TESTING
CNAS L3572

SAR TEST REPORT

Issued to

TELEEPOCH Limited

For

CDMA Handset

Model Name	:	CDM2080US
Trade Name	:	PCD
Brand Name	:	PCD
FCC ID	:	U46-CDM2080
Standard	:	FCC Oet65 Supplement C Jun.2001 47CFR 2.1093 ANSI C95.1-1999 IEEE 1528-2003
MAX SAR	:	Head: 1.263W/kg Body: 0.955W/kg
Test date	:	2011-5-26
Issue date	:	2011-5-30

by

Shenzhen MORLAB Communication Technology Co., Ltd.

Tested by	Samuel Peng	*Approved by*	Shu Luan	*Review by*	Li Lei
Date	2011.05.30	*Date*	2011.5.30	*Date*	2011.5.30

CTIA Authorized Test Lab LAB CODE 200811223-00 IEEE 1725 OTA OFTA 電訊管理局 ilac-MRA TAF GCF Official Observer of Global Certification Forum Bluetooth BQTF FCC Reg. No. 741109

DIRECTORY

Change History		
Issue	Date	Reason for change
1.0	May 30, 2011	First edition

1. Testing Laboratory

1.1. Identification of the Responsible Testing Laboratory

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

1.2. Identification of the Responsible Testing Location

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

1.3. Accreditation Certificate

Accredited Testing Laboratory:	No. CNAS L3572 (see Annex A)

1.4. List of Test Equipments

No.	Instrument	Type	Cal. Date	Cal. Due
1	PC	Dell (Pentium IV 2.4GHz, SN:X10-23533)	(n.a)	(n.a)
2	Network Emulator	Rohde&Schwarz (CMU200, SN:105894)	2010-9-26	1year
3	Voltmeter	Keithley (2000, SN:1000572)	2010-9-24	1year
4	Synthetizer	Rohde&Schwarz (SML_03, SN:101868)	2010-9-24	1year
5	Amplifier	Nucl udes (ALB216, SN:10800)	2010-9-24	1year
6	Power Meter	Rohde&Schwarz (NRVD, SN:101066)	2010-9-24	1year
7	Probe	Satimo (SN:SN_3708_EP80)	2010-9-24	1year
8	Phantom	Satimo (SN:SN_36_08_SAM62)	2010-9-24	1year
9	Liquid	Satimo (Last Calibration:21 08 08)	2010-8-21	1year
10	Dipole 835MHz	Satimo (SN 36/08 DIPC 99)	2010-9-23	1year
11	Dipole 1800MHz	Satimo (SN 36/08 DIPF 101)	2010-9-23	1year
12	Dipole 1900MHz	Satimo (SN 36/08 DIPF 102)	2010-9-23	1year

2. Technical Information

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

2.1. Identification of Applicant

Company Name:	TELEEPOCH Limited
Address:	5A, B1 Building, Digital Tech Zone, High-Tech Park(South),Nanshan District,Shenzhen,Guangdong Province,China

2.2. Identification of Manufacturer

Company Name:	TELEEPOCH Limited
Address:	5A, B1 Building, Digital Tech Zone, High-Tech Park(South),Nanshan District,Shenzhen,Guangdong Province,China

2.3. Equipment Under Test (EUT)

Brand Name:	PCD
Type Name:	PCD
Marking Name:	CDM2080US
Hardware Version:	M600_V1.1
Software Version:	M600_V1.11
Frequency Bands:	CDMA 800 / CDMA 1900/AWS
Modulation Mode:	CDMA
Antenna type:	Fixed Internal Antenna
Development Stage:	Identical prototype
Battery Model:	BTR2080B
Battery specification:	800mAh 3.7V

2.3.1. Photographs of the EUT

Please see for photographs of the EUT.

2.3.2. Identification of all used EUTs

The EUT identity consists of numerical and letter characters, the letter character indicates the test sample, and the following two numerical characters indicate the software version of the test sample.

EUT Identity	Hardware Version	Software Version
1#	M600_V1.1	M600_V1.11

2.4. Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	**47 CFR§2.1O93**	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.

2.5. Device Category and SAR Limits

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

2.6. Test Environment/Conditions

Normal Temperature (NT):	20 ... 25 °C
Relative Humidity:	30 ... 75 %
Air Pressure:	980 ... 1020 hPa
Test frequency:	CDMA 800
	CDMA 1900
	AWS
Operation mode:	Call established
Power Level:	CDMA 800 Maximum output power(all up bit)
	CDMA 1900 Maximum output power(all up bit)
	AWS Maximum output power(all up bit)

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 1013, 384 and 777 respectively in the case of CDMA 800, or to 25, 600 and 1175 respectively in the case of CDMA 1900, lactated at 25, 450，and 875 for AWS. 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.

3. Specific Absorption Rate (SAR)

3.1. Introduction

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

3.2. SAR Definition

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

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

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

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

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

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

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

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

4. SAR Measurement Setup

4.1. The Measurement System

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

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

The following figure shows the system.

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

4.2. Probe

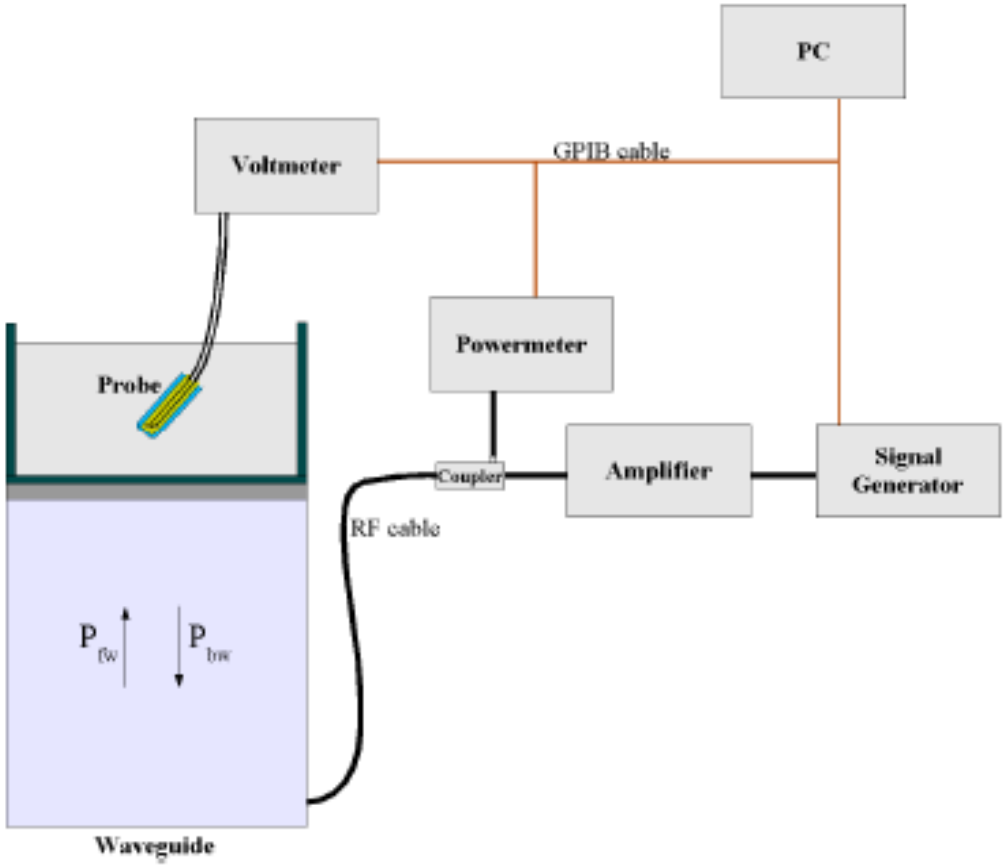
For the measurements the Specific Dosimetric E-Field Probe SN 37/08 EP80 with following specifications is used

- Dynamic range: 0.01-100 W/kg
- Tip Diameter : 6.5 mm
- Distance between probe tip and sensor center: 2.5mm
- Distance between sensor center and the inner phantom surface: 4 mm
  (repeatability better than +/- 1mm)

- Probe linearity: ＜0.25 dB
- Axial Isotropy: ＜0.25 dB
- Spherical Isotropy: ＜0.25 dB
- Calibration range: 835to 2500MHz for head & body simulating liquid.

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

Probe calibration is realized, in compliance with CENELEC EN 62209 and IEEE 1528 std, with CALISAR, Antennessa proprietary calibration system. The calibration is performed with the EN 622091 annexe technique using reference guide at the five frequencies.



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

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

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

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

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

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

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

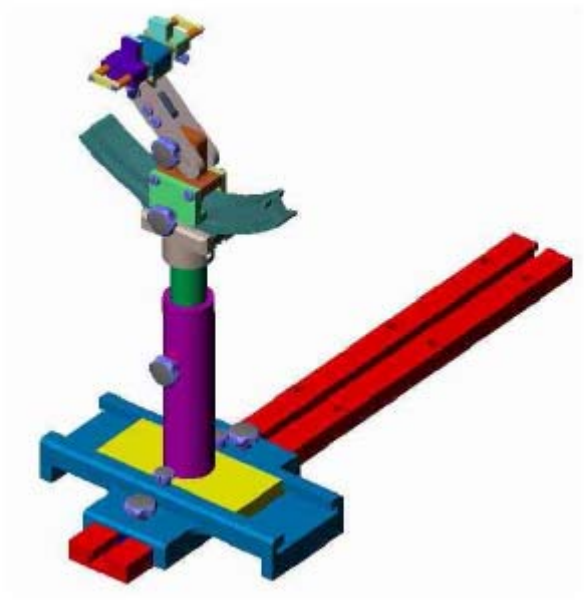
where DCP is the diode compression point in mV.

4.3. Phantom

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

4.4. Device Holder

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



Device holder

System Material	Permittivity	Loss Tangent
Delrin	3.7	0.005

5. Tissue Simulating Liquids

Simulant liquids that are used for testing at frequencies of CDMA 800 /1900 and AWS 1800, which are made mainly of sugar, salt and water solutions may be left in the phantoms. Approximately 20litres are needed for an upright head compared to about 25 litres for a horizontal bath phantom. The liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is (head SAR)or from the flat phantom to the liquid top surface (body SAR) is 15cm.

Gives the recipes for one liter of head and body tissue simulating liquid for frequency band 835 MHz and 1900 MHz.

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

Recipes for Tissue Simulating Liquid

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

Table 1: Dielectric Performance of Head Tissue Simulating Liquid

Temperature: 23.0~23.8°C, humidity: 54~60%.			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	835 MHZ	41.5	0.90
Validation value (May 26)	835 MHZ	41.675999	0.894409
Target value	1800 MHZ	40	1.40
Validation value (May 26)	1800 MHZ	39.993999	1.395397
Target value	1900 MHZ	40	1.40
Validation value (May 26)	1900 MHZ	39.993999	1.395397

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

Table 2: Dielectric Performance of Body Tissue Simulating Liquid

Temperature: 23.0~23.8°C, humidity: 54~60%.			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	835 MHz	55.2	0.97
Validation value (May 26)	835 MHz	55.709999	1.009033
Target value	1800 MHz	53.3	1.52
Validation value (May 26)	1800 MHz	51.540001	1.598927
Target value	1900 MHz	53.3	1.52
Validation value (May 26)	1900 MHz	51.540001	1.598927

6. Uncertainty Assessment

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

6.1. UNCERTAINTY EVALUATION FOR HANDSET SAR TEST

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/e	k
Uncertainty Component	Sec.	Tol (+- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	V i
Measurement System									
Probe calibration	E.2.1	7.0	N	1	1	1	7.00	7.00	∞
Axial Isotropy	E.2.2	2.5	R	$\sqrt{3}$	0.7	0.7	1.02	1.02	∞
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	0.7	0.7	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 Power Drift - SAR drift measurement	6.6.2	2.74	R	$\sqrt{3}$	1	1	1.58	1.58	∞
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	4.57	R	$\sqrt{3}$	0.64	0.43	1.69	1.13	∞

Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	1	0.64	0.43	3.20	2.15	M
Liquid permittivity - deviation from target value	E.3.2	3.69	R	$\sqrt{3}$	0.6	0.49	1.28	1.04	∞
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	1	0.6	0.49	6.00	4.90	M
Combined Standard Uncertainty			RSS				10.09	9.53	
Expanded Uncertainty (95% Confidence interval)			k				20.18	19.06	

6.2. UNCERTAINTY FOR SYSTEM PERFORMANCE CHECK

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/e	k
Uncertainty Component	Sec.	Tol (+- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	V i
Measurement System									
Probe calibration	E.2.1	7.0	N	1	1	1	7.00	7.00	∞
Axial Isotropy	E.2.2	2.5	R	$\sqrt{3}$	0.7	0.7	1.02	1.02	∞
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	0.7	0.7	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	∞
Dipole									
Dipole axis to liquid Distance	8,E.4.2	1.00	R	$\sqrt{3}$	1	1	0.58	0.58	N - 1
Input power and SAR drift measurement	8,6.6.2	2.74	R	$\sqrt{3}$	1	1	1.58	1.58	∞

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	4.57	R	$\sqrt{3}$	0.64	0.43	1.69	1.13	∞
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	1	0.64	0.43	3.20	2.15	M
Liquid permittivity - deviation from target value	E.3.2	3.69	R	$\sqrt{3}$	0.6	0.49	1.28	1.04	∞
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	1	0.6	0.49	6.00	4.90	M
Combined Standard Uncertainty			RSS				8.77	8.12	
Expanded Uncertainty (95% Confidence interval)			k				17.54	16.25	

7. SAR Measurement Evaluation

7.1. System Setup

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

Equipments :

name	Type and specification
Signal generator	E4433B
Directional coupler	450MHz-3GHz
Amplifier	3W 502(10-2500MHz)
Reference dipole	835MHz:SN 36/08 DIPC 99 1800MHz:SN 36/08 DIPF 101 1900MHz:SN 36/08 DIPF 102

7.2. Validation Results

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

Frequency	835MHz	1800MHz	1900MHz
Target value（1g）	9.5 W/Kg	38.1 W/Kg	39.7 W/Kg
250 mW input power	2.714 W/Kg (head) 2.674 W/Kg (body)	9.194 W/Kg (head) 9.247 W/Kg (body)	9.455 W/Kg (head) 9.755 W/Kg (body)
Test value（1g）	10.856 W/Kg (head) 10.696 W/Kg (body)	36.776 W/Kg (head) 36.988 W/Kg (body)	37.820 W/Kg (head) 39.020 W/Kg (body)

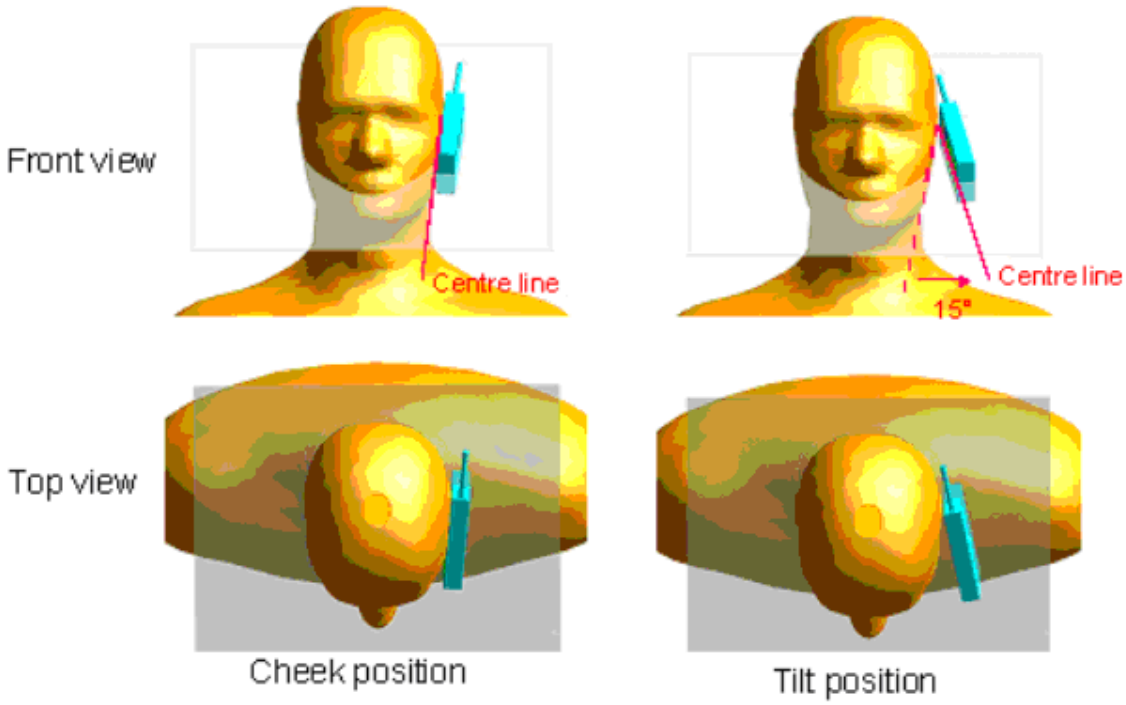
Note: System checks the specific test data please see page128-139.

8. Operational Conditions During Test

8.1. Informations on the testing

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

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



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

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

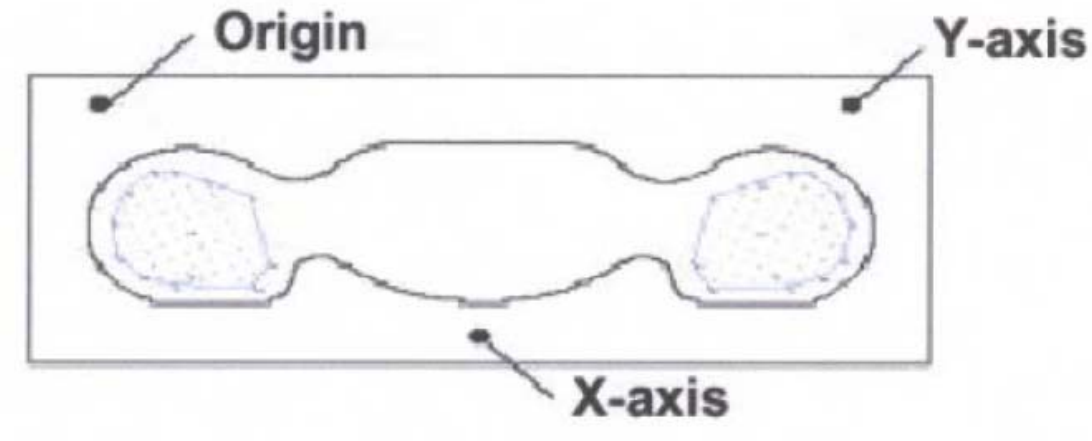
Remark: Please refer to Appendix B for the test setup photos.

8.2. Body-worn Configurations

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

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

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



SAR Measurement Points in Area Scan

8.3. Measurement procedure

The following steps are used for each test position

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

8.4. Description of interpolation/extrapolation scheme

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

An extrapolation is using to determinate this highest local SAR values. The extrapolation is based on a fourth-order least-square polynomial fit of measured data. The local SAR value is then extrapolated

from the liquid surface with a 1mm step.

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

9. MEASUREMENT PROCEDURES

9.1. Procedures Used To Establish Test Signal

The handset was placed into a simulated call using a base station simulator in a shielded chamber. Such test signals offer a consistent means for testing SAR and are recommended for evaluating SAR. SAR measurements were taken with a fully charged battery. In order to verify that the device was tested and maintained at full power, this was configured with the base station simulator. The SAR measurement software calculates a reference point at the start and end of the test to check for power drifts. If conducted power deviations of more then 5% occurred, the tests were repeated.

9.2. SAR Measurement Conditions for CDMA

These procedures were followed according to FCC "SAR Measurement Procedures for 3G Devices", October 2007 (Revised).

9.3. Output Power Verification

See 3GPP2 C.S0011/TIA-98-E as recommended by "SAR Measurement Procedures for 3G Devices", October 2007 (Revised).
Maximum output power is verified on the High, Middle and Low channels according to procedures in section 3.1.2.3.4 of 3GPP2 C.S0033-0/TIA-866 for Rev. 0 and section 4.3.4 of 3GPP2 C.S0033-A for Rev. A. For Rev. A, maximum output power for both Subtype 0/1 and Subtype 2 Physical Layer configurations should be measured. The device operating configurations under TAP/ETAP should be documented in the test report; including power control, code channel and RF channel output power levels. The measurement results should be tabulated in the SAR report with any measurement difficulties and equipment limitations clearly identified.

9.4. SAR Measurement

SAR is measured using FTAP/RTAP and FETAP/RETAP respectively for Rev. 0 and Rev. A devices. The AT is tested with a Reverse Data Channel rate of 153.6 kbps in Subtype 0/1 Physical Layer configurations; and a Reverse Data Channel payload size of 4096 bits and Termination Target of 16 slots in Subtype 2 Physical Layer configurations. Both FTAP and FETAP are configured with a Forward Traffic Channel data rate corresponding to the 2-slot version of 307.2 kbps with the ACK Channel transmitting in all slots. AT power control should be in “All Bits Up” conditions for TAP/ETAP.

Body SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0. SAR for Subtype 2 Physical layer configurations is not required for Rev. A when the maximum average output of each RF channels is less than that measured in Subtype 0/1 Physical layer configurations. Otherwise, SAR is measured on the maximum output channel for Rev. A using the exposure configuration that results in the highest SAR for that RF channels in Rev. 0.17 Head SAR is required for Ev-Do devices that support operations next to the ear; for example, with VOIP, using Subtype 2 Physical Layer configurations according to the required handsetconfigurations.

4.4.2.3 1x RTT Support

For Ev-Do devices that also support 1x RTT voice and/or data operations, SAR is not required for 1x

RTT when the maximum average output of each channel is less than ¼ dB higher than that measured in Subtype 0/1 Physical Layer configurations for Rev. 0. Otherwise, the 'Body SAR Measurements' procedures in the 'CDMA 2000 1x Handsets' section should be applied.

4.4.2.4 Output Power Verification 1x RTT

Maximum output power is verified on the High, Middle, and Low channels according to procedures in Section 4.4.5.2 of 3 GPP2 C.S0011/TIA-98-E. Results for at least steps 3,4 and 10 of the power measurement procedures should be tabulated in the SAR report. Steps 3 and 4 should be measured using SO55 with power control bits in "All Up" condition. TDSO/SO32 may be used instead of SO55 for step 4.Step 10 should be measured using TDSO/SO32 with power control bits in the "Bits Hold"

1xRTT Power Measurements

Channel	Radio Configuration aud conducted Power (dBm)			
	RC1	RC1	RC3	RC3
1013	26.89	26.34	26.26	26.24
384	27.69	27.65	27.35	27.40
777	27.56	27.45	27.34	27.33
25	27.33	27.16	27.98	27.29
600	28.01	28.01	27.96	27.93
1175	27.57	27.61	27.74	27.65
25	26.17	26.23	26.24	26.12
450	27.18	27.12	27.20	27.09
875	26.76	26.75	26.62	26.53
SO	SO2	SO55	SO2	SO55

Power Control was set in 'All Bits Up" for all measurements.

10. Test Results List

Summary of Measurement Results (CDMA 800 Band)

Temperature: 21.0~23.8°C, humidity: 54~60%.					
Phantom Configurations	Device Test Positions	Antenna Positions	SAR(W/Kg)		
			Device Test channel, Frequency		
			Channel 1013	Channel 384	Channel 777
			824.7MHz	836.52MHz	848.31MHz
Left Side Of Head	Cheek/Touch	Extended	1.025	1.263	1.114
	Ear/Tilt	Extended	0.217	0.274	0.239
Right Side Of Head	Cheek/Touch	Extended	1.238	0.754	1.028
	Ear/Tilt	Extended	0.242	0.296	0.252
Body	Back upward	Extended	0.846	0.916	0.716
	Keyboard Upward	Extended	/	0.434	/

Summary of Measurement Results (CDMA 1900 Band)

Temperature: 21.0~23.8°C, humidity: 54~60%.					
Phantom Configurations	Device Test Positions	Antenna Positions	SAR(W/Kg)		
			Device Test channel, Frequency		
			Channel 25	Channel 600	Channel 1175
			1851.30MHz	1880.0MHz	1908.8MHz
Left Side Of Head	Cheek/Touch	Extended	1.060	1.091	1.064
	Ear/Tilt	Extended	0.418	0.304	0.260
Right Side Of Head	Cheek/Touch	Extended	1.193	0.841	0.915
	Ear/Tilt	Extended	0.540	0.324	0.247
Body	Back upward	Extended	0.955	0.752	0.775
	Keyboard Upward	Extended	0.668	/	/

Summary of Measurement Results (AWS Band)

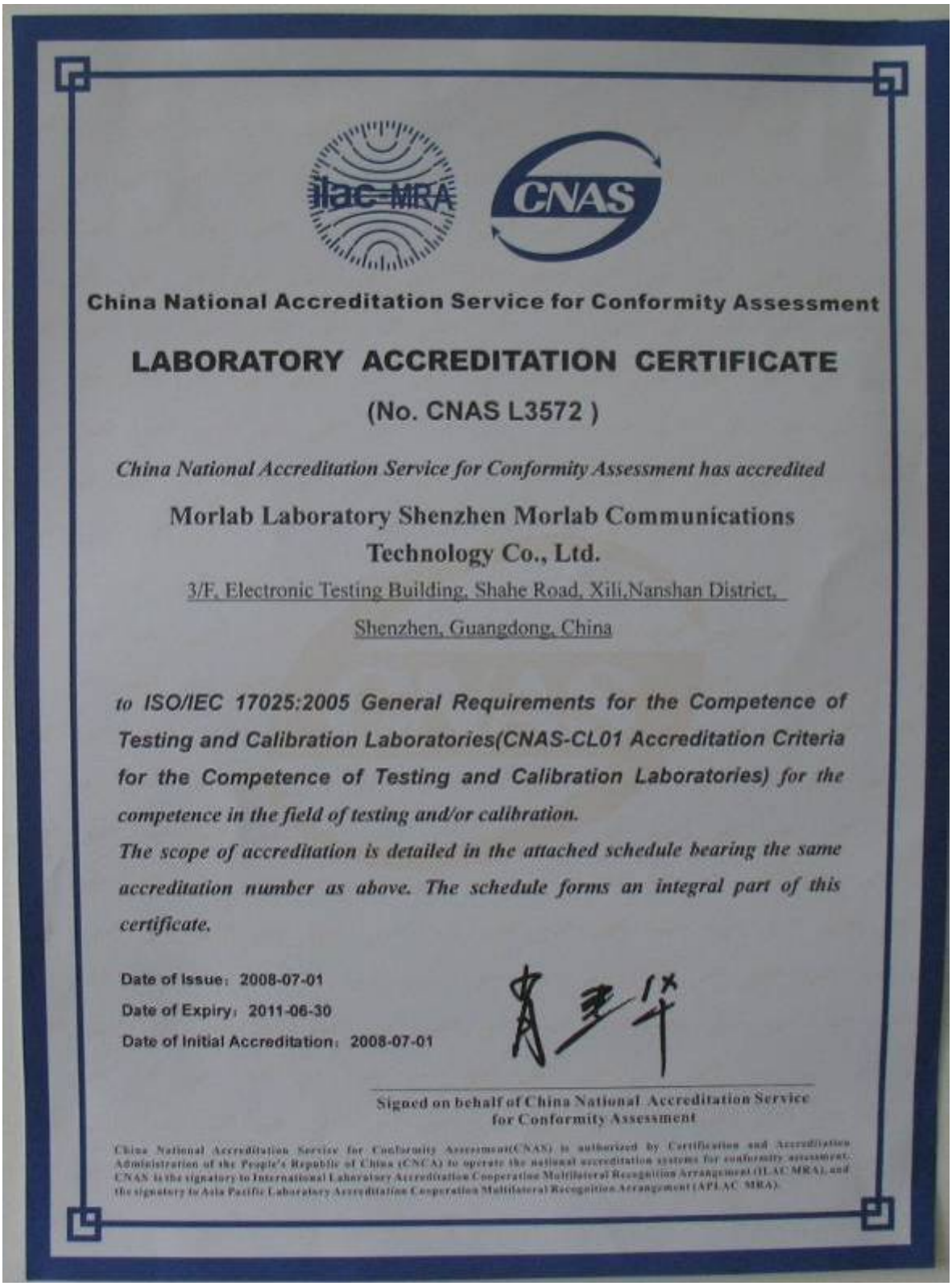
Temperature: 21.0~23.8°C, humidity: 54~60%.					
Phantom Configurations	Device Test Positions	Antenna Positions	SAR(W/Kg)		
			Device Test channel, Frequency		
			Channel 25	Channel 450	Channel 875
			1711.25MHz	1732.50MHz	1753.75MHz

Left Side Of Head	Cheek/Touch	Extended	0.890	0.722	0.760
	Ear/Tilt	Extended	0.964	0.995	0.832
Right Side Of Head	Cheek/Touch	Extended	1.259	1.233	1.122
	Ear/Tilt	Extended	1.107	1.132	0.935
Body	Back upward	Extended	0.678	0.717	0.642
	Keyboard Upward	Extended	/	0.347	/

Note: 1.Refer KDB 447498, when the SAR procedures require multiple channels to be tested and the 1-g SAR for the highest output channel is less than 0.8 W/kg and peak SAR is less than 1.6W/kg, where the transmission band corresponding to all channels is ≤ 100 MHz, testing for the other channels is not required.

2. The Bluetooth peak output power is 5.72 dBm less than 12mW, accord with KDB648474, The Bluetooth SAR is not required.

Annex A Accreditation Certificate



China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(No. CNAS L3572)

China National Accreditation Service for Conformity Assessment has accredited

Morlab Laboratory Shenzhen Morlab Communications Technology Co., Ltd.

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

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

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

Date of Issue：2008-07-01

Date of Expiry：2011-06-30

Date of Initial Accreditation：2008-07-01

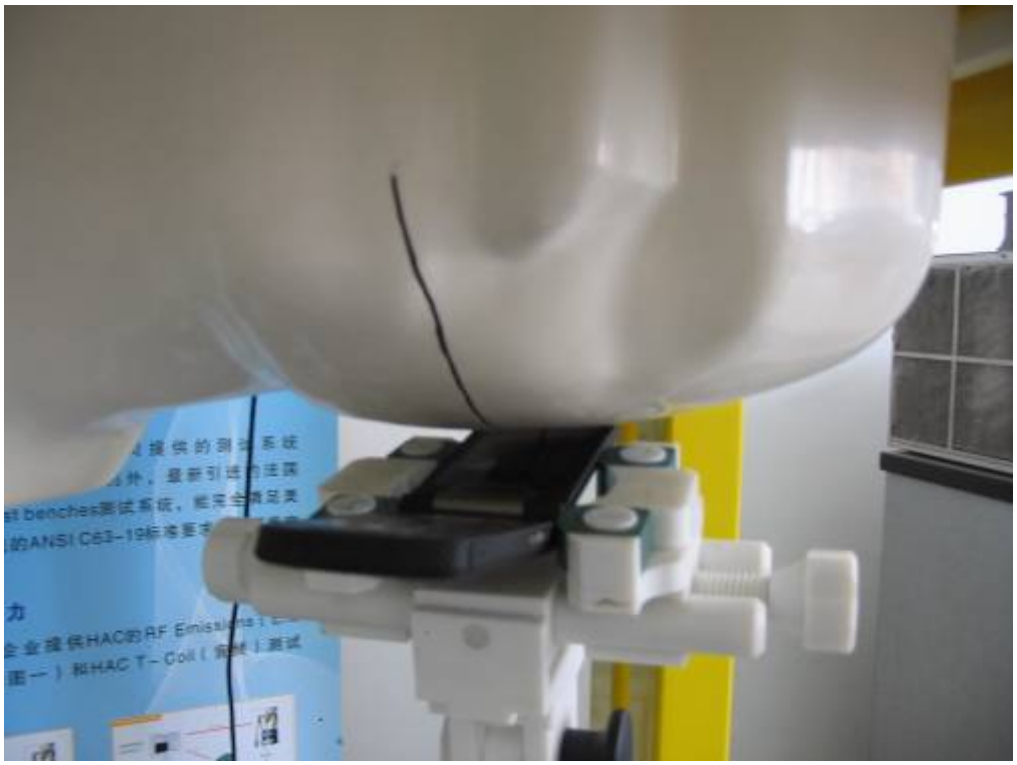
Signed on behalf of China National Accreditation Service for Conformity Assessment

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

Annex B EUT Setup Photos

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 Body With Headphone

Liquid Level Photo

Annex C Graph Test Results

BAND	PARAMETERS
CDMA 800	Measurement 1: Right Head with Cheek device position on Low Channel in CDMA mode Measurement 2: Right Head with Cheek device position on Middle Channel in CDMA mode Measurement 3: Right Head with Cheek device position on High Channel in CDMA mode Measurement 4: Right Head with Tilt device position on Low Channel in CDMA mode Measurement 5: Right Head with Tilt device position on Middle Channel in CDMA mode Measurement 6: Right Head with Tilt device position on High Channel in CDMA mode Measurement 7: Left Head with Cheek device position on Low Channel in CDMA mode Measurement 8: Left Head with Cheek device position on Middle Channel in CDMA mode Measurement 9: Left Head with Cheek device position on High Channel in CDMA mode Measurement 10: Left Head with Tilt device position on Low Channel in CDMA mode Measurement 11: Left Head with Tilt device position on Middle Channel in CDMA mode Measurement 12: Left Head with Tilt device position on High Channel in CDMA mode Measurement 13: Validation Plane with Body device position on Low Channel in CDMA mode Measurement 14: Validation Plane with Body device position on Middle Channel in CDMA mode Measurement 15: Validation Plane with Body device position on Middle Channel in CDMA mode Measurement 16: Validation Plane with Body device position on High Channel in CDMA mode
	Measurement 17: Right Head with Cheek device position on Low Channel in CDMA mode Measurement 18: Right Head with Cheek device position on Middle Channel in CDMA mode Measurement 19: Right Head with Cheek device position on High Channel in CDMA mode Measurement 20: Right Head with Tilt device position on Low Channel in CDMA mode Measurement 21: Right Head with Tilt device position on

CDMA 1900	Middle Channel in CDMA mode Measurement 22: Right Head with Tilt device position on High Channel in CDMA mode Measurement 23: Left Head with Cheek device position on Low Channel in CDMA mode Measurement 24: Left Head with Cheek device position on Middle Channel in CDMA mode Measurement 25: Left Head with Cheek device position on High Channel in CDMA mode Measurement 26: Left Head with Tilt device position on Low Channel in CDMA mode Measurement 27: Left Head with Tilt device position on Middle Channel in CDMA mode Measurement 28: Left Head with Tilt device position on High Channel in CDMA mode Measurement 29: Validation Plane with Body device position on Low Channel in CDMA mode Measurement 30: Validation Plane with Body device position on Low Channel in CDMA mode Measurement 31: Validation Plane with Body device position on Middle Channel in CDMA mode Measurement 32: Validation Plane with Body device position on High Channel in CDMA mode
AWS 1700	Measurement 33: Right Head with Cheek device position on Low Channel in CDMA mode Measurement 34: Right Head with Cheek device position on Middle Channel in CDMA mode Measurement 35: Right Head with Cheek device position on High Channel in CDMA mode Measurement 36: Right Head with Tilt device position on Low Channel in CDMA mode Measurement 37: Right Head with Tilt device position on Middle Channel in CDMA mode Measurement 38: Right Head with Tilt device position on High Channel in CDMA mode Measurement 39: Left Head with Cheek device position on Low Channel in CDMA mode Measurement 40: Left Head with Cheek device position on Middle Channel in CDMA mode Measurement 41: Left Head with Cheek device position on High Channel in CDMA mode Measurement 42: Left Head with Tilt device position on Low Channel in CDMA mode Measurement 43: Left Head with Tilt device position on

	Middle Channel in CDMA mode Measurement 44: Left Head with Tilt device position on High Channel in CDMA mode Measurement 45: Validation Plane with Body device position on Low Channel in CDMA mode Measurement 46: Validation Plane with Body device position on Middle Channel in CDMA mode Measurement 47: Validation Plane with Body device position on Middle Channel in CDMA mode Measurement 48: Validation Plane with Body device position on High Channel in CDMA mode

MEASUREMENT 1

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 36 seconds

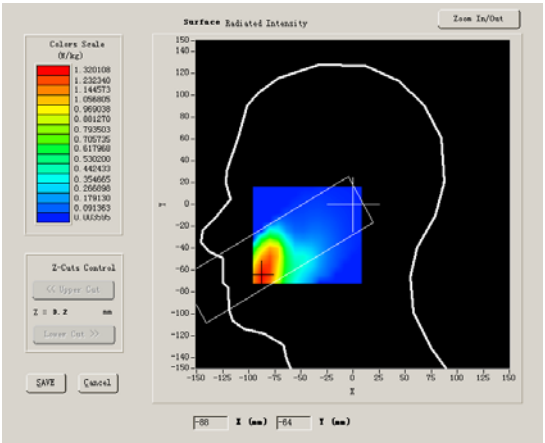
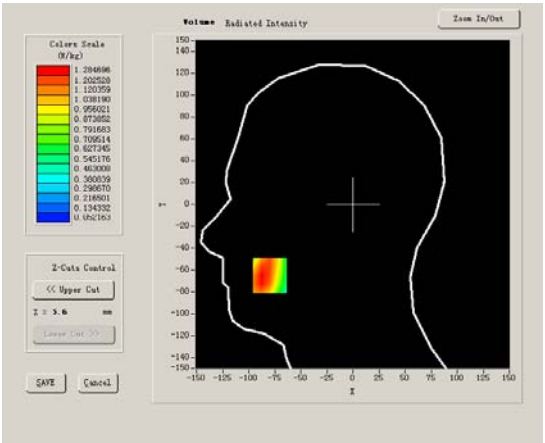
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	CDMA 800
Channels	Low
Signal	CDMA

B. SAR Measurement Results

Lower Band SAR (Channel 1013):

Frequency (MHz)	824.700012
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250
Conductivity (S/m)	0.867138
Variation (%)	-0.430000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

