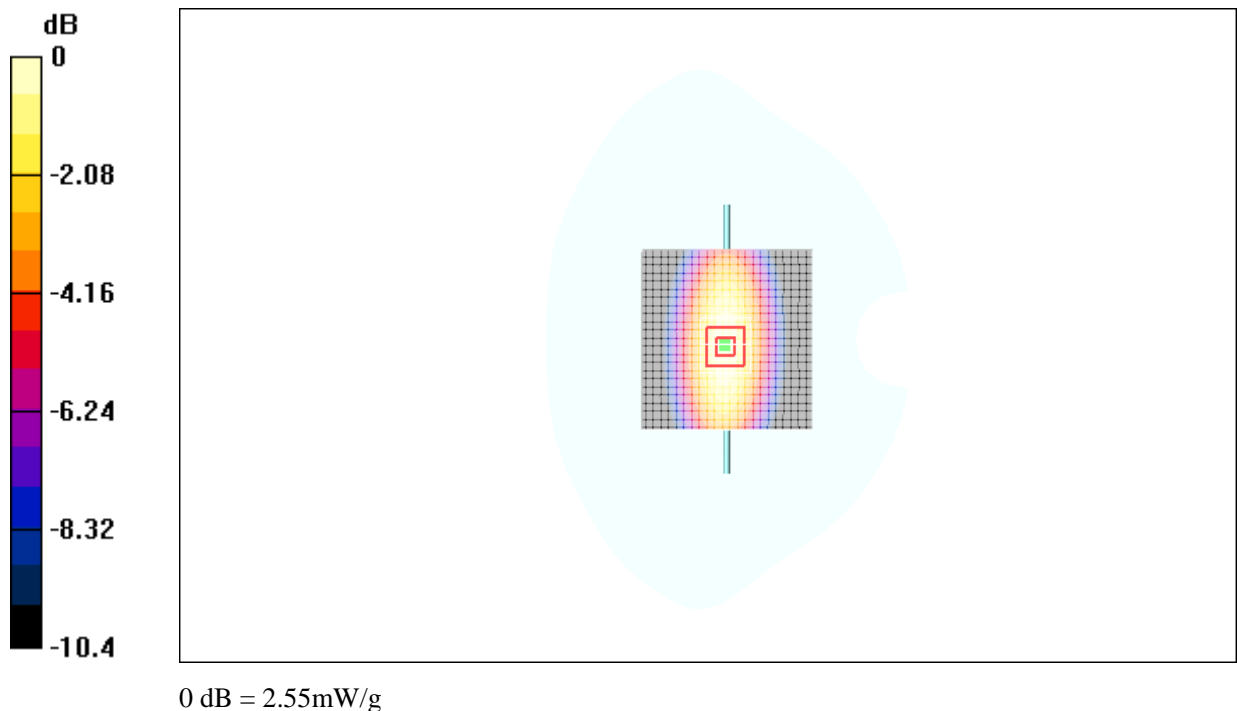**System Validation /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 54.5 V/m; Power Drift = 0.090dB
Peak SAR (extrapolated) = 3.32 W/kg
SAR(1 g) = 2.28 mW/g; SAR(10 g) = 1.48 mW/g
Maximum value of SAR (measured) = 2.43 mW/g

0 dB = 2.43mW/g

Fig.115 validation 835MHz 250mW

835MHz

Date/Time: 2011-6-11 7:58:27
Electronics: DAE4 Sn771
Medium: Body 850 MHz
Medium parameters used: f = 835 MHz; σ = 0.95 mho/m; ε_r = 54.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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) = 2.60 mW/g

