FCC SAR

TEST REPORT

of

GSM 850/1900 Cell phone

Model Name: Avvio 251

Trade Name: Brightstar

Report No.: SZ11010148S01

FCC ID.: WVBAVVIO251

prepared for

Brightstar Corp

9725 NW 117th Ave, #300 – Doral – FL – 33178

prepared by

Shenzhen Morlab Communications Technology Co., Ltd.

Morlab Laboratory

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LAB CODE 20081223-00

Contents

Change History		
Issue	Date	Reason for change
1.0	Mar. 14 2011	First edition

1. General Information

1.1. Notes

The test results of this test report relate exclusively to the information specified in section 3.3. Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory Morlab Laboratory does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the identification. The test report may only be reproduced or published in full. Reproduction or publications of extracts from the test report requires the prior written approval of Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory Morlab Laboratory. The test report shall be invalid without all the signatures of testing the Project Manager, the Deputy Project Manager and the Test Lab Manager. Any objections must be raised to Morlab within 30 days since the date when the report is received. It will not be taken into consideration beyond this limit.

1.2. Organization item

Report No.:	SZ11010148S01
Date of Issue:	Mar. 18, 2011
Date of Tests:	Mar. 09, 2011
Responsible for Accreditation:	Shu Luan
Project Manager:	Li Lei
Deputy Project Manager:	Samuel Peng

1.3. Conclusion

Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory has verified that all tests as listed in the section 10 of this report have been performed successfully with the tested equipment.

Samuel Peng
Tested by
(Responsible for the Test Report)

Li Lei
Reviewed by
(Verification of the Test Report)

Shu Luan
Approved by
(Responsible Test Lab Manager)

2. Testing Laboratory

2.1. Identification of the Responsible Testing Laboratory

Company Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Department:	Morlab Laboratory
Address:	3/F, Electronic Testing Building, Shahe Road, Nanshan District, Shenzhen, 518055 P. R. China
Responsible Test Lab Manager:	Mr. Shu Luan
Telephone:	+86 755 86130268
Facsimile:	+86 755 86130218

2.2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Address:	3/F, Electronic Testing Building, Shahe Road, Nanshan District, Shenzhen, 518055 P. R. China

2.3. Accreditation Certificate

Accredited Testing Laboratory:	No. CNAS L1659

2.4. List of Test Equipments

No.	Instrument	Type	Cal. Date	Cal. Due
1	PC	Dell (Pentium IV 2.4GHz, SN:X10-23533)		
2	Network Emulator	Rohde&Schwarz (CMU200, SN:105894)	2010-9-26	1year
3	Voltmeter	Keithley (2000, SN:1000572)	2010-9-24	1year
4	Synthetizer	Rohde&Schwarz (SML_03, SN:101868)	2010-9-24	1year
5	Amplifier	Nucl udes (ALB216, SN:10800)	2010-9-24	1year
6	Power Meter	Rohde&Schwarz (NRVD, SN:101066)	2010-9-24	1year
7	Probe	Antennessa (SN:SN_3708_EP80)	2010-9-24	1year
8	Phantom	Antennessa (SN:SN_36_08_SAM62)	2010-9-24	1year
9	Liquid	Antennessa (Last Calibration:21 08 08)	2010-8-21	1year

3. Technical Information

Note: the following data is based on the information by the applicant.

3.1. Identification of Applicant

Company Name:	Brightstar Corp
Address:	9725 NW 117th Ave, #300 – Doral – FL – 33178

3.2. Identification of Manufacturer

Company Name:	MobilMAX Technology Inc..
Address:	2F-5 No. 28 Tai Yuan St., Chupei City, Hsinchu County 302, Taiwan

3.3. Equipment Under Test (EUT)

Brand Name:	Avvio
Type Name:	Brightstar
Marking Name:	Avvio 251
Hardware Version:	N/A
Software Version:	N/A
Frequency Bands:	GSM 850MHz (channel 128:824.20MHz,channel 190:836.59MHz, channel 251:848.29MHz) PCS 1900MHz (channel 512:1850.19MHz,channel 661:1880.00MHz, channel 810:1909.80MHz)
Modulation Mode:	GSM : GMSK
Antenna type:	Fixed Internal Antenna
Development Stage:	Identical prototype
Battery Model:	BL-5C 523450AR
Battery specification:	600mAh 3.7V

3.3.1. Photographs of the EUT

Please see for photographs of the EUT.

3.3.2. Identification of all used EUTs

The EUT Identity consists of numerical and letter characters (see the table below), the first five numerical characters indicates the Type of the EUT defined by Morlab, the next letter character indicates the test sample, and the following two numerical characters indicates the software version of the test sample.

EUT Identity	Hardware Version	Software Version
1#	N/A	N/A

3.4. Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	**47 CFR § 2. 1093**	Radiofrequency Radiation Exposure Evaluation: Portable Devices
2	**FCC OET Bulletin 65 (Edition 97-01), Supplement C (Edition 01-01)**	Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields
3	**ANSI C95.1-1999**	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3kHz to 300 GHz
4	**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 Techuiques.

3.5. Device Category and SAR Limits

This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user. Limit for General Population/Uncontrolled exposure should be applied for this device, it is 1.6 W/kg as averaged over any 1 gram of tissue.

3.6. Test Environment/Conditions

Normal Temperature (NT):	20 ... 25 °C
Relative Humidity:	30 ... 75 %
Air Pressure:	980 ... 1020 hPa
Details of Power Supply:	120V/60Hz AC
Test frequency:	GSM 850MHz
	PCS 1900MHz
Operation mode:	Call established
Power Level:	GSM 850 MHz Maximum output power(level 5)
	PCS 1900 MHz Maximum output power(level 0)

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 125, 190 and 251 respectively in the case of GSM 850 MHz, or to 512, 661 and 810 respectively in the case of PCS 1900 MHz, The EUT, 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 35 dB.
For SAR testing, EUT is in GSM link mode, its crest factor is 2, because EUT is set in GSM multi-slot class 12 with 4 uplink slots.

4. Specific Absorption Rate (SAR)

4.1 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

4.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density. ρ). The equation description is as below:

$$SAR = \frac{d}{dt}\left(\frac{dW}{dm}\right) = \frac{d}{dt}\left(\frac{dW}{\rho dv}\right)$$

SAR is expressed in units of Watts per kilogram (W/kg)
SAR measurement can be either related to the temperature elevation in tissue by

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

, where C is the specific head capacity, δ T is the temperature rise and δ t the exposure duration, or related to the electrical field in the tissue by

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

, where σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the rms electrical field strength.

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

5. SAR Measurement Setup

5.1. The Measurement System

Comosar is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The Comosar system consists of the following items:

- Main computer to control all the system
- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Phone holder
- Head simulating tissue

The following figure shows the system.

The EUT under test operating at the maximum power level is placed in the phone holder, under the phantom, which is filled with head simulating liquid. The E-Field probe measures the electric field inside the phantom. The OpenSAR software computes the results to give a SAR value in a 1g or 10g mass.

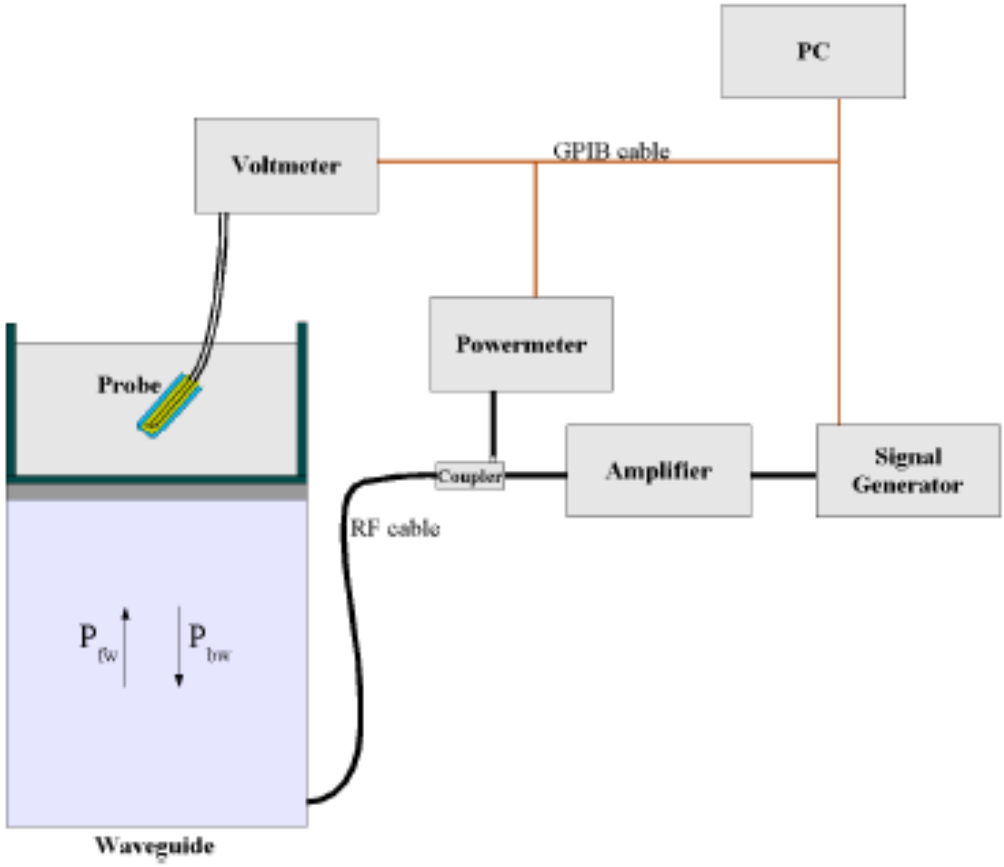
5.2. Probe

For the measurements the Specific Dosimetric E-Field Probe SSE5 with following specifications is used

- Dynamic range: 0.01-100 W/kg
- Tip Diameter : 5 mm
- Distance between probe tip and sensor center: 2.5mm
- Distance between sensor center and the inner phantom surface: 4 mm
  (repeatability better than +/- 1mm)
- Probe linearity: ＜0.25 dB
- Axial Isotropy: ＜0.25 dB
- Spherical Isotropy: ＜0.25 dB
- Calibration range: 835to 2500MHz for head & body simulating liquid.

Angle between probe axis (evaluation axis) and suface normal line:1ess than 30°

Probe calibration is realized, in compliance with CENELEC EN 50361 and IEEE 1528 std, with CALISAR, Antennessa proprietary calibration system. The calibration is performed with the EN 50361 annexe technique using reference guide at the five frequencies.



$$SAR = \frac{4\,(P_{fw} - P_{bw})}{ab\delta} \cos^2\left(\pi \frac{y}{a}\right) e^{-(2z/\delta)}$$

Where :
Pfw = Forward Power
Pbw = Backward Power
a and b = Waveguide dimensions
ı = Skin depth
Keithley configuration:

Rate = Medium; Filter =ON; RDGS=10; FILTER TYPE =MOVING AVERAGE; RANGE AUTO
After each calibration, a SAR measurement is performed on a validation dipole and compared with a NPL calibrated probe, to verify it.

The calibration factors, CF(N), for the 3 sensors corresponding to dipole 1, dipole 2 and dipole 3 are:

CF(N)=SAR(N)/Vlin(N) (N=1,2,3)

The linearised output voltage Vlin(N) is obtained from the displayed output voltage V(N) using

Vlin(N)=V(N)*(1+V(N)/DCP(N)) (N=1,2,3)

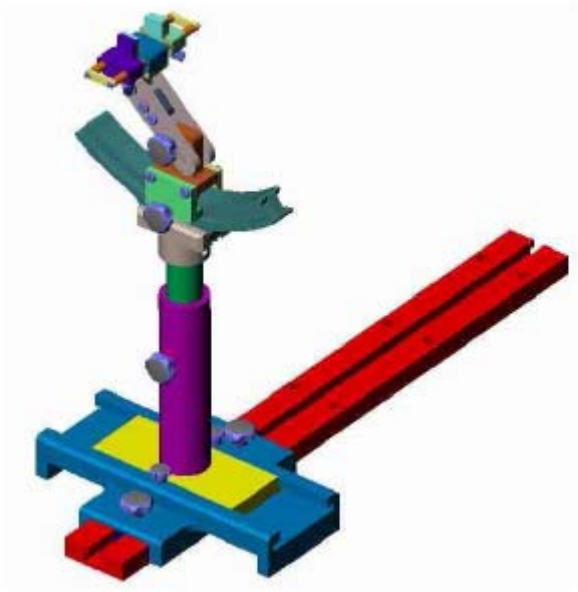
where DCP is the diode compression point in mV.

5.3. Phantom

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2mm +/- 0.2mm. It enables the dosimetric evaluation of left and right phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.

5.4. Device Holder

The positioning system allows obtaining cheek and tilting position with a very good accuracy. In compliance with CENELEC, the tilt angle uncertainty is lower than 1°.



Device holder

System Material	Permittivity	Loss Tangent
Delrin	3.7	0.005

6. Tissue Simulating Liquids

Simulant liquids that are used for testing at frequencies of GSM 800MHz PCS 1900MHz, which are made mainly of sugar, salt and water solutions may be left in the phantoms. Approximately 20litres are needed for an upright head compared to about 25 litres for a horizontal bath phantom. The liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is (head SAR)or from the flat phantom to the liquid top surface (body SAR) is 15 cm.

Table 6.1 gives the recipes for one liter of head and body tissue simulating liquid for frequency band 850MHz and 1900 MHz.

Ingredients (% by weight)	Frequency Band		Frequency Band	
	835MHz		1900MHz	
Tissue Type	Head	Body	Head	Body
Water	41.45	52.4	55.36	40.4
Salt(NaCl)	1.45	1.4	0.35	0.5
Sugar	56.0	45.0	30.45	58.0
HEC	1.0	1.0	0.0	1.0
Bactericide	0.1	0.1	0.0	0.1
Triton	0.0	0.0	0.0	0.0
DGBE	0.0	0.0	13.84	0.0
Acticide SPX	0.0	0.0	0.0	0.0
Dielectric Constant	42.45	56.1	41.00	54.0
Conductivity (S/m)	0.91	0.95	1.38	1.45

Recipes for Tissue Simulating Liquid

The dielectric parameters of the liquids were verified prior to the SAR evaluation using an Agilent 85033E Dielectric Probe Kit and an Agilent Network Analyzer.

Table 1: Dielectric Performance of Head Tissue Simulating Liquid

Temperature: 23.0~23.8°C, humidity: 54~60%.			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	835 MHZ	41.5	0.90
Validation value (Mar. 09)	835 MHZ	40.669998	0.888655
Target value	1900 MHZ	40	1.40

Validation value (Mar. 09)	1900 MHZ	38.509998	1.436111

For body-worn measurements, the device was tested against flat phantom representing the user body. Under measurement phone was put on in the belt holder.

Table 2: Dielectric Performance of Body Tissue Simulating Liquid

Temperature: 23.0~23.8°C, humidity: 54~60%.			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	835 MHz	55.2	0.97
Validation value (Mar. 09)	835 MHz	55.709999	1.009033
Target value	1900 MHz	53.3	1.52
Validation value (Mar. 09)	1900 MHz	51.540001	1.573978

7. Uncertainty Assessment

The following table includes the uncertainty table of the IEEE 1528. The values are determined by Antennessa.

7.1. UNCERTAINTY EVALUATION FOR HANDSET SAR TEST

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/e	k
Uncertainty Component	Sec.	Tol (+-%)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	V i
Measurement System									
Probe calibration	E.2.1	7.0	N	1	1	1	7.00	7.00	
Axial Isotropy	E.2.2	2.5	R				1.02	1.02	
Hemispherical Isotropy	E.2.2	4.0	R				1.63	1.63	
Boundary effect	E.2.3	1.0	R		1	1	0.58	0.58	
Linearity	E.2.4	5.0	R		1	1	2.89	2.89	
System detection limits	E.2.5	1.0	R		1	1	0.58	0.58	
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.02	
Reponse Time	E.2.7	3.0	R		1	1	1.73	1.73	
Integration Time	E.2.8	2.0	R		1	1	1.15	1.15	
RF ambient Conditions	E.6.1	3.0	R		1	1	1.73	1.73	
Probe positioner Mechanical Tolerance	E.6.2	2.0	R		1	1	1.15	1.15	
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R		1	1	0.03	0.03	
Extrapolation, interpolation and integration Algoritms for Max. SAR Evaluation	E.5.2	5.0	R		1	1	2.89	2.89	
Test sample Related									
Test sample positioning	E.4.2.1	0.03	N	1	1	1	0.03	0.03	N-1
Device Holder Uncertainty	E.4.1.1	5.00	N	1	1	1	5.00	5.00	
Output power Power Drift - SAR drift measurement	6.6.2	4.04	R		1	1	2.33	2.33	
Phantom and Tissue Parameters									

Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R		1	1	0.03	0.03	
Liquid conductivity - deviation from target value	E.3.2	4.57	R		0.64	0.43	1.69	1.13	
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	1	0.64	0.43	3.20	2.15	M
Liquid permittivity - deviation from target value	E.3.2	3.69	R		0.6	0.49	1.28	1.04	
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	1	0.6	0.49	6.00	4.90	M
Combined Standard Uncertainty			RSS				11.23	10.70	
Expanded Uncertainty (95% Confidence interval)			k				21.91	20.86	

7.2. UNCERTAINTY FOR SYSTEM PERFORMANCE CHECK

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/e	k
Uncertainty Component	Sec.	Tol (+-%)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	V i
Measurement System									
Probe calibration	E.2.1	7.0	N	1	1	1	7.00	7.00	
Axial Isotropy	E.2.2	2.5	R				1.02	1.02	
Hemispherical Isotropy	E.2.2	4.0	R				1.63	1.63	
Boundary effect	E.2.3	1.0	R		1	1	0.58	0.58	
Linearity	E.2.4	5.0	R		1	1	2.89	2.89	
System detection limits	E.2.5	1.0	R		1	1	0.58	0.58	
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.02	
Reponse Time	E.2.7	3.0	R		1	1	1.73	1.73	
Integration Time	E.2.8	2.0	R		1	1	1.15	1.15	
RF ambient Conditions	E.6.1	3.0	R		1	1	1.73	1.73	
Probe positioner Mechanical Tolerance	E.6.2	2.0	R		1	1	1.15	1.15	
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R		1	1	0.03	0.03	
Extrapolation, interpolation and integration Algoritms for Max.	E.5.2	5.0	R		1	1	2.89	2.89	

SAR Evaluation									
Dipole									
Dipole axis to liquid Distance	8,E.4.2	1.00	N		1	1	0.58	0.58	N-1
Input power and SAR drift measurement	8,6.6.2	4.04	R		1	1	2.33	2.33	
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R		1	1	0.03	0.03	
Liquid conductivity - deviation from target value	E.3.2	4.57	R		0.64	0.43	1.69	1.13	
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	1	0.64	0.43	3.20	2.15	M
Liquid permittivity - deviation from target value	E.3.2	3.69	R		0.6	0.49	1.28	1.04	
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	1	0.6	0.49	6.00	4.90	M
Combined Standard Uncertainty			RSS				10.08	9.47	
Expanded Uncertainty (95% Confidence interval)			k				19.65	18.47	

8. SAR Measurement Evaluation

8.1. System Setup

In the simplified setup for system evaluation, the DUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave which comes from a signal generator at frequency 835 MHz and 1900 MHz. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom.

Equipments :

name	Type and specification
Signal generator	E4433B
Directional coupler	450MHz-3GHz
Amplifier	3W 502(10-2500MHz)
Reference dipole	835MHz:SN 36/08 DIPC 99 1800MHz:SN 36/08 DIPF 101

8.2. Validation Results

Comparing to the original SAR value provided by SPEAG, the validation data should be within its specification of 10 %.

Frequency	835MHz	1900MHz
Target value (1g)	9.5 W/Kg	38.1 W/Kg
250 mW input power	2.472 W/Kg (head) 2.441 W/Kg (body)	9.846 W/Kg (head) 9.798 W/Kg (body)
Test value (1g)	9.888 W/Kg (head) 9.764 W/Kg (body)	39.384 W/Kg (head) 39.192 W/Kg (body)

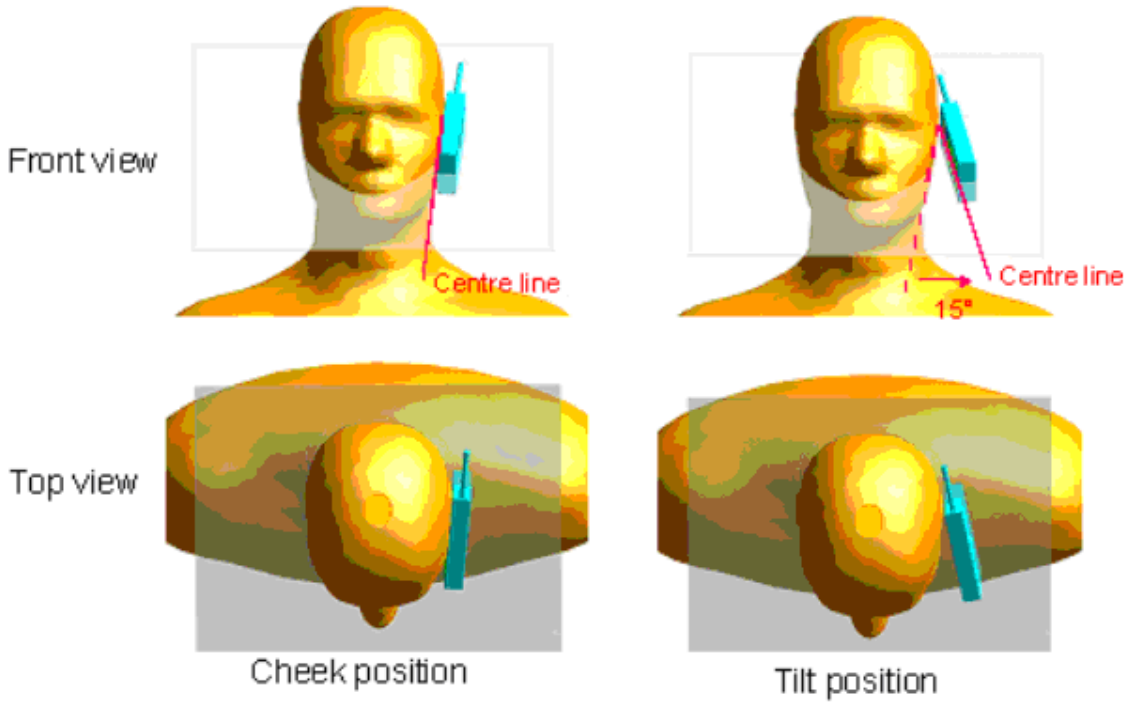
Note: System checks the specific test data please see page 133-138.

9. Operational Conditions During Test

9.1. Informations on the testing

The mobile phone antenna and battery are those specified by the manufacturer. The battery is fully charged before each measurement. The output power and frequency are controlled using a base station simulator. The mobile phone is set to transmit at its highest output peak power level.

The mobile phone is test in the “cheek” and “tilted” positions on the left and right sides of the phantom. The mobile phone is placed with the vertical centre line of the body of the mobile phone and the horizontal line crossing the centre of the earpiece in a plane parallel to the sagittal plane of the phantom.



Description of the “cheek” position:
The mobile phone is well placed in the reference plane and the earpiece is in contact with the ear. Then the mobile phone is moved until any point on the front side get in contact with the cheek of the phantom or until contact with the ear is lost.

Description of the “tilted” position:
The mobile phone is well placed in the “cheek” position as described above. Then the mobile phone is moved outward away from the month by an angle of 15 degrees or until contact with the ear lost.

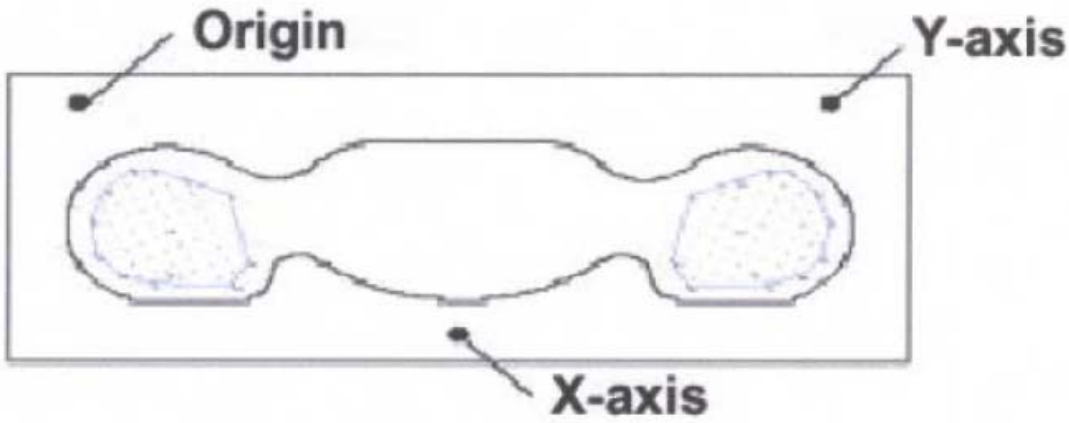
Remark: Please refer to Appendix B for the test setup photos.

9.2. Body-worn Configurations

The body-worn configurations shall be tested with the supplied accessories (belt-clips, holsters, etc.) attached to the device in normal use configuration.

The depth of the body tissue was 15.1cm. The distance between the back of the device and the bottom of the flat phantom is 1.5cm(taking into account of the IEEE 1528 and the place of the antenna)

For body-worn and other configurations a flat phantom shall be used which is comprised of material with electrical properties similar to the corresponding tissues.



SAR Measurement Points in Area Scan

9.3. Measurement procedure

The following steps are used for each test position

- Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface
- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
- Measurement of the SAR distribution with a grid of 8 to 16mm * 8 to16 mm and a constant distance to the inner surface of the phantom. Since the sensors can not directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.
- Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 * 32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

9.4. Description of interpolation/extrapolation scheme

The local SAR inside the phantom is measured using small dipole sensing elements inside a probe body. The probe tip must not be in contact with the phantom surface in order to minimize measurements errors, but the highest local SAR will occur at the surface of the phantom.

An extrapolation is using to determinate this highest local SAR values. The extrapolation is based on a fourth-order least-square polynomial fit of measured data. The local SAR value is then extrapolated from the liquid surface with a 1mm step.

The measurements have to be performed over a limited time (due to the duration of the battery) so the step of measurement is high. It could vary between 5 and 8 mm. To obtain an accurate assessment of the maximum SAR averaged over 10 grams and 1 gram requires a very fine resolution in the three dimensional scanned data array.

10. Test Results List

Summary of Measurement Results (GSM 850MHz Band)
SAR Values (GSM 850MHz Band), Measured against the head.

Temperature: 23.0~23.8°C, humidity: 54~60%.		
Limit of SAR (W/kg)	1 g Average	
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average (W/kg)	Power level (dBm)
Right head, Touch cheek, Channel Low	0.122	30.63
Right head, Touch cheek, Channel Middle	0.135	30.87
Right head, Touch cheek, Channel High	0.226	31.43
Right head, Tilt 15 Degree, Channel Low	0.061	30.63
Right head, Tilt 15 Degree, Channel Middle	0.069	30.87
Right head, Tilt 15 Degree, Channel High	0.113	31.43
Left head, Touch cheek, Channel Low	0.111	30.63
Left head, Touch cheek, Channel Middle	0.125	30.87
Left head, Touch cheek, Channel High	0.198	31.43
Left head, Tilt 15 Degree, Channel Low	0.053	30.63
Left head, Tilt 15 Degree, Channel Middle	0.061	30.87
Left head, Tilt 15 Degree, Channel High	0.101	31.43

Summary of Measurement Results (GSM 1900MHz Band)
SAR Values (GSM 1900MHz Band), Measured against the head.

