

## FCC SAR

# TEST REPORT

of

### HSUPA USB Modem

Model Name: One Touch X210X  
Trade Name: Alcatel  
Report No.: SZ09080030S02  
FCC ID: RAD116

prepared for

### TCT Mobile Limited

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## Contents

<b>1. GENERAL INFORMATION.....</b>	<b>3</b>
1.1. Notes .....	3
1.2. Organization item.....	3
1.3. Conclusion.....	3
<b>2. TESTING LABORATORY .....</b>	<b>4</b>
2.1. Identification of the Responsible Testing Laboratory.....	4
2.2. Identification of the Responsible Testing Location .....	4
2.3. Accreditation Certificate .....	4
2.4. List of Test Equipments .....	4
<b>3. TECHNICAL INFORMATION .....</b>	<b>5</b>
3.1. Identification of Applicant.....	5
3.2. Identification of Manufacturer .....	5
3.3. Equipment Under Test (EUT) .....	5
3.3.1. Photographs of the EUT .....	6
3.3.2. Identification of all used EUTs .....	6
<b>4. TEST RESULTS.....</b>	<b>6</b>
4.1. Applied Reference Documents .....	6
4.2. Test Environment/Conditions .....	7
4.3. Operational Conditions During Test .....	7
4.3.1. Informations On The Testing .....	8
4.3.2. The Measurement System .....	10
4.3.3. Uncertainty Assessment .....	12
4.4. MEASUREMENT PROCEDURES .....	13
4.4.1. Procedures Used To Establish Test Signal.....	14
4.5. Items used in the Test Results List.....	16
4.6. Test Results List.....	17
<b>ANNEX A                      ACCREDITATION CERTIFICATE.....</b>	<b>22</b>
<b>ANNEX B                      PHOTOGRAPHS OF THE EUT .....</b>	<b>23</b>
<b>ANNEX C                      GRAPH TEST RESULTS .....</b>	<b>26</b>

## 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.:	SZ09080030S02
Date of Issue:	Sep 28, 2009
Date of Tests:	Aug 31, 2009 – Sep 27, 2009
Responsible for Accreditation:	Shuluan
Project Manager:	Li lei
Deputy Project Manager:	Chen chao

### 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.

 Chenchao <b>Tested by</b> (Responsible for the Test Report)		 Li Lei <b>Reviewed by</b> (Verification of the Test Report)
 Shuluan <b>Approved by</b> (Responsible Test Lab Manager)		

## 2. Testing Laboratory

### 2.1. Identification of the Responsible Testing Laboratory

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

### 2.2. Identification of the Responsible Testing Location

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

### 2.3. Accreditation Certificate

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

### 2.4. List of Test Equipments

No.	Instrument	Type
1	PC	Dell (Pentium IV 2.4GHz, SN:X10-23533)
2	Network Emulator	Rohde&Schwarz (CMU200, SN:105894)
3	Voltmeter	Keithley (2000, SN:1000572)
4	Synthesizer	Rohde&Schwarz (SML_03, SN:101868)
5	Amplifier	Nucl udes (ALB216, SN:10800)
6	Power Meter	Rohde&Schwarz (NRVD, SN:101066)
7	Probe	Antennessa (SN:SN_3708_EP80)
8	Phantom	Antennessa (SN:SN_36_08_SAM62)
9	Liquid	Antennessa (Last Calibration: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: TCT Mobile Limited  
Address: 4/F, South Building, No. 2966, Jinke Road, Zhangjiang High-Tech Park, Pudong, Shanghai, 201203, P.R. China

#### 3.2. Identification of Manufacturer

Company Name: TCT Mobile Limited  
Address: 4/F, South Building, No. 2966, Jinke Road, Zhangjiang High-Tech Park, Pudong, Shanghai, 201203, P.R. China

#### 3.3. Equipment Under Test (EUT)

Brand Name: Alcatel  
Type Name: Alcatel  
Marking Name: One Touch X210X  
Hardware Version: Proto  
Software Version: M0\_A0700X\_104000\_A0400X  
Frequency Bands: GSM 850MHz(channel 128:824.20MHz, channel 190:836.60MHz, channel 251:848.80MHz,)  
GSM 1900MHz(channel 512:1850.20MHz, 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  
Multislot Class: GPRS: Multislot Class 12  
EDGE: Multislot Class 12

### 3.3.1. Photographs of the EUT

Please see for photographs of the EUT.

### 3.3.2. Identification of all used EUTs

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

EUT Identity	Hardware Version	Software Version
1#	Proto	M0_A0700X_104000_A0400X

## 4. Test Results

### 4.1. Applied Reference Documents

Leading reference documents for testing:

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



## 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) = 5.0V
	Low Voltage (LV) = 4.75V
	High Voltage (HV) = 5.25V
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 128, 190 and 251 respectively in the case of GSM 850MHz or is allocated to 512, 661 and 810 respectively in the case of GSM 1900MHz 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 WCDMA 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

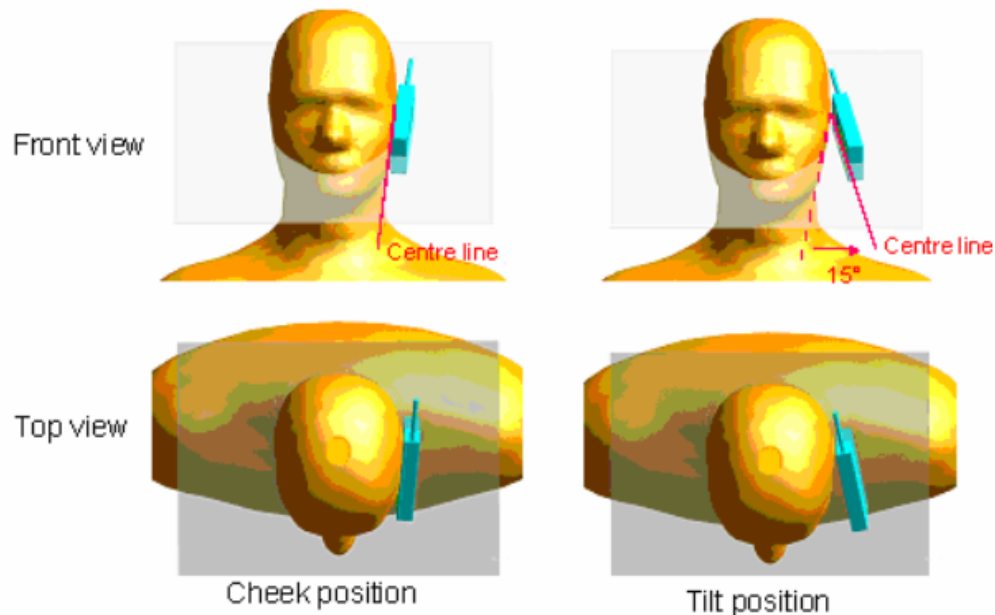
###### I.1. Normative reference

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 surface normal line : less than 30°

### II.3. Measurement procedure

The following steps are used for each test position

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

### II.4 Description of interpolation/extrapolation scheme

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

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

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

### 4.3.3. Uncertainty Assessment

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

The values are determined by 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	$\infty$
Axial Isotropy	E.2.2	2.5	R	$\sqrt{3}$	$(1-C_p)^{1/2}$	$(1-C_p)^{1/2}$	1.02	1.02	$\infty$
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	$\sqrt{C_n}$	$\sqrt{C_n}$	1.63	1.63	$\infty$
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	$\infty$
Linearity	E.2.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	$\infty$
System detection limits	E.2.5	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	$\infty$
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.02	$\infty$
Reponse Time	E.2.7	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	$\infty$
Integration Time	E.2.8	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	$\infty$
RF ambient Conditions	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	$\infty$
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	$\infty$
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	$\infty$
Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation	E.5.2	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	$\infty$
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	$\infty$
Phantom and Tissue Parameters									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	$\infty$
Liquid conductivity – deviation from target value	E.3.2	0.57	R	$\sqrt{3}$	0.64	0.43	0.21	0.14	$\infty$

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	$\infty$
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	2.50 W/Kg (body)	9.91 W/Kg (body)
Test value (1g)	10.00 W/Kg (body)	39.64 W/Kg (body)

**Note:**Please refer to check the system performance data, the first 198-203 page. 250 mW input power

#### 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: 23.0~23.8°C, humidity: 54~60%.			
/	Frequency	Permittivity $\epsilon$	Conductivity $\sigma$ (S/m)
<b>Target value</b>	835 MHz	56.1	0.95
<b>Validation value (Aug 31)</b>	835 MHz	55.709999	0.974596
<b>Target value</b>	1900 MHz	54	1.45
<b>Validation value (Aug 31)</b>	1900 MHz	54.116001	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		Frequency Band	
	835MHz		1900MHz	
Tissue Type	Head	Body	Head	Body
Water	41.45	52.4	55.36	40.4
Salt(NaCl)	1.45	1.4	0.35	0.5
Sugar	56.0	45.0	30.45	58.0
HEC	1.0	1.0	0.0	1.0
Bactericide	0.1	0.1	0.0	0.1
Triton	0.0	0.0	0.0	0.0
DGBE	0.0	0.0	13.84	0.0
Acticide SPX	0.0	0.0	0.0	0.0
Dielectric Constant	42.45	56.1	41.00	54.0
Conductivity (S/m)	0.91	0.95	0.38	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 than 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 HSUPA**

Body SAR is also measured for HSUPA when the maximum average output of each RF channel with HSDPA active is at least 1/4 dB higher than that measured without HSUPA 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 HSUPA.

Item	band	WCDMA 850			WCDMA 1900		
	ARFCN	4132	4175	4233	9262	9400	9538
	subtest						
5.2(WCDMA)	non	22.55	21.98	22.00	21.50	22.09	21.97
5.2AA(HSDPA)	1	21.81	21.44	21.48	20.75	21.06	20.53
	2	21.61	21.58	21.50	20.58	20.99	20.48
	3	21.25	21.07	20.97	20.21	20.43	20.28
	4	21.22	21.10	20.92	20.30	20.42	20.23
5.2B(HSUPA)	1	22.34	21.86	21.91	21.52	21.97	21.79
	2	20.45	20.01	19.93	19.61	19.87	19.69
	3	21.21	20.99	20.86	20.65	20.90	20.66
	4	20.35	20.05	20.04	19.72	19.92	19.63
	5	22.41	21.81	21.94	21.42	21.88	21.84

**Note:** KDB inquiry number (452495)

#### 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)	0.198	30.24
Validation Plane with Body device position on Middle Channel in GSM mode (Horizontal-Up)	0.186	30.44
Validation Plane with Body device position on High Channel in GSM mode (Horizontal-Up)	0.158	30.91
Validation Plane with Body device position on Low Channel in GSM mode (Horizontal-Down)	0.200	30.24
Validation Plane with Body device position on Middle Channel in GSM mode (Horizontal-Down)	0.190	30.44
Validation Plane with Body device position on High Channel in GSM mode (Horizontal-Down)	0.166	30.91
Validation Plane with Body device position on Low Channel in GSM mode (Vertical-Front)	0.111	30.24
Validation Plane with Body device position on Middle Channel in GSM mode (Vertical-Front)	0.104	30.44
Validation Plane with Body device position on High Channel in GSM mode (Vertical-Front)	0.092	30.91
Validation Plane with Body device position on Low Channel in GSM mode (Vertical-Back)	0.138	30.24
Validation Plane with Body device position on Middle Channel in GSM mode (Vertical-Back)	0.131	30.44
Validation Plane with Body device position on High Channel in GSM mode (Vertical-Back)	0.122	30.91
Validation Plane with Body device position on Low Channel in GPRS mode (Horizontal-Down)	0.384	30.24
Validation Plane with Body device position on Low Channel in EDGE mode (Horizontal-Down)	0.406	30.24
Validation Plane with Body device position on Low Channel in GSM mode (perpendicular)	0.021	30.24

# Summary 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	
	1.2	
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)	0.552	28.05
Validation Plane with Body device position on Middle Channel in GSM mode (Horizontal-Up)	0.571	28.37
Validation Plane with Body device position on High Channel in GSM mode (Horizontal-Up)	0.422	28.04
Validation Plane with Body device position on Low Channel in GSM mode (Horizontal-Down)	0.421	28.05
Validation Plane with Body device position on Middle Channel in GSM mode (Horizontal-Down)	0.480	28.37
Validation Plane with Body device position on High Channel in GSM mode (Horizontal-Down)	0.356	28.04
Validation Plane with Body device position on Low Channel in GSM mode (Vertical-Front)	0.191	28.05
Validation Plane with Body device position on Middle Channel in GSM mode (Vertical-Front)	0.237	28.37
Validation Plane with Body device position on High Channel in GSM mode (Vertical-Front)	0.186	28.04
Validation Plane with Body device position on Low Channel in GSM mode (Vertical-Back)	0.362	28.05
Validation Plane with Body device position on Middle Channel in GSM mode (Vertical-Back)	0.421	28.37
Validation Plane with Body device position on High Channel in GSM mode (Vertical-Back)	0.326	28.04
Validation Plane with Body device position on Middle Channel in GPRS mode (Horizontal-Up)	0.631	28.37
Validation Plane with Body device position on Middle Channel in EDGE mode (Horizontal -Up)	0.673	28.37
Validation Plane with Body device position on Middle Channel in GSM mode (perpendicular)	0.019	28.37

# Summary 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	
	1.2	
Test Case	Measurement Result (W/kg)	
	1 g Average (W/kg)	Power level (dBm)
Validation Plane with Body device position on Low Channel in WCDMA mode (Horizontal-Up)	0.222	23.01
Validation Plane with Body device position on Middle Channel in WCDMA mode (Horizontal-Up)	0.159	22.71
Validation Plane with Body device position on High Channel in WCDMA mode (Horizontal-Up)	0.179	24.17
Validation Plane with Body device position on Low Channel in WCDMA mode (Horizontal-Down)	0.199	23.01
Validation Plane with Body device position on Middle Channel in WCDMA mode (Horizontal-Down)	0.104	22.71
Validation Plane with Body device position on High Channel in WCDMA mode (Horizontal-Down)	0.117	24.17
Validation Plane with Body device position on Low Channel in WCDMA mode (Vertical-Front)	0.131	23.01
Validation Plane with Body device position on Middle Channel in WCDMA mode (Vertical-Front)	0.138	22.71
Validation Plane with Body device position on High Channel in WCDMA mode (Vertical-Front)	0.130	24.17
Validation Plane with Body device position on Low Channel in WCDMA mode (Vertical-Back)	0.157	23.01
Validation Plane with Body device position on Middle Channel in WCDMA mode (Vertical-Back)	0.138	22.71
Validation Plane with Body device position on High Channel in WCDMA mode (Vertical-Back)	0.175	24.17
Validation Plane with Body device position on Low Channel in HSDPA mode (Horizontal- Up)	0.263	23.01
Validation Plane with Body device position on Low Channel in HSUPA mode (Horizontal- Up)	0.253	23.01
Validation Plane with Body device position on Low Channel in WCDMA mode (perpendicular)	0.029	23.01

