FCC SAR

TEST REPORT

of

GSM Dual Band GPRS Function Digital Mobile Phone

Model Name: T710
Trade Name: HUAWEI
Report No.: SZ09010014S01
FCC ID: QIST710

prepared for

HUAWEI TECHNOLOGIES CO.,LTD.
Administration Building, Huawei Base, Bantian, Longgang District, Shenzhen 518129

Prepared by:

Shenzhen Electronic Product Quality Testing Center
Morlab Laboratory
3/F, Electronic Testing Building, Shahe Road, Xili,
Nanshan District, Shenzhen, 518055, P.R. China
Tel: +86 755 86130398
Fax: +86 755 86130218

Contents

1. General Information

1.1. Notes

The test results of this test report relate exclusively to the information specified in section 3.3. Shenzhen Electronic Product Quality Testing Center 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 Electronic Product Quality Testing Center 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.:	SZ09010014S01
Date of Issue:	Jan 14, 2009
Date of Tests:	Jan 12, 2009 – Jan 12, 2009
Responsible for Accreditation:	Mr. Shu Luan
Project Manager:	Li Lei
Deputy Project Manager:	Liao Jianming

1.3. Conclusion

Shenzhen Electronic Product Quality Testing Center Morlab Laboratory has verified that all tests as listed in the section 4.5 of this report haven been performed successfully with the tested equipment.

Li Lei
Tested by
(Responsible for the Test Report)

Liao Jianming
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 Electronic Product Quality Testing Center
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 Electronic Product Quality Testing Center 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 (see Annex A)

2.4. List of Test Equipments

No.	Instrument	Type
1	PC	Dell (Pentium IV 2.4GHz, SN:X10-23533)
2	Network Emulator	Rohde&Schwarz (CMU200, SN:105894)
3	Voltmeter	Keithley (2000, SN:1000572)
4	Synthetizer	Rohde&Schwarz (SML_03, SN:101868)
5	Amplifier	Nucl 閏 udes (ALB216, SN:10800)
6	Power Meter	Rohde&Schwarz (NRVD, SN:101066)
7	Probe	Antennessa (SN:SN_3708_EP80)
8	Phantom	Antennessa (SN:SN_36_08_SAM62)
9	Liquid	Antennessa (Last Calibration:21 08 04)

3. Technical Information

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

3.1. Identification of Applicant

Company Name:	HUAWEI TECHNOLOGIES CO.,LTD.
Address:	Administration Building，Huawei Base, Bantian, Longgang District, Shenzhen 518129
Contact Person:	Dong Zhe
Telephone:	+86 755 36835741
Facsimile:	+86 755 36834474
E-mail:	dzhe@huawei.com

3.2. Identification of Manufacturer

Company Name:	HUAWEI TECHNOLOGIES CO.,LTD
Address:	Administration Building，Huawei Base, Bantian, Longgang District, Shenzhen 518129
Contact Person:	Dong Zhe
Telephone:	+86 755 36835741
Facsimile:	+86 755 36834474
E-mail:	dzhe@huawei.com

3.3. Equipment Under Test (EUT)

Brand Name:	HUAWEI
Type Name:	HUAWEI
Marking Name:	T710
Hardware Version:	V2.0
Software Version:	T710CA.P00.M11.00.12
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:	GMSK
Antenna type:	Build inside
Multislot Class	GPRS:10
Battery Model:	HB5E1
Battery specification:	700mAh 3.7V
Development Stage	identical prototype

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	IMEI	Hardware Version	Software Version
1#	135790246811220	V2.0	T710CA.P00.M11.00.12
2#	135790246811220	V2.0	T710CA.P00.M11.00.12

4. Test Results

4.1. 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.

4.2. Test Environment/Conditions

Normal Temperature (NT):	20 ... 25 °C		
Relative Humidity:	30 ... 75 %		
Air Pressure:	980 ... 1020 hPa		
Details of Power Supply:	220V/50Hz AC		
Extreme Temperature:	Low Temperature (LT)	=	-10°C
	High Temperature (HT)	=	55°C
Extreme Voltage of the EUT:	Normal Voltage (NV)	=	3.70V
	Low Voltage (LV)	=	3.60V
	High Voltage (HV)	=	4.20V
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 DCS 1800 MHz, The EUT is commanded to operate at maximum transmitting power.
The EUT shall use its internal transmitter. The antenna(s), battery and accessories shall be those specified by the manufacturer. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output. If a wireless link is used, the antenna connected to the output of the base station simulator shall be placed at least 50 cm away from the handset.
The signal transmitted by the simulator to the antenna feeding point shall be lower than the output power level of the handset by at least 35 dB.

4.3.Operational Conditions During Test

4.3.1. Informations On The Testing

I. INFORMATIONS ON THE TESTING

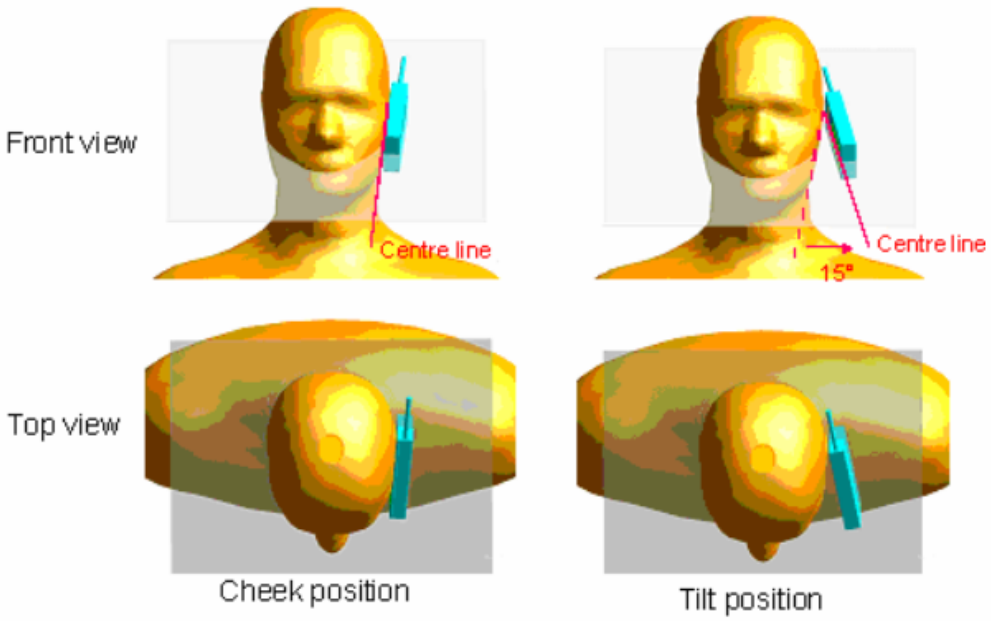
I.1. Normative reference

IEEE 1528: Recommended Practice for determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques. Institute of Electrical and Electronics Engineers, INC., 2003.

I.3. Positions and test conditions of the mobile phone under test

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:

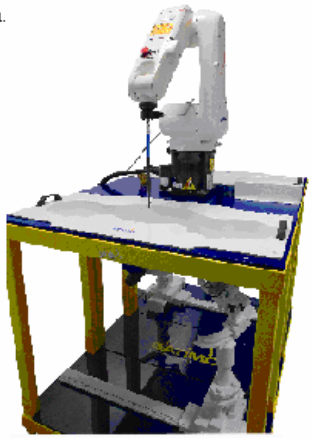
The mobile phone is well place in the “cheek” position as described above. Then the mobile phone is moved outward away from the mouth by an angle of 15 degrees or until contact with the ear lost.

4.3.2. 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.



COMOSAR bench

The mobile phone 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 10 g mass.

II.1. 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 2 mm +/- 0,2 mm. It enables the dosimetric evaluation of left and right hand 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.

II.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 : 2.5 mm
- 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 : <0.50 dB
- Calibration range : 835 to 2500 MHz for head & body simulating liquid
- Angle between probe axis (evaluation axis) and suface normal line : less than 30°

II.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 16 mm * 8 to 16 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.

II.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 minimise 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 1 mm 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.

4.3.3. Uncertainty Assessment

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

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 (+-%)	Vi
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	$\sqrt{3}$	$(1\text{-}Cp)^{1/2}$	$(1\text{-}Cp)^{1/2}$	1.02	1.02	∞
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	$\sqrt{Cp}$	$\sqrt{Cp}$	1.63	1.63	∞
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	E.2.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
System detection limits	E.2.5	1.0	R	$\sqrt{3}$	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	$\sqrt{3}$	1	1	1.73	1.73	∞
Integration Time	E.2.8	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
RF ambient Conditions	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Extrapolation, interpolation and integration Algoritms for Max. SAR Evaluation	E.5.2	5.0	R	$\sqrt{3}$	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 Variation - SAR drift measurement	6.6.2	4.76	R	$\sqrt{3}$	1	1	2.75	2.75	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Liquid conductivity - deviation from target value	E.3.2	0.57	R	$\sqrt{3}$	0.64	0.43	0.21	0.14	∞

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	3.66	R	$\sqrt{3}$	0.6	0.49	1.27	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				11.28	10.78	
Expanded Uncertainty (95% Confidence interval)			k				21.99	21.03	

4.3.4. Equipments and results of validation testing

Equipments :

name	Type and specification
Signal generator	E4433B
Reference dipole	SN 36/08 DIPF 101

Results:

Frequency	835MHz	1900MHz
Target value (1g)	10.8 W/Kg(body)	39.7 W/Kg
250 mW input power	2.69 W/Kg (body)	10.10 W/Kg (body)
Test value (1g)	11.156 W/Kg (head)	39.372 W/Kg (head)
	10.804 W/Kg (body)	40.880 W/Kg (body)

Note:Please refer to check the system performance data, the first 146-157 page.

4.3.5. Dielectric Performance

The measured 1-gram averaged SAR values of the device against the head and the body are provided in Tables 1 and 2 respectively. The humidity and ambient temperature of test facility were 54% ~60% and 23.0 °C ~23.8°C respectively. The SAM head phantom（SN 0381 SH）were full of the head tissue simulating liquid. 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). A base station simulator was used to control the device during the SAR measurement. The phone was supplied with full-charged battery for each measurement.
For head measurement, the device was tested at the lowest, middle and highest frequencies in the transmit band.

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 (Jan 12)	835 MHZ	41.790001	0.866612
Target value	1900 MHZ	40	1.40
Validation value (Jan 12)	1900 MHZ	39.481223	1.395758

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	**55.0**	**10.5**
Validation value (Jan 12)	835 MHz	54.872231	1.054822

Target value	1900 MHz	53.3	1.52
Validation value (Jan 12)	1900 MHz	52.548876	1.573978

4.3.6. Simulant liquids

Simulant liquids that are used for testing at frequencies of GSM 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 20litres for a horizontal bath phantom.

Ingredients (% by weight)	Frequency Band 835MHz		Frequency Band 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	0.38	1.45

4.4. Items used in the Test Results List

Terms in the column “Verdict” for the test results list of the section 4.5:

Verdict	Description
PASS	EUT passed this test case
FAIL	EUT failed this test case
INC.	EUT did not pass and did not fail this test case, therefore the verdict is inconclusive
Decl.	“Declaration”: Morlab has received documents from the applicant and/or manufacturer which show conformity to the applied standards for this test case.
N/A	Test case not applicable for the EUT, see the column “Note” for detailed

4.5. 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)
Left head, Touch cheek, Channel Low	0.629	30.32
Left head, Touch cheek, Channel Middle	**0.844**	**30.32**
Left head, Touch cheek, Channel High	0.694	30.67
Left head, Tilt 15 Degree, Channel Low	0.573	30.32
Left head, Tilt 15 Degree, Channel Middle	0.648	30.32
Left head, Tilt 15 Degree, Channel High	0.599	30.67
Right head, Touch cheek, Channel Low	0.656	30.32
Right head, Touch cheek, Channel Middle	0.810	30.32
Right head, Touch cheek, Channel High	0.758	30.67
Right head, Tilt 15 Degree, Channel Low	0.427	30.32
Right head, Tilt 15 Degree, Channel Middle	0.548	30.32
Right head, Tilt 15 Degree, Channel High	0.499	30.67
Left head, Touch cheek, Channel Middle（Slide closed）	0.799	30.32
Left head, Touch cheek, Channel Middle (with GPRS)	1.344	30.32

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)
Left head, Touch cheek, Channel Low	0.281	27.11
Left head, Touch cheek, Channel Middle	0.396	27.38
Left head, Touch cheek, Channel High	0.383	27.22
Left head, Tilt 15 Degree, Channel Low	0.163	27.11
Left head, Tilt 15 Degree, Channel Middle	0.140	27.38

Left head, Tilt 15 Degree, Channel High	0.119	27.22
Right head, Touch cheek, Channel Low	0.649	27.11
Right head, Touch cheek, Channel Middle	**0.861**	**27.38**
Right head, Touch cheek, Channel High	0.785	27.22
Right head, Tilt 15 Degree, Channel Low	0.170	27.11
Right head, Tilt 15 Degree, Channel Middle	0.150	27.38
Right head, Tilt 15 Degree, Channel High	0.111	27.22
Right head, Touch cheek, Channel Middle（Slide closed）	0.846	27.38
Right head, Touch cheek, Channel Middle (with GPRS)	1.388	27.38

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	0.684	30.32
Side, Middle frequency	0.746	30.32
Side, High frequency	0.654	30.67
Side , Middle frequency(with Headphone)	0.694	30.32
Side , Middle frequency(back)	0.268	30.32
Side, Middle frequency（with GPRS）	1.255	30.32

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	0.459	27.47
Side, Middle frequency	0.579	27.74
Side, High frequency	0.419	28.45
Side , Middle frequency(with Headphone)	0.588	27.74
Side , Middle frequency(back)	0.285	27.74
Side, Middle frequency（with GPRS）	0.845	27.74

Note: 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)

Annex A Accreditation Certificate

China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(No. CNAS L1659)

China National Accreditation Service for Conformity Assessment has accredited

Shenzhen Electronic Product Quality Testing Center

(CQCS Testing Co. Ltd.)

Electronic Testing Building Wenguang Road, Shahe West, Xili Town, Nanshan District, Shenzhen, Guangdong, China

to ISO/IEC 17025:1999 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 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: 2007-01-17

Date of Expiry: 2009-10-08

Date of Initial Accreditation: 1999-08-03

Signed on behalf of China National Accreditation Service for Conformity Assessment

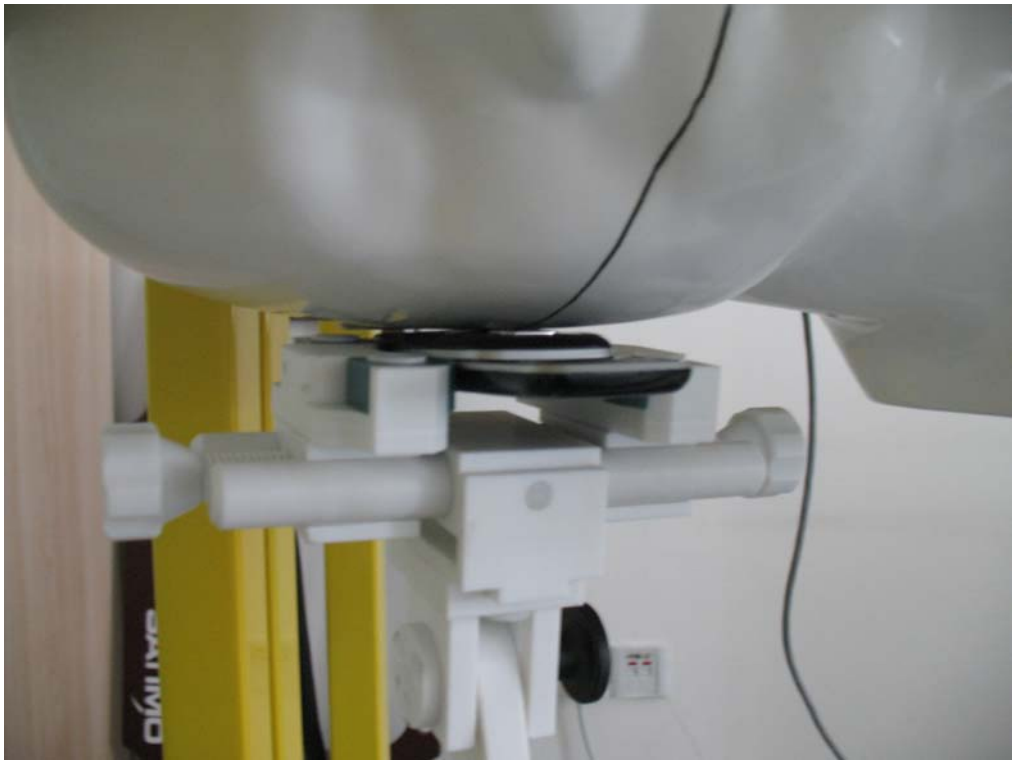
China National Accreditation Service for Conformity Assessment(CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation systems for conformity assessment. CNAS is the signatory to International Laboratory Accreditation 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 spacer 1.5cm

6 Side Position

7 Side Position EUT with Headphone

Annex C Graph Test Results

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

		position on High Channel in TDMA mode (with Headphone) Measurement 20: Validation Plane with Body device position on High Channel in TDMA mode（with GPRS）
	GSM1900	Measurement 21: Right Head with Cheek device position on Low Channel in TDMA mode Measurement 22: Right Head with Cheek device position on Middle Channel in TDMA mode Measurement 23: Right Head with Cheek device position on High Channel in TDMA mode Measurement 24: Right Head with Tilt device position on Low Channel in TDMA mode Measurement 25: Right Head with Tilt device position on Middle Channel in TDMA mode Measurement 26: Right Head with Tilt device position on High Channel in TDMA mode Measurement 27: Left Head with Cheek device position on Low Channel in TDMA mode Measurement 28: Left Head with Cheek device position on Middle Channel in TDMA mode Measurement 29: Left Head with Cheek device position on High Channel in TDMA mode Measurement 30: Left Head with Tilt device position on Low Channel in TDMA mode Measurement 31: Left Head with Tilt device position on Middle Channel in TDMA mode Measurement 32: Left Head with Tilt device position on High Channel in TDMA mode Measurement 33: Right Head with Cheek device position on Middle Channel in TDMA mode（with GPRS） Measurement 34: Validation Plane with Body device position on Low Channel in TDMA mode Measurement 35: Validation Plane with Body device position on Middle Channel in TDMA mode Measurement 36: Validation Plane with Body device position on High Channel in TDMA mode Measurement 37: Validation Plane with Body device position on High Channel in TDMA mode(back)

MEASUREMENT 1

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 52 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

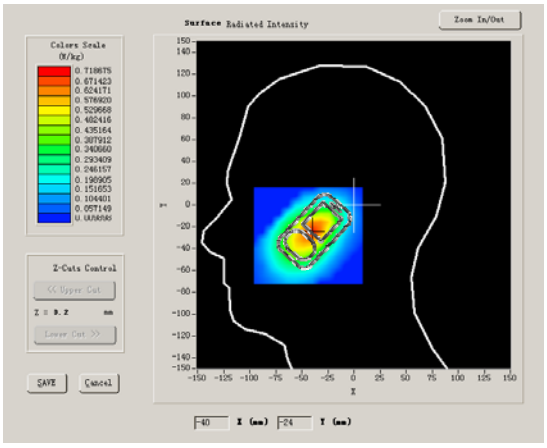
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	TDMA

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
Power Drift (%)	0.110000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

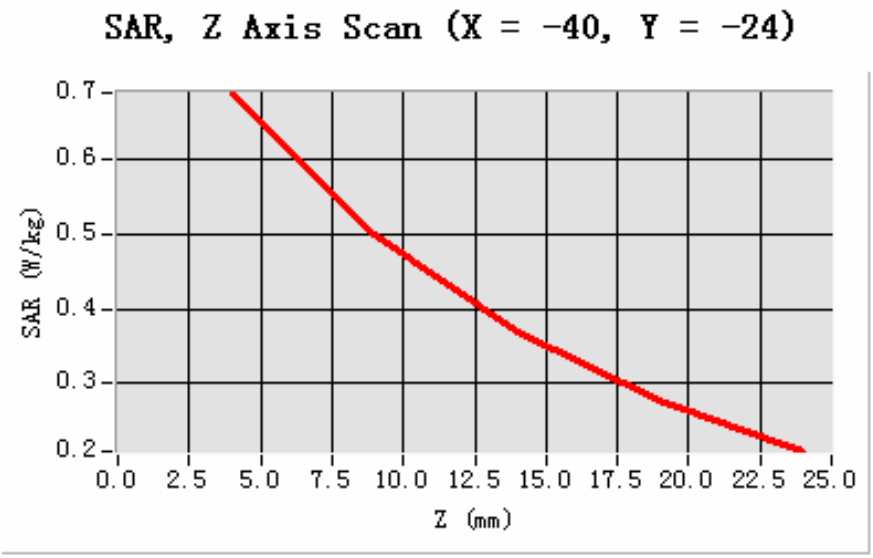
SURFACE SAR	VOLUME SAR
	

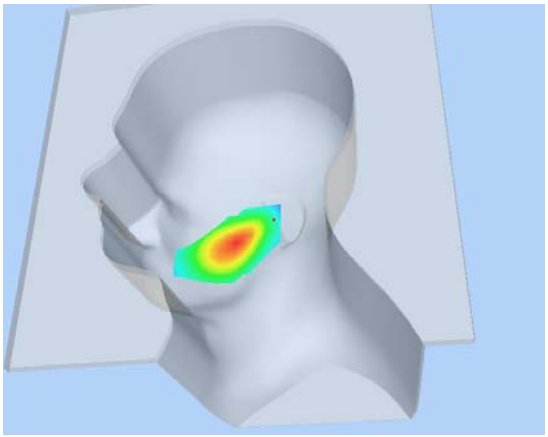
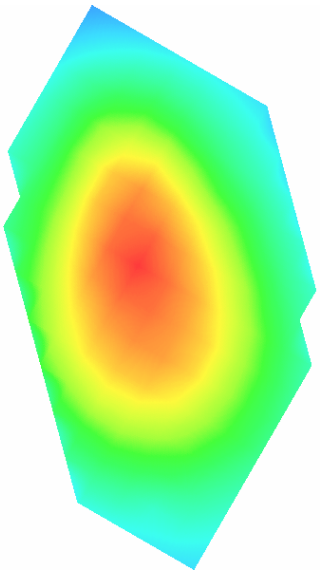
Maximum location: X=-40.00, Y=-24.00

SAR 10g (W/Kg)	0.447030
SAR 1g (W/Kg)	0.656435

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6887	0.4997	0.3687	0.2783



3D sceen shot	Hot spot position
	

MEASUREMENT 2

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 46 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

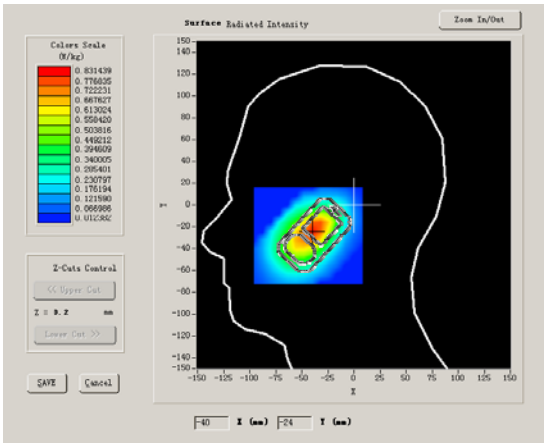
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	TDMA

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
Power Drift (%)	1.1700
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

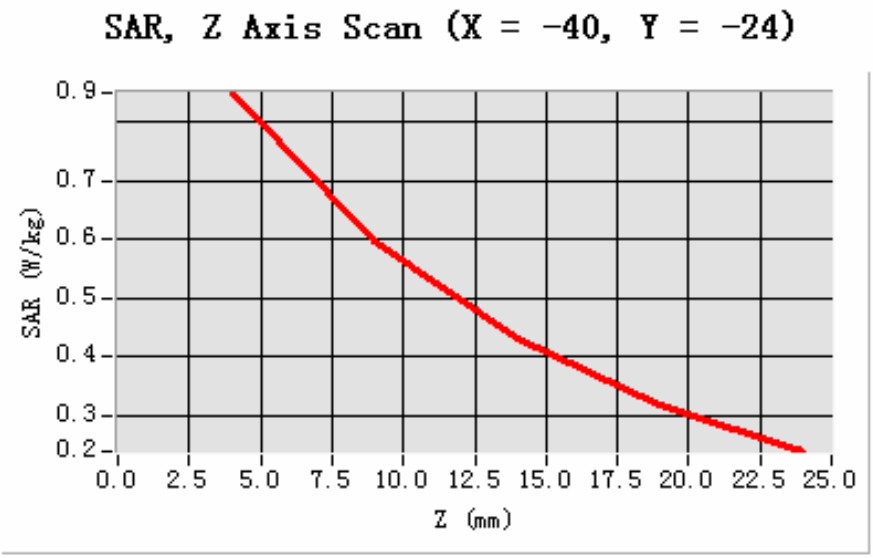
SURFACE SAR	VOLUME SAR
	

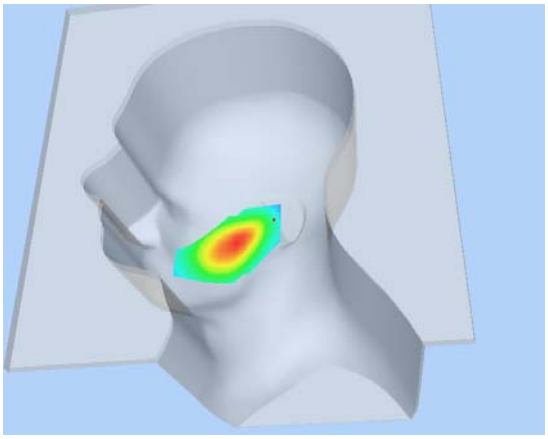
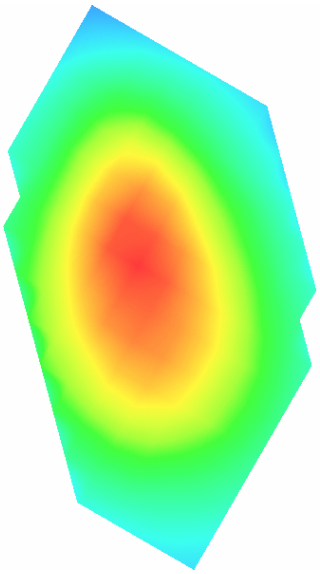
Maximum location: X=-40.00, Y=-24.00

