



FCC SAR

TEST REPORT

of

Fixed Wireless Phone on CDMA 1900MHz

Model Name: PX130N
Trade Name: Axesstel
Report No.: SH10060012S06
FCC ID: PH7PX130N

prepared for



Axesstel Inc
6815 Flanders Drive, #210, San Diego, CA 92121, USA

prepared by

Shenzhen Electronic Product Quality Testing Center Morlab Laboratory

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Contents

1.1. Notes	3
1.2. Organization item.....	3
1.3. Conclusion.....	3
2. TESTING LABORATORY.....	4
2.1. Identification of the Responsible Testing Laboratory	4
2.2. Identification of the Responsible Testing Location	4
2.3. Accreditation Certificate	4
2.4. List of Test Equipments	4
3. TECHNICAL INFORMATION	5
3.1. Identification of Applicant.....	5
3.2. Identification of Manufacturer	5
3.3. Equipment Under Test (EUT)	5
3.3.1. Photographs of the EUT	5
3.3.2. Identification of all used EUTs.....	6
4. TEST RESULTS.....	6
4.1. Applied Reference Documents	6
4.2. Test Environment/Conditions	7
4.3. Operational Conditions During Test	8
4.3.1. Informations On The Testing	8
4.3.2. The Measurement System	10
4.3.3. Uncertainty Assessment	12
4.3.4. Equipments and results of validation testing.....	13
4.3.5. Dielectric Performance	14
4.3.6. Simulant liquids.....	15
4.4. Items used in the Test Results List.....	15
4.5. Test Results List.....	16
ANNEX A ACCREDITATION CERTIFICATE.....	17
ANNEX B PHOTOGRAPHS OF THE EUT.....	18
ANNEX C GRAPH TEST RESULTS	21

General Information

1.1. Notes

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

1.2. Organization item

Report No.:	SH10060012S06
Date of Issue:	Sep. 10, 2010
Date of Tests:	Sep.7, 2010 –Sep. 10 , 2010
Responsible for Accreditation:	WeiBei
Project Manager:	zhangjun
Deputy Project Manager:	Huangyunlong

1.3. Conclusion

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

 Huangyunlong Tested by (Responsible for the Test Report)		 Zhangjun Reviewed by (Verification of the Test Report)
 Wei Bei Approved by (Responsible Test Lab Manager)		

2. Testing Laboratory

2.1. Identification of the Responsible Testing Laboratory

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

2.2. Identification of the Responsible Testing Location

Name: Shenzhen Electronic Product Quality Testing Center Morlab Laboratory
Address: 3/F, Electronic Testing Building, Shahe Road, Nanshan District, Shenzhen, 518055 P. R. China

2.3. Accreditation Certificate

Accredited Testing Laboratory: No. CNAS L1659 (see Annex A)

2.4. List of Test Equipments

No.	Instrument	Type
1	PC	Dell (Pentium IV 2.4GHz, SN:X10-23533)
2	Network Emulator	Rohde&Schwarz (CMU200, SN:105894)
3	Voltmeter	Keithley (2000, SN:1000572)
4	Synthetizer	Rohde&Schwarz (SML_03, SN:101868)
5	Amplifier	Nucl udes (ALB216, SN:10800)
6	Power Meter	Rohde&Schwarz (NRVD, SN:101066)
7	Probe	Antennessa (SN:SN_3708_EP80)
8	Phantom	Antennessa (SN:SN_36_08_SAM62)
9	Liquid	Antennessa (Last Calibration:10 03 10)



3. Technical Information

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

3.1. Identification of Applicant

Company Name: Axesstel Inc
Address: 6815 Flanders Drive, #210, San Diego, CA 92121, USA

3.2. Identification of Manufacturer

Company Name: Asiatelco Technologies Co.
Address: #289 Bisheng Rd, Bld-8, 3F, Zhangjiang Hi-Tech Park, Pudong, Shanghai, China

3.3. Equipment Under Test (EUT)

Brand Name: Axesstel Inc
Sample Name: Fixed Wireless Phone on CDMA 1900MHz
Model Name: PX130N
Hardware Version: P2
Software Version: PX130SE_P1.1C.US_44_6_1T
Frequency Bands: CDMA 1900
Modulation Mode: QPSK
Antenna type: whip antenna
Accessories: Charger; Battery
Battery Model: ABL-1200A
Battery specification: 1200mAh 3.7V|
Development Stage: Identical prototype

3.3.1. Photographs of the EUT

Please see for photographs of the EUT.

3.3.2. Identification of all used EUTs

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

EUT Identity	Hardware Version	Software Version
1#	P2	PX130SE_P1.1C.US_44_6_1T

4. Test Results

4.1. Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	47 CFR § 2.1093	Radiofrequency Radiation Exposure Evaluation: Portable Devices
2	FCC OET Bulletin 65 (Edition 97-01), Supplement C (Edition 01-01)	Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields
3	ANSI C95.1-1999	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3kHz to 300 GHz
4	IEEE 1528-2003	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate(SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques.
5	FCC Number	Tracking Number 478906

4.2. Test Environment/Conditions

Normal Temperature (NT):	20 ... 25 °C
Relative Humidity:	30 ... 75 %
Air Pressure:	980 ... 1020 hPa
Details of Power Supply:	100--240V/AC
Extreme Temperature:	Low Temperature (LT) = -10 °C
	High Temperature (HT) = 55 °C
	Normal Voltage (NV) = 3.70V
Extreme Voltage of the EUT:	Low Voltage (LV) = 3.60V
	High Voltage (HV) = 4.20V
Test frequency:	CDMA 1900
Operation mode:	Call established

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 25, 600 and 1175 respectively in the case of CDMA 1900 MHz, The EUT is commanded to operate at maximum transmitting power.

The EUT shall use its internal transmitter. The antenna(s), battery and accessories shall be those specified by the manufacturer. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output. If a wireless link is used, the antenna connected to the output of the base station simulator shall be placed at least 50 cm away from the handset.

The signal transmitted by the simulator to the antenna feeding point shall be lower than the output power level of the handset by at least 35 dB.

4.3.Operational Conditions During Test

4.3.1. Informations On The Testing

I. INFORMATIONS ON THE TESTING

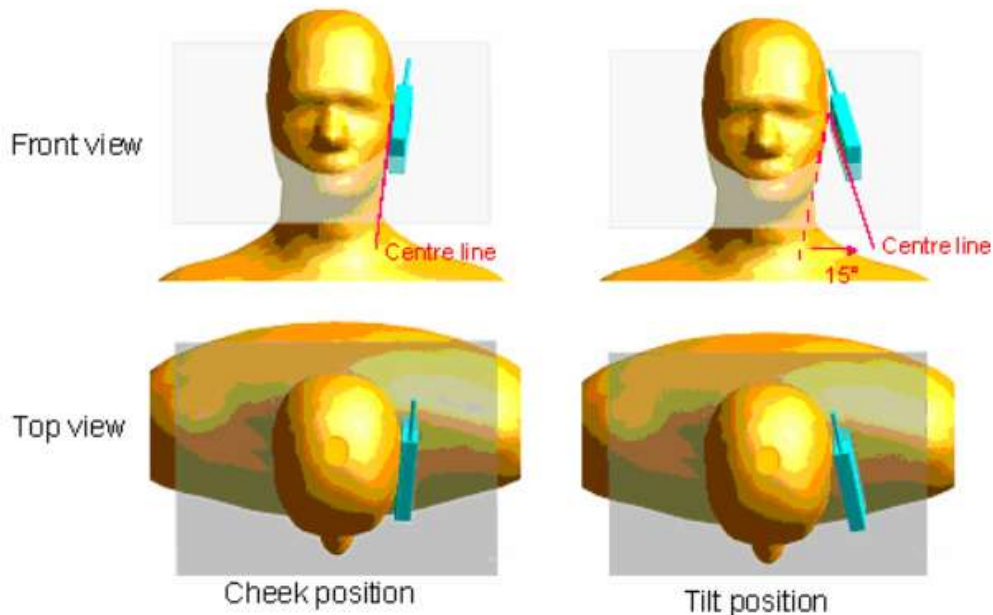
I.1. Normative reference

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

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

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

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



Description of the « cheek » position:

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

Description of the « tilted » position:

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

4.3.2. The Measurement System

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

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

The following figure shows the system.



COMOSAR bench

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

II.1. Phantom

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2 mm +/- 0,2 mm. It enables the dosimetric evaluation of left and right hand phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.

II.2. Probe

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

- Dynamic range: 0.01-100 W/kg
- Tip Diameter : 5 mm

- Distance between probe tip and sensor center : 2.5 mm
- Distance between sensor center and the inner phantom surface: 4 mm (repeatability better than +/- 1mm).
- Probe linearity : <0.25 dB
- Axial Isotropy : <0.25 dB
- Spherical Isotropy : <0.50 dB
- Calibration range : 835 to 2500 MHz for head & body simulating liquid
- Angle between probe axis (evaluation axis) and surface normal line : less than 30°

II.3. Measurement procedure

The following steps are used for each test position

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

II.4 Description of interpolation/extrapolation scheme

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

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

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

4.3.3. Uncertainty Assessment

The following table includes the uncertainty table of the IEEE 1528.

The values are determined by Antenna.

