TEST REPORT

REPORT NUMBER: B06GE4866-FCC-SAR

ON

Type of Equipment: GSM850/ PCS1900 Dual-band Terminal Equipment
Type of Designation: KG112
Manufacturer: LG Electronics (China) R&D Center

ACCORDING TO

FCC Part 2.1093: Radiofrequency radiation exposure evaluation: portable devices, e-CFR March 23, 2006
FCC OET Bulletin 65 Supplement C (Edition 01-01): Additional Information for Evaluating Compliance of Mobile and Portable Devices with FCC Limits for Human Exposure to Radiofrequency Emissions
IEEE Std 1528™-2003: IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques

China Telecommunication Technology Labs.

Month date, year
07 13 2006

Signature

He Guili
Director

FCC ID:	UBIKG112
Report Date:	2006-7-13
Test Firm Name:	China Telecommunication Technology Labs
Registration Number:	840587

Statement

The measurements shown in this report were made in accordance with the procedures described on test pages. All reported tests were carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Part 2.1093. The sample tested was found to comply with the requirements defined in the applied rules.

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1 General Information

1.1 Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with the requirements of FCC CFR 47 Part 2.1093.

The test results of this test report relate exclusively to the item(s) tested as specified in section 2.

The following deviations from, additions to, or exclusions from the test specifications have been made. See Annex D.

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1.3 Testing Laboratory information

1.3.1 Location

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1.3.2 Details of accreditation status

Accredited by:	China National Accreditation for Laboratory (CNAL)
Registration number:	CNAL Registration No.L0570
Standard:	ISO/IEC 17025

1.3.3 Test location, where different from section 1.3.1

Name:	------
Street:	------
City:	------
Country:	------
Telephone:	------
Fax:	------
Postcode:	------

1.4 Details of applicant or manufacturer

1.4.1 Applicant

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1.4.2 Manufacturer (if different from applicant in section 1.4.1)

Name:	--
Address:	--
City:	--
Country:	--

2 Test Item

2.1 General Information

Manufacturer: LG Electronics (China) R&D Center

Name: GSM850/ PCS1900 Dual-band Terminal Equipment

Model Number: KG112

Serial Number: 350305260000000

Production Status: Production

Receipt date of test item: 2006-05-27

2.2 Outline of EUT

EUT is a GSM850/ PCS1900 Dual-band Terminal Equipment with GPRS mode.

2.3 Modifications Incorporated in EUT

The EUT has not been modified from what is described by the brand name and unique type identification stated above.

2.4 Equipment Configuration

Equipment configuration list:

Item	Generic Description	Manufacturer	Type	Serial No.	Remarks
A	Mobile phone	LG Electronics (China) R&D Center	KG112	350305260 000000	None
B	Adaptor	Best Technology Co.,Ltd	TA-22GR2	050608BE0 0232	None
C	Battery	BYD CO., LTD.	LGTL-GBIP-830 (Li-Ion)	--	None
D	Headset	HUICHENG ELECTRONICS CO. LTD	EM-LG412GS	--	None

Cables:

Item	Cable Type	Manufacturer	Length	Shield	Quantity	Remarks
1	DC cable on Adapter	Unknown	1.80m	No	1	None

2.5 Other Information

The multislot class of the GPRS mode is class 10 with 5 active timeslots.

2.6 EUT Photographs

Figure 1 Front view

Figure 2 Back view

Figure 3 Headset

3 Measurement Systems

3.1 SAR Measurement Systems Setup

All measurements were performed using the automated near-field scanning system, DASY4, from Schmid & Partner Engineering AG (SPEAG). The system is based on a high precision industrial robot 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 containing the power supply, robot controller, teach 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, 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) performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc., which is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical signal to digital electric signal of the DAE and transfers data to the PC plug-in card.

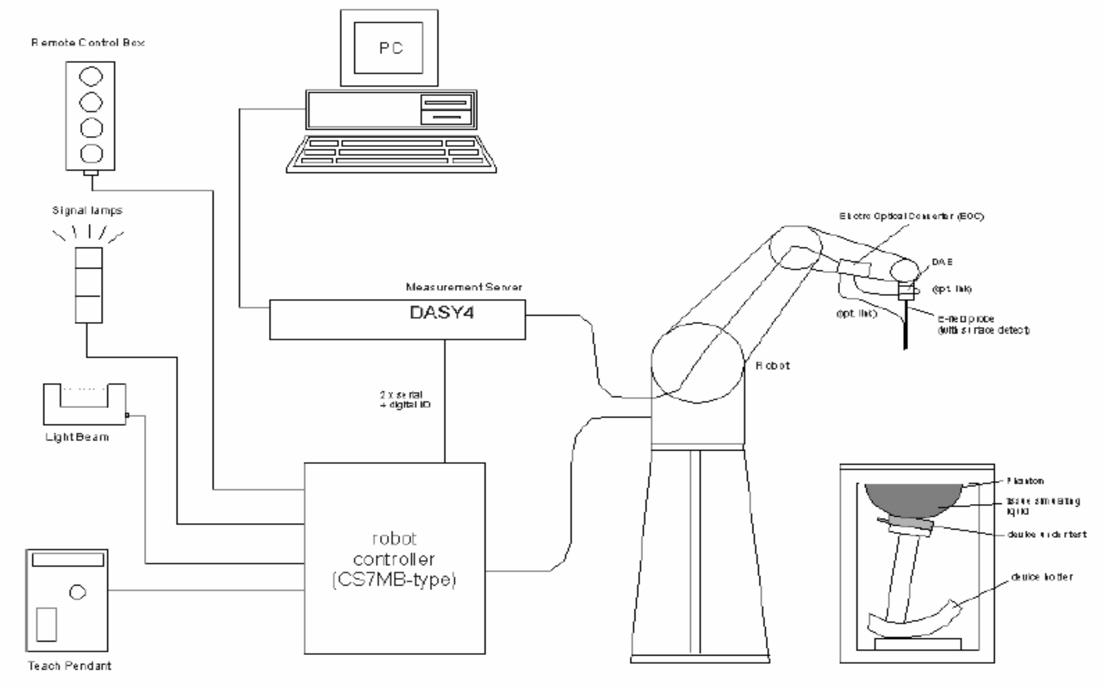


Figure 4 Demonstration of measurement system setup

The DAE3 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.

3.2 E-field Probe

3.2.1 E-field Probe Description

The SAR measurements were conducted with the dosimetric probe ET3DV6 (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.

