FCC SAR

TEST REPORT

of

WCDMA USB mode

Model Name:	HW-WM100
Trade Name:	Haier
Report No.:	SZ08120148S01
FCC ID:	SG70812HW-WM100

prepared for

Qingdao Haier Telecom Co., Ltd.
No.1,Haier Road,Hi-tech Zone,Qingdao,266101,P.R.China

Prepared by

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

NOTE: This test report can be duplicated completely for the legal use with the approval of the applicant, it shall not be reproduced except in full, without the written approval of Shenzhen Electronic Product Quality Testing Center Morlab Laboratory. Any objections should be raised to us within thirty workdays since the date of issue.

Contents

1. GENERAL INFORMATION 4

1.1. Notes 4

1.2. Organization item 4

1.3. Conclusion 4

2. TESTING LABORATORY 5

2.1. Identification of the Responsible Testing Laboratory 5

2.2. Identification of the Responsible Testing Location 5

2.3. Accreditation Certificate 5

2.4. List of Test Equipments 5

3. TECHNICAL INFORMATION 6

3.1. Identification of Applicant 6

3.2. Identification of Manufacturer 6

3.3. Equipment Under Test (EUT) 6

3.3.1. Photographs of the EUT 7

3.3.2. Identification of all used EUTs 7

4. TEST RESULTS 7

4.1. Applied Reference Documents 7

4.2. Test Environment/Conditions 8

4.3. Operational Conditions During Test 9

4.3.1. Informations On The Testing 9

4.3.2. The Measurement System 11

4.3.3. Uncertainty Assessment 13

4.3.4. Equipments and results of validation testing 14

4.3.5. Dielectric Performance 15

4.3.6. Simulant liquids 16

4.4. 3G MEASUREMENT PROCEDURES 16

4.4.1. Procedures Used To Establish Test Signal 16

4.4.2. SAR Measurement Conditions for WCDMA 16

4.4.3. Output Power Verification 16

4.4.4. Body SAR Measurement 17

4.4.5. USB Dongle with HSDPA 17
4.5. Items used in the Test Results List 18
4.6. Test Results List 19
ACCREDITATION CERTIFICATE **23**
ANNEX A PHOTOGRAPHS OF THE EUT **24**
ANNEX B GRAPH TEST RESULTS **31**

1. General Information

1.1. Notes

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

1.2. Organization item

Report No.:	SZ08120148S01
Date of Issue:	Mar 16, 2009
Date of Tests:	Mar 5, 2009 –Mar 6, 2009
Responsible for Accreditation:	Shu Luan
Project Manager:	Li Lei
Deputy Project Manager:	Liao jianming

1.3. Conclusion

Shenzhen Electronic Product Quality Testing Center Morlab Laboratory has verified that all tests as listed in the section 4.6 of this report haven been performed successfully with the tested equipment.

LiLei
Tested by
(Responsible for the Test Report)

Liao jianming
Reviewed by
(Verification of the Test Report)

Shu Luan
Approved by
(Responsible Test Lab Manager)

2. Testing Laboratory

2.1. Identification of the Responsible Testing Laboratory

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

2.2. Identification of the Responsible Testing Location

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

2.3. Accreditation Certificate

Accredited Testing Laboratory:	No. CNAS L1659 (see 0)

2.4. List of Test Equipments

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

3. Technical Information

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

3.1. Identification of Applicant

Company Name:	Qingdao Haier Telecom Co., Ltd.
Address:	No.1,Haier Road,Hi-tech Zone,Qingdao,266101,P.R.China
Contact Person:	Xu jun
Telephone:	+86(532)88936583
Facsimile:	+86(532)88939585
E-mail:	xu_jun@haier.com

3.2. Identification of Manufacturer

Company Name:	Qingdao Haier Telecom Co., Ltd.
Address:	No.1,Haier Road,Hi-tech Zone,Qingdao,266101,P.R.China
Contact Person:	Lu Xiao Tao
Telephone:	+86(532)88936583
Facsimile:	+86(532)88939585
E-mail:	xu_jun@haier.com

3.3. Equipment Under Test (EUT)

Brand Name:	Haier
Type Name:	Haier
Marking Name:	HW-WM100
Hardware Version:	H01
Software Version:	HW-WM100-H01-S001
Frequency Bands:	GSM 850MHz (channel 128:824.20MHz,channel 190:836.59MHz, channel 251:848.29MHz) PCS 1900MHz (channel 512:1850.19MHz,channel 661:1880.00MHz, channel 810:1909.80MHz) WCDMA 850MHz (channel 4132:826.00MHz, channel 4182:836.00MHz, channel 4233:846.00MHz) WCDMA 1900MHz (channel 9262:1852.00MHz, channel 9400:1880.00MHz, channel 9538:1907.00MHz)
Modulation Mode:	GSM 850MHz,GSM 1900MHz,WCDMA 850MHz,WCDMA 1900MHz
Antenna type:	Build inside
Accessories:	N.A

3.3.1. Photographs of the EUT

Please see for photographs of the EUT.

3.3.2. Identification of all used EUTs

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

EUT Identity	IMEI	Hardware Version	Software Version
1#	135790246811220	H01	HW-WM100-H01-S001
2#	135790246811220	H01	HW-WM100-H01-S001

4. Test Results

4.1. Applied Reference Documents

Leading reference documents for testing:

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

4.2. Test Environment/Conditions

Normal Temperature (NT):	20 ... 25 °C		
Relative Humidity:	30 ... 75 %		
Air Pressure:	980 ... 1020 hPa		
Details of Power Supply:	220V/50Hz AC		
Extreme Temperature:	Low Temperature (LT)	=	-10°C
	High Temperature (HT)	=	55°C
Extreme Voltage of the EUT:	Normal Voltage (NV)	=	3.70V
	Low Voltage (LV)	=	3.60V
	High Voltage (HV)	=	4.20V
Test frequency:	GSM 850MHz,GSM 1900MHz, WCDMA 850MHz,WCDMA 1900MHz		
Operation mode:	Call established		
Power Level:	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 allocated to 125, 190 and 251 respectively in the case of GSM 850 MHz, or to 512, 661 and 810 respectively in the case of DCS 1800 MHz or is allocated to 4132, 4182 and 4233 respectively in the case of WCDMA 850MHz and is allocated to 9262, 9400 and 9538 respectively in the case of GSM 1900MHz, The EUT is commanded to operate at maximum transmitting power.
The EUT shall use its internal transmitter. The antenna(s), battery and accessories shall be those specified by the manufacturer. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output. If a wireless link is used, the antenna connected to the output of the base station simulator shall be placed at least 50 cm away from the handset.
The signal transmitted by the simulator to the antenna feeding point shall be lower than the output power level of the handset by at least 35 dB.

4.3.Operational Conditions During Test

4.3.1. Informations On The Testing

I. INFORMATIONS ON THE TESTING

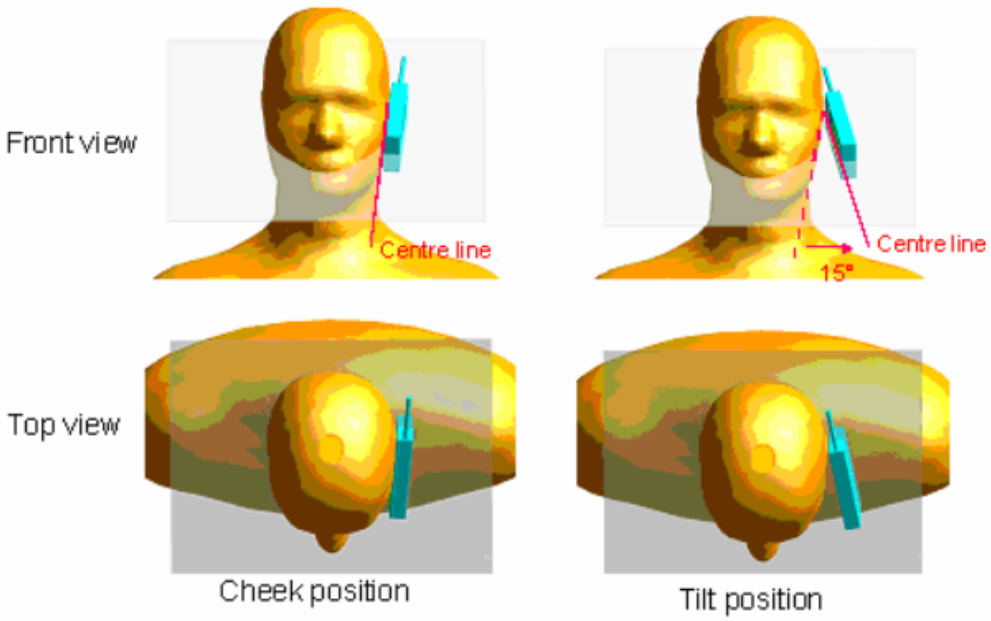
I.1. Normative reference

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

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

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

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



Description of the « cheek » position:

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

Description of the « tilted » position:

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

4.3.2. The Measurement System

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

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

The following figure shows the system.

COMOSAR bench

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

II.1. Phantom

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

II.2. Probe

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

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

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

II.3. Measurement procedure

The following steps are used for each test position

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

II.4 Description of interpolation/extrapolation scheme

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

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

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

4.3.3. Uncertainty Assessment

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

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/e	k
Uncertainty Component	Sec.	Tol (+-%)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	Vi
Measurement System									
Probe calibration	E.2.1	7.0	N	1	1	1	7.00	7.00	∞
Axial Isotropy	E.2.2	2.5	R	$\sqrt{3}$	$(1\text{-}Cp)^{1/2}$	$(1\text{-}Cp)^{1/2}$	1.02	1.02	∞
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	$\sqrt{Cp}$	$\sqrt{Cp}$	1.63	1.63	∞
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Linearity	E.2.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
System detection limits	E.2.5	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	∞
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.02	∞
Reponse Time	E.2.7	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Integration Time	E.2.8	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
RF ambient Conditions	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	∞
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Extrapolation, interpolation and integration Algoritms for Max. SAR Evaluation	E.5.2	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Test sample Related									
Test sample positioning	E.4.2.1	0.03	N	1	1	1	0.03	0.03	N-1
Device Holder Uncertainty	E.4.1.1	5.00	N	1	1	1	5.00	5.00	
Output power Variation - SAR drift measurement	6.6.2	4.76	R	$\sqrt{3}$	1	1	2.75	2.75	∞
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Liquid conductivity - deviation from target value	E.3.2	0.57	R	$\sqrt{3}$	0.64	0.43	0.21	0.14	∞

Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	1	0.64	0.43	3.20	2.15	M
Liquid permittivity - deviation from target value	E.3.2	3.66	R	$\sqrt{3}$	0.6	0.49	1.27	1.04	∞
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	1	0.6	0.49	6.00	4.90	M
Combined Standard Uncertainty			RSS				11.28	10.78	
Expanded Uncertainty (95% Confidence interval)			k				21.99	21.03	

4.3.4. Equipments and results of validation testing

Equipments :

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

Results:

Frequency	835MHz	1900MHz
Target value（1g）	10.8 W/Kg(body)	39.7 W/Kg
250 mW input power	2.69 W/Kg (body)	10.10 W/Kg (body)
Test value（1g）	10.76 W/Kg (body)	40.4 W/Kg (body)

Note:Please refer to check the system performance data, the first 191-196 page.

4.3.5. Dielectric Performance

The measured 1-gram averaged SAR values of the device against the head and the body are provided in Tables 1 and 2 respectively. The humidity and ambient temperature of test facility were 54% ~60% and 23.0 °C ~23.8°C respectively. The SAM head phantom（SN 0381 SH）were full of the head tissue simulating liquid. The depth of the body tissue was 15.1cm. The distance between the back of the device and the bottom of the flat phantom is 1.5cm (taking into account of the IEEE 1528 and the place of the antenna). A base station simulator was used to control the device during the SAR measurement. The phone was supplied with full-charged battery for each measurement.
For head measurement, the device was tested at the lowest, middle and highest frequencies in the transmit band.

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: 22.0~23.8°C, humidity: 54~60%.			
/	**Frequency**	**Permittivity ε**	**Conductivity σ (S/m)**
Target value	835 MHz	56.1	0.95
Validation value (Mar 6)	835 MHz	55.872231	0.954822
Target value	1800 MHz	54	1.45
Validation value (Mar 5)	1800 MHz	53.548876	1.473978

4.3.6. Simulant liquids

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

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

4.4. 3G MEASUREMENT PROCEDURES

4.4.1. 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.

4.4.2. SAR Measurement Conditions for WCDMA

These procedures were followed according to FCC KDB 941225, October, 2007.

4.4.3. Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR

with TPC(transmit power control) set to all “1s”. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes) should be tabulated in the test report. All configurations that are not supported by the EUT or cannot be measured due to technical or equipment limitations should be clearly identified.

4.4.4. Body SAR Measurement

SAR for body exposure configurations is measured using the 12.2 kbps RMC with TPC bits configured to all “1s”.

4.4.5. USB Dongle with HSDPA

Body SAR is also measured for HSDPA when the maximum average output of each RF channel with HSDPA active is at least 1/4 dB higher then that measured without HSDPA using 12.2kbps RMC or the maximum SAR for 12.2kbps RMC is above 75% of the SAR limit. Body SAR for HSDPA is measured using an FRC with H-Set 1 in Sub-test 1 and a 12.2kbps RMC configured in Test Loop Mode 1,using the highest body SAR configuration in 12.2kbps RMC without HSDPA.

Band		HSDPA INACTIVE		HSDPA ACTIVE	
	Channel	12.2kbps RMC (dBm)	12.2kbps RMC (dBm)	12.2kbps RMC (dBm)	12.2kbps RMC (dBm)
Cellular 850MHz	4132	24.03	24.02	24.05	24.14
	4175	23.94	23.92	23.95	23.98
	4233	24.07	24.05	24.08	24.54
PCS 1900MHz	9262	24.02	24.02	24.12	24.03
	9400	24.07	24.06	24.22	24.06
	9538	24.18	24.11	24.12	24.11

4.5. Items used in the Test Results List

Terms in the column “Verdict” for the test results list of the section 4.6:

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

4.6. Test Results List

Summary of Measurement Results (GSM 850MHz Band)
SAR Values (GSM 850MHz Band), Measured against the body0.

Temperature: 23.0~23.8°C, humidity: 54~60%.		
Limit of SAR (W/kg)	1 g Average	
	1.2	
Test Case	Measurement Result (W/kg)	
	1 g Average (W/kg)	Power level (dBm)
Validation Plane with Body device position on Low Channel in GSM mode（Horizontal-Up）	0.218	31.16
Validation Plane with Body device position on Middle Channel in GSM mode（Horizontal-Up）	0.233	31.4
Validation Plane with Body device position on High Channel in GSM mode（Horizontal-Up）	**0.459**	**31.34**
Validation Plane with Body device position on Low Channel in GSM mode（Horizontal-Down）	0.135	31.16
Validation Plane with Body device position on Middle Channel in GSM mode（Horizontal-Down）	0.183	31.4
Validation Plane with Body device position on High Channel in GSM mode（Horizontal-Down）	0.214	31.34
Validation Plane with Body device position on Low Channel in GSM mode（Vertical-Front）	0.053	31.16
Validation Plane with Body device position on Middle Channel in GSM mode（Vertical-Front）	0.073	31.4
Validation Plane with Body device position on High Channel in GSM mode（Vertical-Front）	0.101	31.34
Validation Plane with Body device position on Low Channel in GSM mode（Vertical-Back）	0.038	31.16
Validation Plane with Body device position on Middle Channel in GSM mode（Vertical-Back）	0.060	31.4
Validation Plane with Body device position on High Channel in GSM mode（Vertical-Back）	0.090	31.34
Validation Plane with Body device position on High Channel in GSM mode with GPRS（Horizontal-Up）	**0.534**	**31.34**
Validation Plane with Body device position on High Channel in GSM mode with EDGE（Horizontal-Up）	**0.230**	**31.34**

ummary of Measurement Results (GSM 1900MHz Band)
SAR Values (GSM 1900MHz Band), Measured against the body0.

Temperature: 23.0~23.8°C, humidity: 54~60%.		
Limit of SAR (W/kg)	1 g Average	
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average (W/kg)	Power level (dBm)
Validation Plane with Body device position on Low Channel in GSM mode （Horizontal-Up）	0.538	27.01
Validation Plane with Body device position on Middle Channel in GSM mode（Horizontal-Up）	**0.632**	**27.11**
Validation Plane with Body device position on High Channel in GSM mode（Horizontal-Up）	0.258	27.3
Validation Plane with Body device position on Low Channel in GSM mode（Horizontal-Down）	0.304	27.01
Validation Plane with Body device position on Middle Channel in GSM mode（Horizontal-Down）	0.348	27.11
Validation Plane with Body device position on High Channel in GSM mode（Horizontal-Down）	0.249	27.3
Validation Plane with Body device position on Low Channel in GSM mode（Vertical-Front）	0.212	27.01
Validation Plane with Body device position on Middle Channel in GSM mode（Vertical-Front）	0.253	27.11
Validation Plane with Body device position on High Channel in GSM mode（Vertical-Front）	0.175	27.3
Validation Plane with Body device position on Low Channel in GSM mode（Vertical-Back）	0.202	27.01
Validation Plane with Body device position on Middle Channel in GSM mode（Vertical-Back）	0.232	27.11
Validation Plane with Body device position on High Channel in GSM mode（Vertical-Back）	0.170	27.3
Validation Plane with Body device position on Middle Channel in GSM mode with GPRS（Horizontal-Up）	**0.815**	**27.11**
Validation Plane with Body device position on Middle Channel in GSM mode with EDGE（Horizontal-Up）	**0.600**	**27.11**

ummary of Measurement Results (WCDMA 850MHz Band)
SAR Values (WCDMA 850MHz Band), Measured against the body0.

Temperature: 23.0~23.8°C, humidity: 54~60%.		
Limit of SAR (W/kg)	1 g Average	
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average (W/kg)	Power level (dBm)
Validation Plane with Body device position on Low Channel in WCDMA mode（Horizontal-Up）	0.327	23.41
Validation Plane with Body device position on Middle Channel in WCDMA mode（Horizontal-Up）	0.348	23.25
Validation Plane with Body device position on High Channel in WCDMA mode（Horizontal-Up）	**0.378**	**24.12**
Validation Plane with Body device position on Low Channel in WCDMA mode（Horizontal-Down）	0.284	23.41
Validation Plane with Body device position on Middle Channel in WCDMA mode（Horizontal-Down）	0.297	23.25
Validation Plane with Body device position on High Channel in WCDMA mode（Horizontal-Down）	0.312	24.12
Validation Plane with Body device position on Low Channel in WCDMA mode（Vertical-Front）	0.147	23.41
Validation Plane with Body device position on Middle Channel in WCDMA mode（Vertical-Front）	0.162	23.25
Validation Plane with Body device position on High Channel in WCDMA mode（Vertical-Front）	0.199	24.12
Validation Plane with Body device position on Low Channel in WCDMA mode（Vertical-Back）	0.164	23.41
Validation Plane with Body device position on Middle Channel in WCDMA mode（Vertical-Back）	0.166	23.25
Validation Plane with Body device position on High Channel in WCDMA mode（Vertical-Back）	0.186	24.12
Validation Plane with Body device position on High Channel in WCDMA mode with HSDPA（Horizontal-Up）	**0.396**	**24.12**

ummary of Measurement Results (WCDMA 1900MHz Band)
SAR Values (WCDMA 1900MHz Band), Measured against the body0.

Temperature: 23.0~23.8°C, humidity: 54~60%.		
Limit of SAR (W/kg)	1 g Average	
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average (W/kg)	Power level (dBm)
Validation Plane with Body device position on Low Channel in WCDMA mode（Horizontal-Up）	0.634	22.75
Validation Plane with Body device position on Middle Channel in WCDMA mode（Horizontal-Up）	0.458	22.66
Validation Plane with Body device position on High Channel in WCDMA mode（Horizontal-Up）	0.566	21.57
Validation Plane with Body device position on Low Channel in WCDMA mode（Horizontal-Down）	0.625	22.75
Validation Plane with Body device position on Middle Channel in WCDMA mode（Horizontal-Down）	0.375	22.66
Validation Plane with Body device position on High Channel in WCDMA mode（Horizontal-Down）	0.485	21.57
Validation Plane with Body device position on Low Channel in WCDMA mode（Vertical-Front）	**0.654**	**22.75**
Validation Plane with Body device position on Middle Channel in WCDMA mode（Vertical-Front）	0.435	22.66
Validation Plane with Body device position on High Channel in WCDMA mode（Vertical-Front）	0.530	21.57
Validation Plane with Body device position on Low Channel in WCDMA mode（Vertical-Back）	0.295	22.75
Validation Plane with Body device position on Middle Channel in WCDMA mode（Vertical-Back）	0.160	22.66
Validation Plane with Body device position on High Channel in WCDMA mode（Vertical-Back）	0.195	21.57
Validation Plane with Body device position on Low Channel in WCDMA mode with SHDPA（Vertical-Front）	**0.699**	**22.75**

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 0.5cm(taking into account of the IEEE 1528 and the place of the antenna)

Accreditation Certificate

China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(No. CNAS L1659)

China National Accreditation Service for Conformity Assessment has accredited

Shenzhen Electronic Product Quality Testing Center
(CQCS Testing Co. Ltd.)

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

to ISO/IEC 17025:1999 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing and calibration.

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

Date of Issue: 2007-01-17

Date of Expiry: 2009-10-08

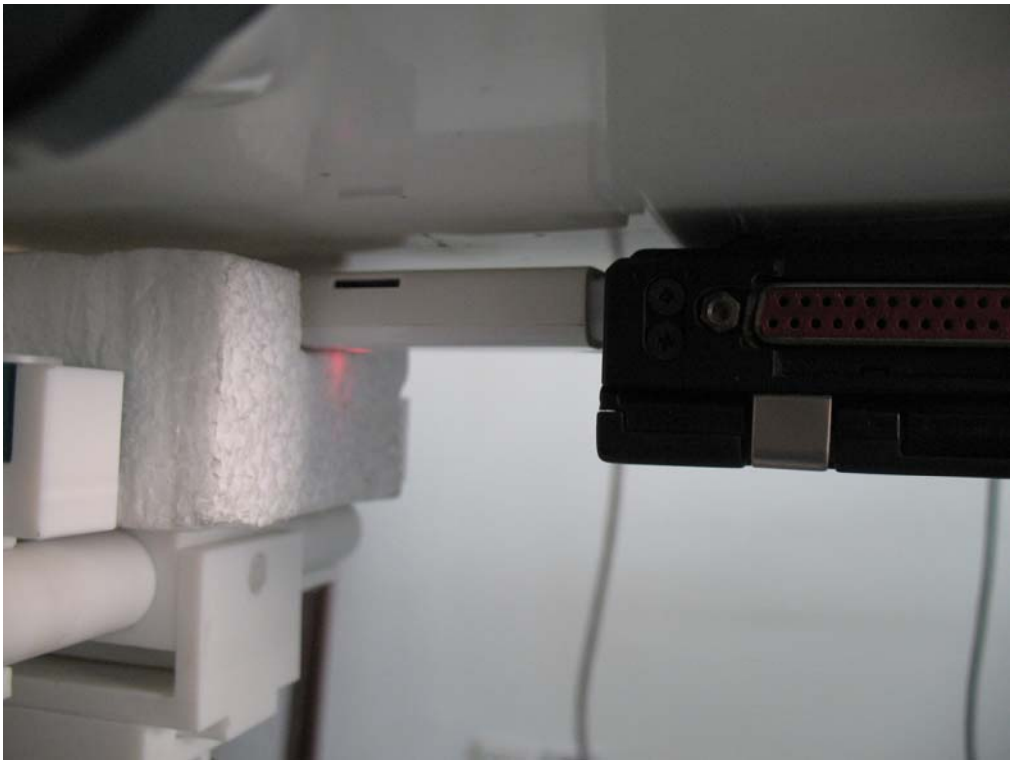
Date of Initial Accreditation: 1999-08-03

Signed on behalf of China National Accreditation Service for Conformity Assessment

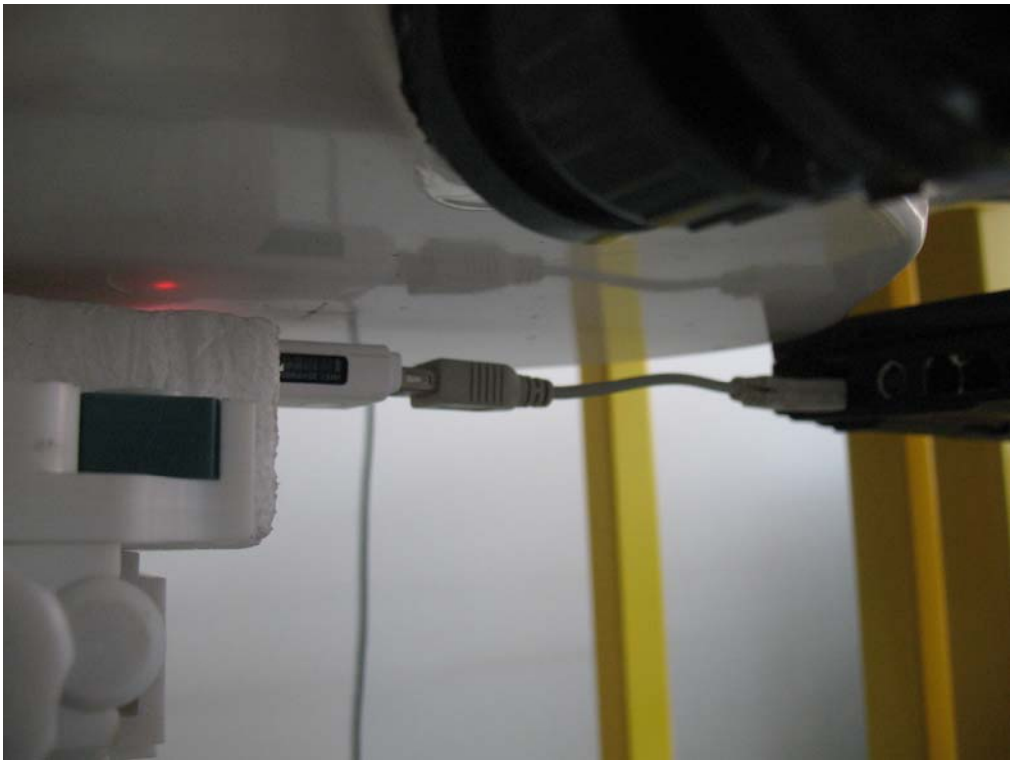
China National Accreditation Service for Conformity Assessment(CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation systems for conformity assessment. CNAS is the signatory to International Laboratory Accreditation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

Annex A Photographs of the EUT

1 EUT Horizontal-Up(PC:IBM T42)

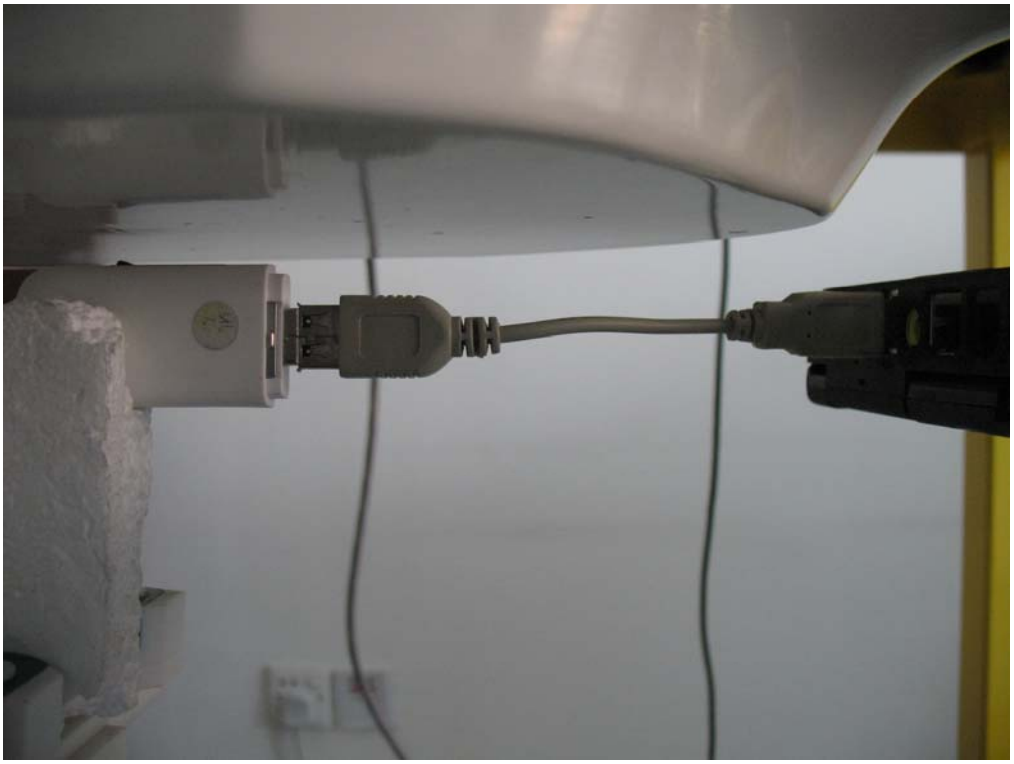


2 EUT Horizontal-Down

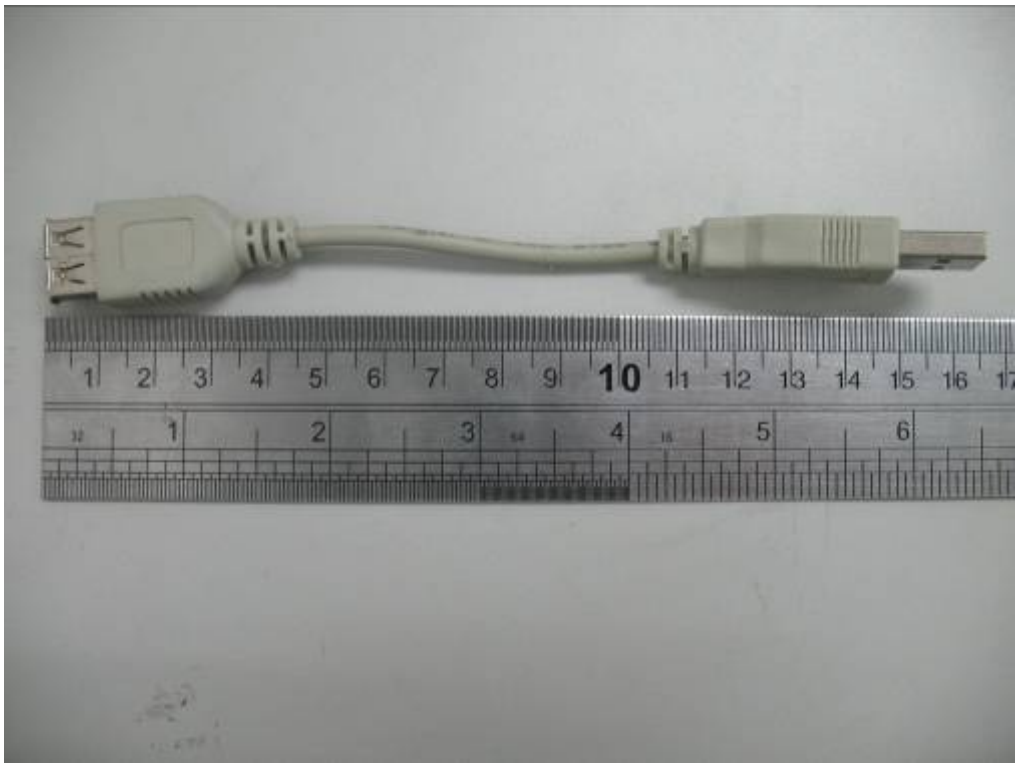


3 EUT Vertical-Front(PC:IBM T20)

4 EUT Vertical-Back

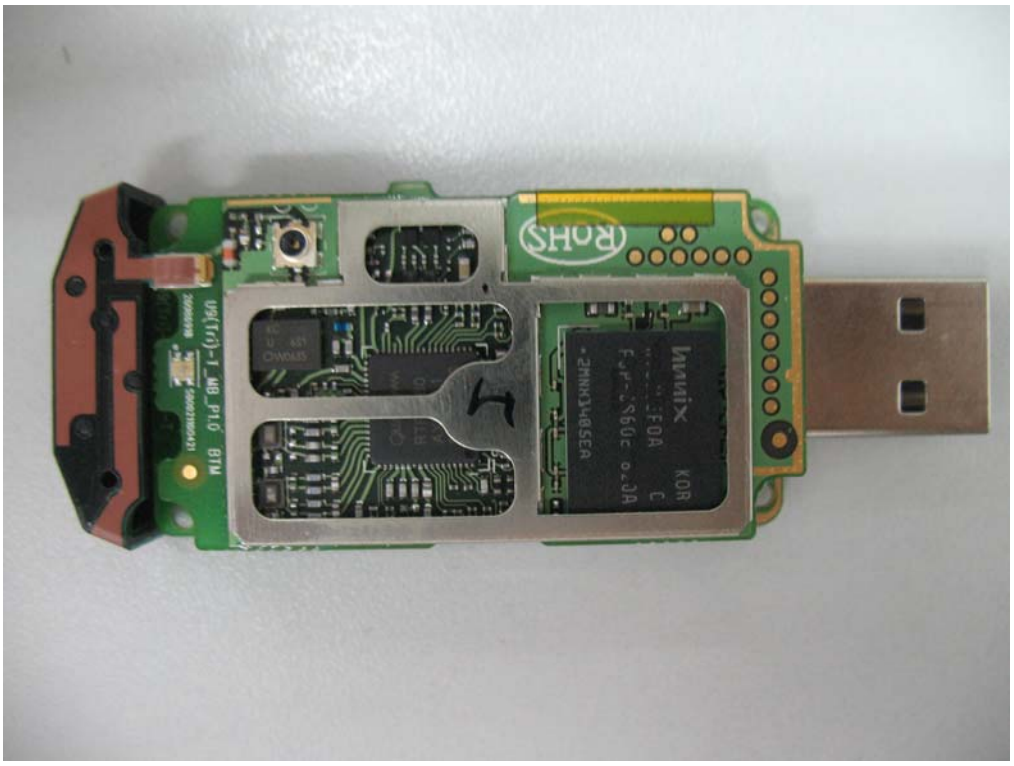


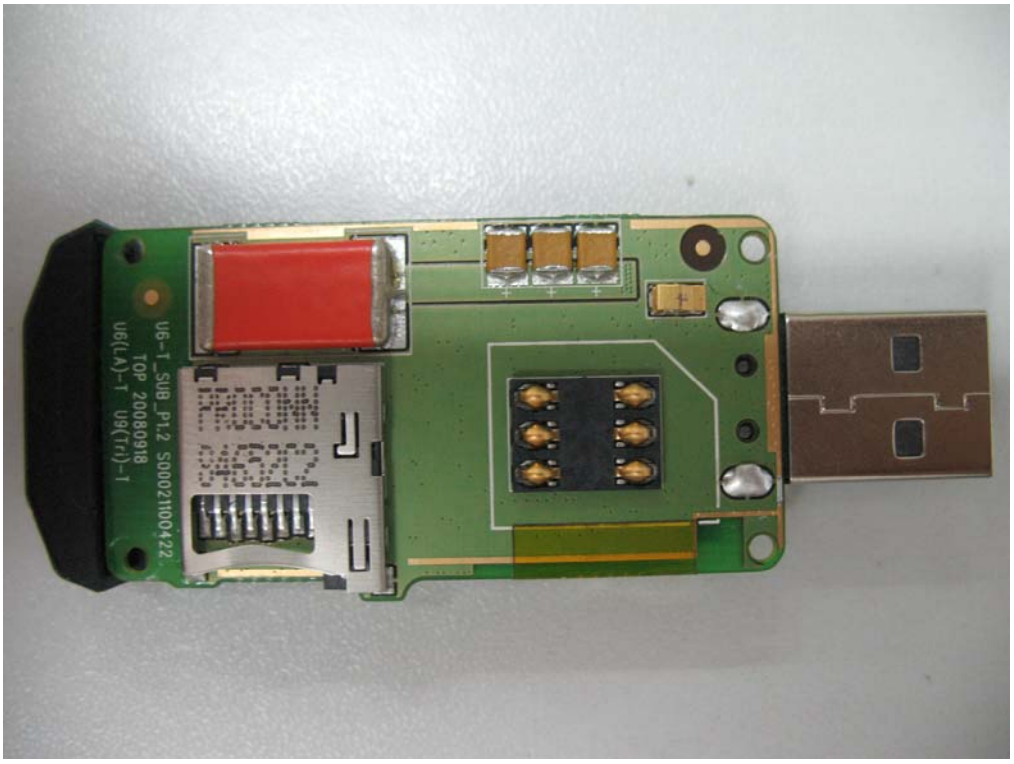
5 Data line

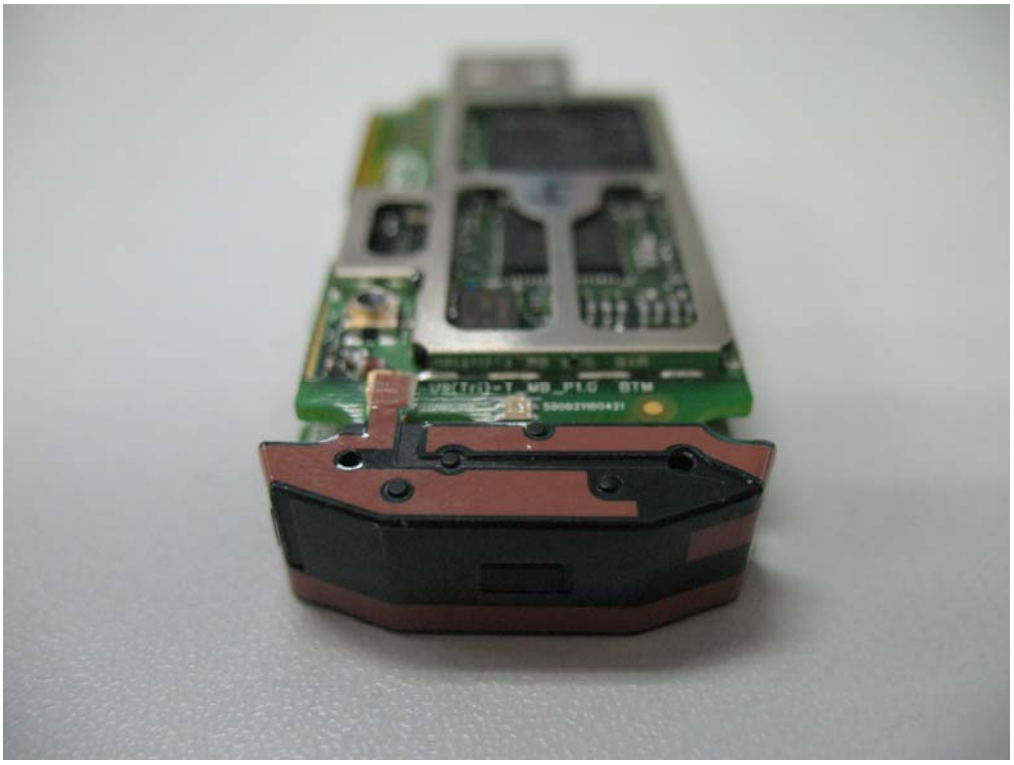


interior


U6(Tri)-T
SN:E168C10D45608748
Ver:U6(Tri)-T_SHDATA-V01.0
_081203_U31 01.1
U9(Tri)-T_WB_P1.0 BTM


U6(Tri)-T_WB_P1.0 BTM


U6-T_SUB_P1.2 S000210042
TOP 2008091
U6(LA)-T U9(Tri)-T



Annex B Graph Test Results

TYPE	BAND	PARAMETERS
Noise	GSM 850	Measurement 1: Validation Plane with Body device position on Low Channel in GSM mode （**Horizontal-Up**） Measurement 2: Validation Plane with Body device position on Middle Channel in GSM mode （**Horizontal-Up**） Measurement 3: Validation Plane with Body device position on High Channel in GSM mode （**Horizontal-Up**） Measurement 4: Validation Plane with Body device position on Low Channel in GSM mode （**Horizontal-Down**） Measurement 5: Validation Plane with Body device position on Middle Channel in GSM mode （**Horizontal-Down**） Measurement 6: Validation Plane with Body device position on High Channel in GSM mode （**Horizontal-Down**） Measurement 7: Validation Plane with Body device position on Low Channel in GSM mode （**Vertical-Front**） Measurement 8: Validation Plane with Body device position on Middle Channel in GSM mode （**Vertical-Front**）

		position on High Channel in GSM mode with GPRS （**Horizontal-Up**） Measurement 14: Validation Plane with Body device position on High Channel in GSM mode with EDGE （**Horizontal-Up**）
	GSM 1900	-- Measurement 1: Validation Plane with Body device position on Low Channel in GSM mode with GPRS （**Horizontal-Up**） Measurement 2: Validation Plane with Body device position on Middle Channel in GSM mode with GPRS （**Horizontal-Up**） Measurement 3: Validation Plane with Body device position on High Channel in GSM mode with GPRS （**Horizontal-Up**） Measurement 4: Validation Plane with Body device position on Low Channel in GSM mode with GPRS （**Horizontal-Down**） Measurement 5: Validation Plane with Body device position on Middle Channel in GSM mode with GPRS （**Horizontal-Down**） Measurement 6: Validation Plane with Body device position on High Channel in GSM mode with GPRS （**Horizontal-Down**） Measurement 7: Validation Plane with Body device position on Low Channel in GSM mode with GPRS （**Vertical-Front**） Measurement 8: Validation Plane with Body device position on Middle Channel in GSM mode with GPRS （**Vertical-Front**）

		Measurement 13: Validation Plane with Body device position on Middle Channel in GSM mode with GPRS （**Horizontal-Up**） Measurement 14: Validation Plane with Body device position on Middle Channel in GSM mode with EDGE （**Horizontal-Up**）
	WCDMA 850	Validation Plane with Body device position on Low Channel in WCDMA mode（**Horizontal-Up**） Validation Plane with Body device position on Middle Channel in WCDMA mode（**Horizontal-Up**） Validation Plane with Body device position on High Channel in WCDMA mode（**Horizontal-Up**） Validation Plane with Body device position on Low Channel in WCDMA mode（**Horizontal-Down**） Validation Plane with Body device position on Middle Channel in WCDMA mode（**Horizontal-Down**） Validation Plane with Body device position on Back Channel in WCDMA mode（**Horizontal-Down**） Validation Plane with Body device position on Low Channel in WCDMA mode（**Vertical-Front**） Validation Plane with Body device position on Middle Channel in WCDMA mode（**Vertical-Front**） Validation Plane with Body device position on High Channel in WCDMA mode（**Vertical-Front**） Validation Plane with Body device position on Low Channel in WCDMA mode（**Vertical-Back**） Validation Plane with Body device position on Middle Channel in WCDMA mode（**Vertical-Back**） Validation Plane with Body device position on High Channel in WCDMA mode（**Vertical- Back**） Validation Plane with Body device position on High Channel in WCDMA mode with SHDPA （**Horizontal-Up**）
	WCDMA 1900	Validation Plane with Body device position on Low Channel in WCDMA mode（**Horizontal-Up**） Validation Plane with Body device position on Middle Channel in WCDMA mode（**Horizontal-Up**） Validation Plane with Body device position on High Channel in WCDMA mode（**Horizontal-Up**） Validation Plane with Body device position on Low Channel in WCDMA mode（**Horizontal-Down**）

		Validation Plane with Body device position on Middle Channel in WCDMA mode（**Horizontal-Down**） Validation Plane with Body device position on Back Channel in WCDMA mode（**Horizontal-Down**） Validation Plane with Body device position on Low Channel in WCDMA mode（**Vertical-Front**） Validation Plane with Body device position on Middle Channel in WCDMA mode（**Vertical-Front**） Validation Plane with Body device position on High Channel in WCDMA mode（**Vertical-Front**） Validation Plane with Body device position on Low Channel in WCDMA mode（**Vertical-Back**） Validation Plane with Body device position on Middle Channel in WCDMA mode（**Vertical-Back**） Validation Plane with Body device position on High Channel in WCDMA mode（**Vertical-Back**）Validation Plane with Body device position on Low Channel in WCDMA mode with SHDPA（**Horizontal-Down**）

Note：1.The depth of the body tissue was 15.1cm. Test all USB orientations (A: Horizontal-Up, B: Horizontal-Down, C: Vertical-Front, and D: Vertical-Back) with a device to phantom separation distance of 5 mm (taking into account of the IEEE 1528 and the place of the antenna)。

2. The separation distance is determined corroding to FCC KDB 447498 D01 Section 2(b)(ii)(1) states, the SAR value of 5mm distance is less than 50% of initial touching position.