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/e	k
Uncertainty Component	Sec.	Tol (+- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	Vi
Measurement System									
Probe calibration	E.2.1	7.0	N	1	1	1	7.00	7.00	∞
Axial Isotropy	E.2.2	2.5	R	$\sqrt{3}$	$(1 C_p)^{1/2}$	$(1 C_p)^{1/2}$	1.02	1.02	∞
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	$\sqrt{C_p}$	$\sqrt{C_p}$	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 Algorithms for Max. SAR Evaluation	E.5.2	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Test sample Related									
Test sample positioning	E.4.2.1	0.03	N	1	1	1	0.03	0.03	N-1
Device Holder Uncertainty	E.4.1.1	5.00	N	1	1	1	5.00	5.00	
Output power Variation - SAR drift measurement	6.6.2	4.76	R	$\sqrt{3}$	1	1	2.75	2.75	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Liquid conductivity - deviation from target value	E.3.2	0.57	R	$\sqrt{3}$	0.64	0.43	0.21	0.14	∞
Liquid conductivity -	E.3.3	5.00	N	1	0.64	0.43	3.20	2.15	M

measurement uncertainty									
Liquid permittivity - deviation from target value	E.3.2	3.66	R	$\sqrt{3}$	0.6	0.49	1.27	1.04	∞
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	1	0.6	0.49	6.00	4.90	M
Combined Standard Uncertainty			RSS				11.28	10.78	
Expanded Uncertainty (95% Confidence interval)			k				21.99	21.03	

4.3.4. Equipments and results of validation testing

Equipments :

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

Results:

Frequency	1900MHz
Target value (1g)	39.7 W/Kg
250 mW input power	10.23831 W/Kg (body)
Test value (1g)	40.95234 W/Kg (body)

Note:Please refer to check the system performance data, the 46-48 page. 250 mW input power

4.3.5. Dielectric Performance

The measured 1-gram averaged SAR values of the device against the body are provided in Tables 1 respectively. The humidity and ambient temperature of test facility were 54% ~60% and 23.0 °C ~23.8 °C respectively. 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 0cm. A base station simulator was used to control the device during the SAR measurement. The phone was supplied with full-charged battery for each measurement.

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

Table 1: 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	1900 MHz	53.3	1.52
Validation value (Sep 10)	1900 MHz	54.34679	1.51164

4.3.6. Simulant liquids

Simulant liquids that are used for testing at frequencies of GSM 850MHz and GSM 1900MHz, which are made mainly of sugar, salt and water solutions may be left in the phantoms. Approximately 20litres are needed for an upright head compared to about 20litres for a horizontal bath phantom.

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

4.4. Items used in the Test Results List

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

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



4.5. Test Results List

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

Temperature: 23.0~23.8 °C, humidity: 54~60%.		
Limit of SAR	1 g Average(W/kg)	
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average (W/kg)	Power level (dBm)
Back Side with antenna position 1 Middle Channel (with battery)	0.06	23.53
Back Side with antenna position 2 Middle Channel (with battery)	0.41	23.53
Back Side with antenna position 3 Middle Channel (with battery)	0.52	23.53
Back Side with vertical antenna Middle Channel (with adapter)	0.08	23.53
Back Side with haw antenna Middle Channel (with adapter)	0.46	23.53
Back Side with dextrad antenna Middle Channel (with adapter)	0.57	23.53
Back Side with dextrad antenna Low Channel (with adapter)	0.36	23.71
Back Side with dextrad antenna High Channel (with adapter)	0.32	22.83

Note: The depth of the body tissue was 15.1cm. The distance between the back of the device and the bottom of the flat phantom is 0 cm.

Annex A Accreditation Certificate

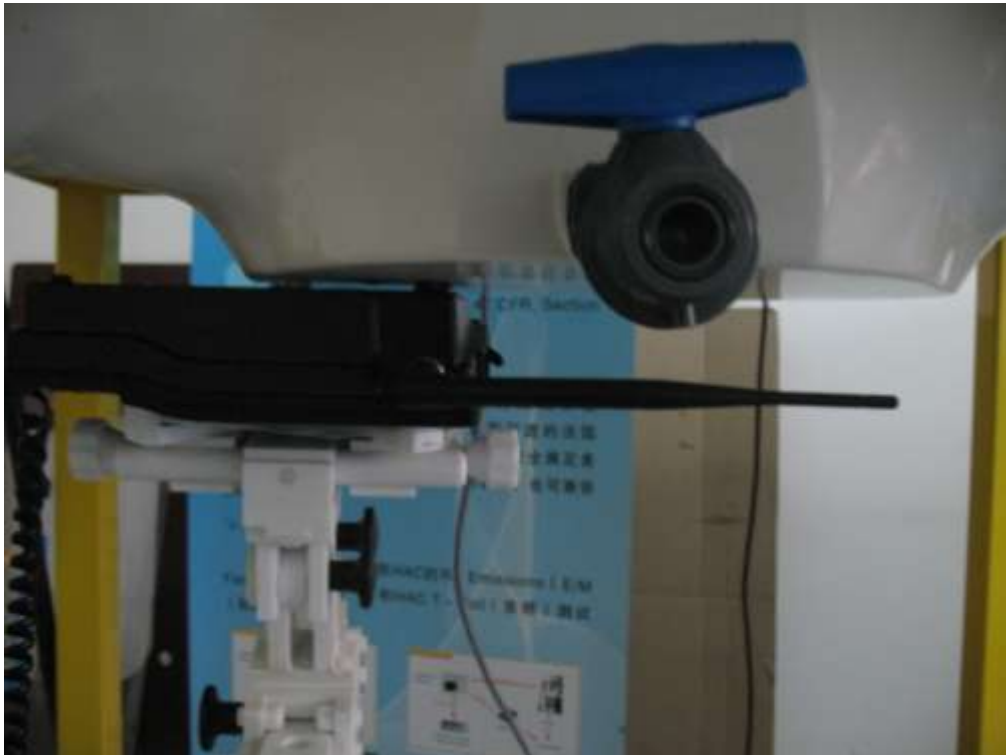
 
China National Accreditation Service for Conformity Assessment
LABORATORY ACCREDITATION CERTIFICATE
(No. CNAS L1659)
<i>China National Accreditation Service for Conformity Assessment has accredited</i>
Shenzhen Electronic Product Quality Testing Center
<u>Electronic Testing Building, Shahe Road, Xili, Nanshan District,</u> <u>Shenzhen, Guangdong, China</u>
<i>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 calibration.</i>
<i>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.</i>
Date of Issue: 2009-09-29
Date of Expiry: 2012-09-28
Date of Initial Accreditation: 1999-08-03

Signed on behalf of China National Accreditation Service for Conformity Assessment
<small>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).</small>

Annex B Photographs of the EUT

1 EUT Back Side with antenna position 1(with battery)



2 EUT Back Side with antenna position 2(with battery)



3 EUT Back Side with antenna position 3(with battery)



4 EUT Back Side with antenna position 1 (with adapter)



6 EUT Back Side with antenna position 2 (with adapter)



6 EUT Back Side with antenna position 3 (with adapter)



Annex C Graph Test Results

	BAND	<u>PARAMETERS</u>
<u>TYPE</u>	<u>CDMA1900</u>	<p><u>Measurement 1:</u> Back Side with antenna position 1 Middle Channel (with battery)</p> <p><u>Measurement 2:</u> Back Side with antenna position 2 Middle Channel (with battery)</p> <p><u>Measurement 3:</u> Back Side with antenna position 3 Middle Channel (with battery)</p> <p><u>Measurement 4:</u> Back Side with antenna position 1 Middle Channel (with adapter)</p> <p><u>Measurement 5:</u> Back Side with antenna position 2 Middle Channel (with adapter)</p> <p><u>Measurement 6:</u> Back Side with antenna position 3 Middle Channel (with adapter)</p> <p><u>Measurement 7:</u> Back Side with antenna position 3 Low Channel (with adapter)</p> <p><u>Measurement 8:</u> Back Side with antenna position 3 High Channel (with adapter)</p>



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: 10/9/2010

Measurement duration: 9 minutes 18 seconds

A. Experimental conditions.

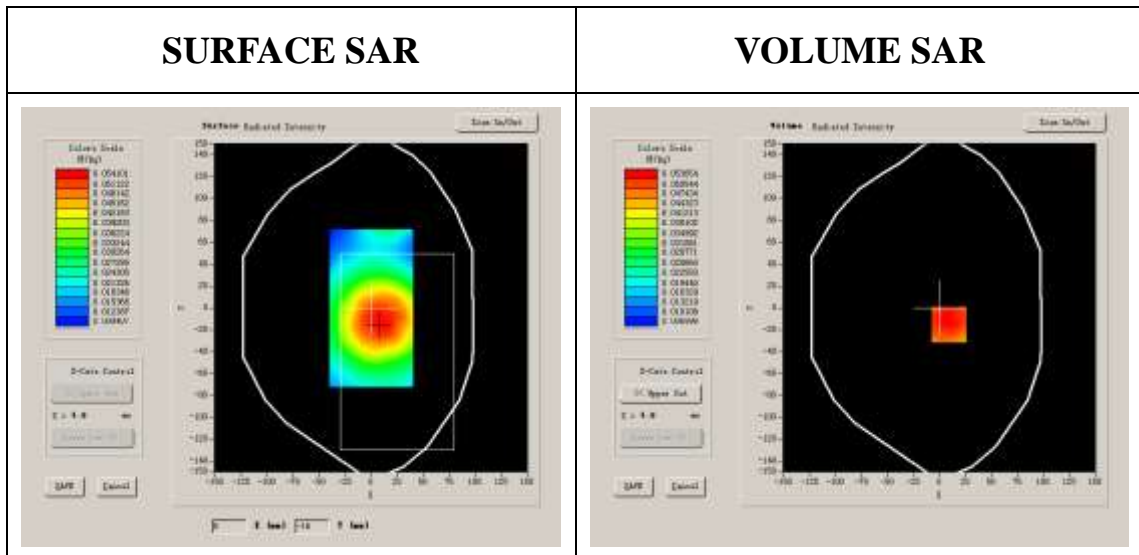
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Lower Band SAR (Channel 600):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	54.014999
Relative permittivity	21.332850