Temperature: 23.0~23.8°C, humidity: 54~60%.		
Limit of SAR (W/kg)	1 g Average	
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average (W/kg)	Power level (dBm)
Right head, Touch cheek, Channel Low	0.808	29.39
Right head, Touch cheek, Channel Middle	1.211	29.47
Right head, Touch cheek, Channel High	1.377	29.47
Right head, Tilt 15 Degree, Channel Low	0.362	29.39
Right head, Tilt 15 Degree, Channel Middle	0.536	29.47
Right head, Tilt 15 Degree, Channel High	0.666	29.47
Left head, Touch cheek, Channel Low	0.876	29.39

Left head, Touch cheek, Channel Middle	1.278	29.47
Left head, Touch cheek, Channel High	1.438	29.47
Left head, Tilt 15 Degree, Channel Low	0.317	29.39
Left head, Tilt 15 Degree, Channel Middle	0.475	29.47
Left head, Tilt 15 Degree, Channel High	0.561	29.47

SAR Values (GSM 850MHz Band), Measured against the body.

Temperature: 23.0~23.8°C, humidity: 54~60%.		
Limit of SAR (W/kg)	1 g Average	
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average (W/kg)	Power level (dBm)
Side, Low frequency GSM mode Back towards the phantom	0.093	30.63
Side, Middle frequency GSM mode Back towards the phantom	0.103	30.87
Side, High frequency GSM mode Back towards the phantom	0.162	31.43
Side, High frequency GSM mode Keyboard towards the phantom	0.122	31.43

SAR Values (GSM 1900MHz Band), Measured against the body.

Temperature: 23.0~23.8°C, humidity: 54~60%.		
Limit of SAR (W/kg)	1 g Average	
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average (W/kg)	Power level (dBm)
Side, Low frequency GSM mode Back towards the phantom	0.403	29.39
Side, Middle frequency GSM mode Back towards the phantom	0.541	29.47
Side, High frequency GSM mode Back towards the phantom	0.729	29.47
Side, High frequency GSM mode Keyboard towards the phantom	0.392	29.47

Annex A Accreditation Certificate

China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(No. CNAS L3572)

China National Accreditation Service for Conformity Assessment has accredited

Morlab Laboratory Shenzhen Morlab Communications Technology Co., Ltd.

3/F, Electronic Testing Building, Shahe Road, Xili,Nanshan District, Shenzhen, Guangdong, China

to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing and/or calibration.

The scope of accreditation is detailed in the attached schedule bearing the same accreditation number as above. The schedule forms an integral part of this certificate.

Date of Issue: 2008-07-01

Date of Expiry: 2011-06-30

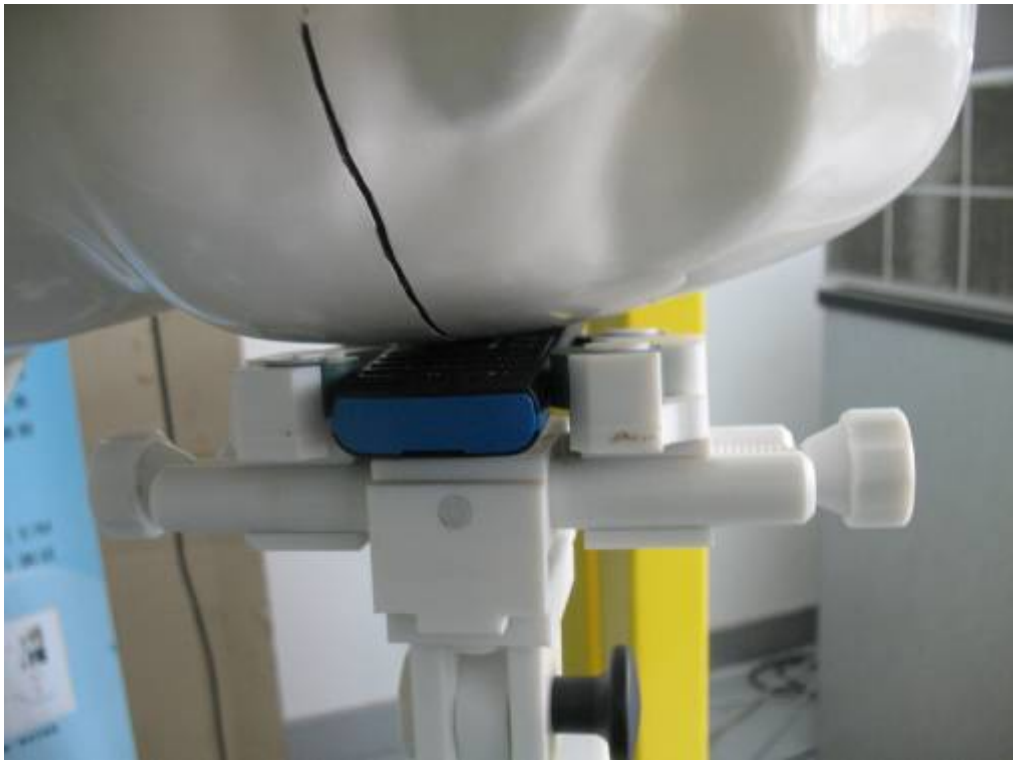
Date of Initial Accreditation: 2008-07-01

Signed on behalf of China National Accreditation Service for Conformity Assessment

China National Accreditation Service for Conformity Assessment(CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation systems for conformity assessment. CNAS is the signatory to International Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (ILAC MRA), and the signatory to Asia Pacific Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (APLAC MRA).

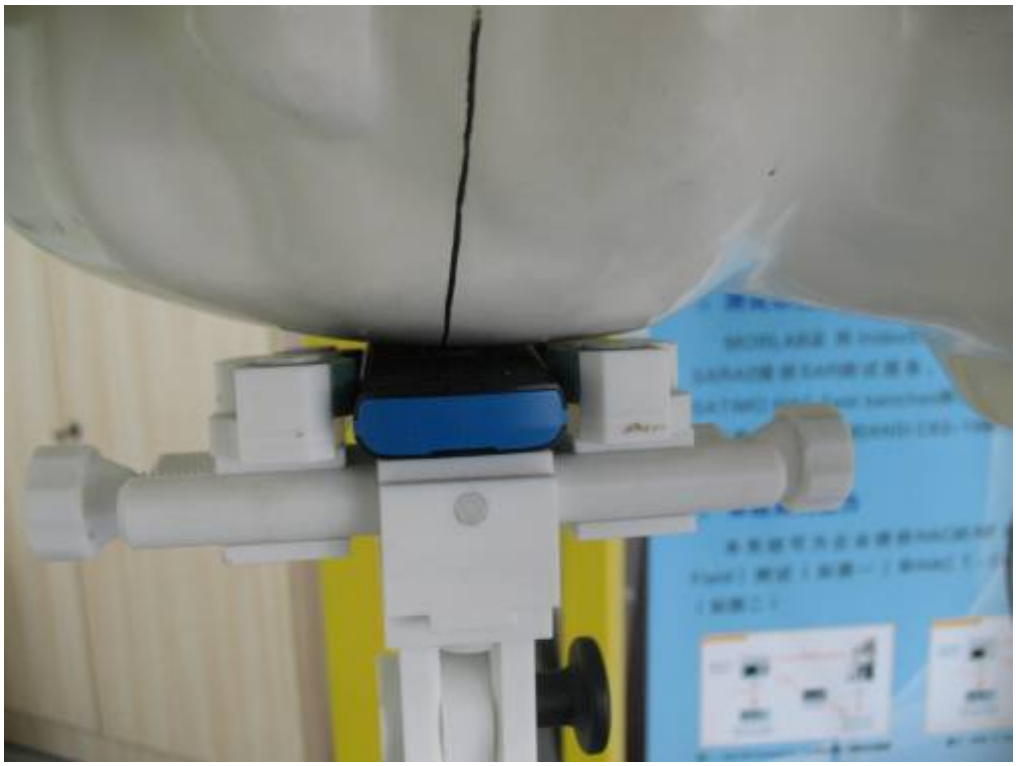
Annex B Photographs of the EUT

1 EUT Left Head Touch Cheek Position



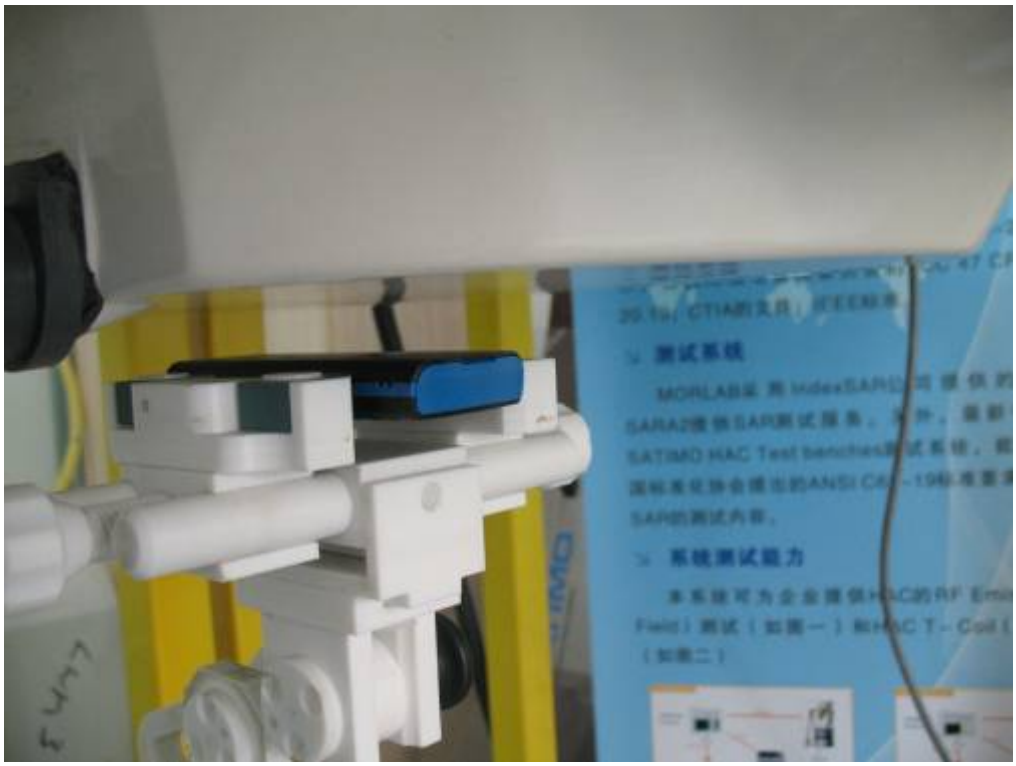
2 EUT Left Head Tilt15 Position

3 EUT Right Head Touch Cheek Position



4 EUT Right Head Tilt15 Position

5 Side Position



Liquid Level Photo

Annex C Graph Test Results

	BAND	PARAMETERS
TYPE	GSM850	Measurement 1: Right Head with Cheek device position on Low Channel in GSM mode Measurement 2: Right Head with Cheek device position on Middle Channel in GSM mode Measurement 3: Right Head with Cheek device position on High Channel in GSM mode Measurement 4: Right Head with Tilt device position on Low Channel in GSM mode Measurement 5: Right Head with Tilt device position on Middle Channel in GSM mode Measurement 6: Right Head with Tilt device position on High Channel in GSM mode Measurement 7: Left Head with Cheek device position on Low Channel in GSM mode Measurement 8: Left Head with Cheek device position on Middle Channel in GSM mode Measurement 9: Left Head with Cheek device position on High Channel in GSM mode Measurement 10: Left Head with Tilt device position on Low Channel in GSM mode Measurement 11: Left Head with Tilt device position on Middle Channel in GSM mode Measurement 12: Left Head with Tilt device position on High Channel in GSM mode Measurement 13: Validation Plane with Body device position on Low Channel in GSM mode Measurement 14: Validation Plane with Body device position on Middle Channel in GSM mode Measurement 15: Validation Plane with Body device position on High Channel in GSM mode Measurement 16: Validation Plane with Body device position on High Channel in GSM mode
	GSM1900	Measurement 17: Right Head with Cheek device position on Low Channel in GSM mode Measurement 18: Right Head with Cheek device position on Middle Channel in GSM mode Measurement 19: Right Head with Cheek device position

		on High Channel in GSM mode Measurement 20: Right Head with Tilt device position on Low Channel in GSM mode Measurement 21: Right Head with Tilt device position on Middle Channel in GSM mode Measurement 22: Right Head with Tilt device position on High Channel in GSM mode Measurement 23: Left Head with Cheek device position on Low Channel in GSM mode Measurement 24: Left Head with Cheek device position on Middle Channel in GSM mode Measurement 25: Left Head with Cheek device position on High Channel in GSM mode Measurement 26: Left Head with Tilt device position on Low Channel in GSM mode Measurement 27: Left Head with Tilt device position on Middle Channel in GSM mode Measurement 28: Left Head with Tilt device position on High Channel in GSM mode Measurement 29: Validation Plane with Body device position on Low Channel in GSM mode Measurement 30: Validation Plane with Body device position on Middle Channel in GSM mode Measurement 31: Validation Plane with Body device position on High Channel in GSM mode Measurement 32: Validation Plane with Body device position on High Channel in GSM mode

MEASUREMENT 1

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 51 seconds

A. Experimental conditions.

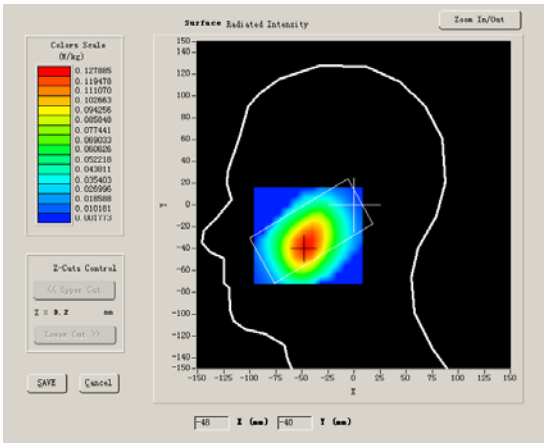
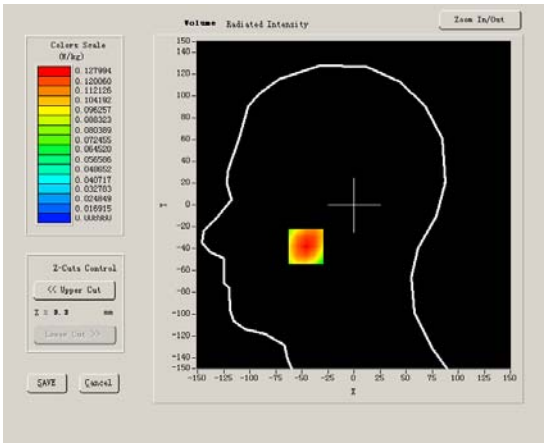
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 128):

Frequency (MHz)	824.200012
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Variation (%)	-0.160000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.1°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

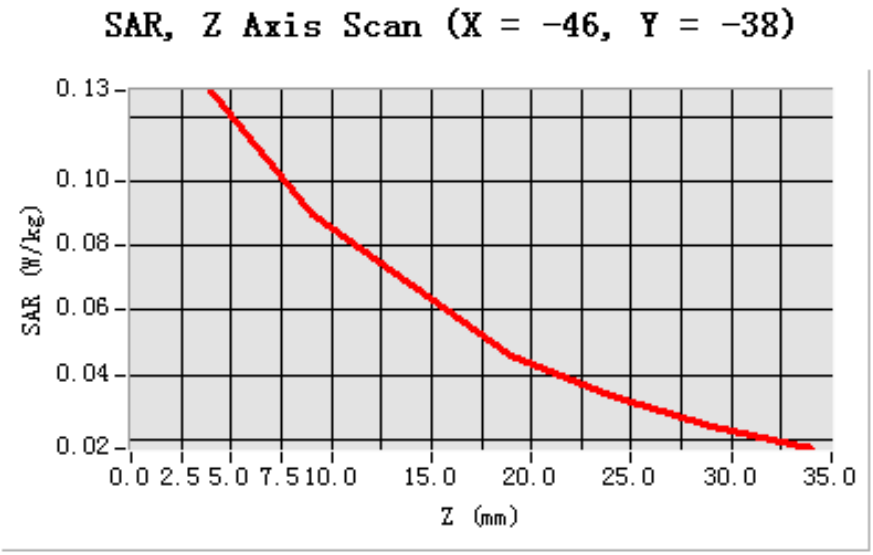
SURFACE SAR	**VOLUME SAR**
	

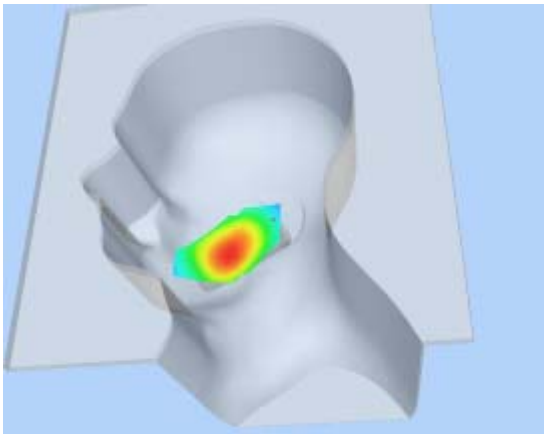
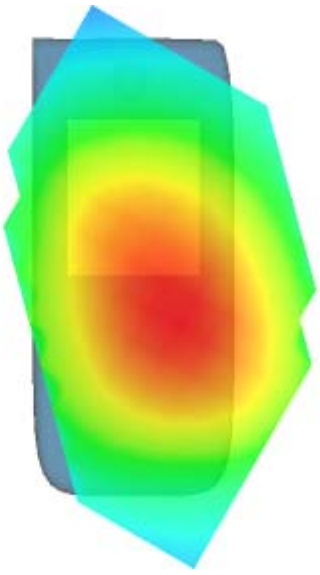
Maximum location: X=-46.00, Y=-38.00

SAR 10g (W/Kg)	0.083583
SAR 1g (W/Kg)	0.122433

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1280	0.0896	0.0678	0.0461	0.0337	0.0243



3D sceen shot	Hot spot position
	

MEASUREMENT 2

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 56 seconds

A. Experimental conditions.

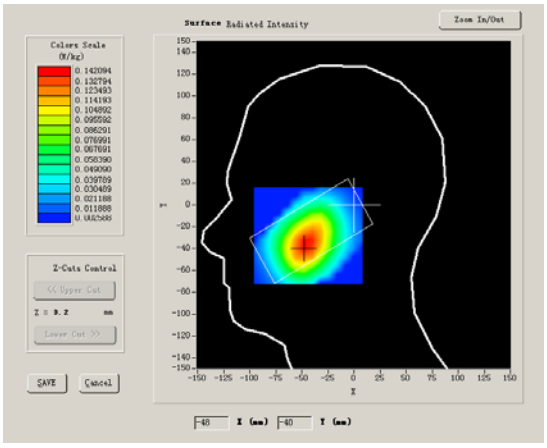
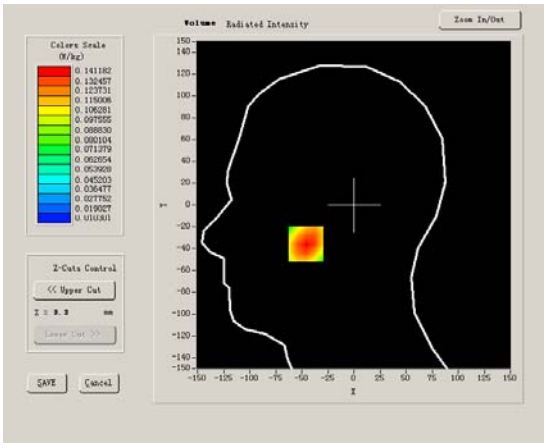
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 190):

Frequency (MHz)	836.599976
Relative permittivity (real part)	40.669998
Relative permittivity	19.120001

Conductivity (S/m)	0.888655
Variation (%)	-1.030000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.1°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

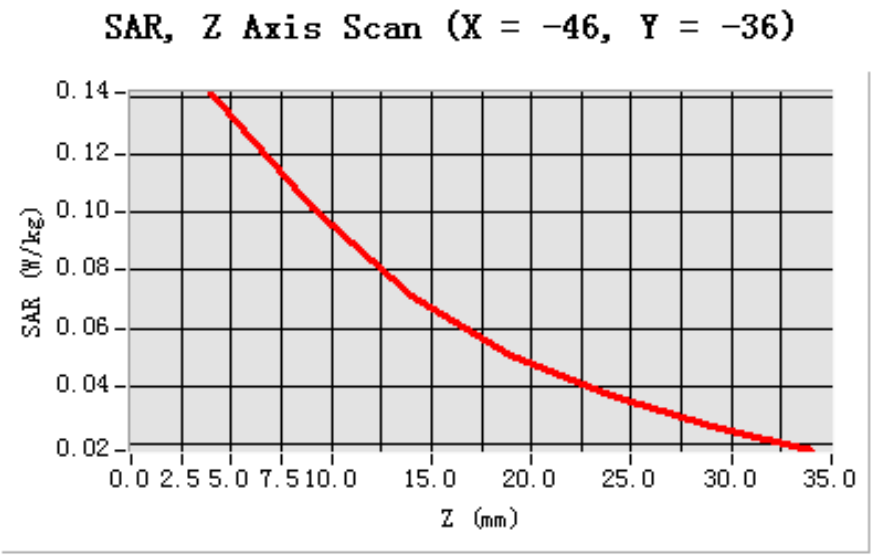
SURFACE SAR	**VOLUME SAR**
	

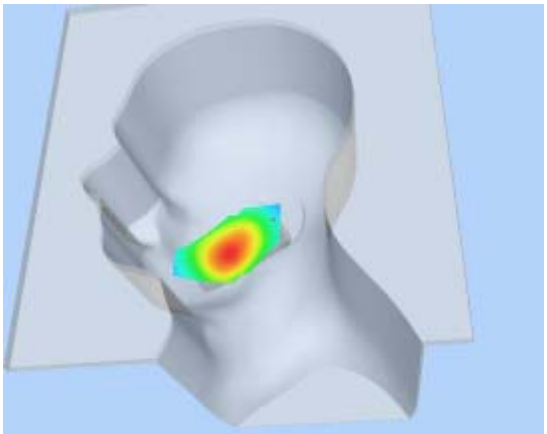
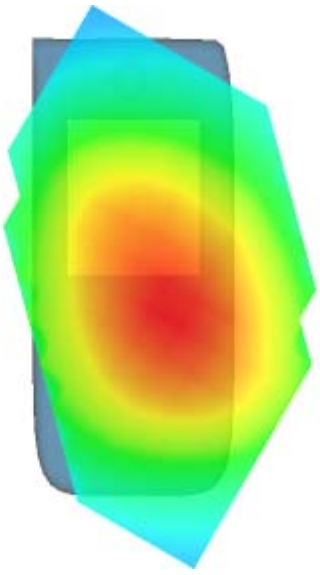
Maximum location: X=-46.00, Y=-36.00

SAR 10g (W/Kg)	0.091331
SAR 1g (W/Kg)	0.135209

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1412	0.1013	0.0712	0.0506	0.0366	0.0261



3D sceen shot	Hot spot position
	

MEASUREMENT 3

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 42 seconds

A. Experimental conditions.

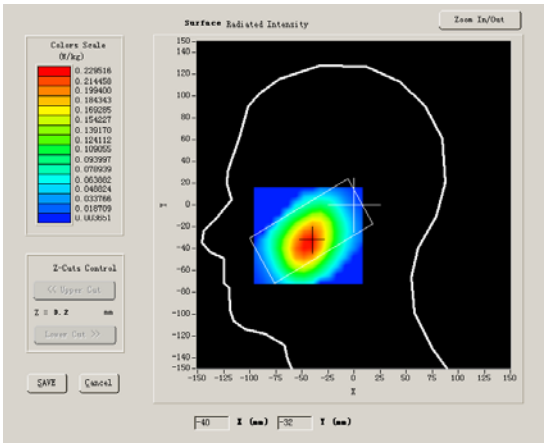
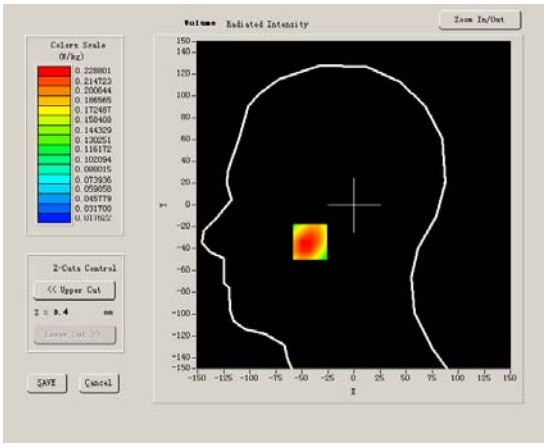
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 251):

Frequency (MHz)	848.799988
Relative permittivity (real part)	41.675999
Relative permittivity	18.967199

Conductivity (S/m)	0.894409
Variation (%)	0.310000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.1°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

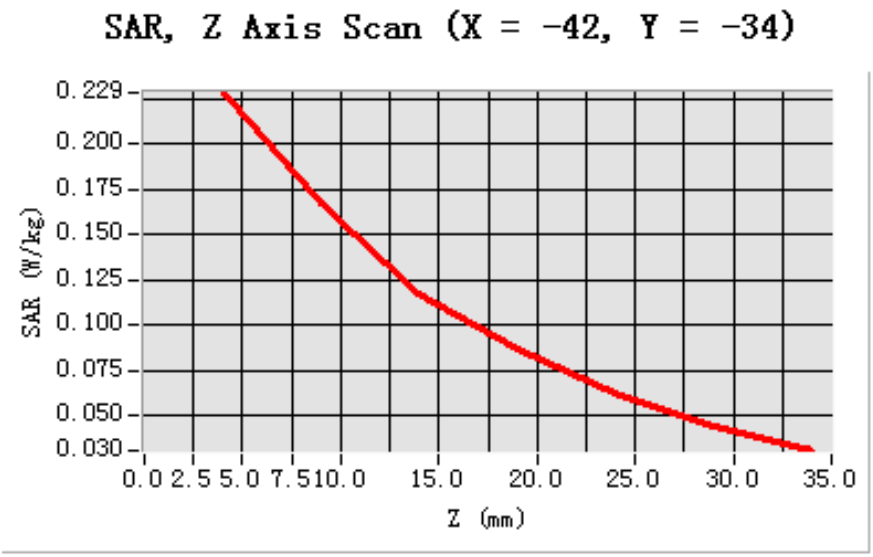
SURFACE SAR	**VOLUME SAR**
	

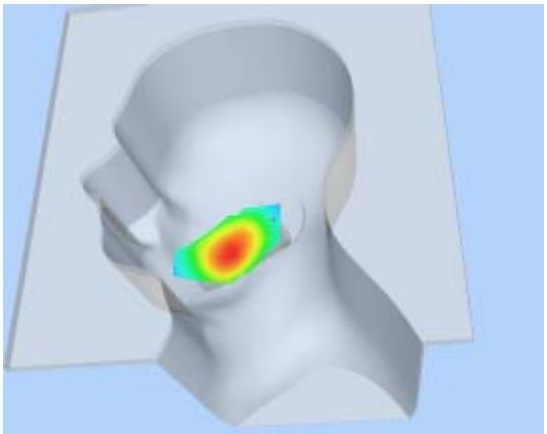
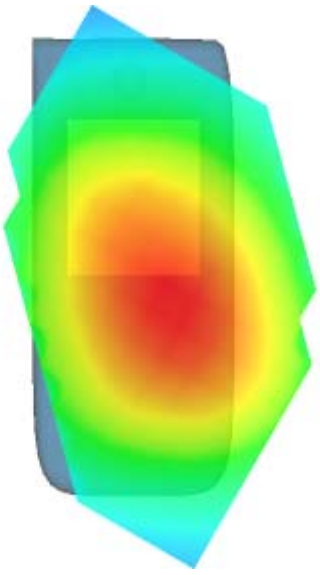
Maximum location: X=-42.00, Y=-34.00

SAR 10g (W/Kg)	0.151268
SAR 1g (W/Kg)	0.225938

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2286	0.1670	0.1173	0.0865	0.0627	0.0433