SAR 10g (W/Kg)	0.536777
SAR 1g (W/Kg)	0.809874

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.8510	0.5979	0.4297	0.3191



3D sceen shot	Hot spot position
	

MEASUREMENT 3

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 46 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

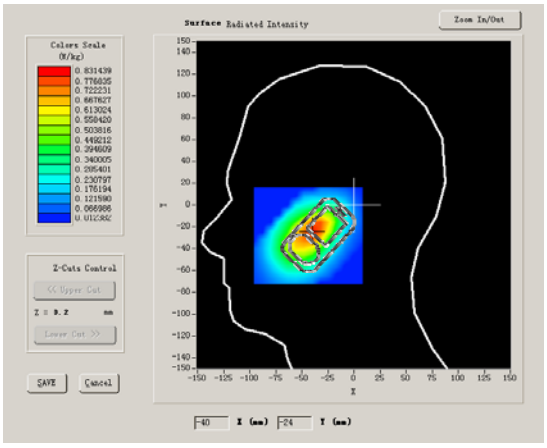
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	High
Signal	TDMA

B. SAR Measurement Results

Middle Band SAR (Channel 251):

Frequency (MHz)	848.799988
Relative permittivity (real part)	40.669998
Relative permittivity	19.120001

Conductivity (S/m)	0.888655
Power Drift (%)	1.17000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

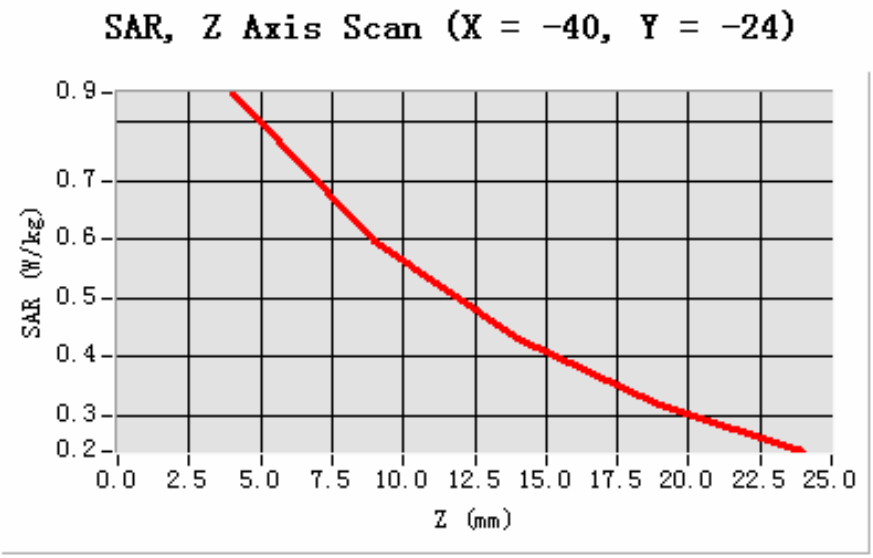
SURFACE SAR	VOLUME SAR
	

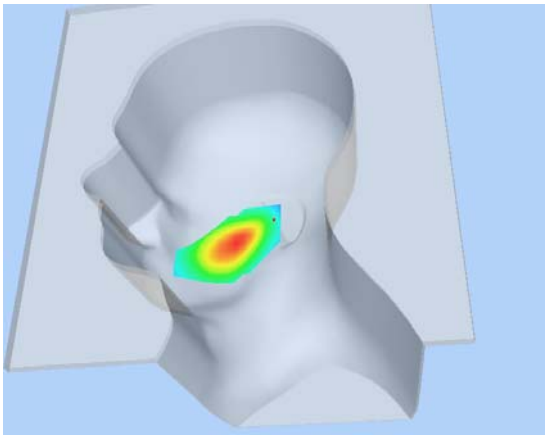
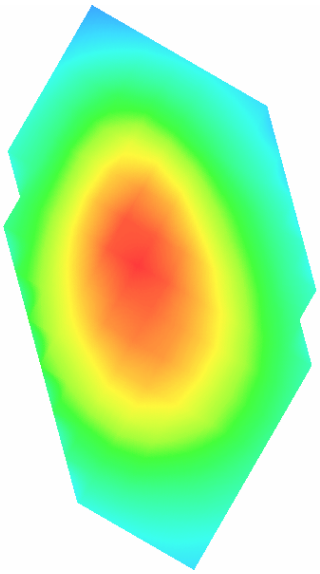
Maximum location: X=-40.00, Y=-24.00

SAR 10g (W/Kg)	0.468266
SAR 1g (W/Kg)	0.758644

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.8510	0.5979	0.4297	0.3191



3D sceen shot	Hot spot position
	

MEASUREMENT 4

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 53 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

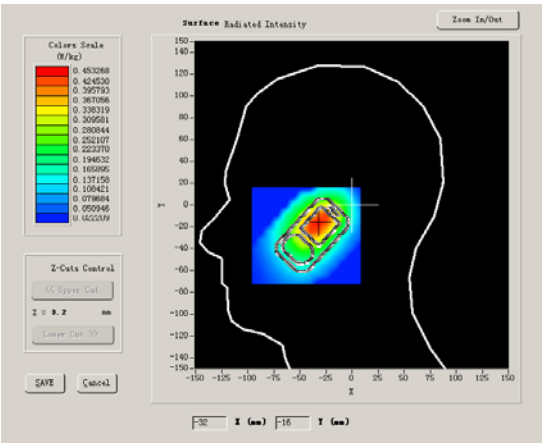
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM850
Channels	Low
Signal	TDMA

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
Power Drift (%)	1.04000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

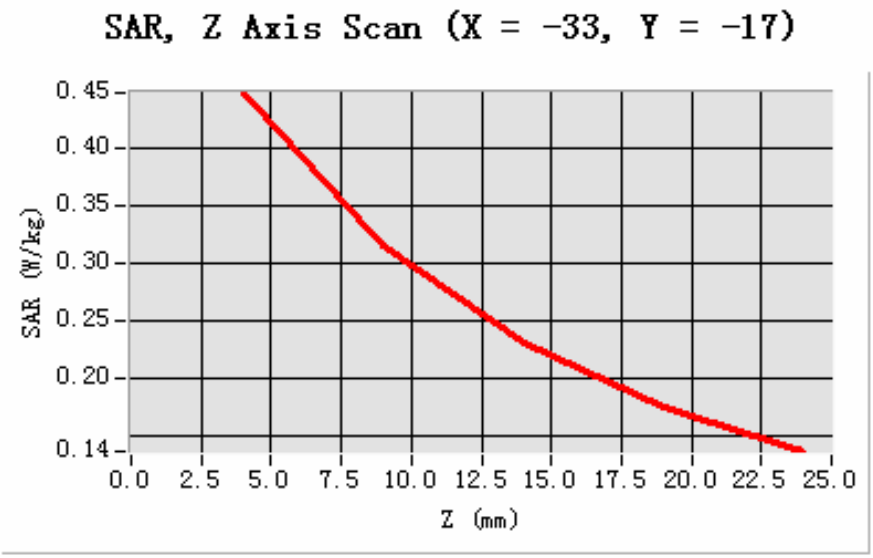
SURFACE SAR	VOLUME SAR
	

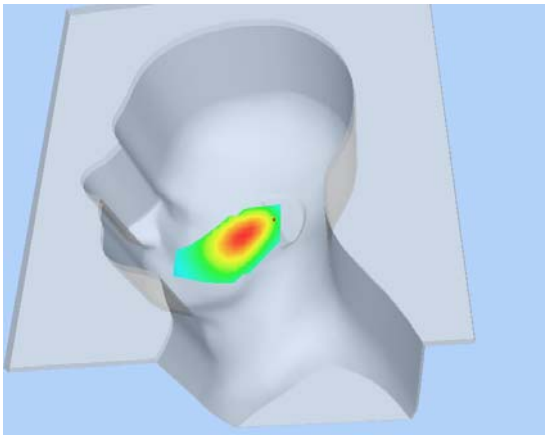
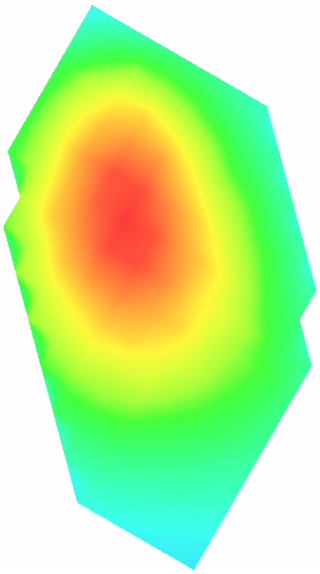
Maximum location: X=-33.00, Y=-17.00

SAR 10g (W/Kg)	0.290738
SAR 1g (W/Kg)	0.426820

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.4475	0.3154	0.2301	0.1761



3D sceen shot	Hot spot position
	

MEASUREMENT 5

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 53 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

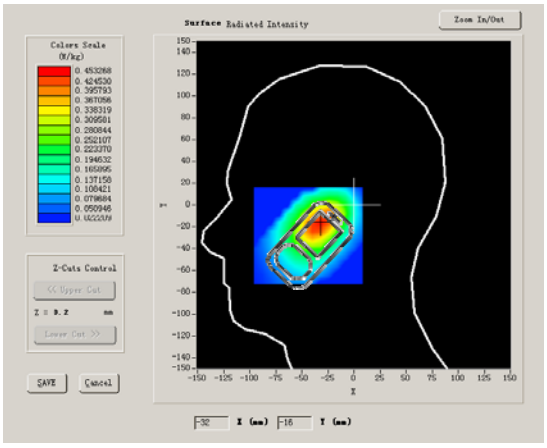
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM850
Channels	Middle
Signal	TDMA

B. SAR Measurement Results

Lower Band SAR (Channel 190):

Frequency (MHz)	836.599976
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Power Drift (%)	1.0400
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

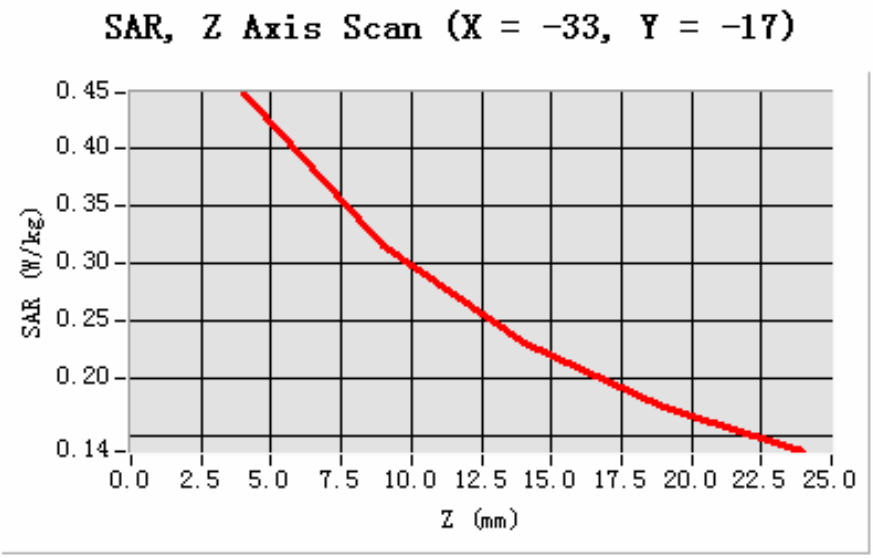
SURFACE SAR	VOLUME SAR
	

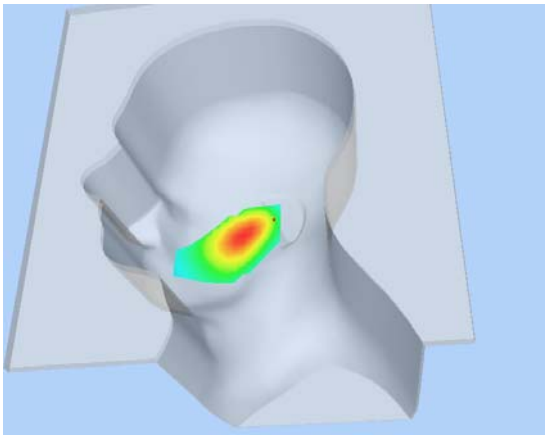
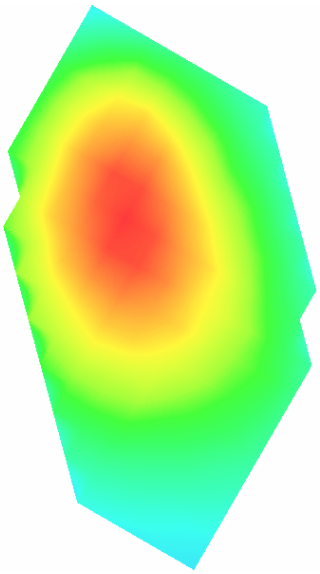
Maximum location: X=-33.00, Y=-17.00

SAR 10g (W/Kg)	0.290738
SAR 1g (W/Kg)	0.548477

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.4475	0.3154	0.2301	0.1761



3D sceen shot	Hot spot position
	

MEASUREMENT 6

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 53 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

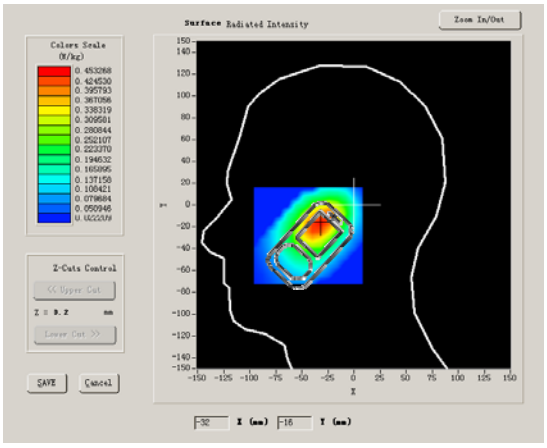
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM850
Channels	High
Signal	TDMA

B. SAR Measurement Results

Lower Band SAR (Channel 251):

Frequency (MHz)	848.799988
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Power Drift (%)	1.04000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

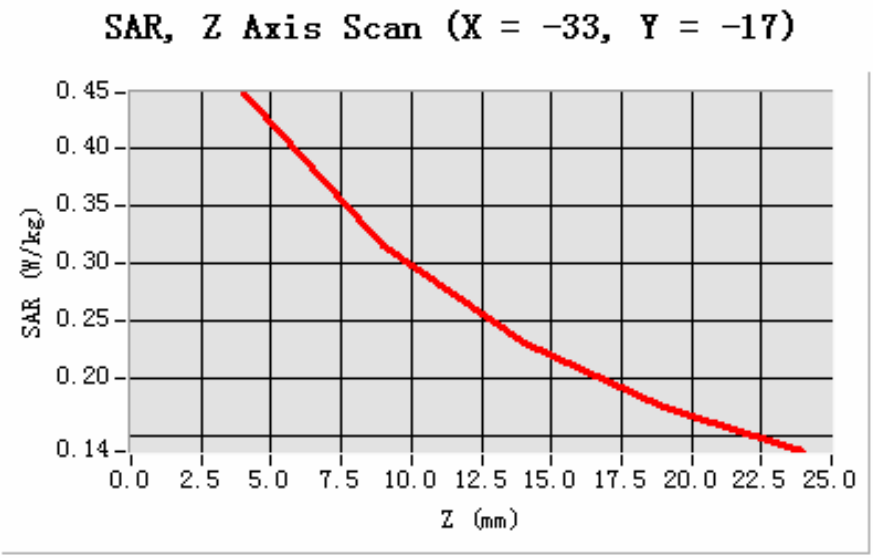
SURFACE SAR	VOLUME SAR
	

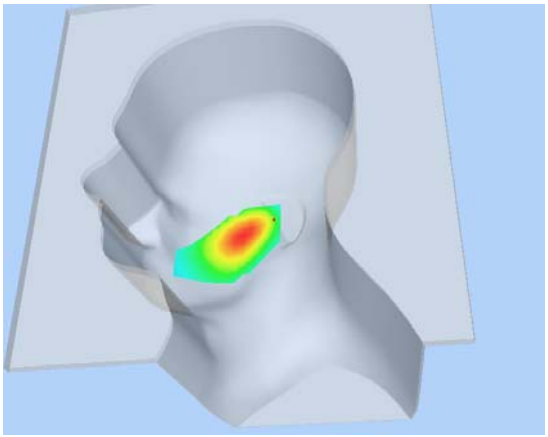
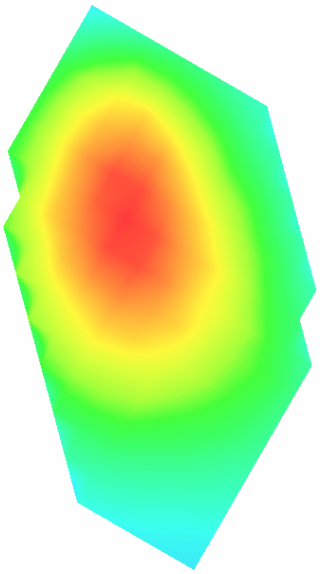
Maximum location: X=-33.00, Y=-17.00

SAR 10g (W/Kg)	0.324441
SAR 1g (W/Kg)	0.499658

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.4475	0.3154	0.2301	0.1761



3D sceen shot	Hot spot position
	

MEASUREMENT 7

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 54 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

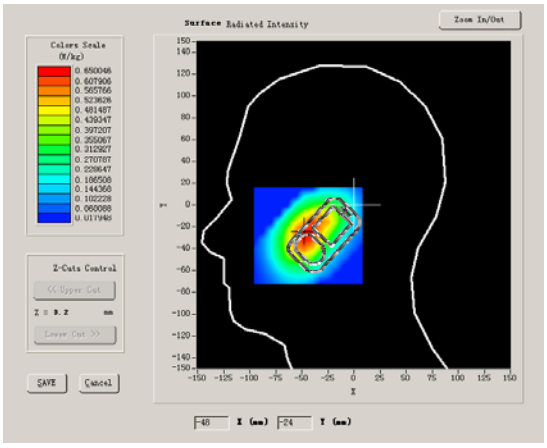
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	TDMA

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
Power Drift (%)	-0.82000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

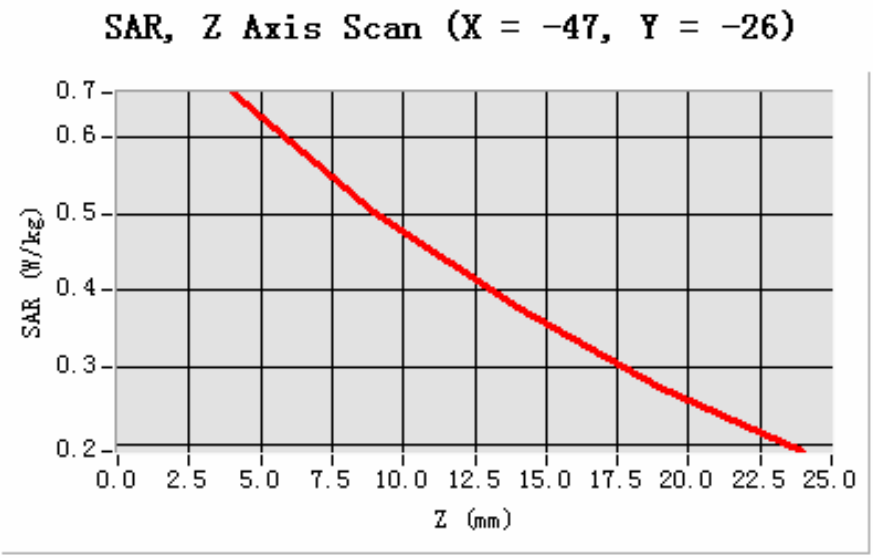
SURFACE SAR	VOLUME SAR
	

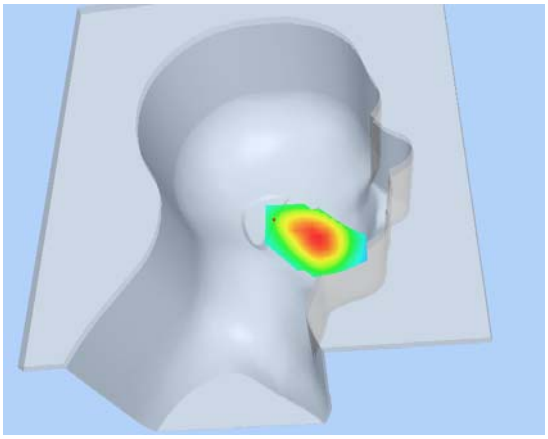
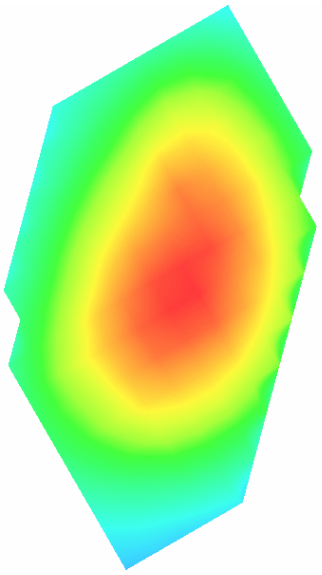
Maximum location: X=-47.00, Y=-26.00

SAR 10g (W/Kg)	0.438302
SAR 1g (W/Kg)	0.629038

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6580	0.5031	0.3766	0.2742



3D sceen shot	Hot spot position
	

MEASUREMENT 8

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 54 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

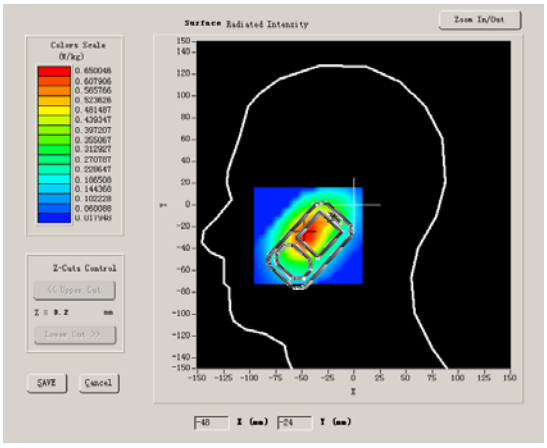
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	TDMA

B. SAR Measurement Results

Lower Band SAR (Channel 190):

Frequency (MHz)	836.599976
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Power Drift (%)	-0.82000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

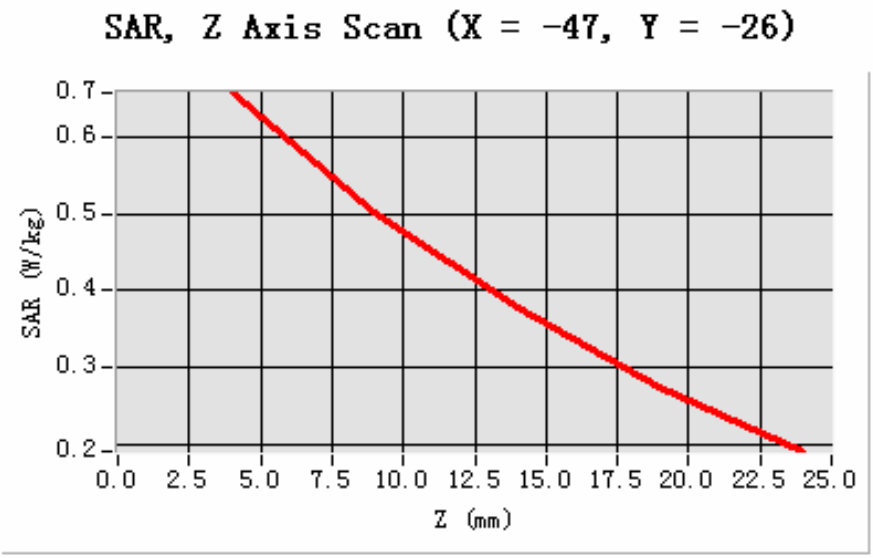
SURFACE SAR	**VOLUME SAR**
	

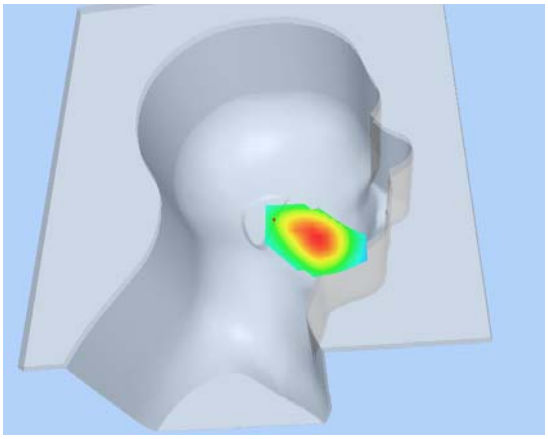
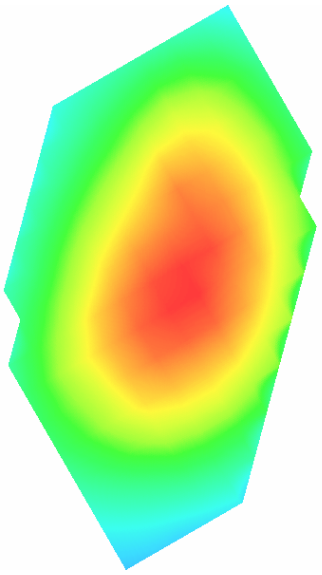
Maximum location: X=-47.00, Y=-26.00

SAR 10g (W/Kg)	0.438302
SAR 1g (W/Kg)	0.844452

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6580	0.5031	0.3766	0.2742



3D sceen shot	Hot spot position
	

MEASUREMENT 9

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 54 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

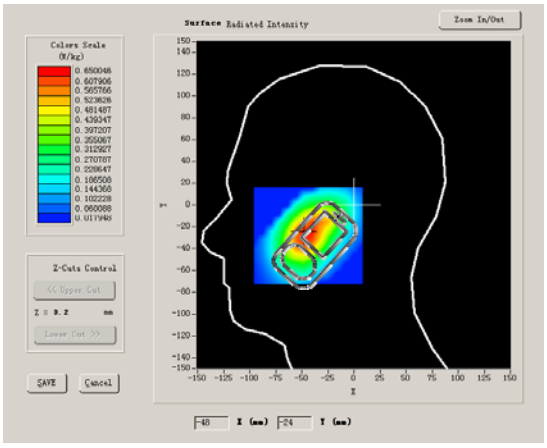
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	High
Signal	TDMA