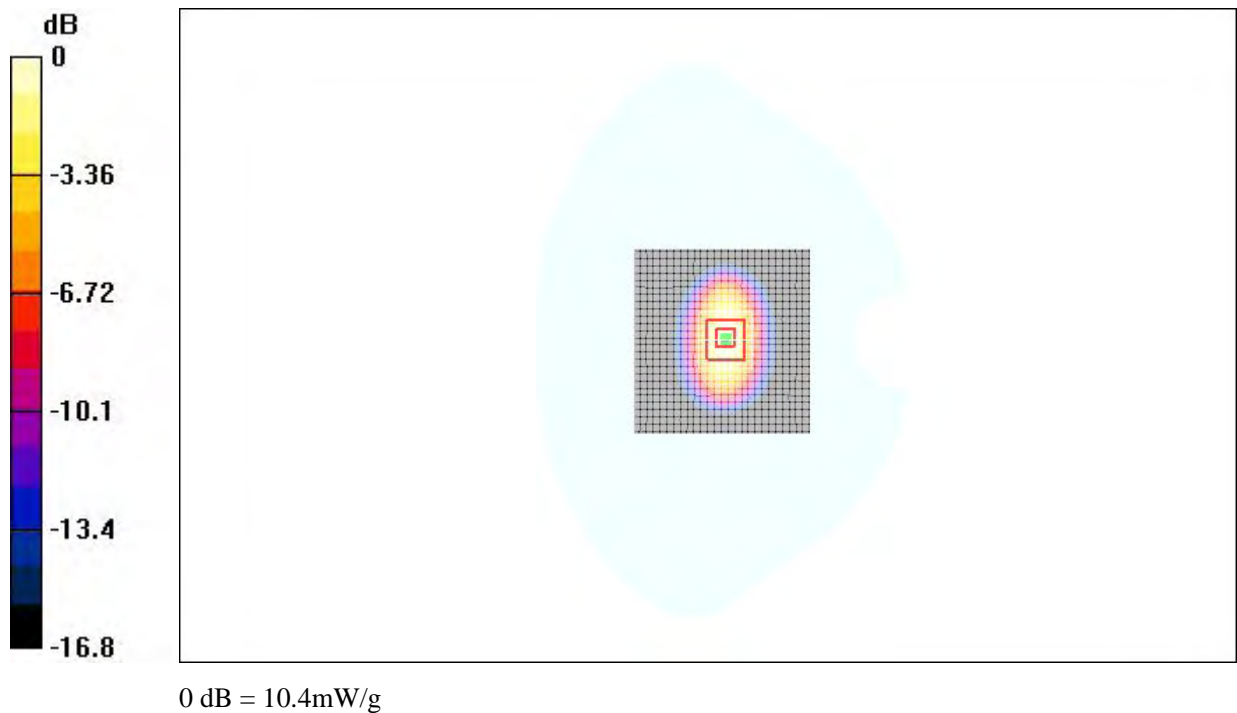**System Validation /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 52.1 V/m; Power Drift = 0.085 dB
Peak SAR (extrapolated) = 3.41 W/kg
SAR(1 g) = 2.47 mW/g; SAR(10 g) = 1.56 mW/g
Maximum value of SAR (measured) = 2.55 mW/g

0 dB = 2.55mW/g

Fig.116 validation 835MHz 250mW

1900MHz

Date/Time: 2011-6-9 7:28:53
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1900 MHz; σ = 1.41 mho/m; ε_r = 40.7; ρ = 1000 kg/m^3
Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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
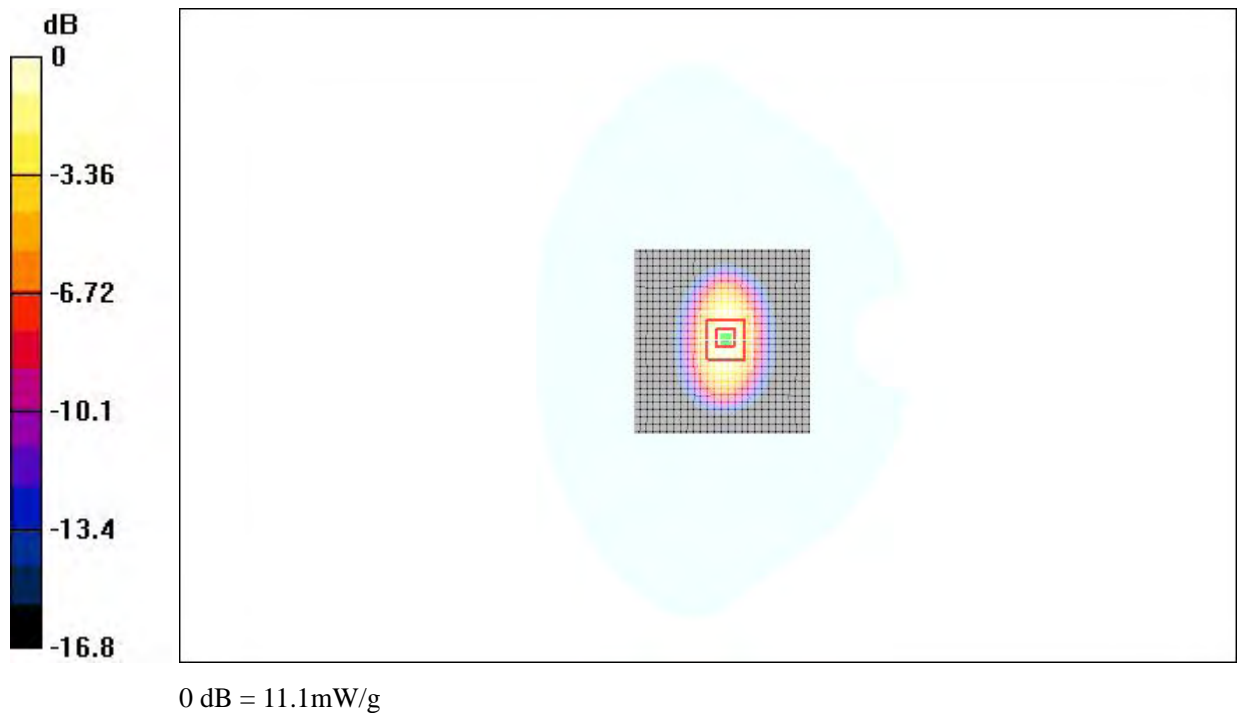Maximum value of SAR (interpolated) = 11.5 mW/g

