SAR TEST REPORT

No. 2011SAR00101

For

TCT Mobile Limited

HSDPA/UMTS dual band / GSM quad bands mobile phone

Tequila US1

one touch 909A

With

Hardware Version: PIO

Software Version: V993

FCCID: RAD184

Issued Date: 2011-08-30

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

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

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

TABLE OF CONTENT

1 Test Laboratory

1.1 Testing Location

Company Name:	TMC Beijing, Telecommunication Metrology Center of MIIT
Address:	No 52, Huayuan beilu, Haidian District, Beijing,P.R.China
Postal Code:	100191
Telephone:	+86-10-62304633
Fax:	+86-10-62304793

1.2 Testing Environment

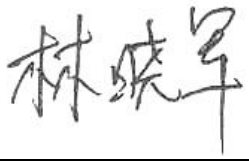
Temperature:	18°C~25 °C,
Relative humidity:	30%~ 70%
Ground system resistance:	< 0.5 Ω

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

1.3 Project Data

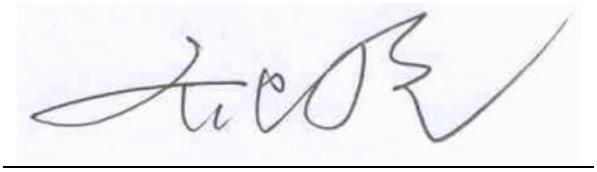
Project Leader:	Qi Dianyuan
Test Engineer:	Lin Xiaojun
Testing Start Date:	August 1, 2011
Testing End Date:	August 16, 2011

1.4 Signature



Lin Xiaojun

(Prepared this test report)



Qi Dianyuan

(Reviewed this test report)

Xiao Li

Deputy Director of the laboratory

(Approved this test report)

2 Client Information

2.1 Applicant Information

Company Name:	TCT Mobile Limited
Address /Post:	5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203
City:	Shanghai
Postal Code:	201203
Country:	P. R. China
Contact Person:	Gong Zhizhou
Contact Email	zhizhou.gong@jrdcom.com
Telephone:	0086-21-61460890
Fax:	0086-21-61460602

2.2 Manufacturer Information

Company Name:	TCT Mobile Limited
Address /Post:	5F, E building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P.R. China. 201203
City:	Shanghai
Postal Code:	201203
Country:	P. R. China
Contact Person:	Gong Zhizhou
Contact Email	zhizhou.gong@jrdcom.com
Telephone:	0086-21-61460890
Fax:	0086-21-61460602

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

3.1 About EUT

EUT Description:	HSDPA/UMTS dual band / GSM quad bands mobile phone
Model Name:	Tequila US1
Marketing Name:	one touch 909A
Frequency Band:	GSM850 / PCS1900 / WCDMA850 / WCDMA1900 / WiFi
GPRS Multislot Class:	12
GPRS capability Class:	B
EGPRS Multislot Class:	12
Hotspot mode:	Support simultaneous transmission of hotspot and voice(or data)
Form factor:	11.5cm×5.6cm

3.2 Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
EUT1	012717000004551	PIO	V933

*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	CAB31P0000C1	/	BYD
AE2	Headset	CCB3160A11C1	/	Ju Wei
AE3	Headset	CCB3160A11C2	/	Shunda

*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.
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

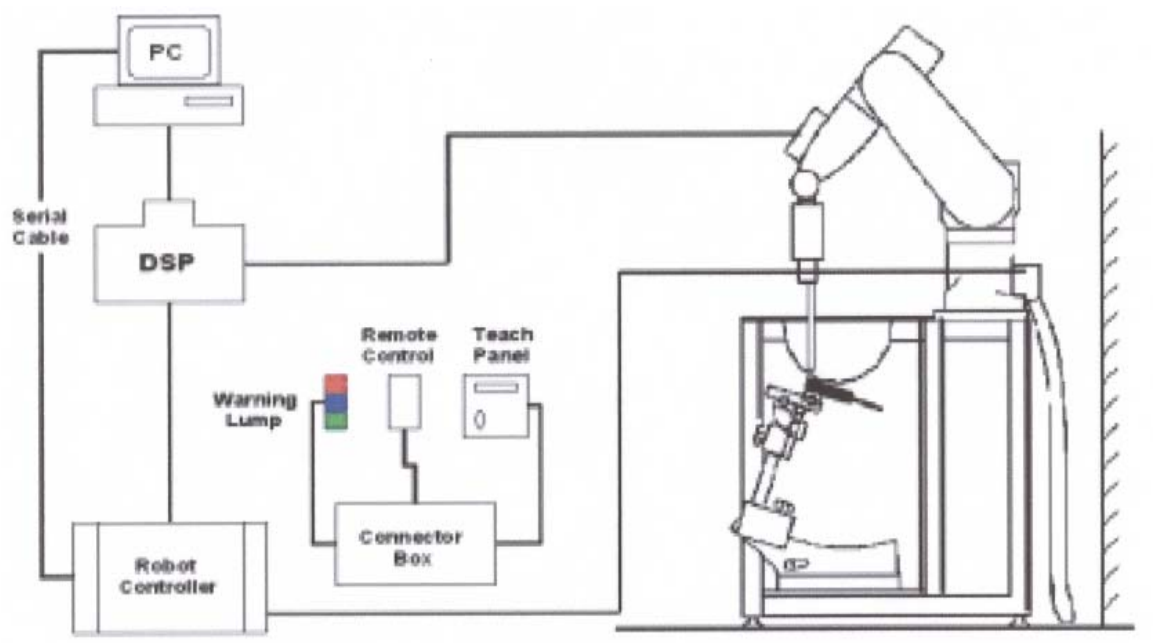
During SAR test, EUT is in Traffic Mode (Channel Allocated) at Normal Voltage Condition. A communication link is set up with a System Simulator (SS) by air link, and a call is established. The Absolute Radio Frequency Channel Number (ARFCN) is allocated to 128, 190 and 251 respectively in the case of 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 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)

Picture 3: 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

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 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)**
	32.48	32.64	32.80
GSM 1900MHZ	**Conducted Power (dBm)**		
	Channel 810(1909.8MHz)	**Channel 661(1880MHz)**	**Channel 512(1850.2MHz)**
	28.71	28.46	28.09

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	32.47	32.63	32.79	-9.03dB	23.44	23.60	23.76
2 Txslots	30.50	30.66	30.80	-6.02dB	24.48	24.64	24.78
3Txslots	28.61	28.75	28.89	-4.26dB	24.35	24.49	24.63
4 Txslots	27.52	27.66	27.80	-3.01dB	**24.51**	**24.65**	**24.79**
GSM 850 EGPRS	Measured Power (dBm)			calculation	Averaged Power (dBm)		
	251	**190**	**128**		**251**	**190**	**128**
1 Txslot	32.46	32.62	32.77	-9.03dB	23.43	23.59	23.74
2 Txslots	30.49	30.65	30.79	-6.02dB	24.47	24.63	24.77
3Txslots	28.60	28.75	28.89	-4.26dB	24.34	24.49	24.63
4 Txslots	27.50	27.65	27.79	-3.01dB	**24.49**	**24.64**	**24.78**
PCS1900 GPRS	Measured Power (dBm)			calculation	Averaged Power (dBm)		
	810	**661**	**512**		**810**	**661**	**512**
1 Txslot	28.72	28.46	28.08	-9.03dB	19.69	19.43	19.05
2 Txslots	26.92	26.82	26.61	-6.02dB	20.90	20.80	20.59
3Txslots	25.05	24.96	24.75	-4.26dB	20.79	20.70	20.49
4 Txslots	23.96	23.86	23.67	-3.01dB	**20.95**	**20.85**	**20.66**

PCS1900	Measured Power (dBm)			calculation	Averaged Power (dBm)		
EGPRS	**810**	**661**	**512**		**810**	**661**	**512**
1 Txslot	28.71	28.46	28.09	-9.03dB	19.68	19.43	19.06
2 Txslots	26.92	26.82	26.61	-6.02dB	20.90	20.80	20.59
3Txslots	25.05	24.95	24.75	-4.26dB	20.79	20.69	20.49
4 Txslots	23.96	23.87	23.67	-3.01dB	**20.95**	**20.86**	**20.66**

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 4 Txslots for GPRS and EGPRS.

Table 5: The conducted Power for WCDMA850/1900

Item	**band**	**FDDV result**		
	ARFCN	**4233 (846.6MHz)**	**4182 (836.4MHz)**	**4132 (826.4MHz)**
WCDMA	\	21.99	22.01	22.00
HSDPA	**1**	21.86	21.54	21.94
	2	21.90	21.45	21.81
	3	21.41	21.05	21.32
	4	21.32	21.03	21.31
Item	**band**	**FDDII result**		
	ARFCN	**9538 (1907.6MHz)**	**9400 (1880MHz)**	**9262 (1852.4MHz)**
WCDMA	\	21.79	21.84	21.67
HSDPA	**1**	21.83	21.59	21.56
	2	21.82	21.49	21.45
	3	21.47	21.30	21.12
	4	21.47	21.20	21.11

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 and WCDMA1900 are not above 75% of the SAR limit (see table 16 and 17 for the SAR measurement results).

6.2.3 Power Drift

To control the output power stability during the SAR test, DASY4 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in Table 10 to Table 19 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 6: Dielectric Performance of Head Tissue Simulating Liquid

Measurement is made at temperature 23.0 °C and relative humidity 38%. Liquid temperature during the test: 22.5°C Measurement Date : 850 MHz **Aug 1, 2011** 1900 MHz **Aug 2, 2011** 2450 MHz **Aug 16, 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	41.9	0.90
	1900 MHz	40.5	1.40
	2450 MHz	39.6	1.82

Table 7: Dielectric Performance of Body Tissue Simulating Liquid

Measurement is made at temperature 23.0 °C and relative humidity 38%. Liquid temperature during the test: 22.5°C Measurement Date : 850 MHz **Aug 1, 2011** 1900 MHz **Aug 2, 2011** 2450 MHz **Aug 16, 2011**			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
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	54.2	0.95
	1900 MHz	52.1	1.54
	2450 MHz	52.4	1.93

7.2 System Validation

Table 8: System Validation of Head

Measurement is made at temperature 23.0 °C and relative humidity 38%. Liquid temperature during the test: 22.5°C Measurement Date : 850 MHz 850 MHz **Aug 1, 2011** 1900 MHz **Aug 2, 2011** 2450 MHz **Aug 16, 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	41.9	0.90
		1900 MHz	40.5	1.40
		2450 MHz	39.6	1.82

	Frequency	Target value (W/kg)		Measured value (W/kg)		Deviation	
		10 g Average	1 g Average	10 g Average	1 g Average	10 g Average	1 g Average
Verification results	835 MHz	6.12	9.41	5.88	9.18	-3.92%	-2.44%
	1900 MHz	20.1	39.4	19.84	38.42	-1.29%	-2.49%
	2450 MHz	24.6	52.4	23.78	51.4	-3.33%	-1.91%

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

Table 9: System Validation of Body

Measurement is made at temperature 23.0 ℃ and relative humidity 38%. Liquid temperature during the test: 22.5℃ Measurement Date : 850 MHz 850 MHz **Aug 1, 2011** 1900 MHz **Aug 2, 2011** 2450 MHz **Aug 16, 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	54.2	0.95
		1900 MHz	52.1	1.54
		2450 MHz	52.4	1.93

	Frequency	Target value (W/kg)		Measured value (W/kg)		Deviation	
		10 g Average	1 g Average	10 g Average	1 g Average	10 g Average	1 g Average
Verification results	835 MHz	6.24	9.57	6.18	9.62	-0.96%	0.52%
	1900 MHz	20.9	41.4	20.54	41.12	-1.72%	-0.68%
	2450 MHz	23.9	51.6	23.66	51.48	-1.00%	-0.23%

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

7.3 Summary of Measurement Results

Table 10: 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, High frequency (See Fig.1)	0.439	0.590	-0.029
Left hand, Touch cheek, Middle frequency (See Fig.2)	0.457	0.614	-0.025
Left hand, Touch cheek, Low frequency (See Fig.3)	0.488	0.653	0.00481
Left hand, Tilt 15 Degree, High frequency (See Fig.4)	0.317	0.424	-0.019
Left hand, Tilt 15 Degree, Middle frequency (See Fig.5)	0.317	0.421	0.018
Left hand, Tilt 15 Degree, Low frequency (See Fig.6)	0.321	0.425	-0.028
Right hand, Touch cheek, High frequency (See Fig.7)	0.444	0.593	0.015
Right hand, Touch cheek, Middle frequency (See Fig.8)	0.472	0.625	0.070
Right hand, Touch cheek, Low frequency (See Fig.9)	0.500	0.662	-0.047
Right hand, Tilt 15 Degree, High frequency (See Fig.10)	0.325	0.433	0.047
Right hand, Tilt 15 Degree, Middle frequency (See Fig.11)	0.333	0.439	0.036
Right hand, Tilt 15 Degree, Low frequency (See Fig.12)	0.355	0.442	-0.042

Table 11: 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, High frequency (See Fig.13)	0.209	0.332	-0.132
Left hand, Touch cheek, Middle frequency (See Fig.14)	0.203	0.316	0.182
Left hand, Touch cheek, Low frequency (See Fig.15)	0.209	0.328	0.146
Left hand, Tilt 15 Degree, High frequency (See Fig.16)	0.044	0.071	-0.089
Left hand, Tilt 15 Degree, Middle frequency (See Fig.17)	0.068	0.107	-0.036
Left hand, Tilt 15 Degree, Low frequency (See Fig.18)	0.085	0.131	0.079
Right hand, Touch cheek, High frequency (See Fig.19)	0.303	0.502	-0.161
Right hand, Touch cheek, Middle frequency (See Fig.20)	0.259	0.438	0.180
Right hand, Touch cheek, Low frequency (See Fig.21)	0.296	0.503	0.093
Right hand, Tilt 15 Degree, High frequency (See Fig.22)	0.033	0.052	-0.119
Right hand, Tilt 15 Degree, Middle frequency (See Fig.23)	0.057	0.090	0.044
Right hand, Tilt 15 Degree, Low frequency(See Fig.24)	0.080	0.127	0.076

Table 12: 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, High frequency (See Fig.25)	0.404	0.535	-0.025
Left hand, Touch cheek, Middle frequency (See Fig.26)	0.450	0.596	0.098
Left hand, Touch cheek, Low frequency (See Fig.27)	0.359	0.476	0.082
Left hand, Tilt 15 Degree, High frequency (See Fig.28)	0.271	0.358	-0.017
Left hand, Tilt 15 Degree, Middle frequency (See Fig.29)	0.308	0.407	-0.106
Left hand, Tilt 15 Degree, Low frequency (See Fig.30)	0.240	0.316	-0.128
Right hand, Touch cheek, High frequency (See Fig.31)	0.457	0.609	-0.161
Right hand, Touch cheek, Middle frequency (See Fig.32)	0.519	0.690	-0.038
Right hand, Touch cheek, Low frequency (See Fig.33)	0.409	0.542	0.082
Right hand, Tilt 15 Degree, High frequency (See Fig.34)	0.292	0.390	-0.049
Right hand, Tilt 15 Degree, Middle frequency (See Fig.35)	0.326	0.435	-0.00306
Right hand, Tilt 15 Degree, Low frequency(See Fig.36)	0.259	0.342	0.034

Table 13: 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, High frequency (See Fig.37)	0.353	0.543	0.000
Left hand, Touch cheek, Middle frequency (See Fig.38)	0.418	0.633	-0.084
Left hand, Touch cheek, Low frequency (See Fig.39)	0.356	0.532	-0.118
Left hand, Tilt 15 Degree, High frequency (See Fig.40)	0.166	0.264	-0.167
Left hand, Tilt 15 Degree, Middle frequency (See Fig.41)	0.150	0.238	-0.181
Left hand, Tilt 15 Degree, Low frequency (See Fig.42)	0.109	0.171	0.175
Right hand, Touch cheek, High frequency (See Fig.43)	0.410	0.679	0.008
Right hand, Touch cheek, Middle frequency (See Fig.44)	0.512	0.867	0.129
Right hand, Touch cheek, Low frequency (See Fig.45)	0.434	0.732	0.138
Right hand, Tilt 15 Degree, High frequency (See Fig.46)	0.116	0.186	-0.131
Right hand, Tilt 15 Degree, Middle frequency (See Fig.47)	0.132	0.211	0.172
Right hand, Tilt 15 Degree, Low frequency(See Fig.48)	0.127	0.202	0.191

Table 14: SAR Values (GSM 850MHz-Body)

Limit of SAR (W/kg)	10 g Average	1g Average	Power Drift (dB)
	2.0	1.6	
Test Case	Measurement Result (W/kg)		
	10 g Average	1 g Average	
Towards Phantom, High frequency with GPRS (See Fig.49)	0.606	0.841	-0.003
Towards Phantom, Middle frequency with GPRS (See Fig.50)	0.619	0.829	-0.023
Towards Phantom, Low frequency with GPRS (See Fig.51)	0.652	0.891	-0.005
Towards Ground, High frequency with GPRS (See Fig.52)	0.801	1.11	-0.073
Towards Ground, Middle frequency with GPRS (See Fig.53)	0.802	1.09	0.057
Towards Ground, Low frequency with GPRS (See Fig.54)	0.822	1.15	-0.192
Left Side, Low frequency with GPRS (See Fig.55)	0.501	0.725	-0.133
Right Side, High frequency with GPRS (See Fig.56)	0.613	0.895	0.111
Right Side, Middle frequency with GPRS (See Fig.57)	0.560	0.833	-0.030
Right Side, Low frequency with GPRS (See Fig.58)	0.585	0.839	-0.122
Bottom Side, Low frequency with GPRS (See Fig.59)	0.064	0.104	-0.031
Towards Ground, Low frequency with EGPRS (See Fig.60)	0.808	1.13	-0.156
Towards Ground, Low frequency with Headset_CCB3160A11C1 (See Fig.61)	0.586	0.798	0.037
Towards Ground, Low frequency with Headset_CCB3160A11C2 (See Fig.62)	0.685	0.928	-0.018

Table 15: SAR Values (PCS 1900MHz-Body)

Limit of SAR (W/kg)	10 g Average	1g Average	Power Drift (dB)
	2.0	1.6	
Test Case	Measurement Result (W/kg)		
	10 g Average	1 g Average	
Towards Phantom, High frequency with GPRS (See Fig.63)	0.285	0.456	-0.020
Towards Ground, High frequency with GPRS (See Fig.64)	0.387	0.648	-0.146
Left Side, High frequency with GPRS (See Fig.65)	0.096	0.164	-0.122
Right Side, High frequency with GPRS (See Fig.66)	0.140	0.237	0.007
Bottom Side, High frequency with GPRS (See Fig.67)	0.412	0.739	-0.144
Bottom Side, Middle frequency with GPRS (See Fig.68)	0.367	0.646	0.068
Bottom Side, Low frequency with GPRS (See Fig.69)	0.275	0.499	0.038
Bottom Side, High frequency with EGPRS (See Fig.70)	0.402	0.717	0.052

Bottom Side, High frequency with Headset_CCB3160A11C1 (See Fig.71)	0.305	0.548	-0.062
Bottom Side, High frequency with Headset_CCB3160A11C2 (See Fig.72)	0.295	0.533	-0.035

Table 16: SAR Values (WCDMA 850MHz-Body)

Limit of SAR (W/kg)	**10 g Average**	**1g Average**	**Power Drift (dB)**
	2.0	1.6	
Test Case	**Measurement Result (W/kg)**		
	10 g Average	**1 g Average**	
Towards Phantom, High frequency (See Fig.73)	0.542	0.733	-0.049
Towards Phantom, Middle frequency (See Fig.74)	0.703	0.948	-0.027
Towards Phantom, Low frequency (See Fig.75)	0.526	0.710	-0.078
Towards Ground, High frequency (See Fig.76)	0.654	0.891	-0.188
Towards Ground, Middle frequency (See Fig.77)	0.884	1.19	-0.105
Towards Ground, Low frequency (See Fig.78)	0.662	0.902	0.072
Left Side, Middle frequency (See Fig.79)	0.535	0.779	-0.009
Right Side, High frequency (See Fig.80)	0.457	0.663	0.081
Right Side, Middle frequency (See Fig.81)	0.613	0.886	-0.077
Right Side, Low frequency (See Fig.82)	0.445	0.641	0.004
Bottom Side, Middle frequency (See Fig.83)	0.045	0.076	0.062
Towards Ground,Middle frequency with Headset_CCB3160A11C1 (See Fig.84)	0.735	0.999	0.064
Towards Ground,Middle frequency with Headset_CCB3160A11C2 (See Fig.85)	0.740	1	0.001

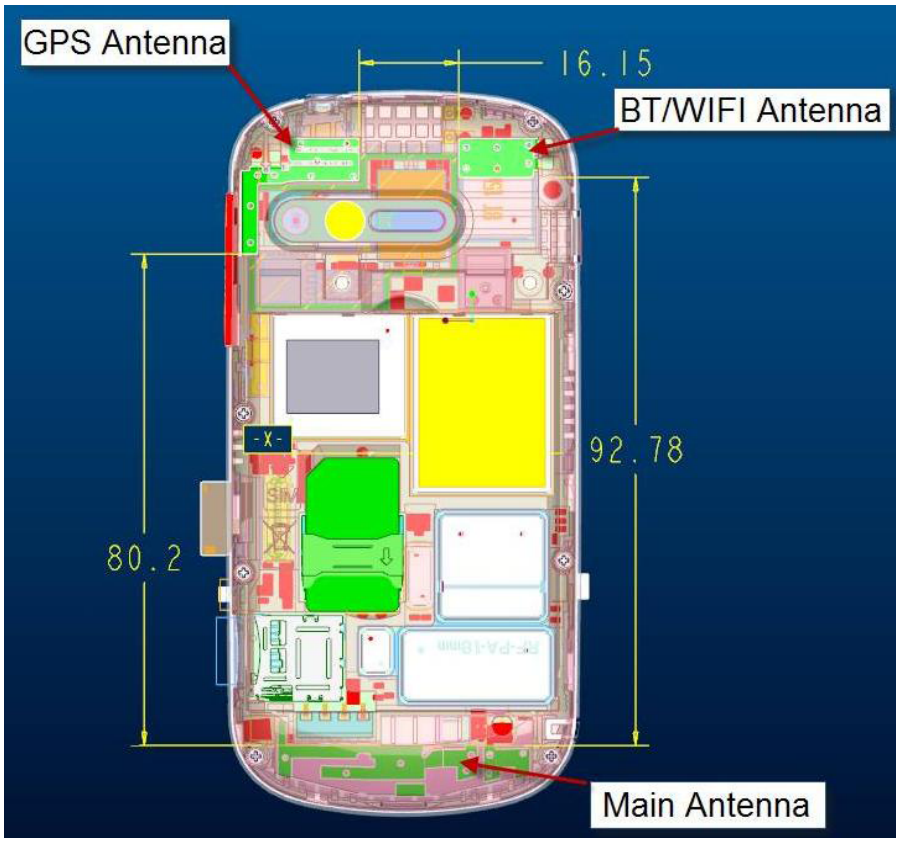
Table 17: SAR Values (WCDMA 1900MHz-Body)