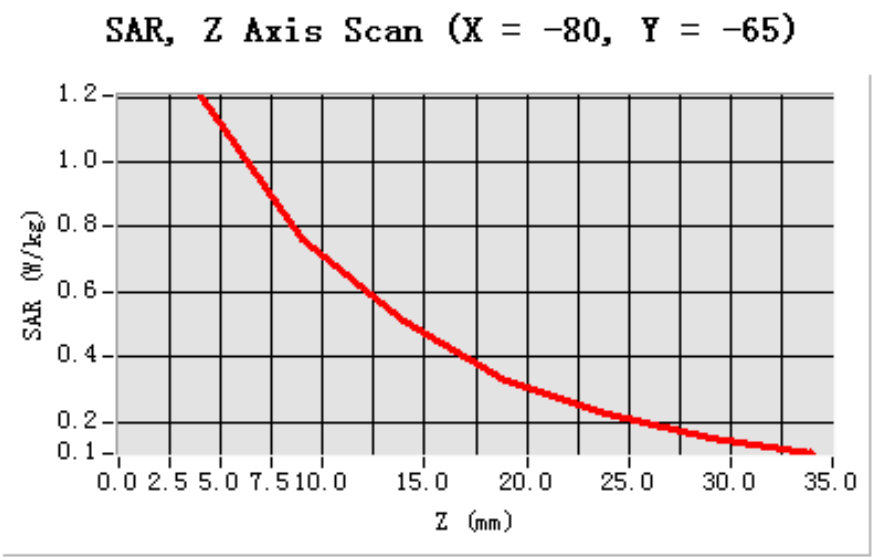
SURFACE SAR	VOLUME SAR
	

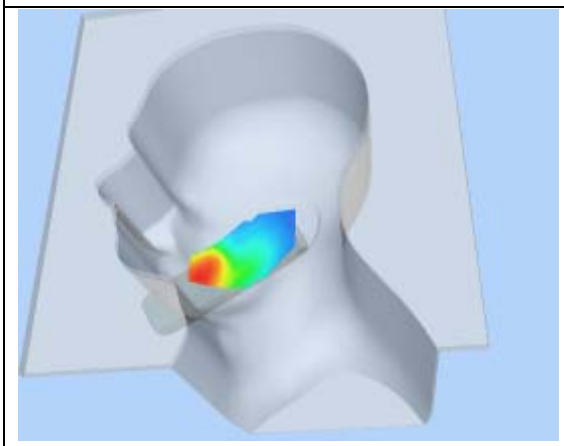
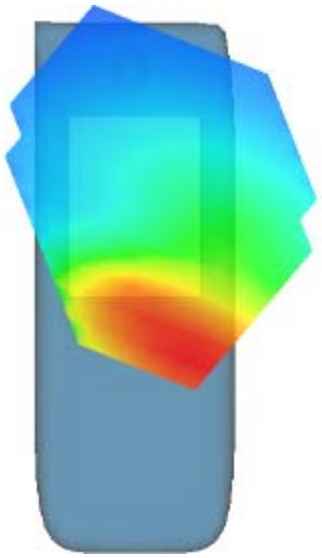
Maximum location: X=-80.00, Y=-65.00

SAR 10g (W/Kg)	0.758050
SAR 1g (W/Kg)	1.237704

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.2048	0.7613	0.5120	0.3231	0.2243	0.1460



3D sceen shot	Hot spot position
	

MEASUREMENT 2

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 35 seconds

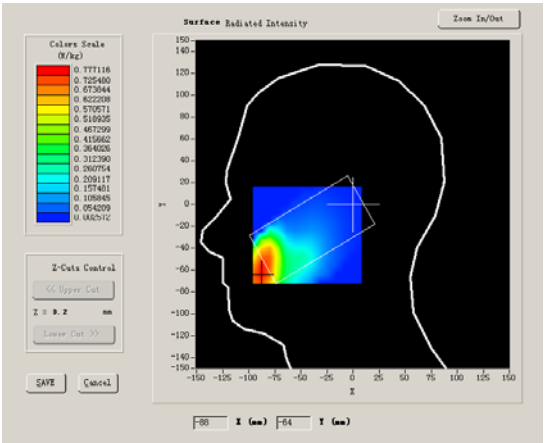
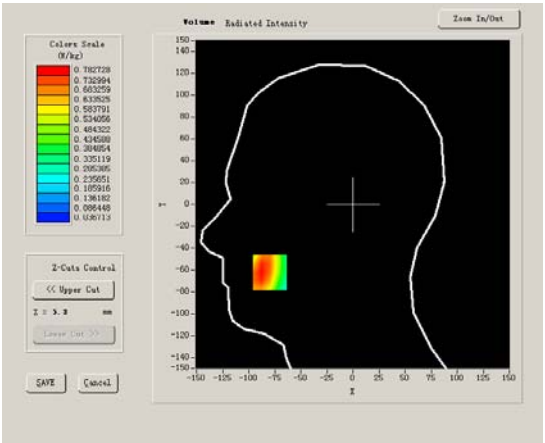
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	CDMA 800
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 384):

Frequency (MHz)	836.520020
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250
Conductivity (S/m)	0.879566
Variation (%)	0.420000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

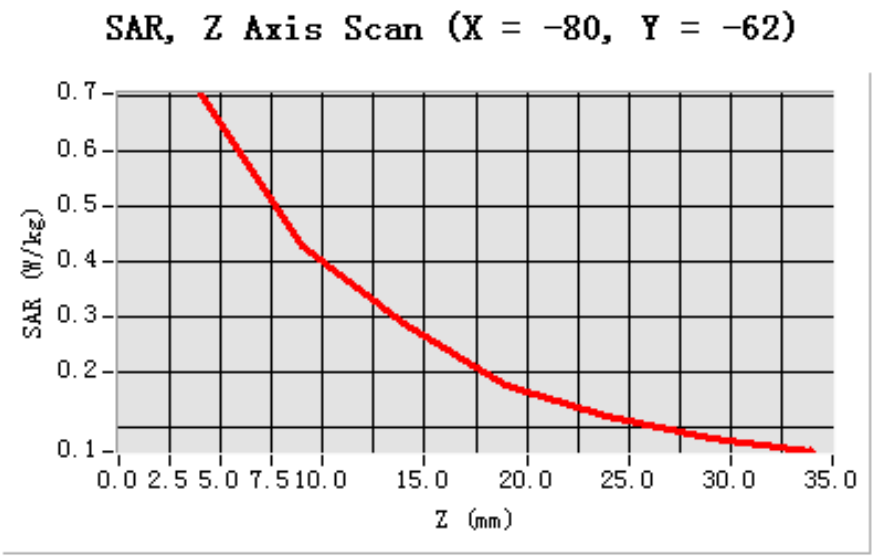
SURFACE SAR	VOLUME SAR
	

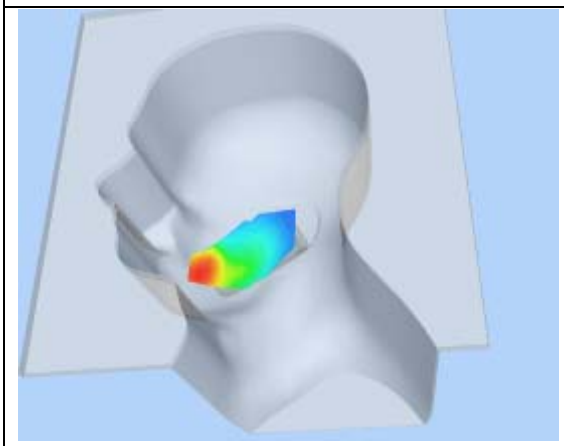
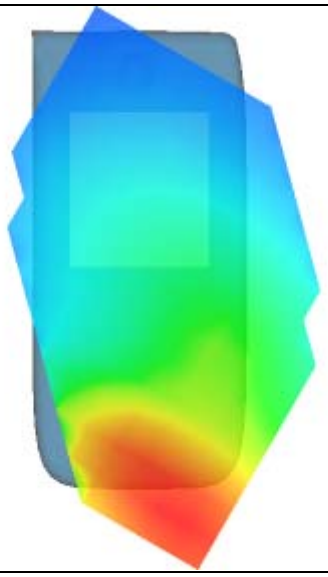
Maximum location: X=-80.00, Y=-62.00

SAR 10g (W/Kg)	0.474162
SAR 1g (W/Kg)	0.753553

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7050	0.4298	0.2916	0.1779	0.1225	0.0820



3D sceen shot	Hot spot position
	

MEASUREMENT 3

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 38 seconds

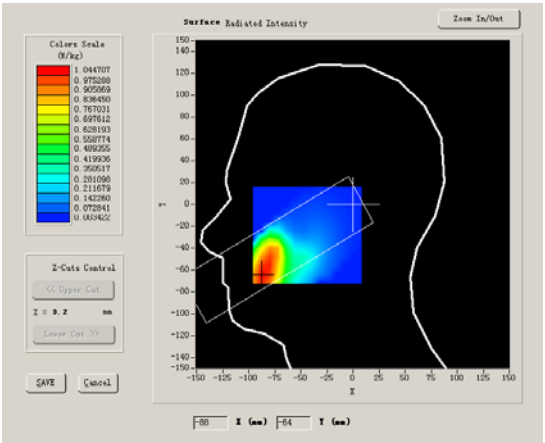
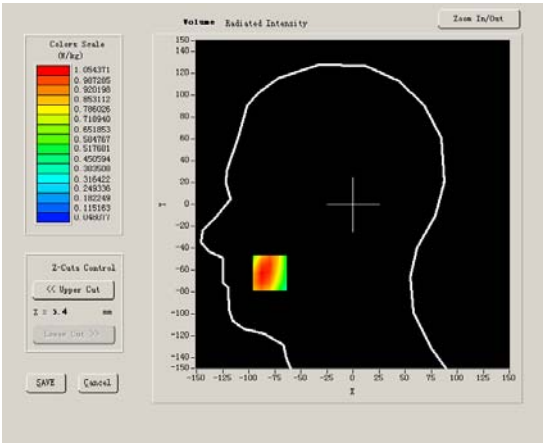
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	CDMA 800
Channels	High
Signal	CDMA

B. SAR Measurement Results

Higher Band SAR (Channel 777):

Frequency (MHz)	848.309998
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250
Conductivity (S/m)	0.891963
Variation (%)	1.050000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

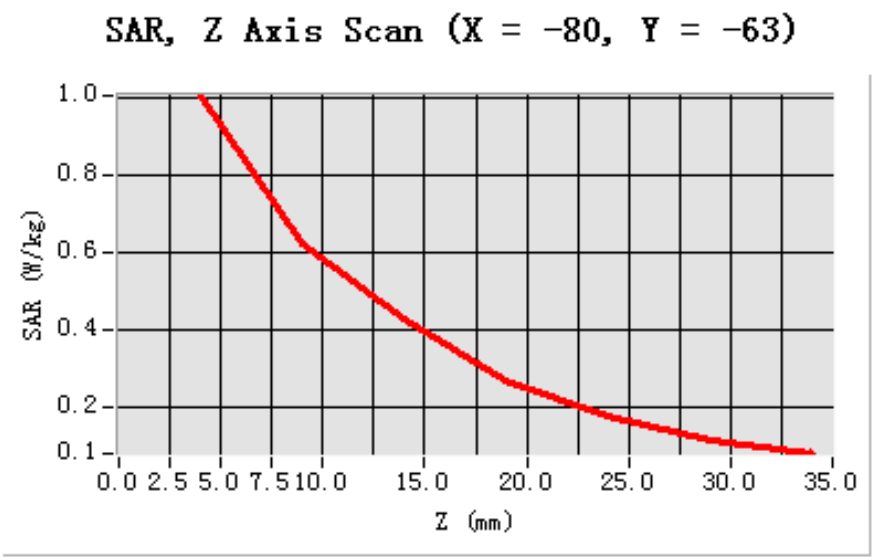
SURFACE SAR	VOLUME SAR
	

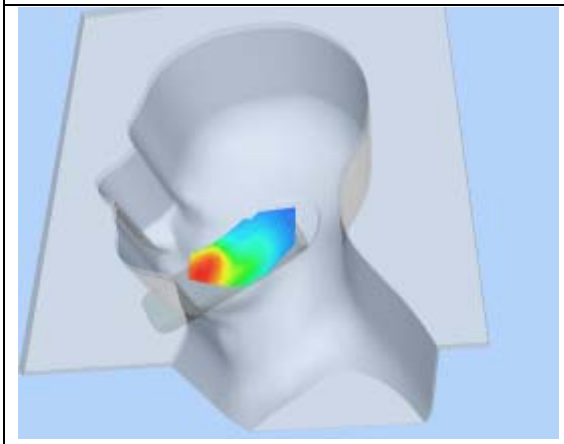
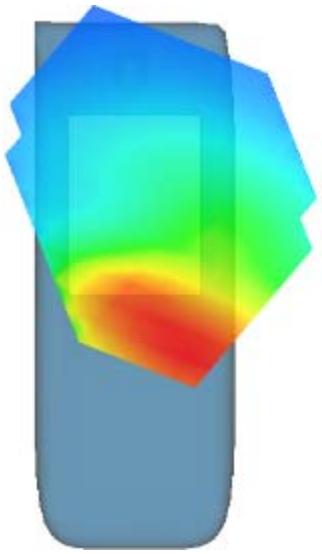
Maximum location: X=-80.00, Y=-63.00

SAR 10g (W/Kg)	0.649587
SAR 1g (W/Kg)	1.027694

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.0072	0.6253	0.4334	0.2698	0.1825	0.1190



3D sceen shot	Hot spot position
	

MEASUREMENT 4

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 46 seconds

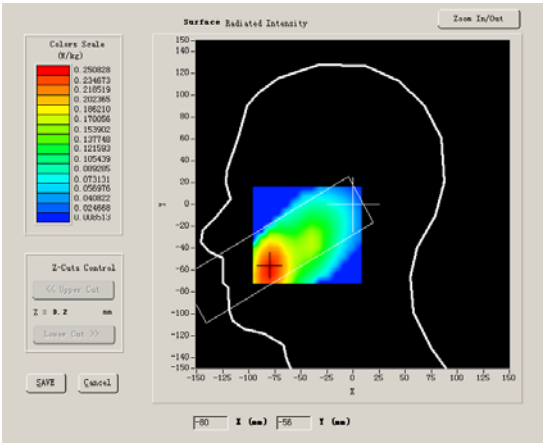
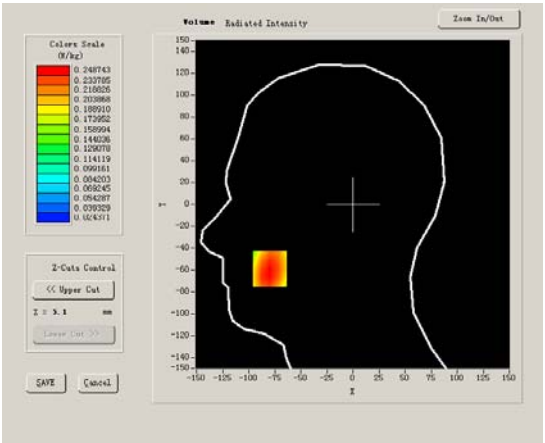
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	CDMA 800
Channels	Low
Signal	CDMA

B. SAR Measurement Results

Lower Band SAR (Channel 1013):

Frequency (MHz)	824.700012
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250
Conductivity (S/m)	0.867138
Variation (%)	-0.790000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

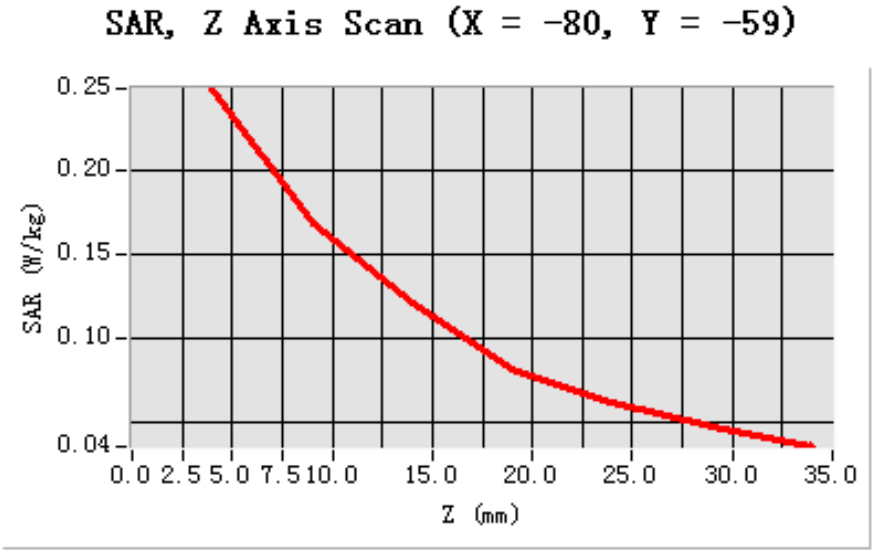
SURFACE SAR	VOLUME SAR
	

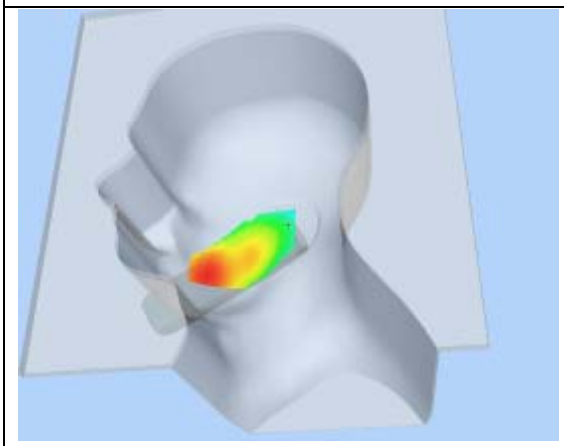
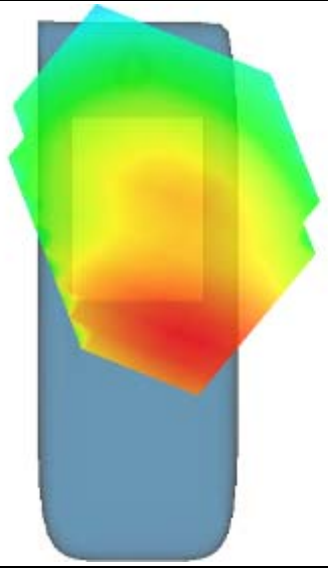
Maximum location: X=-80.00, Y=-59.00

SAR 10g (W/Kg)	0.163945
SAR 1g (W/Kg)	0.241639

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2487	0.1687	0.1216	0.0826	0.0619	0.0473



3D sceen shot	Hot spot position
	

MEASUREMENT 5

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 47 seconds

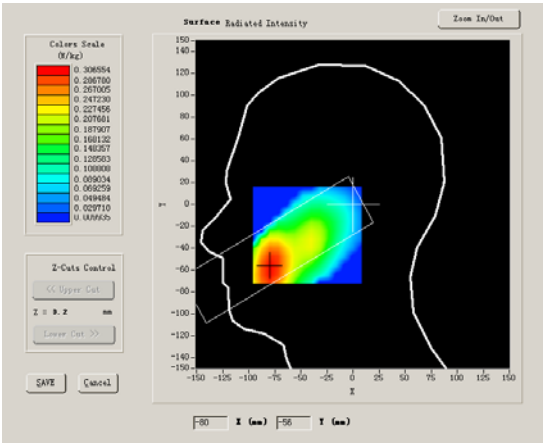
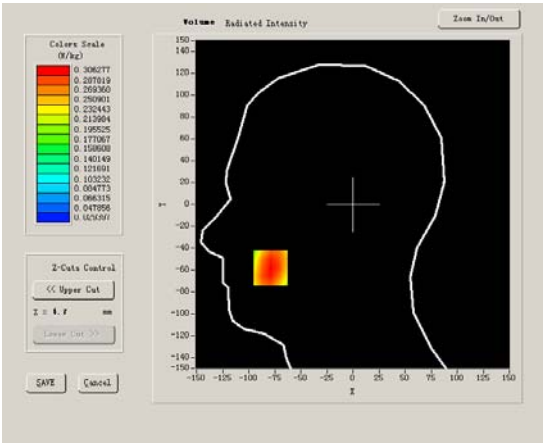
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	CDMA 800
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 384):

Frequency (MHz)	836.520020
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250
Conductivity (S/m)	0.879566
Variation (%)	0.210000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

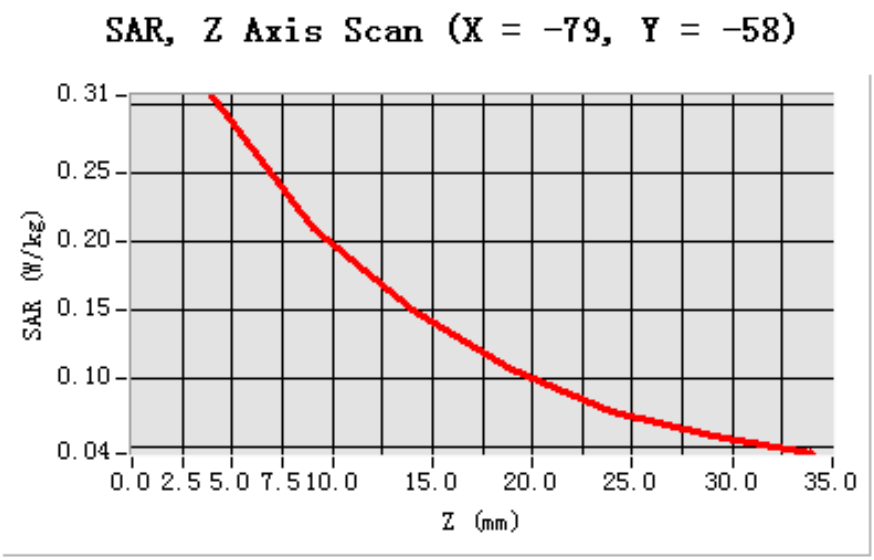
SURFACE SAR	VOLUME SAR
	

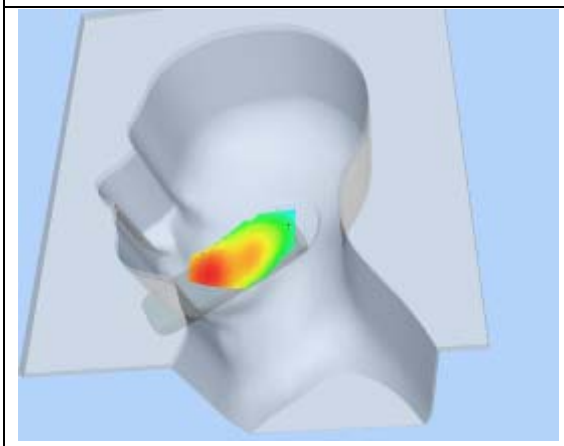
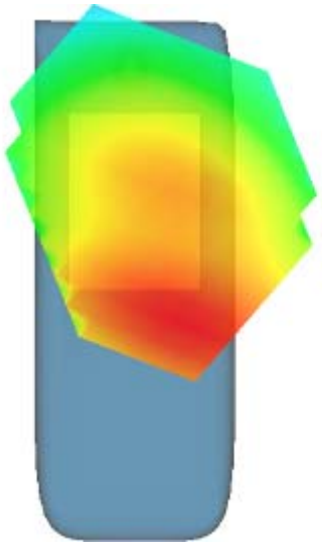
Maximum location: X=-79.00, Y=-58.00

SAR 10g (W/Kg)	0.201973
SAR 1g (W/Kg)	0.296465

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.3063	0.2096	0.1495	0.1062	0.0757	0.0579



3D sceen shot	Hot spot position
	

MEASUREMENT 6

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 47 seconds

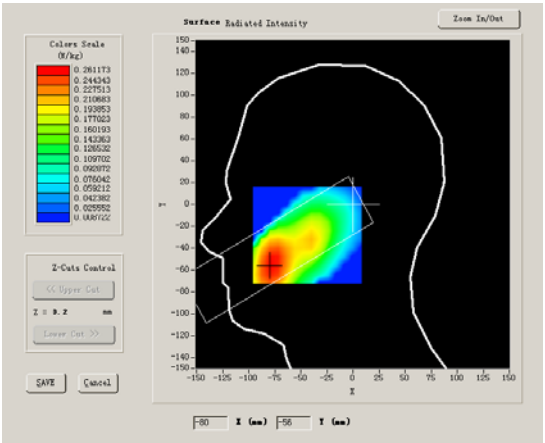
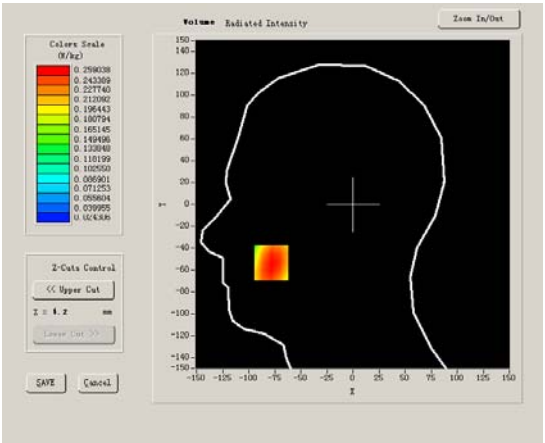
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	CDMA 800
Channels	High
Signal	CDMA

B. SAR Measurement Results

Higher Band SAR (Channel 777):

Frequency (MHz)	848.309998
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250
Conductivity (S/m)	0.891963
Variation (%)	0.030000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

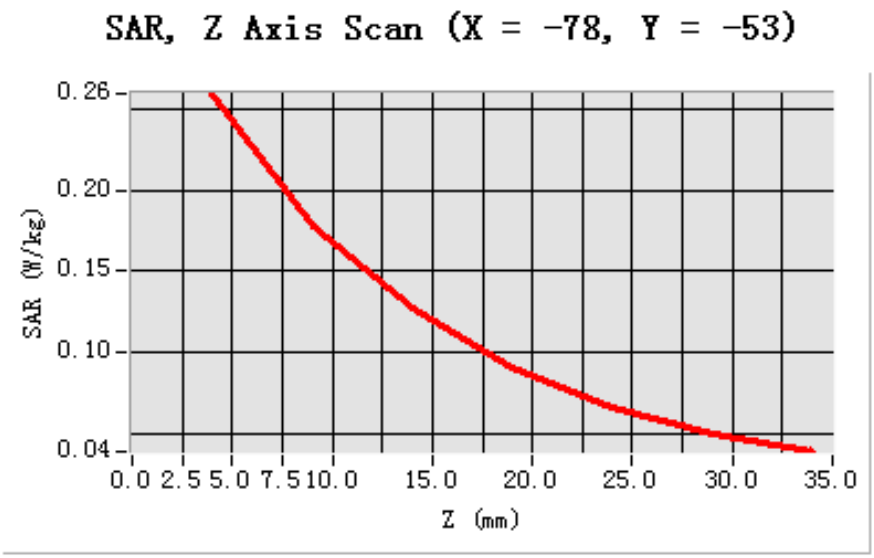
SURFACE SAR	VOLUME SAR
	

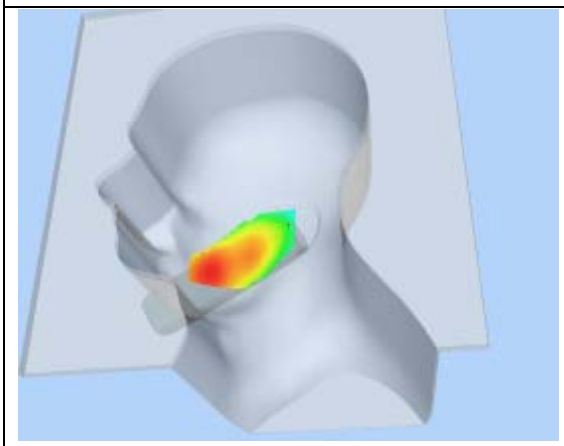
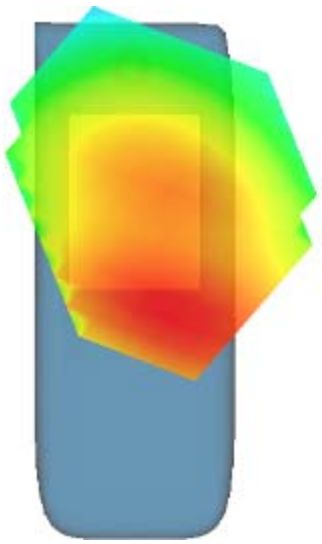
Maximum location: X=-78.00, Y=-53.00

SAR 10g (W/Kg)	0.172122
SAR 1g (W/Kg)	0.251723

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2590	0.1777	0.1280	0.0908	0.0660	0.0504



3D sceen shot	Hot spot position
	

MEASUREMENT 7

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 29 seconds

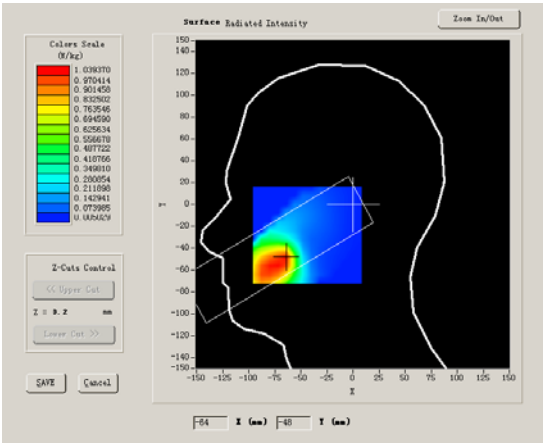
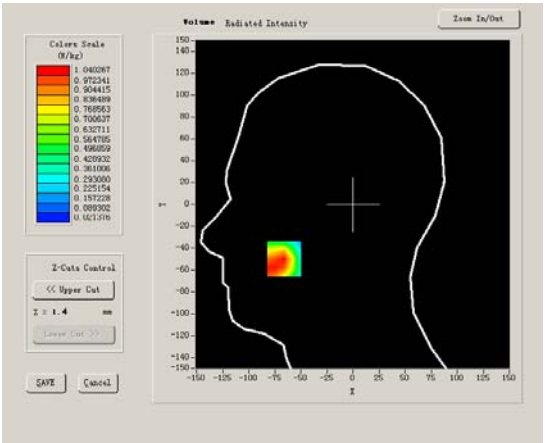
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	CDMA 800
Channels	Low
Signal	CDMA

B. SAR Measurement Results

Lower Band SAR (Channel 1013):

Frequency (MHz)	824.700012
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250
Conductivity (S/m)	0.867138
Variation (%)	-1.270000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

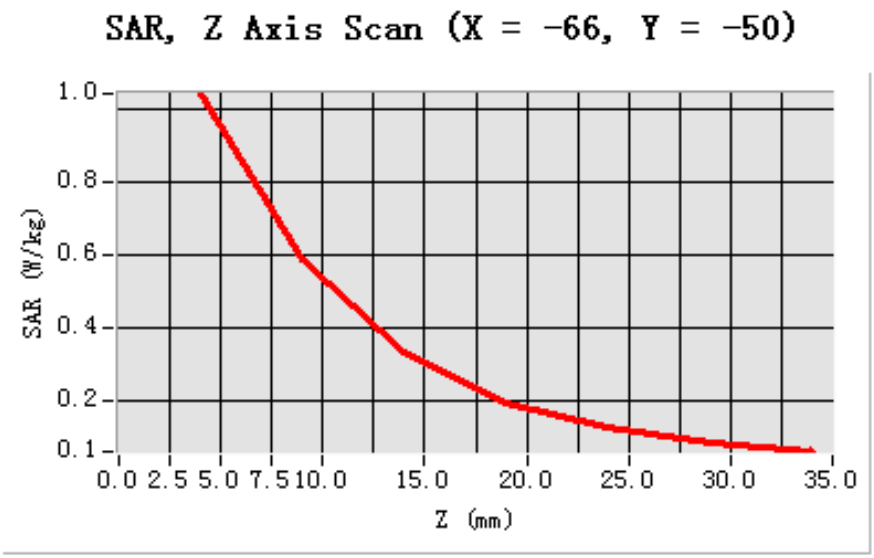
SURFACE SAR	VOLUME SAR
	

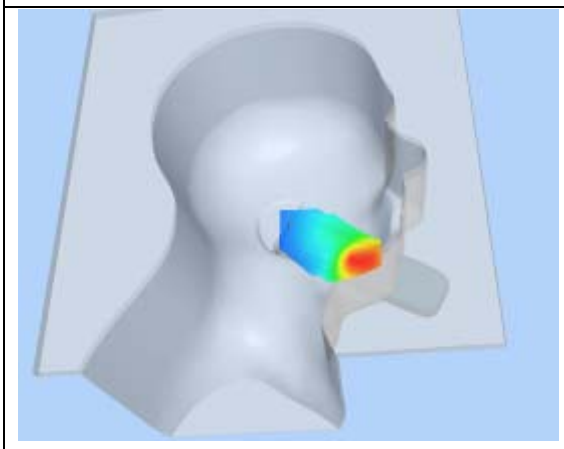
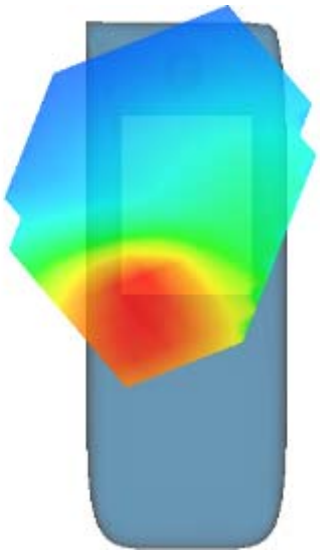
Maximum location: X=-66.00, Y=-50.00

SAR 10g (W/Kg)	0.628657
SAR 1g (W/Kg)	1.025003

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.0403	0.5847	0.3320	0.1957	0.1247	0.0864



3D sceen shot	Hot spot position
	

MEASUREMENT 8

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 28 seconds

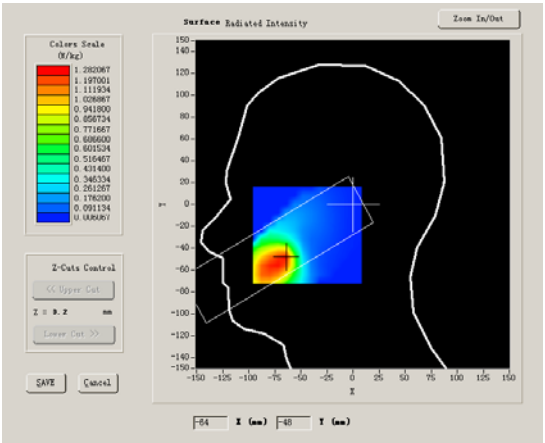
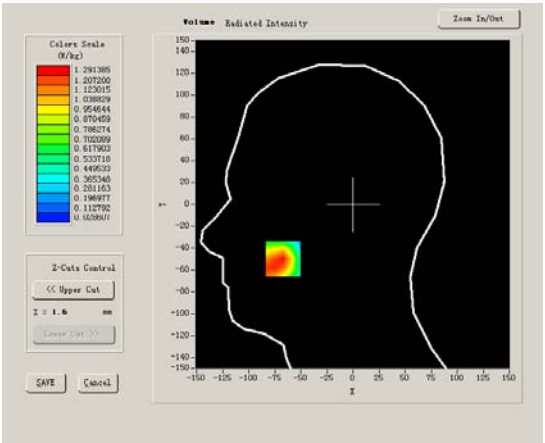
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	CDMA 800
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 384):

Frequency (MHz)	836.520020
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250
Conductivity (S/m)	0.879566
Variation (%)	0.880000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

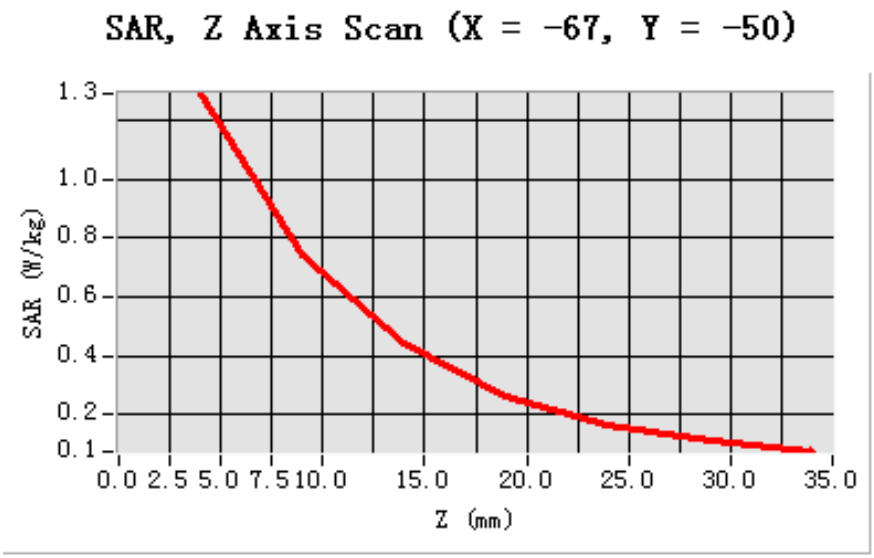
SURFACE SAR	VOLUME SAR
	

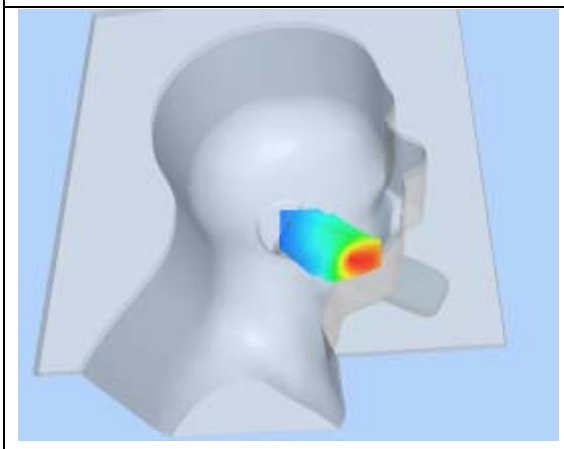
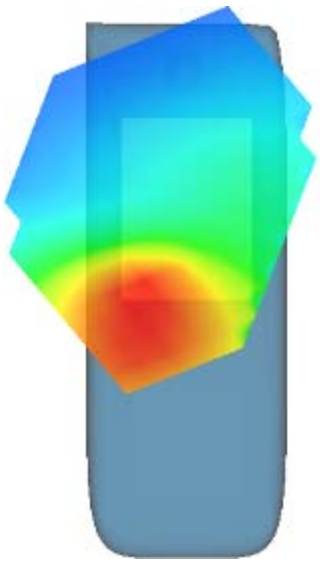
Maximum location: X=-67.00, Y=-50.00

SAR 10g (W/Kg)	0.776578
SAR 1g (W/Kg)	1.262754

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.2914	0.7467	0.4433	0.2636	0.1664	0.1097



3D sceen shot	Hot spot position
	

MEASUREMENT 9

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 25 seconds

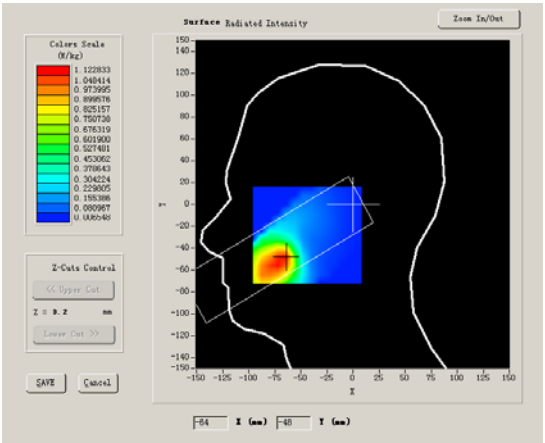
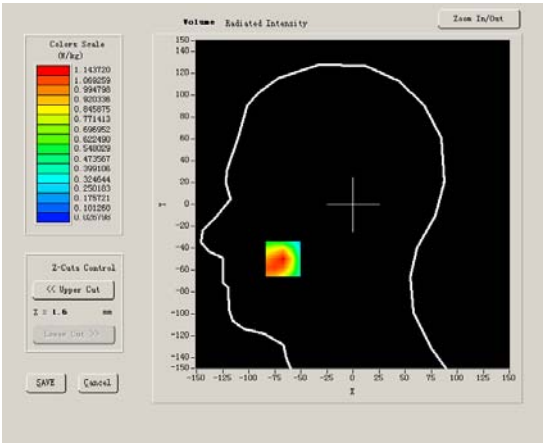
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	CDMA 800
Channels	High
Signal	CDMA

B. SAR Measurement Results

Higher Band SAR (Channel 777):

Frequency (MHz)	848.309998
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250
Conductivity (S/m)	0.891963
Variation (%)	0.770000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