Conductivity (S/m)	1.486632
Variation (%)	-0.410000
Ambient Temperature:	22.4 °C
Liquid Temperature:	22.6 °C
ConvF:	40.625,34.773,38.535
Crest factor:	1:1

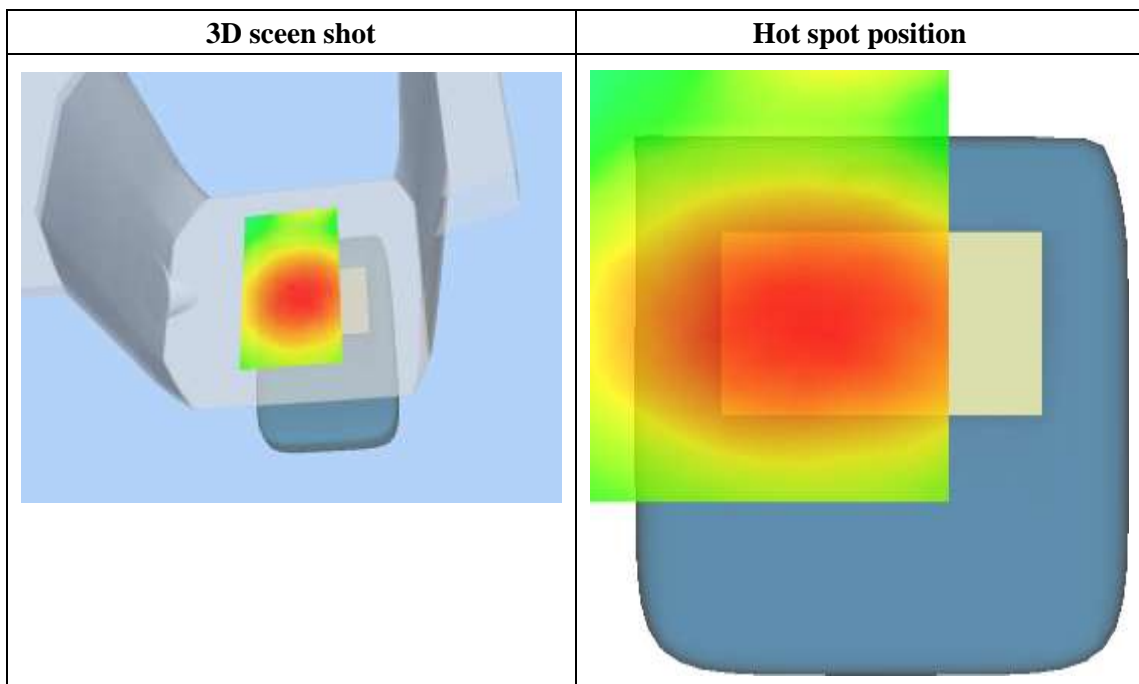
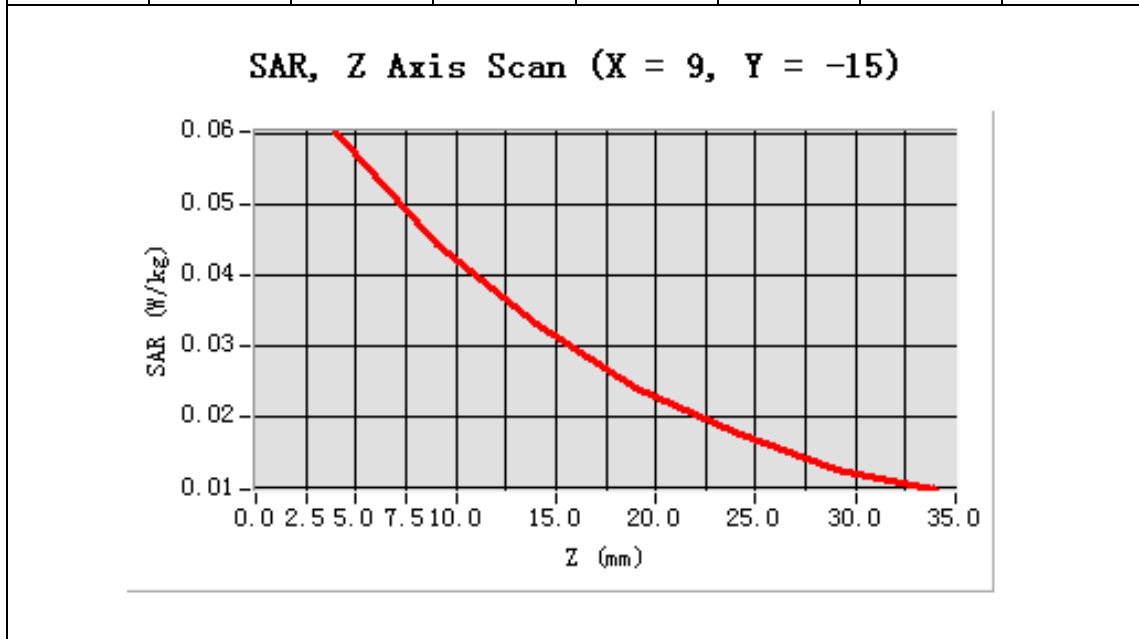


Maximum location: X=9.00, Y=-15.00

SAR 10g (W/Kg)	0.046002
SAR 1g (W/Kg)	0.058828

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.0603	0.0444	0.0332	0.0241	0.0180	0.0125



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: 10/9/2010

Measurement duration: 9 minutes 13 seconds

A. Experimental conditions.

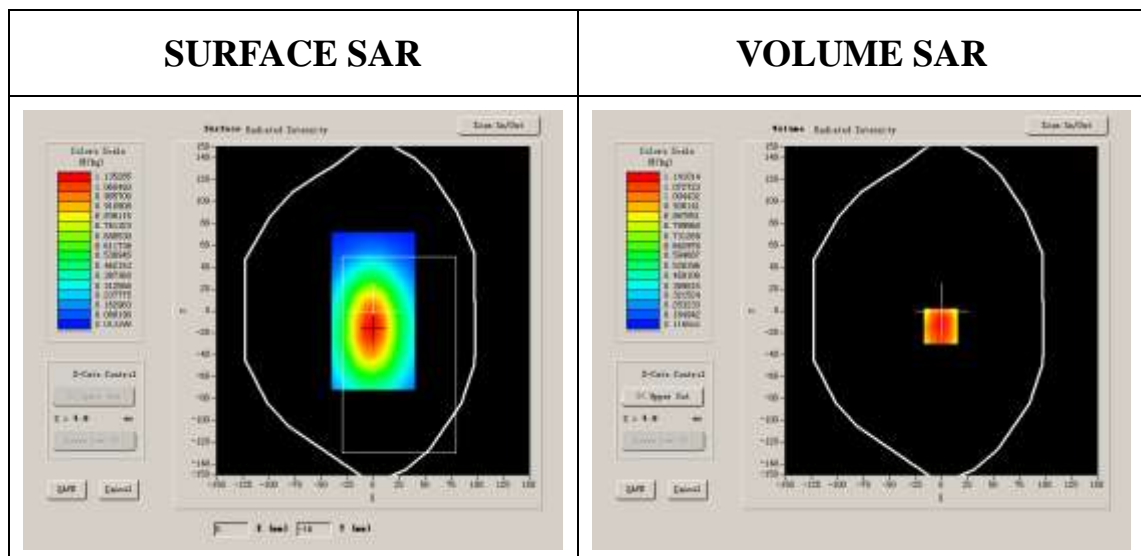
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 600):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	54.014999
Relative permittivity	21.332850

Conductivity (S/m)	1.486632
Variation (%)	0.380000
Ambient Temperature:	22.4 °C
Liquid Temperature:	22.6 °C
ConvF:	40.625,34.773,38.535
Crest factor:	1:1



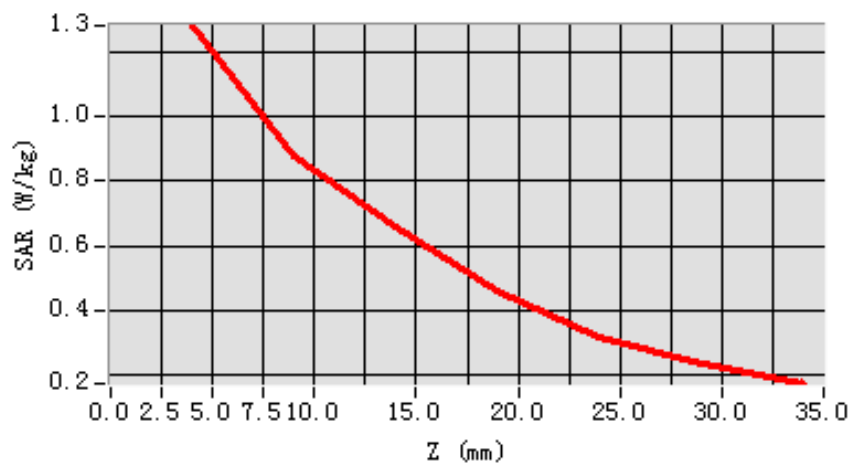
Maximum location: X=-1.00, Y=-14.00

SAR 10g (W/Kg)	0.217456
SAR 1g (W/Kg)	0.410388

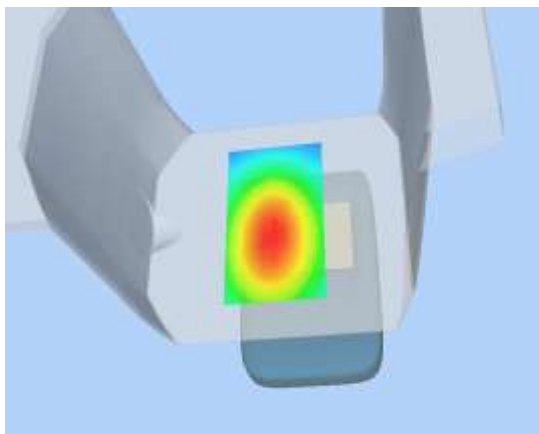
Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.4833	0.4790	0.3600	0.3584	0.2196	0.1371