Items	Specification
Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection System(ET3DV6 only) Built-in shielding against static charges PEEK enclosure material(resistant to organic solvents, e.g., glycol)
Calibration	In air from 10 MHz to 2.5 GHz In brain and muscle simulating tissue at frequencies of 450MHz, 900MHz and 1.8GHz (accuracy±8%) Calibration for other liquids and frequencies upon request
Frequency	l 0 MHz to > 6 GHz; Linearity: ±0.2 dB (30 MHz to 3 GHz)
Directivity	±0.2 dB in brain tissue (rotation around probe axis) ±0.4 dB in brain tissue (rotation normal probe axis)
Dynamic Range	5u W/g to > 100mW/g; Linearity: ±0.2dB
Surface Detection	±0.2 mm repeatability in air and clear liquids over diffuse reflecting surface(ET3DV6 only)
Dimensions	Overall length: 330mm Tip length: 16mm Body diameter: 12mm Tip diameter: 6.8mm Distance from probe tip to dipole centers: 2.7mm
Application	General dosimetry up to 3GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms

3.2.2 E-field Probe Calibration

The Annex C is the copy of the calibration certificate of the used probes.

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 free-space E-field measured in the medium correlates to temperature increase 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).

3.3 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.

Specifications:

Shell Thickness: 2±0.1mm

Filling Volume: Approx. 20 liters

Dimensions: 810 x l000 x 500 mm (H x L x W)

Liquid depth when testing: at least 150 mm

3.4 Device Holder

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

4 Test Results

4.1 Operational Condition

Specifications FCC OET 65C (01-01), IEEE Std 1528™-2003

Date of Tests 2006.06.12 – 2006.06.14, 2006.07.12 – 2006.07.13

Test conditions Ambient Temperature:22.0~24.0℃

Relative Humidity:39.5~50.7%

Operation Mode TX at the highest output peak power level

Method of measurement: FCC OET 65C (01-01), IEEE Std 1528™-2003

4.2 Test Equipment Used

Description	Manufacturer	Model Number	Serial Number	Last Calibration	Calibration Due
DASY4	Schmid & Partner Engineering AG	Version 4	1014	No need	--
Data Acquisition Electronics	SPEAG	DAE3	549	2005-8-30	2006-8-29
Probe	SPEAG	ET3DV6	1742	2005-11-25	2006-11-24
Dipole	SPEAG	D835V2	473	2005-8-6	2006-8-5
Dipole	SPEAG	D835V2	5d024	2005-8-6	2006-8-5
Phantom	SPEAG	SAM twin phantom	SM 000 T01 CA	No need	--
Scanning system	STAUBLI UNIMATION	RX90BL	F02/5T 63A1/A /01	No need	--
Device holder	SPEAG	Device holder 01	--	No need	--
Vector Network Analyzer	Agilent	HP8753E	JP3816 0437	2005-12-20	2006-12-19
Signal Generator	Agilent	E8247C	US4234 0316	2005-12-22	2006-12-11
Power Meter	Agilent	E4418B	GB4242 0805	2005-12-25	2006-12-14
Power Sensor	Agilent	E9327A	VS4044 0198	2006-1-25	2007-1-24
Power Sensor	Agilent	E9327A	VS4044 0326	2006-1-25	2007-1-24
Universal Radio Communication s Tester	R&S	CMU200	100233	2006-2-24	2007-2-23
Thermometer	Beijing YAGUANG Instrument company	DWS508C	040007 47165	2005-11-11	2007-11-10

4.3 Applicable Limit Regulations

Item	Limit Level
Local Specific Absorption Rate (SAR) (1g)	1.6W/kg

4.4 Test Results

The EUT complies.

Note:

All measurements are traceable to national standards.

4.5 Test Setup and Procedures

The test setup is showed as picture 1 in the annex A.

The evaluation was performed according to the following procedure:

Step 1: The SAR value at a fixed location above the ear point was measured and was used as a reference value for assessing the power drift.

Step 2: The SAR distribution at the exposed side of the head was measured at a distance of 4 mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 10 mm x 10 mm. Based on these data, the area of the maximum absorption was determined by interpolation.

Step 3: Around this point, a volume of 30 mm x 30 mm x 25 mm was assessed by measuring 7 x 7 x 6 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 the 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 should be repeated.

4.6 Tissue Equivalent Liquids Used and its Properties

4.6.1 Liquids for 835MHz

4.6.1.1 Head Tissue-Equivalent Liquids

Head Recipes of the liquids for 835MHz	
Ingredient	**Percentage by weight**
Sucrose	57.00
Water	40.45
NaCl	1.45
HEC	1.00
Preventol	0.10

Dielectric properties of the Head liquids at 835MHz					
Property	**Reference value**	**Tolerance limit**	**Measured value**	**Error**	**Result**
ε_r	41.5	5%	41.69	0.5%	Complies
σ	0.90 S/m	5%	0.90 S/m	0%	Complies

4.6.1.2 Body Tissue-Equivalent Liquids

Body Recipes of the liquids for 835MHz	
Ingredient	**Percentage by weight**
Sucrose	45.00
Water	52.40
NaCl	1.40
HEC	1.00
Preventol	0.10

Dielectric properties of the Body liquids at 835MHz					
Property	**Reference value**	**Tolerance limit**	**Measured value**	**Error**	**Result**
ε_r	55.2	5%	55.12	-0.1%	Complies
σ	0.97 S/m	5%	1.01 S/m	4.1%	Complies

4.6.2 Liquids for 1900MHz

4.6.2.1 Head Tissue-Equivalent Liquids

Head Recipes of the liquids for 1900MHz	
Ingredient	**Percentage by weight**
2-(2-butoxyethoxy) ethanol	44.92
De-ionised water	54.90
NaCl salt	0.18

Dielectric properties of the Head liquids at 1900MHz					
Property	**Reference value**	**Tolerance limit**	**Measured value**	**Error**	**Result**
ε_r	40	5%	39.00	-2.5%	Complies
σ	1.4 S/m	5%	1.32 S/m	-4.3%	Complies

4.6.2.2 Body Tissue-Equivalent Liquids

Body Recipes of the liquids for 1900MHz	
Ingredient	**Percentage by weight**
Sucrose	58.00
De-ionised water	40.40
NaCl salt	0.50
HEC	1.00
Preventol	0.10

Dielectric properties of the Body liquids at 1900MHz					
Property	**Reference value**	**Tolerance limit**	**Measured value**	**Error**	**Result**
ε_r	53.3	5%	52.60	1.3%	Complies
σ	1.52 S/m	5%	1.59 S/m	4.6%	Complies

4.7 System Validation Check

Validation Method:

The setup of system validation check is demonstrated as figure 5. The amplifier, low pass filter and attenuators are optional. The dipole shall be positioned and centered below the phantom, paralleling to the longest side of the phantom. A low loss and low dielectric constant spacer on the dipole may be used to guarantee the correct distance between the dipole top surface and the phantom bottom surface.