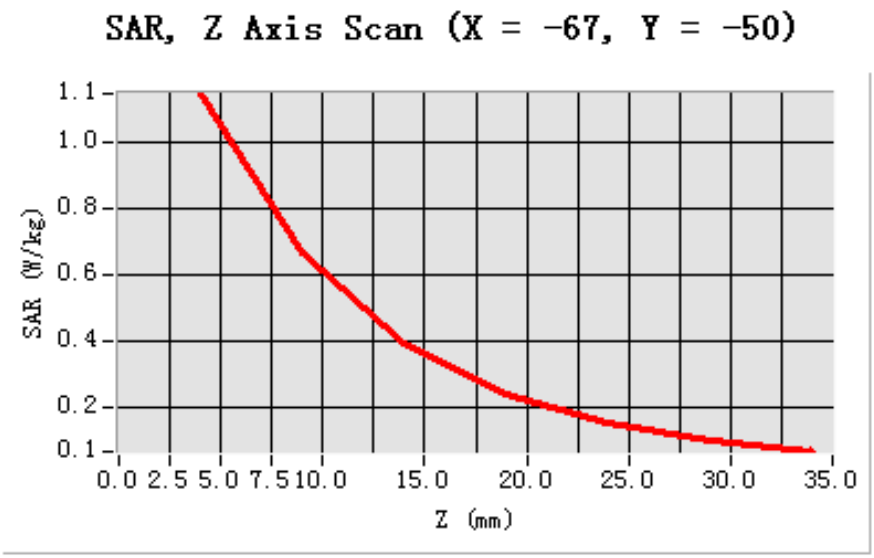
SURFACE SAR	VOLUME SAR
	

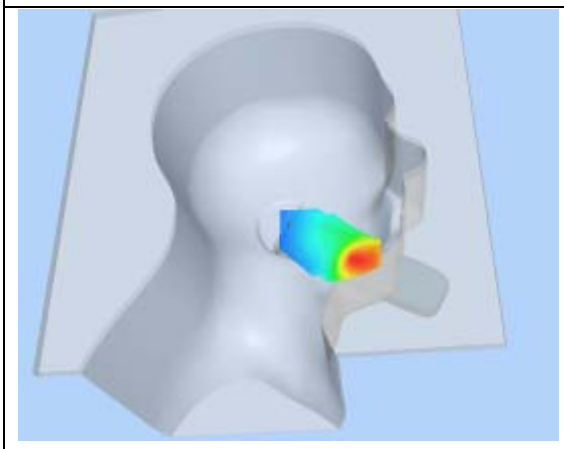
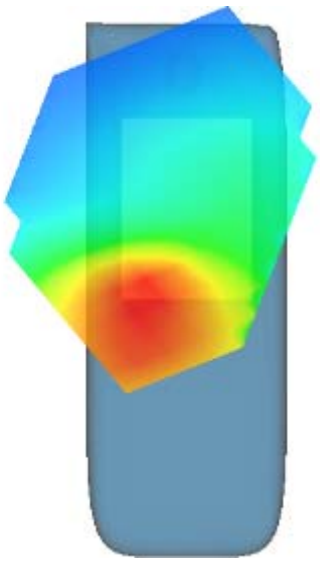
Maximum location: X=-67.00, Y=-50.00

SAR 10g (W/Kg)	0.681675
SAR 1g (W/Kg)	1.114452

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.1437	0.6625	0.3951	0.2392	0.1502	0.0978



3D sceen shot	Hot spot position
	

MEASUREMENT 10

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 47 seconds

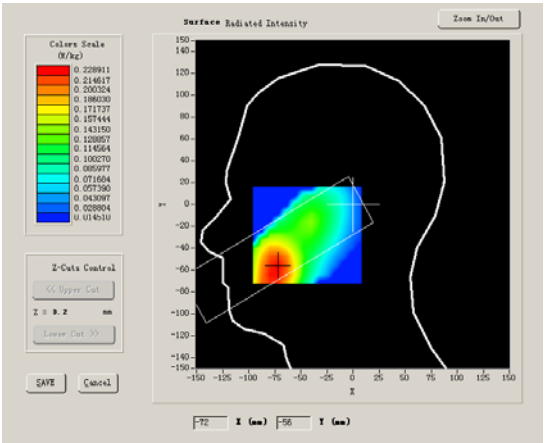
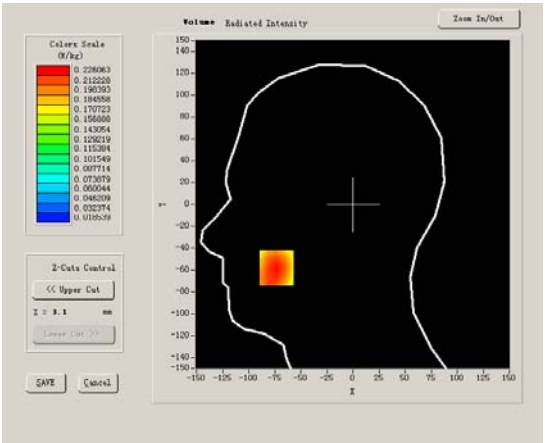
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	CDMA 800
Channels	Low
Signal	CDMA

B. SAR Measurement Results

Lower Band SAR (Channel 1013):

Frequency (MHz)	824.700012
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250
Conductivity (S/m)	0.867138
Variation (%)	-1.290000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

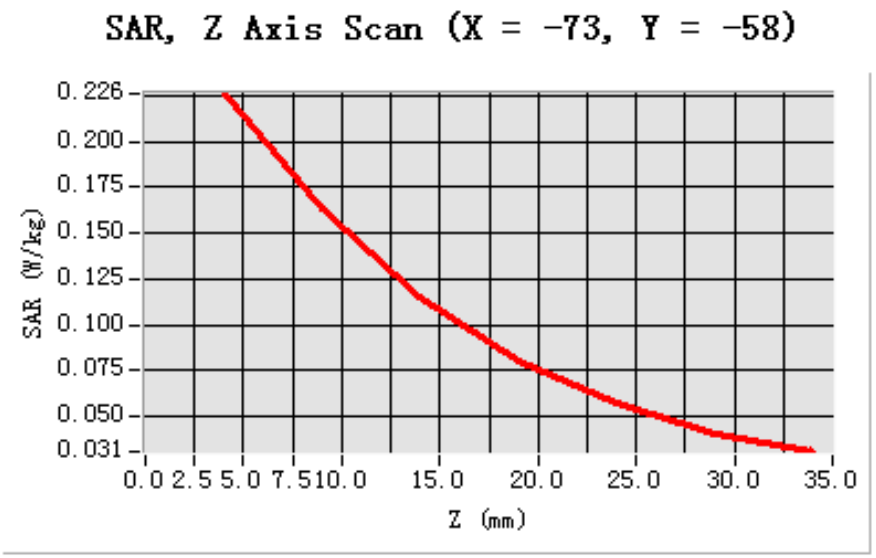
SURFACE SAR	VOLUME SAR
	

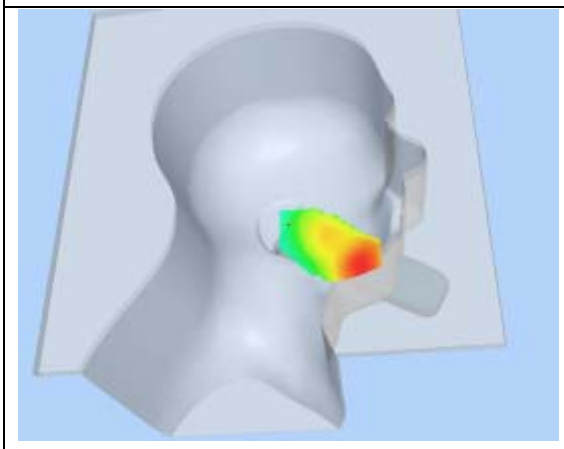
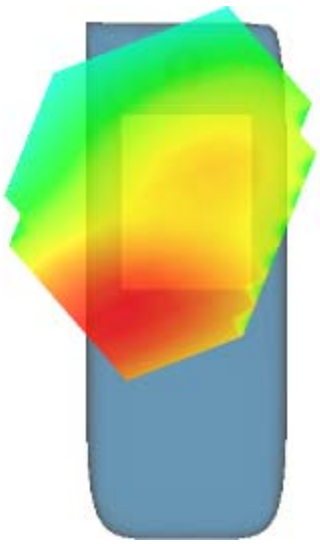
Maximum location: X=-73.00, Y=-58.00

SAR 10g (W/Kg)	0.151341
SAR 1g (W/Kg)	0.217257

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2261	0.1634	0.1149	0.0802	0.0577	0.0406



3D sceen shot	Hot spot position
	

MEASUREMENT 11

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 41 seconds

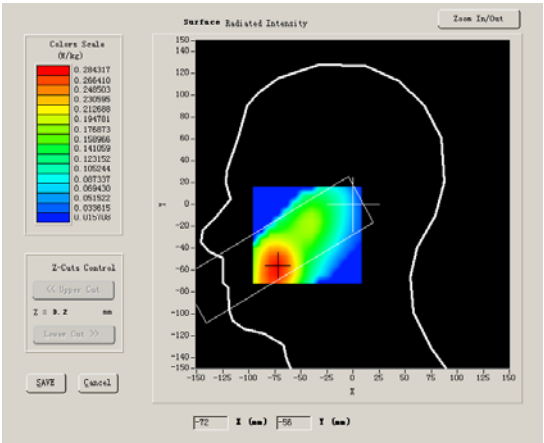
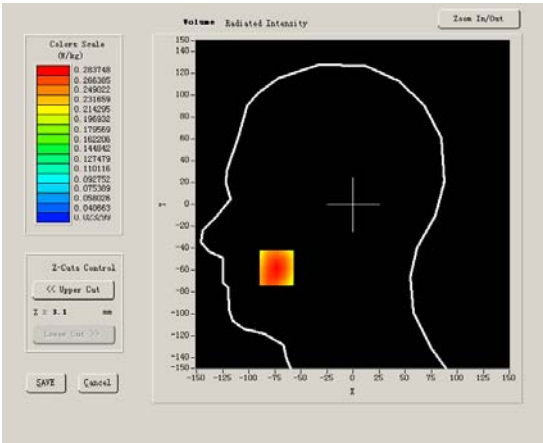
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	CDMA 800
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 384):

Frequency (MHz)	836.520020
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250
Conductivity (S/m)	0.879566
Variation (%)	-0.130000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

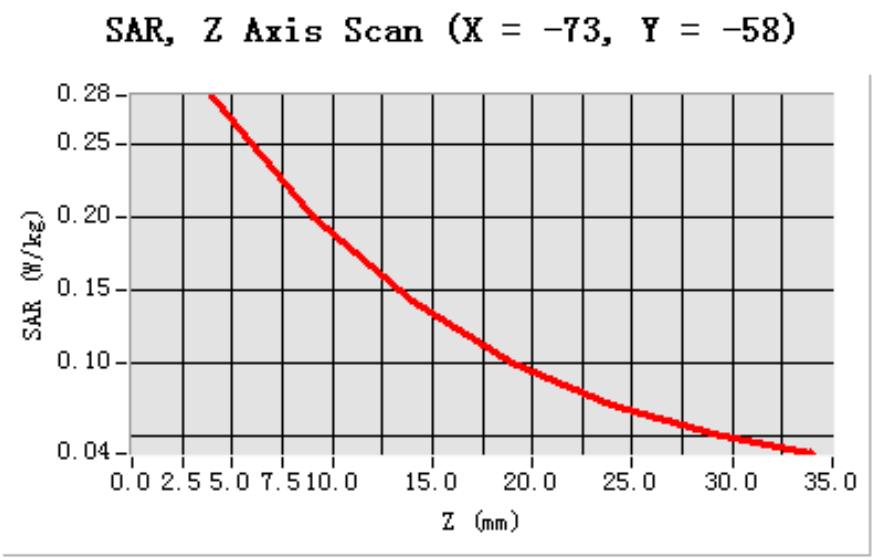
SURFACE SAR	VOLUME SAR
	

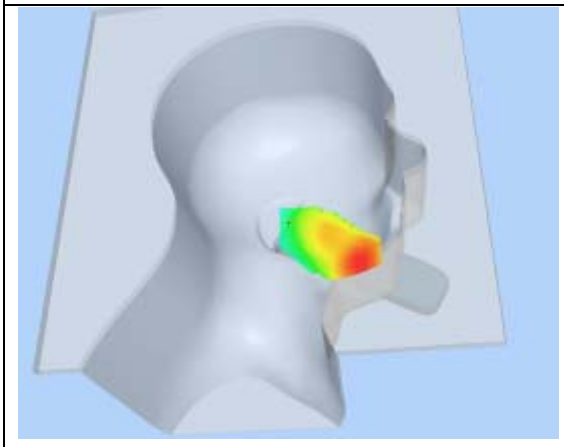
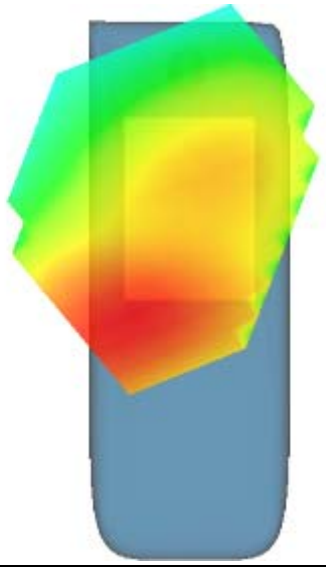
Maximum location: X=-73.00, Y=-58.00

SAR 10g (W/Kg)	0.189368
SAR 1g (W/Kg)	0.273544

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2837	0.2009	0.1433	0.1000	0.0717	0.0515



3D sceen shot	Hot spot position
	

MEASUREMENT 12

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 49 seconds

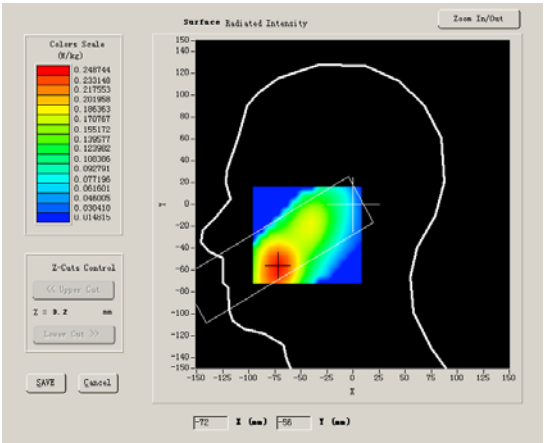
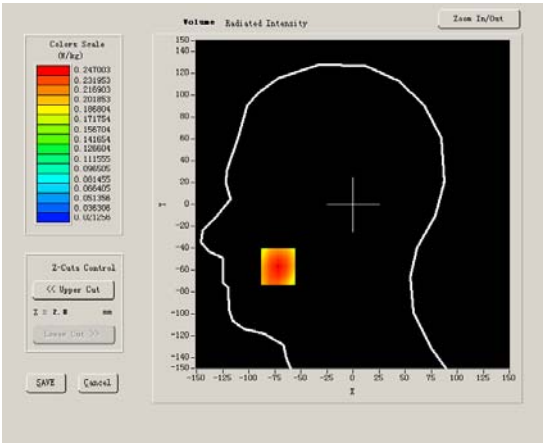
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	CDMA 800
Channels	High
Signal	CDMA

B. SAR Measurement Results

Higher Band SAR (Channel 777):

Frequency (MHz)	848.309998
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250
Conductivity (S/m)	0.891963
Variation (%)	-0.570000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

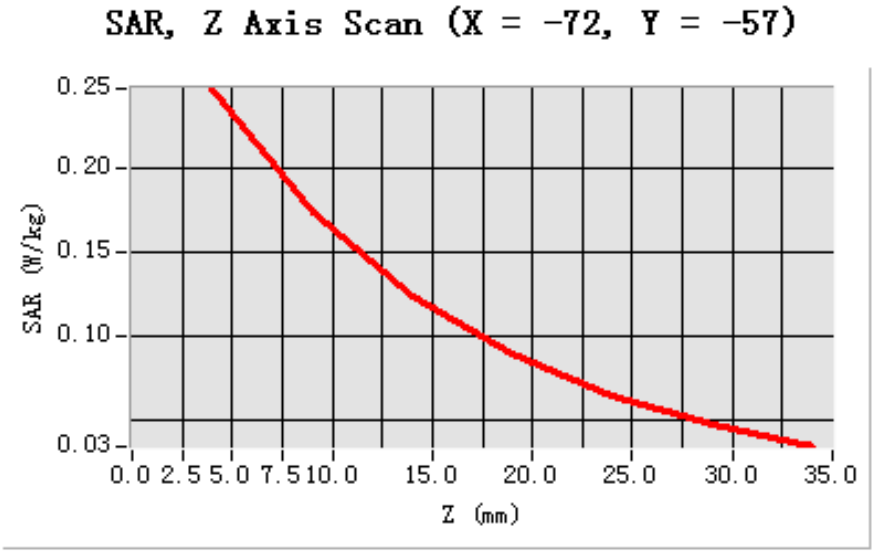
SURFACE SAR	VOLUME SAR
	

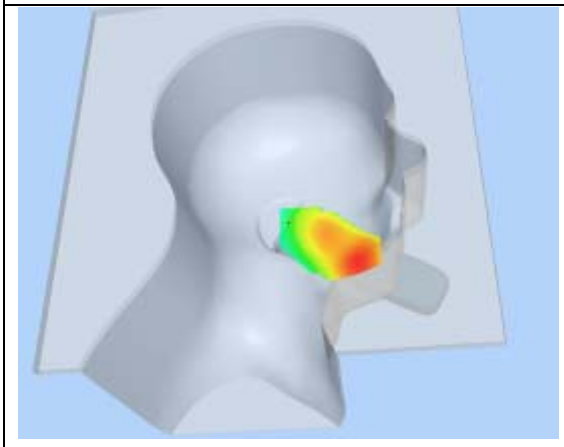
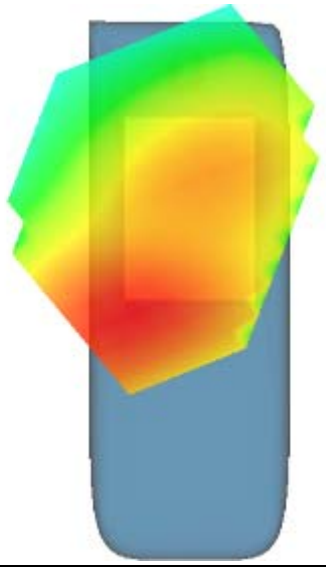
Maximum location: X=-72.00, Y=-57.00

SAR 10g (W/Kg)	0.164902
SAR 1g (W/Kg)	0.238962

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2470	0.1732	0.1236	0.0897	0.0638	0.0464



3D sceen shot	Hot spot position
	

MEASUREMENT 13

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 9 minutes 6 seconds

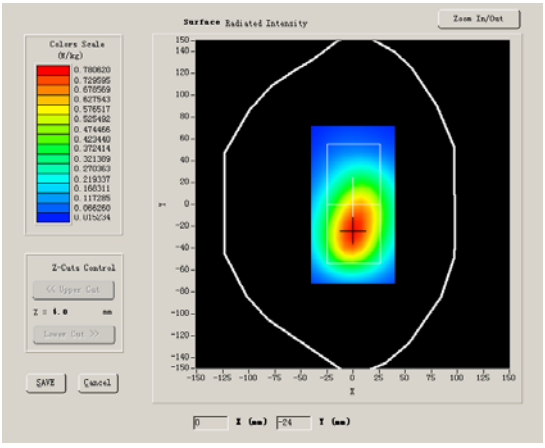
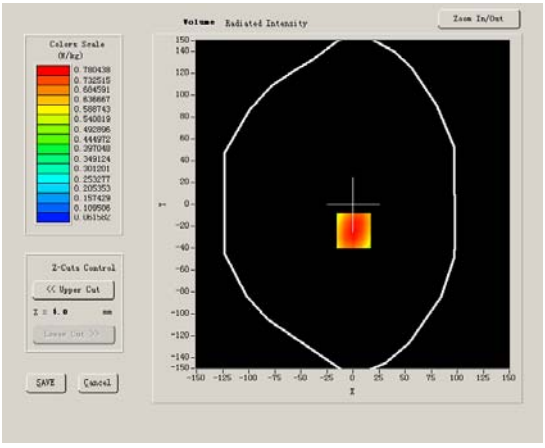
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA 800
Channels	Low
Signal	CDMA

B. SAR Measurement Results

Lower Band SAR (Channel 1013):

Frequency (MHz)	824.700012
Relative permittivity (real part)	54.116001
Relative permittivity	21.284550
Conductivity (S/m)	0.975187
Variation (%)	1.110000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

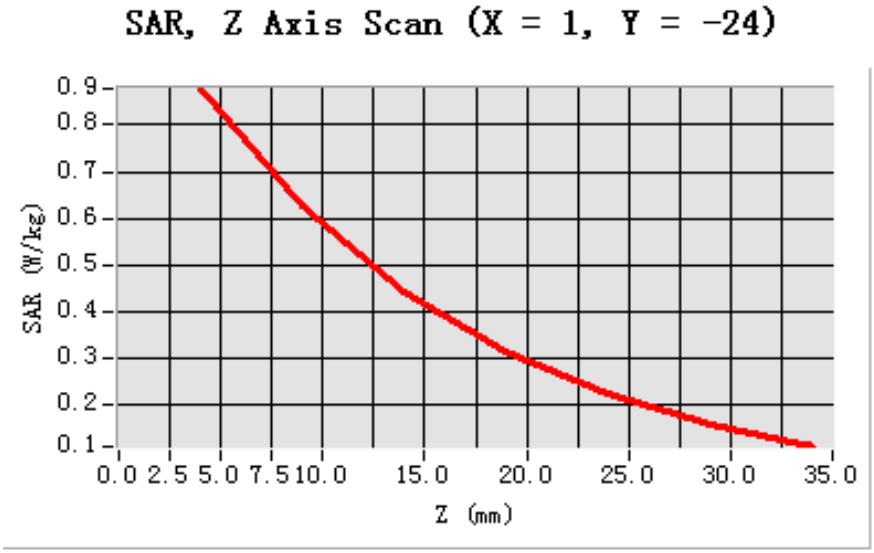
SURFACE SAR	VOLUME SAR
	

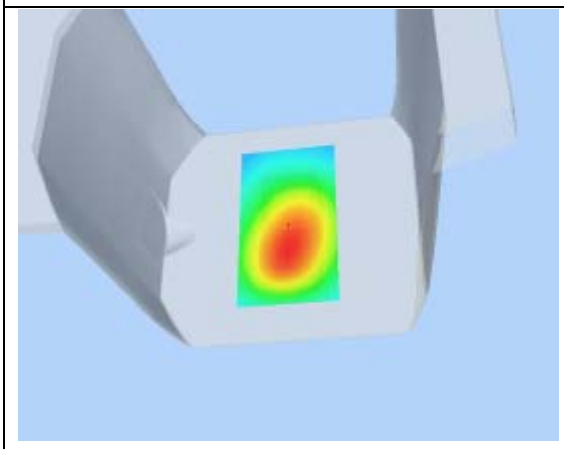
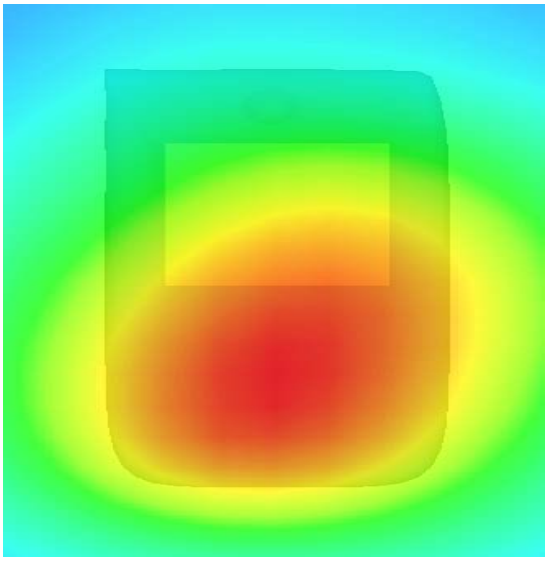
Maximum location: X=1.00, Y=-24.00

SAR 10g (W/Kg)	0.585017
SAR 1g (W/Kg)	0.846031

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.8777	0.6264	0.4407	0.3150	0.2237	0.1569



3D sceen shot	Hot spot position
	

MEASUREMENT 14

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 9 minutes 6 seconds

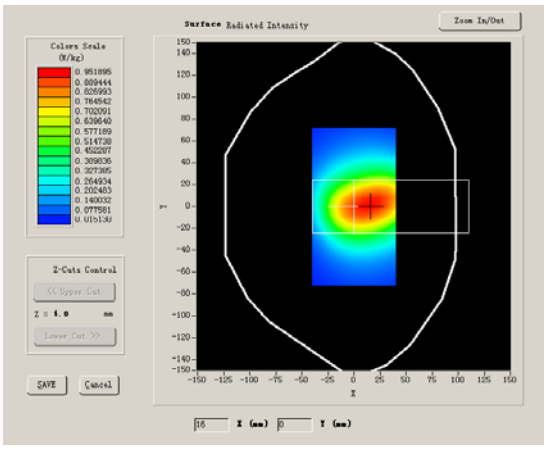
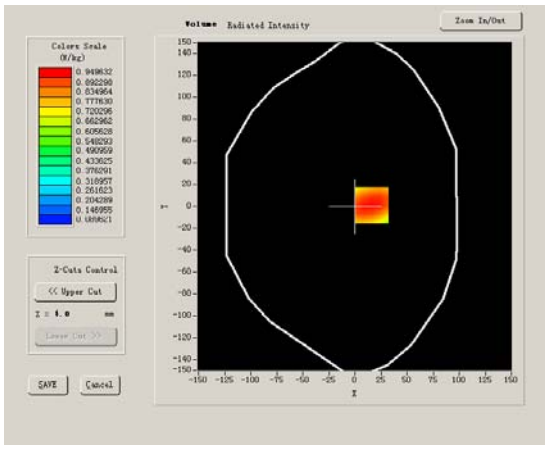
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA 800
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 384):

Frequency (MHz)	836.520020
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250
Conductivity (S/m)	0.879566
Variation (%)	-0.960000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

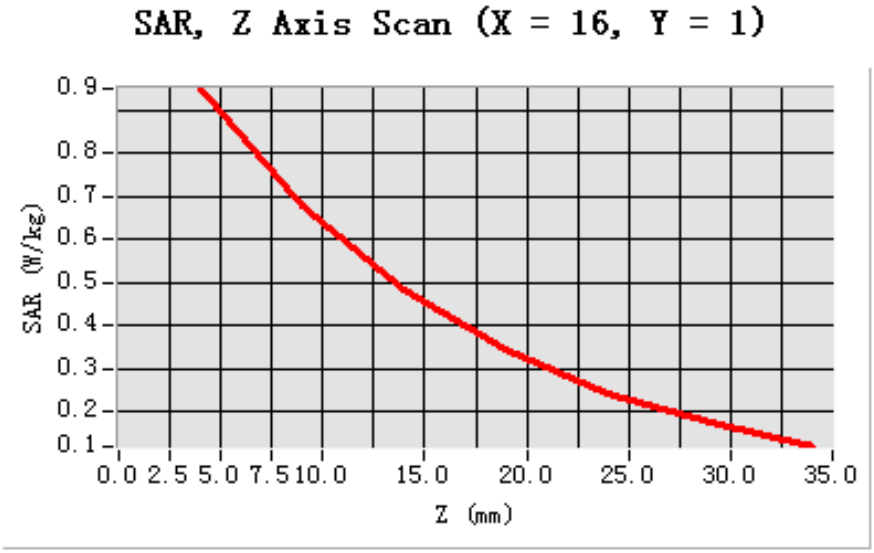
SURFACE SAR	VOLUME SAR
	

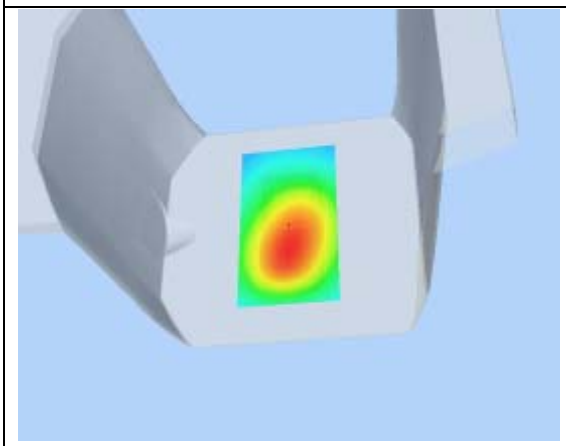
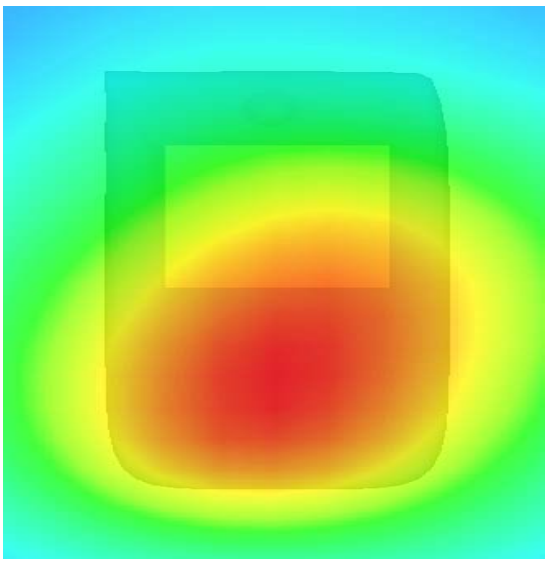
Maximum location: X=16.00, Y=1.00

SAR 10g (W/Kg)	0.634101
SAR 1g (W/Kg)	0.916176

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.9496	0.6803	0.4829	0.3458	0.2426	0.1750



3D sceen shot	Hot spot position
	

MEASUREMENT 15

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 9 minutes 8 seconds

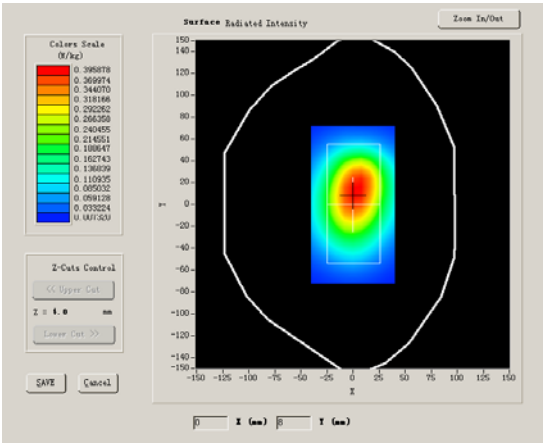
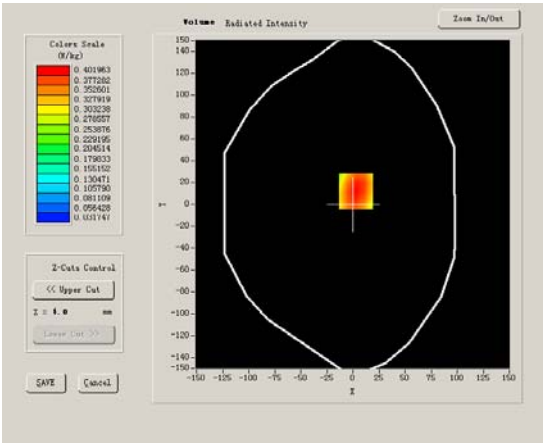
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA 800
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 384):

Frequency (MHz)	836.520020
Relative permittivity (real part)	54.116001
Relative permittivity	21.284550
Conductivity (S/m)	0.989164
Variation (%)	-2.490000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

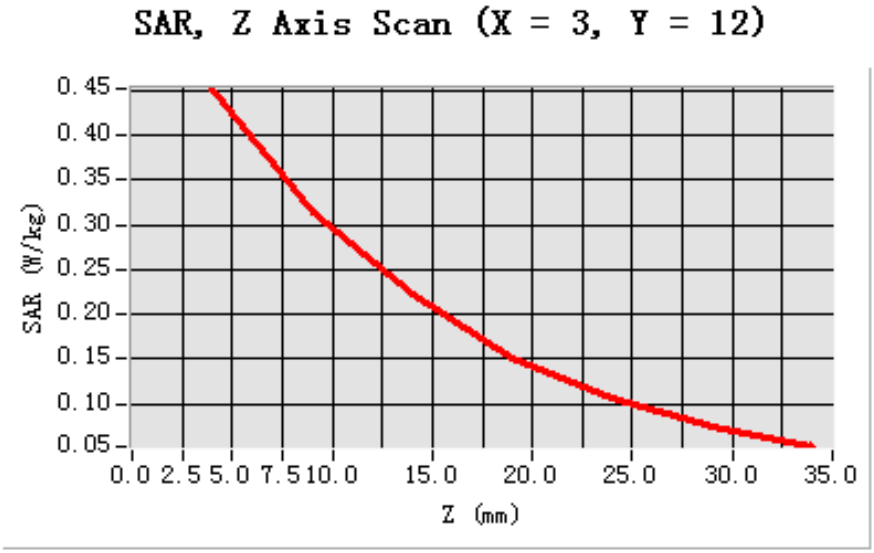
SURFACE SAR	VOLUME SAR
	

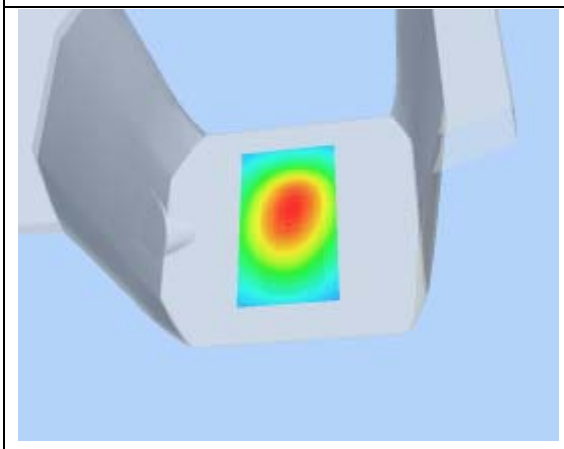
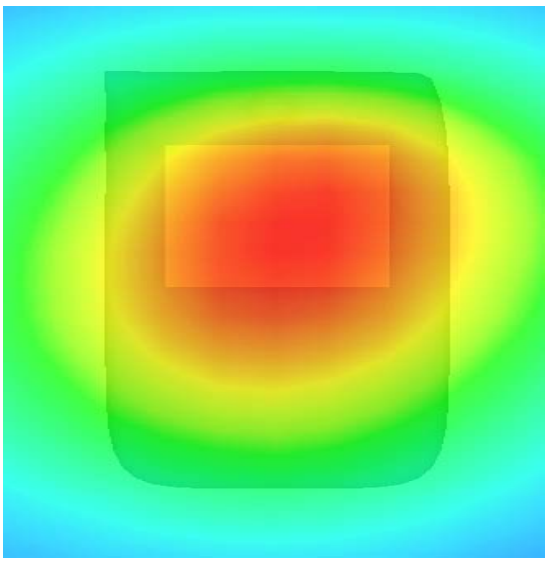
Maximum location: X=3.00, Y=12.00

SAR 10g (W/Kg)	0.293954
SAR 1g (W/Kg)	0.433667

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.4520	0.3148	0.2216	0.1514	0.1063	0.0747



3D sceen shot	Hot spot position
	

MEASUREMENT 16

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 9 minutes 8 seconds

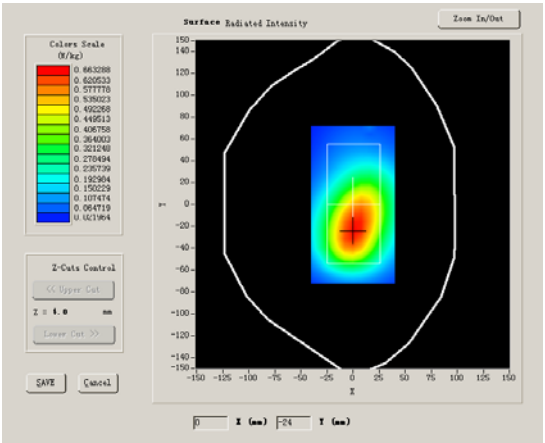
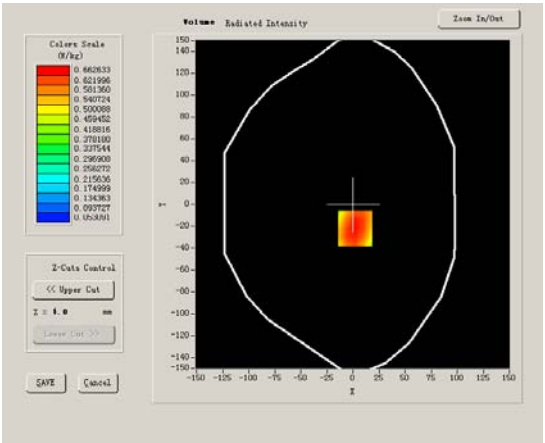
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA 800
Channels	High
Signal	CDMA

B. SAR Measurement Results

Higher Band SAR (Channel 777):

Frequency (MHz)	848.309998
Relative permittivity (real part)	54.116001
Relative permittivity	21.284550
Conductivity (S/m)	1.003105
Variation (%)	0.730000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

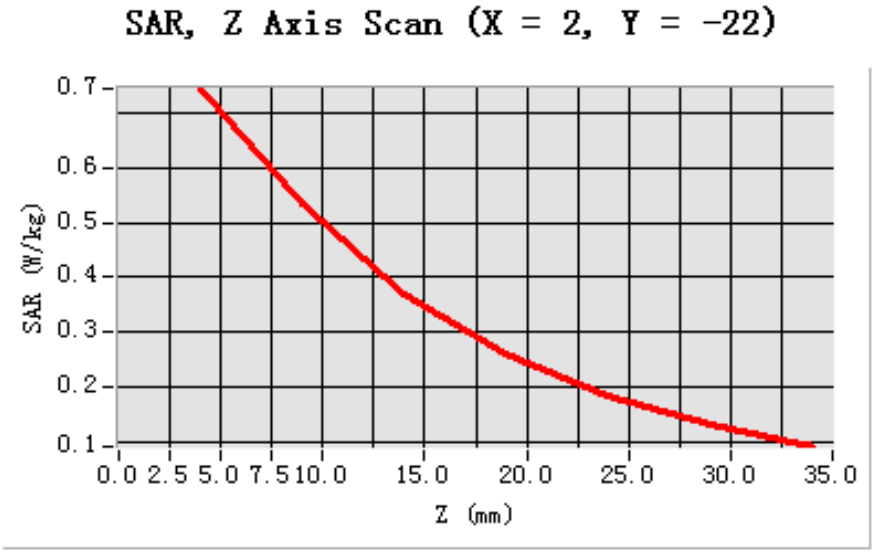
SURFACE SAR	VOLUME SAR
	

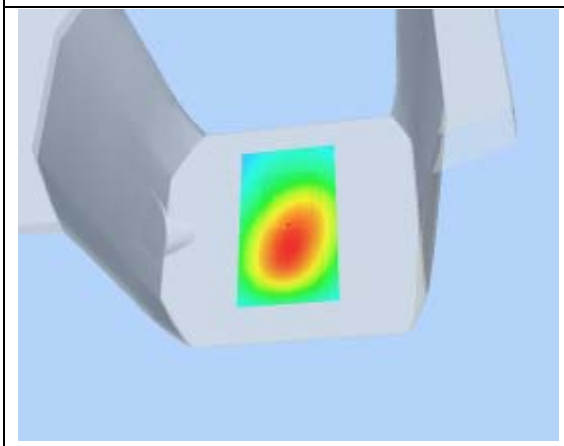
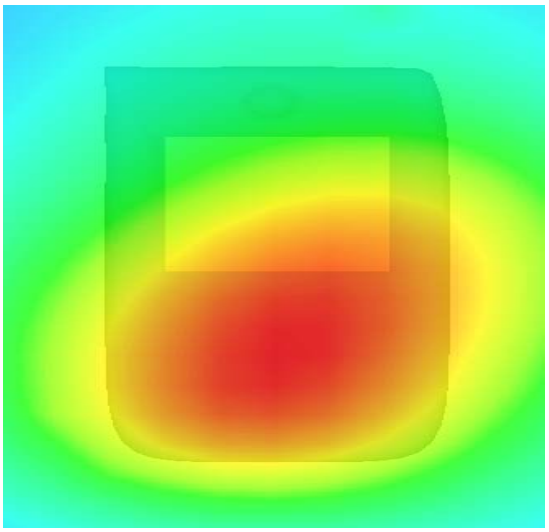
Maximum location: X=2.00, Y=-22.00