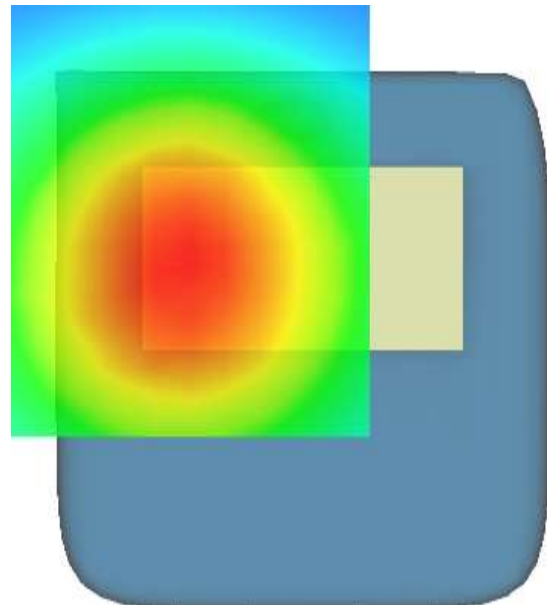
SAR, Z Axis Scan (X = -1, Y = -14)



3D scene 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: 10/9/2010

Measurement duration: 9 minutes 18 seconds

A. Experimental conditions.

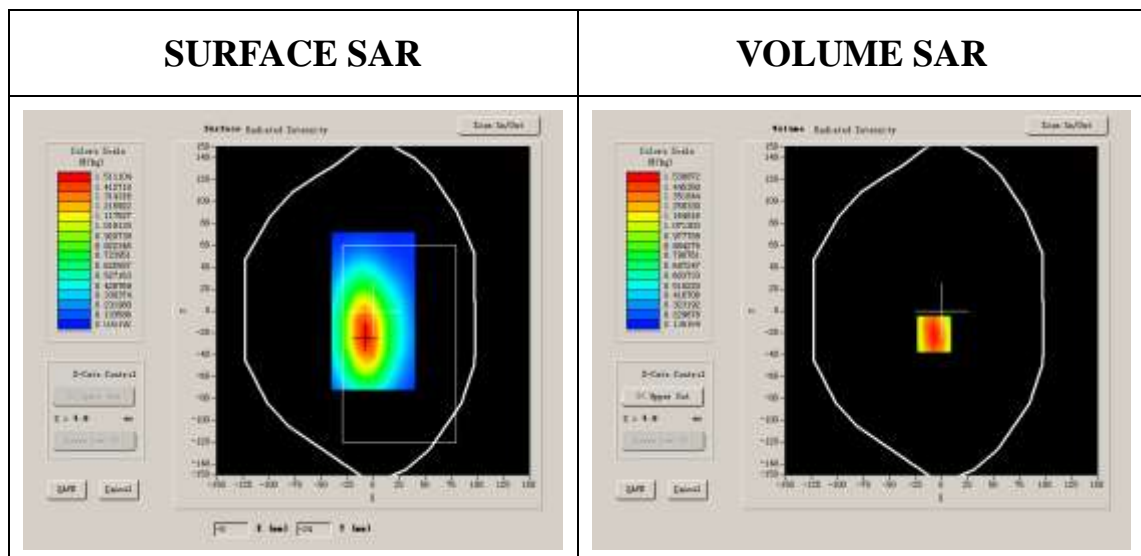
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Higher Band SAR (Channel 600):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	54.116001
Relative permittivity	21.284550

Conductivity (S/m)	1.486632
Variation (%)	-0.470000
Ambient Temperature:	22.4 °C
Liquid Temperature:	22.6 °C
ConvF:	40.625,34.773,38.535
Crest factor:	1:1



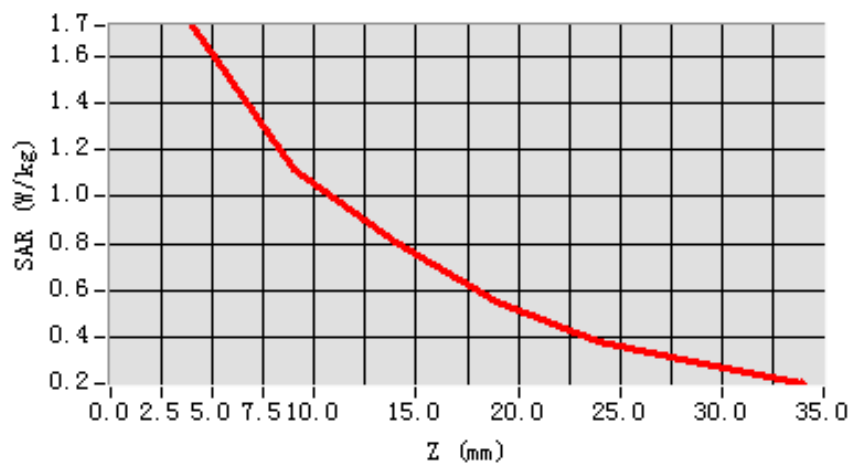
Maximum location: X=-7.00, Y=-21.00

SAR 10g (W/Kg)	0.268355
SAR 1g (W/Kg)	0.518478

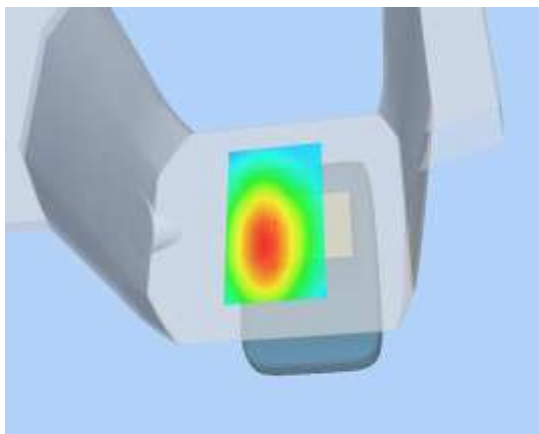
Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.5306	0.4309	0.3095	0.2538	0.1774	0.1045

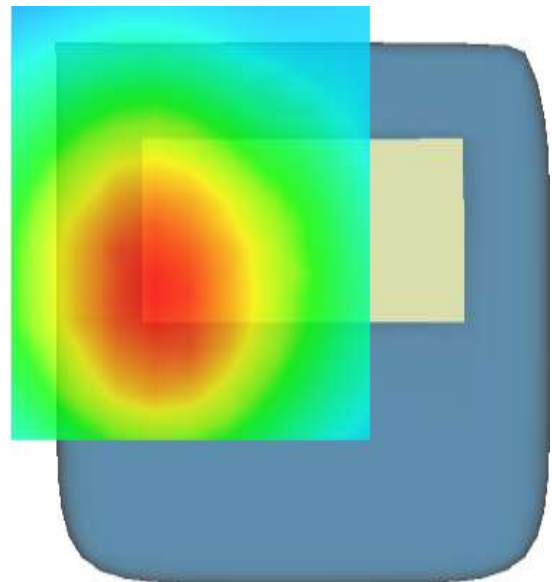
SAR, Z Axis Scan (X = -7, Y = -21)



3D scene 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: 10/9/2010

Measurement duration: 9 minutes 11 seconds

A. Experimental conditions.

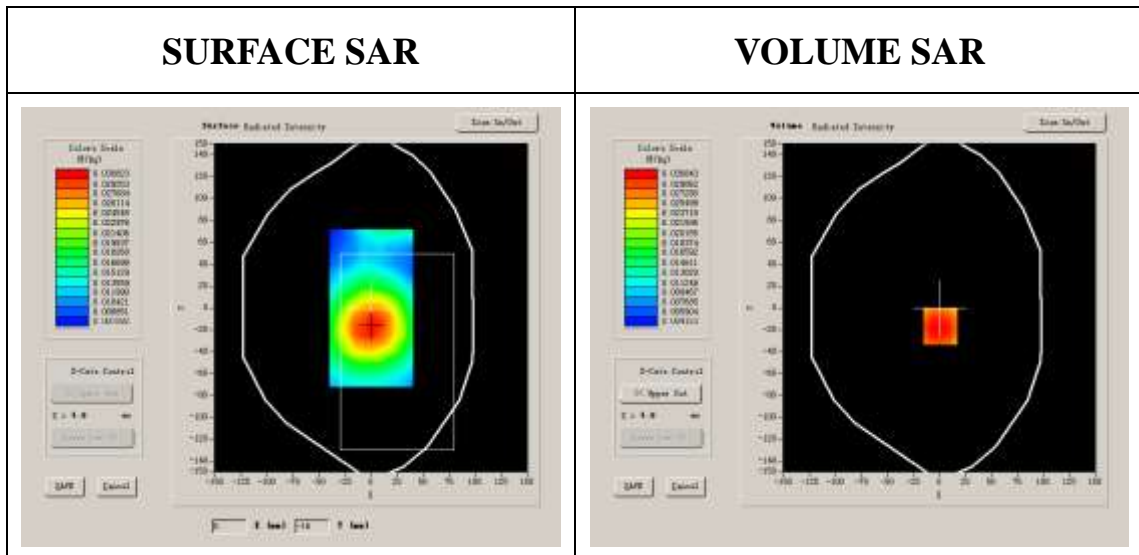
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 600):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	54.116001
Relative permittivity	21.284550