B. SAR Measurement Results

Lower Band SAR (Channel 251):

Frequency (MHz)	848.799988
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Power Drift (%)	-0.82000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

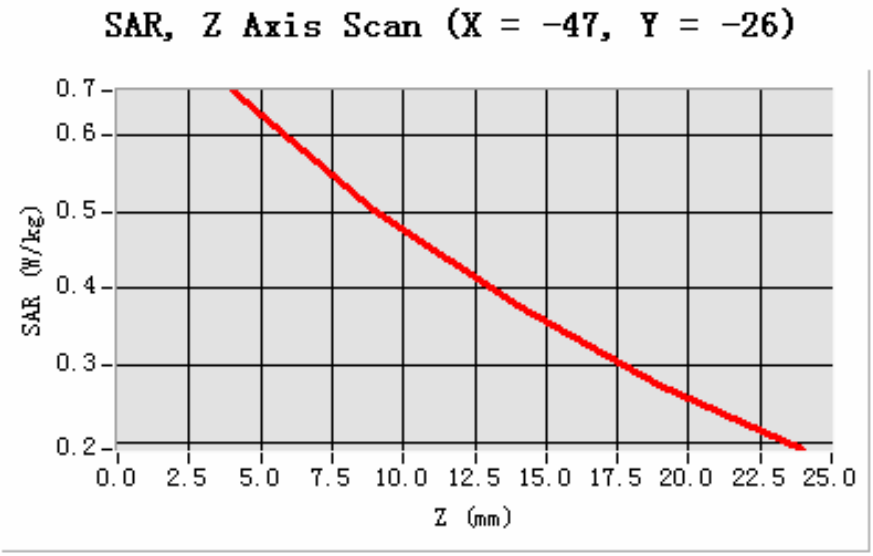
SURFACE SAR	**VOLUME SAR**
	

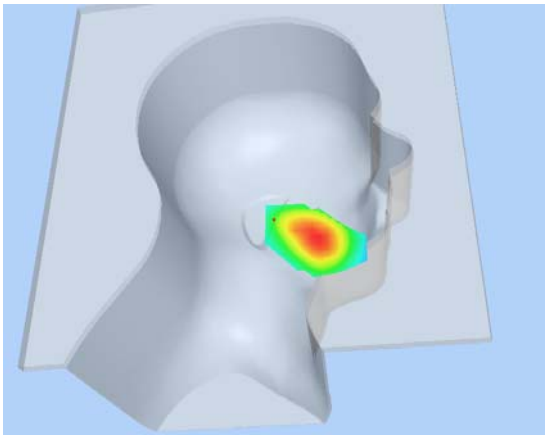
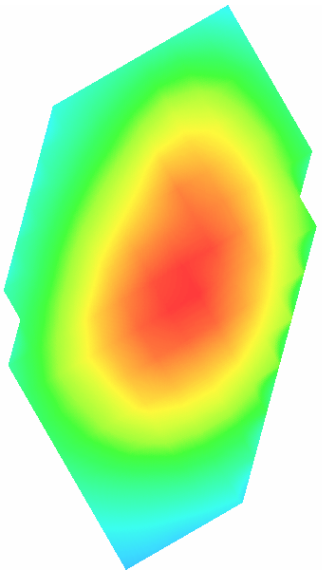
Maximum location: X=-47.00, Y=-26.00

SAR 10g (W/Kg)	0.468455
SAR 1g (W/Kg)	0.694557

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6580	0.5031	0.3766	0.2742



3D sceen shot	Hot spot position
	

MEASUREMENT 10

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 50 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

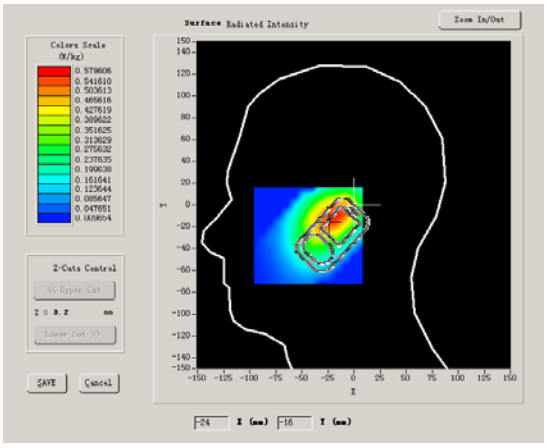
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	Low
Signal	TDMA

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
Power Drift (%)	-1.32000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

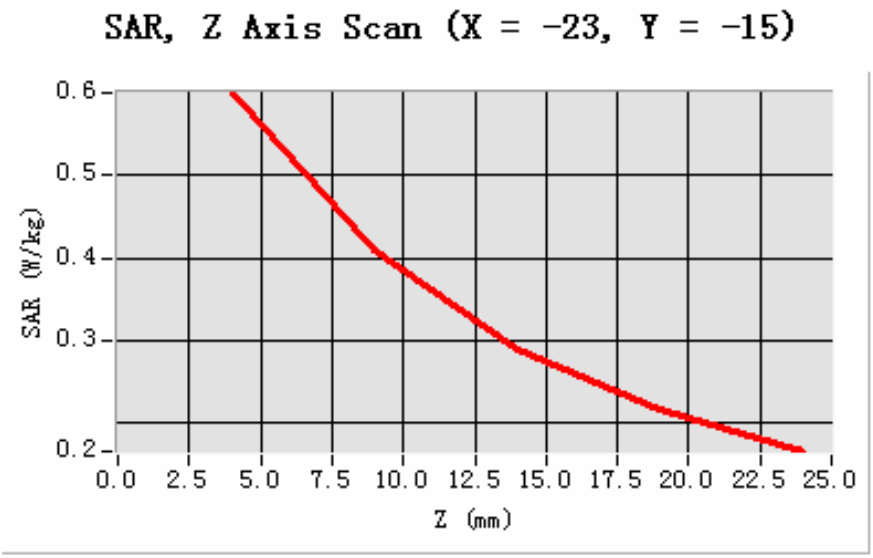
SURFACE SAR	VOLUME SAR
	

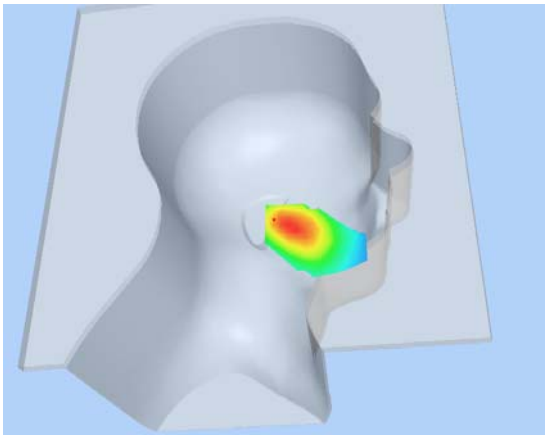
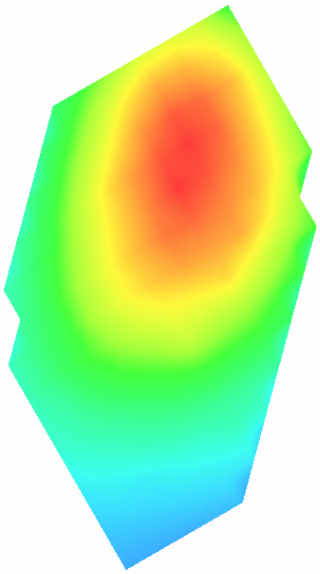
Maximum location: X=-23.00, Y=-15.00

SAR 10g (W/Kg)	0.377471
SAR 1g (W/Kg)	0.573401

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6003	0.4087	0.2890	0.2160



3D sceen shot	Hot spot position
	

MEASUREMENT 11

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 50 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

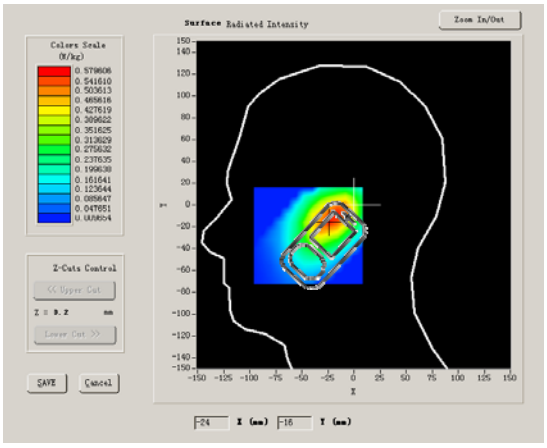
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	Middle
Signal	TDMA

B. SAR Measurement Results

Lower Band SAR (Channel 190):

Frequency (MHz)	836.599976
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Power Drift (%)	-1.320000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

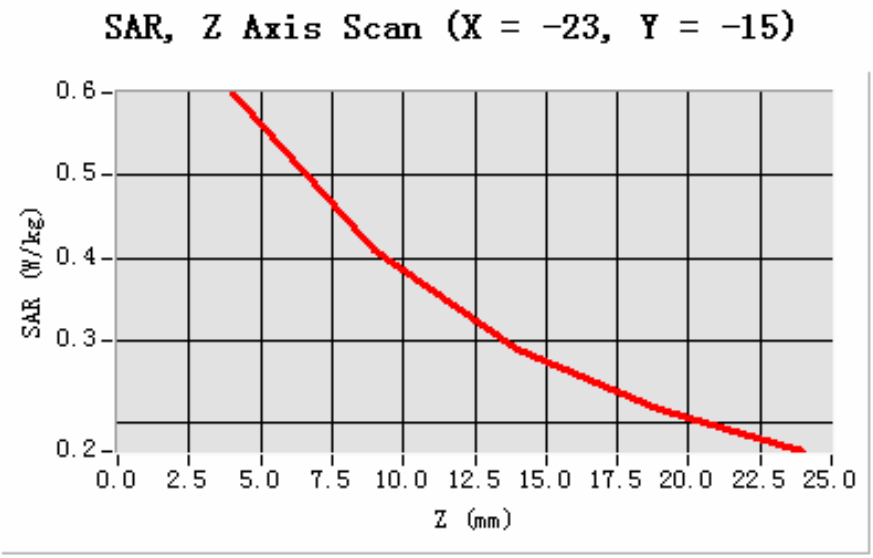
SURFACE SAR	VOLUME SAR
	

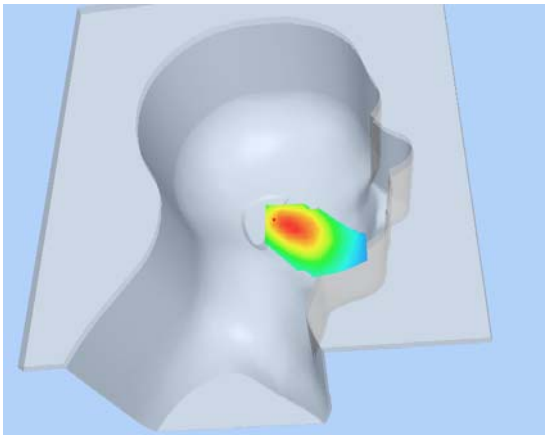
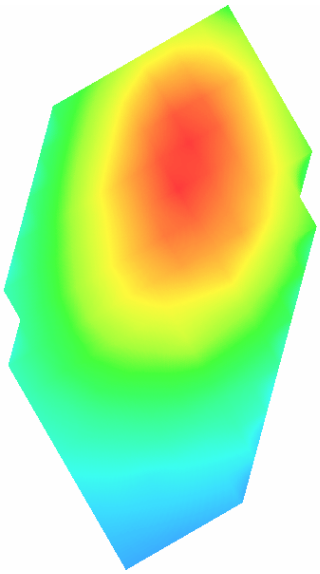
Maximum location: X=-23.00, Y=-15.00

SAR 10g (W/Kg)	0.426634
SAR 1g (W/Kg)	0.648222

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6003	0.4087	0.2890	0.2160



3D sceen shot	Hot spot position
	

MEASUREMENT 12

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 50 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

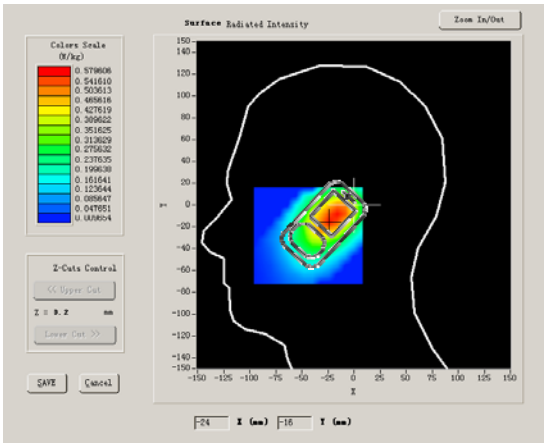
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	High
Signal	TDMA

B. SAR Measurement Results

Lower Band SAR (Channel 251):

Frequency (MHz)	848.799988
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Power Drift (%)	-1.320000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

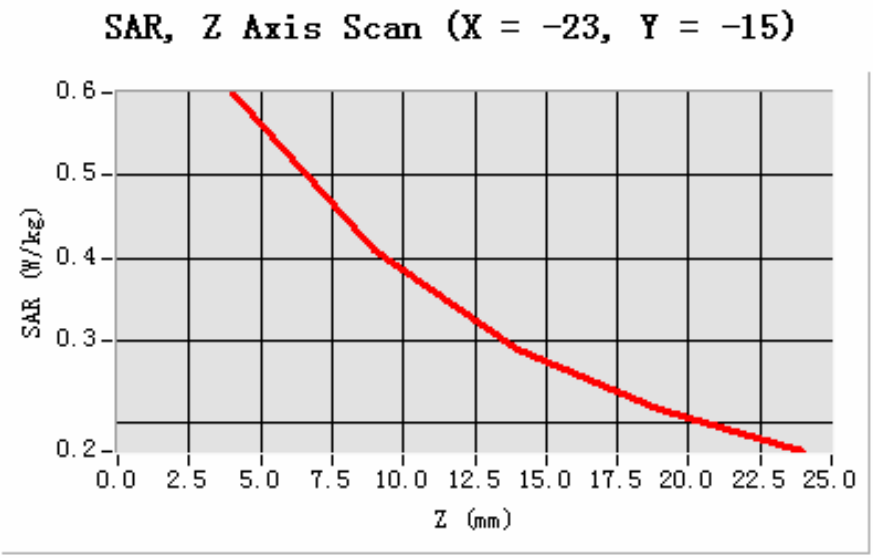
SURFACE SAR	VOLUME SAR
	

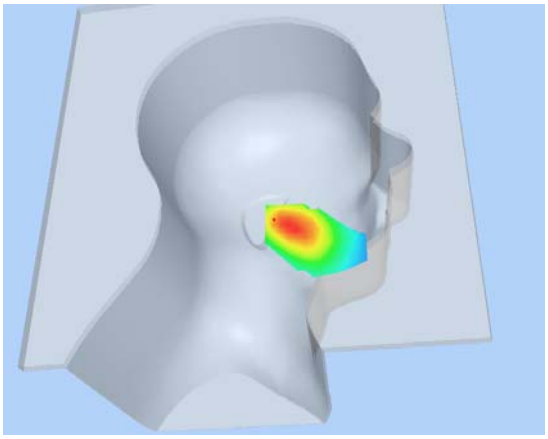
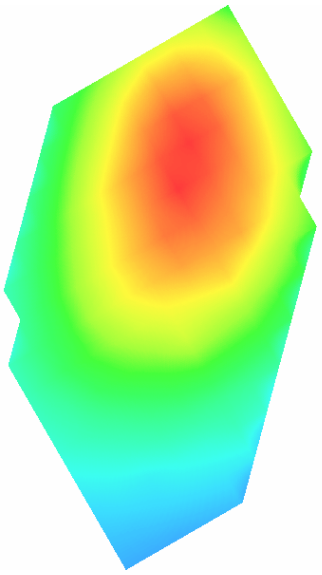
Maximum location: X=-23.00, Y=-15.00

SAR 10g (W/Kg)	0.385423
SAR 1g (W/Kg)	0.599614

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6003	0.4087	0.2890	0.2160



3D sceen shot	Hot spot position
	

MEASUREMENT 13（Slide closed）

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 54 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

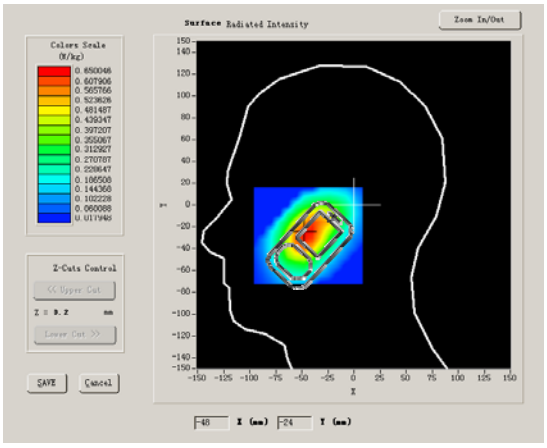
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	TDMA

B. SAR Measurement Results

Lower Band SAR (Channel 190):

Frequency (MHz)	836.599976
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Power Drift (%)	-0.820000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

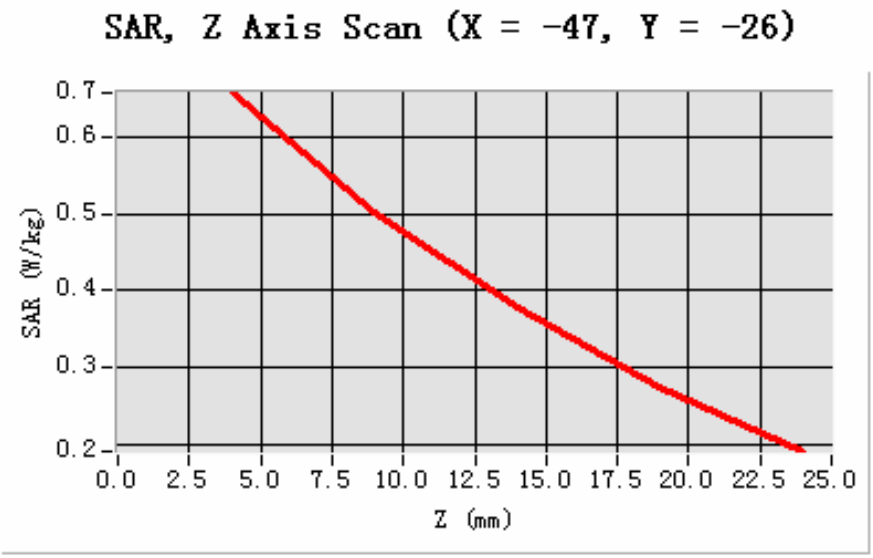
SURFACE SAR	**VOLUME SAR**
	

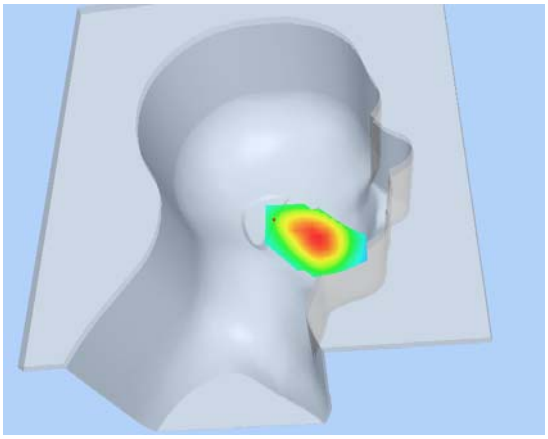
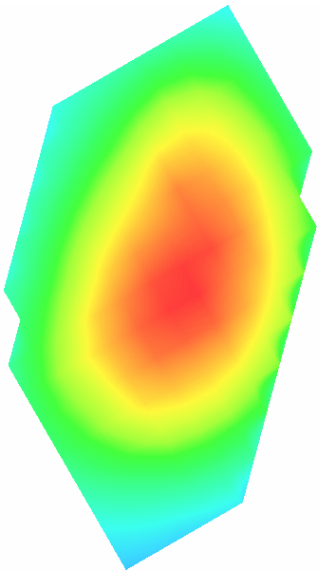
Maximum location: X=-47.00, Y=-26.00

SAR 10g (W/Kg)	0.398141
SAR 1g (W/Kg)	0.798849

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6580	0.5031	0.3766	0.2742



3D sceen shot	Hot spot position
	

MEASUREMENT 14（with GPRS）

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 54 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

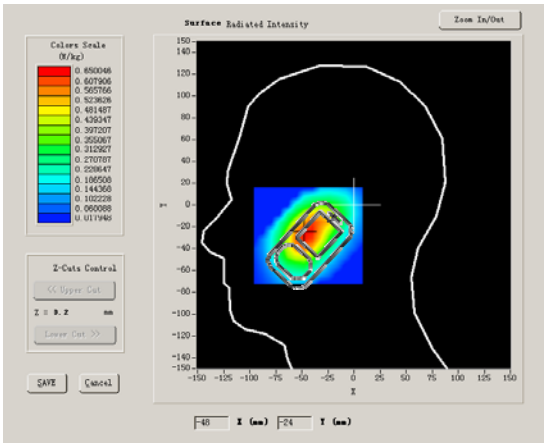
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	TDMA

B. SAR Measurement Results

Lower Band SAR (Channel 190):

Frequency (MHz)	836.599976
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Power Drift (%)	-0.820000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:4
probe factors (e.g. ConvF):	28.479,25.214,27.196

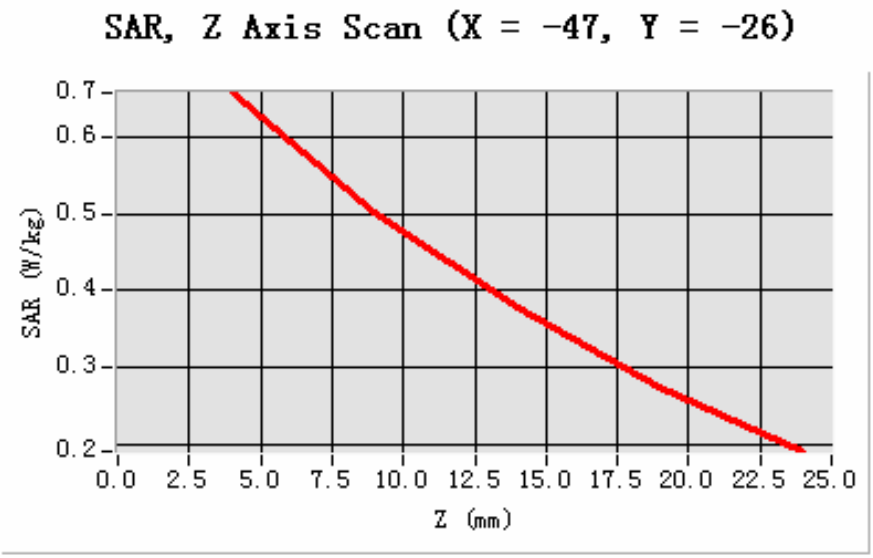
SURFACE SAR	**VOLUME SAR**
	

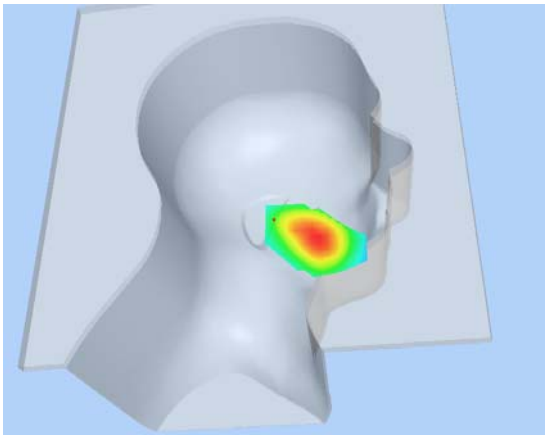
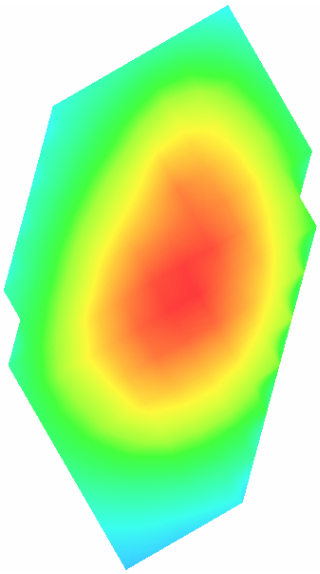
Maximum location: X=-47.00, Y=-26.00

SAR 10g (W/Kg)	0.789934
SAR 1g (W/Kg)	1.344764

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6580	0.5031	0.3766	0.2742



3D sceen shot	Hot spot position
	

MEASUREMENT 15

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 5 minutes 22 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

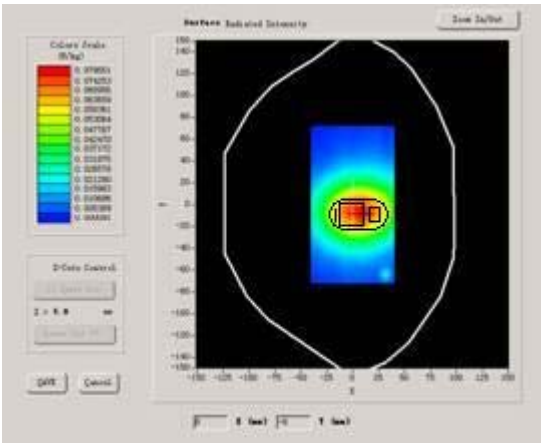
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	TDMA

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
Power Drift (%)	1.440000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