SAR 10g (W/Kg)	0.492304
SAR 1g (W/Kg)	0.716496

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7452	0.5367	0.3691	0.2604	0.1828	0.1287



3D sceen shot	Hot spot position
	

MEASUREMENT 17

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 29 seconds

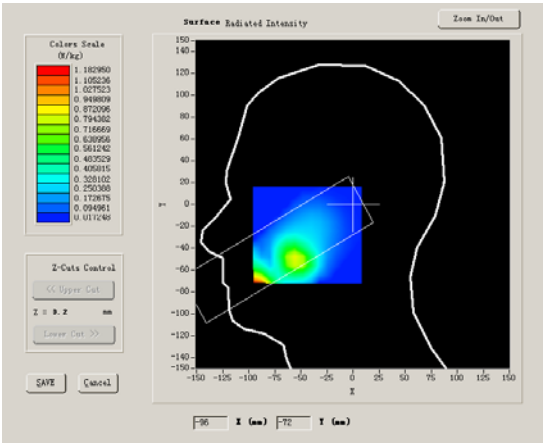
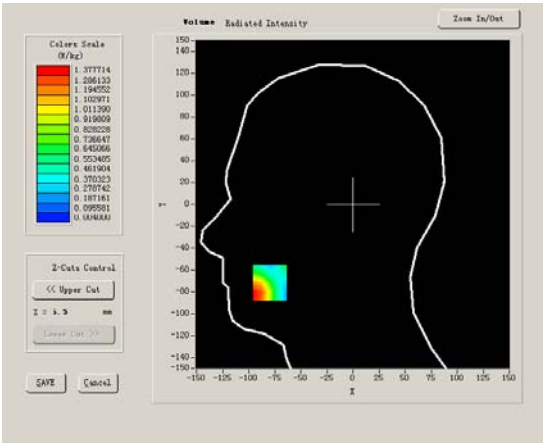
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	CDMA 1900
Channels	Low
Signal	CDMA

B. SAR Measurement Results

Lower Band SAR (Channel 25):

Frequency (MHz)	1851.250000
Relative permittivity (real part)	38.209000
Relative permittivity	13.915650
Conductivity (S/m)	1.431186
Variation (%)	1.190000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

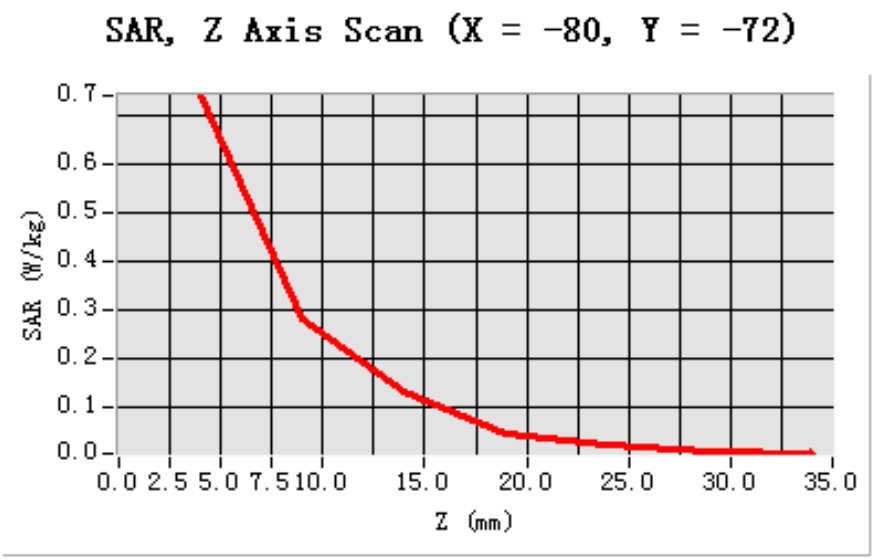
SURFACE SAR	VOLUME SAR
	

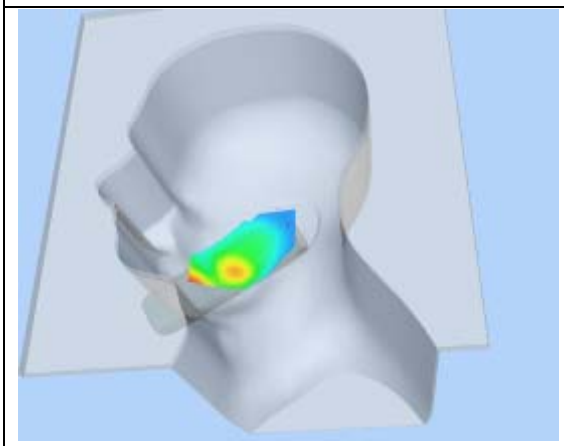
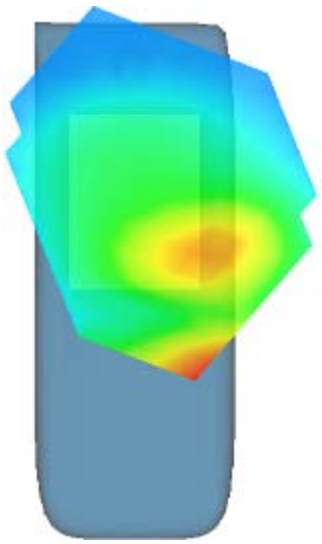
Maximum location: X=-80.00, Y=-72.00

SAR 10g (W/Kg)	0.609207
SAR 1g (W/Kg)	1.193064

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7431	0.2834	0.1309	0.0473	0.0225	0.0089



3D sceen shot	Hot spot position
	

MEASUREMENT 18

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 32 seconds

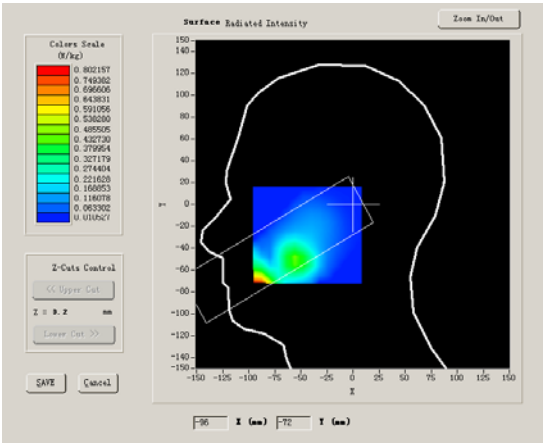
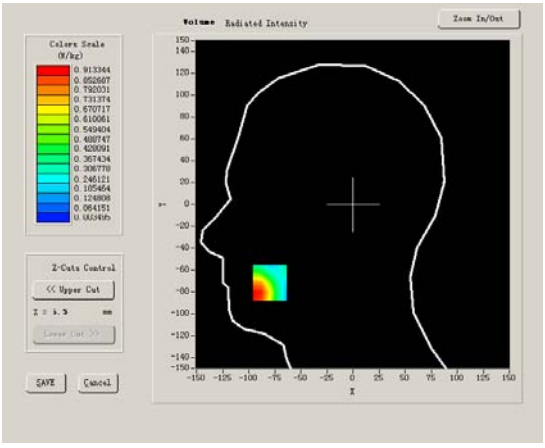
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	CDMA 1900
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 600):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	38.209000
Relative permittivity	13.915650
Conductivity (S/m)	1.453412
Variation (%)	1.080000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

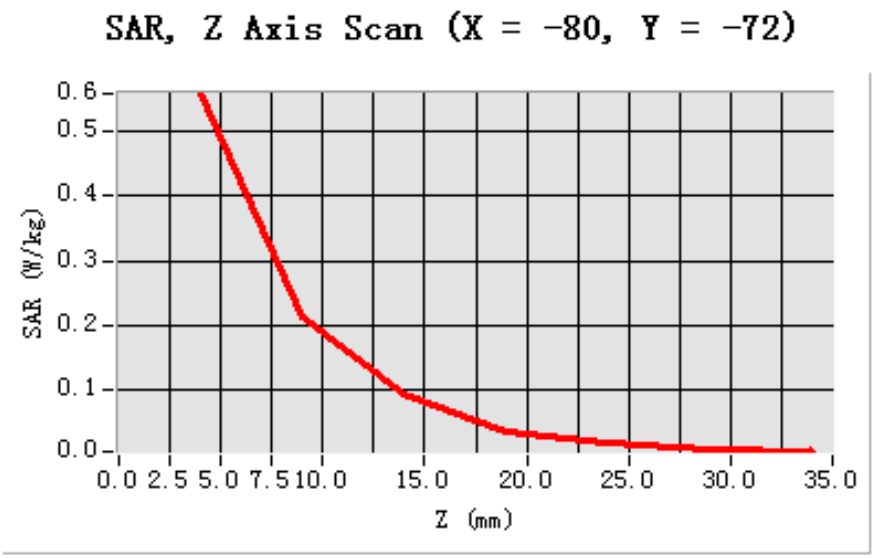
SURFACE SAR	VOLUME SAR
	

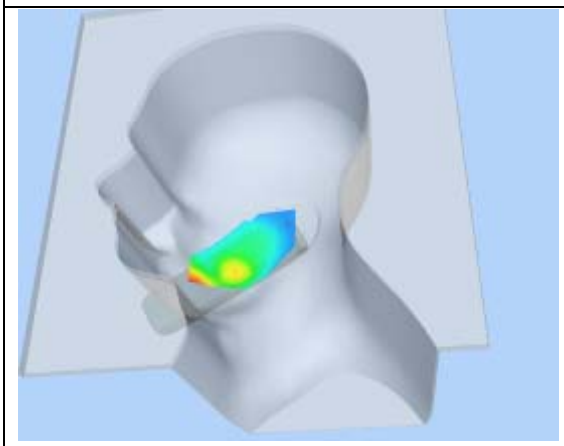
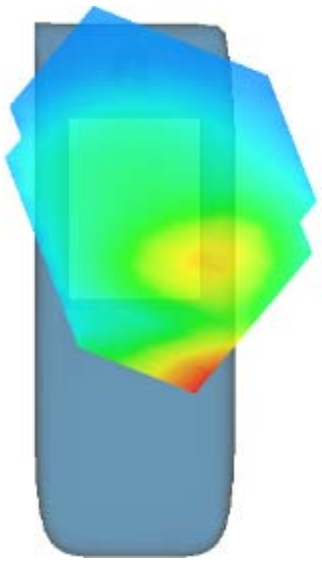
Maximum location: X=-80.00, Y=-72.00

SAR 10g (W/Kg)	0.425791
SAR 1g (W/Kg)	0.841197

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.5575	0.2123	0.0949	0.0350	0.0171	0.0079



3D sceen shot	Hot spot position
	

MEASUREMENT 19

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 32 seconds

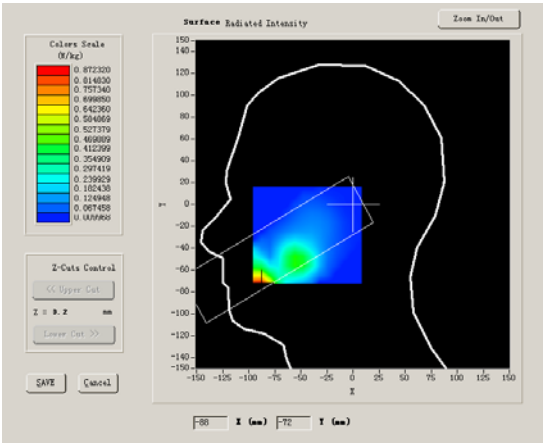
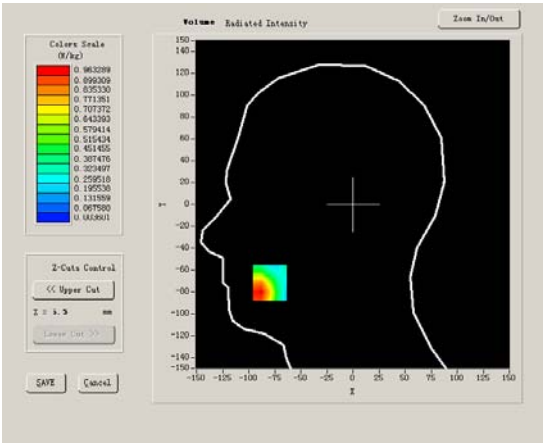
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	CDMA 1900
Channels	High
Signal	CDMA

B. SAR Measurement Results

Higher Band SAR (Channel 1175):

Frequency (MHz)	1908.750000
Relative permittivity (real part)	38.209000
Relative permittivity	13.915650
Conductivity (S/m)	1.475639
Variation (%)	-1.800000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

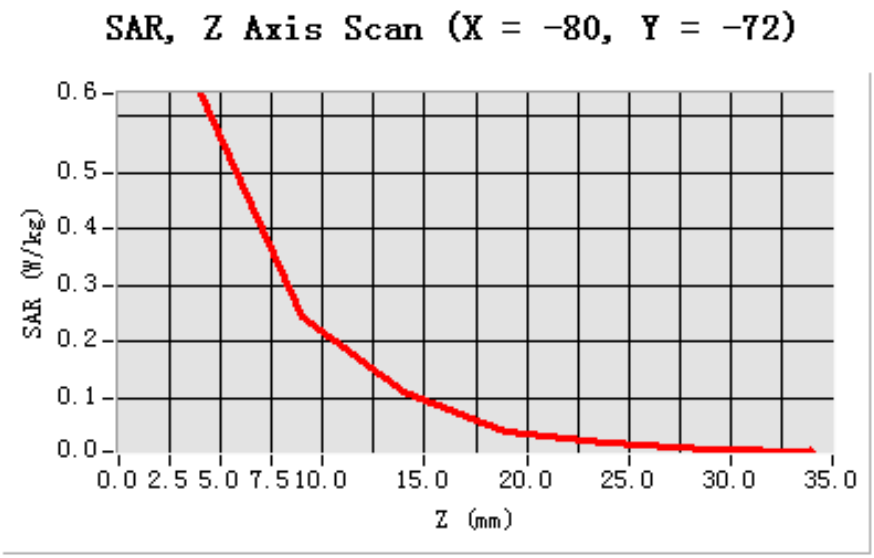
SURFACE SAR	VOLUME SAR
	

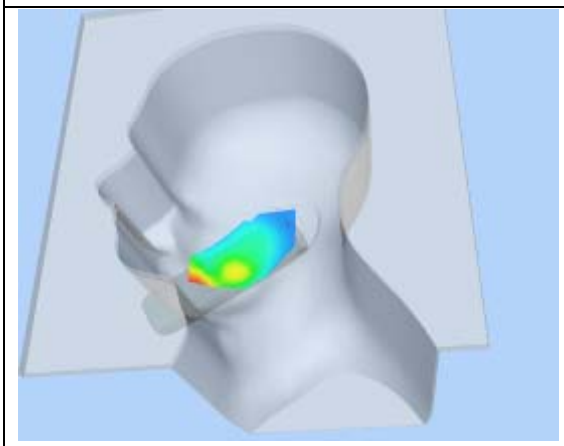
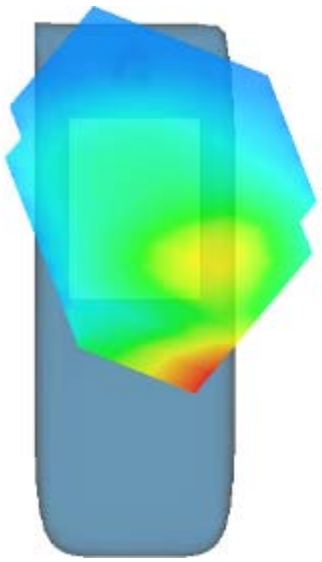
Maximum location: X=-80.00, Y=-72.00

SAR 10g (W/Kg)	0.458966
SAR 1g (W/Kg)	0.914891

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.6400	0.2432	0.1098	0.0400	0.0189	0.0090



3D sceen shot	Hot spot position
	

MEASUREMENT 20

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 7 minutes 29 seconds

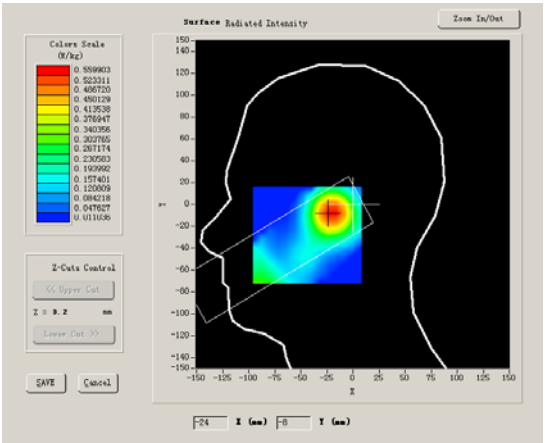
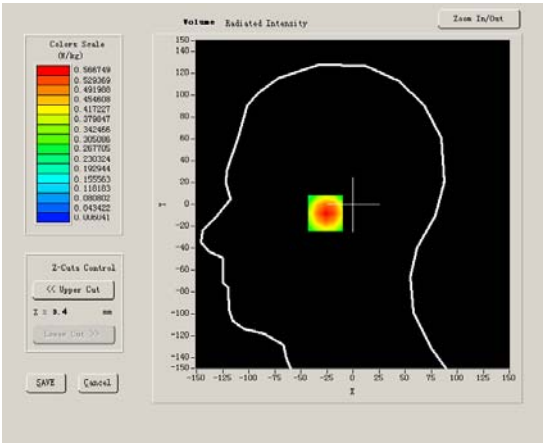
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	CDMA 1900
Channels	Low
Signal	CDMA

B. SAR Measurement Results

Lower Band SAR (Channel 25):

Frequency (MHz)	1851.250000
Relative permittivity (real part)	38.209000
Relative permittivity	13.915650
Conductivity (S/m)	1.431186
Variation (%)	-0.100000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

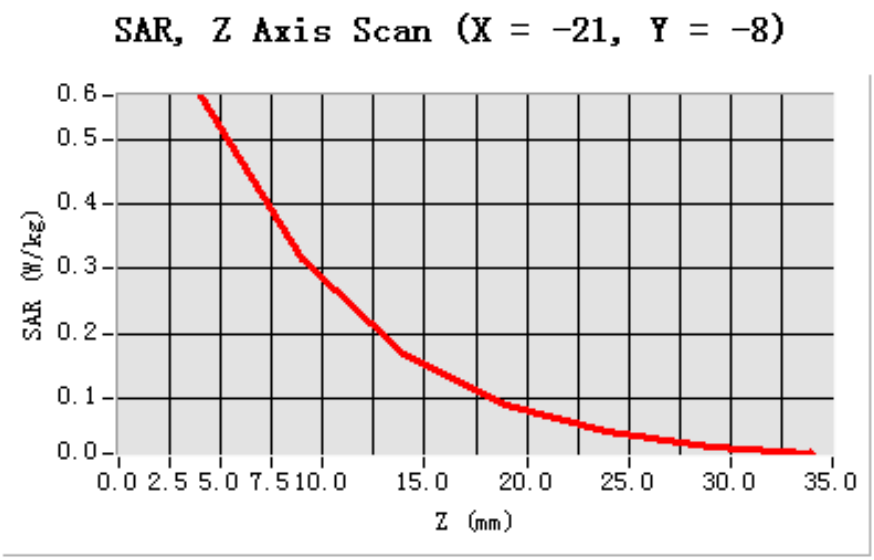
SURFACE SAR	VOLUME SAR
	

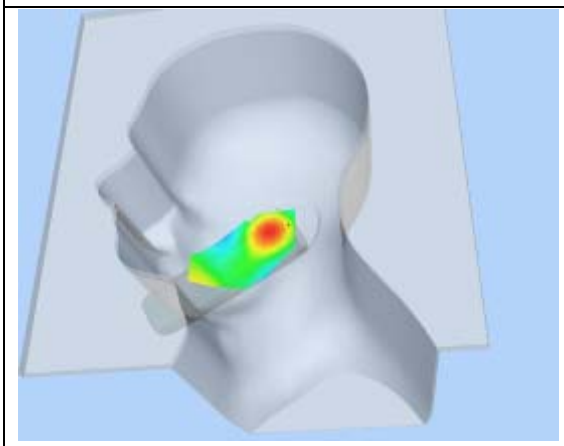
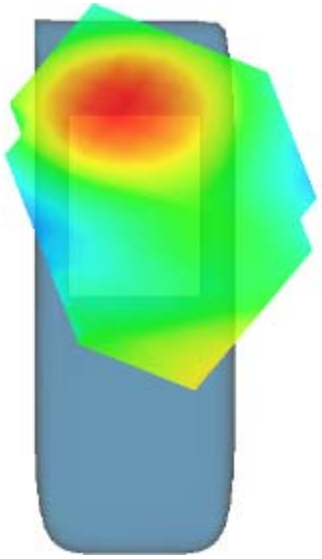
Maximum location: X=-21.00, Y=-8.00

SAR 10g (W/Kg)	0.297891
SAR 1g (W/Kg)	0.539985

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.5667	0.3146	0.1678	0.0897	0.0480	0.0257



3D sceen shot	Hot spot position
	

MEASUREMENT 21

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 7 minutes 25 seconds

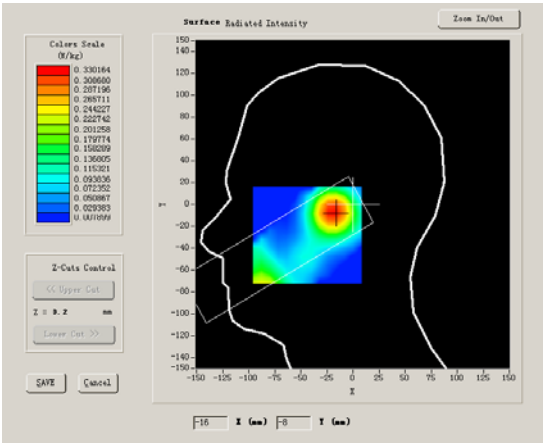
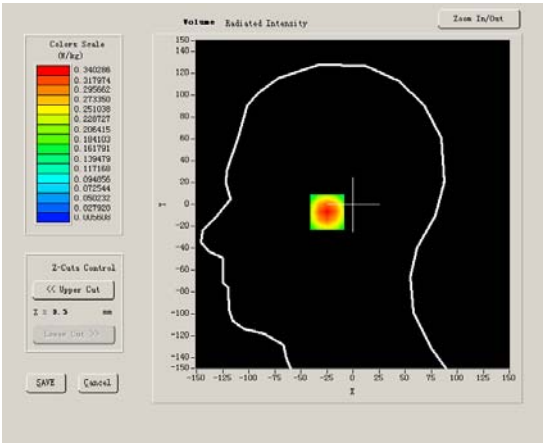
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	CDMA 1900
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 600):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	38.209000
Relative permittivity	13.915650
Conductivity (S/m)	1.453412
Variation (%)	0.370000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

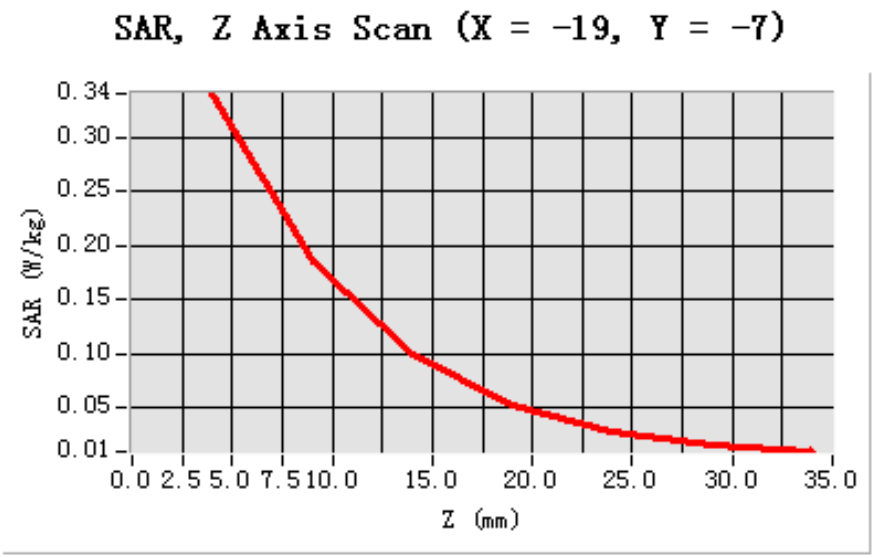
SURFACE SAR	VOLUME SAR
	

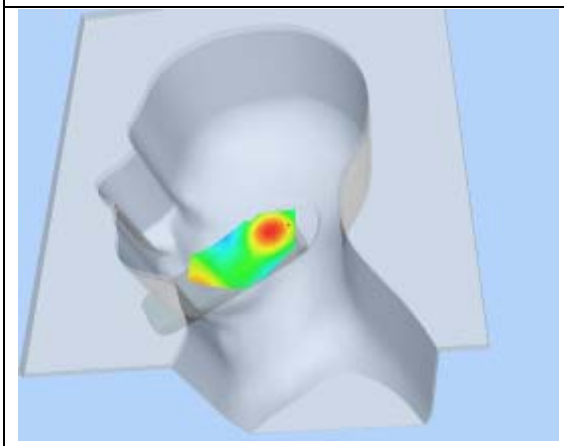
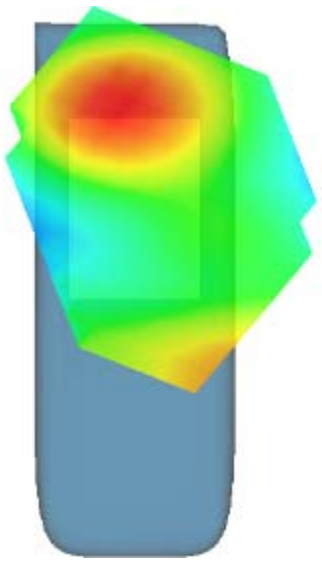
Maximum location: X=-19.00, Y=-7.00

SAR 10g (W/Kg)	0.177133
SAR 1g (W/Kg)	0.324485

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.3403	0.1853	0.0995	0.0528	0.0287	0.0150



3D sceen shot	Hot spot position
	

MEASUREMENT 22

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 7 minutes 20 seconds

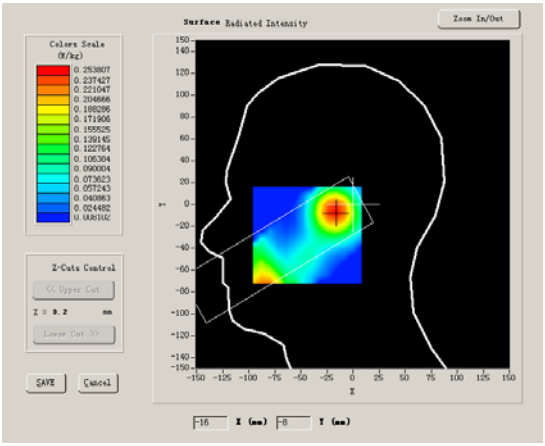
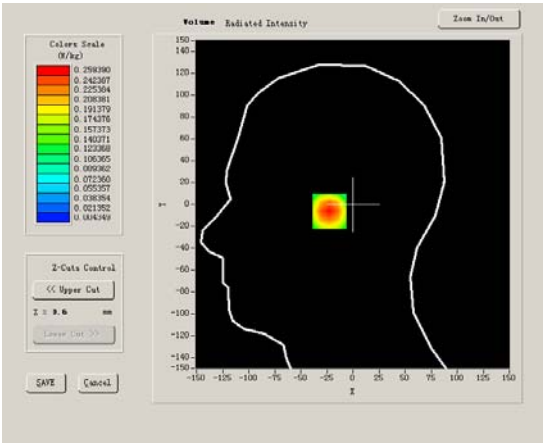
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	CDMA 1900
Channels	High
Signal	CDMA

B. SAR Measurement Results

Higher Band SAR (Channel 1175):

Frequency (MHz)	1908.750000
Relative permittivity (real part)	38.209000
Relative permittivity	13.915650
Conductivity (S/m)	1.475639
Variation (%)	-1.170000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

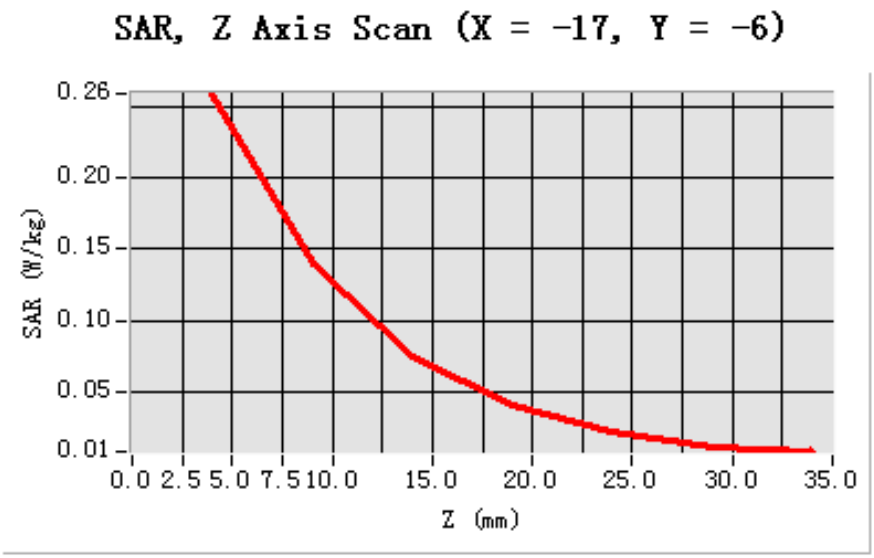
SURFACE SAR	VOLUME SAR
	

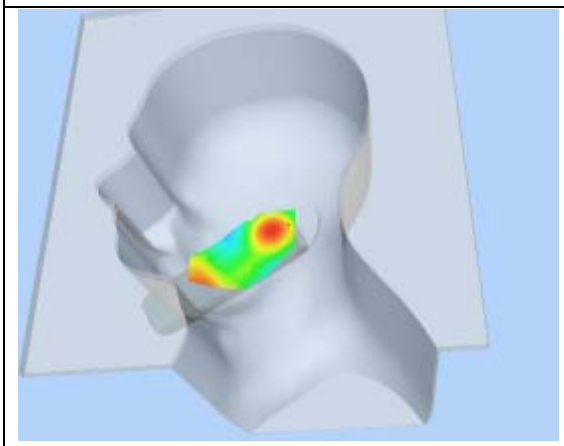
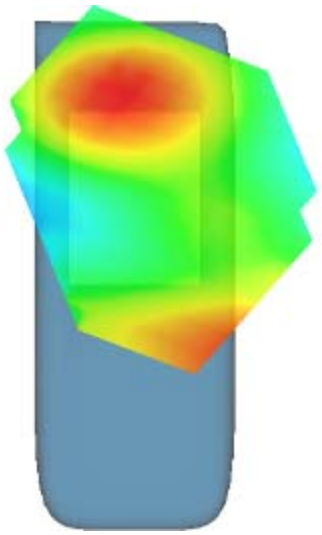
Maximum location: X=-17.00, Y=-6.00

SAR 10g (W/Kg)	0.134575
SAR 1g (W/Kg)	0.247456

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2594	0.1400	0.0745	0.0399	0.0213	0.0113



3D sceen shot	Hot spot position
	

MEASUREMENT 23

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 42 seconds

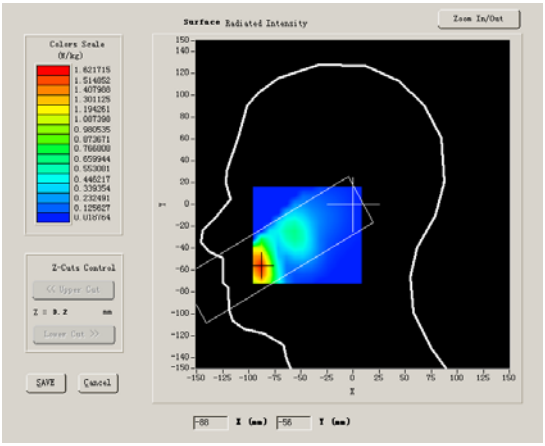
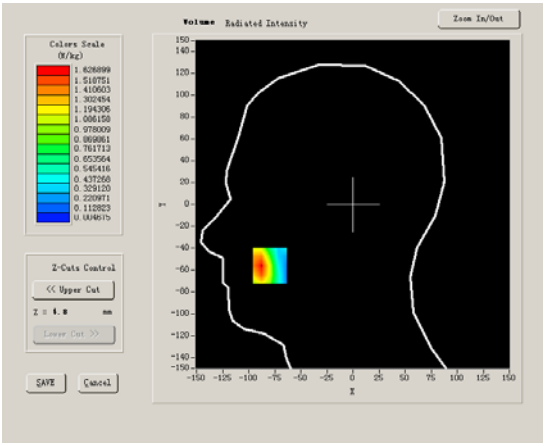
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	CDMA 1900
Channels	Low
Signal	CDMA

B. SAR Measurement Results

Lower Band SAR (Channel 25):

Frequency (MHz)	1851.250000
Relative permittivity (real part)	38.209000
Relative permittivity	13.915650
Conductivity (S/m)	1.431186
Variation (%)	0.850000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

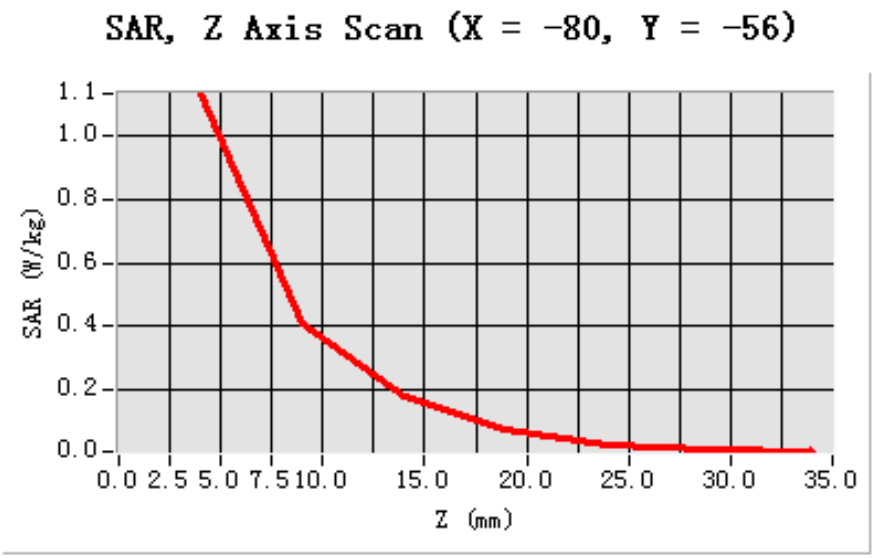
SURFACE SAR	VOLUME SAR
	

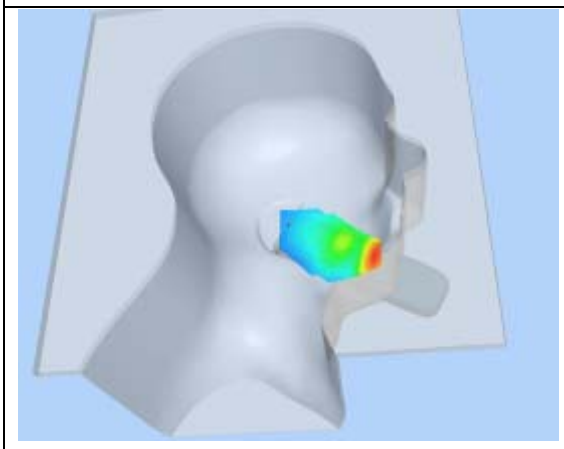
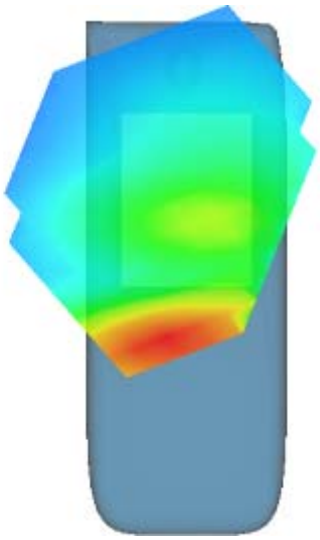
Maximum location: X=-80.00, Y=-56.00

SAR 10g (W/Kg)	0.770352
SAR 1g (W/Kg)	1.159808

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.1305	0.4119	0.1825	0.0751	0.0294	0.0143



3D sceen shot	Hot spot position
	

MEASUREMENT 24

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 42 seconds

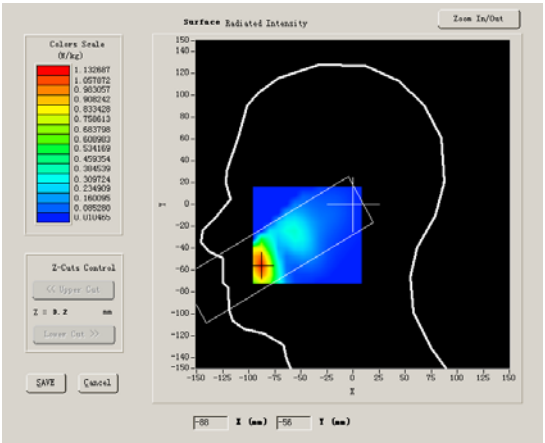
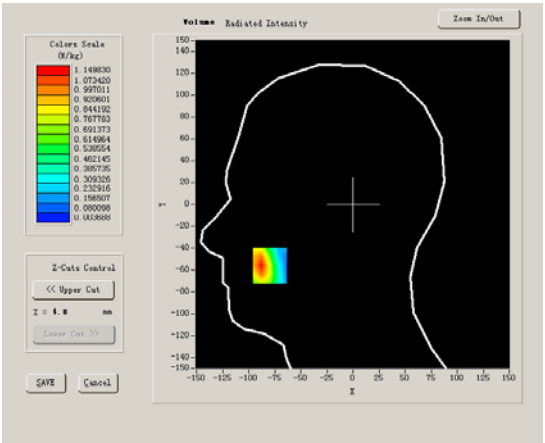
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	CDMA 1900
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 600):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	38.209000
Relative permittivity	13.915650
Conductivity (S/m)	1.453412
Variation (%)	1.250000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

