SAR TEST REPORT

Issued to

ZTE Corporation

For

cdma2000 Wireless data terminal

Model Name	:	AR910
Trade Name	:	ZTE
Brand Name	:	ZTE
FCC ID	:	Q78-AR910
Standard	:	FCC Oet65 Supplement C Jun.2001 47CFR 2.1093 ANSI C95.1-1999 IEEE 1528-2003
MAX SAR	:	Body: 1.315 W/kg
Test date	:	Jul. 13, 2011
Issue date	:	Aug. 3, 2011

Shenzhen MORLAB Communication Technology Co., Ltd.

Tested by	Samuel Peng	*Approved by*		*Review by*	Li Lei
Date	2011.08.03	*Date*	2011.08.03	*Date*	2011.08.03

DIRECTORY

Change History		
Issue	Date	Reason for change
1.0	Jul. 13, 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 0)

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 2450MHz	Satimo (SN 36/08 DIPJ 103)	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: ZTE Corporation
Address: ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,Nanshan District,Shenzhen,Guangdong,P.R.China

2.2. Identification of Manufacturer

Company Name: ZTE Corporation
Address: ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,Nanshan District,Shenzhen,Guangdong,P.R.China

2.3. Equipment Under Test (EUT)

Brand Name: ZTE
Type Name: ZTE
Marking Name: AR910
Hardware Version: AR910MB_B
Software Version: V004
Frequency Bands: CDMA 800MHz; CDMA 1900MHz
WIFI 802.11 b/g
Modulation Mode: CDMA
Antenna type: Fixed Internal Antenna
Development Stage: Identical prototype
Battery Model: Li3727T42P3h665678
Battery specification: 2700mAh 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#	AR910MB_B	V004

2.4. Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	**47 CFR § 2. 1093**	Radiofrequency Radiation Exposure Evaluation: Portable Devices
2	**FCC OET Bulletin 65 (Edition 97-01), Supplement C (Edition 01-01)**	Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields
3	**ANSI C95.1-1999**	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3kHz to 300 GHz
4	**IEEE 1528-2003**	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate(SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techuiques.

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 800MHz
	CDMA 1900MHz
Operation mode:	Call established
Power Level:	CDMA Maximum output power

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 1013, 384 and 777 respectively in the case of CDMA 800MHz or is allocated to 25, 600 and 1175 respectively in the case of CDMA 1900MHz, The EUT, The EUT is commanded to operate at maximum transmitting power.
The EUT shall use its internal transmitter. The antenna(s), battery and accessories shall be those specified by the manufacturer. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output. If a wireless link is used, the antenna connected to the output of the base station simulator shall be placed at least 50 cm away from the handset.
The signal transmitted by the simulator to the antenna feeding point shall be lower than the output power level of the handset by at least 35 dB.
For SAR testing, EUT is in CDMA link mode, its crest factor is 1.

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

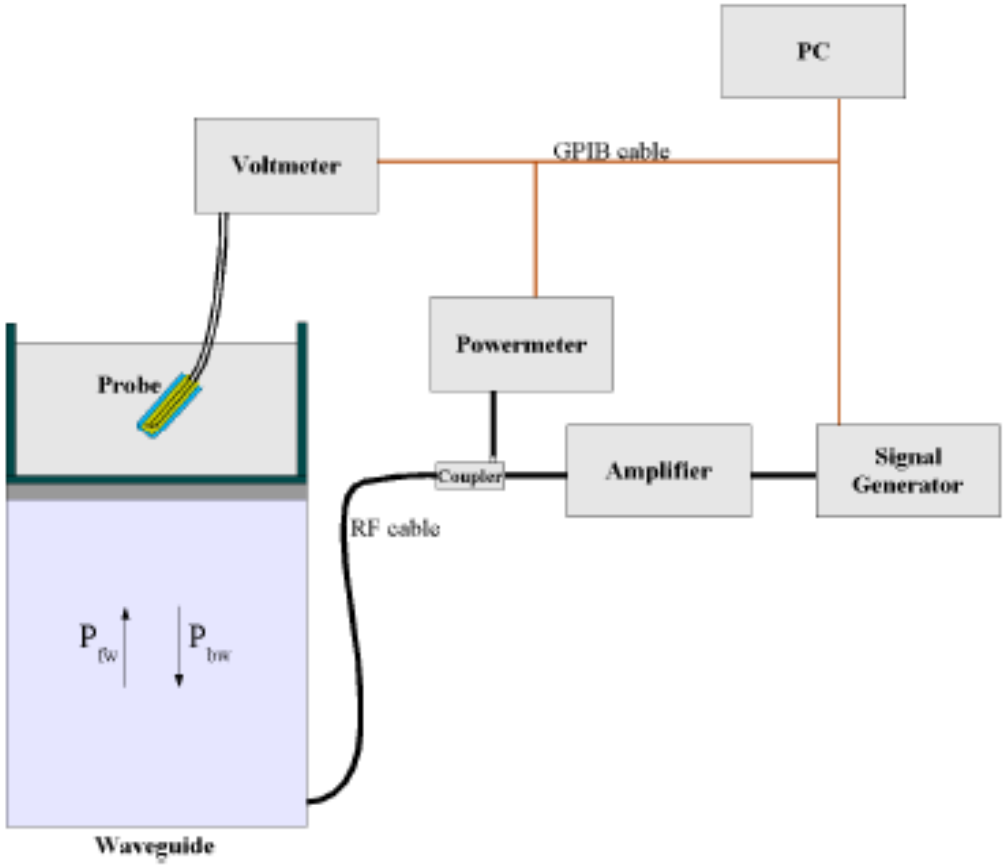
For the measurements the Specific Dosimetric E-Field Probe SN 37/08 EP80 with following specifications is used

- 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) (N=1,2,3)

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

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

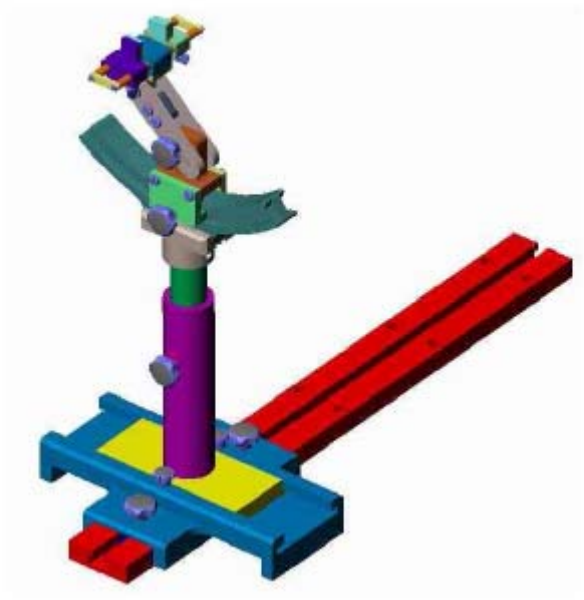
where DCP is the diode compression point in mV.

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

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

Recipes for Tissue Simulating Liquid

Ingredients (% by weight)	Frequency Band		Frequency Band		Frequency Band
Tissue Type	835MHz		1900MHz		2450MHz
Water	Head	Body	Head	Body	Body
Salt(NaCl)	41.45	52.4	55.36	40.4	52.4
Sugar	1.45	1.4	0.35	0.5	1.4
HEC	56.0	45.0	30.45	58.0	45.0
Bactericide	1.0	1.0	0.0	1.0	1.0
Triton	0.1	0.1	0.0	0.1	0.1
DGBE	0.0	0.0	0.0	0.0	0.0
Acticide SPX	0.0	0.0	13.84	0.0	0.0
Dielectric Constant	0.0	0.0	0.0	0.0	0.0
Conductivity (S/m)	42.45	56.1	41.00	54.0	52.7
	0.91	0.95	1.38	1.45	1.95

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.

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 (Jul.13)	835 MHz	55.709999	1.009033

Target value	1900 MHz	53.3	1.52
Validation value (Jul.13)	1900 MHz	52.548876	1.573978
Target value	2450 MHz	52.7	1.95
Validation value (Jul.13)	2450 MHz	54.341000	1.952641

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 (+-%)	Vi
Measurement System									
Probe calibration	E.2.1	7.0	N	1	1	1	7.00	7.00	
Axial Isotropy	E.2.2	2.5	R				1.02	1.02	
Hemispherical Isotropy	E.2.2	4.0	R				1.63	1.63	
Boundary effect	E.2.3	1.0	R		1	1	0.58	0.58	
Linearity	E.2.4	5.0	R		1	1	2.89	2.89	
System detection limits	E.2.5	1.0	R		1	1	0.58	0.58	
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.02	
Reponse Time	E.2.7	3.0	R		1	1	1.73	1.73	
Integration Time	E.2.8	2.0	R		1	1	1.15	1.15	
RF ambient Conditions	E.6.1	3.0	R		1	1	1.73	1.73	
Probe positioner Mechanical Tolerance	E.6.2	2.0	R		1	1	1.15	1.15	
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R		1	1	0.03	0.03	
Extrapolation, interpolation and integration Algoritms for Max. SAR Evaluation	E.5.2	5.0	R		1	1	2.89	2.89	
Test sample Related									
Test sample positioning	E.4.2.1	0.03	N	1	1	1	0.03	0.03	N-1
Device Holder Uncertainty	E.4.1.1	5.00	N	1	1	1	5.00	5.00	
Output power Power Drift - SAR drift measurement	6.6.2	4.04	R		1	1	2.33	2.33	
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R		1	1	0.03	0.03	
Liquid conductivity - deviation from target value	E.3.2	4.57	R		0.64	0.43	1.69	1.13	

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

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 (+-%)	Vi
Measurement System									
Probe calibration	E.2.1	7.0	N	1	1	1	7.00	7.00	
Axial Isotropy	E.2.2	2.5	R				1.02	1.02	
Hemispherical Isotropy	E.2.2	4.0	R				1.63	1.63	
Boundary effect	E.2.3	1.0	R		1	1	0.58	0.58	
Linearity	E.2.4	5.0	R		1	1	2.89	2.89	
System detection limits	E.2.5	1.0	R		1	1	0.58	0.58	
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.02	
Reponse Time	E.2.7	3.0	R		1	1	1.73	1.73	
Integration Time	E.2.8	2.0	R		1	1	1.15	1.15	
RF ambient Conditions	E.6.1	3.0	R		1	1	1.73	1.73	
Probe positioner Mechanical Tolerance	E.6.2	2.0	R		1	1	1.15	1.15	
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R		1	1	0.03	0.03	
Extrapolation, interpolation and integration Algoritms for Max. SAR Evaluation	E.5.2	5.0	R		1	1	2.89	2.89	
Dipole									
Dipole axis to liquid Distance	8,E.4.2	1.00	N		1	1	0.58	0.58	N-1
Input power and SAR drift measurement	8,6.6.2	4.04	R		1	1	2.33	2.33	
Phantom and Tissue Parameters									

Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R		1	1	0.03	0.03	
Liquid conductivity - deviation from target value	E.3.2	4.57	R		0.64	0.43	1.69	1.13	
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	1	0.64	0.43	3.20	2.15	M
Liquid permittivity - deviation from target value	E.3.2	3.69	R		0.6	0.49	1.28	1.04	
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	1	0.6	0.49	6.00	4.90	M
Combined Standard Uncertainty			RSS				10.08	9.47	
Expanded Uncertainty (95% Confidence interval)			k				19.65	18.47	

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 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 2450MHz:SN 36/08 DIPJ 103

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	1900MHz	2450 MHz
Target value(1g)	9.5 W/Kg	38.1 W/Kg	52.4 W/Kg
250 mW input power (Jul. 13)	2.435 W/Kg	9.775 W/Kg	12.894 W/Kg
Test value(1g) (Jul. 13)	9.74 W/Kg	39.1 W/Kg	51.936 W/Kg

Note: System checks the specific test data please see page 78-83.

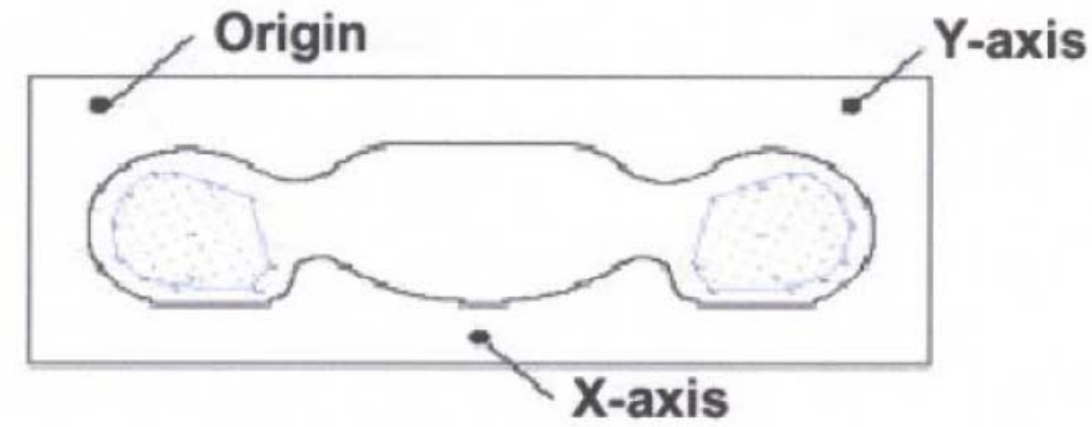
8. Operational Conditions During Test

8.1. 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

8.2. 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.

8.3. 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.

9.5. 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.

9.6. 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	27.25	27.24	27.11	27.22
384	28.32	28.22	28.21	28.18
777	28.57	28.51	28.44	28.38
25	24.96	24.73	24.55	24.45
600	27.22	27.14	27.11	27.13
1175	26.28	26.21	26.14	26.00

SO	SO2	SO55	SO2	SO55

Power Control was set in ‘All Bits Up” for all measurements.

9.7. WIFI Output Power

802.11b Test mode

Channel	Frequency (MHz)	Measured Output Peak Power	
		dBm	W
1	2412	11.47	0.014
6	2437	9.47	0.009
11	2462	9.63	0.009

802.11g Test mode

Channel	Frequency (MHz)	Measured Output Peak Power	
		dBm	W
1	2412	9.72	0.009
6	2437	8.25	0.007
11	2462	7.78	0.006

10.Test Results List

Mobile Hotspot Test Results

Testing was performed with a separation of 1 cm between the DUT and the “flat” phantom. The DUT was positioned for SAR tests with the front and back surfaces facing the phantom, and also with the edges facing the phantom in which the transmitting antenna is < 2.5 cm from the edge. Each transmit band was utilized for SAR testing, but only the “mode” within each band that exhibited the highest SAR results from Body Worn Test Results.

Summary of Measurement Results (CDMA 800MHz Band), Phone 10 mm from Phantom

Temperature: 21.0~23.8°C, humidity: 54~60%.					
Phantom Configurations	Device Test Positions	Antenna Positions	SAR(W/Kg), 1g Peak		
			Device Test channel		
			Channel 1013	Channel 384	Channel 777
Body	Back	Internal	1.114	1.294	0.701
	Front	Internal	1.118	1.315	0.718
	Top Edge	Internal	/	0.225	/
	Right Edge	Internal	/	0.666	/
	Left Edge	Internal	/	0.735	/

Summary of Measurement Results (CDMA 1900MHz Band), Phone 10 mm from Phantom

Temperature: 21.0~23.8°C, humidity: 54~60%.					
Phantom Configurations	Device Test Positions	Antenna Positions	SAR(W/Kg), 1g Peak		
			Device Test channel		
			Channel 25	Channel 600	Channel 1175
Body	Back	Internal	1.124	1.137	1.041
	Front	Internal	0.973	1.127	0.975
	Top Edge	Internal	1.207	1.309	1.047
	Right Edge	Internal	/	0.289	/
	Left Edge	Internal	/	0.270	/

Summary of Measurement Results (WIFI 802.11 b), Phone 10 mm from Phantom

Temperature: 21.0~23.8°C, humidity: 54~60%.					
Phantom Configurations	Device Test Positions	Antenna Positions	SAR(W/Kg), 1g Peak		
			Device Test channel		
			Channel 1	Channel 6	Channel 11
WIFI 802.11 b	Back	Internal	0.175	/	/
	Front	Internal	0.188	/	/
	Right Edge	Internal	0.171	/	/
	Top Edge	Internal	0.155	/	/

Note: 1. 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 EUT has 2 CDMA antenna. Main antenna has receiving and transmitting function. Auxiliary antenna has receiving function, no transmitting. So we do not consider CDMA auxilliary antenna during test.

3. EUT with Wireless Router Capabilities testing to comply FCC KDB 941225 File Description

4. WIFI some of the test are done under the maximum output power.

5. SUM SAR values 1.315 W/kg + 0.188 W/kg = 1.503 W/kg lower than 1.6 W/kg

Top Edge

Right Edge

Left Edge

Bottom Edge

Annex A Accreditation Certificate

China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(No. CNAS L3572)

China National Accreditation Service for Conformity Assessment has accredited

Morlab Laboratory Shenzhen Morlab Communications Technology Co., Ltd.

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

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

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

Date of Issue: 2008-07-01

Date of Expiry: 2011-06-30

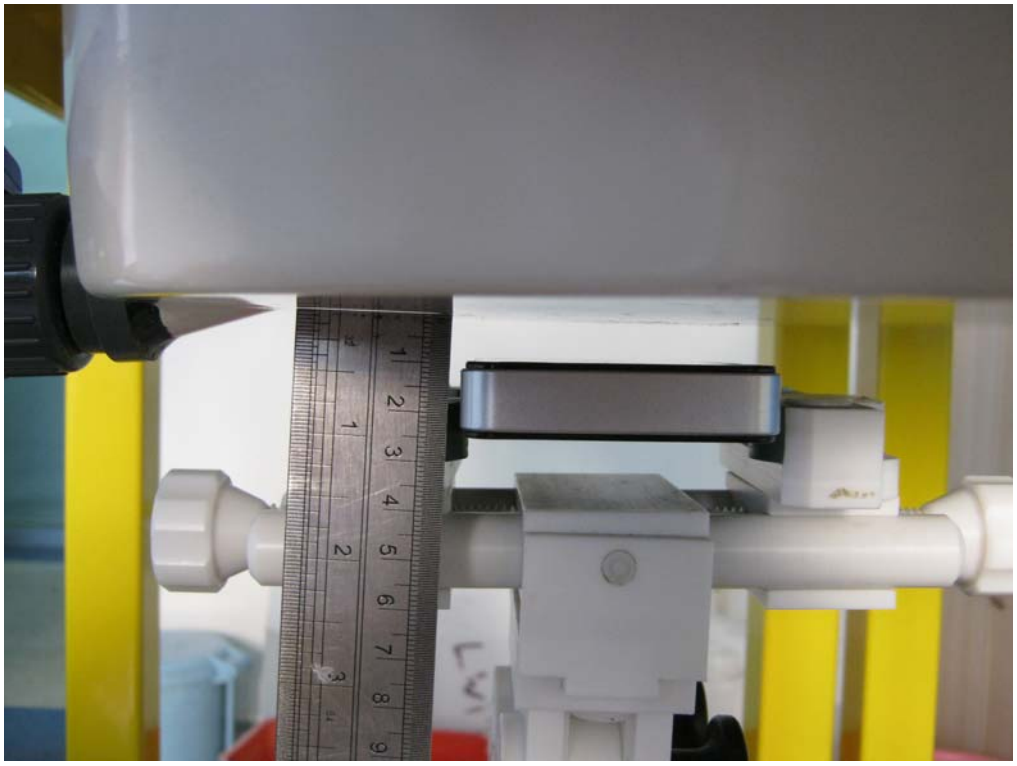
Date of Initial Accreditation: 2008-07-01

Signed on behalf of China National Accreditation Service for Conformity Assessment