# Summary 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	
	1.2	
Test Case	Measurement Result (W/kg)	
	1 g Average (W/kg)	Power level (dBm)
Validation Plane with Body device position on Low Channel in WCDMA mode (Horizontal-Up)	0.712	21.62
Validation Plane with Body device position on Middle Channel in WCDMA mode (Horizontal-Up)	1.022	21.57
Validation Plane with Body device position on High Channel in WCDMA mode (Horizontal-Up)	0.507	22.44
Validation Plane with Body device position on Low Channel in WCDMA mode (Horizontal-Down)	0.656	21.62
Validation Plane with Body device position on Middle Channel in WCDMA mode (Horizontal-Down)	0.948	21.57
Validation Plane with Body device position on High Channel in WCDMA mode (Horizontal-Down)	0.493	22.44
Validation Plane with Body device position on Low Channel in WCDMA mode (Vertical-Front)	0.220	21.62
Validation Plane with Body device position on Middle Channel in WCDMA mode (Vertical-Front)	0.345	21.57
Validation Plane with Body device position on High Channel in WCDMA mode (Vertical-Front)	0.190	22.44
Validation Plane with Body device position on Low Channel in WCDMA mode (Vertical-Back)	0.450	21.62
Validation Plane with Body device position on Middle Channel in WCDMA mode (Vertical-Back)	0.569	21.57
Validation Plane with Body device position on High Channel in WCDMA mode (Vertical-Back)	0.284	22.44
Validation Plane with Body device position on Middle Channel in HSDPA mode (Horizontal-Up)	1.064	21.57
Validation Plane with Body device position on Middle Channel in HSUPA mode (Horizontal-Up)	1.102	21.57
Validation Plane with Body device position on Middle Channel in WCDMA mode (perpendicular)	0.022	21.57

**Note:** 1. 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)

2. The separation distance is determined according 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.

3. The separation 10mm, the state SAR value is too small, In the test system can not accurately read out the SAR value.

**Annex A Accreditation Certificate**

 
<b>China National Accreditation Service for Conformity Assessment</b>
<b>LABORATORY ACCREDITATION CERTIFICATE</b>
<b>(No. CNAS L1659 )</b>
<i>China National Accreditation Service for Conformity Assessment has accredited</i>
<b>Shenzhen Electronic Product Quality Testing Center</b>
<b>(CQCS Testing Co. Ltd.)</b>
<u>Electronic Testing Building Wenguang Road, Shahe West, Xili Town, Nanshan</u>
<u>District, Shenzhen, Guangdong, China</u>
<i>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.</i>
<i>The scope of accreditation is detailed in the attached schedule bearing the same accreditation number as above. The schedule forms an integral part of this certificate.</i>
Date of Issue: 2007-01-17
Date of Expiry: 2009-10-08
Date of Initial Accreditation: 1999-08-03

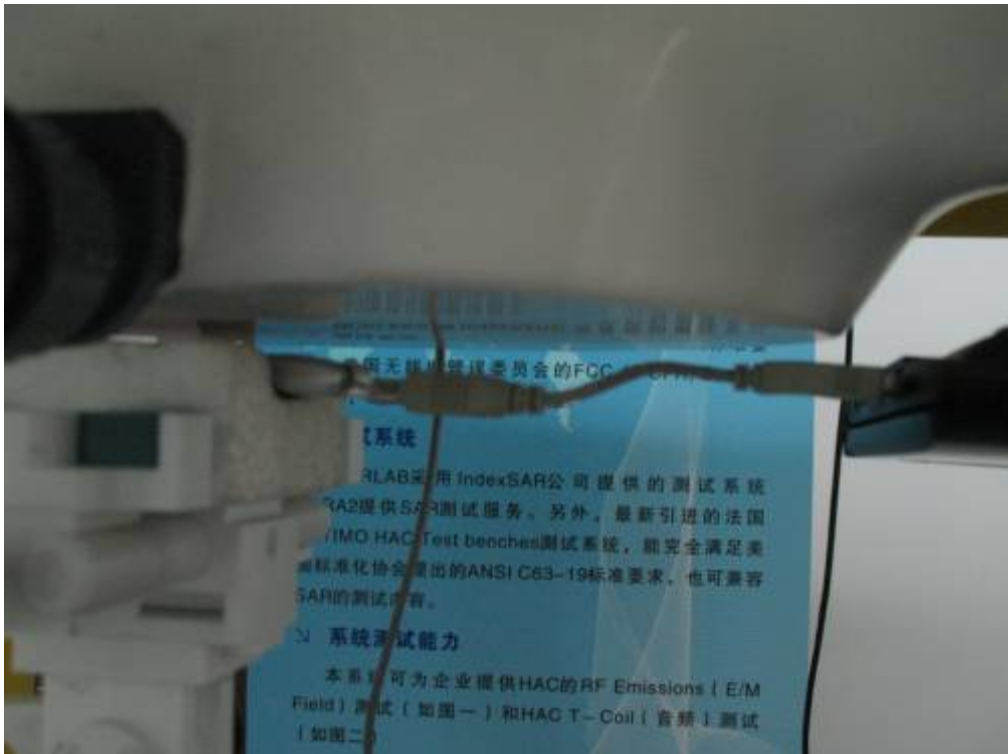
Signed on behalf of China National Accreditation Service for Conformity Assessment
<small>China National Accreditation Service for Conformity Assessment(CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation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

## Annex B Photographs of the EUT

### 1 EUT Horizontal-Up(PC:IBM T42)



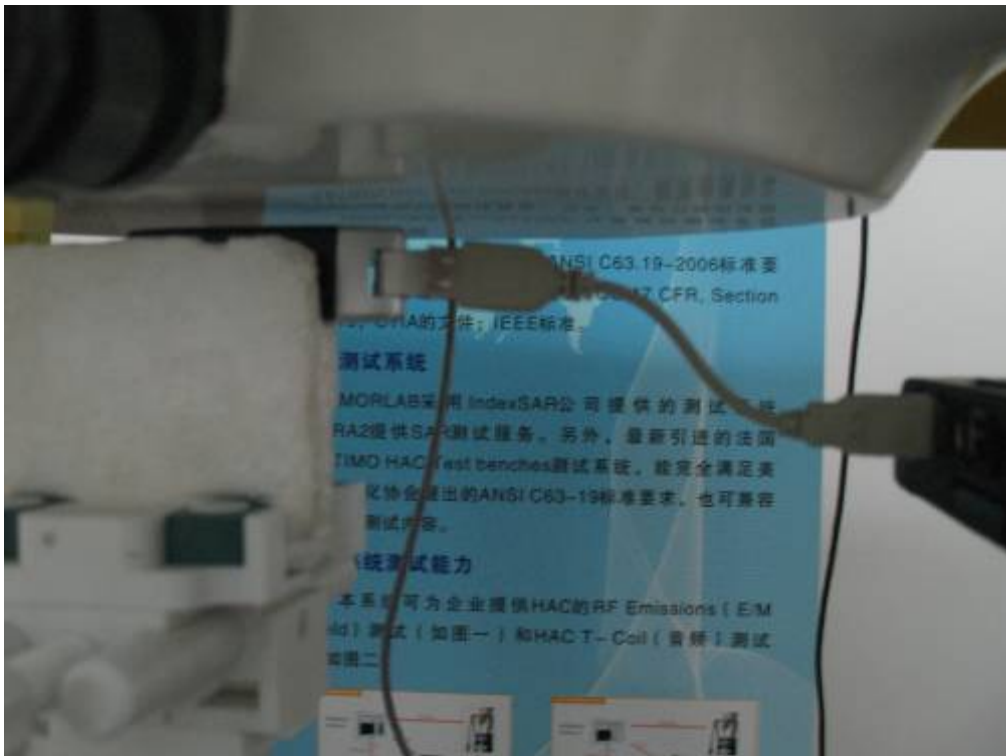
### 2 EUT Horizontal-Down



## 3 EUT Vertical-Front(PC:IBM T20)



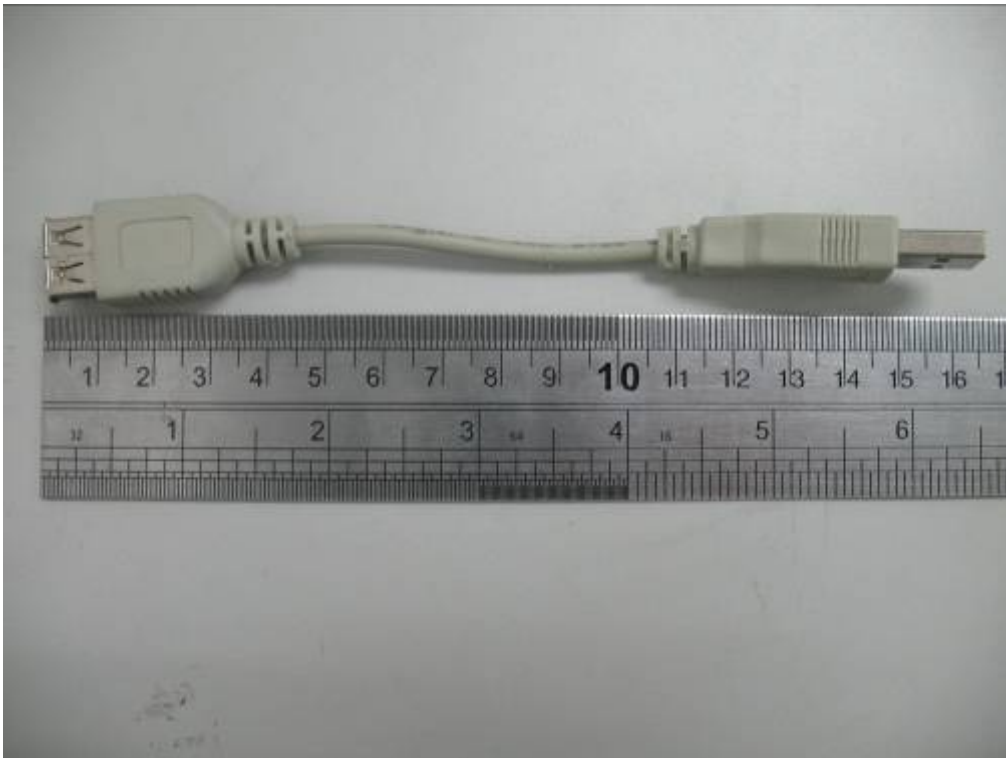
## 4 EUT Vertical-Back



5 EUT perpendicular



5 Data line





## Annex C Graph Test Results

		<p>Measurement 1: Validation Plane with Body device position on Low Channel in GSM mode (<b>Horizontal-Up</b>)</p> <p>Measurement 2: Validation Plane with Body device position on Middle Channel in GSM mode (<b>Horizontal-Up</b>)</p> <p>Measurement 3: Validation Plane with Body device position on High Channel in GSM mode (<b>Horizontal-Up</b>)</p> <p>Measurement 4: Validation Plane with Body device position on Low Channel in GSM mode (<b>Horizontal-Down</b>)</p> <p>Measurement 5: Validation Plane with Body device position on Middle Channel in GSM mode (<b>Horizontal-Down</b>)</p> <p>Measurement 6: Validation Plane with Body device position on High Channel in GSM mode (<b>Horizontal-Down</b>)</p> <p>Measurement 7: Validation Plane with Body device position on Low Channel in GSM mode (<b>Vertical-Front</b>)</p> <p>Measurement 8: Validation Plane with Body device position on Middle Channel in GSM mode (<b>Vertical-Front</b>)</p> <p>Measurement 9: Validation Plane with Body device position on High Channel in GSM mode (<b>Vertical-Front</b>)</p> <p>Measurement 10: Validation Plane with Body device position on Low Channel in GSM mode (<b>Vertical-Back</b>)</p> <p>Measurement 11: Validation Plane with Body device position on Middle Channel in GSM mode (<b>Vertical-Back</b>)</p> <p>Measurement 12: Validation Plane with Body device position on High Channel in GSM mode (<b>Vertical-Back</b>)</p> <p>Measurement 13: Validation Plane with Body device position on Low Channel in GSM mode with GPRS (<b>Horizontal-Down</b>)</p>
	GSM 850	



		<p>Measurement 14: Validation Plane with Body device position on Low Channel in GSM mode with EDGE <b>(Horizontal-Down)</b></p> <p>Measurement 15: Validation Plane with Body device position on Low Channel in GSM mode <b>(perpendicular)</b></p>
	GSM 1900	<p>Measurement 16: Validation Plane with Body device position on Low Channel in GSM mode <b>(Horizontal-Up)</b></p> <p>Measurement 17: Validation Plane with Body device position on Middle Channel in GSM mode <b>(Horizontal-Up)</b></p> <p>Measurement 18: Validation Plane with Body device position on High Channel in GSM mode <b>(Horizontal-Up)</b></p> <p>Measurement 19: Validation Plane with Body device position on Low Channel in GSM mode <b>(Horizontal-Down)</b></p> <p>Measurement 20: Validation Plane with Body device position on Middle Channel in GSM mode <b>(Horizontal-Down)</b></p> <p>Measurement 21: Validation Plane with Body device position on High Channel in GSM mode <b>(Horizontal-Down)</b></p> <p>Measurement 22: Validation Plane with Body device position on Low Channel in GSM mode <b>(Vertical-Front)</b></p> <p>Measurement 23: Validation Plane with Body device position on Middle Channel in GSM mode <b>(Vertical-Front)</b></p> <p>Measurement 24: Validation Plane with Body device position on High Channel in GSM mode <b>(Vertical-Front)</b></p> <p>Measurement 25: Validation Plane with Body device position on Low Channel in GSM mode <b>(Vertical-Back)</b></p> <p>Measurement 26: Validation Plane with Body device position on Middle Channel in GSM mode <b>(Vertical-Back)</b></p> <p>Measurement 27: Validation Plane with Body device position on High Channel in GSM mode</p>