Conductivity (S/m)	1.486632
Variation (%)	0.410000
Ambient Temperature:	22.4 °C
Liquid Temperature:	22.6 °C
ConvF:	40.625,34.773,38.535
Crest factor:	1:1

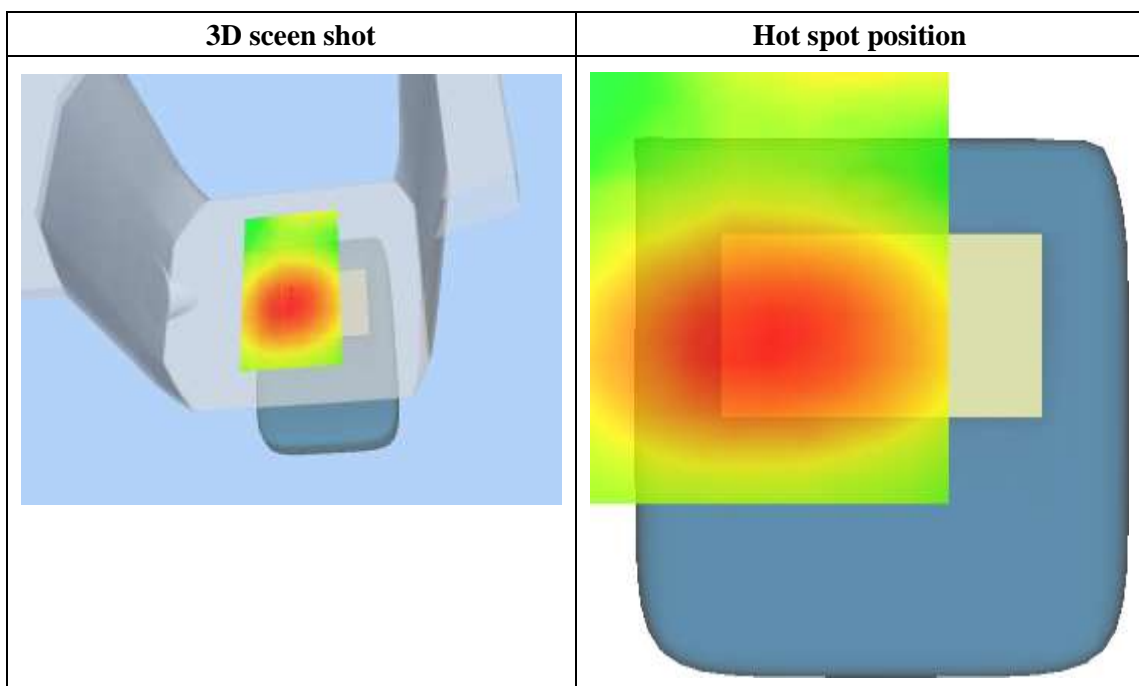
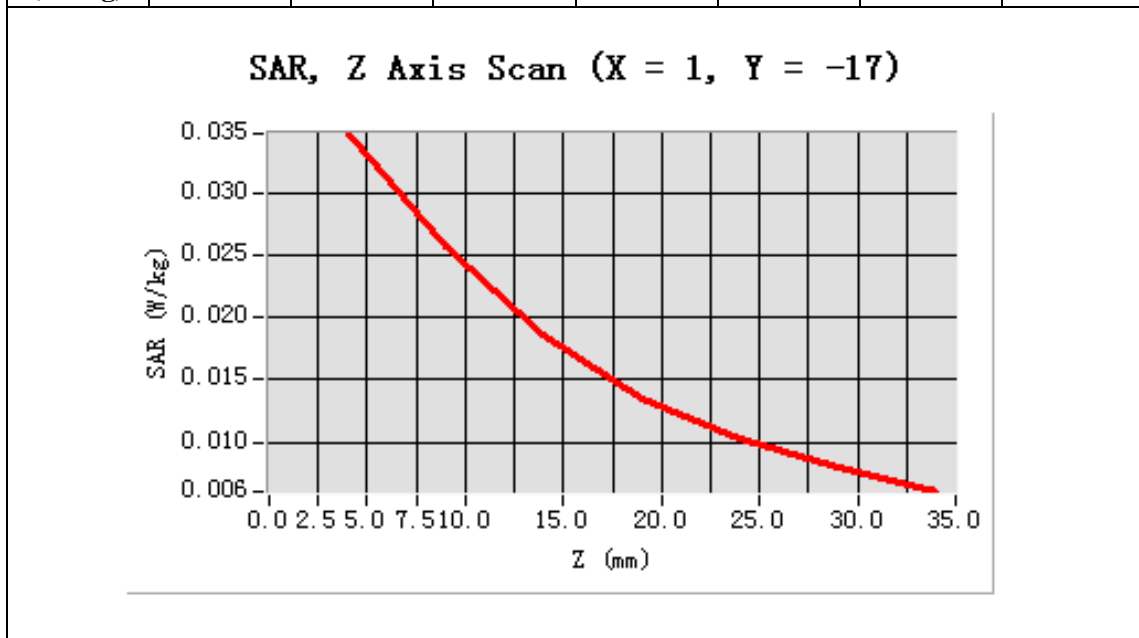


Maximum location: X=1.00, Y=-17.00

SAR 10g (W/Kg)	0.047473
SAR 1g (W/Kg)	0.084663

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.0347	0.0258	0.0186	0.0135	0.0103	0.0080





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: 10/9/2010

Measurement duration: 9 minutes 11 seconds

A. Experimental conditions.

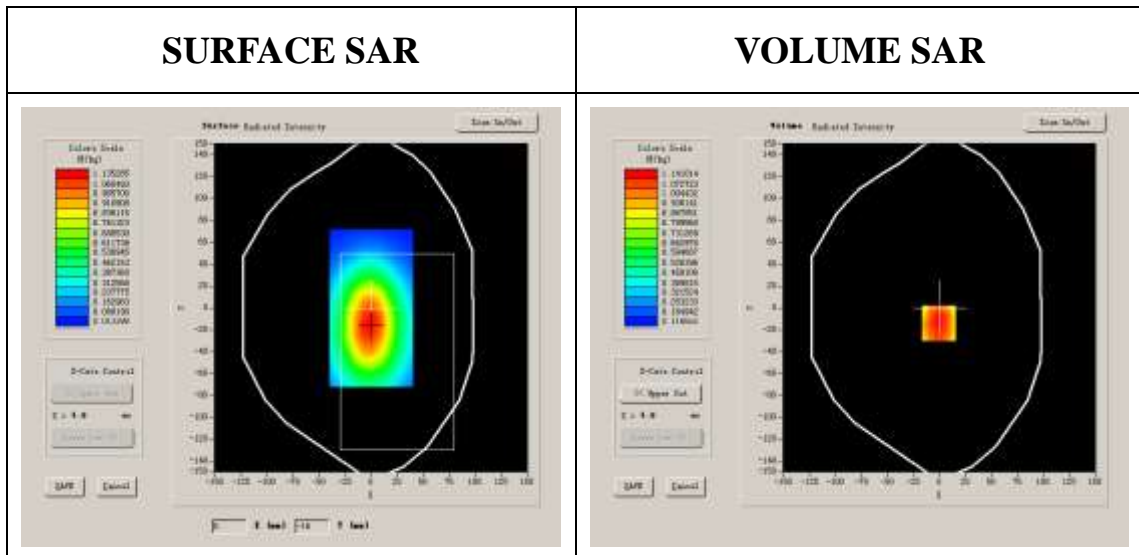
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 600):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	54.014999
Relative permittivity	21.332850

Conductivity (S/m)	1.486632
Variation (%)	-0.320000
Ambient Temperature:	22.4 °C
Liquid Temperature:	22.6 °C
ConvF:	40.625,34.773,38.535
Crest factor:	1:1