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: 6/3/2009

Measurement duration: 9 minutes 46 seconds

A. Experimental conditions.

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

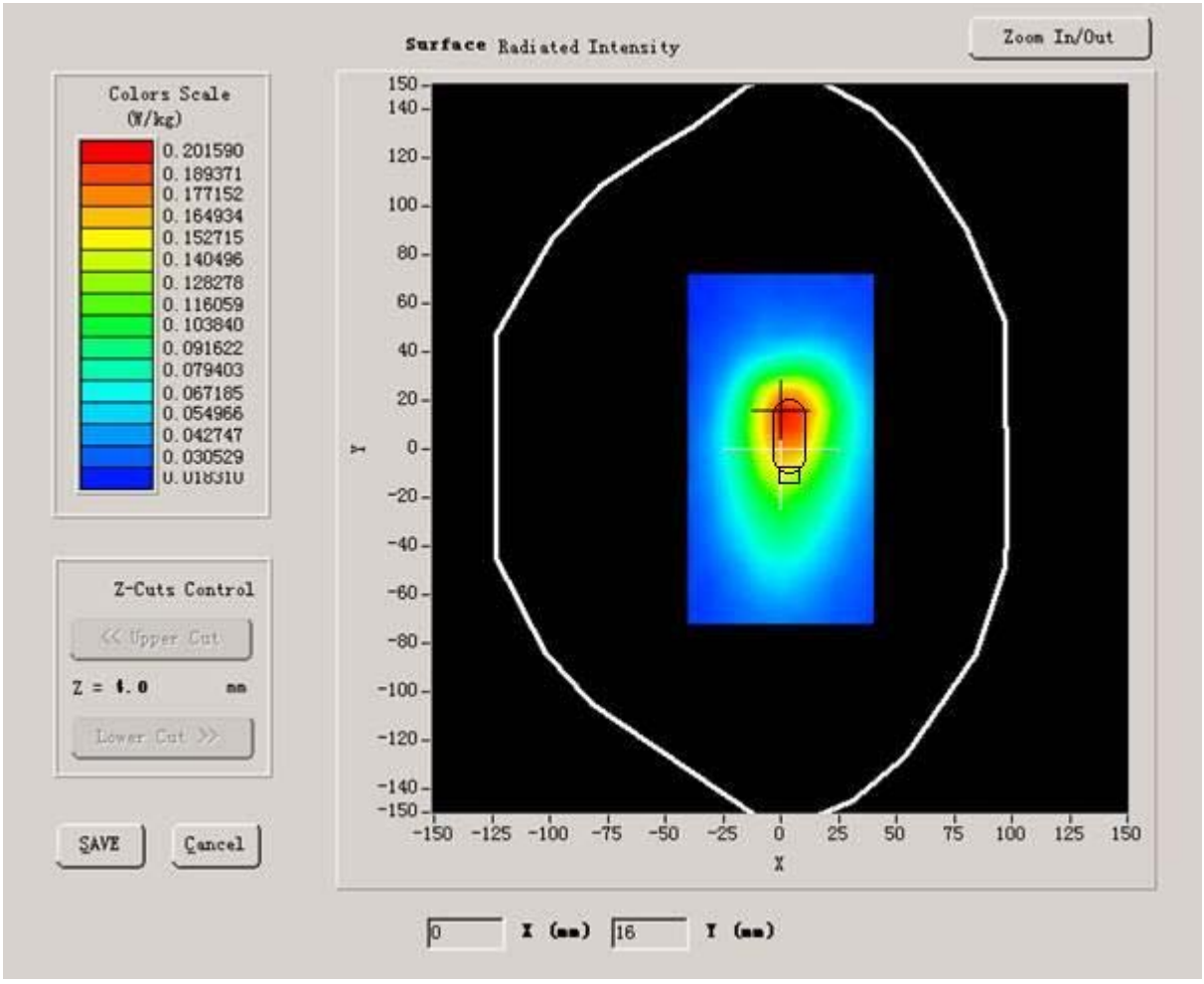
B. SAR Measurement Results

Lower Band SAR (Channel 128):

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

Conductivity (S/m)	0.974596
Variation (%)	-1.860000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor:	1:8.4

VOLUME SAR

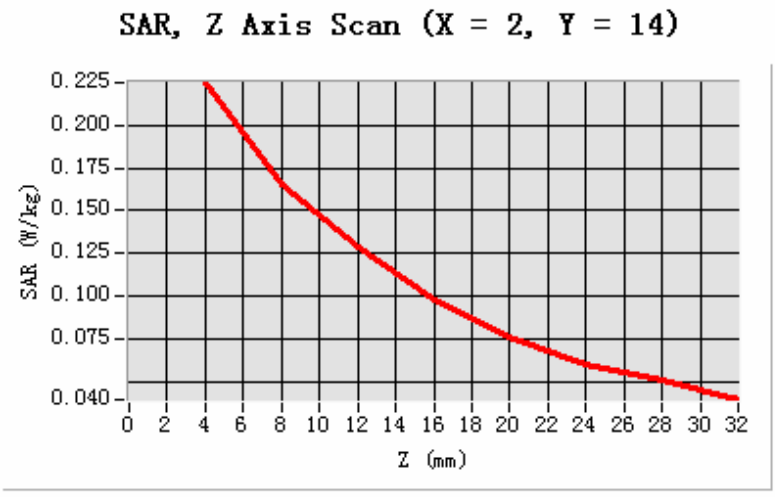


Maximum location: X=2.00, Y=14.00

SAR 10g (W/Kg)	0.144773
SAR 1g (W/Kg)	0.218371

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.2248	0.1650	0.1284	0.0984	0.0761	0.0599	0.0505



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: 6/3/2009

Measurement duration: 9 minutes 43 seconds

A. Experimental conditions.

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

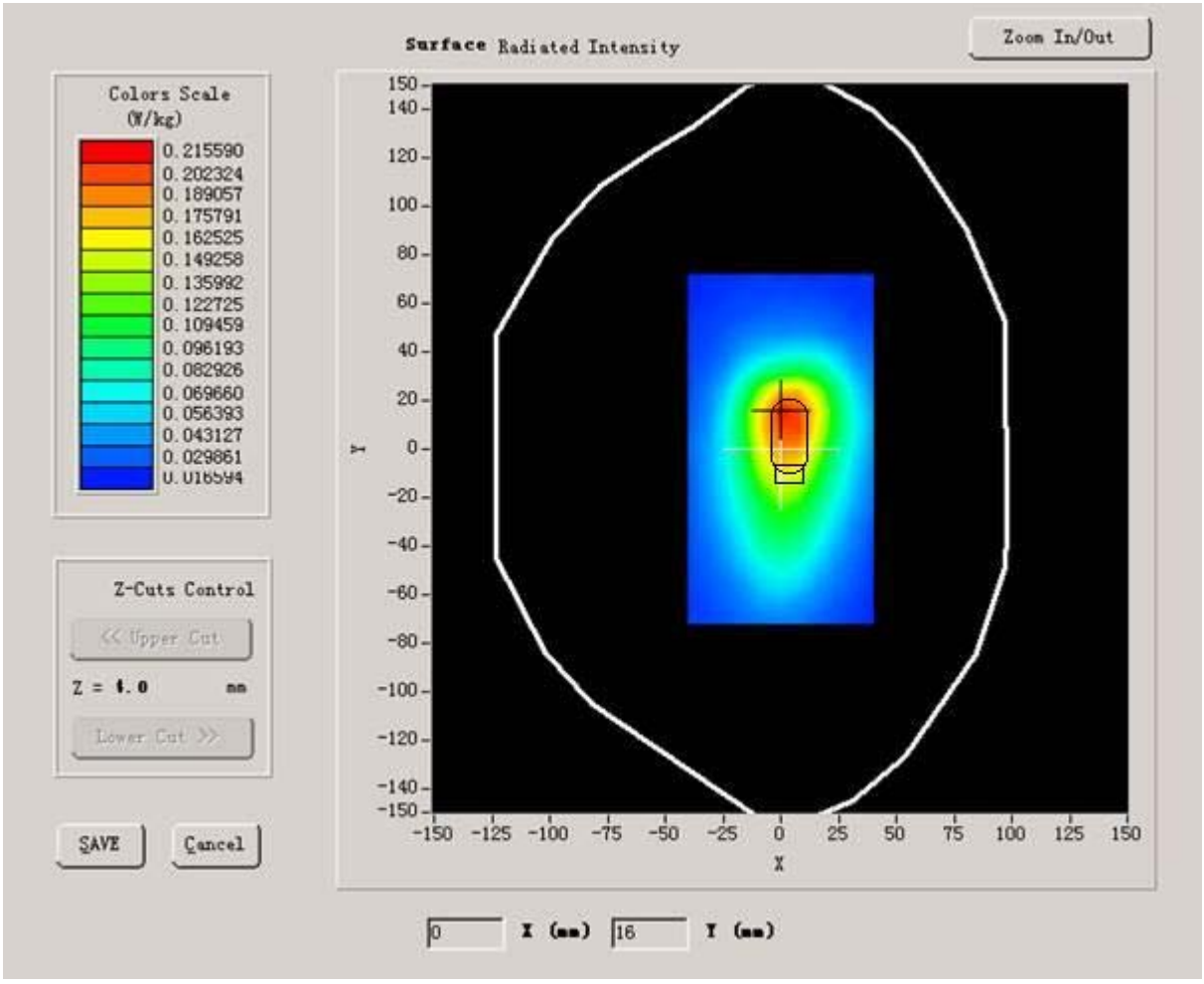
B. SAR Measurement Results

Middle Band SAR (Channel 189):

Frequency (MHz)	836.400024
Relative permittivity (real part)	55.709999
Relative permittivity	21.709999

Conductivity (S/m)	1.008791
Variation (%)	-1.070000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.4

VOLUME SAR

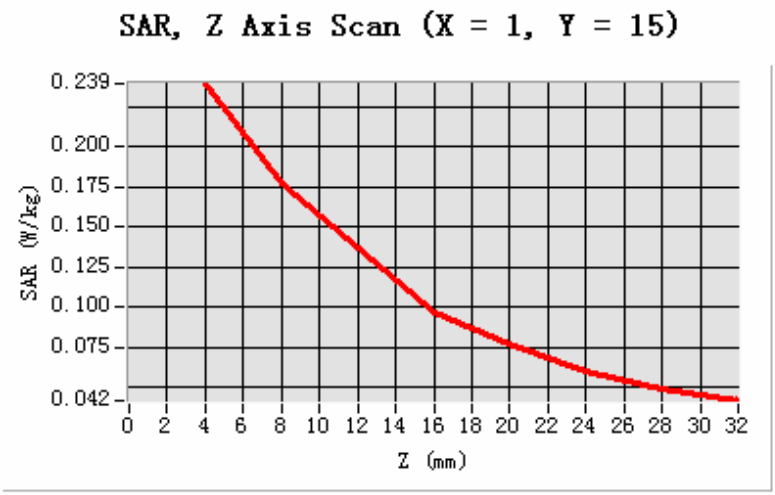


Maximum location: X=1.00, Y=15.00

SAR 10g (W/Kg)	0.152992
SAR 1g (W/Kg)	0.233219

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.2395	0.1769	0.1374	0.0966	0.0773	0.0600	0.0486



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: 6/3/2009

Measurement duration: 9 minutes 39 seconds

A. Experimental conditions.

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

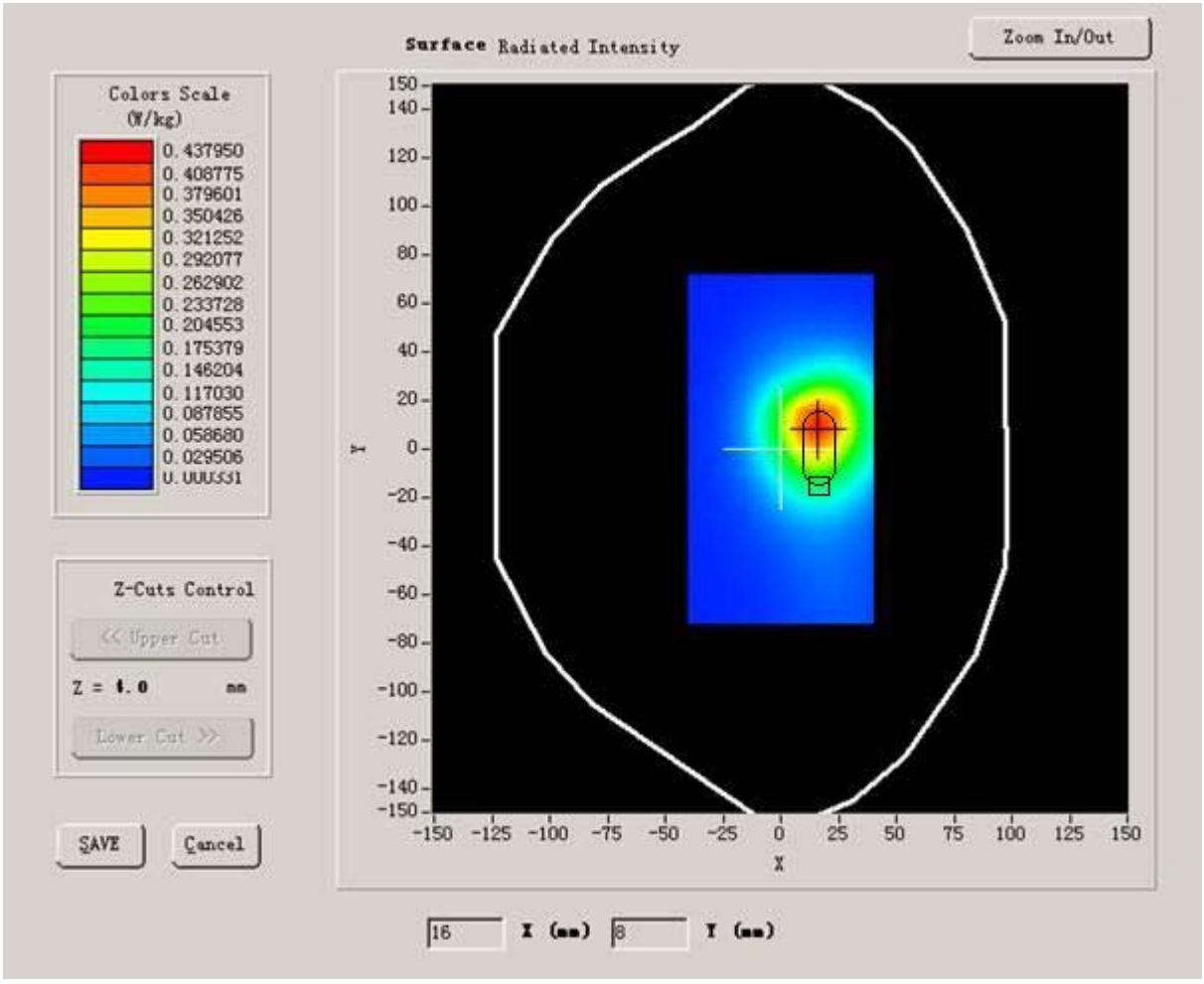
B. SAR Measurement Results

Higher Band SAR (Channel 250):

Frequency (MHz)	848.599976
Relative permittivity (real part)	54.014999
Relative permittivity	21.332850

Conductivity (S/m)	1.005725
Variation (%)	0.420000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.4

VOLUME SAR

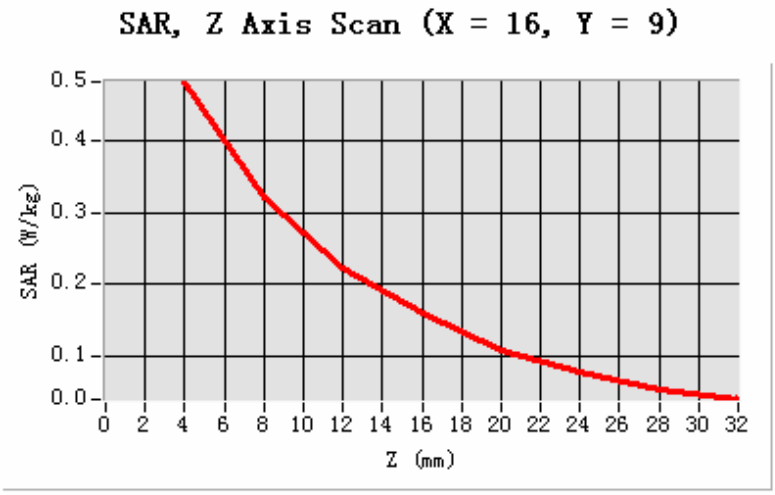


Maximum location: X=16.00, Y=9.00

SAR 10g (W/Kg)	0.269630
SAR 1g (W/Kg)	0.459966

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.4829	0.3214	0.2226	0.1589	0.1087	0.0782	0.0538



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: 6/3/2009

Measurement duration: 9 minutes 35 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	TDMA

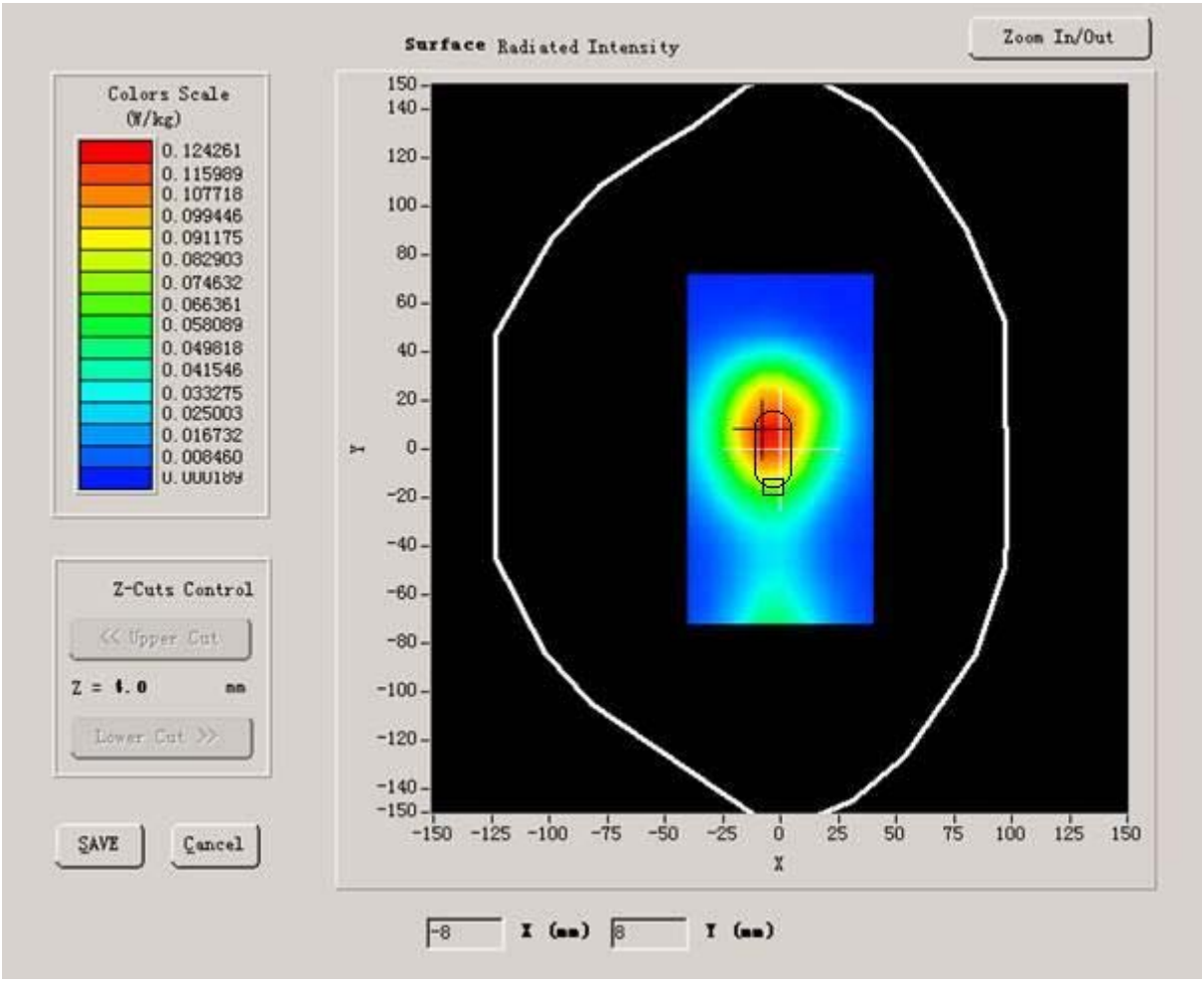
B. SAR Measurement Results

Lower Band SAR (Channel 128):

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

Conductivity (S/m)	0.974596
Variation (%)	-0.760000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor:	1:8.4

VOLUME SAR

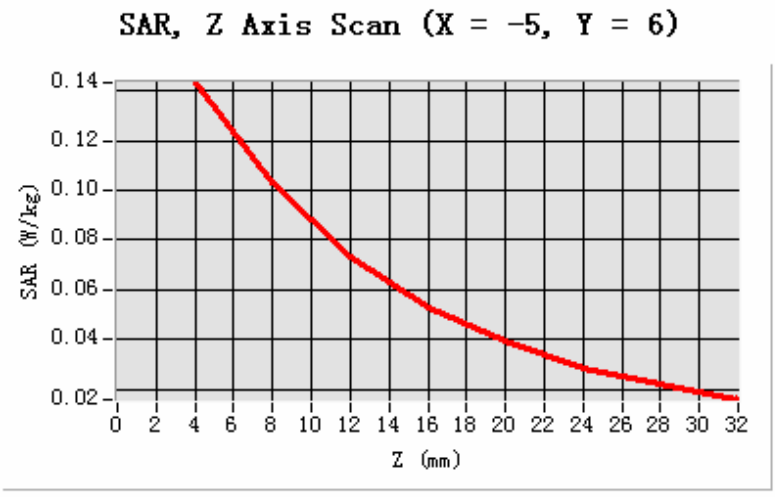


Maximum location: X=-5.00, Y=6.00

SAR 10g (W/Kg)	0.086144
SAR 1g (W/Kg)	0.135923

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.1432	0.1028	0.0732	0.0526	0.0393	0.0287	0.0218



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: 6/3/2009

Measurement duration: 9 minutes 39 seconds

A. Experimental conditions.

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

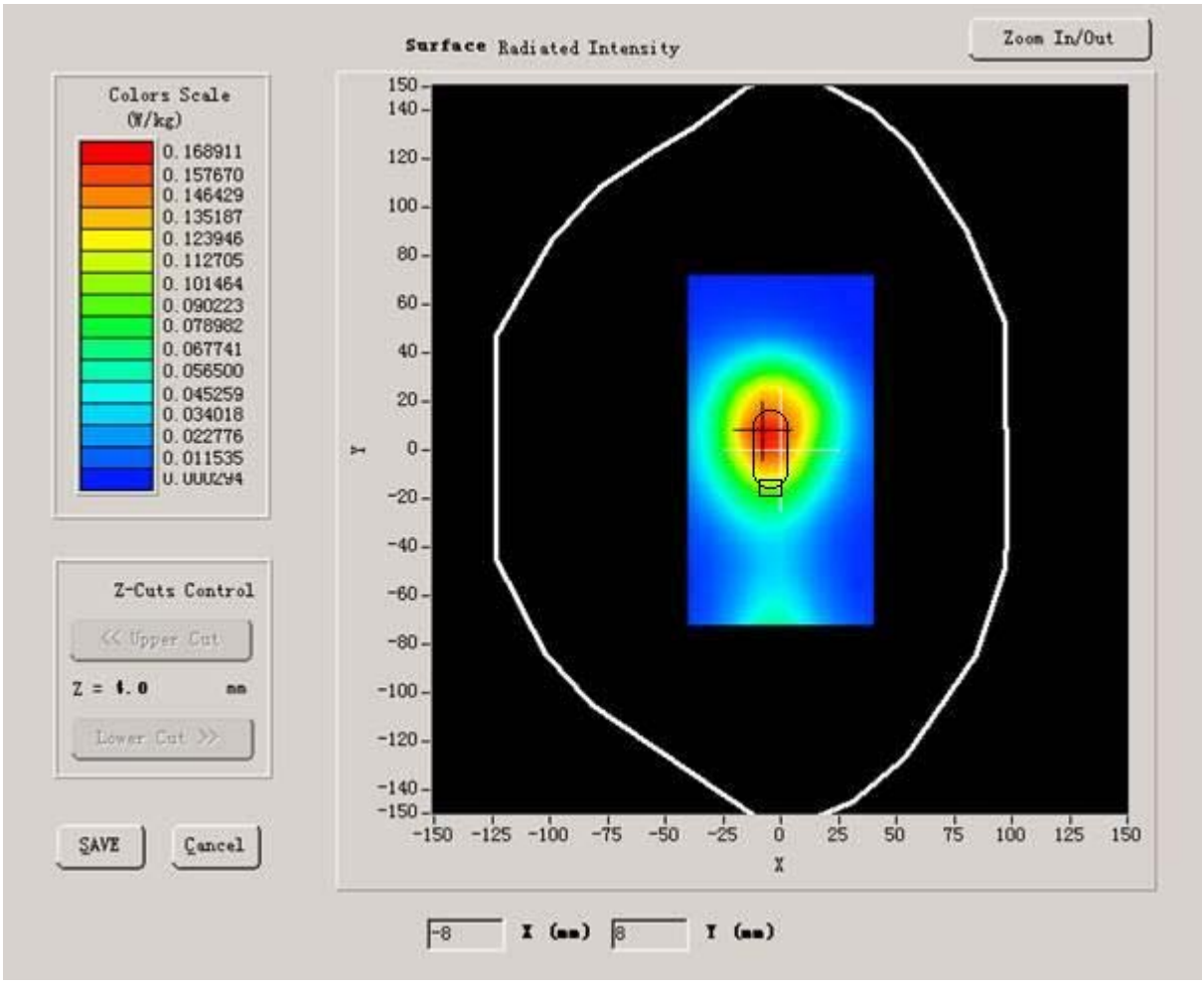
B. SAR Measurement Results

Middle Band SAR (Channel 189):

Frequency (MHz)	836.400024
Relative permittivity (real part)	55.709999
Relative permittivity	21.709999

Conductivity (S/m)	1.008791
Variation (%)	0.610000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.4

VOLUME SAR

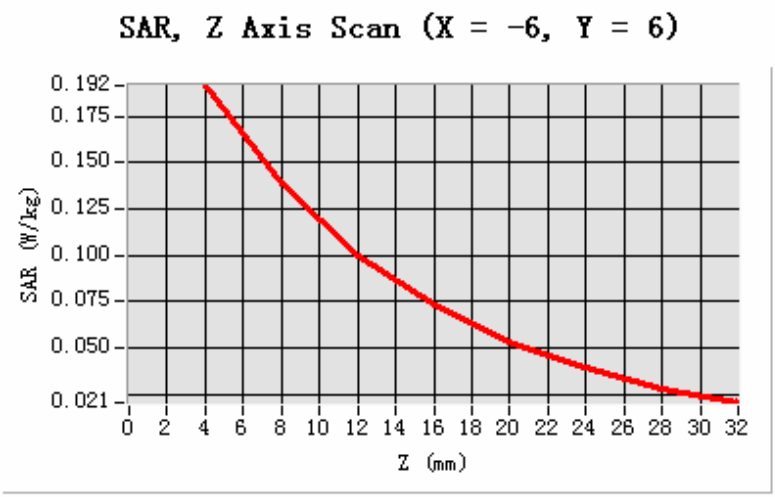


Maximum location: X=-6.00, Y=6.00

SAR 10g (W/Kg)	0.117350
SAR 1g (W/Kg)	0.183860

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.1916	0.1383	0.0999	0.0734	0.0530	0.0390	0.0281



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: 6/3/2009

Measurement duration: 9 minutes 27 seconds

A. Experimental conditions.

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

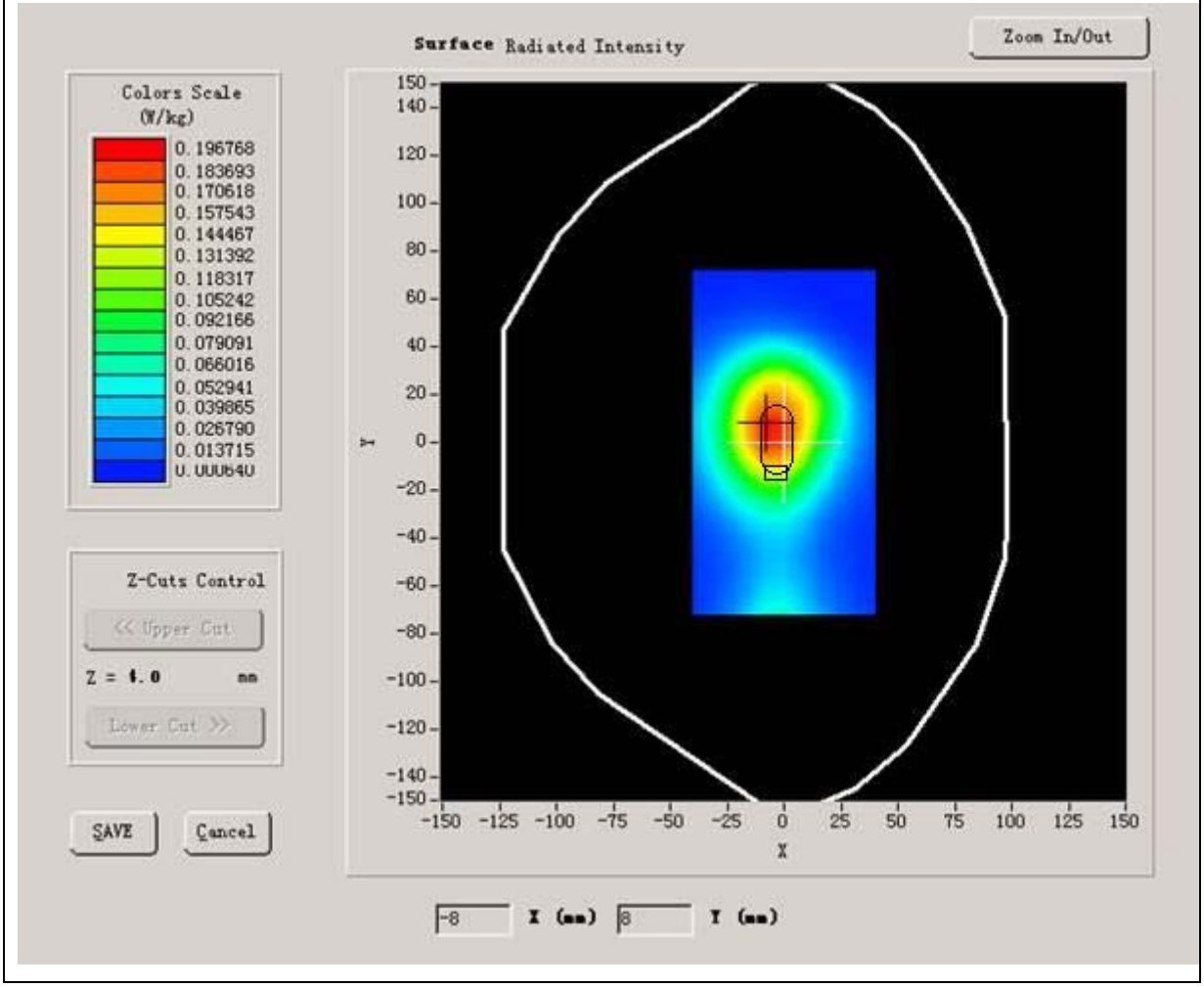
B. SAR Measurement Results

Higher Band SAR (Channel 250):

Frequency (MHz)	848.599976
Relative permittivity (real part)	54.014999
Relative permittivity	21.332850

Conductivity (S/m)	1.005725
Variation (%)	0.040000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.4

VOLUME SAR

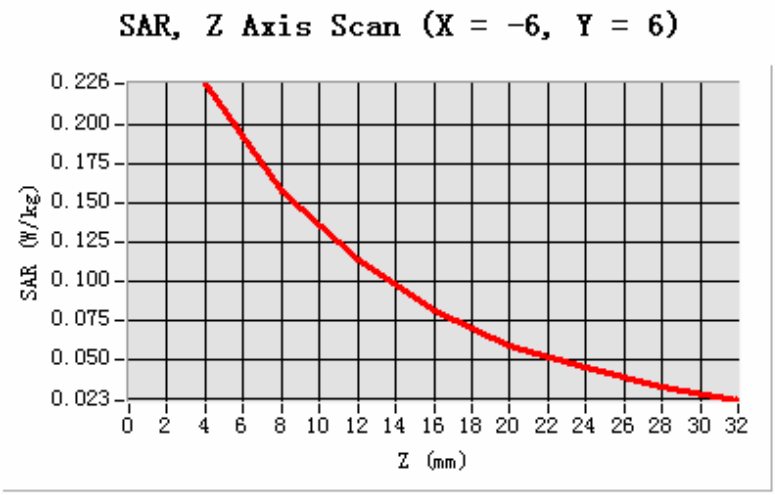


Maximum location: X=-6.00, Y=6.00

SAR 10g (W/Kg)	0.135295
SAR 1g (W/Kg)	0.214801

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.2256	0.1566	0.1134	0.0811	0.0579	0.0445	0.0321



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: 6/3/2009

Measurement duration: 9 minutes 39 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	TDMA

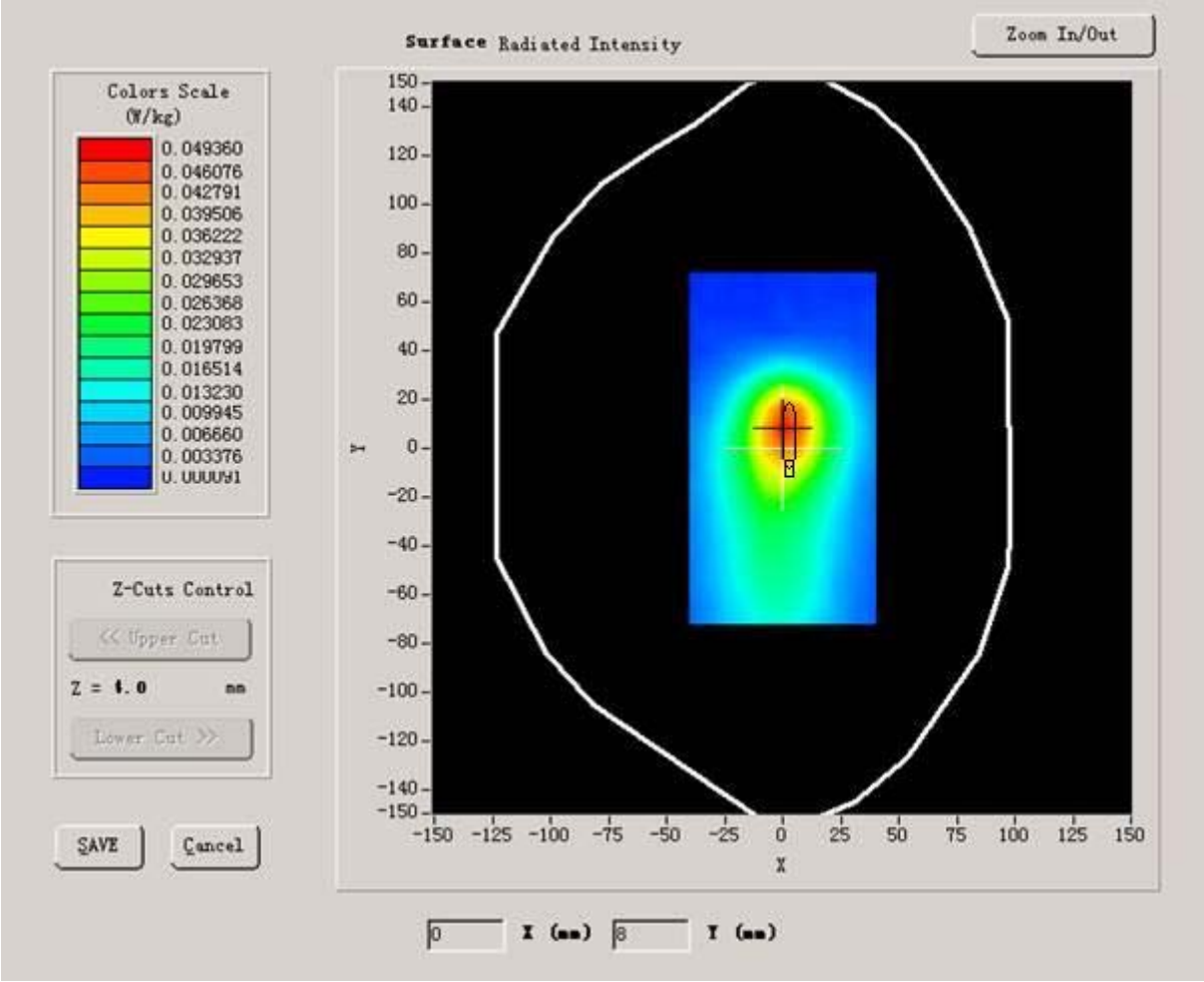
B. SAR Measurement Results

Lower Band SAR (Channel 128):

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

Conductivity (S/m)	0.974596
Variation (%)	-0.320000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.4

VOLUME SAR

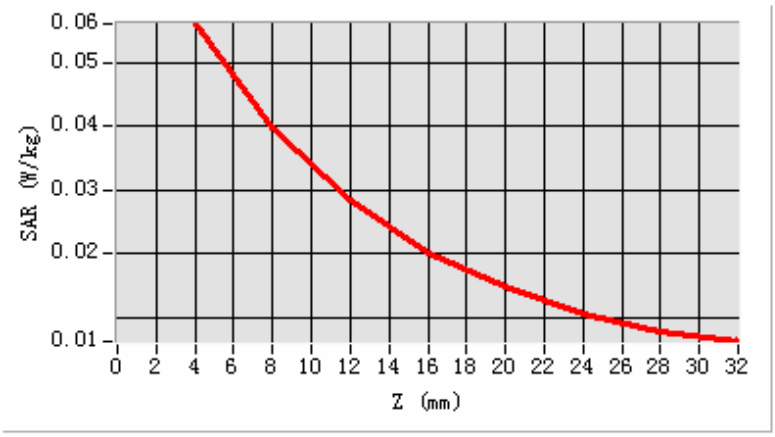


Maximum location: X=1.00, Y=9.00

SAR 10g (W/Kg)	0.032385
SAR 1g (W/Kg)	0.053081

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.0560	0.0397	0.0283	0.0201	0.0148	0.0106	0.0078



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: 6/3/2009

Measurement duration: 9 minutes 37 seconds

A. Experimental conditions.

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

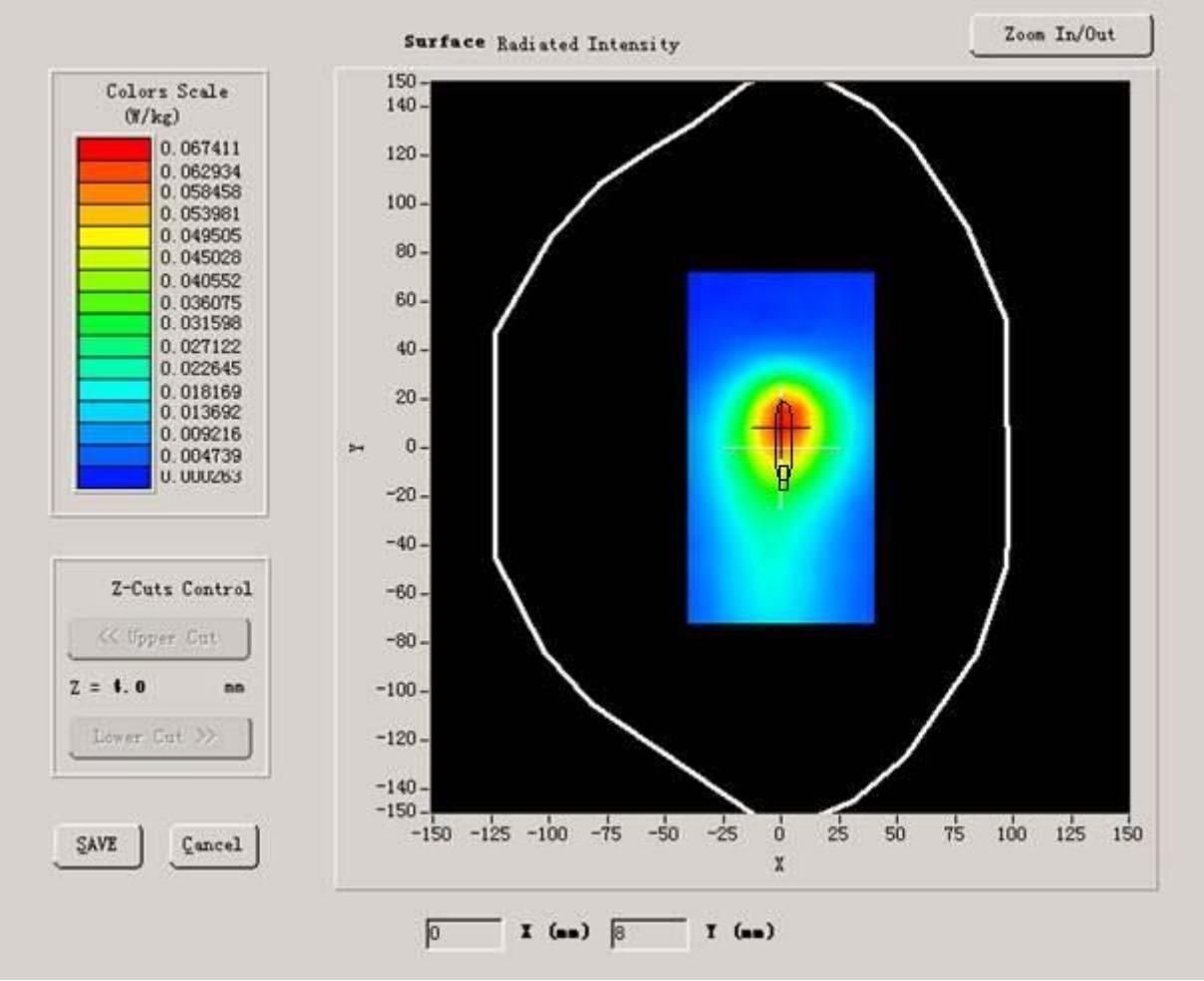
B. SAR Measurement Results

Middle Band SAR (Channel 189):

Frequency (MHz)	836.400024
Relative permittivity (real part)	55.709999
Relative permittivity	21.709999

Conductivity (S/m)	1.008791
Variation (%)	0.560000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.4

VOLUME SAR

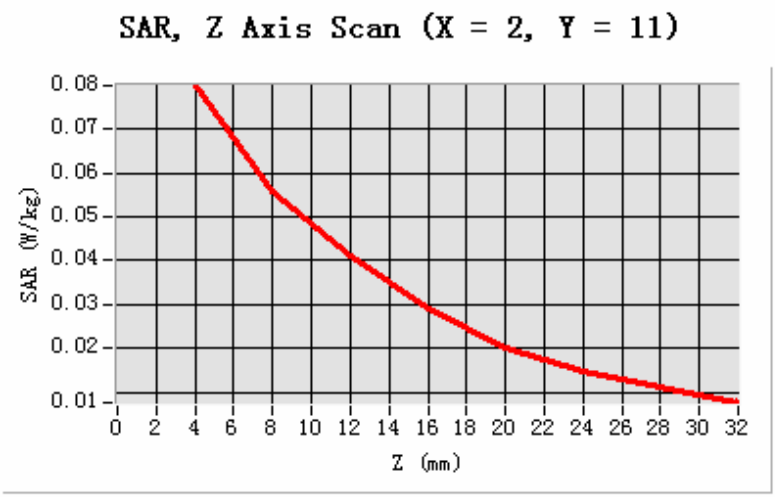


Maximum location: X=2.00, Y=11.00

SAR 10g (W/Kg)	0.045241
SAR 1g (W/Kg)	0.075083

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.0799	0.0558	0.0411	0.0290	0.0201	0.0149	0.0111