System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 90.1 V/m; Power Drift = -0.089 dB
Peak SAR (extrapolated) = 14.9 W/kg
SAR(1 g) = 9.74 mW/g; SAR(10 g) = 4.89 mW/g
Maximum value of SAR (measured) = 10.4 mW/g

0 dB = 10.4mW/g

Fig.117 validation 1900MHz 250mW

1900MHz

Date/Time: 2011-6-9 18:10:36

Electronics: DAE4 Sn771

Medium: Body 1900 MHz

Medium parameters used: f = 1900 MHz; σ = 1.53 mho/m; ε_r = 53.5; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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 = 93.7 V/m; Power Drift = -0.046 dB

Peak SAR (extrapolated) = 15.9 W/kg

SAR(1 g) = 10.4 mW/g; SAR(10 g) = 5.28 mW/g

Maximum value of SAR (measured) = 11.1 mW/g

0 dB = 11.1mW/g

Fig.118 validation 1900MHz 250mW

2450MHz

Date/Time: 2011-6-10 7:29:30

Electronics: DAE4 Sn771

Medium: Head 2450 MHz

Medium parameters used: f = 2450 MHz; σ = 1.82 mho/m; ε_r = 39.6; ρ = 1000 kg/m^3

Ambient Temperature:23.0^{o}C   Liquid Temperature: 22.5^{o}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
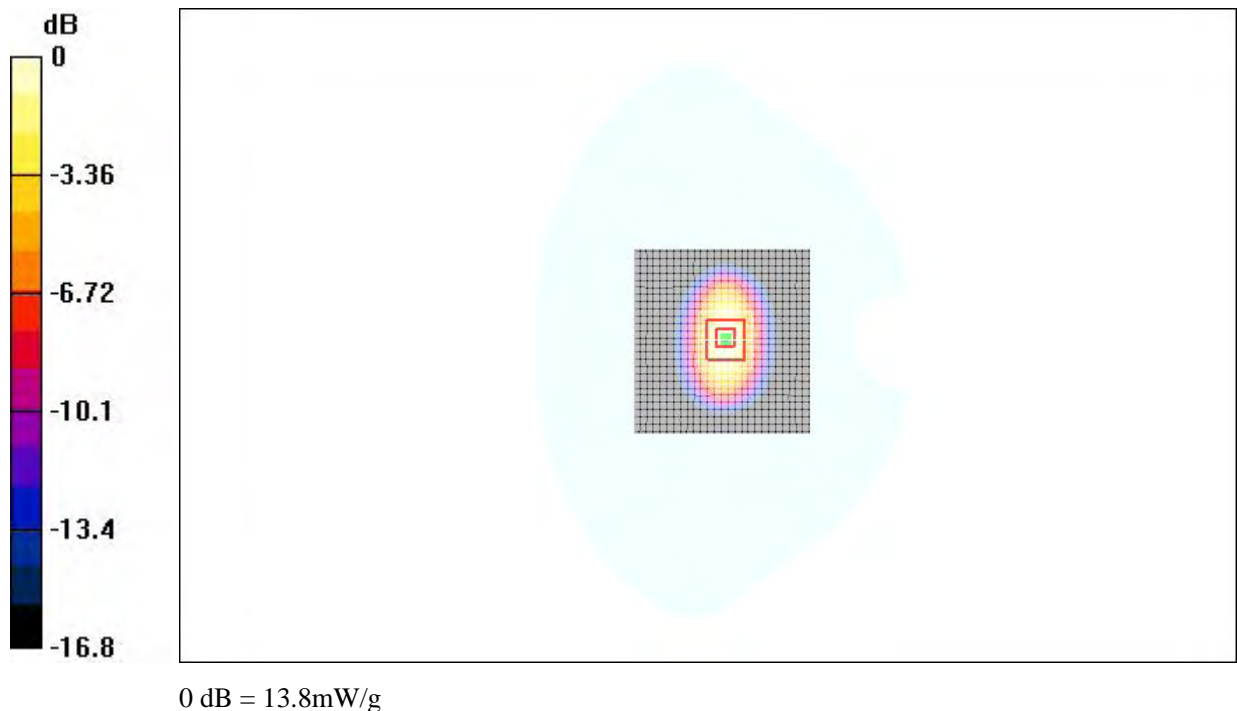
Maximum value of SAR (interpolated) = 14.7 mW/g