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

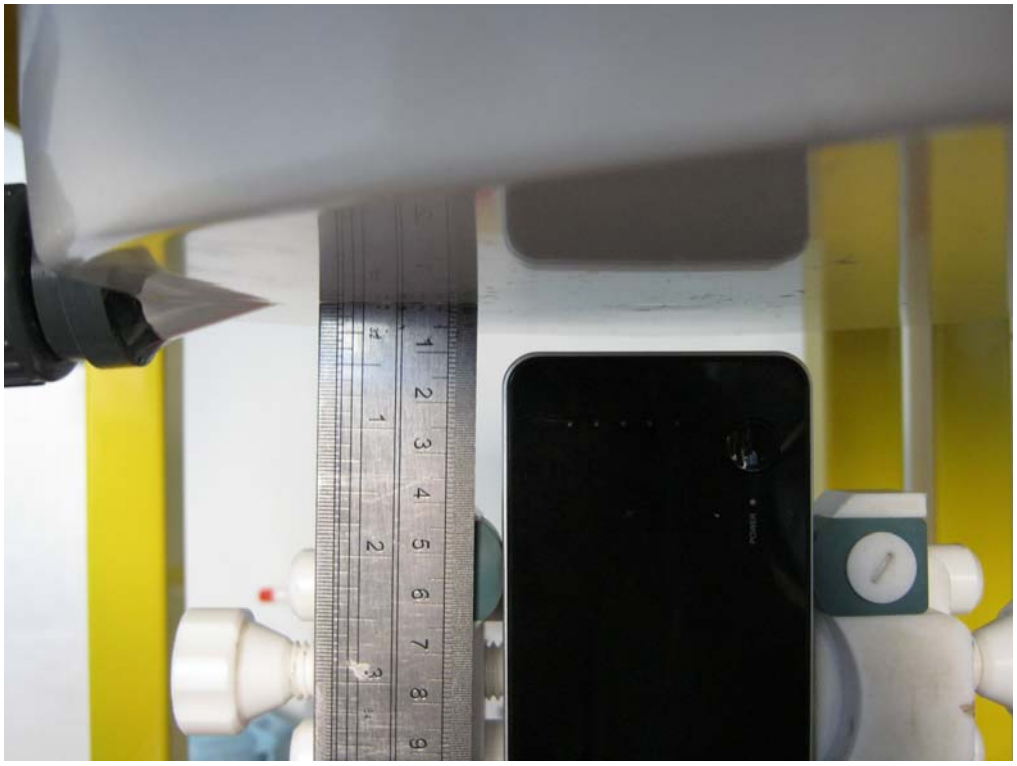
Annex B Photographs of the EUT

1 Phone 10 mm from Phantom

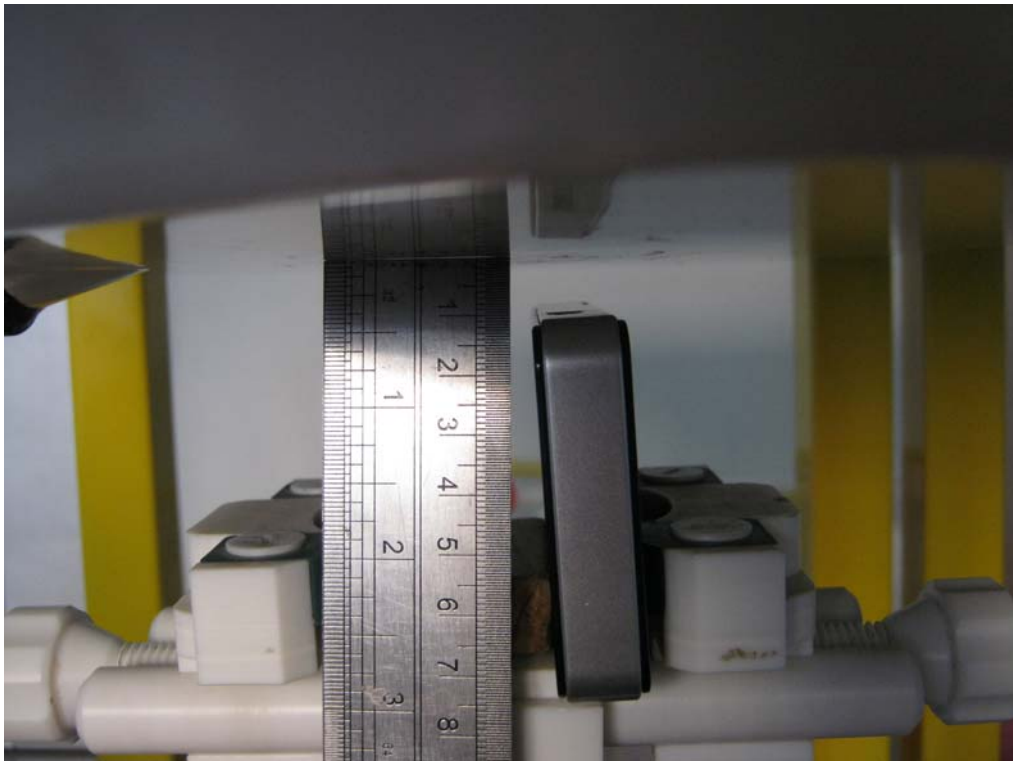


2 Phone 10 mm from Phantom

3 Top Edge



4 Right Edge



10 Left Edge

Liquid Level Photo

Annex C Graph Test Results

TYPE	BAND	PARAMETERS
Mobile Hotspot Test (Phone 10 mm from Phantom)	**CDMA850**	Measurement 1: Validation Plane with Body device position on Low Channel in CDMA mode Measurement 2: Validation Plane with Body device position on Middle Channel in CDMA mode Measurement 3: Validation Plane with Body device position on High Channel in CDMA mode Measurement 4: Validation Plane with Body device position on Low Channel in CDMA mode Measurement 5: Validation Plane with Body device position on Middle Channel in CDMA mode Measurement 6: Validation Plane with Body device position on High Channel in CDMA mode Measurement 7: Validation Plane with Body device position on Low Channel in CDMA mode Measurement 8: Validation Plane with Body device position on Low Channel in CDMA mode Measurement 9: Validation Plane with Body device position on Low Channel in CDMA mode
	US_PCS	Measurement 10: Validation Plane with Body device position on Low Channel in CDMA mode Measurement 11: Validation Plane with Body device position on Middle Channel in CDMA mode Measurement 12: Validation Plane with Body 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 High Channel in CDMA mode Measurement 16: Validation Plane with Body device position on Low Channel in CDMA mode Measurement 17: Validation Plane with Body device position on Middle Channel in CDMA mode Measurement 18: Validation Plane with Body device position on High Channel in CDMA mode Measurement 19: Validation Plane with Body device position on Middle Channel in CDMA mode Measurement 20: Validation Plane with Body device position on Middle Channel in CDMA mode

	WIFI 2450MHz	Measurement 21: Validation Plane with Body device position on Low Channel in WIFI 802.11b mode Measurement 22: Validation Plane with Body device position on Low Channel in WIFI 802.11b mode Measurement 23: Validation Plane with Body device position on Low Channel in WIFI 802.11b mode Measurement 24: Validation Plane with Body device position on Low Channel in WIFI 802.11b 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: 13/7/2011
Measurement duration: 9 minutes 18 seconds

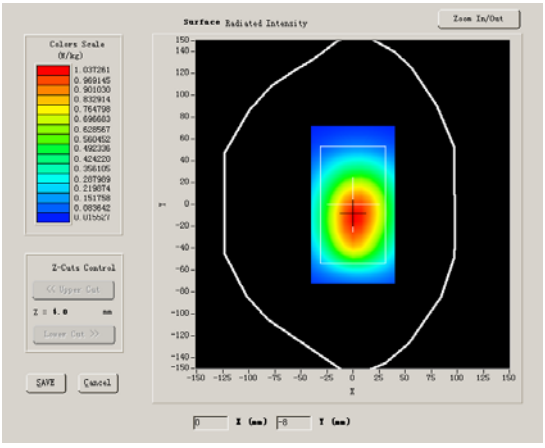
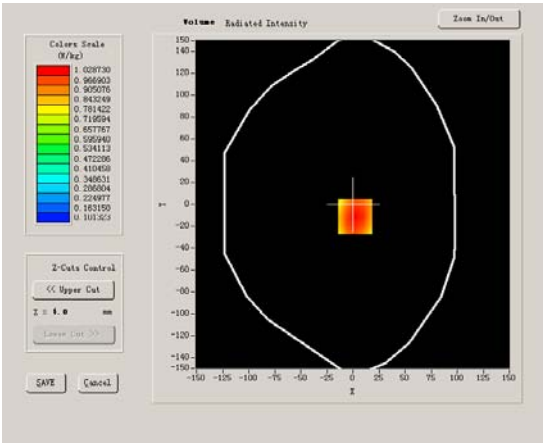
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA850
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 (%)	-0.850000
Ambient Temperature:	23.6°C
Liquid Temperature:	23.4°C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

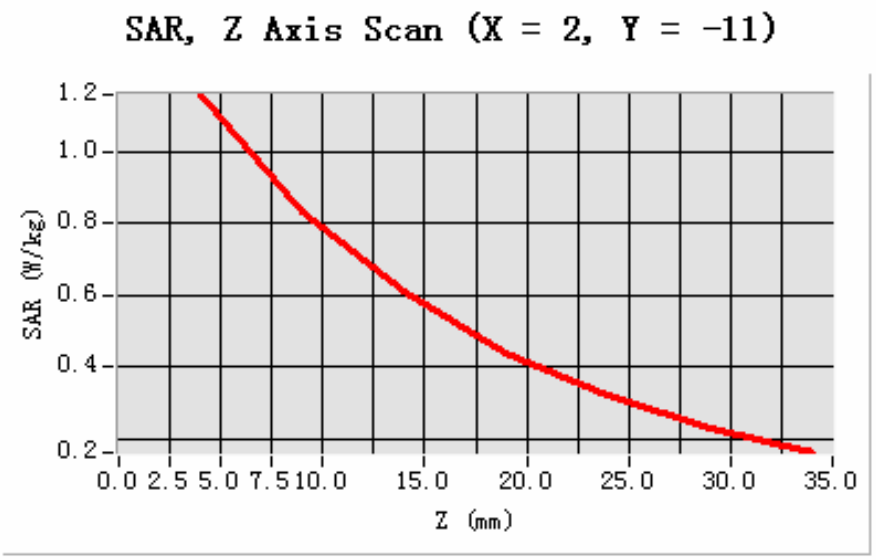
SURFACE SAR	VOLUME SAR
	

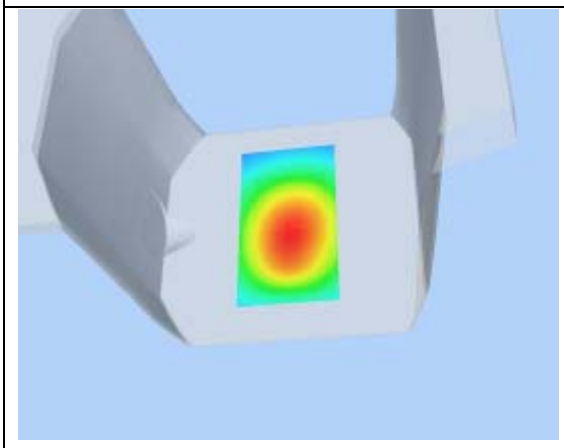
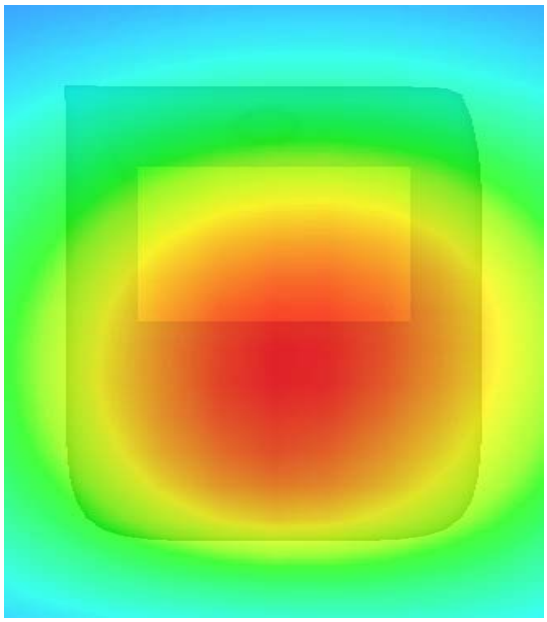
Maximum location: X=2.00, Y=-11.00

SAR 10g (W/Kg)	0.780245
SAR 1g (W/Kg)	1.114120

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.1569	0.8316	0.6083	0.4356	0.3175	0.2264



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: 13/7/2011
Measurement duration: 9 minutes 24 seconds

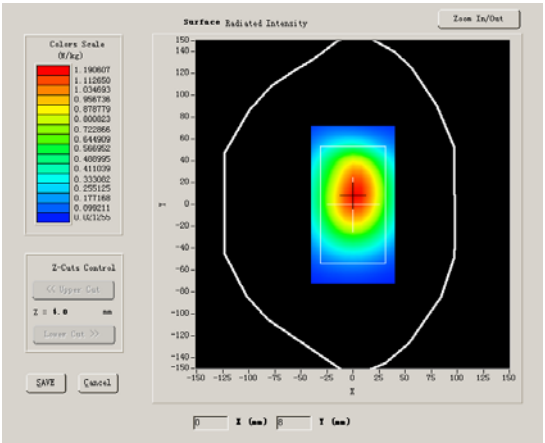
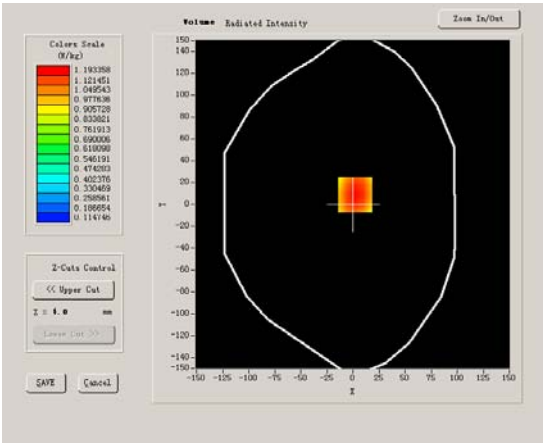
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA850
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 (%)	-0.040000
Ambient Temperature:	23.6°C
Liquid Temperature:	23.4°C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

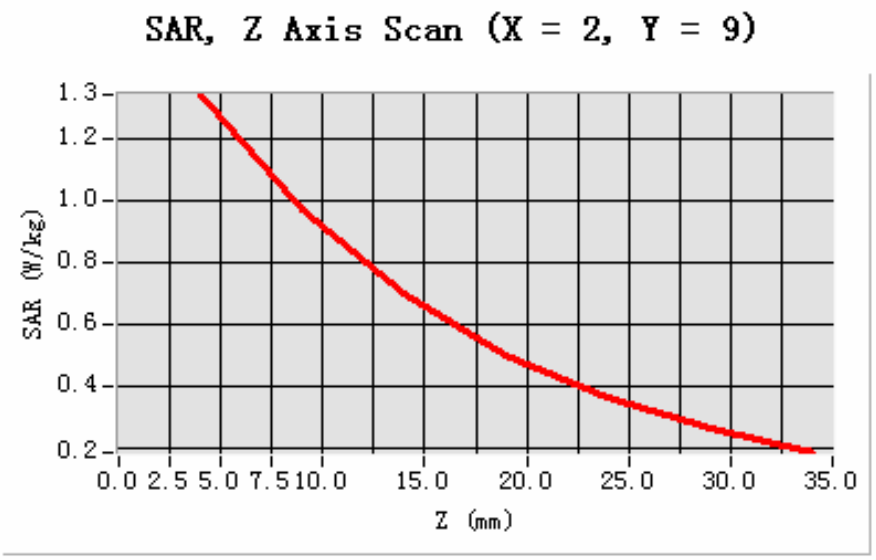
SURFACE SAR	VOLUME SAR
	

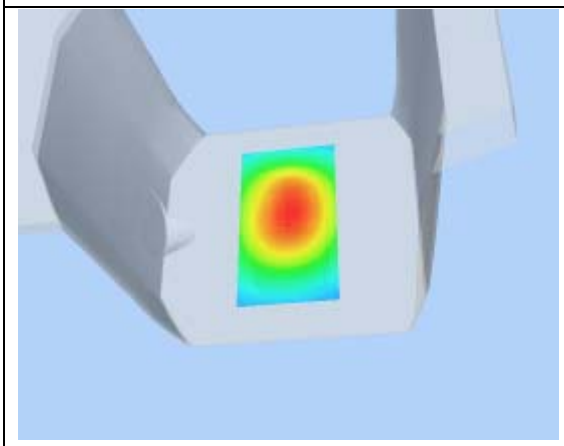
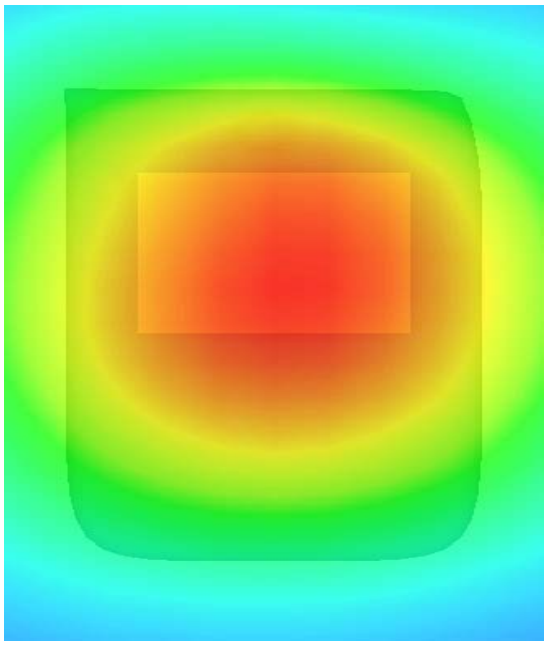
Maximum location: X=2.00, Y=9.00

SAR 10g (W/Kg)	0.905275
SAR 1g (W/Kg)	1.293796

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.3421	0.9693	0.7016	0.5013	0.3587	0.2586



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: 13/7/2011
Measurement duration: 9 minutes 22 seconds

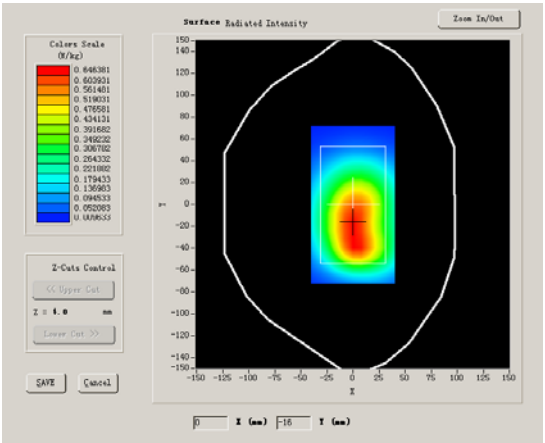
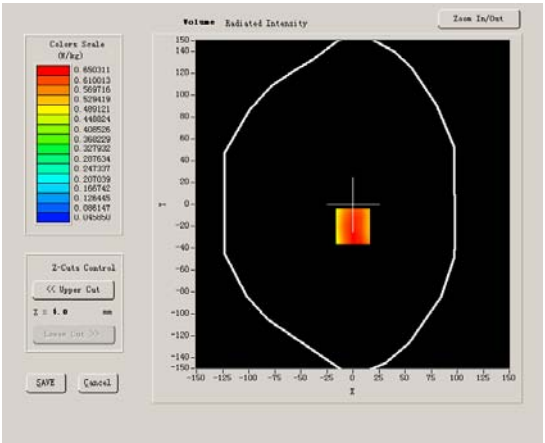
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA850
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 (%)	-0.210000
Ambient Temperature:	23.6°C
Liquid Temperature:	23.4°C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

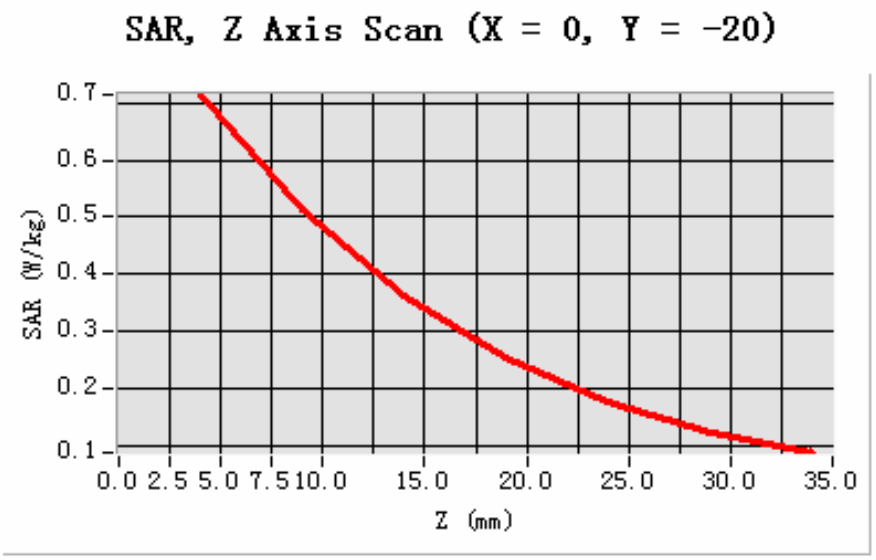
SURFACE SAR	VOLUME SAR
	

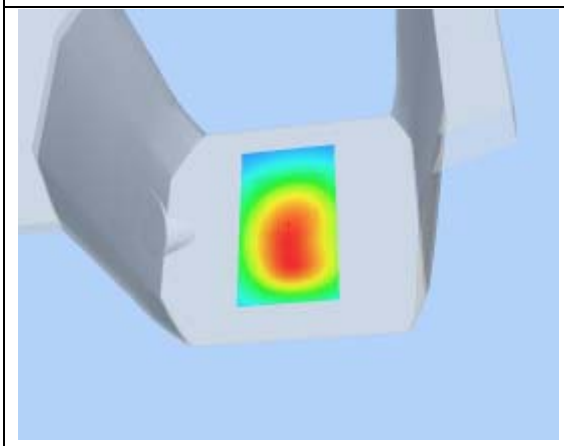
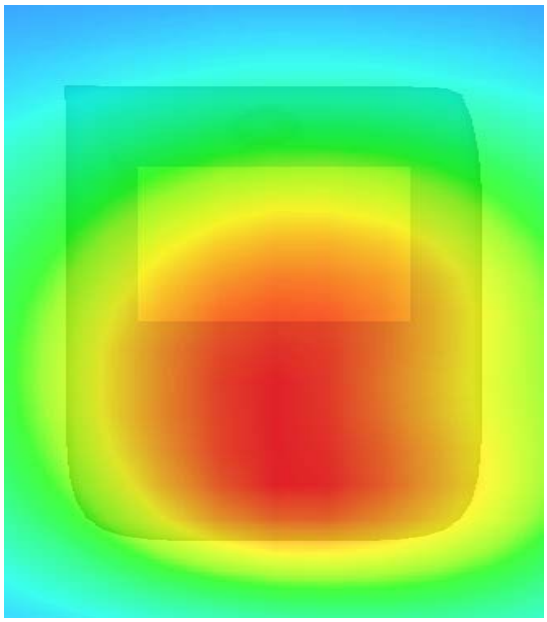
Maximum location: X=0.00, Y=-20.00

SAR 10g (W/Kg)	0.485426
SAR 1g (W/Kg)	0.700904

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7147	0.5117	0.3605	0.2546	0.1746	0.1222



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: 13/7/2011
Measurement duration: 9 minutes 21 seconds