3D sceen shot	Hot spot position
	

MEASUREMENT 4

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 40 seconds

A. Experimental conditions.

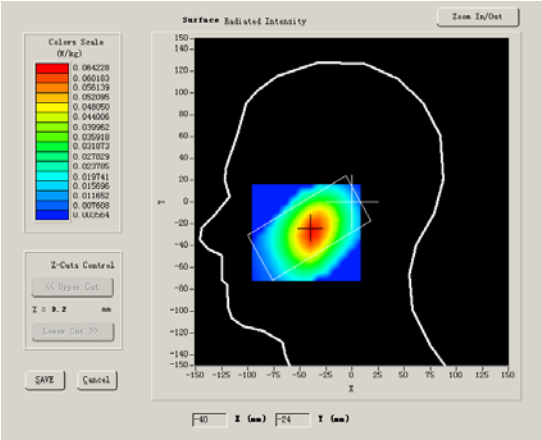
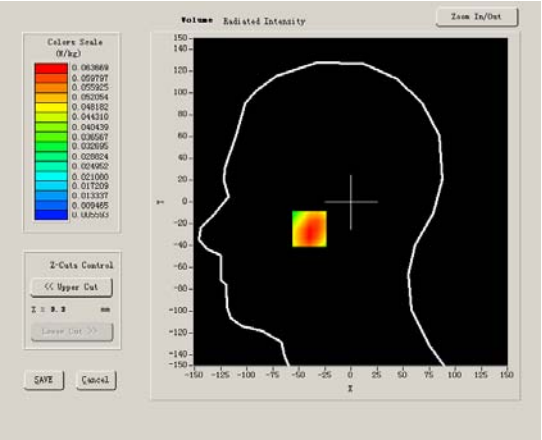
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM850
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 128):

Frequency (MHz)	824.200012
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Variation (%)	-1.900000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.1°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

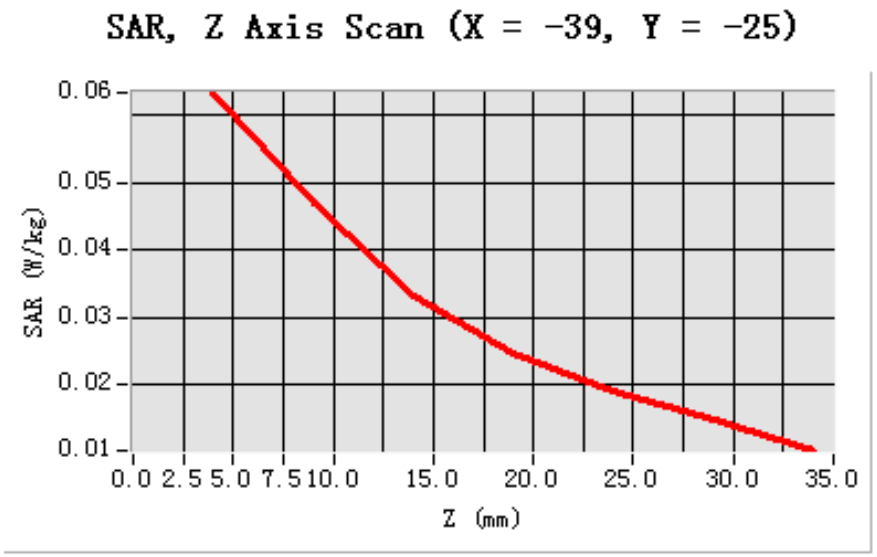
SURFACE SAR	VOLUME SAR
	

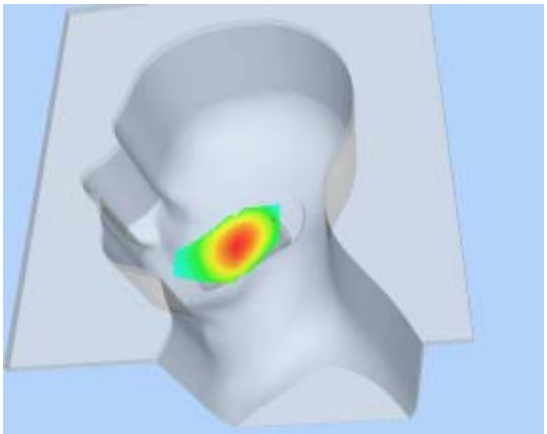
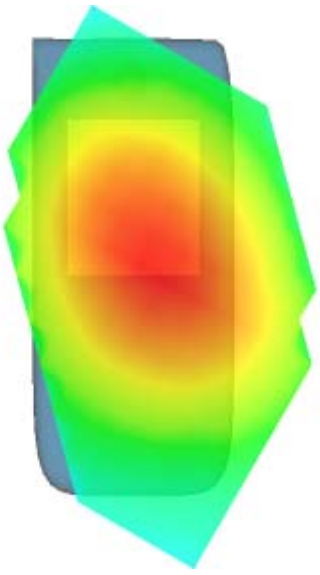
Maximum location: X=-39.00, Y=-25.00

SAR 10g (W/Kg)	0.042160
SAR 1g (W/Kg)	0.061297

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.0634	0.0471	0.0330	0.0246	0.0190	0.0147



3D sceen shot	Hot spot position
	

MEASUREMENT 5

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 40 seconds

A. Experimental conditions.

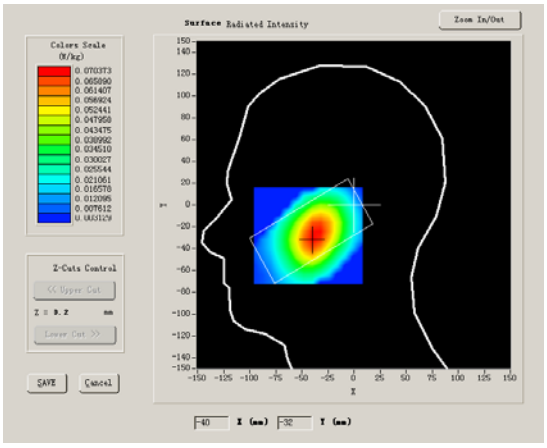
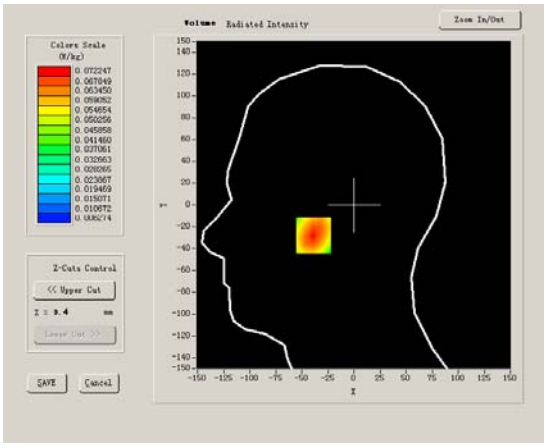
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM850
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 190):

Frequency (MHz)	836.599976
Relative permittivity (real part)	40.669998
Relative permittivity	19.120001

Conductivity (S/m)	0.888655
Variation (%)	0.160000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.1°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

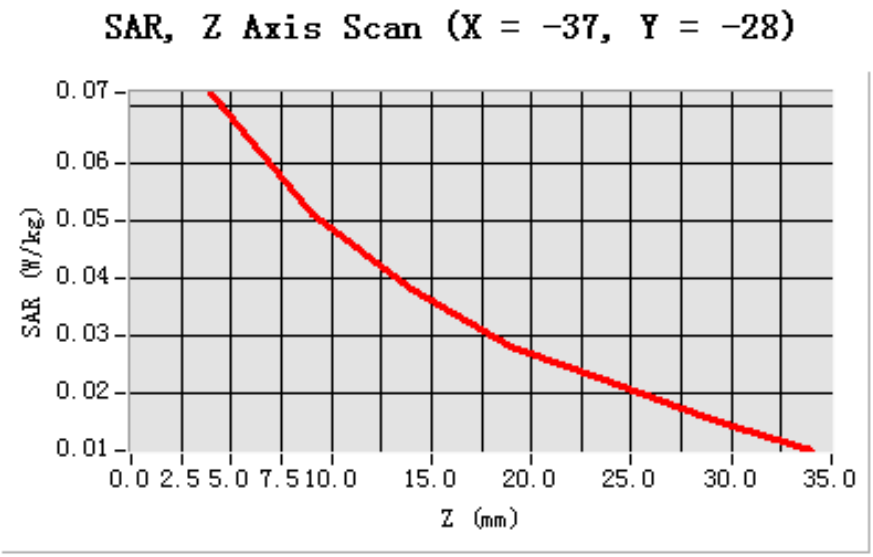
SURFACE SAR	**VOLUME SAR**
	

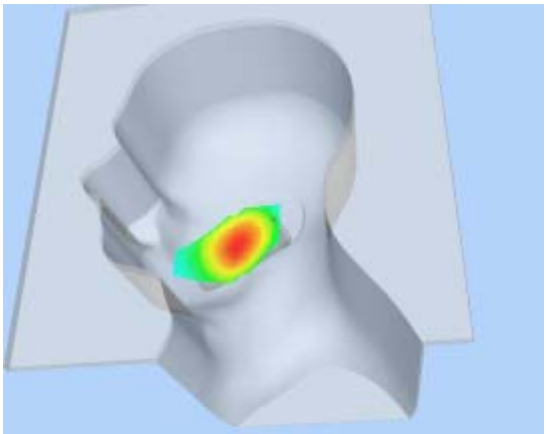
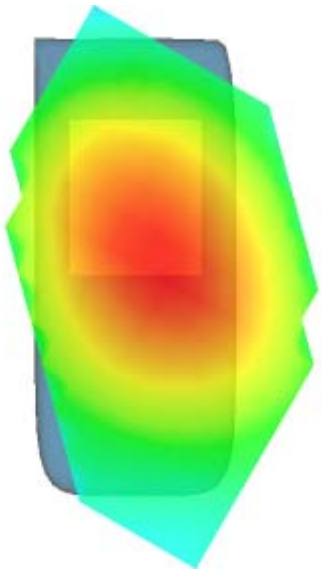
Maximum location: X=-37.00, Y=-28.00

SAR 10g (W/Kg)	0.047318
SAR 1g (W/Kg)	0.068843

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.0722	0.0511	0.0382	0.0282	0.0220	0.0154



3D sceen shot	Hot spot position
	

MEASUREMENT 6

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 39 seconds

A. Experimental conditions.

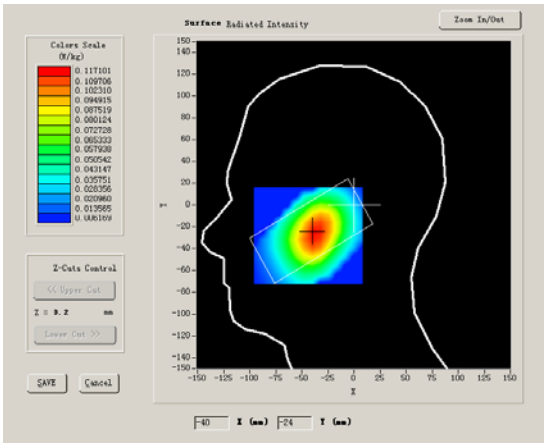
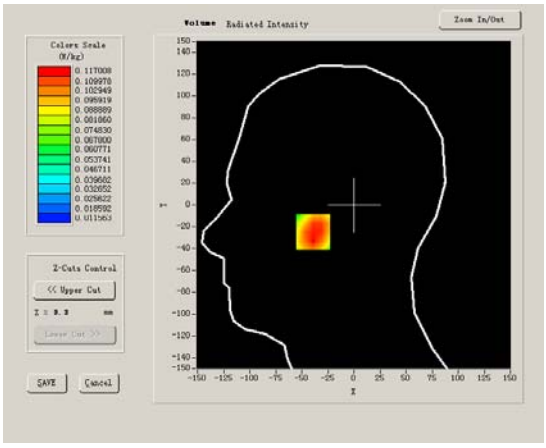
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM850
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 251):

Frequency (MHz)	848.799988
Relative permittivity (real part)	41.675999
Relative permittivity	18.967199

Conductivity (S/m)	0.894409
Variation (%)	0.070000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.1°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

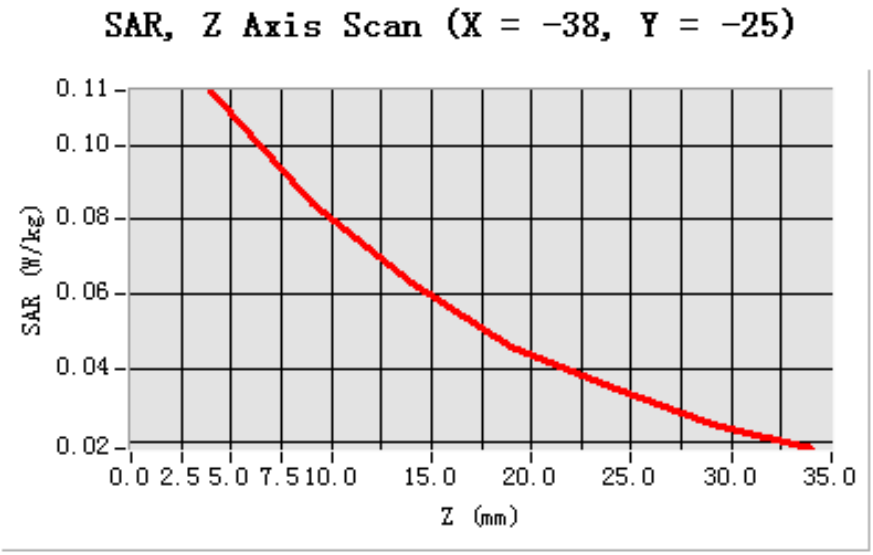
SURFACE SAR	**VOLUME SAR**
	

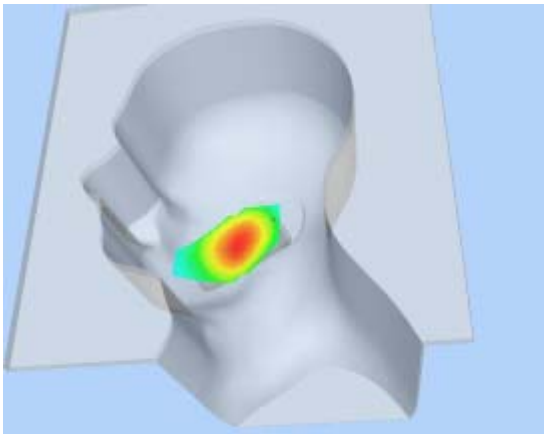
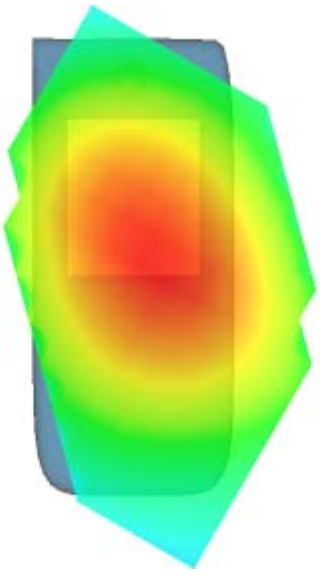
Maximum location: X=-38.00, Y=-25.00

SAR 10g (W/Kg)	0.078215
SAR 1g (W/Kg)	0.112723

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1149	0.0846	0.0629	0.0460	0.0347	0.0250



3D sceen shot	Hot spot position
	

MEASUREMENT 7

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 44 seconds

A. Experimental conditions.

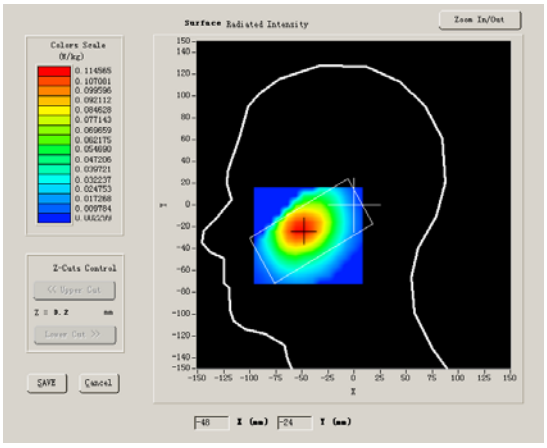
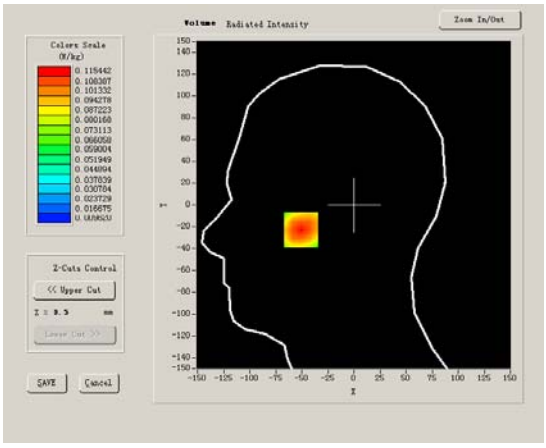
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 128):

Frequency (MHz)	824.200012
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Variation (%)	-0.280000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.1°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

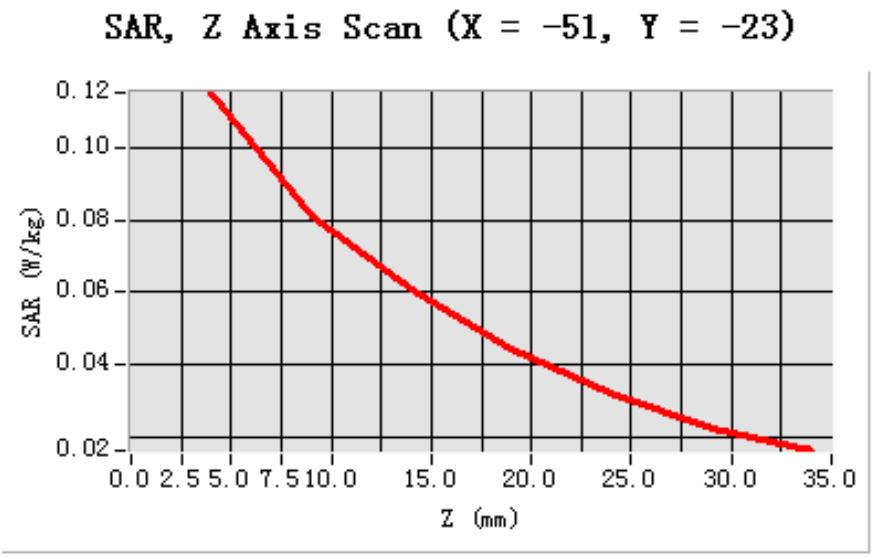
SURFACE SAR	**VOLUME SAR**
	

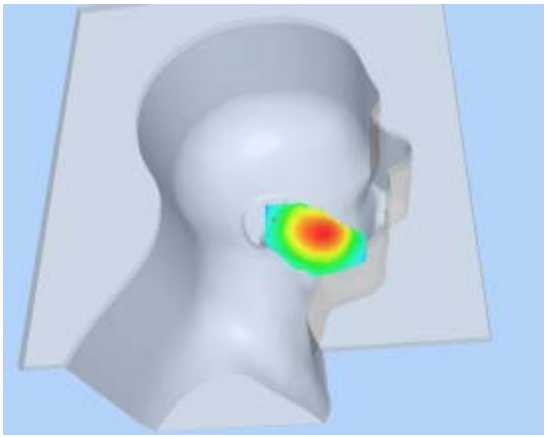
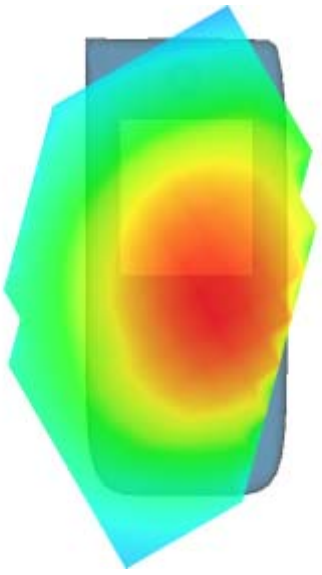
Maximum location: X=-51.00, Y=-23.00

SAR 10g (W/Kg)	0.076077
SAR 1g (W/Kg)	0.110868

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1154	0.0810	0.0611	0.0446	0.0319	0.0223



3D sceen shot	Hot spot position
	

MEASUREMENT 8

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 8 minutes 0 seconds

A. Experimental conditions.

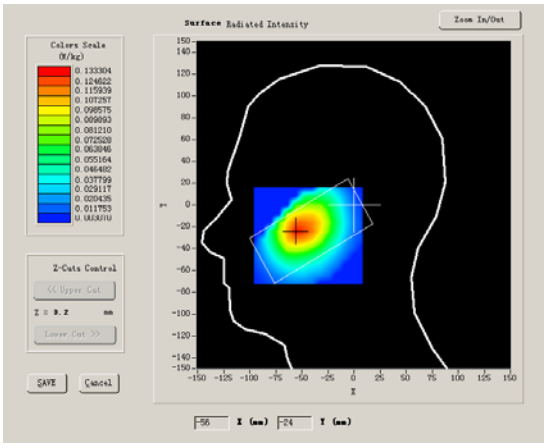
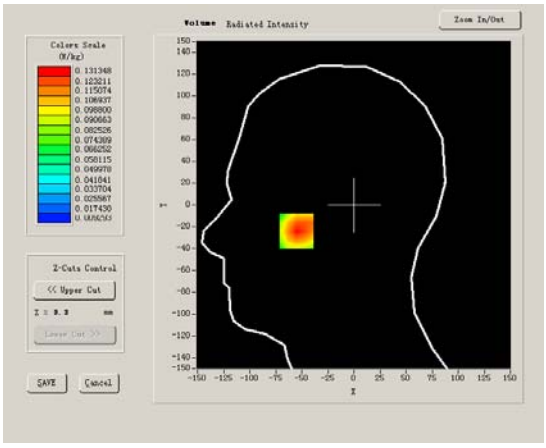
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 190):

Frequency (MHz)	836.599976
Relative permittivity (real part)	40.669998
Relative permittivity	19.120001

Conductivity (S/m)	0.888655
Variation (%)	-1.560000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.1°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

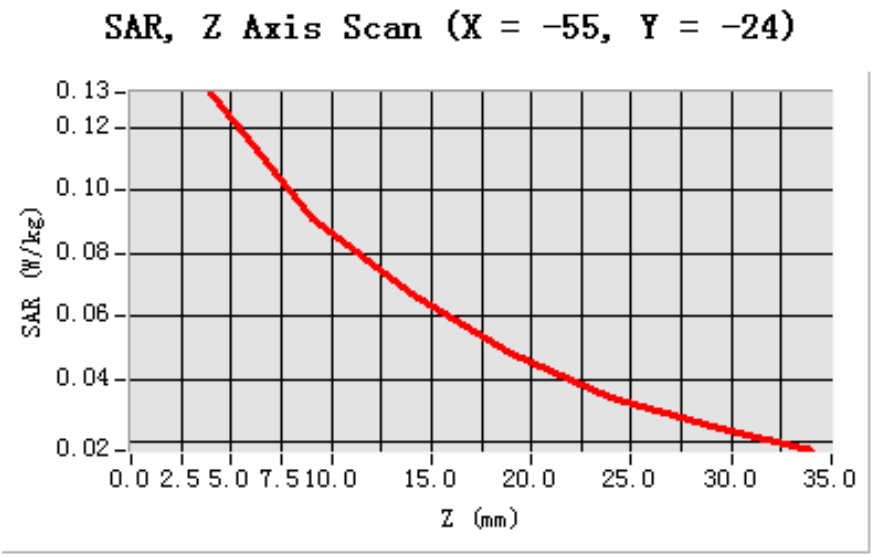
SURFACE SAR	**VOLUME SAR**
	

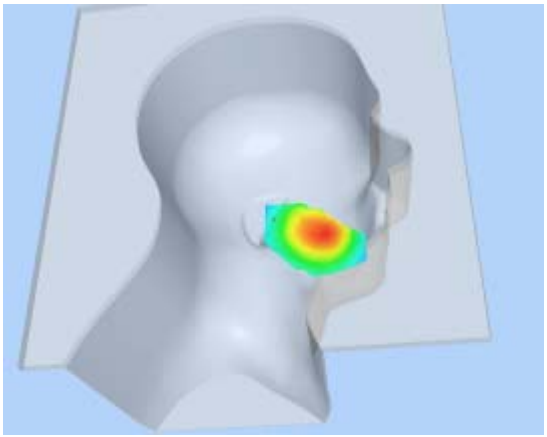
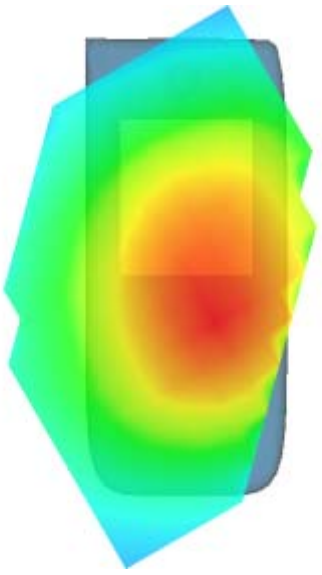
Maximum location: X=-55.00, Y=-24.00

SAR 10g (W/Kg)	0.084391
SAR 1g (W/Kg)	0.125099

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1313	0.0910	0.0674	0.0483	0.0342	0.0247



3D sceen shot	Hot spot position
	

MEASUREMENT 9

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 44 seconds

A. Experimental conditions.

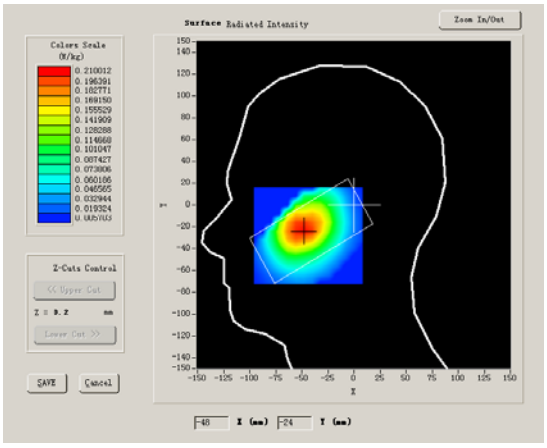
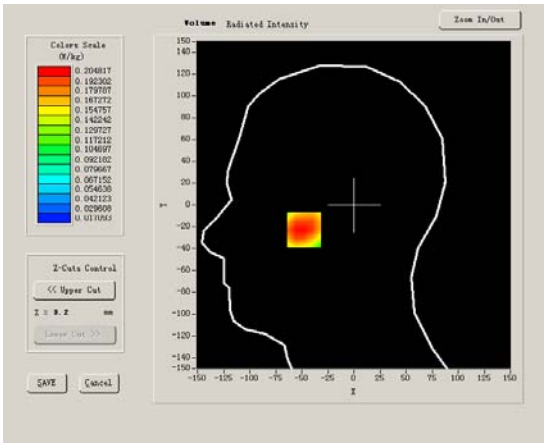
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 251):

Frequency (MHz)	848.799988
Relative permittivity (real part)	41.675999
Relative permittivity	18.967199

Conductivity (S/m)	0.894409
Variation (%)	0.770000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.1°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

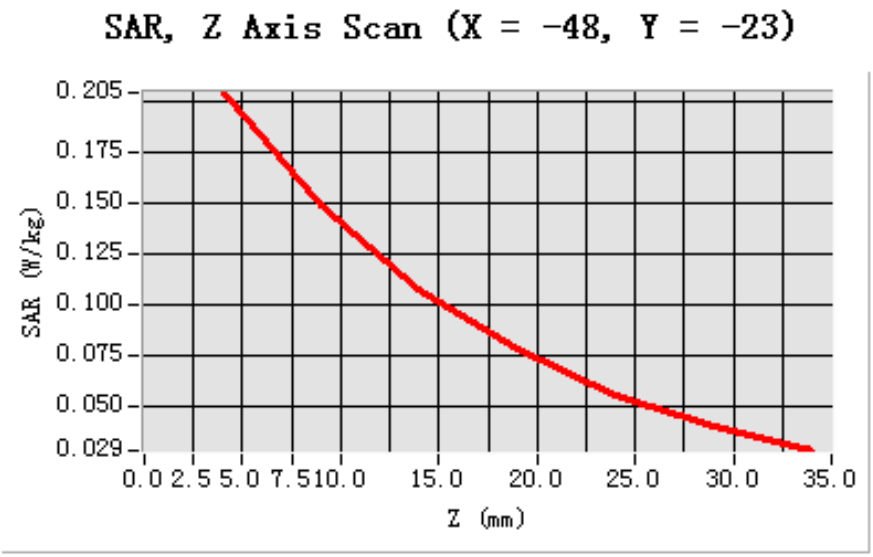
SURFACE SAR	**VOLUME SAR**
	

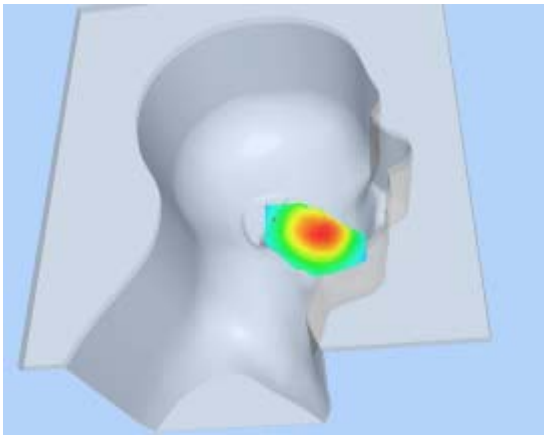
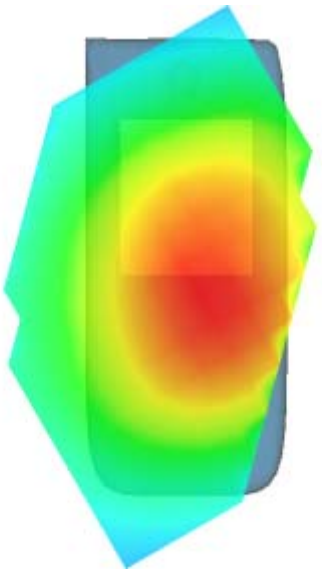
Maximum location: X=-48.00, Y=-23.00