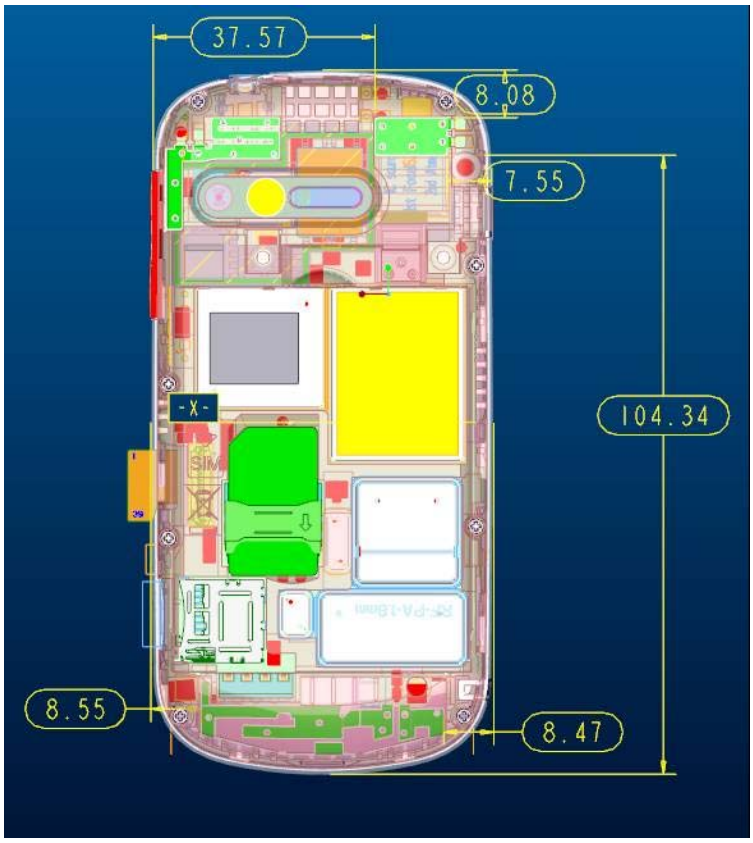
Limit of SAR (W/kg)	**10 g Average**	**1g Average**	**Power Drift (dB)**
	2.0	1.6	
Test Case	**Measurement Result (W/kg)**		
	10 g Average	**1 g Average**	
Towards Phantom, Middle frequency (See Fig.86)	0.460	0.727	-0.167
Towards Ground, High frequency (See Fig.87)	0.431	0.717	-0.194
Towards Ground, Middle frequency (See Fig.88)	0.477	0.811	-0.118
Towards Ground, Low frequency (See Fig.89)	0.367	0.653	0.119
Left Side, Middle frequency (See Fig.90)	0.078	0.134	-0.134

Right Side, Middle frequency (See Fig.91)	0.170	0.287	-0.024
Bottom Side, High frequency (See Fig.92)	0.433	0.778	-0.010
Bottom Side, Middle frequency (See Fig.93)	0.552	0.989	-0.079
Bottom Side, Low frequency (See Fig.94)	0.422	0.754	-0.059
Bottom Side, Middle frequency with Headset_CCB3160A11C1 (See Fig.95)	0.450	0.804	-0.103
Bottom Side, Middle frequency with Headset_CCB3160A11C2 (See Fig.96)	0.439	0.784	-0.106

7.4 Summary of Measurement Results (Bluetooth and WiFi function)

The distance between BT antenna and RF antenna is ＞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)	9.94	10.44	10.60

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	15.22	15.20	15.21	14.96
6	15.23	15.17	15.18	14.97
11	14.88	14.89	14.88	14.65

802.11g（dBm）

Channel\data rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
1	13.50	13.39	13.25	13.06	12.76	12.33	11.98	11.87
6	13.54	13.40	13.26	13.01	12.80	12.30	12.00	11.89
11	13.24	13.10	12.92	12.74	12.51	11.97	11.69	11.58

802.11n（dBm）

Channel\data rate	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
1	13.37	13.06	12.92	12.66	12.33	11.97	11.88	11.75
6	13.42	13.02	12.90	12.68	12.21	11.96	11.86	11.74
11	13.06	12.78	12.65	12.44	11.99	11.63	11.53	11.43

The peak conducted power for WiFi is as following:

802.11b（dBm）

Channel\data rate	1Mbps	2Mbps	5.5Mbps	11Mbps
1	18.36	18.66	20.02	21.27
6	/	/	/	21.90
11	/	/	/	20.77

802.11g（dBm）

Channel\data rate	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
1	21.68	21.92	21.12	21.28	21.66	21.73	21.77	22.15
6	/	/	/	/	/	/	/	22.68
11	/	/	/	/	/	/	/	21.81

802.11n（dBm）

Channel\data rate	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
1	21.60	21.21	21.10	21.60	21.64	21.62	21.88	21.81
6	/	/	/	/	/	/	22.57	/
11	/	/	/	/	/	/	21.51	/

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 6”.

Table 18: SAR Values (WIFI 802.b -Head)

Limit of SAR (W/kg)	10 g Average	1 g Average	Power Drift (dB)
	2.0	1.6	
Test Case	Measurement Result (W/kg)		
	10 g Average	1 g Average	
Left hand, Touch cheek, 1Mbps,channel 6 (See Fig.97)	0.011	0.020	0.072
Left hand, Tilt 15 Degree, 1Mbps,channel 6 (See Fig.98)	0.00919	0.017	0.148
Right hand, Touch cheek, 1Mbps,channel 6 (See Fig.99)	0.014	0.030	0.170
Right hand, Tilt 15 Degree, 1Mbps,channel 6 (See Fig.100)	0.00808	0.017	0.147

Table 19: 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 6 (See Fig.101)	0.00421	0.00978	0.137
Toward Ground, 1Mbps,channel 6 (See Fig.102)	0.012	0.021	0.150
Left Side, 1Mbps,channel 6 (See Fig.103)	0.00561	0.013	0.121
Top Side, 1Mbps,channel 6 (See Fig.104)	0.00475	0.00991	0.131

Table 20: The sum of SAR values for GSM/WCDMA and WiFi

	Position	GSM/WCDMA	WiFi	Sum
Maximum SAR value for Head	Right hand, Touch cheek	0.867	0.030	**0.897**
Maximum SAR value for Body	Toward Ground	1.19	0.021	**1.211**

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

7.5 Conclusion

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

The maximum SAR values are obtained at the case of **WCDMA 850 MHz Band, Body Towards Ground, Middle frequency (Table 16)**, and the value are: **1.19 (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 18: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	HP 8753E	US38433212	August 3,2011	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	E-field Probe	SPEAG ES3DV3	3149	September 25, 2010	One year
08	E-field Probe	SPEAG EX3DV4	3617	July 8, 2011	One year
09	DAE	SPEAG DAE4	771	November 21, 2010	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	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.

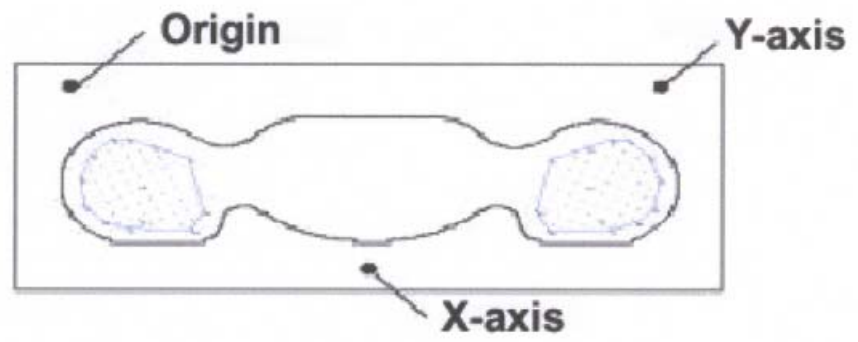
Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7 x 7x 7 points. On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

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.

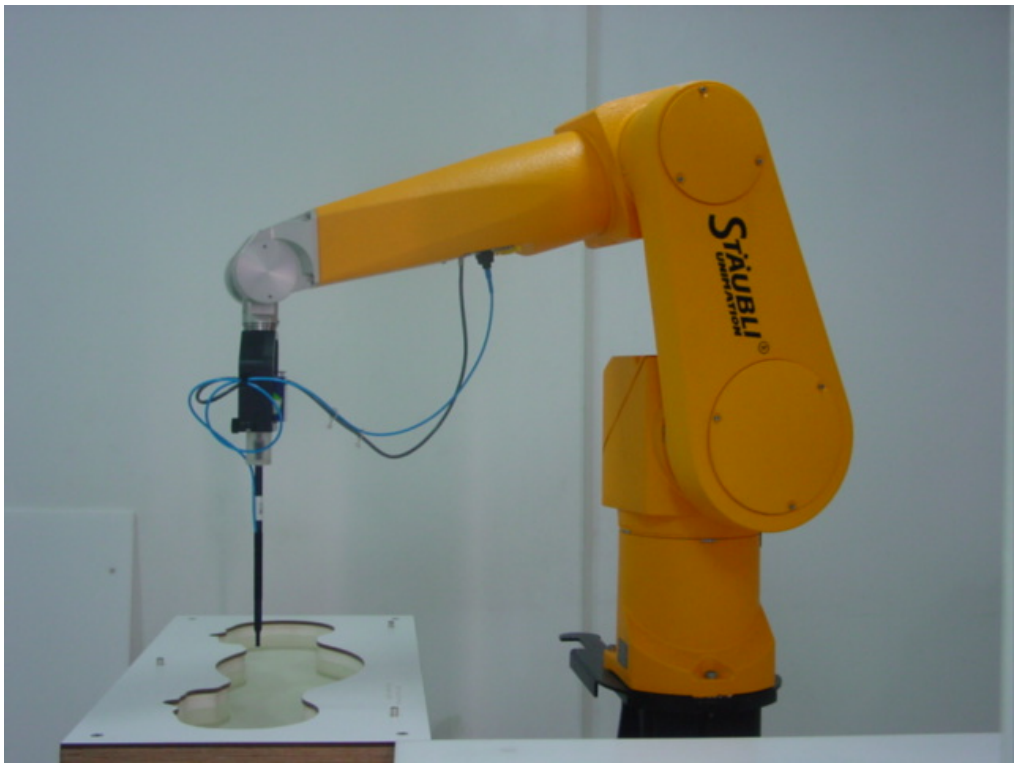
c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

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.

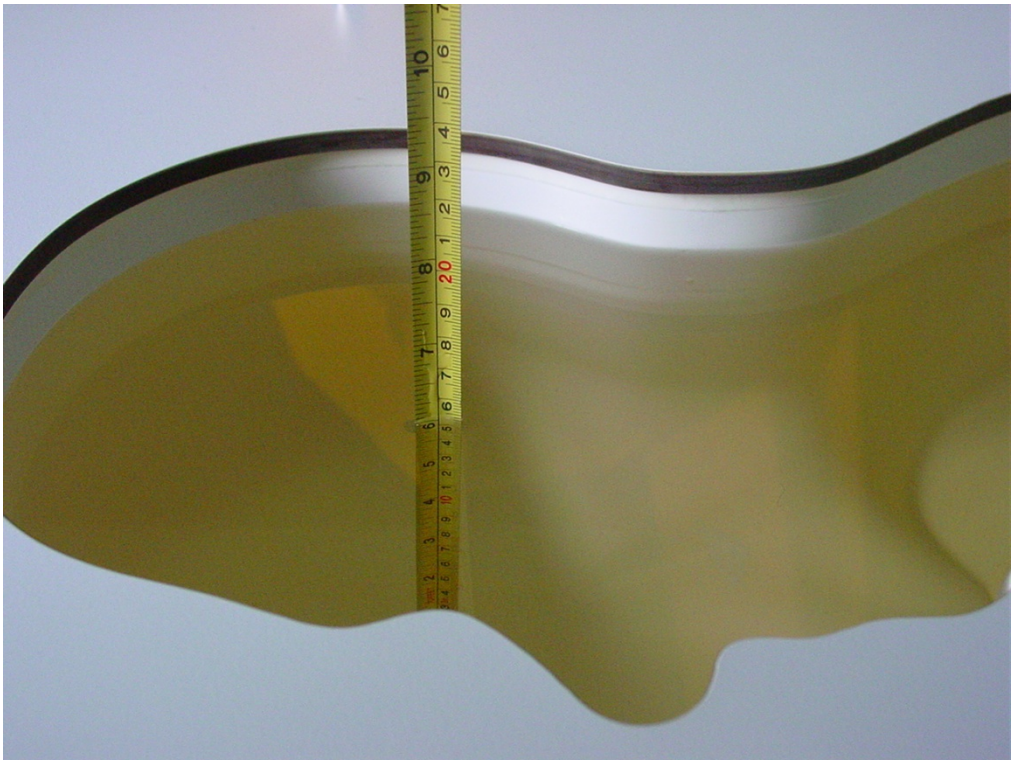


Picture A: SAR Measurement Points in Area Scan

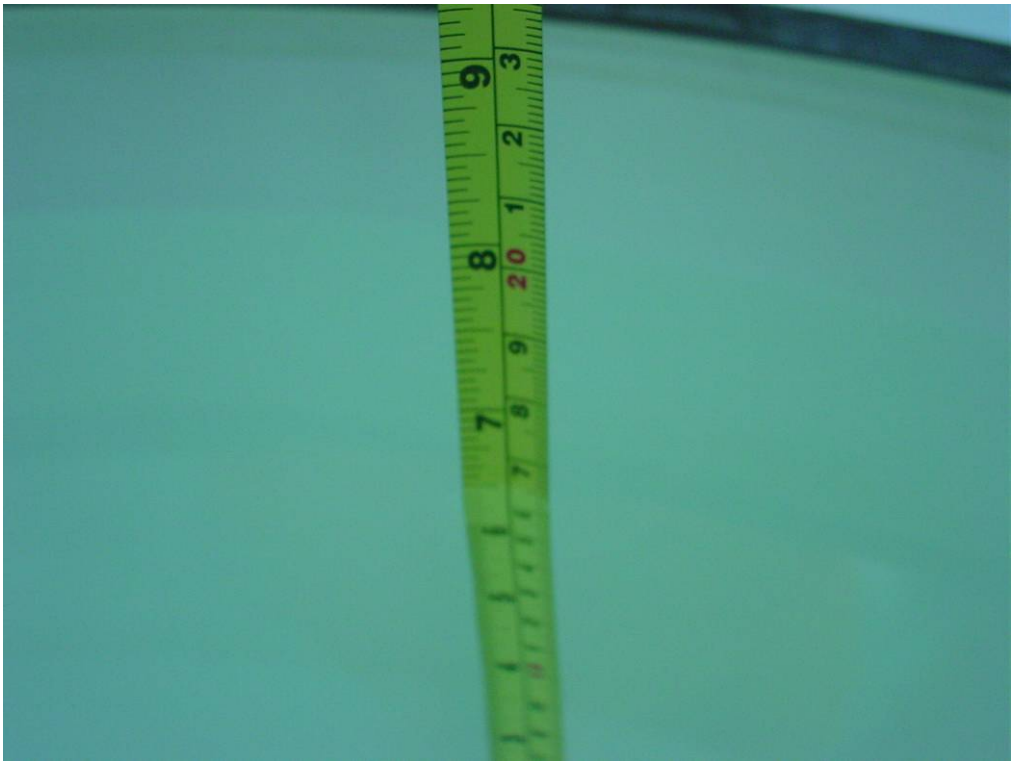
ANNEX B TEST LAYOUT



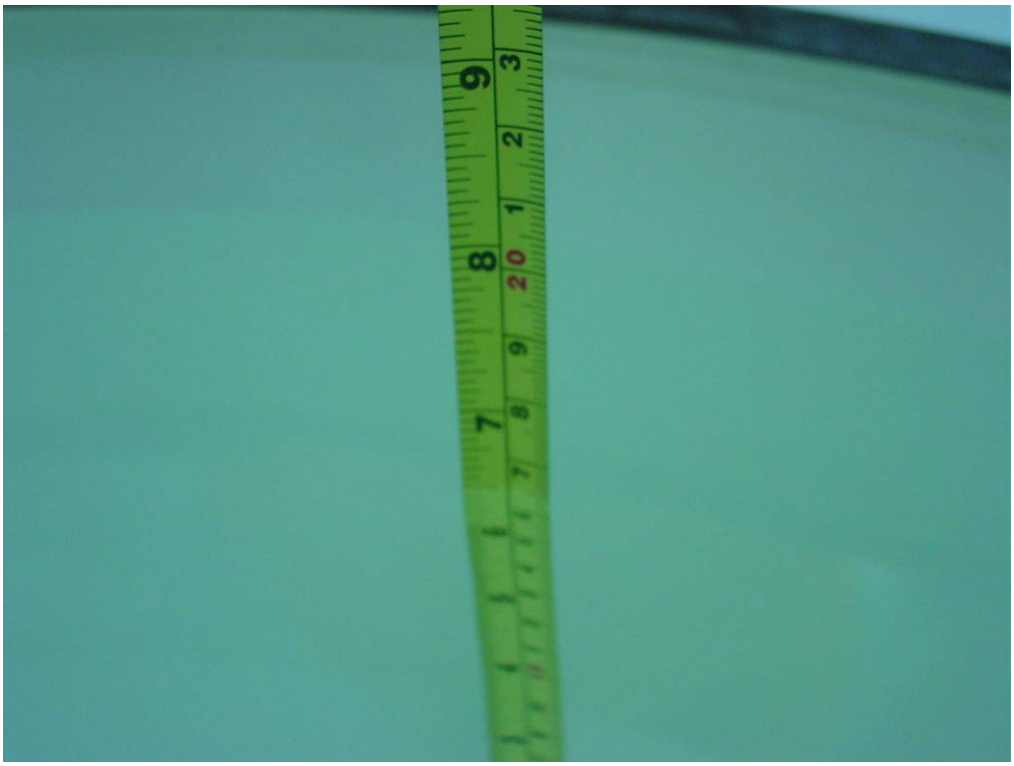
Picture B1: Specific Absorption Rate Test Layout



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)

Picture B5: Left Hand Touch Cheek Position

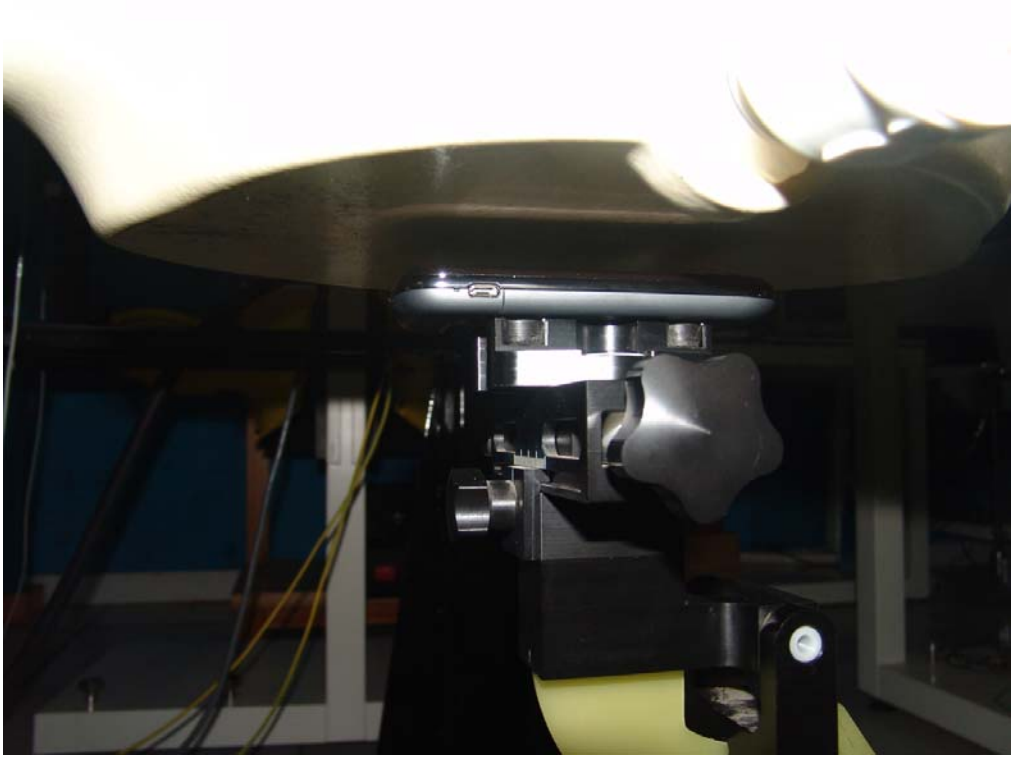
Picture B6: Left Hand Tilt 15° Position

Picture B7: Right Hand Touch Cheek Position

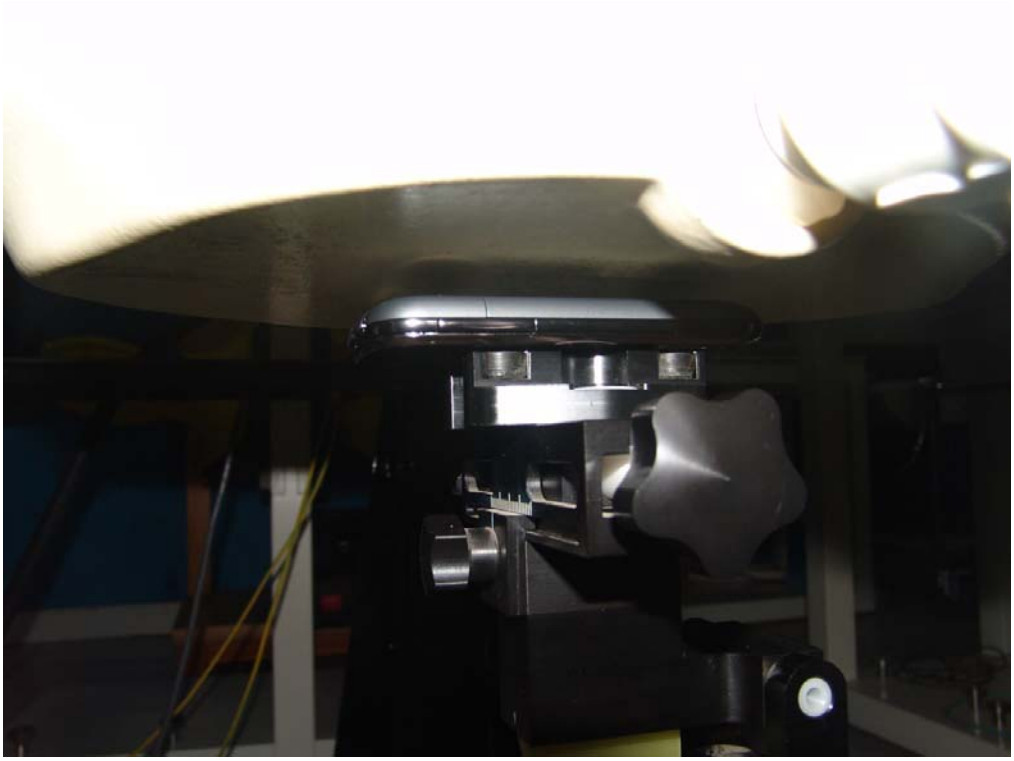
Picture B8: Right Hand Tilt 15° Position