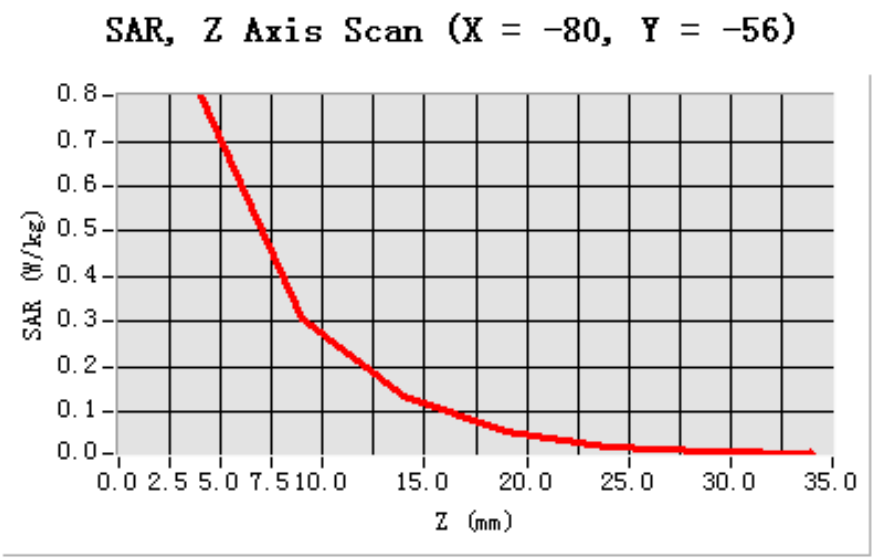
SURFACE SAR	VOLUME SAR
	

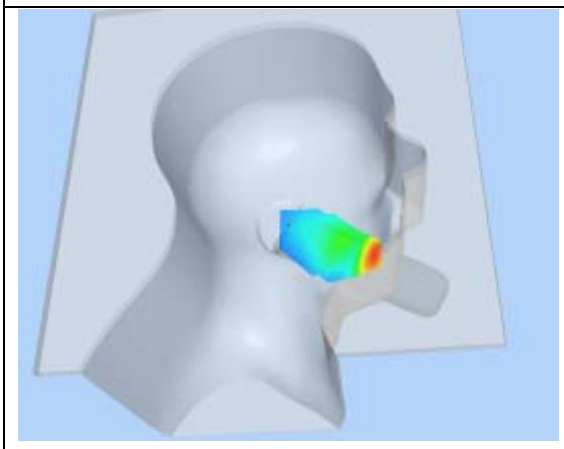
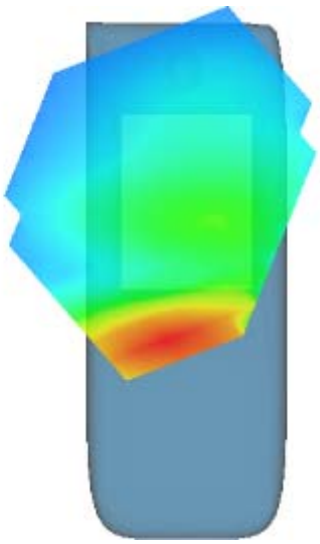
Maximum location: X=-80.00, Y=-56.00

SAR 10g (W/Kg)	0.534797
SAR 1g (W/Kg)	1.090540

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.8010	0.3050	0.1358	0.0563	0.0224	0.0113



3D sceen shot	Hot spot position
	

MEASUREMENT 25

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 40 seconds

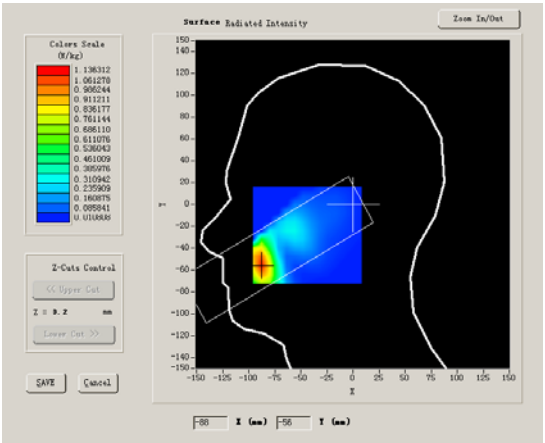
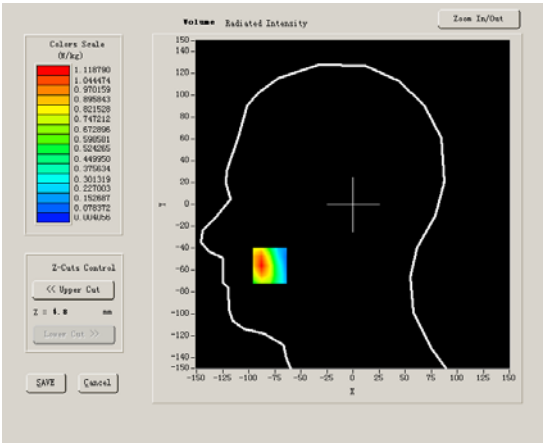
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	CDMA 1900
Channels	High
Signal	CDMA

B. SAR Measurement Results

Higher Band SAR (Channel 1175):

Frequency (MHz)	1908.750000
Relative permittivity (real part)	38.209000
Relative permittivity	13.915650
Conductivity (S/m)	1.475639
Variation (%)	-0.200000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

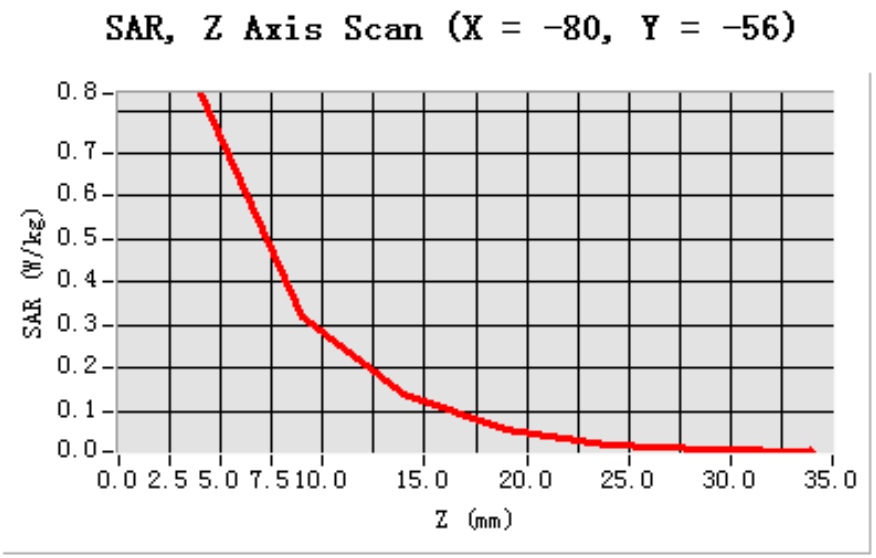
SURFACE SAR	VOLUME SAR
	

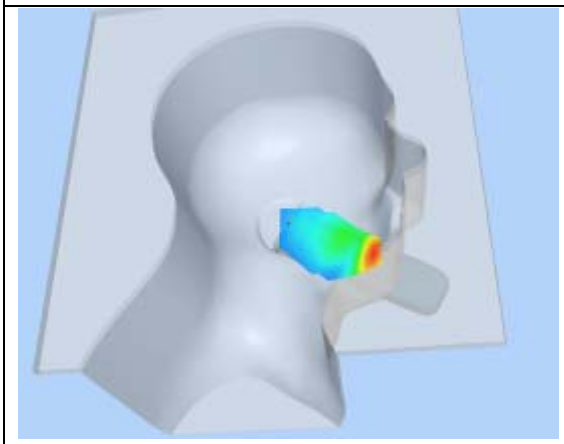
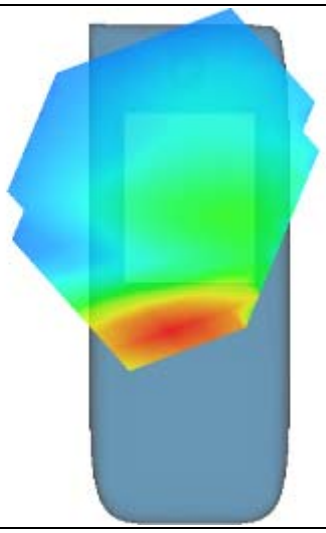
Maximum location: X=-80.00, Y=-56.00

SAR 10g (W/Kg)	0.522515
SAR 1g (W/Kg)	1.063990

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.8386	0.3216	0.1414	0.0592	0.0238	0.0104



3D sceen shot	Hot spot position
	

MEASUREMENT 26

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 7 minutes 27 seconds

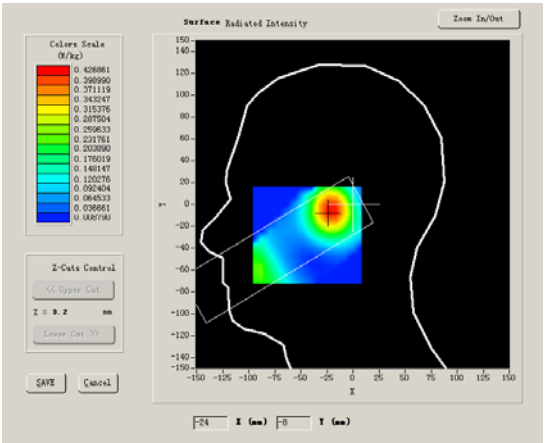
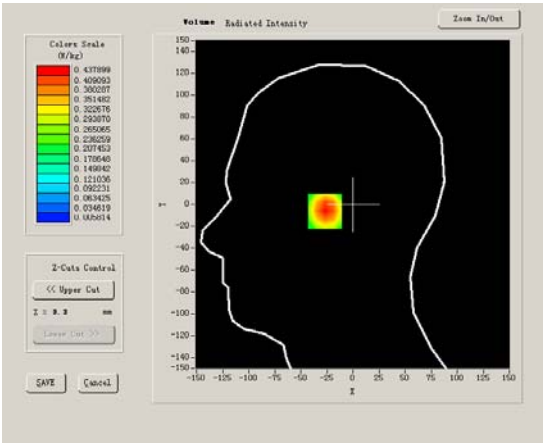
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	CDMA 1900
Channels	Low
Signal	CDMA

B. SAR Measurement Results

Lower Band SAR (Channel 25):

Frequency (MHz)	1851.250000
Relative permittivity (real part)	38.209000
Relative permittivity	13.915650
Conductivity (S/m)	1.431186
Variation (%)	-0.420000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

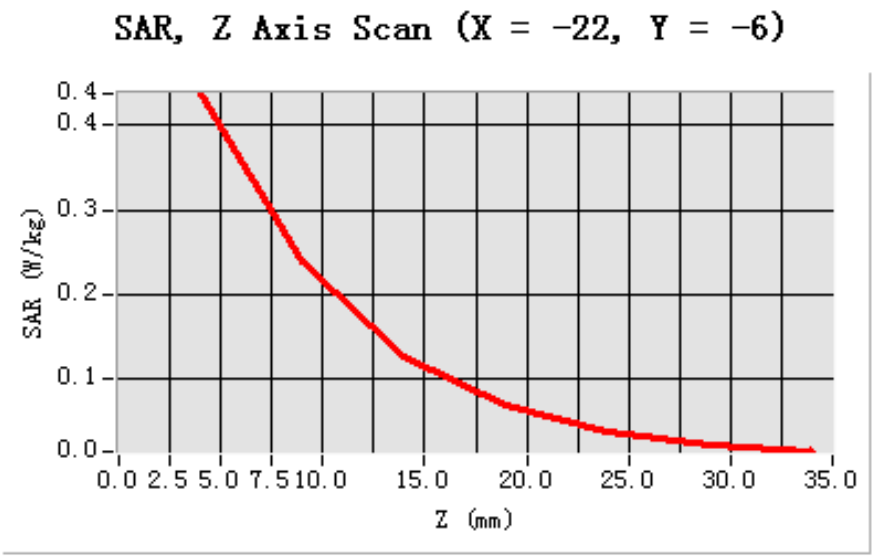
SURFACE SAR	VOLUME SAR
	

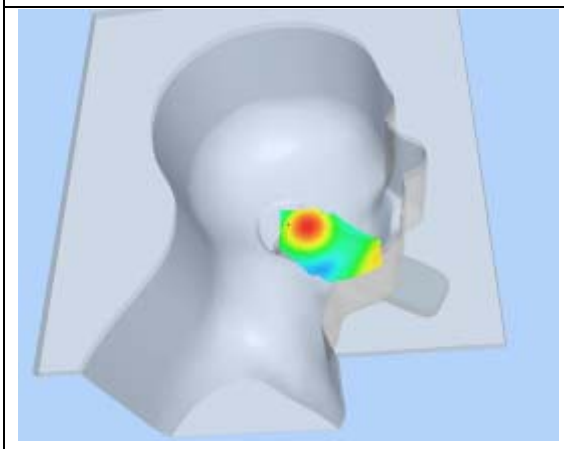
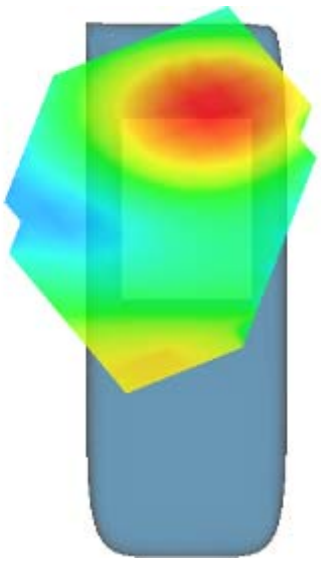
Maximum location: X=-22.00, Y=-6.00

SAR 10g (W/Kg)	0.228413
SAR 1g (W/Kg)	0.418066

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.4379	0.2380	0.1267	0.0672	0.0360	0.0193



3D sceen shot	Hot spot position
	

MEASUREMENT 27

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 7 minutes 23 seconds

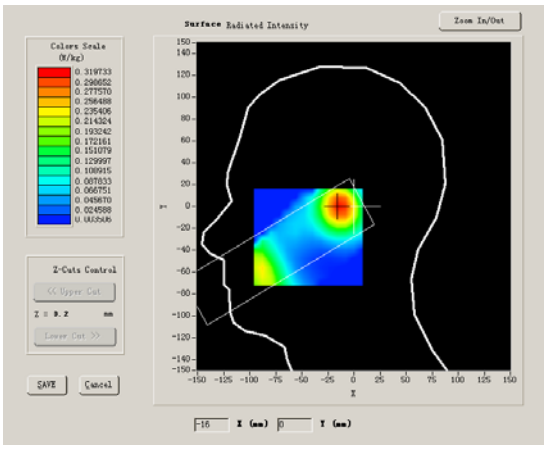
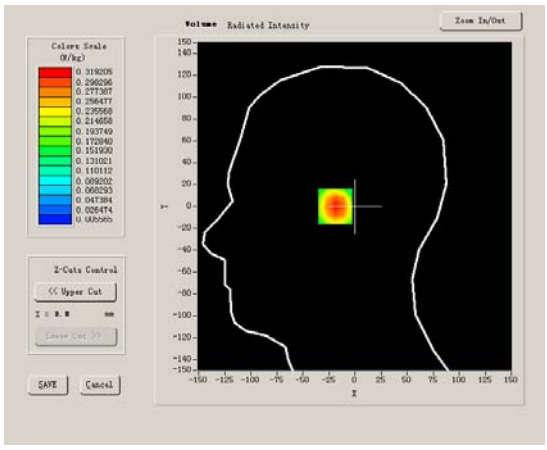
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	CDMA 1900
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 600):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	38.209000
Relative permittivity (	13.915650
Conductivity (S/m)	1.453412
Variation (%)	-1.890000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

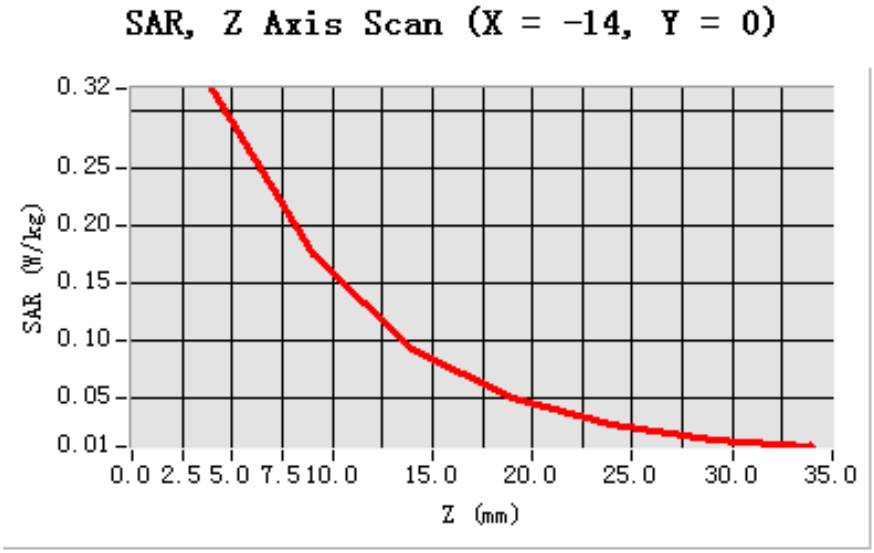
SURFACE SAR	VOLUME SAR
	

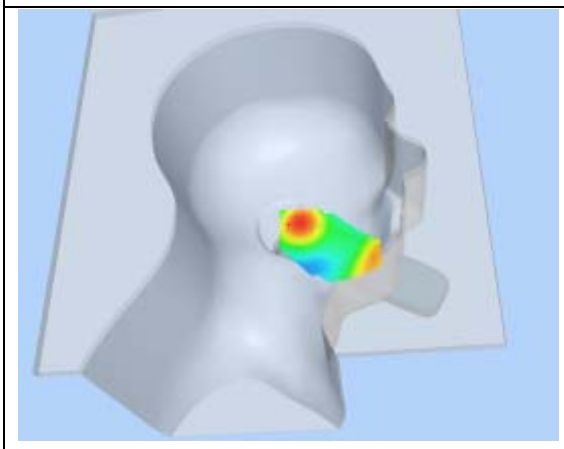
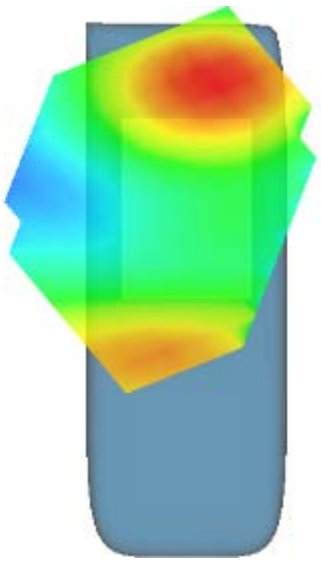
Maximum location: X=-14.00, Y=0.00

SAR 10g (W/Kg)	0.165793
SAR 1g (W/Kg)	0.304368

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.3192	0.1752	0.0923	0.0495	0.0268	0.0141



3D sceen shot	Hot spot position
	

MEASUREMENT 28

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 42 seconds

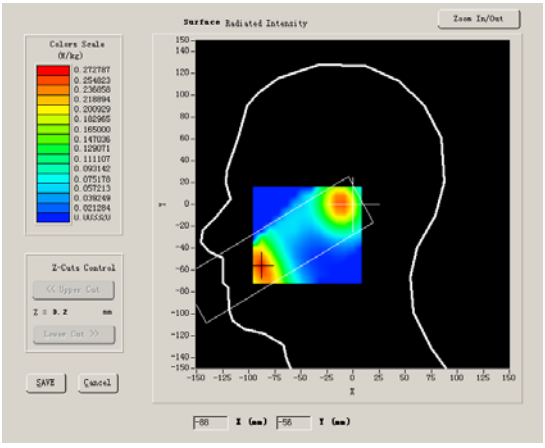
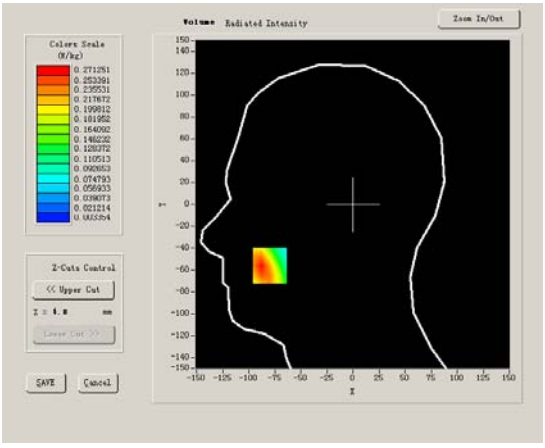
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	CDMA 1900
Channels	High
Signal	CDMA

B. SAR Measurement Results

Higher Band SAR (Channel 1175):

Frequency (MHz)	1908.750000
Relative permittivity (real part)	38.209000
Relative permittivity	13.915650
Conductivity (S/m)	1.475639
Variation (%)	-1.230000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

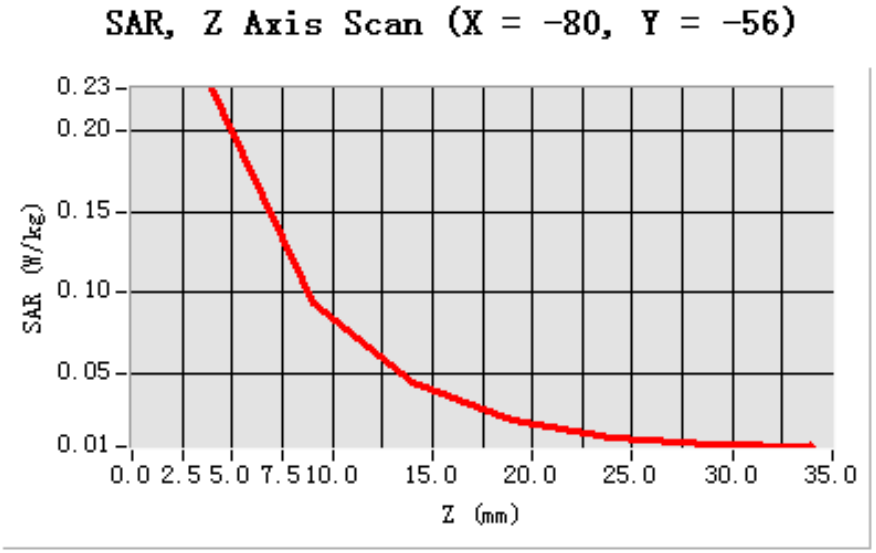
SURFACE SAR	VOLUME SAR
	

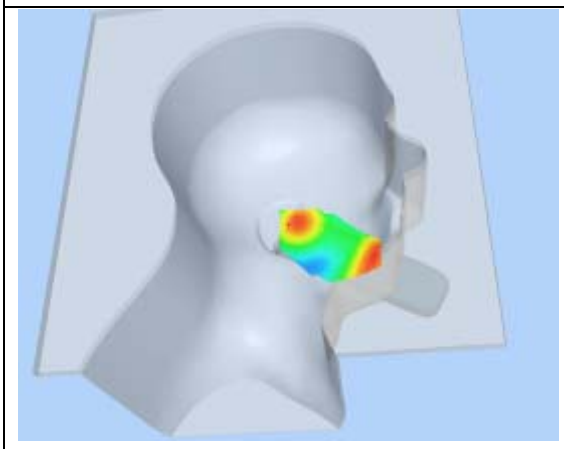
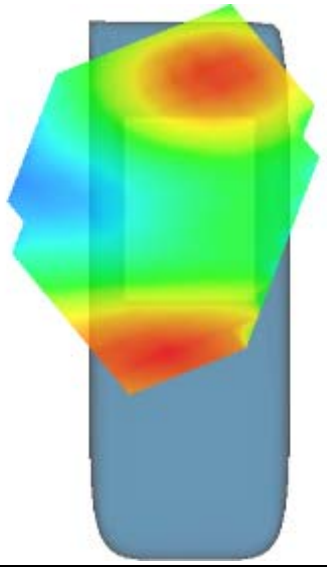
Maximum location: X=-80.00, Y=-56.00

SAR 10g (W/Kg)	0.133754
SAR 1g (W/Kg)	0.260082

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2257	0.0938	0.0453	0.0217	0.0112	0.0068



3D sceen shot	Hot spot position
	

MEASUREMENT 29

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 9 minutes 6 seconds

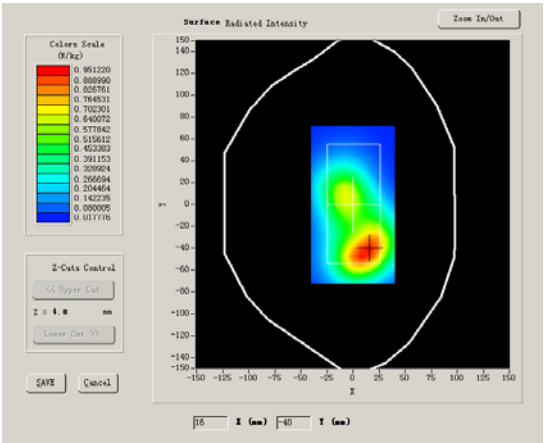
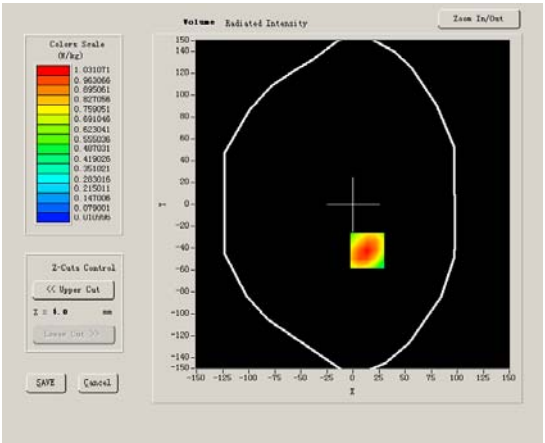
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA 1900
Channels	Low
Signal	CDMA

B. SAR Measurement Results

Lower Band SAR (Channel 25):

Frequency (MHz)	1851.250000
Relative permittivity (real part)	51.903000
Relative permittivity	14.817600
Conductivity (S/m)	1.523949
Variation (%)	3.660000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

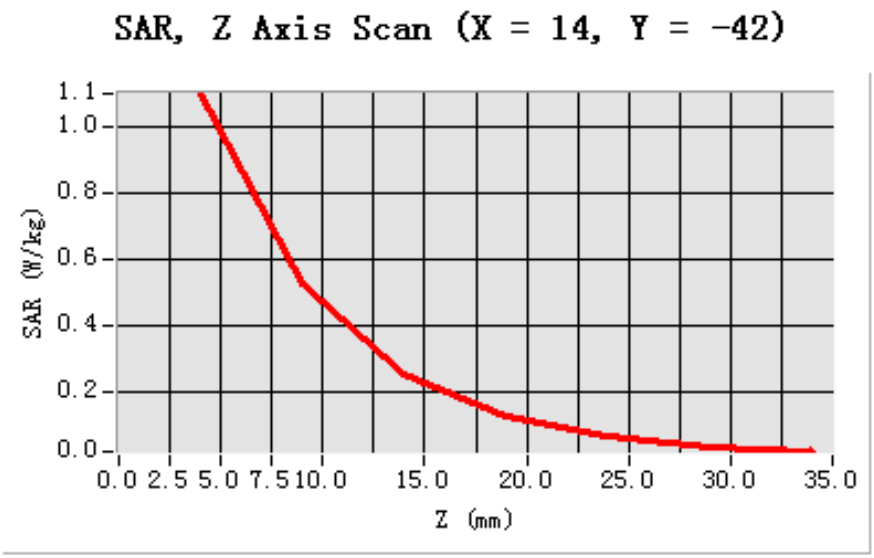
SURFACE SAR	VOLUME SAR
	

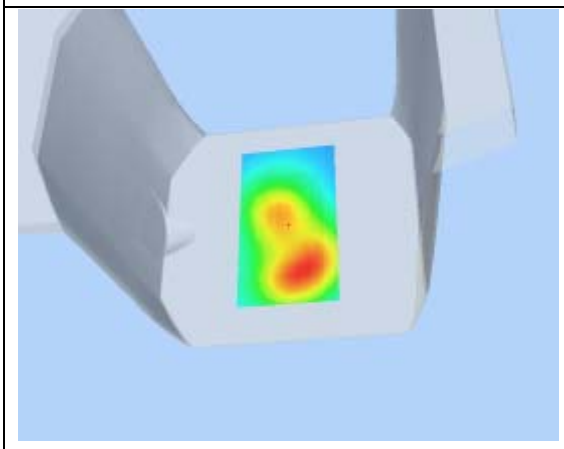
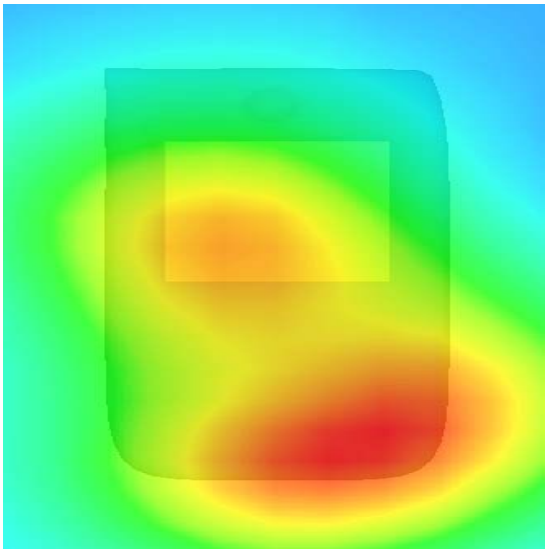
Maximum location: X=14.00, Y=-42.00

SAR 10g (W/Kg)	0.553681
SAR 1g (W/Kg)	0.955443

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.0979	0.5273	0.2511	0.1236	0.0655	0.0329



3D sceen shot	Hot spot position
	

MEASUREMENT 30

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 9 minutes 6 seconds

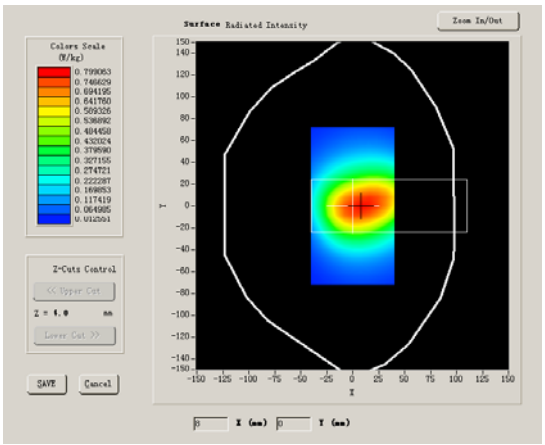
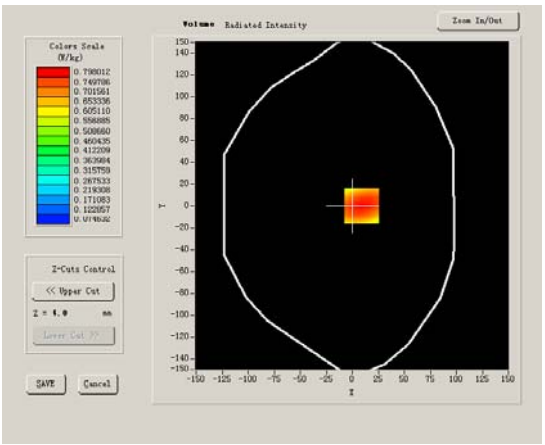
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA 1900
Channels	Low
Signal	CDMA

B. SAR Measurement Results

Lower Band SAR (Channel 1013):

Frequency (MHz)	1851.250000
Relative permittivity (real part)	51.903000
Relative permittivity	14.817600
Conductivity (S/m)	1.523949
Variation (%)	3.660000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

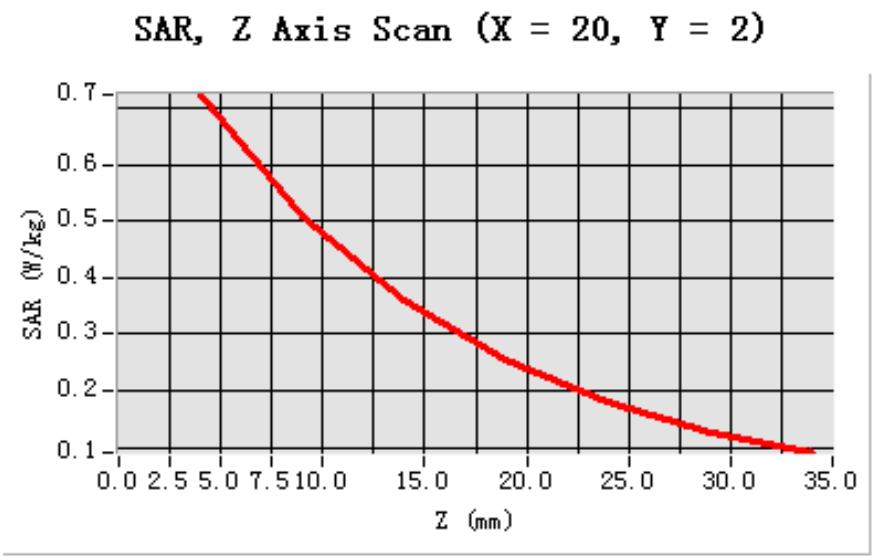
SURFACE SAR	VOLUME SAR
	

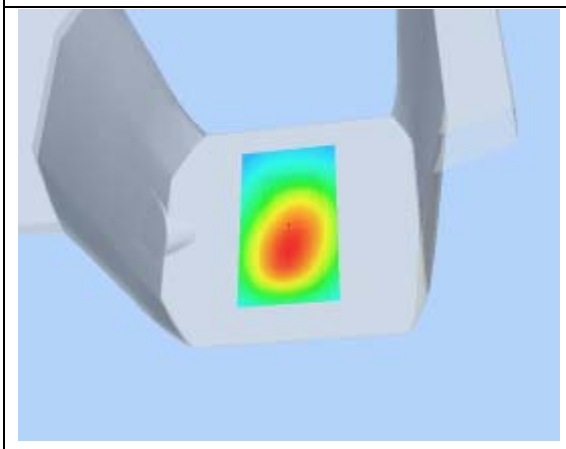
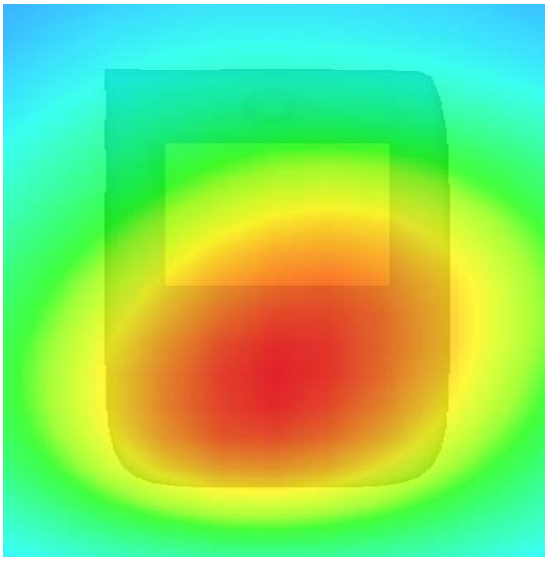
Maximum location: X=9.00, Y=0.00

SAR 10g (W/Kg)	0.435862
SAR 1g (W/Kg)	0.668035

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7246	0.5087	0.3587	0.2557	0.1798	0.1255



3D sceen shot	Hot spot position
	

MEASUREMENT 31

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 9 minutes 8 seconds

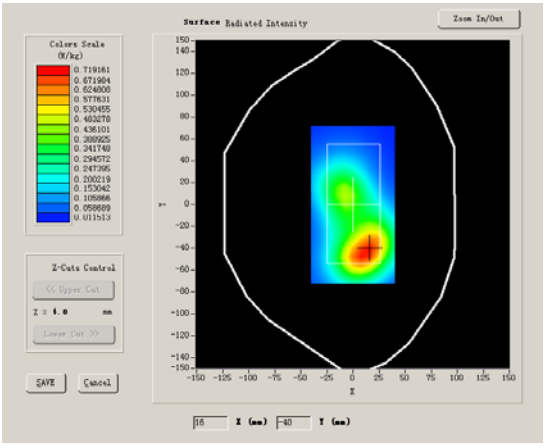
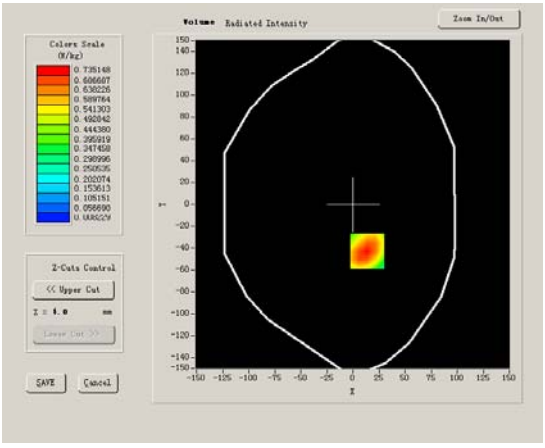
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA 1900
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 600):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	51.903000
Relative permittivity	14.817600
Conductivity (S/m)	1.547616
Variation (%)	0.540000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

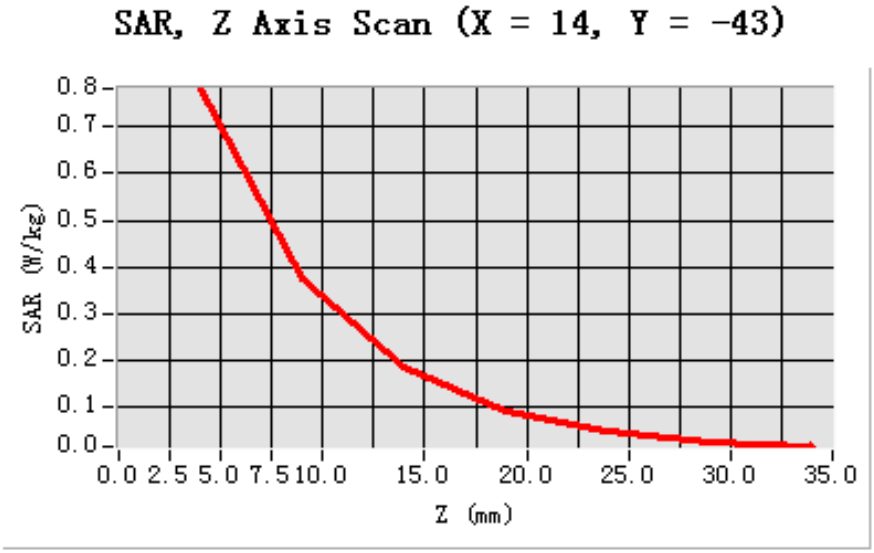
SURFACE SAR	VOLUME SAR
	

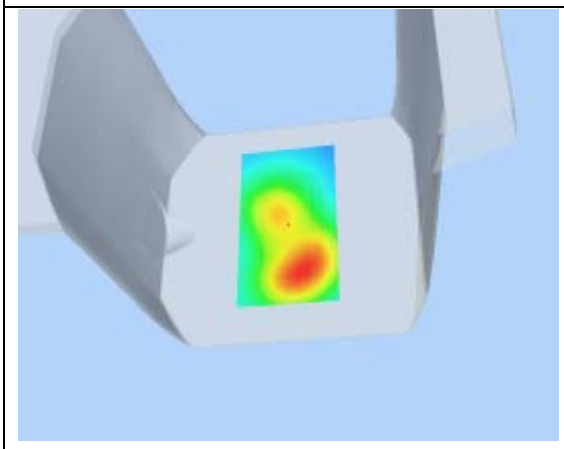
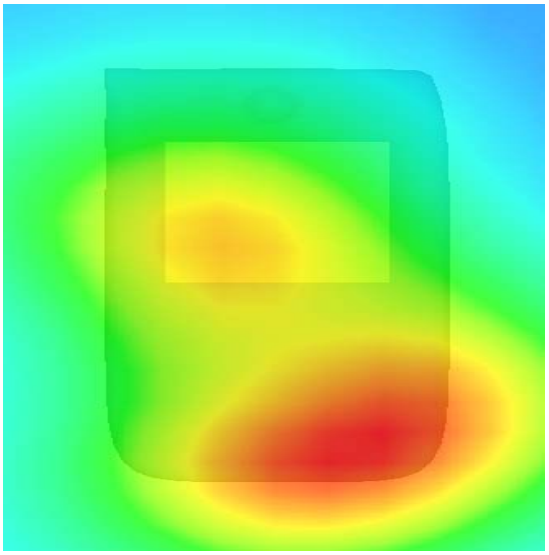
Maximum location: X=14.00, Y=-43.00