		<p><b>(Vertical-Back)</b></p> <p>Measurement 28: Validation Plane with Body device position on Middle Channel in GSM mode with GPRS</p> <p><b>(Horizontal-Down)</b></p> <p>Measurement 29: Validation Plane with Body device position on Middle Channel in GSM mode with EDGE</p> <p><b>(Horizontal-Down)</b></p> <p>Measurement 30: Validation Plane with Body device position on Middle Channel in GSM mode with EDGE</p> <p><b>(perpendicular)</b></p>
	WCDMA 850MHz	<p>Validation Plane with Body device position on Low Channel in WCDMA mode <b>(Horizontal-Up)</b></p> <p>Validation Plane with Body device position on Middle Channel in WCDMA mode <b>(Horizontal-Up)</b></p> <p>Validation Plane with Body device position on High Channel in WCDMA mode <b>(Horizontal-Up)</b></p> <p>Validation Plane with Body device position on Low Channel in WCDMA mode <b>(Horizontal-Down)</b></p> <p>Validation Plane with Body device position on Middle Channel in WCDMA mode <b>(Horizontal-Down)</b></p> <p>Validation Plane with Body device position on Back Channel in WCDMA mode <b>(Horizontal-Down)</b></p> <p>Validation Plane with Body device position on Low Channel in WCDMA mode <b>(Vertical-Front)</b></p> <p>Validation Plane with Body device position on Middle Channel in WCDMA mode <b>(Vertical-Front)</b></p> <p>Validation Plane with Body device position on High Channel in WCDMA mode <b>(Vertical-Front)</b></p> <p>Validation Plane with Body device position on Low Channel in WCDMA mode <b>(Vertical-Back)</b></p> <p>Validation Plane with Body device position on Middle Channel in WCDMA mode <b>(Vertical-Back)</b></p> <p>Validation Plane with Body device position on High Channel in WCDMA mode <b>(Vertical-Back)</b></p> <p>Validation Plane with Body device position on Middle Channel in WCDMA mode with HSDPA</p> <p><b>(Horizontal-Down)</b></p> <p>Validation Plane with Body device position on Middle Channel in WCDMA mode with HSUPA</p> <p><b>(Horizontal-Down)</b></p> <p>Validation Plane with Body device position on Middle</p>

		Channel in WCDMA mode ( <b>perpendicular</b> )
	WCDMA 1900MHz	Validation Plane with Body device position on Low Channel in WCDMA mode ( <b>Horizontal-Up</b> ) Validation Plane with Body device position on Middle Channel in WCDMA mode ( <b>Horizontal-Up</b> ) Validation Plane with Body device position on High Channel in WCDMA mode ( <b>Horizontal-Up</b> ) Validation Plane with Body device position on Low Channel in WCDMA mode ( <b>Horizontal-Down</b> ) Validation Plane with Body device position on Middle Channel in WCDMA mode ( <b>Horizontal-Down</b> ) Validation Plane with Body device position on Back Channel in WCDMA mode ( <b>Horizontal-Down</b> ) Validation Plane with Body device position on Low Channel in WCDMA mode ( <b>Vertical-Front</b> ) Validation Plane with Body device position on Middle Channel in WCDMA mode ( <b>Vertical-Front</b> ) Validation Plane with Body device position on High Channel in WCDMA mode ( <b>Vertical-Front</b> ) Validation Plane with Body device position on Low Channel in WCDMA mode ( <b>Vertical-Back</b> ) Validation Plane with Body device position on Middle Channel in WCDMA mode ( <b>Vertical-Back</b> ) Validation Plane with Body device position on High Channel in WCDMA mode ( <b>Vertical-Back</b> ) Validation Plane with Body device position on Middle Channel in WCDMA mode with HSDPA ( <b>Horizontal-Down</b> ) Validation Plane with Body device position on Middle Channel in WCDMA mode with HSUPA ( <b>Horizontal-Down</b> ) Validation Plane with Body device position on Middle Channel in WCDMA mode ( <b>perpendicular</b> )

**Note:** 1.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 5mm (taking into account of the IEEE 1528 and the place of the antenna)。

2. The separation distance is determined corrodng 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=5mm, dy=5mm, dz=5mm

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 3 seconds

### A. Experimental conditions.

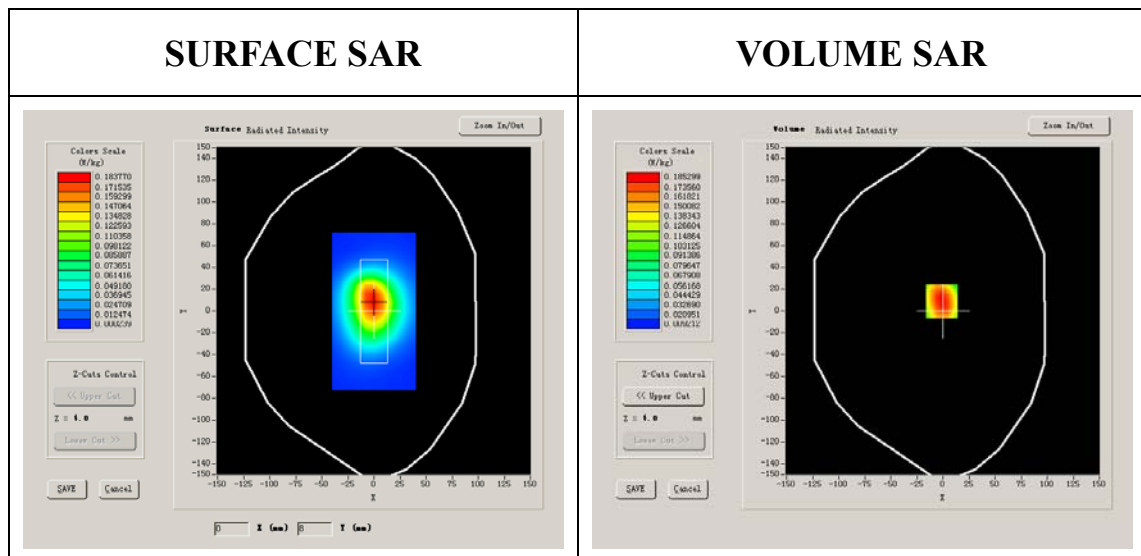
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM850
<b>Channels</b>	Low
<b>Signal</b>	GSM

### B. SAR Measurement Results

Lower Band SAR (Channel 128):

<b>Frequency (MHz)</b>	824.200012
<b>Relative permittivity (real part)</b>	54.116001
<b>Relative permittivity</b>	21.284550

<b>Conductivity (S/m)</b>	0.974596
<b>Variation (%)</b>	0.710000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:8



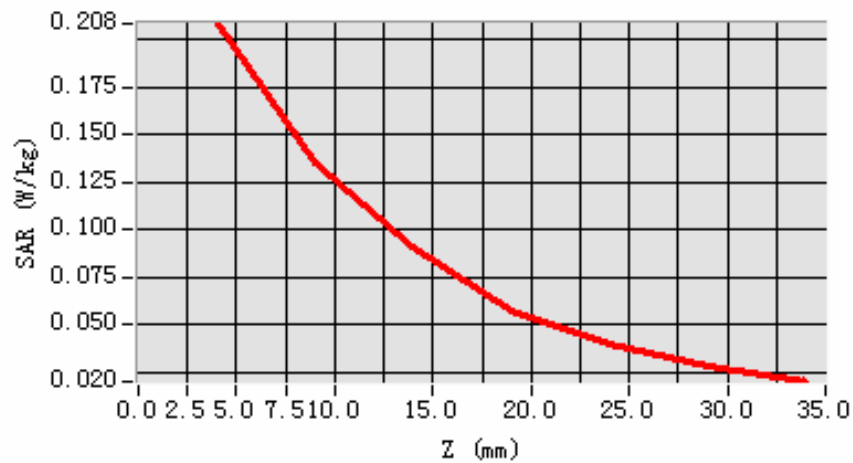
**Maximum location: X=-1.00, Y=9.00**

<b>SAR 10g (W/Kg)</b>	0.125265
<b>SAR 1g (W/Kg)</b>	0.198422

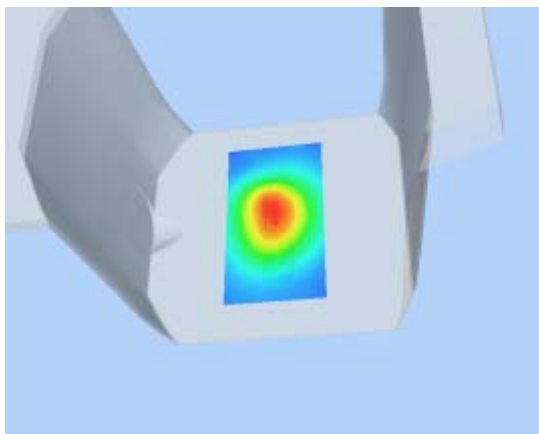
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2084	0.1347	0.0905	0.0576	0.0393	0.0279

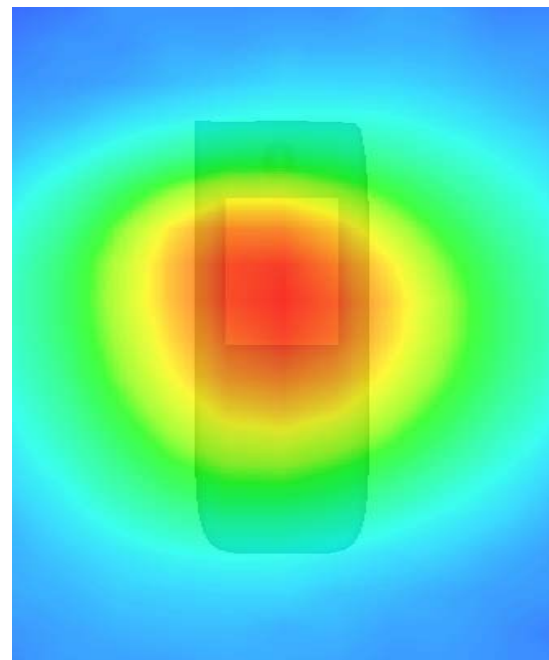
**SAR, Z Axis Scan (X = -1, Y = 9)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 2

Type: Phone measurement (Complete)

Area scan resolution:  $dx=8\text{mm}, dy=8\text{mm}$

Zoom scan resolution:  $dx=5\text{mm}, dy=5\text{mm}, dz=5\text{mm}$

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 3 seconds

### A. Experimental conditions.

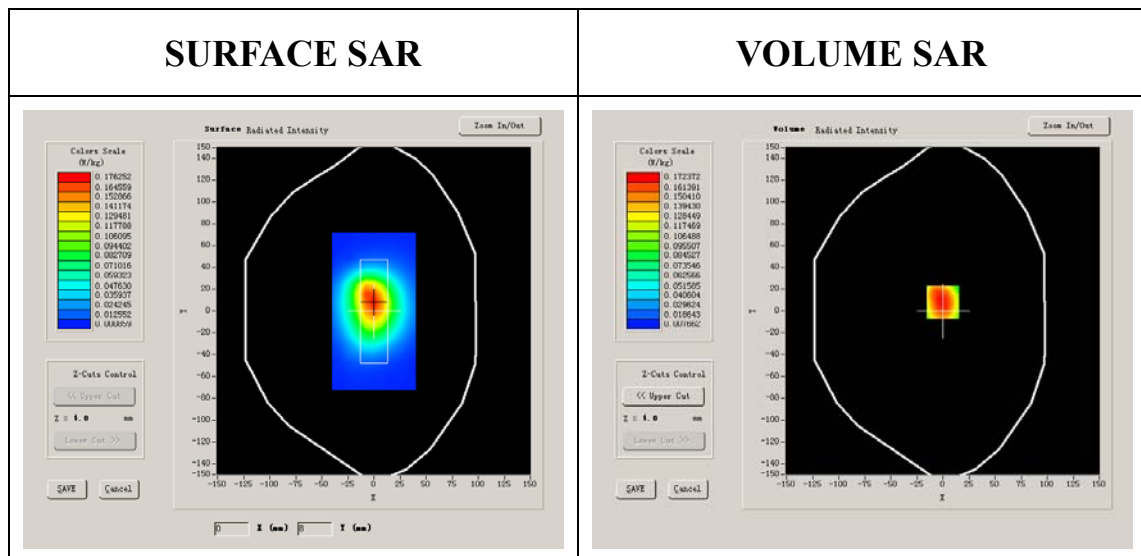
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	GSM

### B. SAR Measurement Results

Middle Band SAR (Channel 190):

Frequency (MHz)	836.599976
Relative permittivity (real part)	55.709999
Relative permittivity	21.709999

<b>Conductivity (S/m)</b>	1.009033
<b>Variation (%)</b>	-1.390000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:8



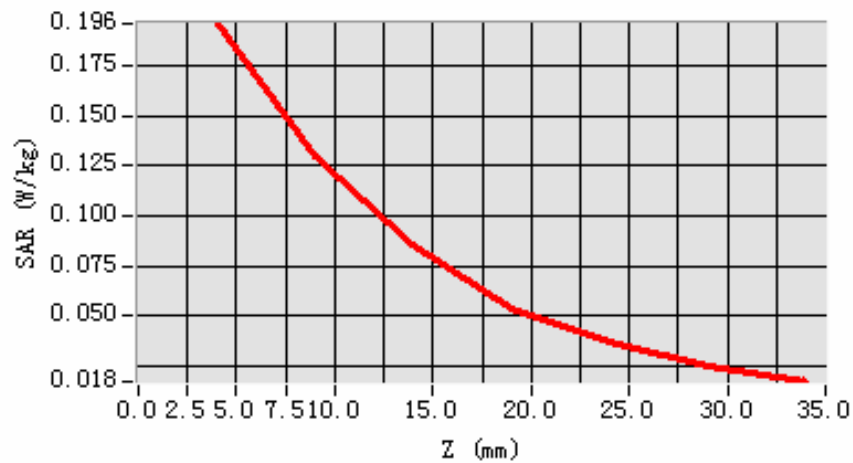
**Maximum location: X=0.00, Y=8.00**

<b>SAR 10g (W/Kg)</b>	0.118879
<b>SAR 1g (W/Kg)</b>	0.186156

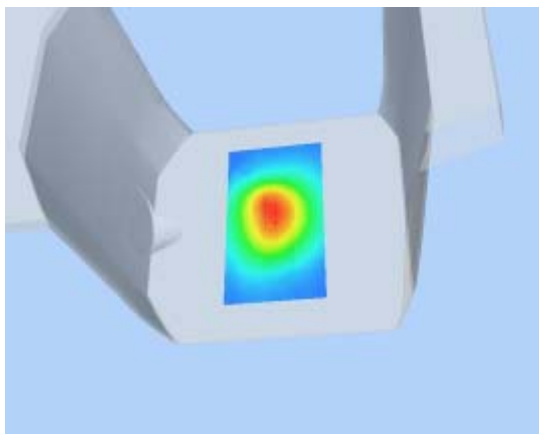
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1957	0.1297	0.0862	0.0540	0.0370	0.0251