Test positions for body:

The Body SAR is tested at the following 6 test positions all with the distance =10mm between the EUT and the phantom bottom :



Picture B9: Forward Surface



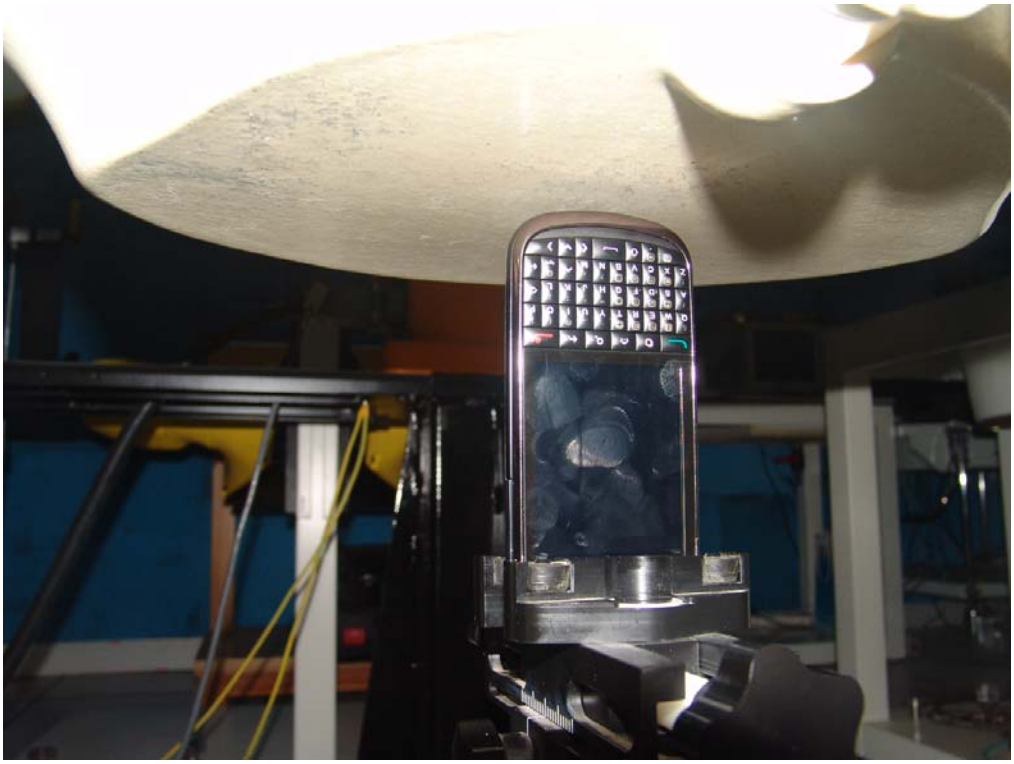
Picture B10: Back Surface

Picture B10-1: Back Surface with Headset

Picture B11: Left Side

Picture B12: Right Side

Picture B13: Top Side



Picture B14: Bottom Side

Picture B14-1: Bottom Side with Headset

ANNEX C GRAPH RESULTS

850 Left Cheek High

Date/Time: 2011-8-1 8:09:24
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°C Liquid Temperature: 22.5°C
Communication System: GSM 850 Frequency: 848.8 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Cheek High/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.627 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.17 V/m; Power Drift = -0.029 dB
Peak SAR (extrapolated) = 0.742 W/kg
SAR(1 g) = 0.590 mW/g; SAR(10 g) = 0.439 mW/g
Maximum value of SAR (measured) = 0.620 mW/g

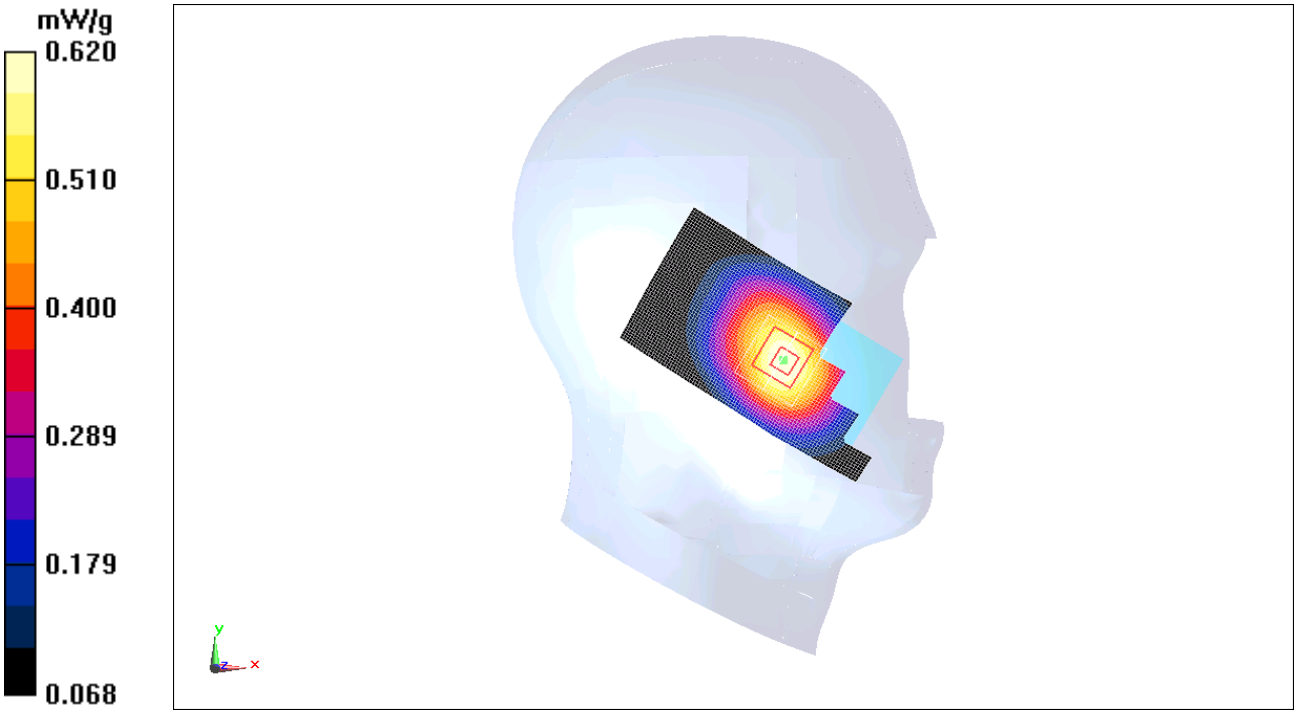


Fig. 1 850MHz CH251

850 Left Cheek Middle
Date/Time: 2011-8-1 8:23:21
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°C Liquid Temperature: 22.5°C
Communication System: GSM 850 Frequency: 836.6 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.643 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.45 V/m; Power Drift = -0.025 dB
Peak SAR (extrapolated) = 0.785 W/kg
SAR(1 g) = 0.614 mW/g; SAR(10 g) = 0.457 mW/g
Maximum value of SAR (measured) = 0.646 mW/g

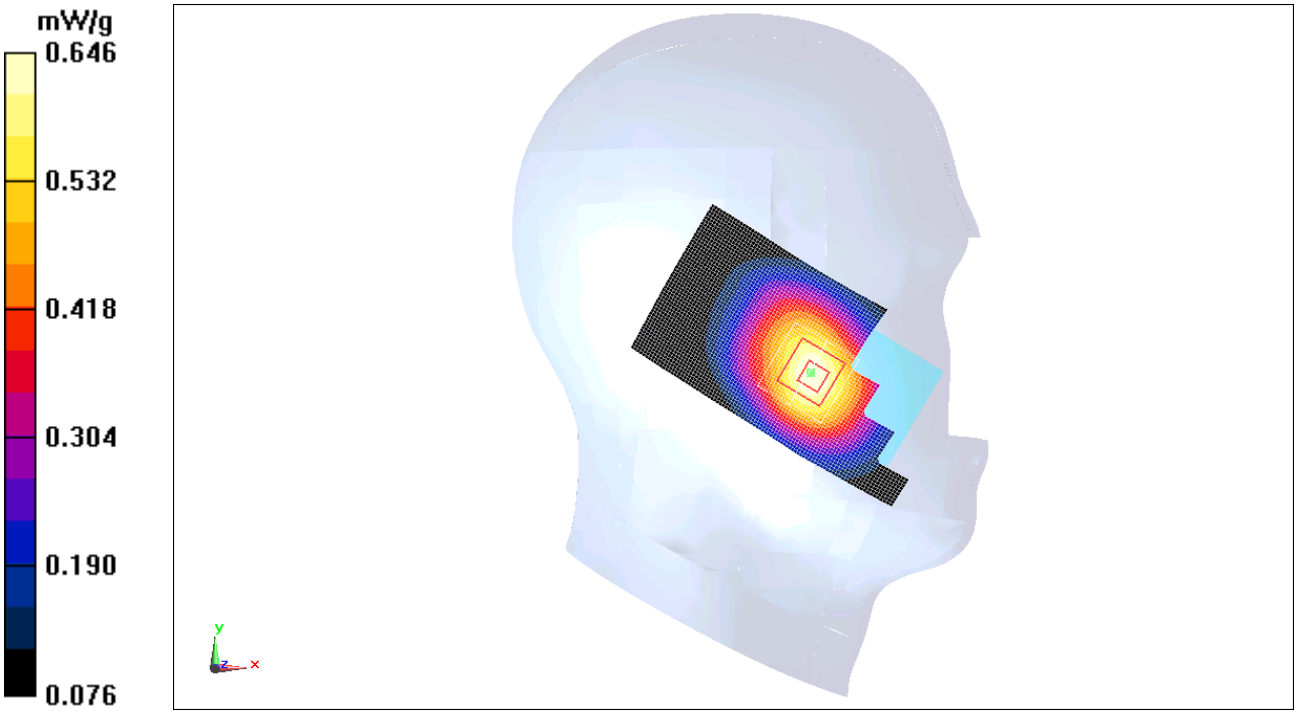


Fig. 2 850 MHz CH190

850 Left Cheek Low
Date/Time: 2011-8-1 8:39:11
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°C Liquid Temperature: 22.5°C
Communication System: GSM 850 Frequency: 824.2 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Cheek Low/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.687 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.06 V/m; Power Drift = 0.00481 dB
Peak SAR (extrapolated) = 0.818 W/kg
SAR(1 g) = 0.653 mW/g; SAR(10 g) = 0.488 mW/g
Maximum value of SAR (measured) = 0.687 mW/g

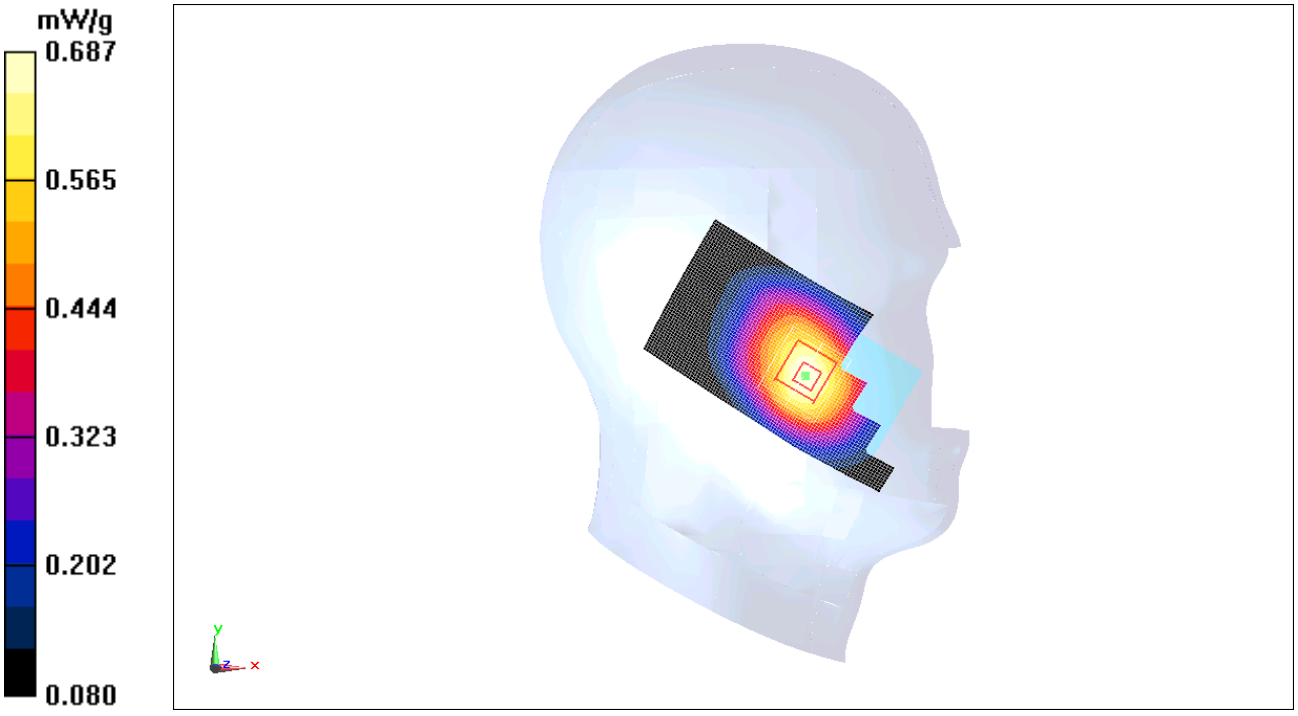


Fig. 3 850 MHz CH128

850 Left Tilt High

Date/Time: 2011-8-1 8:56:55
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°C Liquid Temperature: 22.5°C
Communication System: GSM 850 Frequency: 848.8 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Tilt High/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.444 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.4 V/m; Power Drift = -0.019 dB
Peak SAR (extrapolated) = 0.535 W/kg
SAR(1 g) = 0.424 mW/g; SAR(10 g) = 0.317 mW/g
Maximum value of SAR (measured) = 0.446 mW/g

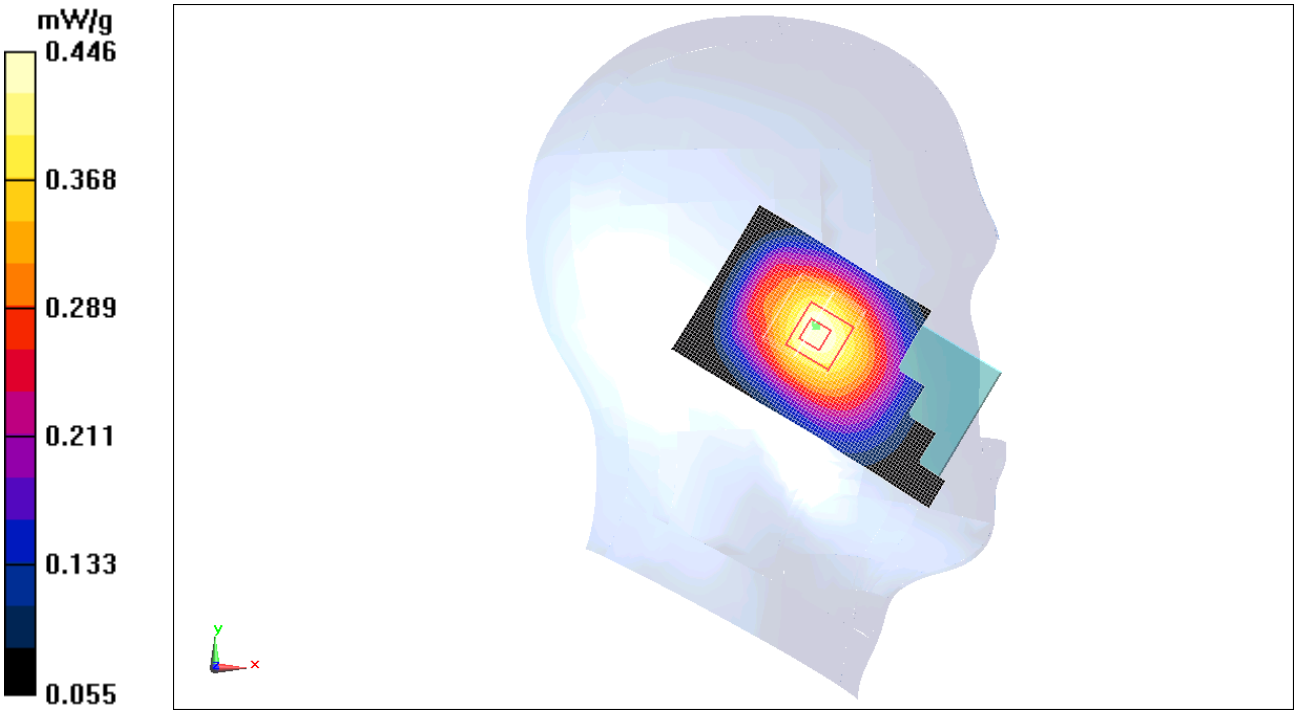


Fig.4 850 MHz CH251

850 Left Tilt Middle

Date/Time: 2011-8-1 9:12:05
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°C Liquid Temperature: 22.5°C
Communication System: GSM 850 Frequency: 836.6 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Tilt Middle/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.442 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.6 V/m; Power Drift = 0.018 dB
Peak SAR (extrapolated) = 0.531 W/kg
SAR(1 g) = 0.421 mW/g; SAR(10 g) = 0.317 mW/g
Maximum value of SAR (measured) = 0.441 mW/g

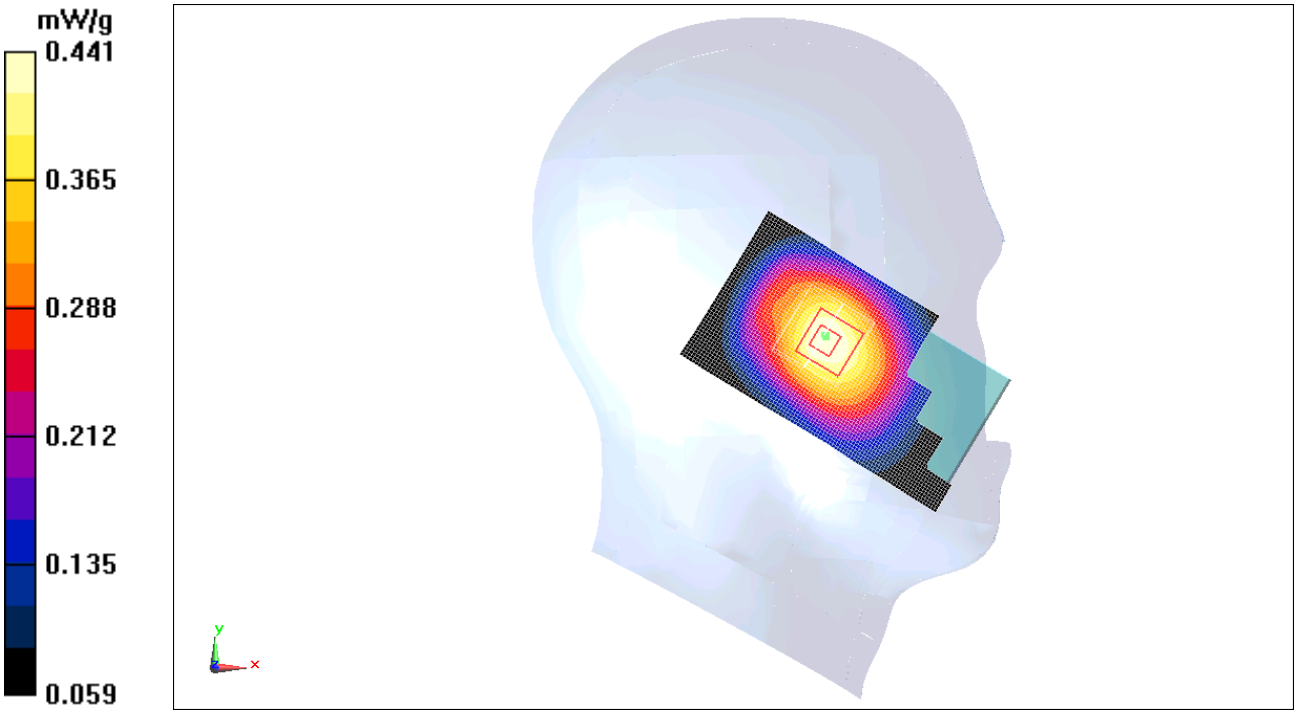


Fig.5 850 MHz CH190

850 Left Tilt Low

Date/Time: 2011-8-1 9:28:43
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°C Liquid Temperature: 22.5°C
Communication System: GSM 850 Frequency: 824.2 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Tilt Low/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.442 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.8 V/m; Power Drift = -0.028 dB
Peak SAR (extrapolated) = 0.538 W/kg
SAR(1 g) = 0.425 mW/g; SAR(10 g) = 0.321 mW/g
Maximum value of SAR (measured) = 0.444 mW/g