The separation d, which is defined as the distance from the liquid bottom surface to the dipole's central axis at location of the feed-point, should be as following: for 835 MHz dipole, d = 15 mm, and for 1900 MHz dipole, d = 10 mm, and this can be obtained using two different size spacer. The dipole arms shall be parallel to the flat phantom surface.

First the power meter PM1 is connected to the cable and it measures the forward power at the location of the dipole connector (X). The signal generator is adjusted for the desired forward power at the dipole connector (taking into account the (Att1) value) and the power meter PM2 is read at that level. Then after connecting the cable to the dipole, the signal generator is readjusted for the same reading at the power meter PM2.

The system validation check procedures are the same as all measurement procedures used for compliance tests. A complete 1 g averaged SAR measurement is performed using the flat part of the phantom. The reference dipole input power is adjusted to produce a 1 g averaged SAR value falling in the range of 0.4 – 10 mW/g. The 1 g averaged SAR is measured at 835 MHz and 1900 MHz using corresponding dipole respectively. Then the results are normalized to 1 W forward input power and compared with the reference SAR values.

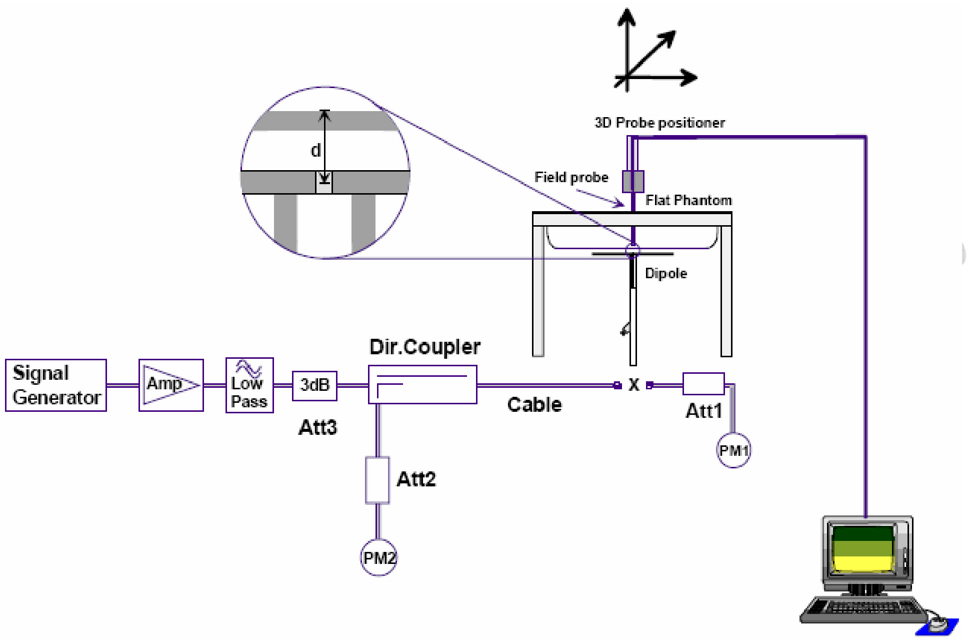


Figure 5 Illustration of system validation test setup

Validation Results at 835MHz for Head Tissue-Equivalent Liquids

Test date: 2006-06-12

Liquid parameters: ε_r=41.69, σ=0.90S/m

Ambient temperature: 23.2℃, liquid temperature: 23.5℃

Item	Target value	Tolerance limit	Verification source power	Measured value	Normalized Measured value	Error	Result
SAR (1 g)	9.92 mW/g	±10%	21 dBm	1.2 mW/g	9.6 mW/g	-3.2%	complies

Validation Results at 1900MHz for Head Tissue-Equivalent Liquids

Test date: 2006-06-12

Liquid parameters: ε_r=39.00, σ=1.32S/m

Ambient temperature: 22.5℃, liquid temperature: 22.7℃

Item	Target value	Tolerance limit	Verification source power	Measured value	Normalized Measured value	Error	Result
SAR (1 g)	41.6 mW/g	±10%	21 dBm	4.91 mW/g	39.3 mW/g	-5.5%	complies

4.8 Test Data

4.8.1 Test Specifications

(a) Duty Factor and Crest Factor

For GSM mode, the duty factor is 1:8.3 and the crest factor is 8.3; and for GPRS mode the duty factor is 1:4 and the crest factor is 4.

(b) Liquid Parameters

Conditions	Frequency	ε_r	σ [S/m]	Note
Head Liquid for GSM 850 MHz band				
128	824.2	42.98	0.89	--
190	836.6	41.70	0.90	--
251	848.8	42.56	0.91	--
Head Liquid for PCS 1900 MHz band				
512	1850.2	41.20	1.29	--
661	1880.0	39.00	1.32	--
810	1909.8	38.60	1.38	--
Body Liquid for GSM/GPRS 850 MHz band				
128	824.2	55.22	1.05	--
190	836.6	55.10	1.01	--
251	848.8	55.06	0.98	--
Body Liquid for PCS/GPRS 1900 MHz band				
512	1850.2	52.77	1.49	--
661	1880.0	52.60	1.59	--
810	1909.8	52.56	1.61	--

4.8.2 Test Data for Head mode

4.8.2.1 GSM 850MHz band:

EUT position	ARFCN /Frequency [MHz]	SAR (1 g) [W/kg]	EUT Power Before/After test [dBm]	Graphical results
Cheek position on the right side of the head (see picture 2)	128/824.2	0.586	24.17/24.28	Annex B.1
	190/836.6	1.060	25.67/25.66	Annex B.2
	251/848.8	1.040	22.01/22.02	Annex B.3
Tilted position on the right side of the head (see picture 3)	128/824.2	0.255	24.17/24.16	Annex B.4
	190/836.6	0.372	25.70/25.42	Annex B.5
	251/848.8	0.538	22.06/22.05	Annex B.6
Cheek position on the left side of the head (see picture 4)	128/824.2	0.538	24.19/24.62	Annex B.7
	190/836.6	0.745	25.70/25.20	Annex B.8
	251/848.8	1.070	22.03/22.34	Annex B.9
Tilted position on the left side of the head (see picture 5)	128/824.2	0.285	24.15/24.13	Annex B.10
	190/836.6	0.404	25.69/25.62	Annex B.11
	251/848.8	0.615	22.05/23.03	Annex B.12