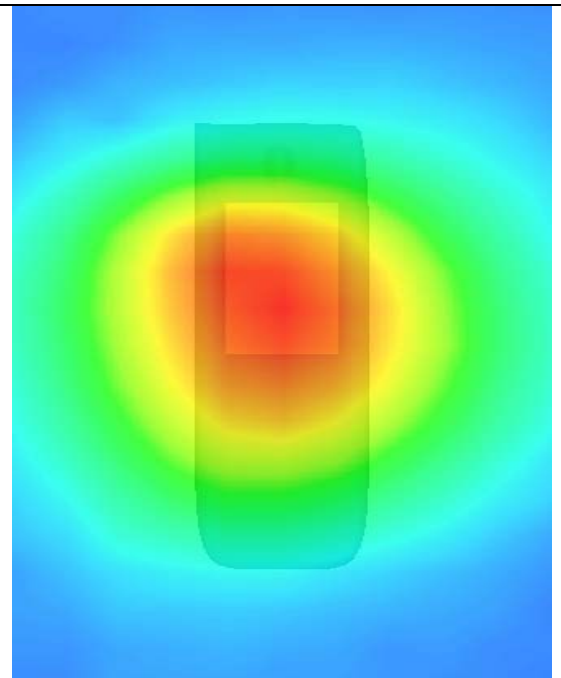
**SAR, Z Axis Scan (X = 0, Y = 8)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 3

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 1 seconds

### A. Experimental conditions.

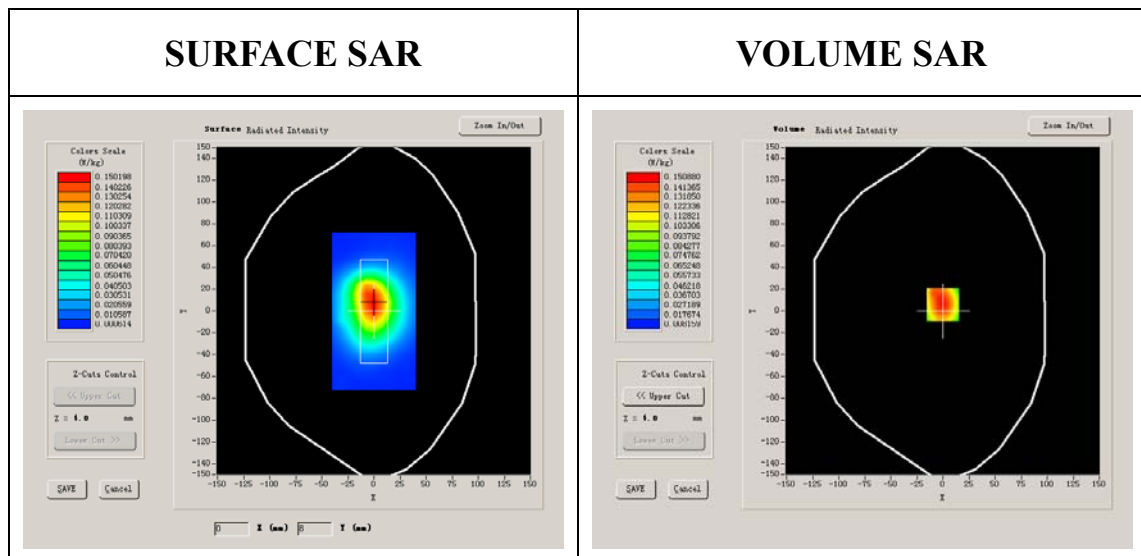
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM850
<b>Channels</b>	High
<b>Signal</b>	GSM

### B. SAR Measurement Results

Higher Band SAR (Channel 251):

<b>Frequency (MHz)</b>	848.799988
<b>Relative permittivity (real part)</b>	54.014999
<b>Relative permittivity</b>	21.332850

<b>Conductivity (S/m)</b>	1.005962
<b>Variation (%)</b>	-0.080000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:8



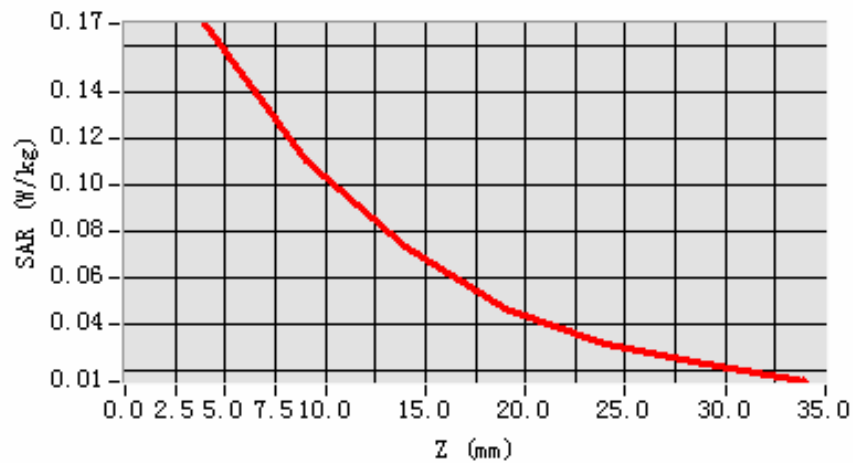
**Maximum location: X=0.00, Y=6.00**

<b>SAR 10g (W/Kg)</b>	0.101459
<b>SAR 1g (W/Kg)</b>	0.158882

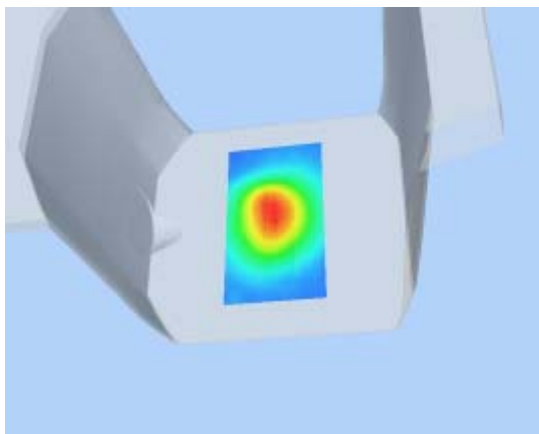
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1697	0.1103	0.0735	0.0468	0.0315	0.0227

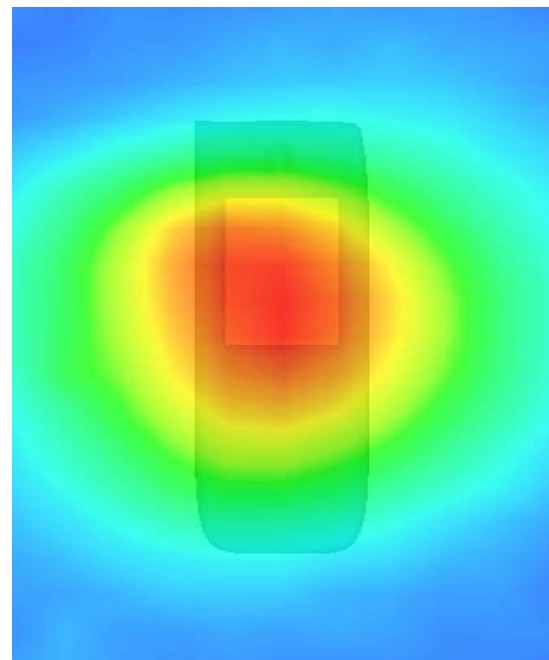
**SAR, Z Axis Scan (X = 0, Y = 6)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 4

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM850
<b>Channels</b>	Low
<b>Signal</b>	GSM

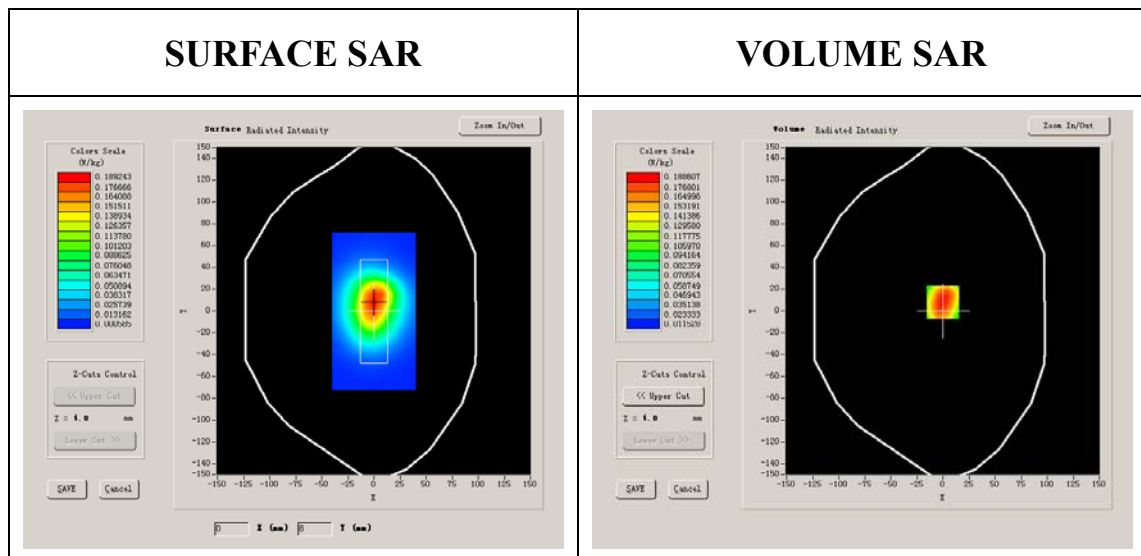
### B. SAR Measurement Results

Lower Band SAR (Channel 128):

<b>Frequency (MHz)</b>	824.200012
<b>Relative permittivity (real part)</b>	54.116001
<b>Relative permittivity</b>	21.284550



<b>Conductivity (S/m)</b>	0.974596
<b>Variation (%)</b>	-0.380000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:8



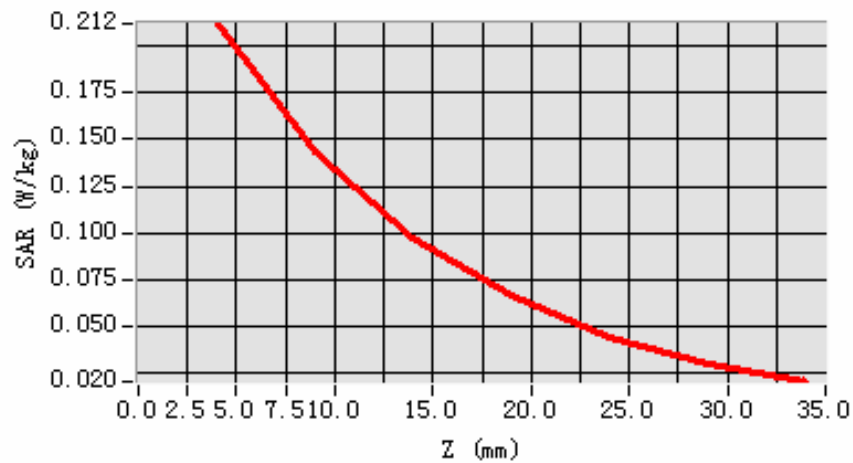
**Maximum location: X=0.00, Y=8.00**

<b>SAR 10g (W/Kg)</b>	0.128661
<b>SAR 1g (W/Kg)</b>	0.200642

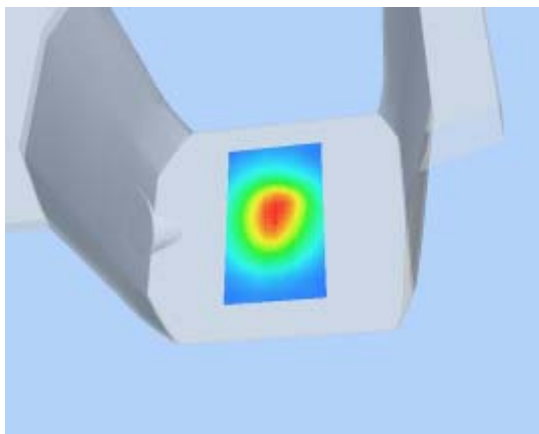
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2121	0.1433	0.0975	0.0670	0.0443	0.0295

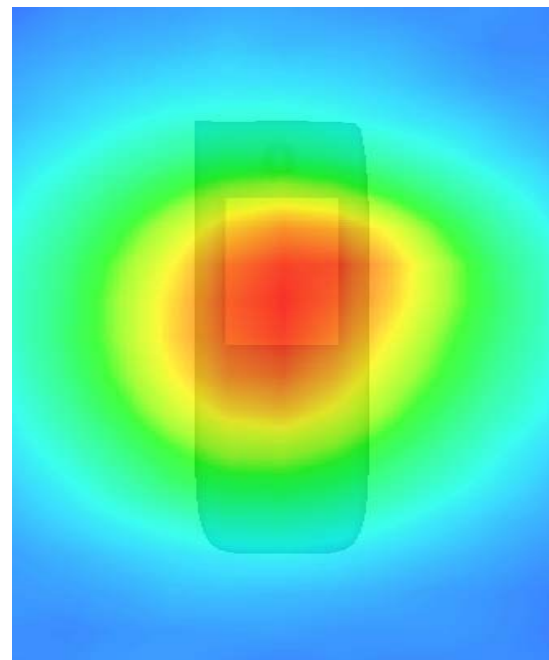
**SAR, Z Axis Scan (X = 0, Y = 8)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 5

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 0 seconds

### A. Experimental conditions.

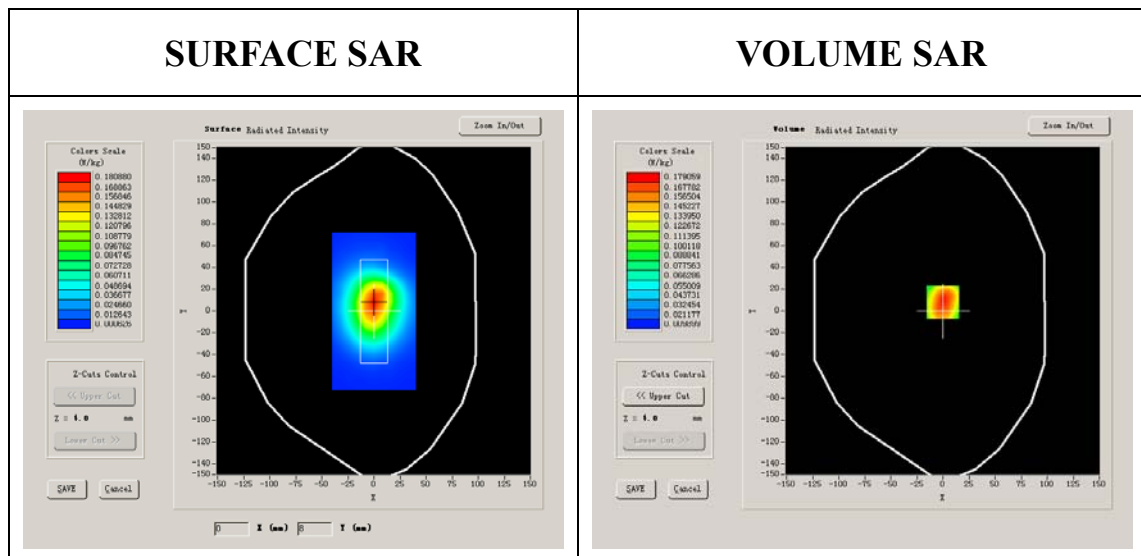
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM850
<b>Channels</b>	Middle
<b>Signal</b>	GSM