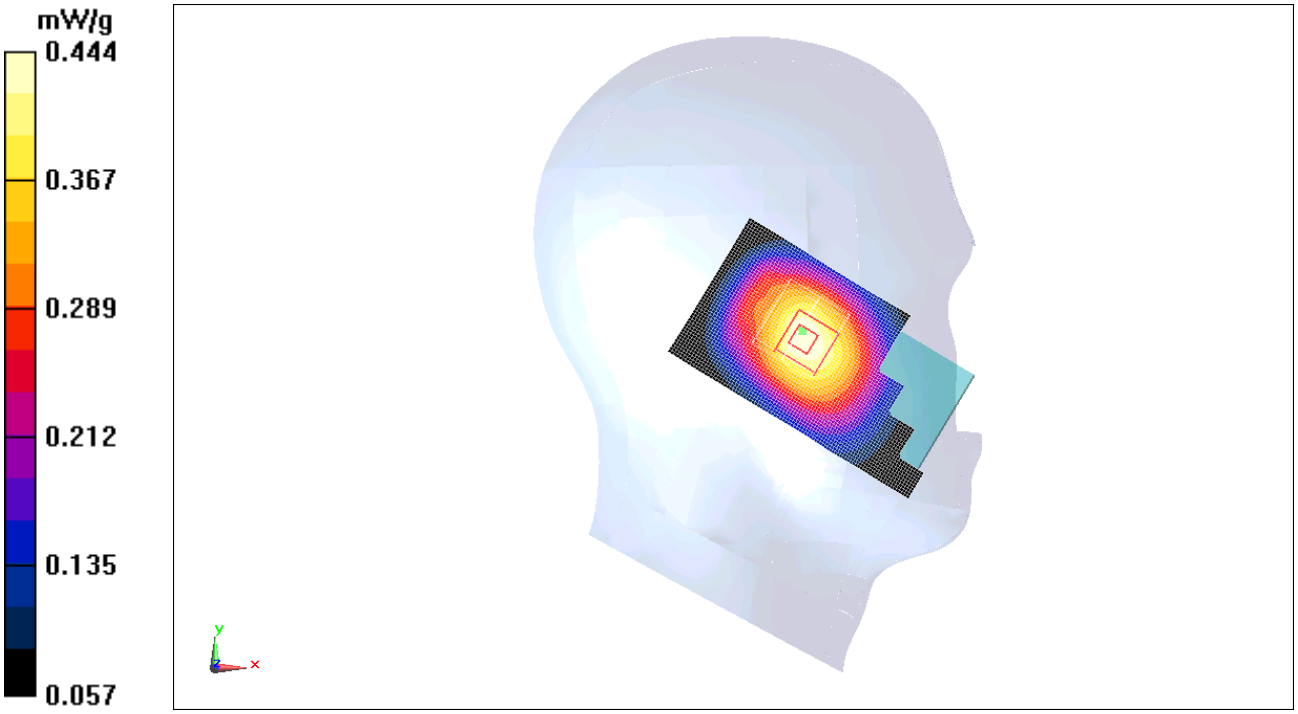


Fig. 6 850 MHz CH128

850 Right Cheek High

Date/Time: 2011-8-1 9:49:08
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°C Liquid Temperature: 22.5°C
Communication System: GSM 850 Frequency: 848.8 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Cheek High/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.644 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.59 V/m; Power Drift = 0.015 dB
Peak SAR (extrapolated) = 0.745 W/kg
SAR(1 g) = 0.593 mW/g; SAR(10 g) = 0.444 mW/g
Maximum value of SAR (measured) = 0.619 mW/g

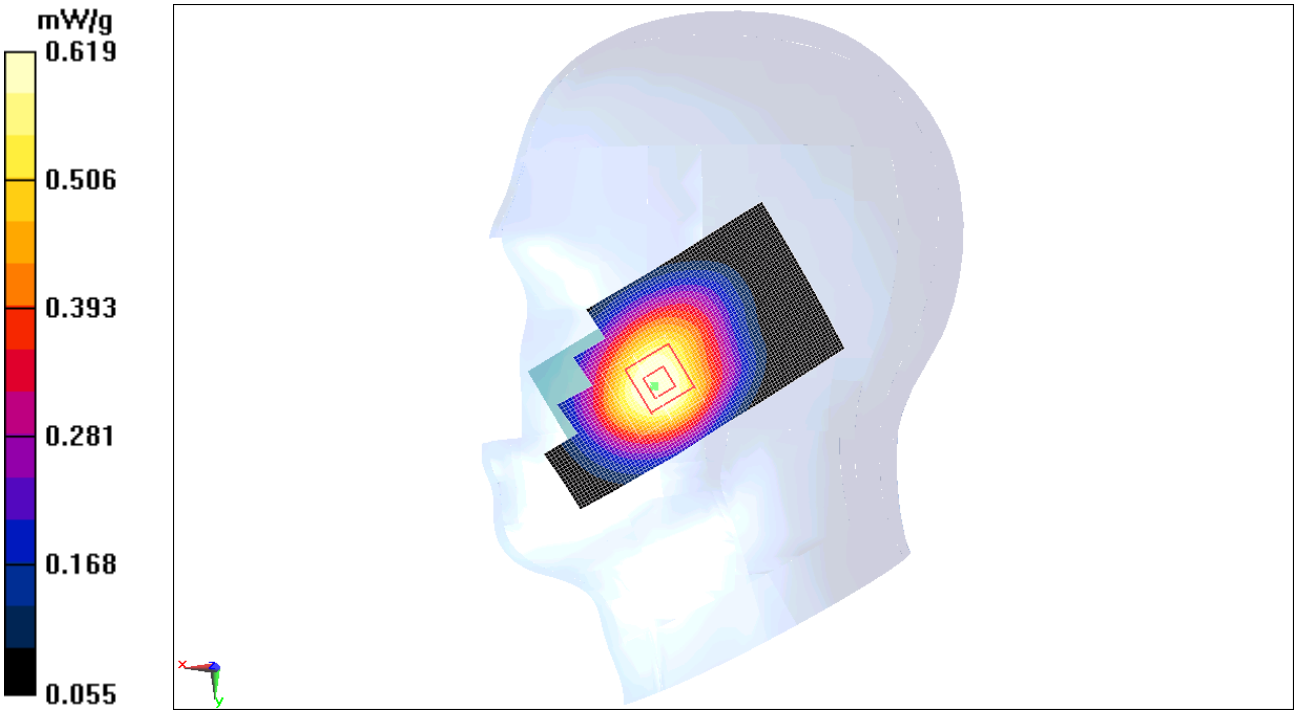


Fig. 7 850 MHz CH251

850 Right Cheek Middle

Date/Time: 2011-8-1 10:07:14
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°C Liquid Temperature: 22.5°C
Communication System: GSM 850 Frequency: 836.6 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Cheek Middle/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.662 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.15 V/m; Power Drift = 0.070 dB
Peak SAR (extrapolated) = 0.781 W/kg
SAR(1 g) = 0.625 mW/g; SAR(10 g) = 0.472 mW/g
Maximum value of SAR (measured) = 0.650 mW/g

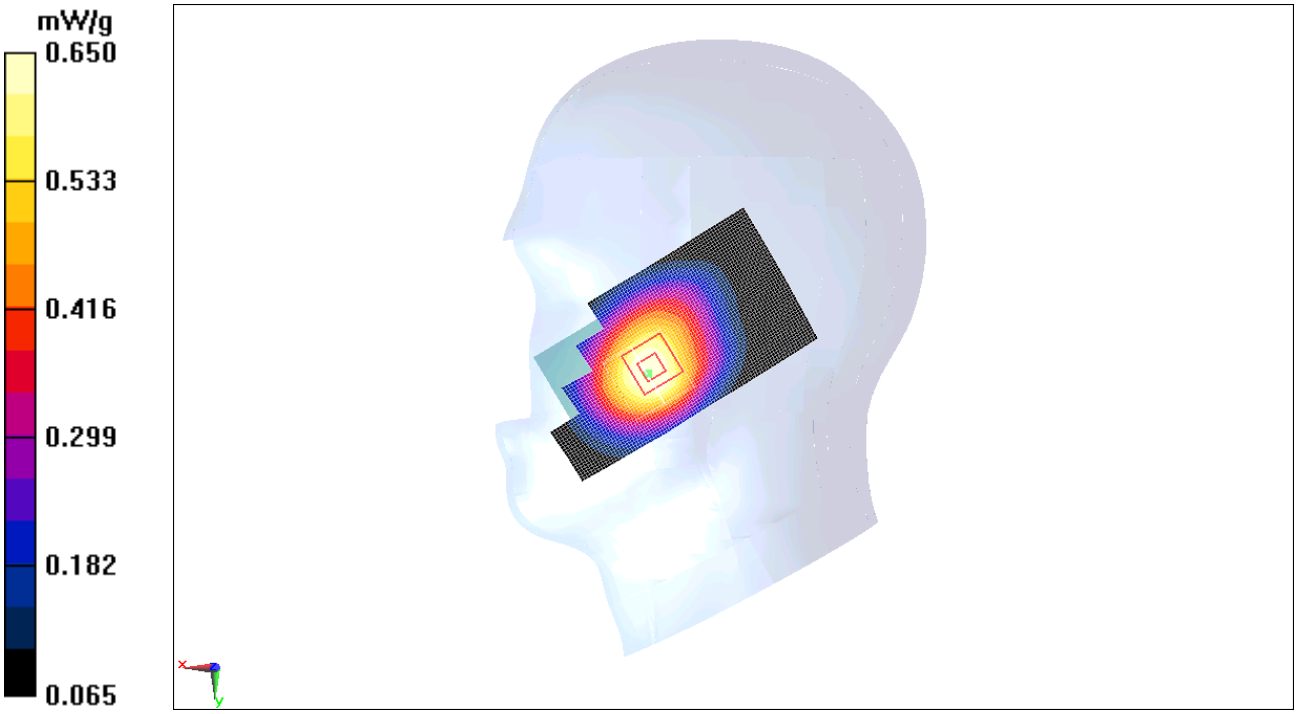


Fig. 8 850 MHz CH190

850 Right Cheek Low
Date/Time: 2011-8-1 10:24:47
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°C Liquid Temperature: 22.5°C
Communication System: GSM 850 Frequency: 824.2 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Cheek Low/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.699 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.7 V/m; Power Drift = -0.047 dB
Peak SAR (extrapolated) = 0.824 W/kg
SAR(1 g) = 0.662 mW/g; SAR(10 g) = 0.500 mW/g
Maximum value of SAR (measured) = 0.690 mW/g

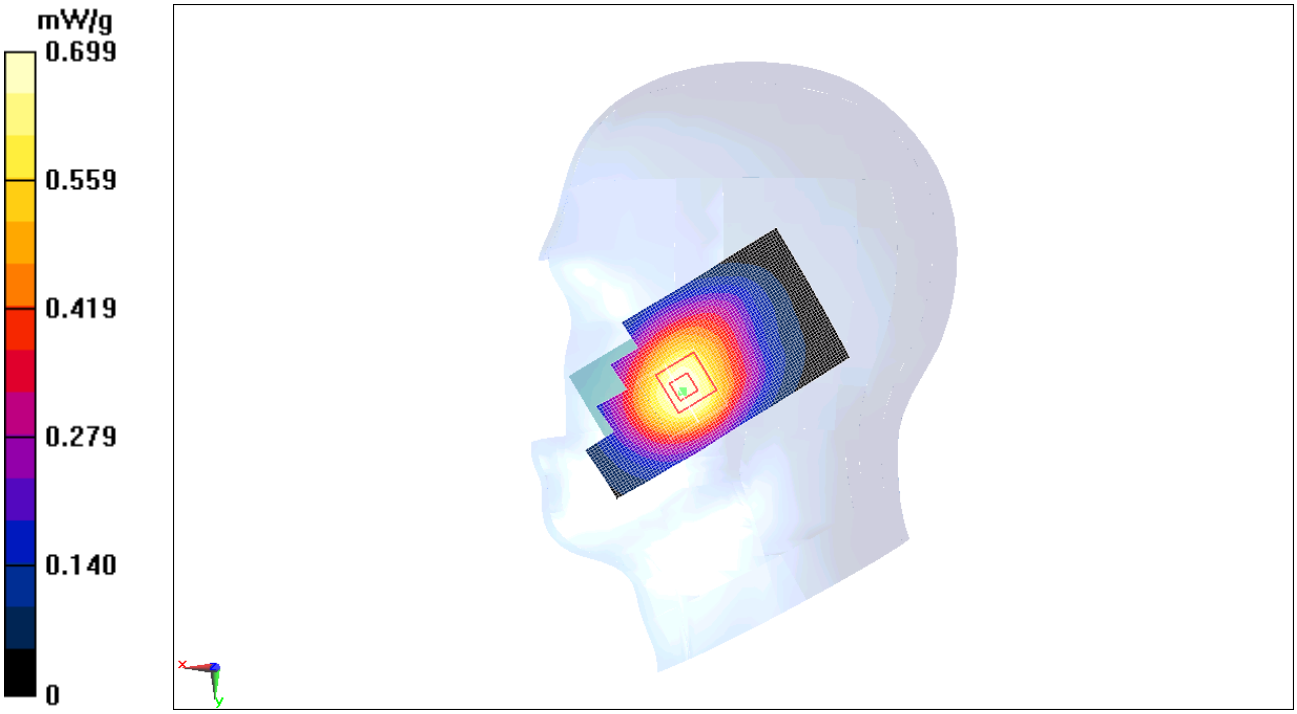


Fig. 9 850 MHz CH128

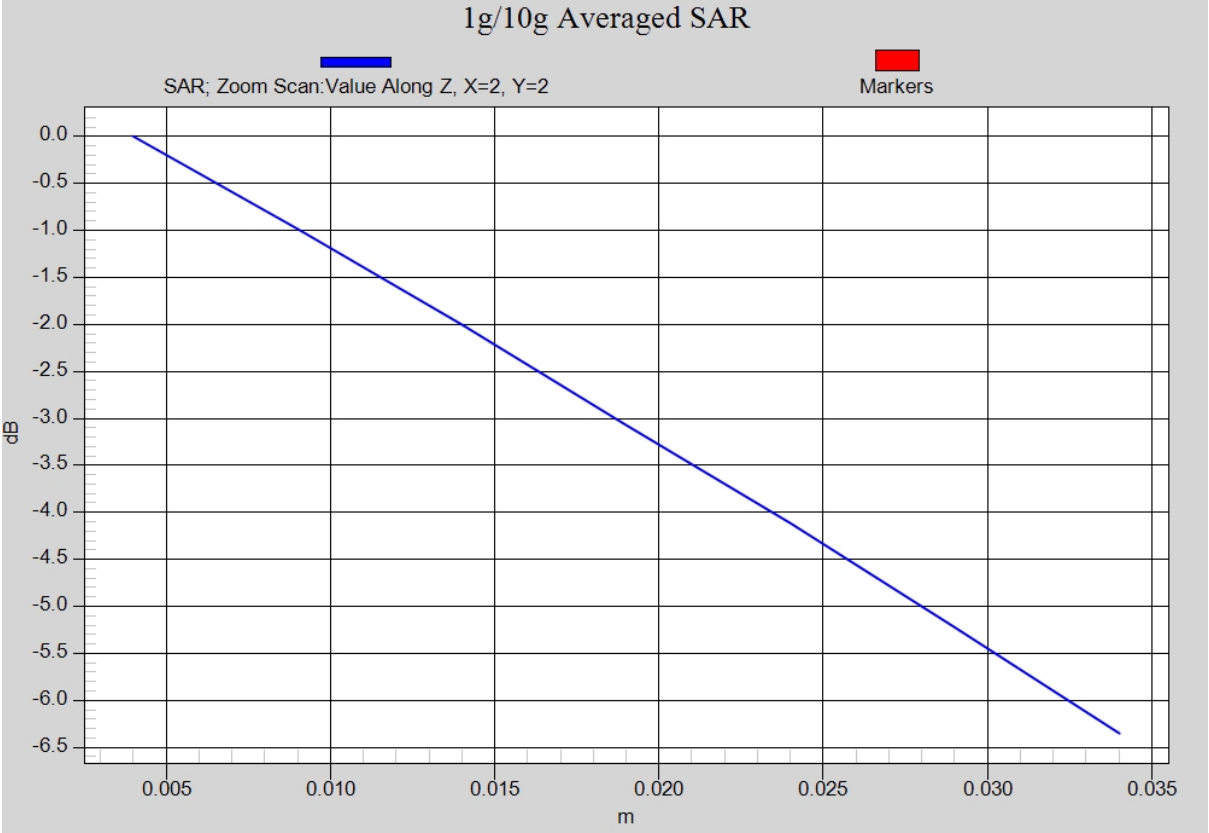


Fig. 9-1 Z-Scan at power reference point (850 MHz CH128)

850 Right Tilt High
Date/Time: 2011-8-1 10:41:35
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°C Liquid Temperature: 22.5°C
Communication System: GSM 850 Frequency: 848.8 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Tilt High/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.447 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.4 V/m; Power Drift = 0.047 dB
Peak SAR (extrapolated) = 0.543 W/kg
SAR(1 g) = 0.433 mW/g; SAR(10 g) = 0.325 mW/g
Maximum value of SAR (measured) = 0.455 mW/g

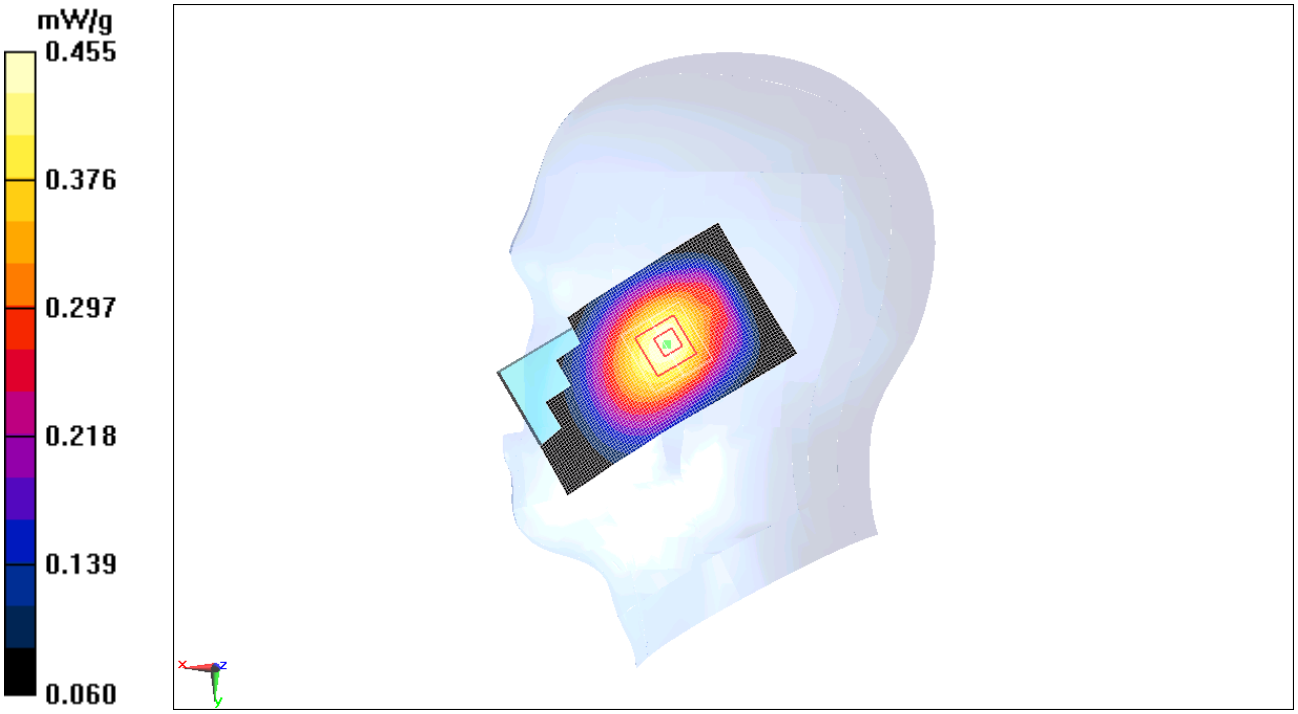


Fig.10 850 MHz CH251

850 Right Tilt Middle
Date/Time: 2011-8-1 10:56:52
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°C Liquid Temperature: 22.5°C
Communication System: GSM 850 Frequency: 836.6 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Tilt Middle/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.454 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.8 V/m; Power Drift = 0.036 dB
Peak SAR (extrapolated) = 0.546 W/kg
SAR(1 g) = 0.439 mW/g; SAR(10 g) = 0.333 mW/g
Maximum value of SAR (measured) = 0.457 mW/g