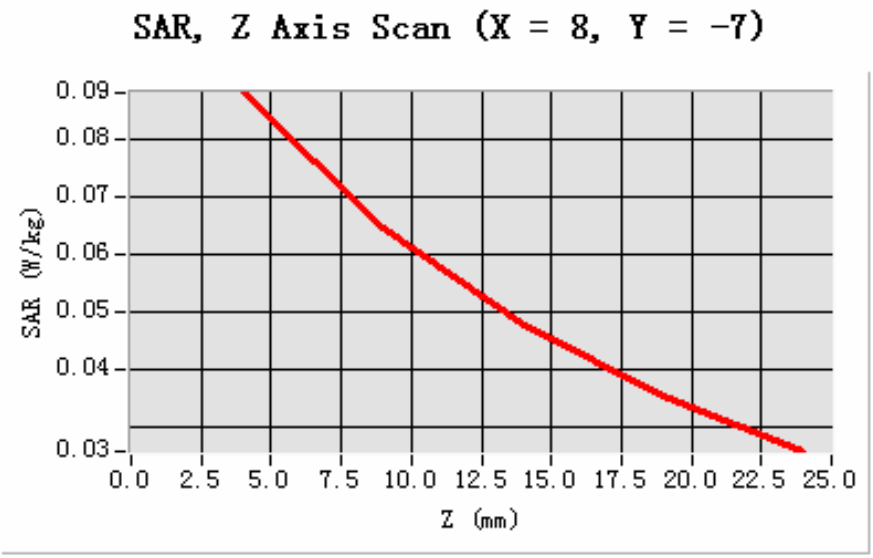
SURFACE SAR	**VOLUME SAR**
	

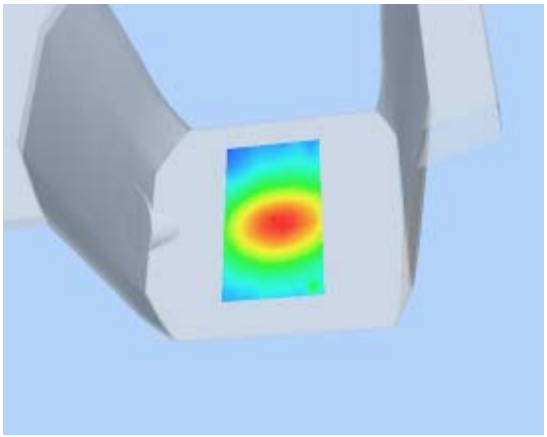
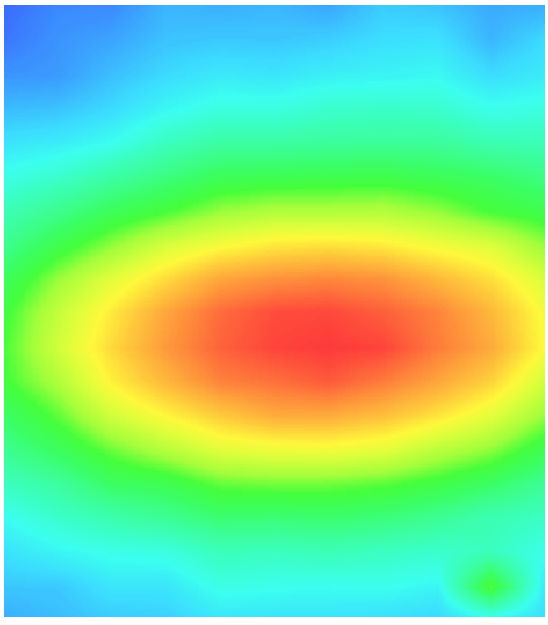
Maximum location: X=8.00, Y=-7.00

SAR 10g (W/Kg)	0.341222
SAR 1g (W/Kg)	0.684120

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.0880	0.0647	0.0477	0.0353



3D sceen shot	Hot spot position
	

MEASUREMENT 16

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 5 minutes 28 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

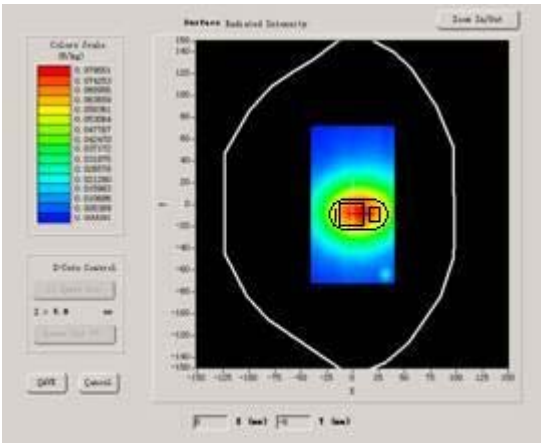
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	TDMA

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
Power Drift (%)	-0.950000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

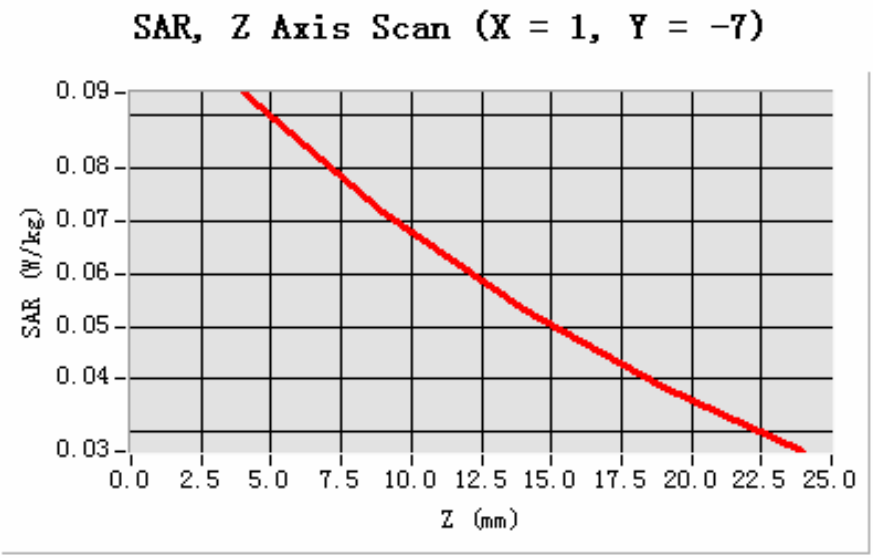
SURFACE SAR	**VOLUME SAR**
	

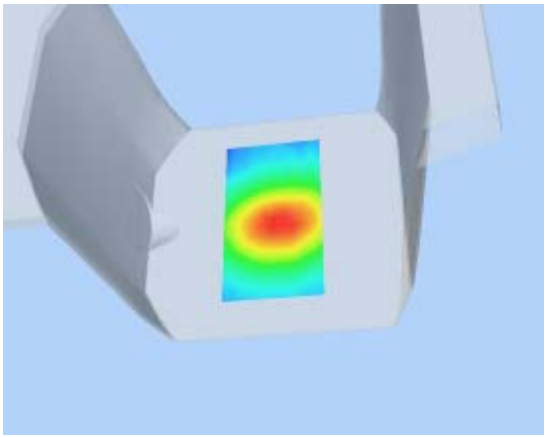
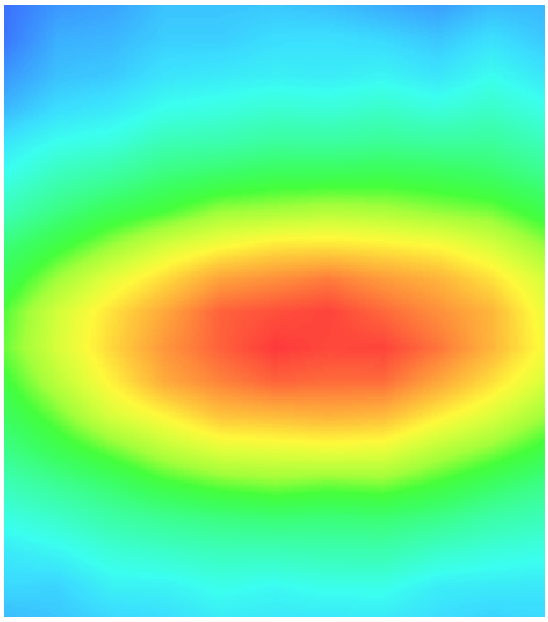
Maximum location: X=1.00, Y=-7.00

SAR 10g (W/Kg)	0.364855
SAR 1g (W/Kg)	0.746522

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.0941	0.0716	0.0532	0.0384



3D sceen shot	Hot spot position
	

MEASUREMENT 17

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 5 minutes 32 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

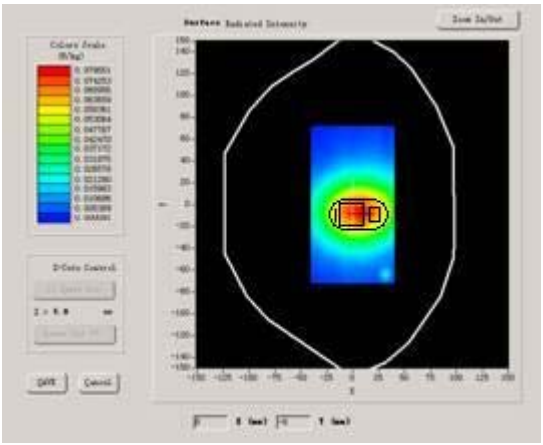
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	High
Signal	TDMA

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
Power Drift (%)	-1.240000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

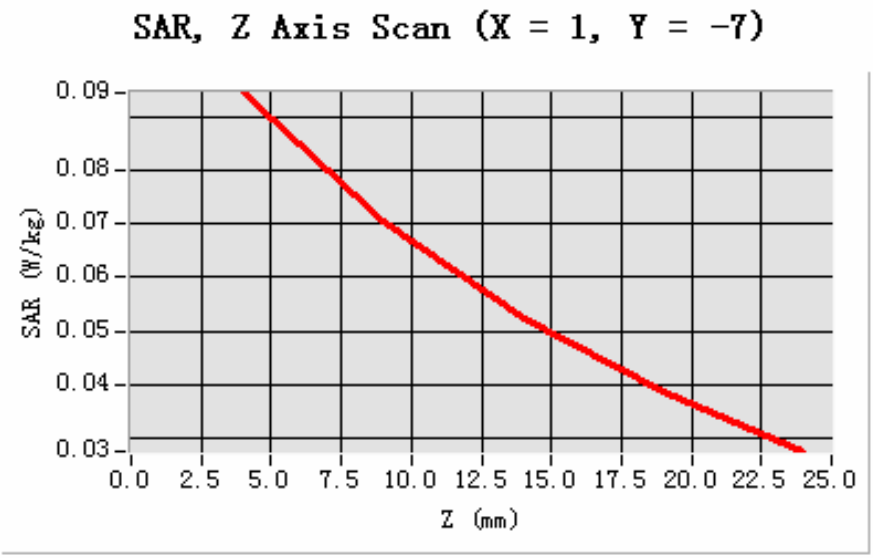
SURFACE SAR	**VOLUME SAR**
	

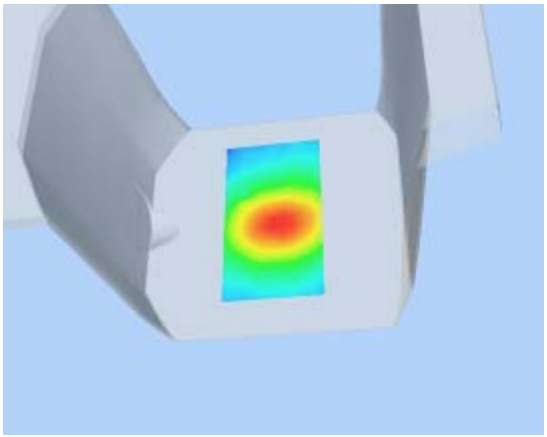
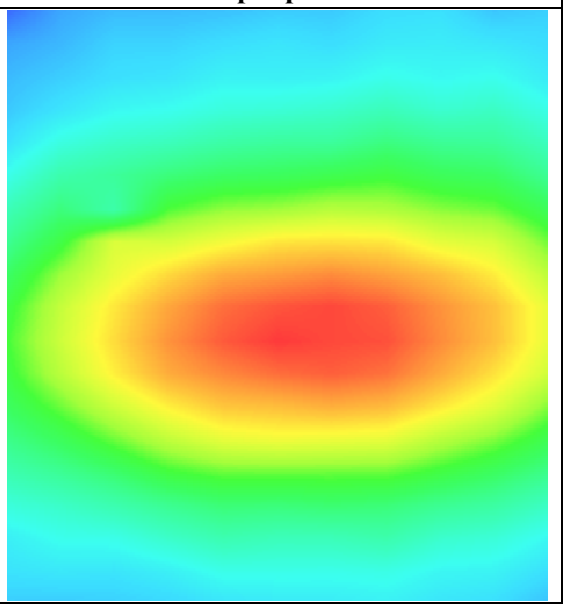
Maximum location: X=1.00, Y=-7.00

SAR 10g (W/Kg)	0.342552
SAR 1g (W/Kg)	0.654841

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.0944	0.0705	0.0524	0.0386



3D sceen shot	Hot spot position
	

MEASUREMENT 18

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 5 minutes 28 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

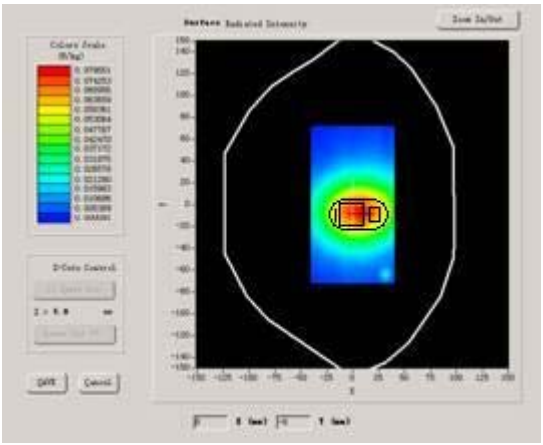
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	TDMA

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
Power Drift (%)	-0.950000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:4
probe factors (e.g. ConvF):	28.479,25.214,27.196

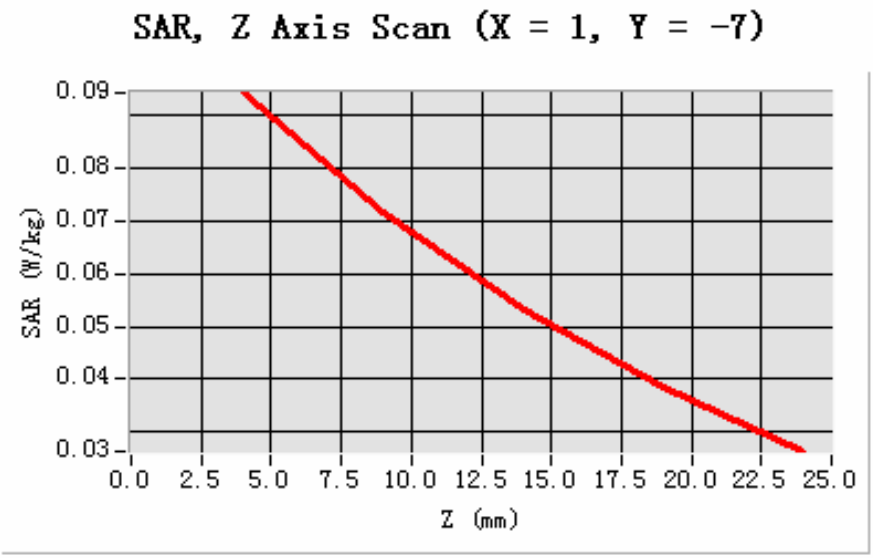
SURFACE SAR	**VOLUME SAR**
	

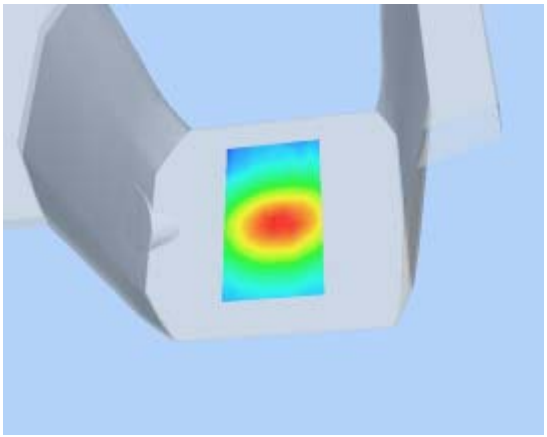
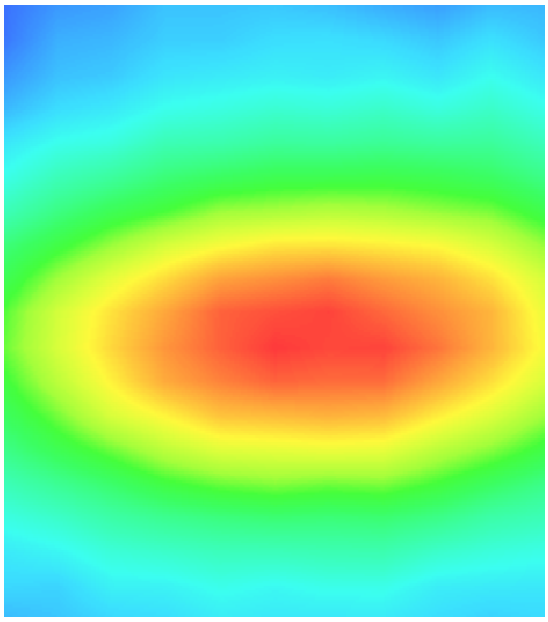
Maximum location: X=1.00, Y=-7.00

SAR 10g (W/Kg)	0.597745
SAR 1g (W/Kg)	1.255286

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.0941	0.0716	0.0532	0.0384



3D sceen shot	Hot spot position
	

MEASUREMENT 19

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 5 minutes 31 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

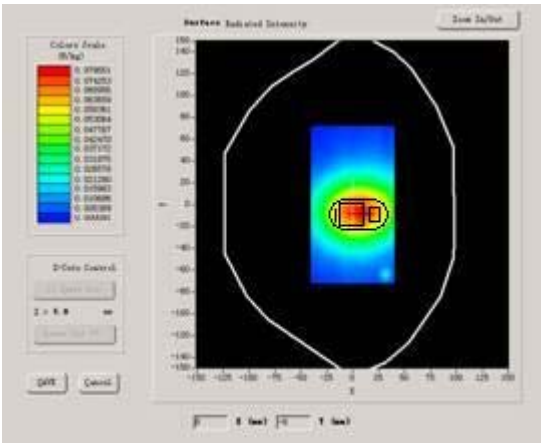
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	High
Signal	TDMA

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
Power Drift (%)	-1.840000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

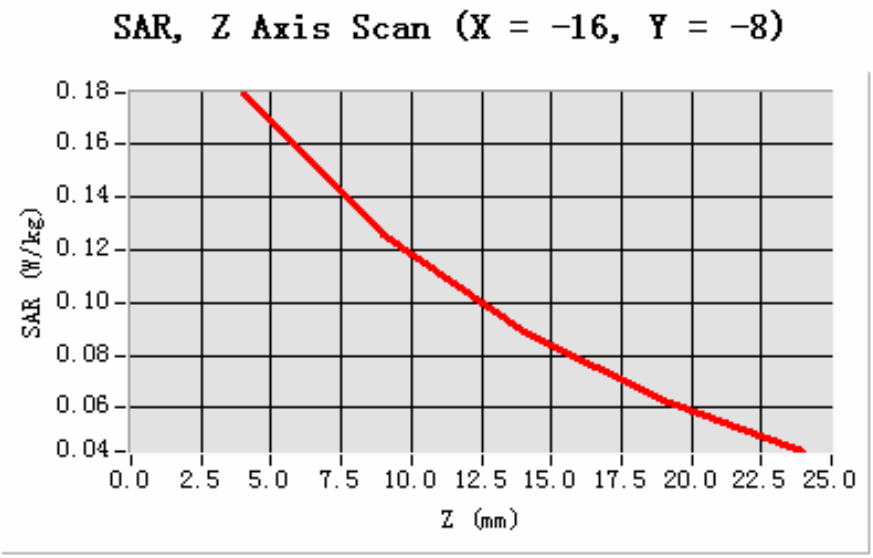
SURFACE SAR	**VOLUME SAR**
	

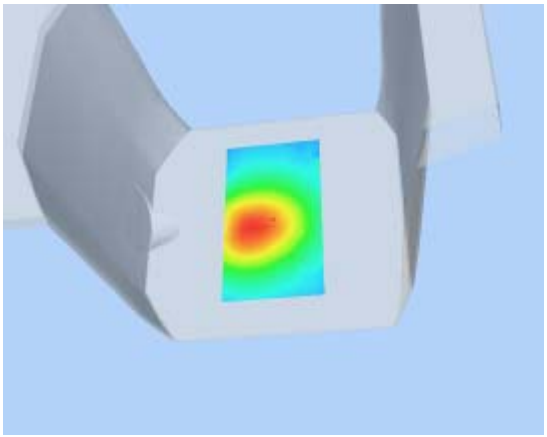
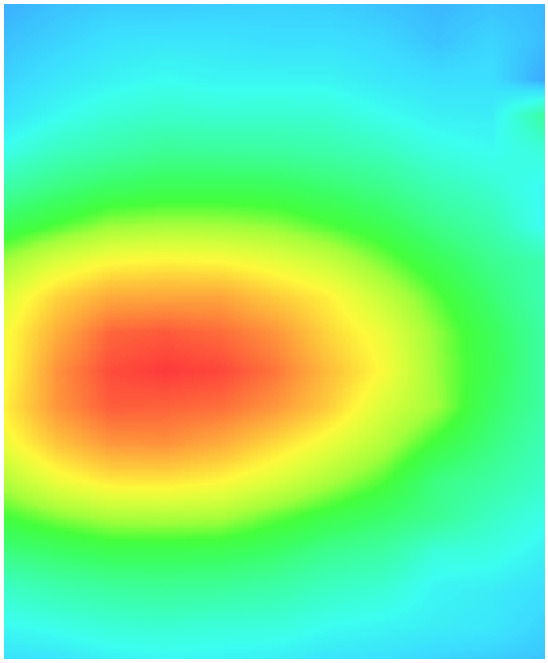
Maximum location: X=-16.00, Y=-8.00

SAR 10g (W/Kg)	0.154422
SAR 1g (W/Kg)	0.268552

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1790	0.1257	0.0886	0.0629



3D sceen shot	Hot spot position
	

MEASUREMENT 20（with Headphone）

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 5 minutes 26 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

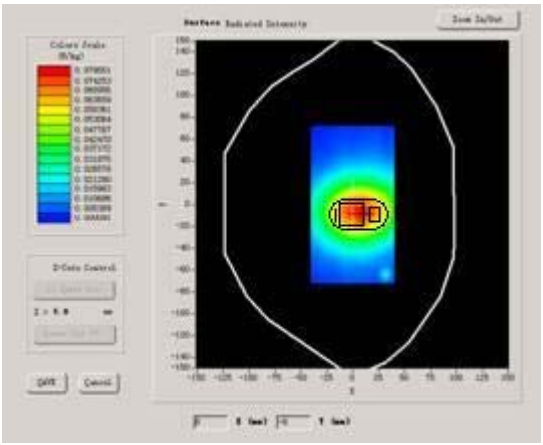
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	High
Signal	TDMA

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
Power Drift (%)	4.930000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	28.479,25.214,27.196

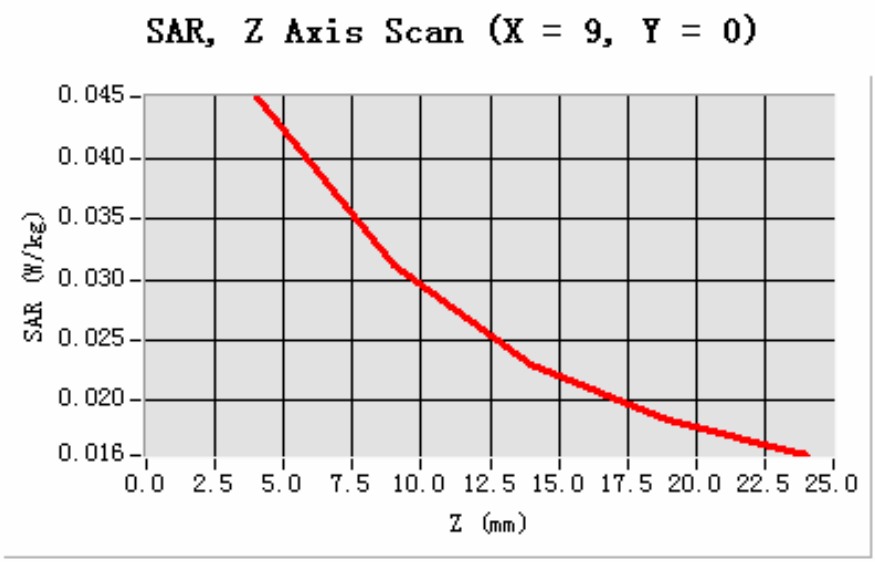
SURFACE SAR	**VOLUME SAR**
	

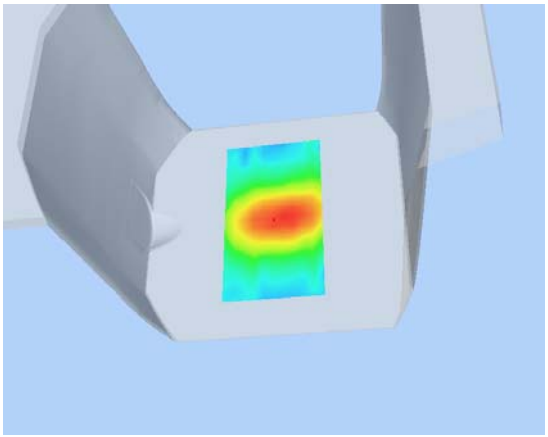
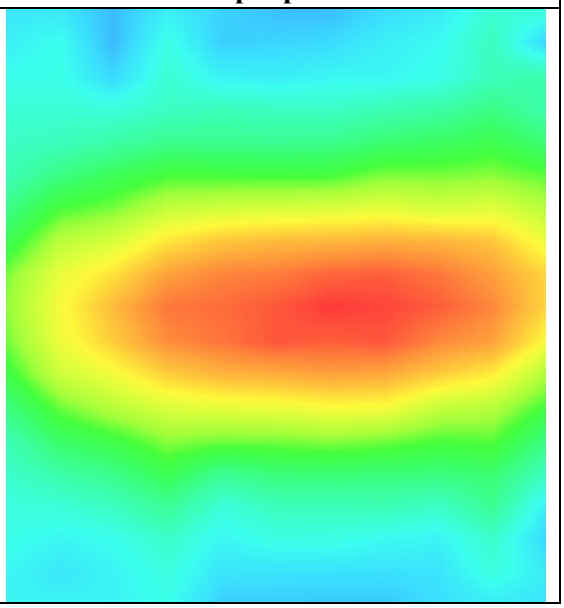
Maximum location: X=9.00, Y=0.00