SAR 10g (W/Kg)	0.396709
SAR 1g (W/Kg)	0.751976

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7828	0.3764	0.1832	0.0880	0.0462	0.0234



3D sceen shot	Hot spot position
	

MEASUREMENT 32

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 9 minutes 8 seconds

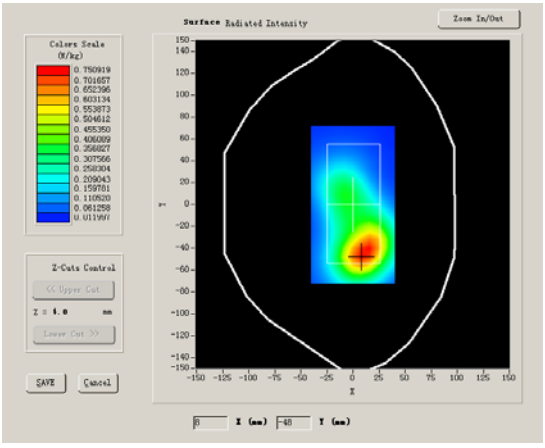
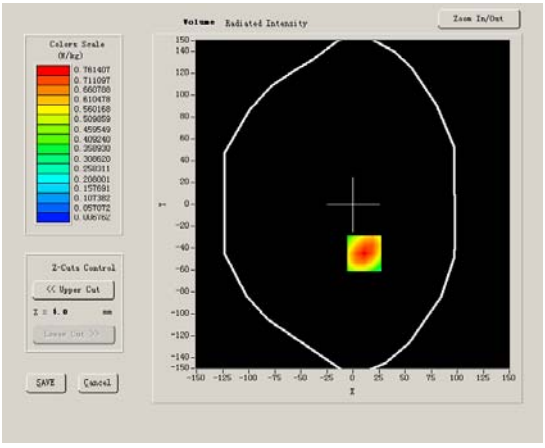
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA 1900
Channels	High
Signal	CDMA

B. SAR Measurement Results

Higher Band SAR (Channel 1175):

Frequency (MHz)	1908.750000
Relative permittivity (real part)	51.903000
Relative permittivity	14.817600
Conductivity (S/m)	1.571283
Variation (%)	-1.480000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

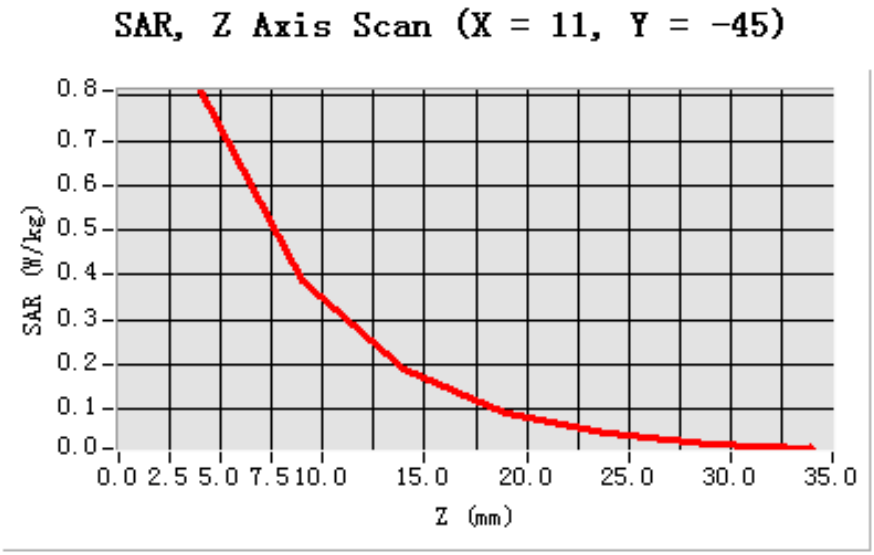
SURFACE SAR	VOLUME SAR
	

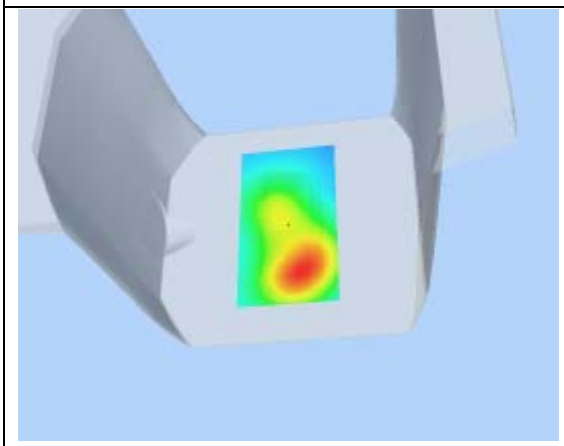
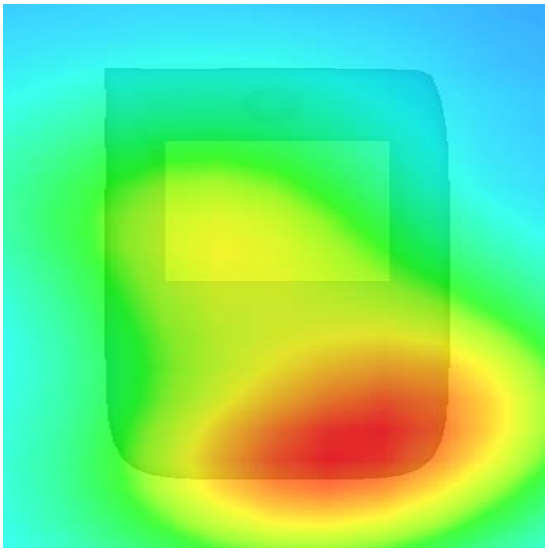
Maximum location: X=11.00, Y=-45.00

SAR 10g (W/Kg)	0.409608
SAR 1g (W/Kg)	0.775306

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.8108	0.3893	0.1901	0.0930	0.0484	0.0247



3D sceen shot	Hot spot position
	

MEASUREMENT 33

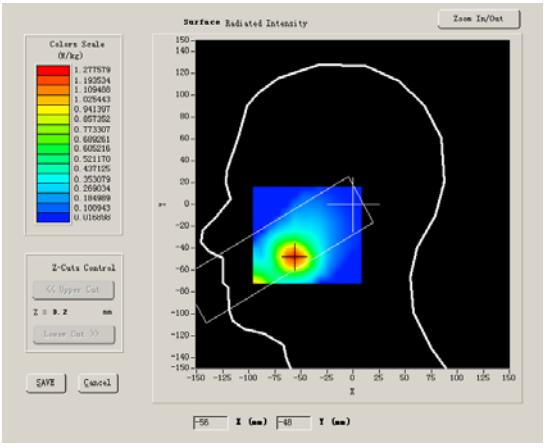
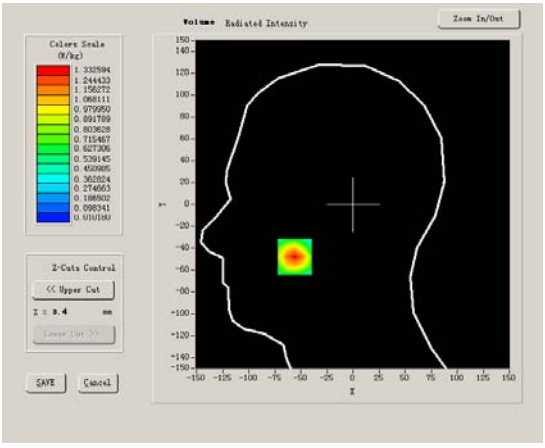
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 8 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	AWS 1700
Channels	Low
Signal	CDMA

B. SAR Measurement Results

Frequency (MHz)	1710.000000
Relative permittivity (real part)	38.650002
Relative permittivity	13.750000
Conductivity (S/m)	1.306250
Variation (%)	0.820000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

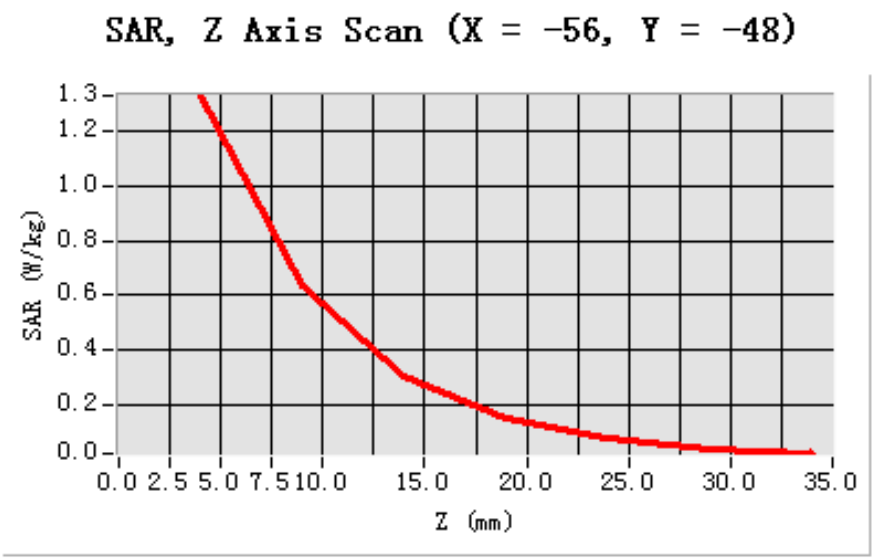
SURFACE SAR	VOLUME SAR
	

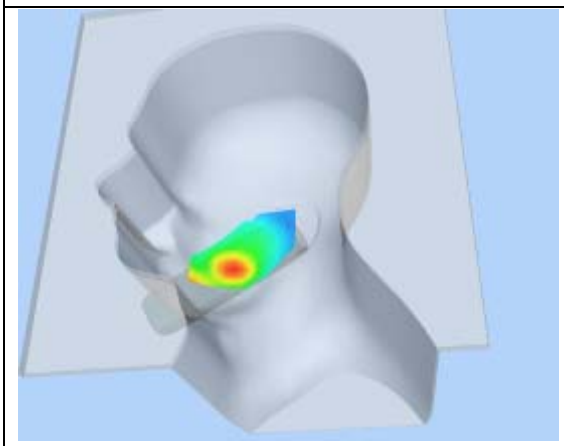
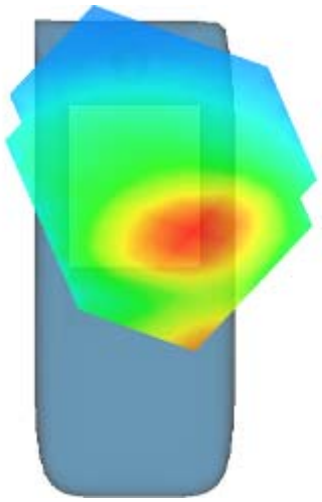
Maximum location: X=-56.00, Y=-48.00

SAR 10g (W/Kg)	0.625091
SAR 1g (W/Kg)	1.258707

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.3326	0.6344	0.3028	0.1452	0.0717	0.0361



3D sceen shot	Hot spot position
	

MEASUREMENT 34

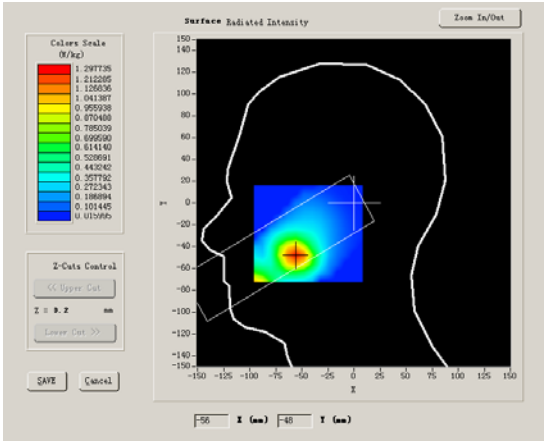
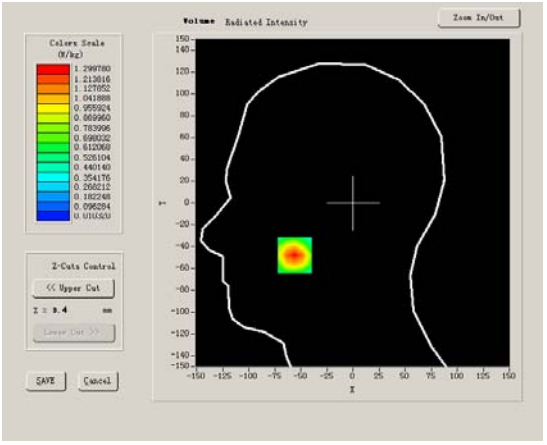
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 5 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	AWS 1700
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Frequency (MHz)	1732.000000
Relative permittivity (real part)	38.930000
Relative permittivity	13.610000
Conductivity (S/m)	1.309584
Variation (%)	0.970000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

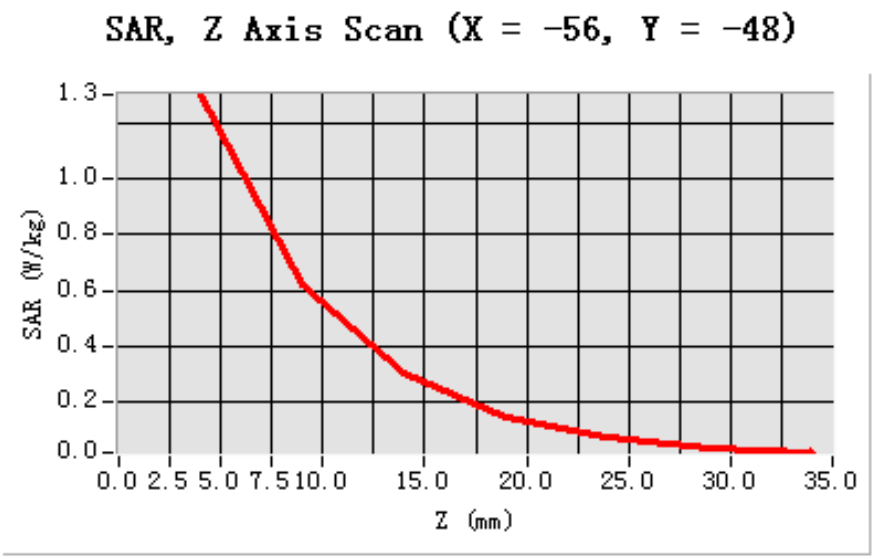
SURFACE SAR	VOLUME SAR
	

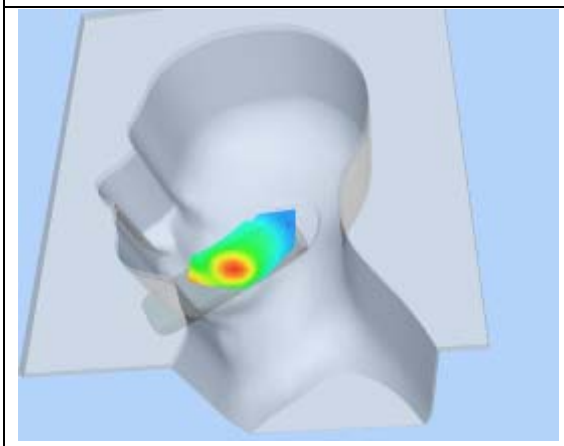
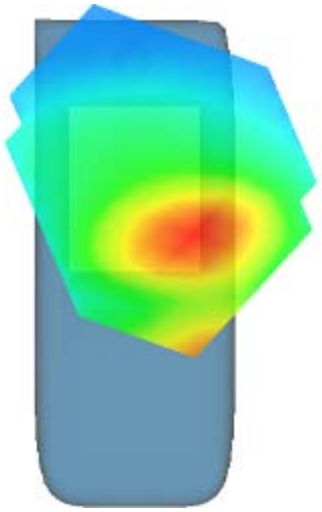
Maximum location: X=-56.00, Y=-48.00

SAR 10g (W/Kg)	0.617804
SAR 1g (W/Kg)	1.233108

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.2998	0.6209	0.3026	0.1499	0.0743	0.0394



3D sceen shot	Hot spot position
	

MEASUREMENT 35

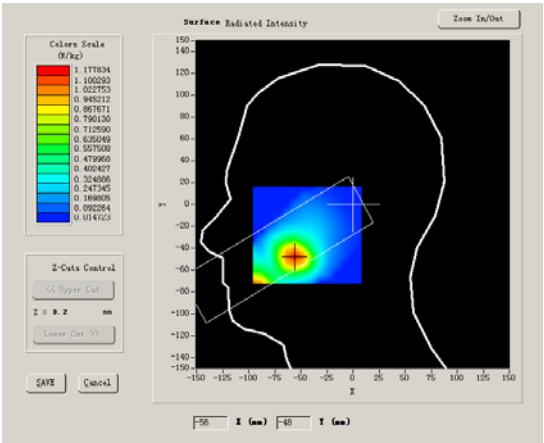
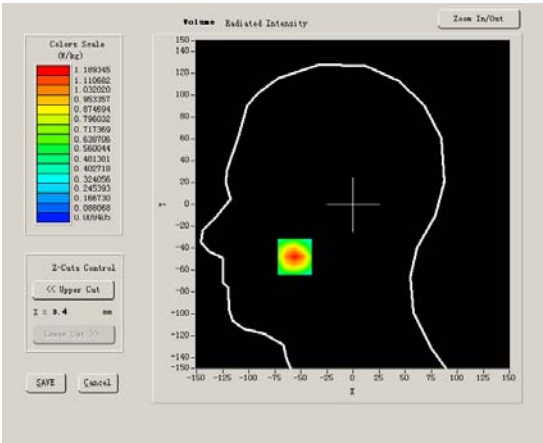
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 10 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	AWS 1700
Channels	High
Signal	CDMA

B. SAR Measurement Results

Frequency (MHz)	1753.750000
Relative permittivity (real part)	38.270000
Relative permittivity	13.900000
Conductivity (S/m)	1.355250
Variation (%)	0.050000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

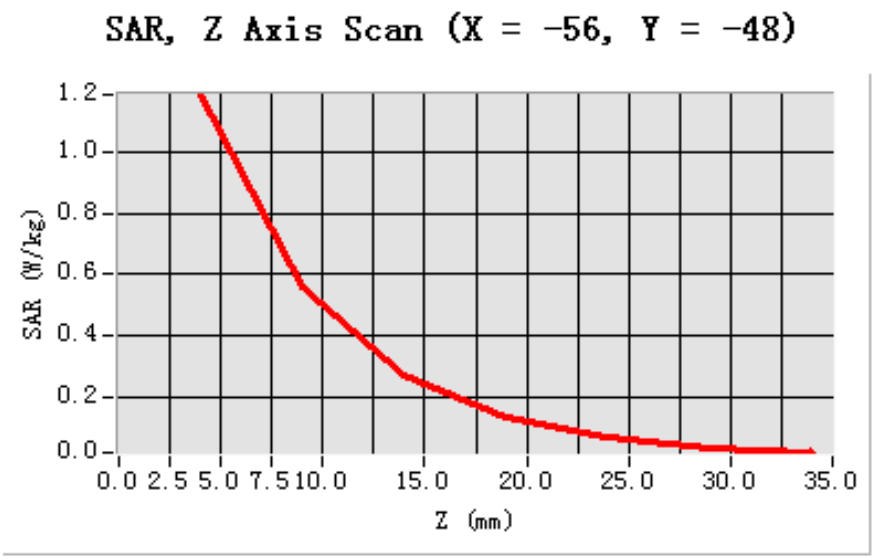
SURFACE SAR	VOLUME SAR
	

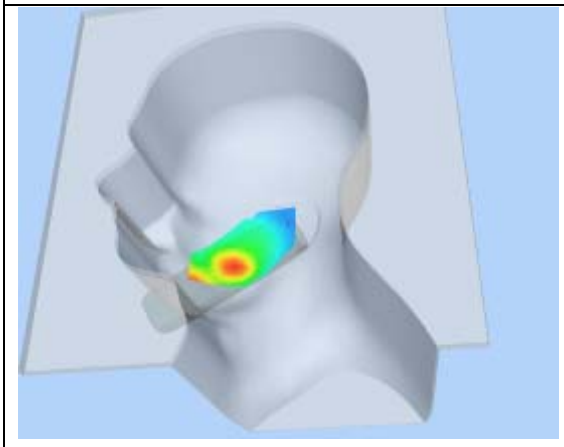
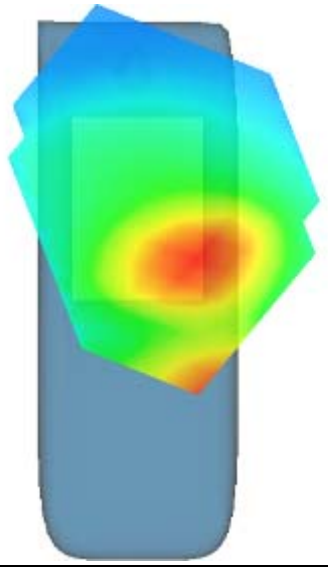
Maximum location: X=-56.00, Y=-48.00

SAR 10g (W/Kg)	0.555479
SAR 1g (W/Kg)	1.121711

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.1893	0.5613	0.2695	0.1302	0.0641	0.0337



3D sceen shot	Hot spot position
	

MEASUREMENT 36

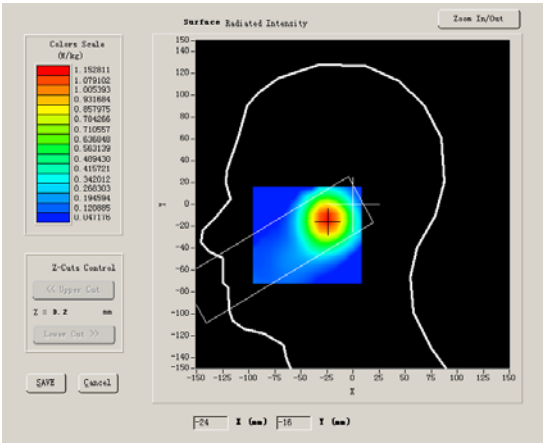
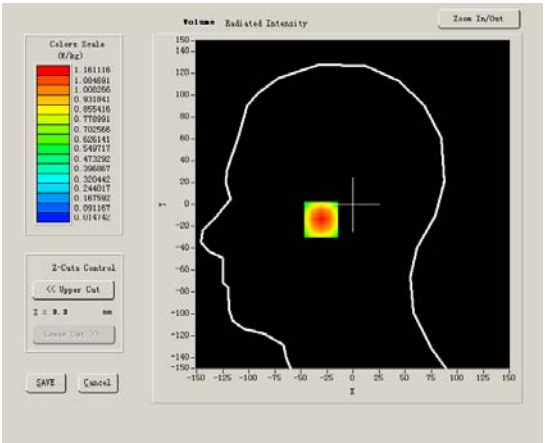
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 7 minutes 33 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	AWS 1700
Channels	Low
Signal	CDMA

B. SAR Measurement Results

Frequency (MHz)	1710.000000
Relative permittivity (real part)	38.650002
Relative permittivity	13.750000
Conductivity (S/m)	1.306250
Variation (%)	-0.170000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

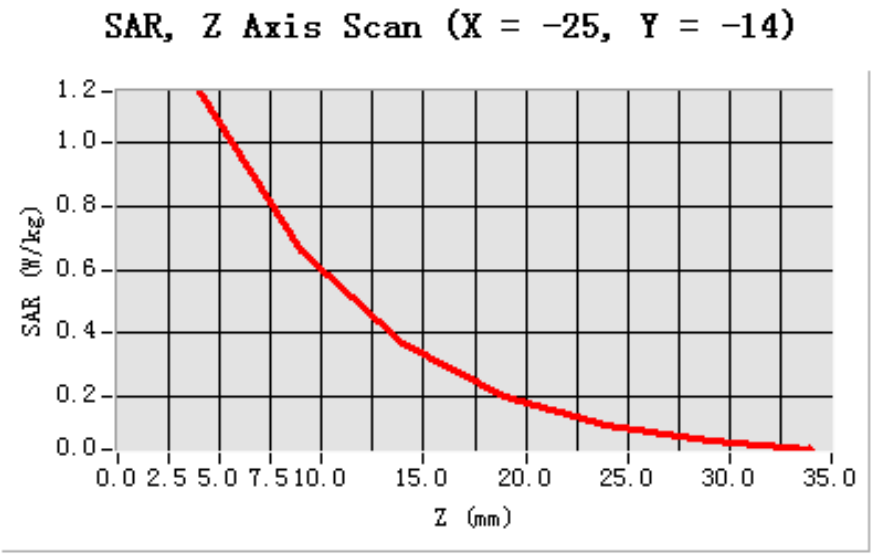
SURFACE SAR	VOLUME SAR
	

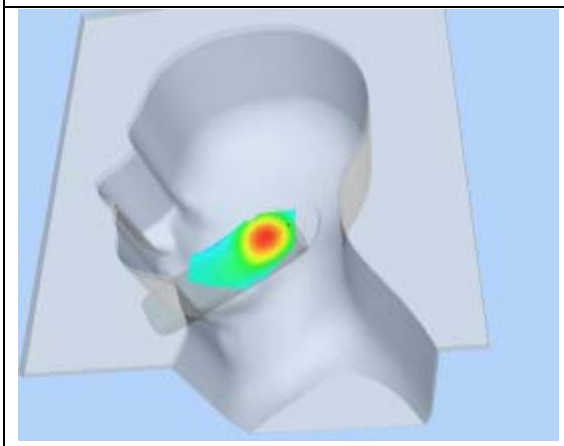
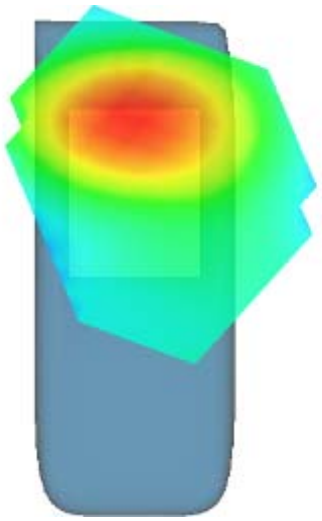
Maximum location: X=-25.00, Y=-14.00

SAR 10g (W/Kg)	0.621394
SAR 1g (W/Kg)	1.107233

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.1611	0.6612	0.3652	0.2029	0.1120	0.0623



3D sceen shot	Hot spot position
	

MEASUREMENT 37

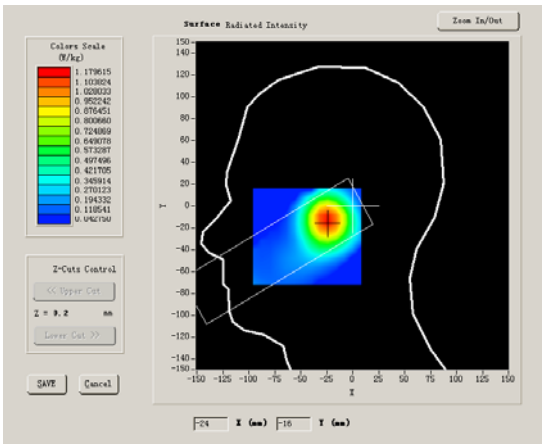
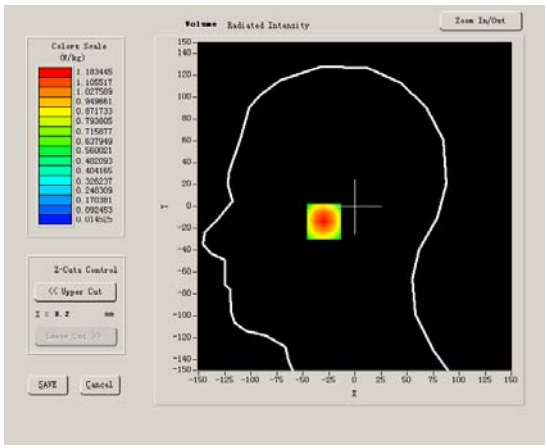
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 7 minutes 29 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	AWS 1700
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Frequency (MHz)	1732.000000
Relative permittivity (real part)	38.930000
Relative permittivity	13.610000
Conductivity (S/m)	1.309584
Variation (%)	-0.370000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

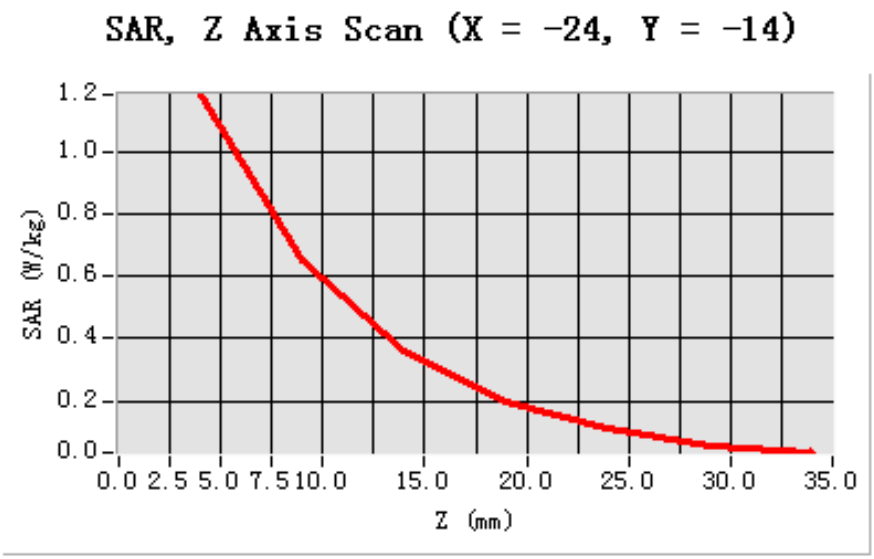
SURFACE SAR	VOLUME SAR
	

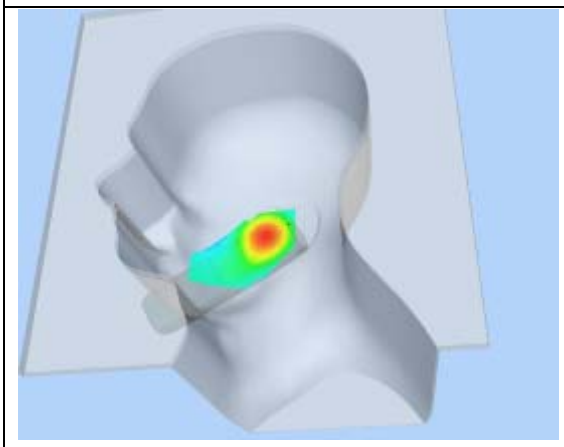
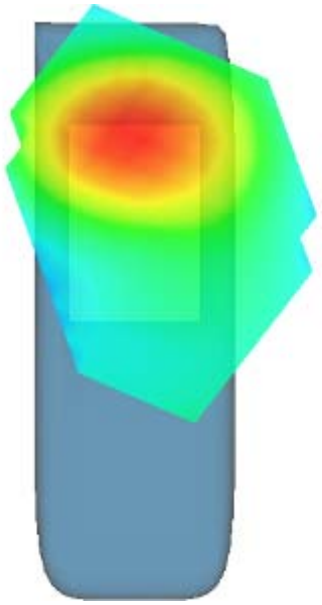
Maximum location: X=-24.00, Y=-14.00

SAR 10g (W/Kg)	0.629590
SAR 1g (W/Kg)	1.132339

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.1834	0.6516	0.3632	0.1988	0.1100	0.0581



3D sceen shot	Hot spot position
	

MEASUREMENT 38

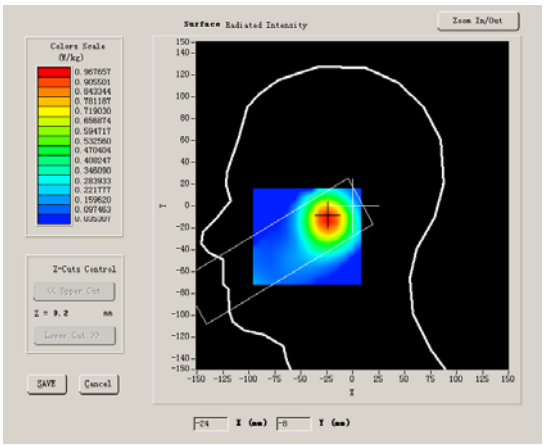
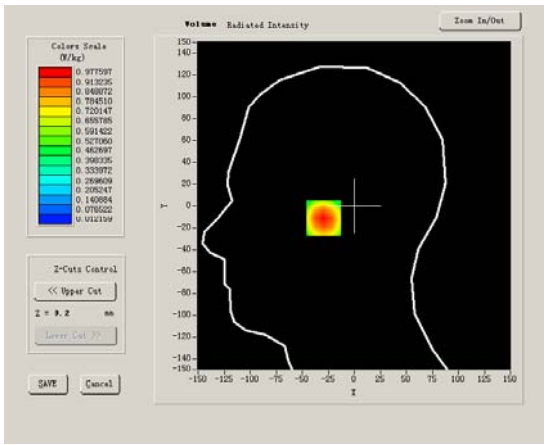
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 7 minutes 29 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	AWS 1700
Channels	High
Signal	CDMA

B. SAR Measurement Results

Frequency (MHz)	1753.750000
Relative permittivity (real part)	38.270000
Relative permittivity	13.900000
Conductivity (S/m)	1.355250
Variation (%)	-0.110000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

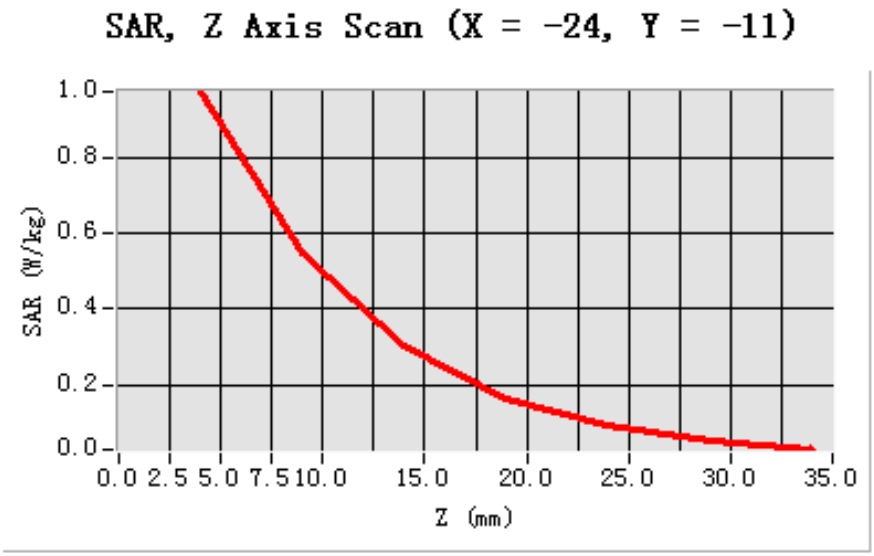
SURFACE SAR	VOLUME SAR
	

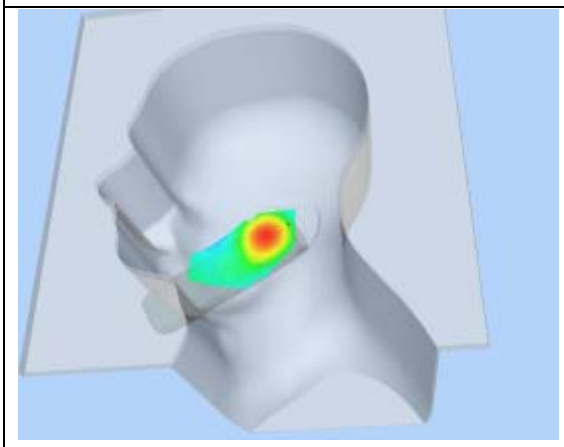
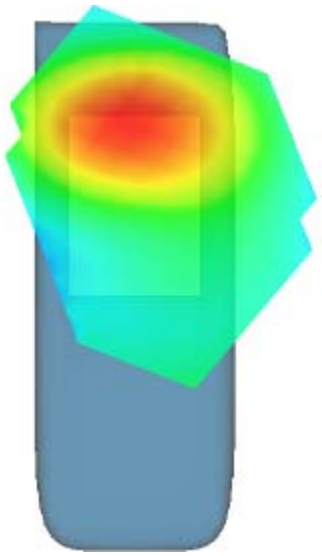
Maximum location: X=-24.00, Y=-11.00

SAR 10g (W/Kg)	0.524600
SAR 1g (W/Kg)	0.935276

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.9776	0.5504	0.3014	0.1633	0.0887	0.0497



3D sceen shot	Hot spot position
	

MEASUREMENT 39

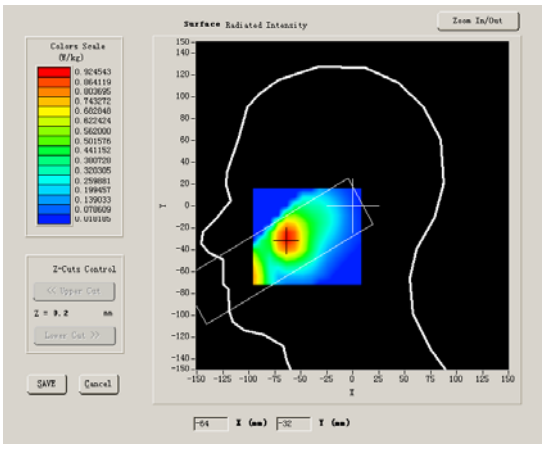
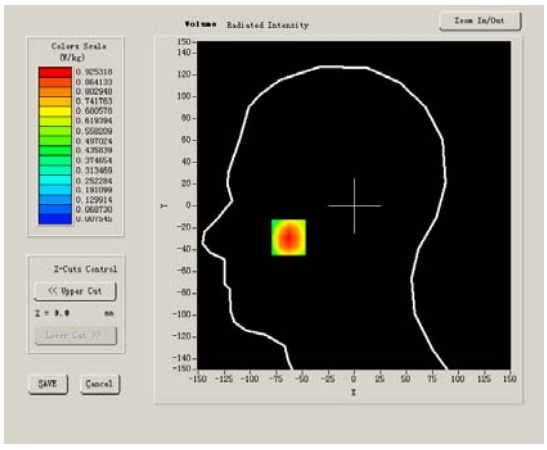
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 23 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	AWS 1700
Channels	Low
Signal	CDMA

B. SAR Measurement Results

Frequency (MHz)	1710.000000
Relative permittivity (real part)	38.650002
Relative permittivity	13.750000
Conductivity (S/m)	1.306250
Variation (%)	1.450000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