4.8.2.2 PCS 1900MHz band:

EUT position	ARFCN /Frequency [MHz]	SAR (1 g) [W/kg]	EUT Power Before/After test [dBm]	Graphical results
Cheek position on the right side of the head (see picture 2)	512/1850.2	0.331	10.89/11.01	Annex B.13
	661/1880.0	0.188	13.77/13.81	Annex B.14
	810/1909.8	0.120	9.80/9.78	Annex B.15
Tilted position on the right side of the head (see picture 3)	512/1850.2	0.524	10.65/10.53	Annex B.16
	661/1880.0	0.268	14.0/13.22	Annex B.17
	810/1909.8	0.153	10.02/9.86	Annex B.18
Cheek position on the left side of the head (see picture 4)	512/1850.2	0.364	10.50/11.32	Annex B.19
	661/1880.0	0.208	13.63/12.87	Annex B.20
	810/1909.8	0.117	9.73/10.53	Annex B.21
Tilted position on the left side of the head (see picture 5)	512/1850.2	0.374	11.01/10.12	Annex B.22
	661/1880.0	0.194	13.64/13.95	Annex B.23
	810/1909.8	0.117	9.88/9.86	Annex B.24

4.8.3 Test Data for Body-Worn mode

(a) Test Mode Descriptions:

EUT Mode	Description	Setup picture
Body-Worn mode	The distance between the handset and the bottom of the flat section is 1.5 cm.	Picture 6, 7, 8

(b) Test procedures:

Step 1: For GSM850 band, Body-Worn mode with the separation distance 1.5 cm between the back of handset and the bottom of the flat section is setup first, and the low, middle and high frequencies are tested using the configuration.

Step 2: Locate the worst frequency from the results of step 1, and then reverse the handset, i.e., with 1.5 cm between the front of handset and the bottom of the flat section, and perform the test using the worst frequency.

Step 3: Locate the worst orientation from the above results, then plug the headset into the handset and perform the test using the worst frequency and orientation.

Step 4: Pull out the headset and perform the GPRS mode test using the worst orientation and the worst frequency.

Step 5: Repeat all the above steps for PCS 1900 band.

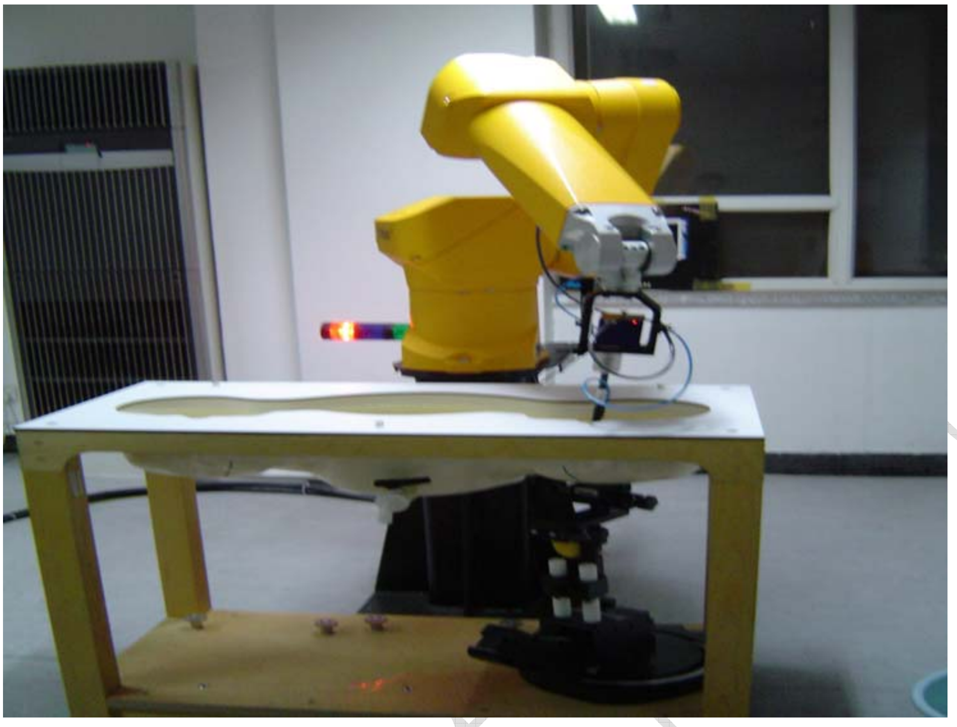
(c) Test Data

EUT Configurations	ARFCN /Frequency [MHz]	SAR (1 g) [W/kg]	EUT Power Before/After test [dBm]	Graphical results
GSM/GPRS 850 band:				
GSM850 Body-Worn mode, back toward phantom	128/824.2	0.514	24.16/24.01	Annex B.25
	190/836.6	0.662	24.86/24.97	Annex B.26
	251/848.8	0.721	22.87/23.05	Annex B.27
So the worst frequency is 848.8 MHz				
GSM850 Body-Worn mode, front toward phantom at 848.8 MHz	251/848.8	0.201	22.69/22.57	Annex B.28
So the worst orientation and frequency is back towards phantom and 848.8 MHz				
GSM850 Body-Worn mode, with headset, back towards phantom, at 848.8 MHz	251/848.8	0.700	22.78/22.95	Annex B.29
GPRS850 Body-Worn mode, back towards phantom, at 848.8 MHz	251/848.8	1.260	25.36/24.89	Annex B.30
PCS/GPRS 1900 band:				
PCS1900 Body-Worn mode, back toward phantom	512/1850.2	0.530	10.89/10.53	Annex B.31
	661/1880.0	0.542	13.77/13.25	Annex B.32
	810/1909.8	0.379	9.80/10.03	Annex B.33
So the worst frequency is 1880.0 MHz				
PCS1900 Body-Worn mode, front toward phantom	661/1880.0	0.142	13.18/13.03	Annex B.34
So the worst orientation and frequency is back toward phantom and 1880.0 MHz				
PCS1900 Body-Worn mode, with headset, back toward phantom, at 1880.0 MHz	661/1880.0	0.422	13.46/13.17	Annex B.35
GPRS1900 Body-Worn mode, back toward phantom, at 1880.0 MHz	661/1880.0	1.060	15.27/14.89	Annex B.36

