SAR TEST REPORT

No. 2010SAR00101

For

Motorola (Beijing) Mobility Technologies Ltd.

GSM quad band and UMTS dual band mobile phone

Sesame

XT300

With

Hardware Version: DVT2

Software Version: 01.18

FCCID: IHDP56LQ3

Issued Date: 2010-09-21

Deutscher Akkreditierungs Rat

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

Note:

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

Test Laboratory:

TMC Beijing, Telecommunication Metrology Center of MIIT

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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
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1.2 Testing Environment

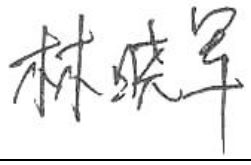
Temperature:	18°C~25 °C,
Relative humidity:	30%~ 70%
Ground system resistance:	< 0.5 Ω

Ambient noise is checked and found very low and in compliance with requirement of standards.
Reflection of surrounding objects is minimized and in compliance with requirement of standards.

1.3 Project Data

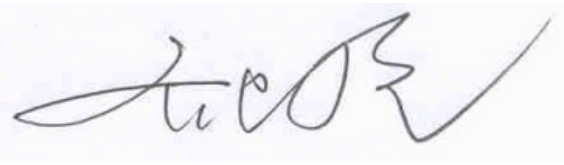
Project Leader:	Qi Dianyuan
Test Engineer:	Lin Xiaojun
Testing Start Date:	September 15, 2010
Testing End Date:	September 17, 2010

1.4 Signature



Lin Xiaojun

(Prepared this test report)



Qi Dianyuan

(Reviewed this test report)

Xiao Li

Deputy Director of the laboratory

(Approved this test report)

2 Client Information

2.1 Applicant Information

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2.2 Manufacturer Information

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Postal Code:	100102
Country:	P. R. China
Contact:	Hailiang Tang
Email:	Hailiang.Tang@motorola.com
Telephone:	+8613910190872
Fax:	/

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

3.1 About EUT

EUT Description:	GSM quad band and UMTS dual band mobile phone
Model Name:	Sesame
Marketing Name:	XT300
Frequency Band:	GSM 850 / PCS 1900 / WCDMA850 / WiFi
GPRS capability Class:	B

3.2 Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
EUT1	352795040011206	DVT2	01.18

*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	SPN5334A	/	FLEXPower
AE2	Headset	SJYN0394A	/	Merry Electronics

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

4 CHARACTERISTICS OF THE TEST

4.1 Applicable Limit Regulations

EN 50360–2001: Product standard for the measurement of Specific Absorption Rate related to human exposure to electromagnetic fields from mobile phones.

It specifies the maximum exposure limit of **2.0 W/kg** as averaged over any 10 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.

ANSI C95.1–1999: IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

It specifies the maximum exposure limit of **1.6 W/kg** as averaged over any 1 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.

4.2 Applicable Measurement Standards

EN 62209-1–2006: Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures –Part 1: Procedure to determine the specific absorption rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz).

IEEE 1528–2003: Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques.

OET Bulletin 65 (Edition 97-01) and Supplement C(Edition 01-01): Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits.

IEC 62209-1-2005: Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Human models, instrumentation, and procedures –Part 1:Procedure to determine the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)

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

KDB248227: SAR measurement procedures for 802.112abg transmitters.

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

5 OPERATIONAL CONDITIONS DURING TEST

5.1 Schematic Test Configuration

During SAR test, EUT is in Traffic Mode (Channel Allocated) at Normal Voltage Condition. A communication link is set up with a System Simulator (SS) by air link, and a call is established. The Absolute Radio Frequency Channel Number (ARFCN) is allocated to 128, 190 and 251 respectively in the case of GSM 850 MHz; 512, 661 and 810 respectively in the case of PCS 1900 MHz; 4132, 4182 and 4233 respectively in the case of WCDMA 850 MHz. The EUT is commanded to operate at maximum transmitting power.

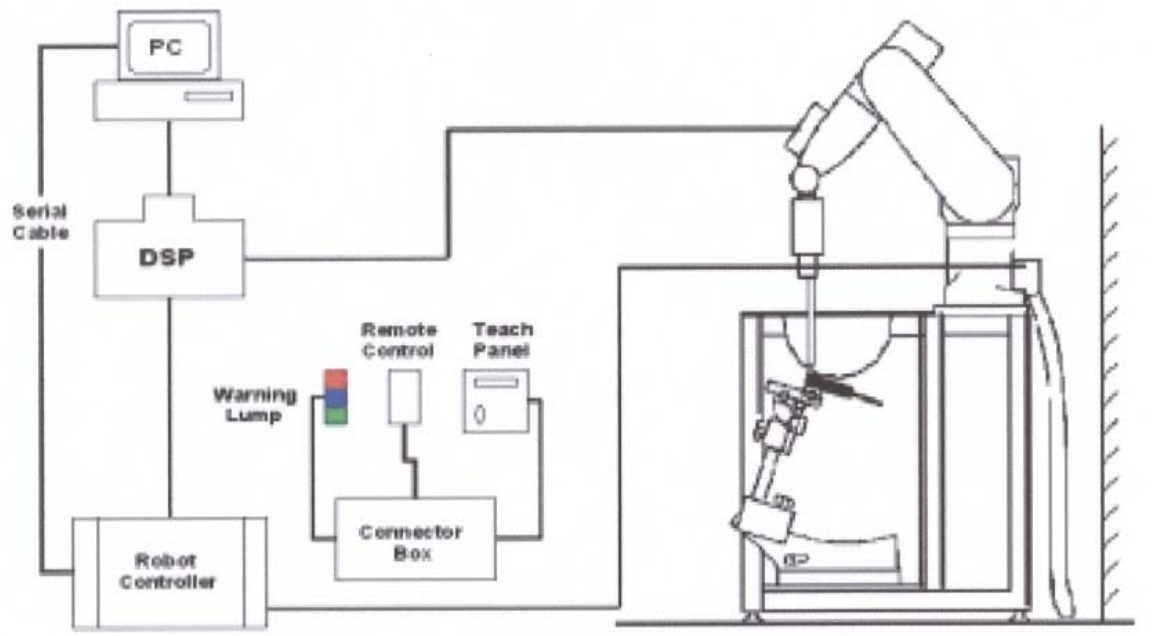
The EUT shall use its internal transmitter. The antenna(s), battery and accessories shall be those specified by the manufacturer. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output. If a wireless link is used, the antenna connected to the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

5.2 SAR Measurement Set-up

These measurements were performed with the automated near-field scanning system DASY4 Professional from Schmid & Partner Engineering AG (SPEAG). The system is based on a high precision robot (working range greater than 0.9m), which positions the probes with a positional repeatability of better than ± 0.02mm. Special E- and H-field probes have been developed for

measurements close to material discontinuity, the sensors of which are directly loaded with a Schottky diode and connected via highly resistive lines (length =300mm) to the data acquisition unit.

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



Picture 2: SAR Lab Test Measurement Set-up

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

5.3 Dasy4 E-field Probe System

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

ES3DV3 Probe Specification

Construction	Symmetrical design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	Basic Broad Band Calibration in air Conversion Factors (CF) for HSL 900 and HSL 1810 Additional CF for other liquids and frequencies upon request
Frequency	10 MHz to 4 GHz; Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ± 0.3 dB in tissue material (rotation normal to probe axis)
Dynamic Range	5 µW/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 3.9 mm (Body: 12 mm) Distance from probe tip to dipole centers: 2.0 mm
Application	General dosimetry up to 4 GHz Dosimetry in strong gradient fields Compliance tests of mobile phones

Picture 3: ES3DV3 E-field

Picture4:ES3DV3 E-field probe

5.4 E-field Probe Calibration

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than ± 10%. The spherical isotropy was evaluated and found to be better than ± 0.25dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.

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

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

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

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

Or

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

Where:
σ = Simulated tissue conductivity,
ρ = Tissue density (kg/m^3).

Picture 5: Device Holder

5.5 Other Test Equipment

5.5.1 Device Holder for Transmitters

In combination with the Generic Twin Phantom V3.0, the Mounting Device (POM) enables the rotation of the mounted transmitter in spherical coordinates whereby the rotation points is the ear opening. The devices can be easily, accurately, and repeatable positioned according to the FCC and CENELEC specifications. The device holder can be locked at different phantom locations (left head, right head, flat phantom).

5.5.2 Phantom

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

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

Picture 6: Generic Twin Phantom

5.6 Equivalent Tissues

The liquid used for the frequency range of 800-2000 MHz consisted of water, sugar, salt, 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

Specifications

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

Data Acquisition Electronic (DAE) System

Cell Controller

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

Data Converter

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

6 LABORATORY ENVIRONMENT

Table 3: The Ambient Conditions during EMF Test

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

7 CONDUCTED OUTPUT POWER MEASUREMENT

7.1 Summary

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

7.2 Conducted Power

7.2.1 Measurement Methods

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

7.2.2 Measurement result

Table 4: The conducted power for GSM 850/1900

GSM 850MHZ	**Conducted Power (dBm)**		
	Channel 251(848.8MHz)	**Channel 190(836.6MHz)**	**Channel 128(824.2MHz)**
	32.60	32.82	32.91
GSM 1900MHZ	**Conducted Power (dBm)**		
	Channel 810(1909.8MHz)	**Channel 661(1880MHz)**	**Channel 512(1850.2MHz)**
	29.98	30.50	30.75

Table 5: 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	32.25	32.2	32.3	-9.03dB	23.22	23.17	23.27
2 Txslots	30.55	30.5	30.6	-6.02dB	**24.53**	**24.48**	**24.58**
3Txslots	28.53	28.5	28.58	-4.26dB	24.27	24.24	24.32
4 Txslots	26.52	26.5	26.53	-3.01dB	23.51	23.49	23.52
GSM 850 EGPRS	Measured Power (dBm)			calculation	Averaged Power (dBm)		
	251	**190**	**128**		**251**	**190**	**128**
1 Txslot	32.25	32.2	32.3	-9.03dB	23.22	23.17	23.27
2 Txslots	30.55	30.5	30.6	-6.02dB	**24.53**	**24.48**	**24.58**
3Txslots	28.53	28.5	28.58	-4.26dB	24.27	24.24	24.32
4 Txslots	26.52	26.5	26.53	-3.01dB	23.51	23.49	23.52
PCS1900 GPRS	Measured Power (dBm)			calculation	Averaged Power (dBm)		
	810	**661**	**512**		**810**	**661**	**512**
1 Txslot	29.5	29.52	29.56	-9.03dB	20.47	20.49	20.53
2 Txslots	28.98	29.1	29.15	-6.02dB	**22.96**	**23.08**	**23.13**
3Txslots	26.92	27.13	27.18	-4.26dB	22.66	22.87	22.92
4 Txslots	24.92	25.05	25.21	-3.01dB	21.91	22.04	22.2
PCS1900 EGPRS	Measured Power (dBm)			calculation	Averaged Power (dBm)		
	810	**661**	**512**		**810**	**661**	**512**
1 Txslot	29.5	29.52	29.56	-9.03dB	20.47	20.49	20.53
2 Txslots	28.98	29.1	29.15	-6.02dB	**22.96**	**23.08**	**23.13**
3Txslots	26.92	27.13	27.18	-4.26dB	22.66	22.87	22.92
4 Txslots	24.92	25.05	25.21	-3.01dB	21.91	22.04	22.2

NOTES:

1) Division Factors

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

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

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

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

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

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

Table 6: The conducted Power for WCDMA850

Item	band	FDDV result		
	ARFCN	4233 (846.6MHz)	4182 (836.4MHz)	4132 (826.4MHz)
WCDMA	\	23.93	23.80	24.04
HSDPA	1	23.86	23.76	24.05
	2	23.94	23.82	24.06
	3	23.92	23.84	24.18
	4	24.00	23.84	24.10

Note: HSDPA body SAR are not required, because maximum average output power of each RF channel with HSDPA active is not 1/4 dB higher than that measured without HSDPA and the maximum SAR for WCDMA850 are not above 75% of the SAR limit (see table 23 to table 25).

7.2.3 Power Drift

To control the output power stability during the SAR test, DASY4 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in Table 11 to Table 29 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

8 TEST RESULTS

8.1 Dielectric Performance

Table 7: Dielectric Performance of Head Tissue Simulating Liquid

Measurement is made at temperature 23.0 °C and relative humidity 43%.
Liquid temperature during the test: 22.5°C
Measurement Date : 850 MHz **Sep 15, 2010** 1900 MHz **Sep 16, 2010** 2450 MHz **Sep 17, 2010**

/	Frequency	Permittivity ε	Conductivity σ (S/m)
Target value	850 MHz	41.5	0.90
	1900 MHz	40.0	1.40
	2450 MHz	39.2	1.80
Measurement value (Average of 10 tests)	850 MHz	41.7	0.91
	1900 MHz	40.4	1.41
	2450 MHz	39.4	1.82

Table 8: Dielectric Performance of Body Tissue Simulating Liquid

Measurement is made at temperature 23.0 °C and relative humidity 43%.
Liquid temperature during the test: 22.5°C
Measurement Date : 850 MHz **Sep 15, 2010** 1900 MHz **Sep 16, 2010** 2450 MHz **Sep 17, 2010**

/	Frequency	Permittivity ε	Conductivity σ (S/m)
Target value	850 MHz	55.2	0.97
	1900 MHz	53.3	1.52
	2450 MHz	52.7	1.95
Measurement value (Average of 10 tests)	850 MHz	54.8	0.95
	1900 MHz	52.9	1.53
	2450 MHz	51.0	1.94

8.2 System Validation

Table 9: System Validation of Head

Measurement is made at temperature 23.0 °C and relative humidity 43%.
Liquid temperature during the test: 22.5°C
Measurement Date : 850 MHz **Sep 15, 2010** 1900 MHz **Sep 16, 2010** 2450 MHz **Sep 17, 2010**

		Frequency	Permittivity ε	Conductivity σ (S/m)
Liquid parameters	Dipole calibration Target value	835 MHz	41.6	0.92
		1900 MHz	39.6	1.40
		2450 MHz	40.5	1.85
	Actural Measurement value	835 MHz	41.9	0.90
		1900 MHz	40.4	1.41
		2450 MHz	39.4	1.82

	Frequency	Target value (W/kg)		Measured value (W/kg)		Deviation	
Verification results		**10 g Average**	**1 g Average**	**10 g Average**	**1 g Average**	**10 g Average**	**1 g Average**
	835 MHz	1.54	2.38	1.47	2.28	-4.55%	-4.20%
	1900 MHz	5.05	9.91	4.93	9.58	-2.38%	-3.33%
	2450 MHz	5.91	13.07	5.76	12.7	-2.54%	-2.83%

Table 10: System Validation of Body

Measurement is made at temperature 23.0 °C and relative humidity 43%.
Liquid temperature during the test: 22.5°C
Measurement Date : 850 MHz **Sep 15, 2010** 1900 MHz **Sep 16, 2010** 2450 MHz **Sep 17, 2010**

		Frequency	Permittivity ε	Conductivity σ (S/m)
Liquid parameters	Dipole calibration Target value	835 MHz	54.5	0.97
		1900 MHz	52.5	1.51
		2450 MHz	51.8	1.93
	Actural Measurement value	835 MHz	55.0	0.94
		1900 MHz	52.9	1.53
		2450 MHz	51.0	1.94

	Frequency	Target value (W/kg)		Measured value (W/kg)		Deviation	
Verification results		**10 g Average**	**1 g Average**	**10 g Average**	**1 g Average**	**10 g Average**	**1 g Average**
	835 MHz	1.57	2.41	1.50	2.32	-4.46%	-3.73%
	1900 MHz	5.24	10.4	5.06	10.1	-3.44%	-2.88%
	2450 MHz	5.82	12.78	5.93	13.0	1.89%	1.72%

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

8.3 Summary of Measurement Results

Table 11: SAR Values (GSM 850MHz Head) – Slide down

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)	0.265	0.359	0.041
Left hand, Tilt 15 Degree, Mid frequency (See Fig.2)	0.172	0.229	0.111
Right hand, Touch cheek, Top frequency (See Fig.3)	0.321	0.429	0.131
Right hand, Touch cheek, Mid frequency (See Fig.4)	0.318	0.424	-0.027
Right hand, Touch cheek, Bottom frequency (See Fig.5)	0.253	0.336	0.090
Right hand, Tilt 15 Degree, Mid frequency (See Fig.6)	0.176	0.232	0.068