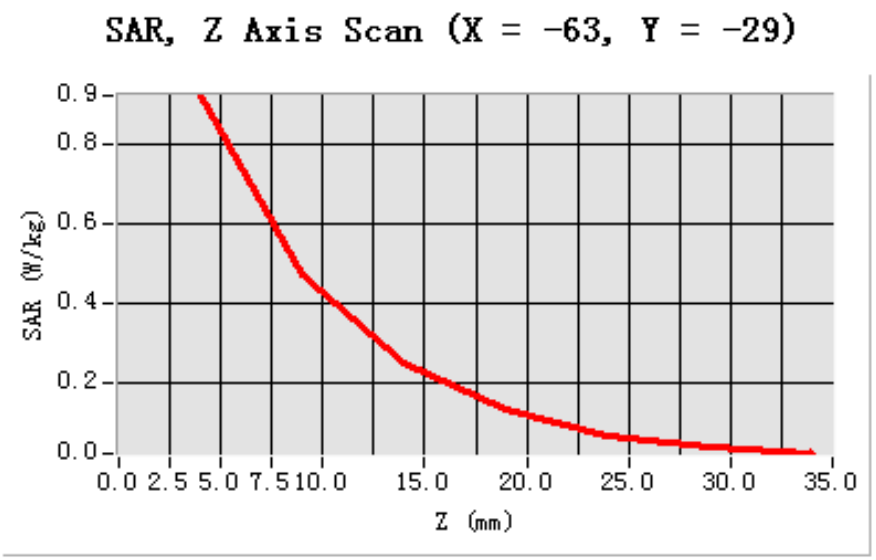
SURFACE SAR	VOLUME SAR
	

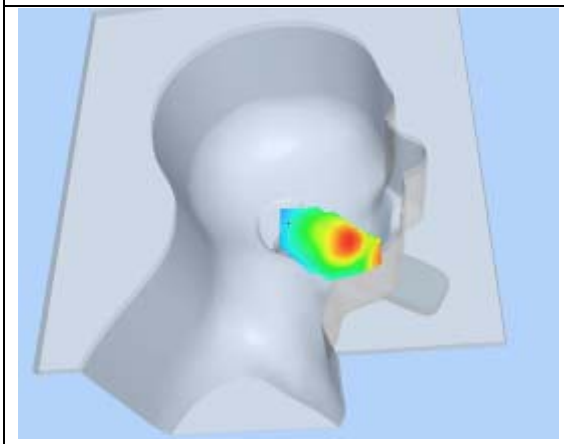
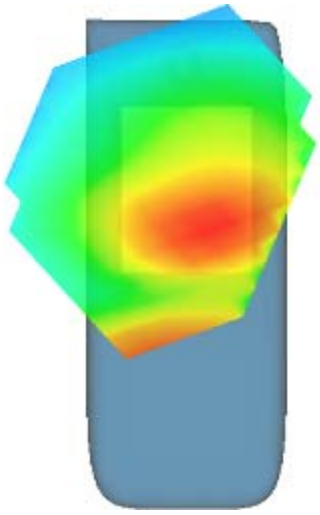
Maximum location: X=-63.00, Y=-29.00

SAR 10g (W/Kg)	0.479851
SAR 1g (W/Kg)	0.889610

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.9253	0.4694	0.2485	0.1301	0.0661	0.0350



3D sceen shot	Hot spot position
	

MEASUREMENT 40

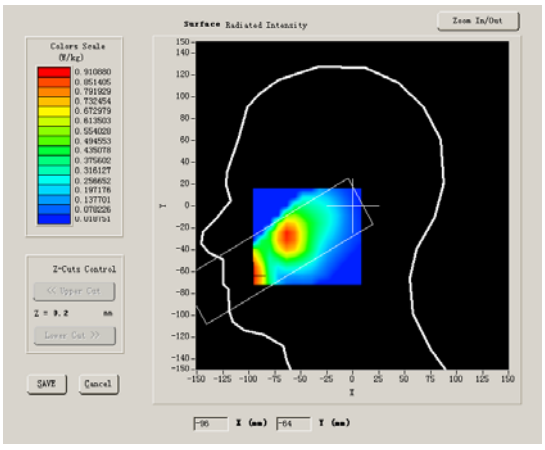
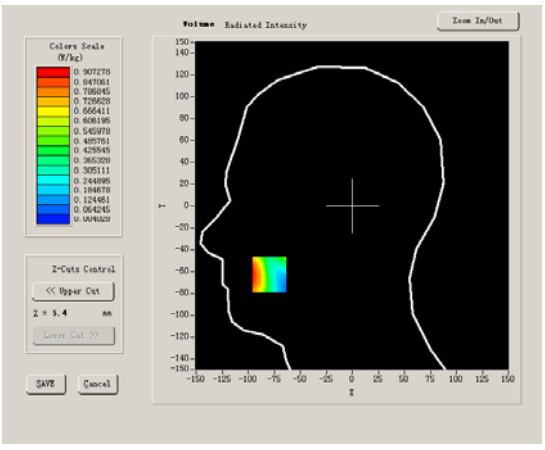
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 32 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	AWS 1700
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Frequency (MHz)	1732.000000
Relative permittivity (real part)	38.930000
Relative permittivity	13.610000
Conductivity (S/m)	1.309584
Variation (%)	1.730000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

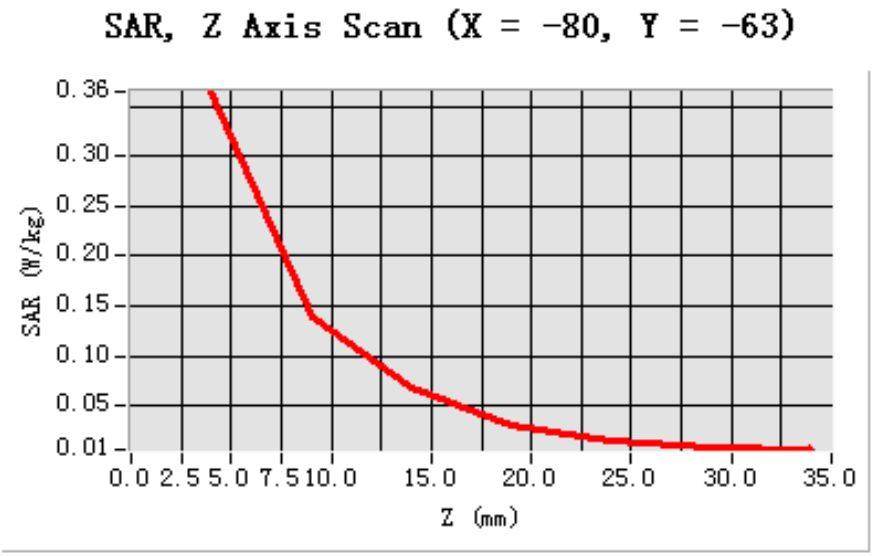
SURFACE SAR	VOLUME SAR
	

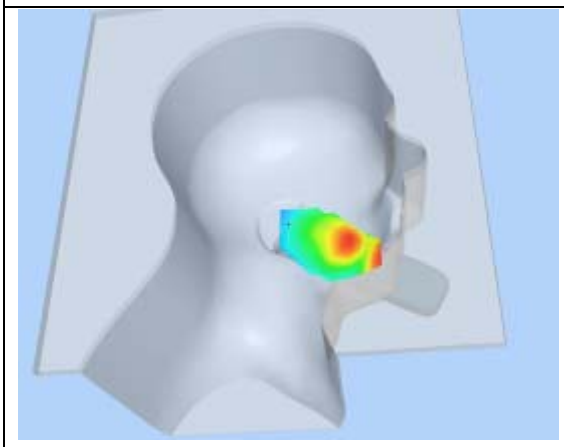
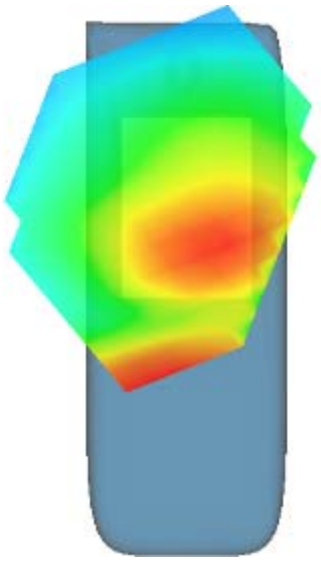
Maximum location: X=-80.00, Y=-63.00

SAR 10g (W/Kg)	0.375847
SAR 1g (W/Kg)	0.721915

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.3649	0.1395	0.0692	0.0301	0.0156	0.0087



3D sceen shot	Hot spot position
	

MEASUREMENT 41

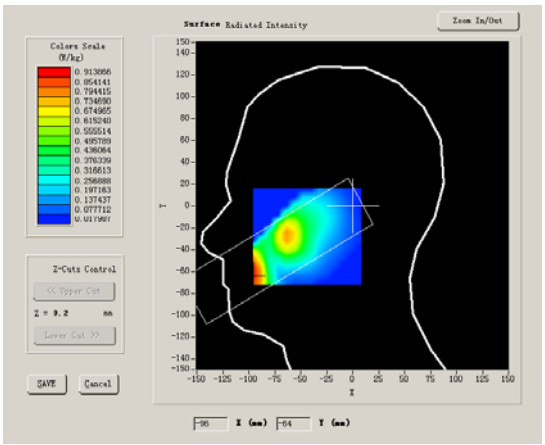
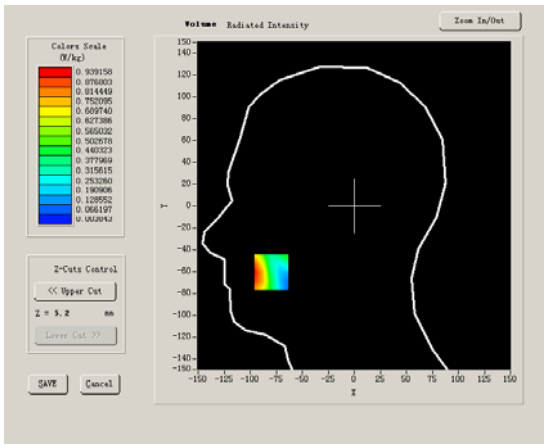
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 8 minutes 32 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	AWS 1700
Channels	High
Signal	CDMA

B. SAR Measurement Results

Frequency (MHz)	1753.750000
Relative permittivity (real part)	38.270000
Relative permittivity	13.900000
Conductivity (S/m)	1.355250
Variation (%)	1.860000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

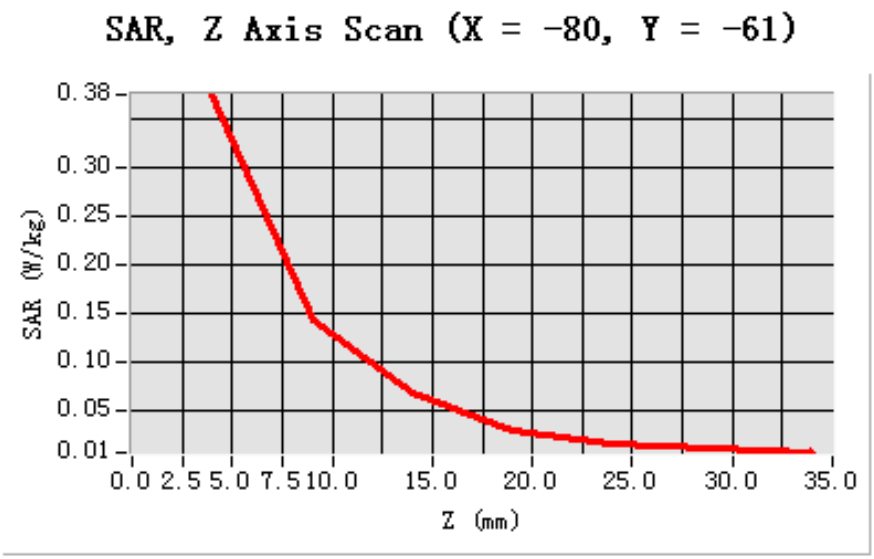
SURFACE SAR	VOLUME SAR
	

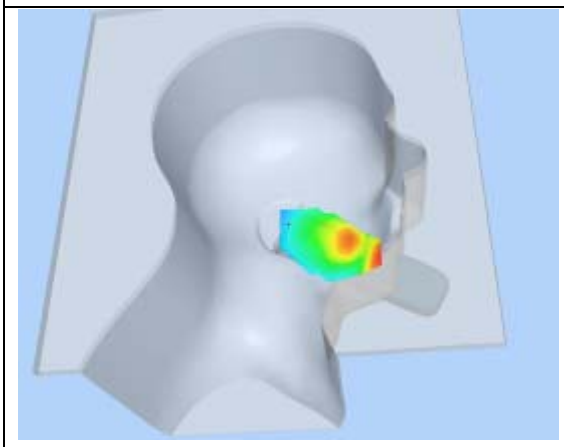
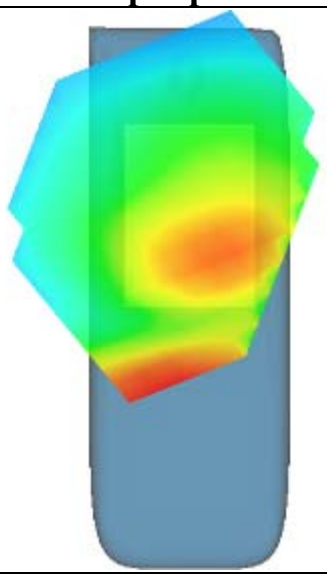
Maximum location: X=-80.00, Y=-61.00

SAR 10g (W/Kg)	0.393949
SAR 1g (W/Kg)	0.759662

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.3759	0.1436	0.0669	0.0286	0.0156	0.0098



3D sceen shot	Hot spot position
	

MEASUREMENT 42

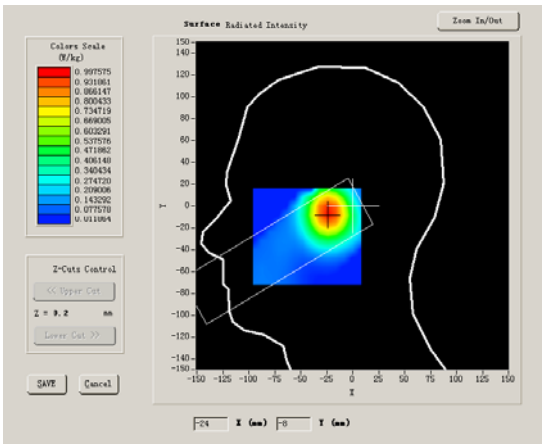
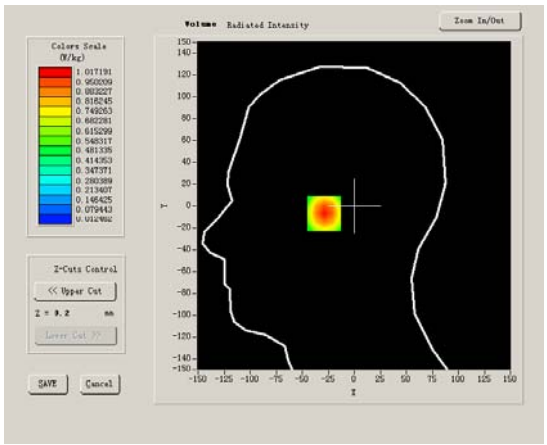
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 7 minutes 26 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	AWS 1700
Channels	Low
Signal	CDMA

B. SAR Measurement Results

Frequency (MHz)	1710.000000
Relative permittivity (real part)	38.650002
Relative permittivity	13.750000
Conductivity (S/m)	1.306250
Variation (%)	-0.020000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

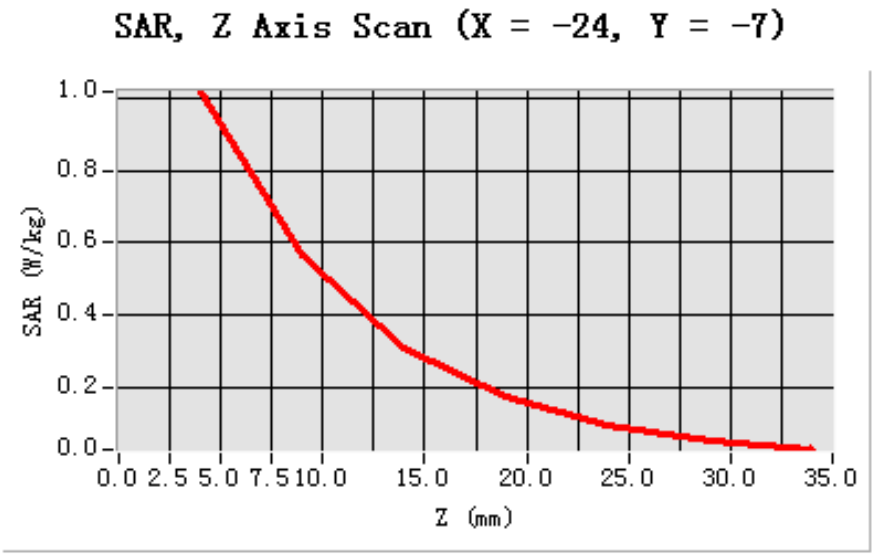
SURFACE SAR	VOLUME SAR
	

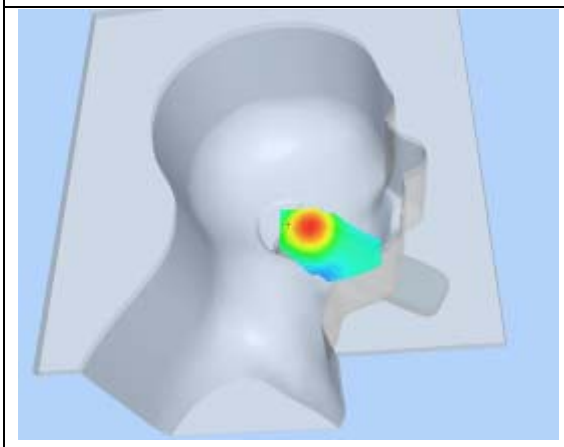
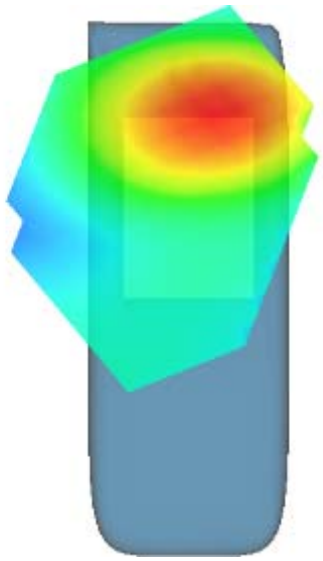
Maximum location: X=-24.00, Y=-7.00

SAR 10g (W/Kg)	0.537141
SAR 1g (W/Kg)	0.964355

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.0172	0.5666	0.3123	0.1739	0.0949	0.0534



3D sceen shot	Hot spot position
	

MEASUREMENT 43

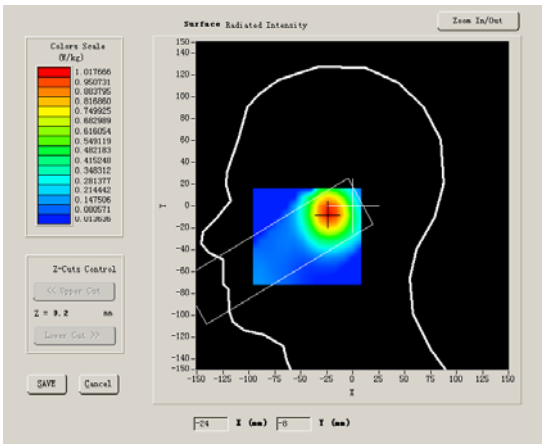
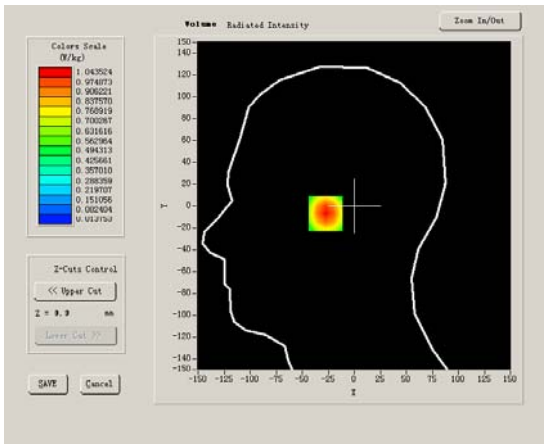
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 7 minutes 26 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	AWS 1700
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Frequency (MHz)	1732.000000
Relative permittivity (real part)	38.930000
Relative permittivity	13.610000
Conductivity (S/m)	1.309584
Variation (%)	0.280000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

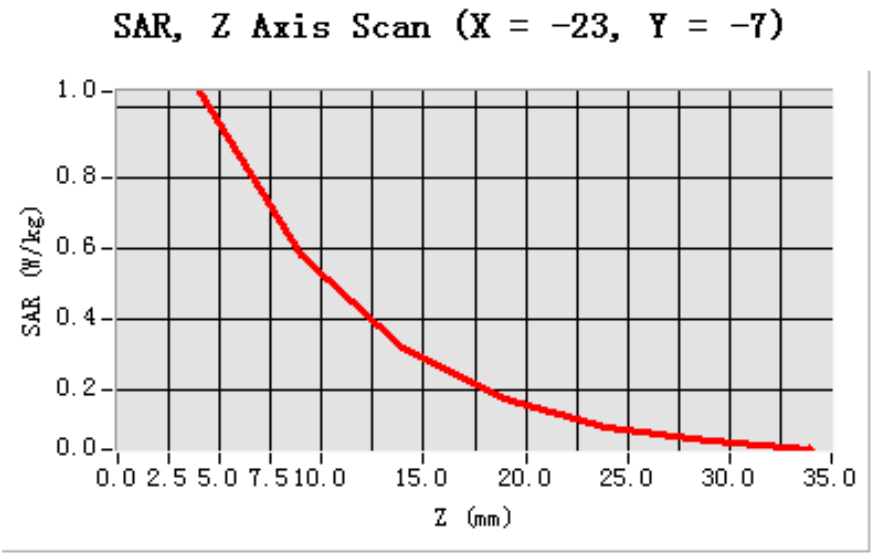
SURFACE SAR	VOLUME SAR
	

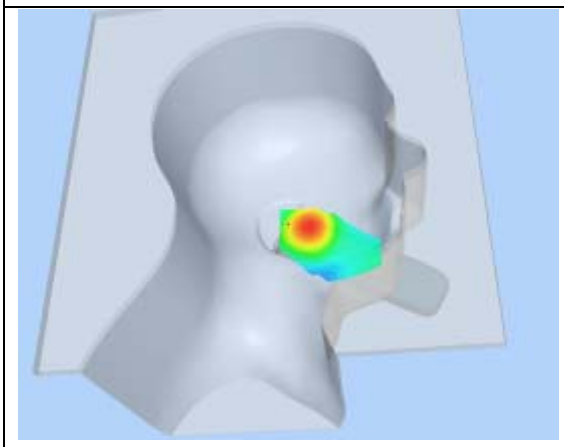
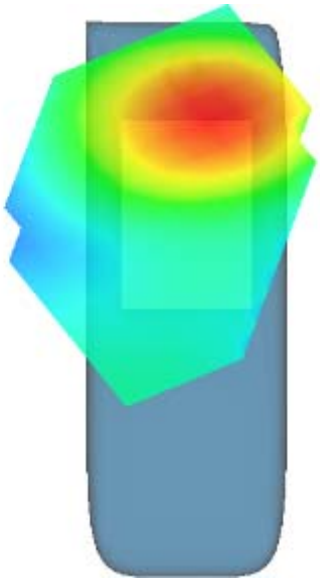
Maximum location: X=-23.00, Y=-7.00

SAR 10g (W/Kg)	0.554659
SAR 1g (W/Kg)	0.994824

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.0435	0.5800	0.3214	0.1761	0.0965	0.0530



3D sceen shot	Hot spot position
	

MEASUREMENT 44

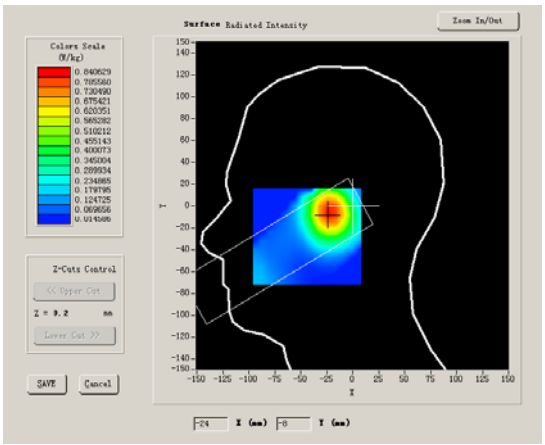
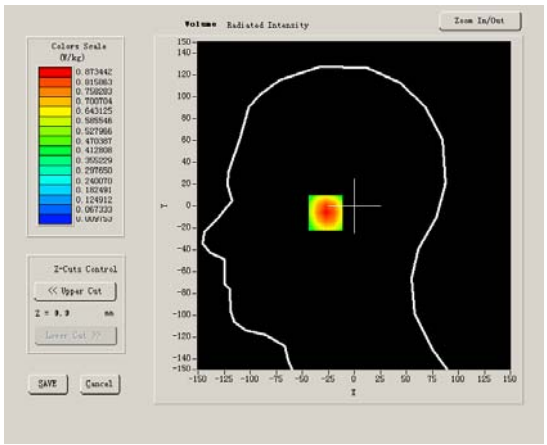
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 7 minutes 26 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	AWS 1700
Channels	High
Signal	CDMA

B. SAR Measurement Results

Frequency (MHz)	1753.750000
Relative permittivity (real part)	38.270000
Relative permittivity	13.900000
Conductivity (S/m)	1.355250
Variation (%)	0.720000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

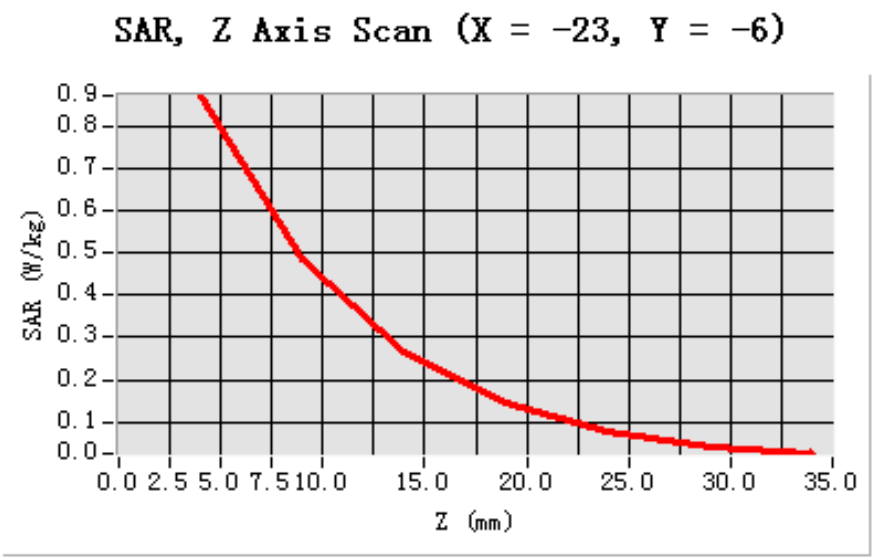
SURFACE SAR	VOLUME SAR
	

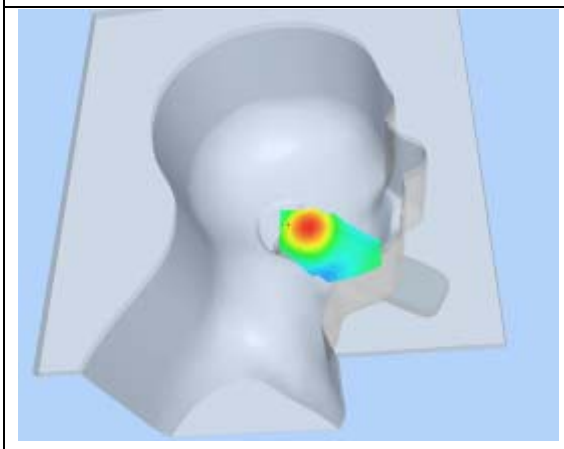
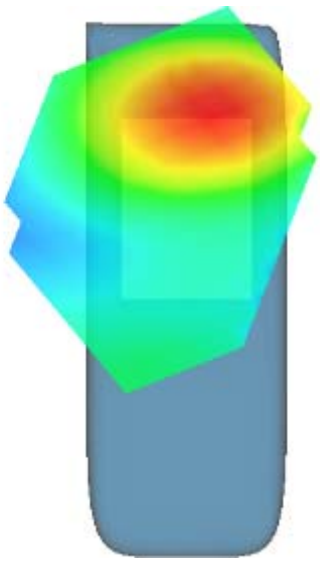
Maximum location: X=-23.00, Y=-6.00

SAR 10g (W/Kg)	0.464033
SAR 1g (W/Kg)	0.831647

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.8734	0.4861	0.2676	0.1470	0.0795	0.0419



3D sceen shot	Hot spot position
	

MEASUREMENT 45

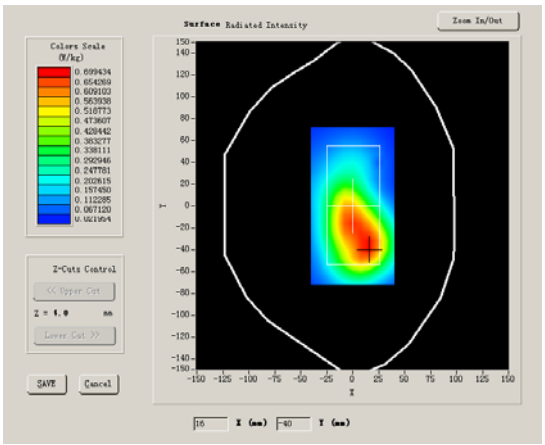
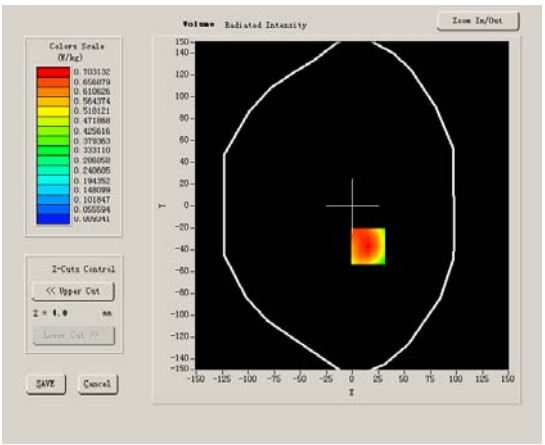
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 9 minutes 8 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	AWS 1700
Channels	Low
Signal	CDMA

B. SAR Measurement Results

Frequency (MHz)	1710.000000
Relative permittivity (real part)	38.650002
Relative permittivity	13.750000
Conductivity (S/m)	1.306250
Variation (%)	-0.450000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

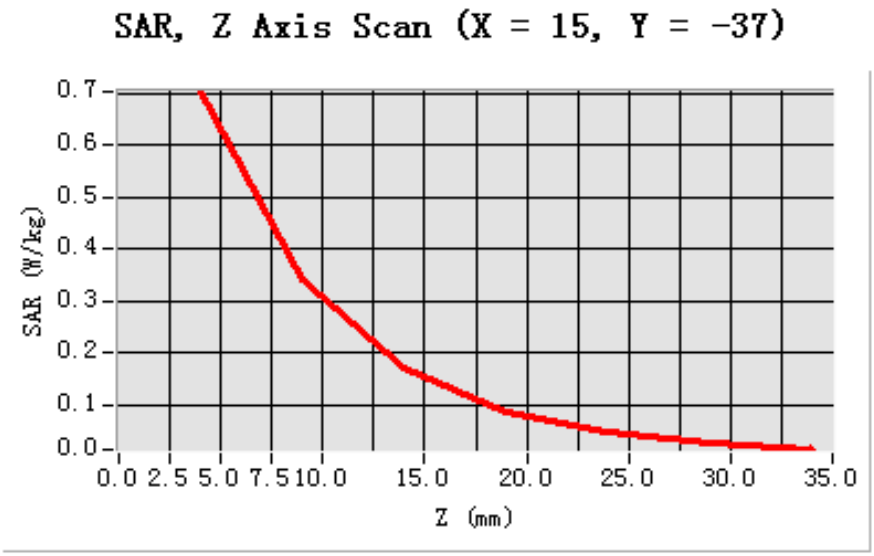
SURFACE SAR	VOLUME SAR
	

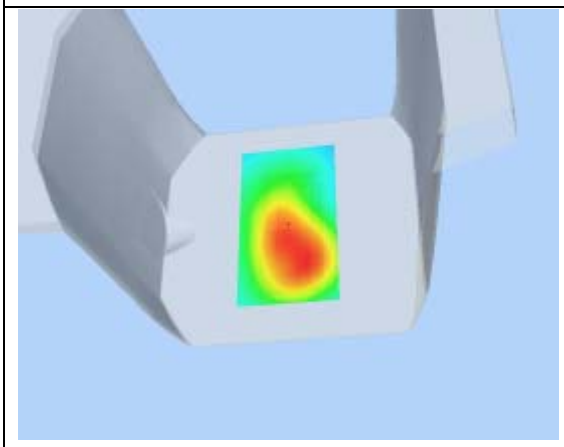
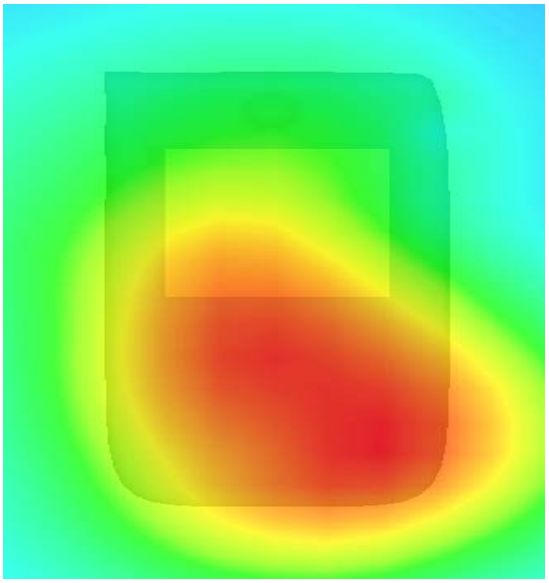
Maximum location: X=15.00, Y=-37.00

SAR 10g (W/Kg)	0.371718
SAR 1g (W/Kg)	0.678439

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7031	0.3425	0.1704	0.0852	0.0457	0.0239



3D sceen shot	Hot spot position
	

MEASUREMENT 46

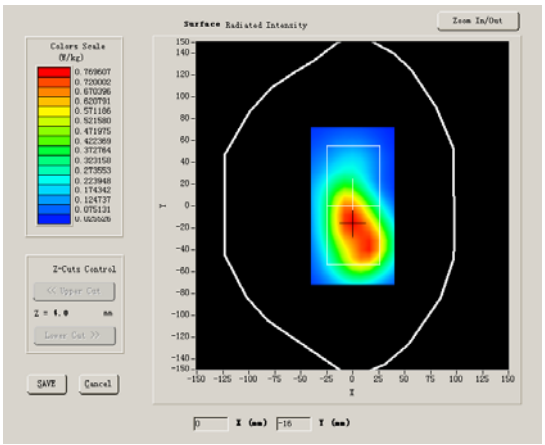
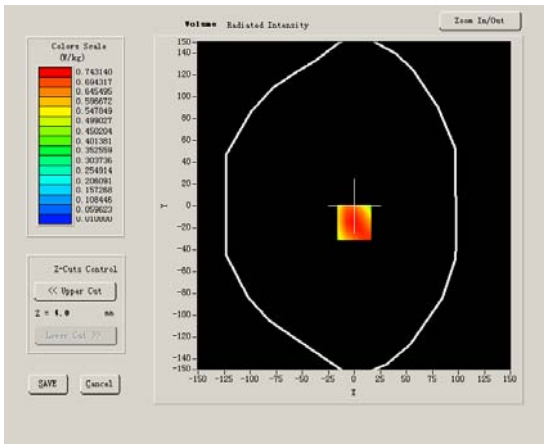
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 9 minutes 8 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	AWS 1700
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Frequency (MHz)	1732.000000
Relative permittivity (real part)	38.930000
Relative permittivity	13.610000
Conductivity (S/m)	1.309584
Variation (%)	-1.400000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

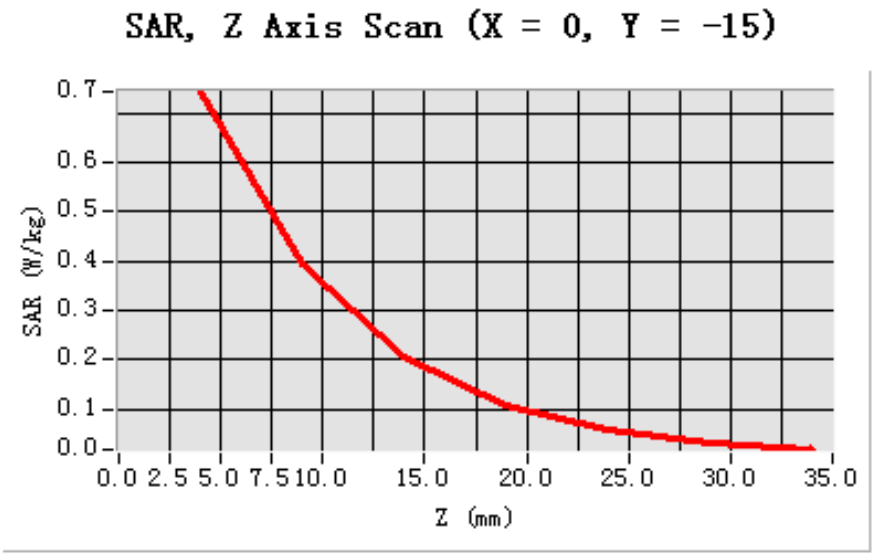
SURFACE SAR	VOLUME SAR
	

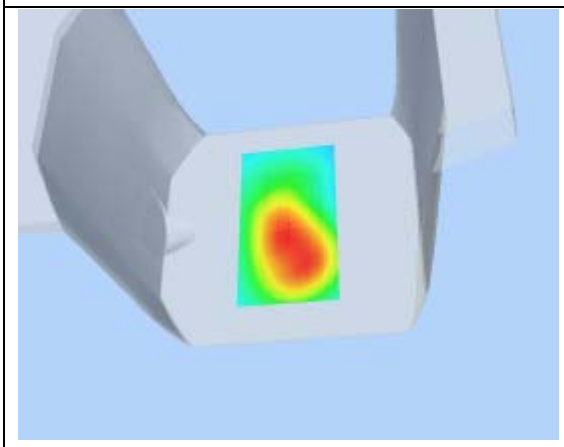
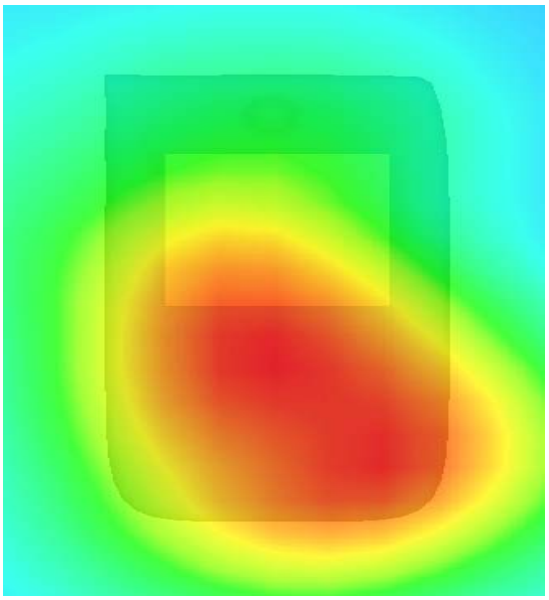
Maximum location: X=0.00, Y=-15.00