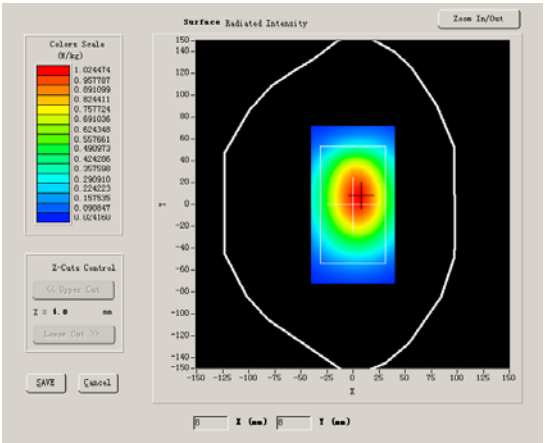
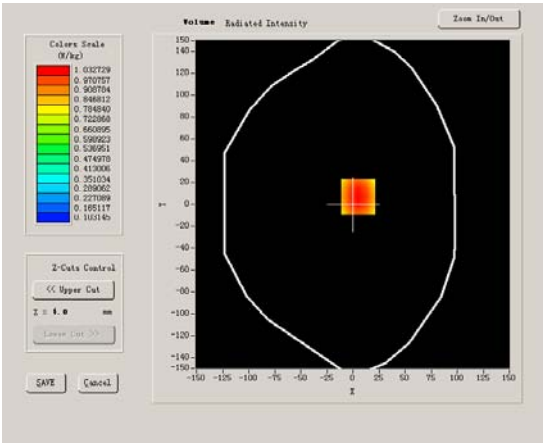
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA850
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 (%)	-0.930000
Ambient Temperature:	23.6°C
Liquid Temperature:	23.4°C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

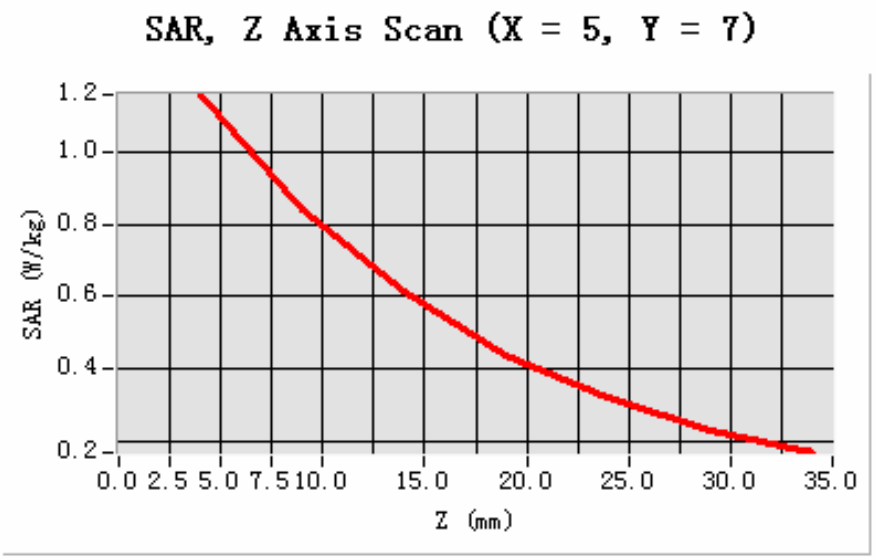
SURFACE SAR	VOLUME SAR
	

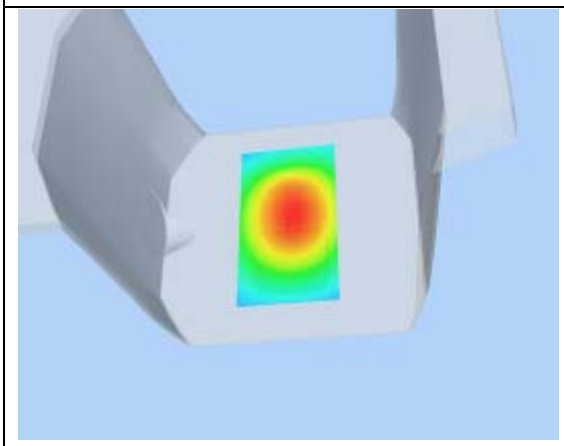
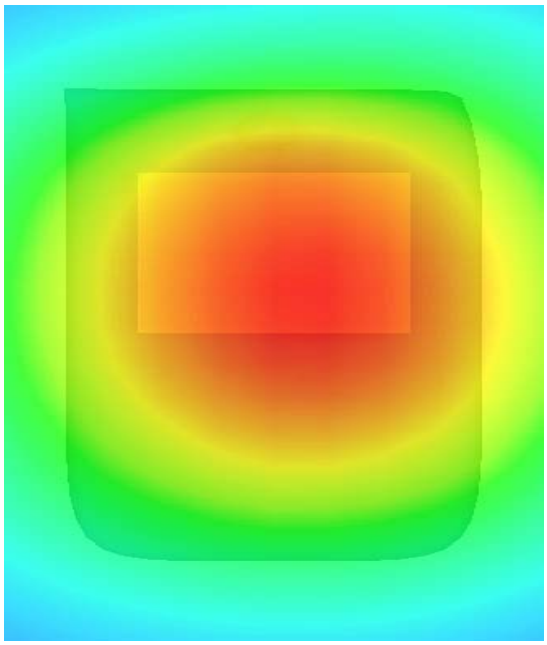
Maximum location: X=5.00, Y=7.00

SAR 10g (W/Kg)	0.786822
SAR 1g (W/Kg)	1.117510

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.1614	0.8448	0.6148	0.4378	0.3223	0.2292



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: 13/7/2011
Measurement duration: 9 minutes 20 seconds

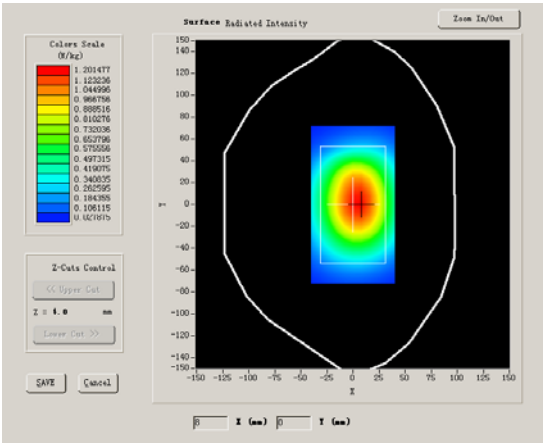
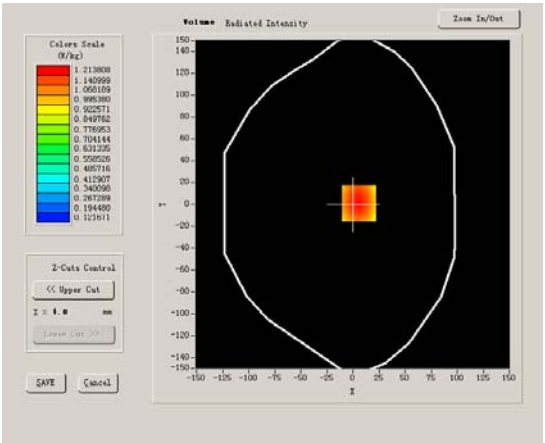
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA850
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 (%)	0.040000
Ambient Temperature:	23.6°C
Liquid Temperature:	23.4°C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

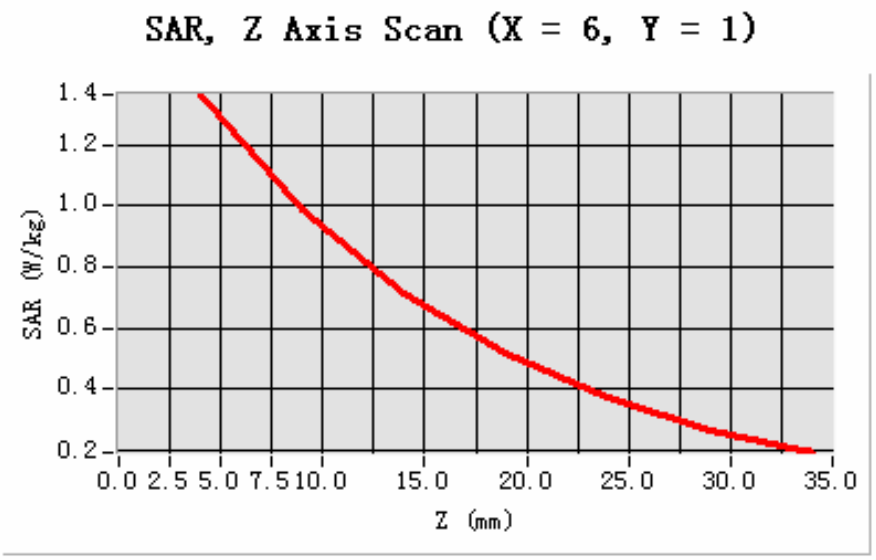
SURFACE SAR	VOLUME SAR
	

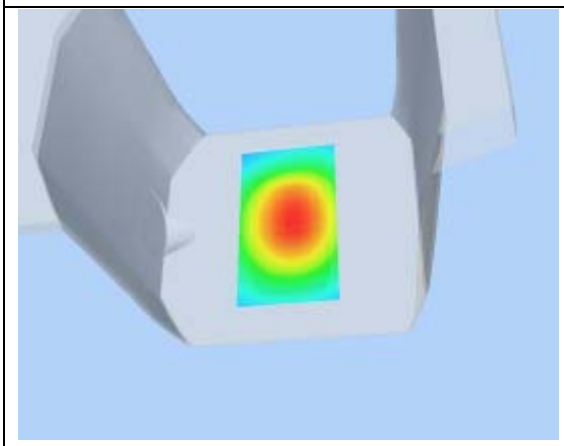
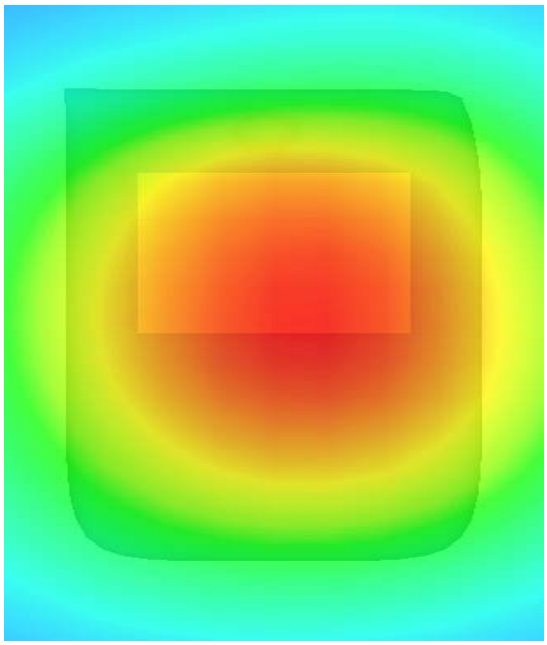
Maximum location: X=6.00, Y=1.00

SAR 10g (W/Kg)	0.920828
SAR 1g (W/Kg)	1.315156

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.3651	0.9867	0.7117	0.5181	0.3691	0.2636



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: 13/7/2011
Measurement duration: 9 minutes 18 seconds

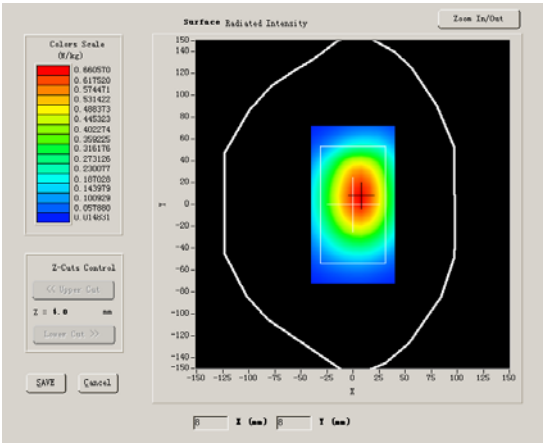
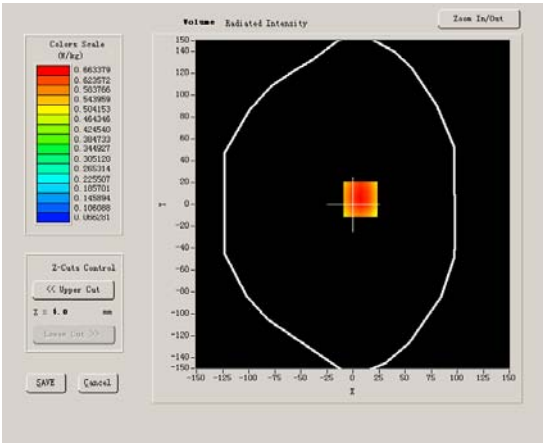
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA850
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 (%)	0.520000
Ambient Temperature:	23.6°C
Liquid Temperature:	23.4°C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

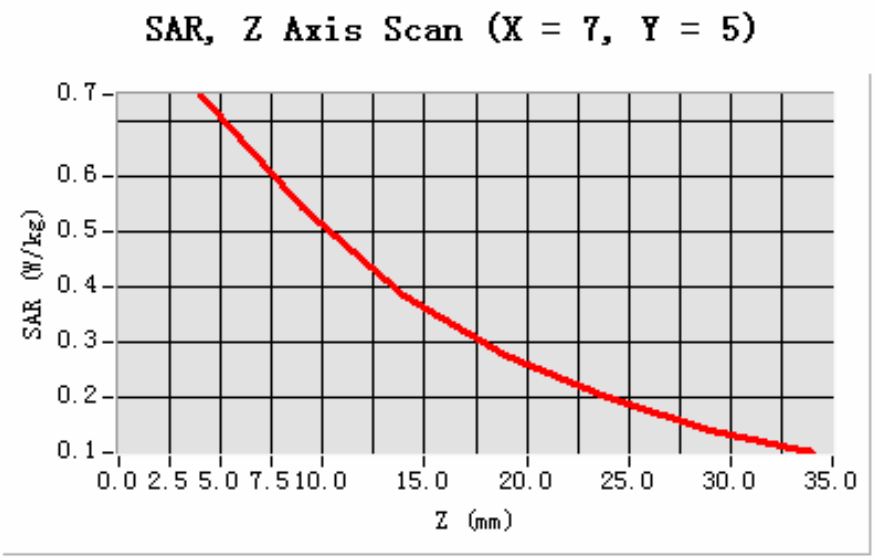
SURFACE SAR	VOLUME SAR
	

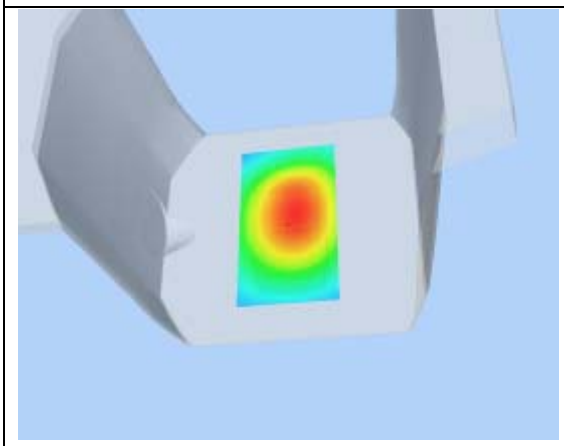
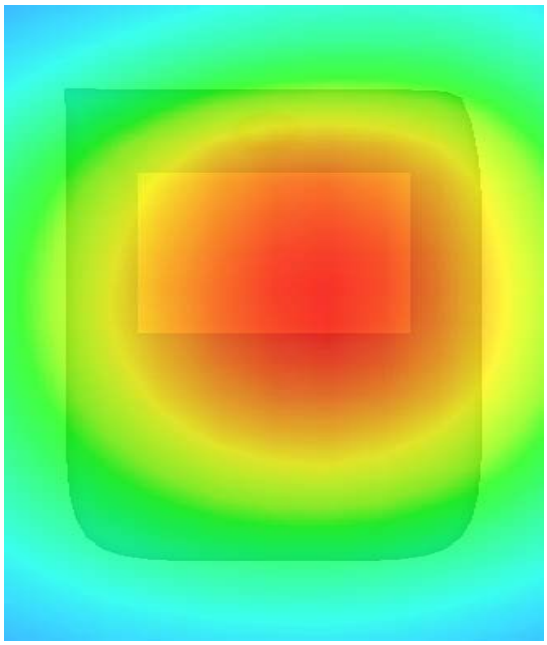
Maximum location: X=7.00, Y=5.00

SAR 10g (W/Kg)	0.501966
SAR 1g (W/Kg)	0.717867

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7460	0.5430	0.3861	0.2786	0.1996	0.1433



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: 13/7/2011
Measurement duration: 9 minutes 17 seconds

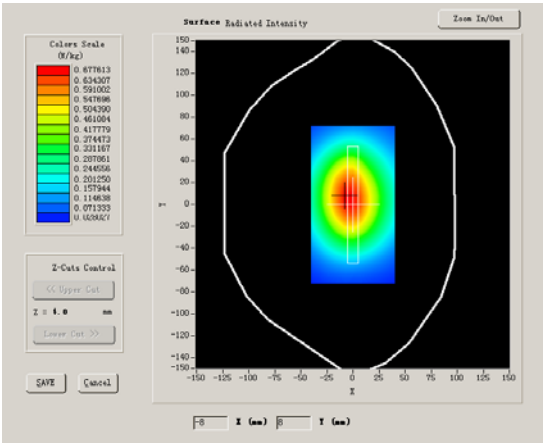
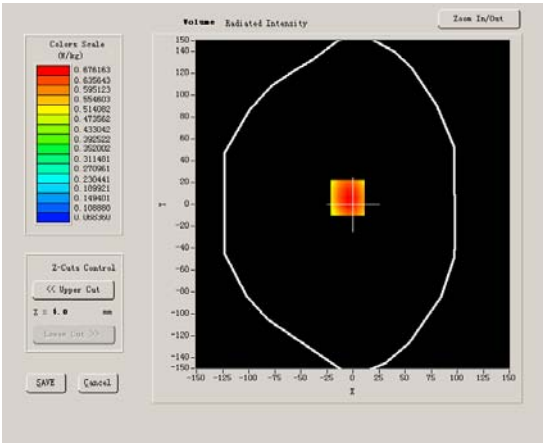
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA850
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 (%)	-1.410000
Ambient Temperature:	23.6°C
Liquid Temperature:	23.4°C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

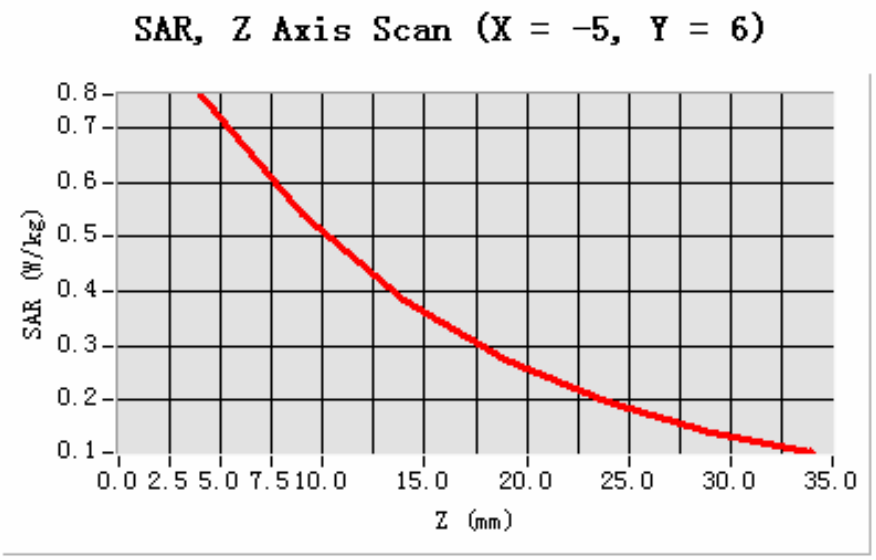
SURFACE SAR	VOLUME SAR
	

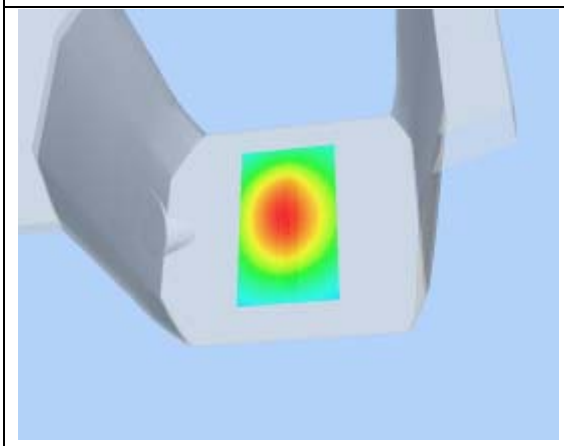
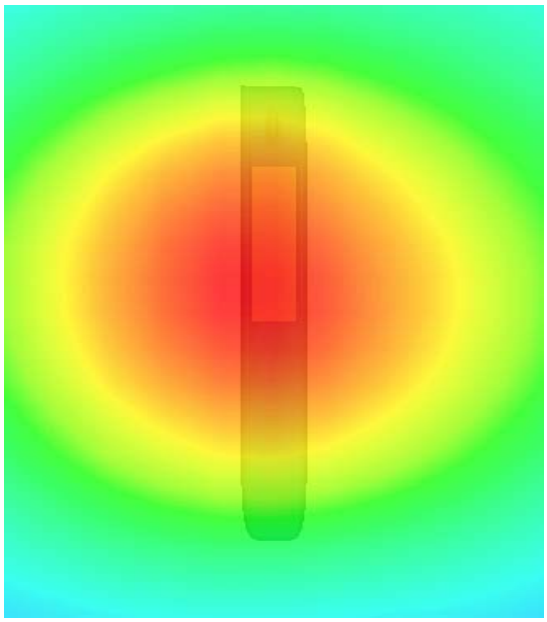
Maximum location: X=-5.00, Y=6.00