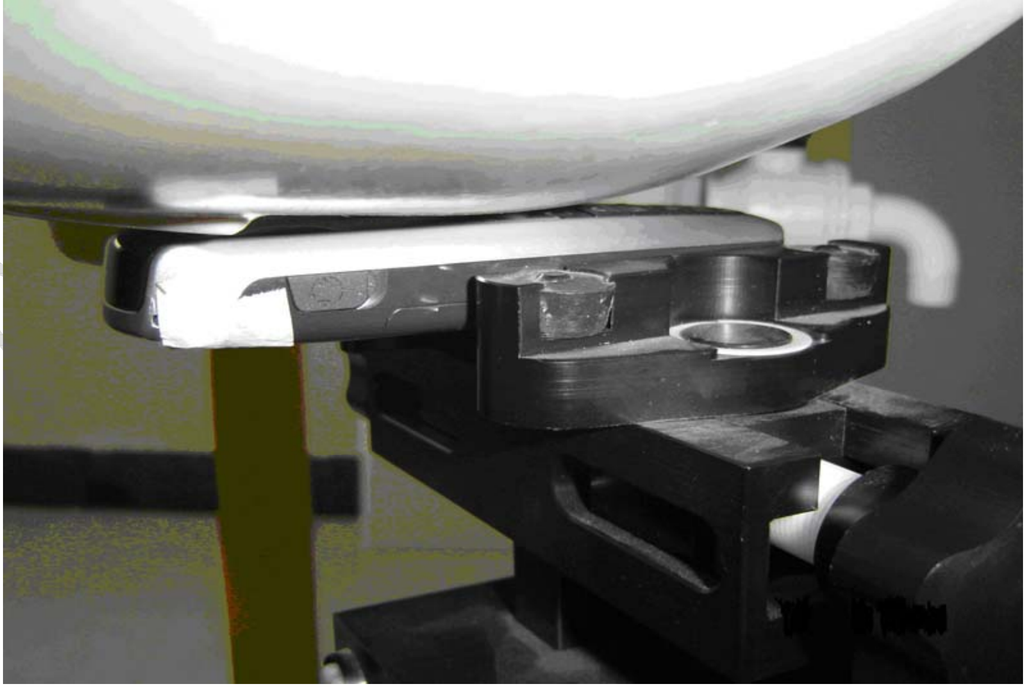
4.9 Measurement uncertainty

ERROR SOURCE	Uncertainty value (%)	Probability distribution	Divisor	c_i (1g)	Standard Uncertainty (%)
Measurement equipment					
Probe calibration	5.9	Normal	1	1	5.9
Probe axial isotropy	4.7	Rectangular	$\sqrt{3}$	0.7	1.9
Probe hemispherical isotropy	9.6	Rectangular	$\sqrt{3}$	0.7	3.9
Probe linearity	4.7	Rectangular	$\sqrt{3}$	1	2.7
Detection limits	0.25	Rectangular	$\sqrt{3}$	1	0.6
Boundary effect	0.8	Rectangular	$\sqrt{3}$	1	0.6
Measurement device	0.3	Normal	1	1	0.3
Response time	0.0	Normal	1	1	0
Noise	0.0	Normal	1	1	0
Integration time	1.7	Normal	1	1	2.6
Mechanical constraints					
Scanning system	1.5	Rectangular	$\sqrt{3}$	1	0.2
Positioning of the probe	2.9	Normal	1	1	2.9
Phantom shell	4.0	Rectangular	$\sqrt{3}$	1	2.3
Positioning of the dipole	2.0	Normal	1	1	2.0
Positioning of the phone	2.9	Normal	1	1	2.9
Device holder disturbance	3.6	Normal	1	1	3.6
Physical parameters					
Liquid conductivity (deviation from target)	5.0	Rectangular	$\sqrt{3}$	0.5	1.4
Liquid conductivity (measurement error)	4.3	Rectangular	$\sqrt{3}$	0.5	1.2
Liquid permittivity (deviation from target)	5.0	Rectangular	$\sqrt{3}$	0.5	1.4
Liquid permittivity (measurement error)	4.3	Rectangular	$\sqrt{3}$	0.5	1.2
Drifts in output power of the phone, probe, temperature and humidity	5.0	Rectangular	$\sqrt{3}$	1	2.9
Environment disturbance	3.0	Rectangular	$\sqrt{3}$	1	1.7
Post-processing					
SAR interpolation and extrapolation	0.6	Rectangular	$\sqrt{3}$	1	0.6
Maximum SAR evaluation	1.0	Rectangular	$\sqrt{3}$		0.6
Combined standard uncertainty	$u_c = \sqrt{\sum_{i=1}^{m} c_i^2 \cdot u_i^2}$ =11.08%				
Expanded uncertainty （confidence interval of 95%）	Normal $u_e = 1.96 u_c$ =21.7%				