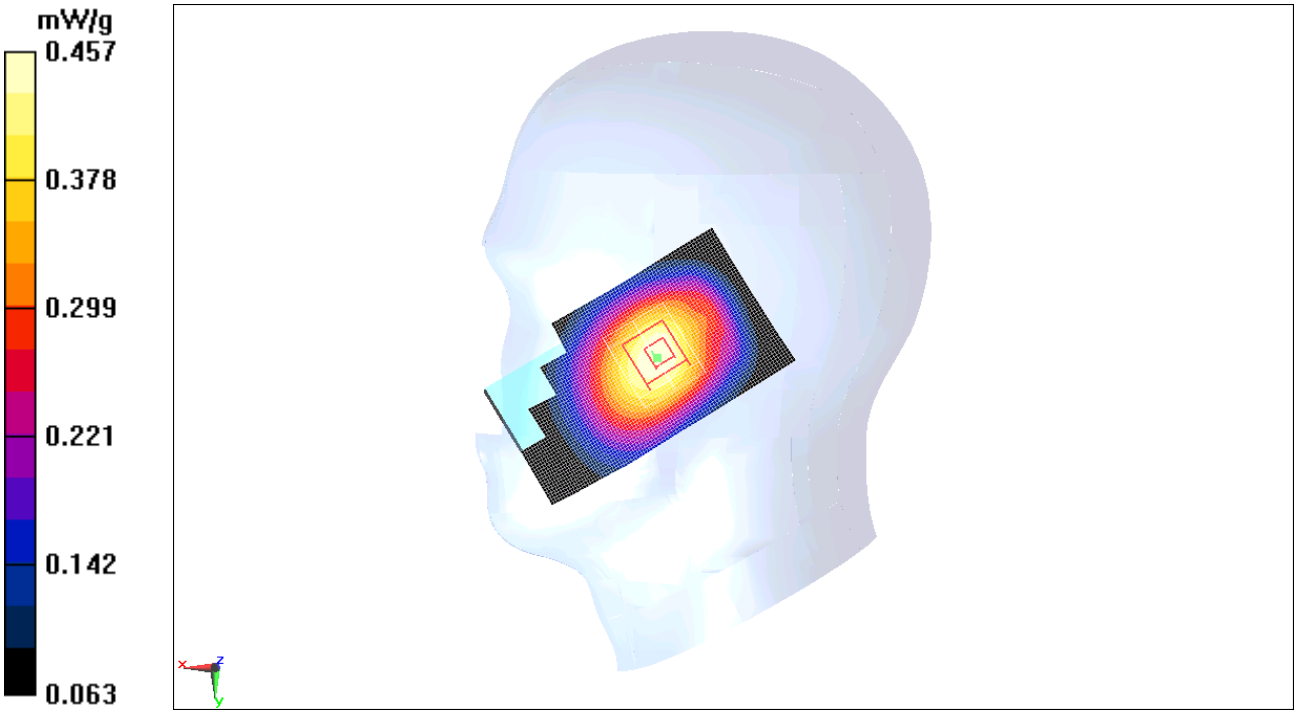


Fig.11 850 MHz CH190

850 Right Tilt Low
Date/Time: 2011-8-1 11:12:46
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°C Liquid Temperature: 22.5°C
Communication System: GSM 850 Frequency: 824.2 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Tilt Low/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.455 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 15.1 V/m; Power Drift = -0.042 dB
Peak SAR (extrapolated) = 0.551 W/kg
SAR(1 g) = 0.442 mW/g; SAR(10 g) = 0.335 mW/g
Maximum value of SAR (measured) = 0.463 mW/g

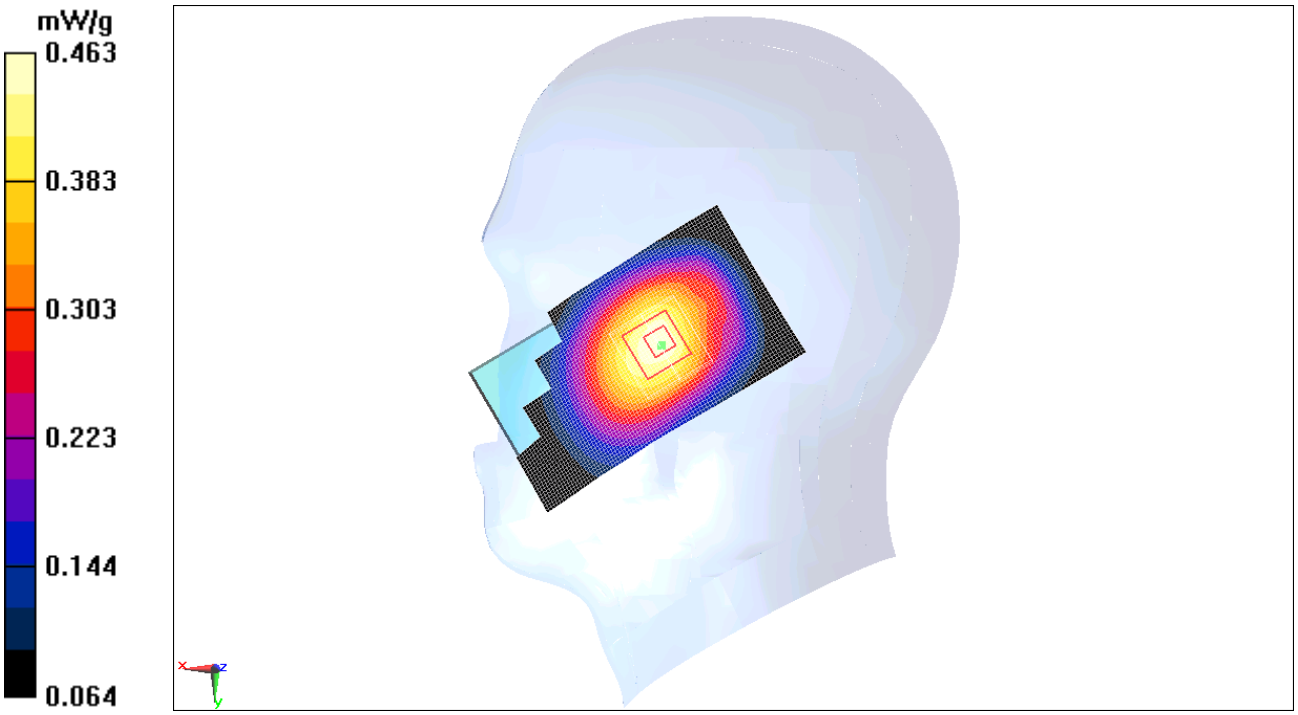


Fig. 12 850 MHz CH128

1900 Left Cheek High
Date/Time: 2011-8-2 8:03:41
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°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Cheek High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.365 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.21 V/m; Power Drift = -0.132 dB
Peak SAR (extrapolated) = 0.512 W/kg
SAR(1 g) = 0.332 mW/g; SAR(10 g) = 0.209 mW/g
Maximum value of SAR (measured) = 0.343 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.21 V/m; Power Drift = -0.832 dB
Peak SAR (extrapolated) = 0.443 W/kg
SAR(1 g) = 0.314 mW/g; SAR(10 g) = 0.210 mW/g
Maximum value of SAR (measured) = 0.332 mW/g

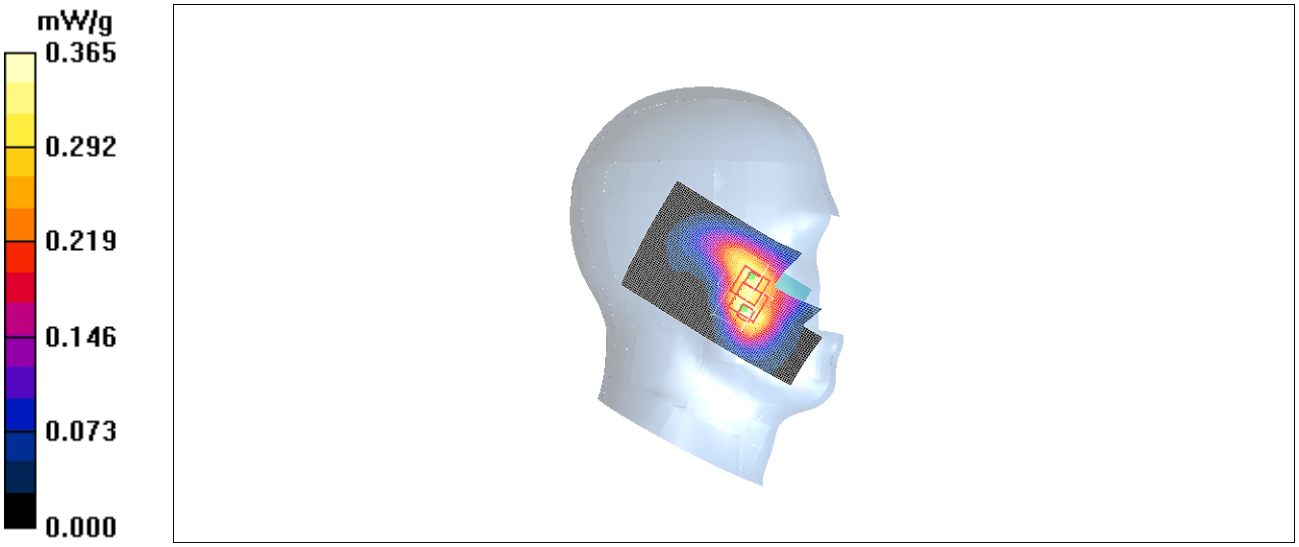


Fig. 13 1900 MHz CH810

1900 Left Cheek Middle
Date/Time: 2011-8-2 8:19:32
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°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz Frequency: 1880 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.338 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.23 V/m; Power Drift = 0.182 dB
Peak SAR (extrapolated) = 0.450 W/kg
SAR(1 g) = 0.316 mW/g; SAR(10 g) = 0.203 mW/g
Maximum value of SAR (measured) = 0.339 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.23 V/m; Power Drift = 0.182 dB
Peak SAR (extrapolated) = 0.450 W/kg
SAR(1 g) = 0.286 mW/g; SAR(10 g) = 0.174 mW/g
Maximum value of SAR (measured) = 0.306 mW/g

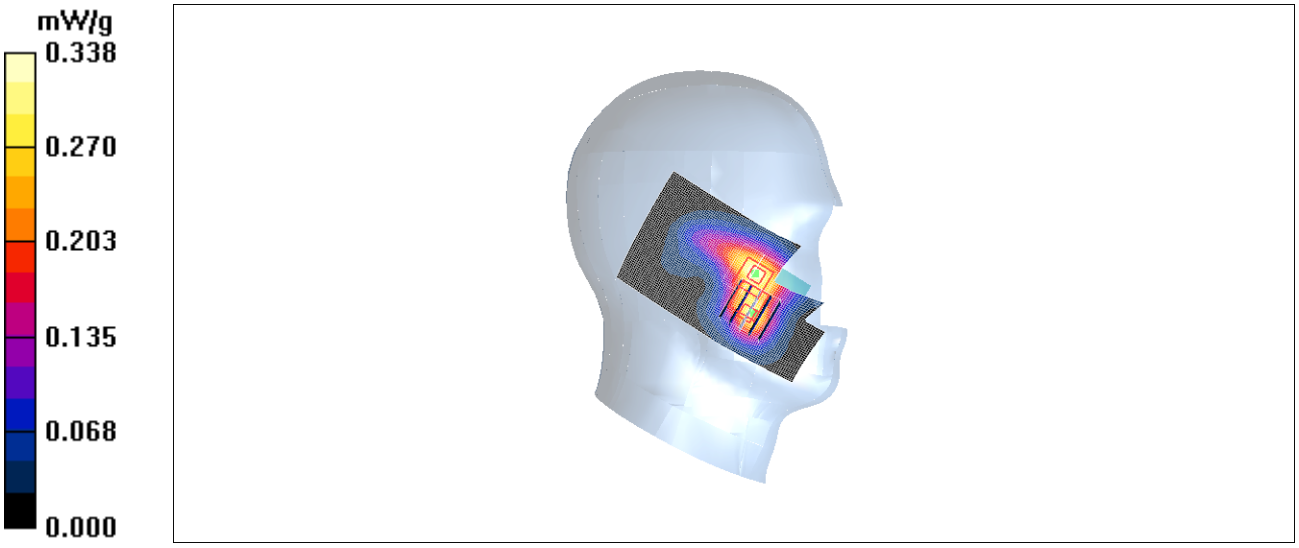


Fig. 14 1900 MHz CH661

1900 Left Cheek Low
Date/Time: 2011-8-2 8:37:16
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°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz Frequency: 1850.2 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Cheek Low/Area Scan (61x101x1): 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 = 5.21 V/m; Power Drift = 0.146 dB
Peak SAR (extrapolated) = 0.470 W/kg
SAR(1 g) = 0.328 mW/g; SAR(10 g) = 0.209 mW/g
Maximum value of SAR (measured) = 0.357 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.21 V/m; Power Drift = 0.146 dB
Peak SAR (extrapolated) = 0.459 W/kg
SAR(1 g) = 0.285 mW/g; SAR(10 g) = 0.166 mW/g
Maximum value of SAR (measured) = 0.312 mW/g

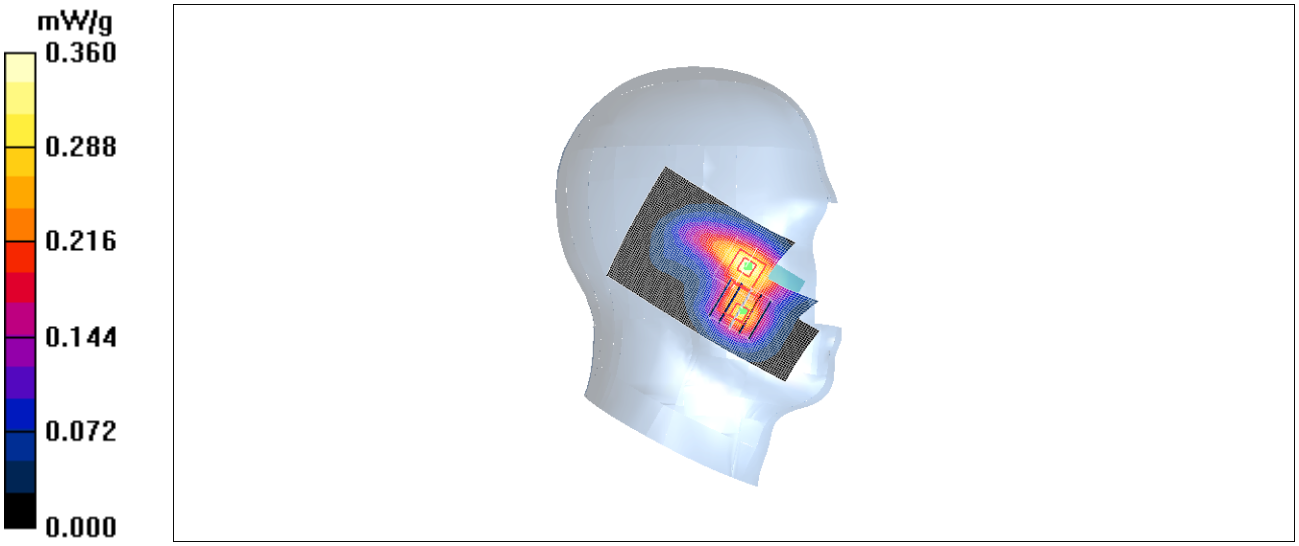


Fig. 15 1900 MHz CH512

1900 Left Tilt High

Date/Time: 2011-8-2 8:52:59
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°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Tilt High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.083 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.20 V/m; Power Drift = -0.089 dB
Peak SAR (extrapolated) = 0.106 W/kg
SAR(1 g) = 0.071 mW/g; SAR(10 g) = 0.044 mW/g
Maximum value of SAR (measured) = 0.074 mW/g

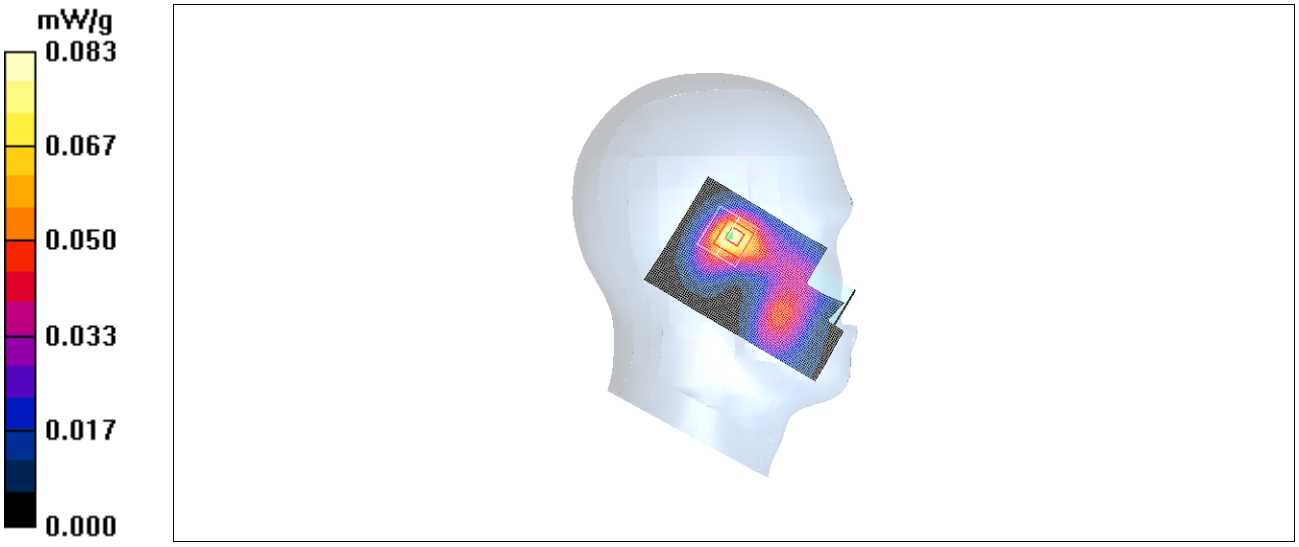


Fig.16 1900 MHz CH810

1900 Left Tilt Middle
Date/Time: 2011-8-2 9:08:26
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°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz Frequency: 1880 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.123 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.77 V/m; Power Drift = -0.036 dB
Peak SAR (extrapolated) = 0.157 W/kg
SAR(1 g) = 0.107 mW/g; SAR(10 g) = 0.068 mW/g
Maximum value of SAR (measured) = 0.112 mW/g

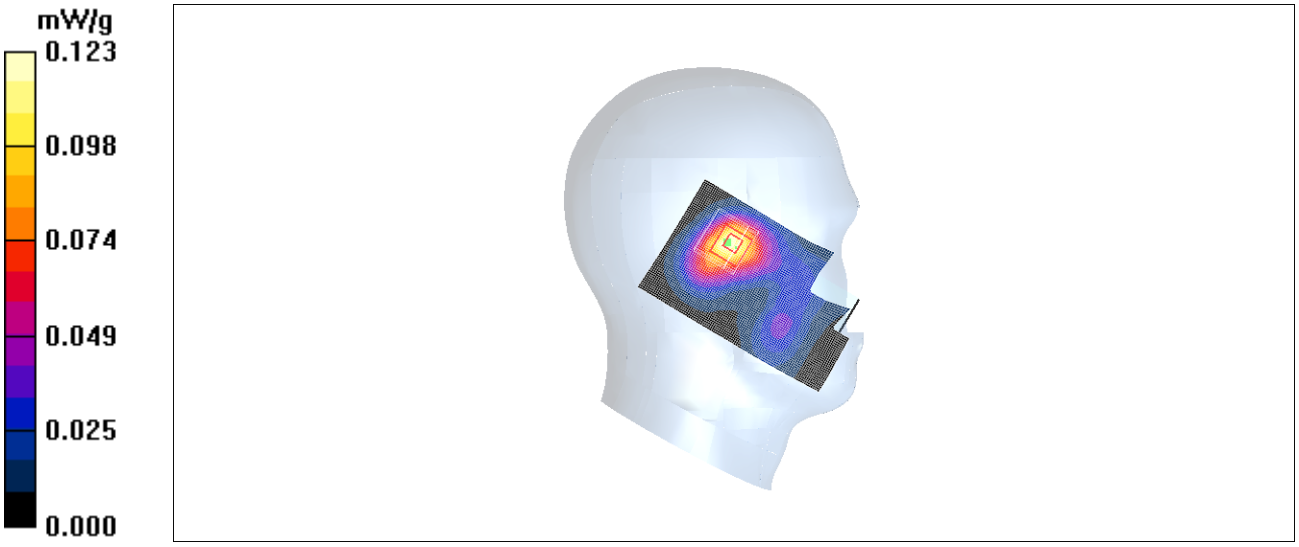


Fig. 17 1900 MHz CH661

1900 Left Tilt Low
Date/Time: 2011-8-2 9:24:17
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°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz Frequency: 1850.2 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Tilt Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.154 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.07 V/m; Power Drift = 0.079 dB
Peak SAR (extrapolated) = 0.187 W/kg
SAR(1 g) = 0.131 mW/g; SAR(10 g) = 0.085 mW/g
Maximum value of SAR (measured) = 0.137 mW/g