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: 6/3/2009

Measurement duration: 9 minutes 37 seconds

A. Experimental conditions.

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

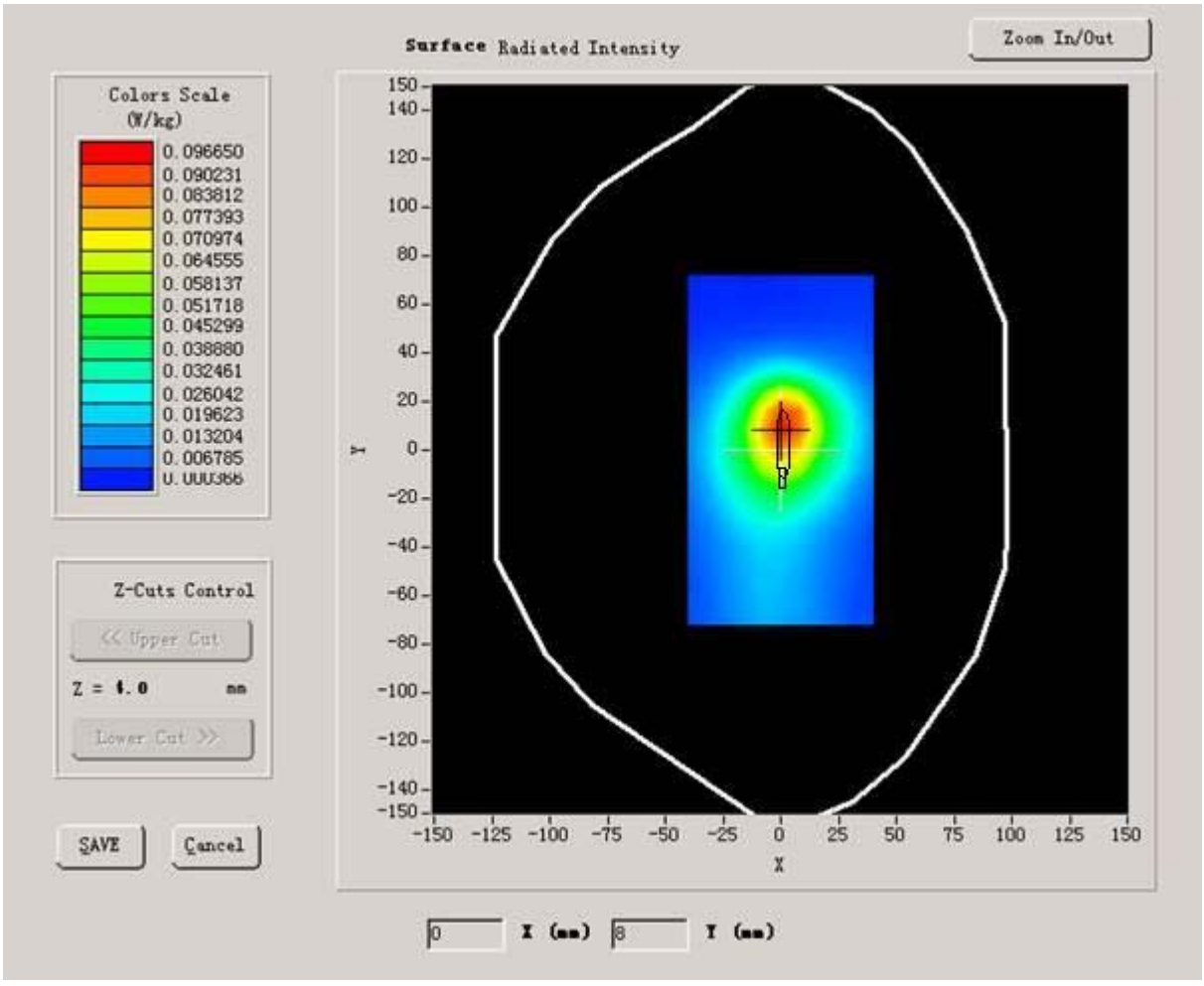
B. SAR Measurement Results

Higher Band SAR (Channel 250):

Frequency (MHz)	848.599976
Relative permittivity (real part)	54.014999
Relative permittivity	21.332850

Conductivity (S/m)	1.005725
Variation (%)	-0.320000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.4

VOLUME SAR

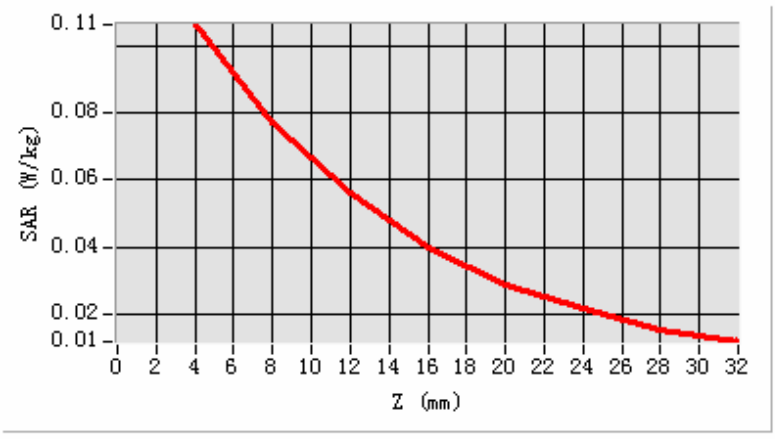


Maximum location: X=1.00, Y=9.00

SAR 10g (W/Kg)	0.062471
SAR 1g (W/Kg)	0.101322

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.1063	0.0773	0.0562	0.0397	0.0285	0.0215	0.0155



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: 6/3/2009

Measurement duration: 9 minutes 36 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	TDMA

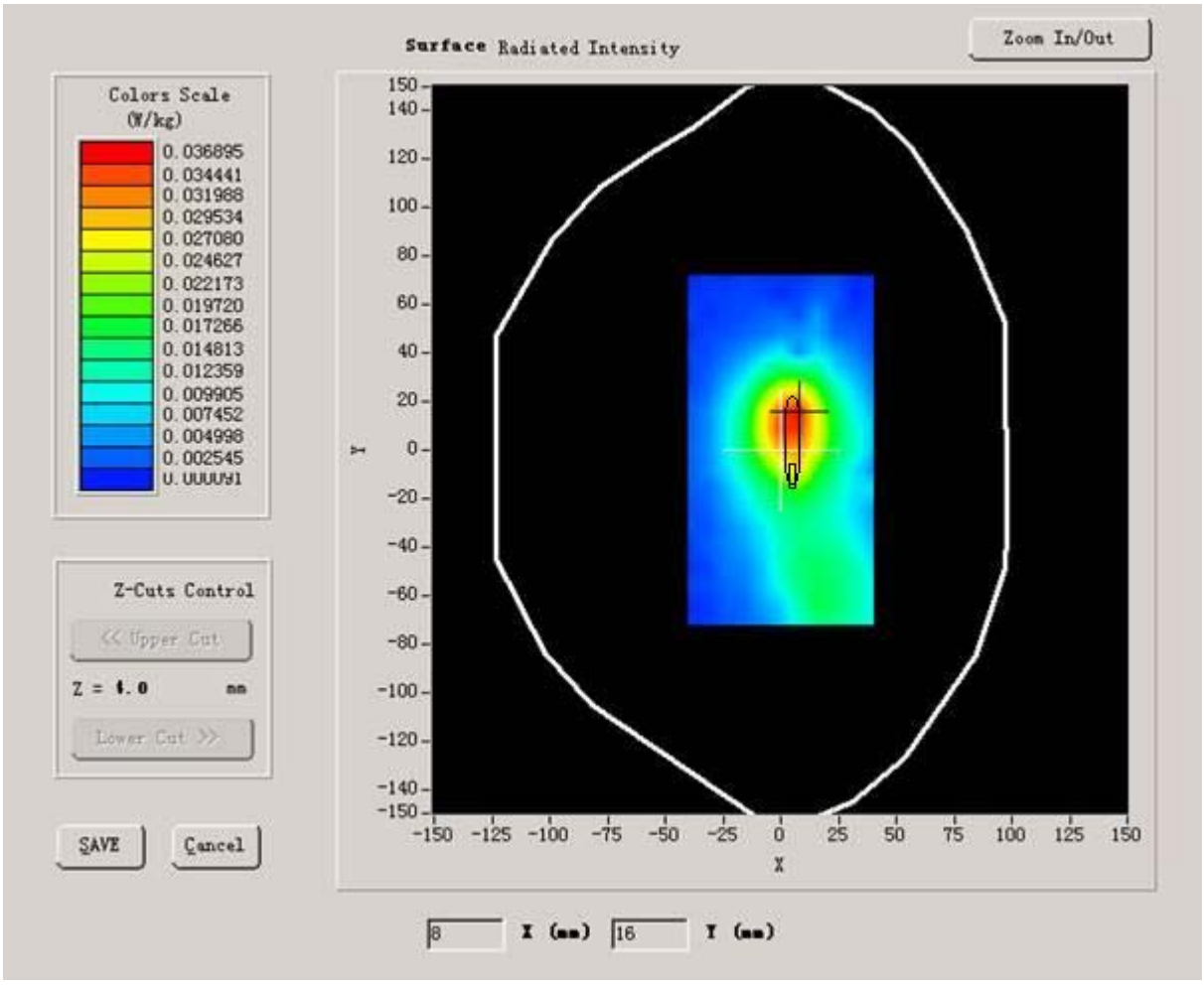
B. SAR Measurement Results

Lower Band SAR (Channel 128):

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

Conductivity (S/m)	0.974596
Variation (%)	-3.090000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.4

VOLUME SAR

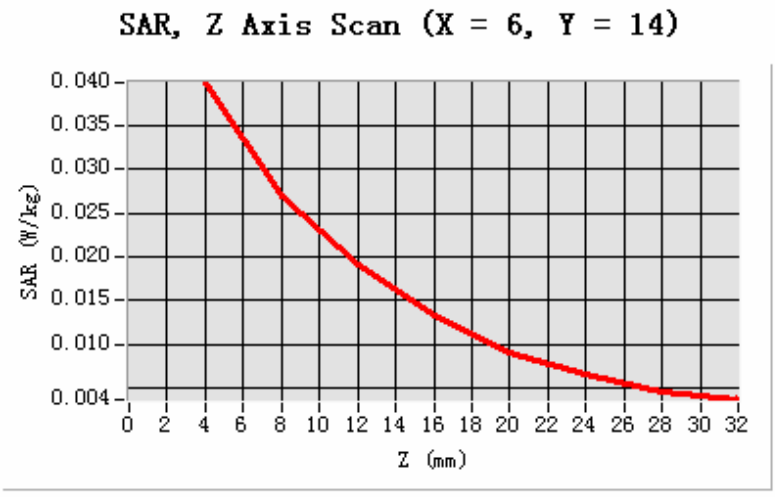


Maximum location: X=6.00, Y=14.00

SAR 10g (W/Kg)	0.023233
SAR 1g (W/Kg)	0.038971

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.0399	0.0269	0.0192	0.0133	0.0091	0.0066	0.0046



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: 6/3/2009

Measurement duration: 9 minutes 40 seconds

A. Experimental conditions.

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

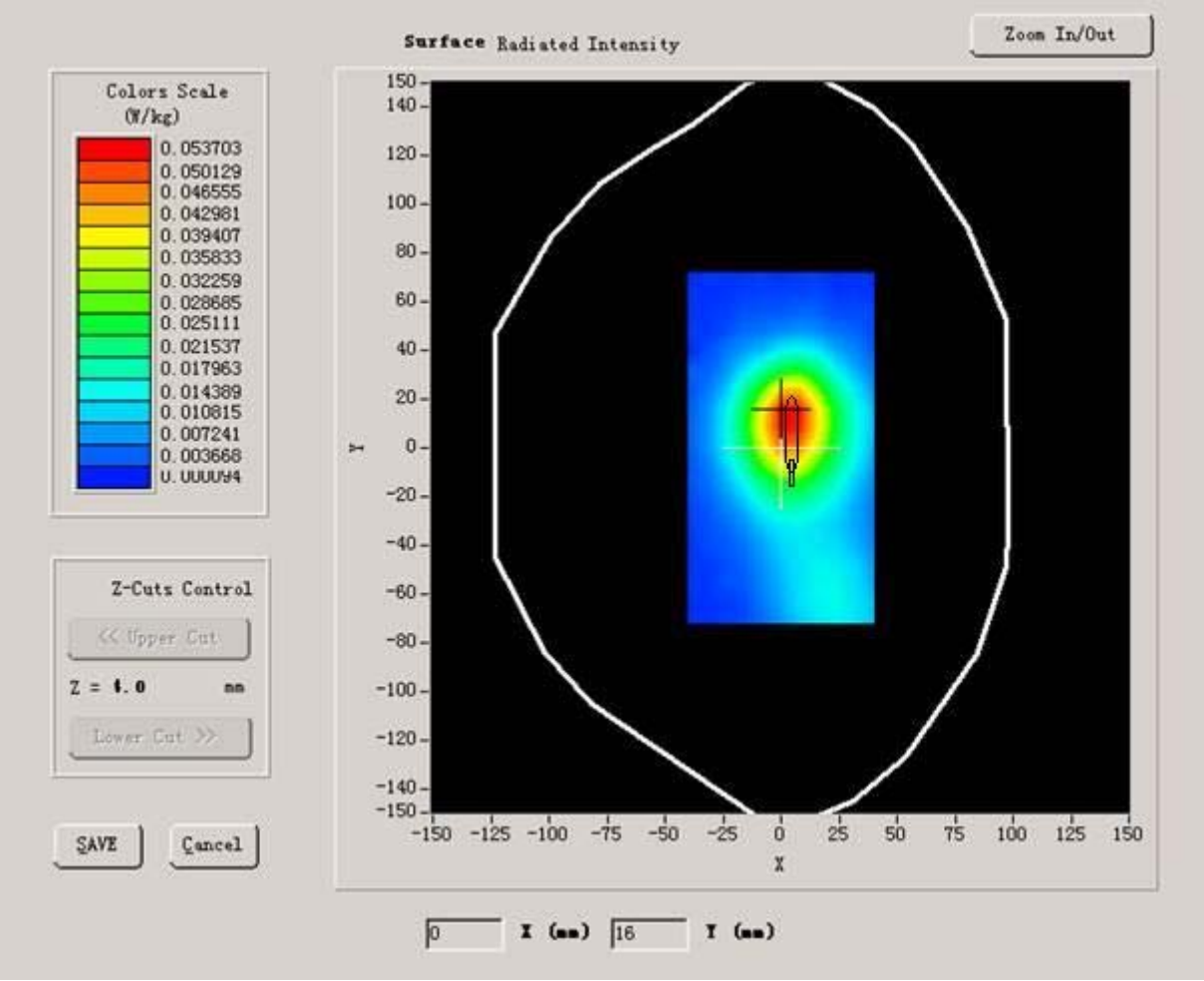
B. SAR Measurement Results

Middle Band SAR (Channel 189):

Frequency (MHz)	836.400024
Relative permittivity (real part)	55.709999
Relative permittivity	21.709999

Conductivity (S/m)	1.008791
Variation (%)	0.110000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.4

VOLUME SAR

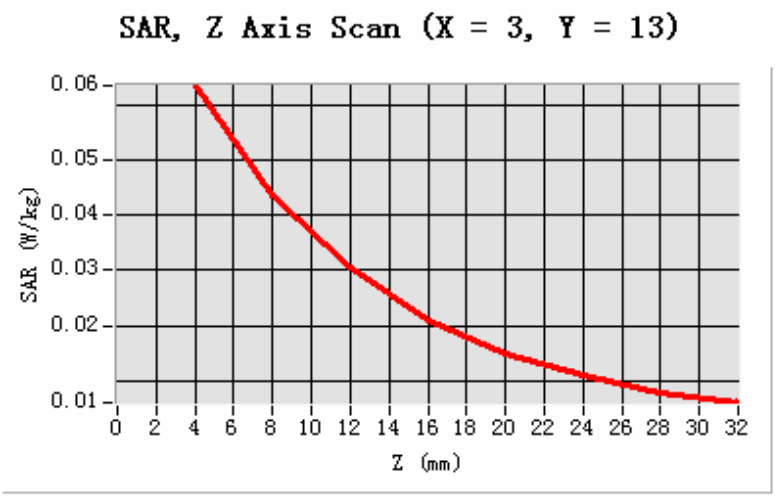


Maximum location: X=3.00, Y=13.00

SAR 10g (W/Kg)	0.036232
SAR 1g (W/Kg)	0.060522

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.0636	0.0436	0.0307	0.0209	0.0149	0.0108	0.0076



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: 6/3/2009

Measurement duration: 9 minutes 39 seconds

A. Experimental conditions.

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

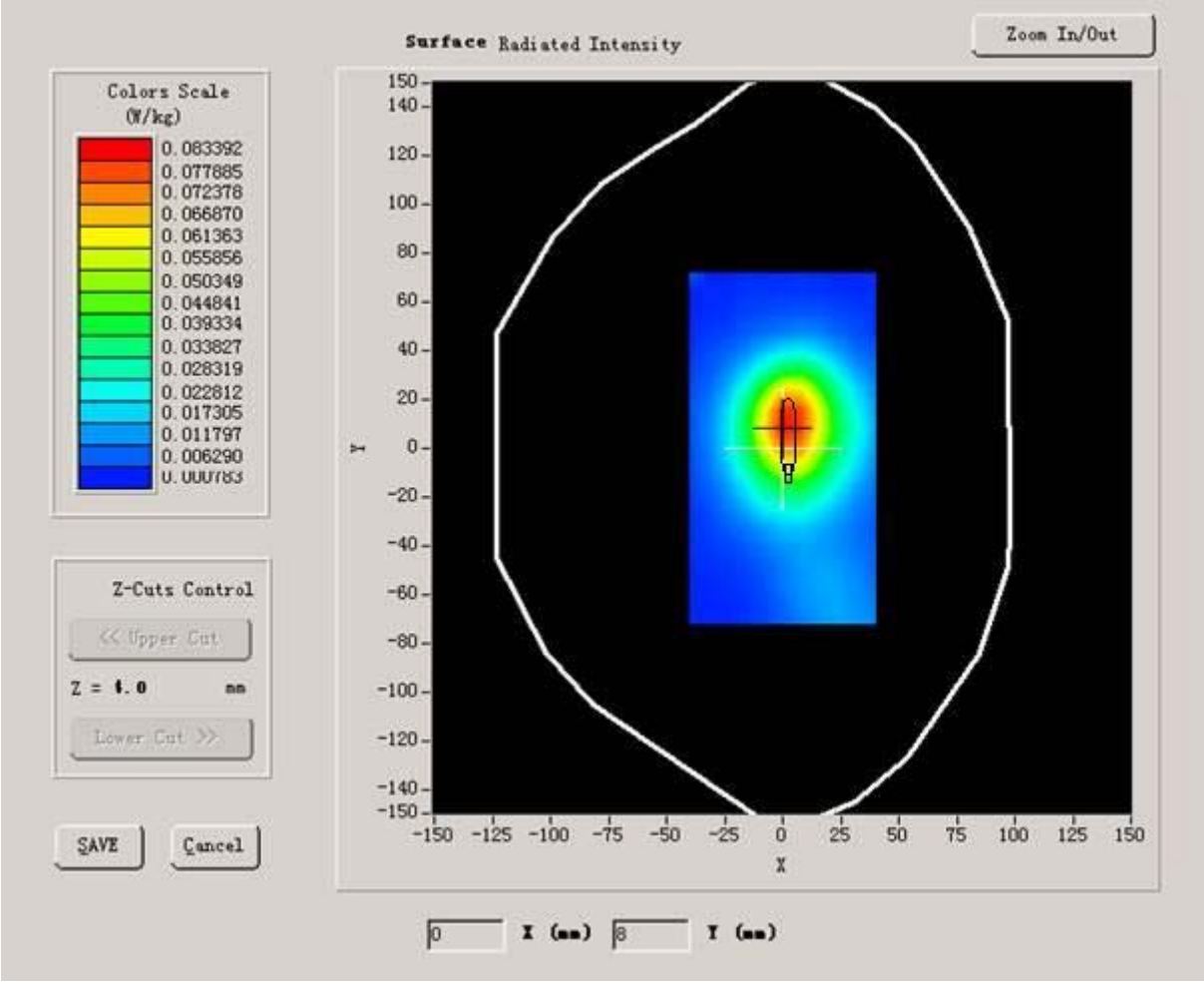
B. SAR Measurement Results

Higher Band SAR (Channel 250):

Frequency (MHz)	848.599976
Relative permittivity (real part)	54.014999
Relative permittivity	21.332850

Conductivity (S/m)	1.005725
Variation (%)	-1.040000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.4

VOLUME SAR

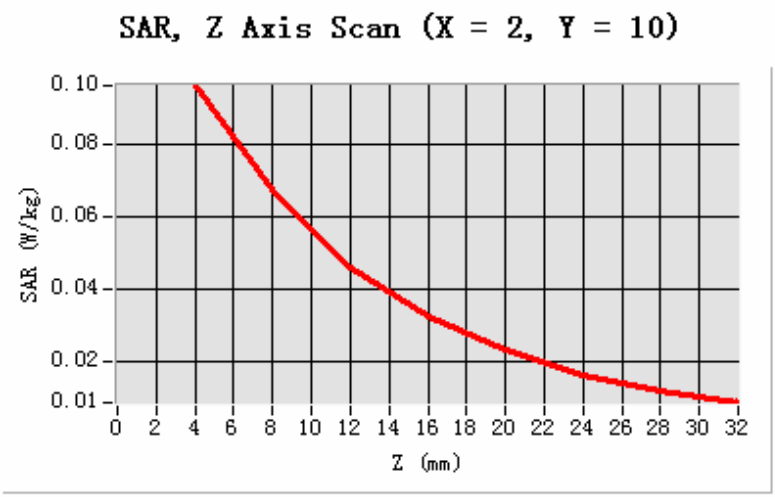


Maximum location: X=2.00, Y=10.00

SAR 10g (W/Kg)	0.054440
SAR 1g (W/Kg)	0.090492

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.0959	0.0676	0.0461	0.0321	0.0230	0.0162	0.0121



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: 6/3/2009

Measurement duration: 9 minutes 46 seconds

A. Experimental conditions.

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

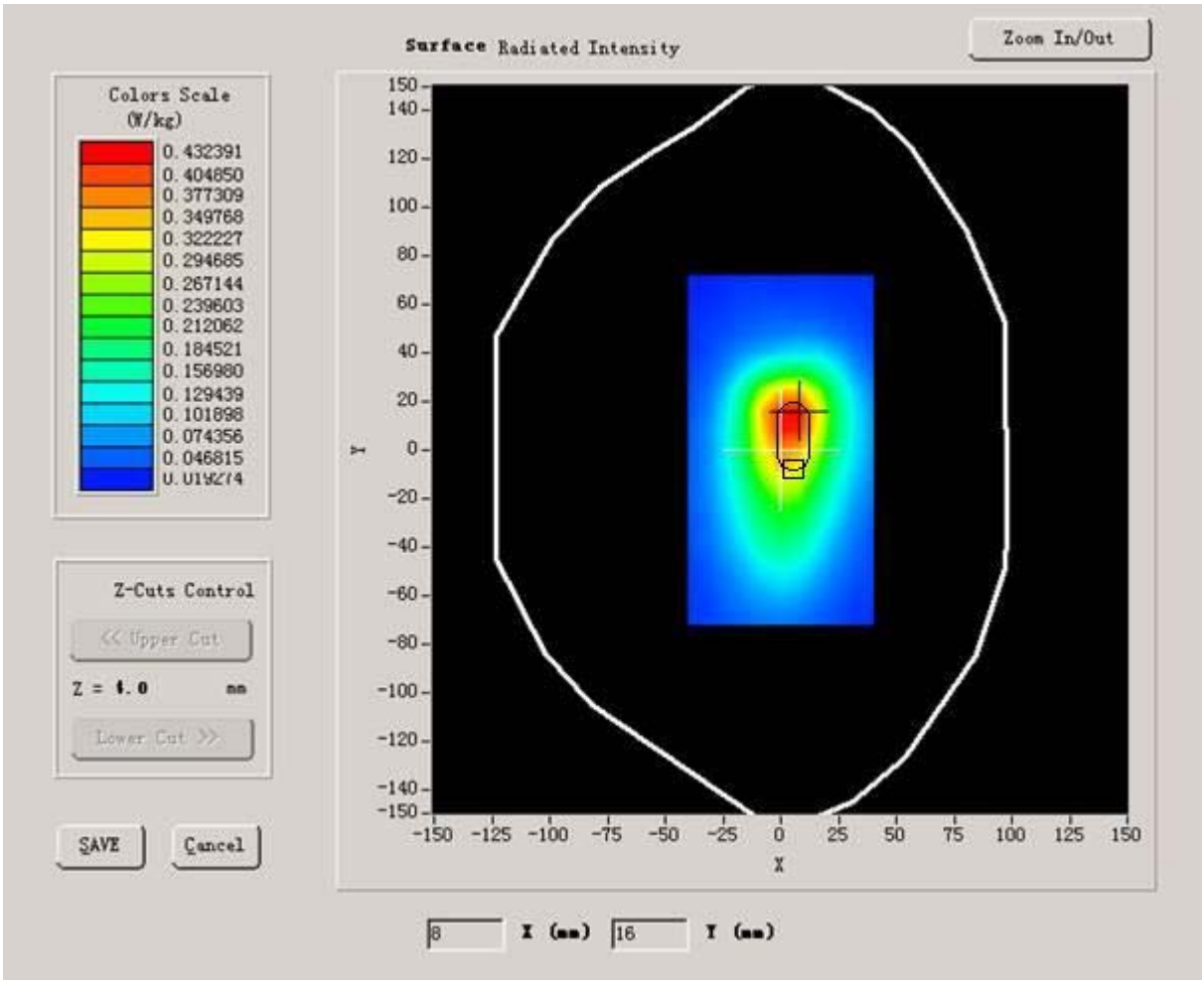
B. SAR Measurement Results

Middle Band SAR (Channel 189):

Frequency (MHz)	836.400024
Relative permittivity (real part)	55.709999
Relative permittivity	21.709999

Conductivity (S/m)	1.008791
Variation (%)	-1.900000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.4

VOLUME SAR

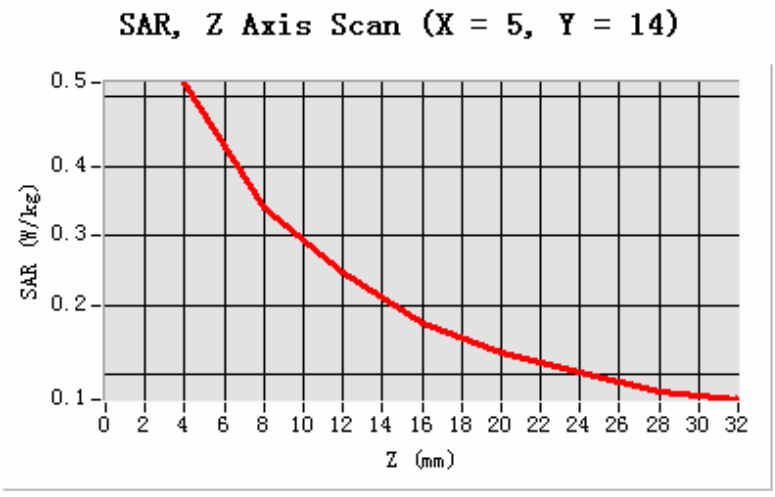


Maximum location: X=5.00, Y=14.00

SAR 10g (W/Kg)	0.301030
SAR 1g (W/Kg)	0.534966

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.5202	0.3388	0.2485	0.1745	0.1319	0.1027	0.0758



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: 6/3/2009

Measurement duration: 10 minutes 0 seconds

A. Experimental conditions.

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

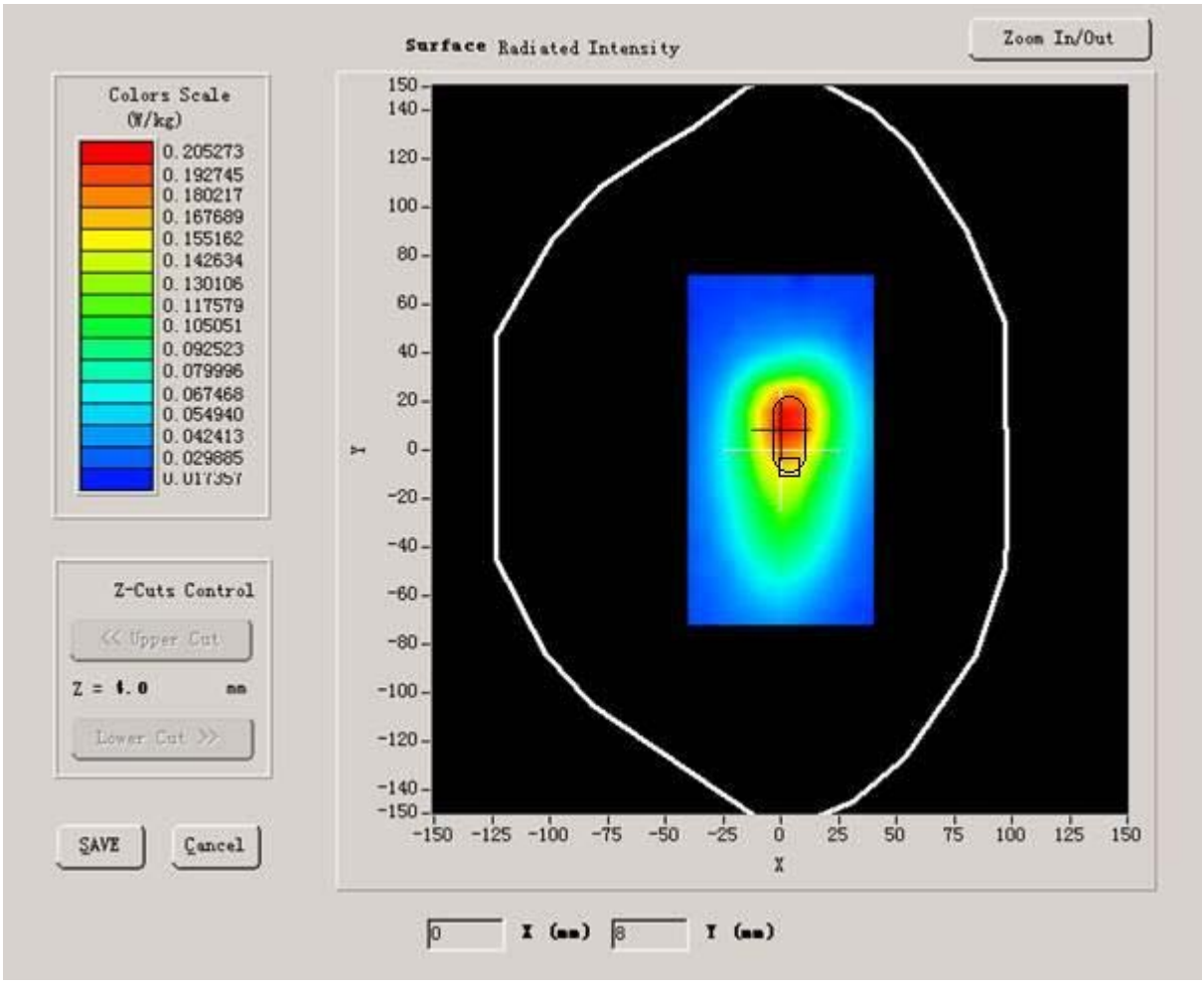
B. SAR Measurement Results

Higher Band SAR (Channel 250):

Frequency (MHz)	848.599976
Relative permittivity (real part)	54.014999
Relative permittivity	21.332850

Conductivity (S/m)	1.005725
Variation (%)	-0.170000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.4

VOLUME SAR

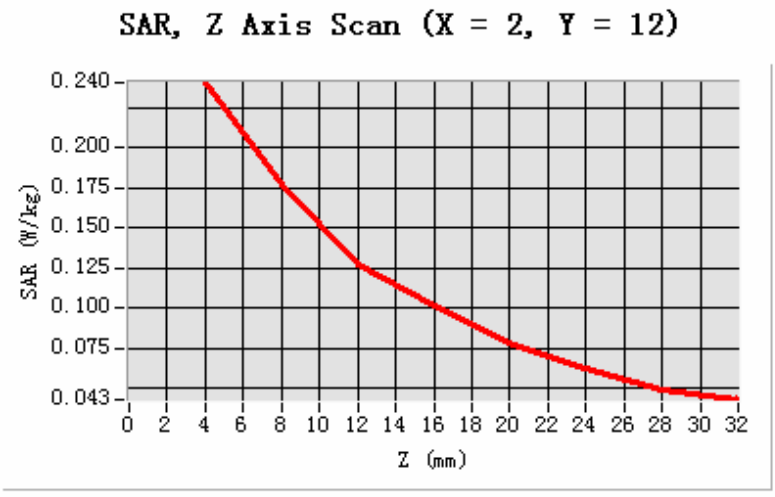


Maximum location: X=2.00, Y=12.00

SAR 10g (W/Kg)	0.150086
SAR 1g (W/Kg)	0.230951

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.2402	0.1771	0.1277	0.1017	0.0791	0.0626	0.0497



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: 5/3/2009

Measurement duration: 9 minutes 41 seconds

A. Experimental conditions.

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

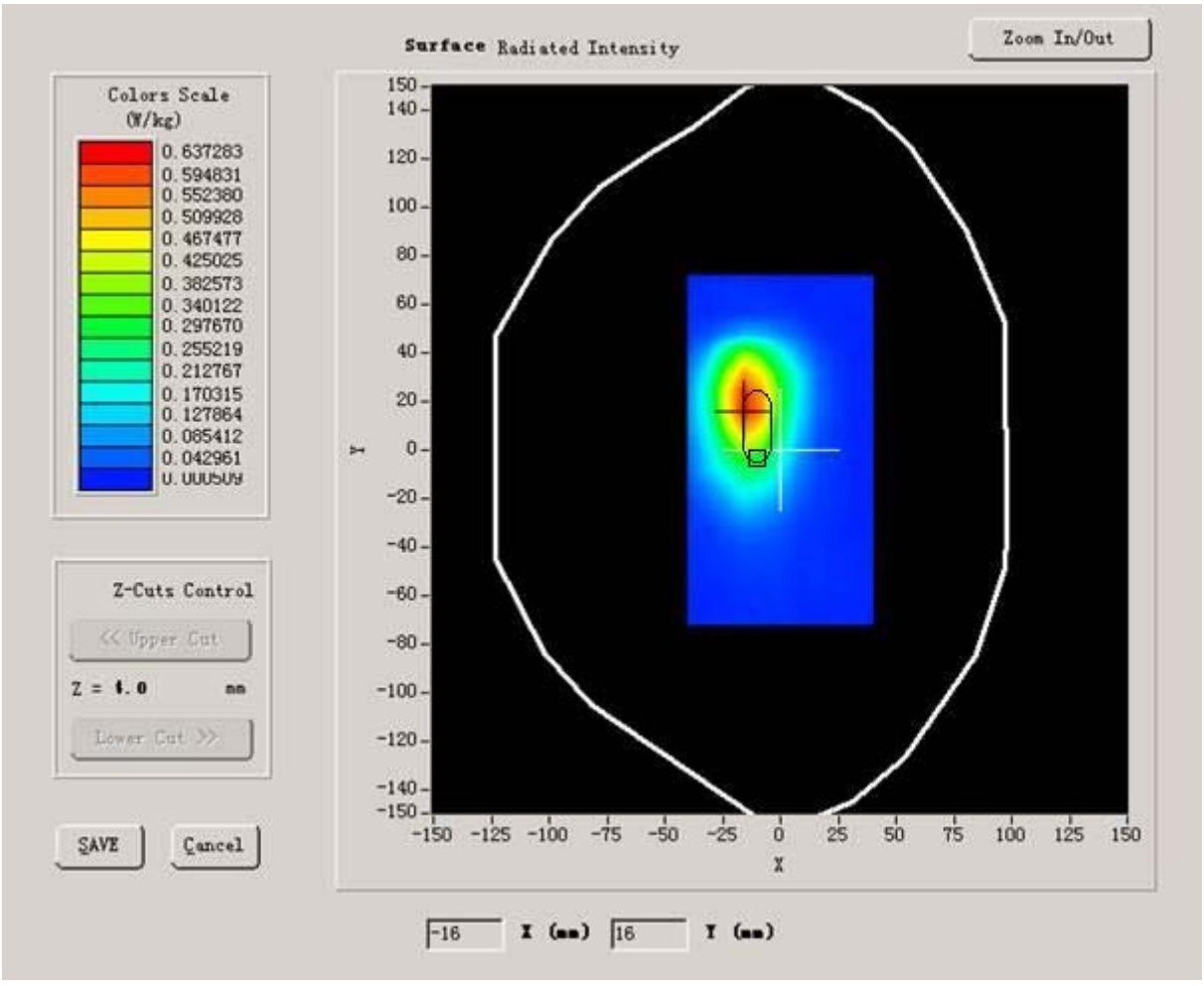
B. SAR Measurement Results

Lower Band SAR (Channel 512):

Frequency (MHz)	1850.199951
Relative permittivity (real part)	51.540001
Relative permittivity	12.000000

Conductivity (S/m)	1.233467
Variation (%)	-1.140000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.3

VOLUME SAR

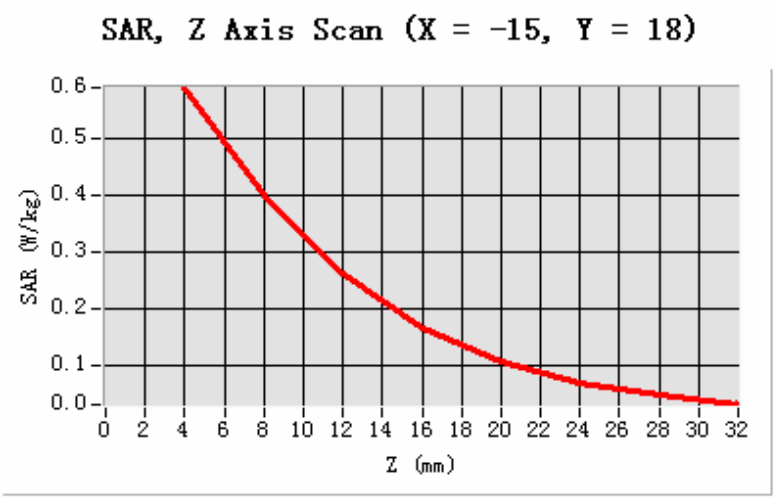


Maximum location: X=-15.00, Y=18.00

SAR 10g (W/Kg)	0.305306
SAR 1g (W/Kg)	0.548752

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.5918	0.4017	0.2641	0.1669	0.1057	0.0678	0.0479



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: 5/3/2009

Measurement duration: 9 minutes 49 seconds

A. Experimental conditions.

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

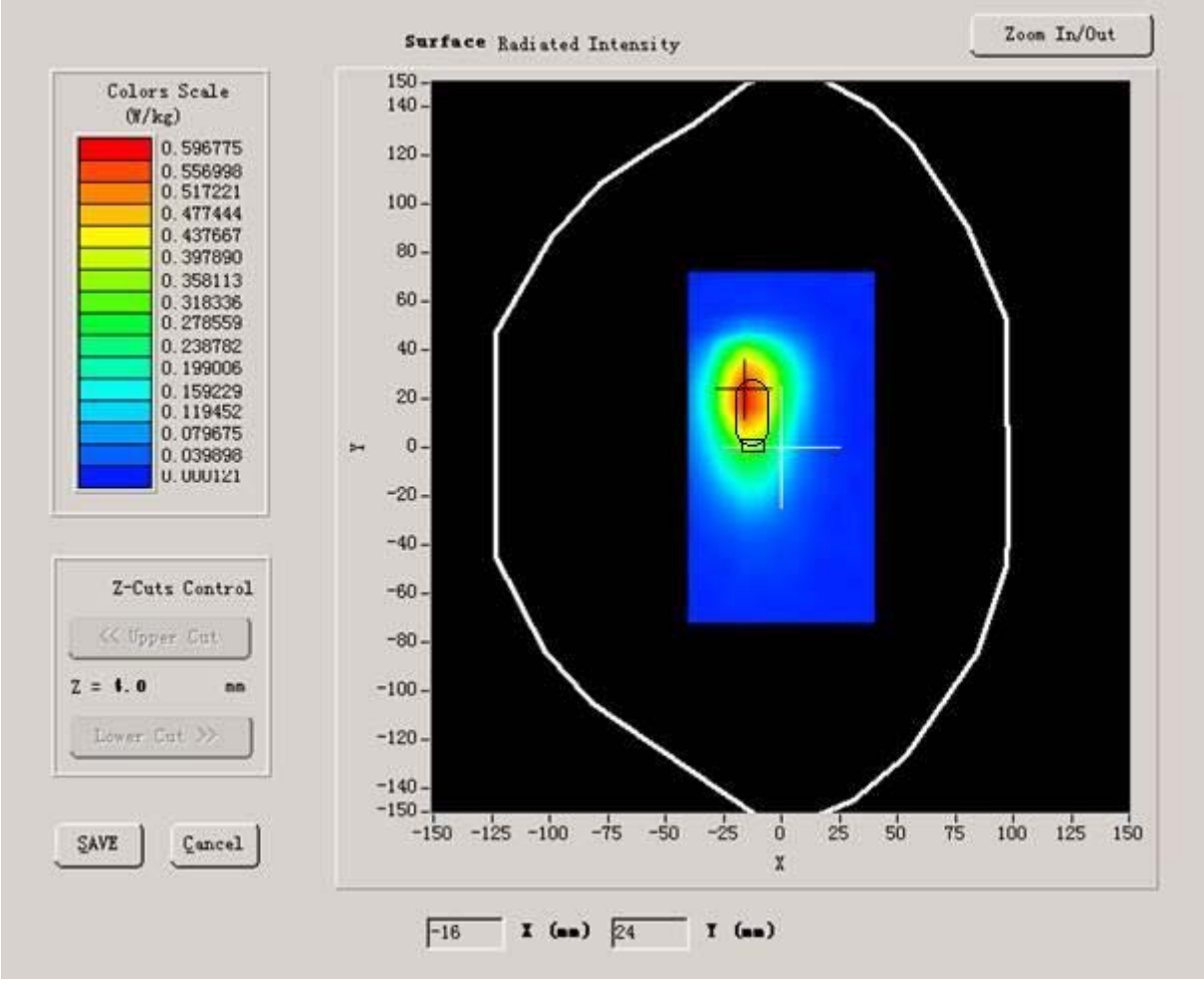
B. SAR Measurement Results

Middle Band SAR (Channel 661):

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

Conductivity (S/m)	1.573978
Variation (%)	0.660000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.3

VOLUME SAR

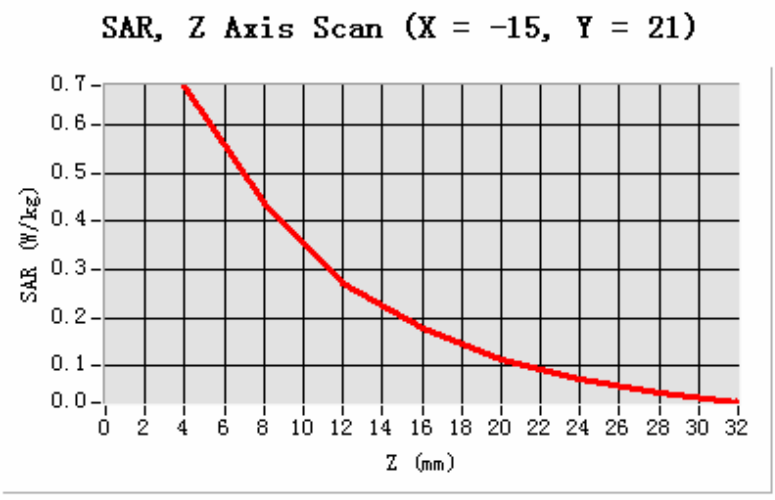


Maximum location: X=-15.00, Y=21.00

SAR 10g (W/Kg)	0.344728
SAR 1g (W/Kg)	0.632412

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.6806	0.4385	0.2732	0.1778	0.1117	0.0723	0.0449



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: 5/3/2009

Measurement duration: 9 minutes 44 seconds

A. Experimental conditions.

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

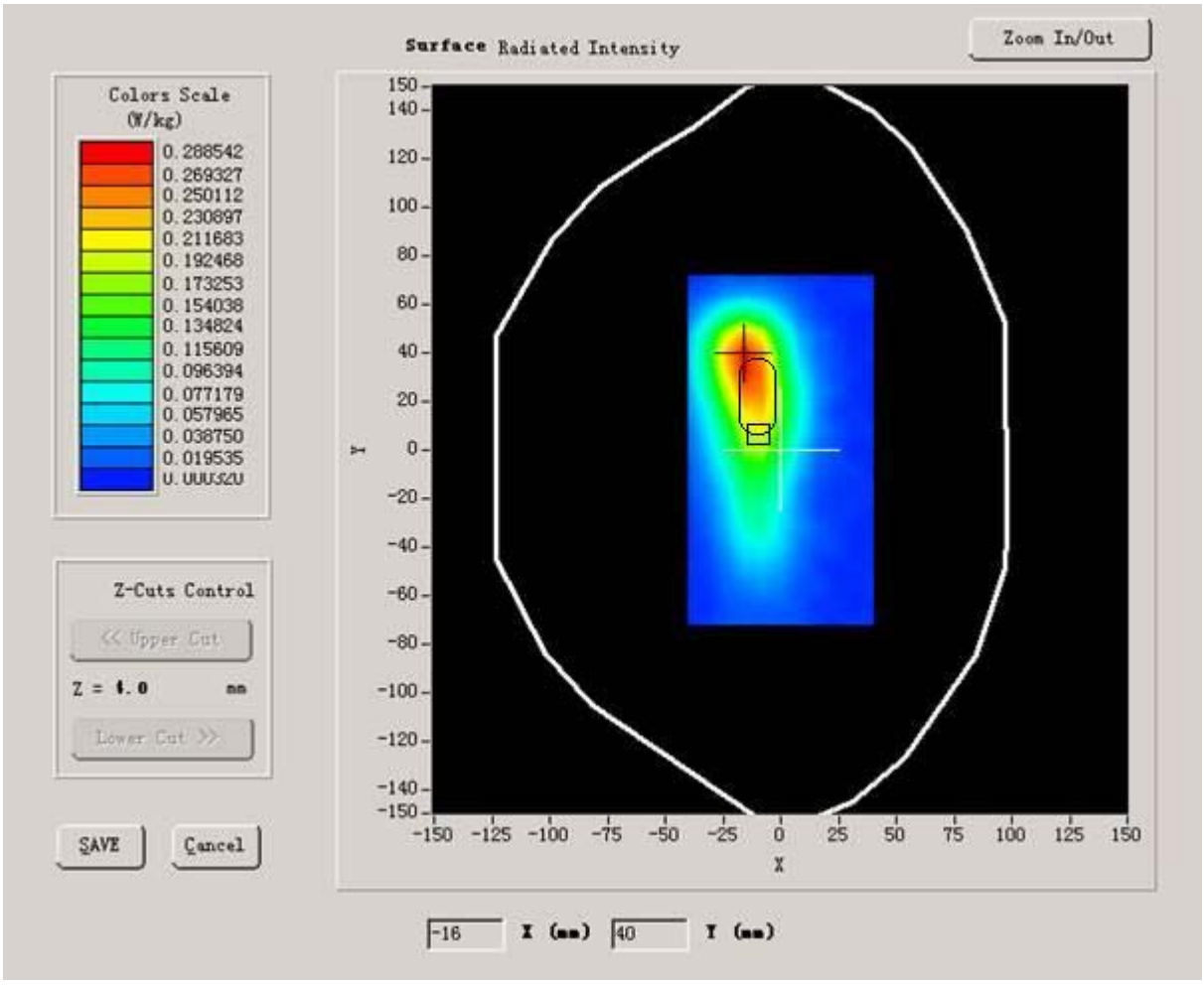
B. SAR Measurement Results

Higher Band SAR (Channel 810):