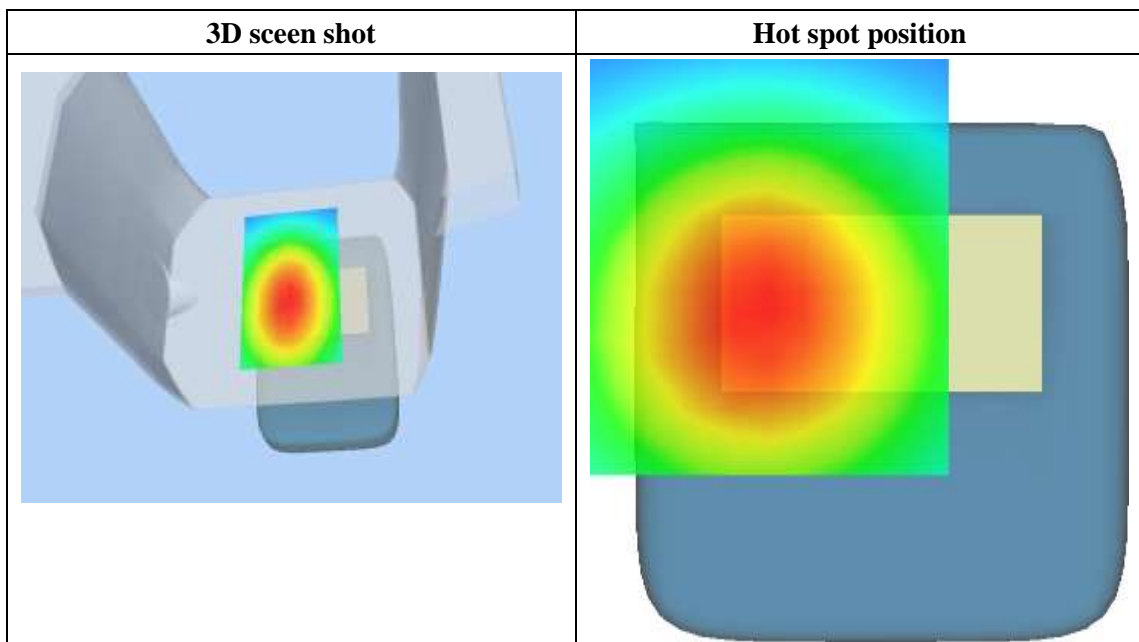
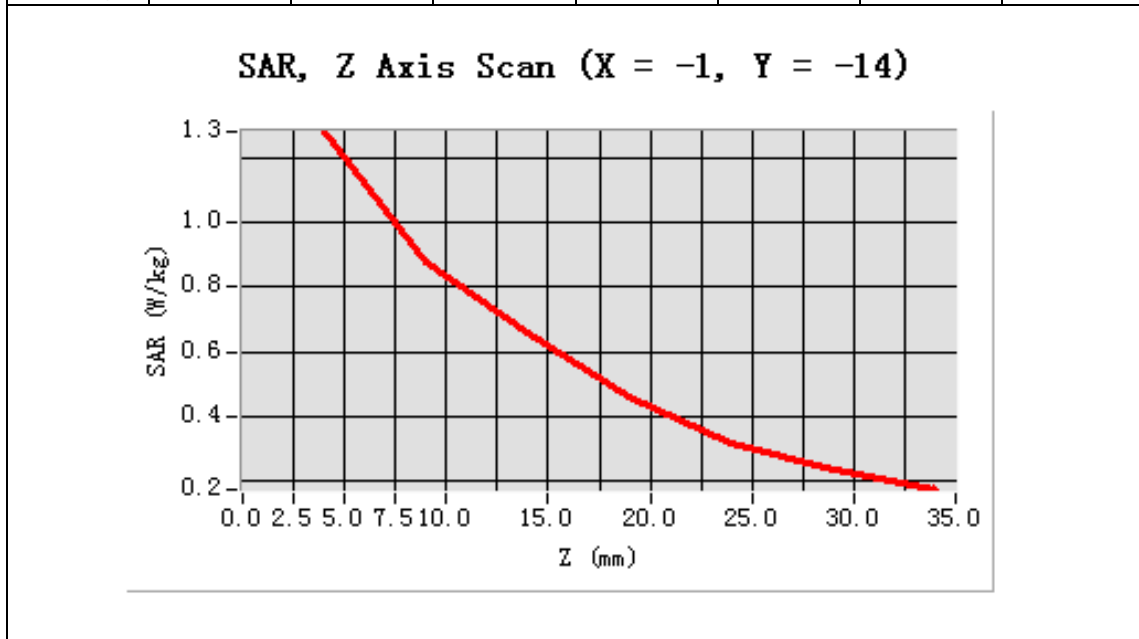


Maximum location: X=-1.00, Y=-14.00

SAR 10g (W/Kg)	0.237275
SAR 1g (W/Kg)	0.462771

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.4833	0.4790	0.3600	0.3584	0.2196	0.1371





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: 10/9/2010

Measurement duration: 9 minutes 11 seconds

A. Experimental conditions.

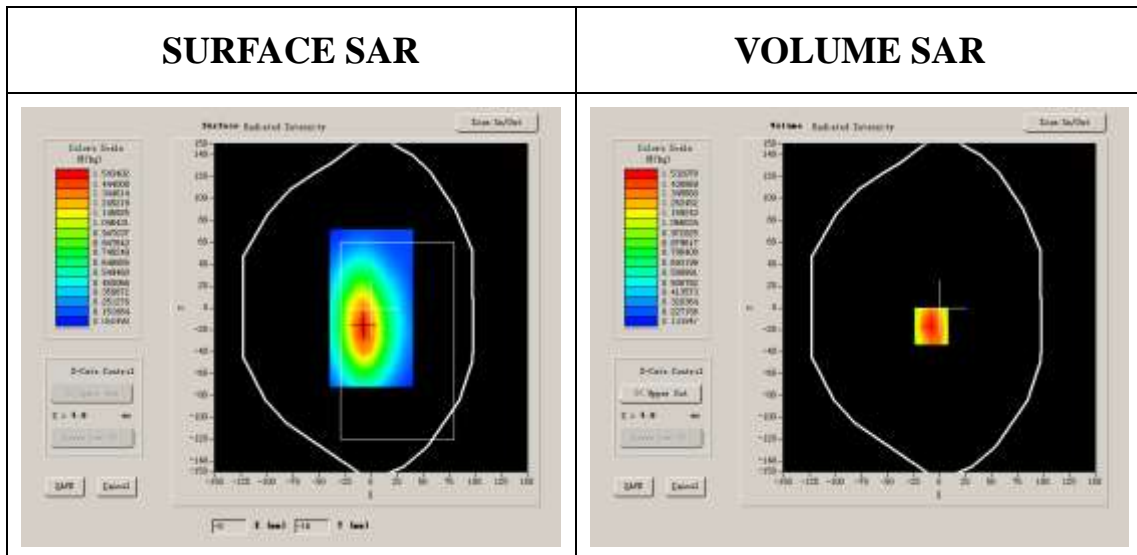
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 600):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	54.116001
Relative permittivity	21.284550

Conductivity (S/m)	1.486632
Variation (%)	0.530000
Ambient Temperature:	22.4 °C
Liquid Temperature:	22.6 °C
ConvF:	40.625,34.773,38.535
Crest factor:	1:1



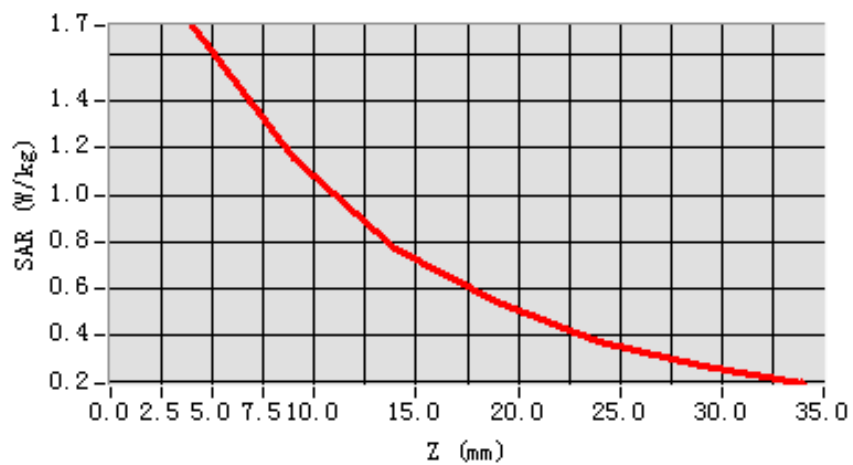
Maximum location: X=-8.00, Y=-17.00

SAR 10g (W/Kg)	0.295663
SAR 1g (W/Kg)	0.573433

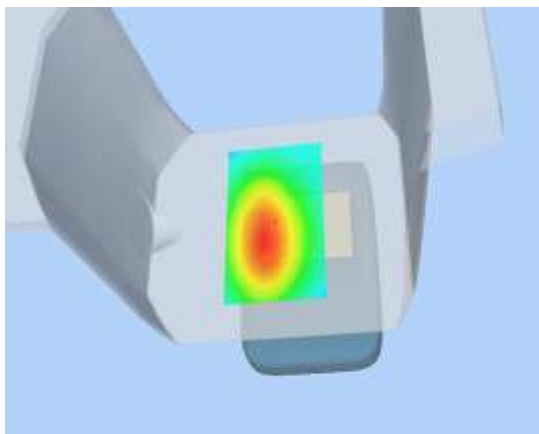
Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.5230	0.4567	0.3726	0.2421	0.1733	0.1726

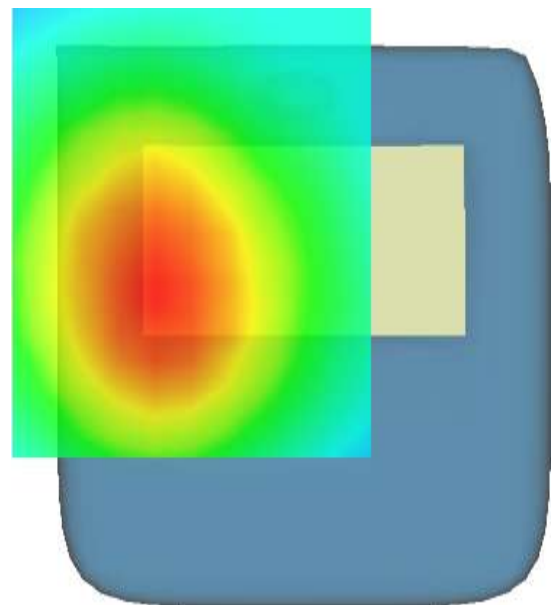
SAR, Z Axis Scan (X = -8, Y = -17)