### B. SAR Measurement Results

Middle Band SAR (Channel 190):

<b>Frequency (MHz)</b>	836.599976
<b>Relative permittivity (real part)</b>	55.709999
<b>Relative permittivity</b>	21.709999

<b>Conductivity (S/m)</b>	1.009033
<b>Variation (%)</b>	-1.600000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:8



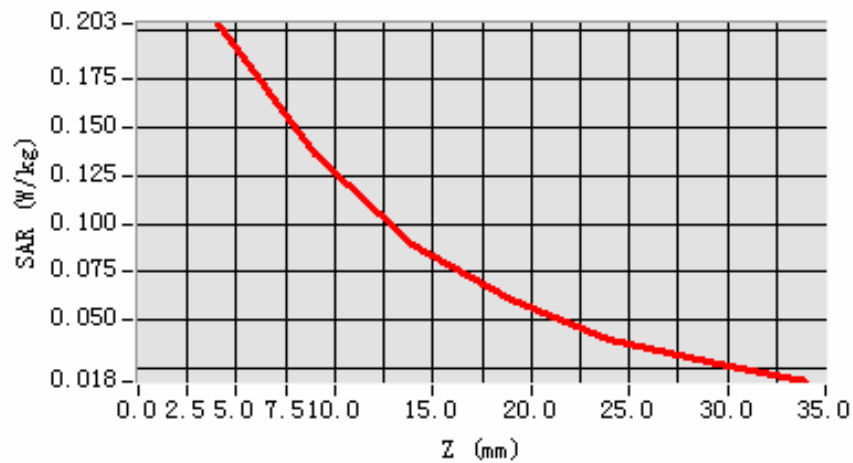
**Maximum location: X=0.00, Y=8.00**

<b>SAR 10g (W/Kg)</b>	0.120306
<b>SAR 1g (W/Kg)</b>	0.190713

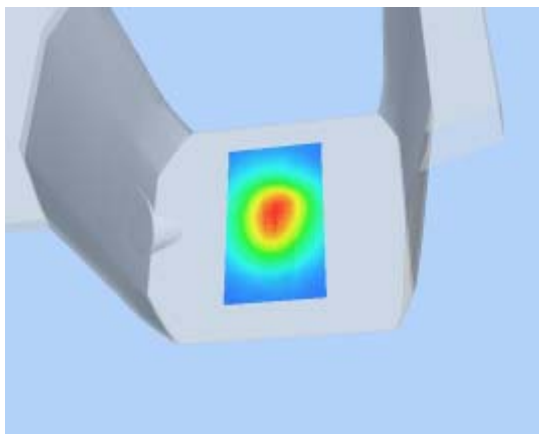
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2033	0.1365	0.0893	0.0605	0.0406	0.0285

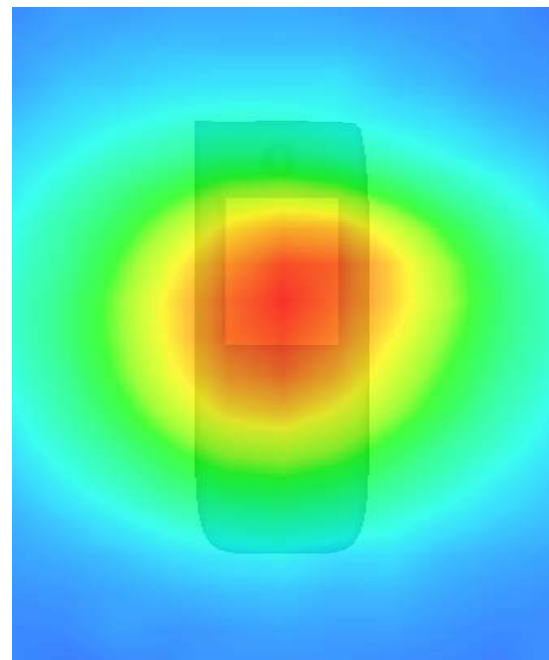
**SAR, Z Axis Scan (X = 0, Y = 8)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 6

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 12 minutes 58 seconds

### A. Experimental conditions.

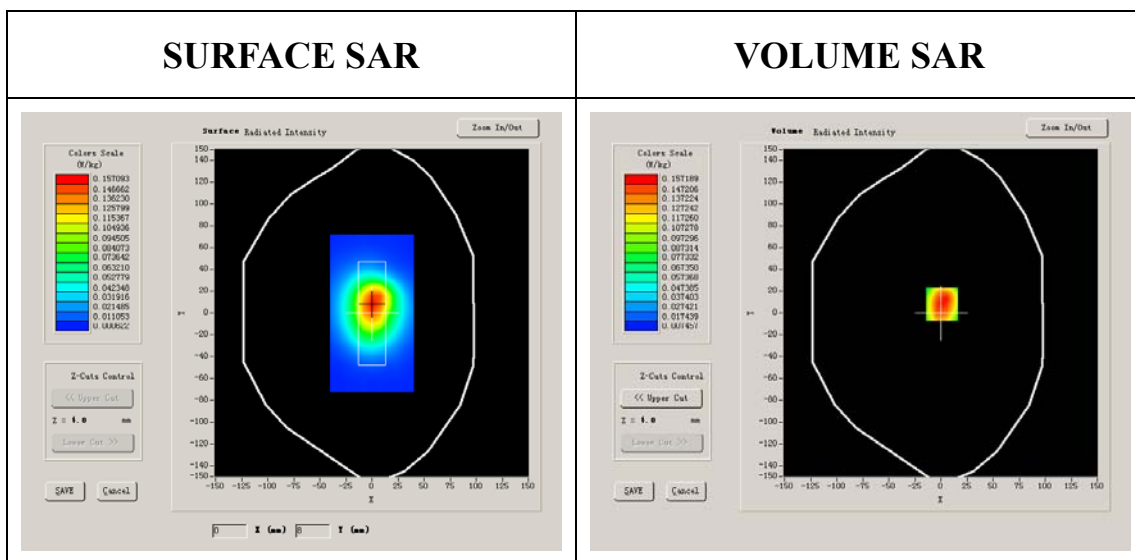
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM850
<b>Channels</b>	High
<b>Signal</b>	GSM

### B. SAR Measurement Results

Higher Band SAR (Channel 251):

<b>Frequency (MHz)</b>	848.799988
<b>Relative permittivity (real part)</b>	54.014999
<b>Relative permittivity</b>	21.332850

<b>Conductivity (S/m)</b>	1.005962
<b>Variation (%)</b>	0.110000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:8



**Maximum location: X=1.00, Y=8.00**

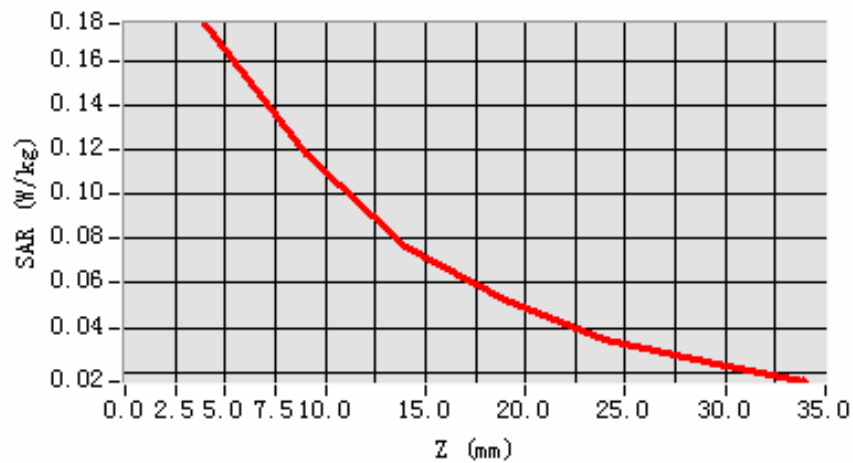
<b>SAR 10g (W/Kg)</b>	0.105221
<b>SAR 1g (W/Kg)</b>	0.166960



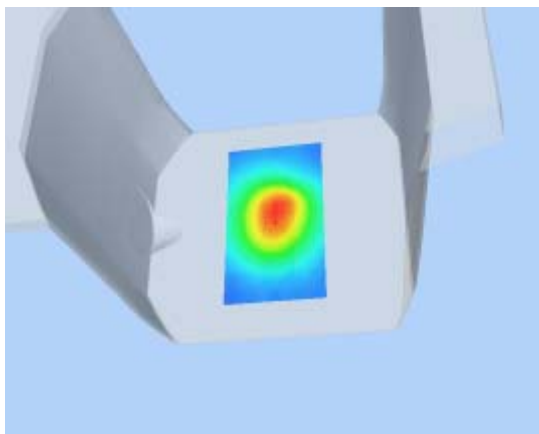
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1768	0.1178	0.0767	0.0524	0.0346	0.0246

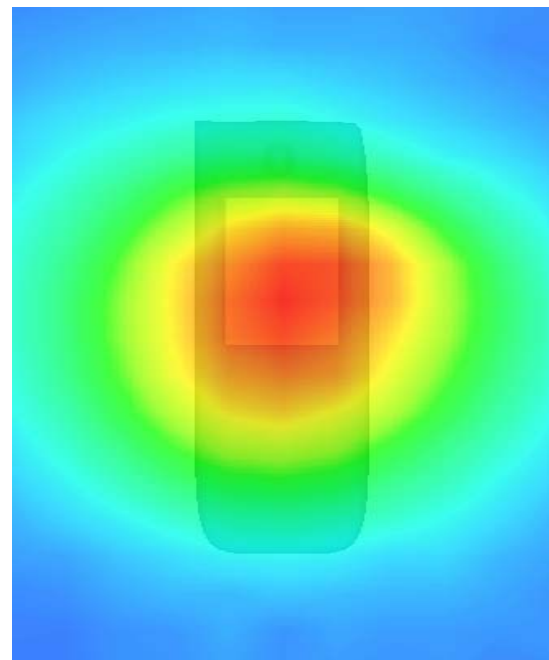
**SAR, Z Axis Scan (X = 1, Y = 8)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 7

Type: Phone measurement (Complete)

Area scan resolution:  $dx=8\text{mm}, dy=8\text{mm}$

Zoom scan resolution:  $dx=5\text{mm}, dy=5\text{mm}, dz=5\text{mm}$

Date of measurement: 31/8/2009

Measurement duration: 9 minutes 6 seconds

### A. Experimental conditions.

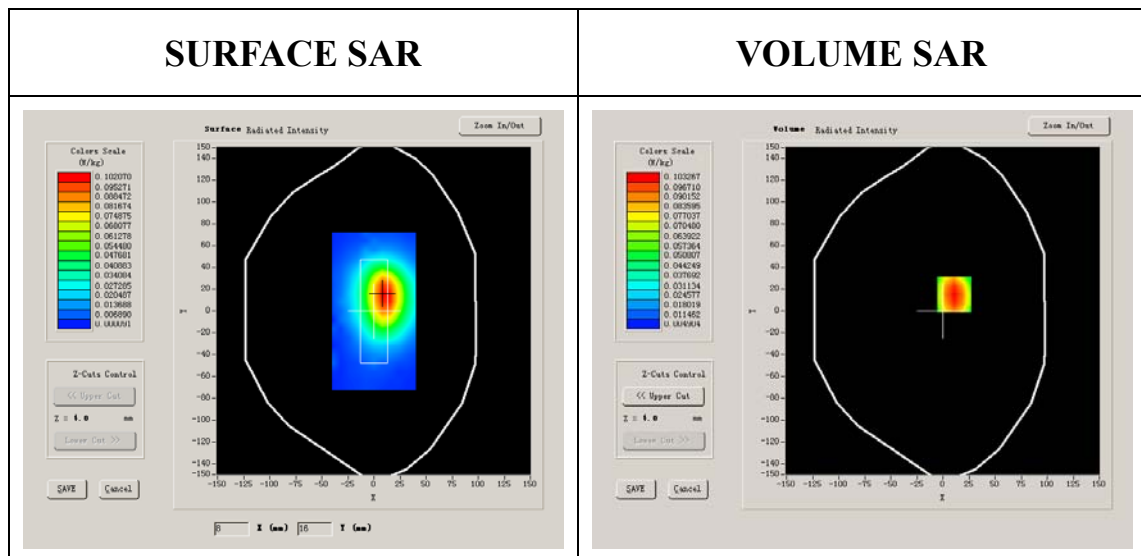
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Low
Signal	GSM

### B. SAR Measurement Results

Lower Band SAR (Channel 128):

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

<b>Conductivity (S/m)</b>	0.974596
<b>Variation (%)</b>	0.320000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:8