Table 12: SAR Values (GSM 850MHz Head) – Slide up

Limit of SAR (W/kg)	10 g Average	1 g Average	Power Drift (dB)
	2.0	1.6	
Test Case	**Measurement Result (W/kg)**		
	10 g Average	**1 g Average**	
Left hand, Touch cheek, Mid frequency (See Fig.7)	0.278	0.366	-0.168
Left hand, Tilt 15 Degree, Mid frequency (See Fig.8)	0.143	0.190	-0.027
Right hand, Touch cheek, Top frequency (See Fig.9)	0.415	0.561	-0.061
Right hand, Touch cheek, Mid frequency (See Fig.10)	0.332	0.446	-0.191
Right hand, Touch cheek, Bottom frequency (See Fig.11)	0.263	0.355	0.096
Right hand, Tilt 15 Degree, Mid frequency (See Fig.12)	0.167	0.221	0.032

Table 13: SAR Values (PCS 1900MHz Head) – Slide down

Limit of SAR (W/kg)	10 g Average	1 g Average	Power Drift (dB)
	2.0	1.6	
Test Case	**Measurement Result (W/kg)**		
	10 g Average	**1 g Average**	
Left hand, Touch cheek, Top frequency (See Fig.13)	0.172	0.298	0.070
Left hand, Touch cheek, Mid frequency (See Fig.14)	0.238	0.407	0.116
Left hand, Touch cheek, Bottom frequency (See Fig.15)	0.329	0.564	0.025
Left hand, Tilt 15 Degree, Mid frequency (See Fig.16)	0.176	0.300	0.018
Right hand, Touch cheek, Mid frequency (See Fig.17)	0.172	0.285	-0.085
Right hand, Tilt 15 Degree, Mid frequency (See Fig.18)	0.210	0.363	-0.065

Table 14: SAR Values (PCS 1900MHz Head) – Slide up

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)	0.134	0.208	-0.109
Left hand, Tilt 15 Degree, Mid frequency (See Fig.20)	0.124	0.189	-0.032
Right hand, Touch cheek, Top frequency (See Fig.21)	0.094	0.152	-0.099
Right hand, Touch cheek, Mid frequency (See Fig.22)	0.147	0.238	0.171
Right hand, Touch cheek, Bottom frequency (See Fig.23)	0.205	0.328	-0.082
Right hand, Tilt 15 Degree, Mid frequency (See Fig.24)	0.129	0.215	0.005

Table 15: SAR Values (WCDMA 850MHz Head) – Slide down

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.25)	0.163	0.225	-0.021
Left hand, Tilt 15 Degree, Mid frequency (See Fig.26)	0.115	0.152	-0.068
Right hand, Touch cheek, Top frequency (See Fig.27)	0.245	0.322	0.119
Right hand, Touch cheek, Mid frequency (See Fig.28)	0.190	0.246	0.101
Right hand, Touch cheek, Bottom frequency (See Fig.29)	0.217	0.280	-0.002
Right hand, Tilt 15 Degree, Mid frequency (See Fig.30)	0.168	0.221	-0.089

Table 16: SAR Values (WCDMA 850MHz Head) – Slide up

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.31)	0.526	0.687	-0.058
Left hand, Tilt 15 Degree, Mid frequency (See Fig.32)	0.319	0.421	0.000
Right hand, Touch cheek, Top frequency (See Fig.33)	0.358	0.478	0.125
Right hand, Touch cheek, Mid frequency (See Fig.34)	0.585	0.777	-0.036
Right hand, Touch cheek, Bottom frequency (See Fig.35)	0.248	0.327	-0.042
Right hand, Tilt 15 Degree, Mid frequency (See Fig.36)	0.326	0.431	0.001

Table 17: SAR Values (GSM 850MHz Body) – Slide down

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 Phantom, Top frequency with GPRS (See Fig.37)	0.267	0.362	-0.116
Towards Phantom, Mid frequency with GPRS (See Fig.38)	0.263	0.355	-0.011
Towards Phantom, Bottom frequency with GPRS (See Fig.39)	0.200	0.277	-0.102
Towards Ground, Top frequency with GPRS (See Fig.40)	0.625	0.914	-0.076
Towards Ground, Mid frequency with GPRS (See Fig.41)	0.597	0.870	-0.019
Towards Ground, Bottom frequency with GPRS (See Fig.42)	0.461	0.673	0.033

Table 18: SAR Values (GSM 850MHz Body) – Slide up

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 Phantom, Top frequency with GPRS (See Fig.43)	0.442	0.591	-0.067
Towards Phantom, Mid frequency with GPRS (See Fig.44)	0.391	0.543	-0.051
Towards Phantom, Bottom frequency with GPRS (See Fig.45)	0.400	0.532	0.000
Towards Ground, Top frequency with GPRS (See Fig.46)	0.535	0.749	-0.135
Towards Ground, Mid frequency with GPRS (See Fig.47)	0.522	0.711	-0.106
Towards Ground, Bottom frequency with GPRS (See Fig.48)	0.480	0.678	0.026

Table 19: SAR Values (GSM 850MHz Body with EGPRS and Headset) – Slide down

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, Top frequency with EGPRS (See Fig.49)	0.603	0.873	-0.101
Towards Ground, Top frequency with Headset (See Fig.50)	0.396	0.574	0.039

Table 20: SAR Values (PCS 1900MHz Body) – Slide down

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 Phantom, Top frequency with GPRS (See Fig.51)	0.050	0.082	0.051
Towards Phantom, Mid frequency with GPRS (See Fig.52)	0.081	0.125	0.073
Towards Phantom, Bottom frequency with GPRS (See Fig.53)	0.128	0.198	0.045
Towards Ground, Top frequency with GPRS (See Fig.54)	0.166	0.284	-0.130
Towards Ground, Mid frequency with GPRS (See Fig.55)	0.236	0.405	0.021
Towards Ground, Bottom frequency with GPRS (See Fig.56)	0.301	0.526	-0.051

Table 21: SAR Values (PCS 1900MHz Body) – Slide up

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 Phantom, Top frequency with GPRS (See Fig.57)	0.102	0.158	0.124
Towards Phantom, Mid frequency with GPRS (See Fig.58)	0.154	0.237	0.002
Towards Phantom, Bottom frequency with GPRS (See Fig.59)	0.215	0.332	-0.047
Towards Ground, Top frequency with GPRS (See Fig.60)	0.237	0.364	0.114
Towards Ground, Mid frequency with GPRS (See Fig.61)	0.319	0.494	0.005
Towards Ground, Bottom frequency with GPRS (See Fig.62)	0.410	0.638	0.000

Table 22: SAR Values (PCS 1900MHz Body with EGPRS and Headset) – Slide up

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, Bottom frequency with EGPRS (See Fig.63)	0.404	0.627	0.003
Towards Ground, Bottom frequency with Headset (See Fig.64)	0.270	0.423	0.026

Table 23: SAR Values (WCDMA 850MHz Body) – Slide down

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 Phantom, Top frequency (See Fig.65)	0.272	0.367	-0.004
Towards Phantom, Mid frequency (See Fig.66)	0.192	0.258	-0.003
Towards Phantom, Bottom frequency (See Fig.67)	0.209	0.280	0.021
Towards Ground, Top frequency (See Fig.68)	0.572	0.829	0.011
Towards Ground, Mid frequency (See Fig.69)	0.397	0.575	0.031
Towards Ground, Bottom frequency (See Fig.70)	0.398	0.576	0.056

Table 24: SAR Values (WCDMA 850MHz-Body) – Slide up

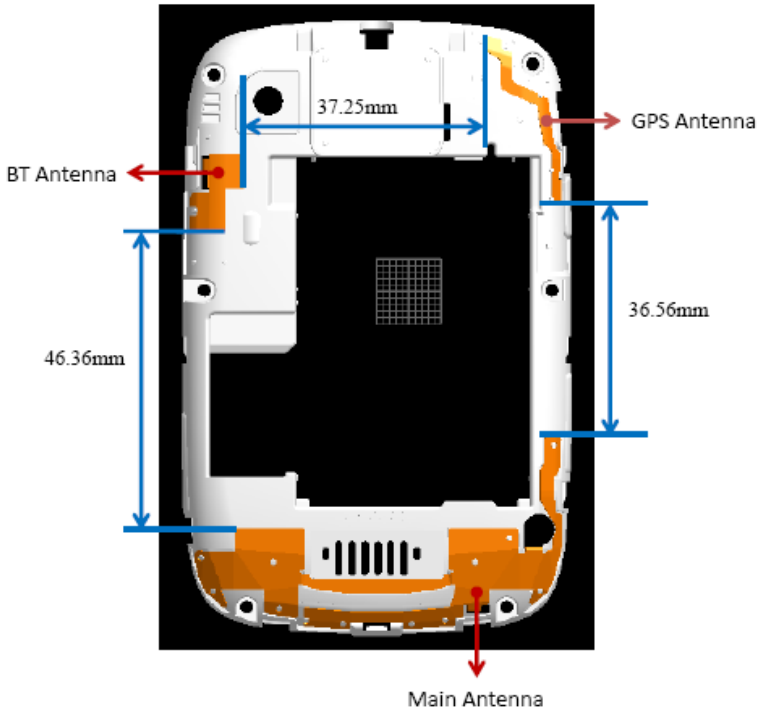
Limit of SAR (W/kg)	10 g Average	1g Average	Power Drift (dB)
	2.0	1.6	
Test Case	Measurement Result (W/kg)		
	10 g Average	1 g Average	
Towards Phantom, Top frequency (See Fig.71)	0.308	0.414	0.021
Towards Phantom, Mid frequency (See Fig.72)	0.616	0.824	0.045
Towards Phantom, Bottom frequency (See Fig.73)	0.306	0.408	-0.089
Towards Ground, Top frequency (See Fig.74)	0.423	0.577	0.110
Towards Ground, Mid frequency (See Fig.75)	0.813	1.11	-0.049
Towards Ground, Bottom frequency (See Fig.76)	0.421	0.576	0.031

Table 25: SAR Values (WCDMA 850MHz Body with Headset) – Slide up

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.77)	0.784	1.09	-0.118

8.4 Summary of Measurement Results (Bluetooth and WiFi function)

The distance between BT/WiFi antenna and GSM antenna is ＞2.5cm and ＜5cm. The location of the antennas inside mobile phone is shown below:



The output power of BT antenna is as following:

Channel	Ch 0 (2402 MHz)	Ch 39 (2441 MHz)	Ch 78 (2480 MHz)
Peak Conducted Output Power(dBm)	6.2	6.9	7.8

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 ≤P_{Ref} and its antenna is ＞2.5cm and ＜5cm from other antenna

The conducted power for WiFi is as following:

802.11b（dBm）

Channel\data rate	1Mbps	2Mbps	5.5Mbps	11Mbps
1	15.8	15.8	15.9	16
6	16.3	16.4	16.4	16.5
11	16.8	16.8	16.9	16.9

802.11g（dBm）

Channel\data rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
1	10.1	10	9.9	10	10	10.1	10.1	10.1
6	10.4	10.3	10.2	10.2	10.3	10.3	10.4	10.4
11	10.8	10.8	10.8	10.7	10.8	10.9	10.9	10.9

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 and WiFi.

SAR is not required for 802.11g 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 11”.

Table 26: SAR Values (WIFI 802.11b Head) – Slide down

Limit of SAR (W/kg)	**10 g Average**	**1 g Average**	**Power Drift (dB)**
	2.0	1.6	
Test Case	**Measurement Result (W/kg)**		
	10 g Average	**1 g Average**	
Left hand, Touch cheek, 1Mbps,channel 11 (See Fig.78)	0.130	0.267	-0.052
Left hand, Tilt 15 Degree, 1Mbps,channel 11 (See Fig.79)	0.080	0.153	0.073
Right hand, Touch cheek, 1Mbps,channel 11 (See Fig.80)	0.181	0.335	-0.021
Right hand, Tilt 15 Degree, 1Mbps,channel 11 (See Fig.81)	0.224	0.436	-0.010

Table 27: SAR Values (WIFI 802.11b Head) – Slide up

Limit of SAR (W/kg)	**10 g Average**	**1 g Average**	**Power Drift (dB)**
	2.0	1.6	
Test Case	**Measurement Result (W/kg)**		
	10 g Average	**1 g Average**	
Left hand, Touch cheek, 1Mbps,channel 11 (See Fig.82)	0.113	0.231	0.197
Left hand, Tilt 15 Degree, 1Mbps,channel 11 (See Fig.83)	0.052	0.102	-0.019
Right hand, Touch cheek, 1Mbps,channel 11 (See Fig.84)	0.135	0.285	0.112
Right hand, Tilt 15 Degree, 1Mbps,channel 11 (See Fig.85)	0.063	0.126	-0.125

Table 28: SAR Values (WIFI 802.11b Body) – Slide down

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 11 (See Fig.86)	0.058	0.104	-0.156
Toward Ground, 1Mbps,channel 11 (See Fig.87)	0.146	0.282	-0.114

Table 29: SAR Values (WIFI 802.11b Body) – Slide up

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 11 (See Fig.88)	0.044	0.079	0.103
Toward Ground, 1Mbps,channel 11 (See Fig.89)	0.147	0.256	-0.048

The device was tested with the front and back of the device facing the phantom. Both sides of the device were tested for Body SAR for the purpose of including the SAR evaluation for body-worn accessories that support the device with the front side facing the user.

8.5 Conclusion

Localized Specific Absorption Rate (SAR) of this portable wireless device has been measured in all cases requested by the relevant standards cited in Clause 4.2 of this report. Maximum localized SAR is below exposure limits specified in the relevant standards cited in Clause 4.1 of this test report.

The maximum SAR value is obtained at the case of **WCDMA 850 MHz Band, Body, Slide up, Towards Ground, Mid frequency (Table 24),** and the value are**: 1.11 (1g).**

9 Measurement Uncertainty

No.	Error Description	Type	Tolerance (±%)	Probability Distribution	Divisor	c_i	Standard Uncertainty (%) u_i' (%)	Degree of freedom V_{eff} or v_i
1	System repeatability	A	0.5	N	1	1	0.5	9
	Measurement system							
2	—probe calibration	B	3.5	N	1	1	3.5	∞
3	—axial isotropy of the probe	B	4.7	R	$\sqrt{3}$	0.5	4.3	∞
4	—hemisphere isotropy of the probe	B	9.4	R	$\sqrt{3}$			
5	—space resolution	B	0	R	$\sqrt{3}$	1	0	∞
6	—boundary effect	B	11.0	R	$\sqrt{3}$	1	6.4	∞
7	—probe linearity	B	4.7	R	$\sqrt{3}$	1	2.7	∞

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

10 MAIN TEST INSTRUMENTS

Table 30: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	HP 8753E	US38433212	August 29,2010	One year
02	Power meter	NRVD	101253	September 4, 2010	One year
03	Power sensor	NRV-Z5	100333		
04	Signal Generator	E4433B	US37230472	September 3, 2010	One Year
05	Amplifier	VTL5400	0505	No Calibration Requested	
06	BTS	CMU 200	113312	August 10, 2010	One year
07	E-field Probe	SPEAG ES3DV3	3149	September 25, 2009	One year
08	E-field Probe	SPEAG EX3DV4	3617	July 9, 2010	One year
09	DAE	SPEAG DAE4	771	November 19, 2009	One year
10	Dipole Validation Kit	SPEAG D835V2	443	February 26, 2010	Two years
11	Dipole Validation Kit	SPEAG D1900V2	541	February 26, 2010	Two years
12	Dipole Validation Kit	IndexSAR IXD-245	40102	October, 2008	Two years

END OF REPORT BODY

ANNEX A MEASUREMENT PROCESS

The evaluation was performed with the following procedure:

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

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

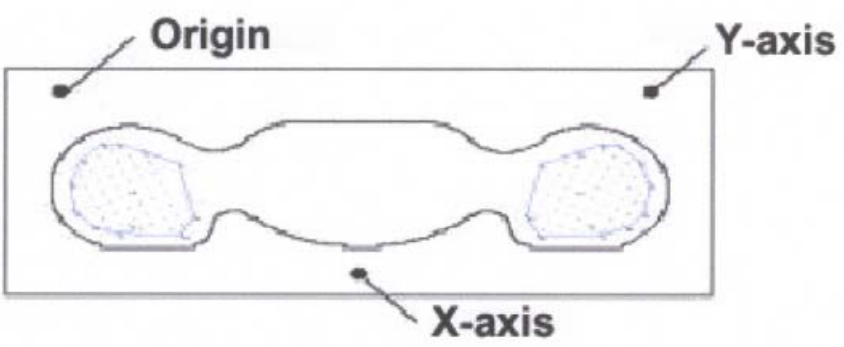
Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7 x 7x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

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

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

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

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



Picture A: SAR Measurement Points in Area Scan

ANNEX C GRAPH RESULTS

850 Left Cheek Middle-Slide down

Date/Time: 2010-9-15 8:08:21
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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.385 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.04 V/m; Power Drift = 0.041 dB
Peak SAR (extrapolated) = 0.480 W/kg
SAR(1 g) = 0.359 mW/g; SAR(10 g) = 0.265 mW/g
Maximum value of SAR (measured) = 0.379 mW/g