SAR 10g (W/Kg)	0.507229
SAR 1g (W/Kg)	0.735493

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7604	0.5399	0.3850	0.2741	0.1967	0.1423



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: 13/7/2011
Measurement duration: 9 minutes 11 seconds

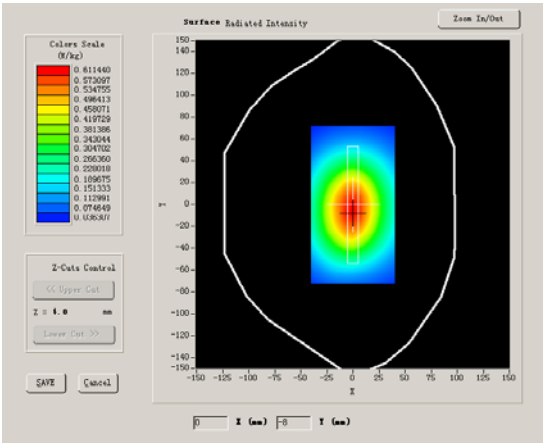
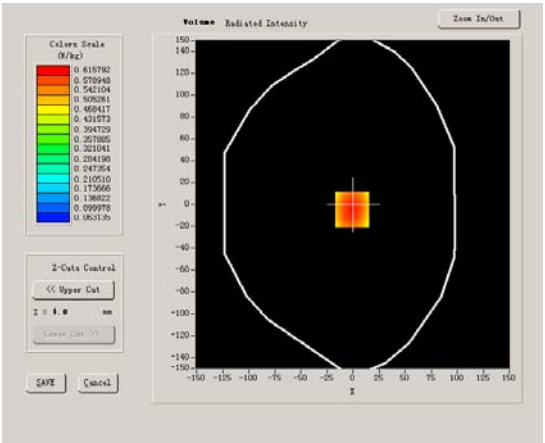
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA850
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 (%)	-0.970000
Ambient Temperature:	23.6°C
Liquid Temperature:	23.4°C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

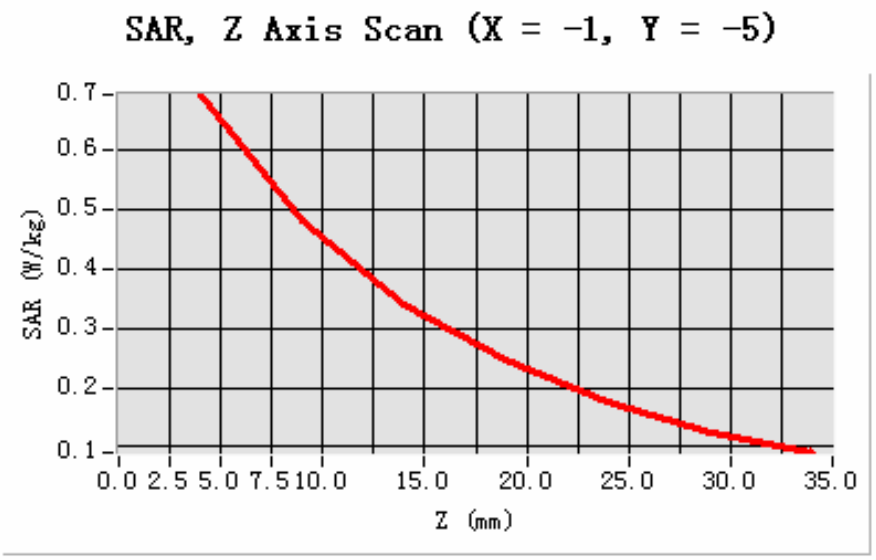
SURFACE SAR	VOLUME SAR
	

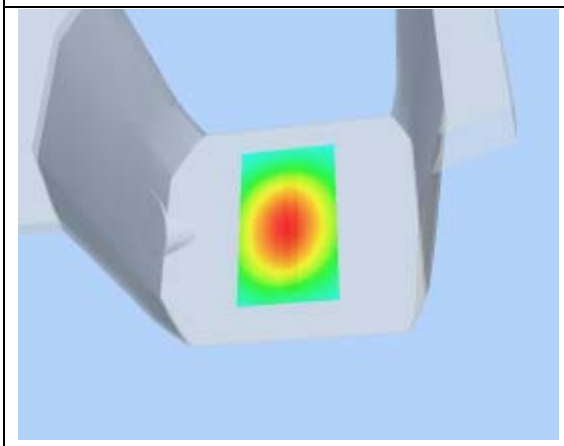
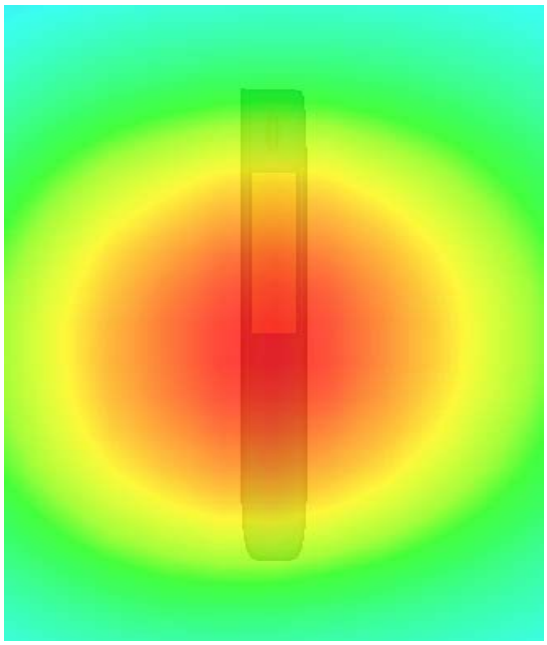
Maximum location: X=-1.00, Y=-5.00

SAR 10g (W/Kg)	0.456210
SAR 1g (W/Kg)	0.666412

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.6925	0.4802	0.3391	0.2451	0.1749	0.1255



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: 13/7/2011
Measurement duration: 9 minutes 19 seconds

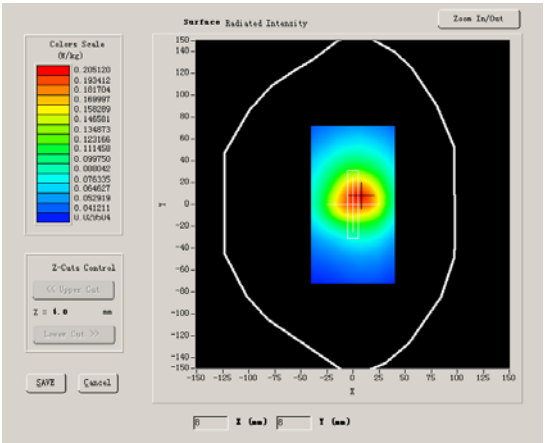
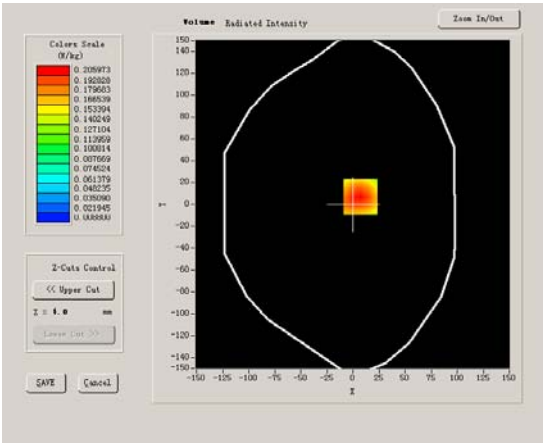
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	CDMA850
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 (%)	-1.360000
Ambient Temperature:	23.6°C
Liquid Temperature:	23.4°C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

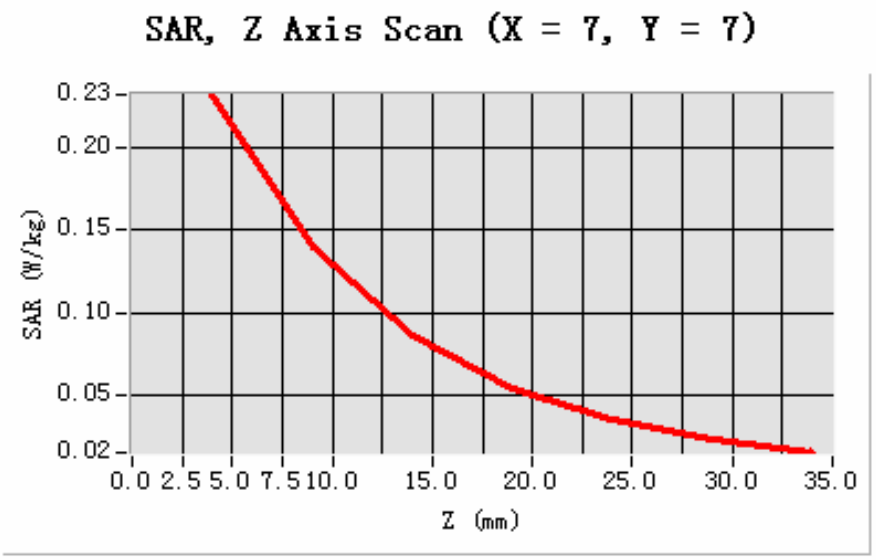
SURFACE SAR	VOLUME SAR
	

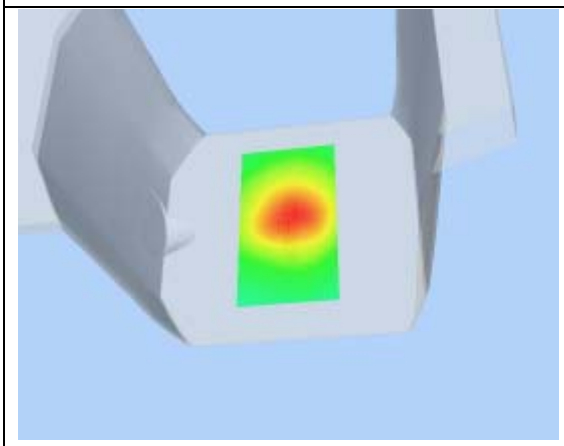
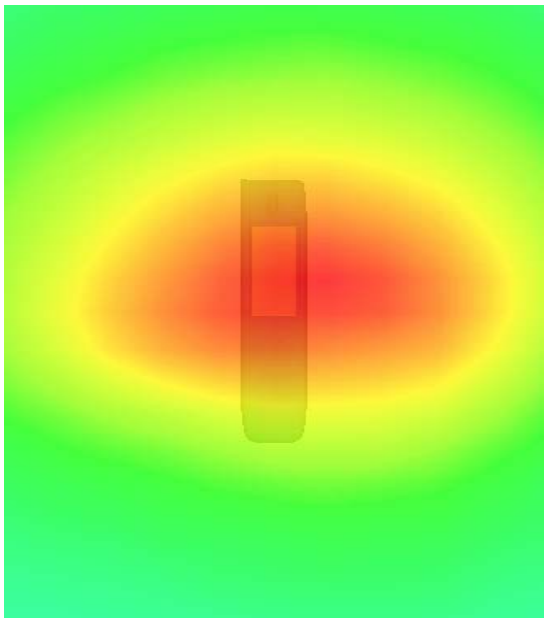
Maximum location: X=7.00, Y=7.00

SAR 10g (W/Kg)	0.139478
SAR 1g (W/Kg)	0.224720

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2316	0.1396	0.0857	0.0543	0.0346	0.0230



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: 13/7/2011
Measurement duration: 9 minutes 24 seconds

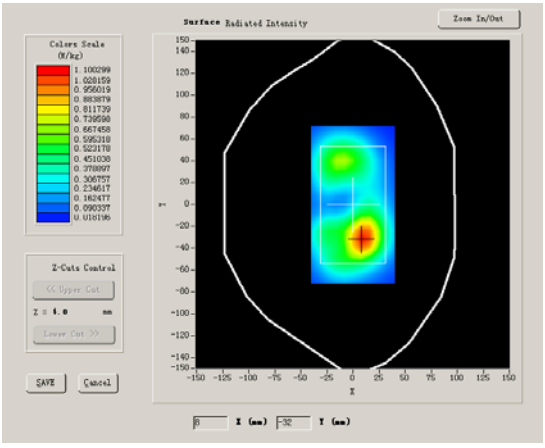
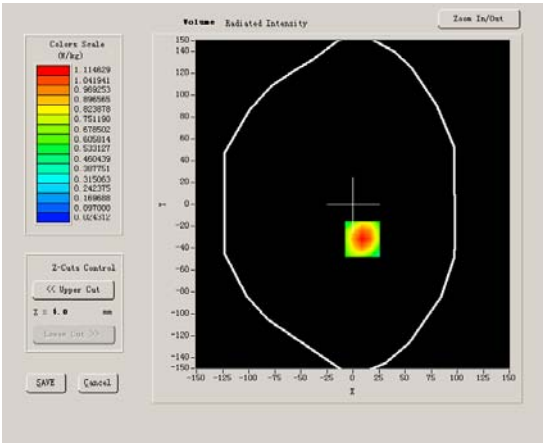
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
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 (%)	0.770000
Ambient Temperature:	23.2°C
Liquid Temperature:	22.9°C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

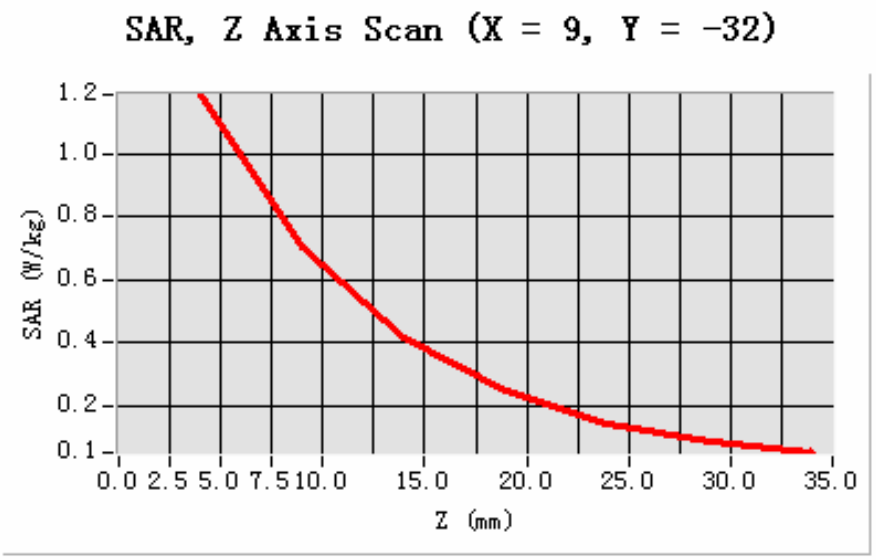
SURFACE SAR	VOLUME SAR
	

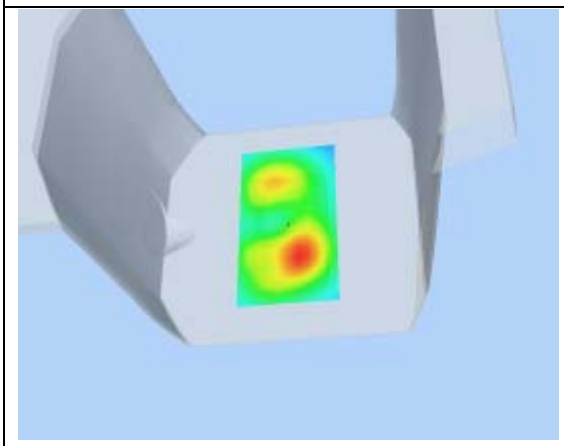
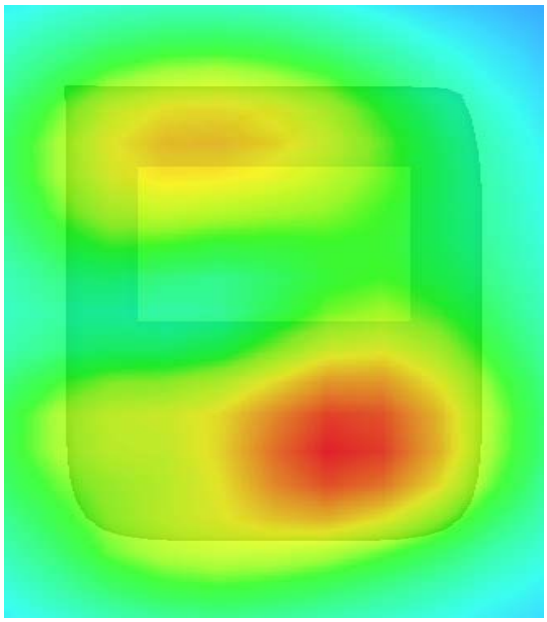
Maximum location: X=9.00, Y=-32.00

SAR 10g (W/Kg)	0.645758
SAR 1g (W/Kg)	1.124385

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.1869	0.7029	0.4196	0.2472	0.1442	0.0863



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: 13/7/2011
Measurement duration: 9 minutes 10 seconds

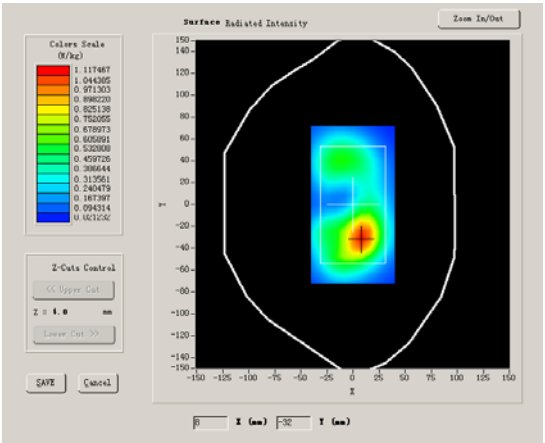
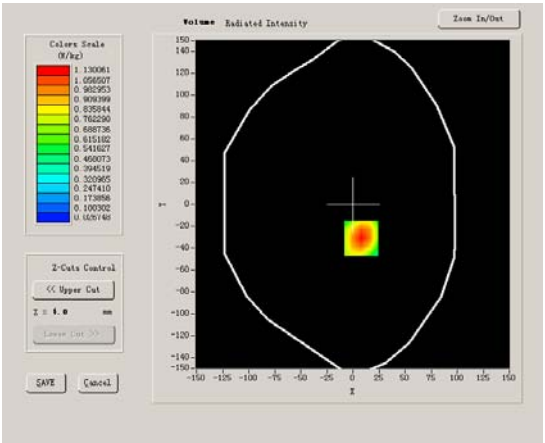
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
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 (%)	-0.840000
Ambient Temperature:	23.2°C
Liquid Temperature:	22.9°C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

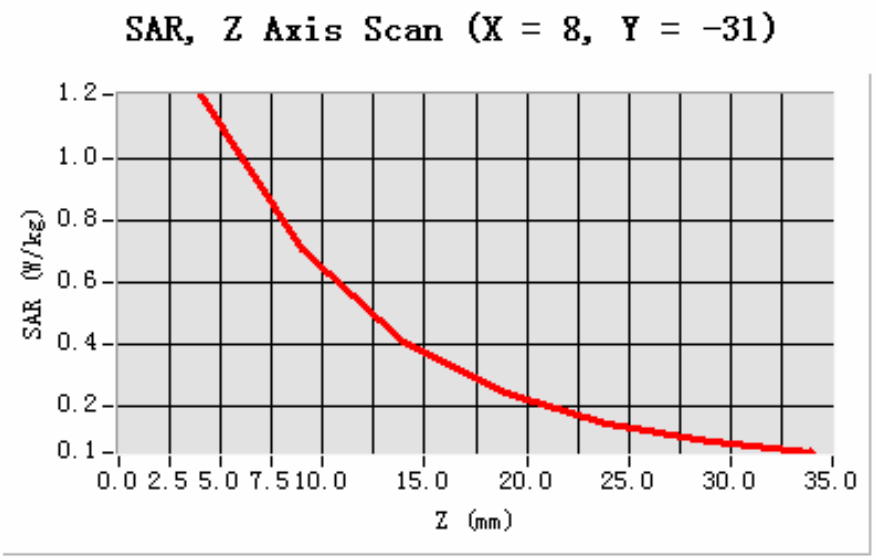
SURFACE SAR	VOLUME SAR
	

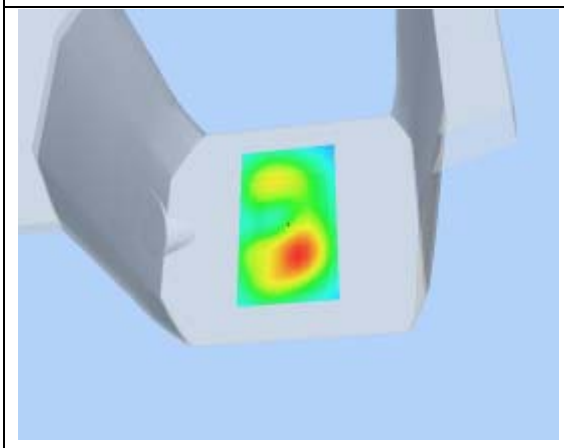
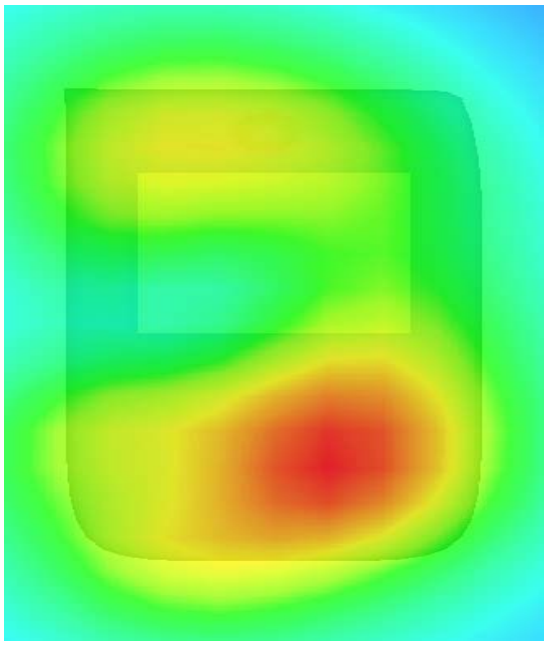
Maximum location: X=8.00, Y=-31.00