Frequency (MHz)	1909.800049
Relative permittivity (real part)	51.540001
Relative permittivity	12.000000

Conductivity (S/m)	1.273200
Variation (%)	1.400000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.3

VOLUME SAR

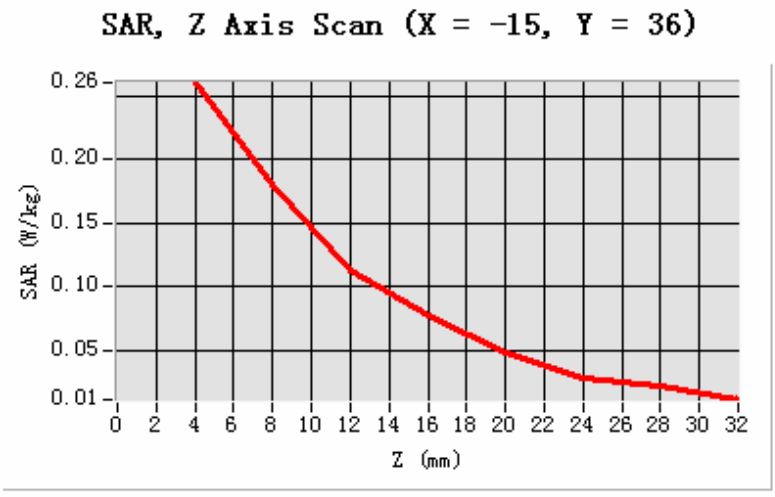


Maximum location: X=-15.00, Y=36.00

SAR 10g (W/Kg)	0.137758
SAR 1g (W/Kg)	0.258384

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.2607	0.1805	0.1130	0.0769	0.0481	0.0284	0.0221



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: 5/3/2009

Measurement duration: 9 minutes 44 seconds

A. Experimental conditions.

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

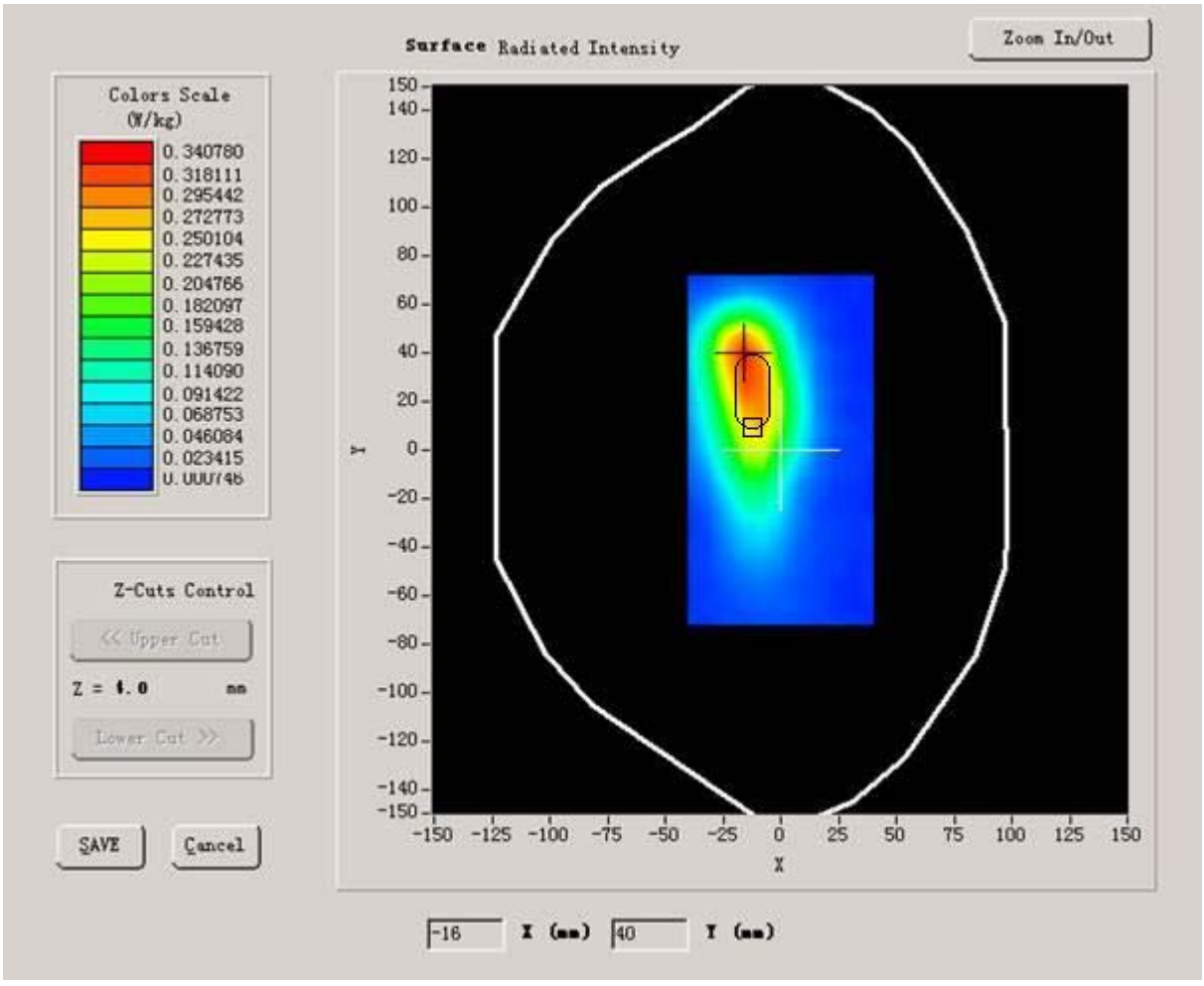
B. SAR Measurement Results

Lower Band SAR (Channel 512):

Frequency (MHz)	1850.199951
Relative permittivity (real part)	51.540001
Relative permittivity	12.000000

Conductivity (S/m)	1.233467
Variation (%)	4.330000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.3

VOLUME SAR

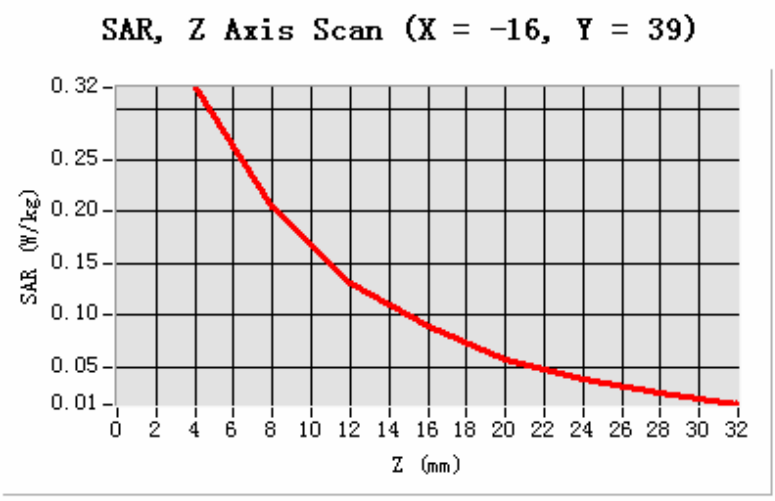


Maximum location: X=-16.00, Y=39.00

SAR 10g (W/Kg)	0.172467
SAR 1g (W/Kg)	0.304360

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.3200	0.2036	0.1313	0.0886	0.0565	0.0381	0.0239



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: 5/3/2009

Measurement duration: 9 minutes 43 seconds

A. Experimental conditions.

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

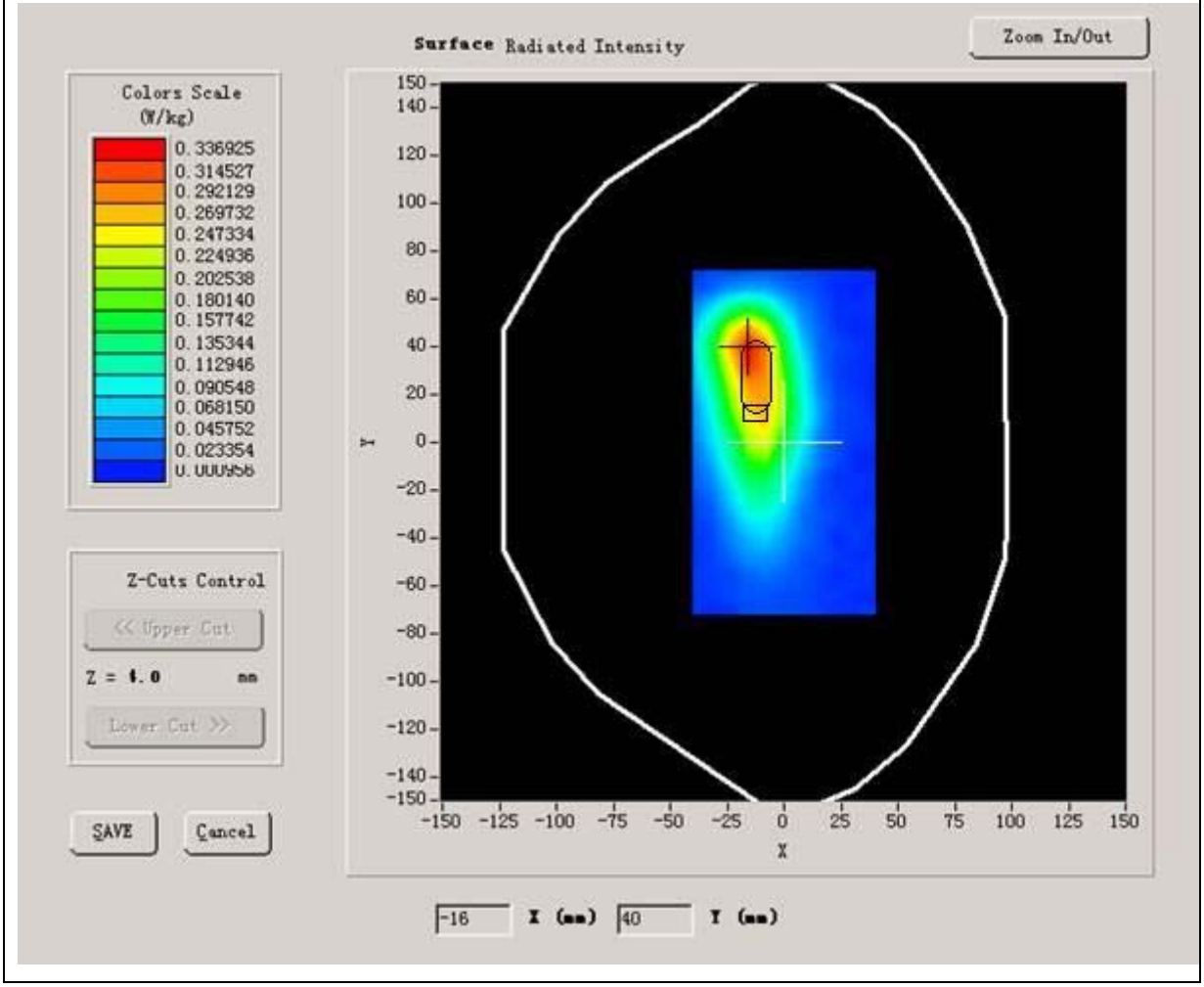
B. SAR Measurement Results

Middle Band SAR (Channel 661):

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

Conductivity (S/m)	1.573978
Variation (%)	0.580000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.3

VOLUME SAR

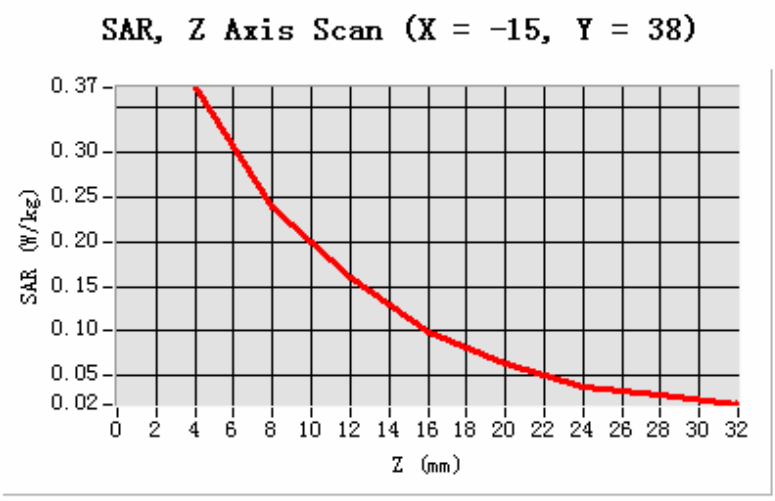


Maximum location: X=-15.00, Y=38.00

SAR 10g (W/Kg)	0.196274
SAR 1g (W/Kg)	0.348336

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.3730	0.2401	0.1597	0.0989	0.0629	0.0378	0.0281



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: 5/3/2009

Measurement duration: 9 minutes 44 seconds

A. Experimental conditions.

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

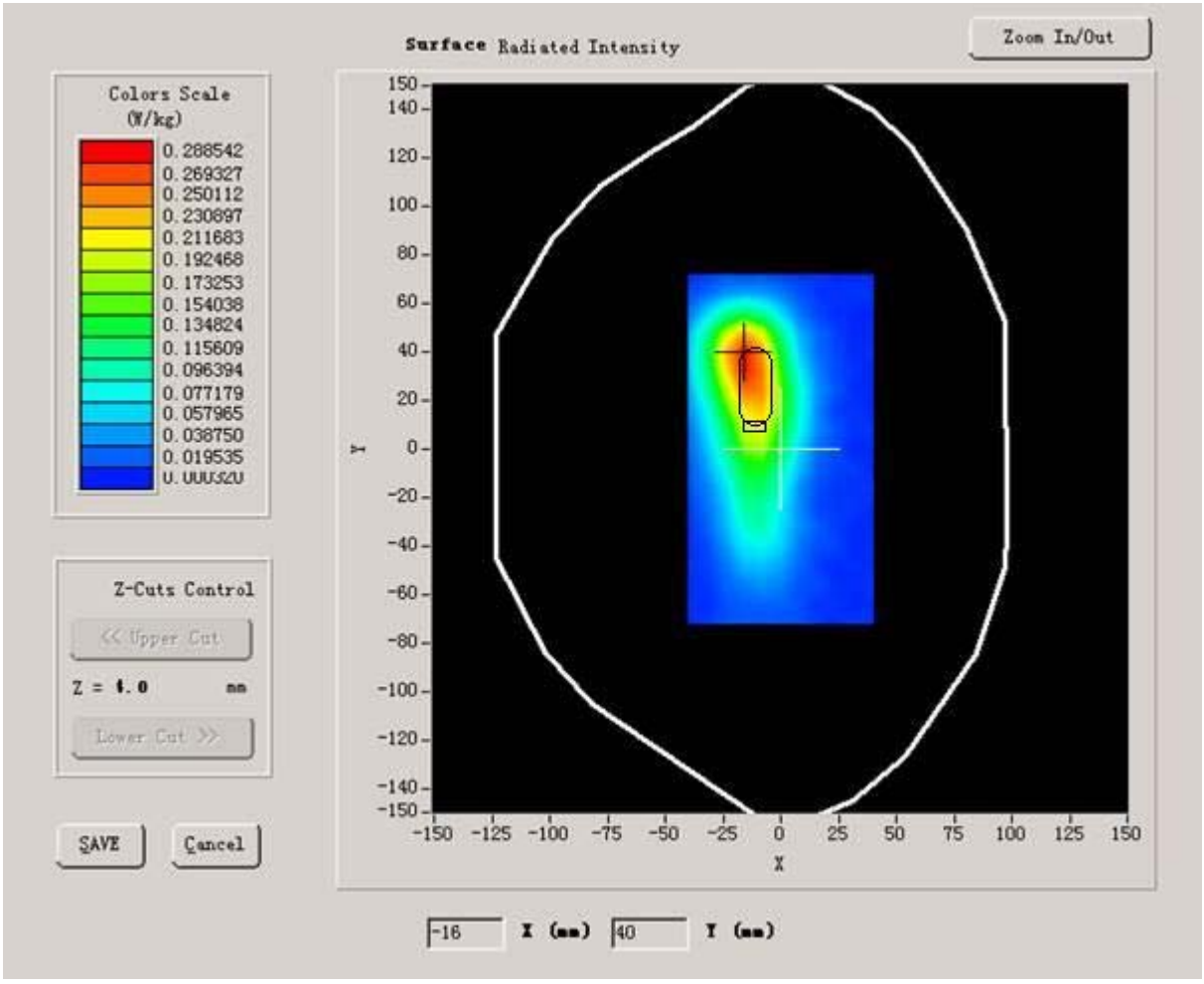
B. SAR Measurement Results

Higher Band SAR (Channel 810):

Frequency (MHz)	1909.800049
Relative permittivity (real part)	51.540001
Relative permittivity	12.000000

Conductivity (S/m)	1.273200
Variation (%)	1.400000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor:	1:8.3

VOLUME SAR

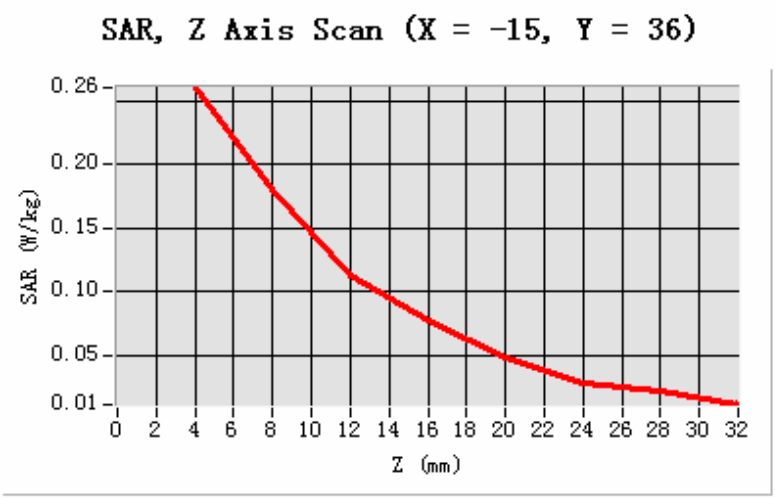


Maximum location: X=-15.00, Y=36.00

SAR 10g (W/Kg)	0.139167
SAR 1g (W/Kg)	0.249016

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.2607	0.1805	0.1130	0.0769	0.0481	0.0284	0.0221



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: 5/3/2009

Measurement duration: 9 minutes 44 seconds

A. Experimental conditions.

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

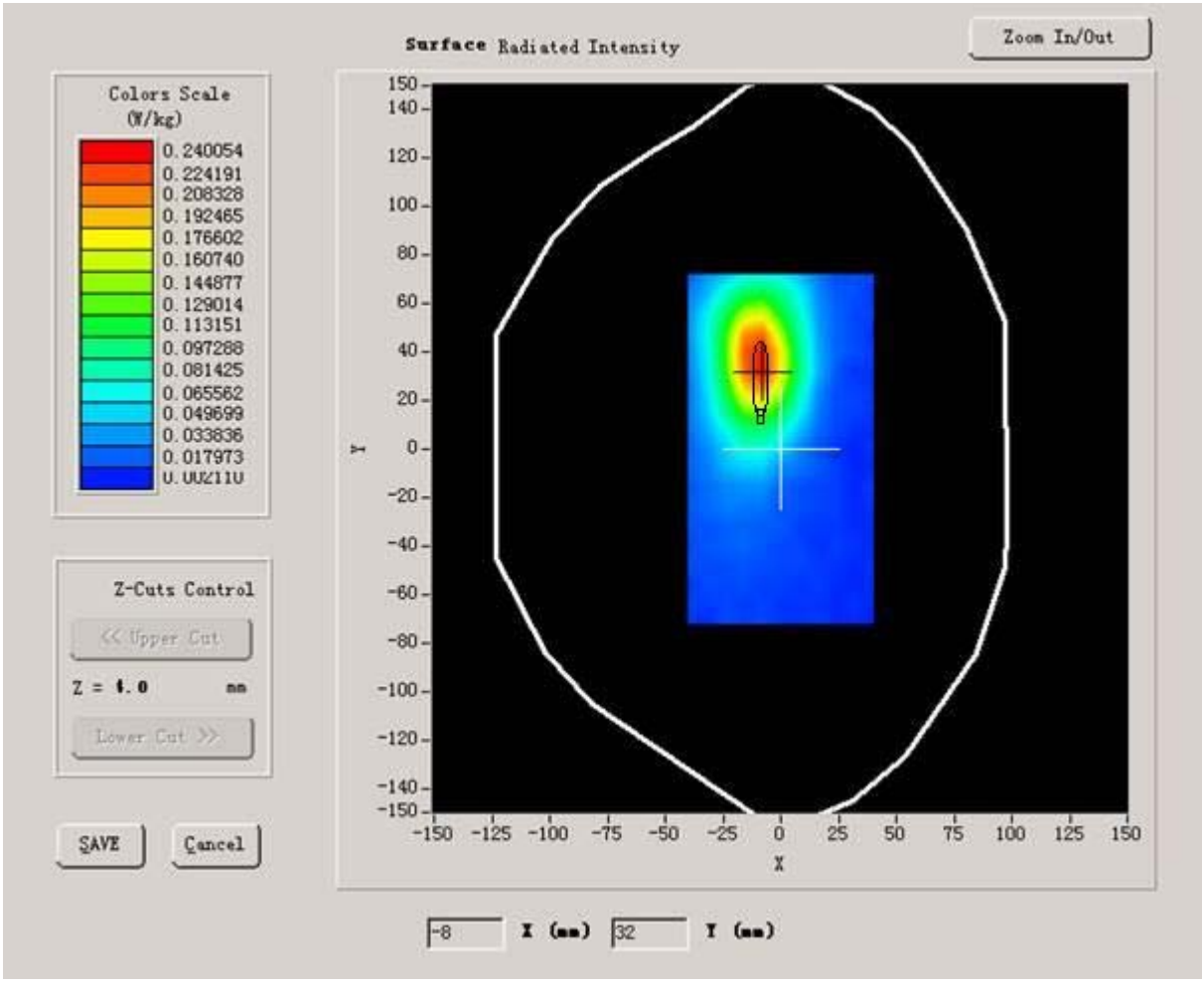
B. SAR Measurement Results

Lower Band SAR (Channel 512):

Frequency (MHz)	1850.199951
Relative permittivity (real part)	51.540001
Relative permittivity	12.000000

Conductivity (S/m)	1.233467
Variation (%)	0.350000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.3

VOLUME SAR

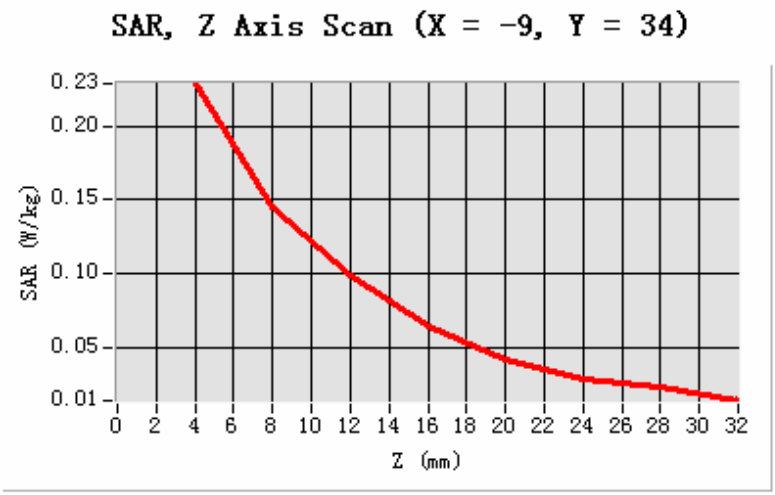


Maximum location: X=-9.00, Y=34.00

SAR 10g (W/Kg)	0.119872
SAR 1g (W/Kg)	0.212572

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.2286	0.1455	0.0991	0.0636	0.0413	0.0284	0.0225



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: 5/3/2009

Measurement duration: 9 minutes 42 seconds

A. Experimental conditions.

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

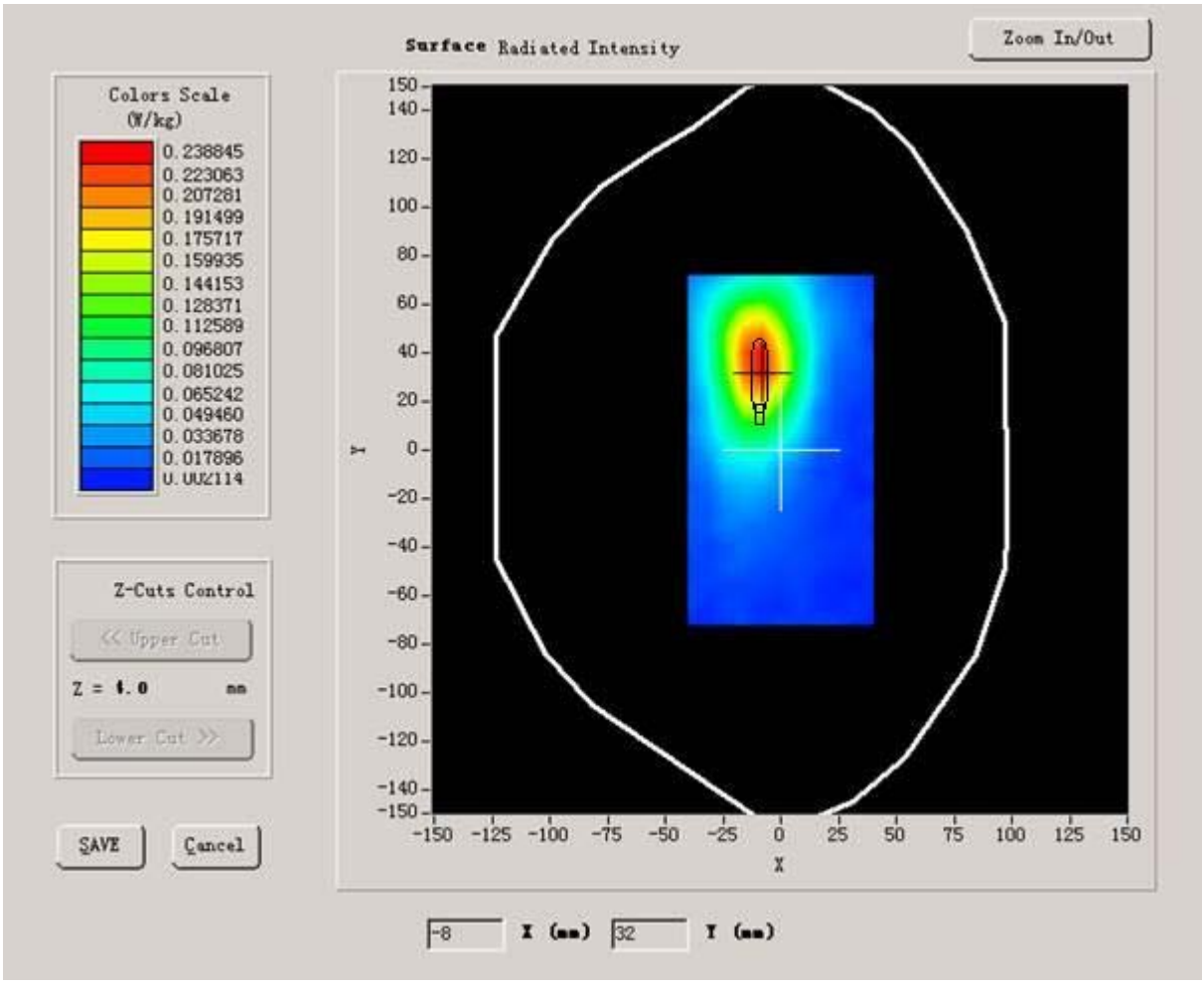
B. SAR Measurement Results

Middle Band SAR (Channel 661):

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

Conductivity (S/m)	1.573978
Variation (%)	0.140000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.3

VOLUME SAR

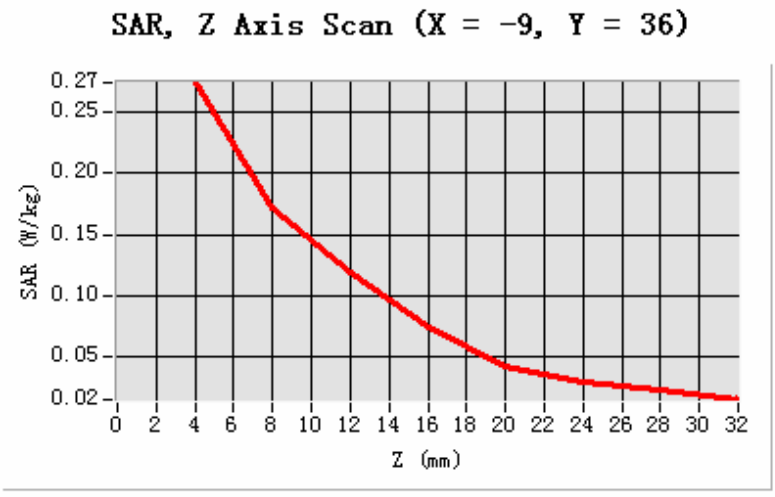


Maximum location: X=-9.00, Y=36.00

SAR 10g (W/Kg)	0.141843
SAR 1g (W/Kg)	0.253997

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.2740	0.1720	0.1191	0.0754	0.0434	0.0301	0.0233



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: 5/3/2009

Measurement duration: 9 minutes 42 seconds

A. Experimental conditions.

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

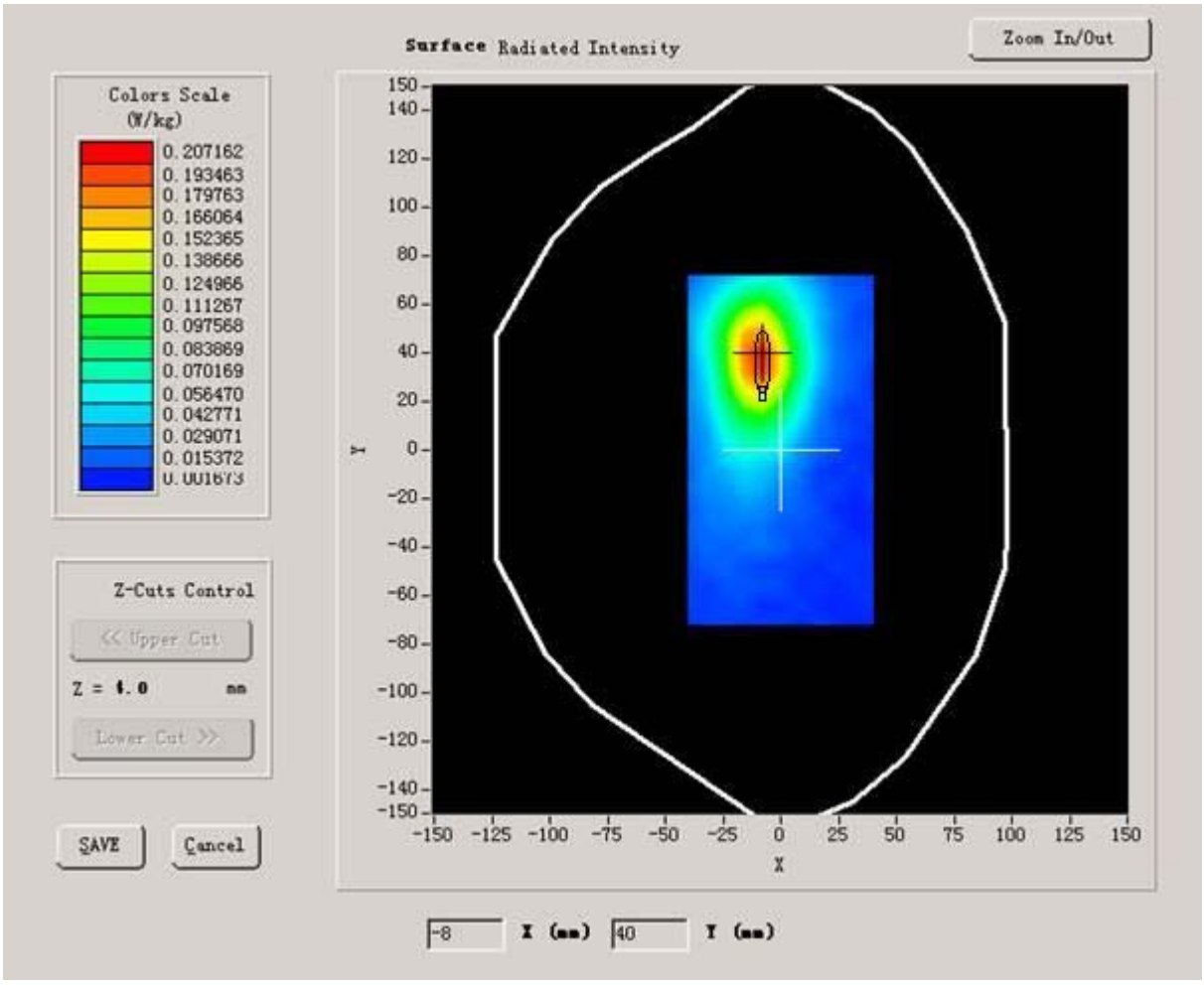
B. SAR Measurement Results

Higher Band SAR (Channel 810):

Frequency (MHz)	1909.800049
Relative permittivity (real part)	51.540001
Relative permittivity	12.000000

Conductivity (S/m)	1.273200
Variation (%)	-0.620000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.3

VOLUME SAR

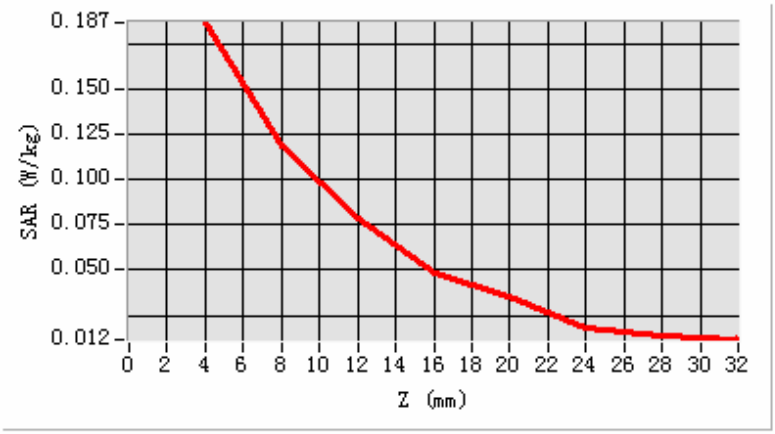


Maximum location: X=-9.00, Y=39.00

SAR 10g (W/Kg)	0.096998
SAR 1g (W/Kg)	0.175182

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.1868	0.1183	0.0784	0.0484	0.0355	0.0185	0.0141



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: 5/3/2009

Measurement duration: 9 minutes 43 seconds

A. Experimental conditions.

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

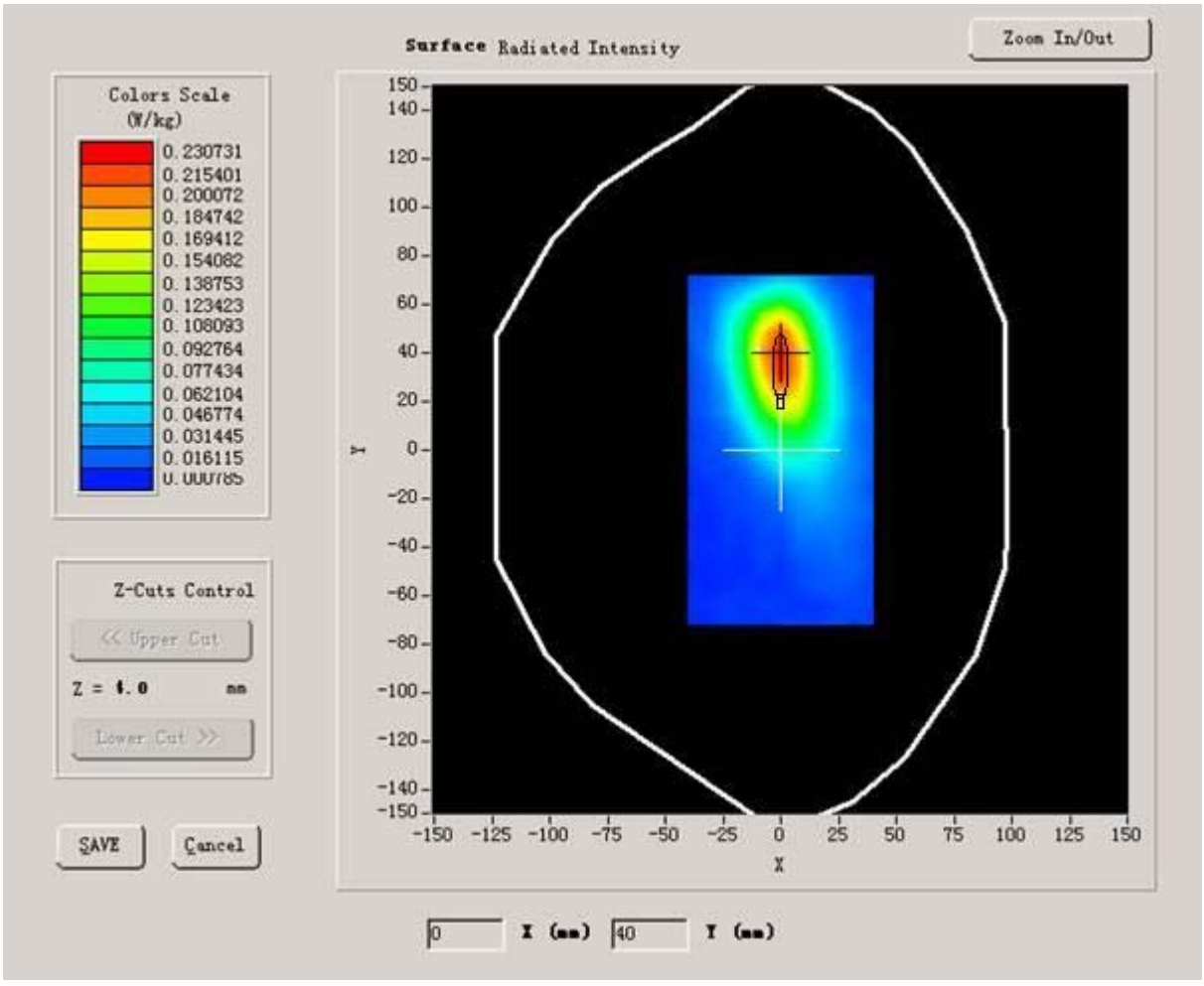
B. SAR Measurement Results

Lower Band SAR (Channel 512):

Frequency (MHz)	1850.199951
Relative permittivity (real part)	51.540001
Relative permittivity	12.000000

Conductivity (S/m)	1.233467
Variation (%)	-0.360000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.3

VOLUME SAR

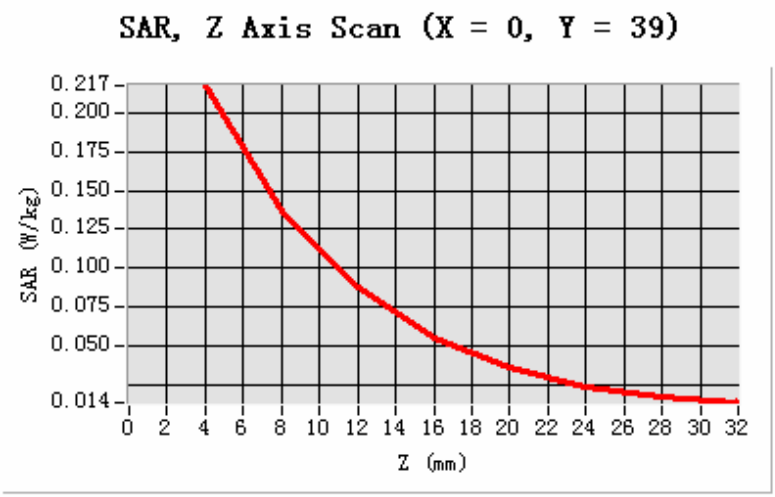


Maximum location: X=0.00, Y=39.00

SAR 10g (W/Kg)	0.114572
SAR 1g (W/Kg)	0.202943

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.2173	0.1372	0.0885	0.0554	0.0365	0.0243	0.0177



MEASUREMENT 25

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 47 seconds

A. Experimental conditions.

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

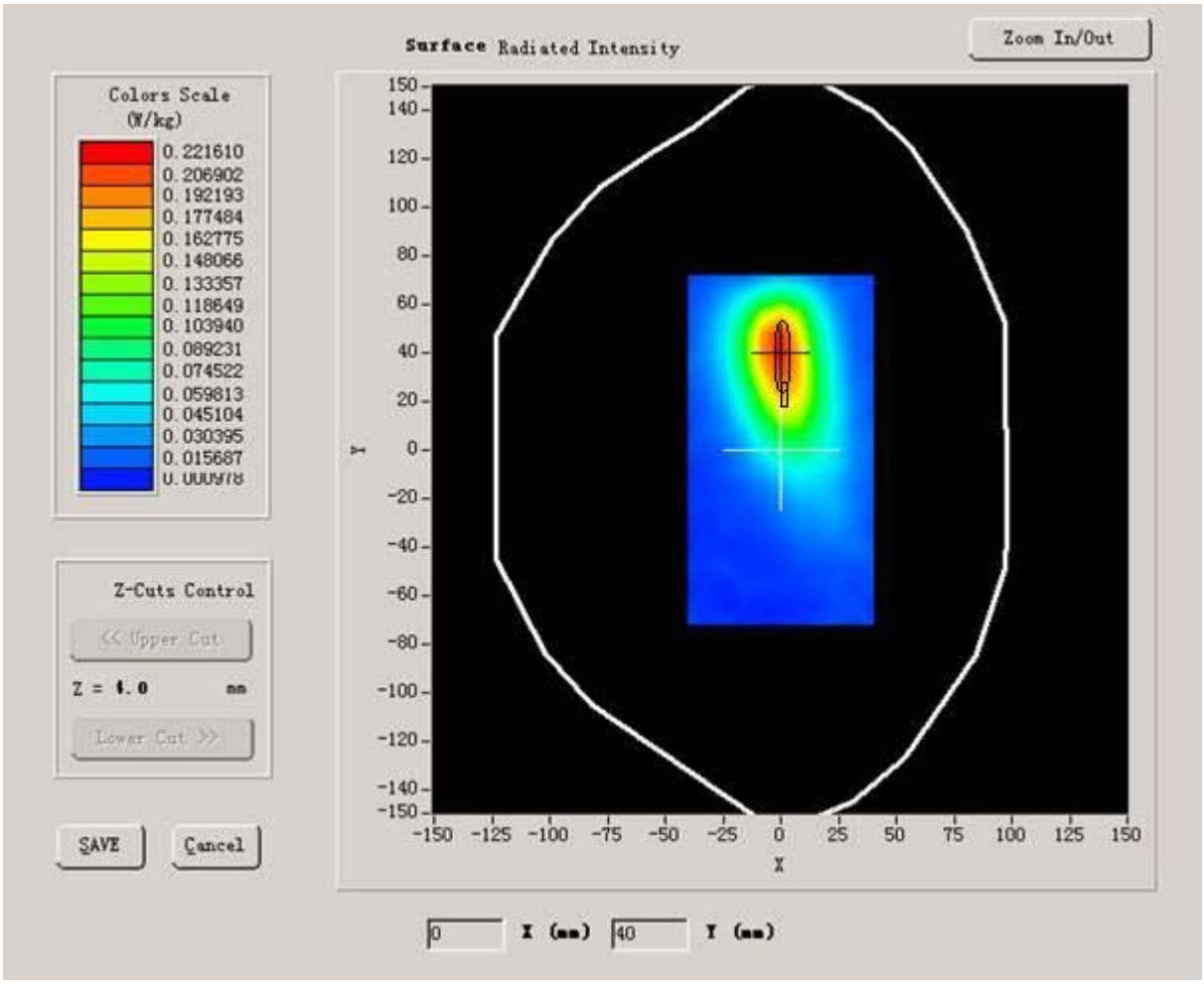
B. SAR Measurement Results

Middle Band SAR (Channel 661):