SAR 10g (W/Kg)	0.136632
SAR 1g (W/Kg)	0.198455

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2048	0.1498	0.1081	0.0787	0.0561	0.0409



3D sceen shot	Hot spot position
	

MEASUREMENT 10

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 36 seconds

A. Experimental conditions.

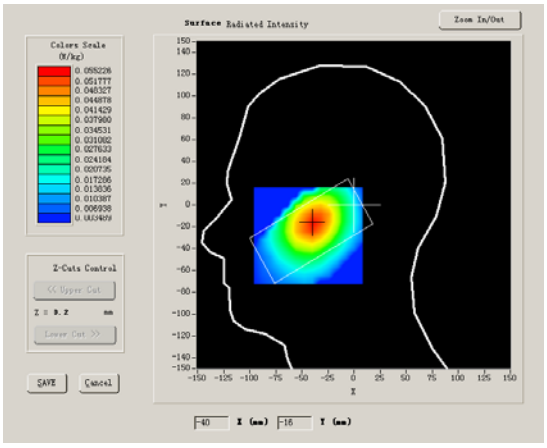
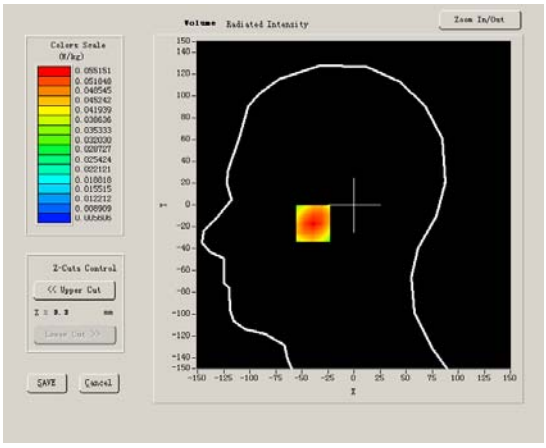
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 128):

Frequency (MHz)	824.200012
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Variation (%)	-0.870000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.1°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

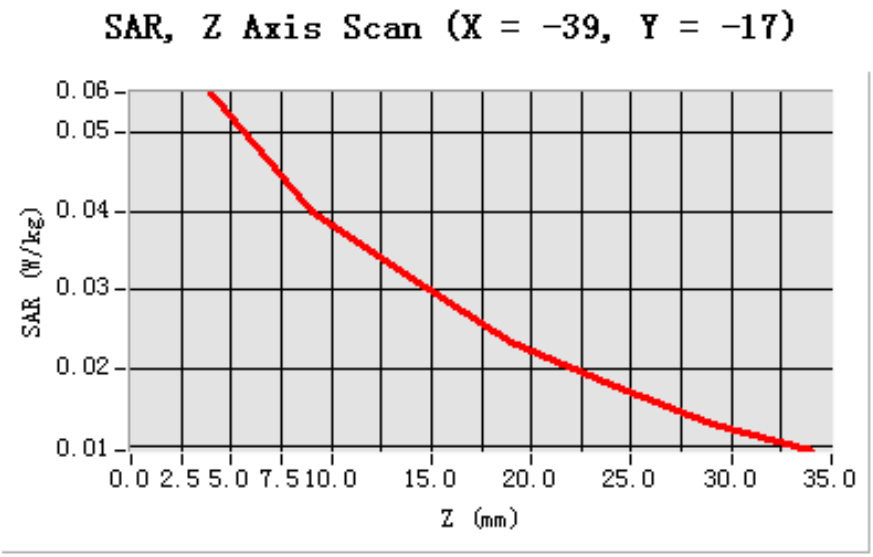
SURFACE SAR	**VOLUME SAR**
	

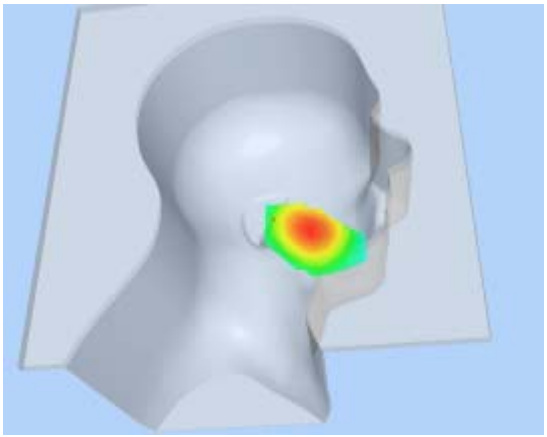
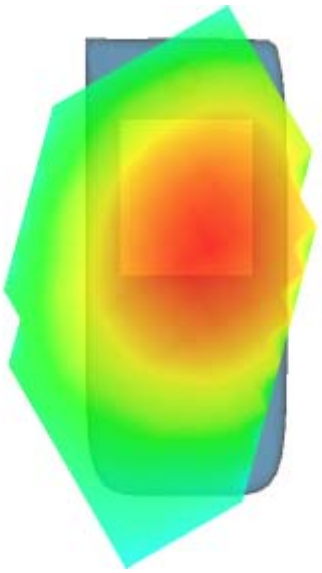
Maximum location: X=-39.00, Y=-17.00

SAR 10g (W/Kg)	0.037270
SAR 1g (W/Kg)	0.053177

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.0552	0.0398	0.0314	0.0232	0.0179	0.0127



3D sceen shot	Hot spot position
	

MEASUREMENT 11

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 36 seconds

A. Experimental conditions.

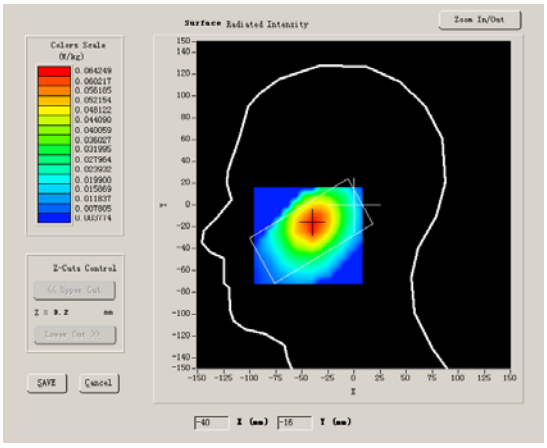
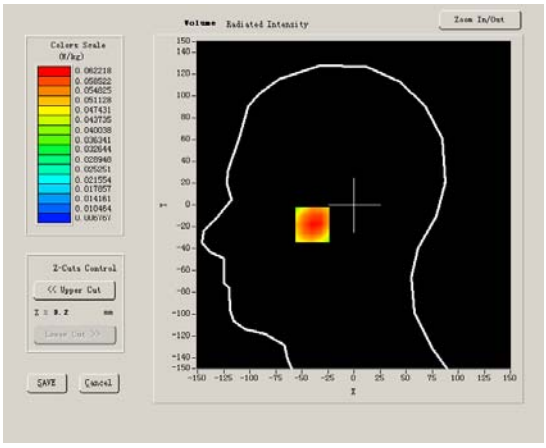
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 190):

Frequency (MHz)	836.599976
Relative permittivity (real part)	40.669998
Relative permittivity	19.120001

Conductivity (S/m)	0.888655
Variation (%)	-1.220000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.1°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

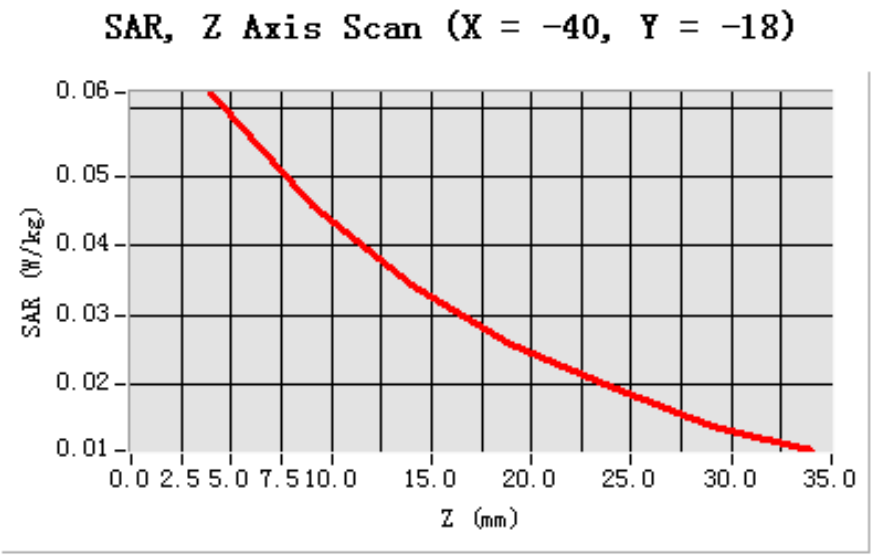
SURFACE SAR	**VOLUME SAR**
	

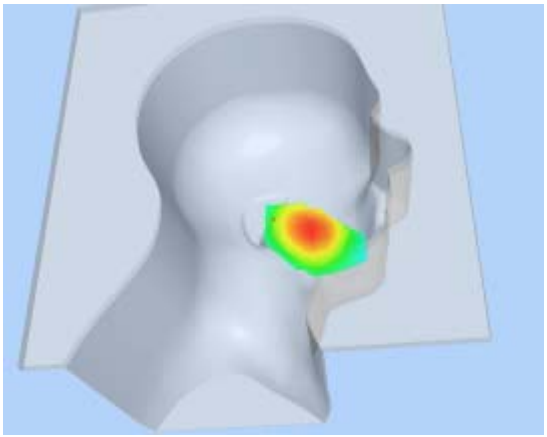
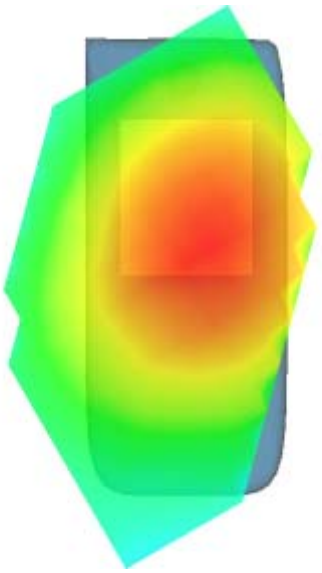
Maximum location: X=-40.00, Y=-18.00

SAR 10g (W/Kg)	0.042223
SAR 1g (W/Kg)	0.060552

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.0622	0.0458	0.0345	0.0258	0.0195	0.0138



3D sceen shot	Hot spot position
	

MEASUREMENT 12

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 38 seconds

A. Experimental conditions.

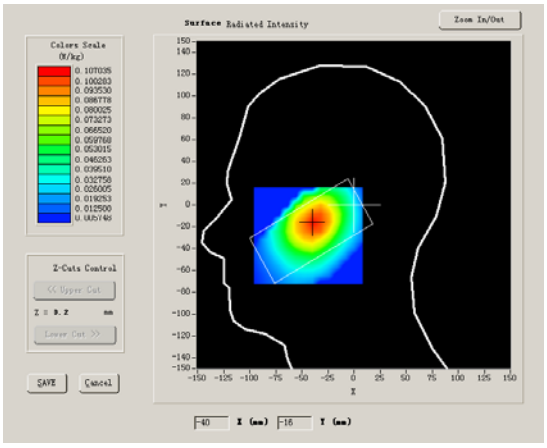
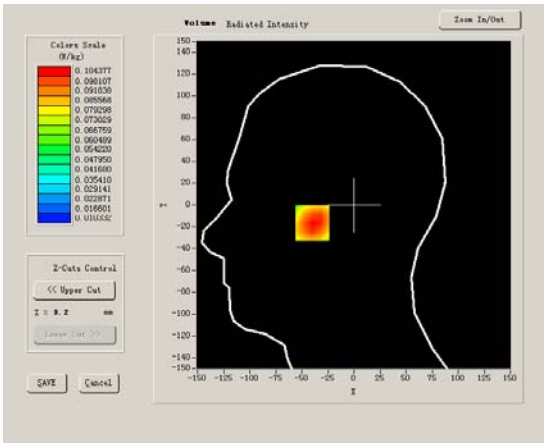
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 251):

Frequency (MHz)	848.799988
Relative permittivity (real part)	41.675999
Relative permittivity	18.967199

Conductivity (S/m)	0.894409
Variation (%)	-1.120000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.1°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

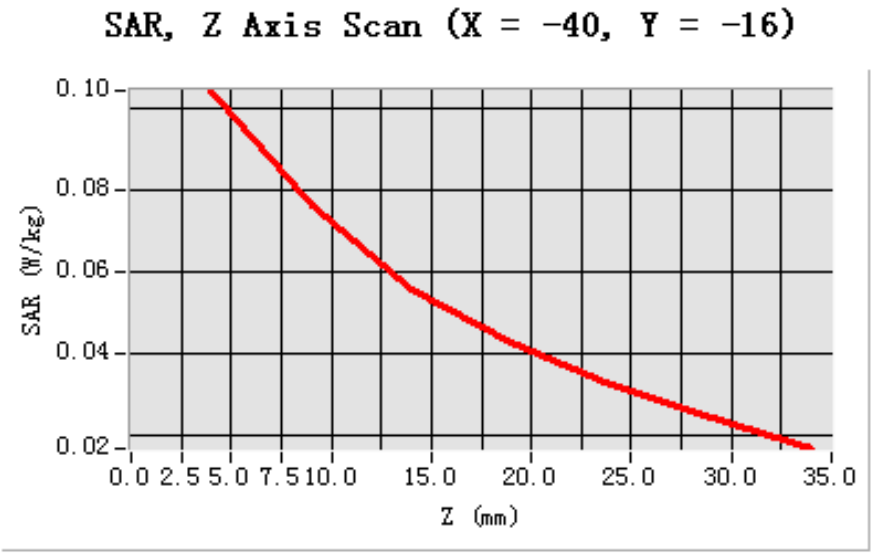
SURFACE SAR	**VOLUME SAR**
	

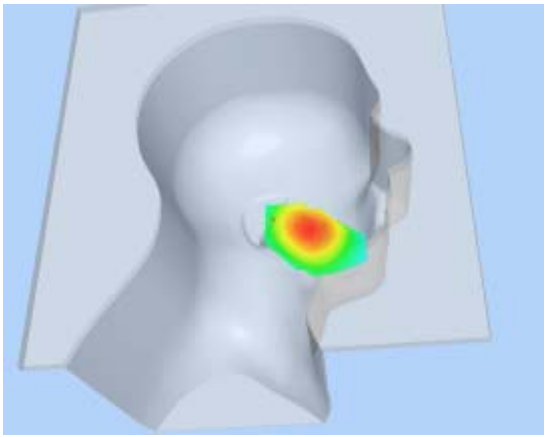
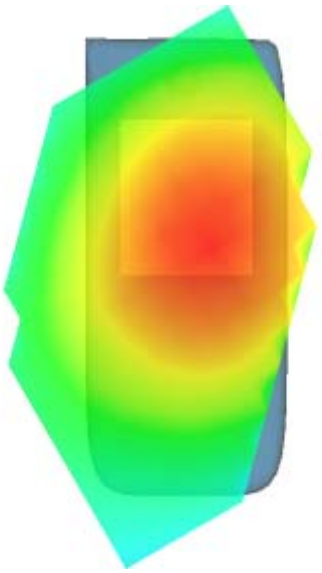
Maximum location: X=-40.00, Y=-16.00

SAR 10g (W/Kg)	0.070389
SAR 1g (W/Kg)	0.101000

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1044	0.0760	0.0557	0.0429	0.0324	0.0245



3D sceen shot	Hot spot position
	

MEASUREMENT 13

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 9 minutes 3 seconds

A. Experimental conditions.

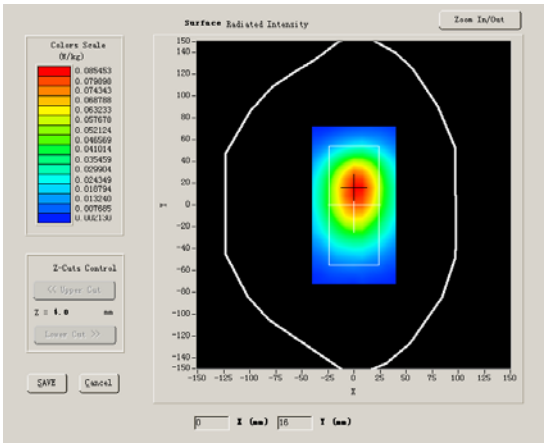
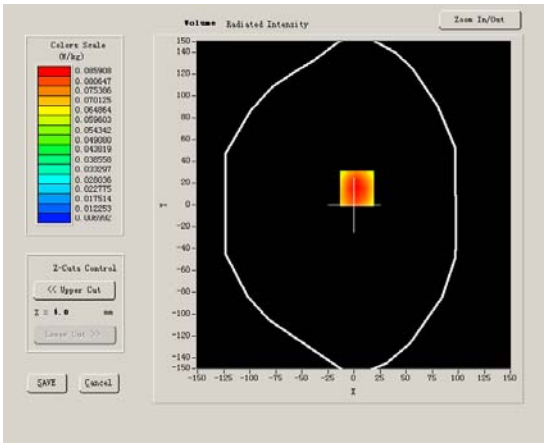
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 128):

Frequency (MHz)	824.200012
Relative permittivity (real part)	54.116001
Relative permittivity	21.284550

Conductivity (S/m)	0.974596
Variation (%)	-0.390000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.1°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

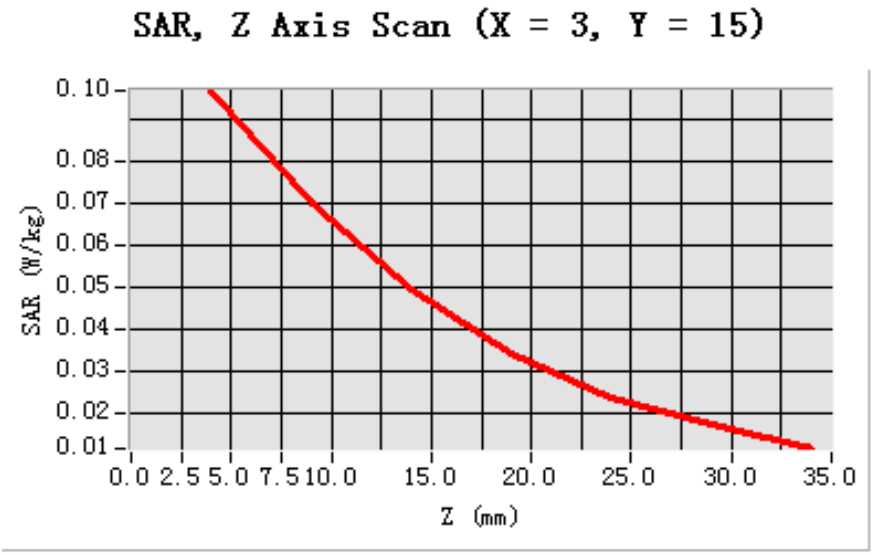
SURFACE SAR	**VOLUME SAR**
	

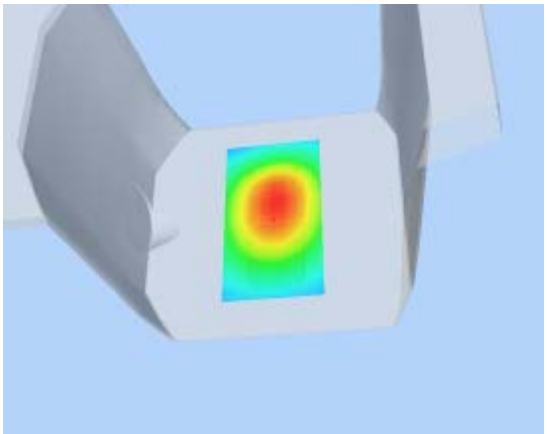
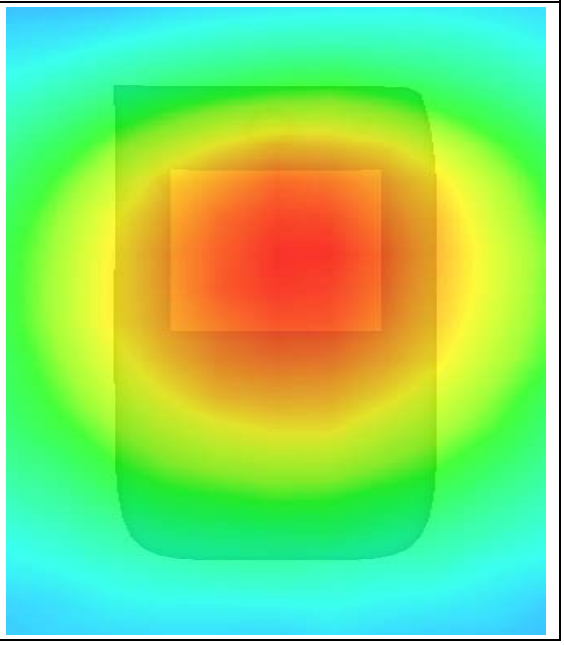
Maximum location: X=3.00, Y=15.00

SAR 10g (W/Kg)	0.063474
SAR 1g (W/Kg)	0.093480

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.0966	0.0699	0.0494	0.0343	0.0240	0.0172



3D sceen shot	Hot spot position
	

MEASUREMENT 14

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 9 minutes 3 seconds

A. Experimental conditions.

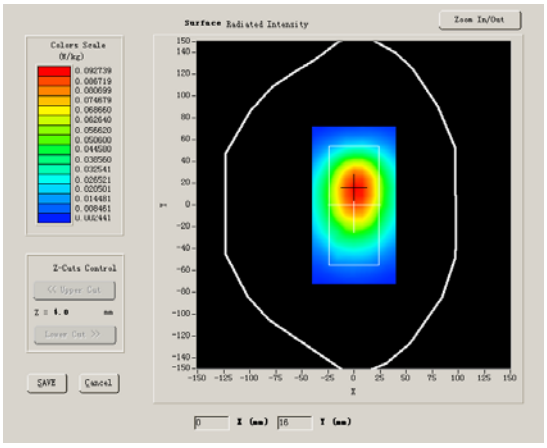
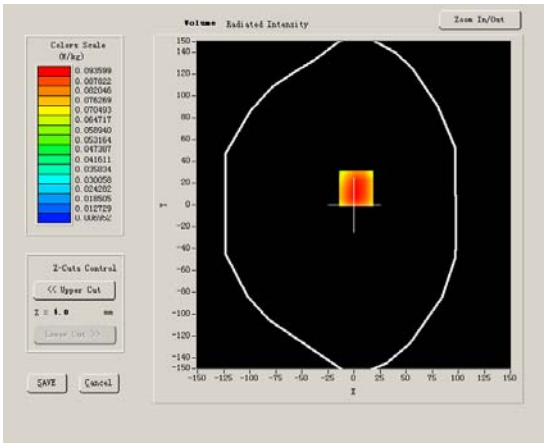
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 190):

Frequency (MHz)	836.599976
Relative permittivity (real part)	55.709999
Relative permittivity	21.709999

Conductivity (S/m)	1.009033
Variation (%)	0.050000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.1°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

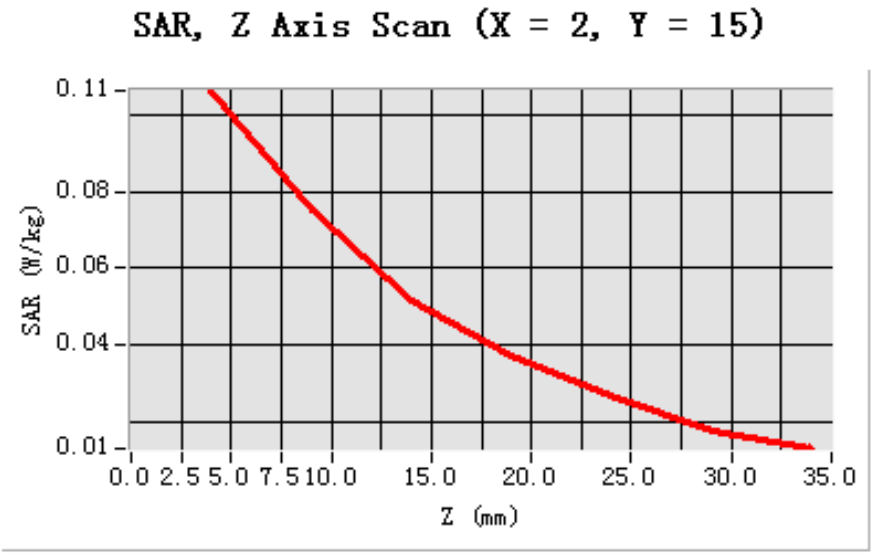
SURFACE SAR	**VOLUME SAR**
	

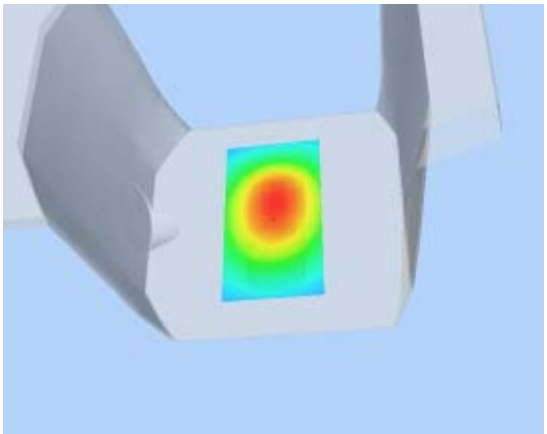
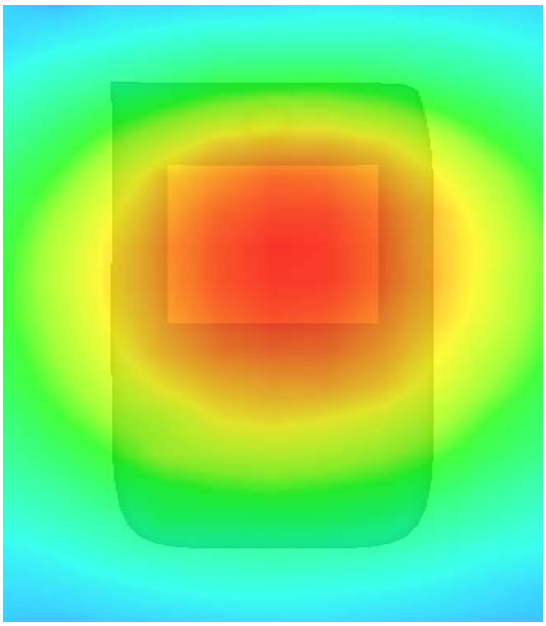
Maximum location: X=2.00, Y=15.00

SAR 10g (W/Kg)	0.070071
SAR 1g (W/Kg)	0.103143

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1063	0.0750	0.0514	0.0370	0.0269	0.0180