SAR 10g (W/Kg)	0.654983
SAR 1g (W/Kg)	1.136634

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.2033	0.7071	0.4102	0.2435	0.1430	0.0865



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: 13/7/2011
Measurement duration: 9 minutes 19 seconds

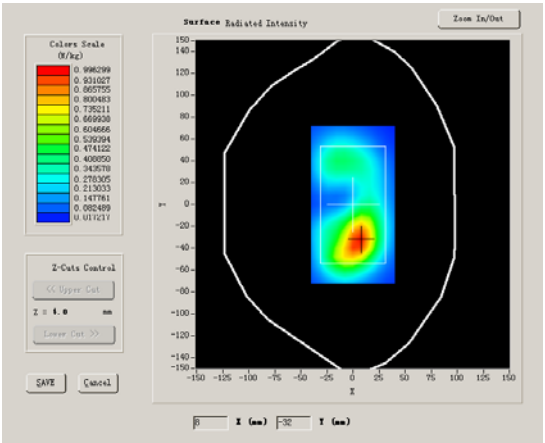
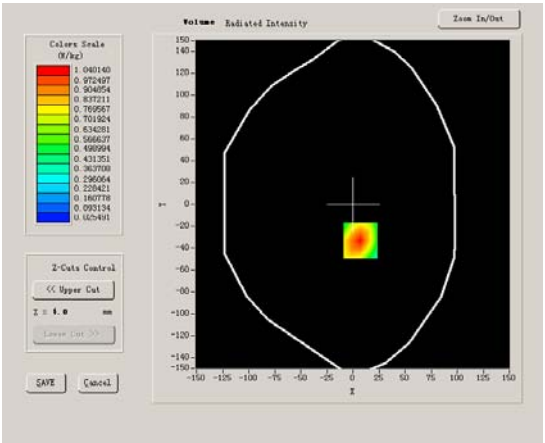
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
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 (%)	4.710000
Ambient Temperature:	23.2°C
Liquid Temperature:	22.9°C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

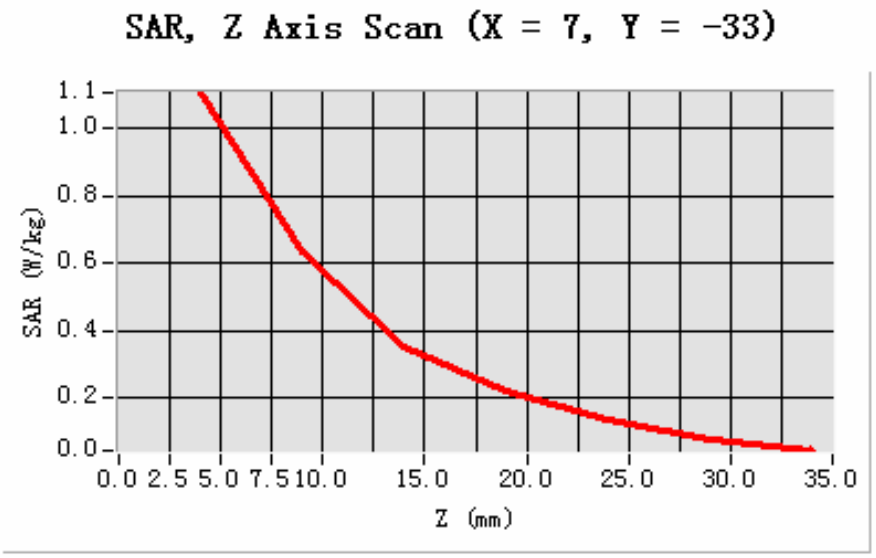
SURFACE SAR	VOLUME SAR
	

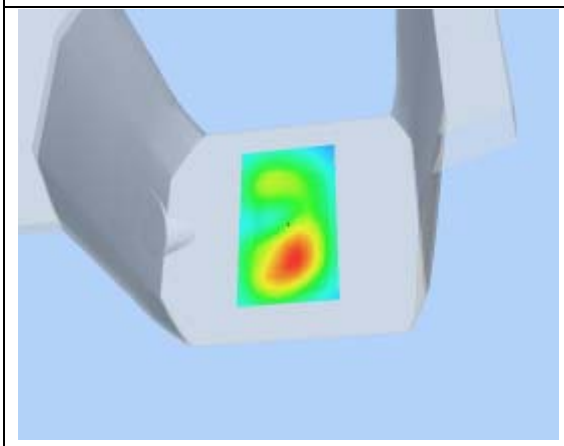
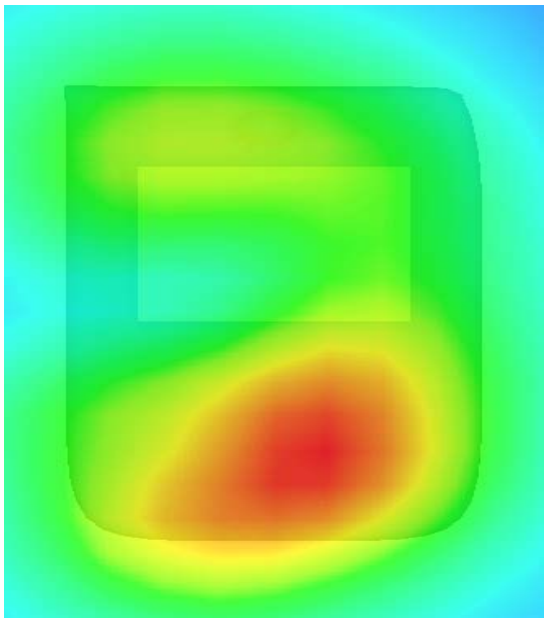
Maximum location: X=7.00, Y=-33.00

SAR 10g (W/Kg)	0.590228
SAR 1g (W/Kg)	1.041151

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.1076	0.6380	0.3525	0.2185	0.1355	0.0753



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: 13/7/2011
Measurement duration: 9 minutes 24 seconds

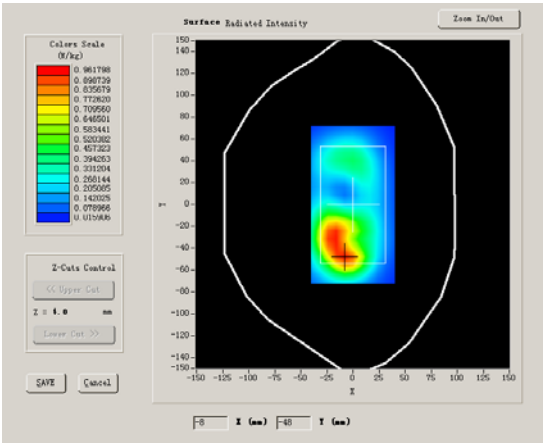
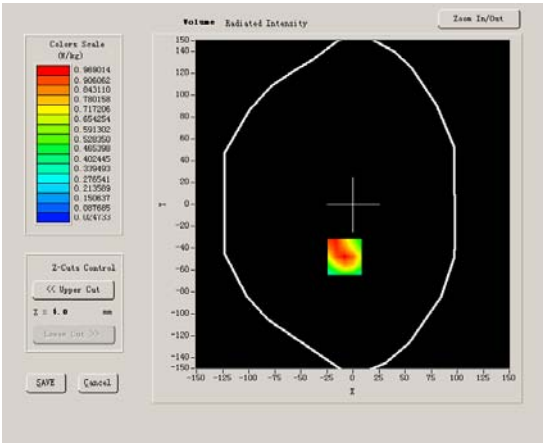
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
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 (%)	0.250000
Ambient Temperature:	23.2°C
Liquid Temperature:	22.9°C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

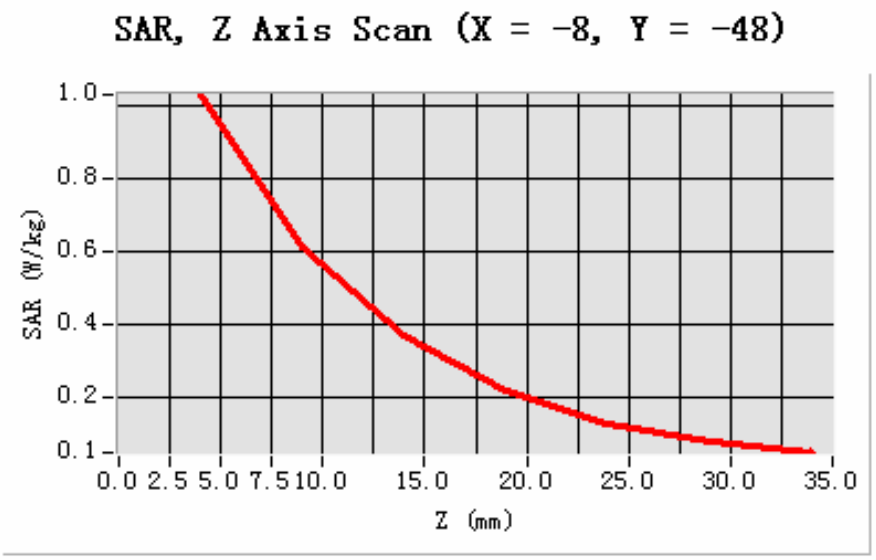
SURFACE SAR	VOLUME SAR
	

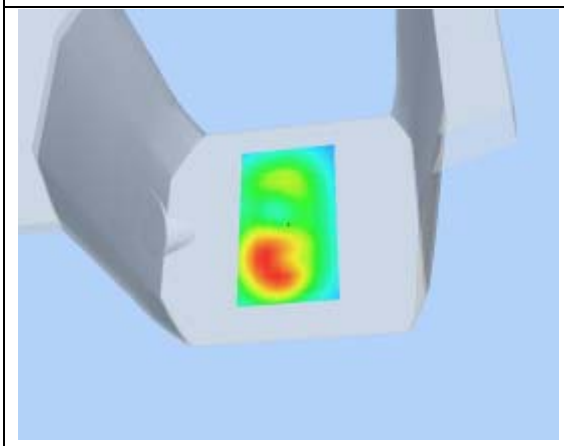
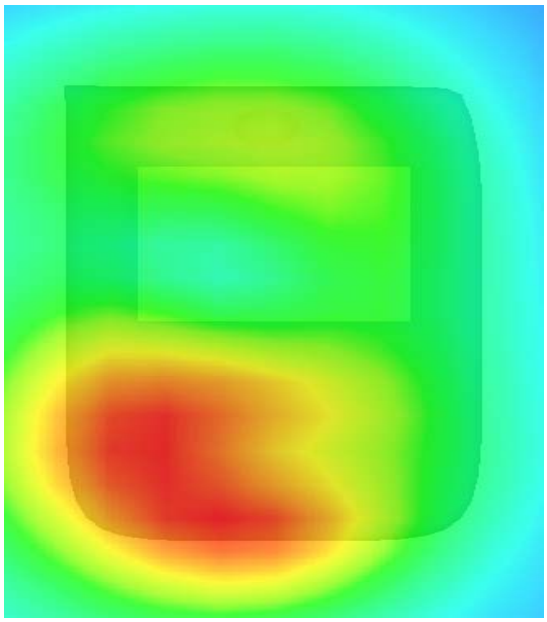
Maximum location: X=-8.00, Y=-48.00

SAR 10g (W/Kg)	0.567690
SAR 1g (W/Kg)	0.972899

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.0318	0.6113	0.3725	0.2217	0.1305	0.0801



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: 13/7/2011
Measurement duration: 9 minutes 16 seconds

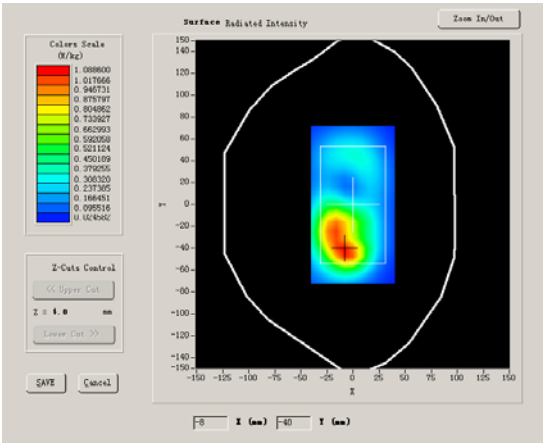
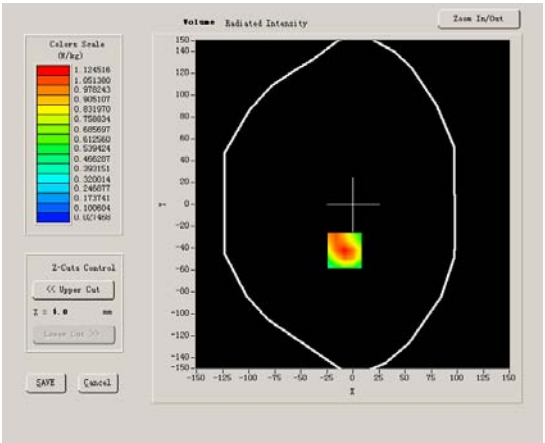
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
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 (%)	-0.810000
Ambient Temperature:	23.2°C
Liquid Temperature:	22.9°C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

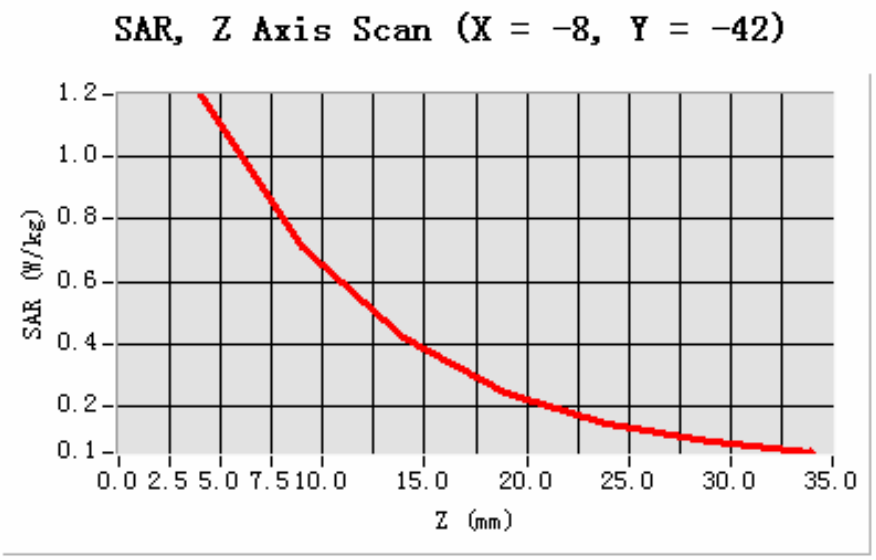
SURFACE SAR	VOLUME SAR
	

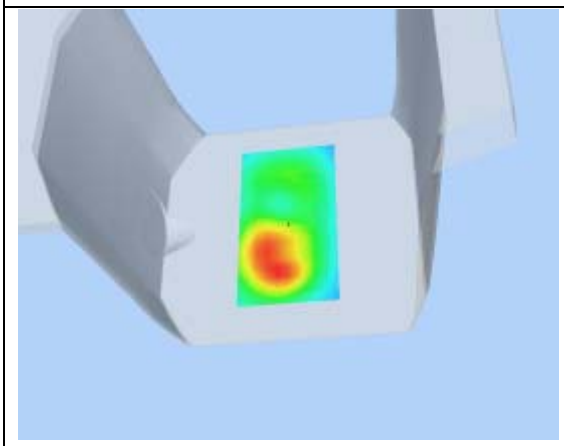
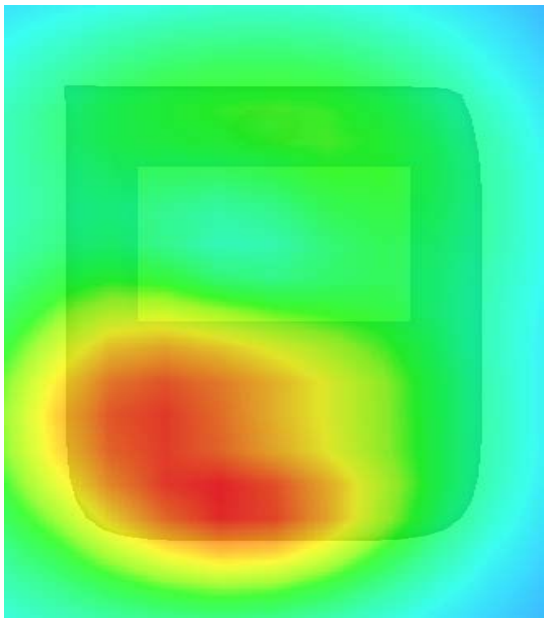
Maximum location: X=-8.00, Y=-42.00

SAR 10g (W/Kg)	0.642230
SAR 1g (W/Kg)	1.126975

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.1974	0.7082	0.4240	0.2435	0.1446	0.0890



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: 13/7/2011
Measurement duration: 9 minutes 16 seconds

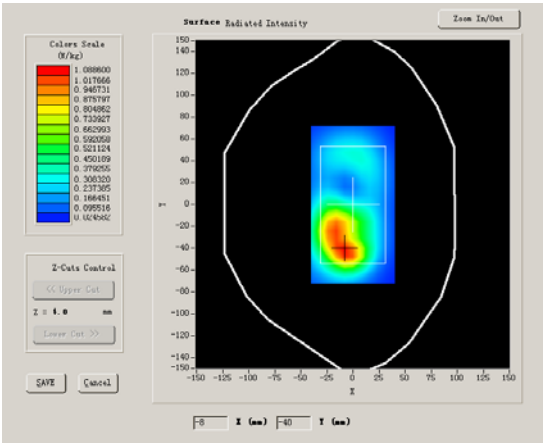
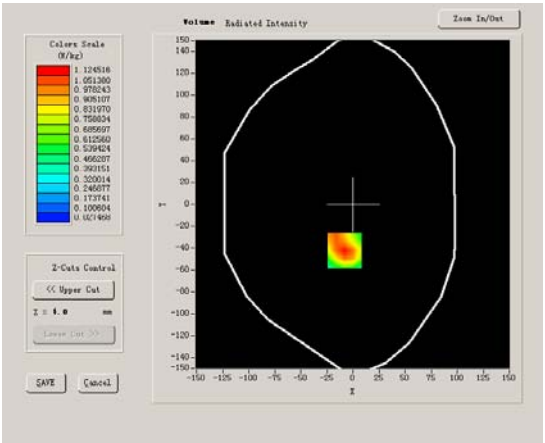
A. Experimental conditions.