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

Conductivity (S/m)	1.573978
Variation (%)	0.990000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.3

VOLUME SAR

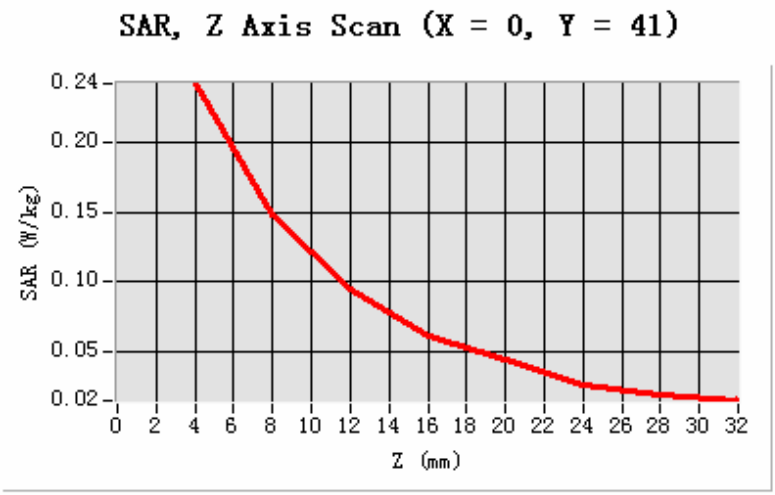


Maximum location: X=0.00, Y=41.00

SAR 10g (W/Kg)	0.129551
SAR 1g (W/Kg)	0.232493

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.2419	0.1477	0.0954	0.0607	0.0446	0.0267	0.0189



MEASUREMENT 26

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 44 seconds

A. Experimental conditions.

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

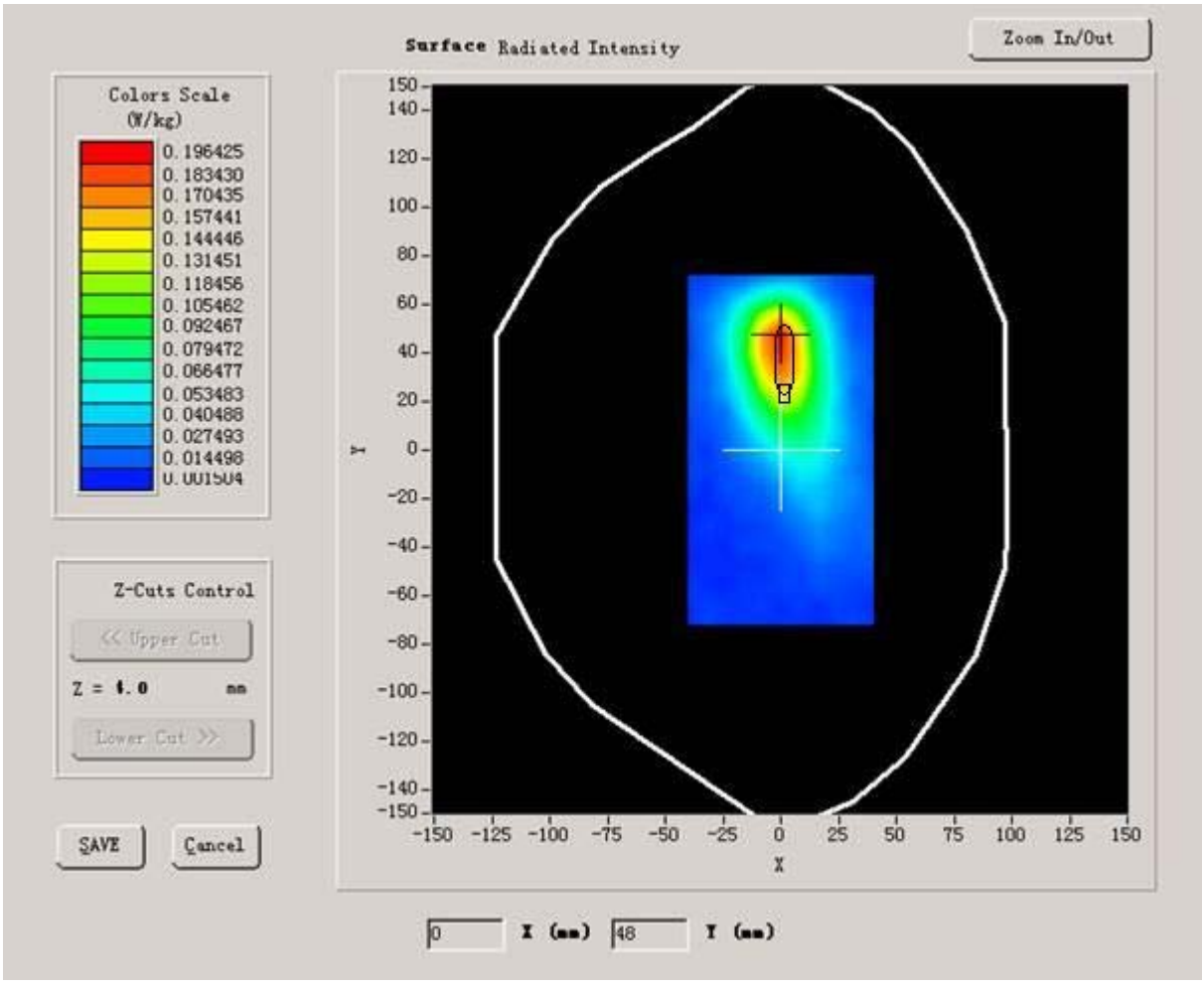
B. SAR Measurement Results

Higher Band SAR (Channel 810):

Frequency (MHz)	1909.800049
Relative permittivity (real part)	51.540001
Relative permittivity	12.000000

Conductivity (S/m)	1.273200
Variation (%)	-1.460000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.3

VOLUME SAR

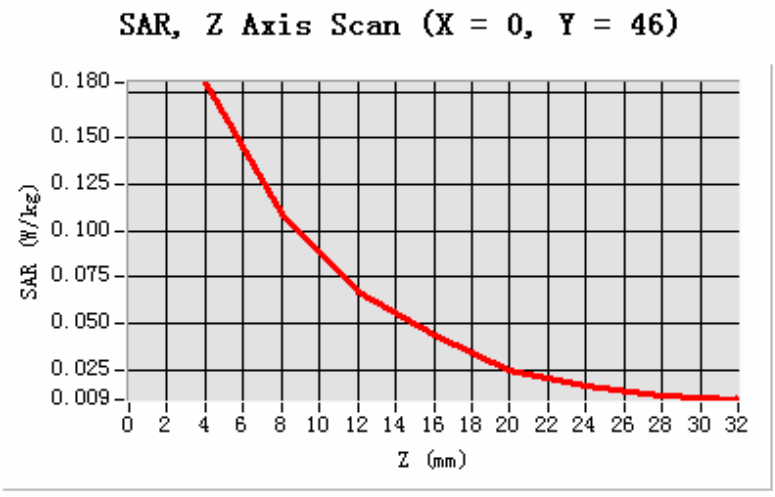


Maximum location: X=0.00, Y=46.00

SAR 10g (W/Kg)	0.092612
SAR 1g (W/Kg)	0.170482

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.1800	0.1094	0.0674	0.0441	0.0251	0.0160	0.0113



MEASUREMENT 27

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 41 seconds

A. Experimental conditions.

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

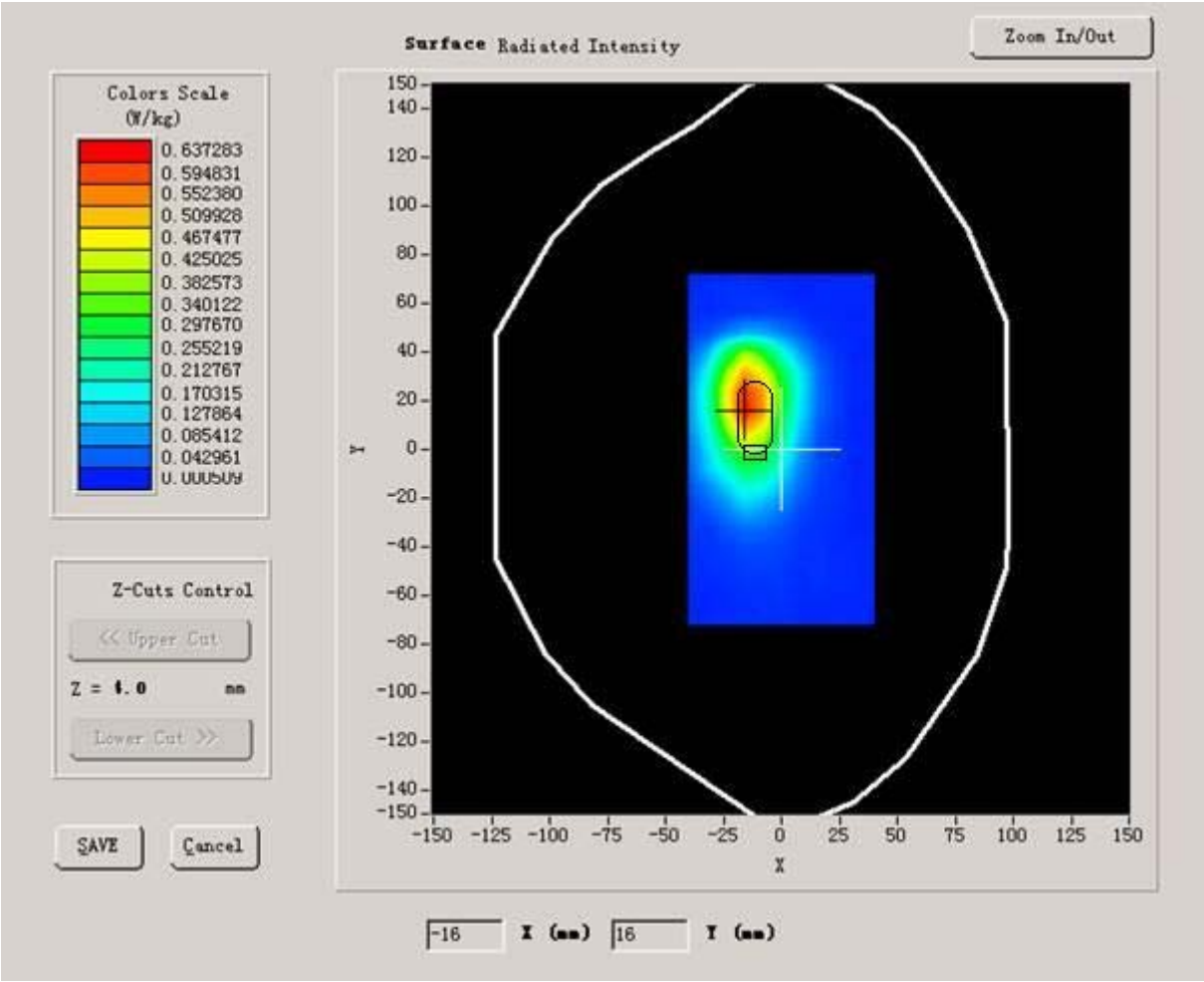
B. SAR Measurement Results

Lower Band SAR (Channel 512):

Frequency (MHz)	1850.199951
Relative permittivity (real part)	51.540001
Relative permittivity	12.000000

Conductivity (S/m)	1.233467
Variation (%)	-1.140000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.3

VOLUME SAR

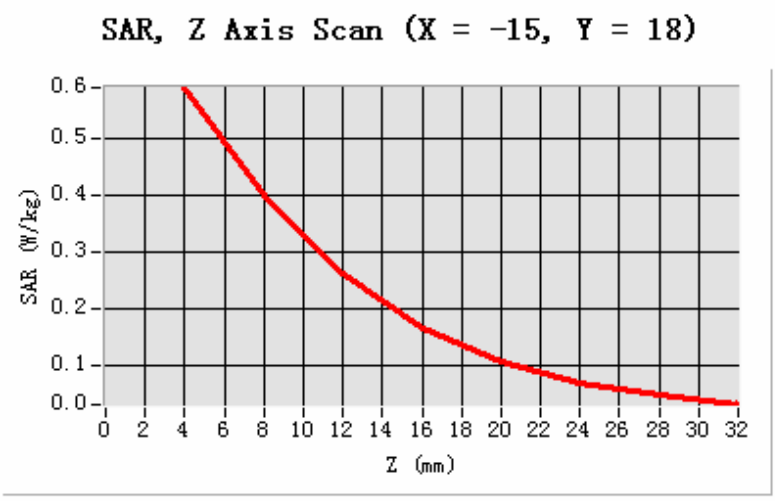


Maximum location: X=-15.00, Y=18.00

SAR 10g (W/Kg)	0.483652
SAR 1g (W/Kg)	0.815438

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.5918	0.4017	0.2641	0.1669	0.1057	0.0678	0.0479



MEASUREMENT 28

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 41 seconds

A. Experimental conditions.

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

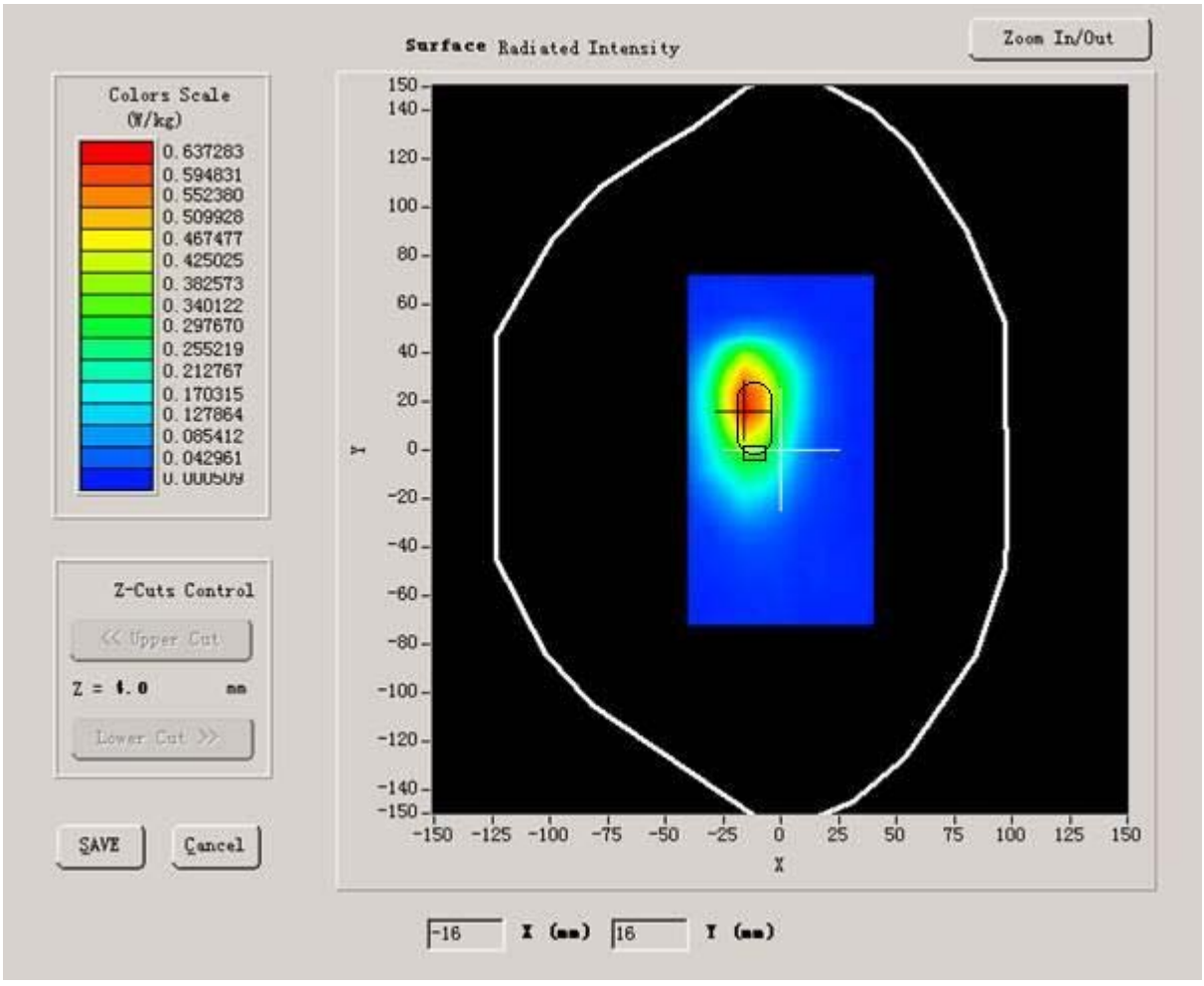
B. SAR Measurement Results

Lower Band SAR (Channel 512):

Frequency (MHz)	1850.199951
Relative permittivity (real part)	51.54.0001
Relative permittivity	12.000000

Conductivity (S/m)	1.233467
Variation (%)	-1.140000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.3

VOLUME SAR

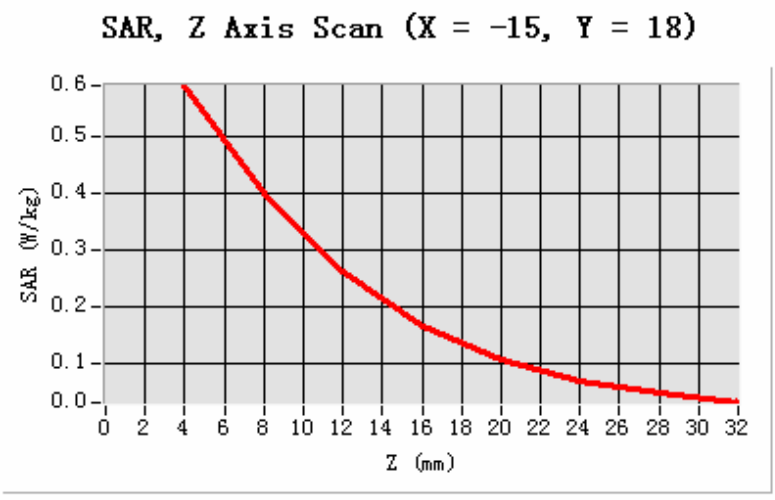


Maximum location: X=-15.00, Y=18.00

SAR 10g (W/Kg)	0.315448
SAR 1g (W/Kg)	0.600218

Z Axis Scan

Z (mm)	0.00	4.00	8.00	12.00	16.00	20.00	24.00	28.00
SAR (W/Kg)	0.0000	0.5918	0.4017	0.2641	0.1669	0.1057	0.0678	0.0479



MEASUREMENT 29

Type: Phone measurement (Complete)

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

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

Date of measurement: 6/3/2009

Measurement duration: 9 minutes 28 seconds

A. Experimental conditions.

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

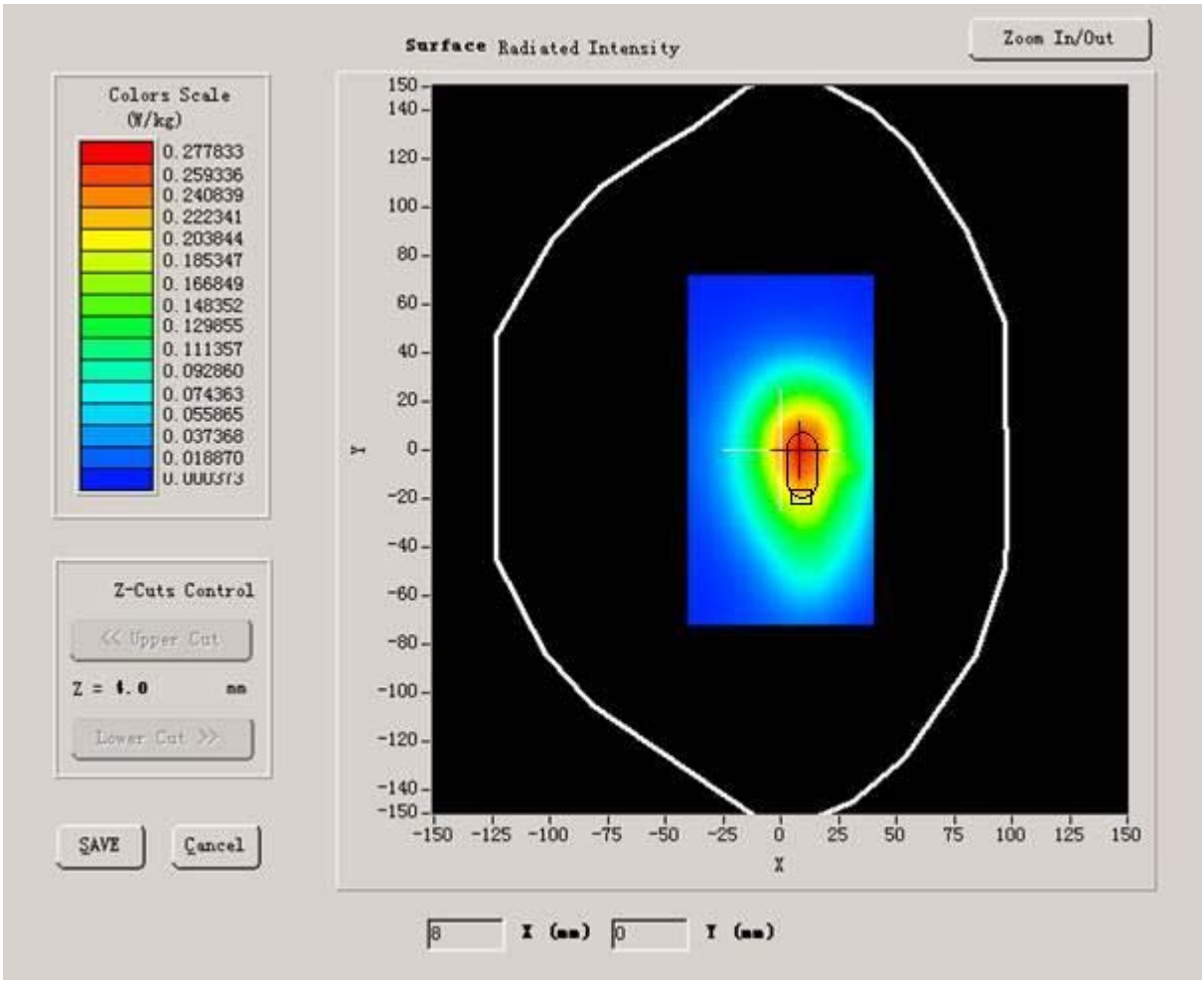
B. SAR Measurement Results

Lower Band SAR (Channel 4132):

Frequency (MHz)	826.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	0.728580
Variation (%)	-0.280000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

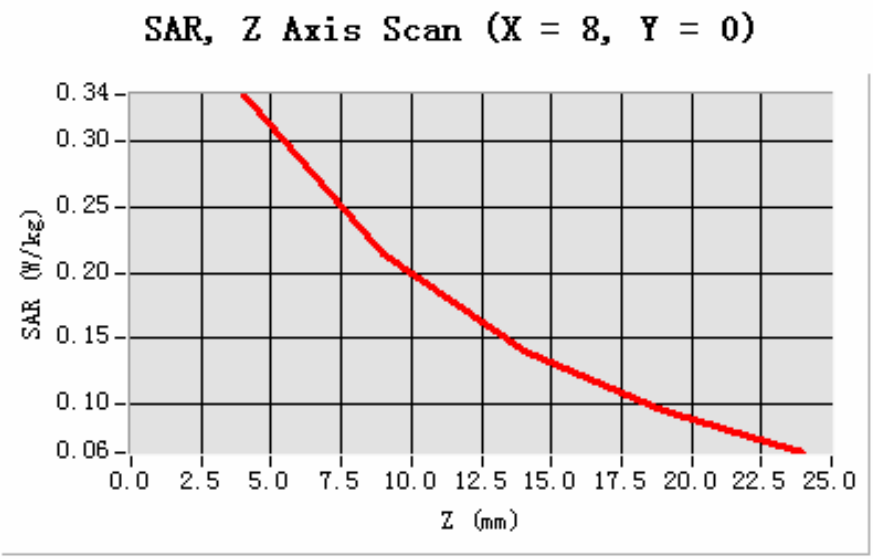


Maximum location: X=8.00, Y=0.00

SAR 10g (W/Kg)	0.183477
SAR 1g (W/Kg)	0.327884

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.3357	0.2154	0.1404	0.0945



MEASUREMENT 30

Type: Phone measurement (Complete)

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

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

Date of measurement: 6/3/2009

Measurement duration: 9 minutes 26 seconds

A. Experimental conditions.

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

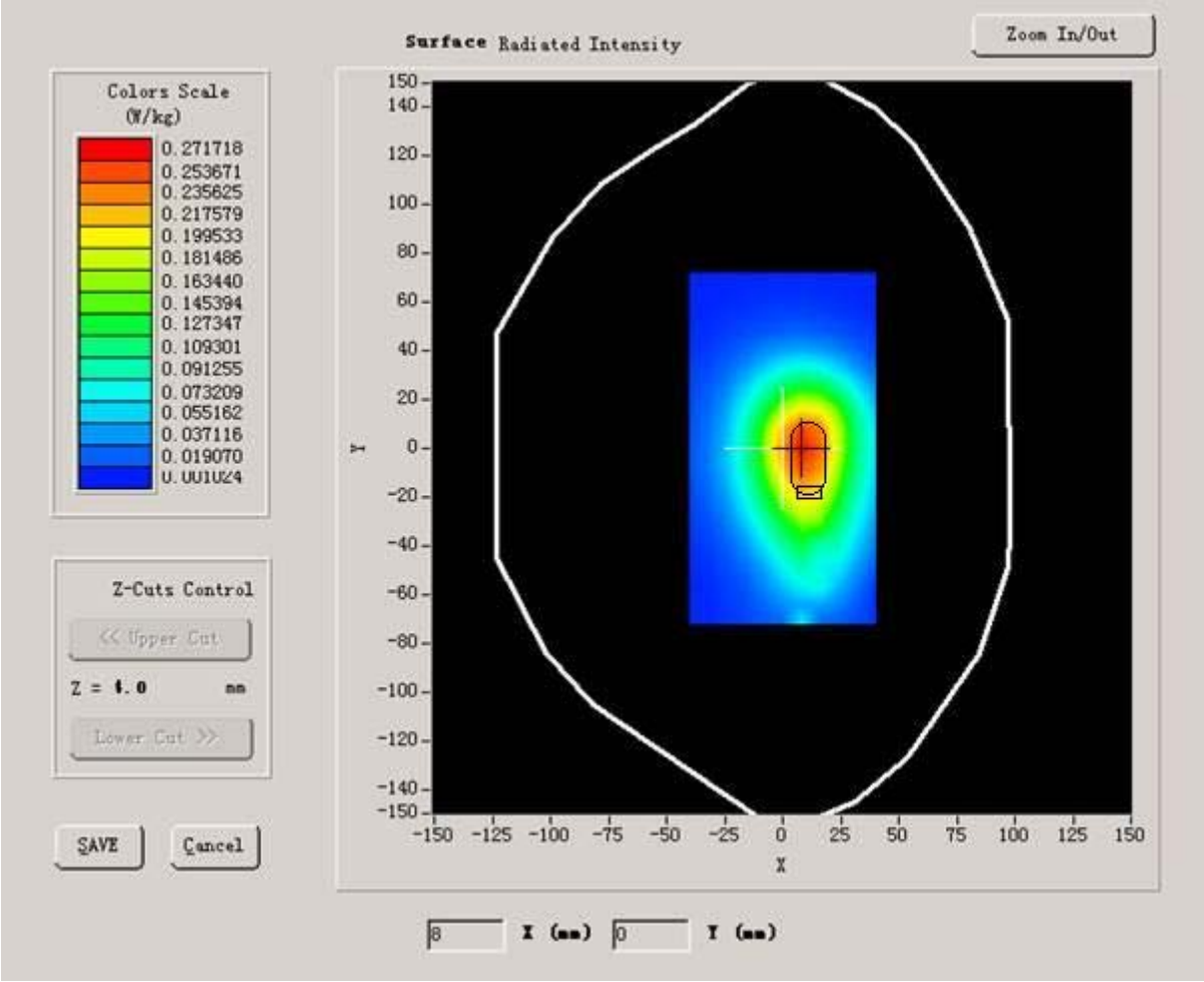
B. SAR Measurement Results

Middle Band SAR (Channel 4182):

Frequency (MHz)	836.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	0.737401
Variation (%)	0.270000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

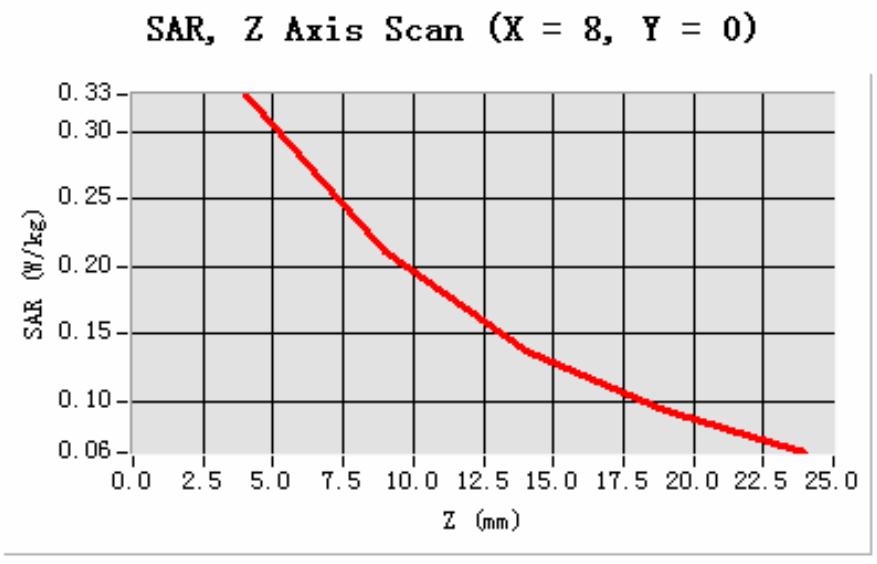


Maximum location: X=8.00, Y=0.00

SAR 10g (W/Kg)	0.195523
SAR 1g (W/Kg)	0.348854

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.3272	0.2104	0.1375	0.0927



MEASUREMENT 31

Type: Phone measurement (Complete)

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

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

Date of measurement: 6/3/2009

Measurement duration: 9 minutes 28 seconds

A. Experimental conditions.

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

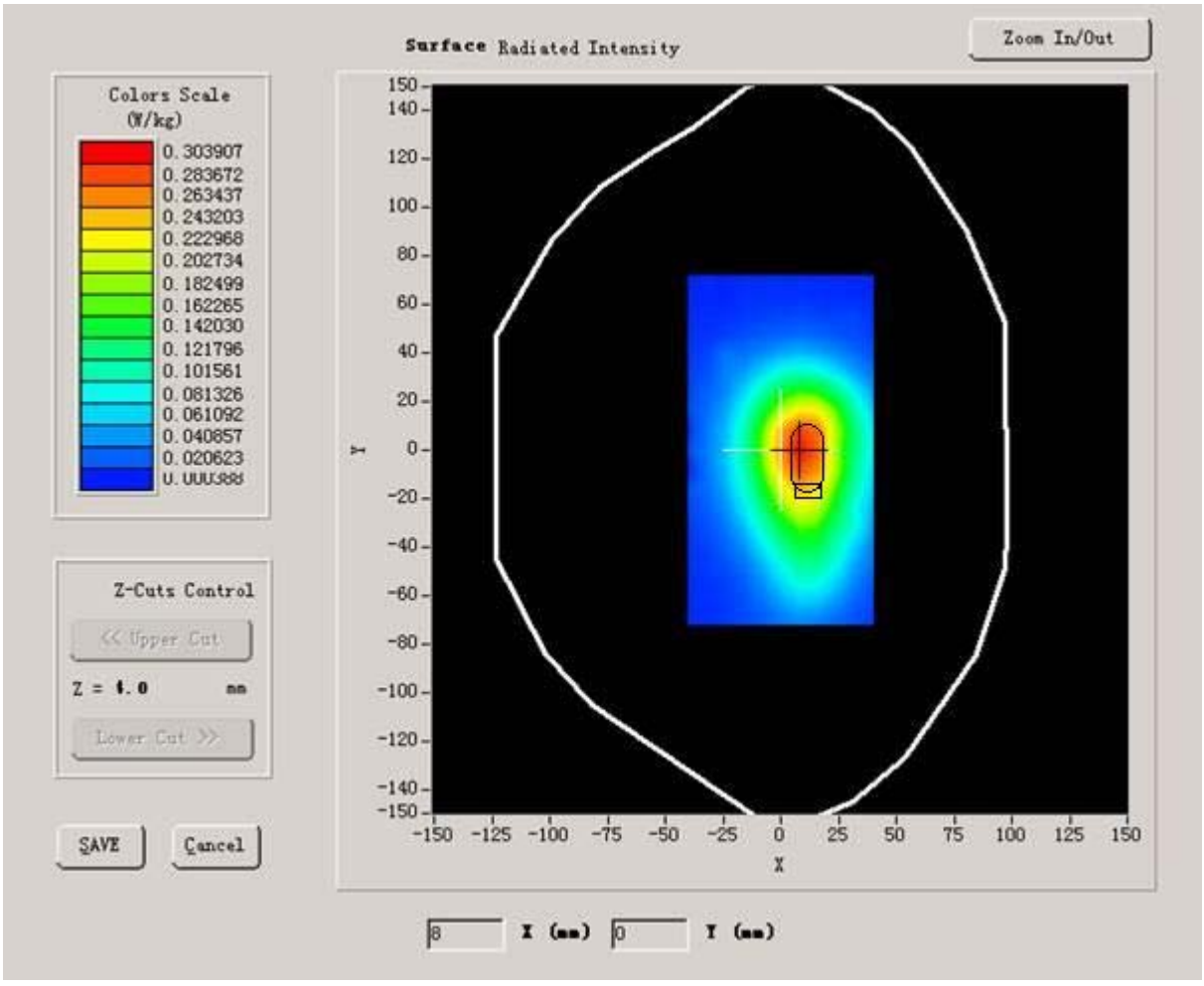
B. SAR Measurement Results

Higher Band SAR (Channel 4233):

Frequency (MHz)	846.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	0.746221
Variation (%)	0.170000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

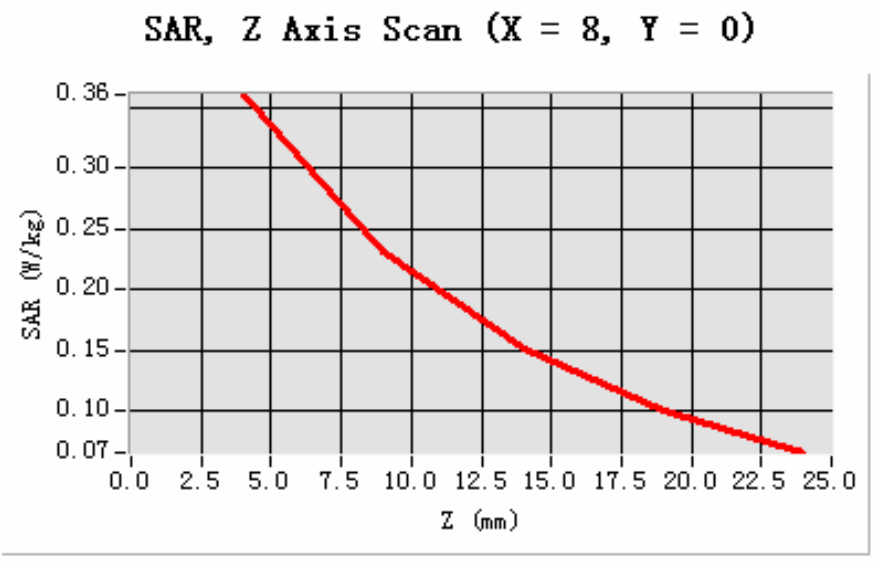


Maximum location: X=8.00, Y=0.00

SAR 10g (W/Kg)	0.221544
SAR 1g (W/Kg)	0.378544

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.3608	0.2323	0.1511	0.1006



MEASUREMENT 32

Type: Phone measurement (Complete)

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

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

Date of measurement: 6/3/2009

Measurement duration: 9 minutes 29 seconds

A. Experimental conditions.

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

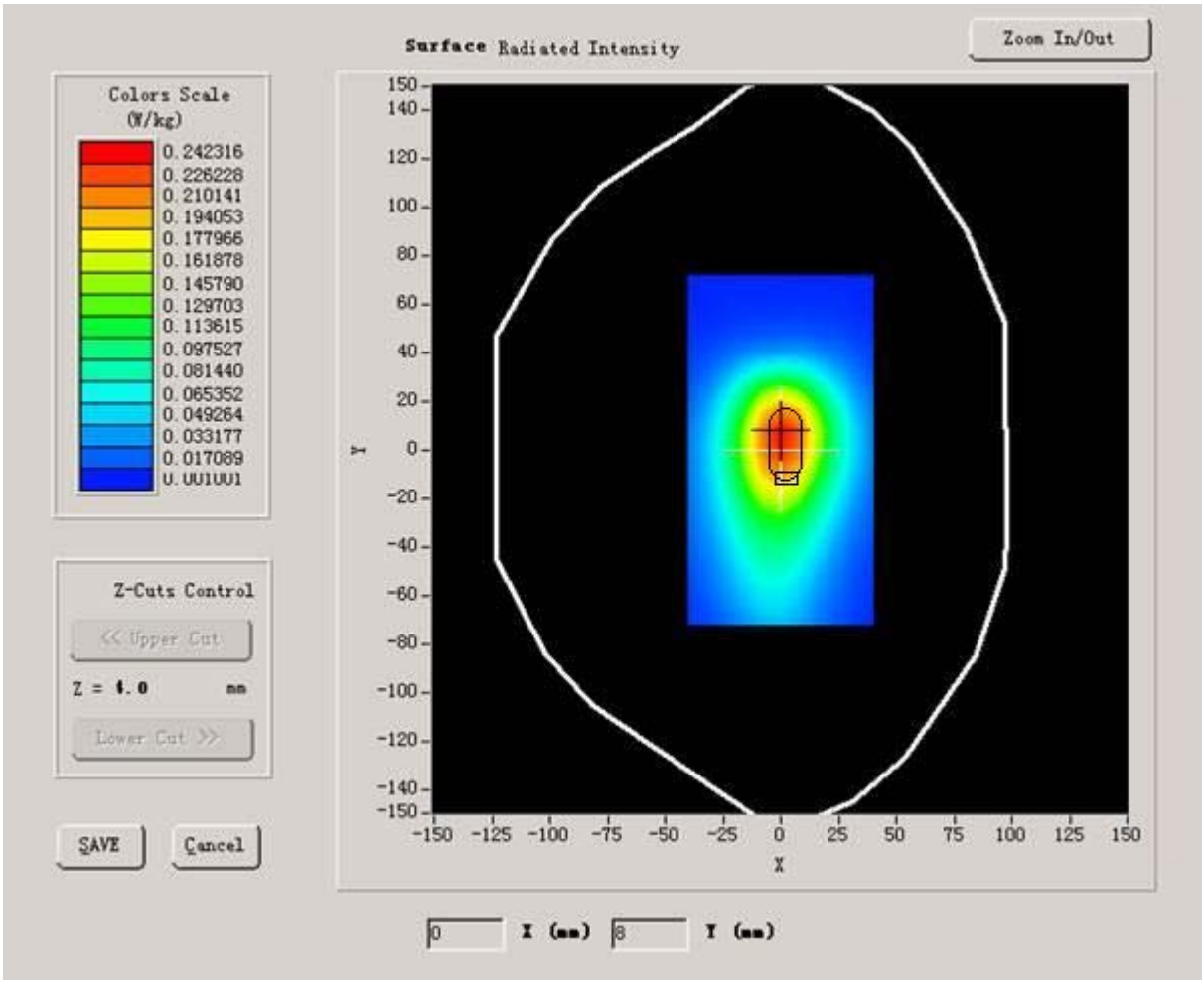
B. SAR Measurement Results

Lower Band SAR (Channel 4132):

Frequency (MHz)	826.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	0.728580
Variation (%)	-0.490000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

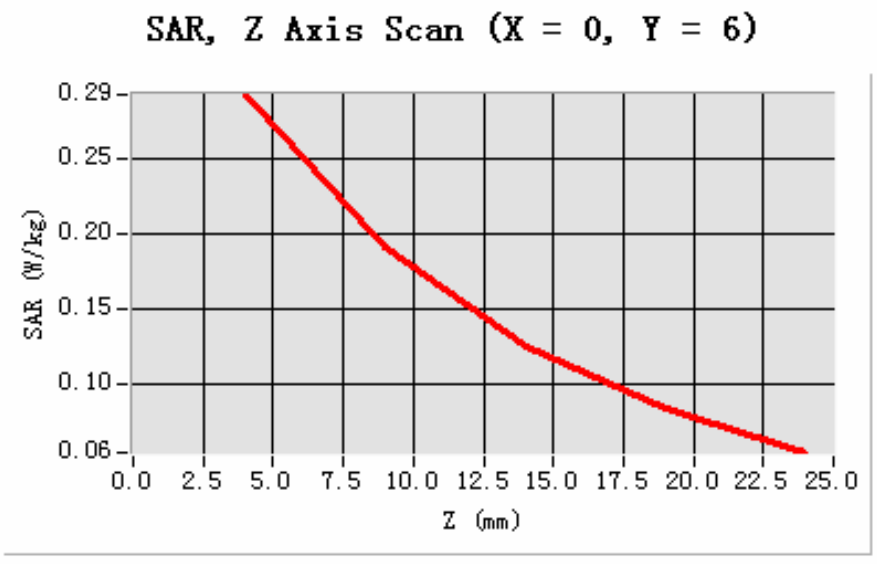


Maximum location: X=0.00, Y=6.00

SAR 10g (W/Kg)	0.178984
SAR 1g (W/Kg)	0.284465

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.2933	0.1912	0.1256	0.0840



MEASUREMENT 33

Type: Phone measurement (Complete)

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

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

Date of measurement: 6/3/2009

Measurement duration: 9 minutes 30 seconds

A. Experimental conditions.

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

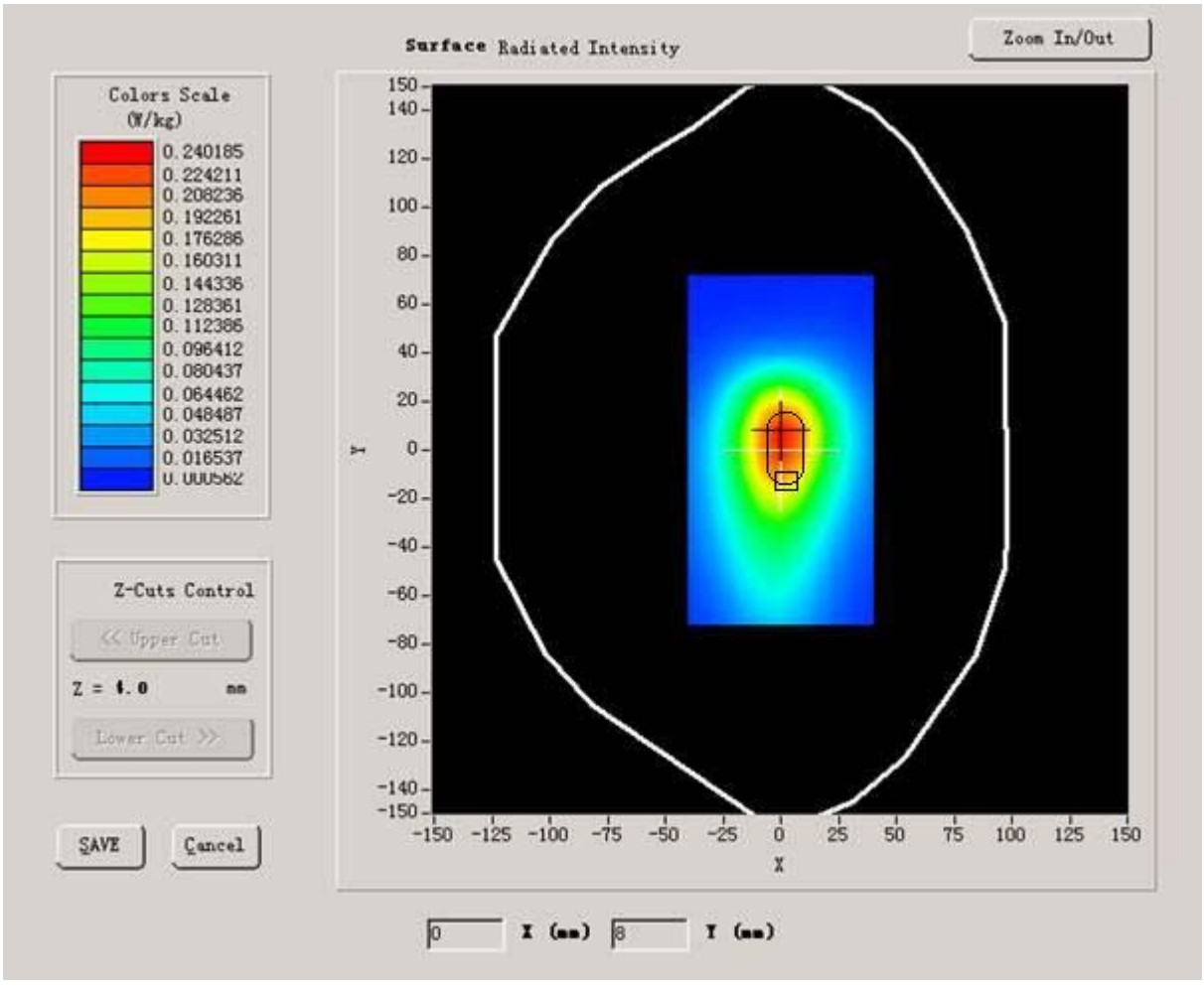
B. SAR Measurement Results

Middle Band SAR (Channel 4182):