3D sceen shot	Hot spot position
	

MEASUREMENT 15

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 9 minutes 4 seconds

A. Experimental conditions.

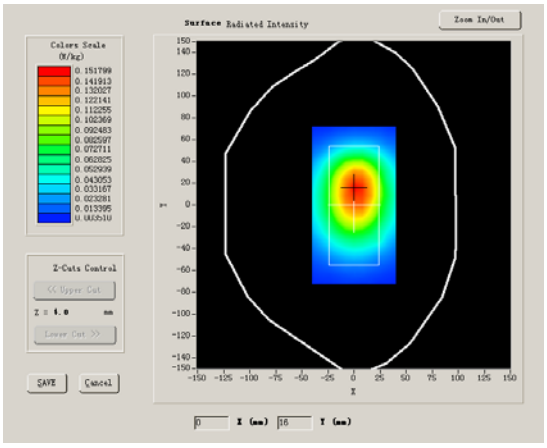
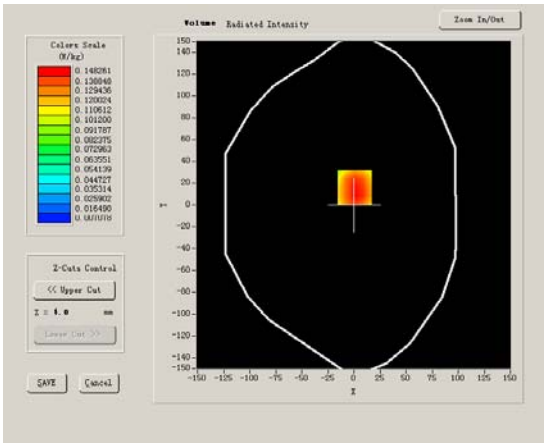
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 251):

Frequency (MHz)	848.799988
Relative permittivity (real part)	54.014999
Relative permittivity	21.332850

Conductivity (S/m)	1.005962
Variation (%)	-1.160000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.1°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

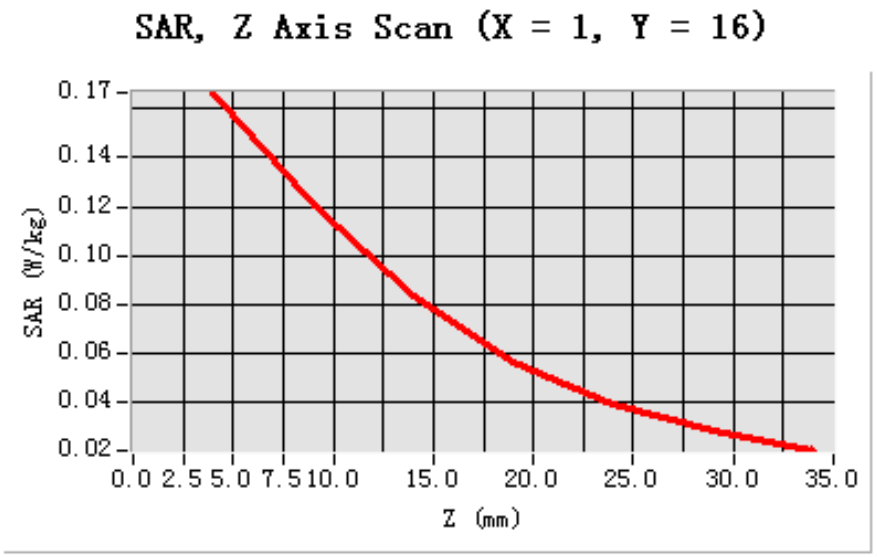
SURFACE SAR	**VOLUME SAR**
	

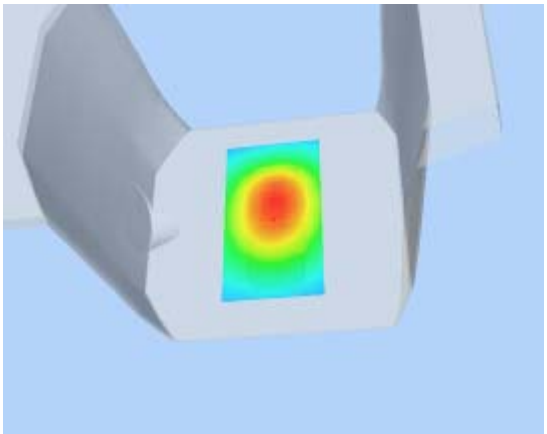
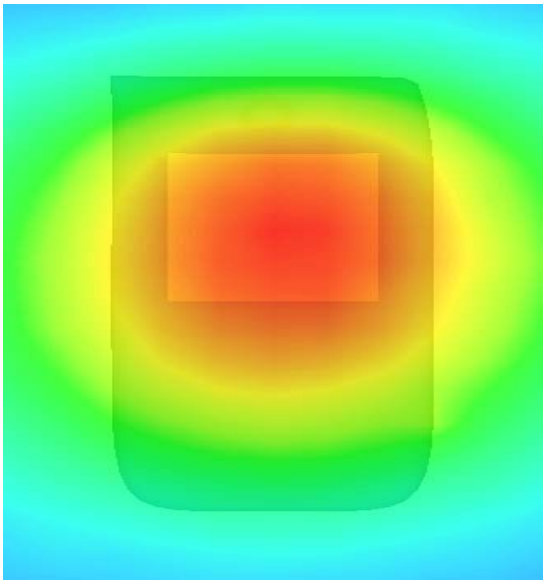
Maximum location: X=1.00, Y=16.00

SAR 10g (W/Kg)	0.108420
SAR 1g (W/Kg)	0.161908

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1665	0.1206	0.0837	0.0563	0.0394	0.0286



3D sceen shot	Hot spot position
	

MEASUREMENT 16

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 9 minutes 4 seconds

A. Experimental conditions.

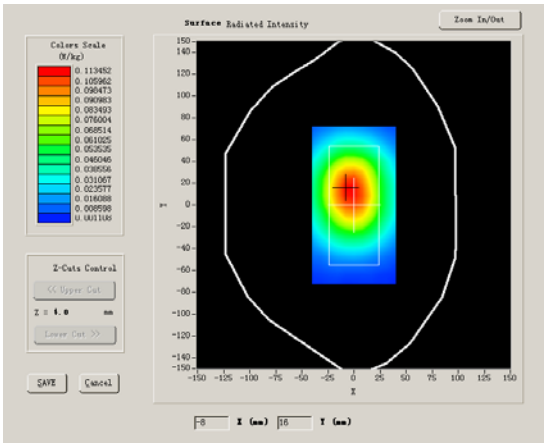
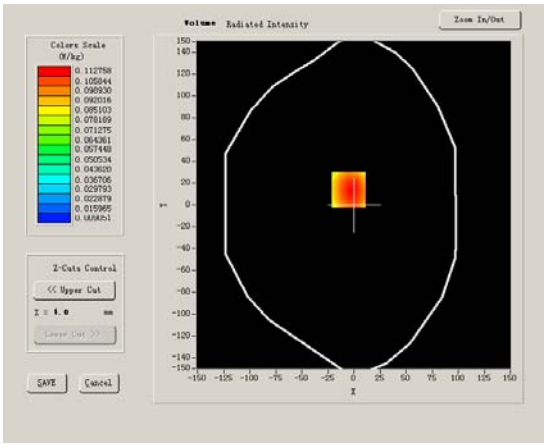
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 251):

Frequency (MHz)	848.799988
Relative permittivity (real part)	54.014999
Relative permittivity	21.332850

Conductivity (S/m)	1.005962
Variation (%)	-0.670000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.1°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

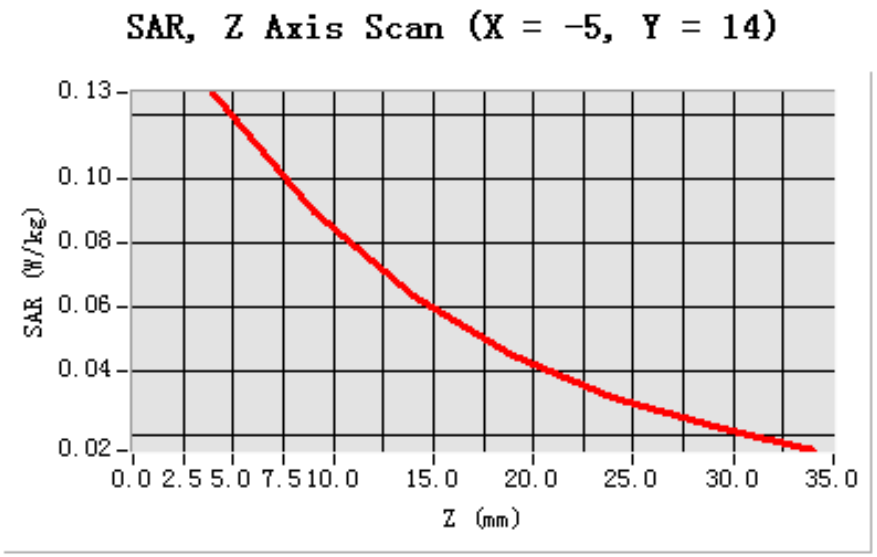
SURFACE SAR	**VOLUME SAR**
	

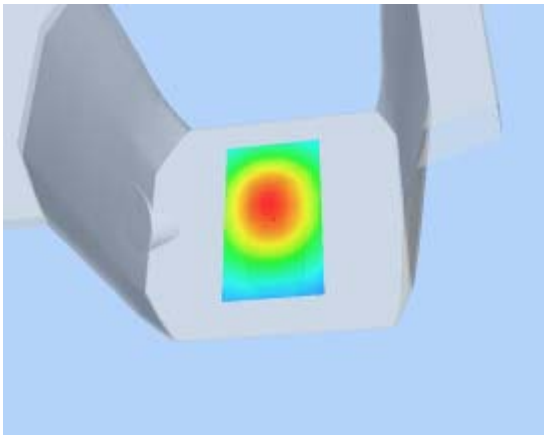
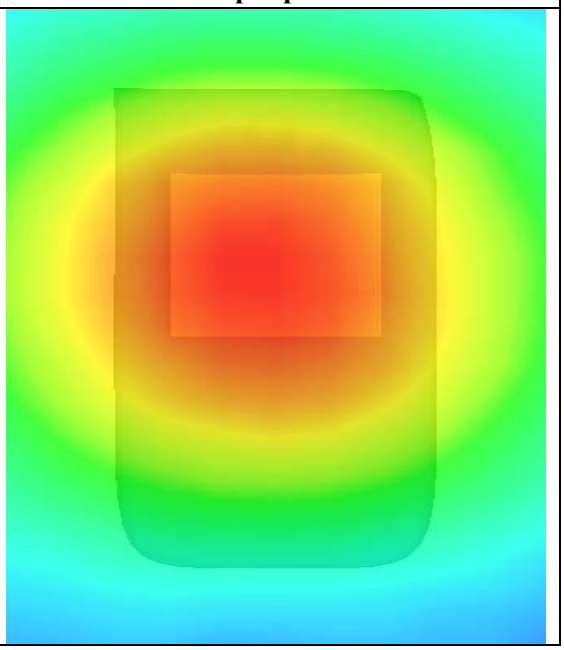
Maximum location: X=-5.00, Y=14.00

SAR 10g (W/Kg)	0.083563
SAR 1g (W/Kg)	0.122383

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1268	0.0895	0.0636	0.0451	0.0318	0.0227



3D sceen shot	Hot spot position
	

MEASUREMENT 17

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 53 seconds

A. Experimental conditions.

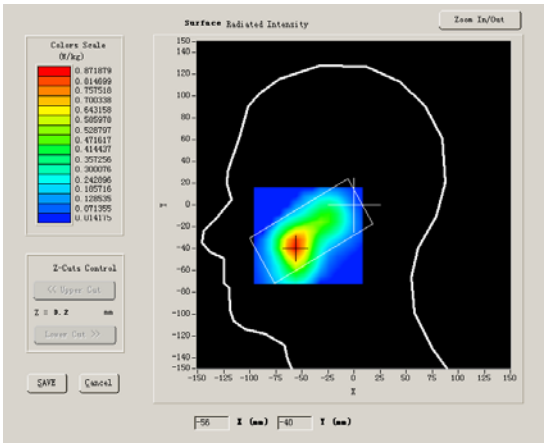
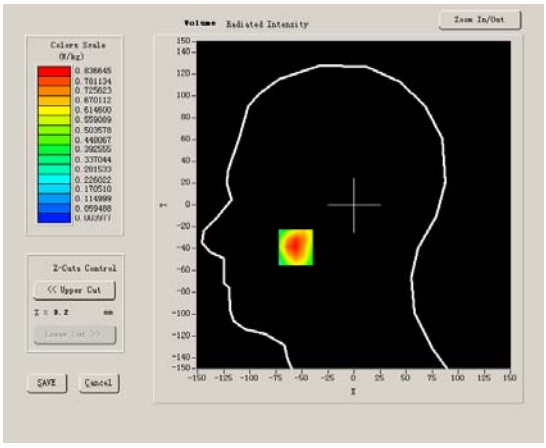
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 512):

Frequency (MHz)	1850.199951
Relative permittivity (real part)	39.993999
Relative permittivity	12.991650

Conductivity (S/m)	1.335397
Variation (%)	-2.660000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.2°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

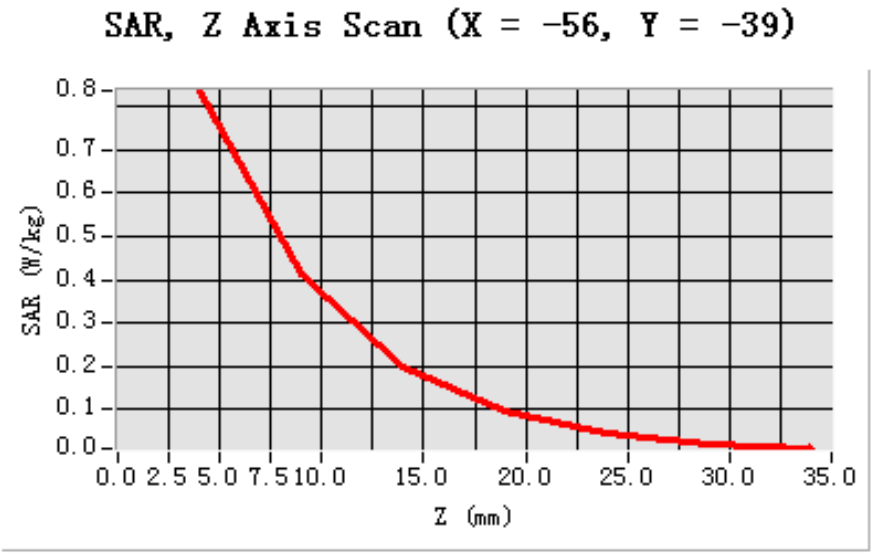
SURFACE SAR	**VOLUME SAR**
	

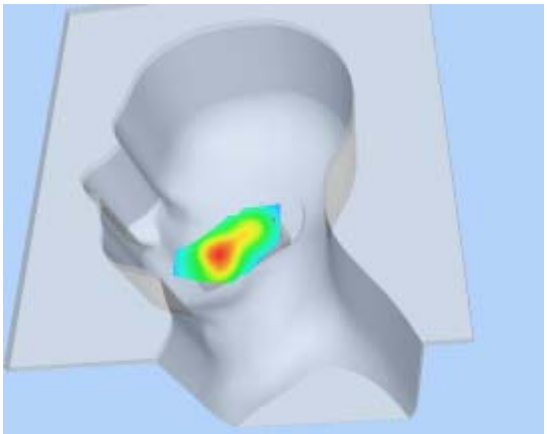
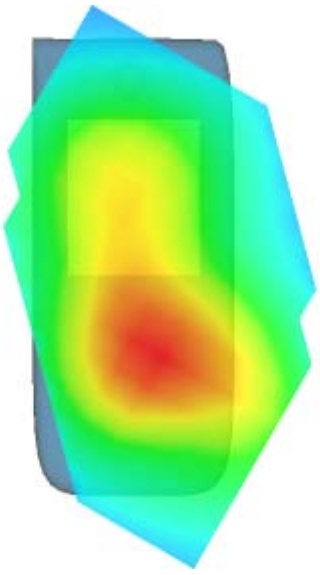
Maximum location: X=-56.00, Y=-39.00

SAR 10g (W/Kg)	0.415606
SAR 1g (W/Kg)	0.808425

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.8366	0.4147	0.1976	0.0948	0.0455	0.0208



3D sceen shot	Hot spot position
	

MEASUREMENT 18

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 58 seconds

A. Experimental conditions.

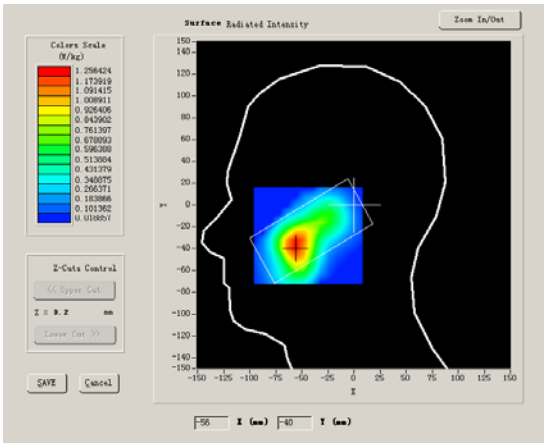
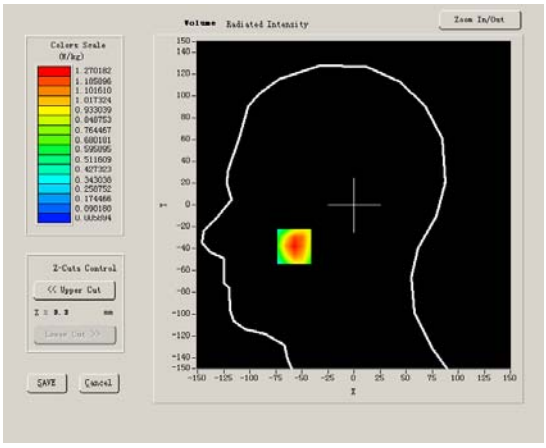
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 661):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	38.509998
Relative permittivity	13.750000

Conductivity (S/m)	1.436111
Variation (%)	0.240000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.2°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

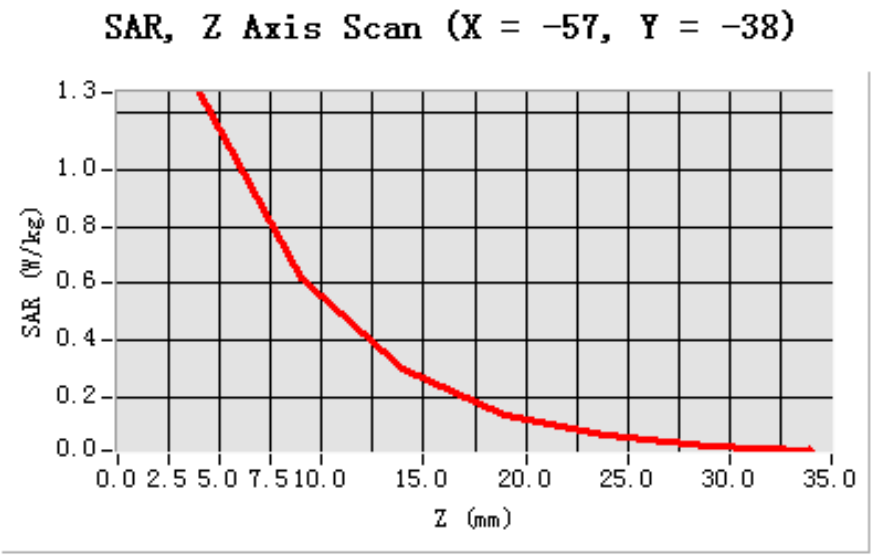
SURFACE SAR	**VOLUME SAR**
	

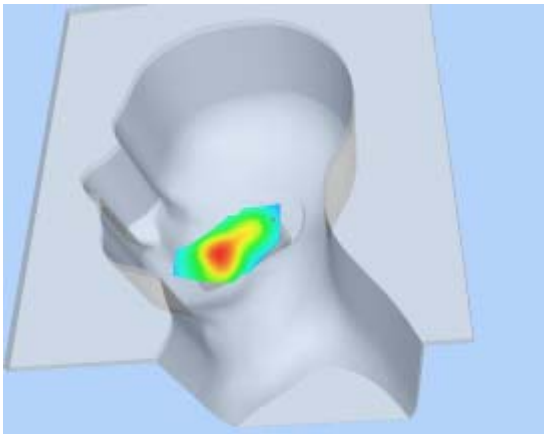
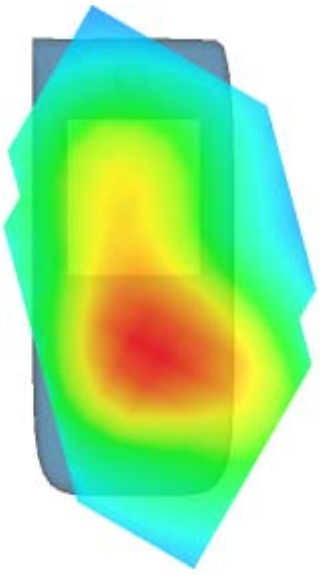
Maximum location: X=-57.00, Y=-38.00

SAR 10g (W/Kg)	0.627338
SAR 1g (W/Kg)	1.211057

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.2702	0.6198	0.3044	0.1425	0.0674	0.0318



3D sceen shot	Hot spot position
	

MEASUREMENT 19

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 57 seconds

A. Experimental conditions.

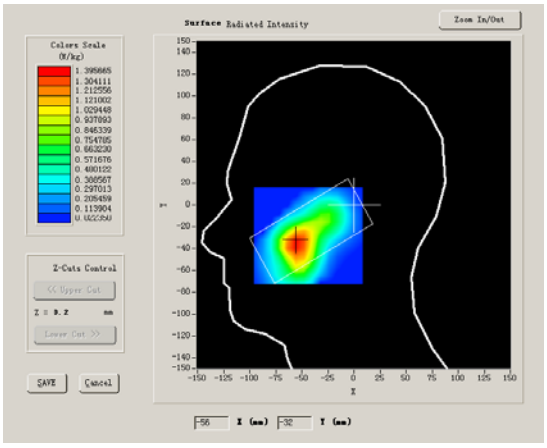
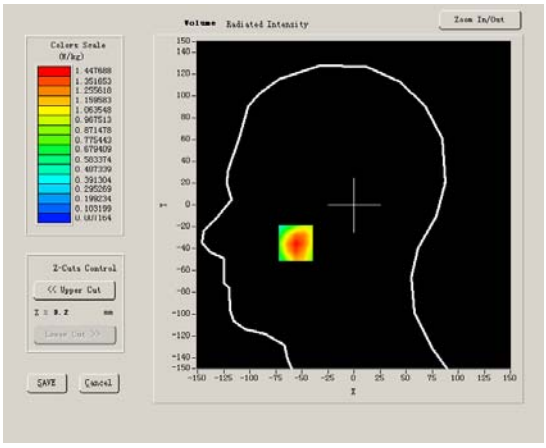
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 810):

Frequency (MHz)	1909.800049
Relative permittivity (real part)	39.929001
Relative permittivity	13.156500

Conductivity (S/m)	1.395905
Variation (%)	0.820000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.2°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

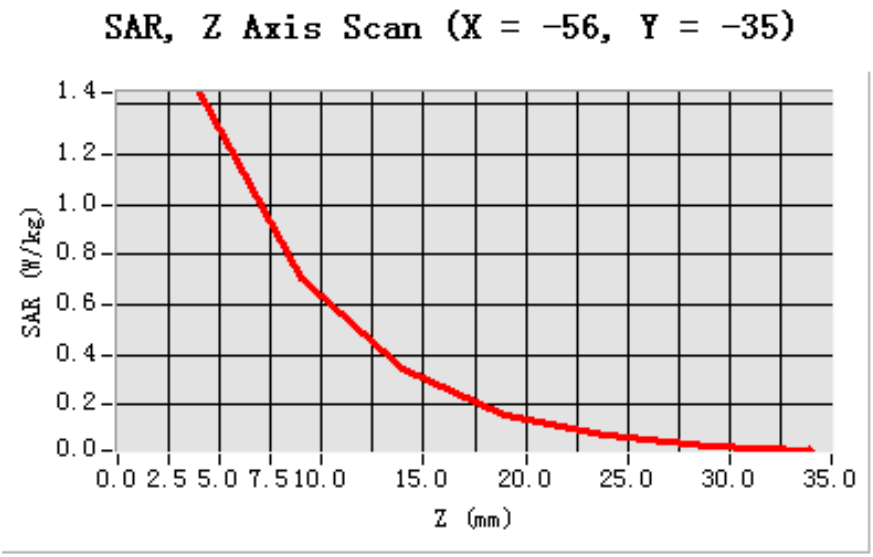
SURFACE SAR	**VOLUME SAR**
	

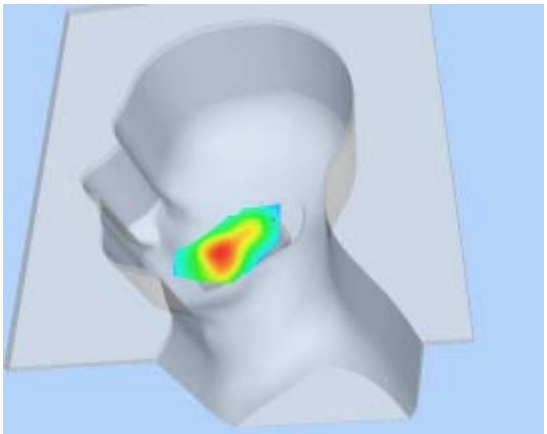
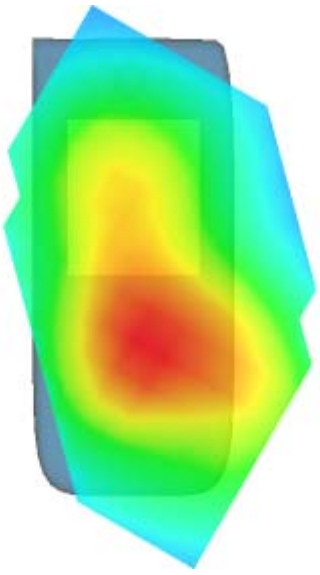
Maximum location: X=-56.00, Y=-35.00

SAR 10g (W/Kg)	0.715675
SAR 1g (W/Kg)	1.376791

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.4477	0.7064	0.3408	0.1559	0.0780	0.0366



3D sceen shot	Hot spot position
	

MEASUREMENT 20

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 25 seconds

A. Experimental conditions.

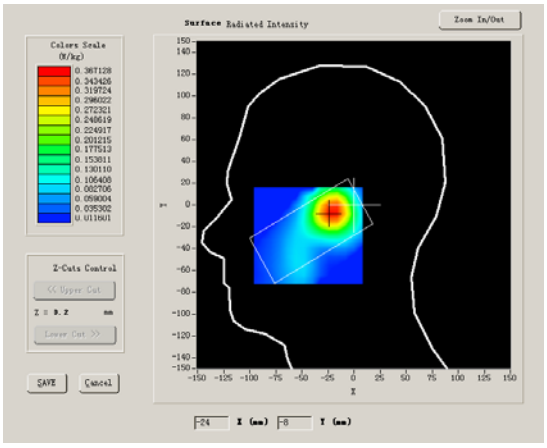
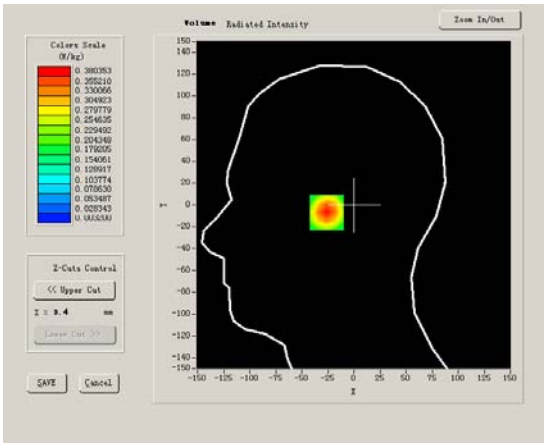
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 512):

Frequency (MHz)	1850.199951
Relative permittivity (real part)	39.993999
Relative permittivity	12.991650