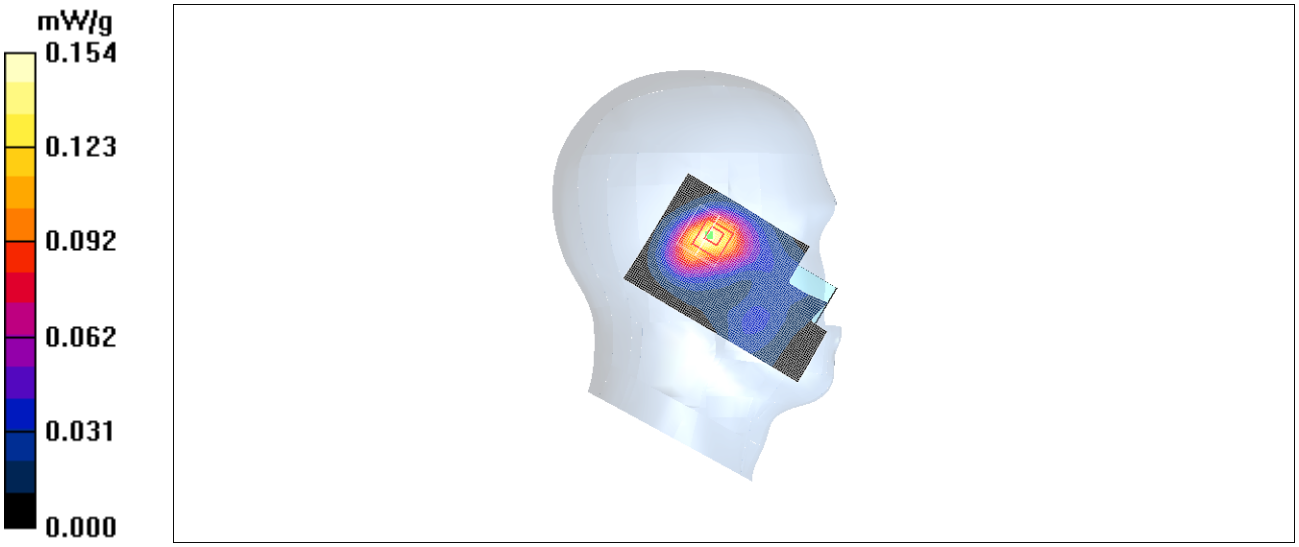


Fig. 18 1900 MHz CH512

1900 Right Cheek High
Date/Time: 2011-8-2 9:41:33
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°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Cheek High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.564 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.17 V/m; Power Drift = -0.161 dB
Peak SAR (extrapolated) = 0.751 W/kg
SAR(1 g) = 0.502 mW/g; SAR(10 g) = 0.303 mW/g
Maximum value of SAR (measured) = 0.559 mW/g

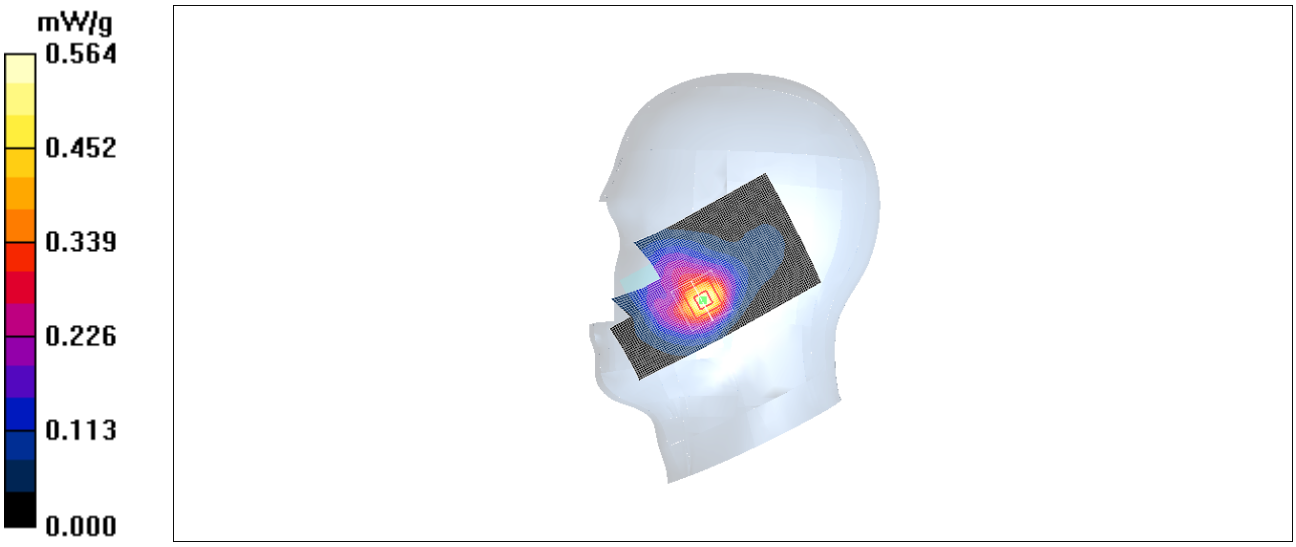


Fig. 19 1900 MHz CH810

1900 Right Cheek Middle
Date/Time: 2011-8-2 9:57:17
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°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz Frequency: 1880 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Cheek Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.499 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 4.79 V/m; Power Drift = 0.180 dB
Peak SAR (extrapolated) = 0.649 W/kg
SAR(1 g) = 0.438 mW/g; SAR(10 g) = 0.259 mW/g
Maximum value of SAR (measured) = 0.488 mW/g

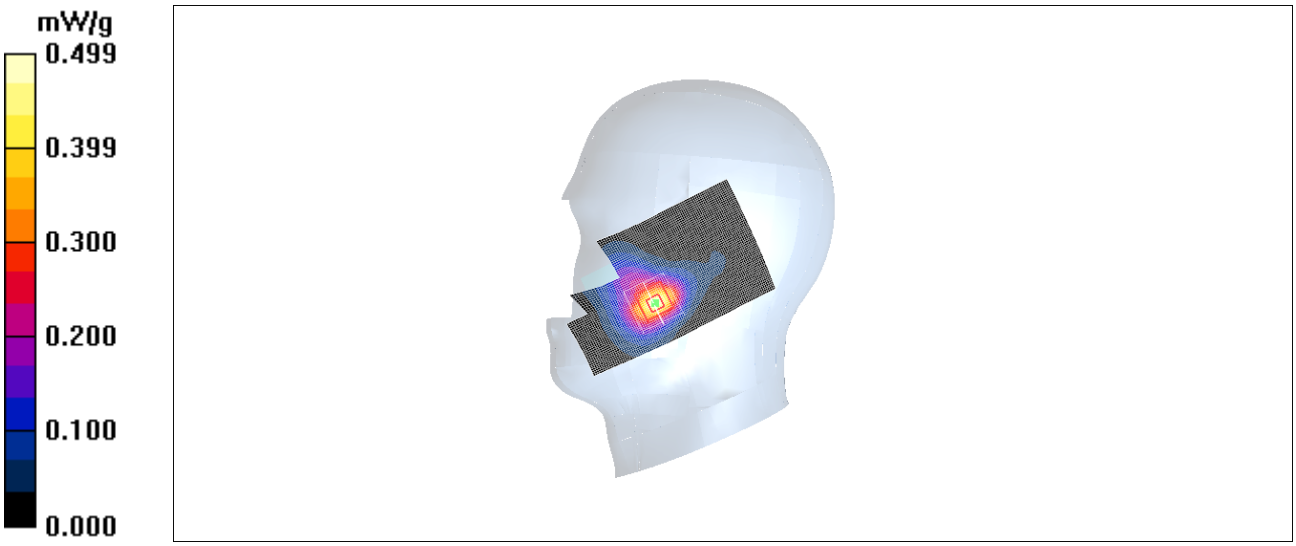


Fig. 20 1900 MHz CH661

1900 Right Cheek Low

Date/Time: 2011-8-2 10:12:56
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°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz Frequency: 1850.2 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Cheek Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.568 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.00 V/m; Power Drift = 0.093 dB
Peak SAR (extrapolated) = 0.754 W/kg
SAR(1 g) = 0.503 mW/g; SAR(10 g) = 0.296 mW/g
Maximum value of SAR (measured) = 0.562 mW/g

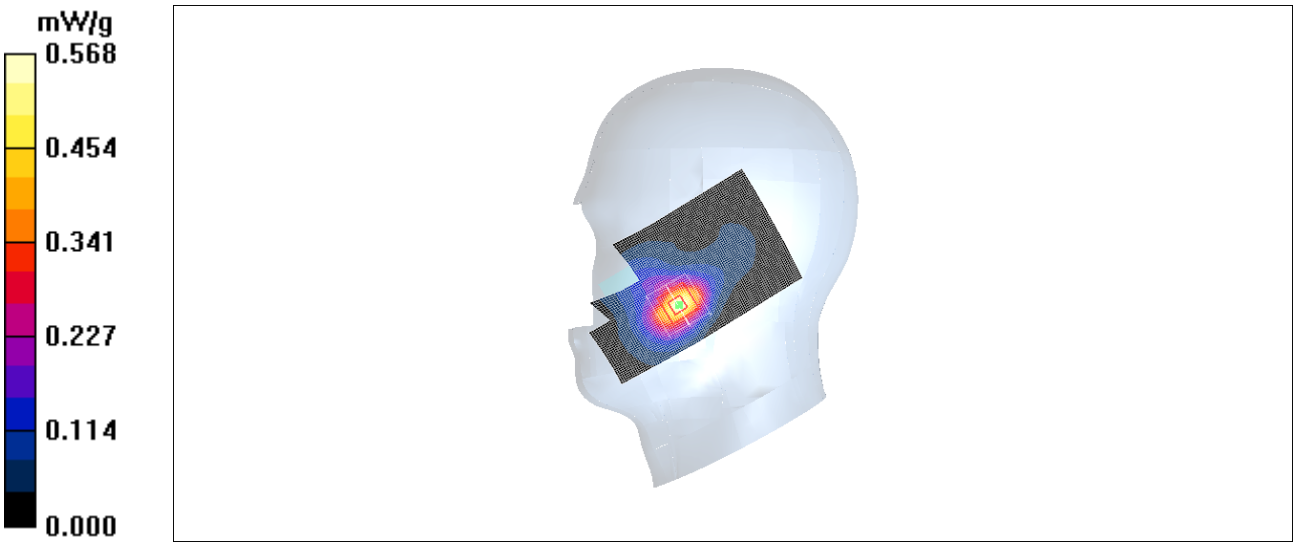


Fig. 21 1900 MHz CH512

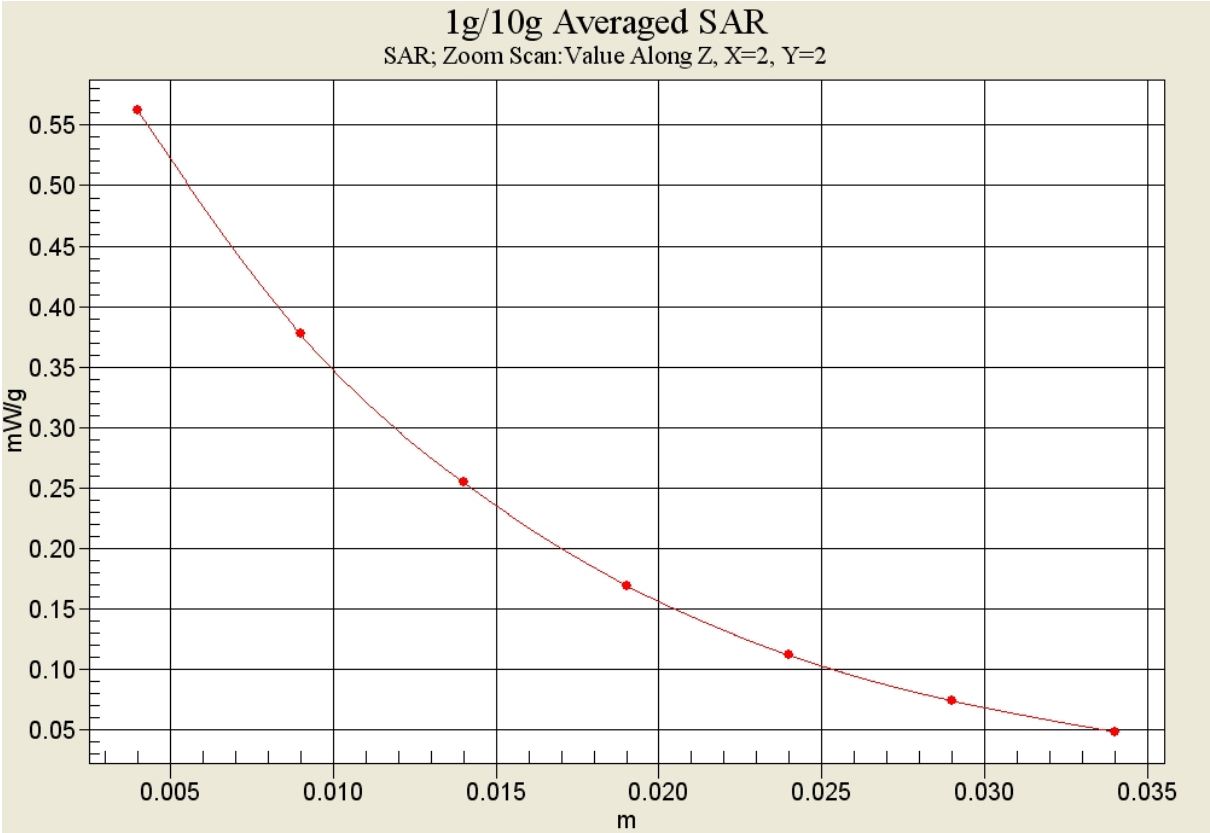


Fig. 21-1 Z-Scan at power reference point (1900 MHz CH512)

1900 Right Tilt High
Date/Time: 2011-8-2 10:33:25
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°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz Frequency: 1909.8 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Tilt High/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.061 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.16 V/m; Power Drift = -0.119 dB
Peak SAR (extrapolated) = 0.078 W/kg
SAR(1 g) = 0.052 mW/g; SAR(10 g) = 0.033 mW/g
Maximum value of SAR (measured) = 0.055 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 1: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.16 V/m; Power Drift = -0.119 dB
Peak SAR (extrapolated) = 0.064 W/kg
SAR(1 g) = 0.044 mW/g; SAR(10 g) = 0.030 mW/g
Maximum value of SAR (measured) = 0.048 mW/g

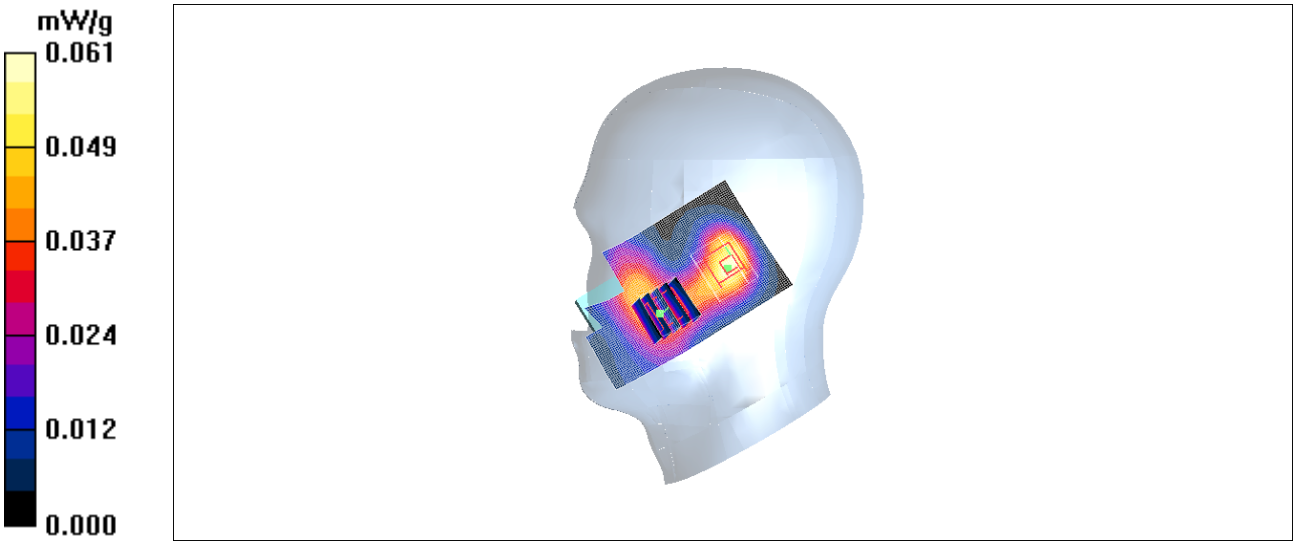


Fig. 22 1900 MHz CH810

1900 Right Tilt Middle
Date/Time: 2011-8-2 10:49:41
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°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz Frequency: 1880 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Tilt Middle/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.098 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.25 V/m; Power Drift = 0.044 dB
Peak SAR (extrapolated) = 0.135 W/kg
SAR(1 g) = 0.090 mW/g; SAR(10 g) = 0.057 mW/g
Maximum value of SAR (measured) = 0.096 mW/g

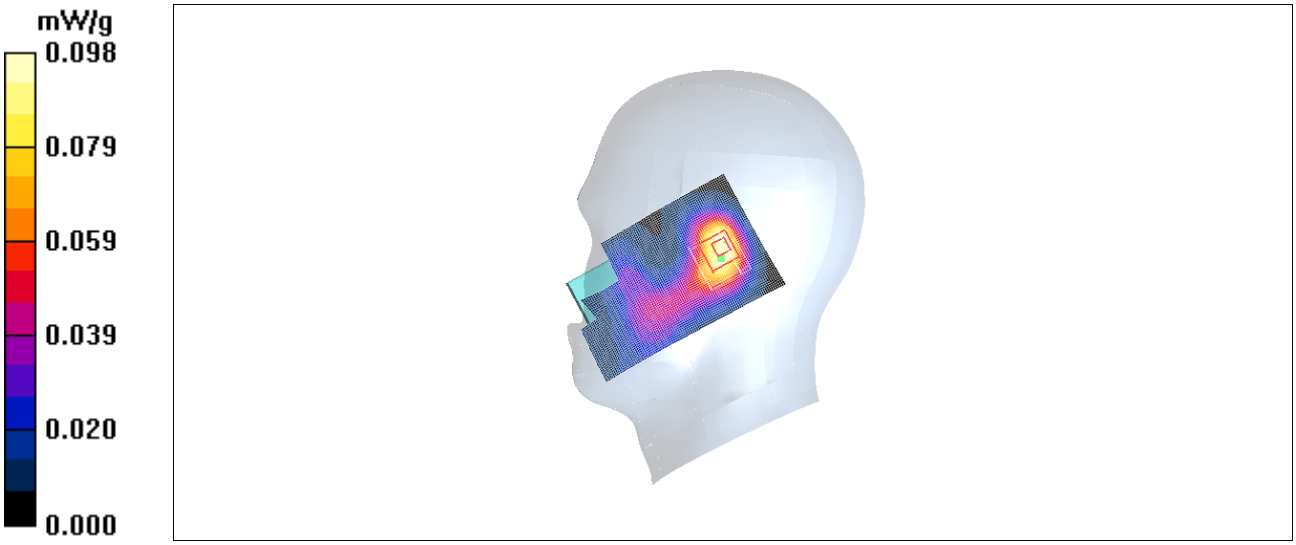


Fig.23 1900 MHz CH661

1900 Right Tilt Low
Date/Time: 2011-8-2 11:05:52
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°C Liquid Temperature: 22.5°C
Communication System: GSM 1900MHz Frequency: 1850.2 MHz Duty Cycle: 1:8.3
Probe: ES3DV3 - SN3149 ConvF(5.03, 5.03, 5.03)

Tilt Low/Area Scan (61x101x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.140 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.98 V/m; Power Drift = 0.076 dB
Peak SAR (extrapolated) = 0.188 W/kg
SAR(1 g) = 0.127 mW/g; SAR(10 g) = 0.080 mW/g
Maximum value of SAR (measured) = 0.139 mW/g

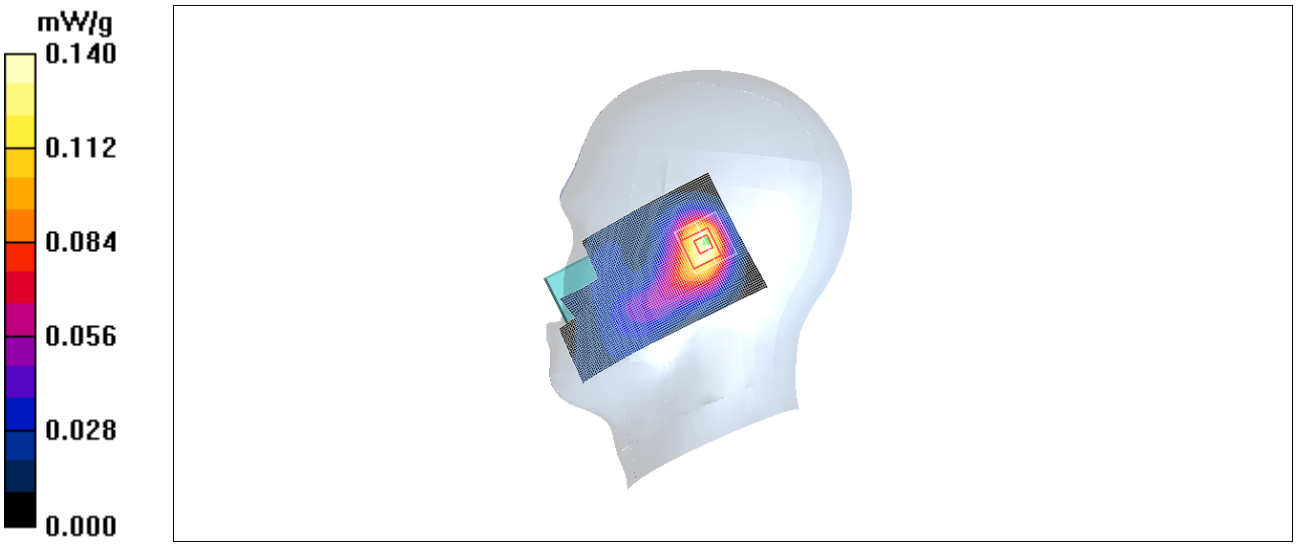


Fig.24 1900 MHz CH512

WCDMA 850 Left Cheek High
Date/Time: 2011-8-1 11:34:11
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°C Liquid Temperature: 22.5°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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.570 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.88 V/m; Power Drift = -0.025 dB
Peak SAR (extrapolated) = 0.654 W/kg
SAR(1 g) = 0.535 mW/g; SAR(10 g) = 0.404 mW/g
Maximum value of SAR (measured) = 0.565 mW/g