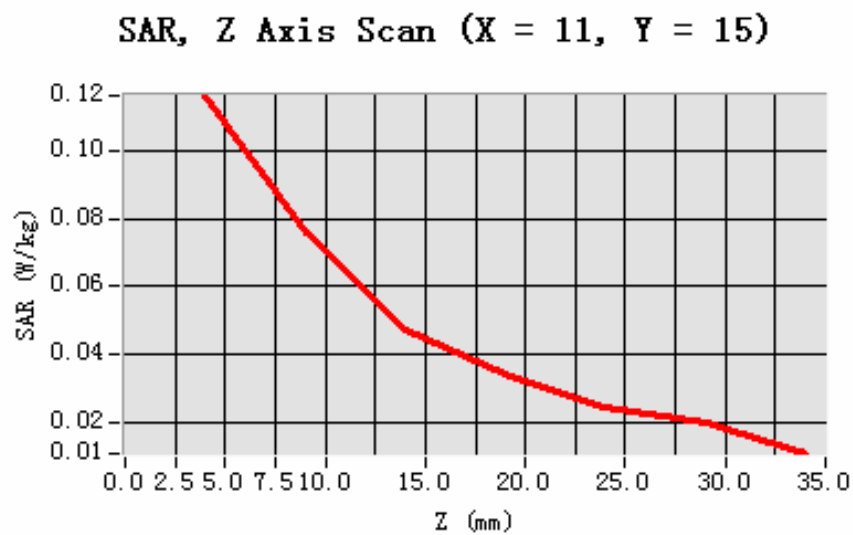


**Maximum location: X=11.00, Y=15.00**

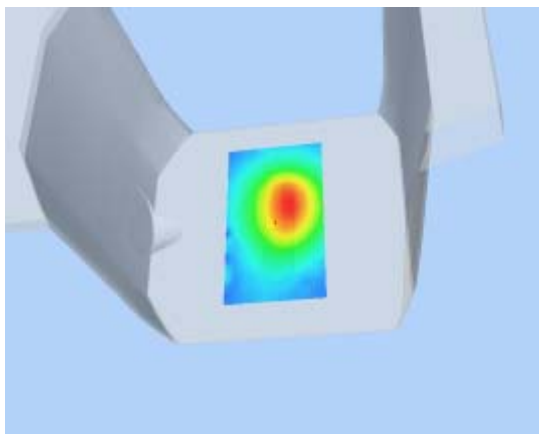
<b>SAR 10g (W/Kg)</b>	0.069200
<b>SAR 1g (W/Kg)</b>	0.111133

### Z Axis Scan

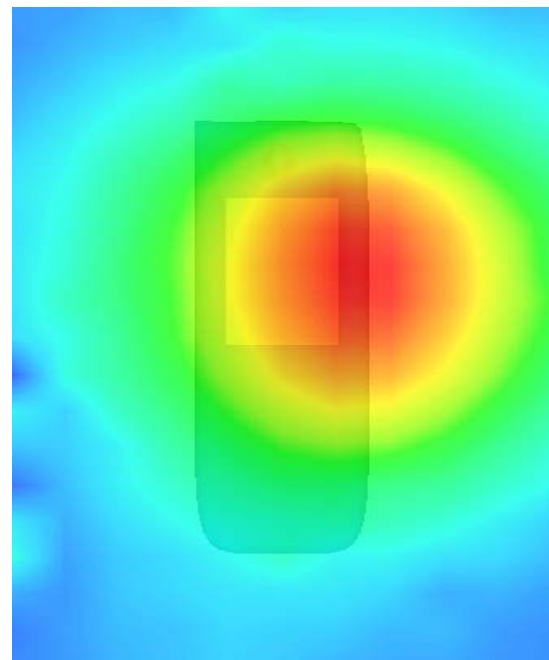
Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1161	0.0756	0.0471	0.0344	0.0245	0.0197



**3D scene shot**



**Hot spot position**



## MEASUREMENT 8

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 9 seconds

### A. Experimental conditions.

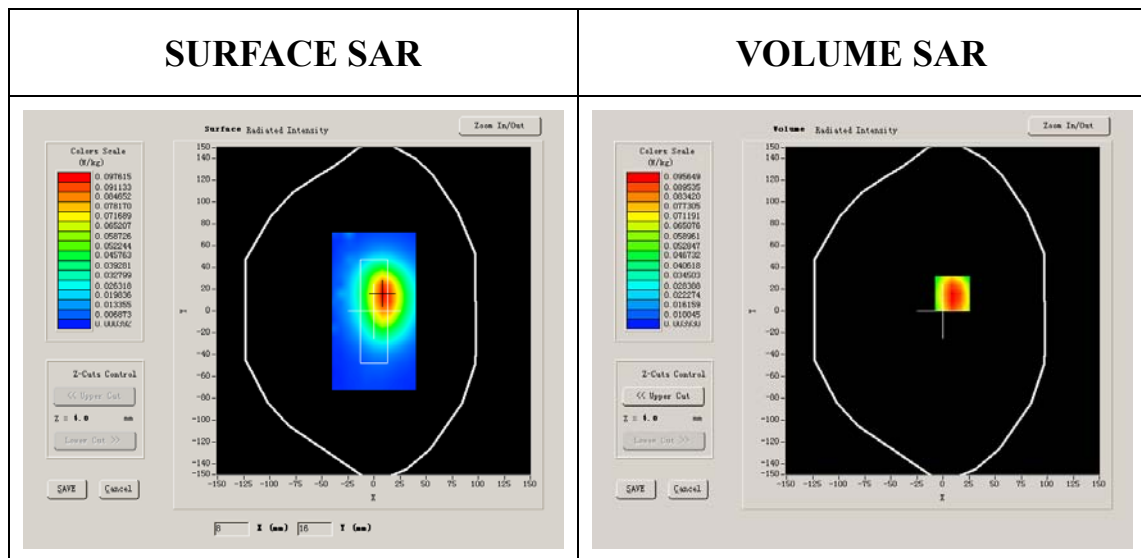
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM850
<b>Channels</b>	Middle
<b>Signal</b>	GSM

### B. SAR Measurement Results

Middle Band SAR (Channel 190):

<b>Frequency (MHz)</b>	836.599976
<b>Relative permittivity (real part)</b>	55.709999
<b>Relative permittivity</b>	21.709999

<b>Conductivity (S/m)</b>	1.009033
<b>Variation (%)</b>	-1.300000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:8



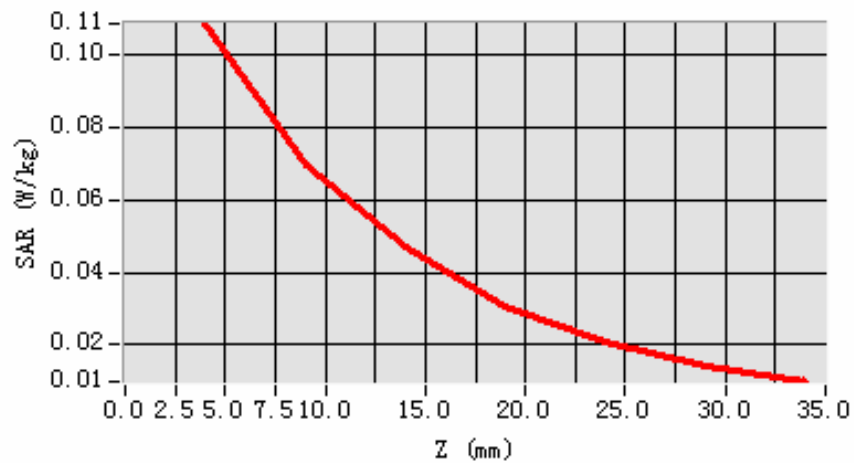
**Maximum location: X=9.00, Y=16.00**

<b>SAR 10g (W/Kg)</b>	0.065463
<b>SAR 1g (W/Kg)</b>	0.104822

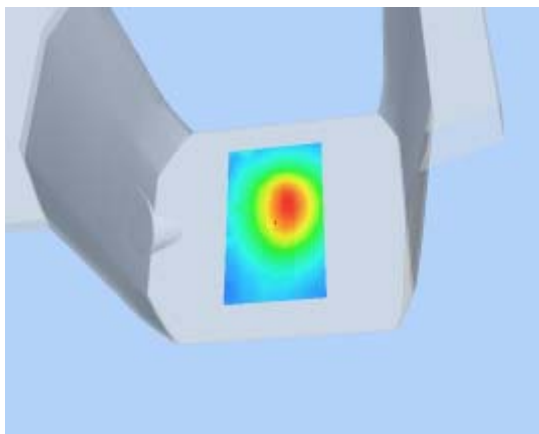
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1086	0.0697	0.0471	0.0306	0.0206	0.0143

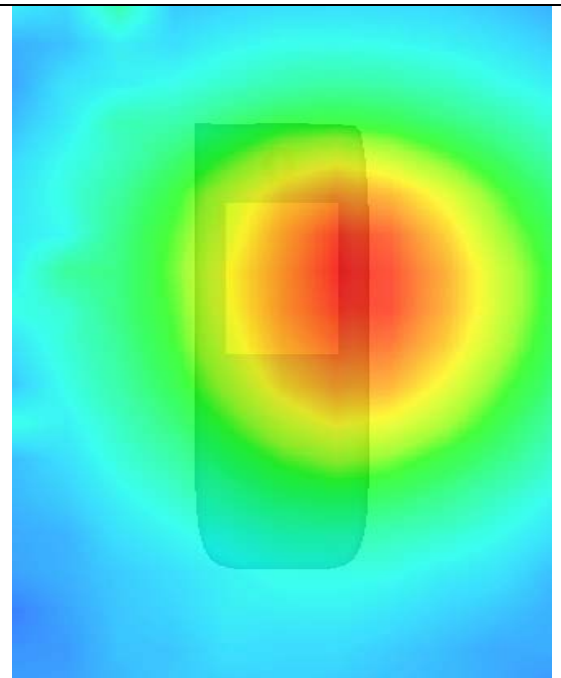
**SAR, Z Axis Scan (X = 9, Y = 16)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 9

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

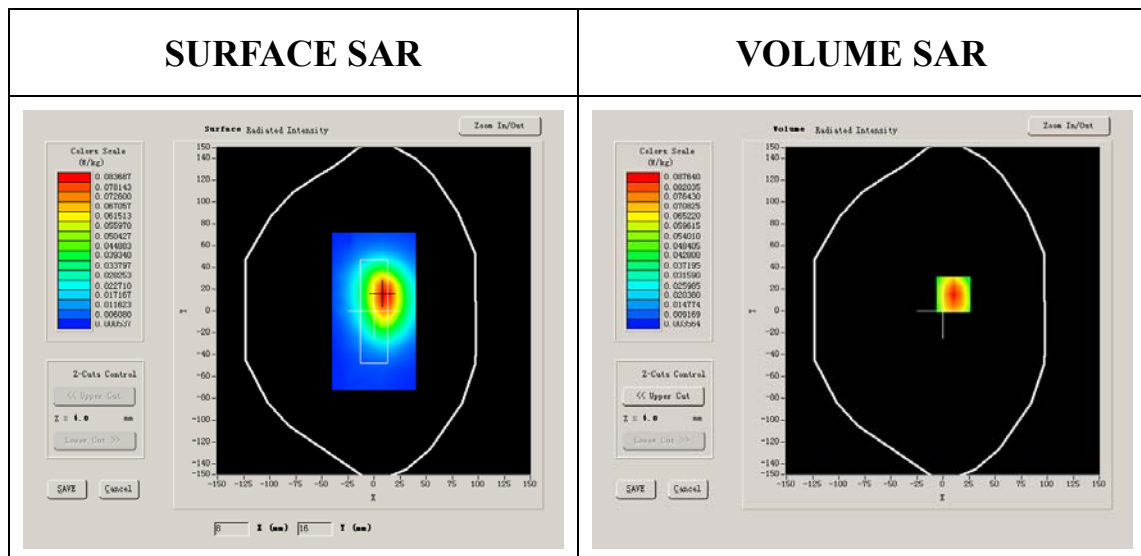
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM850
<b>Channels</b>	High
<b>Signal</b>	GSM

### B. SAR Measurement Results

Higher Band SAR (Channel 251):

<b>Frequency (MHz)</b>	848.799988
<b>Relative permittivity (real part)</b>	54.014999
<b>Relative permittivity</b>	21.332850

<b>Conductivity (S/m)</b>	1.005962
<b>Variation (%)</b>	-0.050000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:8

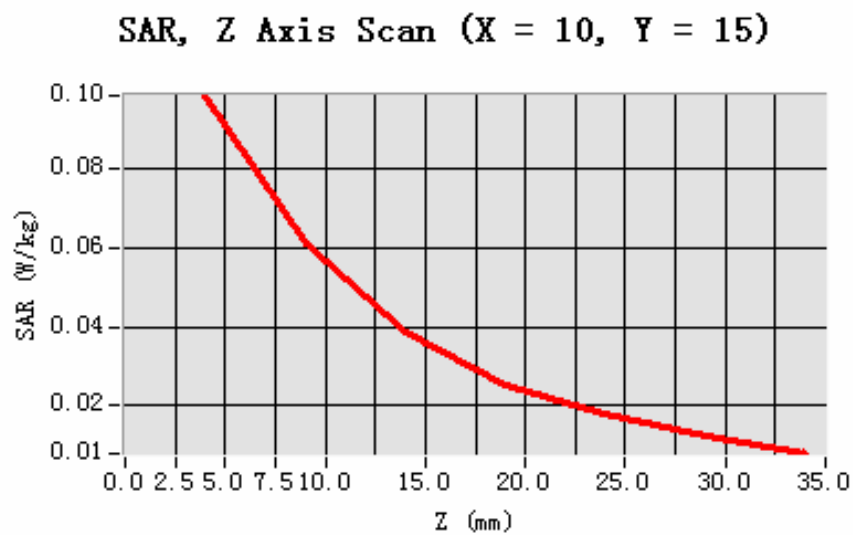


**Maximum location: X=10.00, Y=15.00**

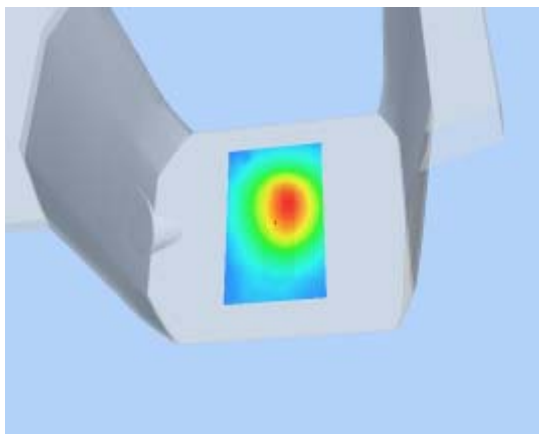
<b>SAR 10g (W/Kg)</b>	0.056451
<b>SAR 1g (W/Kg)</b>	0.092975

### Z Axis Scan

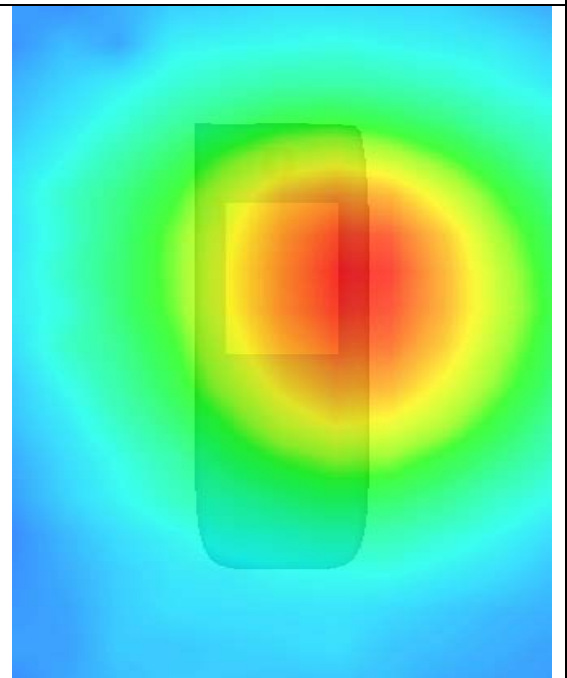
Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.0986	0.0611	0.0387	0.0253	0.0176	0.0123