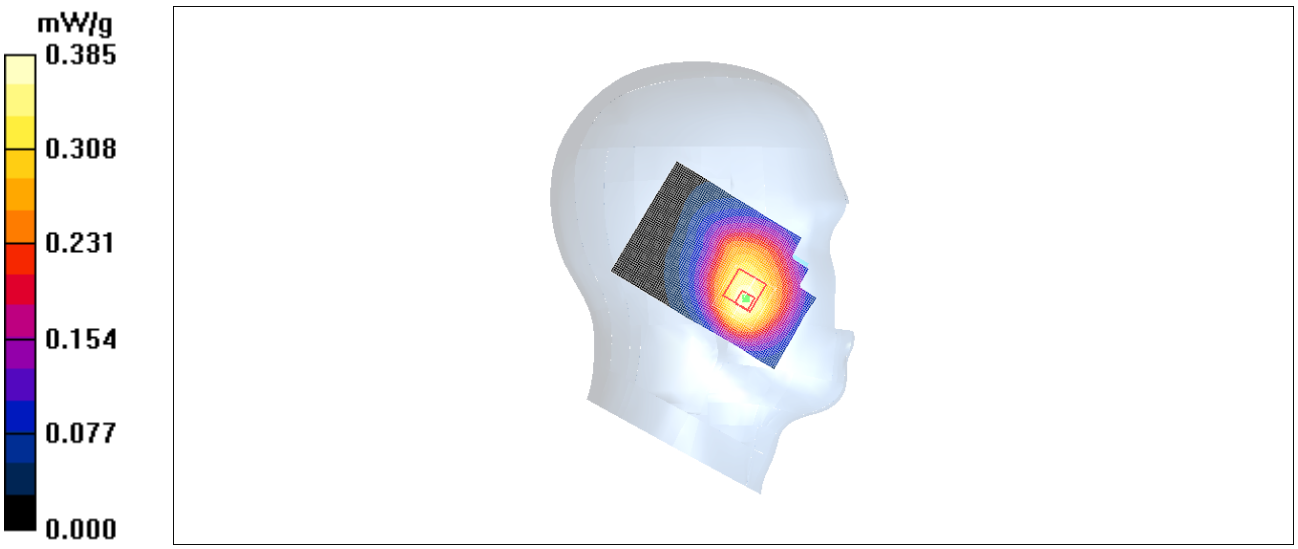


Fig. 1 850 MHz CH190

850 Left Tilt Middle-Slide down

Date/Time: 2010-9-15 8:22:41
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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.238 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.4 V/m; Power Drift = 0.111 dB
Peak SAR (extrapolated) = 0.291 W/kg
SAR(1 g) = 0.229 mW/g; SAR(10 g) = 0.172 mW/g
Maximum value of SAR (measured) = 0.243 mW/g

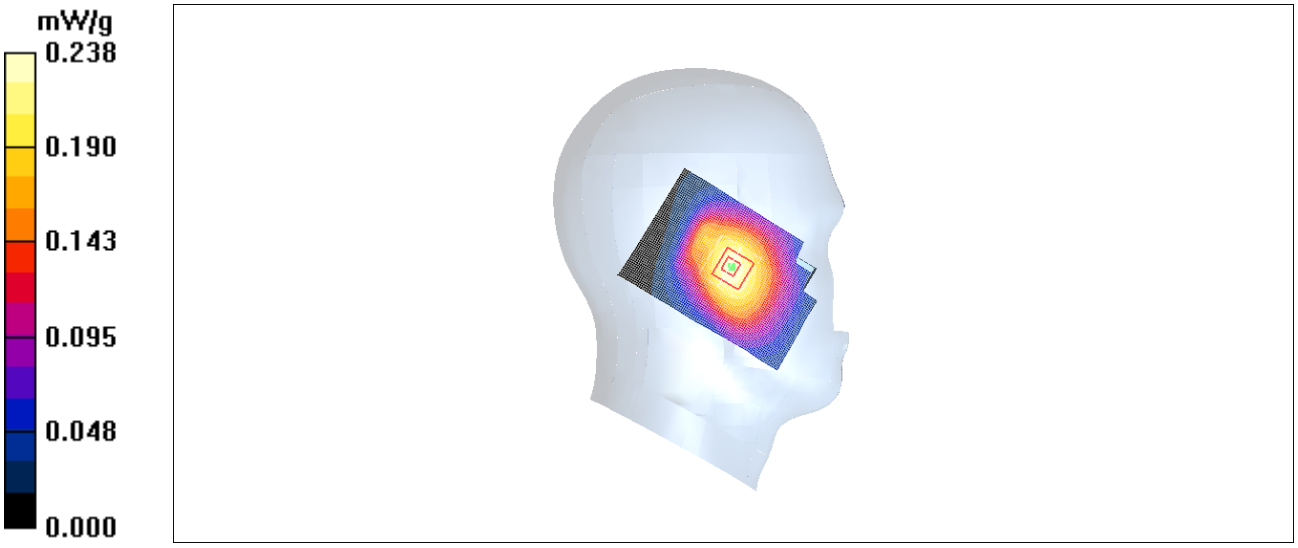


Fig.2 850 MHz CH190

850 Right Cheek High-Slide down

Date/Time: 2010-9-15 8:51:25
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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.460 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.26 V/m; Power Drift = 0.131 dB
Peak SAR (extrapolated) = 0.586 W/kg
SAR(1 g) = 0.429 mW/g; SAR(10 g) = 0.321 mW/g
Maximum value of SAR (measured) = 0.452 mW/g

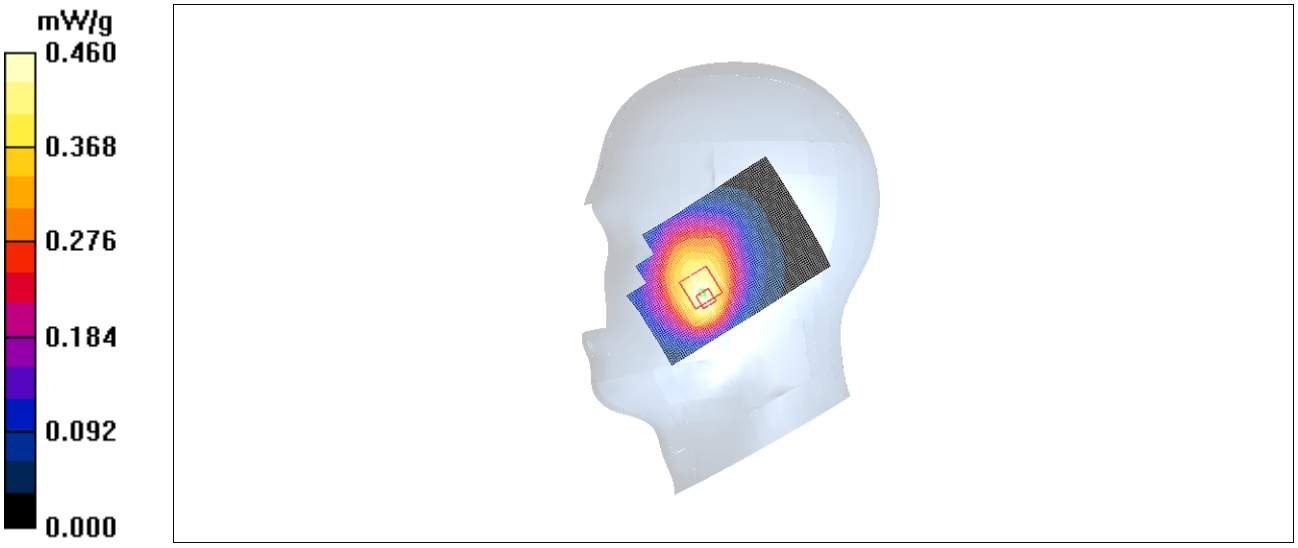


Fig. 3 850 MHz CH251

850 Right Cheek Middle-Slide down

Date/Time: 2010-9-15 8:37:05
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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.457 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.04 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 0.573 W/kg
SAR(1 g) = 0.424 mW/g; SAR(10 g) = 0.318 mW/g
Maximum value of SAR (measured) = 0.443 mW/g

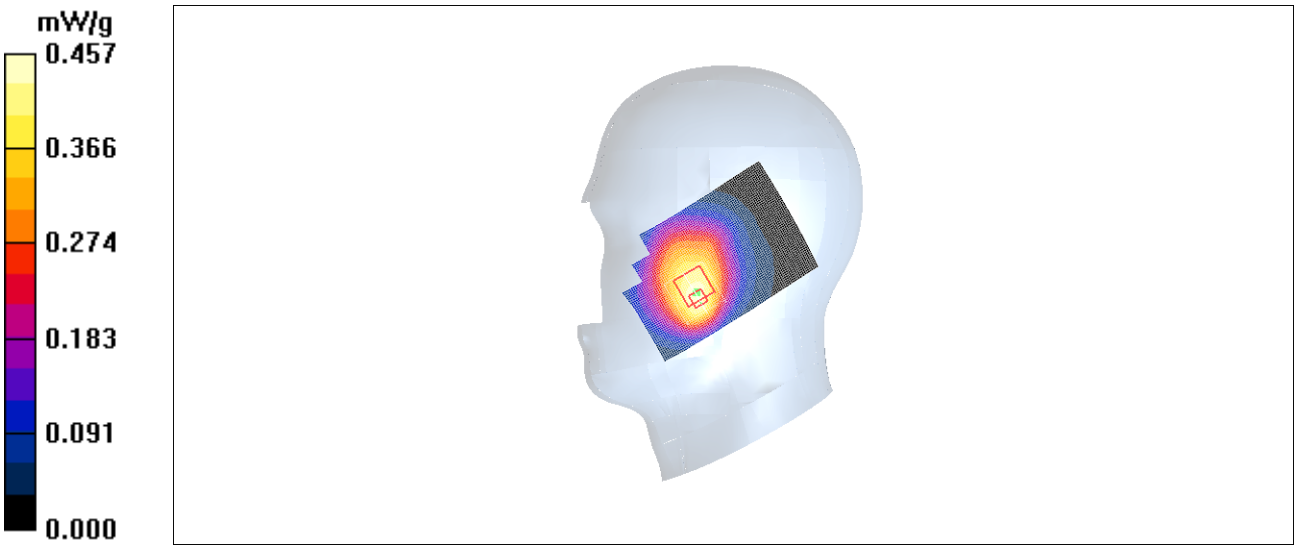


Fig. 4 850 MHz CH190

850 Right Cheek Low-Slide down

Date/Time: 2010-9-15 9:05:52
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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.364 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.20 V/m; Power Drift = 0.090 dB
Peak SAR (extrapolated) = 0.454 W/kg
SAR(1 g) = 0.336 mW/g; SAR(10 g) = 0.253 mW/g
Maximum value of SAR (measured) = 0.352 mW/g

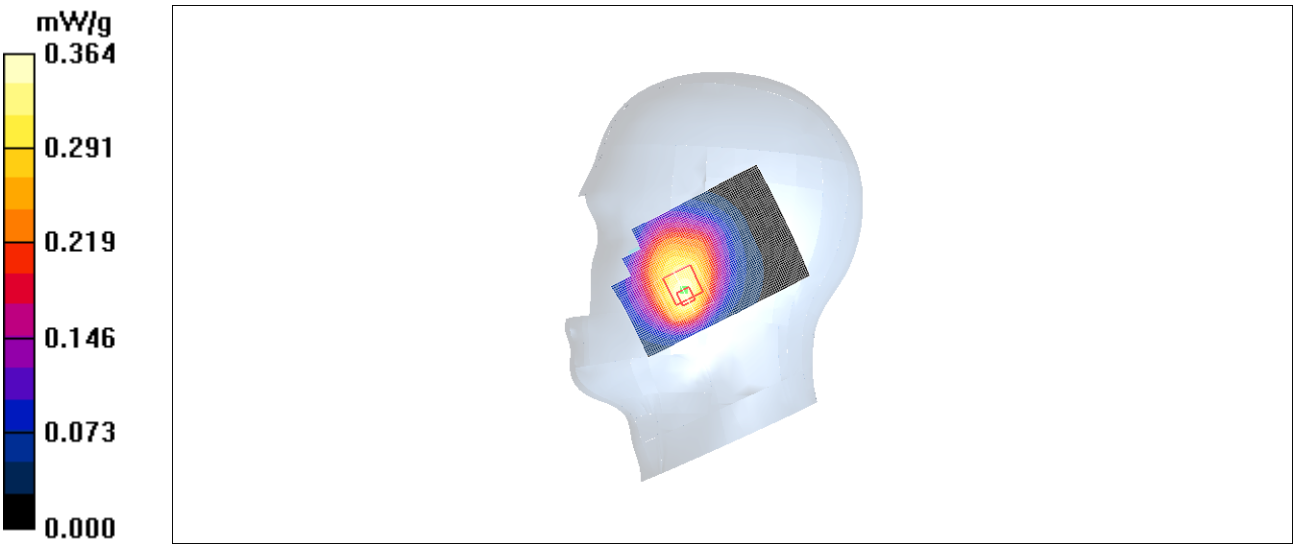


Fig. 5 850 MHz CH128

850 Right Tilt Middle-Slide down

Date/Time: 2010-9-15 9:20:19
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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.244 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.1 V/m; Power Drift = 0.068 dB
Peak SAR (extrapolated) = 0.288 W/kg
SAR(1 g) = 0.232 mW/g; SAR(10 g) = 0.176 mW/g
Maximum value of SAR (measured) = 0.245 mW/g

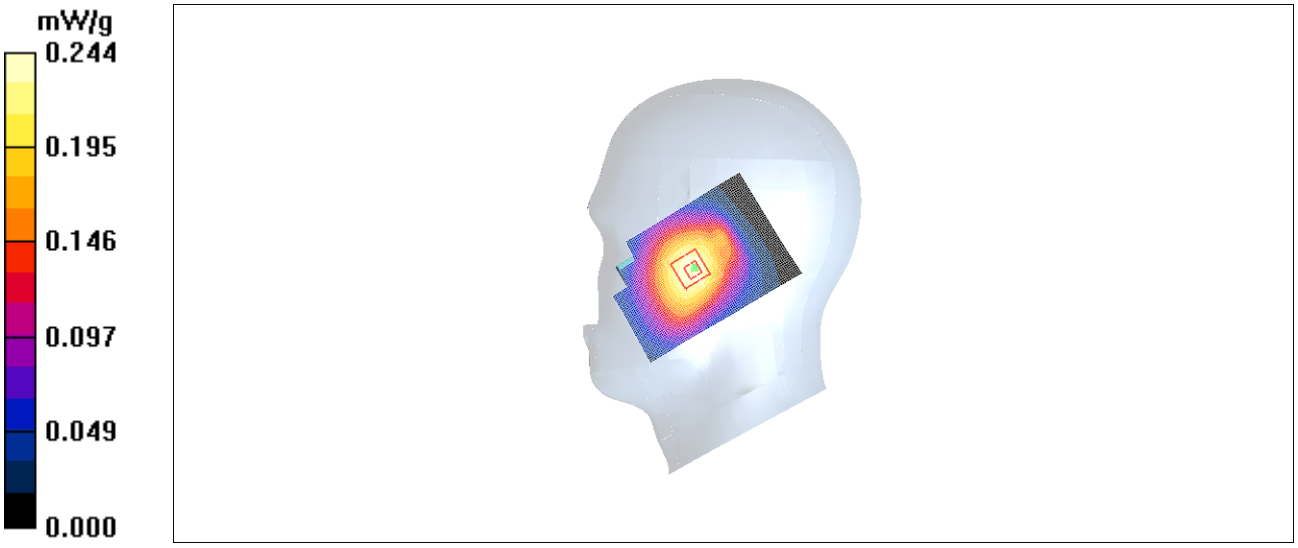


Fig.6 850 MHz CH190

850 Left Cheek Middle-Slide up

Date/Time: 2010-9-15 9:38:21
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 (61x111x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.387 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.22 V/m; Power Drift = -0.168 dB
Peak SAR (extrapolated) = 0.444 W/kg
SAR(1 g) = 0.366 mW/g; SAR(10 g) = 0.278 mW/g
Maximum value of SAR (measured) = 0.387 mW/g