SAR 10g (W/Kg)	0.358412
SAR 1g (W/Kg)	0.694582

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.0451	0.0312	0.0230	0.0185



3D sceen shot	Hot spot position
	

MEASUREMENT 21

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 4 minutes 1 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

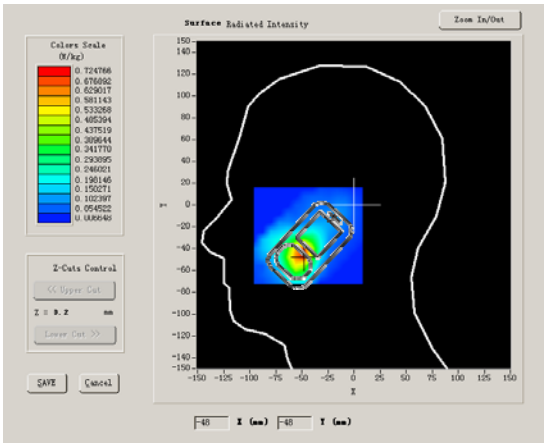
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	Low
Signal	TDMA

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
Power Drift (%)	-1.960000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

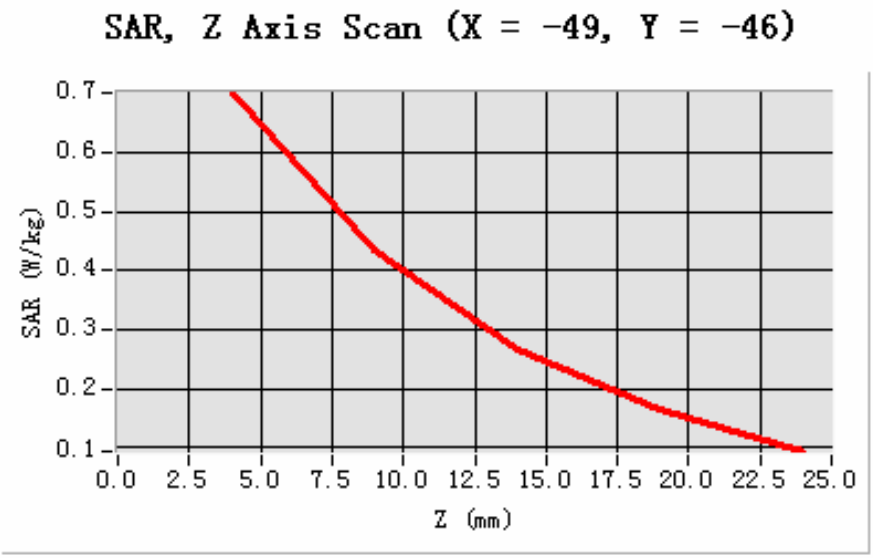
SURFACE SAR	VOLUME SAR
	

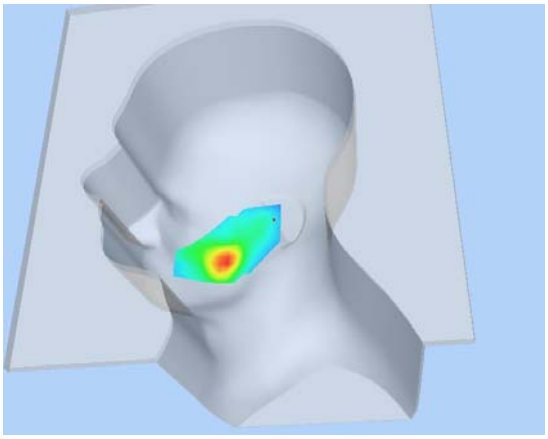
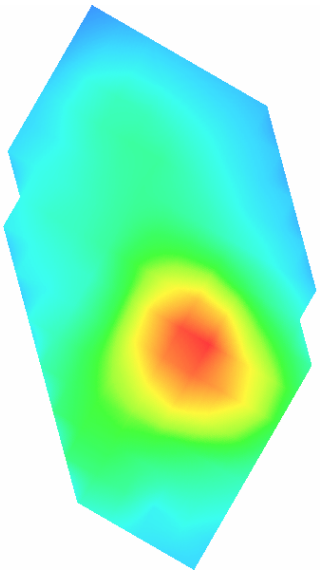
Maximum location: X=-49.00, Y=-46.00

SAR 10g (W/Kg)	0.354414
SAR 1g (W/Kg)	0.648833

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.7018	0.4363	0.2681	0.1638



3D sceen shot	Hot spot position
	

MEASUREMENT 22

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 4 minutes 1 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

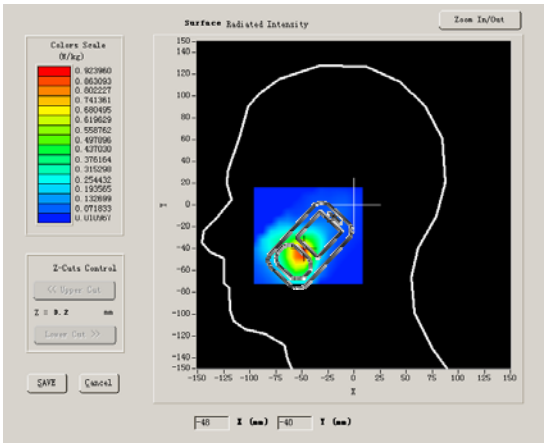
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	Middle
Signal	TDMA

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
Power Drift (%)	-3.910000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

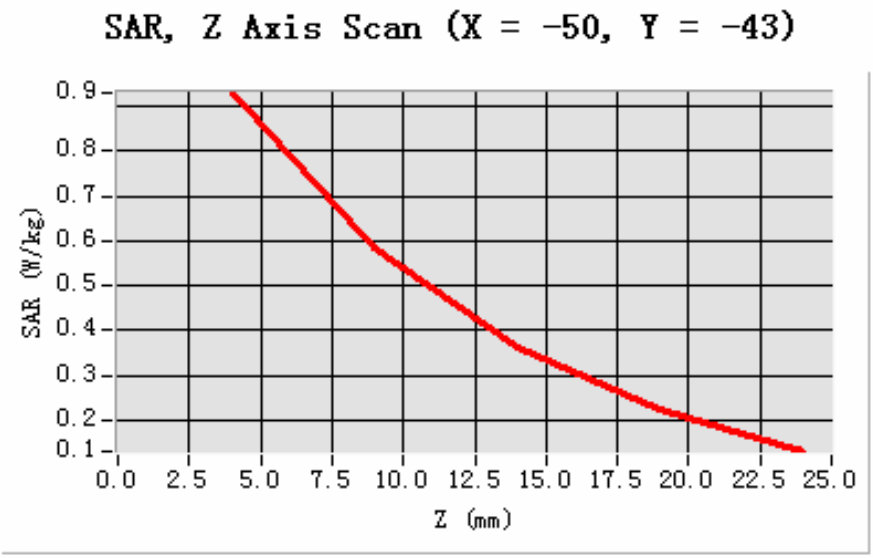
SURFACE SAR	VOLUME SAR
	

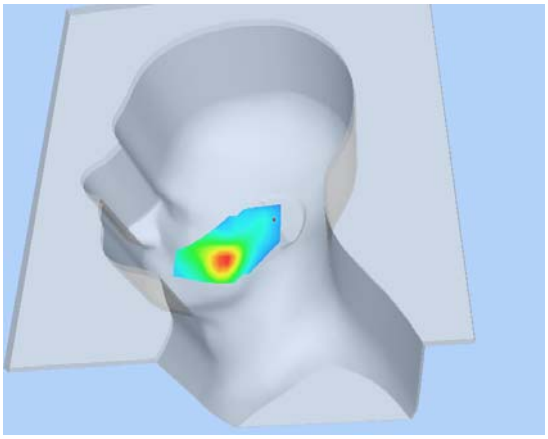
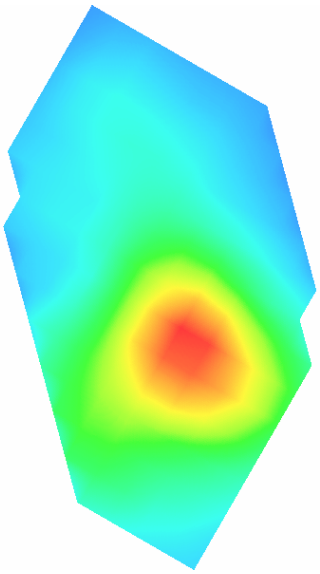
Maximum location: X=-50.00, Y=-43.00

SAR 10g (W/Kg)	0.471746
SAR 1g (W/Kg)	0.860853

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.9289	0.5851	0.3646	0.2257



3D sceen shot	Hot spot position
	

MEASUREMENT 23

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement:12/1/2009

Measurement duration: 3 minutes 59 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

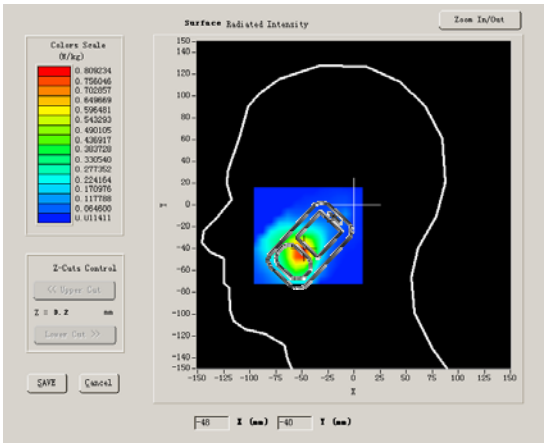
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	High
Signal	TDMA

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
Power Drift (%)	-1.350000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

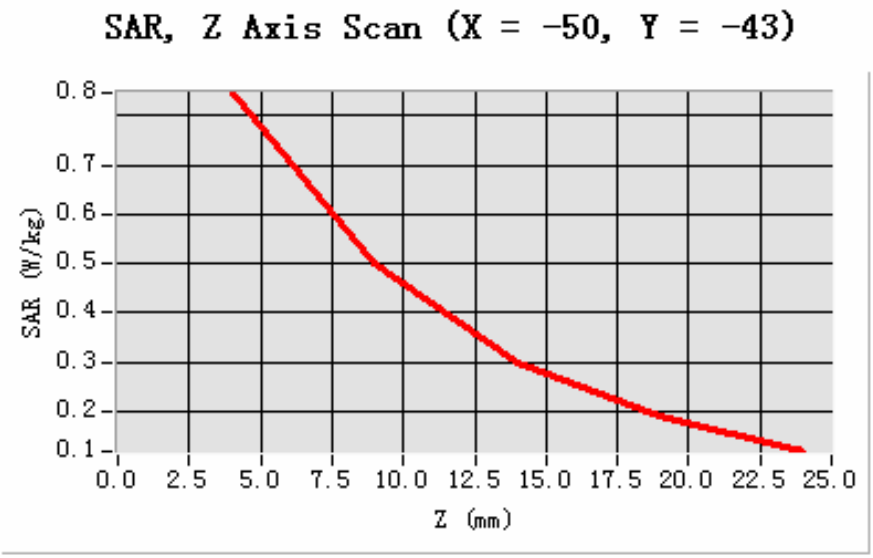
SURFACE SAR	VOLUME SAR
	

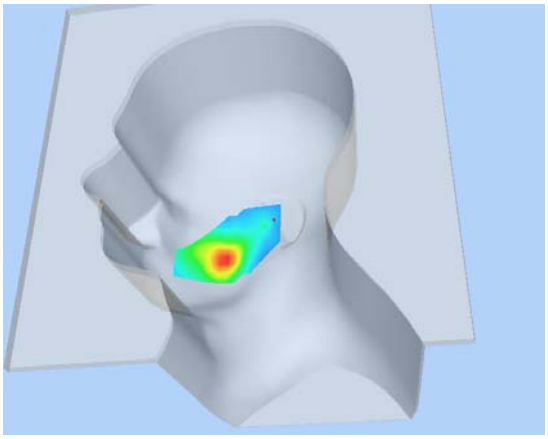
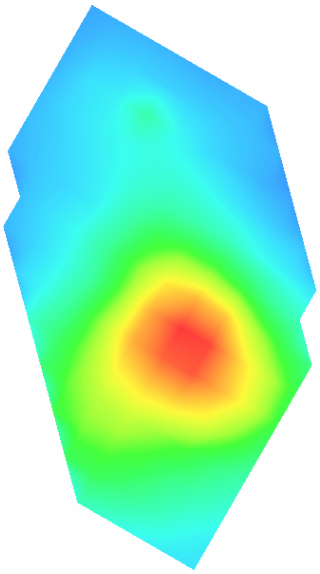
Maximum location: X=-50.00, Y=-43.00

SAR 10g (W/Kg)	0.424051
SAR 1g (W/Kg)	0.785130

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.8458	0.4993	0.3000	0.1894



3D sceen shot	Hot spot position
	

MEASUREMENT 24

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement:12/1/2009

Measurement duration: 3 minutes 51 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

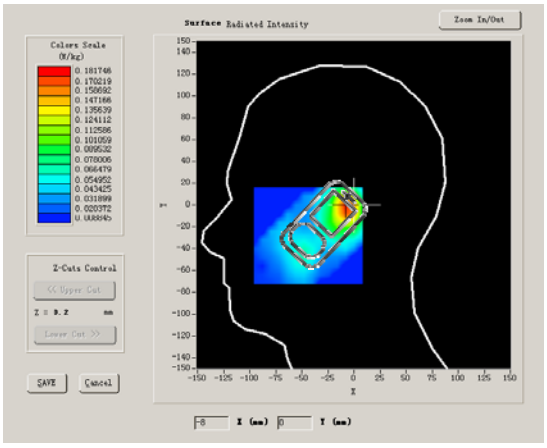
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	Low
Signal	TDMA

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)	1.33537
Power Drift (%)	-0.430000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

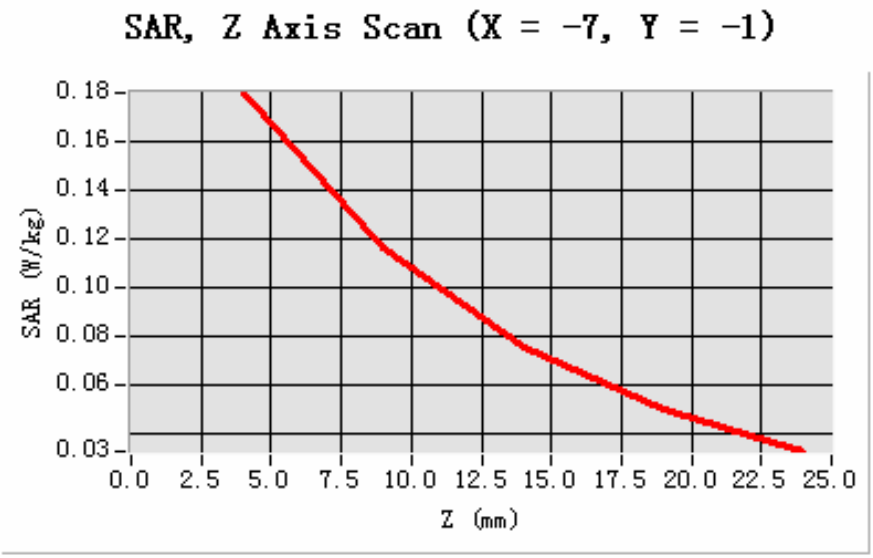
SURFACE SAR	VOLUME SAR
	

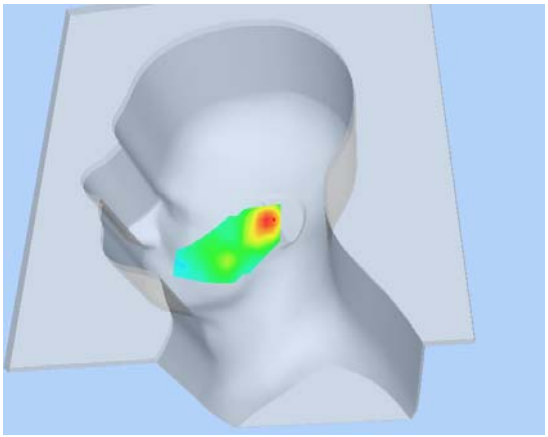
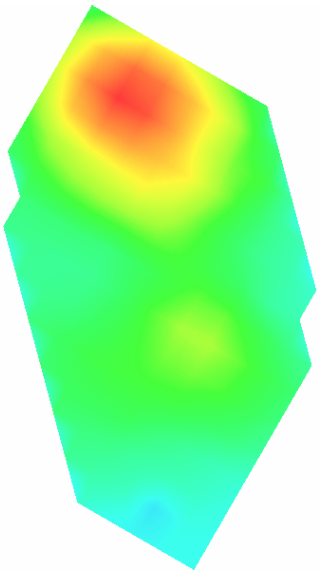
Maximum location: X=-7.00, Y=-1.00

SAR 10g (W/Kg)	0.100108
SAR 1g (W/Kg)	0.170268

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1800	0.1163	0.0756	0.0501



3D sceen shot	Hot spot position
	

MEASUREMENT 25

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 4 minutes 7 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

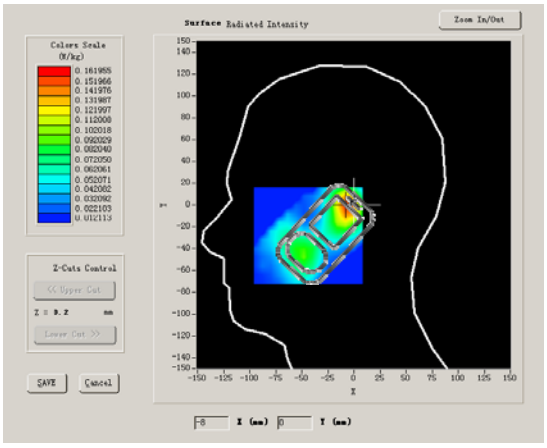
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	Middle
Signal	TDMA

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
Power Drift (%)	-1.860000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

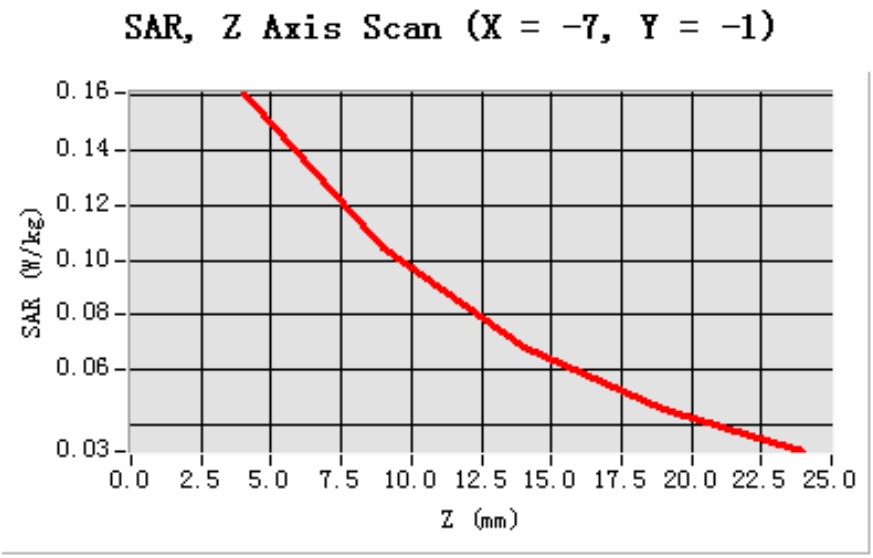
SURFACE SAR	VOLUME SAR
	

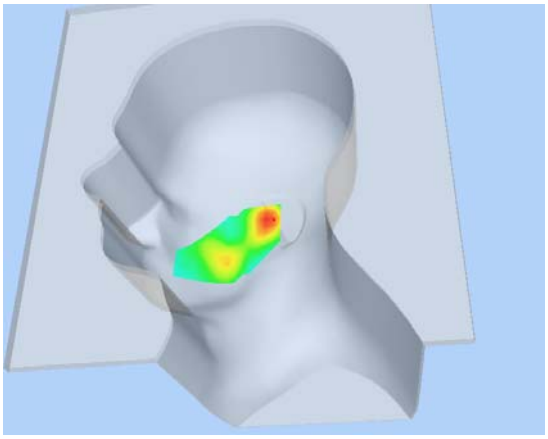
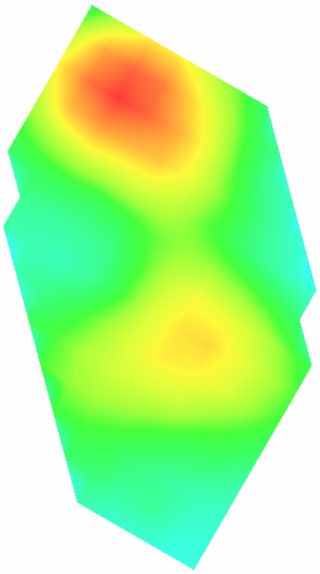
Maximum location: X=-7.00, Y=-1.00

SAR 10g (W/Kg)	0.087951
SAR 1g (W/Kg)	0.150387

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1612	0.1042	0.0680	0.0455



3D sceen shot	Hot spot position
	

MEASUREMENT 26

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 52 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

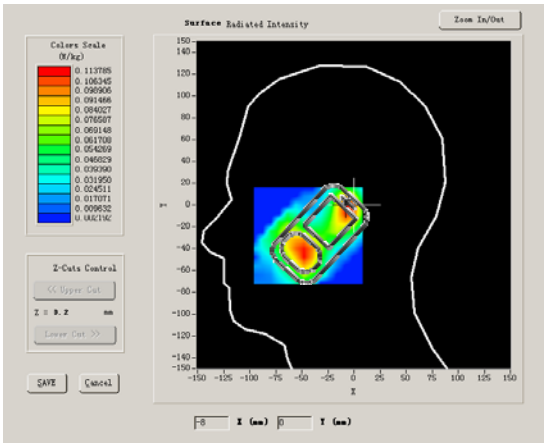
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	High
Signal	TDMA

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
Power Drift (%)	0.660000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

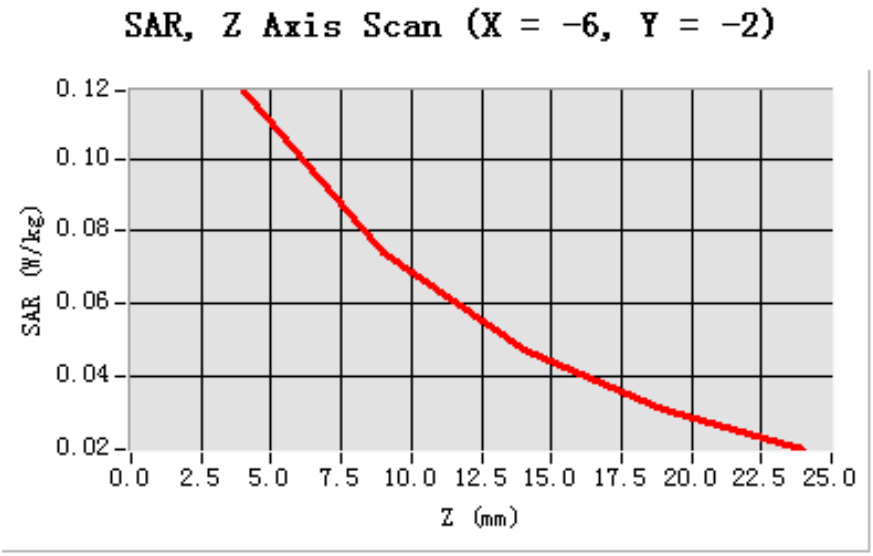
SURFACE SAR	**VOLUME SAR**
	

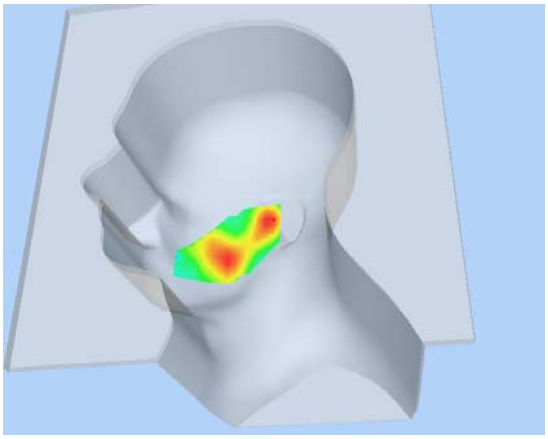
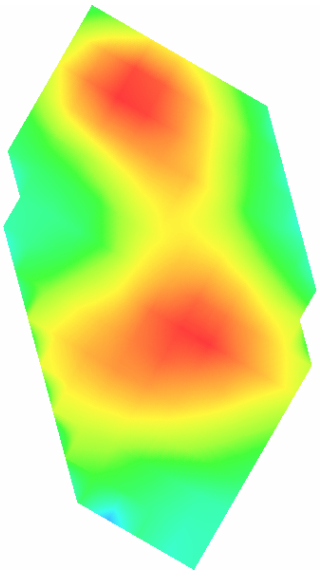
Maximum location: X=-6.00, Y=-2.00

SAR 10g (W/Kg)	0.064676
SAR 1g (W/Kg)	0.111364

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1187	0.0743	0.0471	0.0308



3D sceen shot	Hot spot position
	

MEASUREMENT 27

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 7 minutes 46 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

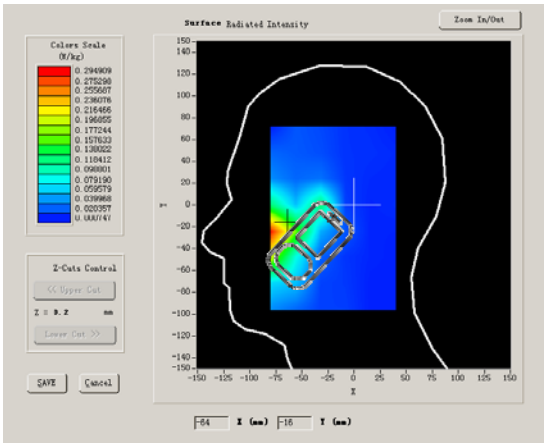
Phantom File	zinf10.txt
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	Low
Signal	TDMA