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

B. SAR Measurement Results

Middle Band SAR (Channel 1175):

Frequency (MHz)	1908.750000
Relative permittivity (real part)	51.903000
Relative permittivity	14.817600
Conductivity (S/m)	1.547616
Variation (%)	-0.810000
Ambient Temperature:	23.2°C
Liquid Temperature:	22.9°C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

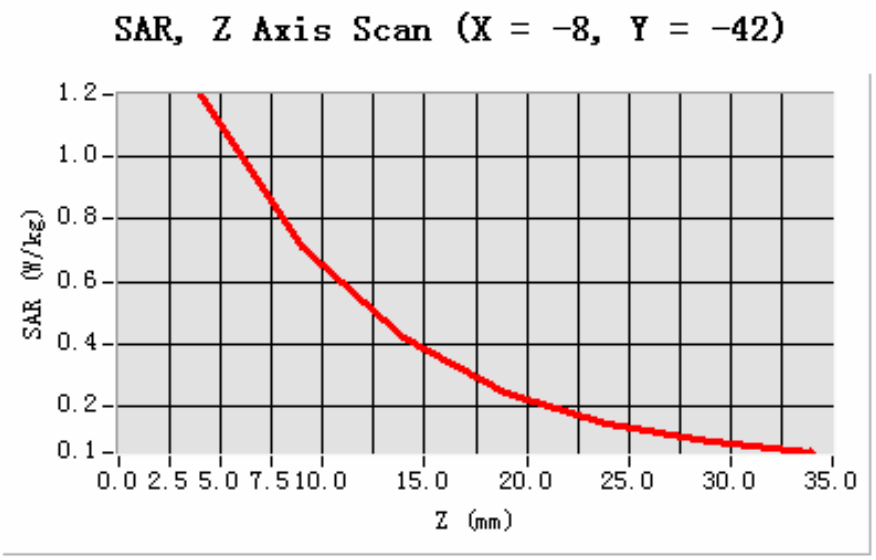
SURFACE SAR	VOLUME SAR
	

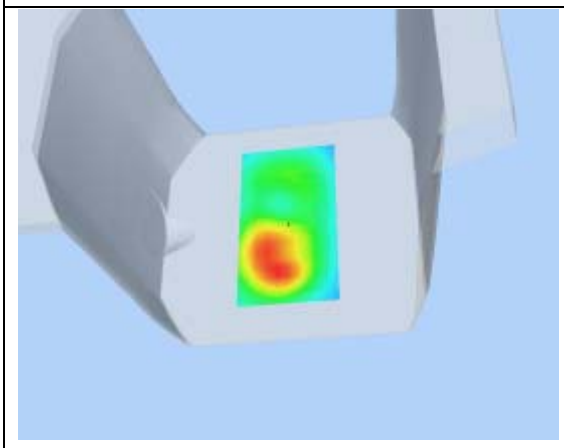
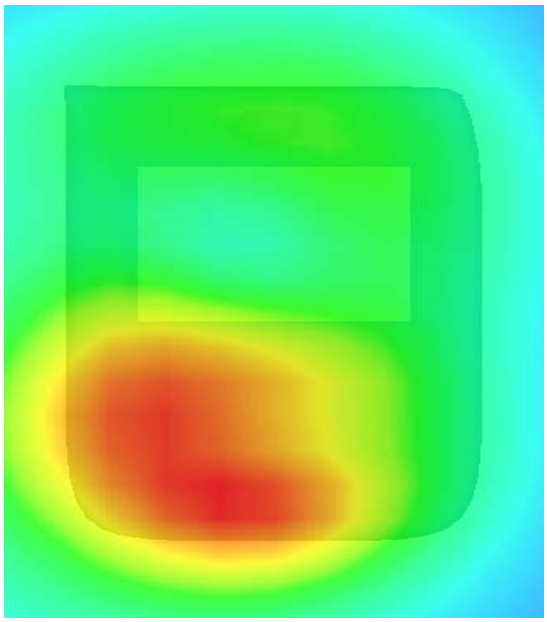
Maximum location: X=-8.00, Y=-42.00

SAR 10g (W/Kg)	0.587565
SAR 1g (W/Kg)	0.975461

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.1974	0.7082	0.4240	0.2435	0.1446	0.0890



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: 13/7/2011
Measurement duration: 9 minutes 20 seconds

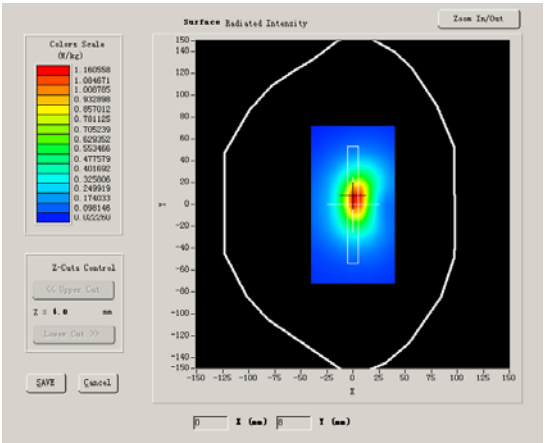
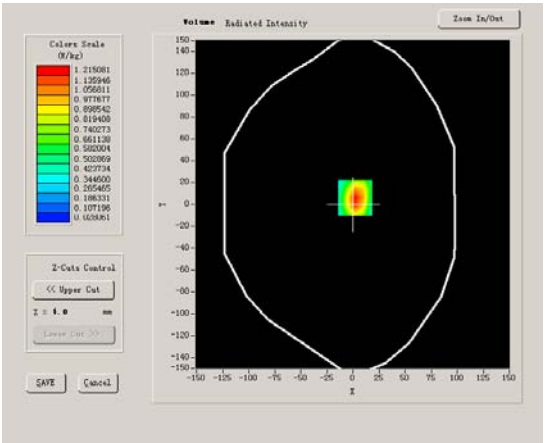
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
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 (%)	-0.160000
Ambient Temperature:	23.2°C
Liquid Temperature:	22.9°C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

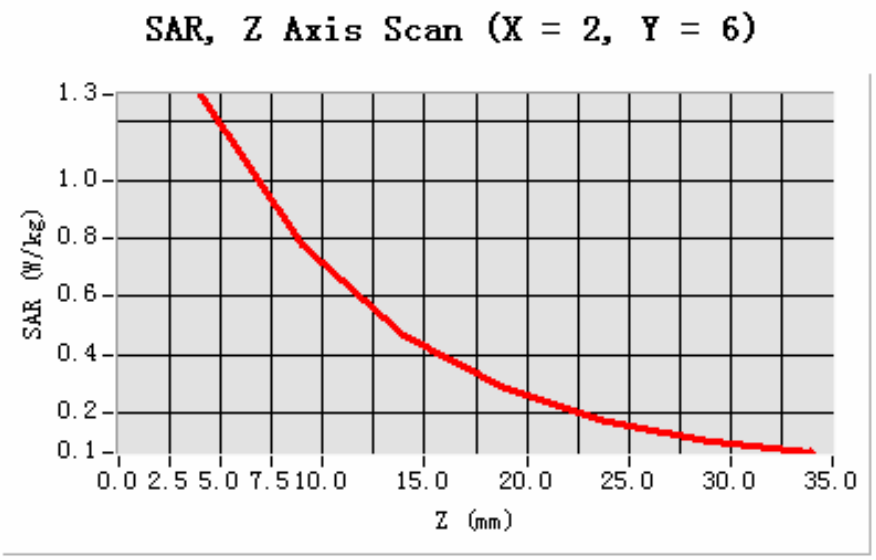
SURFACE SAR	VOLUME SAR
	

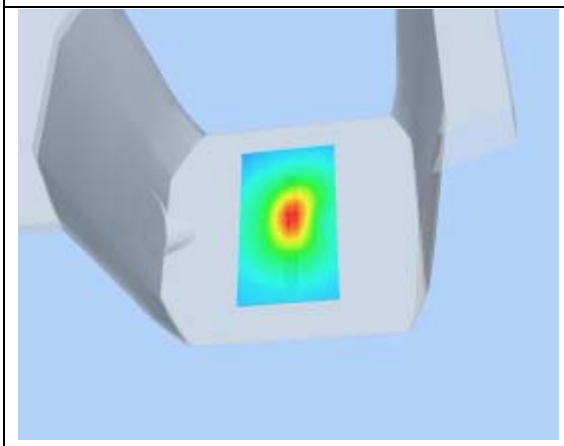
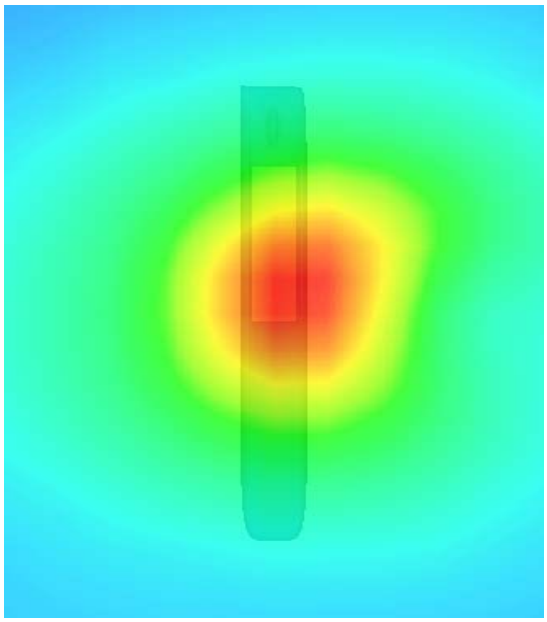
Maximum location: X=2.00, Y=6.00

SAR 10g (W/Kg)	0.667528
SAR 1g (W/Kg)	1.207377

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.2938	0.7769	0.4668	0.2793	0.1678	0.1033



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: 13/7/2011
Measurement duration: 9 minutes 22 seconds

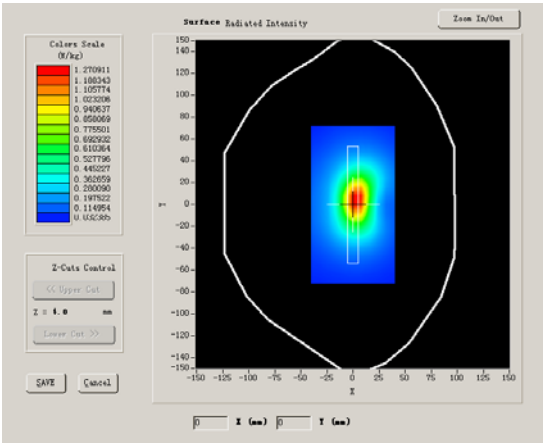
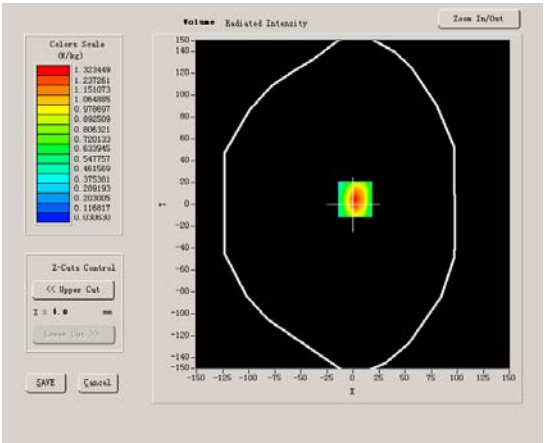
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
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 (%)	-0.810000
Ambient Temperature:	23.2°C
Liquid Temperature:	22.9°C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

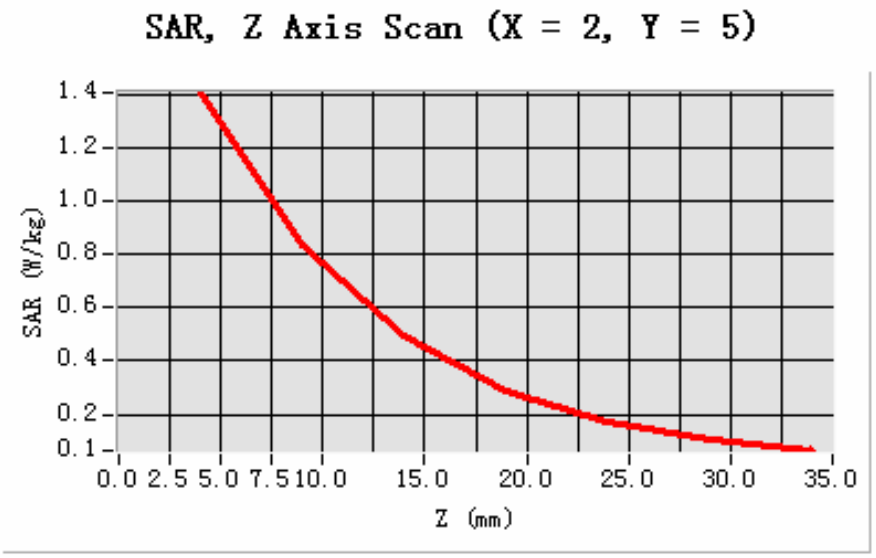
SURFACE SAR	VOLUME SAR
	

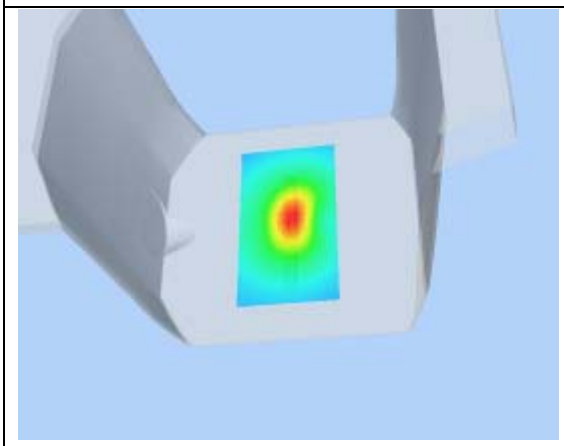
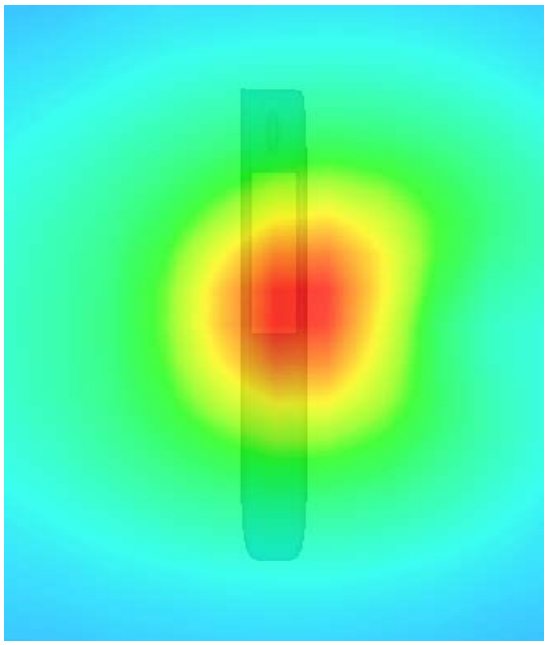
Maximum location: X=2.00, Y=5.00

SAR 10g (W/Kg)	0.721438
SAR 1g (W/Kg)	1.309126

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.4092	0.8364	0.4984	0.2915	0.1730	0.1054



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: 13/7/2011
Measurement duration: 9 minutes 7 seconds

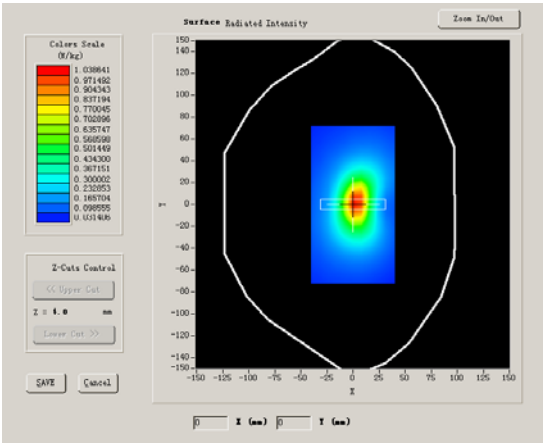
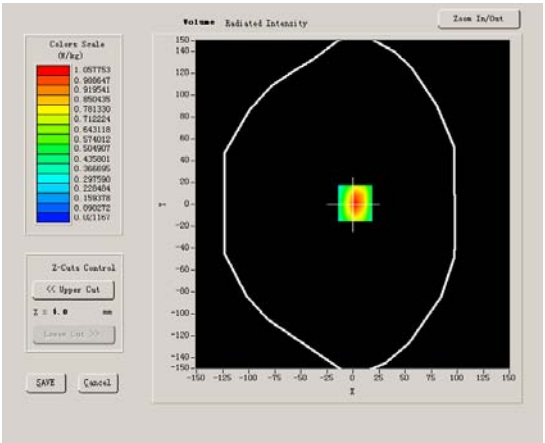
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
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 (%)	-1.690000
Ambient Temperature:	23.2°C
Liquid Temperature:	22.9°C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

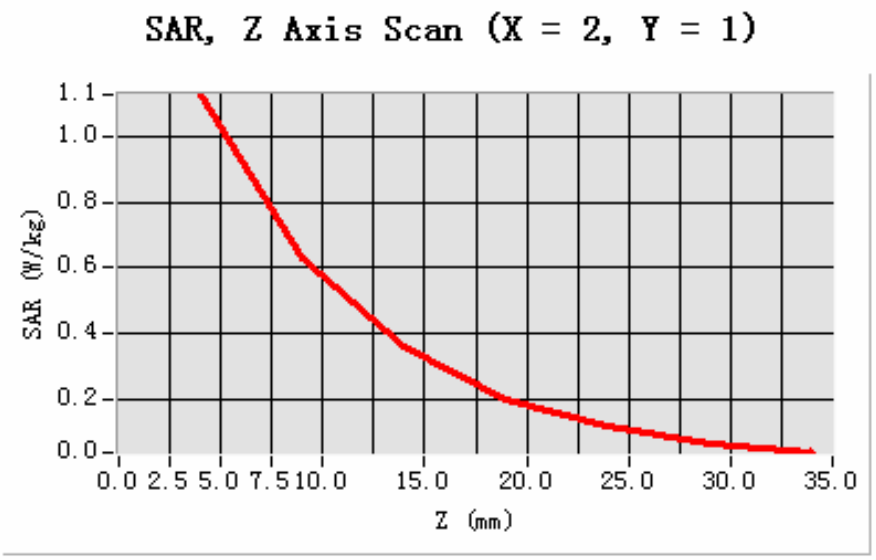
SURFACE SAR	VOLUME SAR
	

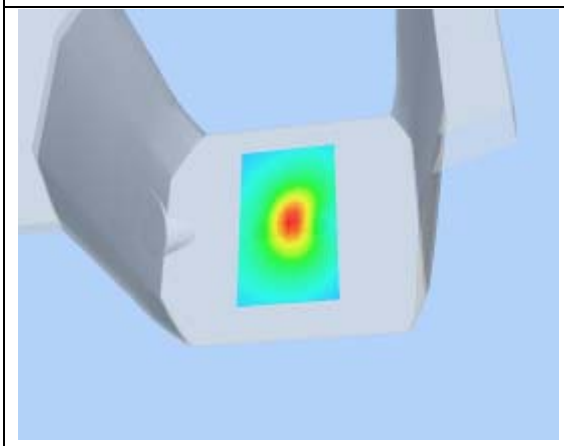
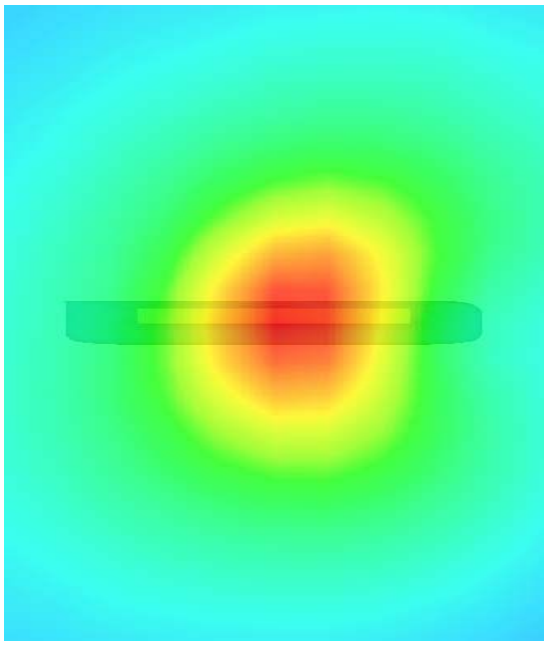
Maximum location: X=2.00, Y=1.00

SAR 10g (W/Kg)	0.559470
SAR 1g (W/Kg)	1.046613

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.1263	0.6309	0.3581	0.2011	0.1160	0.0669



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: 13/7/2011
Measurement duration: 9 minutes 17 seconds

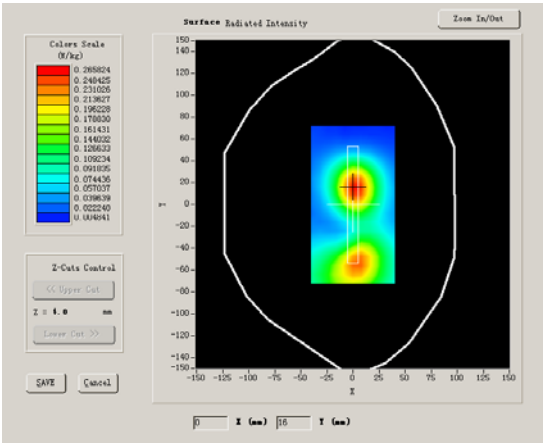
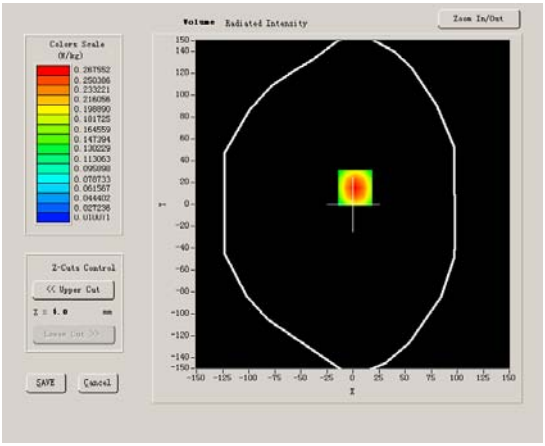
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
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 (%)	0.190000
Ambient Temperature:	23.2°C
Liquid Temperature:	22.9°C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

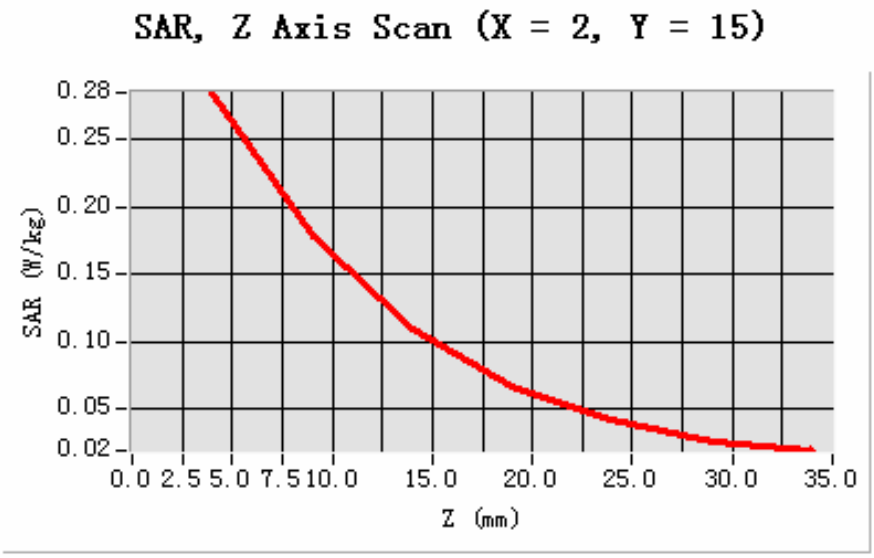
SURFACE SAR	VOLUME SAR
	

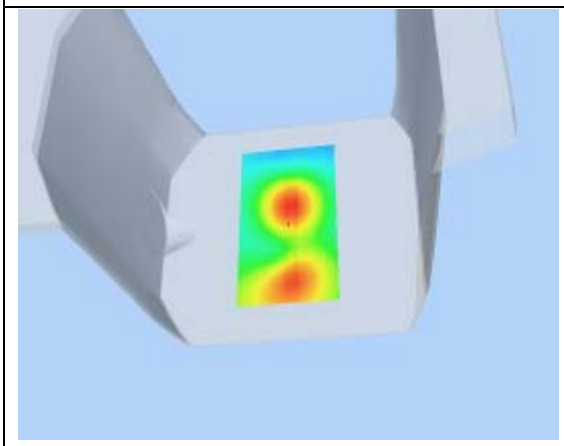
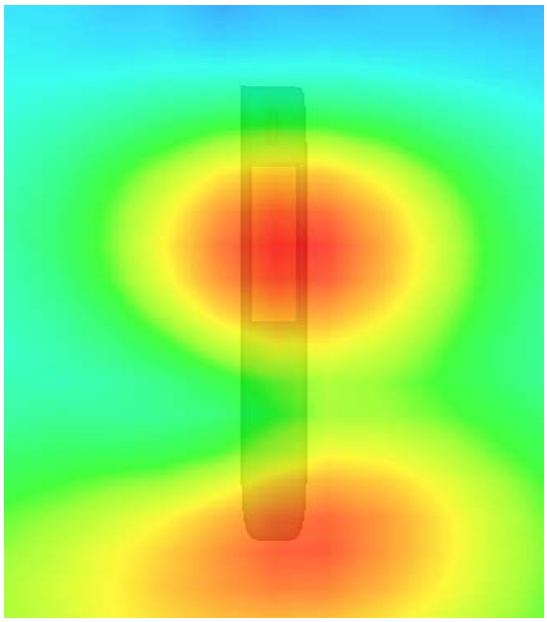
Maximum location: X=2.00, Y=15.00