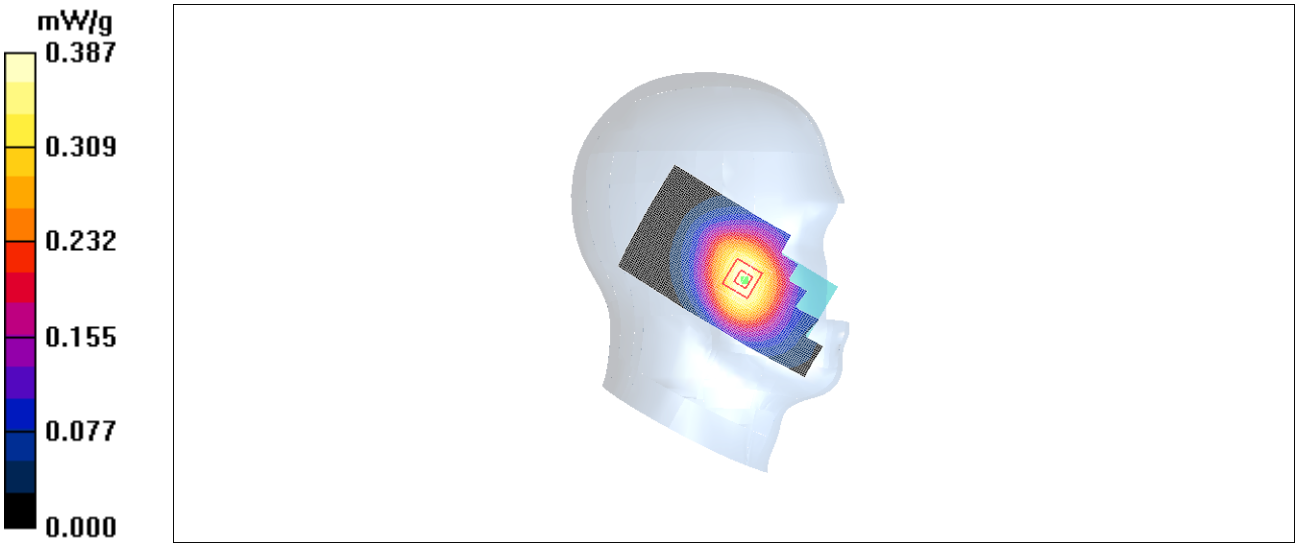


Fig. 7 850 MHz CH190

850 Left Tilt Middle-Slide up

Date/Time: 2010-9-15 9:52:49
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 (61x111x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.199 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.48 V/m; Power Drift = -0.027 dB
Peak SAR (extrapolated) = 0.235 W/kg
SAR(1 g) = 0.190 mW/g; SAR(10 g) = 0.143 mW/g
Maximum value of SAR (measured) = 0.200 mW/g

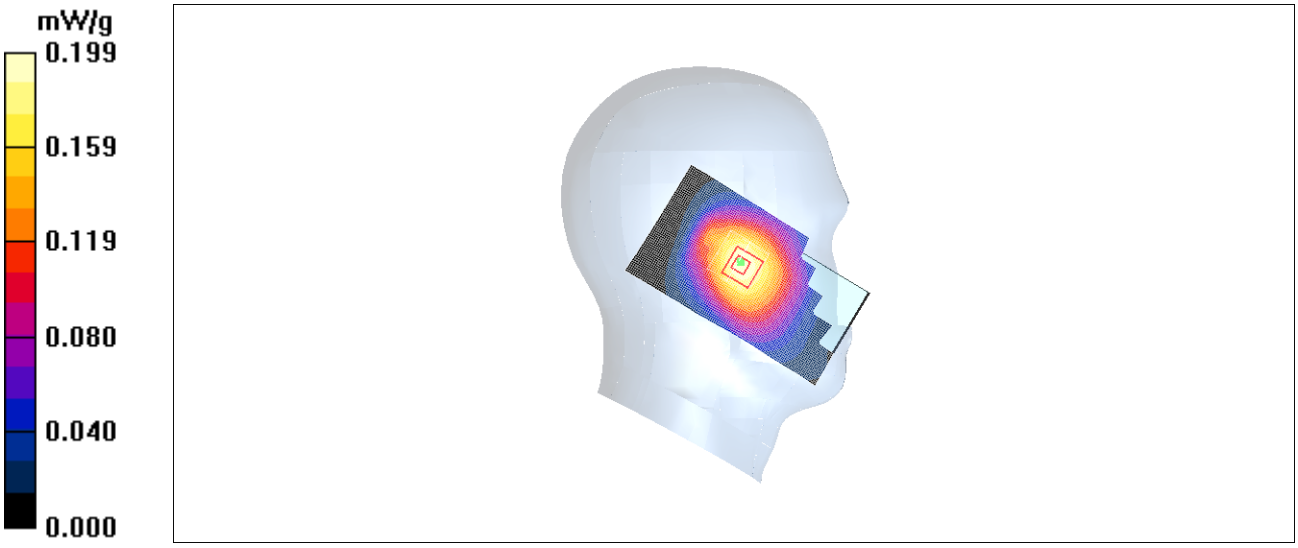


Fig.8 850 MHz CH190

850 Right Cheek High-Slide up

Date/Time: 2010-9-15 10:21:45
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 (61x111x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.610 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.11 V/m; Power Drift = -0.061 dB
Peak SAR (extrapolated) = 0.747 W/kg
SAR(1 g) = 0.561 mW/g; SAR(10 g) = 0.415 mW/g
Maximum value of SAR (measured) = 0.591 mW/g

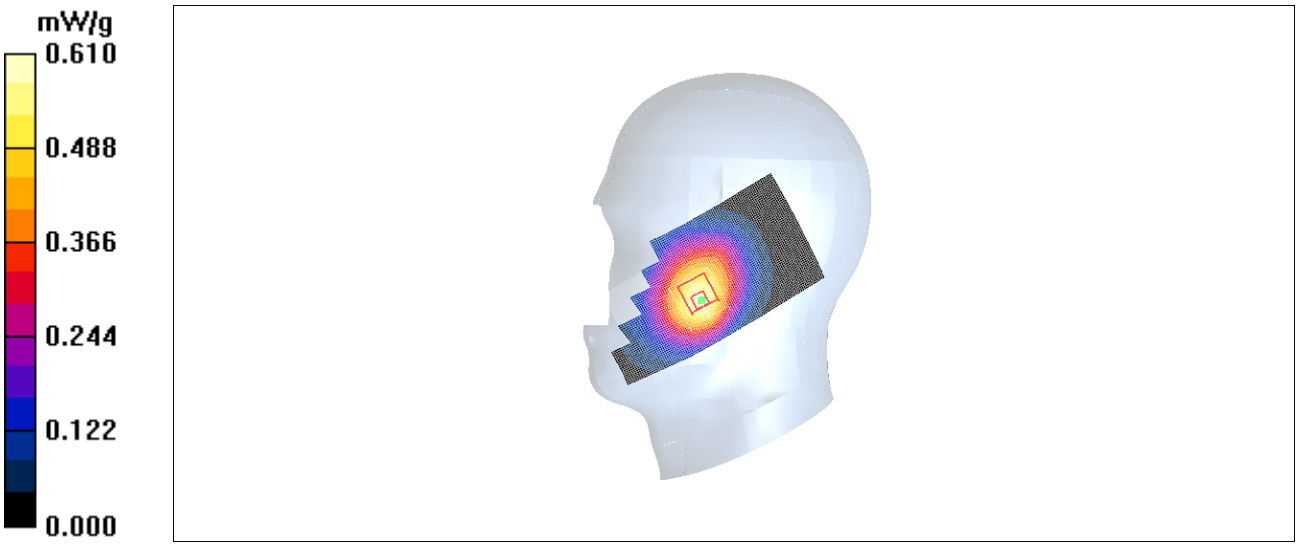


Fig. 9 850 MHz CH251

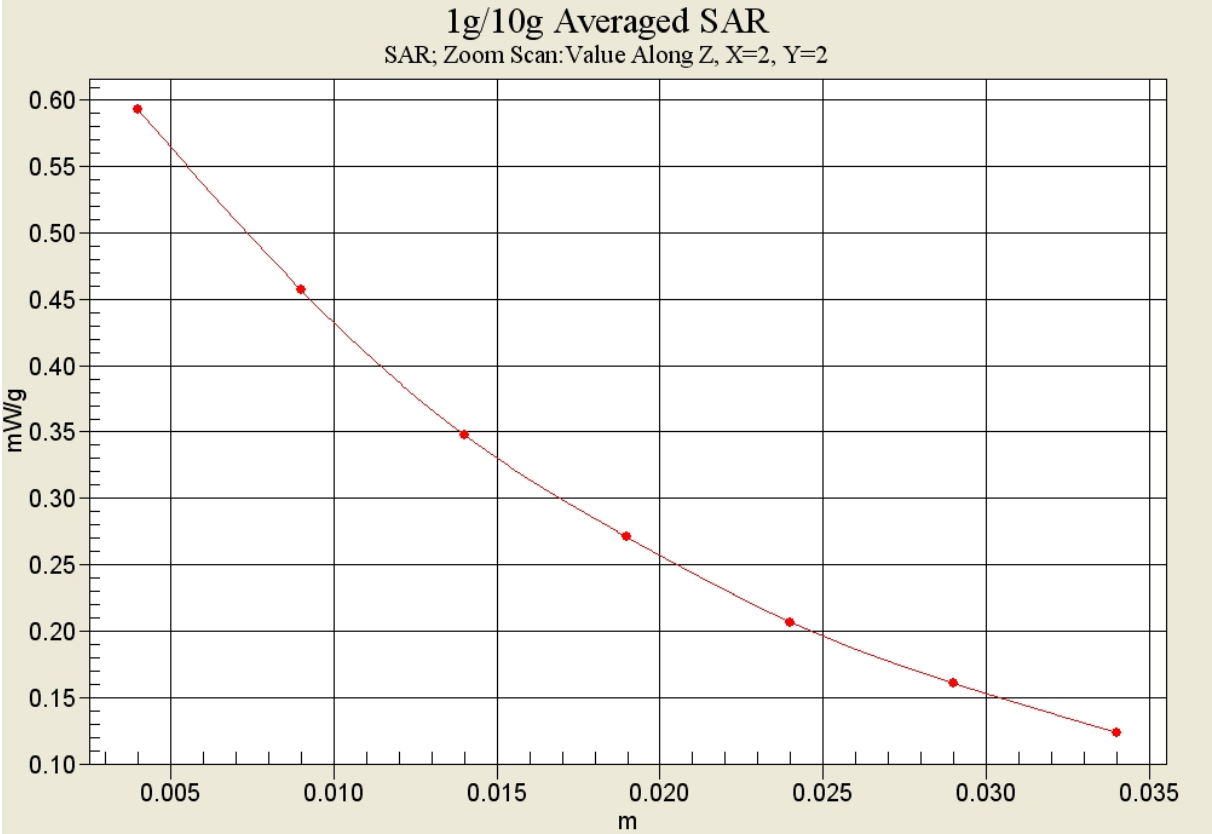


Fig. 9-1 Z-Scan at power reference point (850 MHz CH251)

850 Right Cheek Middle-Slide up

Date/Time: 2010-9-15 10:07:20
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 (61x111x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.492 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.51 V/m; Power Drift = -0.191 dB
Peak SAR (extrapolated) = 0.598 W/kg
SAR(1 g) = 0.446 mW/g; SAR(10 g) = 0.332 mW/g
Maximum value of SAR (measured) = 0.467 mW/g

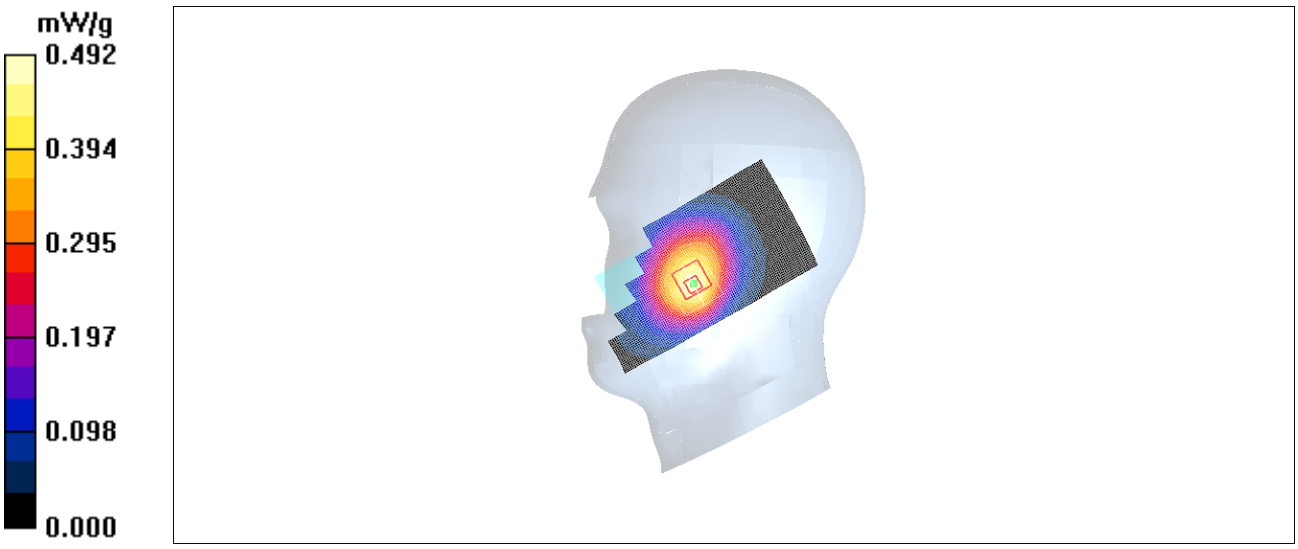


Fig. 10 850 MHz CH190

850 Right Cheek Low-Slide up

Date/Time: 2010-9-15 10:36:04
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 (61x111x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.387 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.84 V/m; Power Drift = 0.096 dB
Peak SAR (extrapolated) = 0.467 W/kg
SAR(1 g) = 0.355 mW/g; SAR(10 g) = 0.263 mW/g
Maximum value of SAR (measured) = 0.373 mW/g

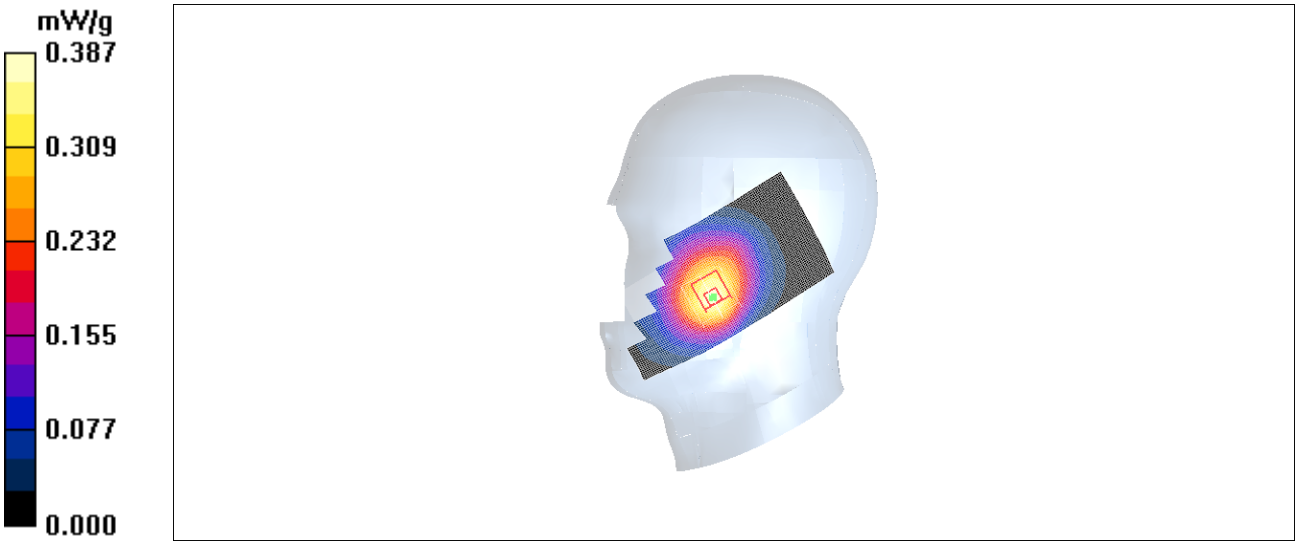


Fig. 11 850 MHz CH128

850 Right Tilt Middle-Slide up

Date/Time: 2010-9-15 10:50:29
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 (61x111x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.230 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.88 V/m; Power Drift = 0.032 dB
Peak SAR (extrapolated) = 0.276 W/kg
SAR(1 g) = 0.221 mW/g; SAR(10 g) = 0.167 mW/g
Maximum value of SAR (measured) = 0.233 mW/g