3D scene 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: 10/9/2010

Measurement duration: 9 minutes 11 seconds

A. Experimental conditions.

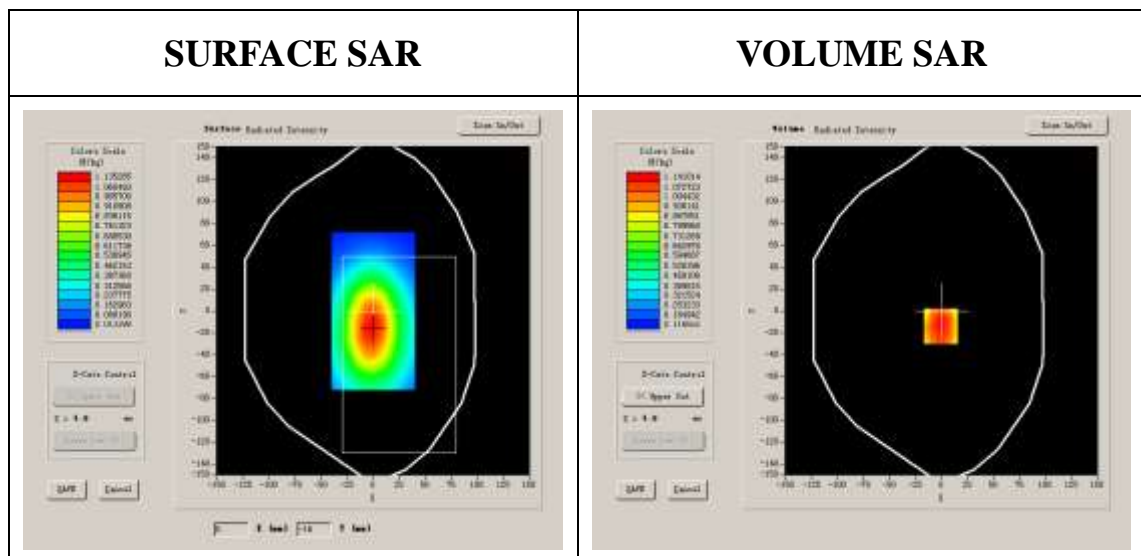
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 25):

Frequency (MHz)	1851.25000
Relative permittivity (real part)	54.124001
Relative permittivity	21.303150

Conductivity (S/m)	1.463862
Variation (%)	-0.350000
Ambient Temperature:	22.4 °C
Liquid Temperature:	22.6 °C
ConvF:	40.625,34.773,38.535
Crest factor:	1:1

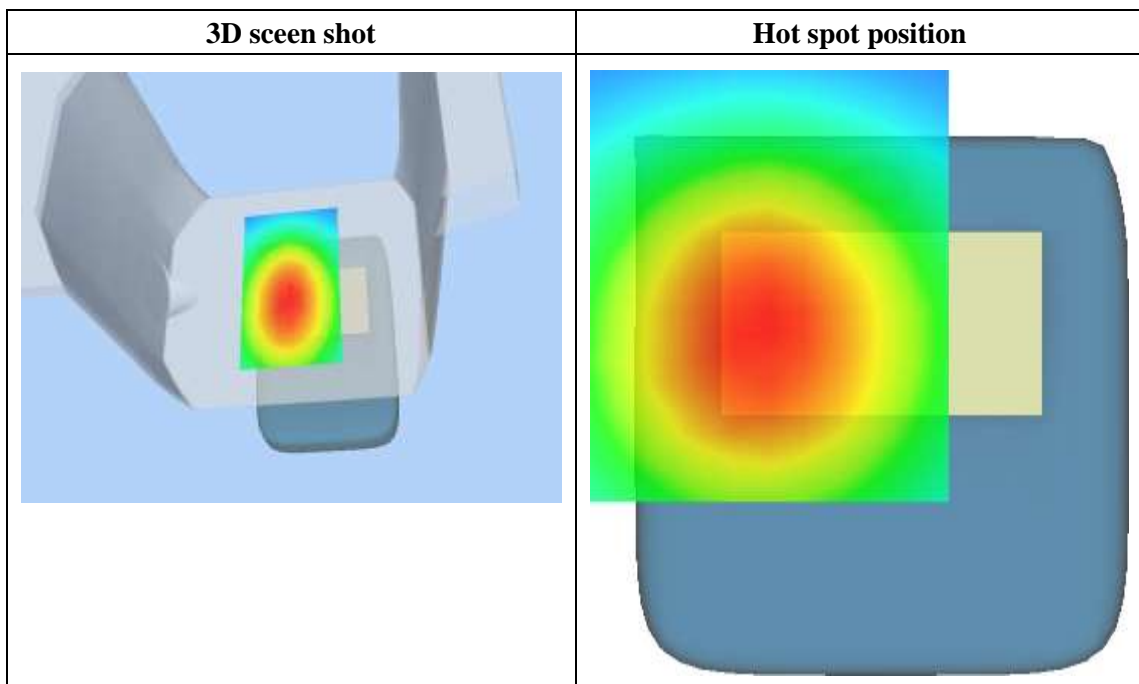
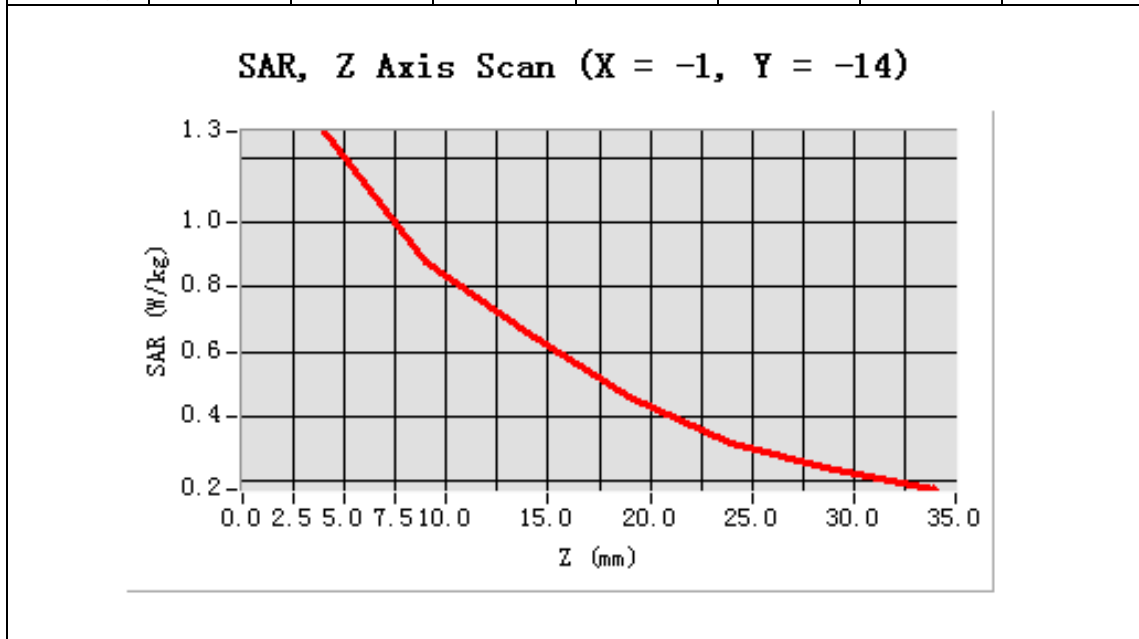


Maximum location: X=-1.00, Y=-14.00

SAR 10g (W/Kg)	0.194773
SAR 1g (W/Kg)	0.362677

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.4833	0.4790	0.3600	0.3584	0.2196	0.1371



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: 10/9/2010

Measurement duration: 9 minutes 12 seconds

A. Experimental conditions.

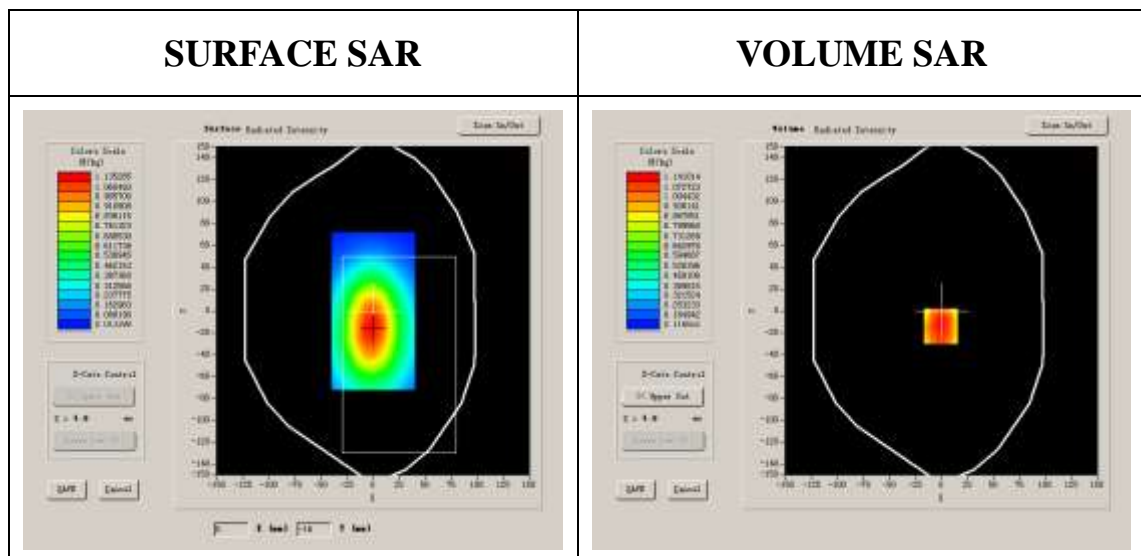
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	US_PCS
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 1175):

Frequency (MHz)	1908.750000
Relative permittivity (real part)	53.812011
Relative permittivity	21.134250

Conductivity (S/m)	1.490166
Variation (%)	-0.4610000
Ambient Temperature:	22.4 °C
Liquid Temperature:	22.6 °C
ConvF:	40.625,34.773,38.535
Crest factor:	1:1