Conductivity (S/m)	1.335397
Variation (%)	-0.620000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.2°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

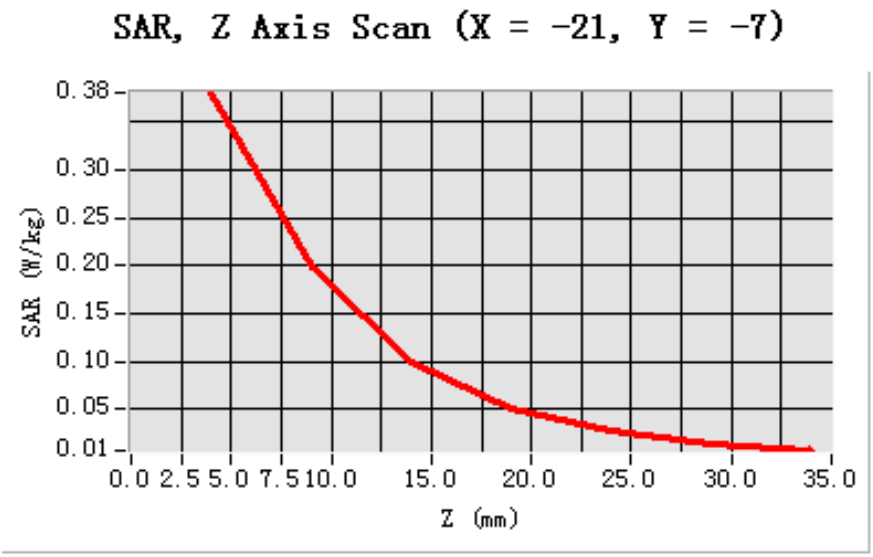
SURFACE SAR	**VOLUME SAR**
	

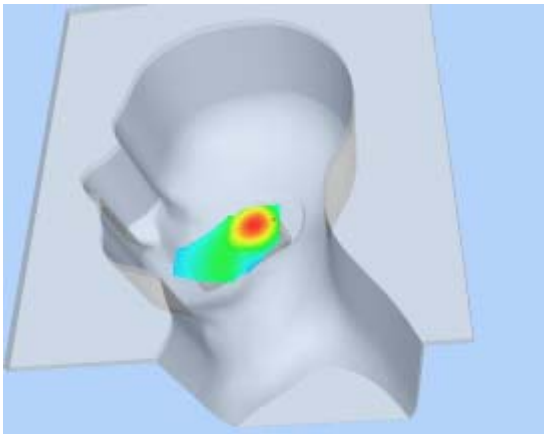
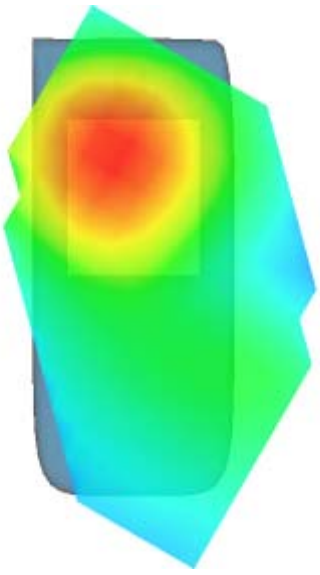
Maximum location: X=-21.00, Y=-7.00

SAR 10g (W/Kg)	0.190812
SAR 1g (W/Kg)	0.361534

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.3804	0.1978	0.0999	0.0514	0.0267	0.0133



3D sceen shot	Hot spot position
	

MEASUREMENT 21

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 26 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 661):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	38.509998
Relative permittivity	13.750000

Conductivity (S/m)	1.436111
Variation (%)	-0.530000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.2°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

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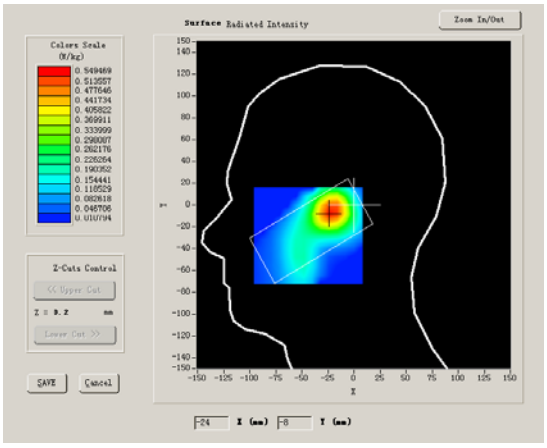
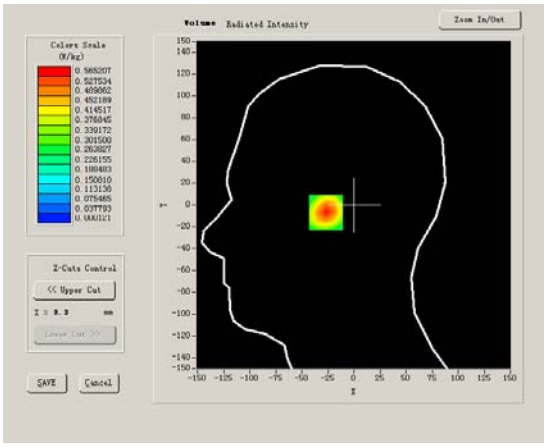
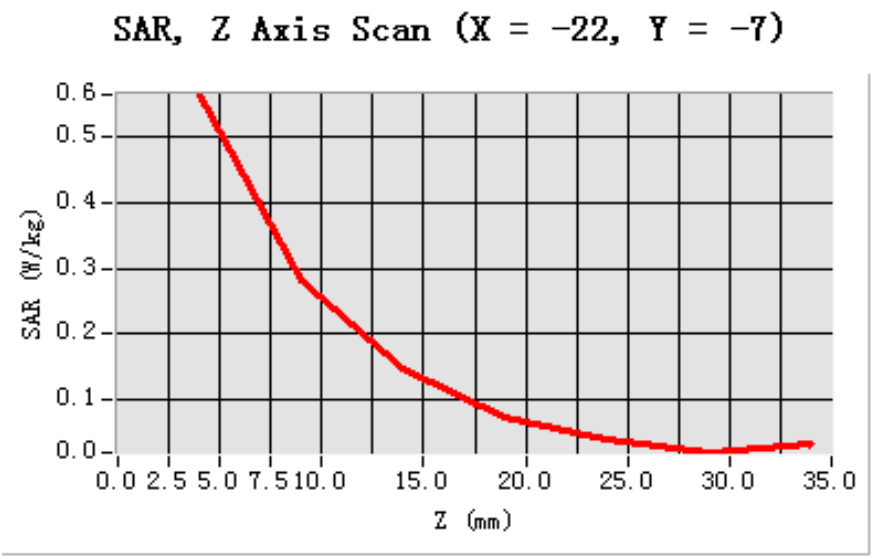
SURFACE SAR	**VOLUME SAR**
	

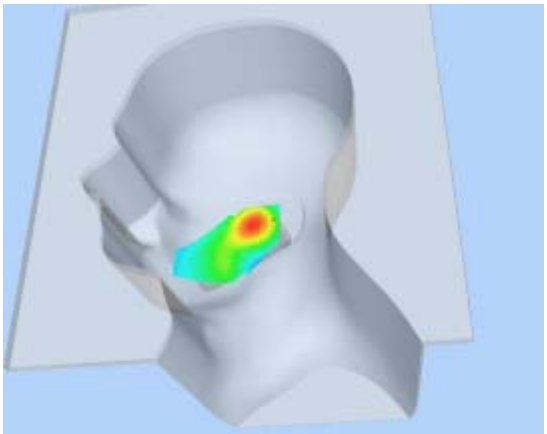
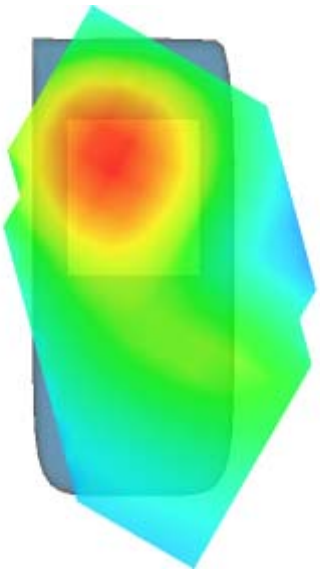
Maximum location: X=-22.00, Y=-7.00

SAR 10g (W/Kg)	0.279351
SAR 1g (W/Kg)	0.535519

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.5652	0.2838	0.1484	0.0747	0.0382	0.0196



3D sceen shot	Hot spot position
	

MEASUREMENT 22

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 24 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 810):

Frequency (MHz)	1909.800049
Relative permittivity (real part)	39.929001
Relative permittivity	13.156500

Conductivity (S/m)	1.395905
Variation (%)	-3.080000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.2°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

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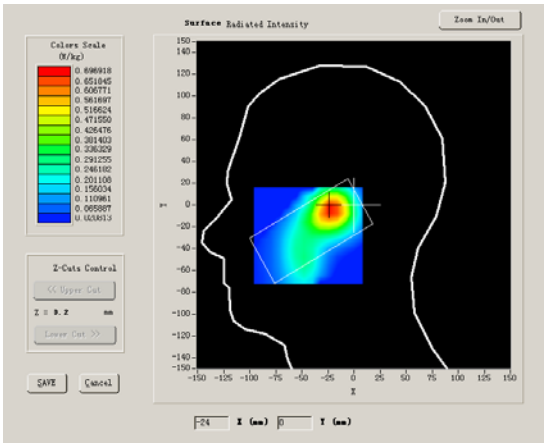
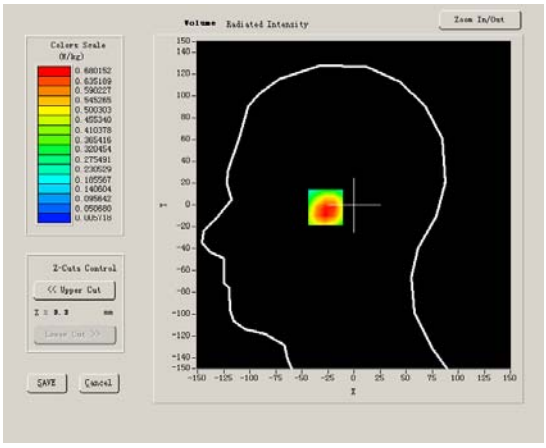
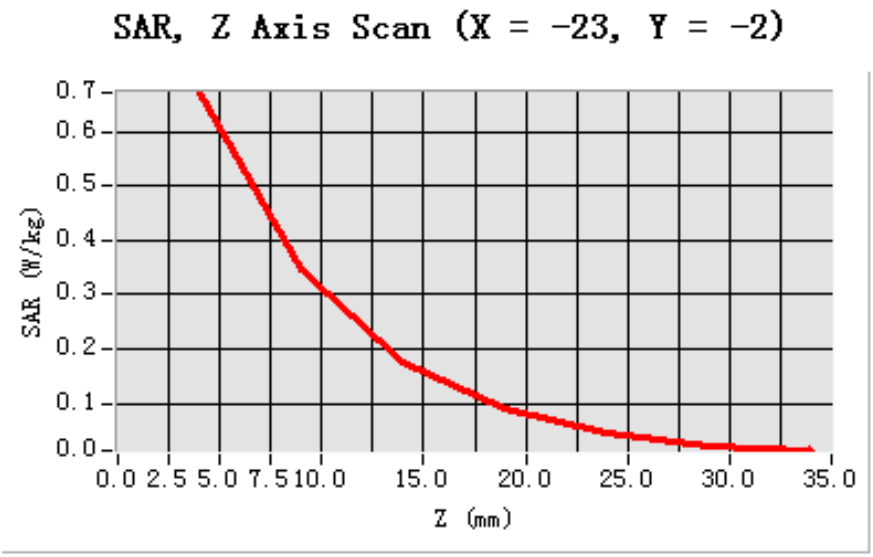
SURFACE SAR	**VOLUME SAR**
	

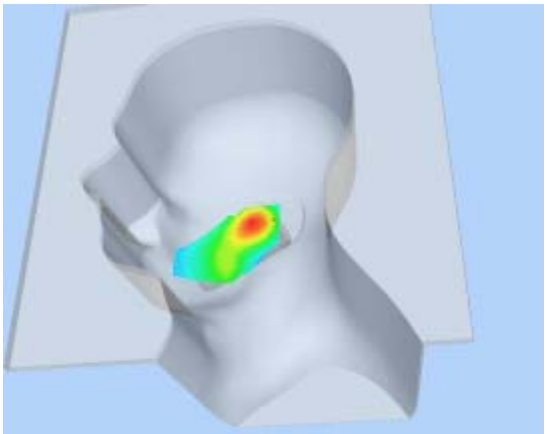
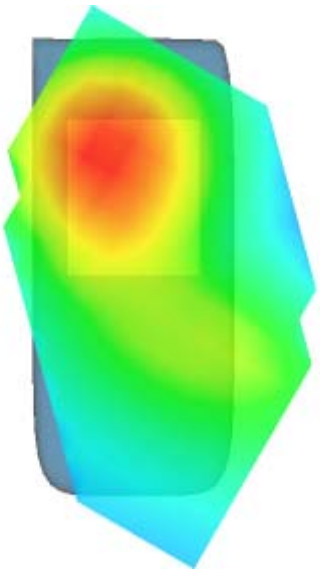
Maximum location: X=-23.00, Y=-2.00

SAR 10g (W/Kg)	0.350159
SAR 1g (W/Kg)	0.666364

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.6714	0.3485	0.1759	0.0893	0.0476	0.0228



3D sceen shot	Hot spot position
	

MEASUREMENT 23

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 8 minutes 0 seconds

A. Experimental conditions.

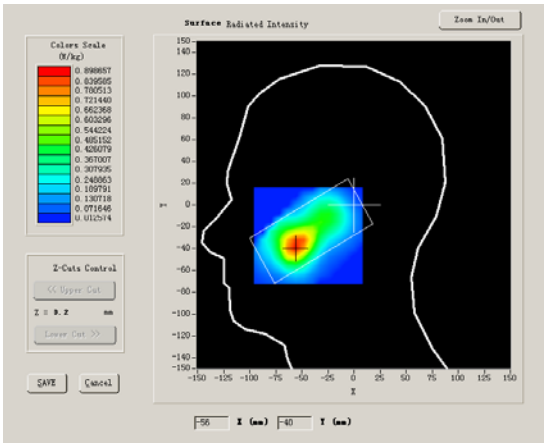
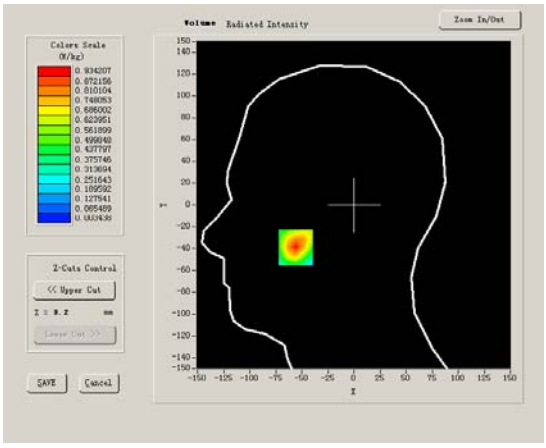
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 512):

Frequency (MHz)	1850.199951
Relative permittivity (real part)	39.993999
Relative permittivity	12.991650

Conductivity (S/m)	1.335397
Variation (%)	-0.210000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.2°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

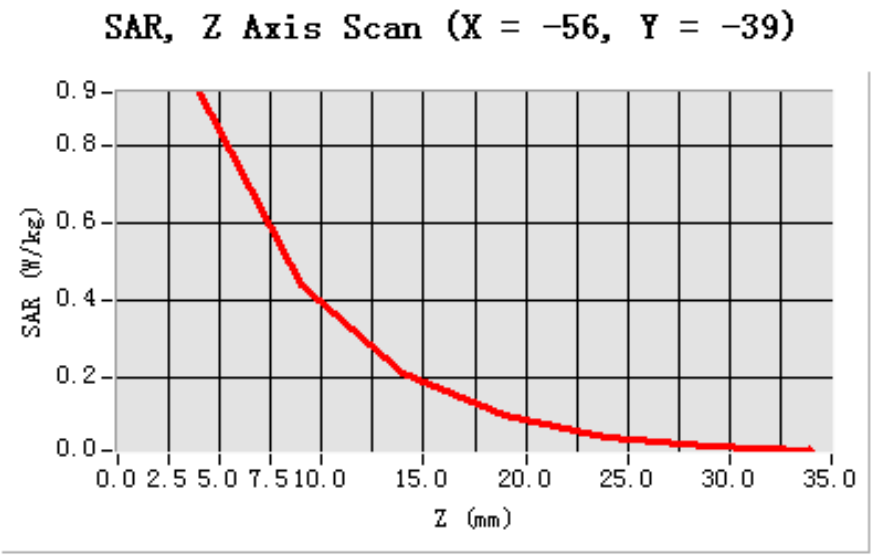
SURFACE SAR	**VOLUME SAR**
	

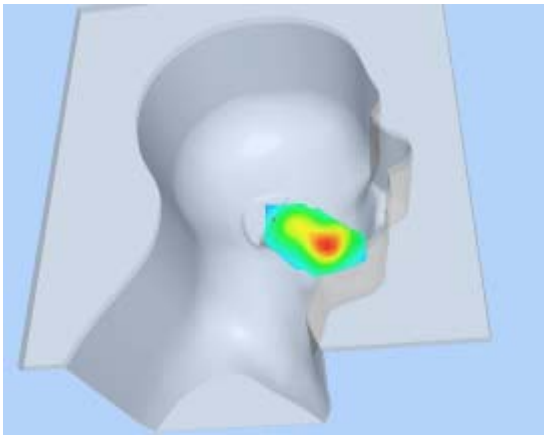
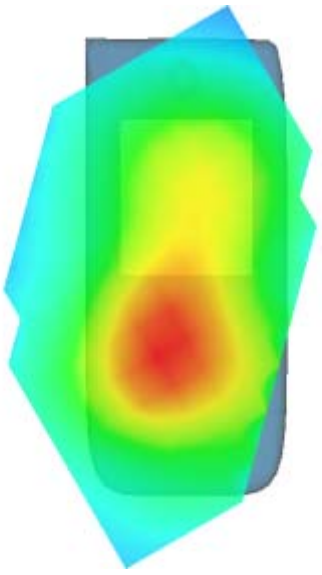
Maximum location: X=-56.00, Y=-39.00

SAR 10g (W/Kg)	0.433492
SAR 1g (W/Kg)	0.875617

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.9342	0.4379	0.2109	0.0991	0.0474	0.0214



3D sceen shot	Hot spot position
	

MEASUREMENT 24

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 58 seconds

A. Experimental conditions.

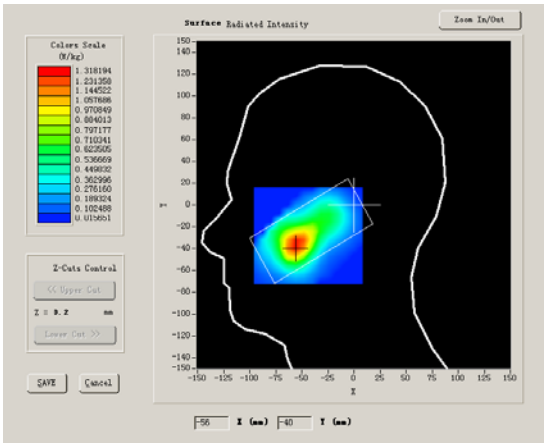
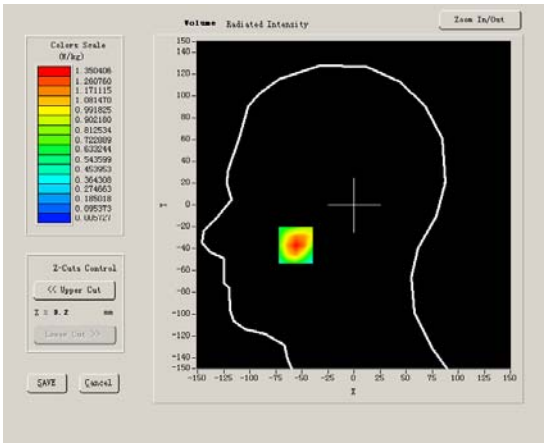
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 661):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	38.509998
Relative permittivity	13.750000

Conductivity (S/m)	1.436111
Variation (%)	0.840000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.2°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

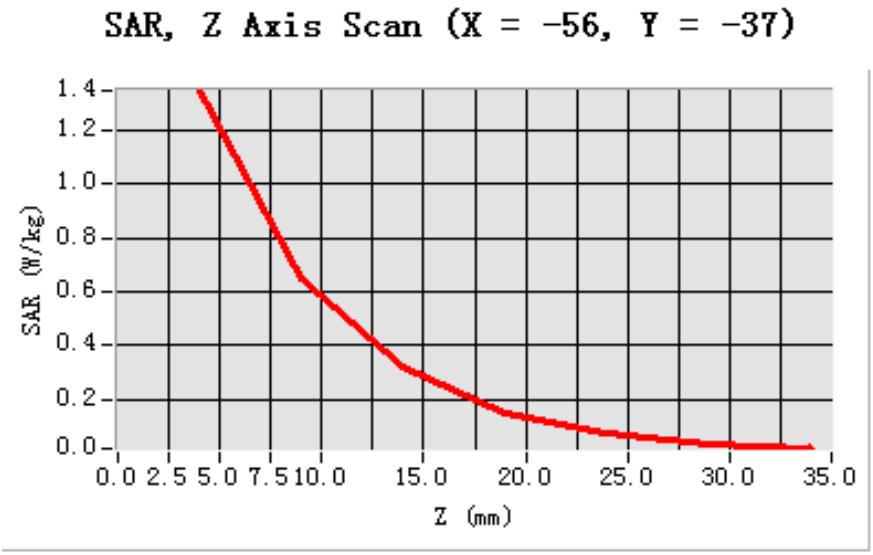
SURFACE SAR	**VOLUME SAR**
	

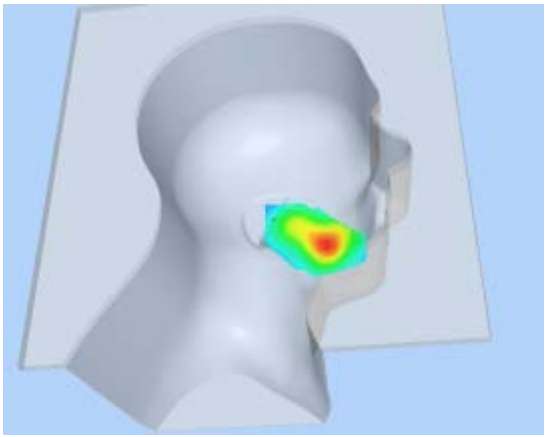
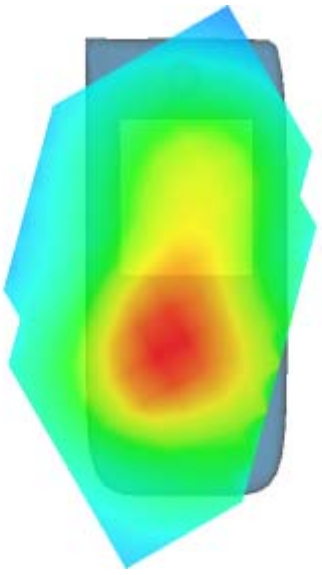
Maximum location: X=-56.00, Y=-37.00

SAR 10g (W/Kg)	0.644593
SAR 1g (W/Kg)	1.278245

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.3504	0.6474	0.3186	0.1450	0.0708	0.0313



3D sceen shot	Hot spot position
	

MEASUREMENT 25

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 8 minutes 0 seconds

A. Experimental conditions.

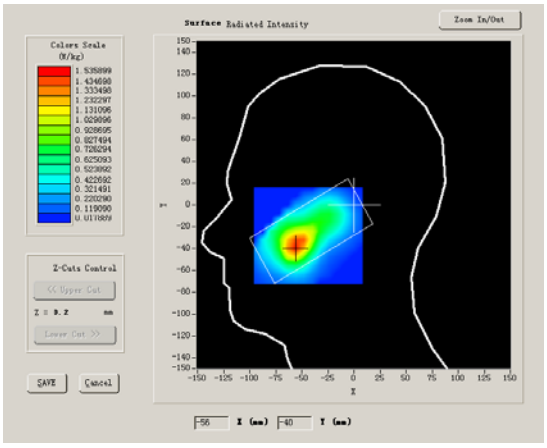
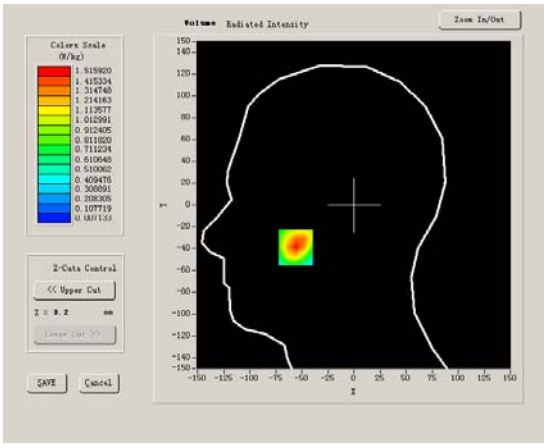
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 810):

Frequency (MHz)	1909.800049
Relative permittivity (real part)	39.929001
Relative permittivity	13.156500

Conductivity (S/m)	1.395905
Variation (%)	-0.950000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.2°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

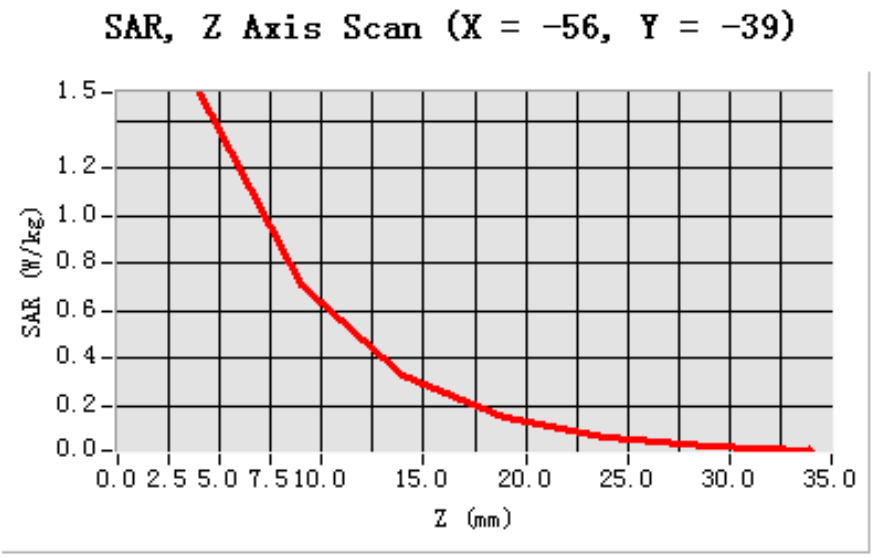
SURFACE SAR	**VOLUME SAR**
	

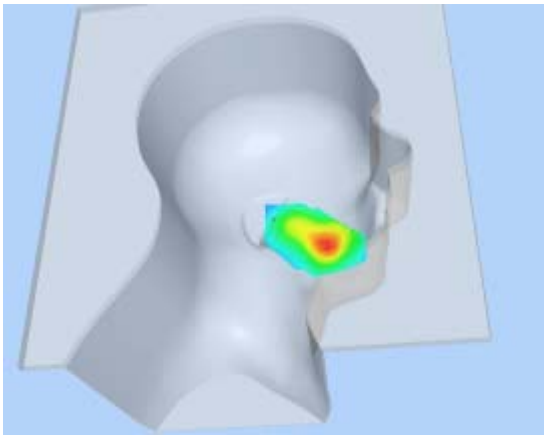
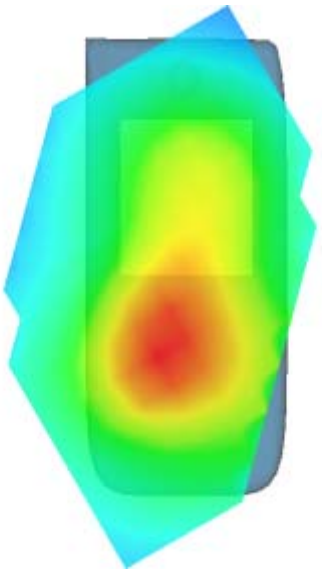
Maximum location: X=-56.00, Y=-39.00