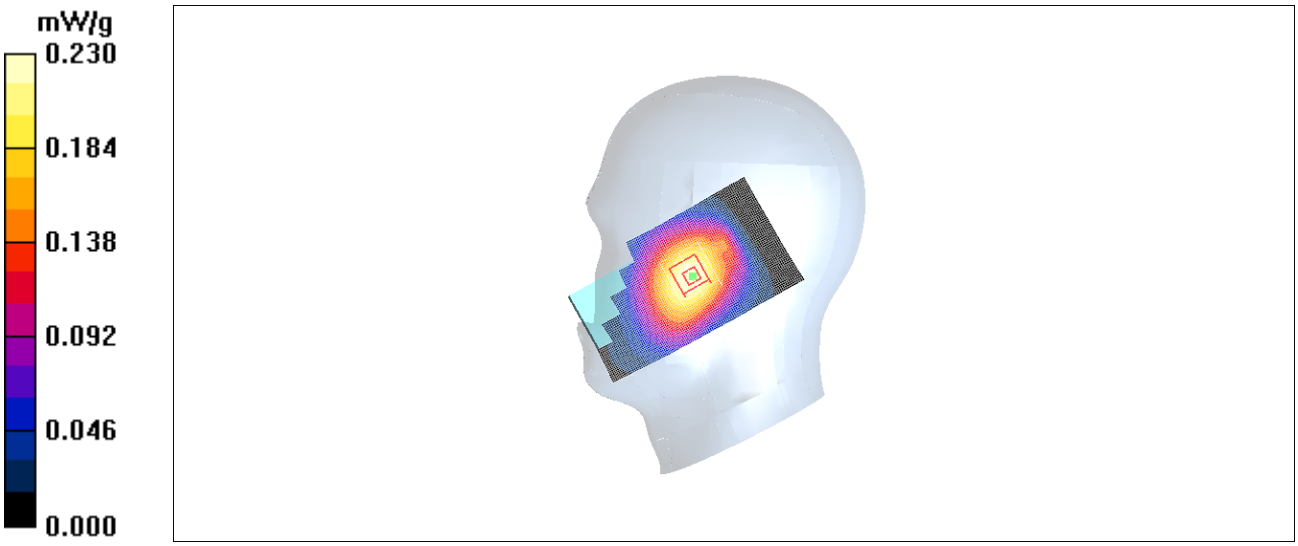


Fig.12 850 MHz CH190

1900 Left Cheek High-Slide down

Date/Time: 2010-9-16 14:43:59
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; εr = 40.2; 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) = 0.335 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.93 V/m; Power Drift = 0.070 dB
Peak SAR (extrapolated) = 0.469 W/kg
SAR(1 g) = 0.298 mW/g; SAR(10 g) = 0.172 mW/g
Maximum value of SAR (measured) = 0.325 mW/g

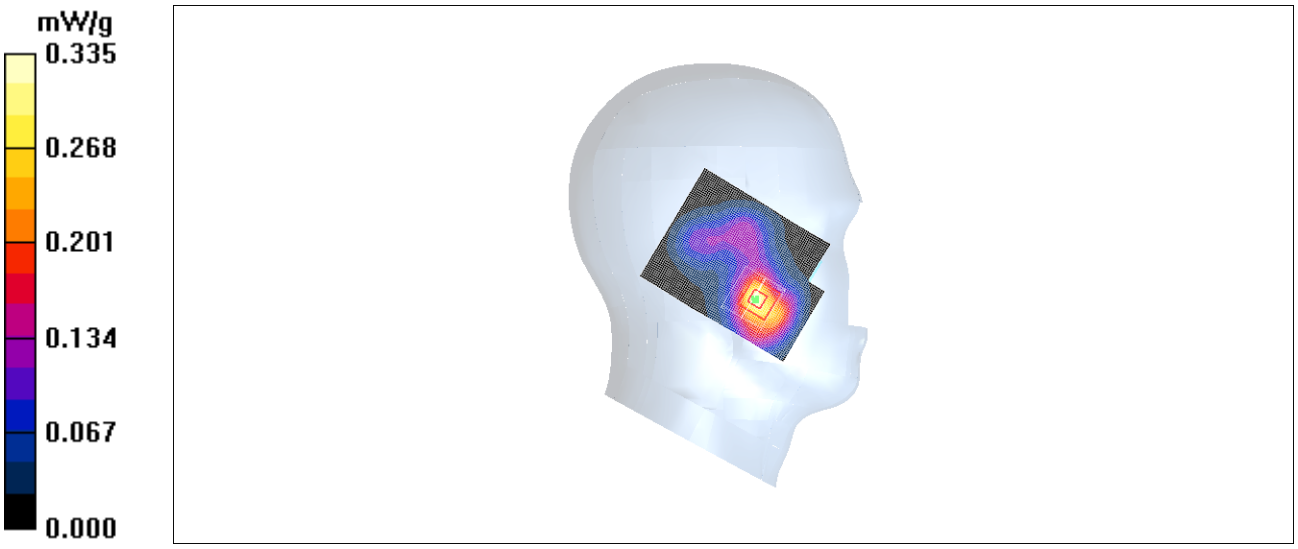


Fig. 13 1900 MHz CH810

1900 Left Cheek Middle-Slide down

Date/Time: 2010-9-16 13:46:02
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 40.6; 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) = 0.450 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.6 V/m; Power Drift = 0.116 dB
Peak SAR (extrapolated) = 0.631 W/kg
SAR(1 g) = 0.407 mW/g; SAR(10 g) = 0.238 mW/g
Maximum value of SAR (measured) = 0.453 mW/g

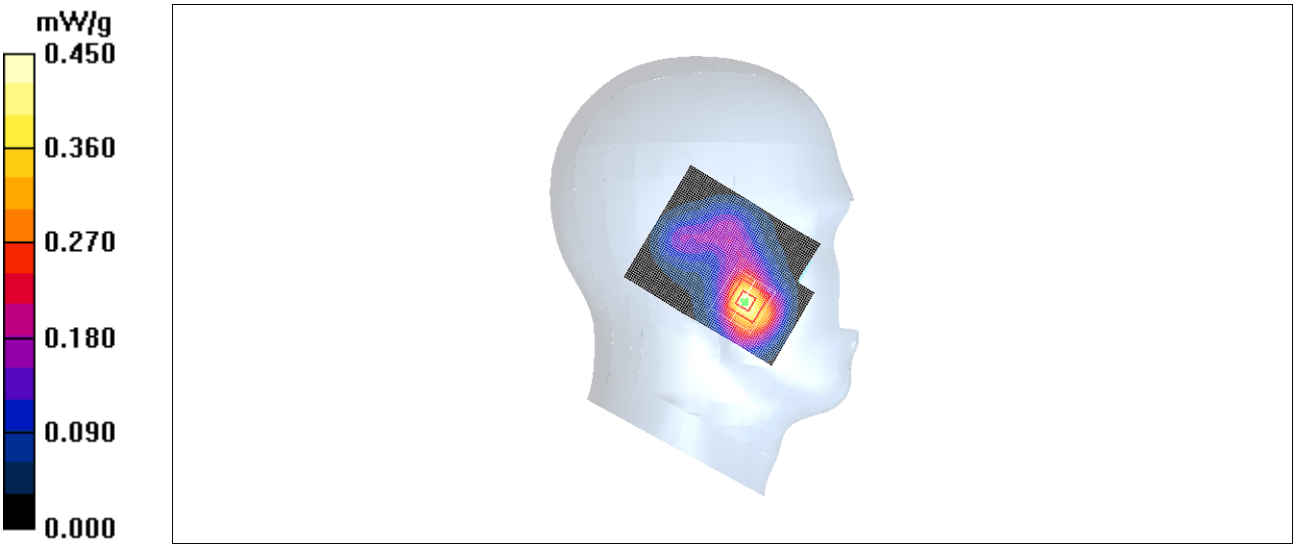


Fig. 14 1900 MHz CH661

1900 Left Cheek Low-Slide down

Date/Time: 2010-9-16 14:58:22
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.36 mho/m; εr = 39.5; 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) = 0.623 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.0 V/m; Power Drift = 0.025 dB
Peak SAR (extrapolated) = 0.882 W/kg
SAR(1 g) = 0.564 mW/g; SAR(10 g) = 0.329 mW/g
Maximum value of SAR (measured) = 0.623 mW/g

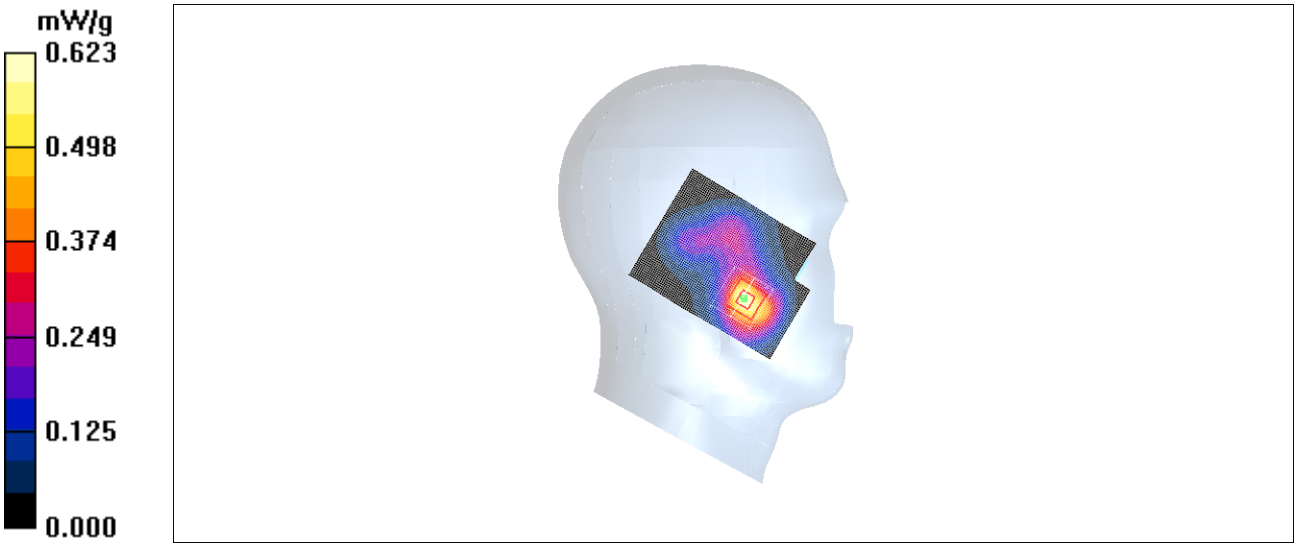


Fig. 15 1900 MHz CH512

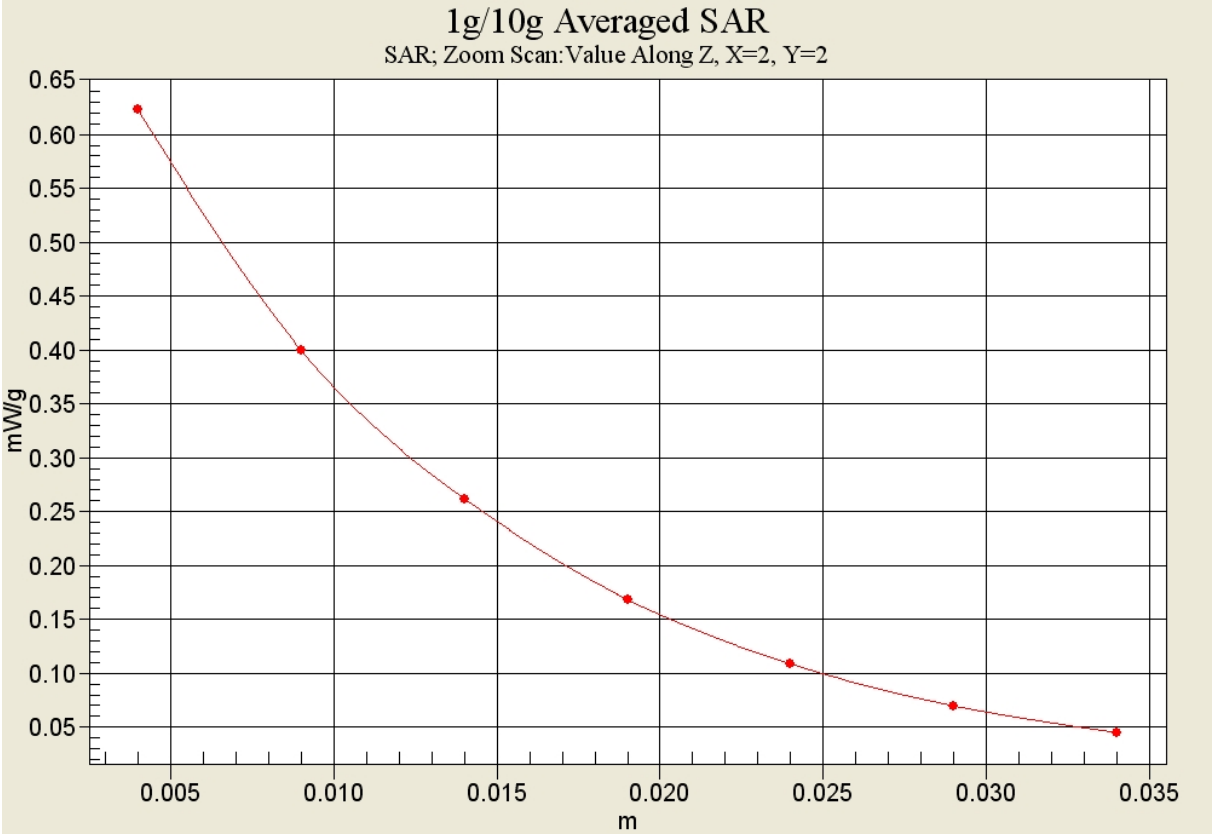


Fig. 15-1 Z-Scan at power reference point (1900 MHz CH512)

1900 Left Tilt Middle-Slide down

Date/Time: 2010-9-16 14:00:23
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 40.6; 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) = 0.348 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.6 V/m; Power Drift = 0.018 dB
Peak SAR (extrapolated) = 0.467 W/kg
SAR(1 g) = 0.300 mW/g; SAR(10 g) = 0.176 mW/g
Maximum value of SAR (measured) = 0.334 mW/g

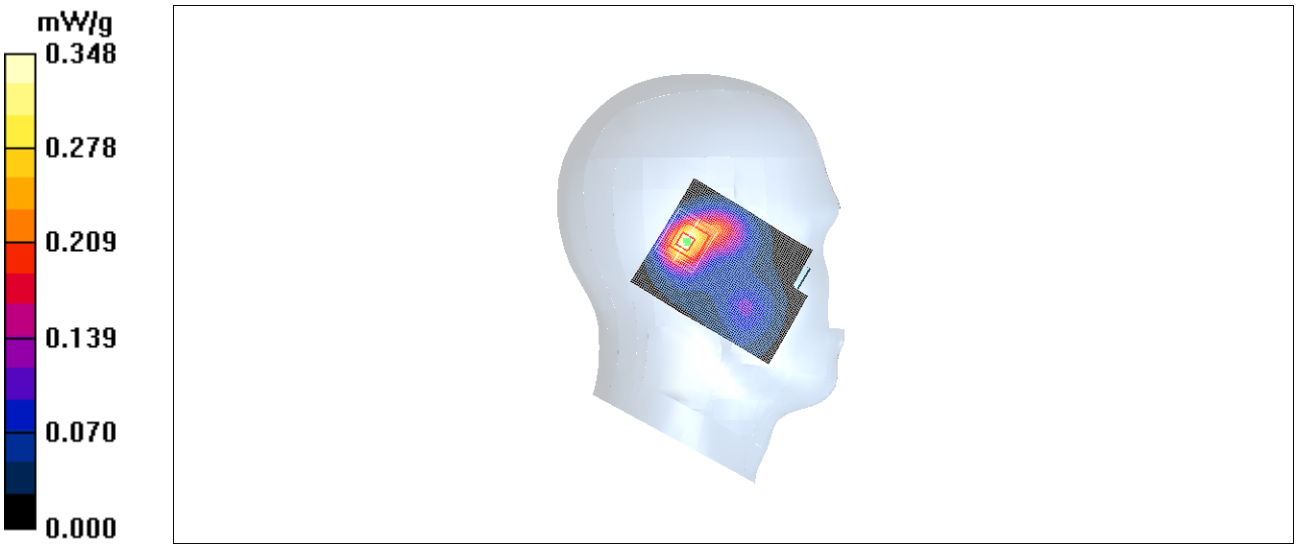


Fig. 16 1900 MHz CH661

1900 Right Cheek Middle-Slide down

Date/Time: 2010-9-16 14:14:57
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 40.6; 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) = 0.285 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.69 V/m; Power Drift = -0.085 dB
Peak SAR (extrapolated) = 0.445 W/kg
SAR(1 g) = 0.285 mW/g; SAR(10 g) = 0.172 mW/g
Maximum value of SAR (measured) = 0.303 mW/g