SAR 10g (W/Kg)	0.408250
SAR 1g (W/Kg)	0.716774

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7431	0.3945	0.2071	0.1088	0.0580	0.0319



3D sceen shot	Hot spot position
	

MEASUREMENT 47

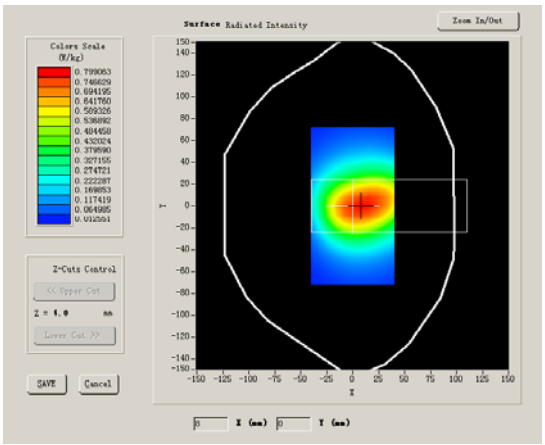
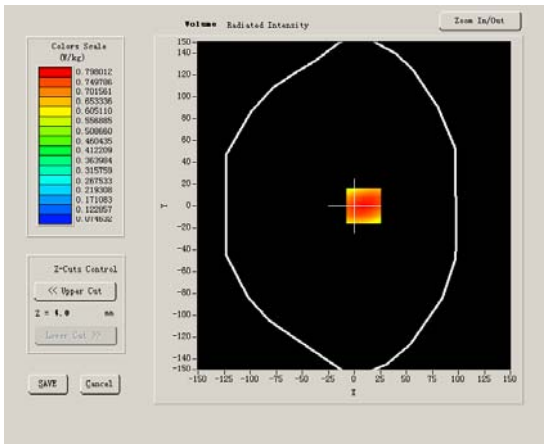
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 9 minutes 6 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	AWS 1700
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Frequency (MHz)	1732.000000
Relative permittivity (real part)	38.930000
Relative permittivity	13.610000
Conductivity (S/m)	1.309584
Variation (%)	-1.400000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

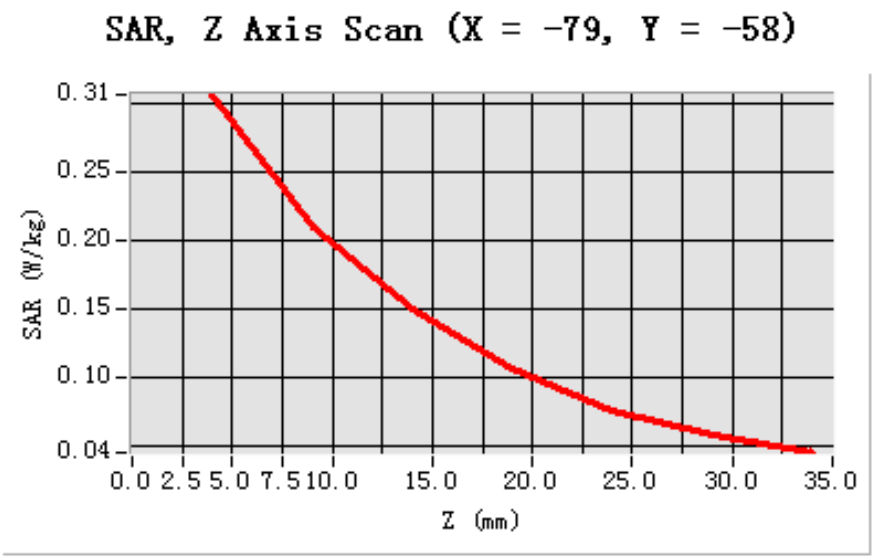
SURFACE SAR	VOLUME SAR
	

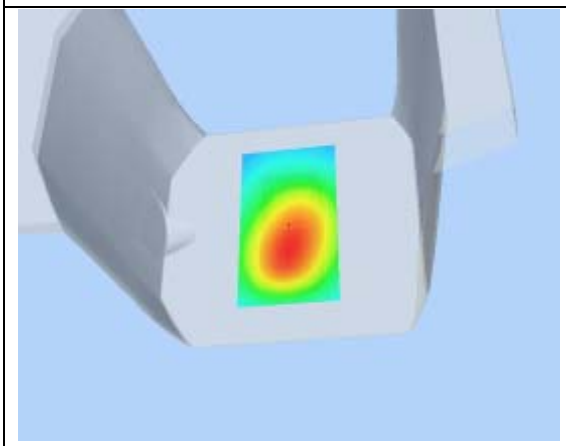
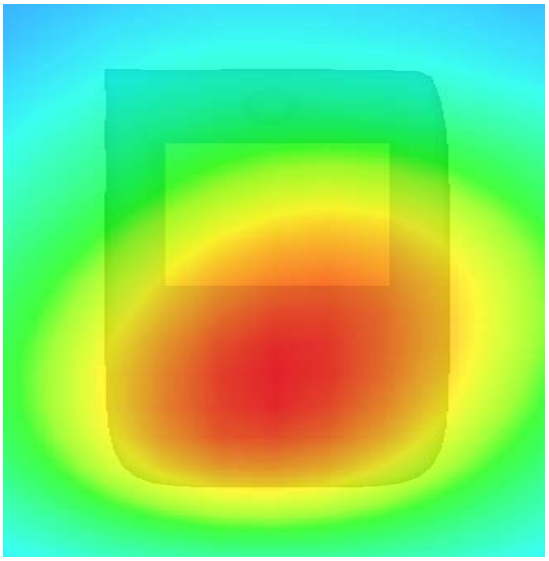
Maximum location: X=9.00, Y=0.00

SAR 10g (W/Kg)	0.235862
SAR 1g (W/Kg)	0.347403

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.3063	0.2096	0.1495	0.1062	0.0757	0.0579



3D sceen shot	Hot spot position
	

MEASUREMENT 48

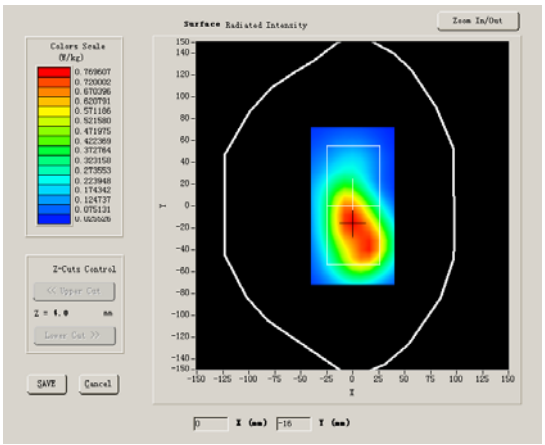
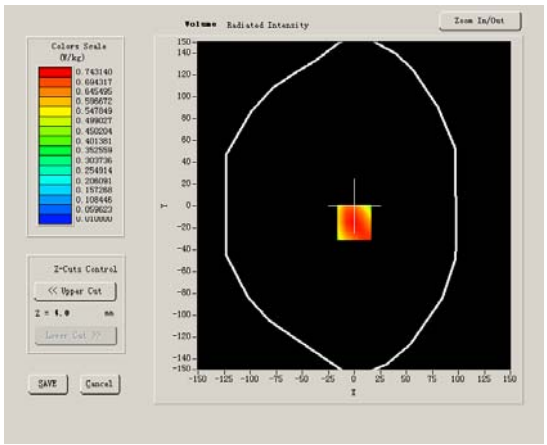
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 9 minutes 8 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	AWS 1700
Channels	High
Signal	CDMA

B. SAR Measurement Results

Frequency (MHz)	1753.750000
Relative permittivity (real part)	38.270000
Relative permittivity	13.900000
Conductivity (S/m)	1.355250
Variation (%)	-1.729980
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

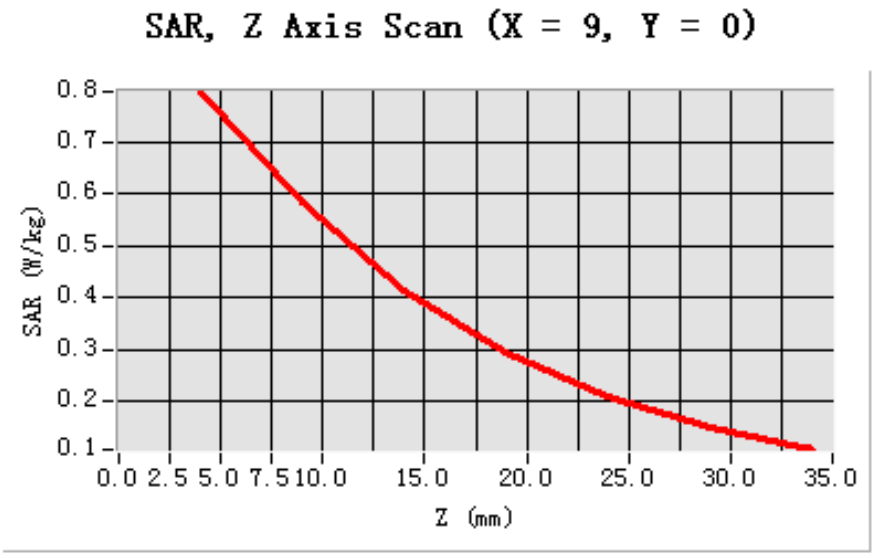
SURFACE SAR	VOLUME SAR
	

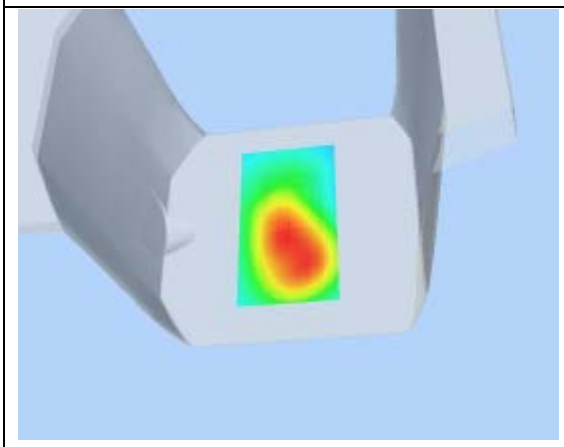
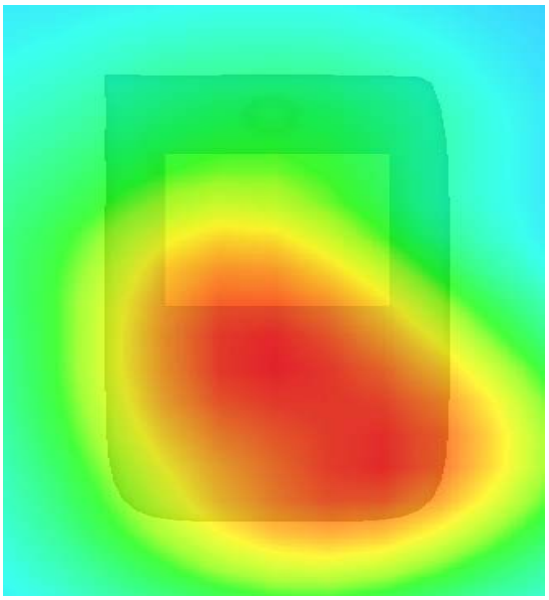
Maximum location: X=0.00, Y=-15.00

SAR 10g (W/Kg)	0.457412
SAR 1g (W/Kg)	0.642375

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7980	0.5853	0.4157	0.2962	0.2108	0.1489



3D sceen shot	Hot spot position
	

System Performance Check Data(Head)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 13 minutes 27 seconds

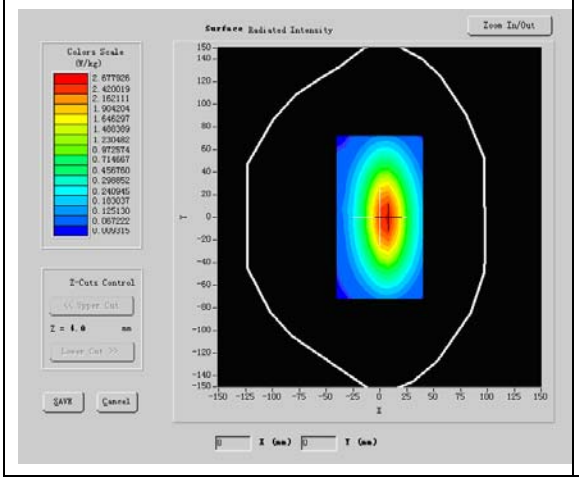
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

Frequency (MHz)	835.000000
Relative permittivity (real part)	40.490002
Relative permittivity	15.070000
Conductivity (S/m)	0.983918
Power Drift (%)	-0.050000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.7C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

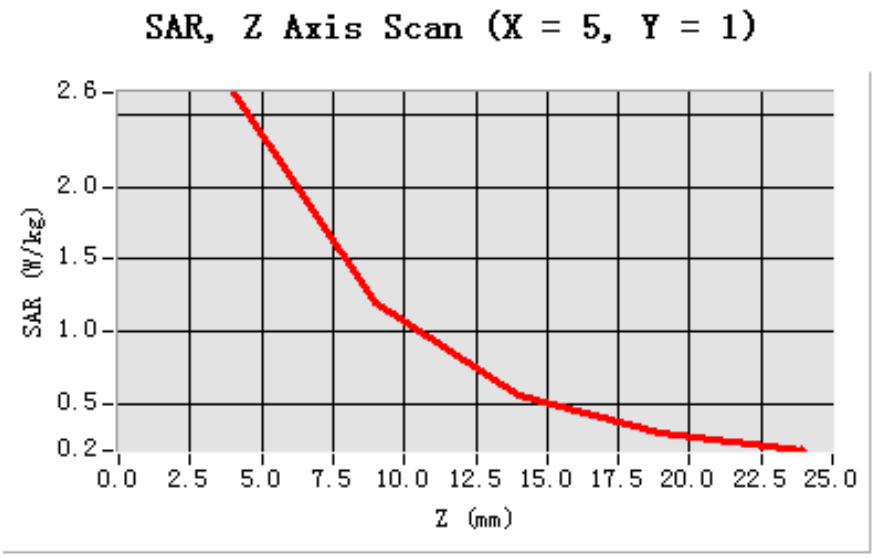
SURFACE SAR	VOLUME SAR
	

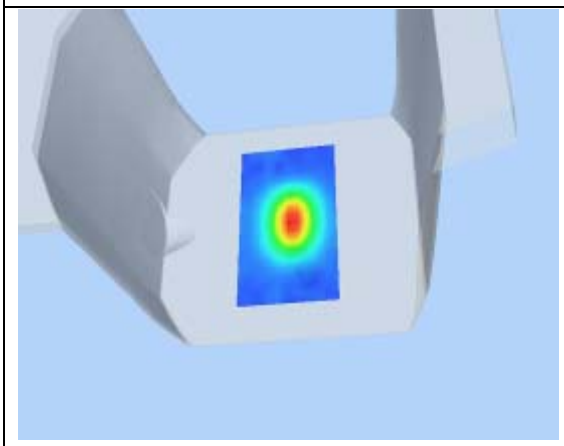
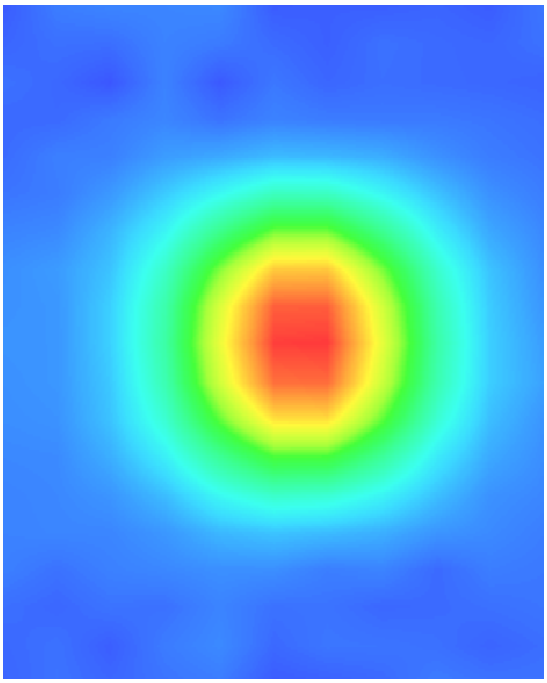
Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	1.815276
SAR 1g (W/Kg)	2.714926

Z Axis Scan

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



3D sceen shot	Hot spot position
	

System Performance Check Data(Body)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 13 minutes 27 seconds

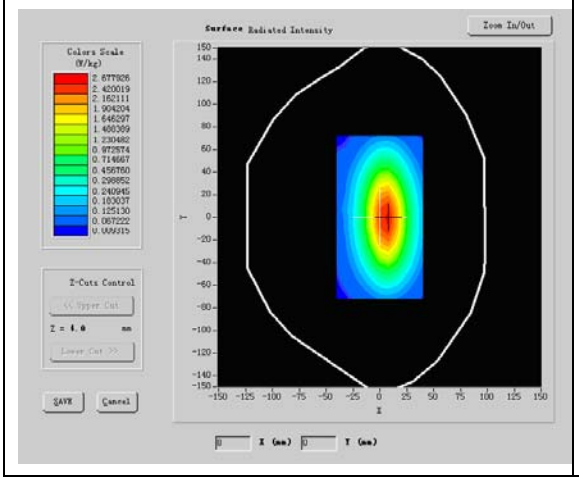
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

Frequency (MHz)	835.000000
Relative permittivity (real part)	40.490002
Relative permittivity	15.070000
Conductivity (S/m)	0.983918
Power Drift (%)	-0.050000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.5°C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

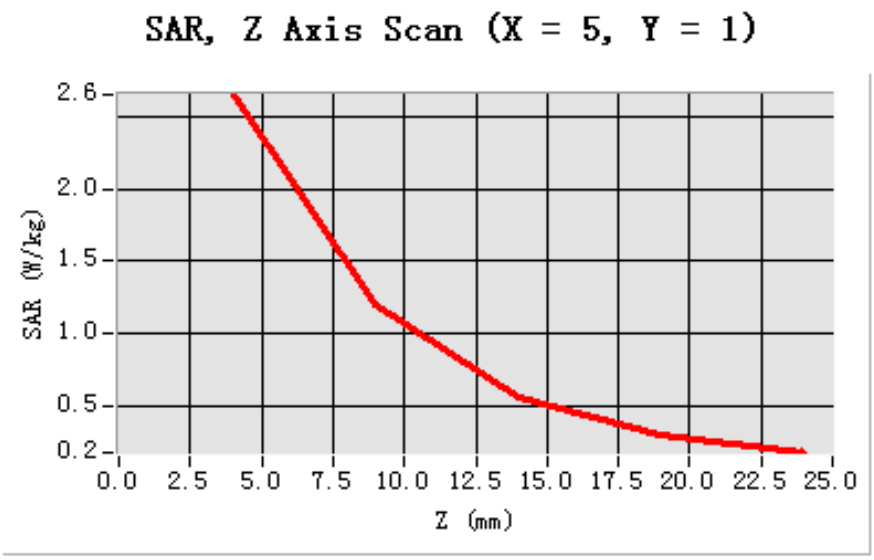
SURFACE SAR	VOLUME SAR
	

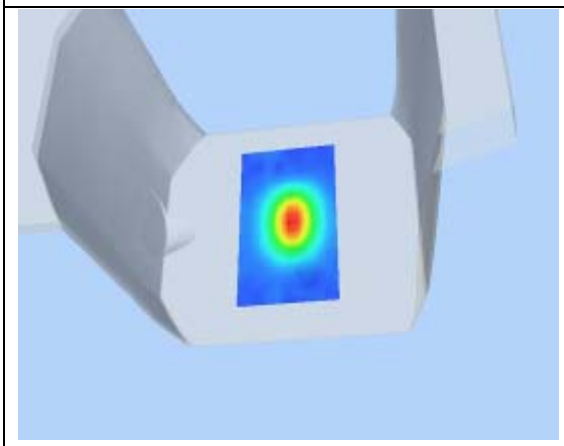
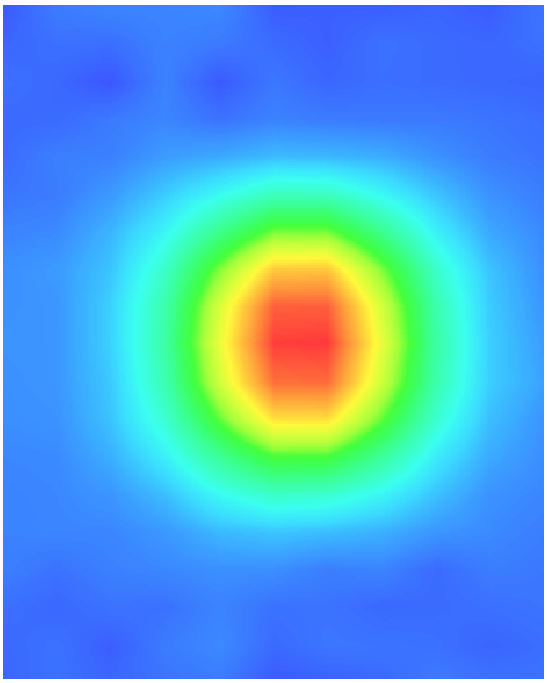
Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	1.775242
SAR 1g (W/Kg)	2.673957

Z Axis Scan

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



3D sceen shot	Hot spot position
	

System Performance Check Data(Head)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 13 minutes 27 seconds

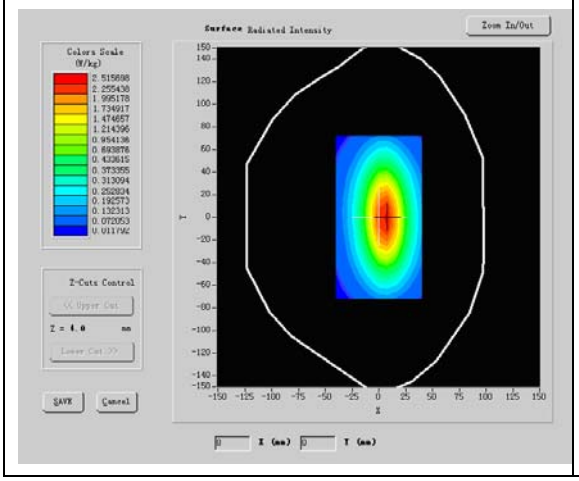
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

Frequency (MHz)	1800.000000
Relative permittivity (real part)	38.930000
Relative permittivity	15.070000
Conductivity (S/m)	1.321229
Power Drift (%)	-0.140000
Ambient Temperature:	22.3°C
Liquid Temperature:	22.6°C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

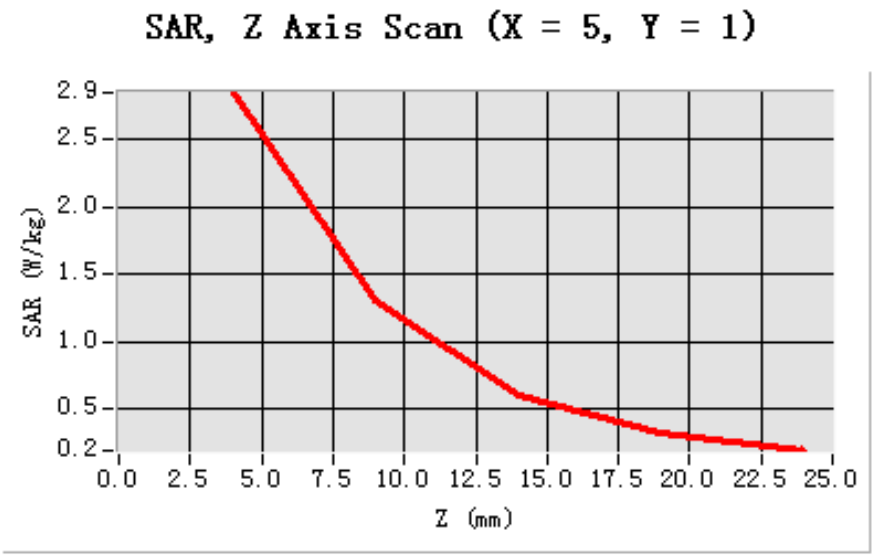
SURFACE SAR	VOLUME SAR
	

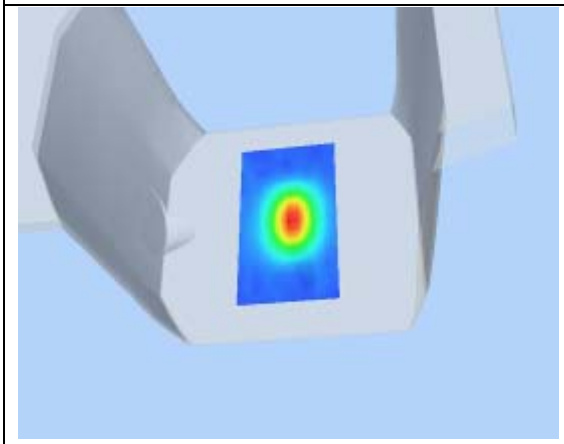
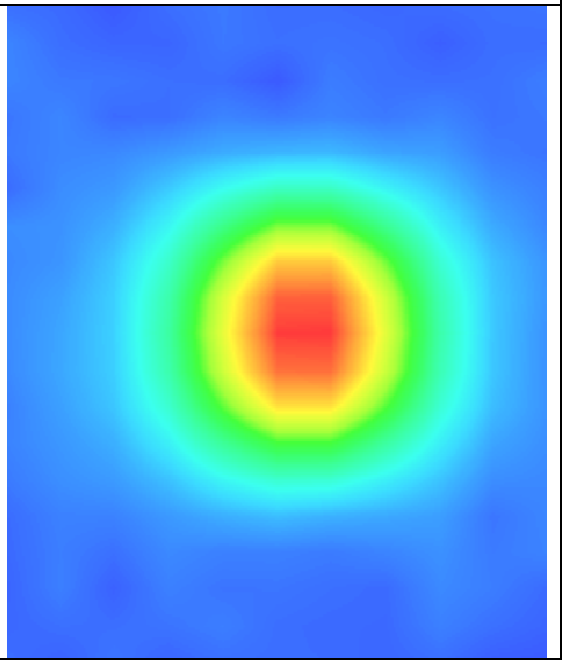
Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	4.574241
SAR 1g (W/Kg)	9.193774

Z Axis Scan

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



3D sceen shot	Hot spot position
	

System Performance Check Data(Body)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 13 minutes 27 seconds

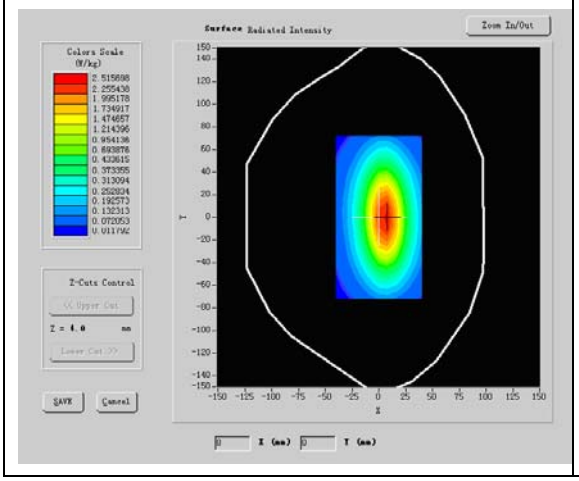
A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

Frequency (MHz)	1800.000000
Relative permittivity (real part)	38.930000
Relative permittivity	15.070000
Conductivity (S/m)	1.321229
Power Drift (%)	-0.140000
Ambient Temperature:	22.3°C
Liquid Temperature:	22.6°C
ConvF:	40.977,35.416,39.388
Crest factor:	1:1

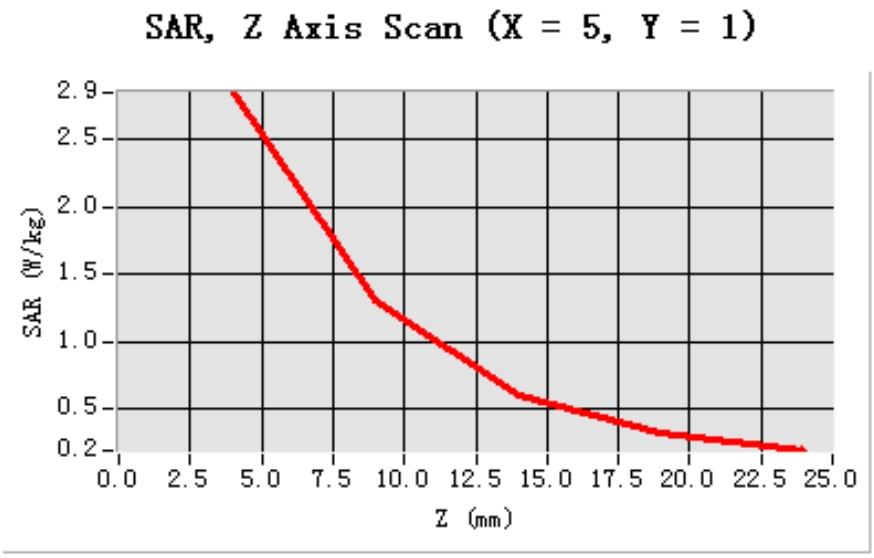
SURFACE SAR	VOLUME SAR
	

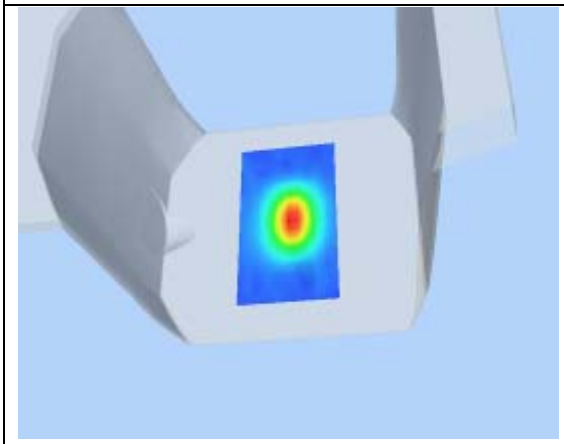
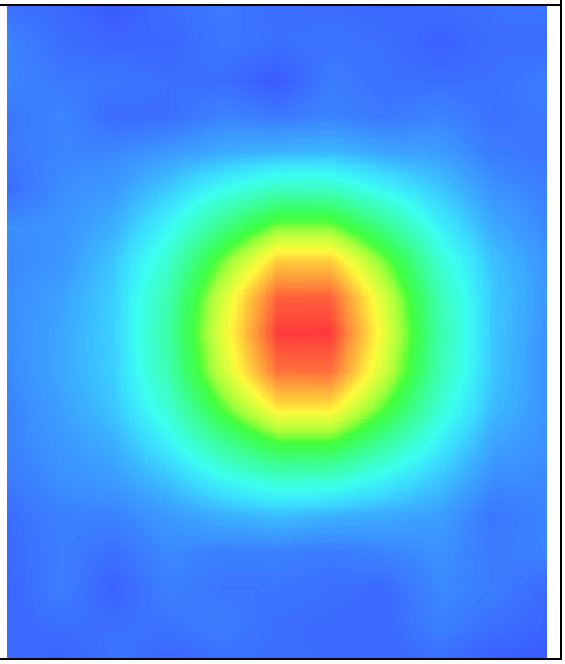
Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	4.382624
SAR 1g (W/Kg)	9.247125

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(Head)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 13 minutes 27 seconds

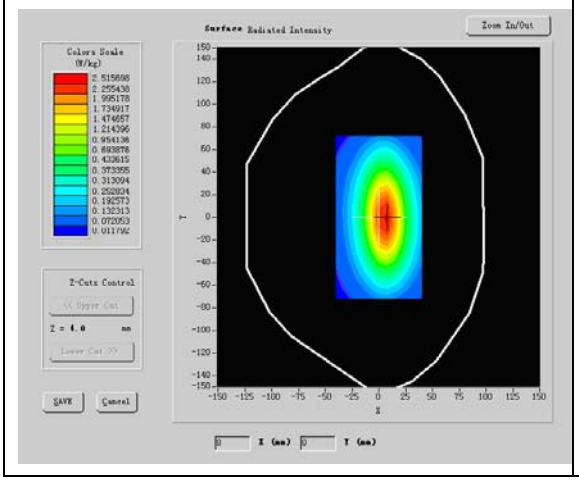
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	
Band	1900MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

Frequency (MHz)	1900.000000
Relative permittivity (real part)	39.930000
Relative permittivity	17.070000
Conductivity (S/m)	1.421229
Power Drift (%)	-0.140000
Ambient Temperature:	22.2°C
Liquid Temperature:	21.8C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

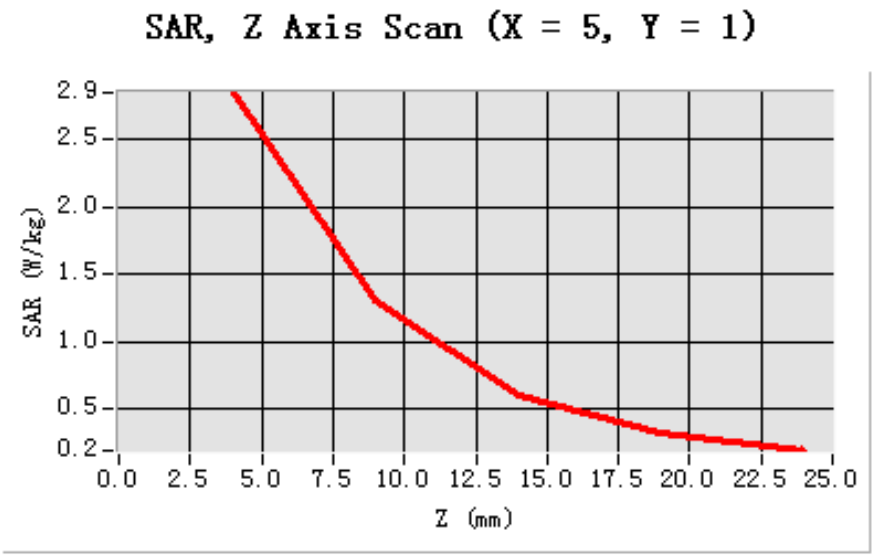
SURFACE SAR	VOLUME SAR
	

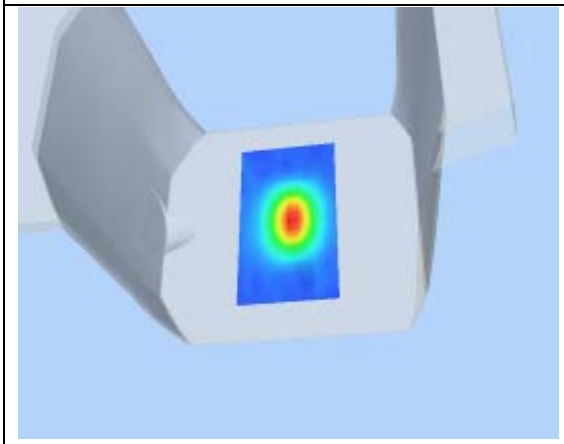
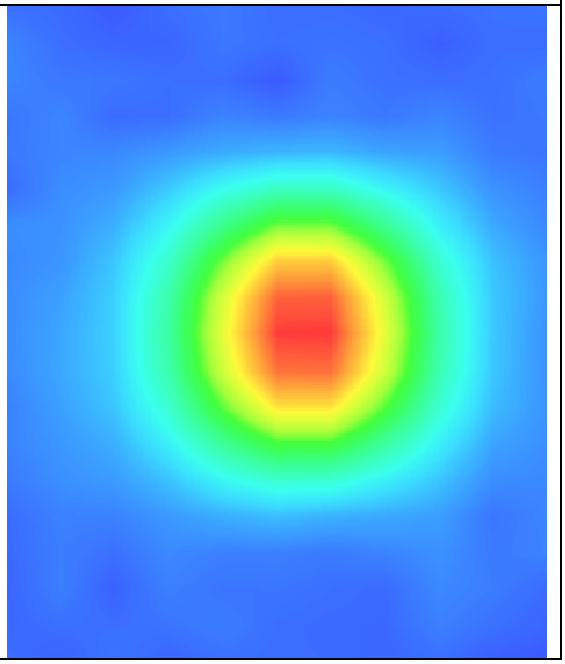
Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	4.910003
SAR 1g (W/Kg)	9.455521

Z Axis Scan

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



3D sceen shot	Hot spot position
	

System Performance Check Data(Body)

Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 26/5/2011
Measurement duration: 13 minutes 27 seconds

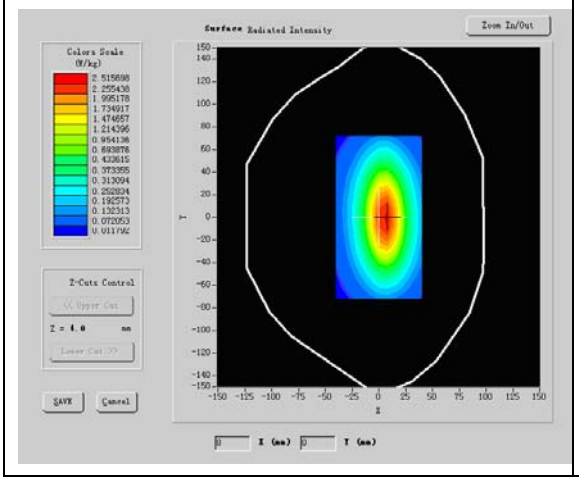
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	
Band	1900MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

Frequency (MHz)	1900.000000
Relative permittivity (real part)	39.930000
Relative permittivity	17.070000
Conductivity (S/m)	1.421229
Power Drift (%)	-0.140000
Ambient Temperature:	22.2°C
Liquid Temperature:	21.8C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

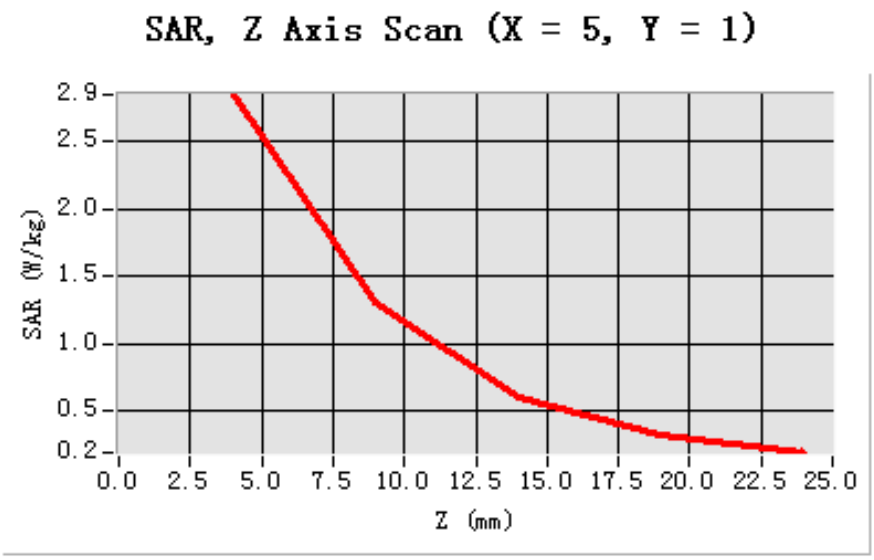
SURFACE SAR	VOLUME SAR
	

Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	4.910003
SAR 1g (W/Kg)	9.754521

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