Frequency (MHz)	836.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	0.737401
Variation (%)	1.250000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

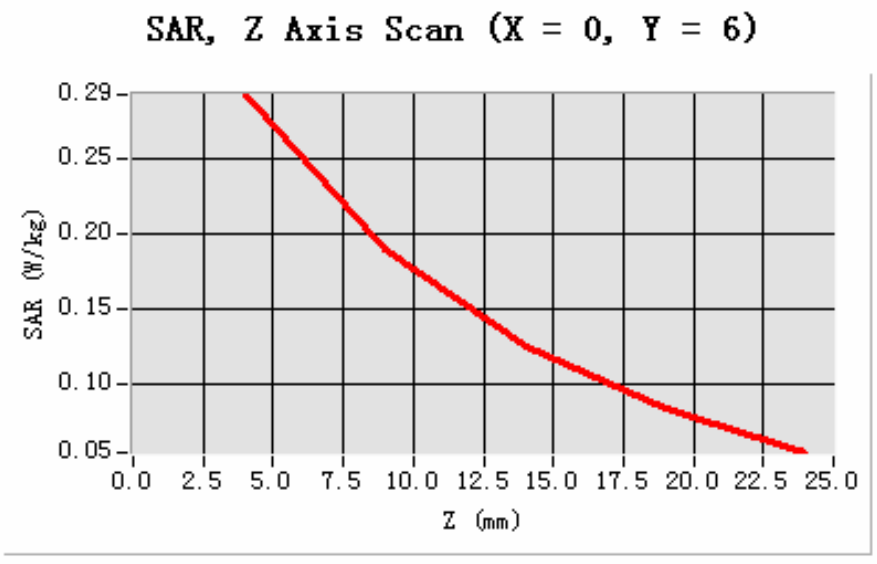


Maximum location: X=0.00, Y=6.00

SAR 10g (W/Kg)	0.184542
SAR 1g (W/Kg)	0.297555

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.2932	0.1901	0.1242	0.0827



MEASUREMENT 34

Type: Phone measurement (Complete)

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

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

Date of measurement: 6/3/2009

Measurement duration: 9 minutes 29 seconds

A. Experimental conditions.

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

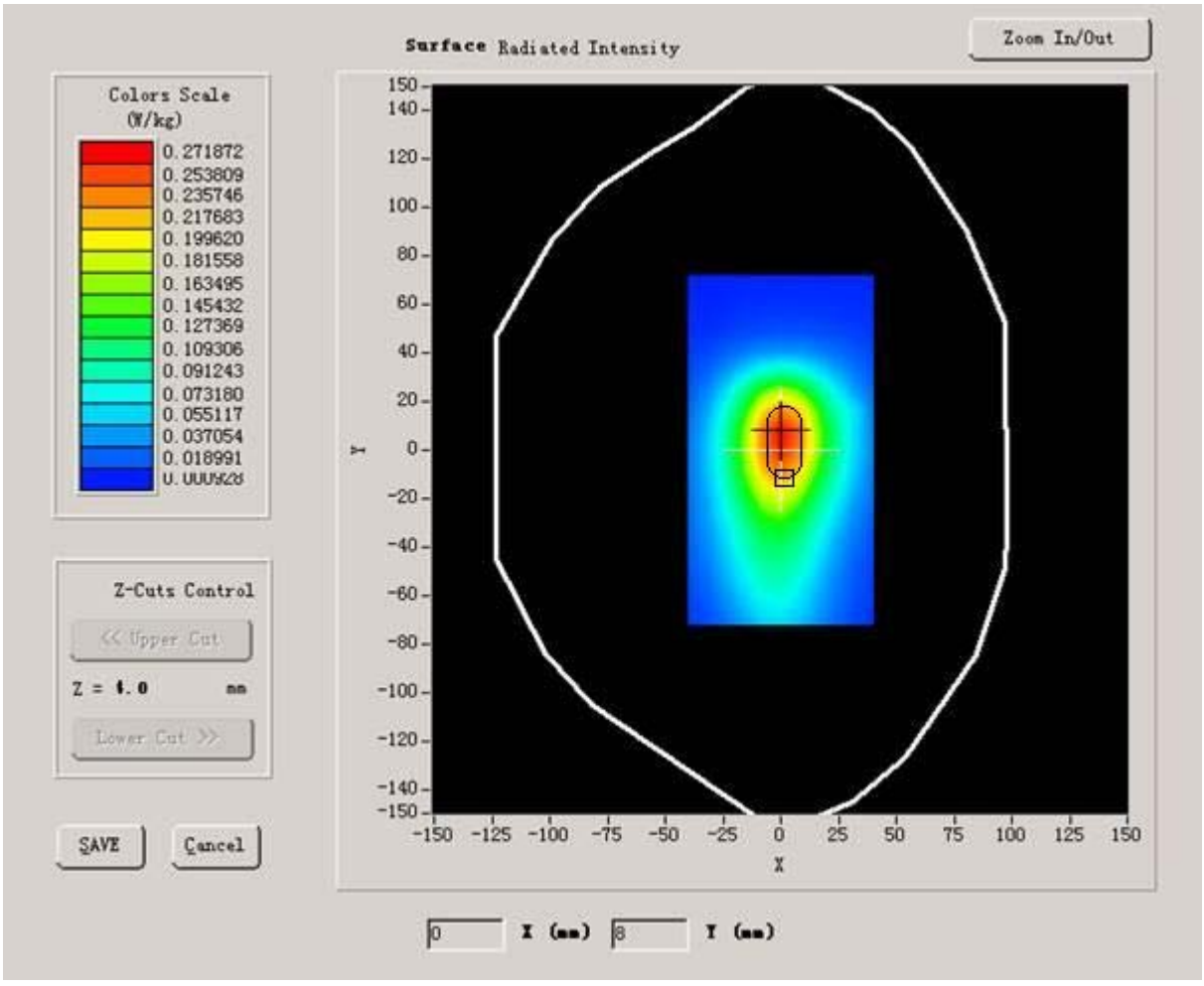
B. SAR Measurement Results

Higher Band SAR (Channel 4233):

Frequency (MHz)	846.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	0.746221
Variation (%)	-0.660000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

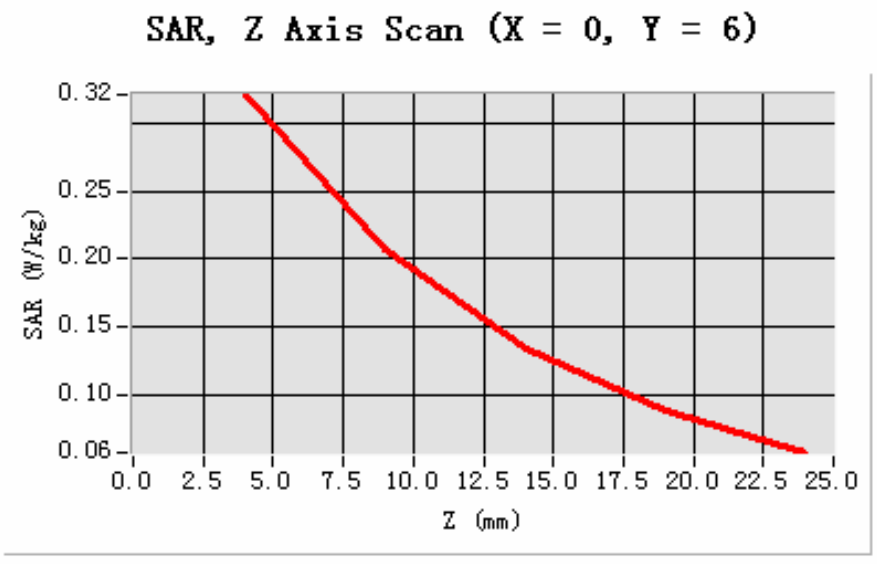


Maximum location: X=0.00, Y=6.00

SAR 10g (W/Kg)	0.155481
SAR 1g (W/Kg)	0.312355

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.3209	0.2070	0.1343	0.0886



MEASUREMENT 35

Type: Phone measurement (Complete)

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

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

Date of measurement: 6/3/2009

Measurement duration: 9 minutes 33 seconds

A. Experimental conditions.

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

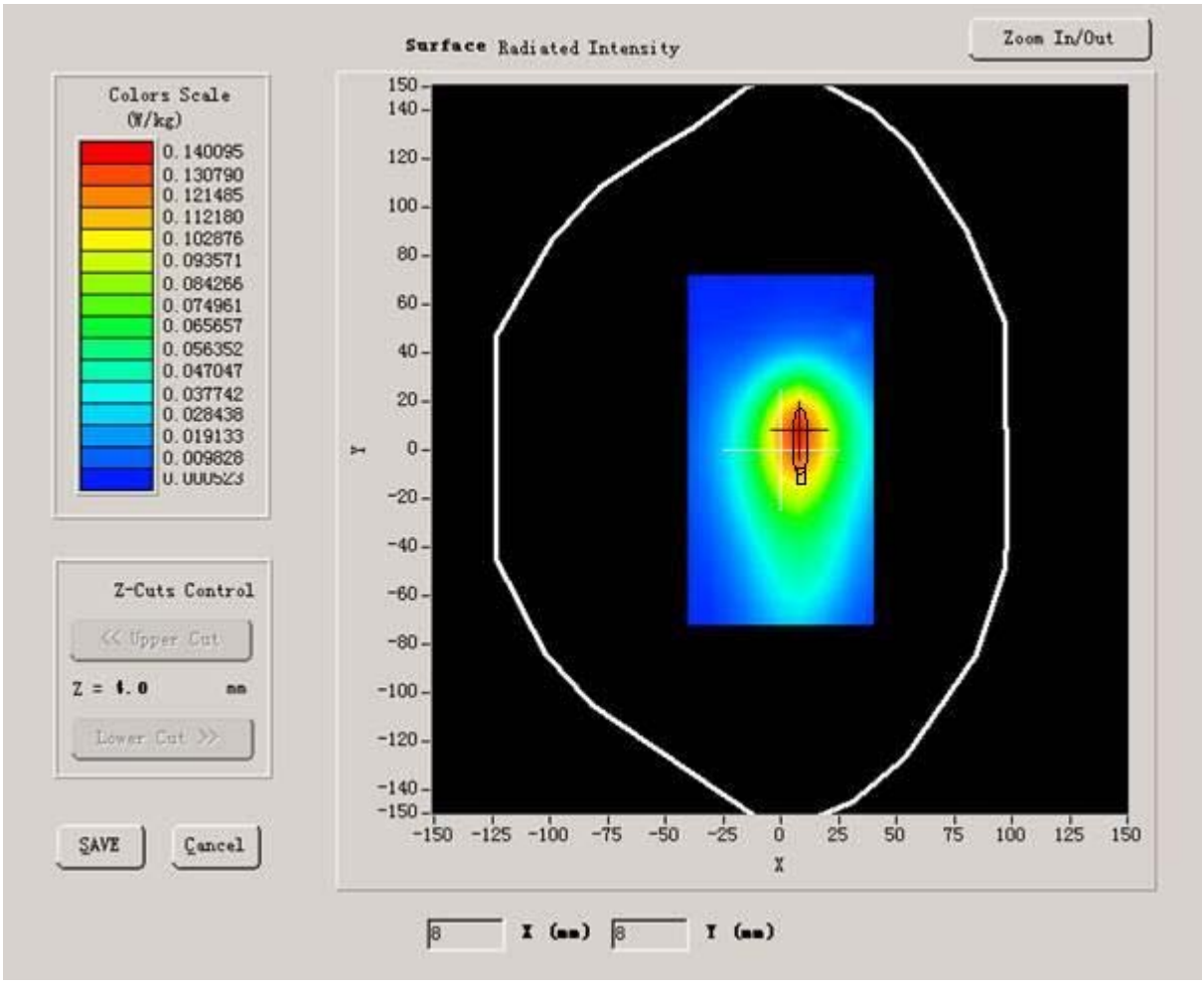
B. SAR Measurement Results

Lower Band SAR (Channel 4132):

Frequency (MHz)	826.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	0.728580
Variation (%)	-0.200000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor:	1:1

VOLUME SAR

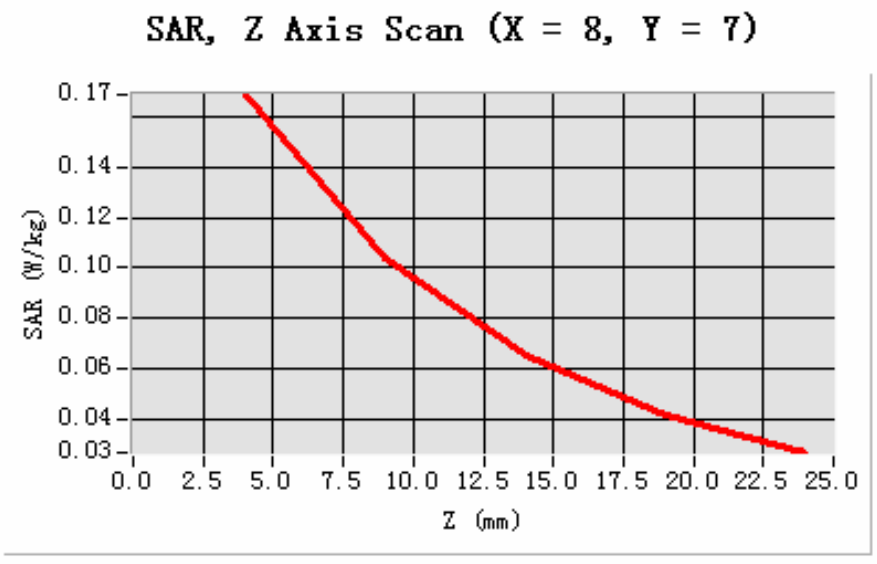


Maximum location: X=8.00, Y=7.00

SAR 10g (W/Kg)	0.096183
SAR 1g (W/Kg)	0.147752

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1689	0.1041	0.0649	0.0417



MEASUREMENT 36

Type: Phone measurement (Complete)

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

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

Date of measurement: 6/3/2009

Measurement duration: 9 minutes 33 seconds

A. Experimental conditions.

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

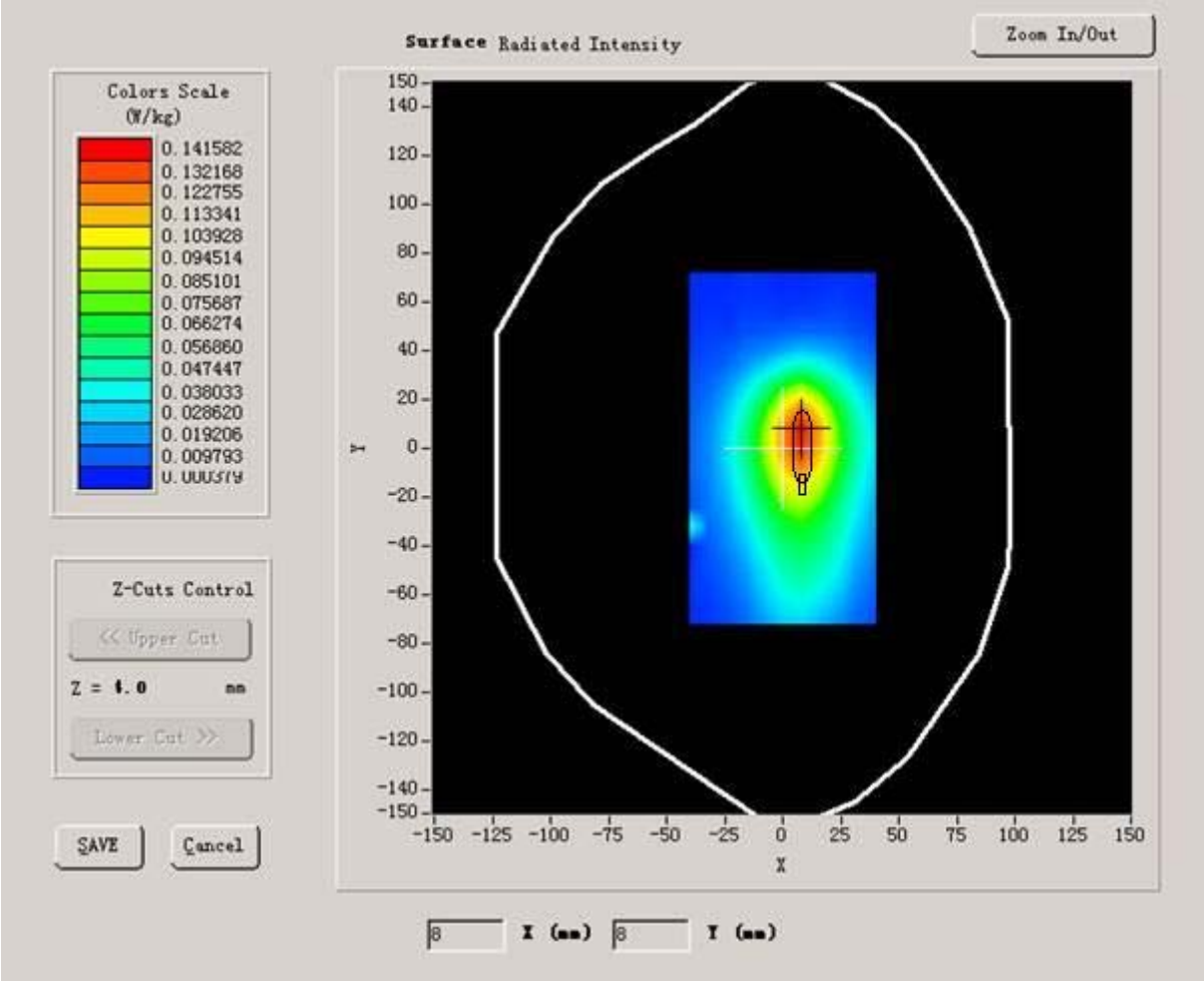
B. SAR Measurement Results

Middle Band SAR (Channel 4182):

Frequency (MHz)	836.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	0.737401
Variation (%)	-1.240000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:8.4

VOLUME SAR

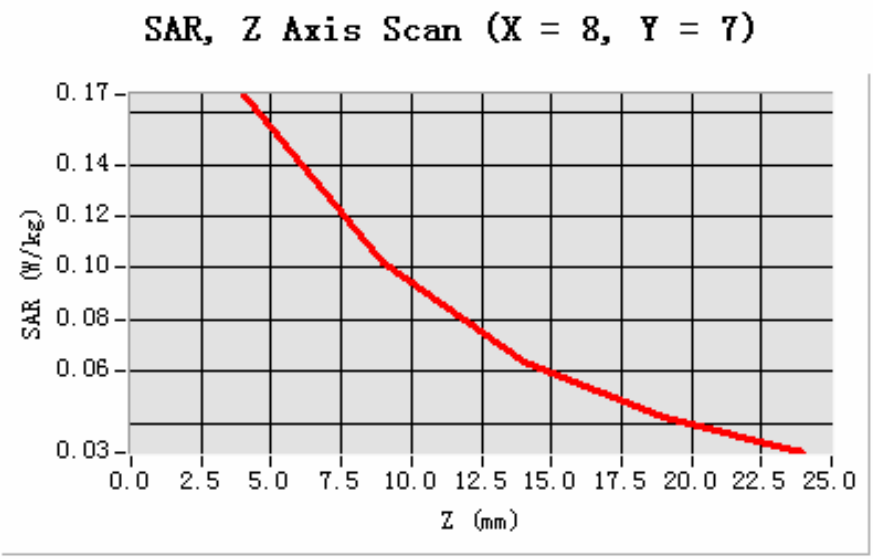


Maximum location: X=8.00, Y=7.00

SAR 10g (W/Kg)	0.100285
SAR 1g (W/Kg)	0.162254

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1672	0.1020	0.0639	0.0424



MEASUREMENT 37

Type: Phone measurement (Complete)

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

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

Date of measurement: 6/3/2009

Measurement duration: 9 minutes 27 seconds

A. Experimental conditions.

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

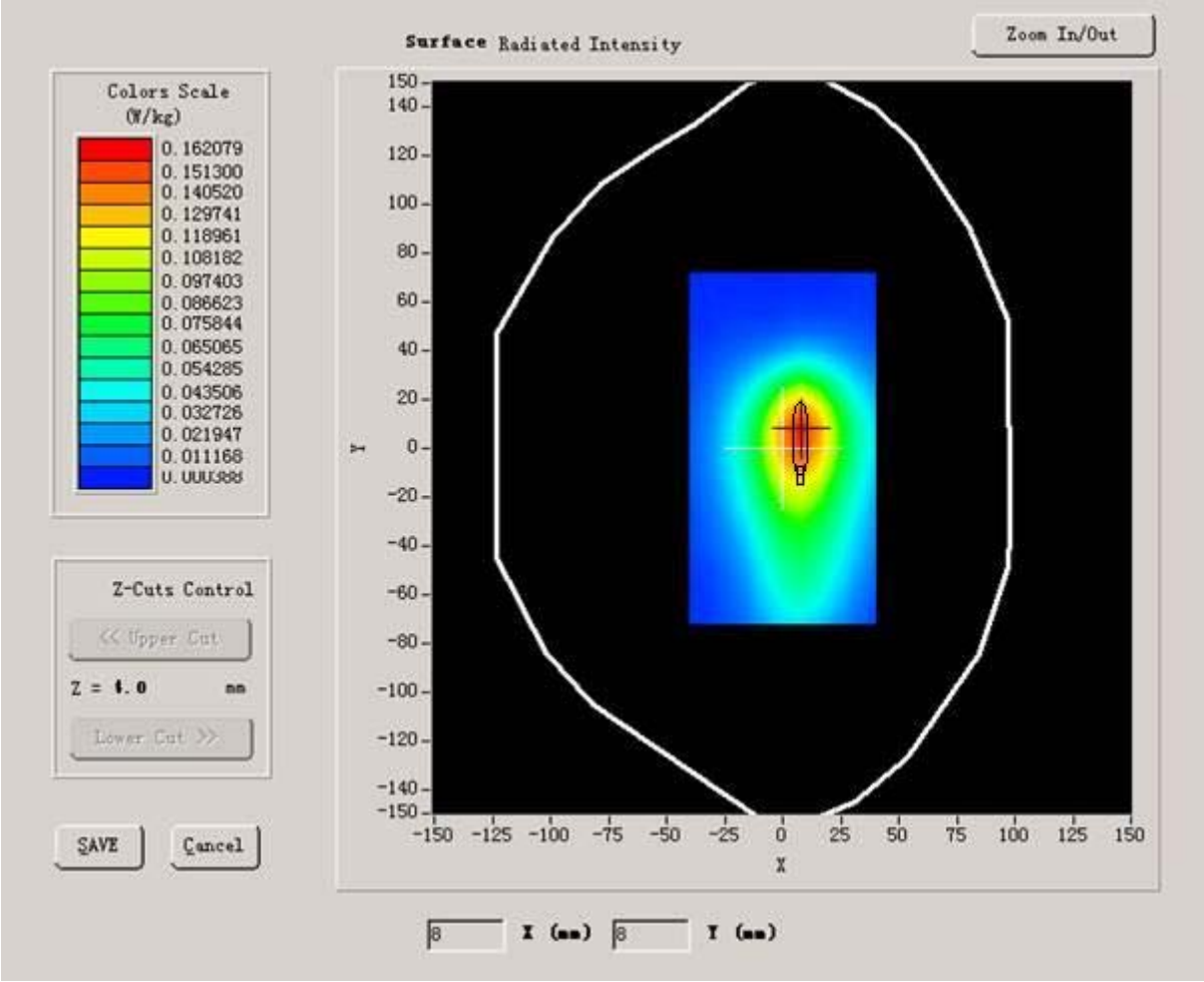
B. SAR Measurement Results

Higher Band SAR (Channel 4233):

Frequency (MHz)	846.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	0.746221
Variation (%)	-0.100000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

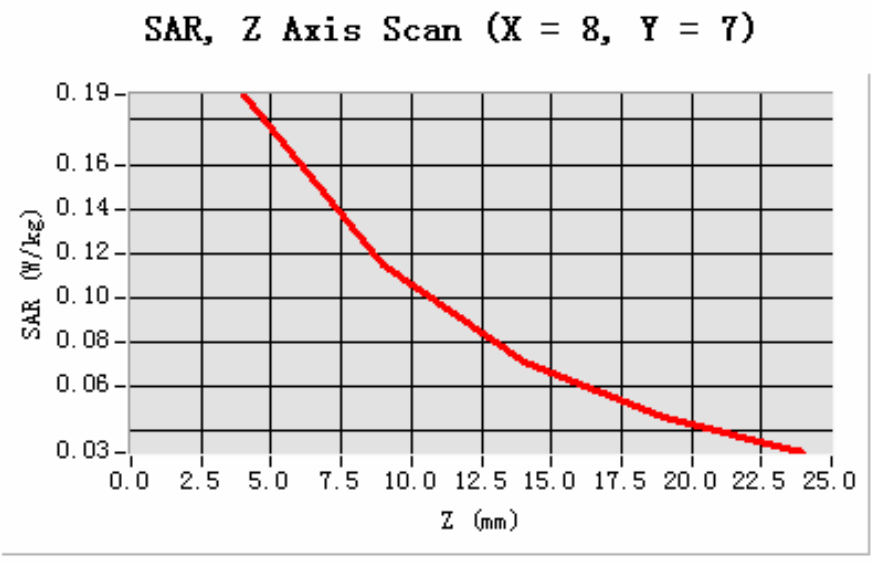


Maximum location: X=8.00, Y=7.00

SAR 10g (W/Kg)	0.115524
SAR 1g (W/Kg)	0.199546

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1915	0.1150	0.0706	0.0457



MEASUREMENT 38

Type: Phone measurement (Complete)

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

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

Date of measurement: 6/3/2009

Measurement duration: 9 minutes 30 seconds

A. Experimental conditions.

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

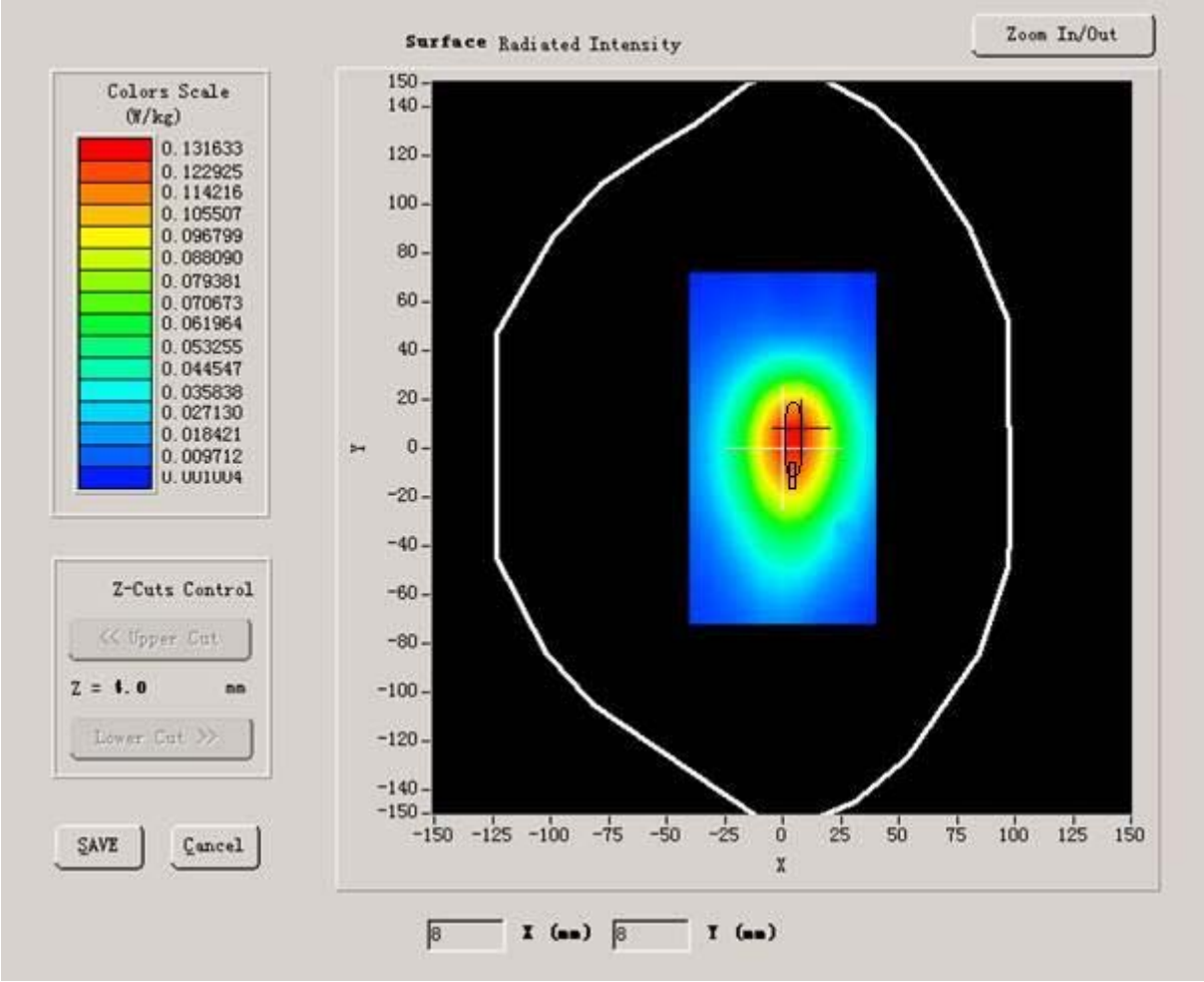
B. SAR Measurement Results

Lower Band SAR (Channel 4132):

Frequency (MHz)	826.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	0.728580
Variation (%)	-1.350000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

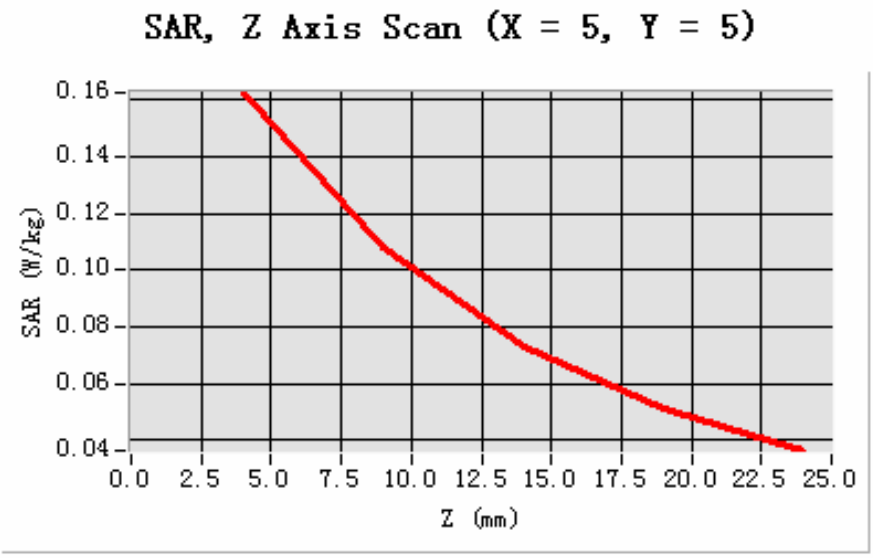


Maximum location: X=5.00, Y=5.00

SAR 10g (W/Kg)	0.110045
SAR 1g (W/Kg)	0.164884

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1626	0.1077	0.0729	0.0513



MEASUREMENT 39

Type: Phone measurement (Complete)

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

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

Date of measurement: 6/3/2009

Measurement duration: 9 minutes 24 seconds

A. Experimental conditions.

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

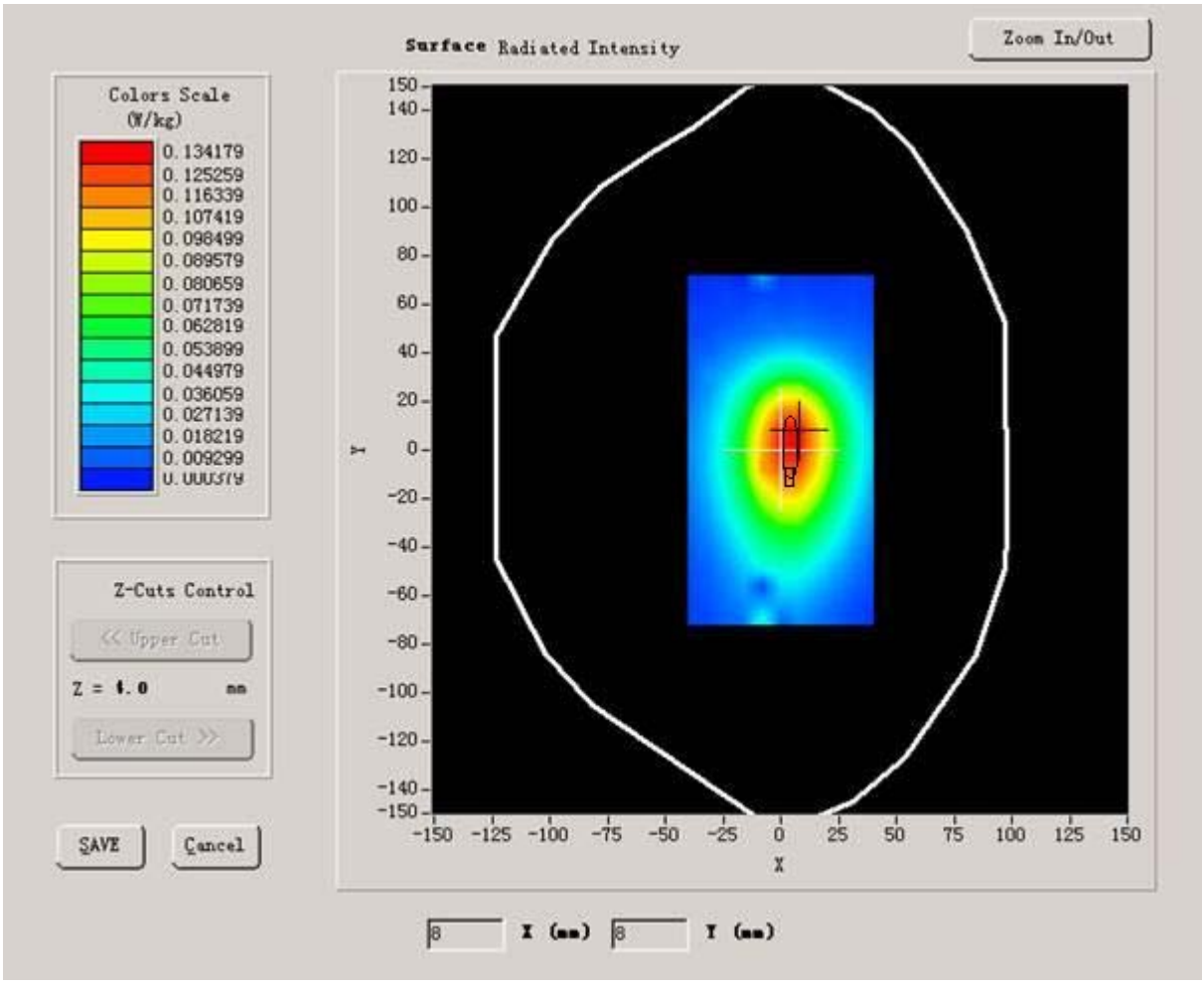
B. SAR Measurement Results

Middle Band SAR (Channel 4182):

Frequency (MHz)	836.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	0.737401
Variation (%)	-1.340000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

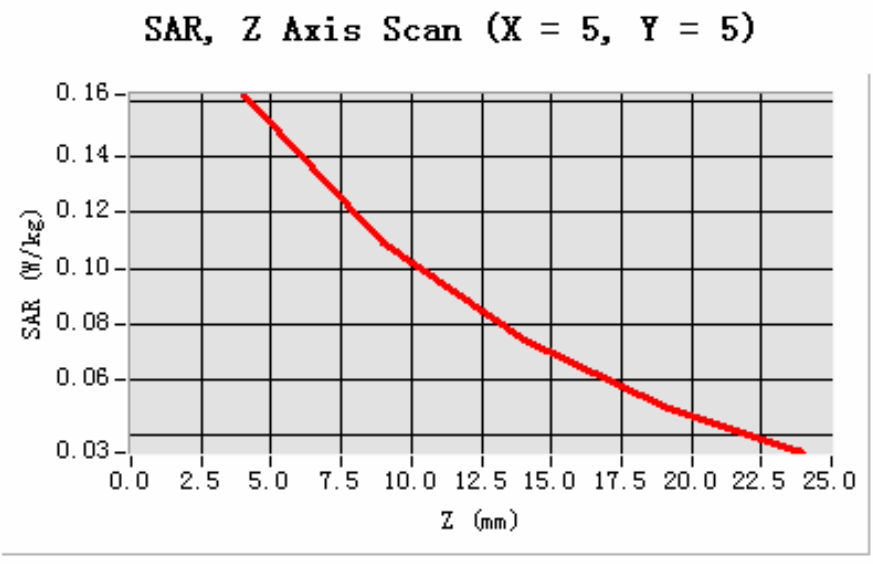


Maximum location: X=5.00, Y=5.00

SAR 10g (W/Kg)	0.125541
SAR 1g (W/Kg)	0.165548

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1622	0.1096	0.0744	0.0510



MEASUREMENT 40

Type: Phone measurement (Complete)

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

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

Date of measurement: 6/3/2009

Measurement duration: 9 minutes 26 seconds

A. Experimental conditions.

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

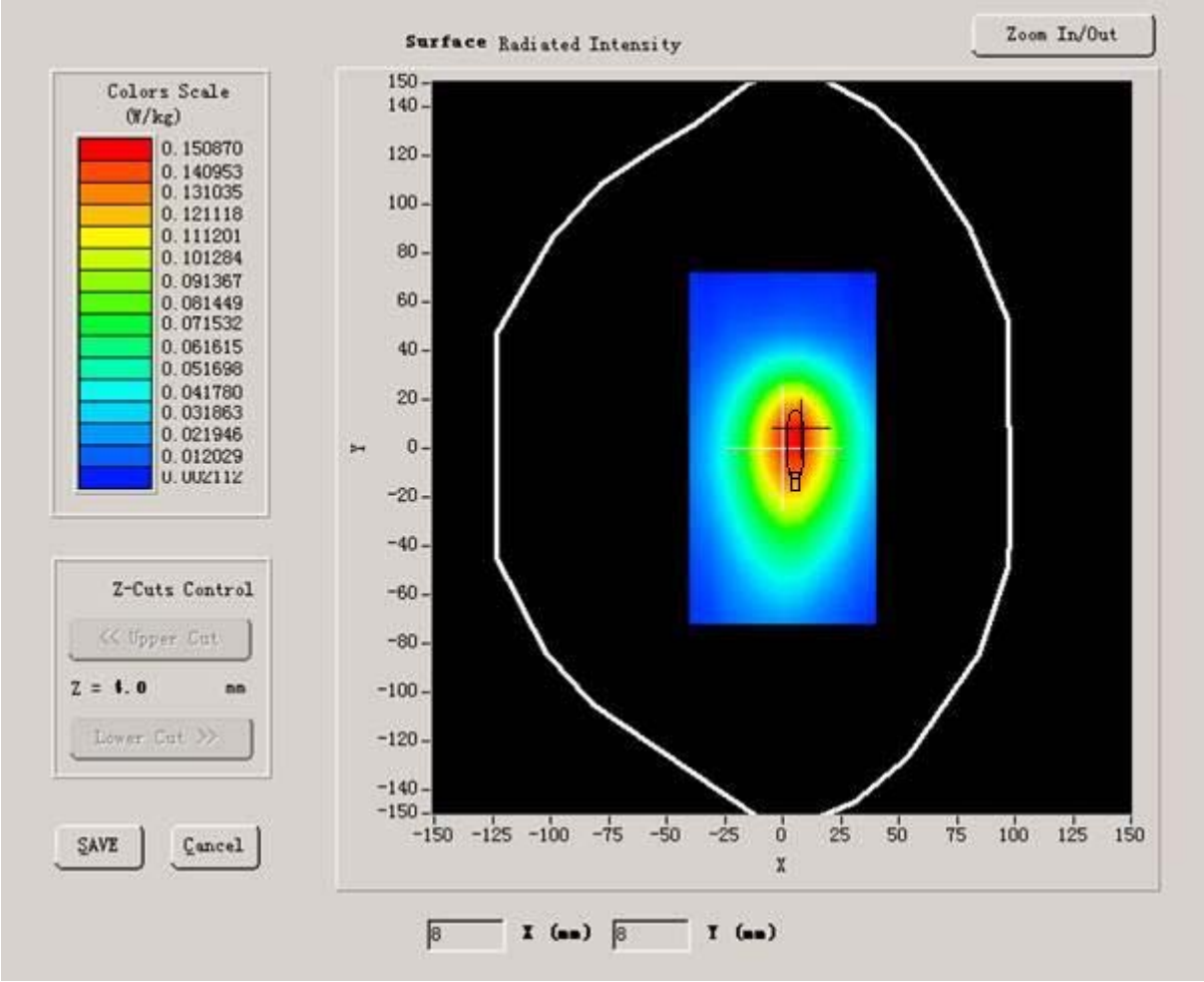
B. SAR Measurement Results

Higher Band SAR (Channel 4233):

Frequency (MHz)	846.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	0.746221
Variation (%)	-0.130000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

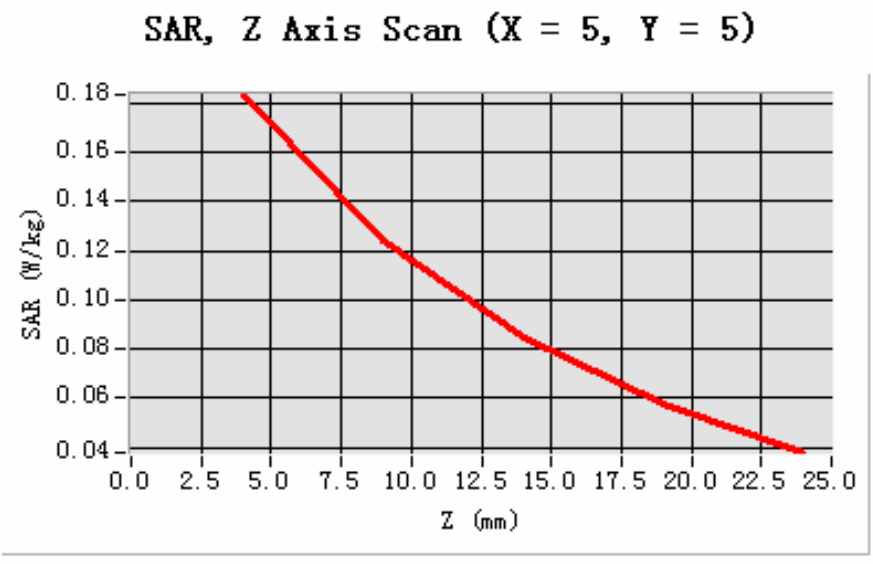


Maximum location: X=5.00, Y=5.00

SAR 10g (W/Kg)	0.121553
SAR 1g (W/Kg)	0.185658

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1834	0.1243	0.0843	0.0574



MEASUREMENT 41

Type: Phone measurement (Complete)