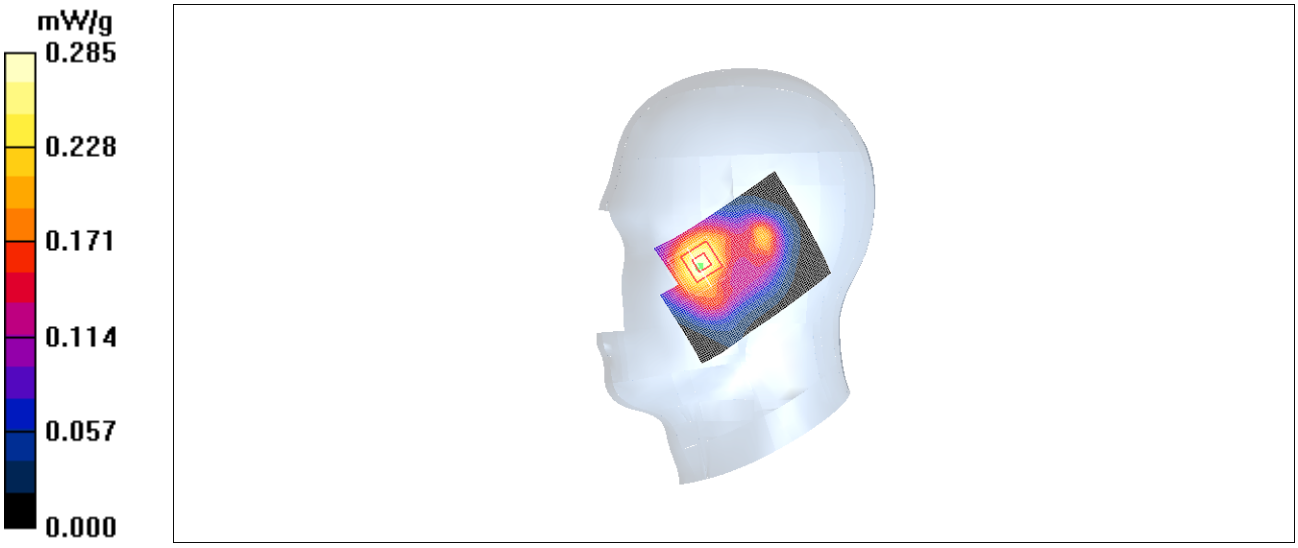


Fig. 17 1900 MHz CH661

1900 Right Tilt Middle-Slide down

Date/Time: 2010-9-16 14:29:18
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 40.6; 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) = 0.429 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.5 V/m; Power Drift = -0.065 dB
Peak SAR (extrapolated) = 0.567 W/kg
SAR(1 g) = 0.363 mW/g; SAR(10 g) = 0.210 mW/g
Maximum value of SAR (measured) = 0.397 mW/g

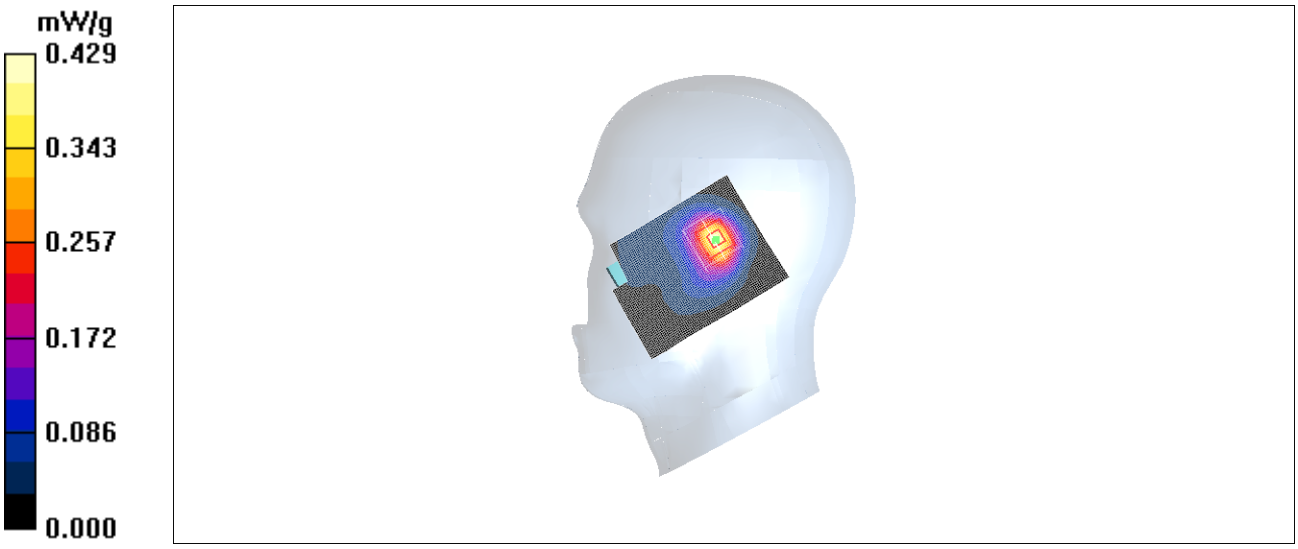


Fig.18 1900 MHz CH661

1900 Left Cheek Middle- Slide up

Date/Time: 2010-9-16 15:13:54
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 40.6; 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 (61x111x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.220 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.70 V/m; Power Drift = -0.109 dB
Peak SAR (extrapolated) = 0.317 W/kg
SAR(1 g) = 0.208 mW/g; SAR(10 g) = 0.134 mW/g
Maximum value of SAR (measured) = 0.223 mW/g

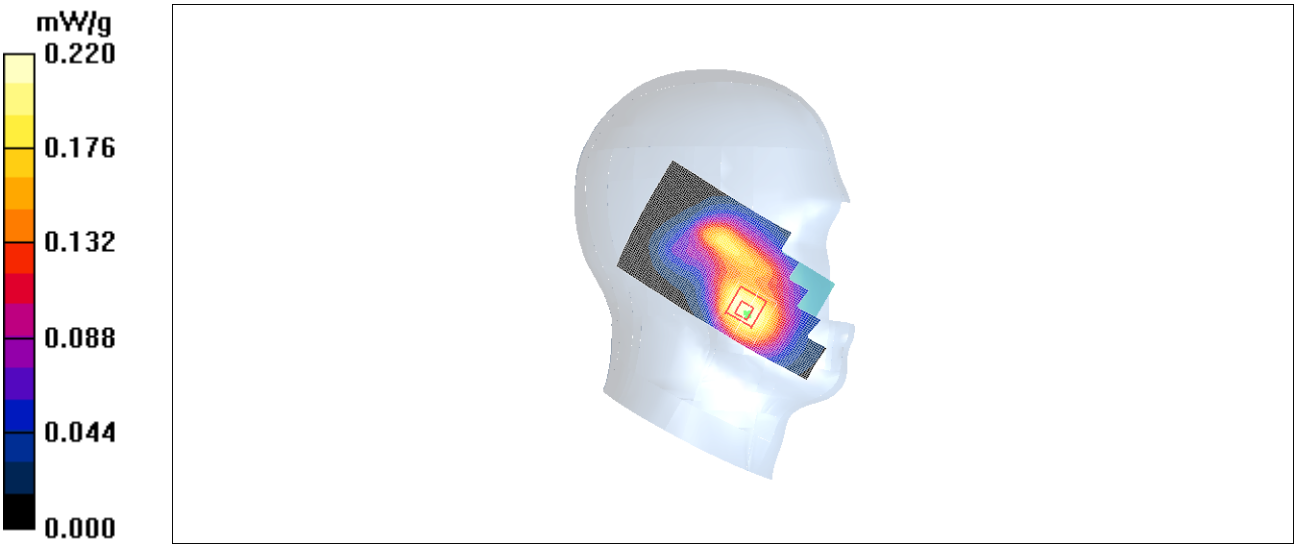


Fig. 19 1900 MHz CH661

1900 Left Tilt Middle- Slide up

Date/Time: 2010-9-16 15:28:20
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 40.6; 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 (61x111x1): 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 = -0.032 dB
Peak SAR (extrapolated) = 0.275 W/kg
SAR(1 g) = 0.189 mW/g; SAR(10 g) = 0.124 mW/g
Maximum value of SAR (measured) = 0.198 mW/g

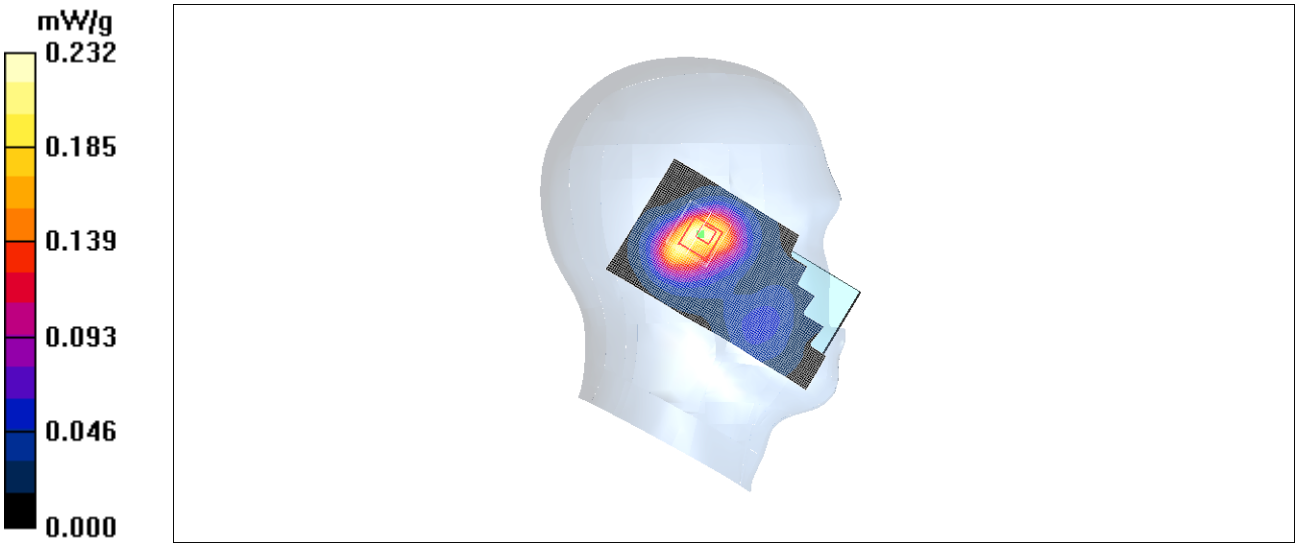


Fig. 20 1900 MHz CH661

1900 Right Cheek High- Slide up

Date/Time: 2010-9-16 15:57:26
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1910 MHz; σ = 1.43 mho/m; εr = 40.2; 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 (61x111x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.165 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.50 V/m; Power Drift = -0.099 dB
Peak SAR (extrapolated) = 0.229 W/kg
SAR(1 g) = 0.152 mW/g; SAR(10 g) = 0.094 mW/g
Maximum value of SAR (measured) = 0.168 mW/g

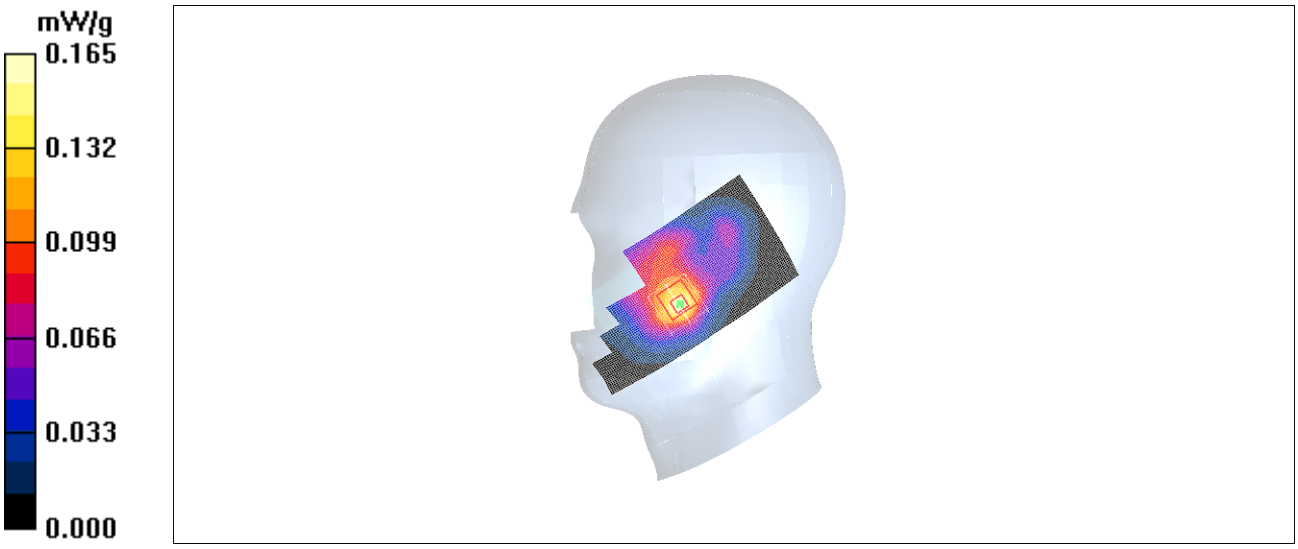


Fig. 21 1900 MHz CH810

1900 Right Cheek Middle- Slide up

Date/Time: 2010-9-16 15:42:58
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 40.6; 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 (61x111x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.263 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.27 V/m; Power Drift = 0.171 dB
Peak SAR (extrapolated) = 0.350 W/kg
SAR(1 g) = 0.238 mW/g; SAR(10 g) = 0.147 mW/g
Maximum value of SAR (measured) = 0.261 mW/g

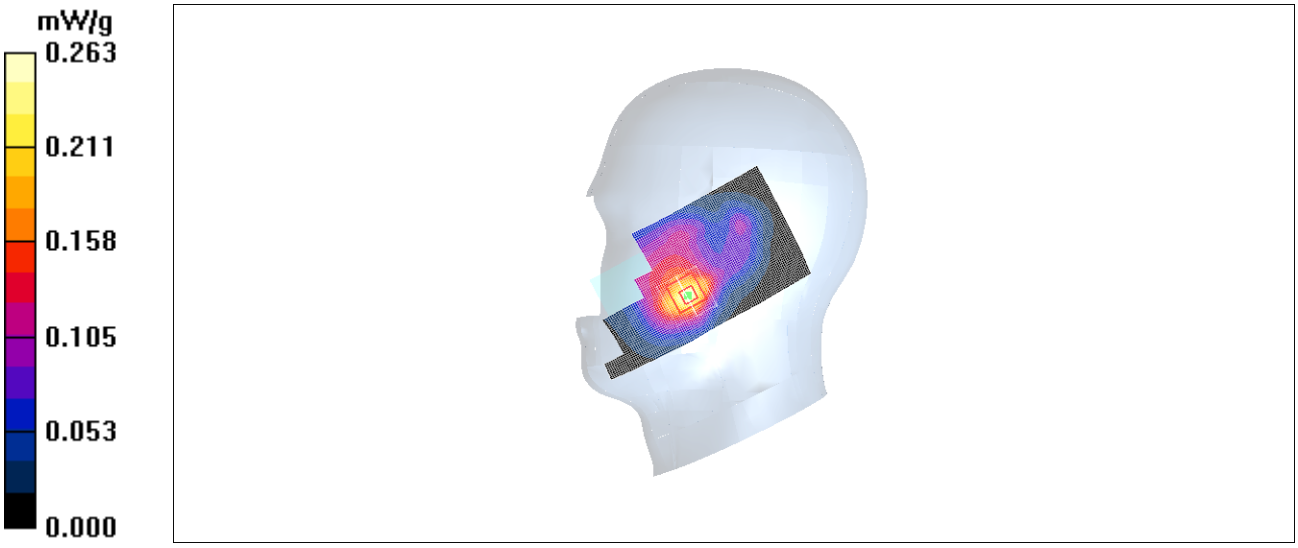


Fig. 22 1900 MHz CH661

1900 Right Cheek Low- Slide up

Date/Time: 2010-9-16 16:11:45
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.36 mho/m; εr = 39.5; 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 (61x111x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.360 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.67 V/m; Power Drift = -0.082 dB
Peak SAR (extrapolated) = 0.481 W/kg
SAR(1 g) = 0.328 mW/g; SAR(10 g) = 0.205 mW/g
Maximum value of SAR (measured) = 0.358 mW/g