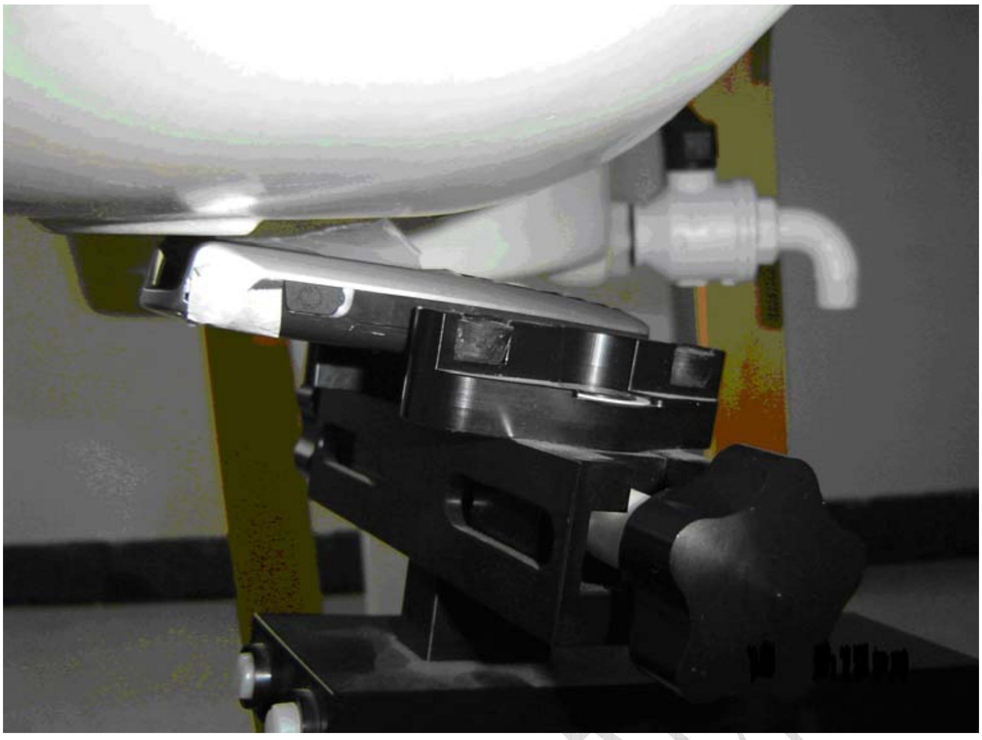
Annex A Photographs



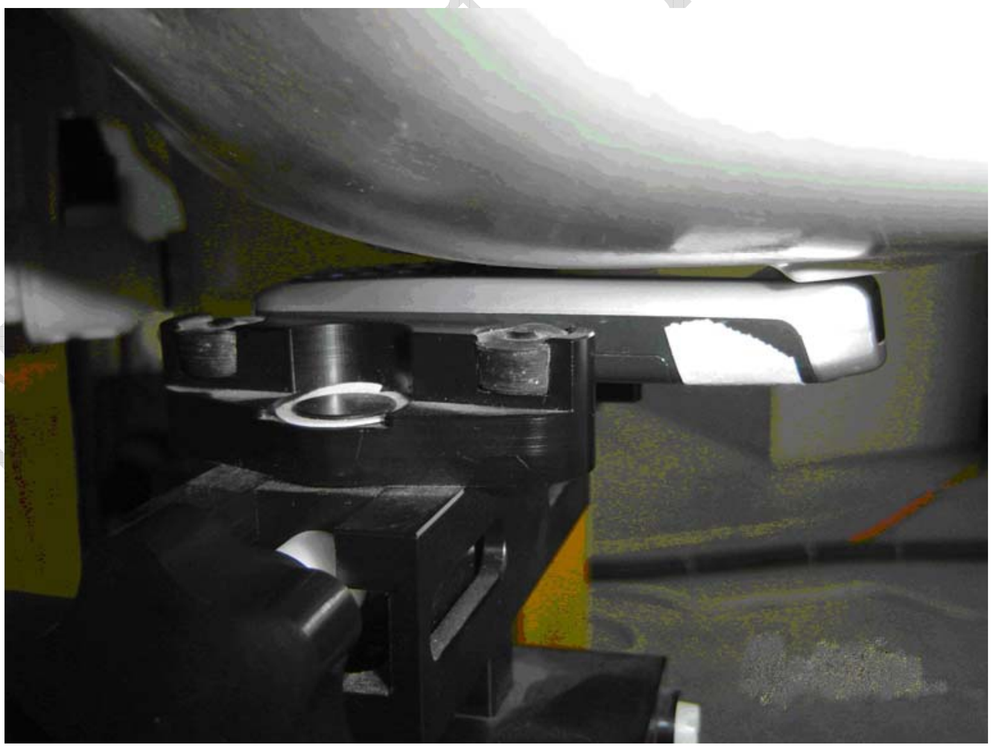
Picture 1 test setup



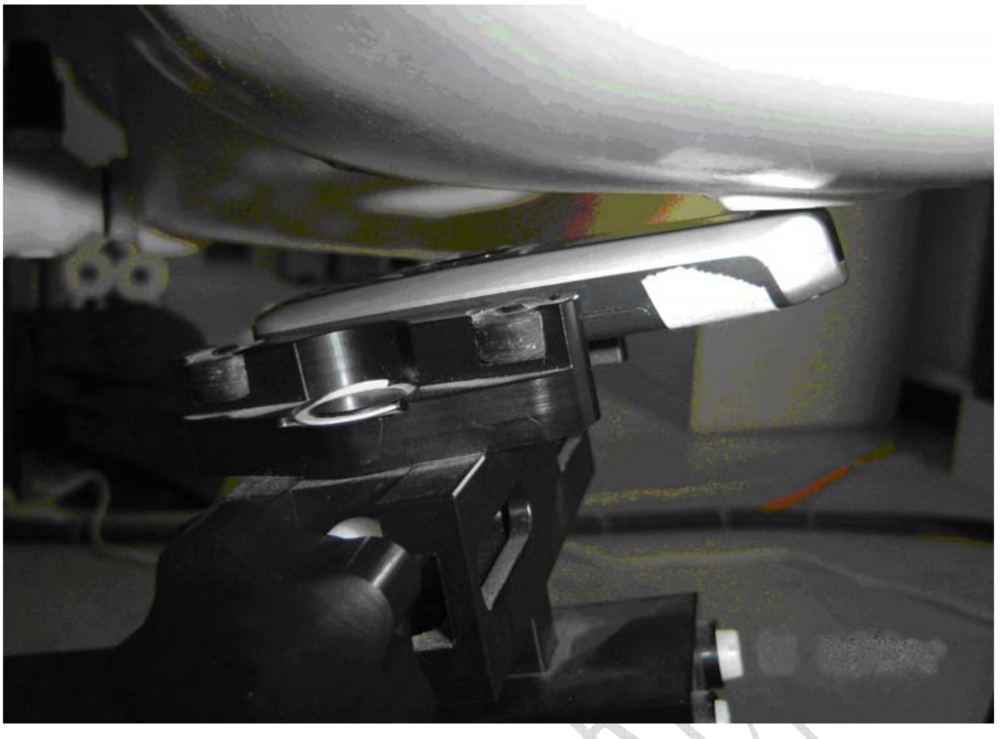
Picture 2 cheek position on the right side of the head



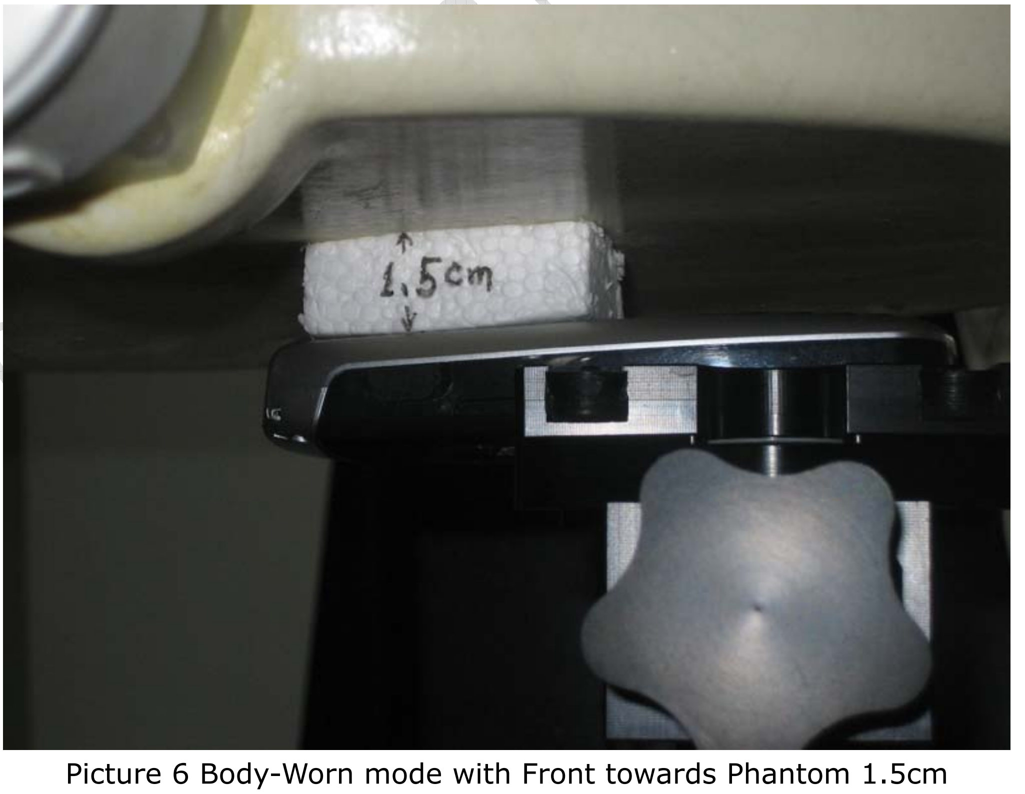
Picture 3 tilted position on the right side of the head