**3D scene shot**



**Hot spot position**



## MEASUREMENT 10

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 9 minutes 8 seconds

### A. Experimental conditions.

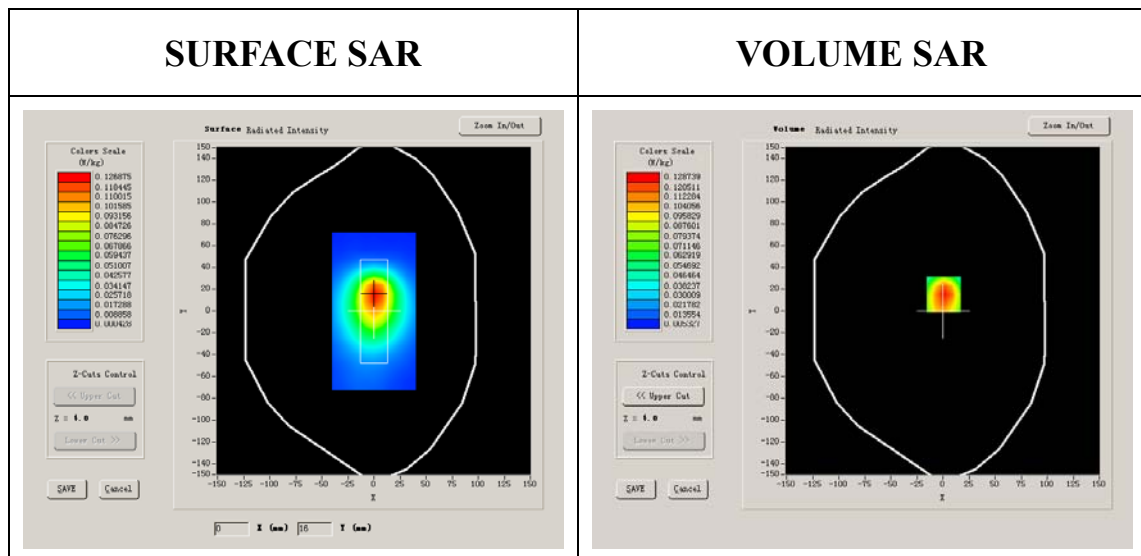
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM850
<b>Channels</b>	Low
<b>Signal</b>	GSM

### B. SAR Measurement Results

Lower Band SAR (Channel 128):

<b>Frequency (MHz)</b>	824.200012
<b>Relative permittivity (real part)</b>	54.116001
<b>Relative permittivity</b>	21.284550

<b>Conductivity (S/m)</b>	0.974596
<b>Variation (%)</b>	0.140000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:8



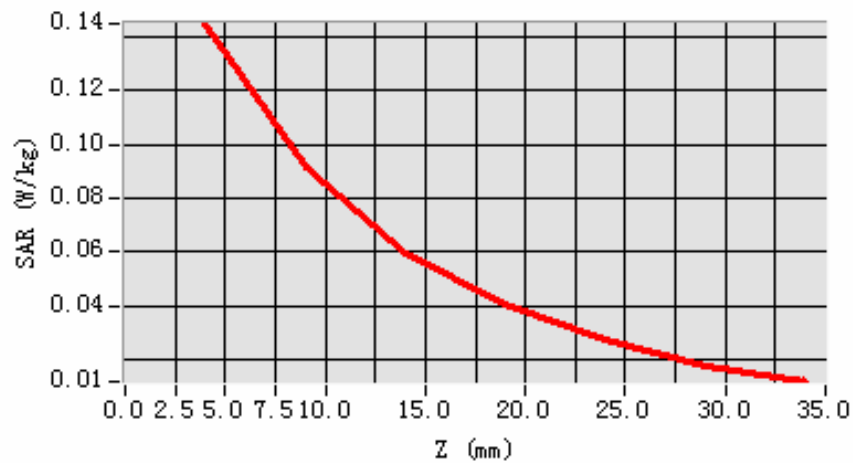
**Maximum location: X=1.00, Y=15.00**

<b>SAR 10g (W/Kg)</b>	0.084958
<b>SAR 1g (W/Kg)</b>	0.138249

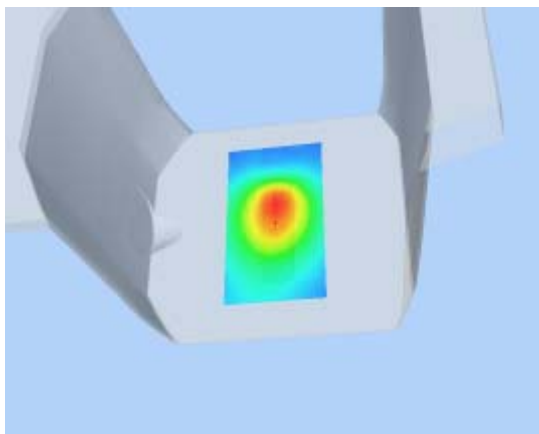
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1448	0.0917	0.0598	0.0406	0.0273	0.0173

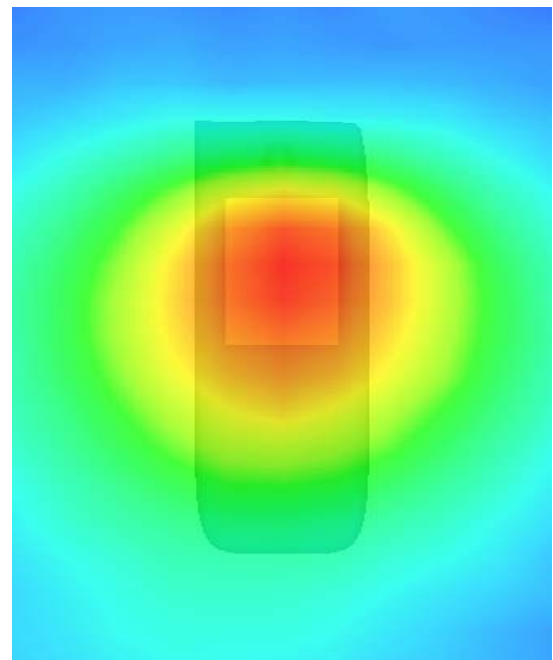
**SAR, Z Axis Scan (X = 1, Y = 15)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 11

Type: Phone measurement (Complete)

Area scan resolution:  $dx=8\text{mm}, dy=8\text{mm}$

Zoom scan resolution:  $dx=5\text{mm}, dy=5\text{mm}, dz=5\text{mm}$

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM850
<b>Channels</b>	Middle
<b>Signal</b>	GSM

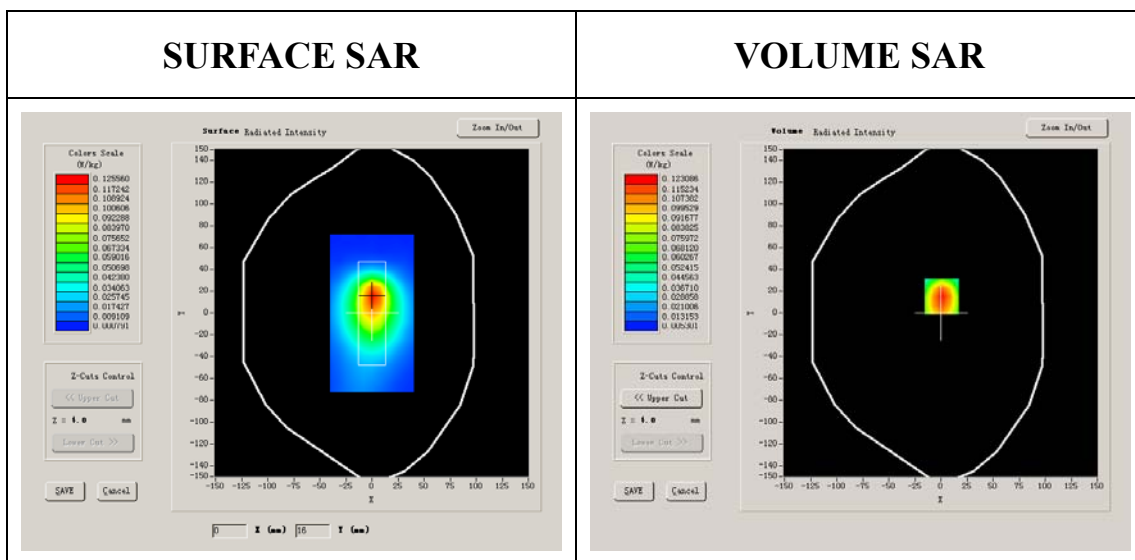
### C. SAR Measurement Results

Middle Band SAR (Channel 190):

<b>Frequency (MHz)</b>	836.599976
<b>Relative permittivity (real part)</b>	55.709999
<b>Relative permittivity</b>	21.709999



<b>Conductivity (S/m)</b>	1.009033
<b>Variation (%)</b>	-0.880000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:8



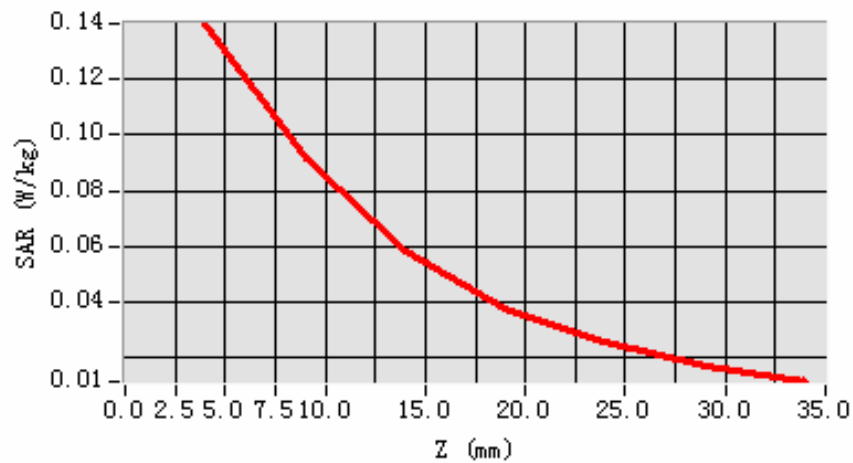
**Maximum location: X=1.00, Y=15.00**

<b>SAR 10g (W/Kg)</b>	0.080798
<b>SAR 1g (W/Kg)</b>	0.131472

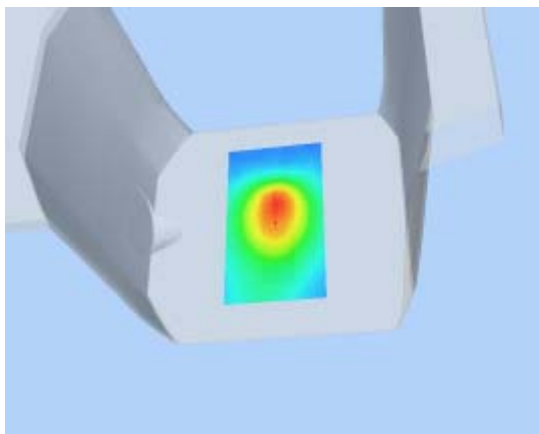
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1398	0.0914	0.0586	0.0377	0.0258	0.0172

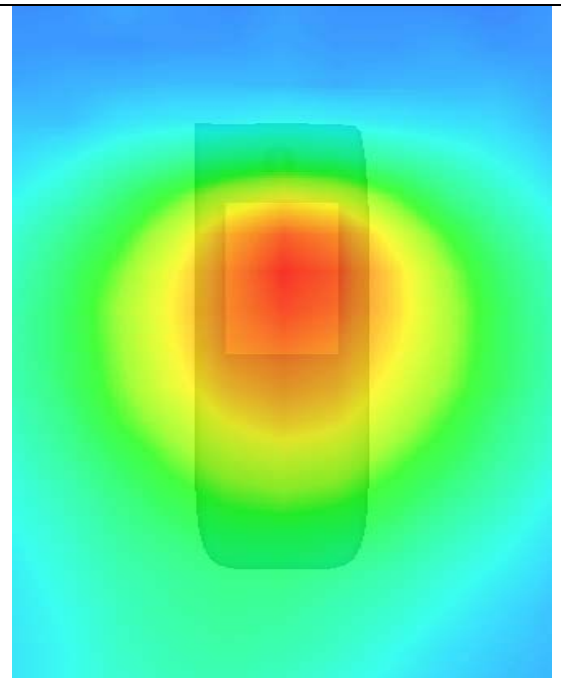
**SAR, Z Axis Scan (X = 1, Y = 15)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 12

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 6 seconds

### A. Experimental conditions.

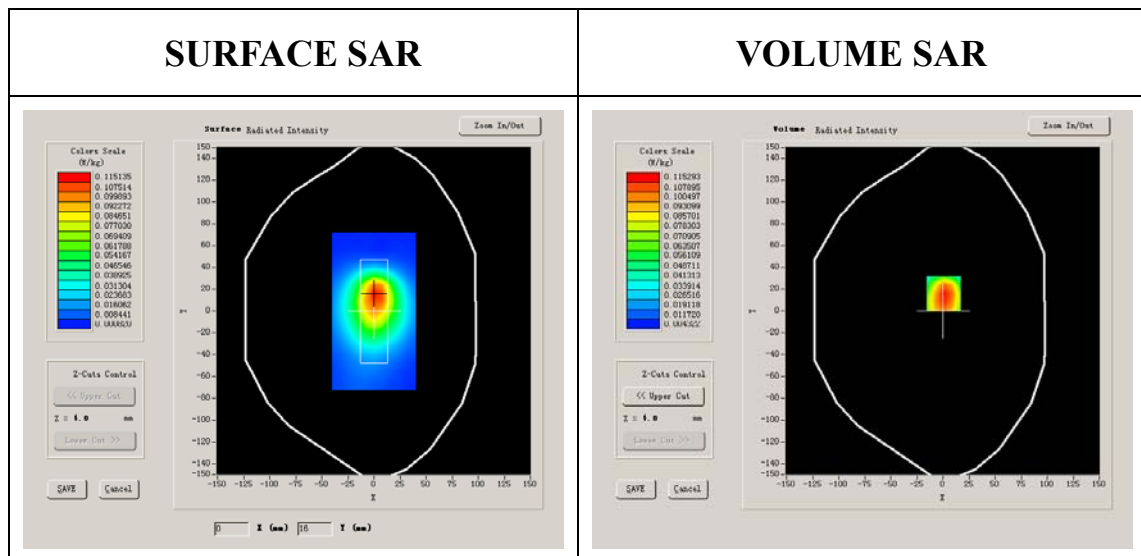
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM850
<b>Channels</b>	High
<b>Signal</b>	GSM