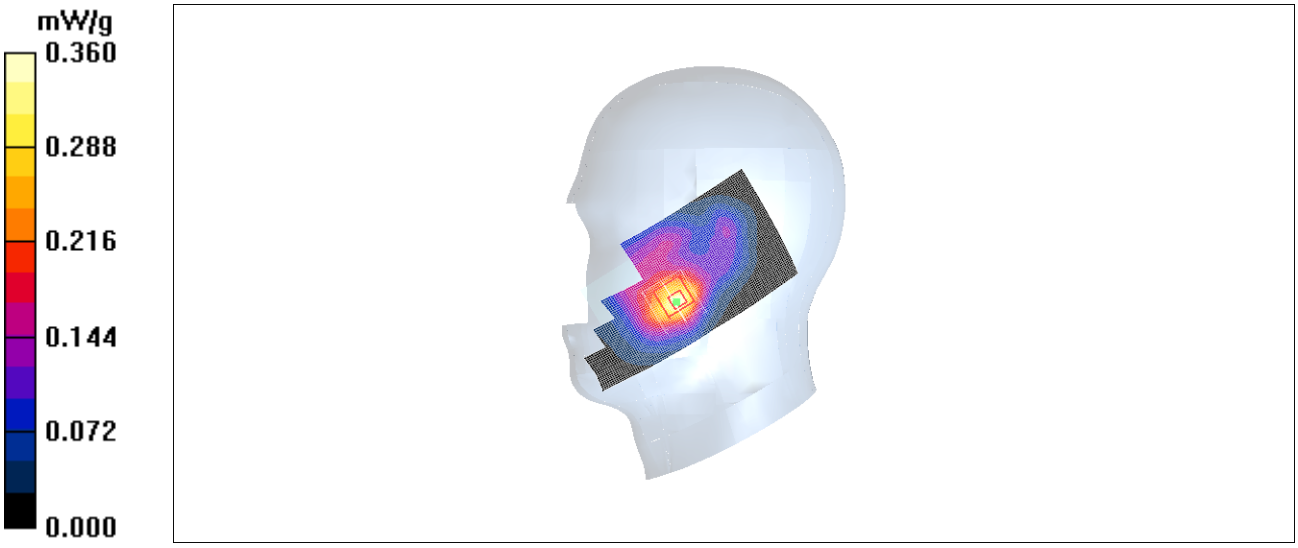


Fig. 23 1900 MHz CH512

1900 Right Tilt Middle- Slide up

Date/Time: 2010-9-16 16:26:19
Electronics: DAE4 Sn771
Medium: Head 1900 MHz
Medium parameters used: f = 1880 MHz; σ = 1.39 mho/m; εr = 40.6; 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 (61x111x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.253 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 = 0.005 dB
Peak SAR (extrapolated) = 0.329 W/kg
SAR(1 g) = 0.215 mW/g; SAR(10 g) = 0.129 mW/g
Maximum value of SAR (measured) = 0.233 mW/g

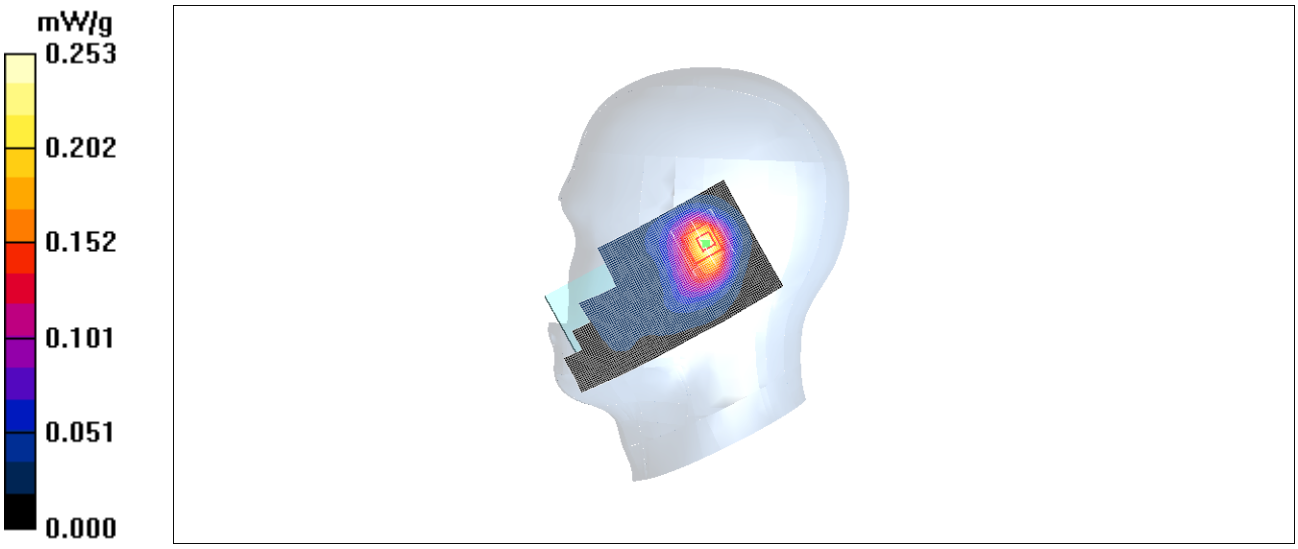


Fig.24 1900 MHz CH661

WCDMA 850 Left Cheek Middle-Slide down

Date/Time: 2010-9-15 11:07:13
Electronics: DAE4 Sn771
Medium: Head 850
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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.246 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.90 V/m; Power Drift = -0.021 dB
Peak SAR (extrapolated) = 0.298 W/kg
SAR(1 g) = 0.225 mW/g; SAR(10 g) = 0.163 mW/g
Maximum value of SAR (measured) = 0.236 mW/g

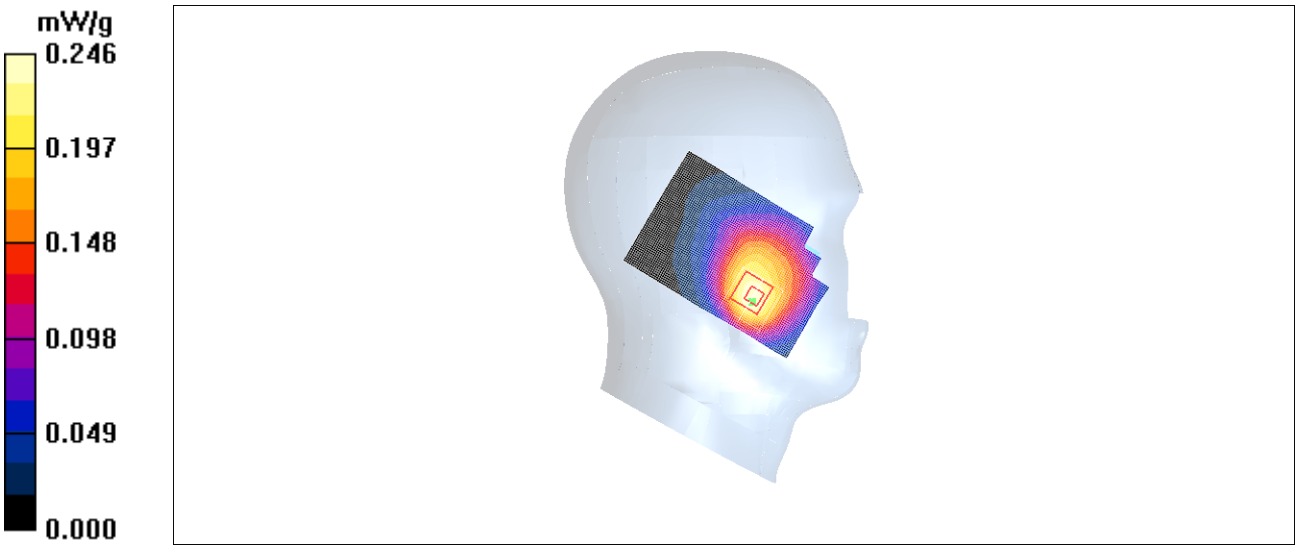


Fig. 25 850 MHz CH4182

WCDMA 850 Left Tilt Middle-Slide down

Date/Time: 2010-9-15 11:21:31
Electronics: DAE4 Sn771
Medium: Head 850
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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.160 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.20 V/m; Power Drift = -0.068 dB
Peak SAR (extrapolated) = 0.192 W/kg
SAR(1 g) = 0.152 mW/g; SAR(10 g) = 0.115 mW/g
Maximum value of SAR (measured) = 0.160 mW/g

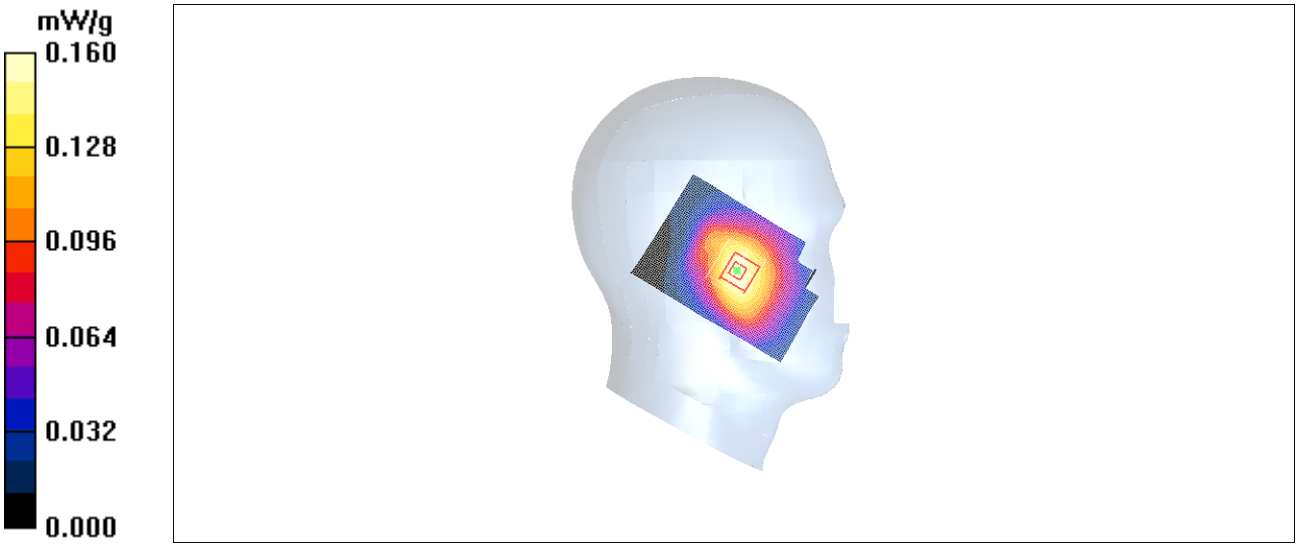


Fig.26 850 MHz CH4182

WCDMA 850 Right Cheek High-Slide down

Date/Time: 2010-9-15 11:50:20
Electronics: DAE4 Sn771
Medium: Head 900
Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.901 mho/m; εr = 41.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC 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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.353 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.23 V/m; Power Drift = 0.119 dB
Peak SAR (extrapolated) = 0.416 W/kg
SAR(1 g) = 0.322 mW/g; SAR(10 g) = 0.245 mW/g
Maximum value of SAR (measured) = 0.334 mW/g

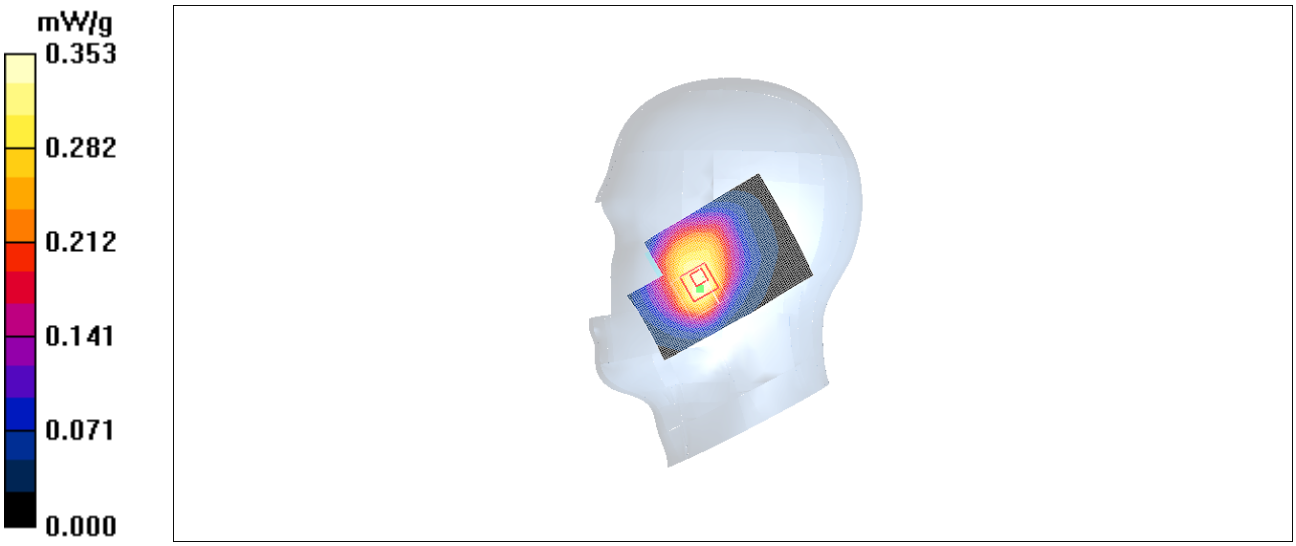


Fig. 27 850 MHz CH4233

WCDMA 850 Right Cheek Middle-Slide down

Date/Time: 2010-9-15 11:35:55
Electronics: DAE4 Sn771
Medium: Head 900
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.90 mho/m; εr = 41.9; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC 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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.261 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.13 V/m; Power Drift = 0.101 dB
Peak SAR (extrapolated) = 0.316 W/kg
SAR(1 g) = 0.246 mW/g; SAR(10 g) = 0.190 mW/g
Maximum value of SAR (measured) = 0.255 mW/g

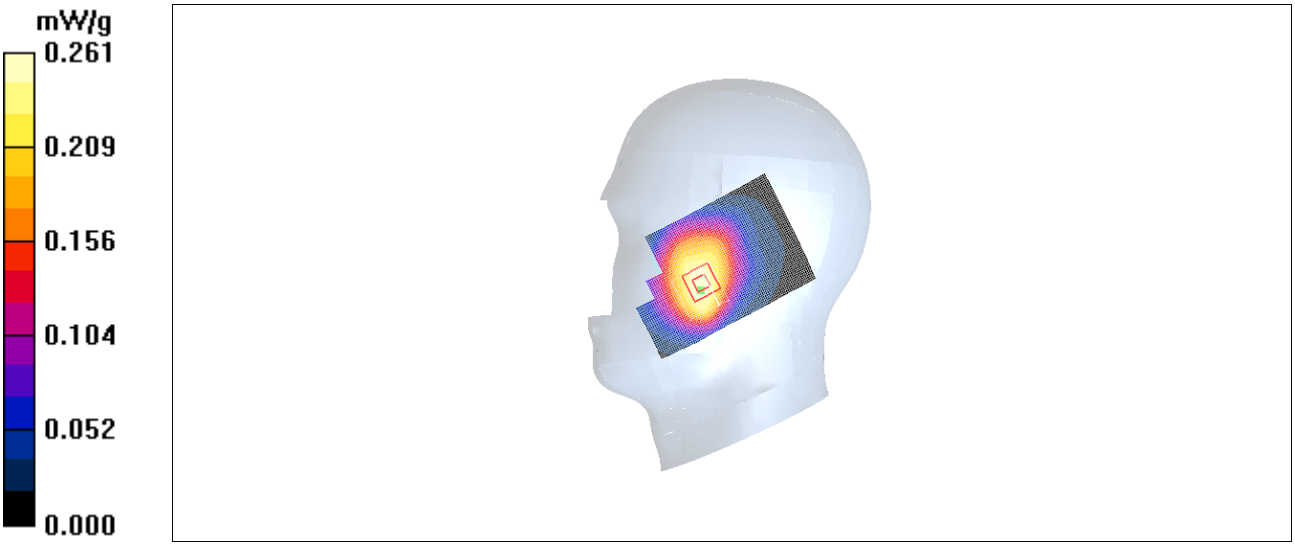


Fig. 28 850 MHz CH4182

WCDMA 850 Right Cheek Low-Slide down

Date/Time: 2010-9-15 12:04:39
Electronics: DAE4 Sn771
Medium: Head 900
Medium parameters used (interpolated): f = 826.4 MHz; σ = 0.88 mho/m; εr = 42.1; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC 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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.296 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.56 V/m; Power Drift = -0.002 dB
Peak SAR (extrapolated) = 0.358 W/kg
SAR(1 g) = 0.280 mW/g; SAR(10 g) = 0.217 mW/g
Maximum value of SAR (measured) = 0.291 mW/g