Picture 4 cheek position on the left side of the head



Picture 5 tilted position on the left side of the head



Picture 6 Body-Worn mode with Front towards Phantom 1.5cm

Picture 7 Body-Worn mode with Back towards Phantom 1.5cm

Picture 8 Body-Worn mode with Headset, Front towards Phantom 1.5cm

Picture 9 Liquid Depth at Ear Reference Point for 835MHz Head Liquid

Picture 10 Liquid Depth at Ear Reference Point for 1900MHz Head Liquid

Annex B Graphical Results

B.1 Cheek position on the right side of the head

Test Date: 2006-6-12

Communication System: GSM850; Frequency: 824.2 MHz

Phantom section: Right Section

Probe: ET3DV6 - SN1742; ConvF(6.6, 6.6, 6.6)

Electronics: DAE3 Sn549

Crest Factor: 8.3; Duty Cycle: 1:8.3

Liquid Parameters: ε_r=42.98, σ=0.89 S/m

Ambient Temperature: 23.2℃; Liquid Temperature: 23.5℃

GSM850 Right CHEEK/Zoom Scan (7x7x6)/Cube 0:

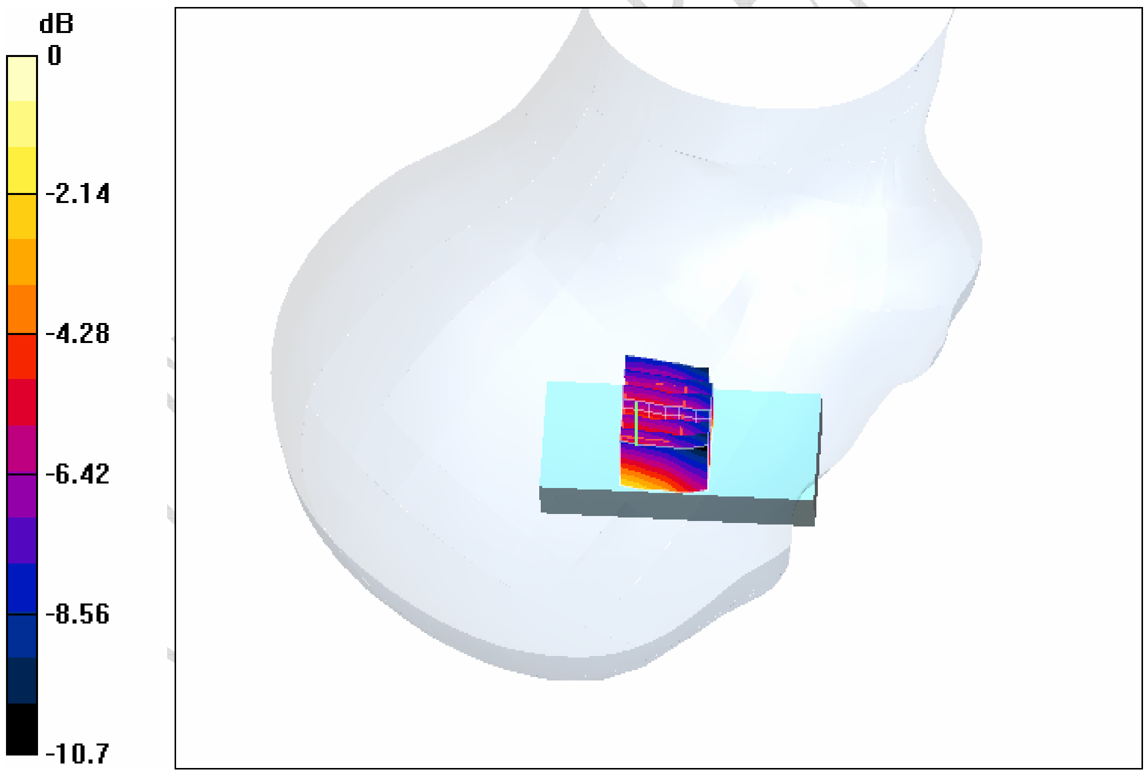
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.8 V/m; Power Drift = -0.1 dB

Maximum value of SAR (measured) = 0.629 mW/g

Peak SAR (extrapolated) = 0.808 W/kg

SAR(1 g) = 0.586 mW/g; SAR(10 g) = 0.388 mW/g



0 dB = 0.629mW/g

B.2 Cheek position on the right side of the head

Test Date: 2006-6-12

Communication System: GSM850; Frequency: 836.6 MHz

Phantom section: Right Section

Probe: ET3DV6 - SN1742; ConvF(6.6, 6.6, 6.6)

Electronics: DAE3 Sn549

Crest Factor: 8.3; Duty Cycle: 1:8.3

Liquid Parameters: ε_r=41.7, σ=0.90 S/m

Ambient Temperature: 23.2℃ ; Liquid Temperature: 23.5℃

GSM850 Right CHEEK 2/Zoom Scan (7x7x6)/Cube 0:

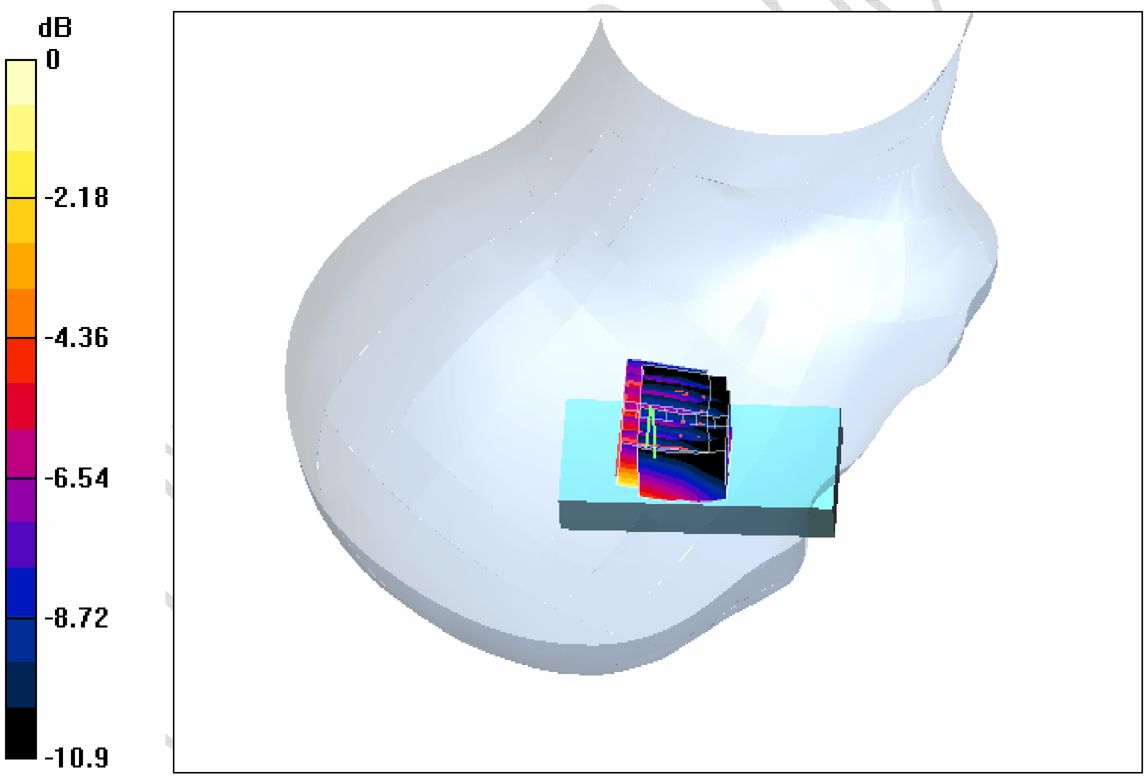
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 29.7 V/m; Power Drift = 0.0 dB

Maximum value of SAR (measured) = 1.13 mW/g

Peak SAR (extrapolated) = 1.42 W/kg

SAR(1 g) = 1.06 mW/g; SAR(10 g) = 0.713 mW/g



0 dB = 1.13mW/g

B.3 Cheek position on the right side of the head

Test Date: 2006-6-12

Communication System: GSM850; Frequency: 848.8 MHz

Phantom section: Right Section

Probe: ET3DV6 - SN1742; ConvF(6.6, 6.6, 6.6)

Electronics: DAE3 Sn549

Crest Factor: 8.3; Duty Cycle: 1:8.3

Liquid Parameters: ε_r=42.56, σ=0.91 S/m

Ambient Temperature: 23.3℃ ; Liquid Temperature:23.4℃

GSM850 Right CHEEK 3/Zoom Scan (7x7x6)/Cube 0:

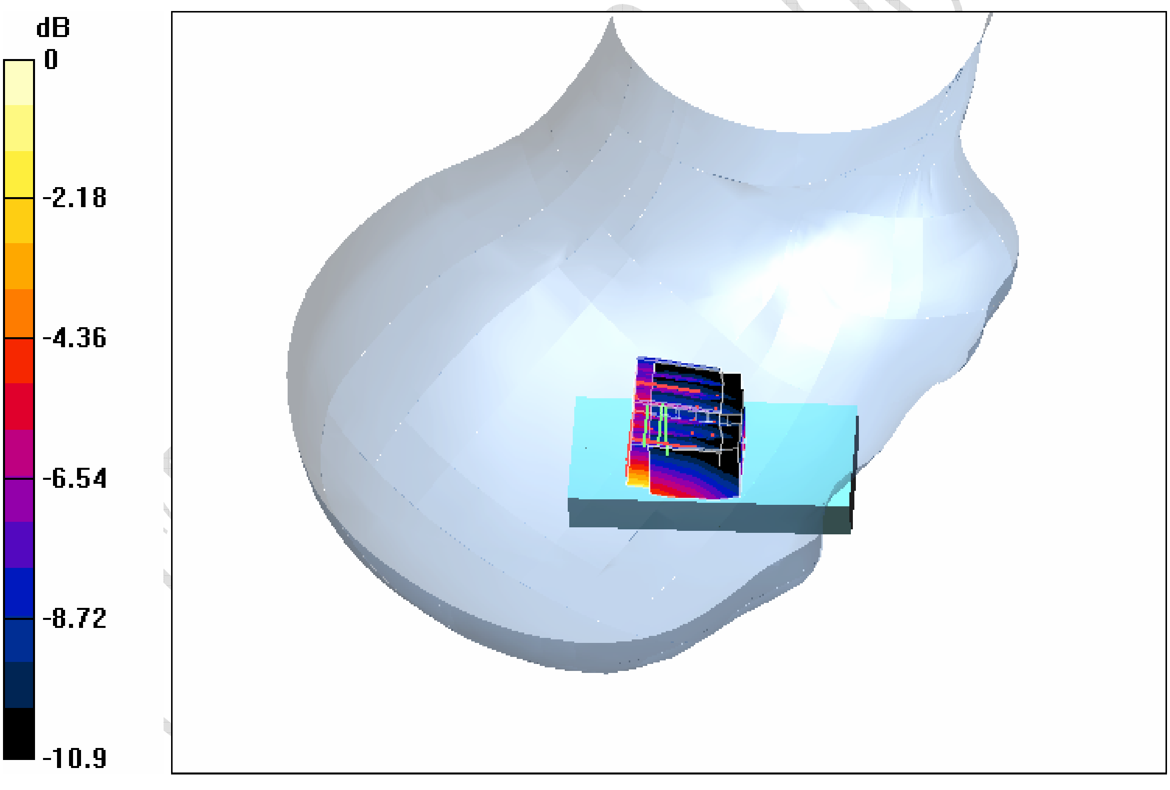
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 30.2 V/m; Power Drift = 0.0 dB

Maximum value of SAR (measured) = 1.1 mW/g

Peak SAR (extrapolated) = 1.4 W/kg

SAR(1 g) = 1.04 mW/g; SAR(10 g) = 0.686 mW/g



0 dB = 1.1mW/g