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
Power Drift (%)	-0.130000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

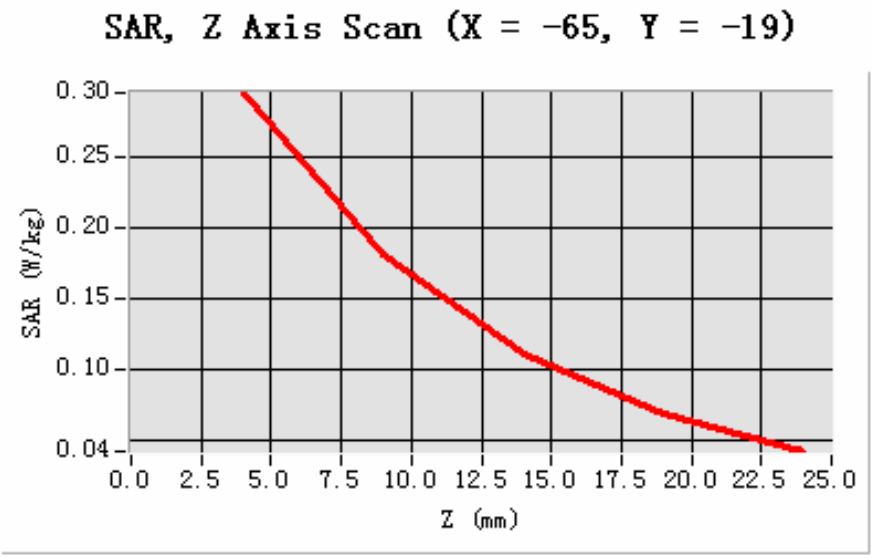
SURFACE SAR	VOLUME SAR
	

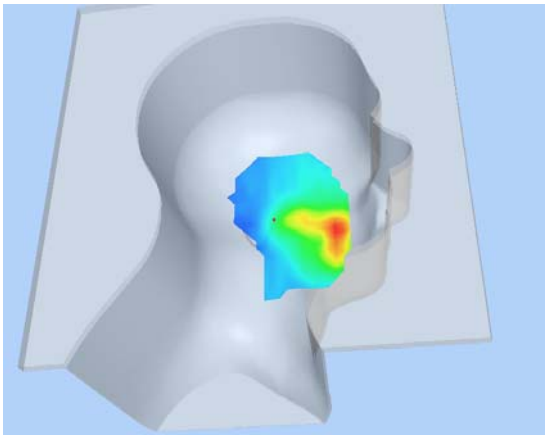
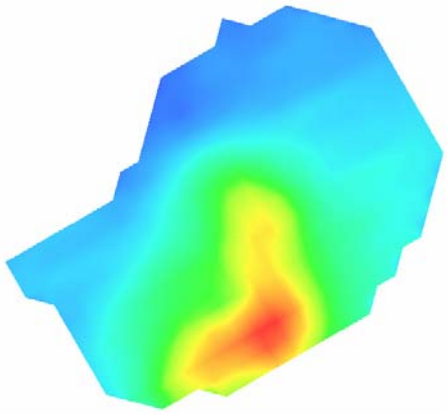
Maximum location: X=-65.00, Y=-19.00

SAR 10g (W/Kg)	0.160914
SAR 1g (W/Kg)	0.281225

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.2956	0.1806	0.1107	0.0691



3D sceen shot	Hot spot position
	

MEASUREMENT 28

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 8 minutes 7 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

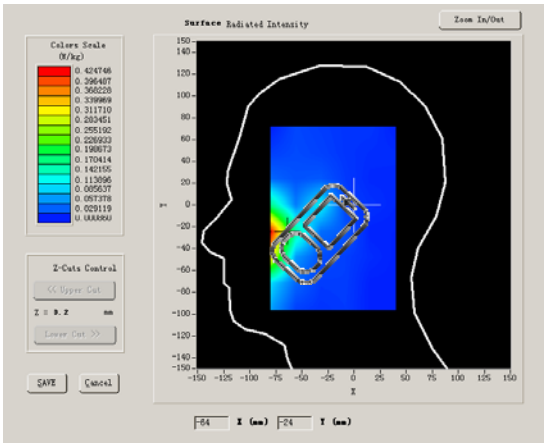
Phantom File	zinf10.txt
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	Middle
Signal	TDMA

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
Power Drift (%)	-1.240000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

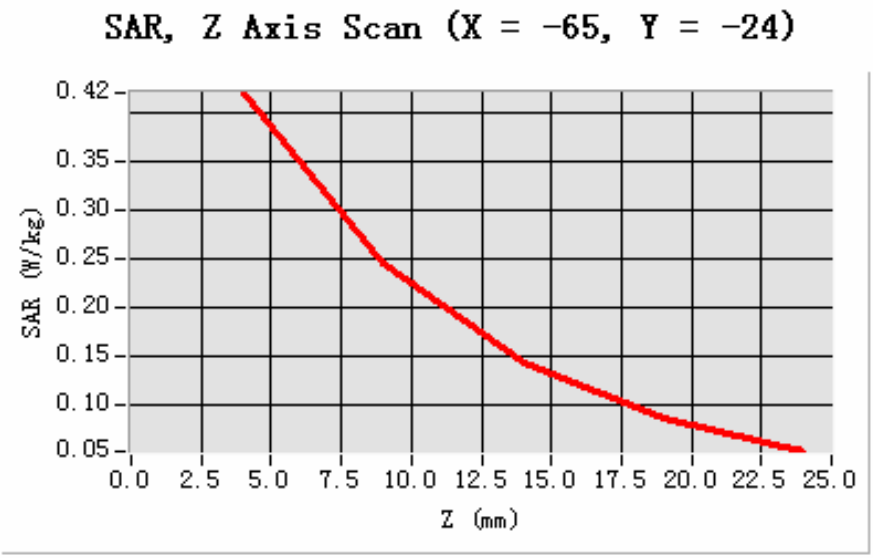
SURFACE SAR	VOLUME SAR
	

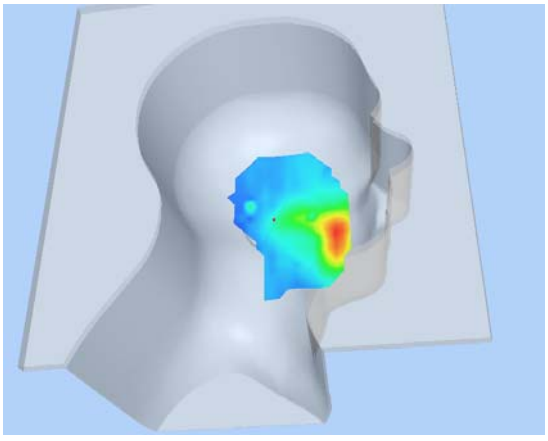
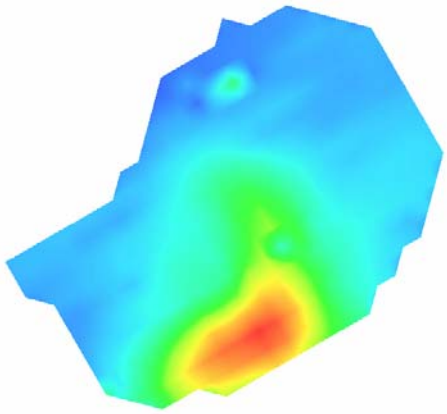
Maximum location: X=-65.00, Y=-24.00

SAR 10g (W/Kg)	0.223402
SAR 1g (W/Kg)	0.395990

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.4193	0.2448	0.1444	0.0887



3D sceen shot	Hot spot position
	

MEASUREMENT 29

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 4 minutes 7 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

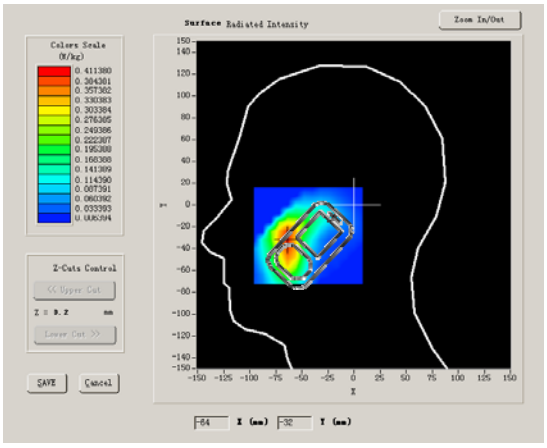
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	High
Signal	TDMA

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
Power Drift (%)	-0.770000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

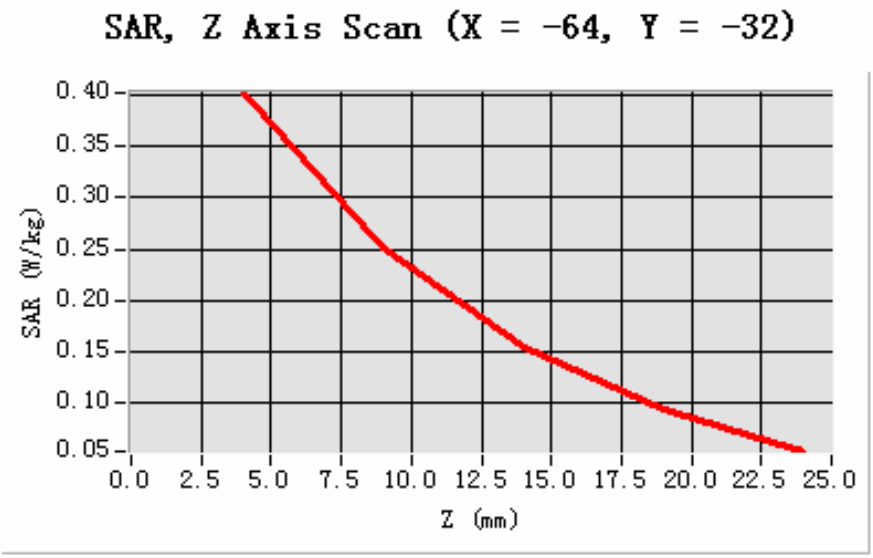
SURFACE SAR	VOLUME SAR
	

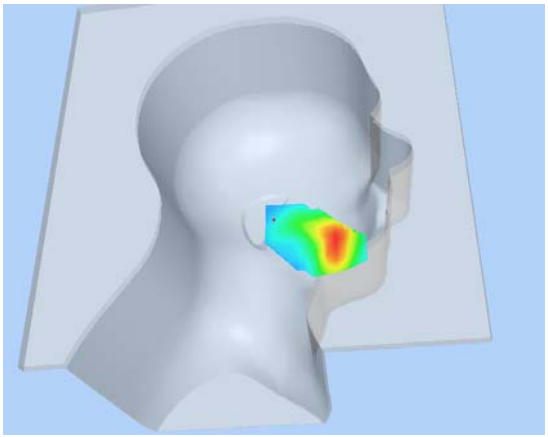
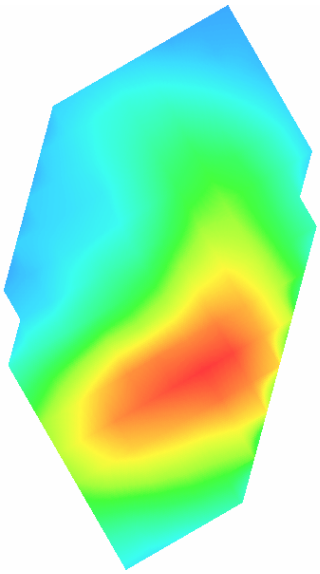
Maximum location: X=-64.00, Y=-32.00

SAR 10g (W/Kg)	0.223077
SAR 1g (W/Kg)	0.382771

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.4031	0.2511	0.1537	0.0924



3D sceen shot	Hot spot position
	

MEASUREMENT 30

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 52 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

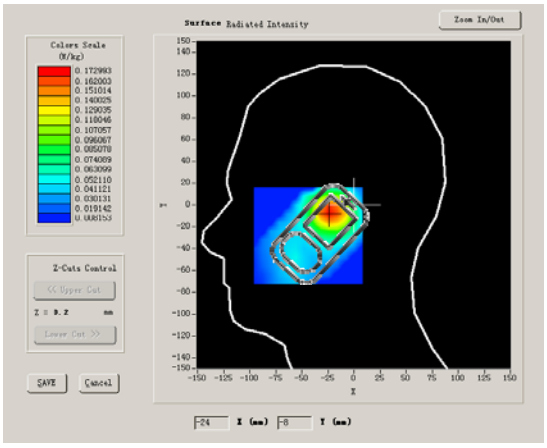
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM1900
Channels	Low
Signal	TDMA

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
Power Drift (%)	-0.030000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

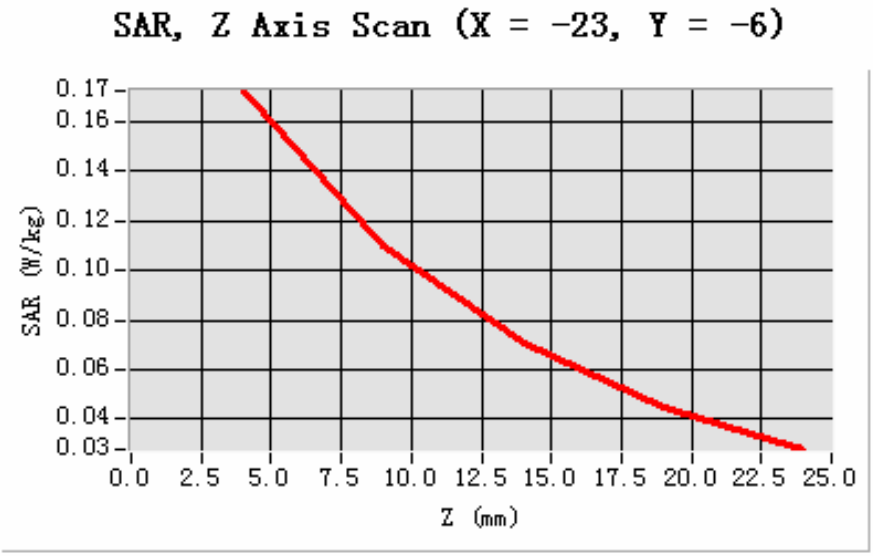
SURFACE SAR	VOLUME SAR
	

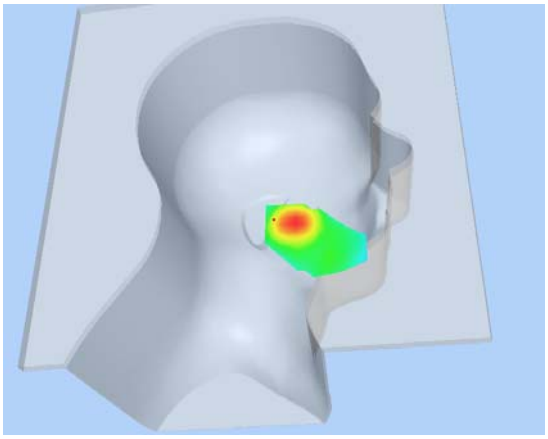
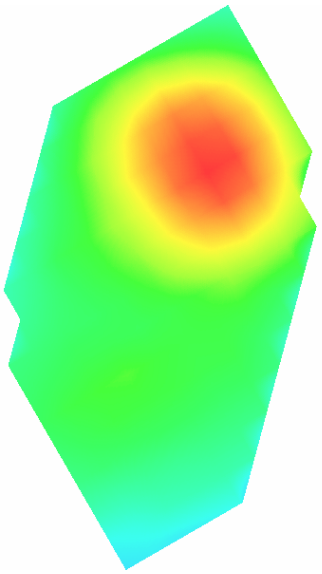
Maximum location: X=-23.00, Y=-6.00

SAR 10g (W/Kg)	0.097709
SAR 1g (W/Kg)	0.163048

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1726	0.1103	0.0704	0.0452



3D sceen shot	Hot spot position
	

MEASUREMENT 31

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 54 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

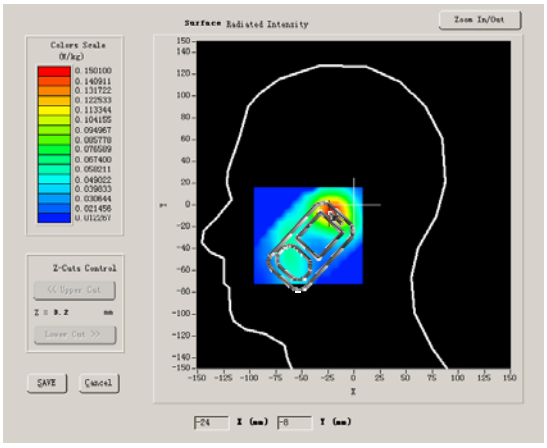
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM1900
Channels	Middle
Signal	TDMA

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
Power Drift (%)	-0.310000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

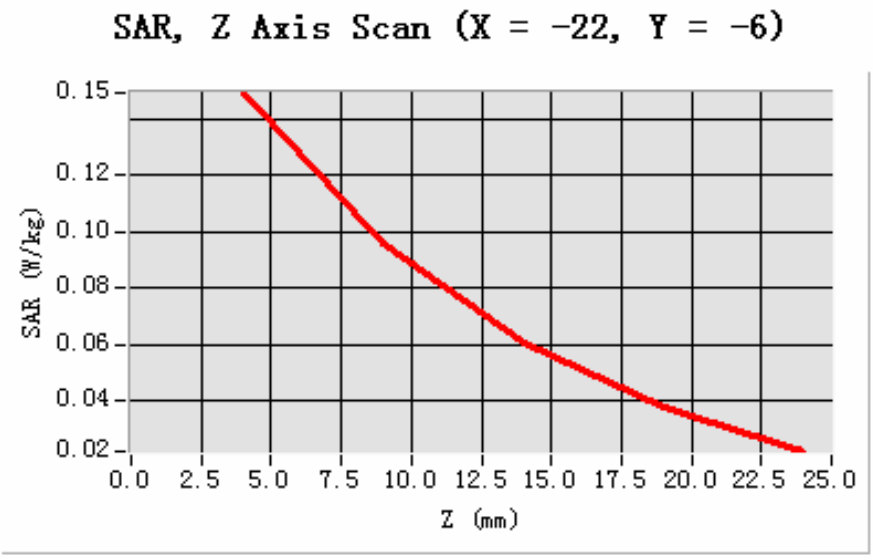
SURFACE SAR	VOLUME SAR
	

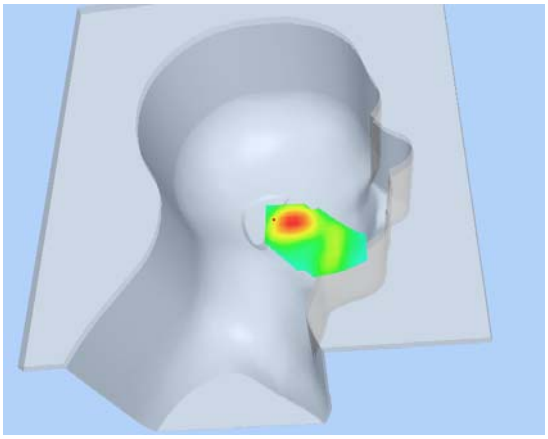
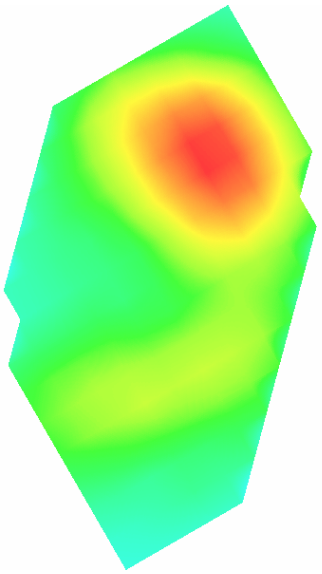
Maximum location: X=-22.00, Y=-6.00

SAR 10g (W/Kg)	0.082382
SAR 1g (W/Kg)	0.140119

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1492	0.0955	0.0604	0.0378



3D sceen shot	Hot spot position
	

MEASUREMENT 32

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 3 minutes 54 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

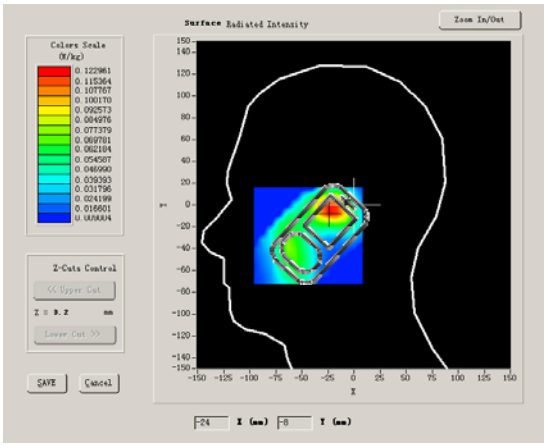
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM1900
Channels	High
Signal	TDMA

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
Power Drift (%)	-1.020000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

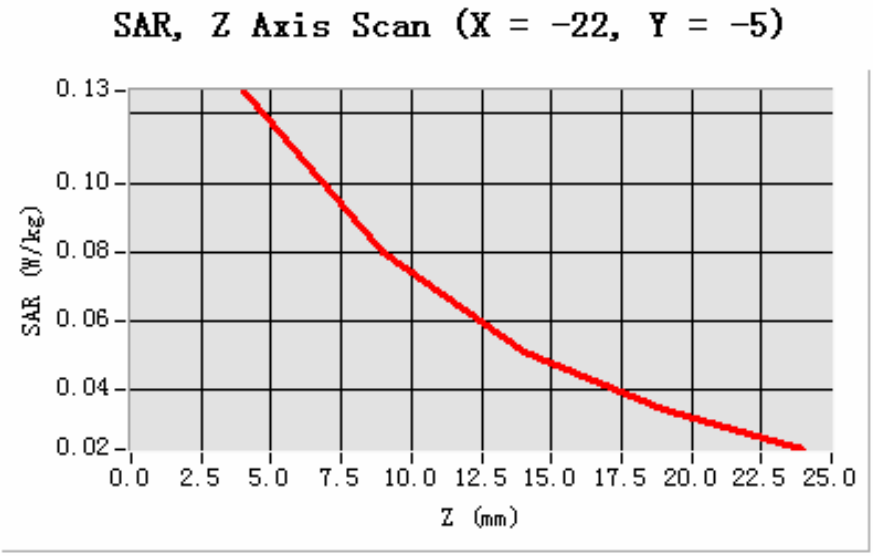
SURFACE SAR	VOLUME SAR
	

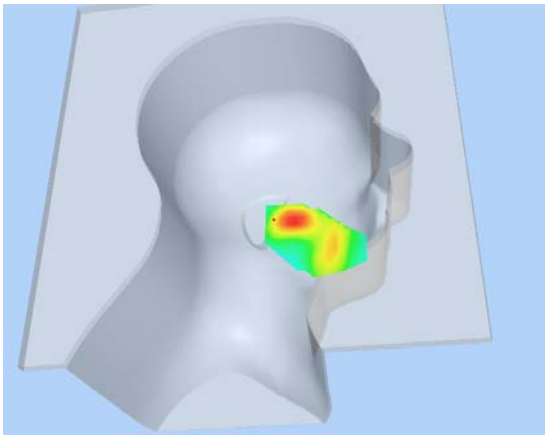
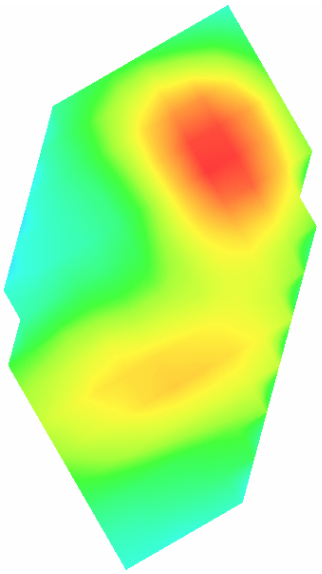
Maximum location: X=-22.00, Y=-5.00

SAR 10g (W/Kg)	0.069940
SAR 1g (W/Kg)	0.119323

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1265	0.0798	0.0514	0.0344



3D sceen shot	Hot spot position
	

MEASUREMENT 33 (Slide closed)

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 4 minutes 1 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

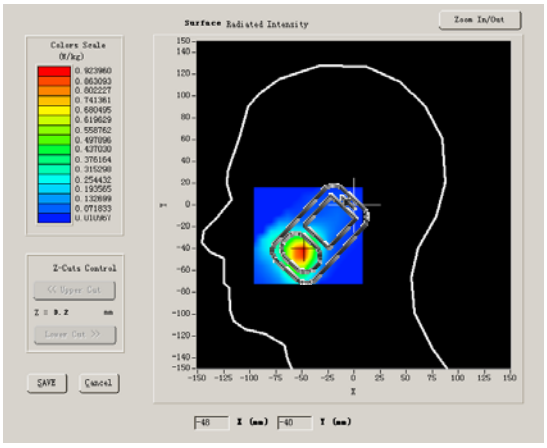
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	Middle
Signal	TDMA

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
Power Drift (%)	-3.910000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