SAR 10g (W/Kg)	0.716821
SAR 1g (W/Kg)	1.437763

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.5159	0.7100	0.3296	0.1534	0.0753	0.0335



3D sceen shot	Hot spot position
	

MEASUREMENT 26

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 30 seconds

A. Experimental conditions.

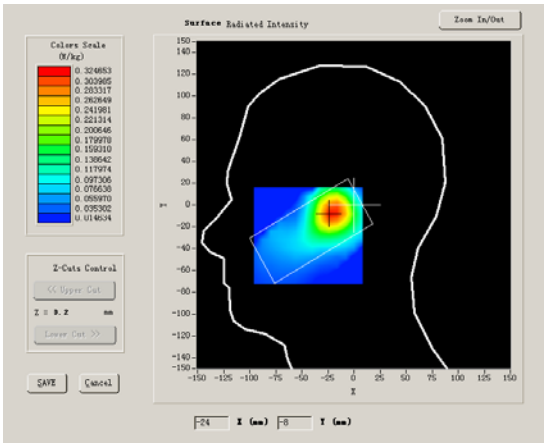
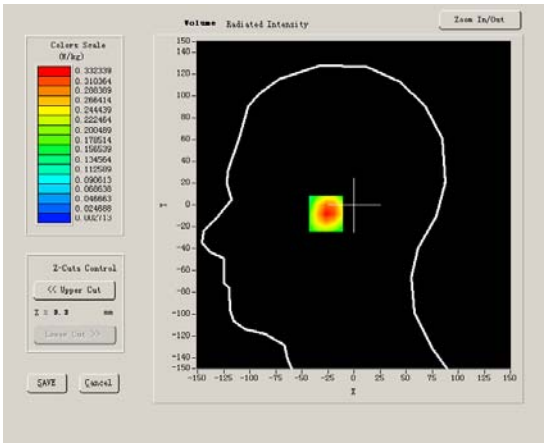
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM1900
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 512):

Frequency (MHz)	1850.199951
Relative permittivity (real part)	39.993999
Relative permittivity	12.991650

Conductivity (S/m)	1.335397
Variation (%)	-0.970000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.2°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

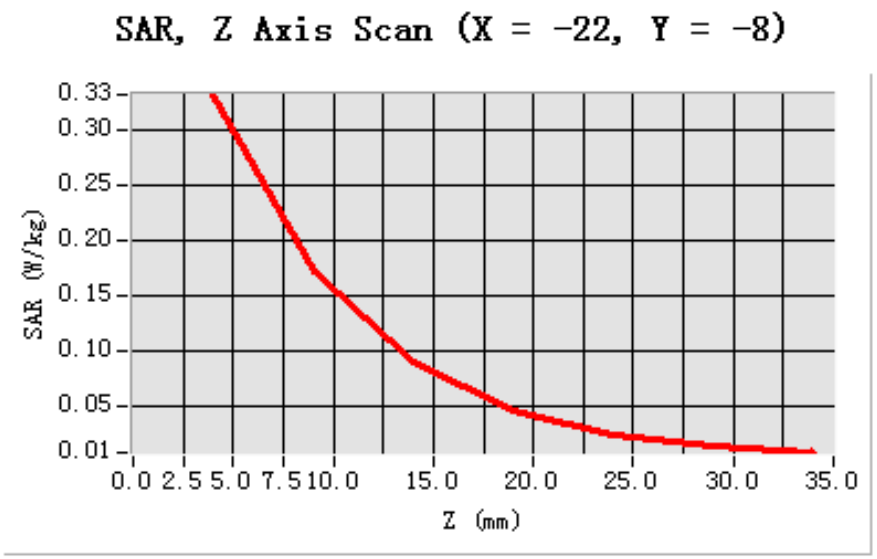
SURFACE SAR	**VOLUME SAR**
	

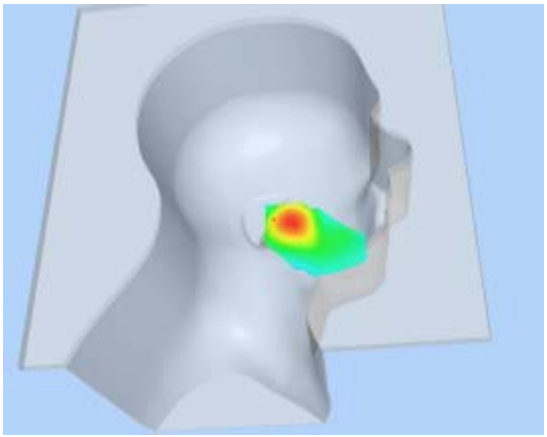
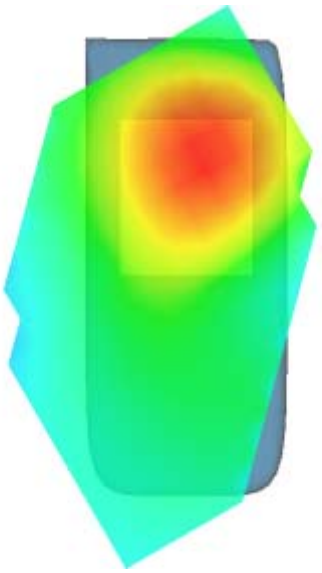
Maximum location: X=-22.00, Y=-8.00

SAR 10g (W/Kg)	0.167378
SAR 1g (W/Kg)	0.316533

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.3323	0.1713	0.0899	0.0461	0.0238	0.0131



3D sceen shot	Hot spot position
	

MEASUREMENT 27

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 20 seconds

A. Experimental conditions.

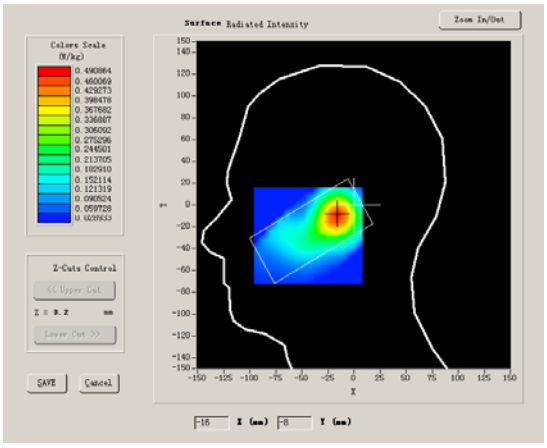
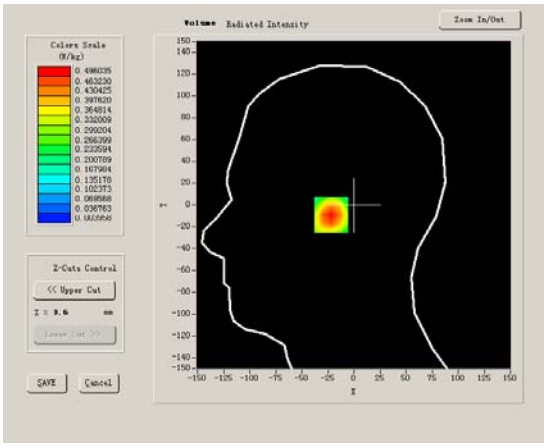
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM1900
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 661):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	38.509998
Relative permittivity	13.750000

Conductivity (S/m)	1.436111
Variation (%)	0.430000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.2°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

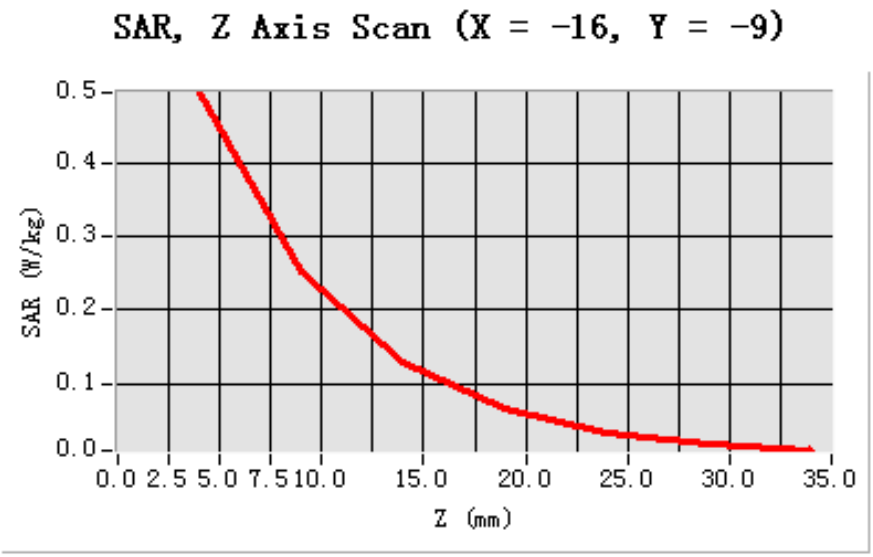
SURFACE SAR	**VOLUME SAR**
	

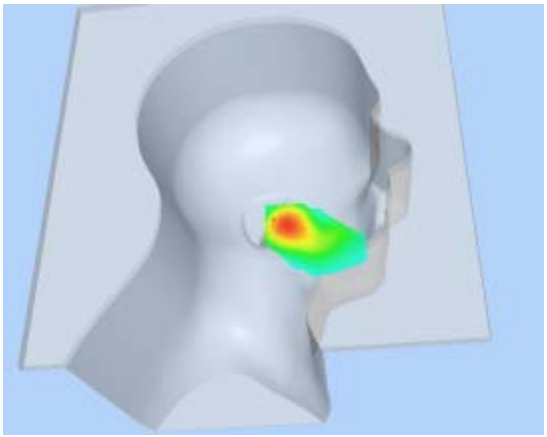
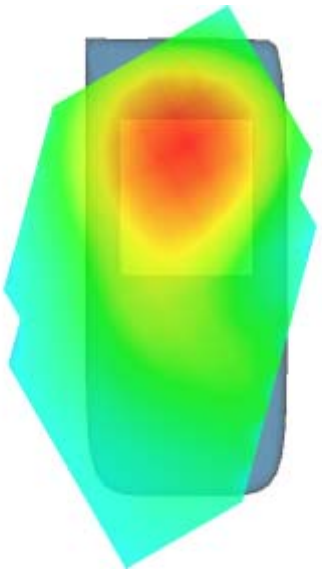
Maximum location: X=-16.00, Y=-9.00

SAR 10g (W/Kg)	0.250050
SAR 1g (W/Kg)	0.475285

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.4960	0.2511	0.1278	0.0655	0.0336	0.0176



3D sceen shot	Hot spot position
	

MEASUREMENT 28

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 7 minutes 15 seconds

A. Experimental conditions.

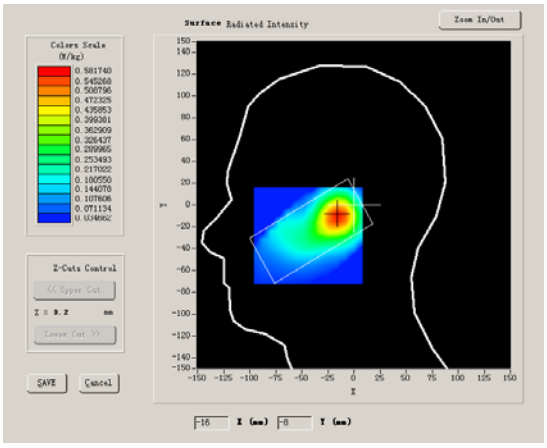
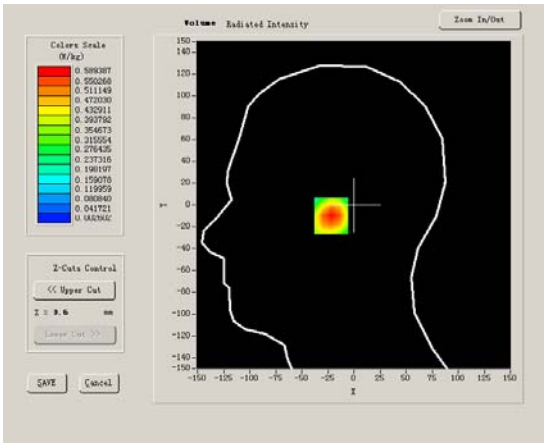
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM1900
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 810):

Frequency (MHz)	1909.800049
Relative permittivity (real part)	39.929001
Relative permittivity	13.156500

Conductivity (S/m)	1.395905
Variation (%)	-0.390000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.2°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

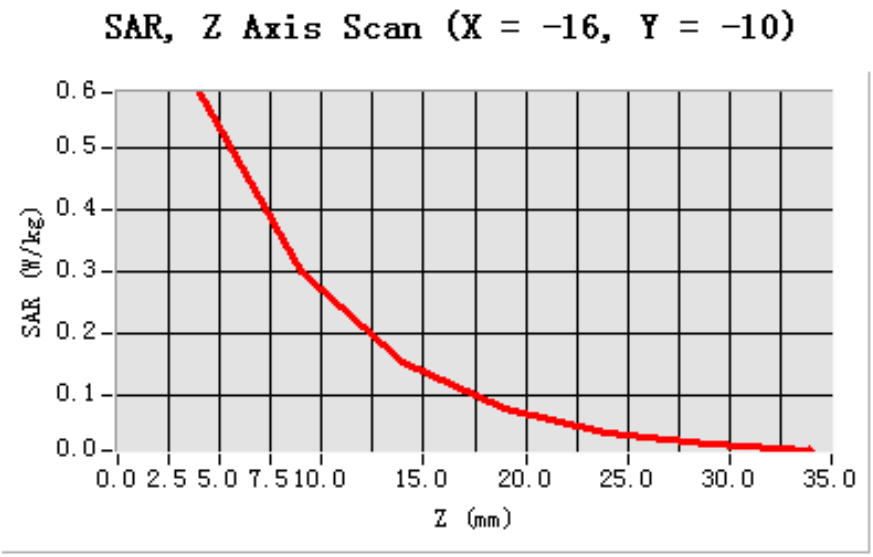
SURFACE SAR	**VOLUME SAR**
	

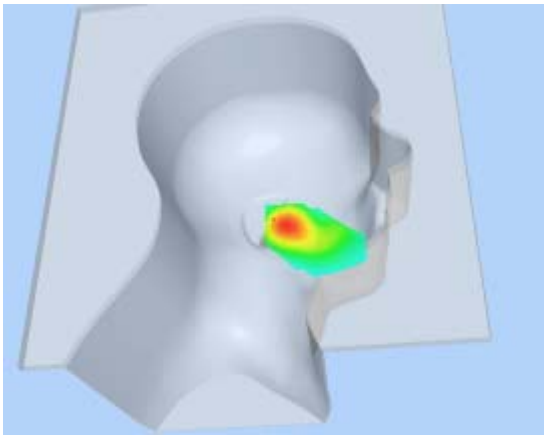
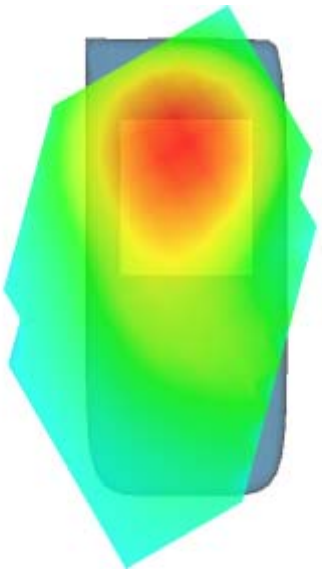
Maximum location: X=-16.00, Y=-10.00

SAR 10g (W/Kg)	0.297829
SAR 1g (W/Kg)	0.561223

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.5894	0.2991	0.1521	0.0776	0.0396	0.0208



3D sceen shot	Hot spot position
	

MEASUREMENT 29

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 9 minutes 14 seconds

A. Experimental conditions.

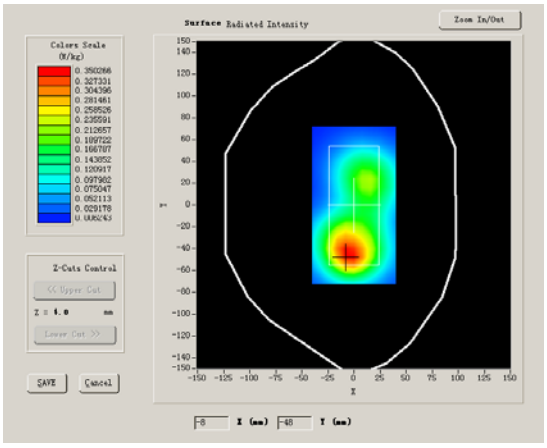
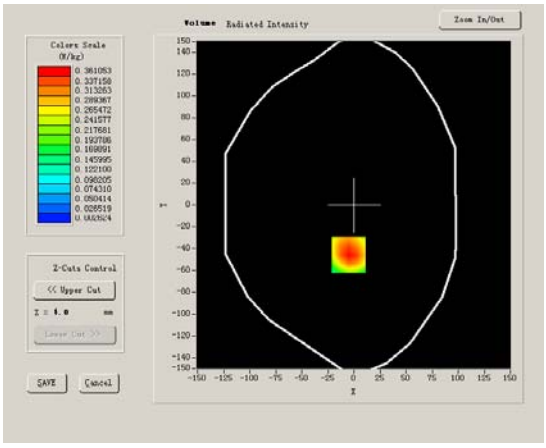
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 512):

Frequency (MHz)	1850.199951
Relative permittivity (real part)	51.540001
Relative permittivity	15.070000

Conductivity (S/m)	1.549029
Variation (%)	0.120000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.2°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

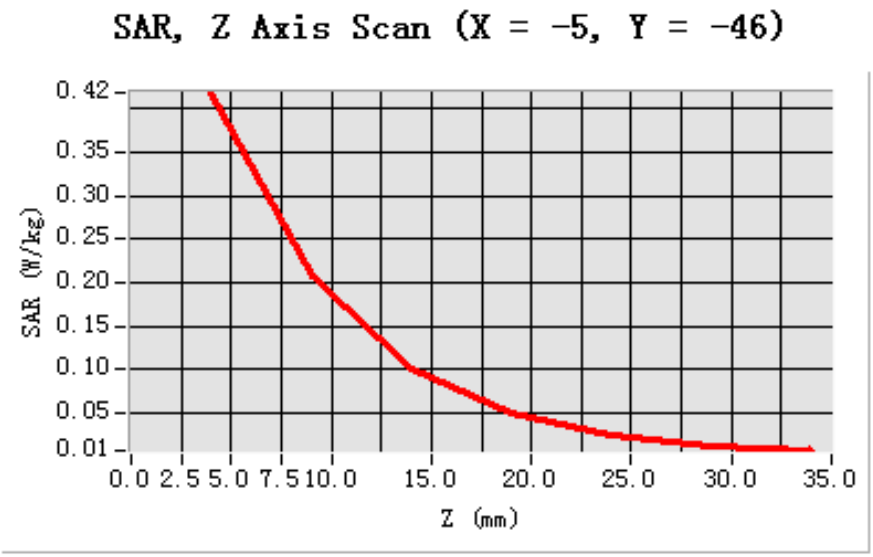
SURFACE SAR	**VOLUME SAR**
	

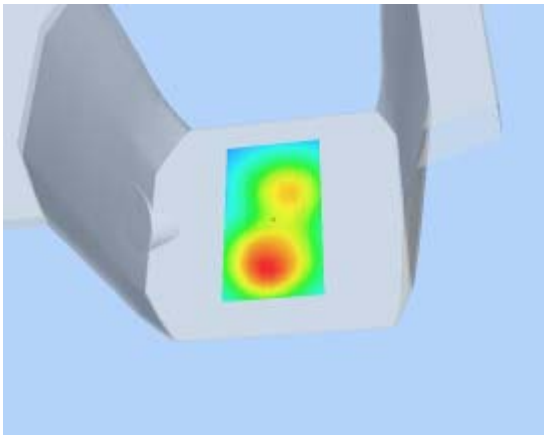
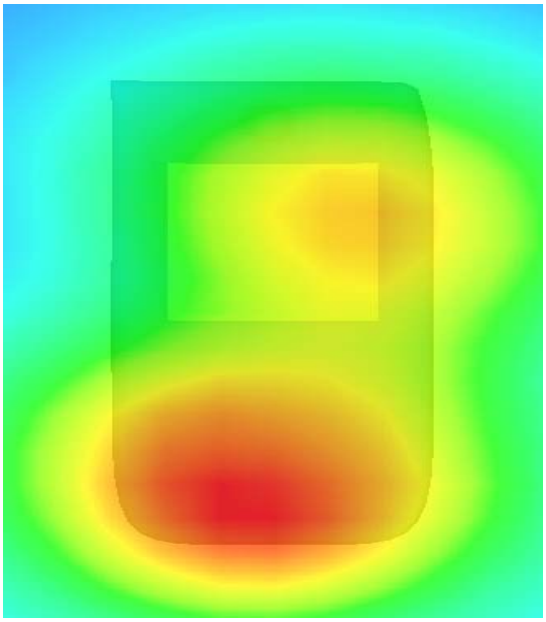
Maximum location: X=-5.00, Y=-46.00

SAR 10g (W/Kg)	0.213307
SAR 1g (W/Kg)	0.402703

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.4188	0.2064	0.0996	0.0486	0.0247	0.0121



3D sceen shot	Hot spot position
	

MEASUREMENT 30

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 9 minutes 3 seconds

A. Experimental conditions.

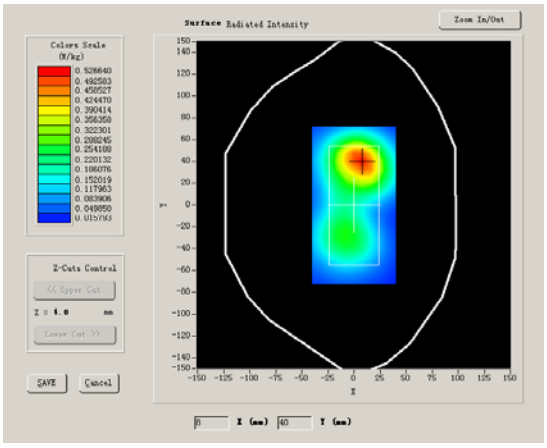
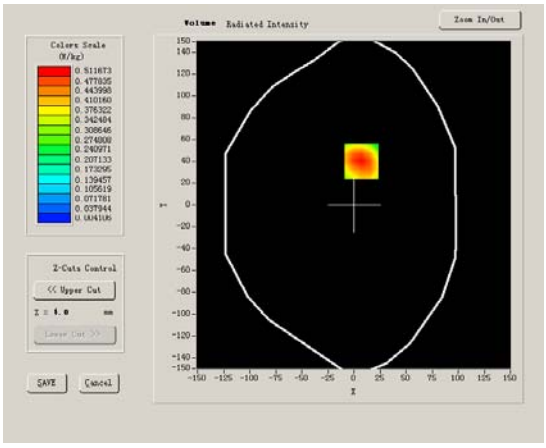
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 661):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	51.540001
Relative permittivity	15.070000

Conductivity (S/m)	1.573978
Variation (%)	-0.490000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.2°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

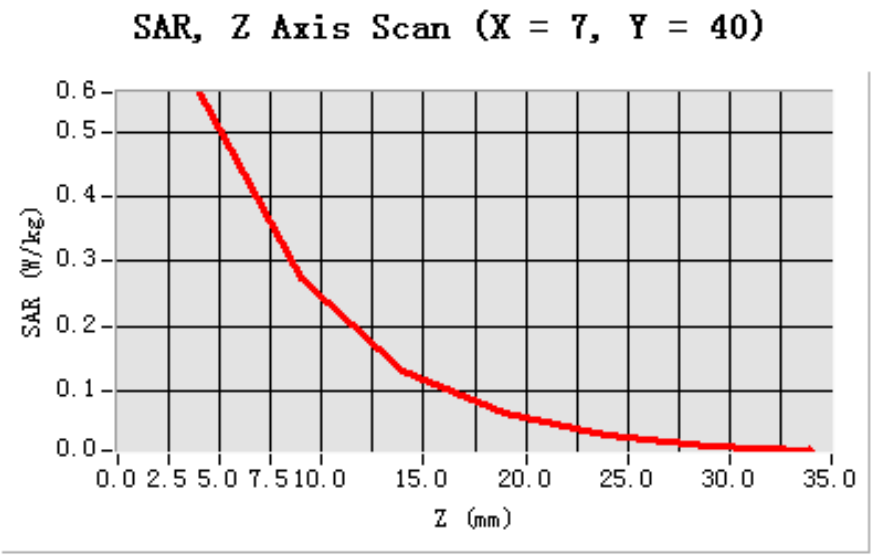
SURFACE SAR	**VOLUME SAR**
	

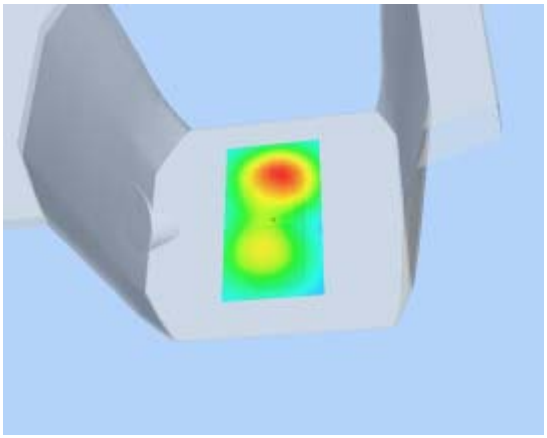
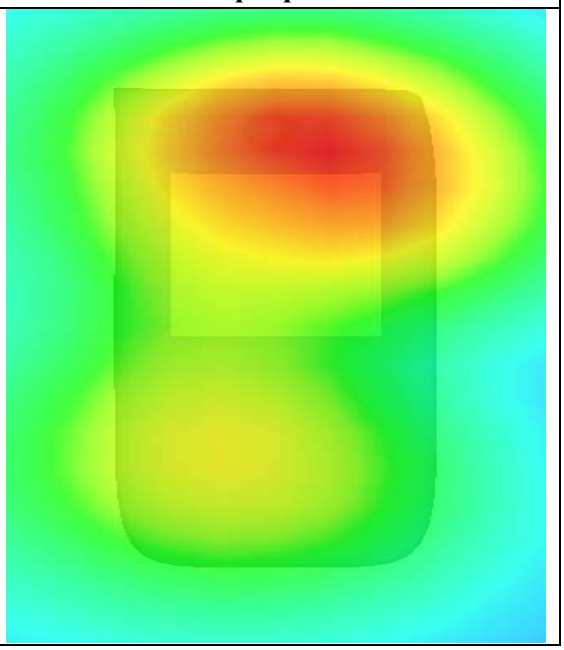
Maximum location: X=7.00, Y=40.00

SAR 10g (W/Kg)	0.286902
SAR 1g (W/Kg)	0.540647

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.5608	0.2731	0.1297	0.0645	0.0312	0.0161



3D sceen shot	Hot spot position
	

MEASUREMENT 31

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 9 minutes 4 seconds

A. Experimental conditions.

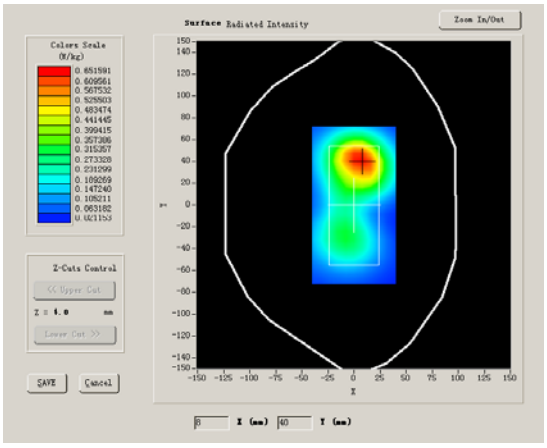
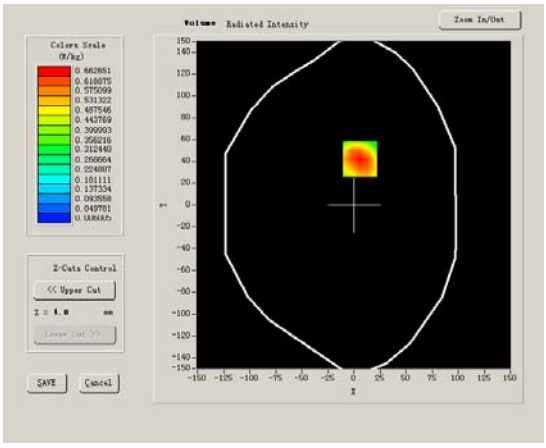
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 810):