SAR 10g (W/Kg)	0.161124
SAR 1g (W/Kg)	0.269521

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2849	0.1777	0.1103	0.0663	0.0432	0.0268



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: 13/7/2011
Measurement duration: 9 minutes 17 seconds

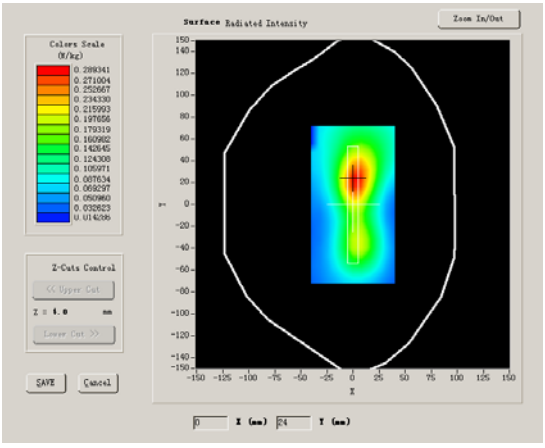
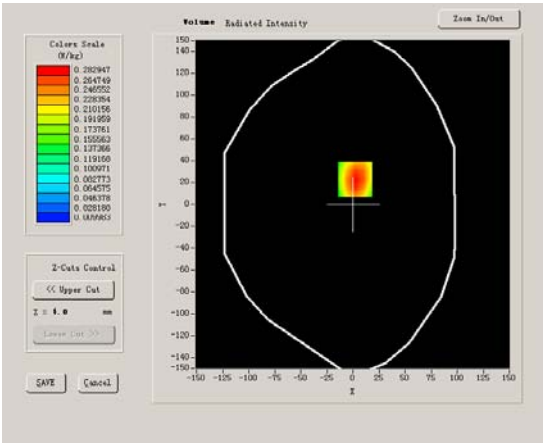
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
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 (%)	-2.430000
Ambient Temperature:	23.2°C
Liquid Temperature:	22.9°C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

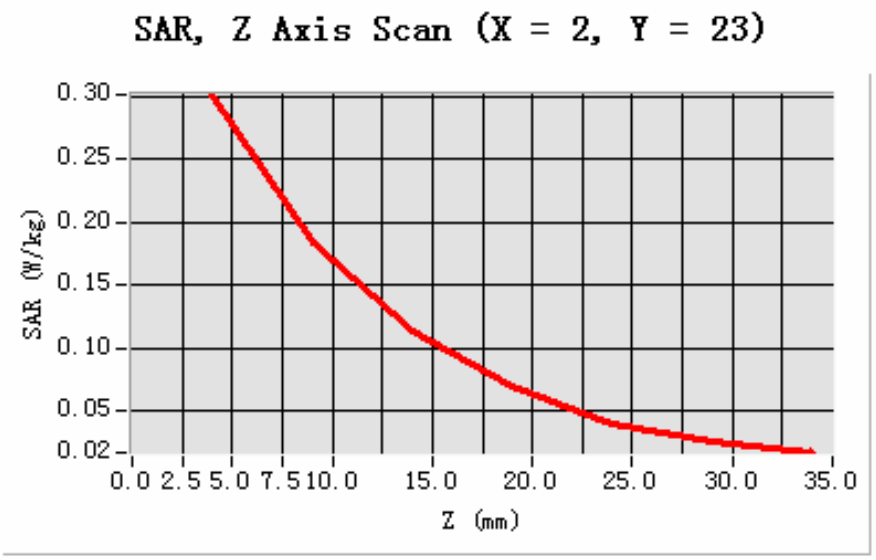
SURFACE SAR	VOLUME SAR
	

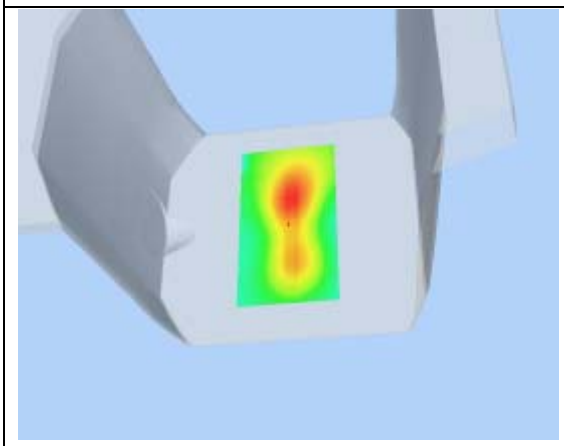
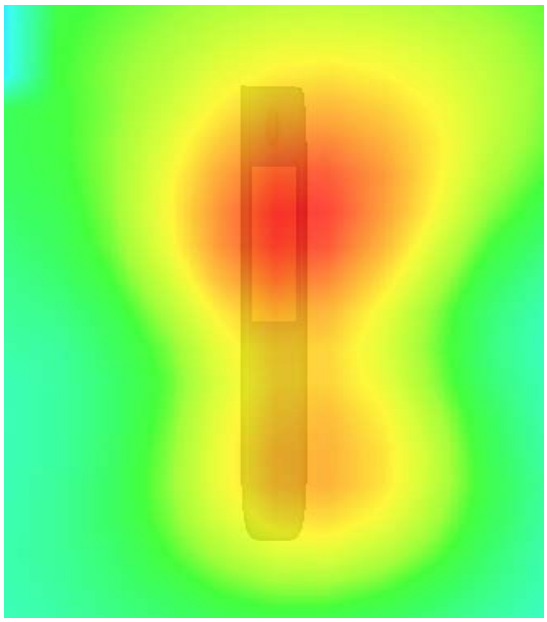
Maximum location: X=2.00, Y=23.00

SAR 10g (W/Kg)	0.172801
SAR 1g (W/Kg)	0.288534

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.3013	0.1828	0.1137	0.0699	0.0393	0.0256



3D sceen shot	Hot spot position
	

MEASUREMENT 21

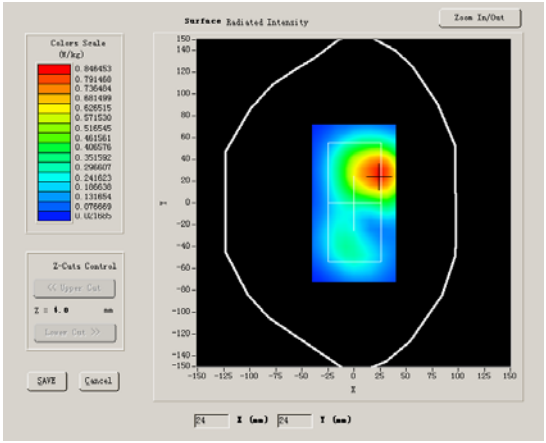
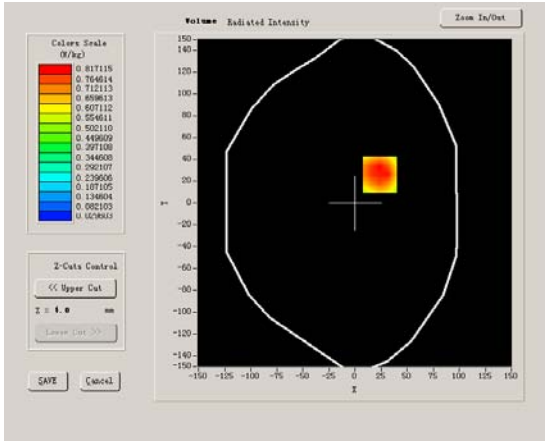
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 13/7/2011
Measurement duration: 9 minutes 7 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WIFI(802.11b)
Channels	Middle
Signal	OFDM

B. SAR Measurement Results

Frequency (MHz)	2412.000000
Relative permittivity (real part)	38.810001
Relative permittivity	13.500000
Conductivity (S/m)	1.827000
Variation (%)	-2.549988
Ambient Temperature:	22.5°C
Liquid Temperature:	22.3°C
ConvF:	39.772,33.946,37.835
Crest factor:	1:1

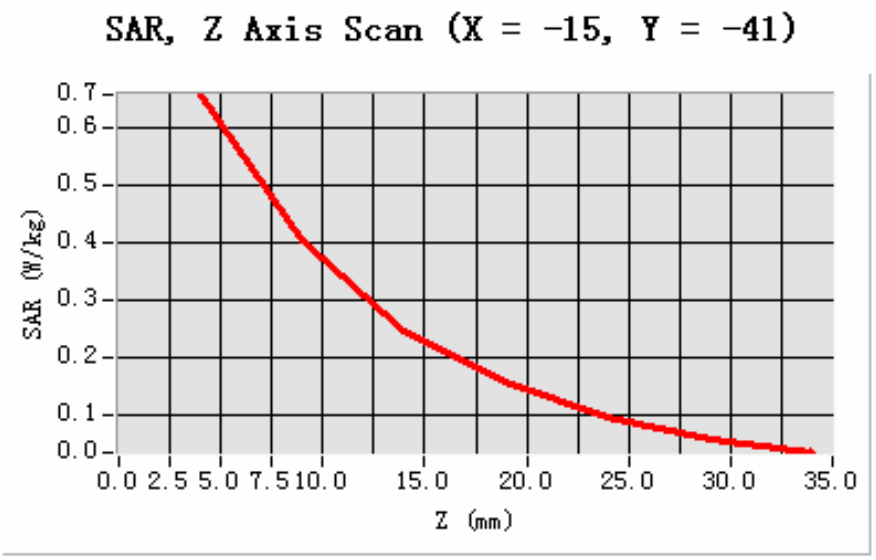
SURFACE SAR	VOLUME SAR
	

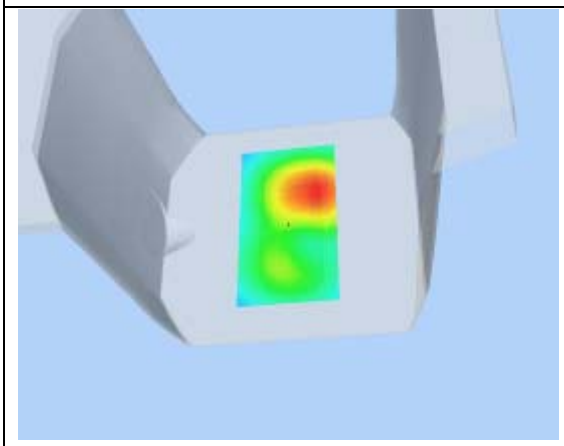
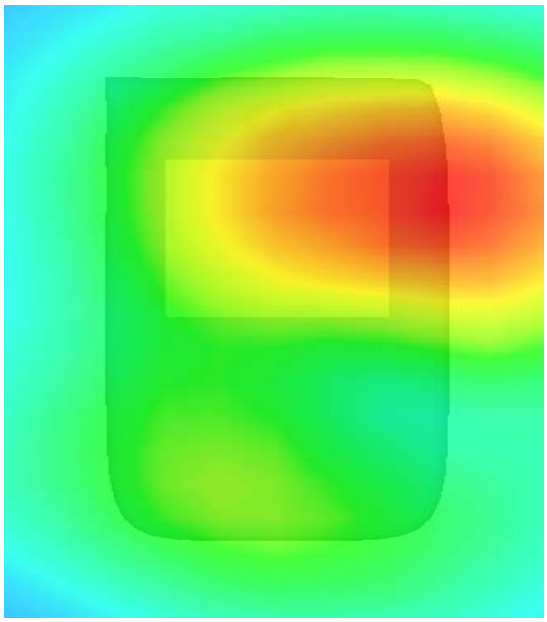
Maximum location: X=0.00, Y=-7.00

SAR 10g (W/Kg)	0.094844
SAR 1g (W/Kg)	0.175481

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.0531	0.0244	0.0136	0.0105	0.1412	0.2641



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: 13/7/2011
Measurement duration: 9 minutes 6 seconds

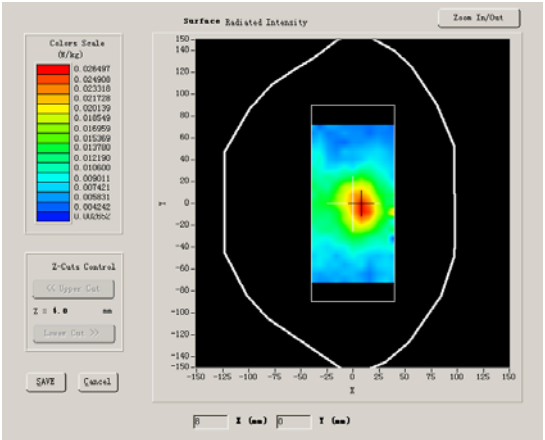
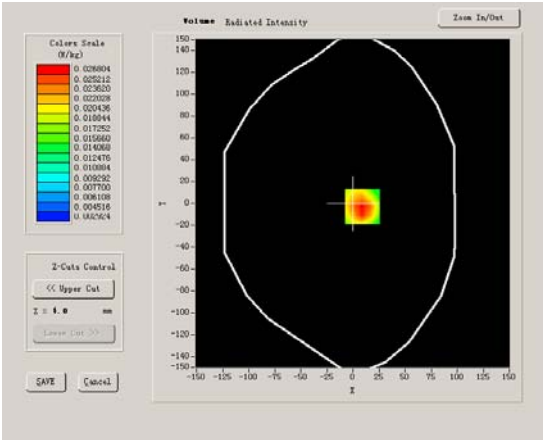
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WIFI(802.11b)
Channels	Middle
Signal	OFDM

B. SAR Measurement Results

Lower Band SAR (Channel Middle):

Frequency (MHz)	2412.000000
Relative permittivity (real part)	38.810001
Relative permittivity	13.500000
Conductivity (S/m)	1.827000
Ambient Temperature:	22.5°C
Liquid Temperature:	22.3°C
ConvF:	39.772,33.946,37.835
Crest factor:	1:1

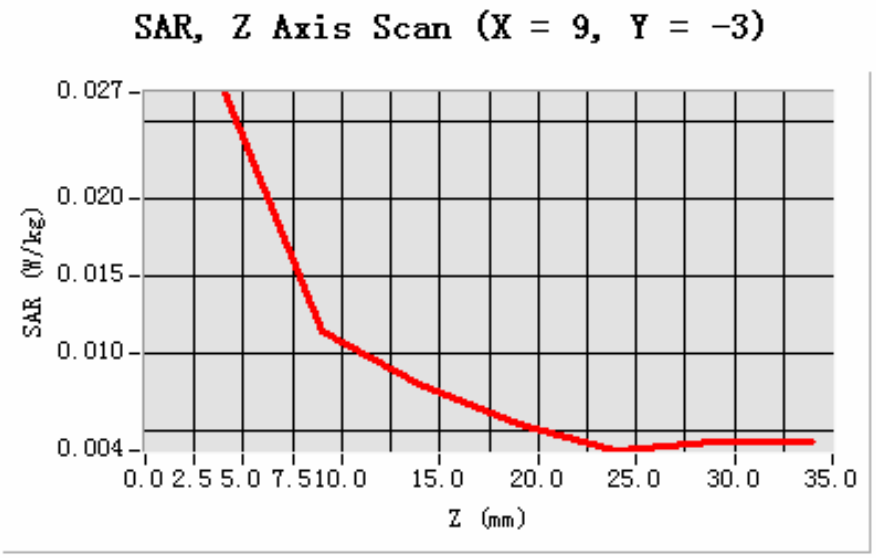
SURFACE SAR	VOLUME SAR
	

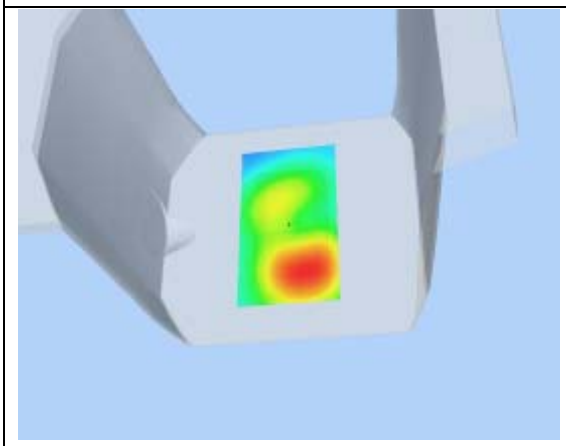
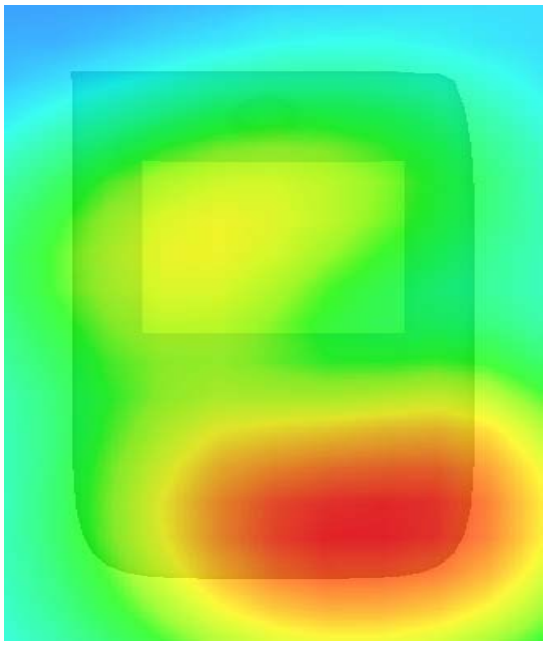
Maximum location: X=9.00, Y=-3.00

SAR 10g (W/Kg)	0.105113
SAR 1g (W/Kg)	0.187752

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.0268	0.0113	0.0080	0.0054	0.0037	0.0042



3D sceen shot	Hot spot position
	

MEASUREMENT 23

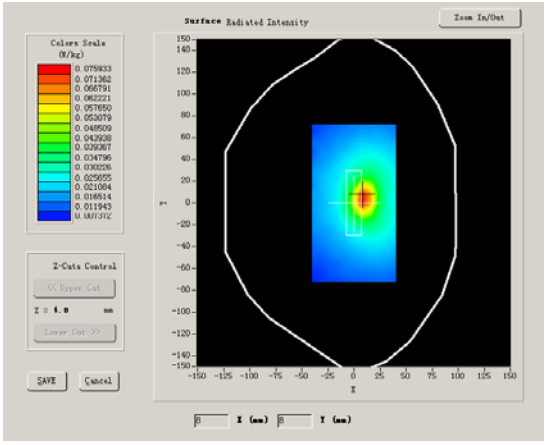
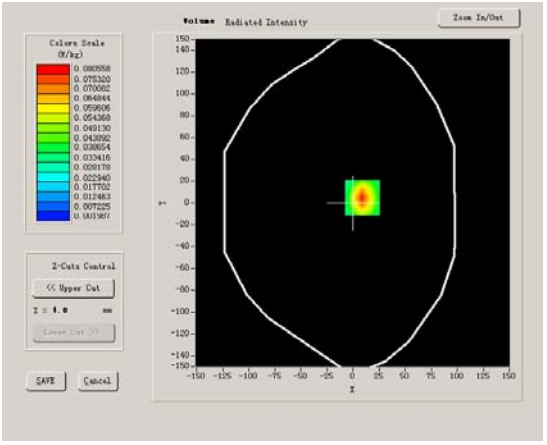
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 13/7/2011
Measurement duration: 9 minutes 6 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WIFI(802.11b)
Channels	Middle
Signal	OFDM

B. SAR Measurement Results

Frequency (MHz)	2412.000000
Relative permittivity (real part)	38.810001
Relative permittivity	13.500000
Conductivity (S/m)	1.827000
Power Drift (%)	-2.180000
Ambient Temperature:	22.5°C
Liquid Temperature:	22.3°C
ConvF:	39.772,33.946,37.835
Crest factor:	1:1