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

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

Date of measurement: 6/3/2009

Measurement duration: 9 minutes 28 seconds

A. Experimental conditions.

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

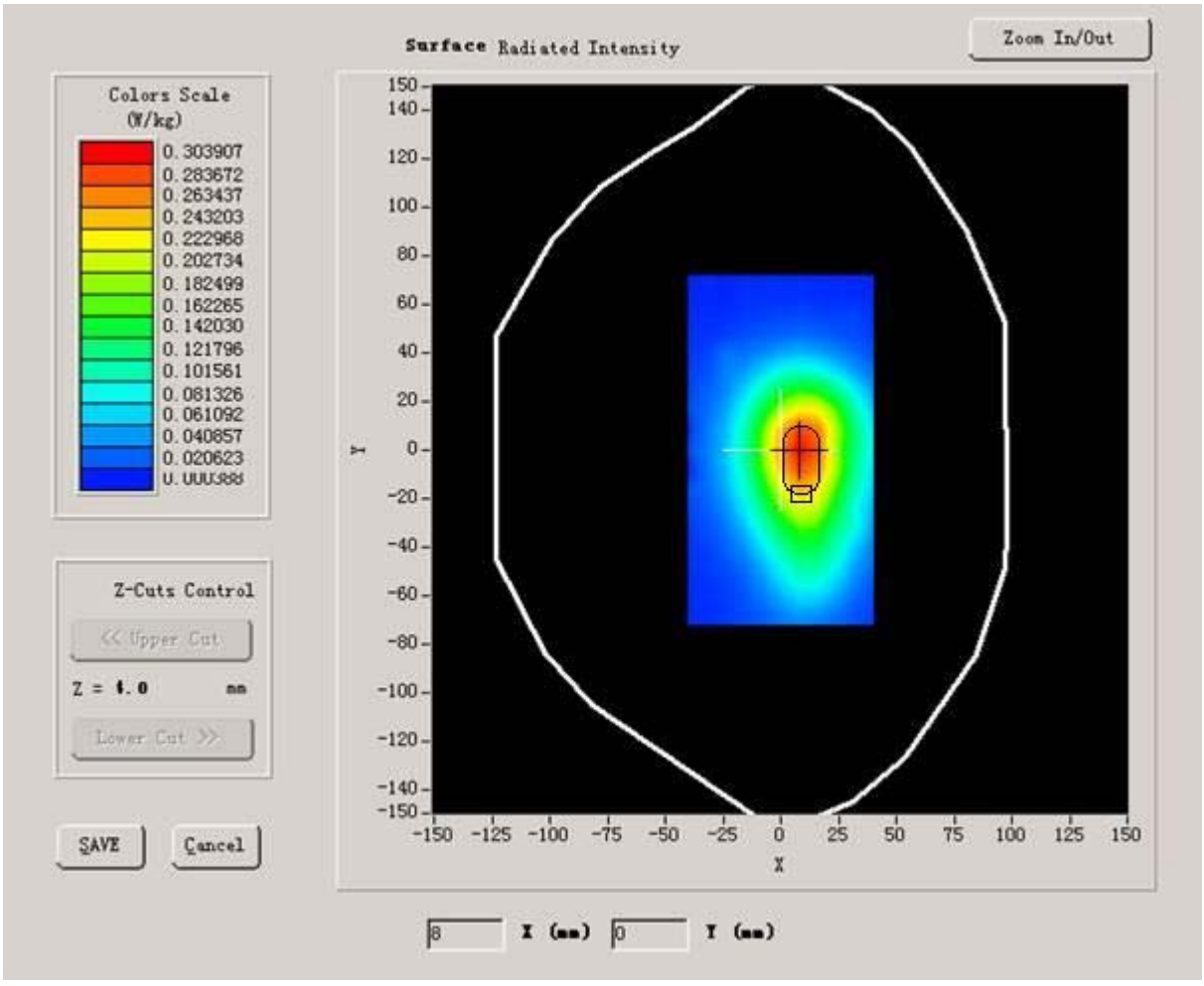
B. SAR Measurement Results

Higher Band SAR (Channel 4233):

Frequency (MHz)	846.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	0.746221
Variation (%)	0.170000
Ambient Temperature:	22.1°C
Liquid Temperature:	21.9°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

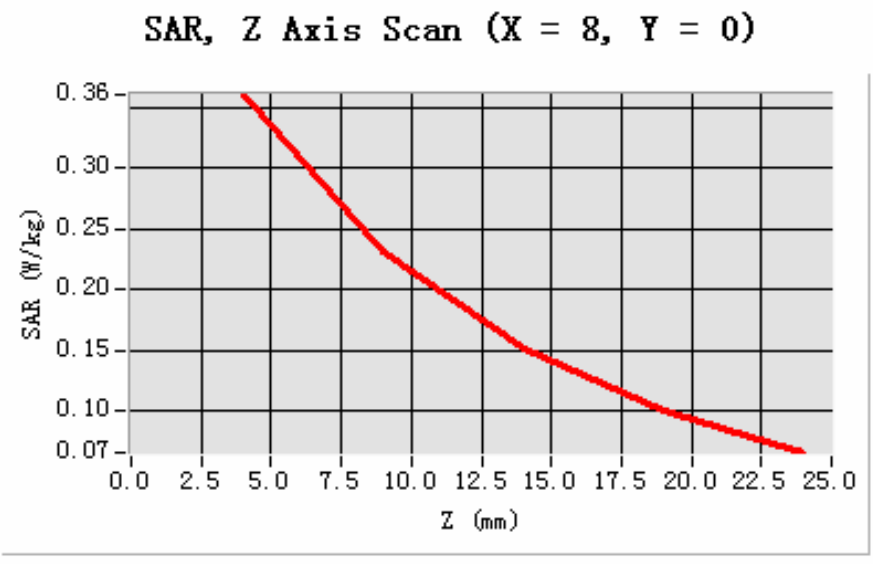


Maximum location: X=8.00, Y=0.00

SAR 10g (W/Kg)	0.235546
SAR 1g (W/Kg)	0.396452

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.3608	0.2323	0.1511	0.1006



MEASUREMENT 42

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 32 seconds

A. Experimental conditions.

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

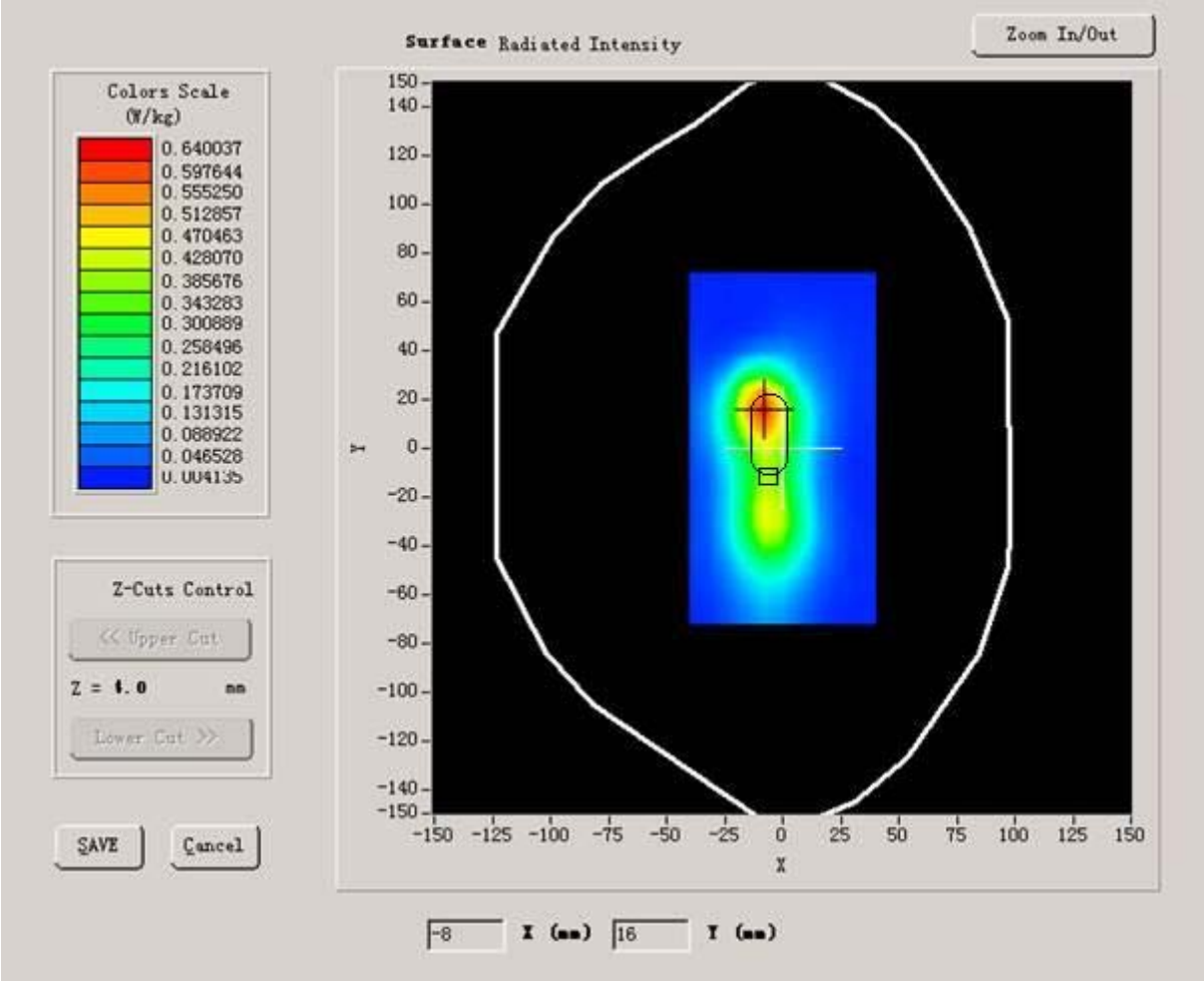
B. SAR Measurement Results

Lower Band SAR (Channel 9262):

Frequency (MHz)	1852.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	1.633572
Variation (%)	0.190000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

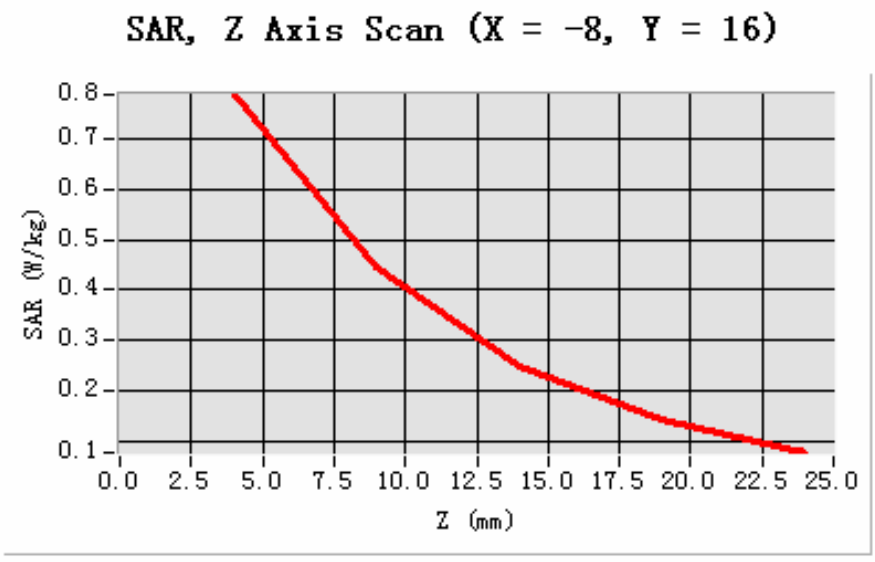


Maximum location: X=-8.00, Y=16.00

SAR 10g (W/Kg)	0.333492
SAR 1g (W/Kg)	0.634281

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.7863	0.4445	0.2499	0.1435



MEASUREMENT 43

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 32 seconds

A. Experimental conditions.

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

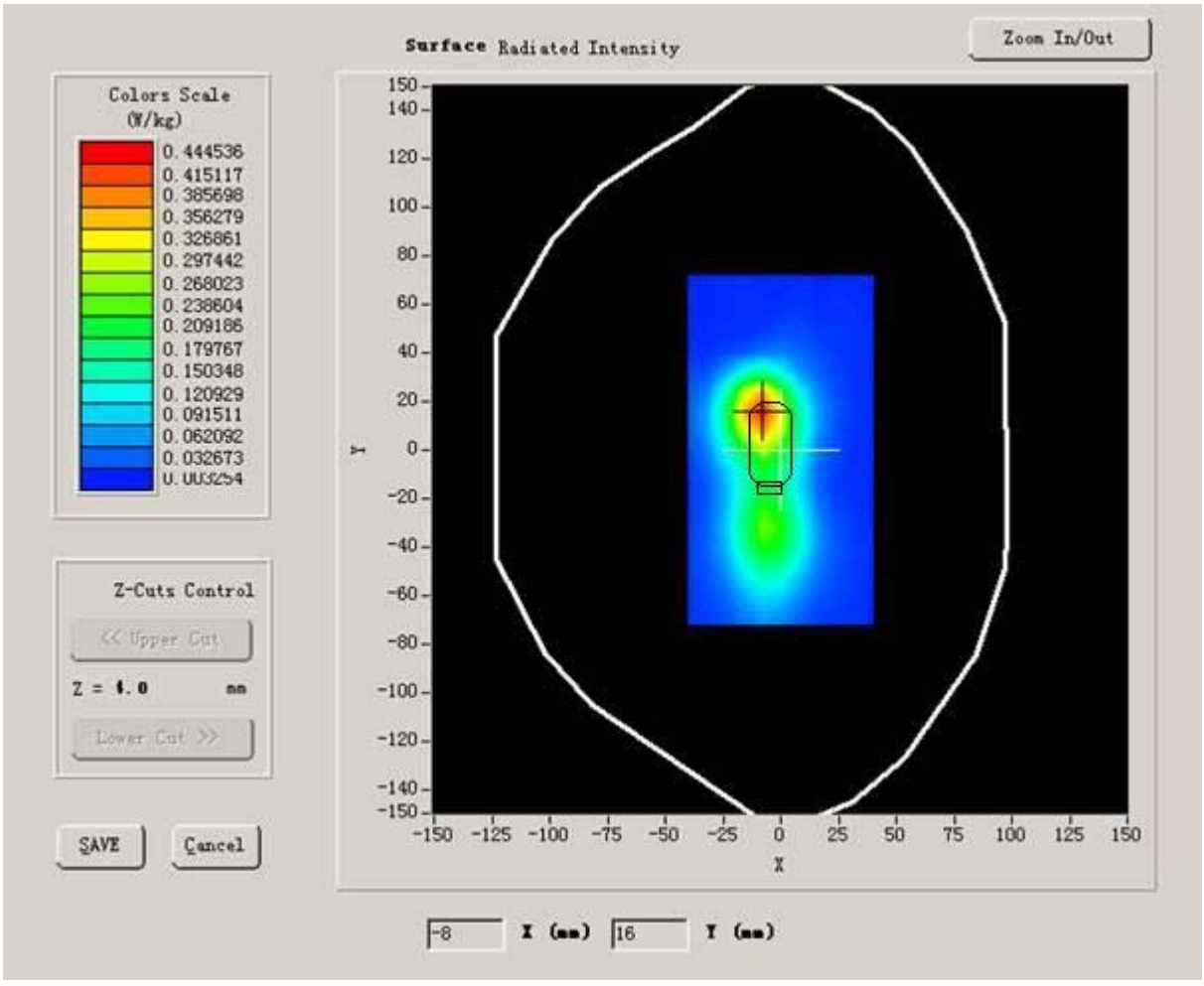
B. SAR Measurement Results

Middle Band SAR (Channel 9400):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	1.658270
Variation (%)	-0.450000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

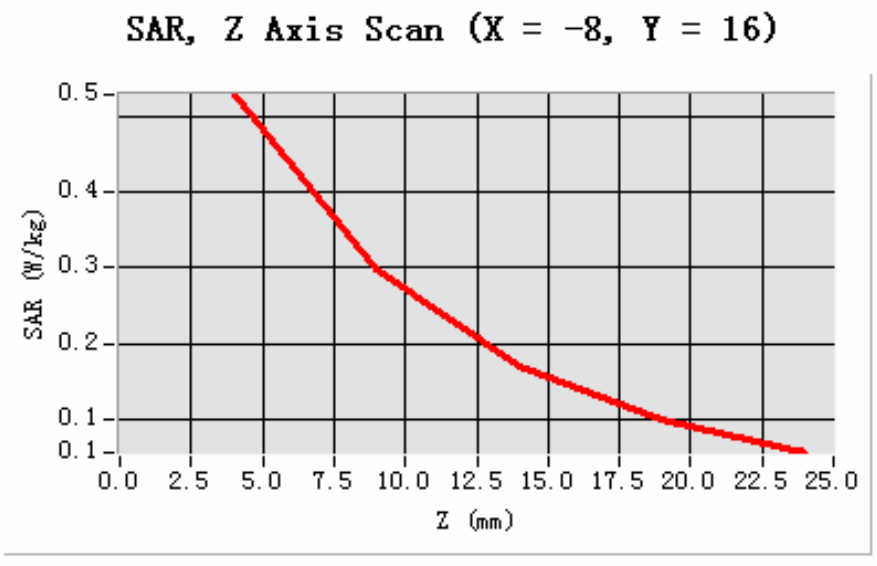


Maximum location: X=-8.00, Y=16.00

SAR 10g (W/Kg)	0.223112
SAR 1g (W/Kg)	0.458875

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.5294	0.2998	0.1697	0.0989



MEASUREMENT 44

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 39 seconds

A. Experimental conditions.

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

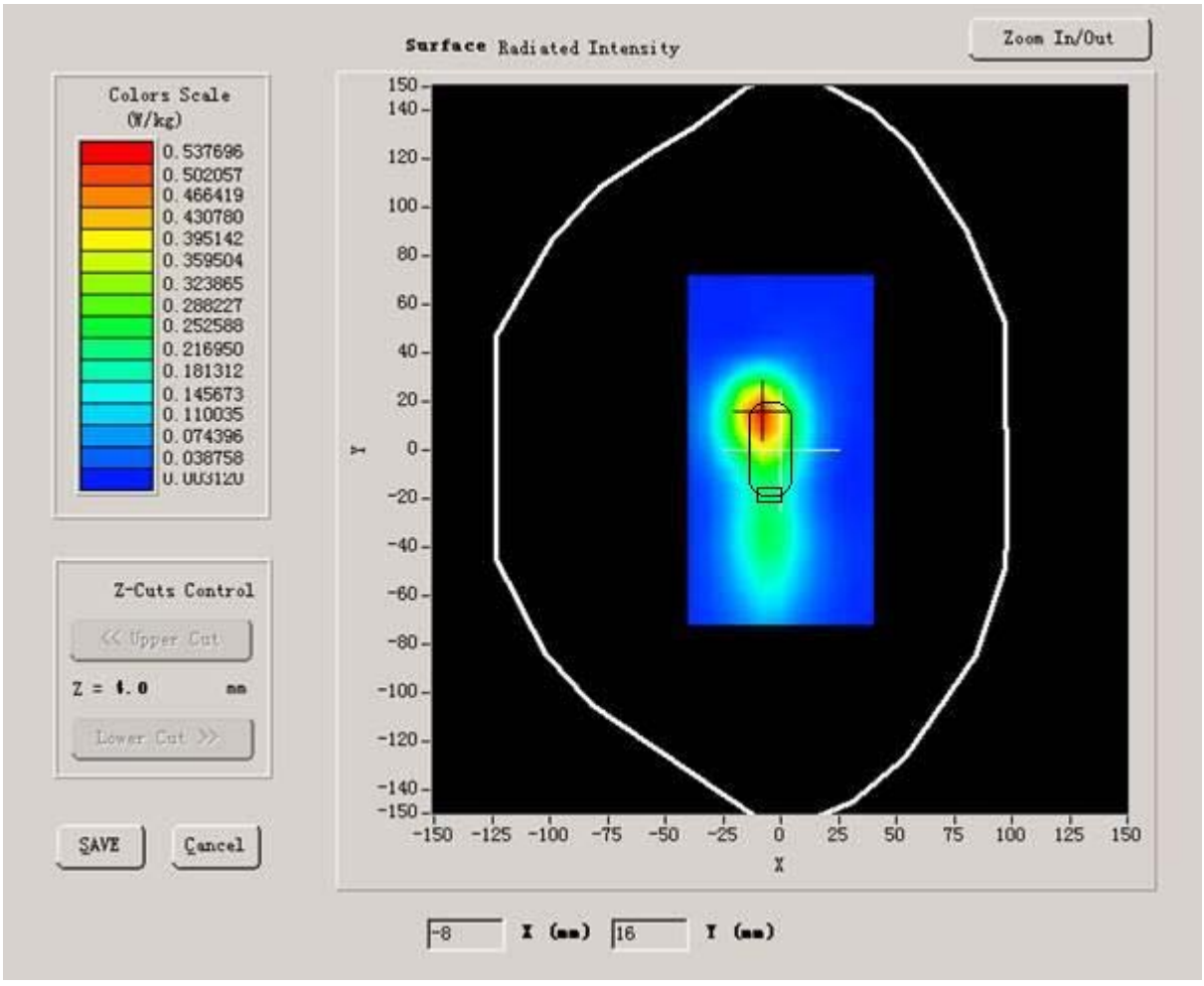
B. SAR Measurement Results

Higher Band SAR (Channel 9538):

Frequency (MHz)	1907.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	1.682085
Variation (%)	-0.360000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

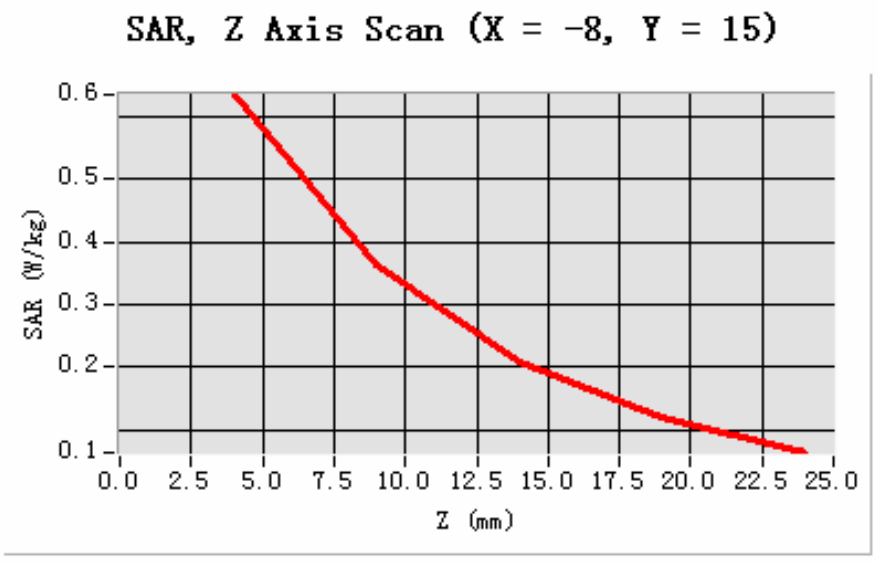


Maximum location: X=-8.00, Y=15.00

SAR 10g (W/Kg)	0.290791
SAR 1g (W/Kg)	0.566842

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6346	0.3645	0.2073	0.1190



MEASUREMENT 45

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 27 seconds

A. Experimental conditions.

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

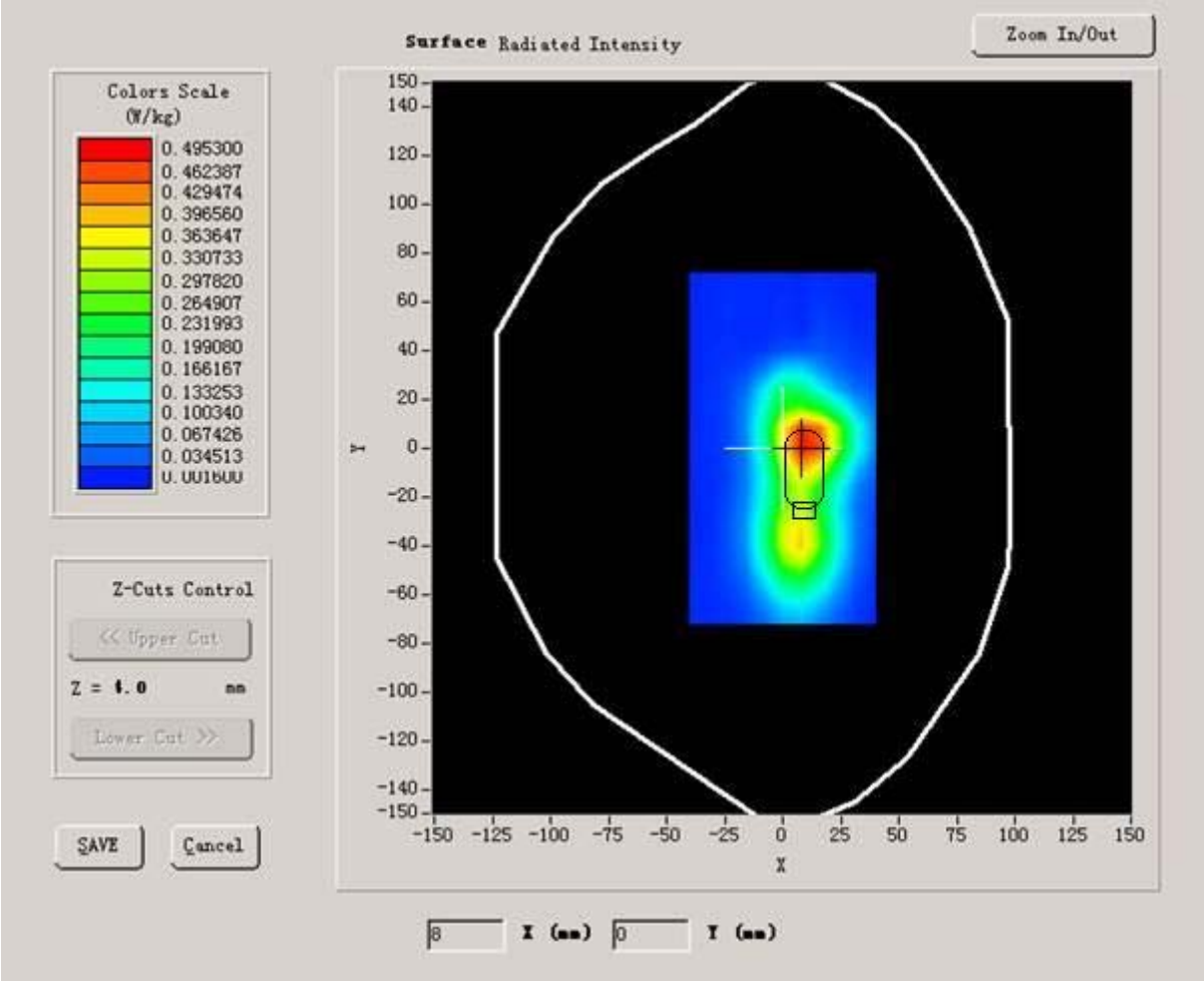
B. SAR Measurement Results

Lower Band SAR (Channel 9262):

Frequency (MHz)	1852.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	1.633572
Variation (%)	1.530000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

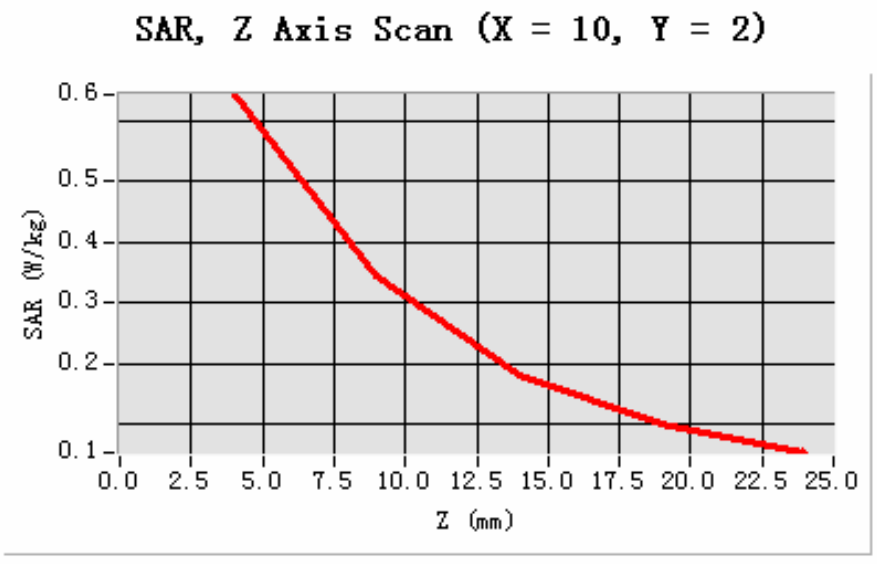


Maximum location: X=10.00, Y=2.00

SAR 10g (W/Kg)	0.323347
SAR 1g (W/Kg)	0.624855

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.6433	0.3432	0.1823	0.1006



MEASUREMENT 46

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 25 seconds

A. Experimental conditions.

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

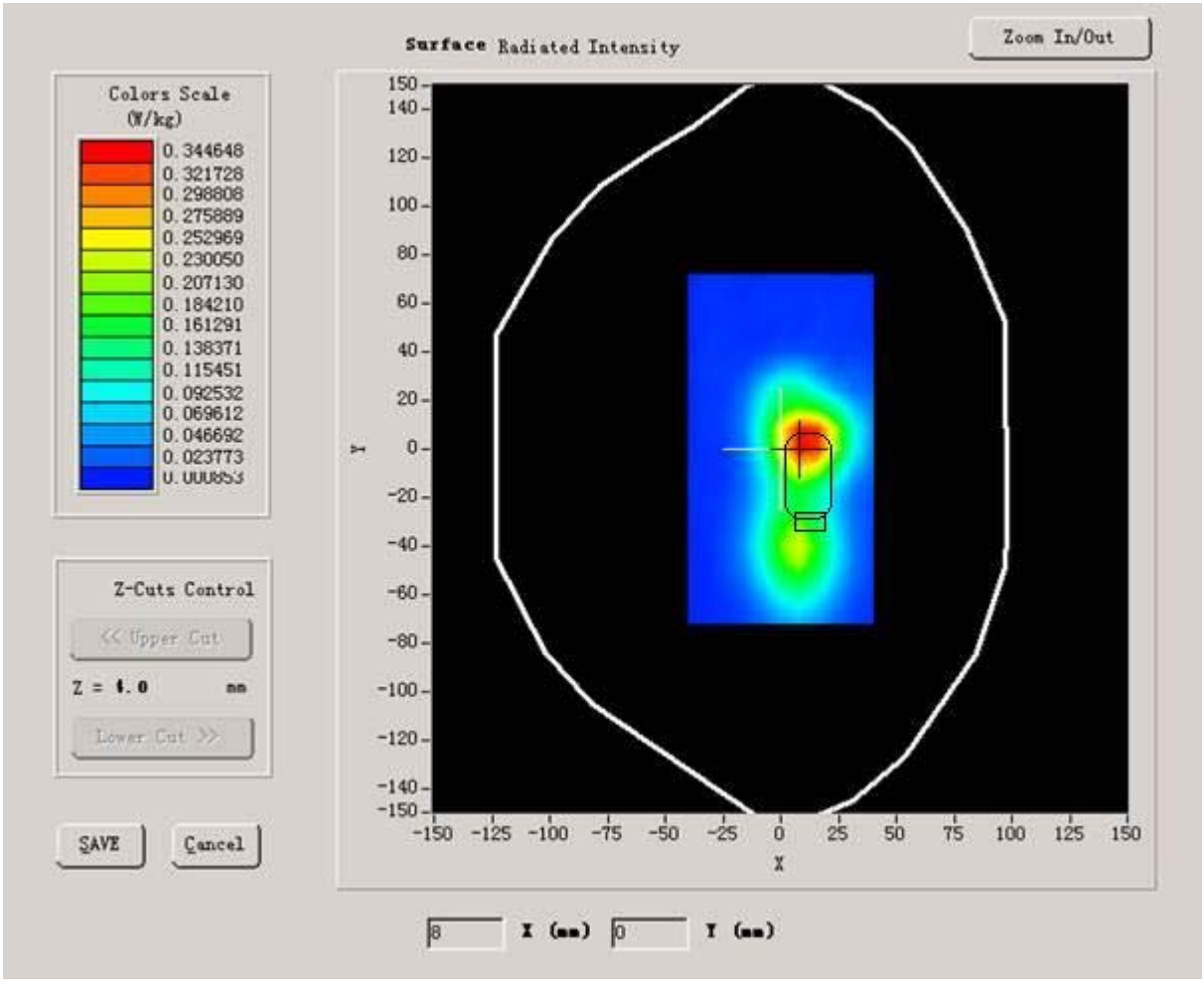
B. SAR Measurement Results

Middle Band SAR (Channel 9400):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	1.658270
Variation (%)	1.180000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

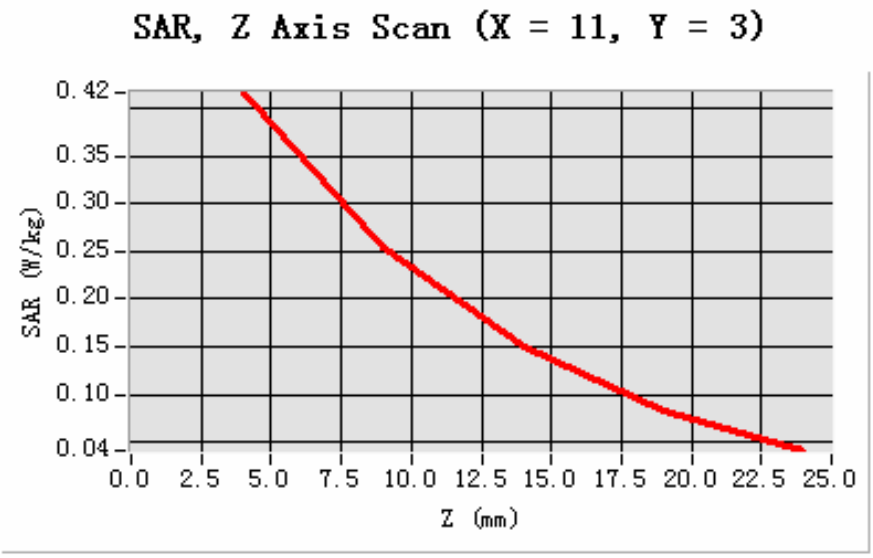


Maximum location: X=11.00, Y=3.00

SAR 10g (W/Kg)	0.202445
SAR 1g (W/Kg)	0.375542

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.4165	0.2543	0.1496	0.0838



MEASUREMENT 47

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 32 seconds

A. Experimental conditions.

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

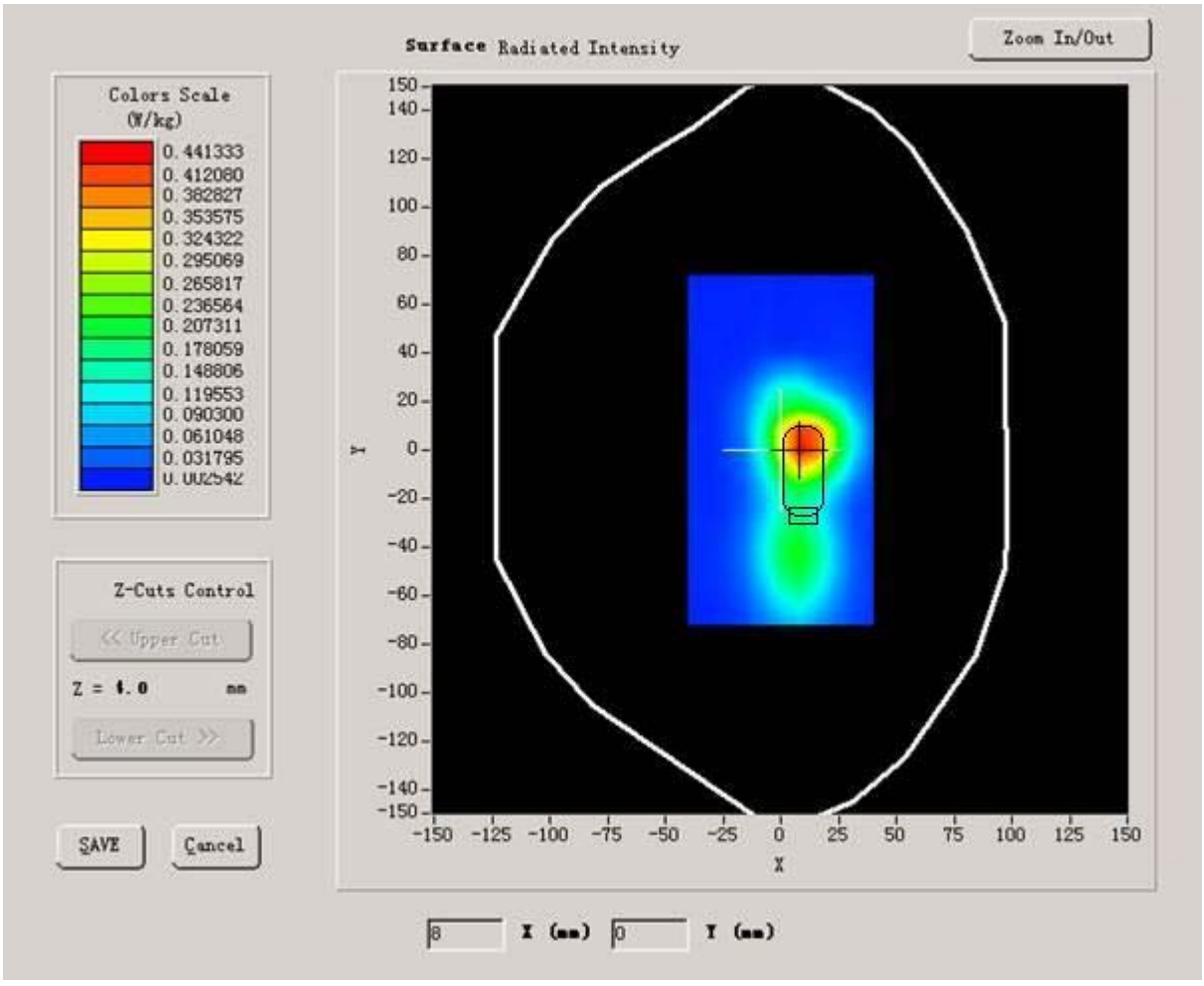
B. SAR Measurement Results

Higher Band SAR (Channel 9538):

Frequency (MHz)	1907.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	1.682085
Variation (%)	-1.980000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

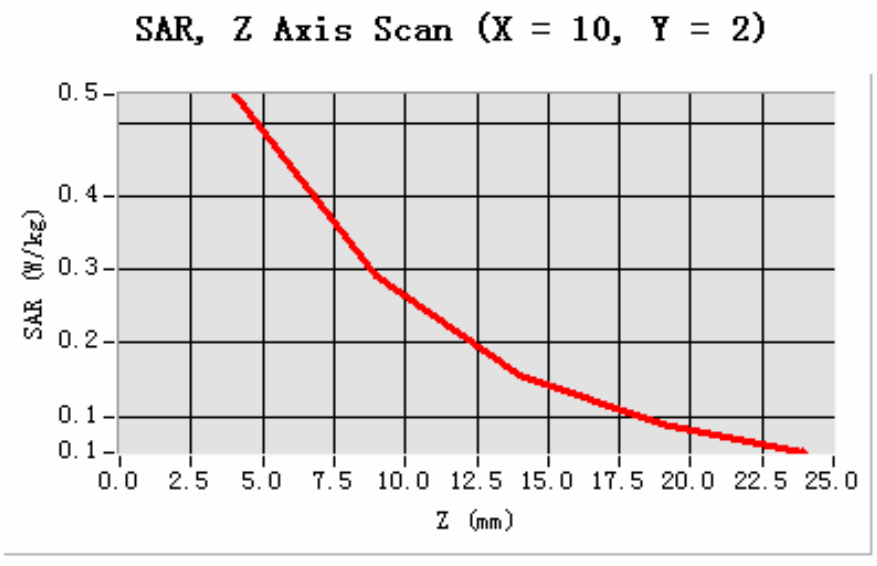


Maximum location: X=10.00, Y=2.00

SAR 10g (W/Kg)	0.235971
SAR 1g (W/Kg)	0.485464

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.5381	0.2903	0.1574	0.0899



MEASUREMENT 48

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 27 seconds

A. Experimental conditions.

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

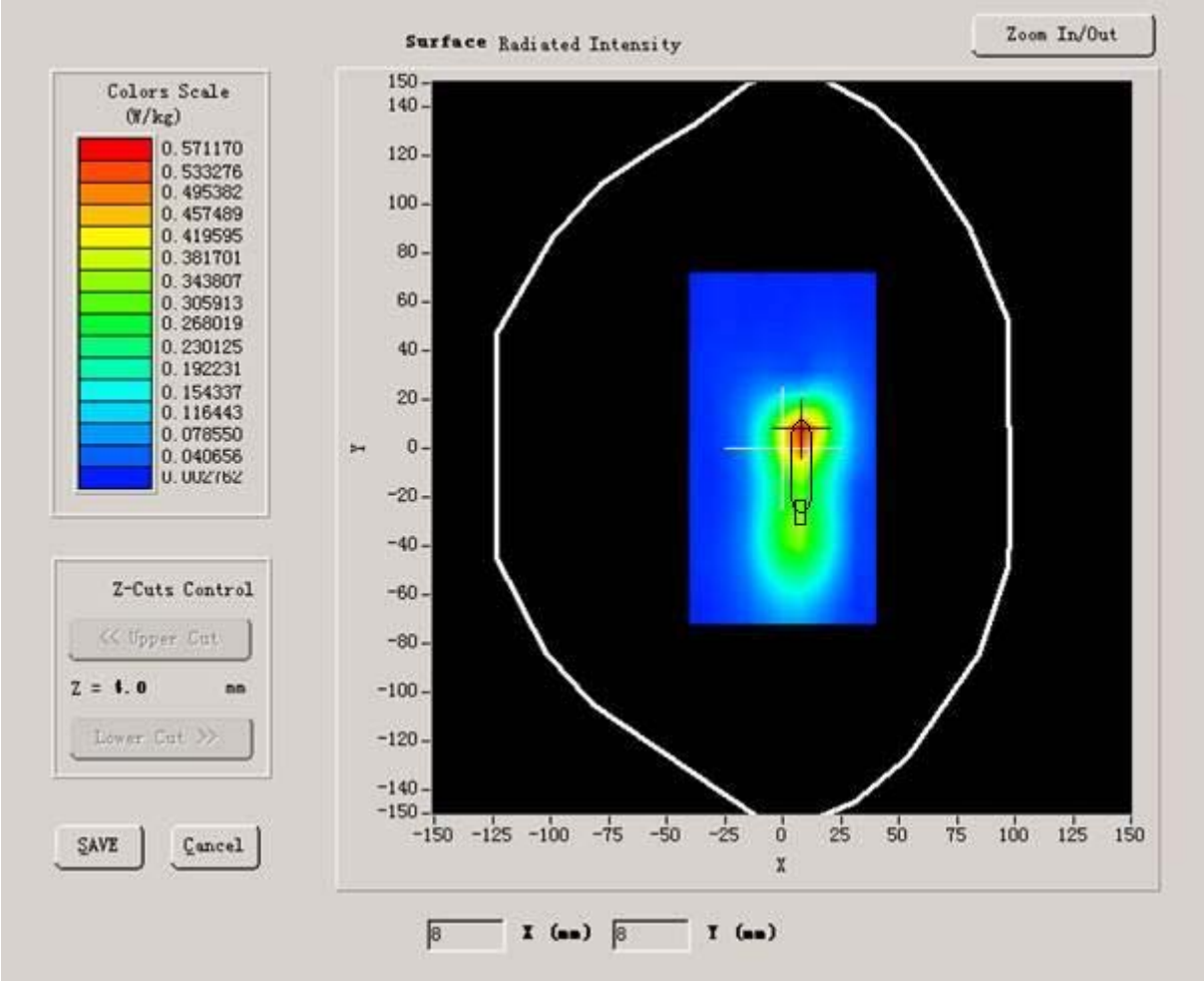
B. SAR Measurement Results

Lower Band SAR (Channel 9262):

Frequency (MHz)	1852.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	1.633572
Variation (%)	0.800000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