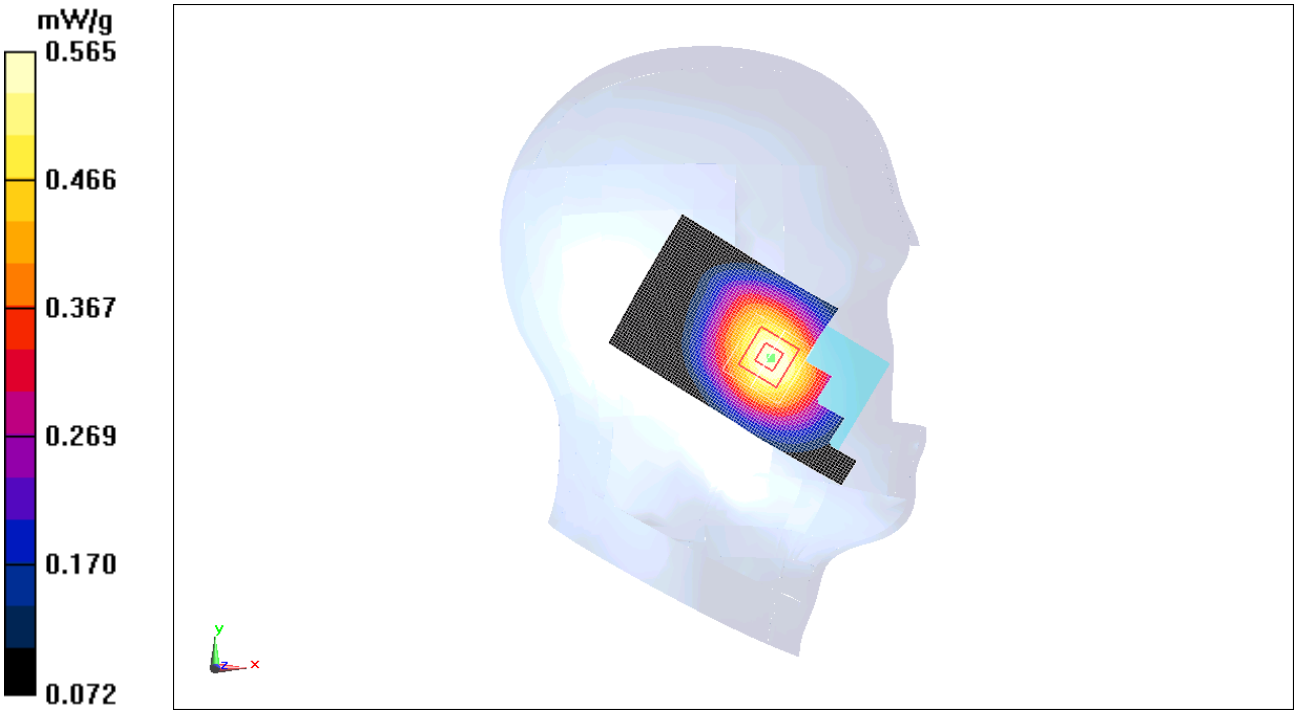


Fig. 25 850MHz CH4233

WCDMA 850 Left Cheek Middle
Date/Time: 2011-8-1 11:48:51
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°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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.631 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.09 V/m; Power Drift = 0.098 dB
Peak SAR (extrapolated) = 0.732 W/kg
SAR(1 g) = 0.596 mW/g; SAR(10 g) = 0.450 mW/g
Maximum value of SAR (measured) = 0.628 mW/g

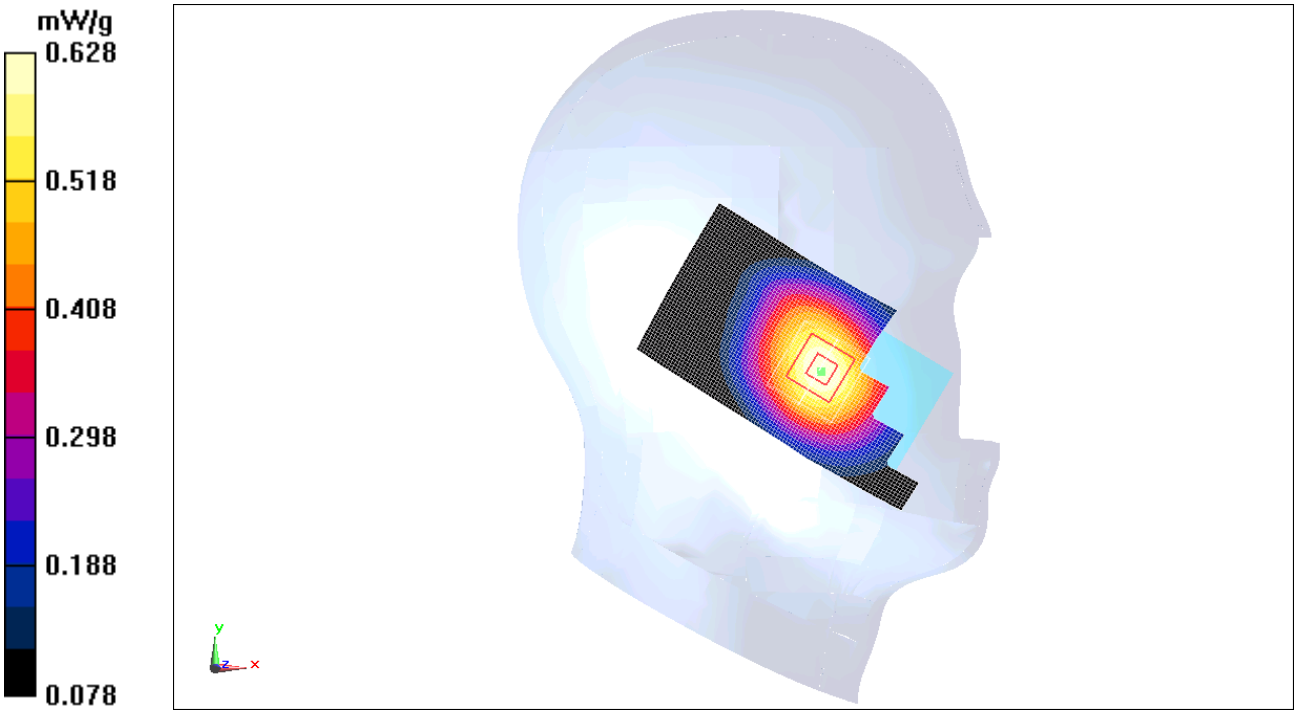


Fig. 26 850 MHz CH4182

WCDMA 850 Left Cheek Low
Date/Time: 2011-8-1 12:04:12
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°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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.501 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 6.46 V/m; Power Drift = 0.082 dB
Peak SAR (extrapolated) = 0.585 W/kg
SAR(1 g) = 0.476 mW/g; SAR(10 g) = 0.359 mW/g
Maximum value of SAR (measured) = 0.502 mW/g

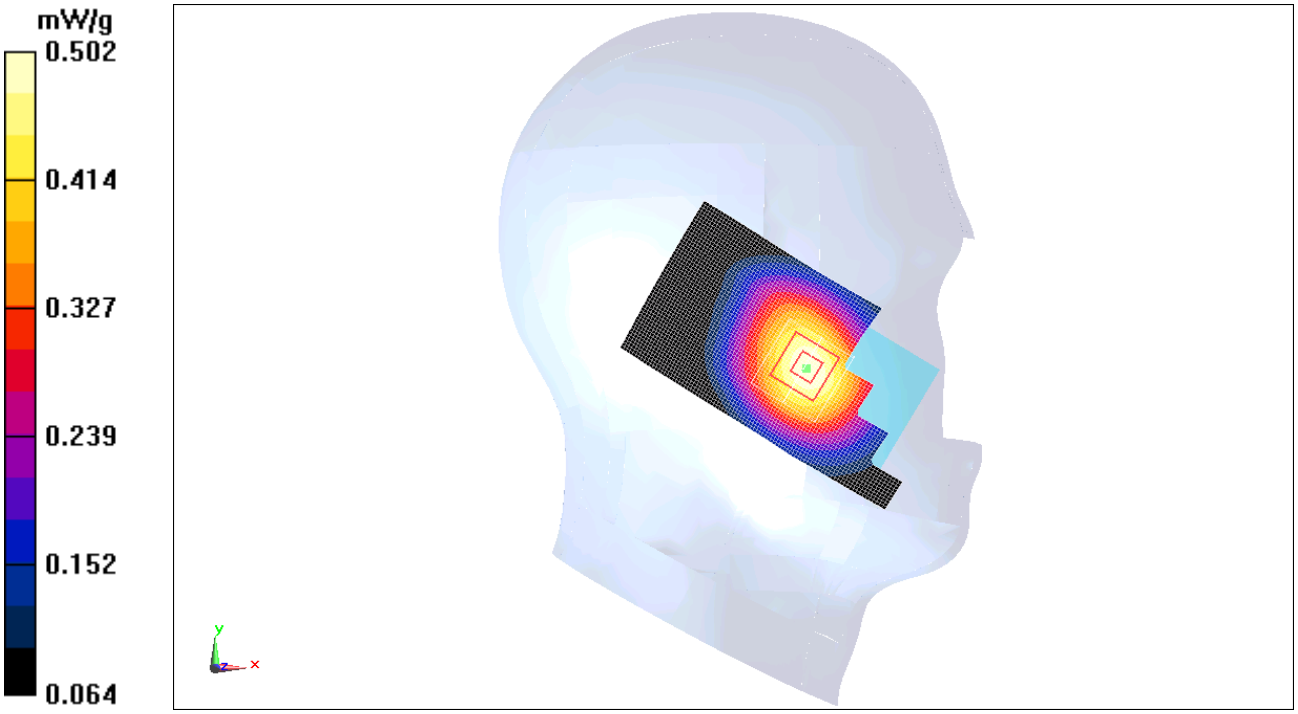


Fig. 27 850 MHz CH4132

WCDMA 850 Left Tilt High
Date/Time: 2011-8-1 12:21:33
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°C Liquid Temperature: 22.5°C
Communication System: WCDMA 850 Frequency: 846.6 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Tilt High/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.376 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.4 V/m; Power Drift = -0.017 dB
Peak SAR (extrapolated) = 0.446 W/kg
SAR(1 g) = 0.358 mW/g; SAR(10 g) = 0.271 mW/g
Maximum value of SAR (measured) = 0.376 mW/g

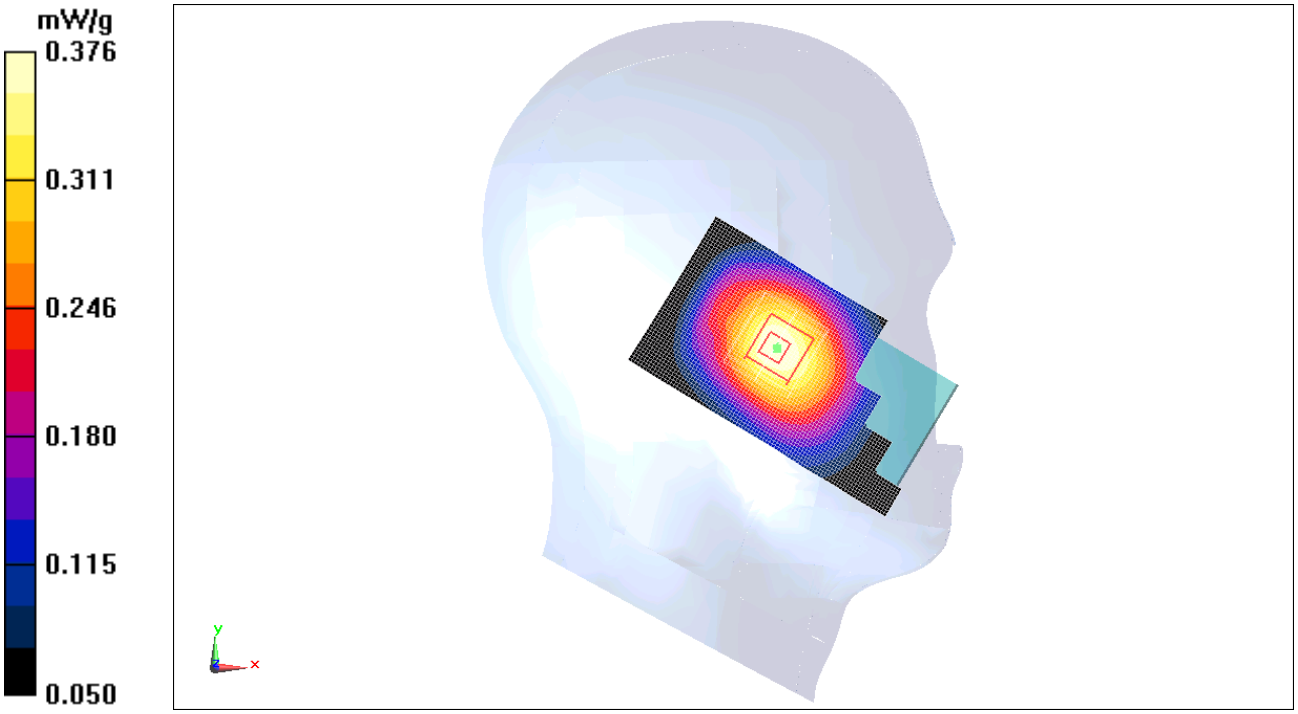


Fig.28 850 MHz CH4233

WCDMA 850 Left Tilt Middle
Date/Time: 2011-8-1 12:36:03
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°C Liquid Temperature: 22.5°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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.428 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.5 V/m; Power Drift = -0.106 dB
Peak SAR (extrapolated) = 0.507 W/kg
SAR(1 g) = 0.407 mW/g; SAR(10 g) = 0.308 mW/g
Maximum value of SAR (measured) = 0.429 mW/g

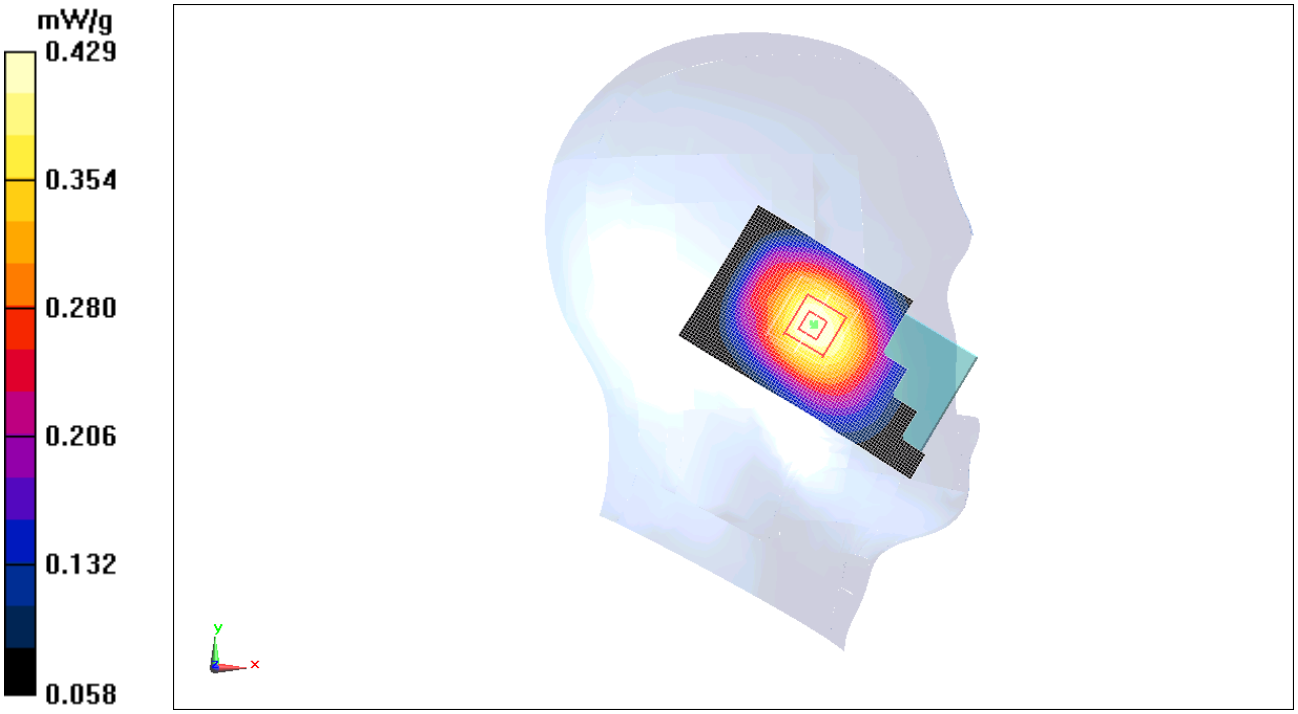


Fig.29 850 MHz CH4182

WCDMA 850 Left Tilt Low
Date/Time: 2011-8-1 12:52:24
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°C
Communication System: WCDMA 850 Frequency: 826.4 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Tilt Low/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.335 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.4 V/m; Power Drift = -0.128 dB
Peak SAR (extrapolated) = 0.391 W/kg
SAR(1 g) = 0.316 mW/g; SAR(10 g) = 0.240 mW/g
Maximum value of SAR (measured) = 0.331 mW/g

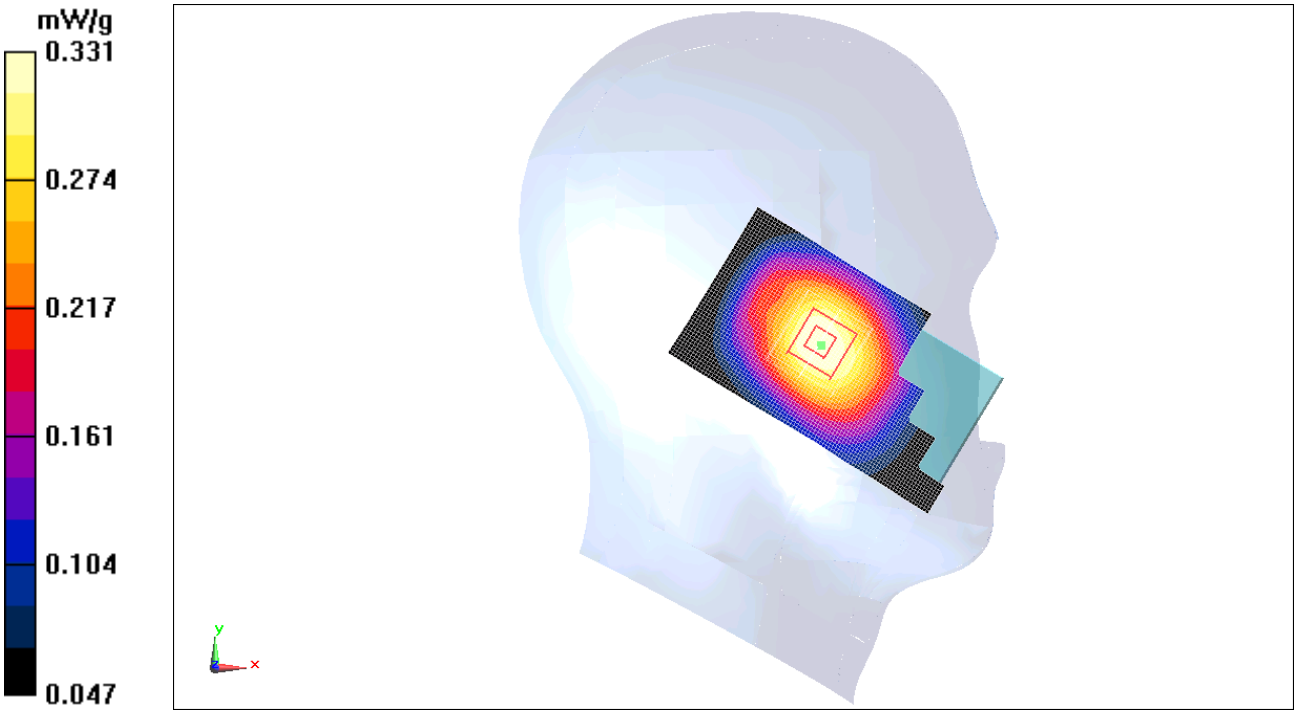


Fig. 30 850 MHz CH4132

WCDMA 850 Right Cheek High
Date/Time: 2011-8-1 13:11:36
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 °C Liquid Temperature: 22.5°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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.648 mW/g

Cheek High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.31 V/m; Power Drift = -0.161 dB
Peak SAR (extrapolated) = 0.776 W/kg
SAR(1 g) = 0.609 mW/g; SAR(10 g) = 0.457 mW/g
Maximum value of SAR (measured) = 0.647 mW/g

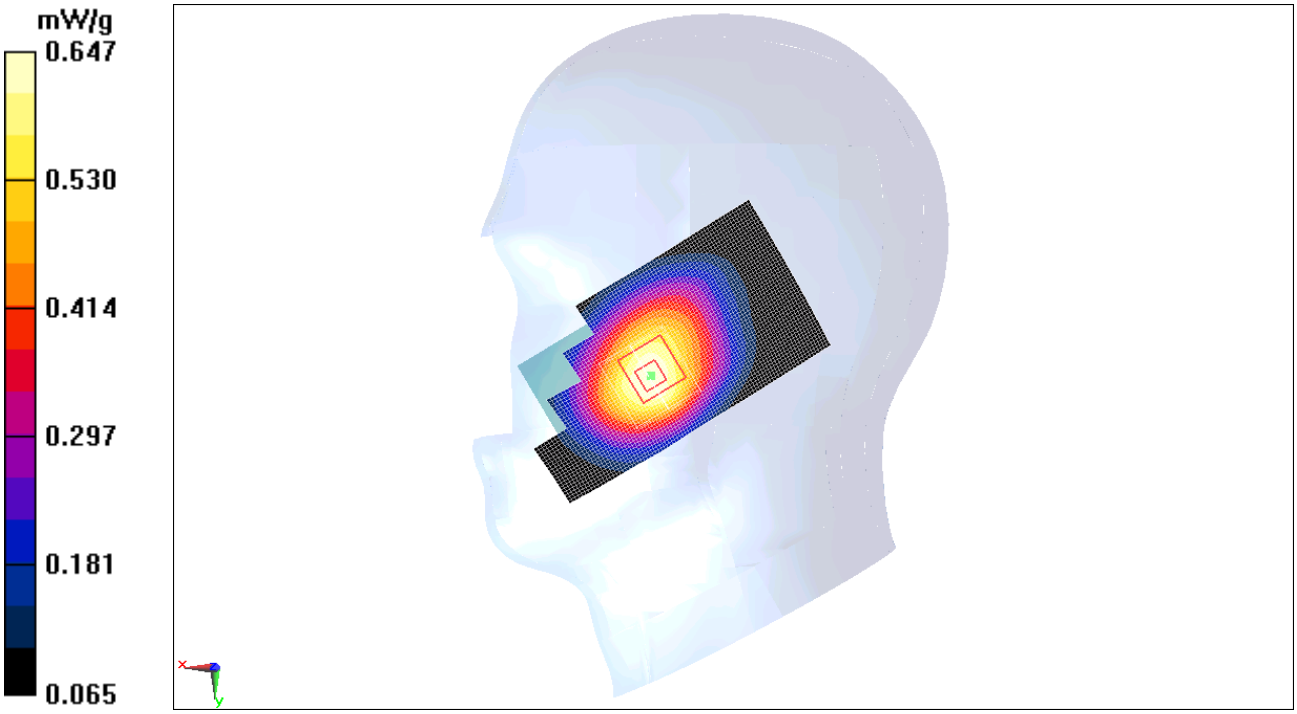


Fig. 31 850 MHz CH4233

WCDMA 850 Right Cheek Middle
Date/Time: 2011-8-1 13:27:16
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 °C Liquid Temperature: 22.5°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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.708 mW/g