Frequency (MHz)	1909.800049
Relative permittivity (real part)	51.540001
Relative permittivity	15.070000

Conductivity (S/m)	1.598927
Variation (%)	0.880000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.2°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

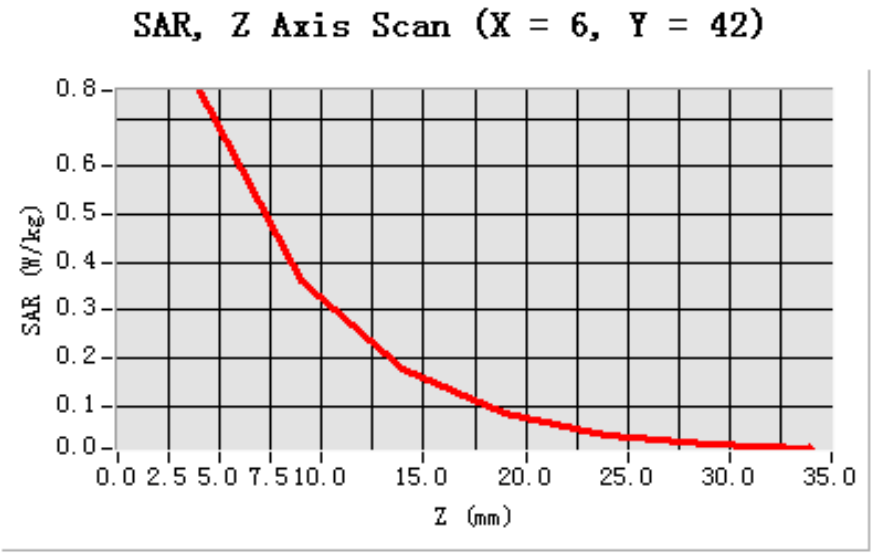
SURFACE SAR	**VOLUME SAR**
	

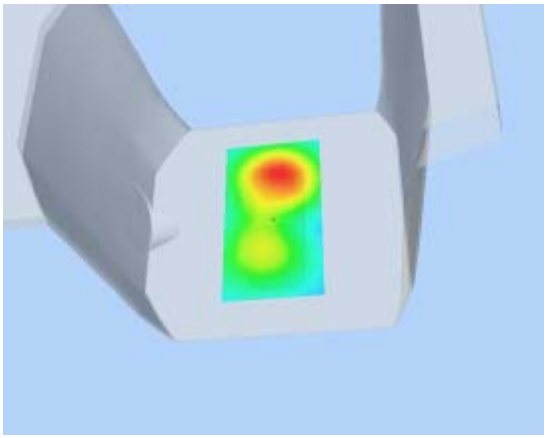
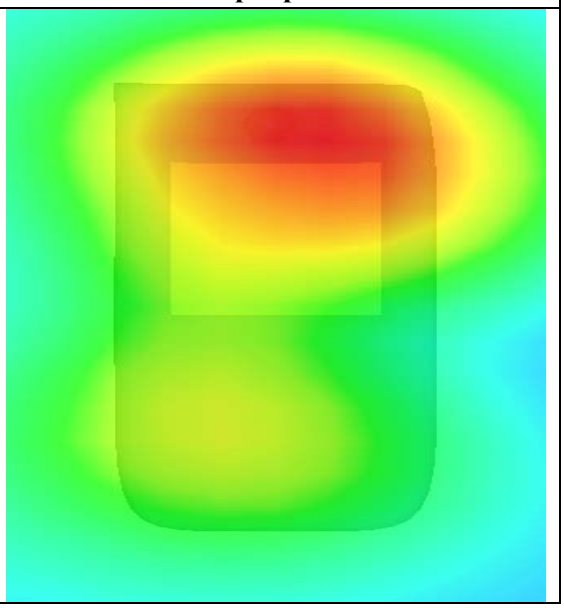
Maximum location: X=6.00, Y=42.00

SAR 10g (W/Kg)	0.384223
SAR 1g (W/Kg)	0.729188

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7590	0.3602	0.1765	0.0855	0.0397	0.0204



3D sceen shot	Hot spot position
	

MEASUREMENT 32

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 9 minutes 3 seconds

A. Experimental conditions.

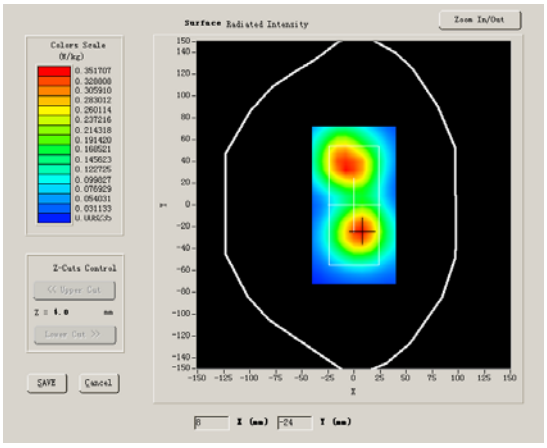
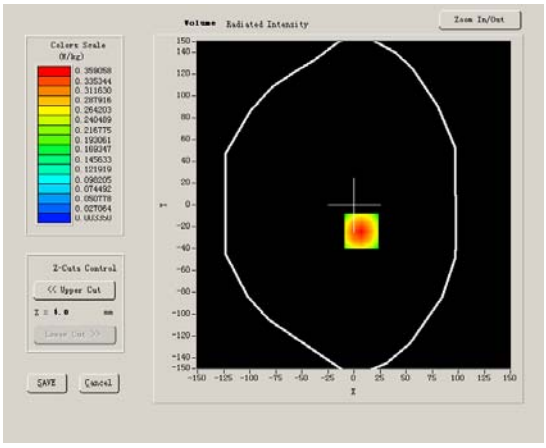
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 810):

Frequency (MHz)	1909.800049
Relative permittivity (real part)	51.540001
Relative permittivity	15.070000

Conductivity (S/m)	1.598927
Variation (%)	-0.340000
Ambient Temperature:	21.4°C
Liquid Temperature:	21.2°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

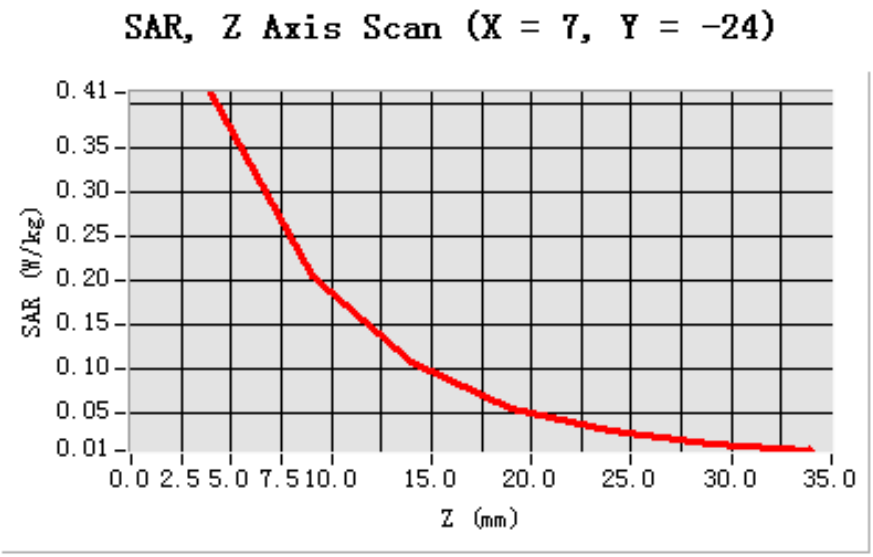
SURFACE SAR	**VOLUME SAR**
	

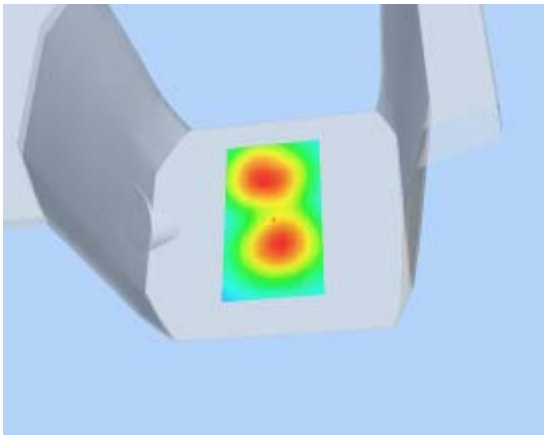
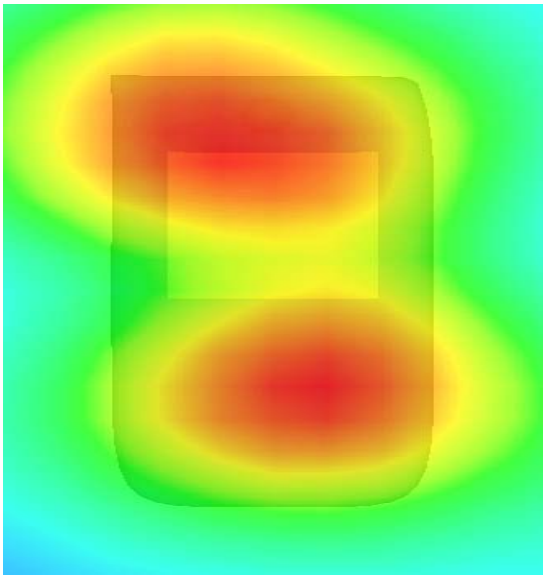
Maximum location: X=7.00, Y=-24.00

SAR 10g (W/Kg)	0.210162
SAR 1g (W/Kg)	0.391801

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.4113	0.2056	0.1067	0.0561	0.0306	0.0149



3D sceen shot	Hot spot position
	

System Performance Check Data(Head)

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 13 minutes 27 seconds

A. Experimental conditions.

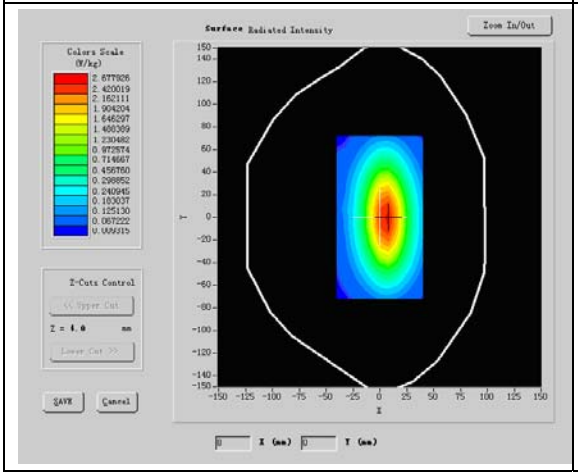
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	
Band	835MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

Frequency (MHz)	835.000000
Relative permittivity (real part)	40.669998
Relative permittivity	15.070000

Conductivity (S/m)	0.888655
Power Drift (%)	-0.050000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.5°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:1

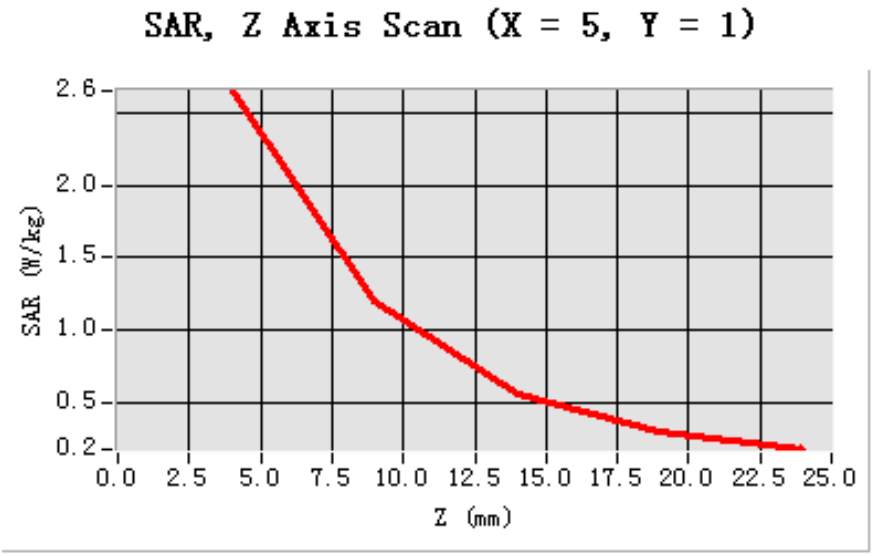
SURFACE SAR	VOLUME SAR
	

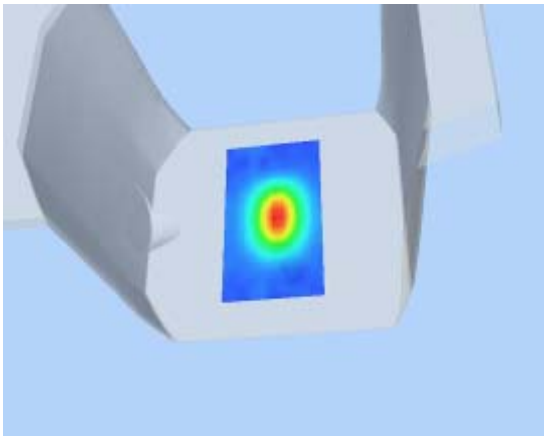
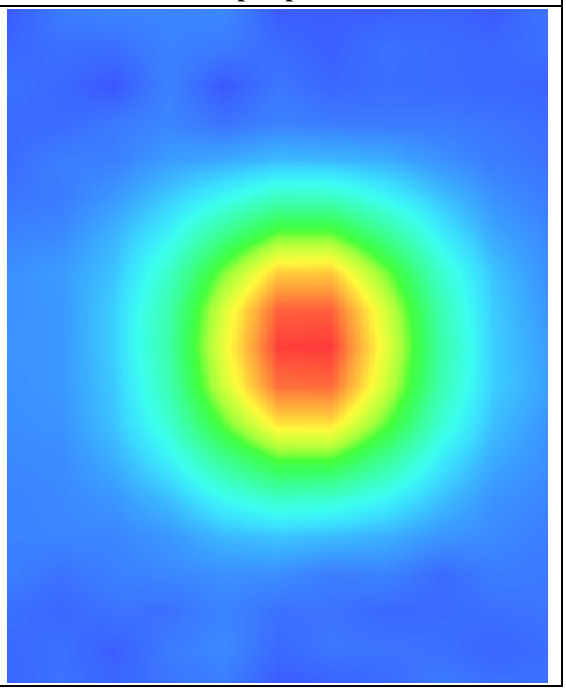
Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	1.715223
SAR 1g (W/Kg)	2.677926

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	2.6486	1.2069	0.5583	0.3002



3D sceen shot	Hot spot position
	

System Performance Check Data(body)

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 13 minutes 27 seconds

A. Experimental conditions.

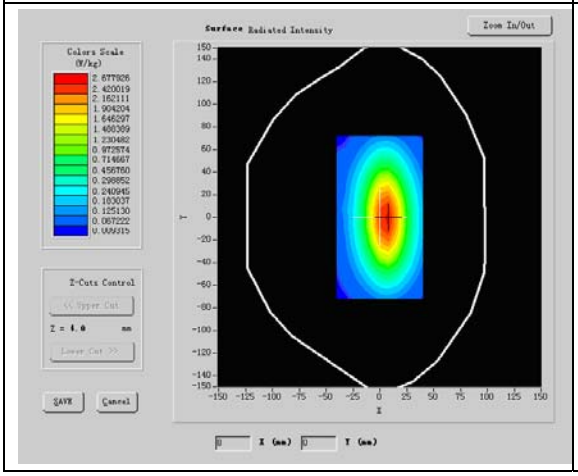
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	
Band	835MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

Frequency (MHz)	835.000000
Relative permittivity (real part)	40.490002
Relative permittivity	15.070000

Conductivity (S/m)	0.983918
Power Drift (%)	-0.050000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.5°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:1

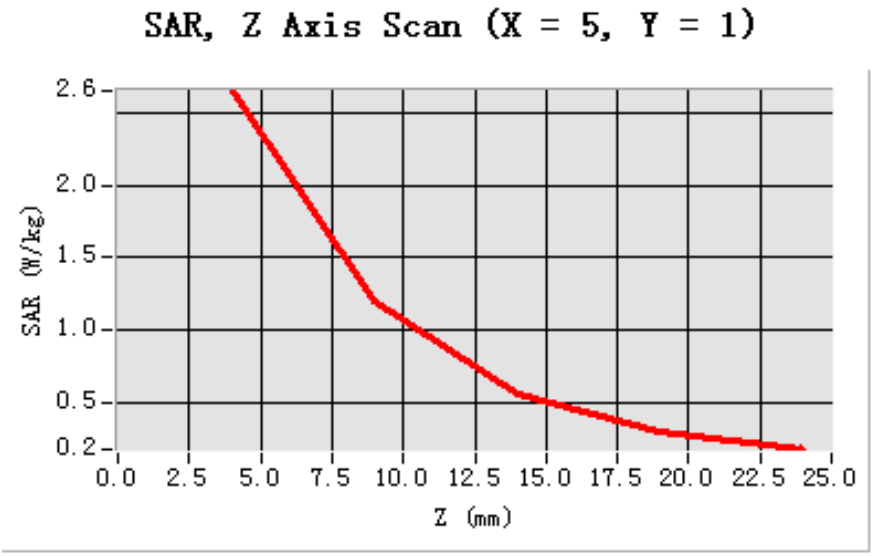
SURFACE SAR	VOLUME SAR
	

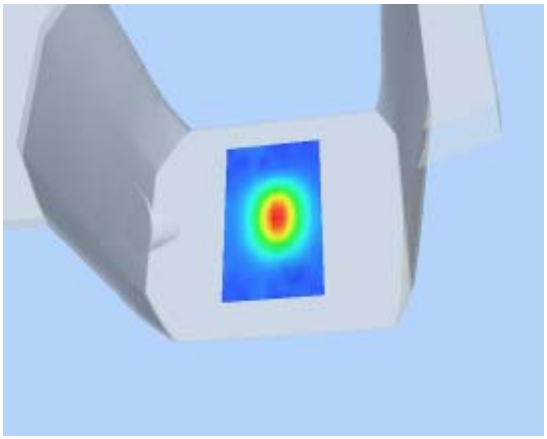
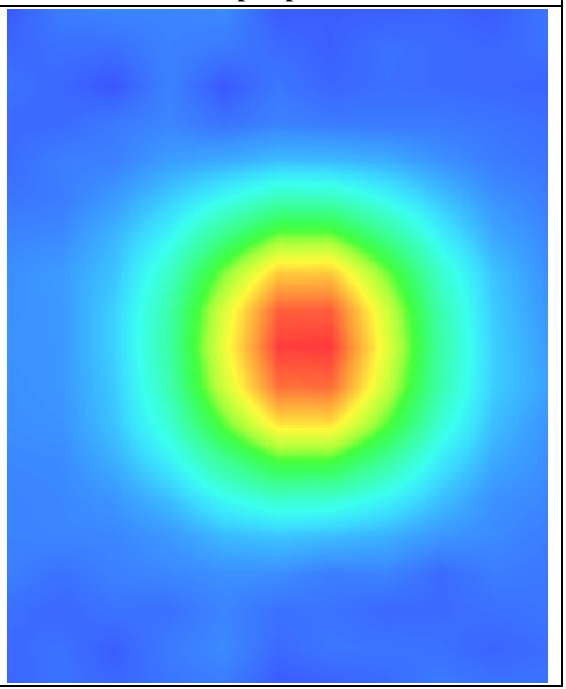
Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	1.715223
SAR 1g (W/Kg)	2.677926

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	2.6486	1.2069	0.5583	0.3002



3D sceen shot	Hot spot position
	

System Performance Check Data(Head)

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 13 minutes 27 seconds

A. Experimental conditions.

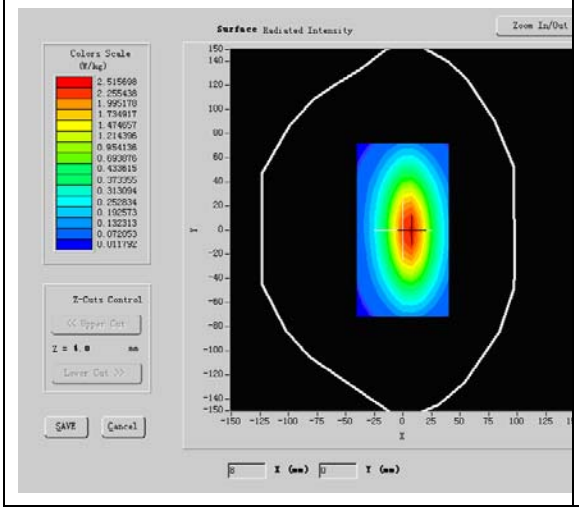
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	
Band	1800MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR:

Frequency (MHz)	1800.000000
Relative permittivity (real part)	38.509998
Relative permittivity	15.070000

Conductivity (S/m)	1.321229
Power Drift (%)	-0.140000
Ambient Temperature:	22.3°C
Liquid Temperature:	22.6°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:1

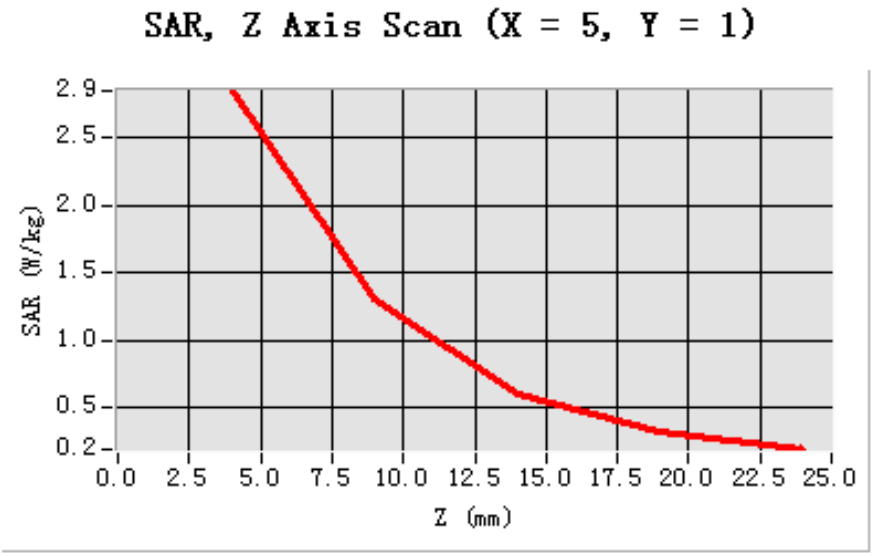
SURFACE SAR	**VOLUME SAR**
	

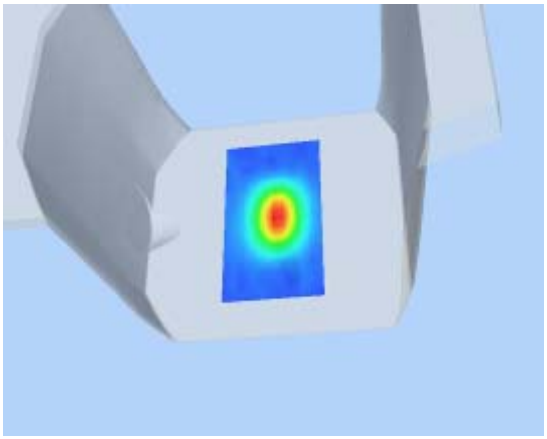
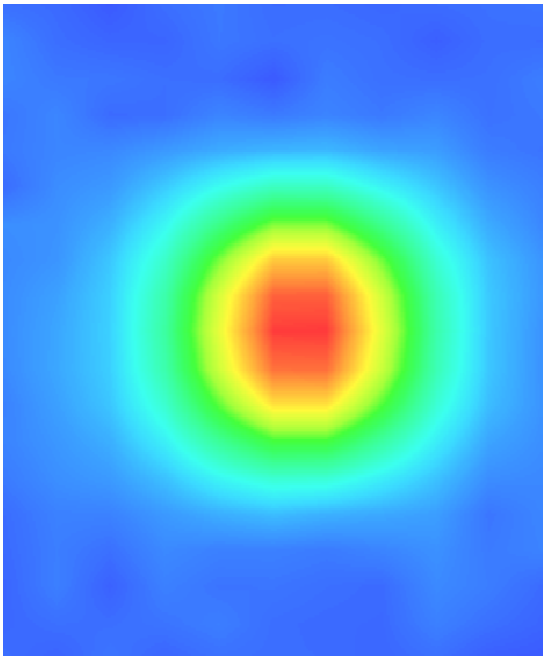
Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	4.910003
SAR 1g (W/Kg)	8.455521

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	2.8536	1.3061	0.6041	0.3211



3D sceen shot	Hot spot position
	

System Performance Check Data(Body)

Type: Phone measurement (Complete)

Area scan resolution: dx=8mm,dy=8mm

Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 9/3/2011

Measurement duration: 13 minutes 27 seconds

A. Experimental conditions.

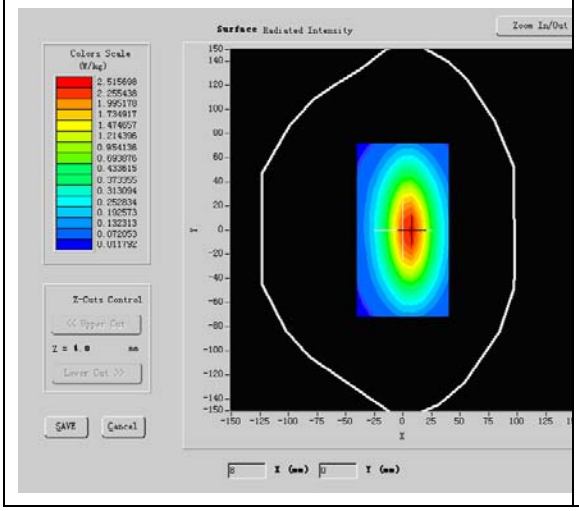
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	
Band	1800MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR:

Frequency (MHz)	1800.000000
Relative permittivity (real part)	52.548876
Relative permittivity	15.070000

Conductivity (S/m)	1.573978
Power Drift (%)	-0.140000
Ambient Temperature:	22.3°C
Liquid Temperature:	22.6°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:1

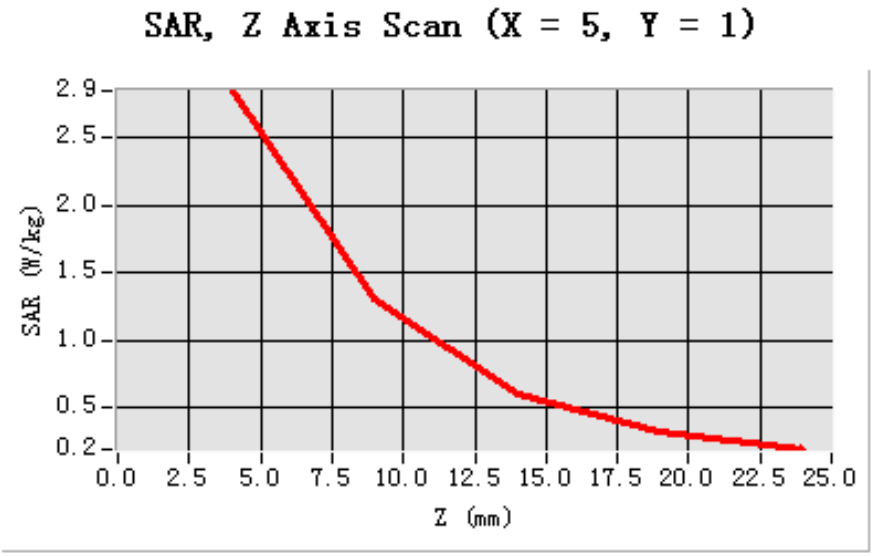
SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	4.910003
SAR 1g (W/Kg)	8.455521

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	2.8536	1.3061	0.6041	0.3211



3D sceen shot	Hot spot position