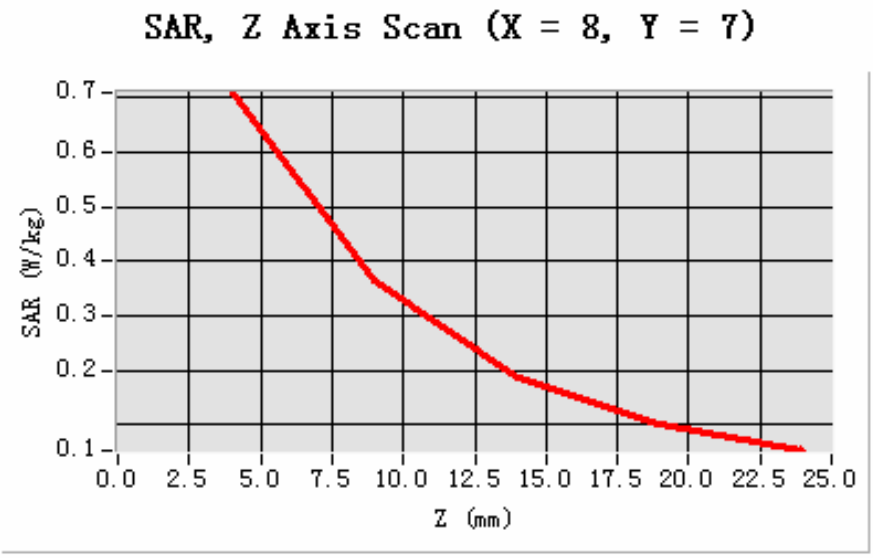


Maximum location: X=8.00, Y=7.00

SAR 10g (W/Kg)	0.311354
SAR 1g (W/Kg)	0.654460

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.7097	0.3634	0.1852	0.0995



MEASUREMENT 49

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 5 minutes 30 seconds

A. Experimental conditions.

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

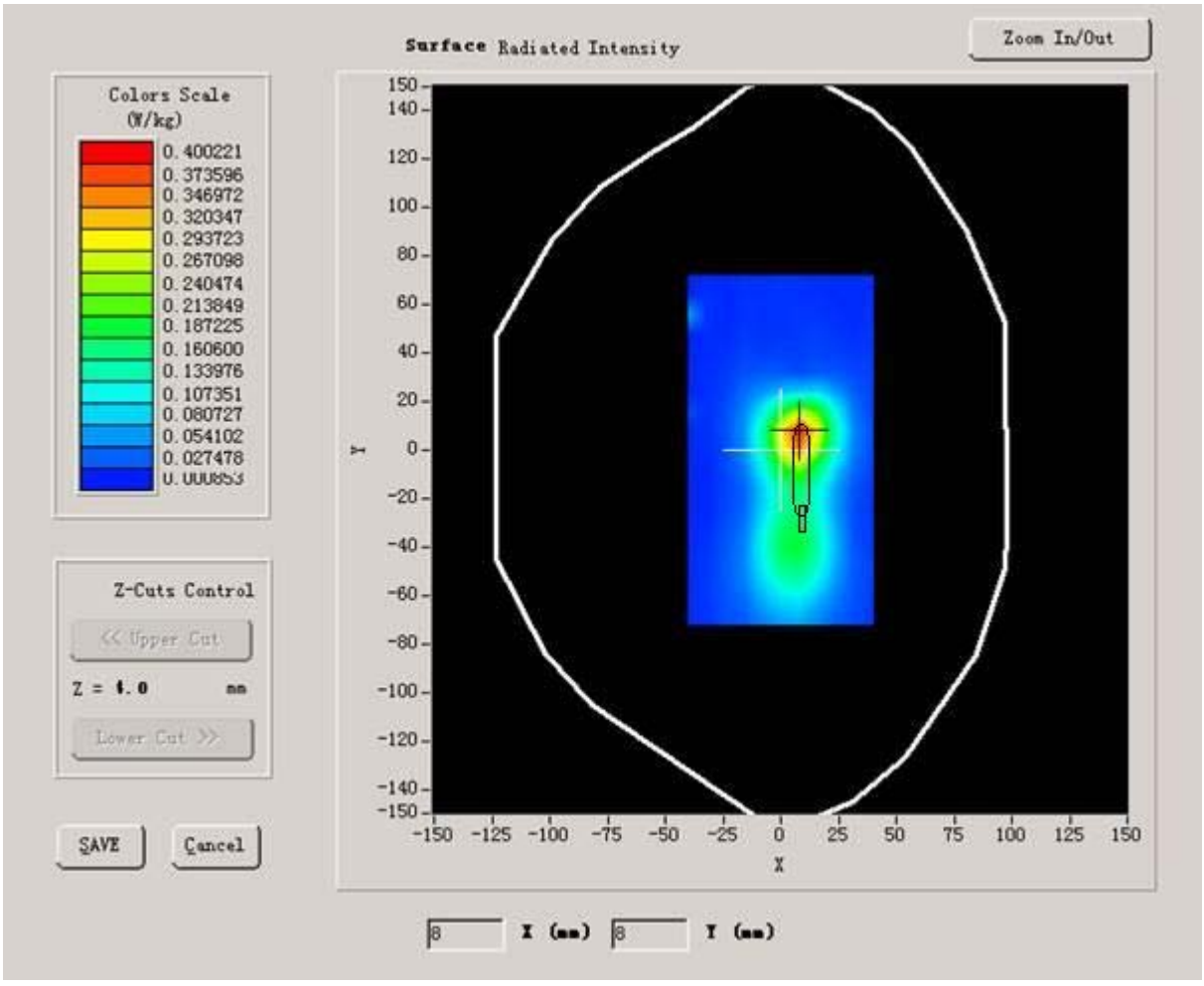
B. SAR Measurement Results

Middle Band SAR (Channel 9400):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	1.658270
Variation (%)	-0.170000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

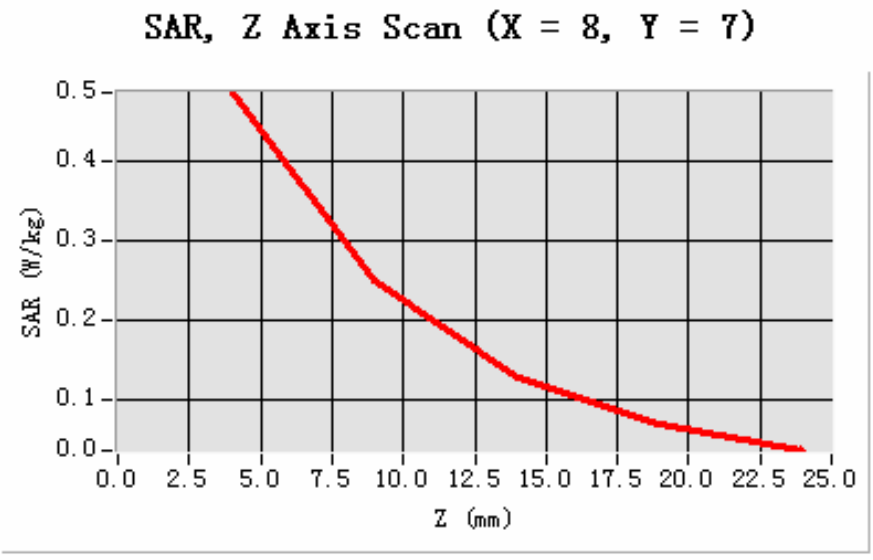


Maximum location: X=8.00, Y=7.00

SAR 10g (W/Kg)	0.200293
SAR 1g (W/Kg)	0.435497

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.4854	0.2514	0.1297	0.0705



MEASUREMENT 50

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 27 seconds

A. Experimental conditions.

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

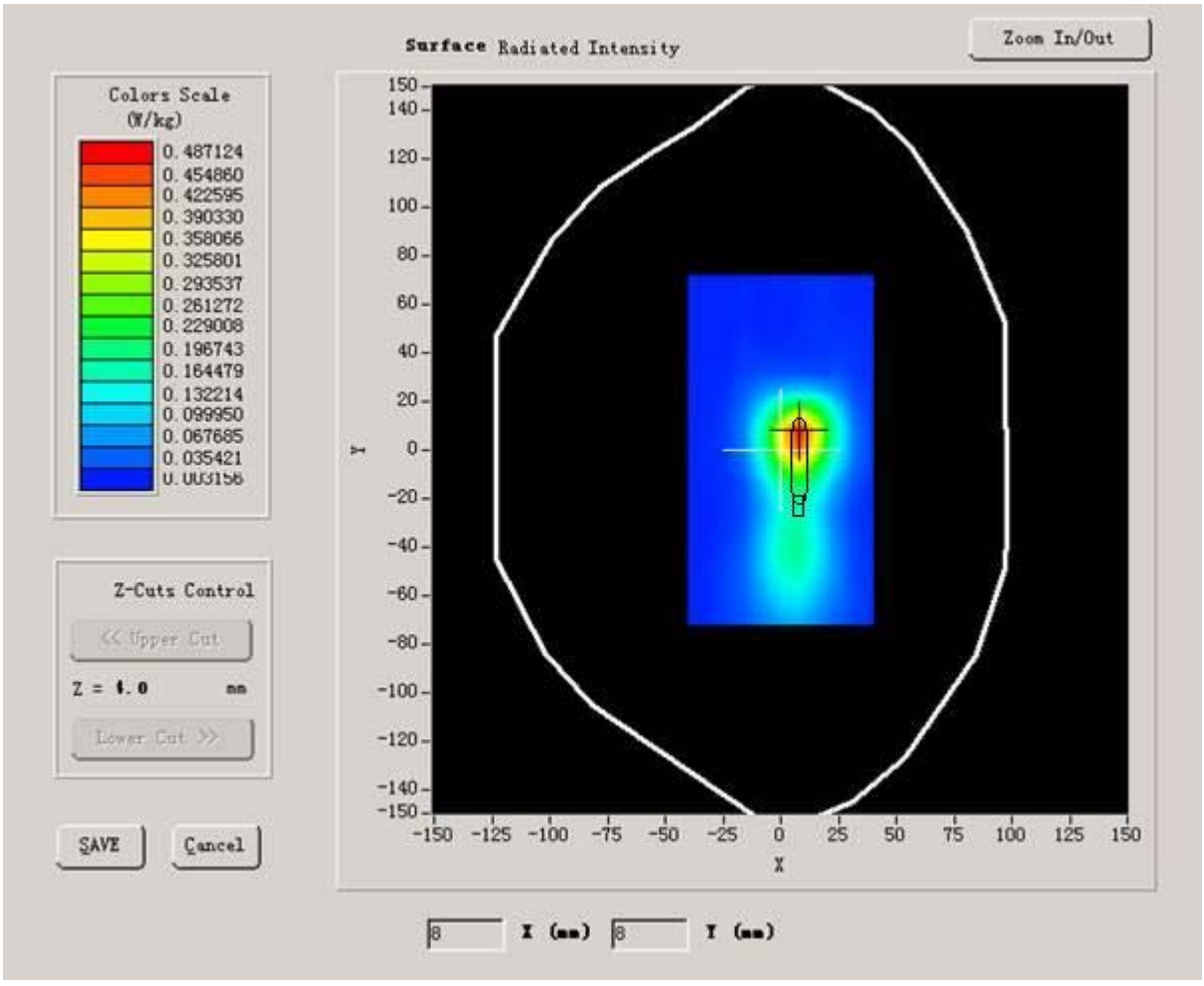
B. SAR Measurement Results

Higher Band SAR (Channel 9538):

Frequency (MHz)	1907.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	1.682085
Variation (%)	-0.170000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

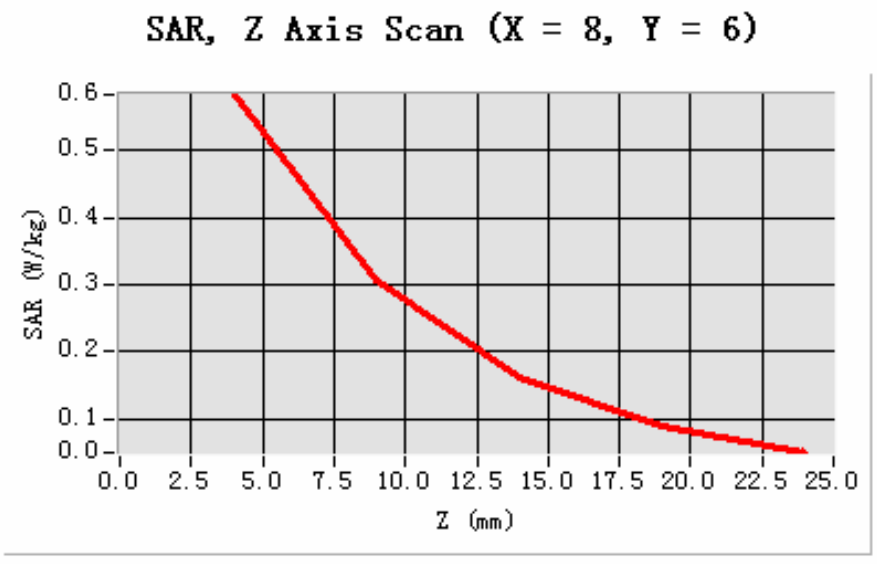


Maximum location: X=8.00, Y=6.00

SAR 10g (W/Kg)	0.254887
SAR 1g (W/Kg)	0.530226

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.5837	0.3064	0.1610	0.0892



MEASUREMENT 51

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 23 seconds

A. Experimental conditions.

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

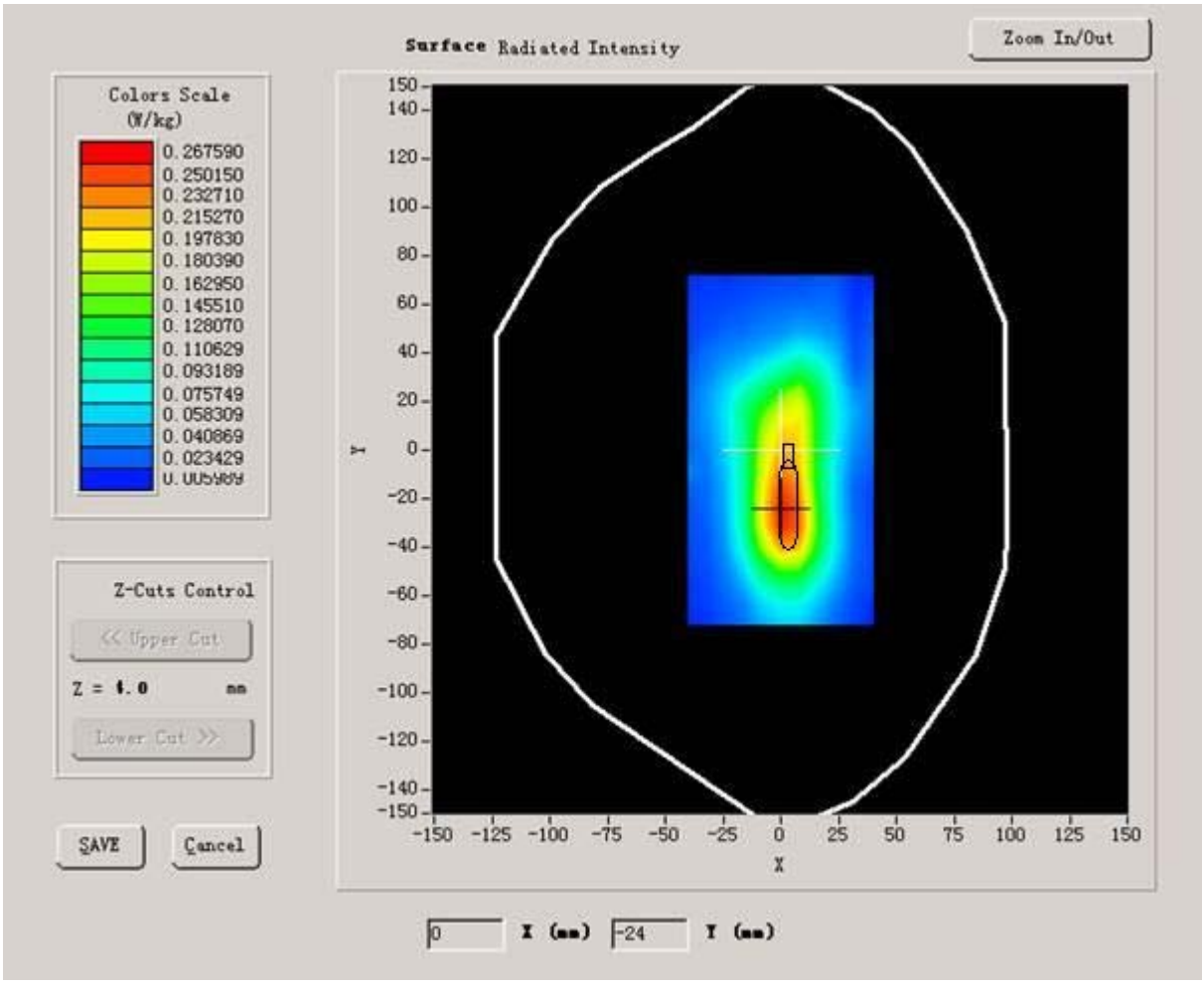
B. SAR Measurement Results

Lower Band SAR (Channel 9262):

Frequency (MHz)	1852.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	1.633572
Variation (%)	0.760000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

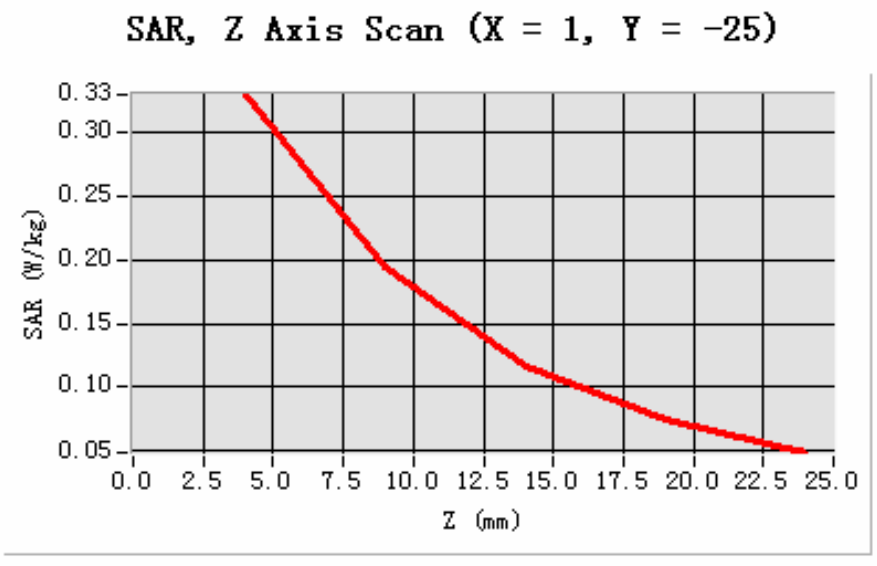


Maximum location: X=1.00, Y=-25.00

SAR 10g (W/Kg)	0.169747
SAR 1g (W/Kg)	0.295548

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.3300	0.1939	0.1168	0.0747



MEASUREMENT 52

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 34 seconds

A. Experimental conditions.

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

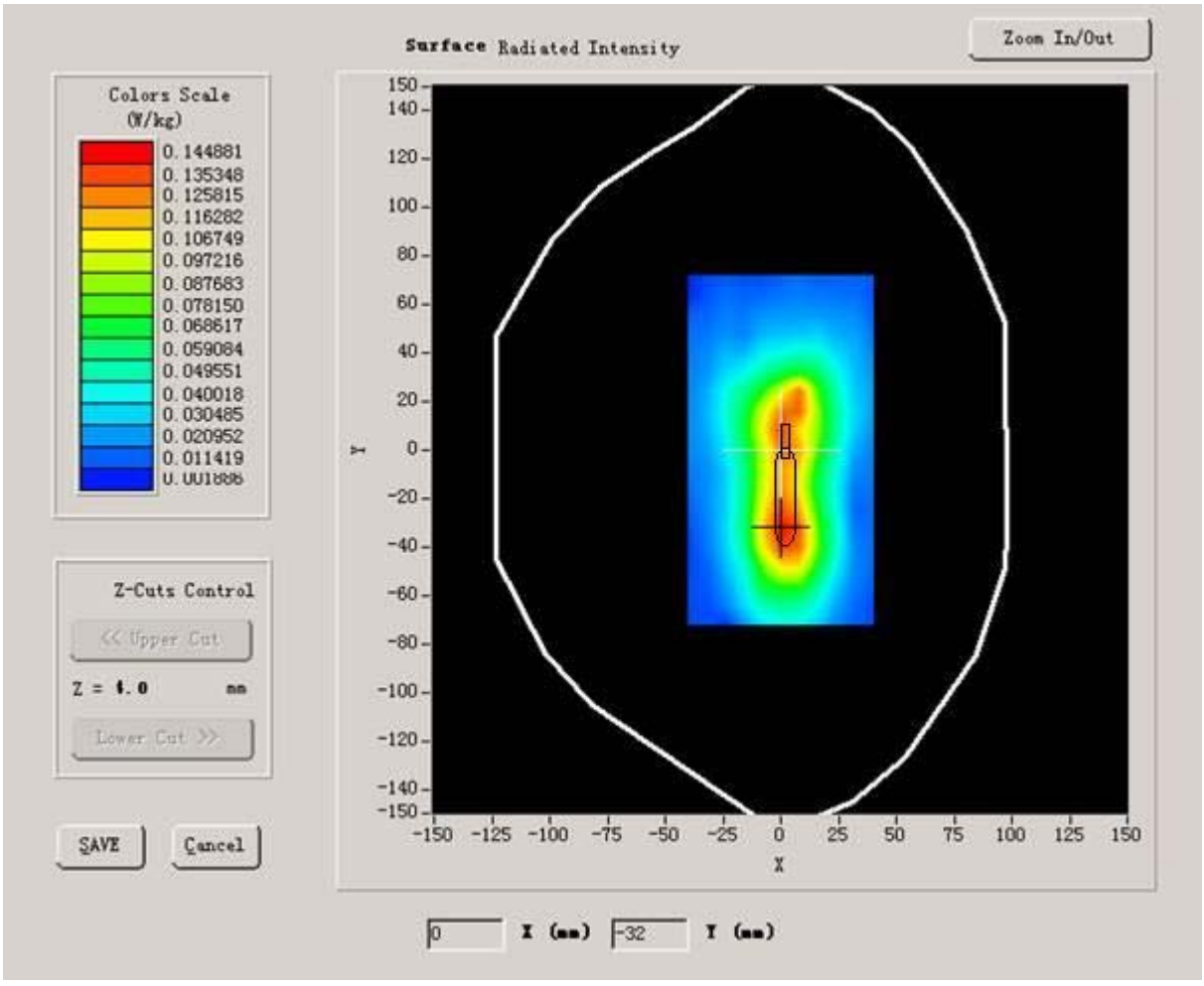
B. SAR Measurement Results

Middle Band SAR (Channel 9400):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	1.658270
Variation (%)	1.160000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

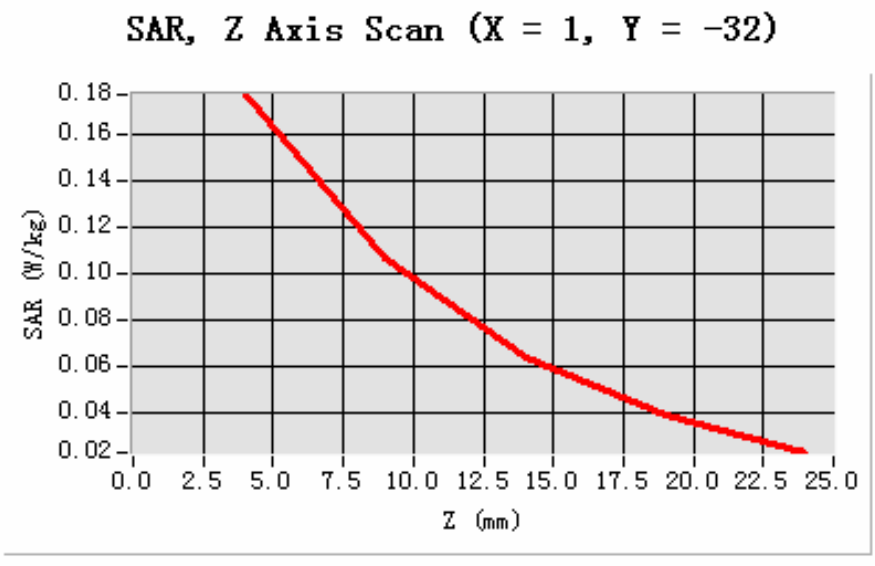


Maximum location: X=1.00, Y=-32.00

SAR 10g (W/Kg)	0.087745
SAR 1g (W/Kg)	0.159996

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.1770	0.1066	0.0642	0.0394



MEASUREMENT 53

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 28 seconds

A. Experimental conditions.

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

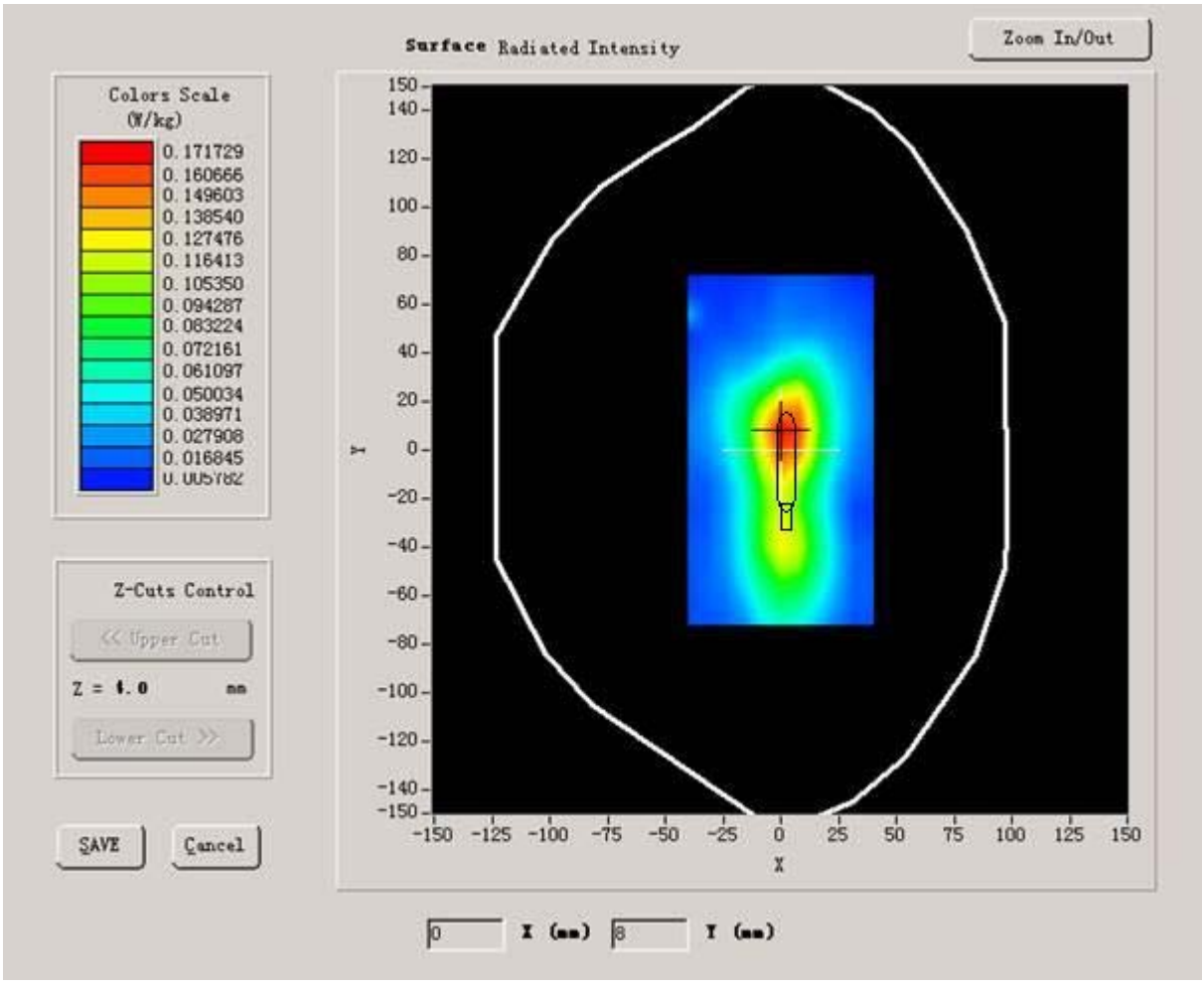
B. SAR Measurement Results

Higher Band SAR (Channel 9538):

Frequency (MHz)	1907.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	1.682085
Variation (%)	-0.640000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

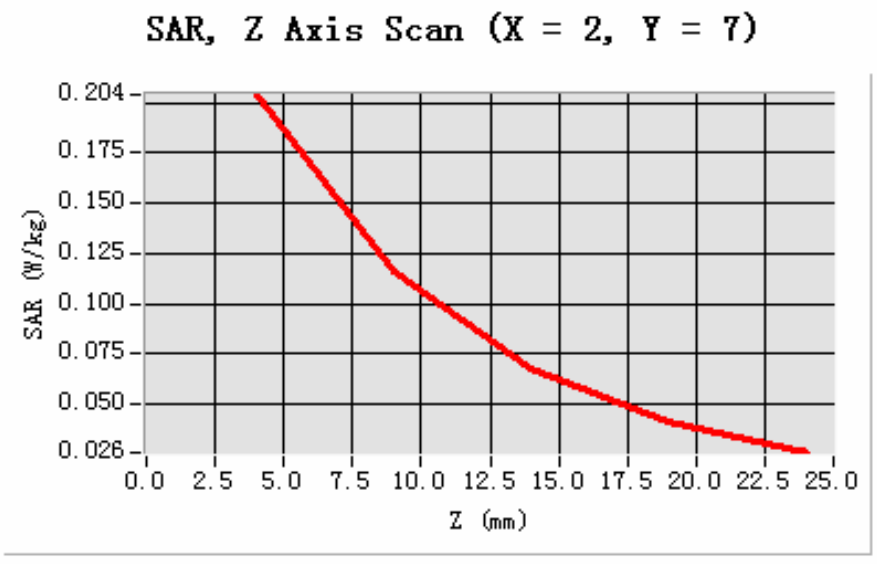


Maximum location: X=2.00, Y=7.00

SAR 10g (W/Kg)	0.106652
SAR 1g (W/Kg)	0.195477

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.2040	0.1162	0.0674	0.0415



MEASUREMENT 54

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 27 seconds

A. Experimental conditions.

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

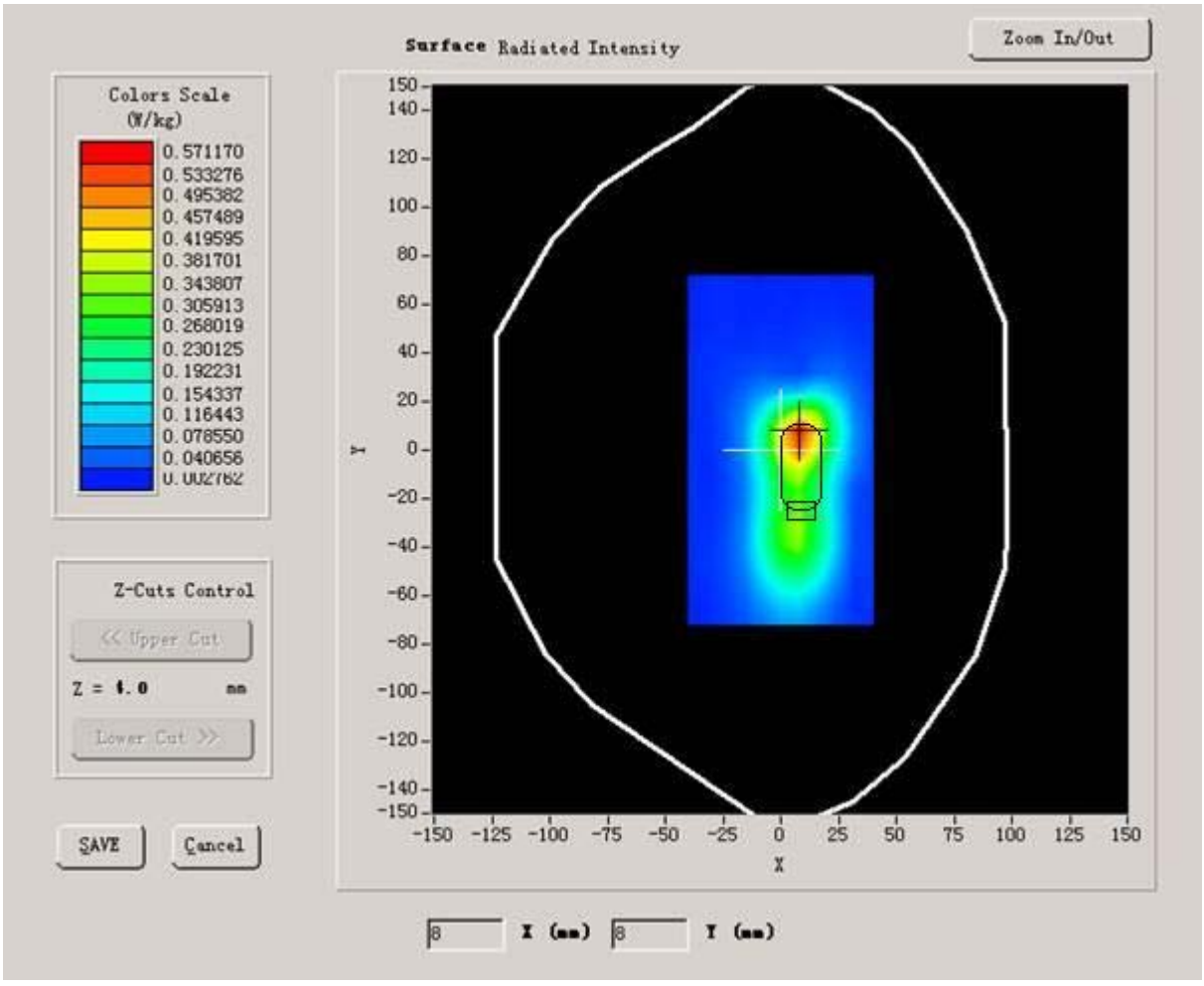
B. SAR Measurement Results

Lower Band SAR (Channel 9262):

Frequency (MHz)	1852.000000
Relative permittivity (real part)	51.341000
Relative permittivity	15.877050

Conductivity (S/m)	1.633572
Variation (%)	0.800000
Ambient Temperature:	22.4°C
Liquid Temperature:	22.1°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

VOLUME SAR

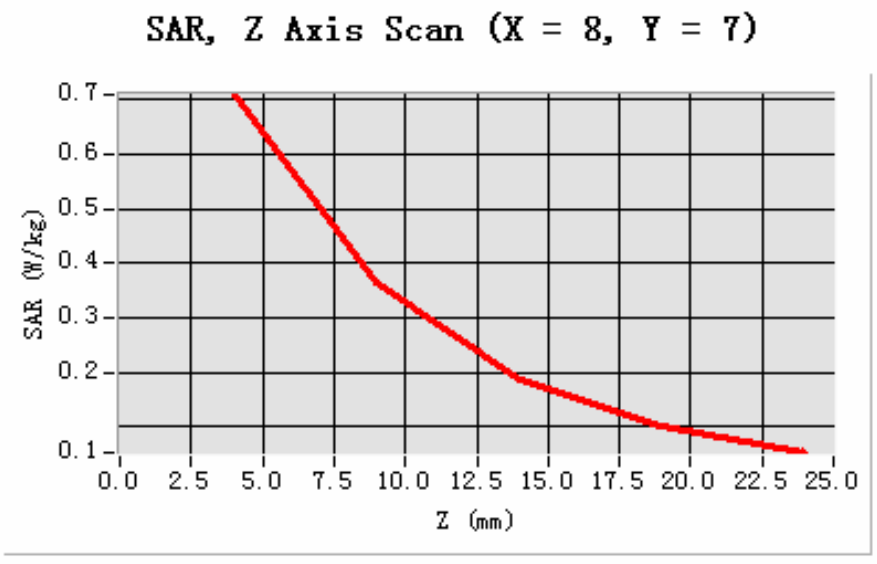


Maximum location: X=8.00, Y=7.00

SAR 10g (W/Kg)	0.326544
SAR 1g (W/Kg)	0.698841

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	0.7097	0.3634	0.1852	0.0995



System Performance Check Data(835MHz Body)

Type: Phone measurement (Complete)

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

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

Date of measurement: 6/3/2009

Measurement duration: 9 minutes 27 seconds

A. Experimental conditions.

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

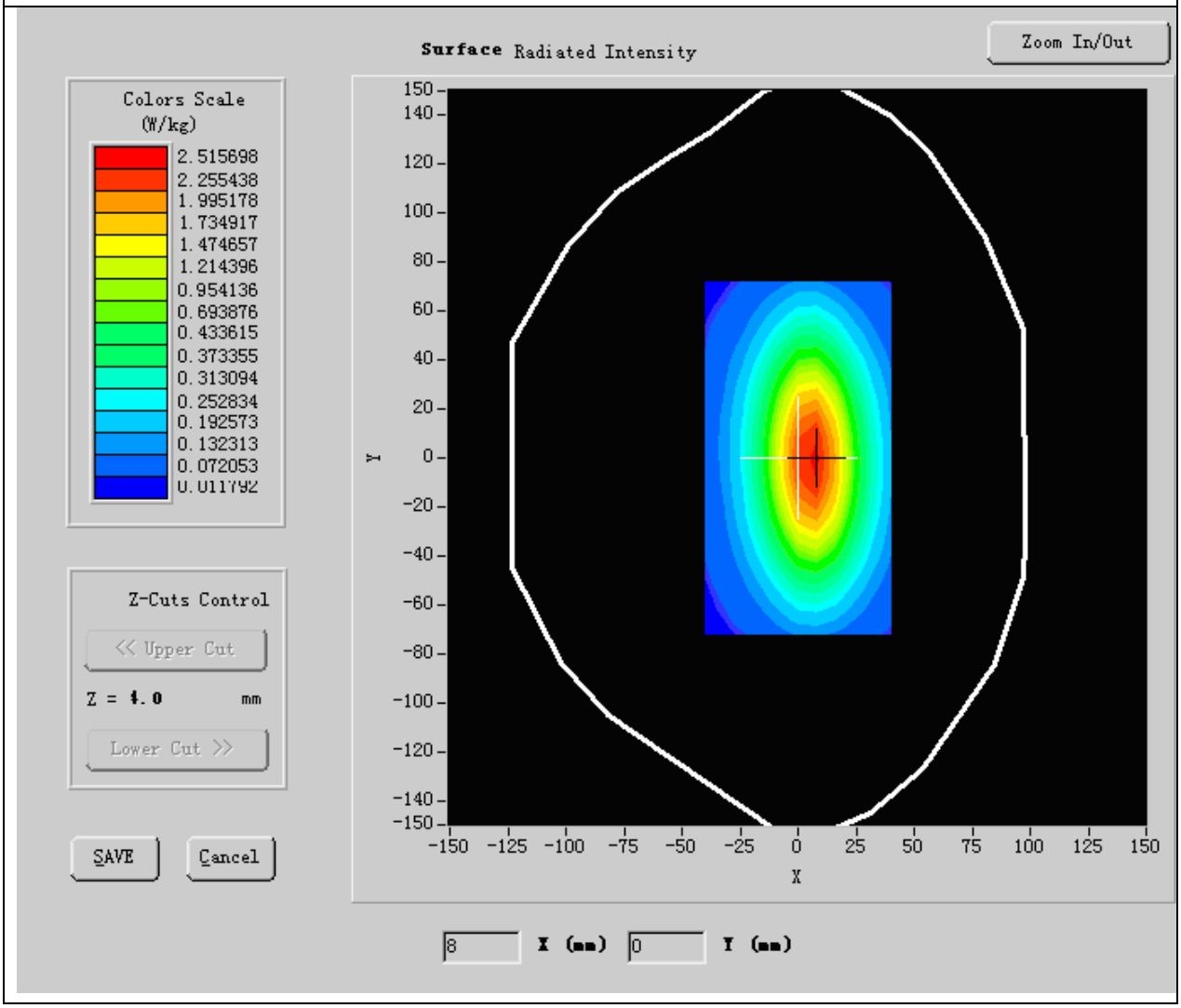
B. SAR Measurement Results

Middle Band SAR:

Frequency (MHz)	835.000000
Relative permittivity (real part)	55.872231
Relative permittivity	15.070000

Conductivity (S/m)	0.954822
Variation (%)	-0.140000
Ambient Temperature:	23.5°C
Liquid Temperature:	22.8°C
Probe Serial Number:	SN_3708_EP80
Crest factor:	1:1

SURFACE SAR

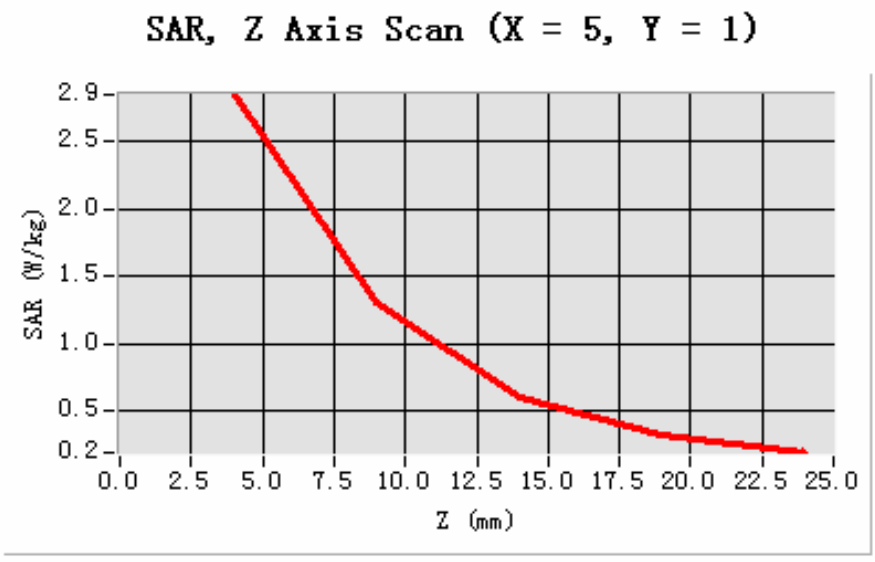


Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	1.643377
SAR 1g (W/Kg)	2.695546

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



System Performance Check Data(1900MHz Body)

Type: Phone measurement (Complete)

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

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

Date of measurement: 5/3/2009

Measurement duration: 9 minutes 27 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	
Band	GSM1800
Channels	
Signal	TDMA

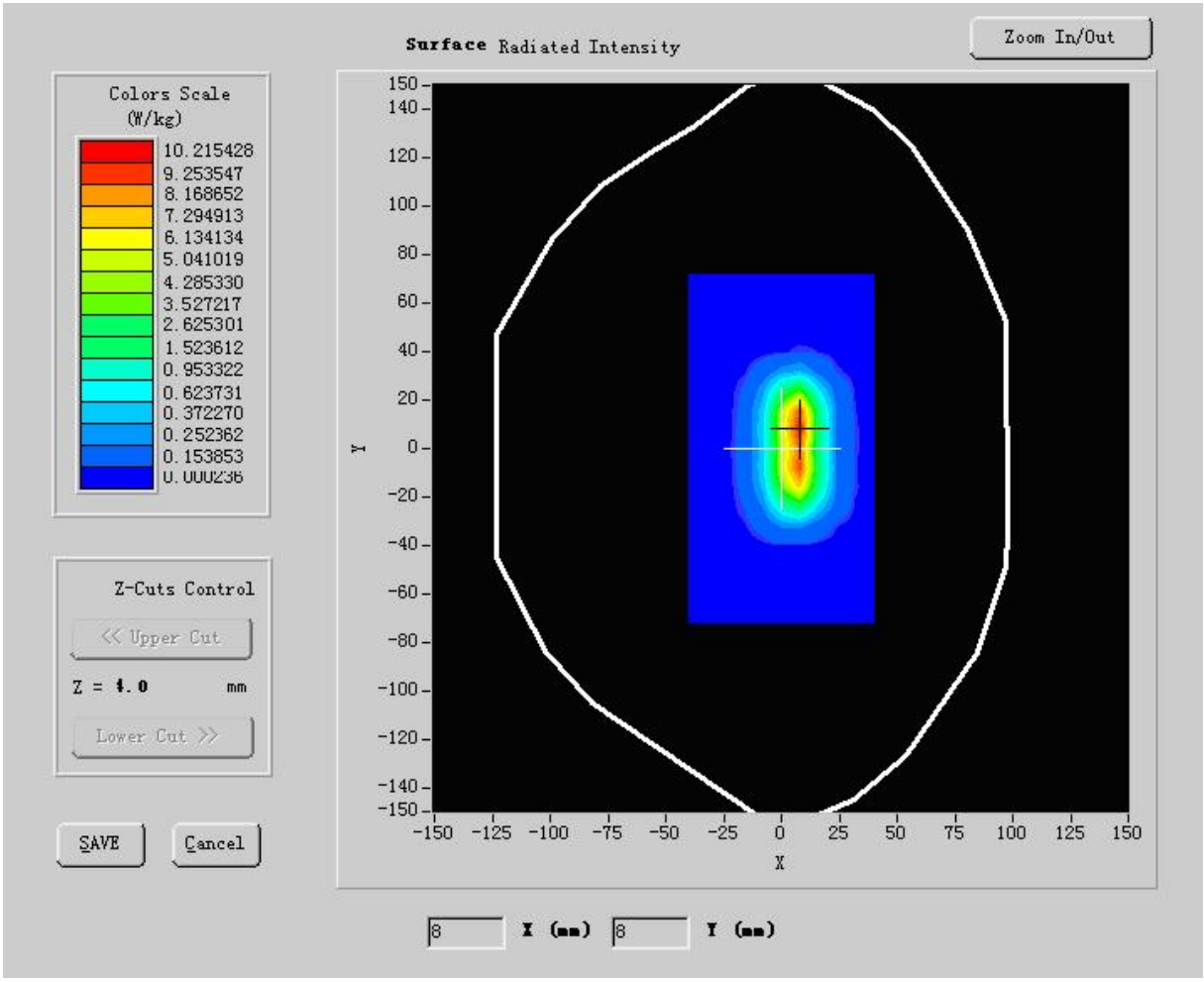
B. SAR Measurement Results

Lower Band SAR:

Frequency (MHz)	1800.000000
Relative permittivity (real part)	53.548876
Relative permittivity	12.991650

Conductivity (S/m)	1.473978
Variation (%)	0.570000
Ambient Temperature:	23.5°C
Liquid Temperature:	22.8°C
Probe Serial Number:	SN_3708_EP80
Crest factor：	1:1

SURFACE SAR



Maximum location: X=7.00, Y=8.00

SAR 10g (W/Kg)	5.415546
SAR 1g (W/Kg)	10.105482

Z Axis Scan

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