Cheek Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.46 V/m; Power Drift = -0.038 dB
Peak SAR (extrapolated) = 0.866 W/kg
SAR(1 g) = 0.690 mW/g; SAR(10 g) = 0.519 mW/g
Maximum value of SAR (measured) = 0.726 mW/g

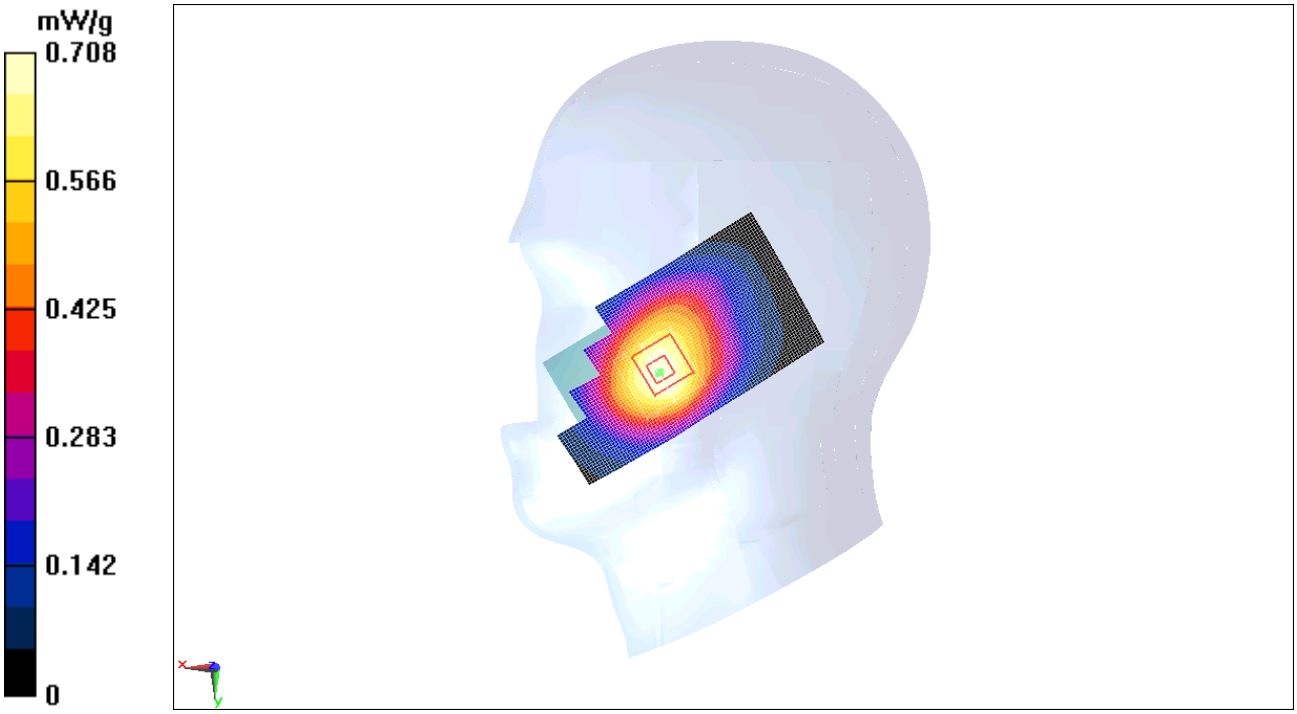


Fig. 32 850 MHz CH4182

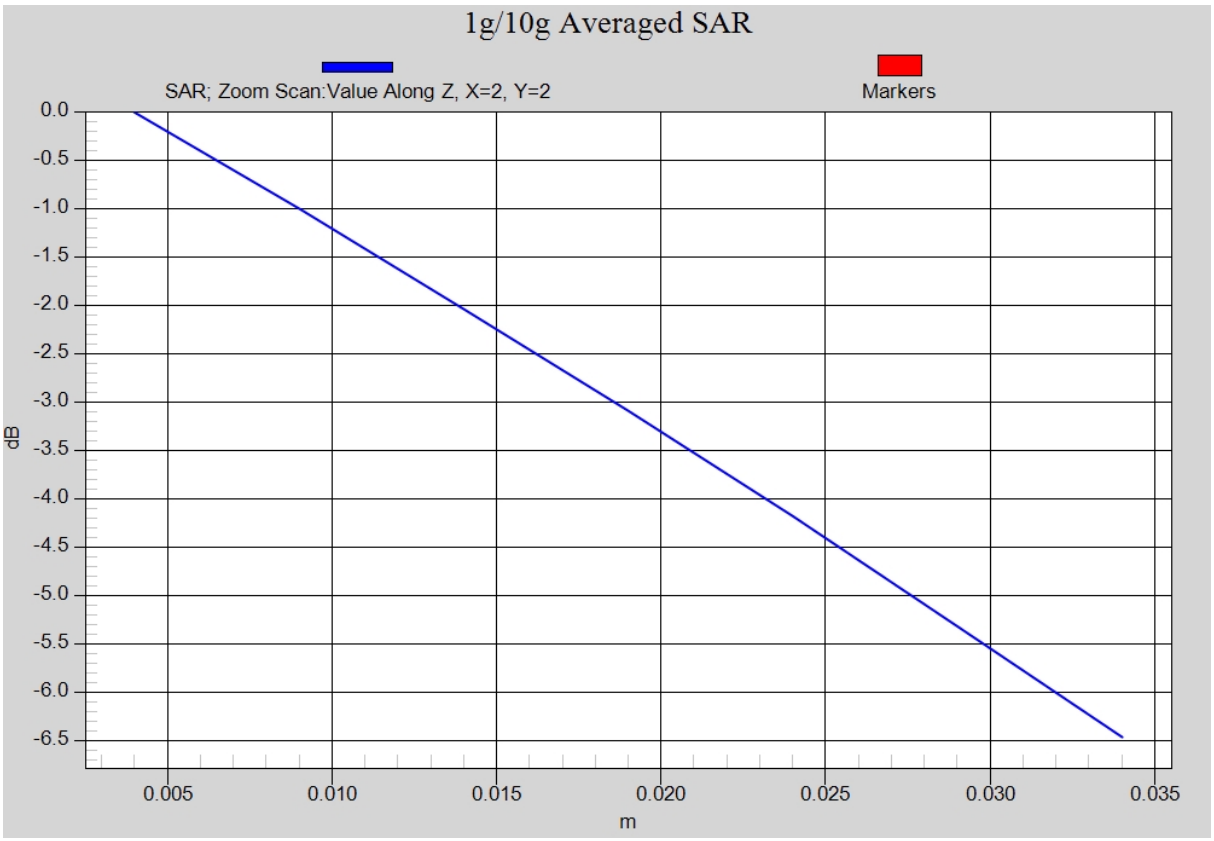


Fig. 32-1 Z-Scan at power reference point (850 MHz CH4182)

WCDMA 850 Right Cheek Low
Date/Time: 2011-8-1 13:42:47
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 °C Liquid Temperature: 22.5°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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.565 mW/g

Cheek Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.47 V/m; Power Drift = 0.082 dB
Peak SAR (extrapolated) = 0.683 W/kg
SAR(1 g) = 0.542 mW/g; SAR(10 g) = 0.409 mW/g
Maximum value of SAR (measured) = 0.566 mW/g

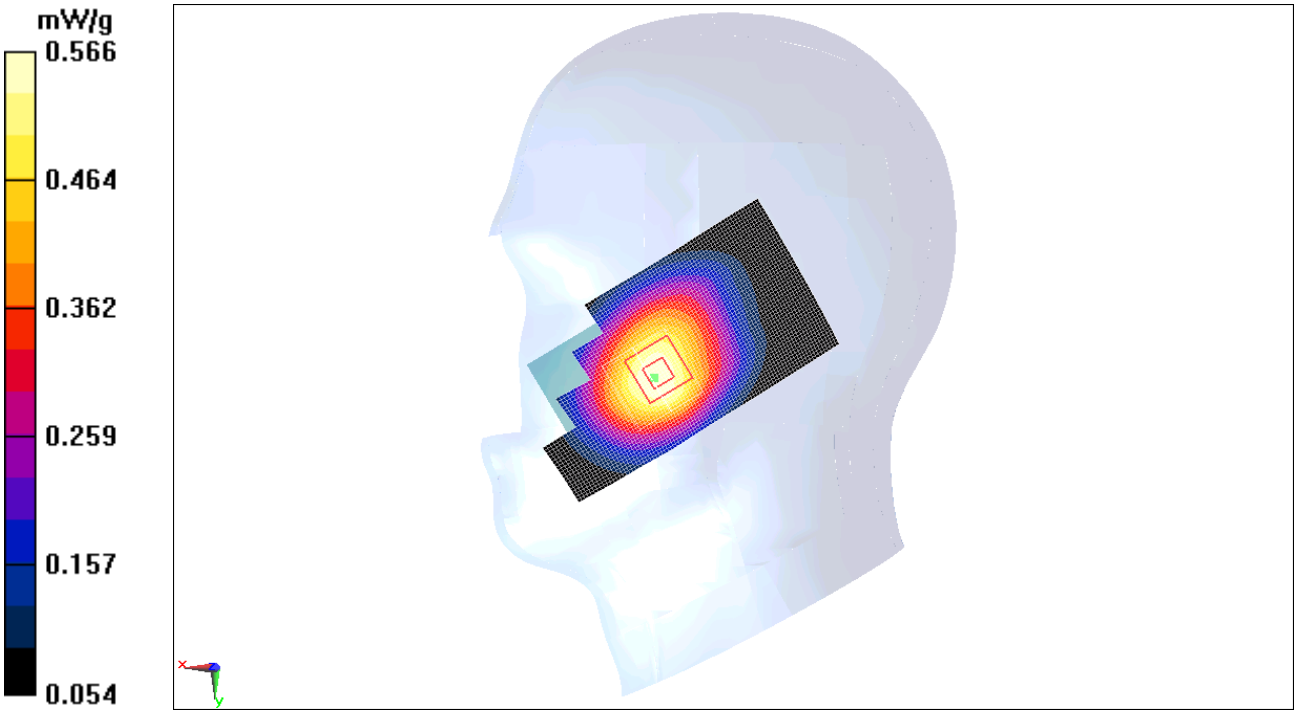


Fig. 33 850 MHz CH4132

WCDMA 850 Right Tilt High
Date/Time: 2011-8-1 13:58:22
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 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 850 Frequency: 846.6 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Tilt High/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.406 mW/g

Tilt High/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.1 V/m; Power Drift = -0.049 dB
Peak SAR (extrapolated) = 0.494 W/kg
SAR(1 g) = 0.390 mW/g; SAR(10 g) = 0.292 mW/g
Maximum value of SAR (measured) = 0.410 mW/g

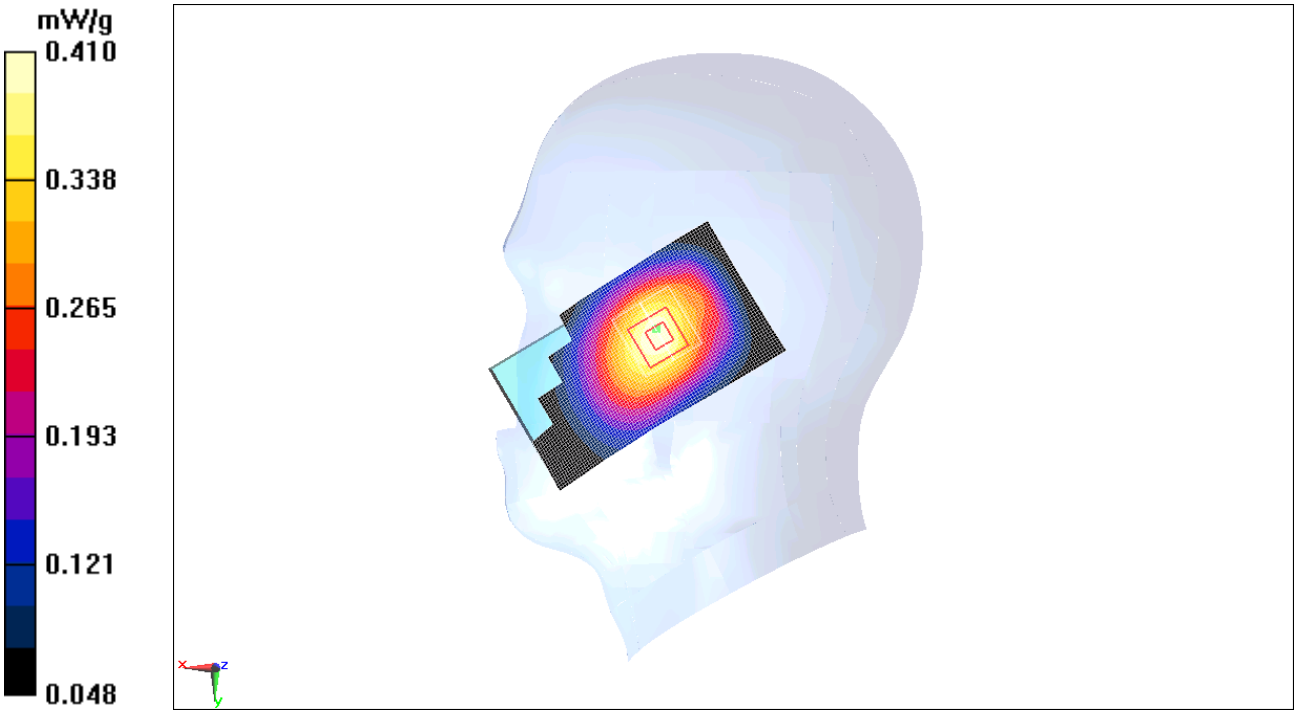


Fig.34 850 MHz CH4233

WCDMA 850 Right Tilt Middle
Date/Time: 2011-8-1 14:13:41
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 °C Liquid Temperature: 22.5°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 (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.447 mW/g

Tilt Middle/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 14.9 V/m; Power Drift = -0.00306 dB
Peak SAR (extrapolated) = 0.547 W/kg
SAR(1 g) = 0.435 mW/g; SAR(10 g) = 0.326 mW/g
Maximum value of SAR (measured) = 0.455 mW/g

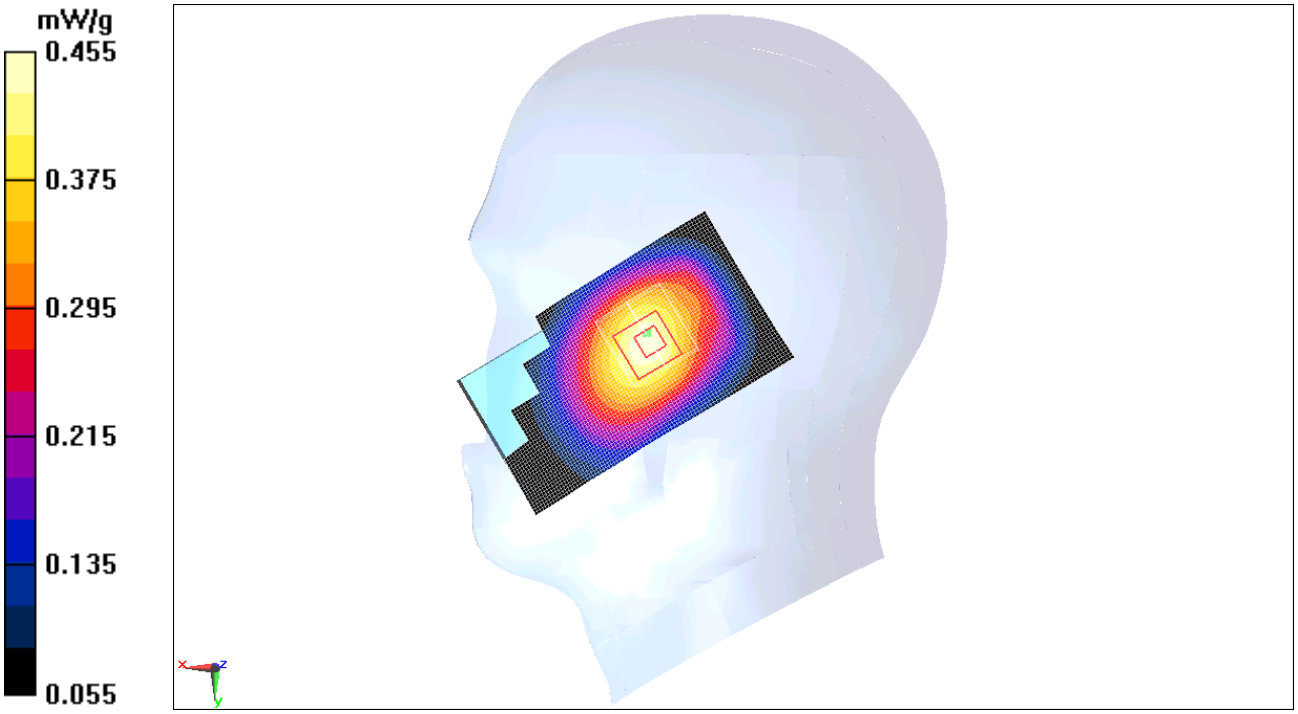


Fig.35 850 MHz CH4182

WCDMA 850 Right Tilt Low
Date/Time: 2011-8-1 14:28:58
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 °C Liquid Temperature: 22.5°C
Communication System: WCDMA 850 Frequency: 826.4 MHz Duty Cycle: 1:1
Probe: ES3DV3 - SN3149 ConvF(6.56, 6.56, 6.56)

Tilt Low/Area Scan (51x91x1): Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (interpolated) = 0.356 mW/g

Tilt Low/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 13.4 V/m; Power Drift = 0.034 dB
Peak SAR (extrapolated) = 0.430 W/kg
SAR(1 g) = 0.342 mW/g; SAR(10 g) = 0.259 mW/g
Maximum value of SAR (measured) = 0.355 mW/g

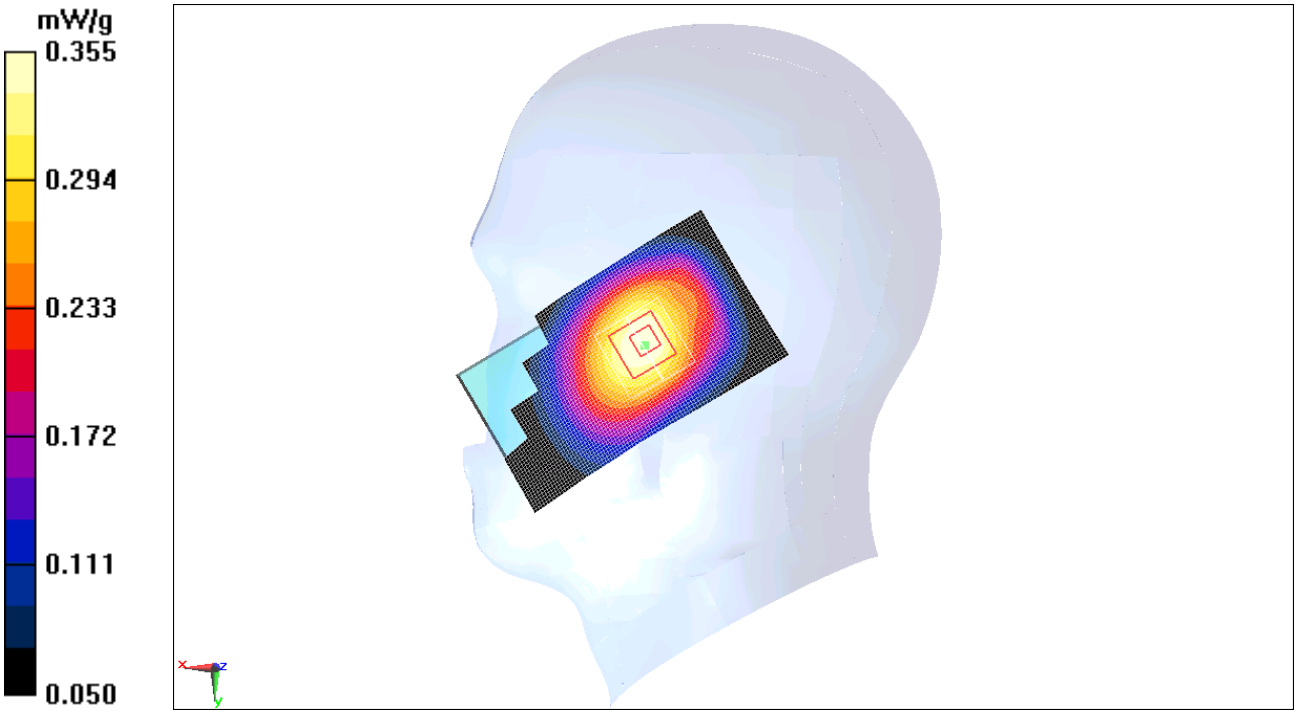


Fig. 36 850 MHz CH4132