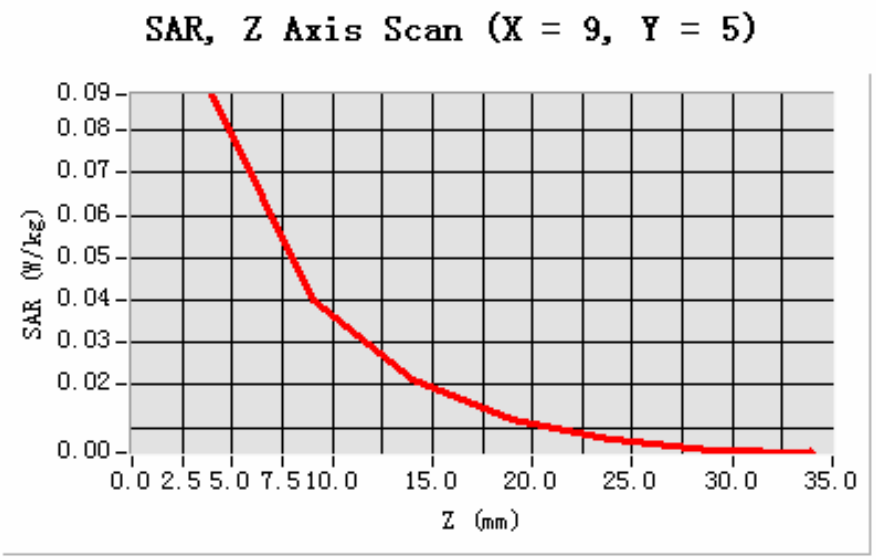
SURFACE SAR	VOLUME SAR
	

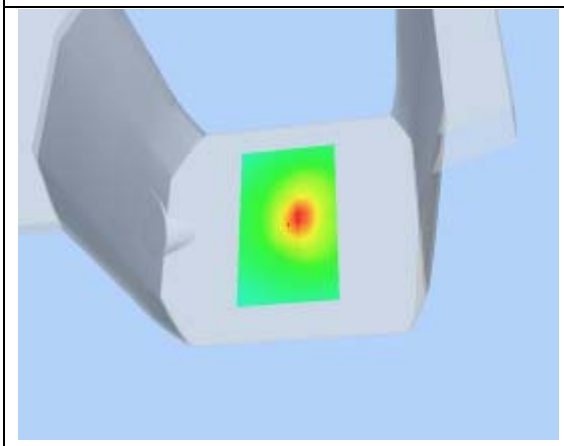
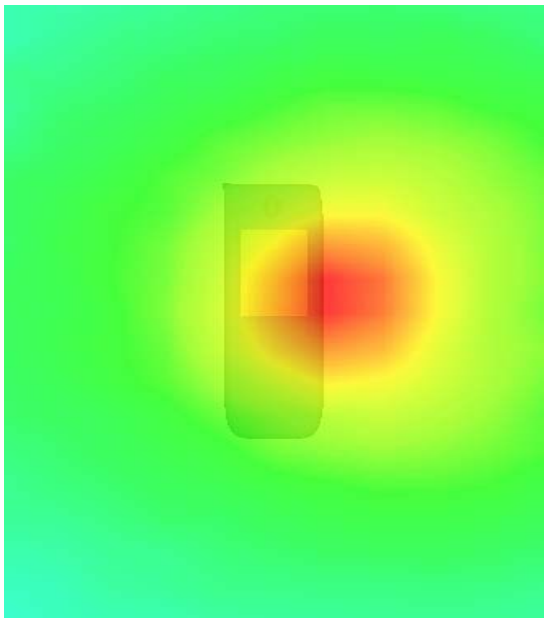
Maximum location: X=9.00, Y=5.00

SAR 10g (W/Kg)	0.091416
SAR 1g (W/Kg)	0.171547

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.0884	0.0402	0.0212	0.0118	0.0069	0.0047



3D sceen shot	Hot spot position
	

MEASUREMENT 24

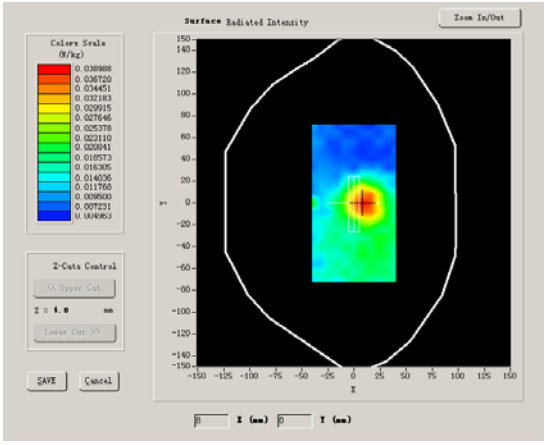
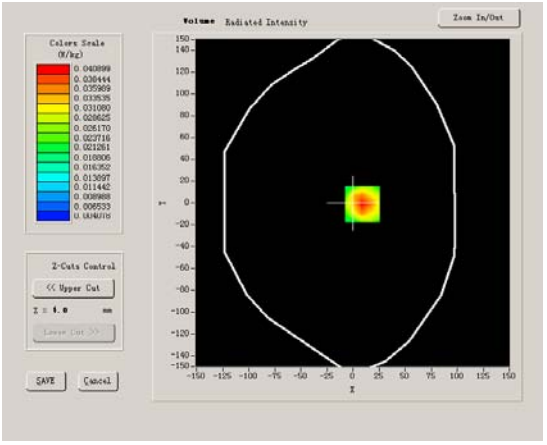
Type: Phone measurement (Complete)
Area scan resolution: dx=8mm,dy=8mm
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm
Date of measurement: 13/7/2011
Measurement duration: 9 minutes 8 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WIFI(802.11b)
Channels	Middle
Signal	OFDM

B. SAR Measurement Results

Frequency (MHz)	2412.000000
Relative permittivity (real part)	38.810001
Relative permittivity	13.500000
Conductivity (S/m)	1.827000
Variation (%)	1.290000
Ambient Temperature:	22.5°C
Liquid Temperature:	22.3°C
ConvF:	39.772,33.946,37.835
Crest factor:	1:1

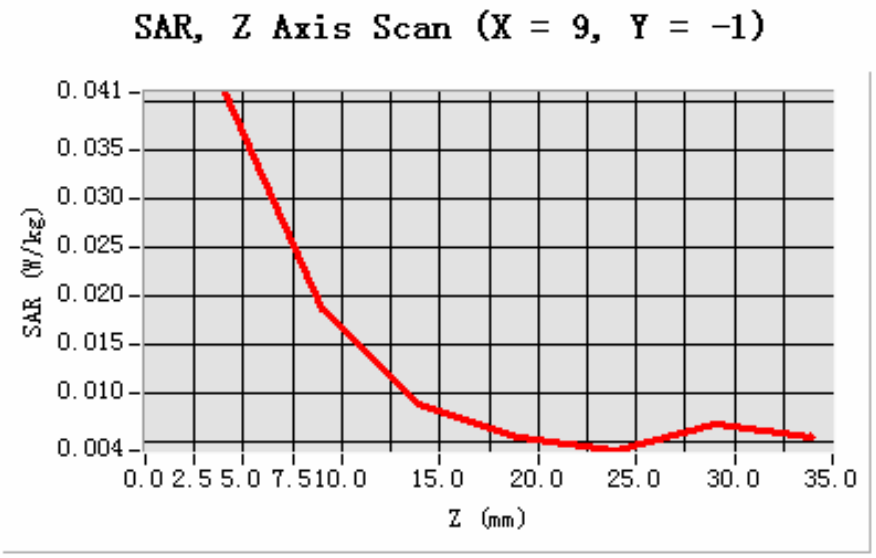
SURFACE SAR	VOLUME SAR
	

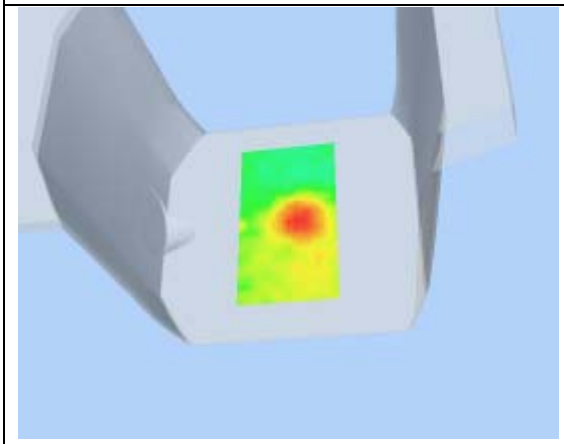
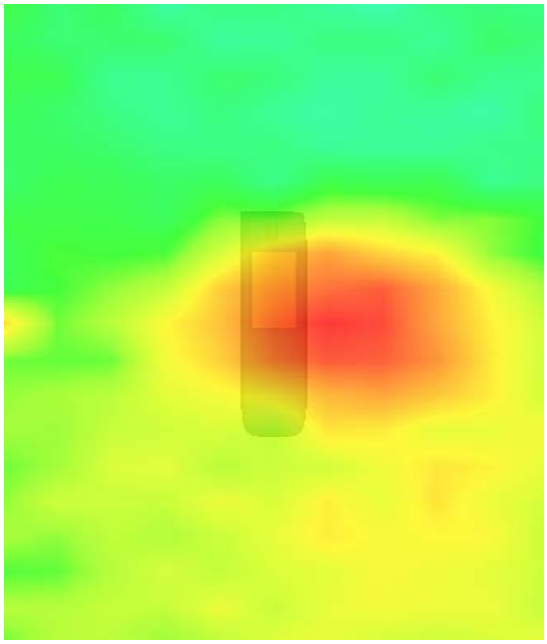
Maximum location: X=9.00, Y=-1.00

SAR 10g (W/Kg)	0.080578
SAR 1g (W/Kg)	0.154603

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.0409	0.0187	0.0089	0.0055	0.0041	0.0068



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: 13/7/2011
Measurement duration: 13 minutes 27 seconds

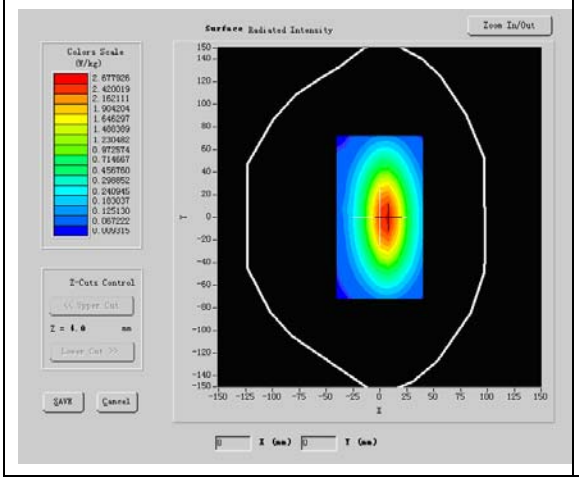
A. Experimental conditions.

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
Variation (%)	-0.050000
Ambient Temperature:	23.6°C
Liquid Temperature:	23.4°C
ConvF:	28.479,25.214,27.196
Crest factor:	1:1

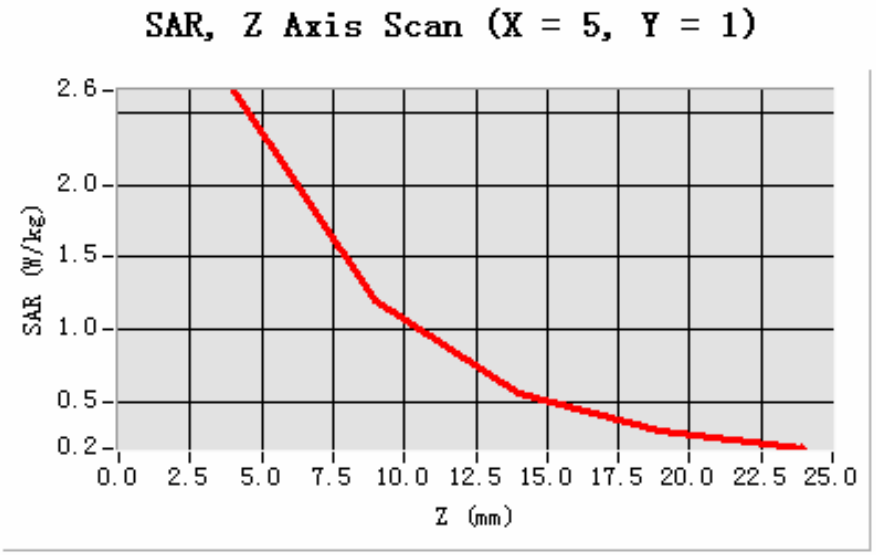
SURFACE SAR	VOLUME SAR
	

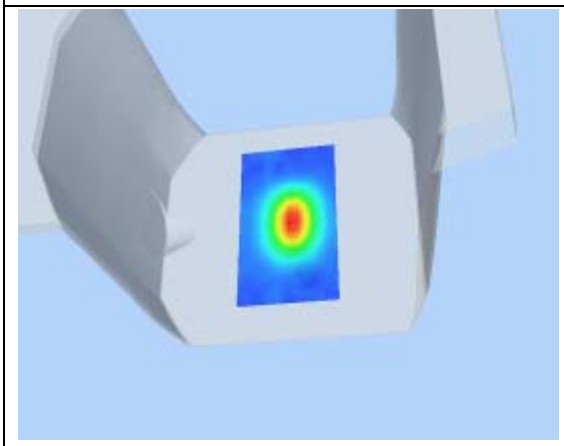
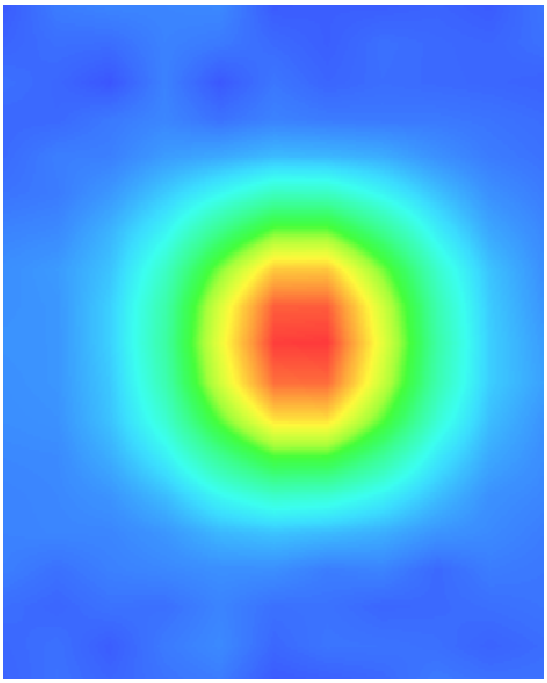
Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	1.377451
SAR 1g (W/Kg)	2.635134

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: 13/7/2011
Measurement duration: 13 minutes 27 seconds

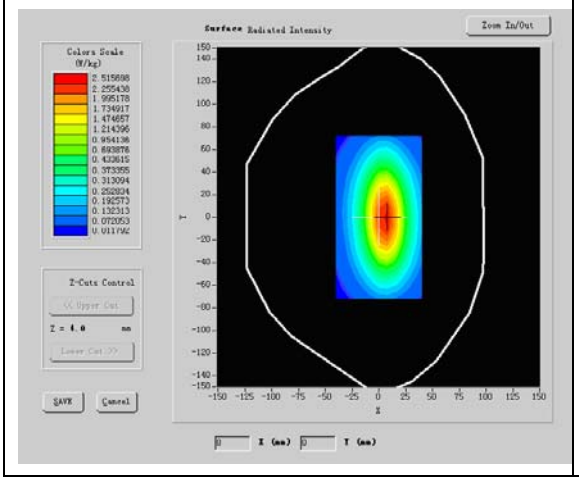
A. Experimental conditions.

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:	40.136,34.843,38.721
Crest factor:	1:1

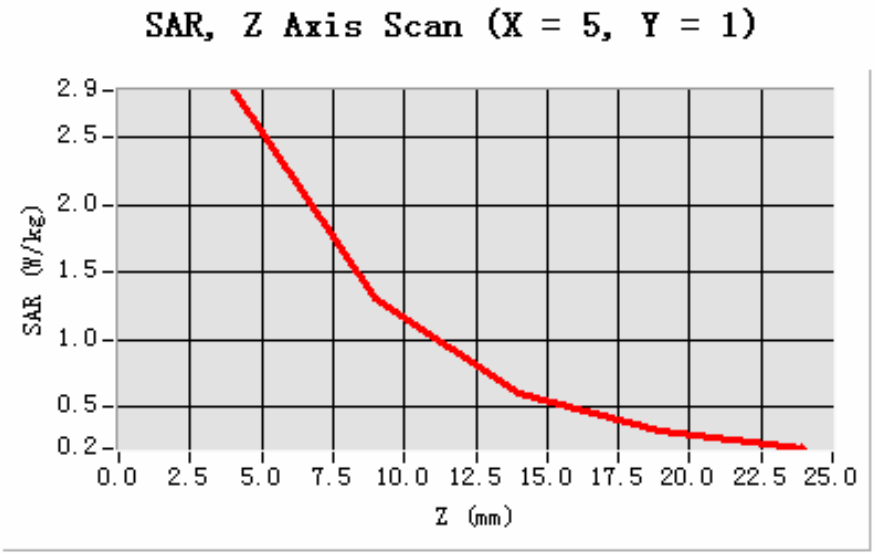
SURFACE SAR	VOLUME SAR
	

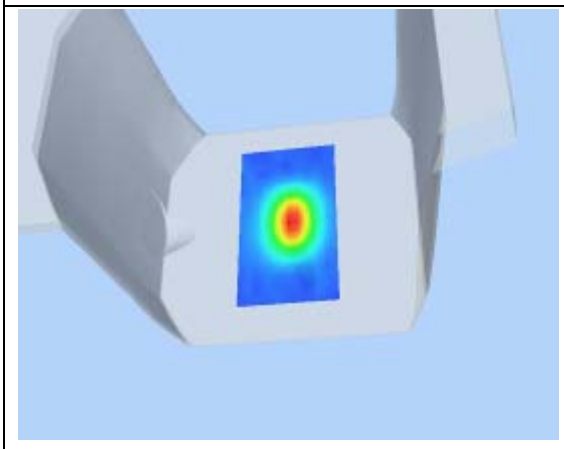
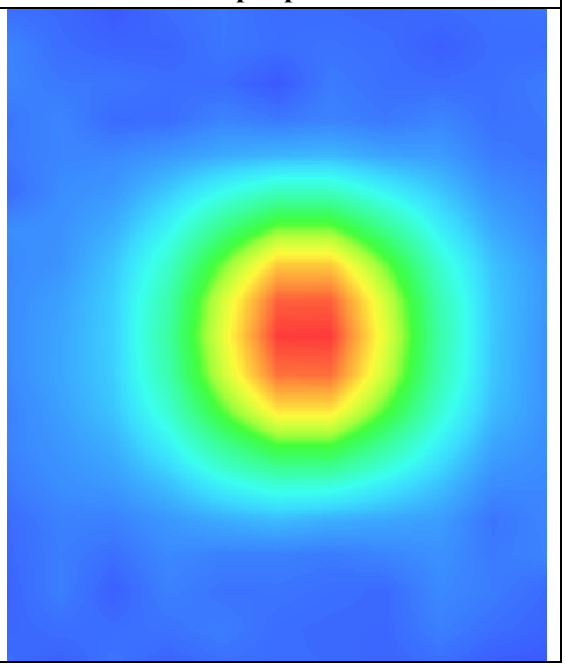
Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	5.246621
SAR 1g (W/Kg)	9.775123

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: 13/7/2011
Measurement duration: 13 minutes 27 seconds

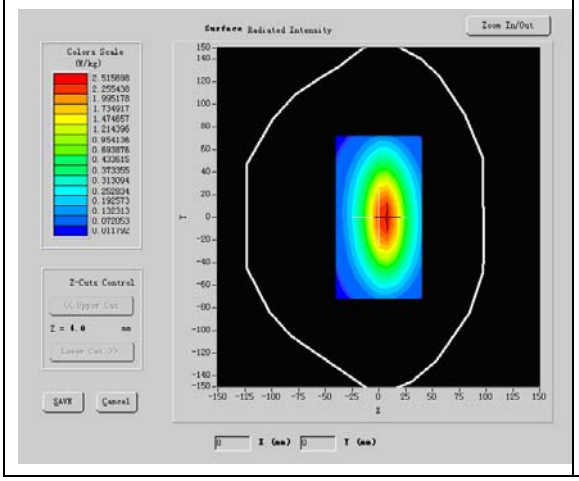
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	
Band	2450MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

Frequency (MHz)	2450.000000
Relative permittivity (real part)	54.341000
Relative permittivity	19.120001
Conductivity (S/m)	1.952641
Power Drift (%)	-2.180000
Ambient Temperature:	22.5°C
Liquid Temperature:	22.3°C
ConvF:	39.772,33.946,37.835
Crest factor:	1:1

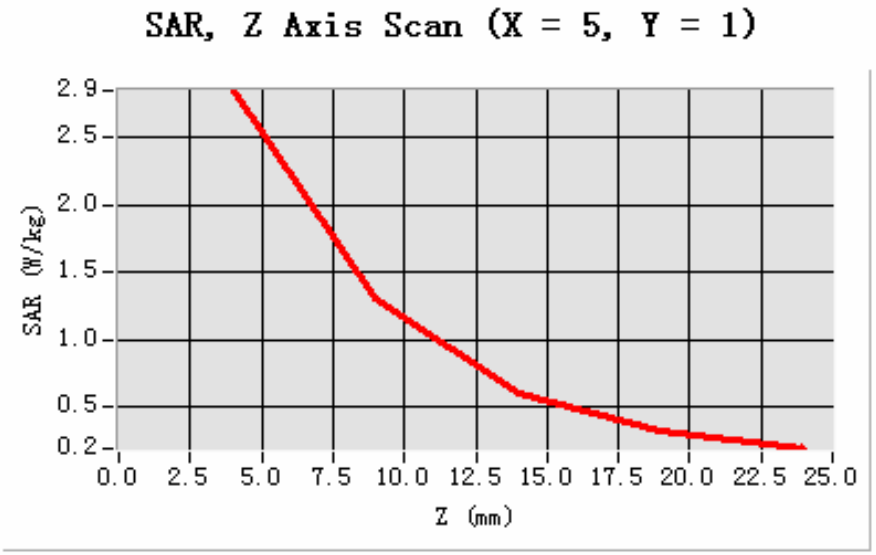
SURFACE SAR	VOLUME SAR
	

Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	6.536624
SAR 1g (W/Kg)	12.89415

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