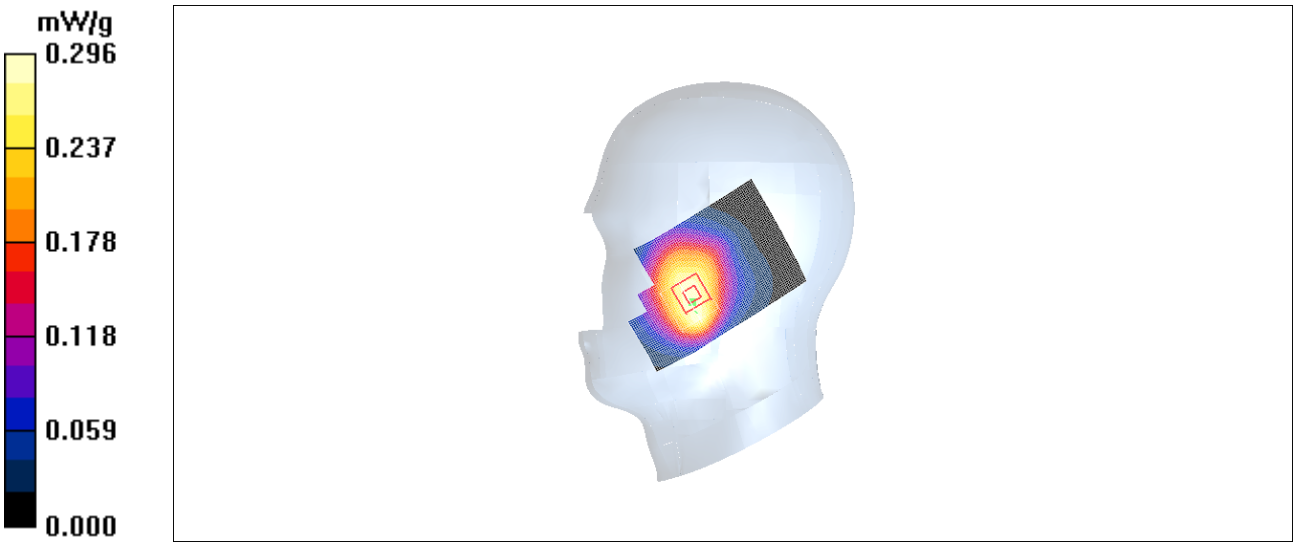


Fig. 29 850 MHz CH4132

WCDMA 850 Right Tilt Middle-Slide down

Date/Time: 2010-9-15 12:18:58
Electronics: DAE4 Sn771
Medium: Head 900
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.90 mho/m; εr = 41.9; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC 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 (61x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.236 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 10.6 V/m; Power Drift = -0.089 dB
Peak SAR (extrapolated) = 0.272 W/kg
SAR(1 g) = 0.221 mW/g; SAR(10 g) = 0.168 mW/g
Maximum value of SAR (measured) = 0.233 mW/g

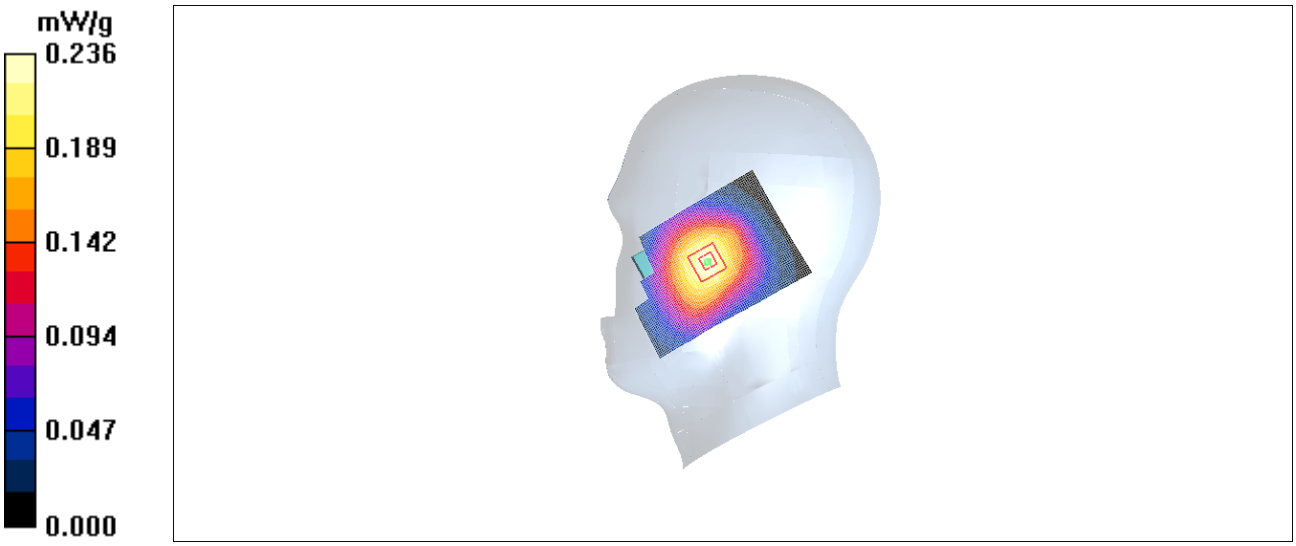


Fig.30 850 MHz CH4182

WCDMA 850 Left Cheek Middle-Slide up

Date/Time: 2010-9-15 12:34:25
Electronics: DAE4 Sn771
Medium: Head 900
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.90 mho/m; εr = 41.9; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC 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 (61x111x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.724 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.43 V/m; Power Drift = -0.058 dB
Peak SAR (extrapolated) = 0.831 W/kg
SAR(1 g) = 0.687 mW/g; SAR(10 g) = 0.526 mW/g
Maximum value of SAR (measured) = 0.725 mW/g

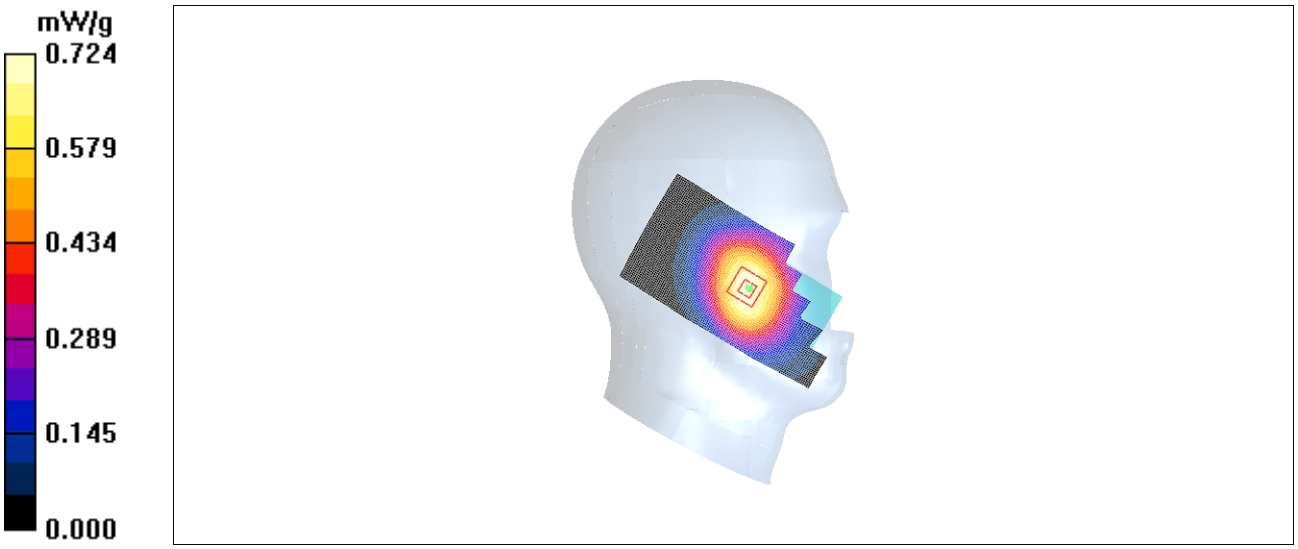


Fig. 31 850 MHz CH4182

WCDMA 850 Left Tilt Middle-Slide up

Date/Time: 2010-9-15 12:48:43
Electronics: DAE4 Sn771
Medium: Head 900
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.90 mho/m; εr = 41.9; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC 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 (61x111x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.445 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.3 V/m; Power Drift = 0.000 dB
Peak SAR (extrapolated) = 0.523 W/kg
SAR(1 g) = 0.421 mW/g; SAR(10 g) = 0.319 mW/g
Maximum value of SAR (measured) = 0.444 mW/g

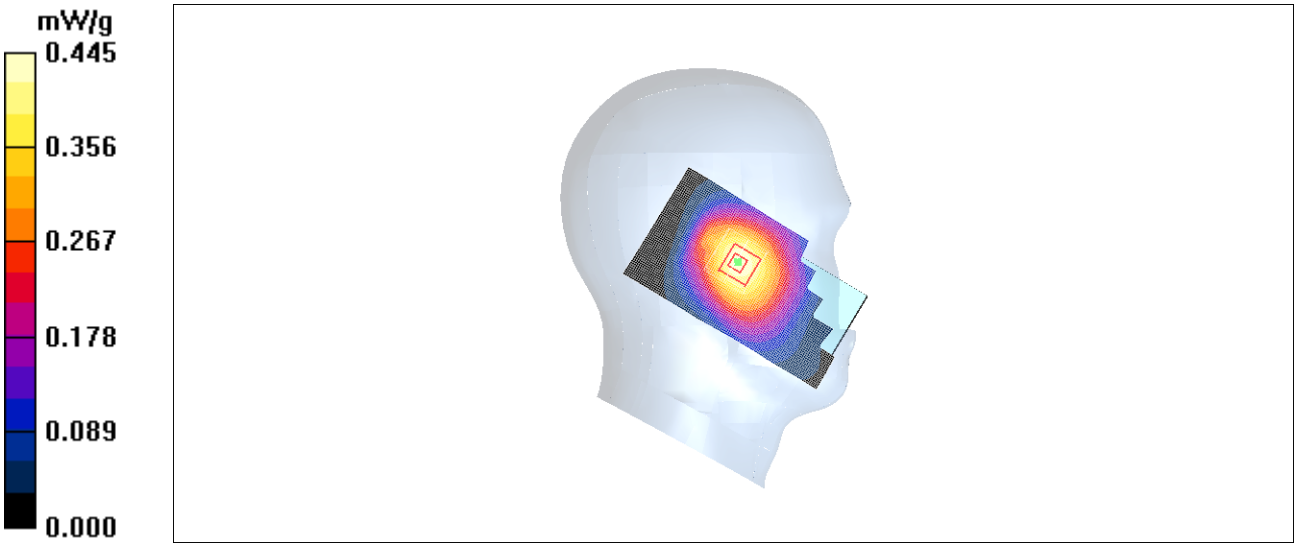


Fig.32 850 MHz CH4182

WCDMA 850 Right Cheek High-Slide up

Date/Time: 2010-9-15 13:17:38
Electronics: DAE4 Sn771
Medium: Head 900
Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.901 mho/m; εr = 41.8; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC 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 (61x111x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.518 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.64 V/m; Power Drift = 0.125 dB
Peak SAR (extrapolated) = 0.623 W/kg
SAR(1 g) = 0.478 mW/g; SAR(10 g) = 0.358 mW/g
Maximum value of SAR (measured) = 0.500 mW/g

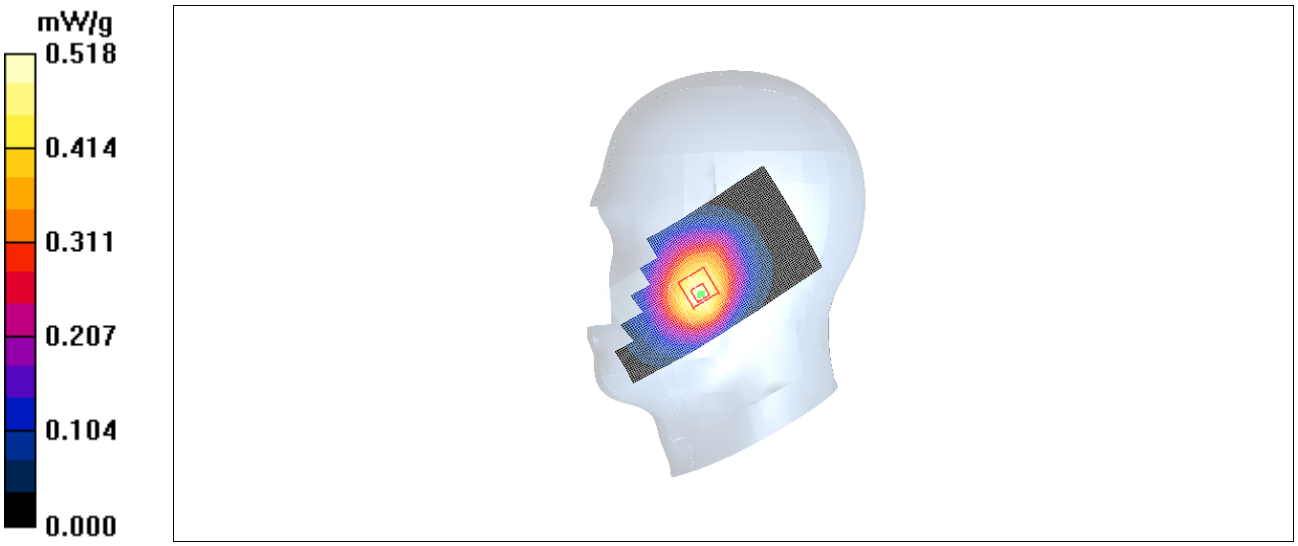


Fig. 33 850 MHz CH4233

WCDMA 850 Right Cheek Middle-Slide up

Date/Time: 2010-9-15 13:03:19
Electronics: DAE4 Sn771
Medium: Head 900
Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.90 mho/m; εr = 41.9; ρ = 1000 kg/m^3
Ambient Temperature:23.0oC 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 (61x111x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.847 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.90 V/m; Power Drift = -0.036 dB
Peak SAR (extrapolated) = 1.01 W/kg
SAR(1 g) = 0.777 mW/g; SAR(10 g) = 0.585 mW/g
Maximum value of SAR (measured) = 0.816 mW/g

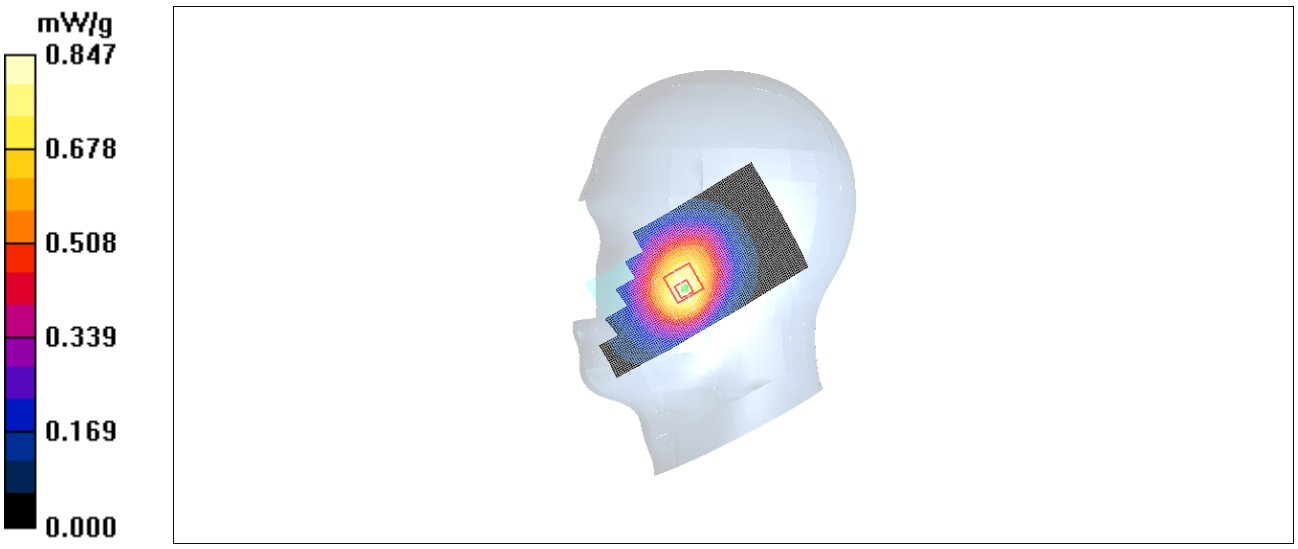


Fig. 34 850 MHz CH4182