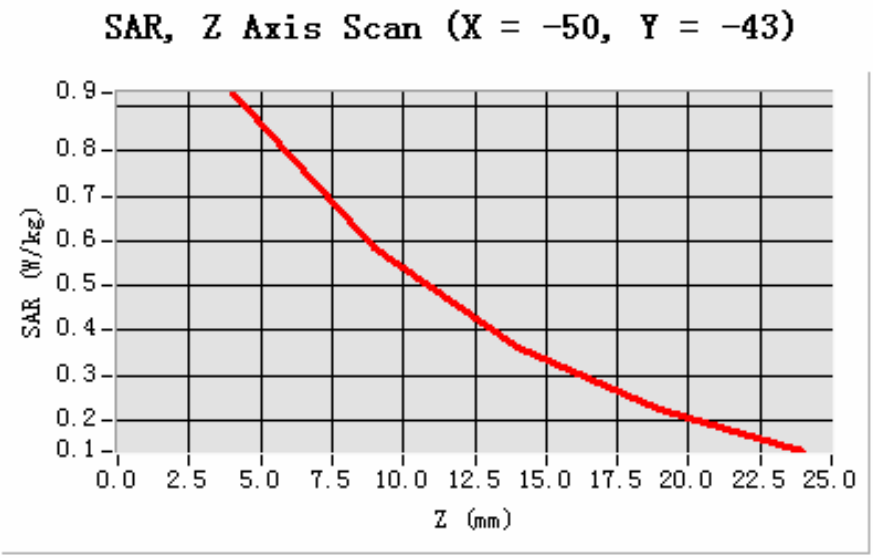
SURFACE SAR	VOLUME SAR
	

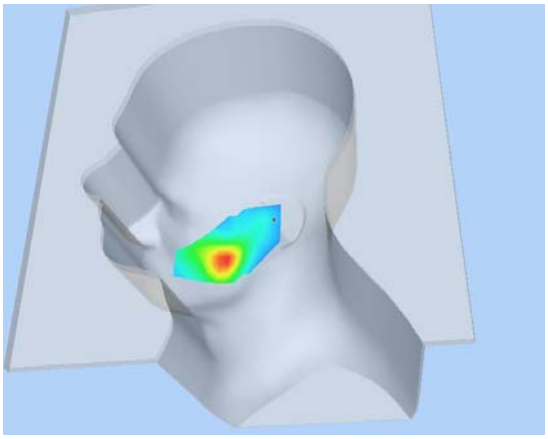
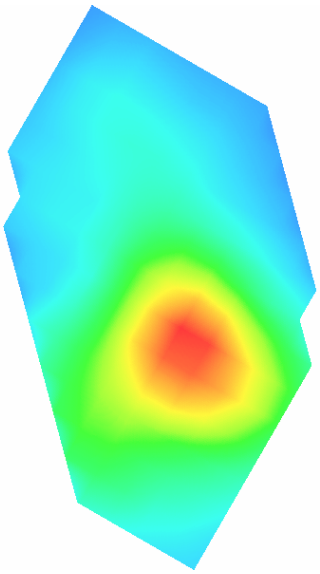
Maximum location: X=-50.00, Y=-43.00

SAR 10g (W/Kg)	0.466438
SAR 1g (W/Kg)	0.846639

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.9289	0.5851	0.3646	0.2257



3D sceen shot	Hot spot position
	

MEASUREMENT 34

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 4 minutes 1 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

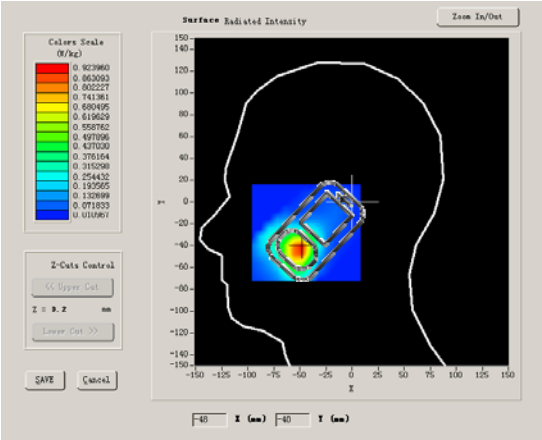
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	Middle
Signal	TDMA

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
Power Drift (%)	-3.910000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:4
probe factors (e.g. ConvF):	40.136,34.843,38.721

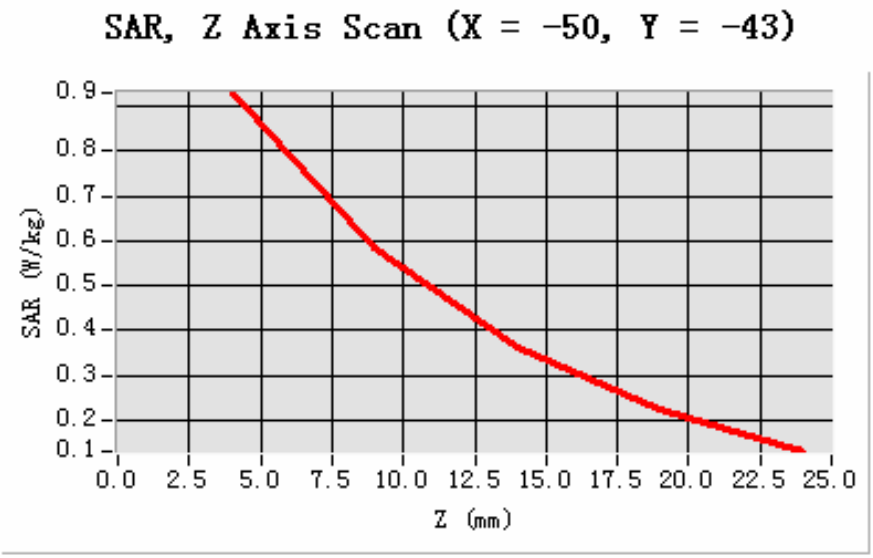
SURFACE SAR	VOLUME SAR
	

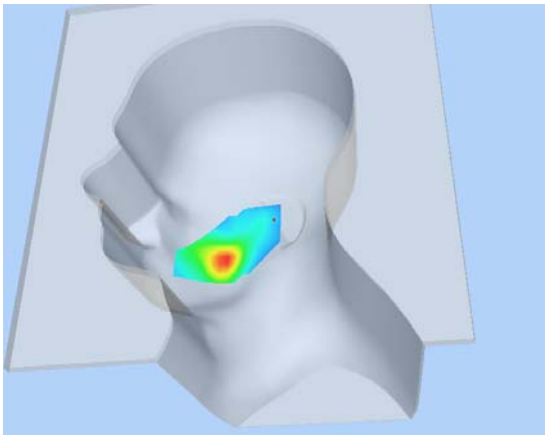
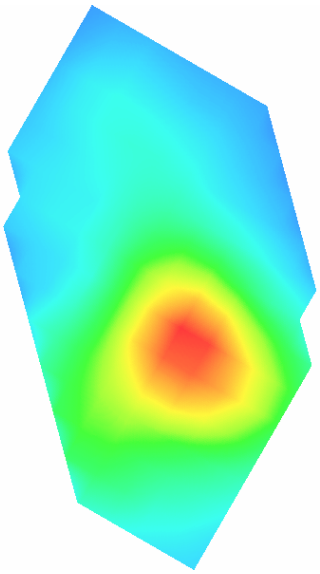
Maximum location: X=-50.00, Y=-43.00

SAR 10g (W/Kg)	0.694551
SAR 1g (W/Kg)	1.388492

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.9289	0.5851	0.3646	0.2257



3D sceen shot	Hot spot position
	

MEASUREMENT 35

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement:12/1/2009

Measurement duration: 5 minutes 35 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

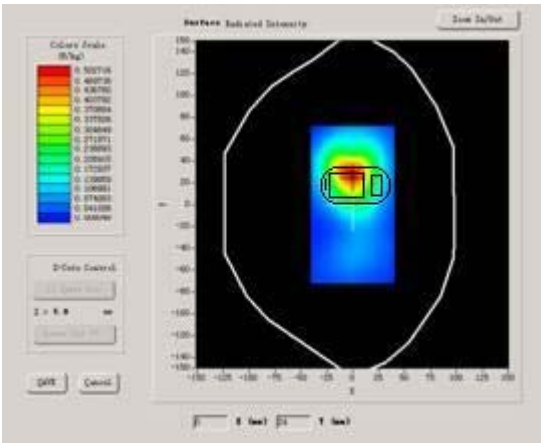
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Low
Signal	TDMA

B. SAR Measurement Results

Lower Band SAR (Channel 512):

Frequency (MHz)	1850.199951
Relative permittivity (real part)	10.000000
Relative permittivity	12.000000

Conductivity (S/m)	1.233467
Power Drift (%)	-0.130000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

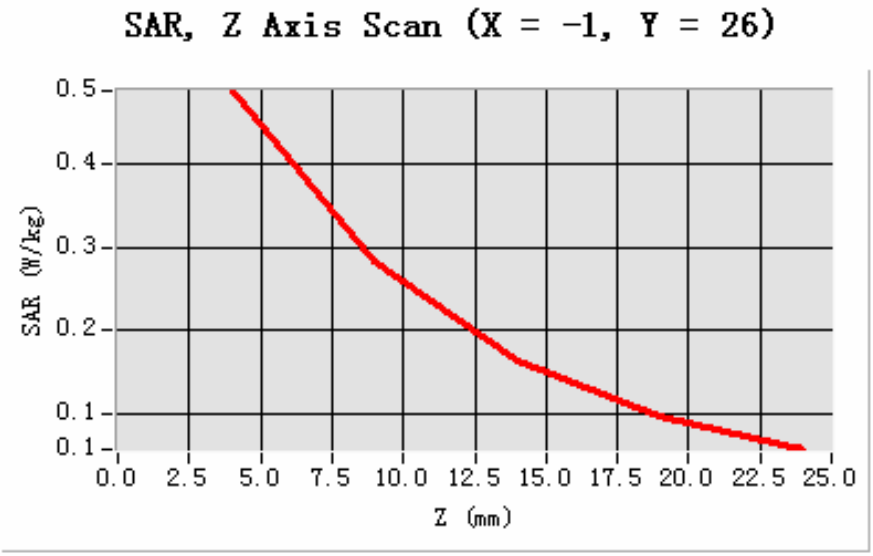
SURFACE SAR	**VOLUME SAR**
	

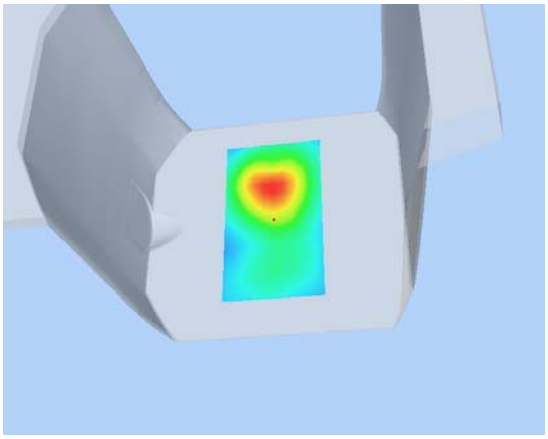
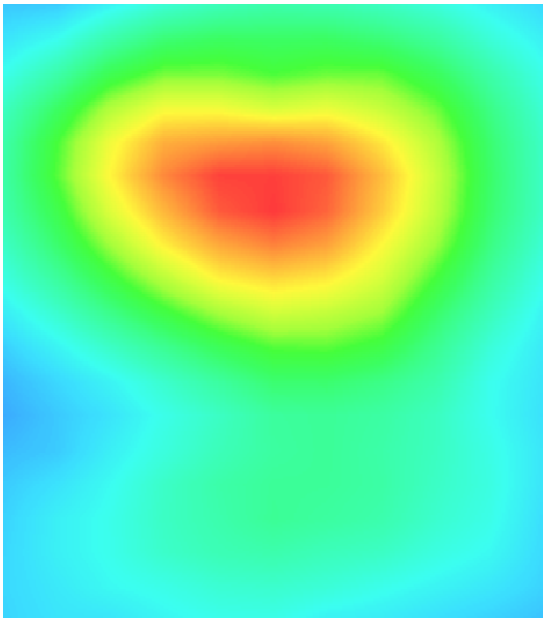
Maximum location: X=-1.00, Y=26.00

SAR 10g (W/Kg)	0.260861
SAR 1g (W/Kg)	0.459449

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.4867	0.2817	0.1640	0.0987



3D sceen shot	Hot spot position
	

MEASUREMENT 36

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 5 minutes 34 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

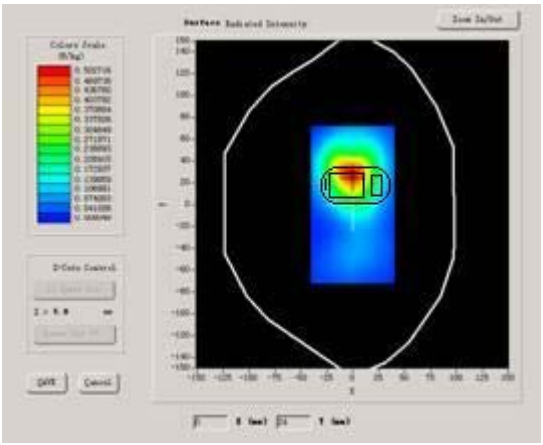
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA

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
Power Drift (%)	-0.07000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

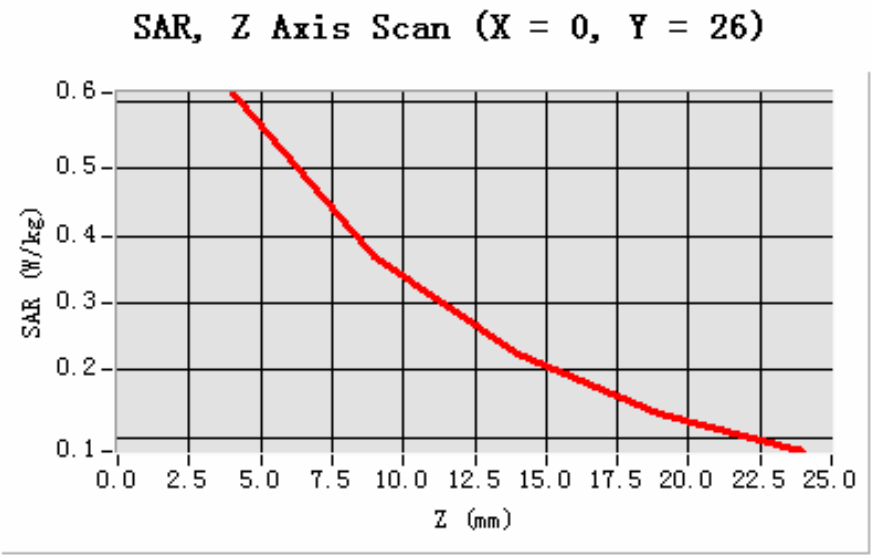
SURFACE SAR	**VOLUME SAR**
	

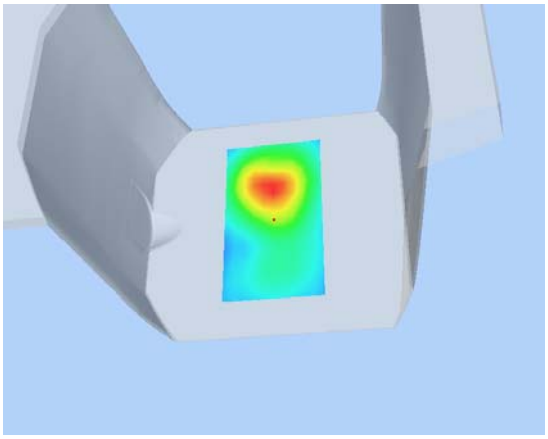
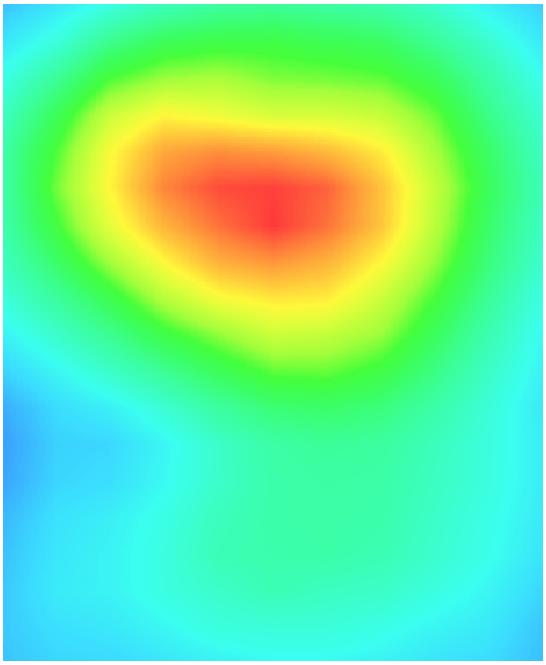
Maximum location: X=0.00, Y=26.00

SAR 10g (W/Kg)	0.336235
SAR 1g (W/Kg)	0.579223

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6124	0.3701	0.2231	0.1361



3D sceen shot	Hot spot position
	

MEASUREMENT 37

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 5 minutes 28 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

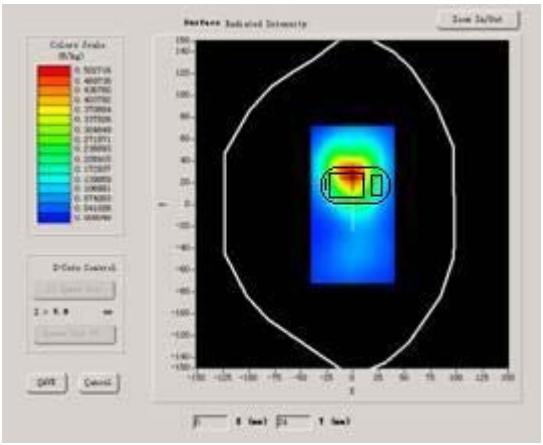
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	High
Signal	TDMA

B. SAR Measurement Results

Higher Band SAR (Channel 810):

Frequency (MHz)	1909.800049
Relative permittivity (real part)	10.000000
Relative permittivity	12.000000

Conductivity (S/m)	1.273200
Power Drift (%)	-0.920000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

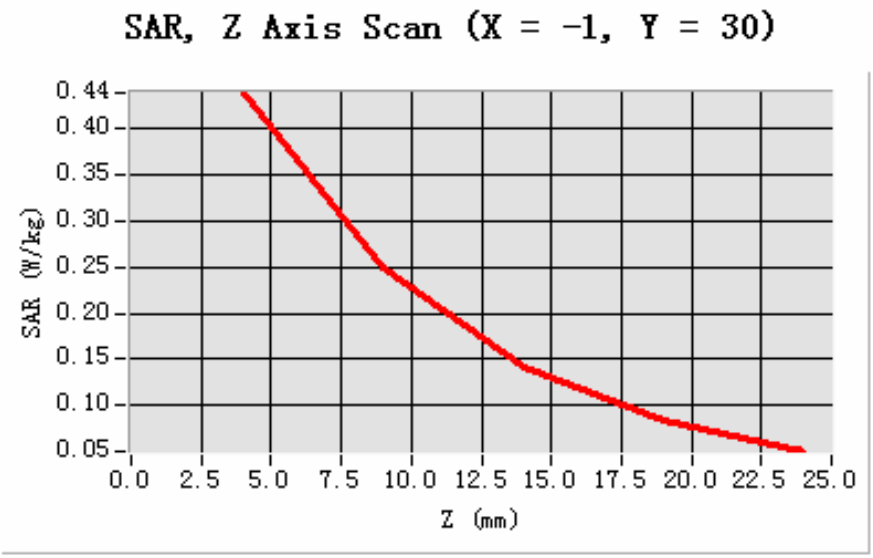
SURFACE SAR	VOLUME SAR
	

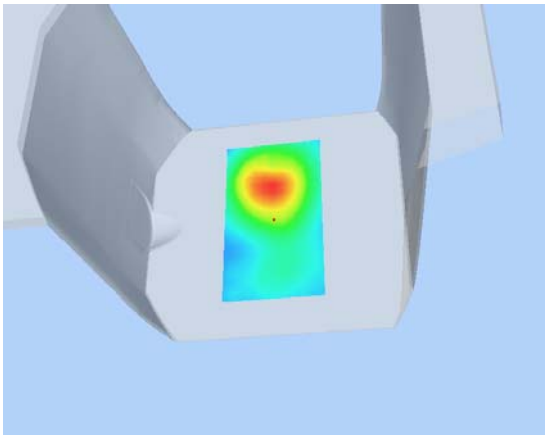
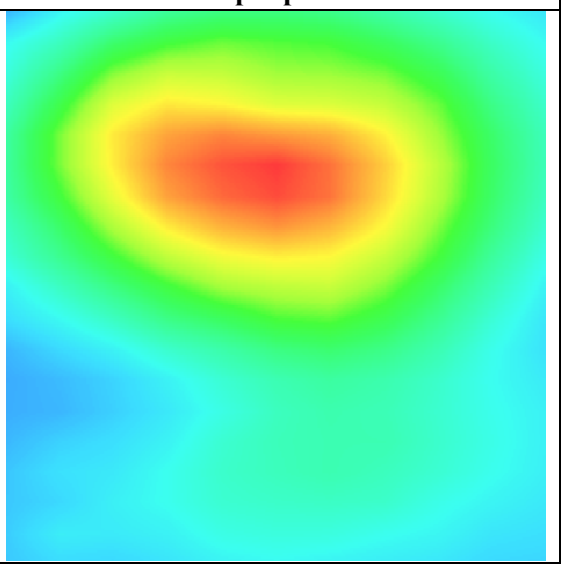
Maximum location: X=-1.00, Y=30.00

SAR 10g (W/Kg)	0.238162
SAR 1g (W/Kg)	0.419914

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.4390	0.2483	0.1417	0.0848



3D sceen shot	Hot spot position
	

MEASUREMENT 38

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 5 minutes 33 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

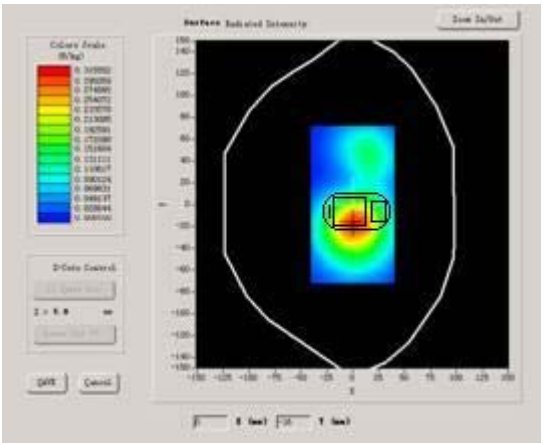
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA

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
Power Drift (%)	-0.400000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

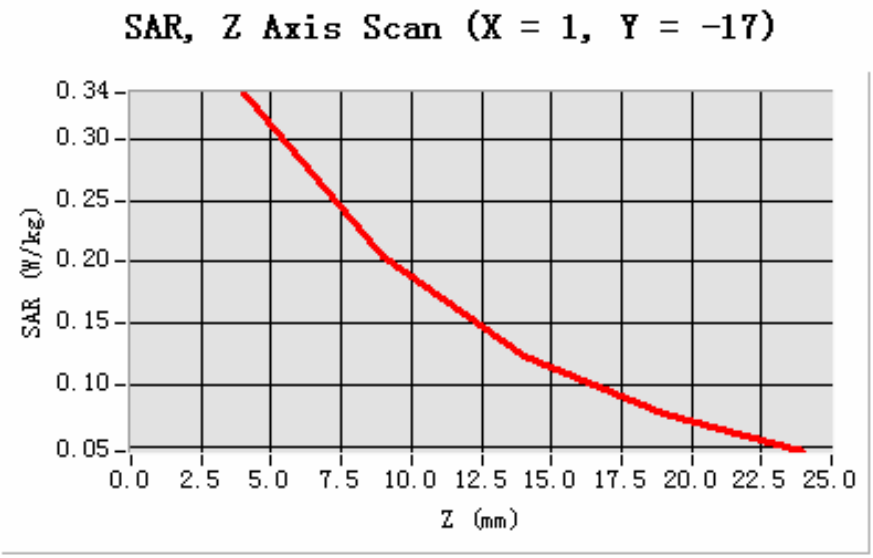
SURFACE SAR	**VOLUME SAR**
	

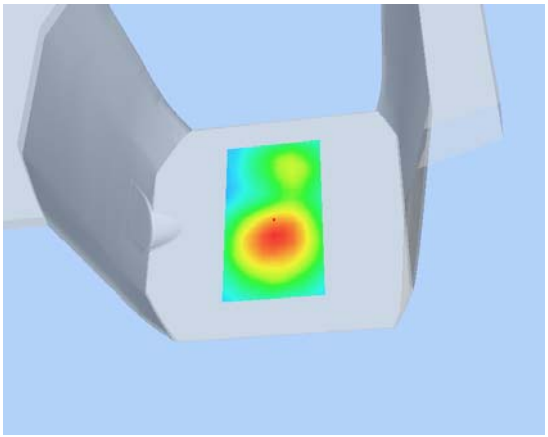
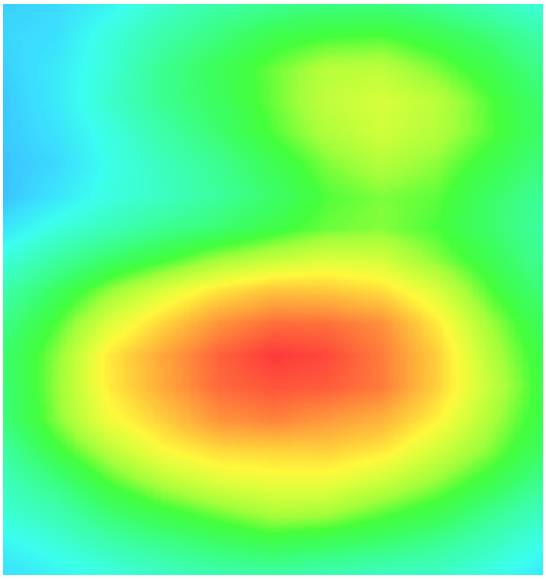
Maximum location: X=1.00, Y=-17.00

SAR 10g (W/Kg)	0.164564
SAR 1g (W/Kg)	0.285566

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.3374	0.2036	0.1234	0.0766



3D sceen shot	Hot spot position
	

MEASUREMENT 39

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 5 minutes 33 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

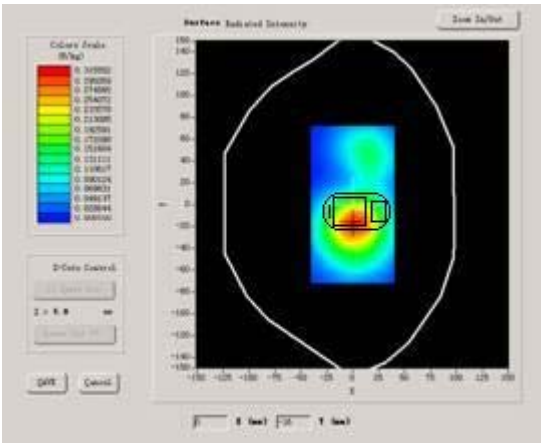
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA

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
Power Drift (%)	-0.400000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:8.2
probe factors (e.g. ConvF):	40.136,34.843,38.721