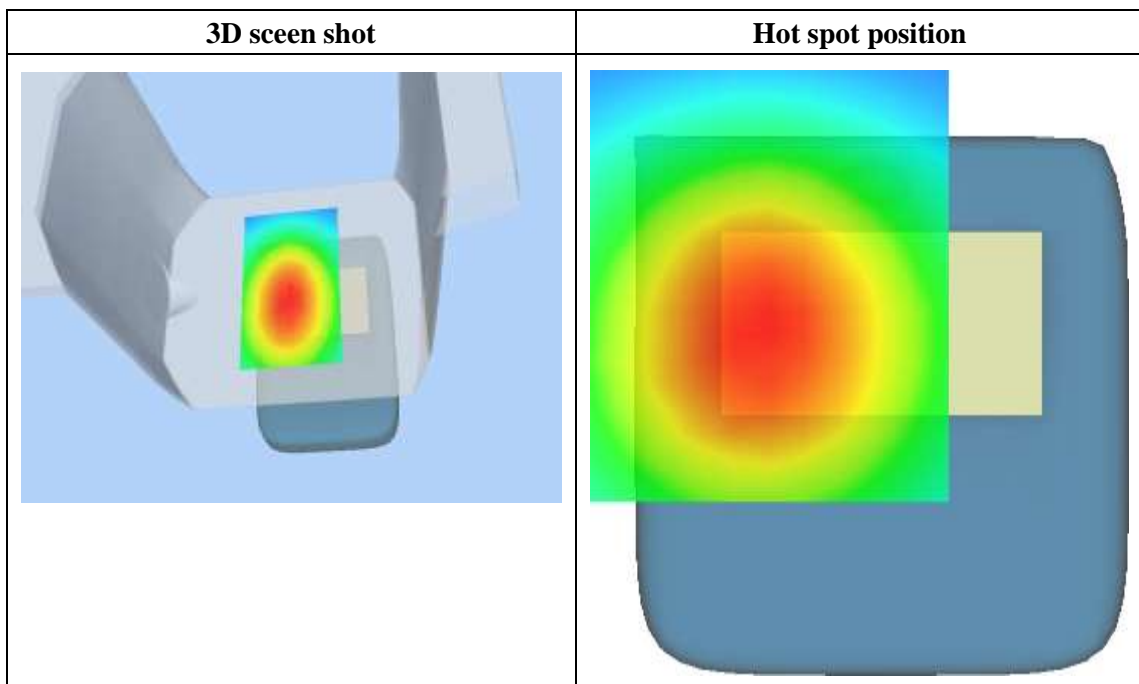
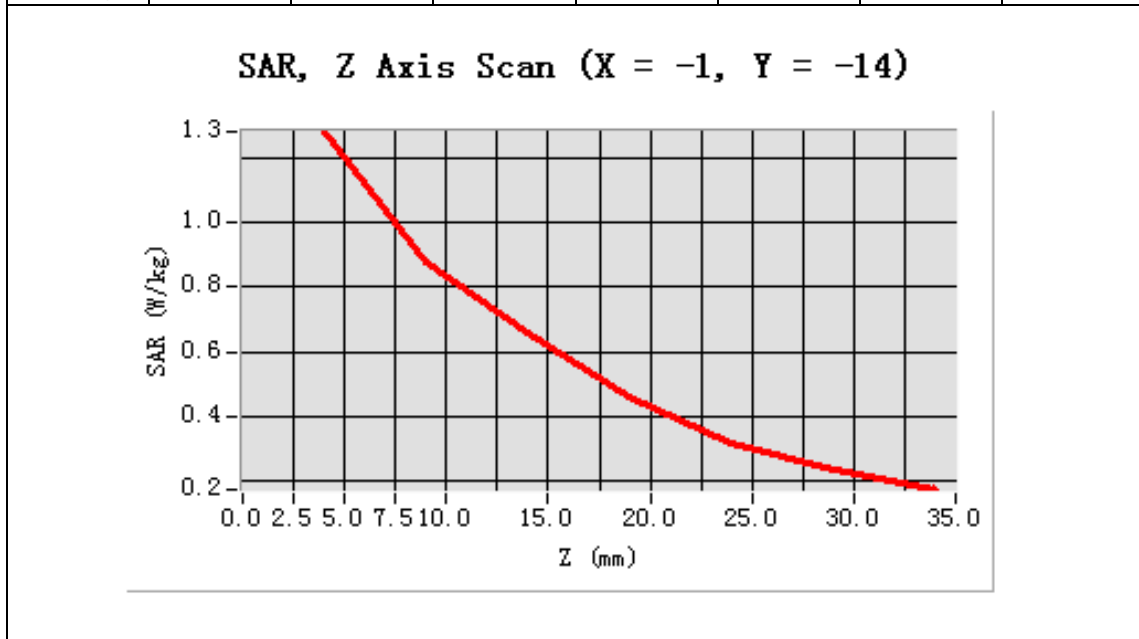


Maximum location: X=-1.00, Y=-14.00

SAR 10g (W/Kg)	0.152995
SAR 1g (W/Kg)	0.318554

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.3833	0.3790	0.3600	0.2632	0.2111	0.1524



System Performance Check Data(1900MHz Body)

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

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

Date of measurement: 10/9/2010

Measurement duration: 9 minutes 15 seconds

A. Experimental conditions.

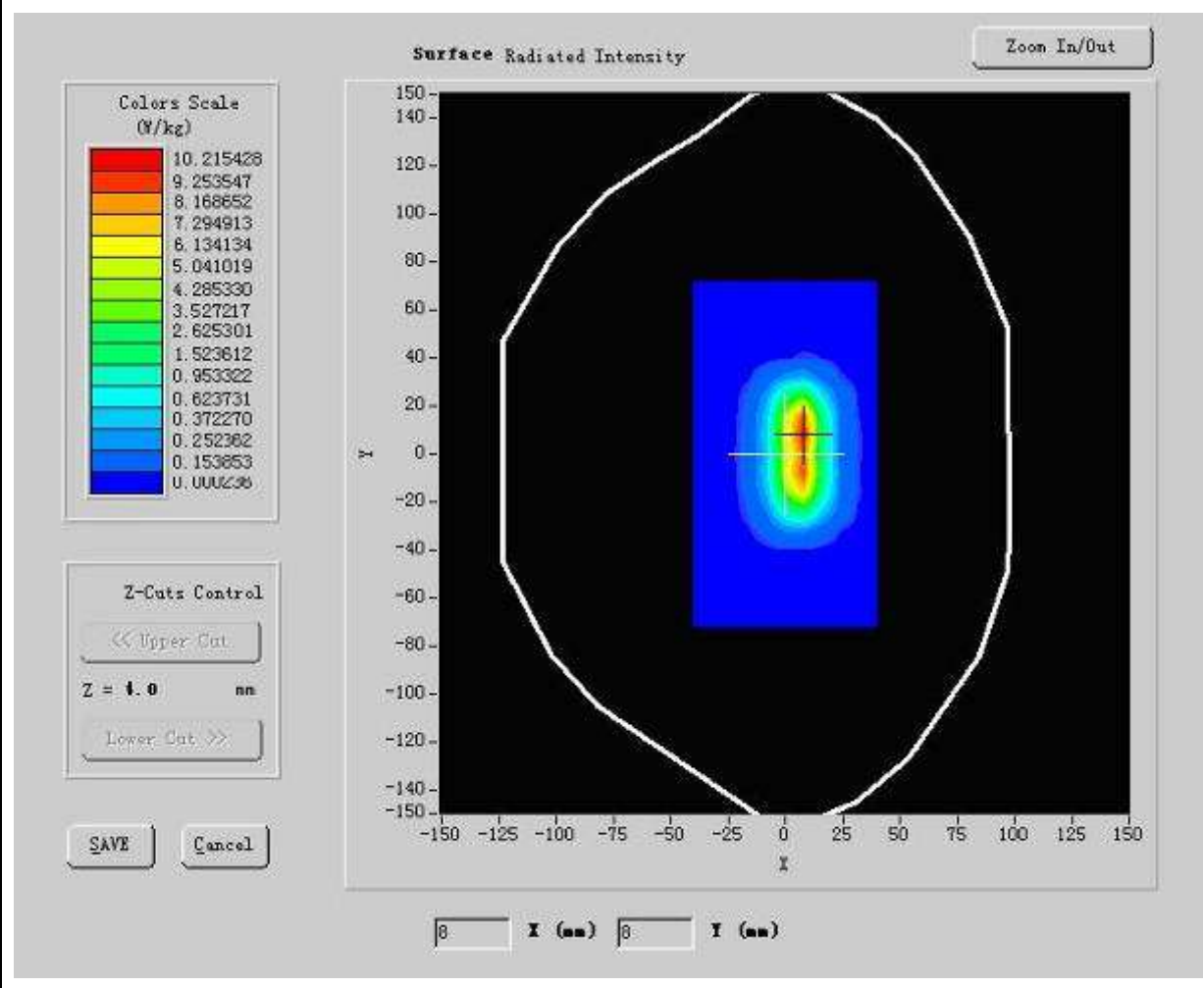
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	
Signal	CW

B. SAR Measurement Results

Frequency (MHz)	1900.000000
Relative permittivity (real part)	54.34679
Relative permittivity (imaginary part)	21.141650
Conductivity (S/m)	1.5116400
Variation (%)	0.370000

Ambient Temperature:	23.5 °C
Liquid Temperature:	22.8 °C
ConvF:	40.625,34.773,38.535
Crest factor:	1:1

SURFACE SAR



Maximum location: X=7.00, Y=8.00

SAR 10g (W/Kg)	5.310245
SAR 1g (W/Kg)	10.23831

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	1.3512	0.3734	0.0987	0.0362

SAR, Z Axis Scan (X = 7, Y = 8)