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

Reference Value = 85.9 V/m; Power Drift = -0.055 dB

Peak SAR (extrapolated) = 18.0 W/kg

SAR(1 g) = 12.8 mW/g; SAR(10 g) = 5.97 mW/g

Maximum value of SAR (measured) = 13.8 mW/g

0 dB = 13.8mW/g

Fig.119 validation 2450MHz 250mW

2450MHz

Date/Time: 2011-6-10 13:47:19
Electronics: DAE4 Sn771
Medium: Body 2450 MHz
Medium parameters used: f = 2450 MHz; σ = 1.97 mho/m; ε_r = 52.3; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC   Liquid Temperature: 22.5^{o}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
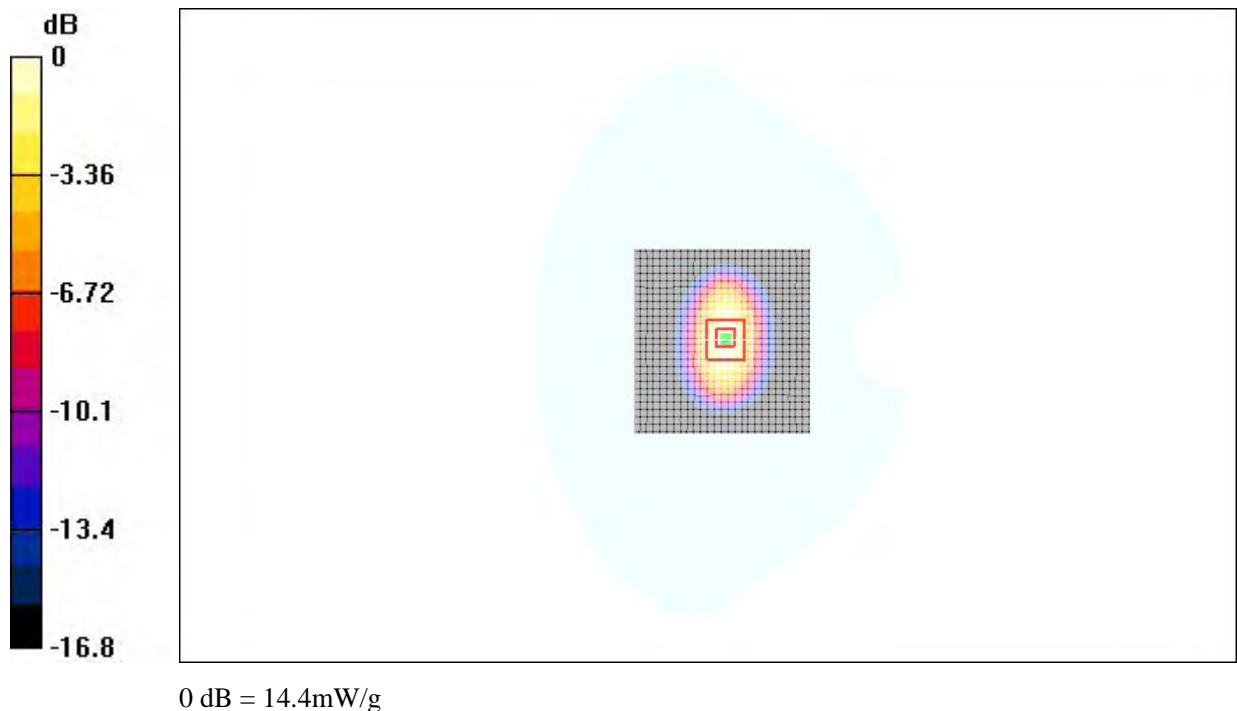Maximum value of SAR (interpolated) = 15.1 mW/g

System Validation/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 87.6 V/m; Power Drift = 0.053 dB
Peak SAR (extrapolated) = 22.8 W/kg
SAR(1 g) = 13.0 mW/g; SAR(10 g) = 5.99 mW/g
Maximum value of SAR (measured) = 14.4 mW/g

0 dB = 14.4mW/g

Fig.120 validation 2450MHz 250mW

Calibration certificate and Test positions are described in the additional document:

Appendix to test report no. 2011SAR00072

Calibration certificate and Test positions