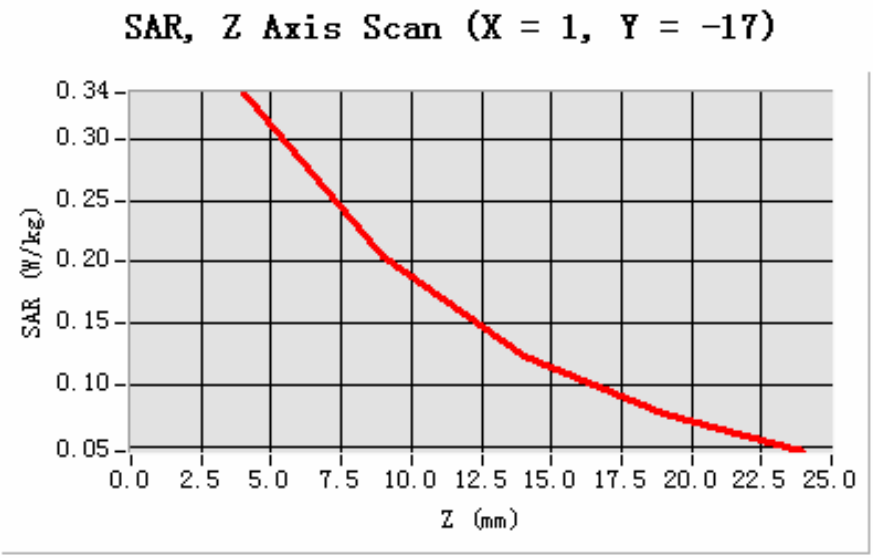
SURFACE SAR	**VOLUME SAR**
	

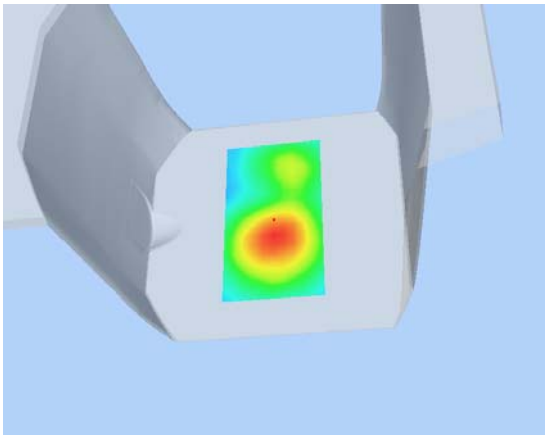
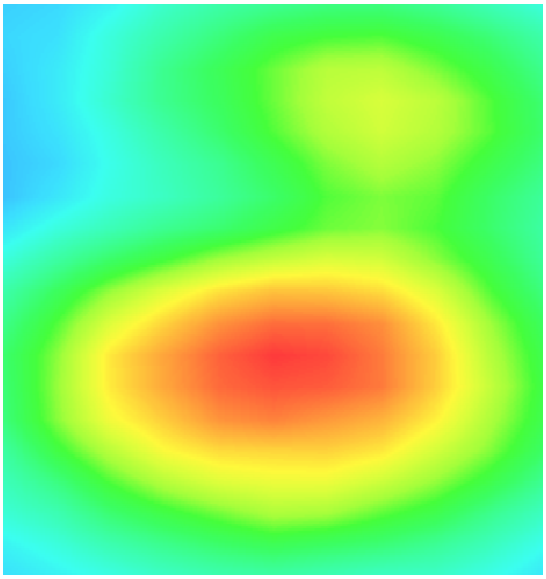
Maximum location: X=1.00, Y=-17.00

SAR 10g (W/Kg)	0.288343
SAR 1g (W/Kg)	0.588492

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.3374	0.2036	0.1234	0.0766



3D sceen shot	Hot spot position
	

MEASUREMENT 40

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 5 minutes 33 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

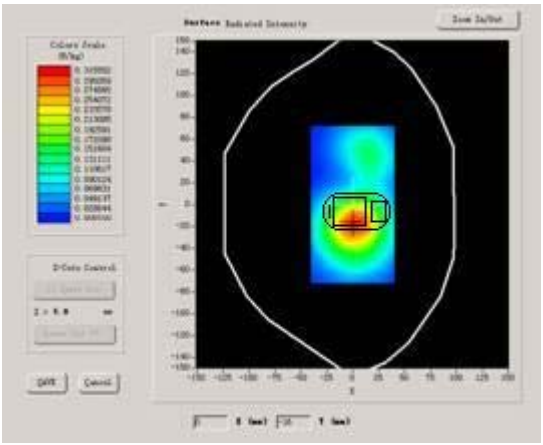
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA

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
Power Drift (%)	-0.400000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:4
probe factors (e.g. ConvF):	40.136,34.843,38.721

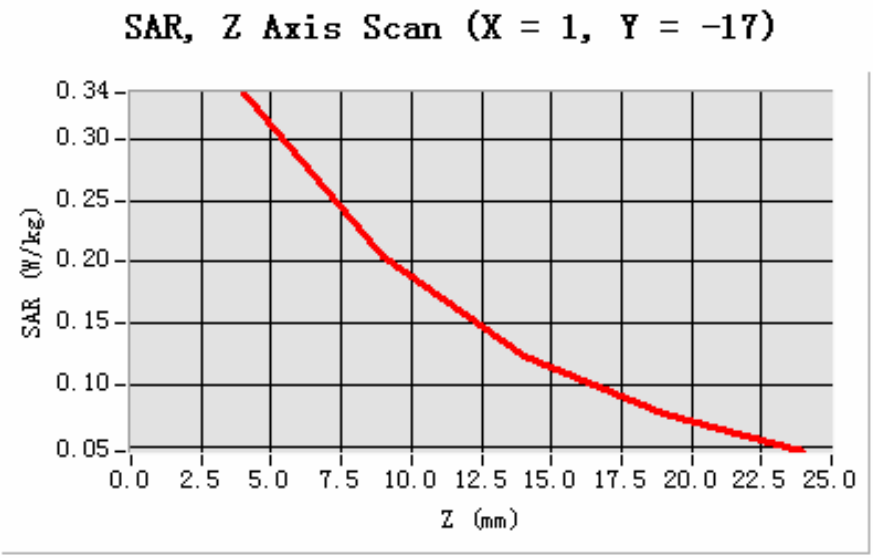
SURFACE SAR	**VOLUME SAR**
	

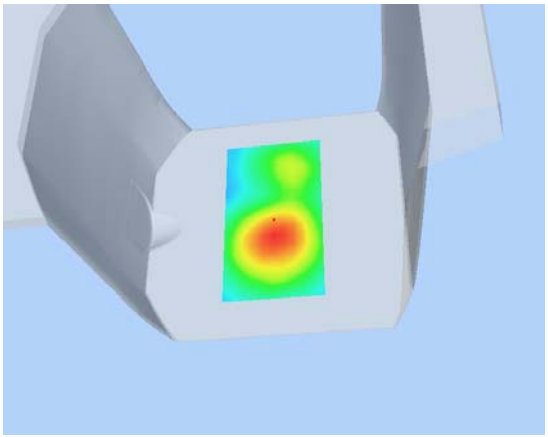
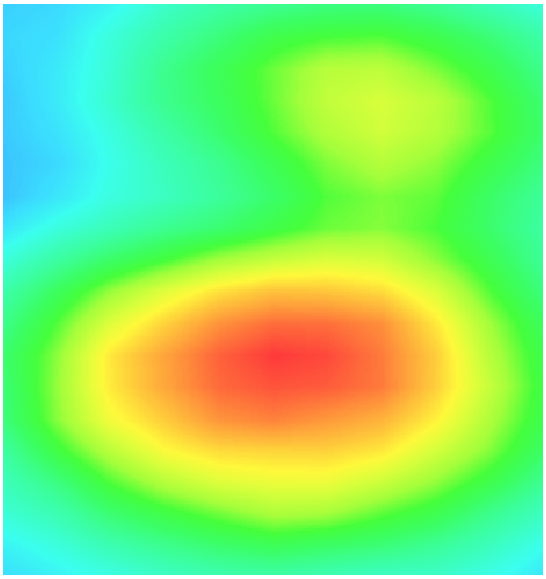
Maximum location: X=1.00, Y=-17.00

SAR 10g (W/Kg)	0.366482
SAR 1g (W/Kg)	0.845773

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.3374	0.2036	0.1234	0.0766



3D sceen shot	Hot spot position
	

System Performance Check Data(835MHz Head)

Type: Validation measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 5 minutes 27 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

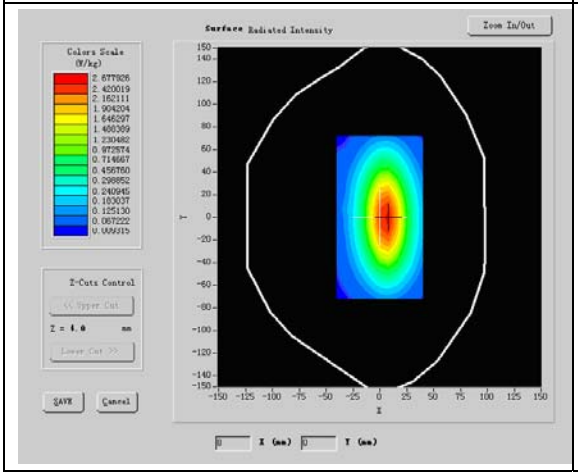
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM 835MHz
Channels	
Signal	GSM

B. SAR Measurement Results

Middle Band SAR:

Frequency (MHz)	835.00000
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Variation (%)	-0.050000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:1
probe factors (e.g. ConvF):	28.479,25.214,27.196

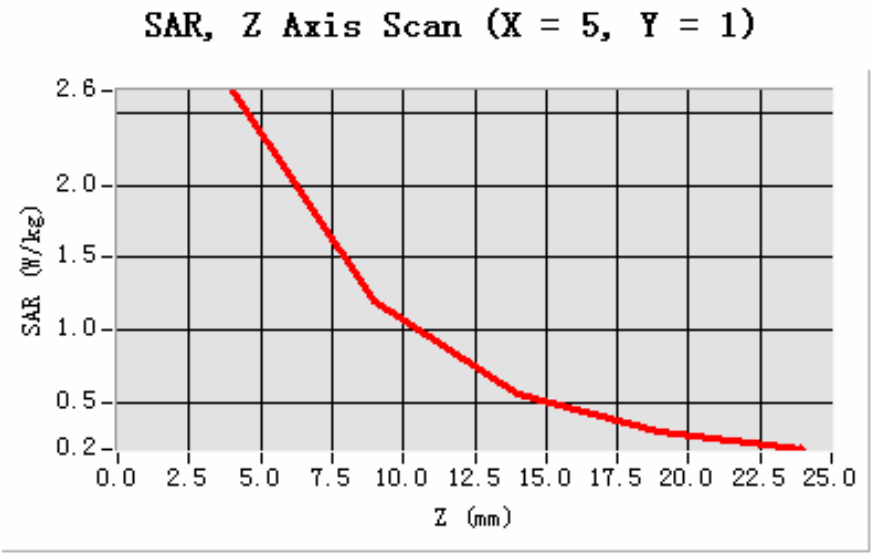
SURFACE SAR	VOLUME SAR
	

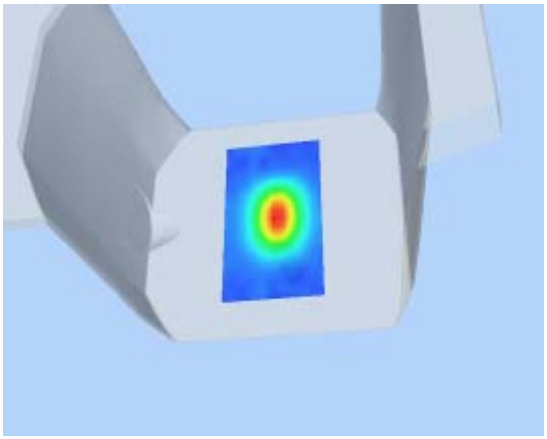
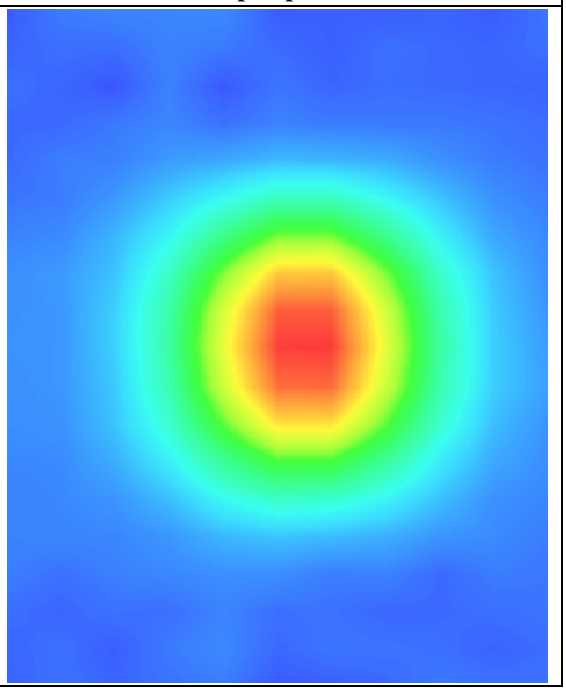
Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	1.875252
SAR 1g (W/Kg)	2.789422

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(835MHz Body)

Type: Validation measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 5 minutes 27 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

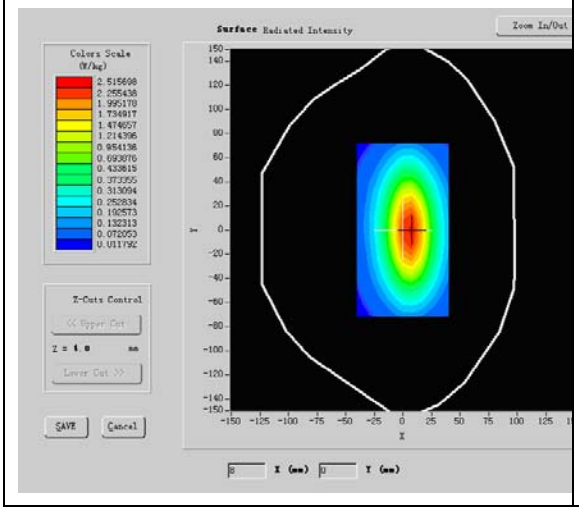
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM 835MHz
Channels	
Signal	GSM

B. SAR Measurement Results

Middle Band SAR:

Frequency (MHz)	835.000000
Relative permittivity (real part)	54.872231
Relative permittivity	15.070000

Conductivity (S/m)	1.054822
Variation (%)	-0.140000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:1
probe factors (e.g. ConvF):	28.479,25.214,27.196

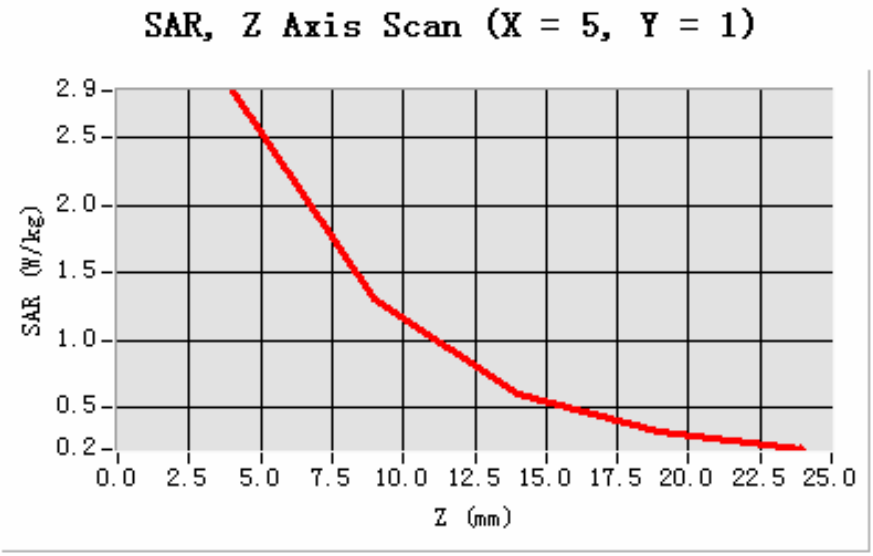
SURFACE SAR	**VOLUME SAR**
	

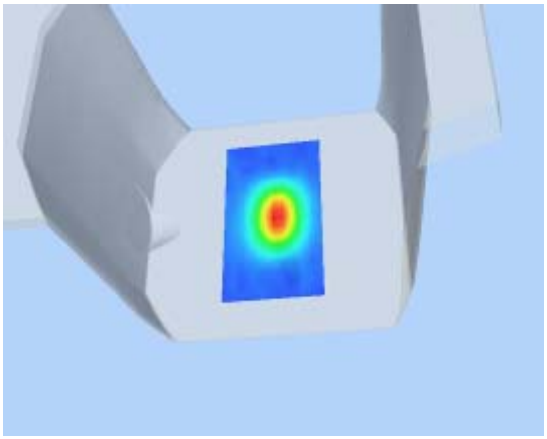
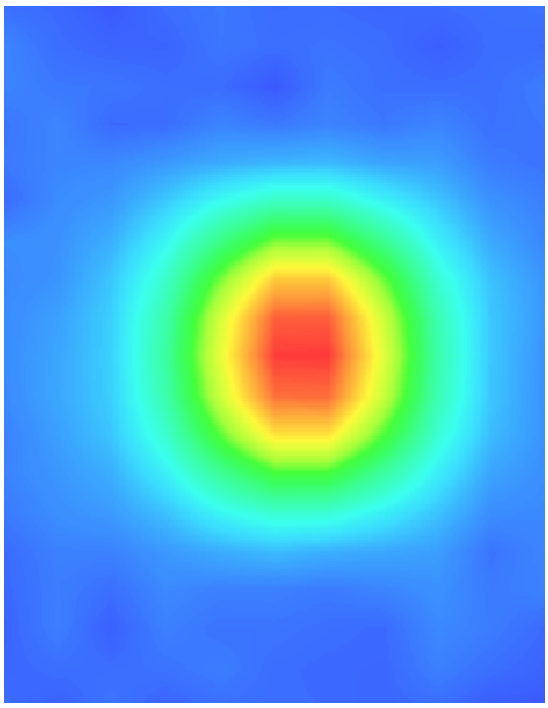
Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	1.652852
SAR 1g (W/Kg)	2.701584

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(1900MHz Head)

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 5 minutes 23 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

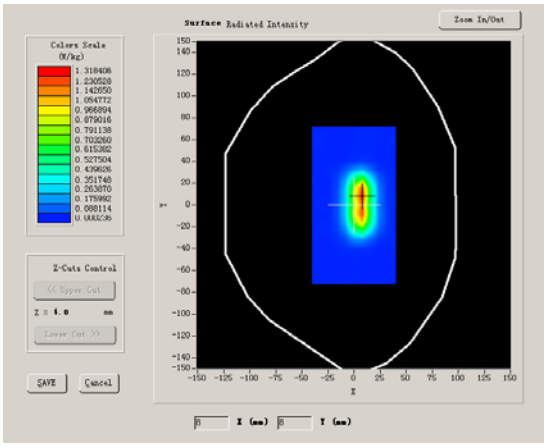
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	
Signal	GSM

B. SAR Measurement Results

Lower Band SAR:

Frequency (MHz)	1900.000000
Relative permittivity (real part)	39.481223
Relative permittivity	12.991650

Conductivity (S/m)	1.395758
Variation (%)	0.570000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:4
probe factors (e.g. ConvF):	40.136,34.843,38.721

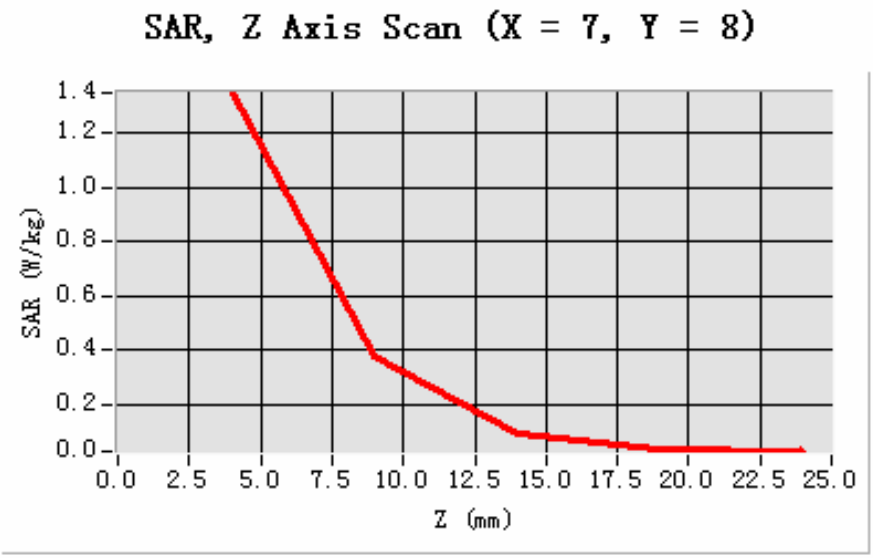
SURFACE SAR	VOLUME SAR
	

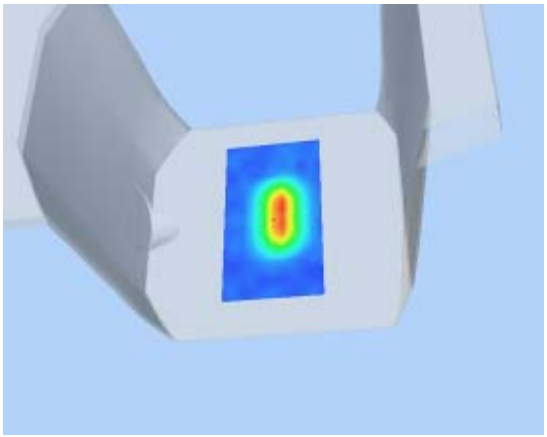
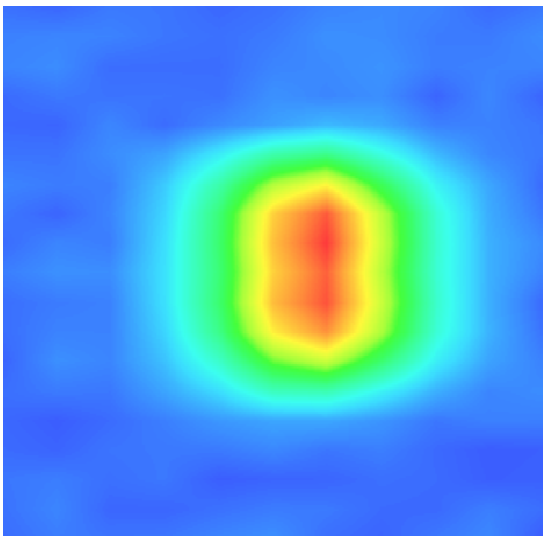
Maximum location: X=7.00, Y=8.00

SAR 10g (W/Kg)	5.873331
SAR 1g (W/Kg)	9.843651

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	1.3503	0.3791	0.0904	0.0338



3D sceen shot	Hot spot position
	

System Performance Check Data(1900MHz Body)

Type: Phone measurement (Very fast, 27 points in the volume)

Date of measurement: 12/1/2009

Measurement duration: 5 minutes 23 seconds

Mobile Phone IMEI number: --

A. Experimental conditions.

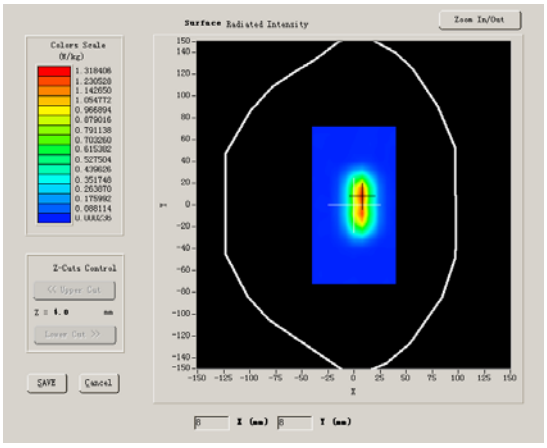
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	
Signal	TDMA

B. SAR Measurement Results

Lower Band SAR:

Frequency (MHz)	1900.000000
Relative permittivity (real part)	52.548876
Relative permittivity	12.991650

Conductivity (S/m)	1.573978
Variation (%)	0.570000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.9°C
Crest factor：	1:1
probe factors (e.g. ConvF):	40.136,34.843,38.721

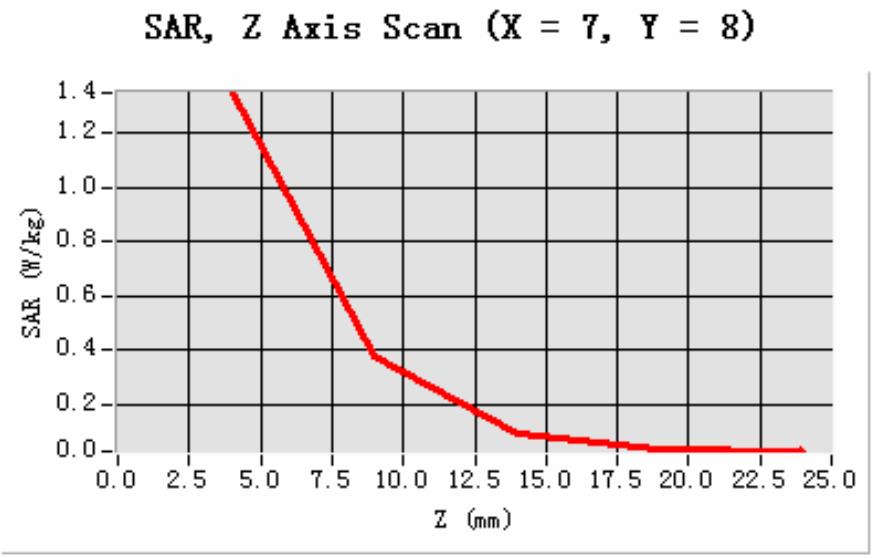
SURFACE SAR	**VOLUME SAR**
	

Maximum location: X=7.00, Y=8.00

SAR 10g (W/Kg)	5.487222
SAR 1g (W/Kg)	10.225723

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	1.3503	0.3791	0.0904	0.0338



3D sceen shot	Hot spot position