### B. SAR Measurement Results

Higher Band SAR (Channel 251):

<b>Frequency (MHz)</b>	848.799988
<b>Relative permittivity (real part)</b>	54.014999
<b>Relative permittivity</b>	21.332850

<b>Conductivity (S/m)</b>	1.005962
<b>Variation (%)</b>	0.560000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:8



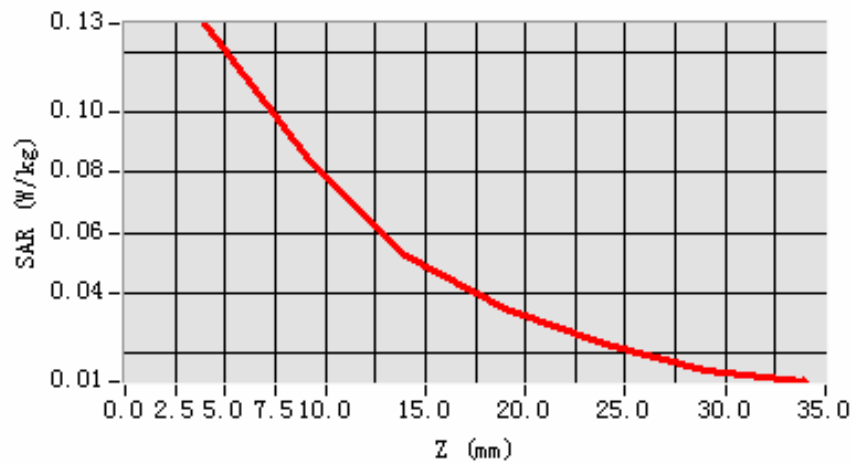
**Maximum location: X=1.00, Y=16.00**

<b>SAR 10g (W/Kg)</b>	0.074560
<b>SAR 1g (W/Kg)</b>	0.122799

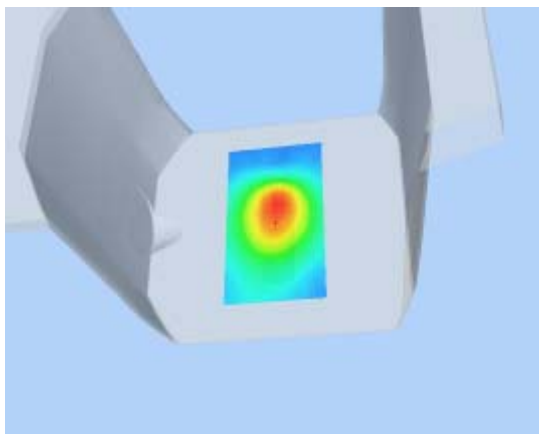
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1297	0.0854	0.0527	0.0345	0.0227	0.0145

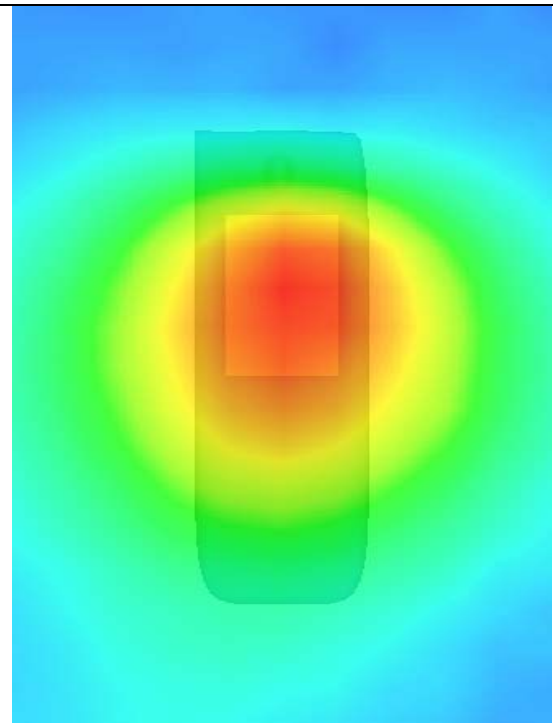
**SAR, Z Axis Scan (X = 1, Y = 16)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 13

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 9 minutes 7 seconds

### A. Experimental conditions.

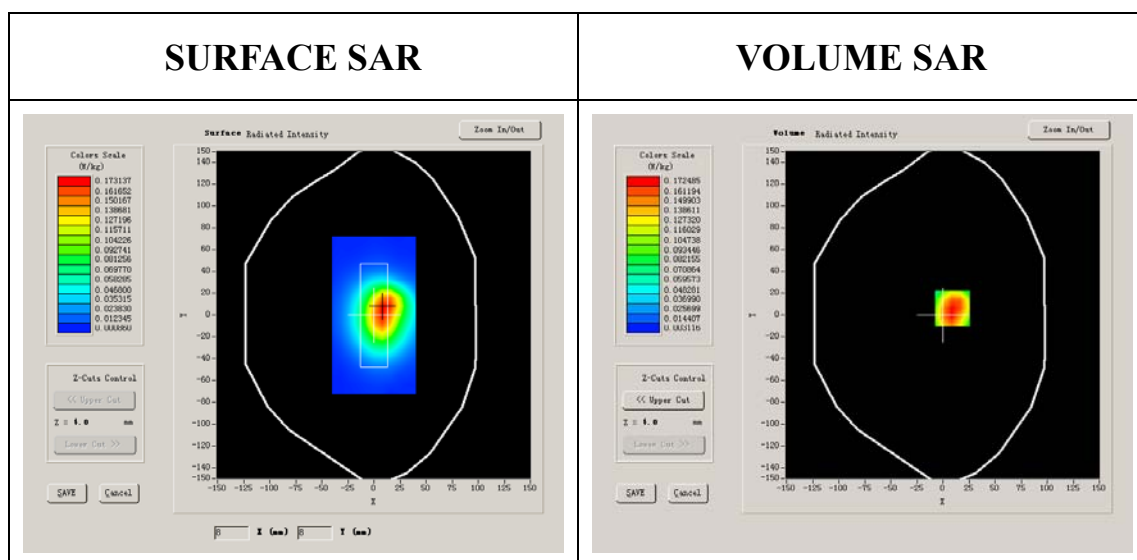
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM850
<b>Channels</b>	Low
<b>Signal</b>	GRPS

### B. SAR Measurement Results

Lower Band SAR (Channel 128):

<b>Frequency (MHz)</b>	824.200012
<b>Relative permittivity (real part)</b>	54.116001
<b>Relative permittivity</b>	21.284550

<b>Conductivity (S/m)</b>	0.974596
<b>Variation (%)</b>	-0.350000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:2



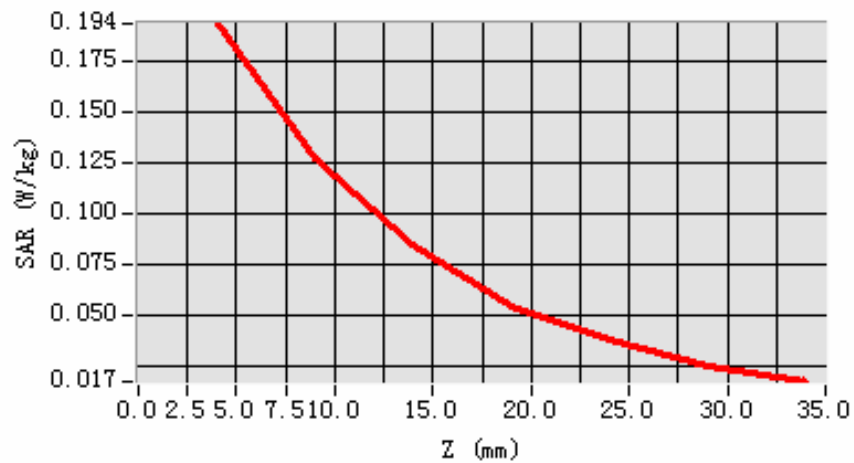
**Maximum location: X=9.00, Y=6.00**

<b>SAR 10g (W/Kg)</b>	0.185776
<b>SAR 1g (W/Kg)</b>	0.384373

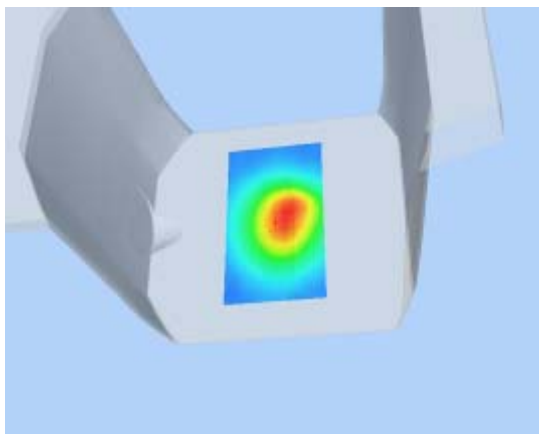
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1940	0.1275	0.0846	0.0549	0.0382	0.0252

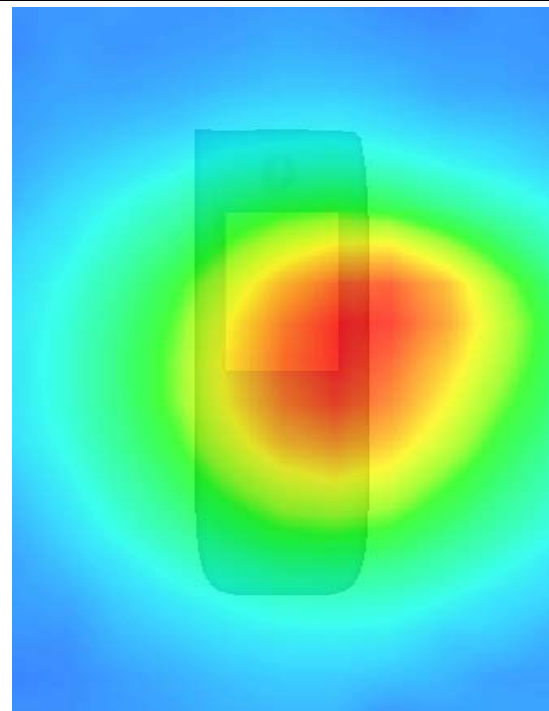
**SAR, Z Axis Scan (X = 9, Y = 6)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 14

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 9 minutes 7 seconds

### A. Experimental conditions.

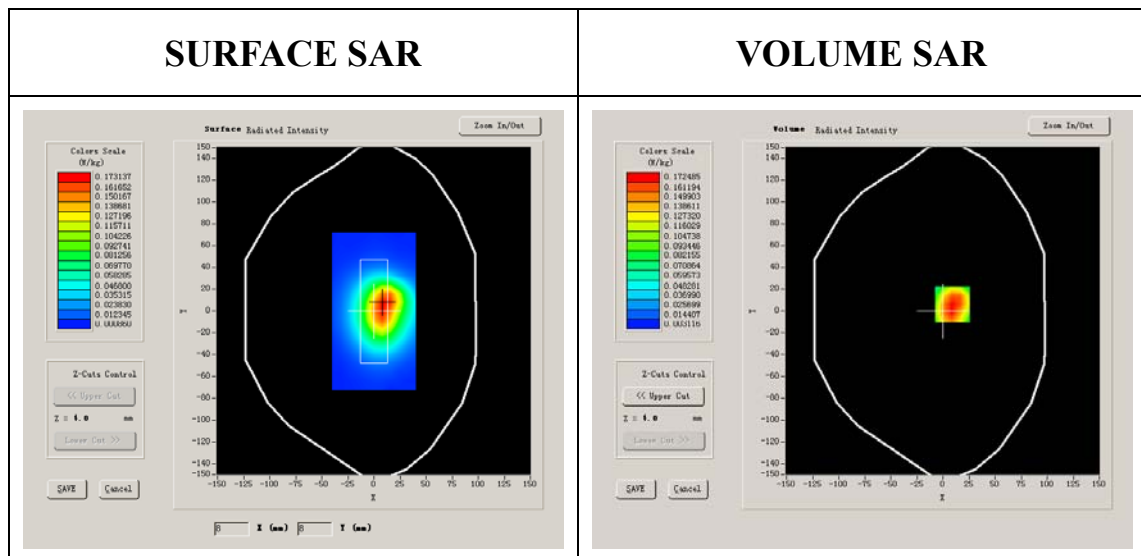
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM850
<b>Channels</b>	Low
<b>Signal</b>	EDGE

### B. SAR Measurement Results

Lower Band SAR (Channel 128):

<b>Frequency (MHz)</b>	824.200012
<b>Relative permittivity (real part)</b>	54.116001
<b>Relative permittivity</b>	21.284550

<b>Conductivity (S/m)</b>	0.974596
<b>Variation (%)</b>	-0.350000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:2



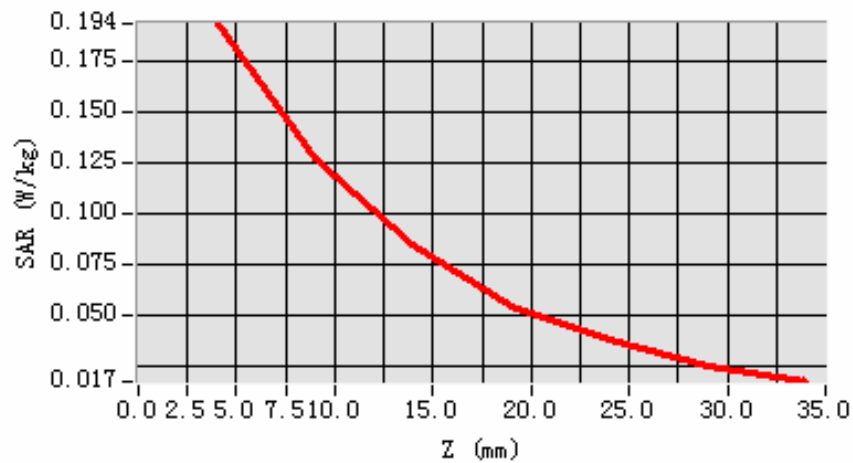
**Maximum location: X=9.00, Y=6.00**

<b>SAR 10g (W/Kg)</b>	0.253755
<b>SAR 1g (W/Kg)</b>	0.406745

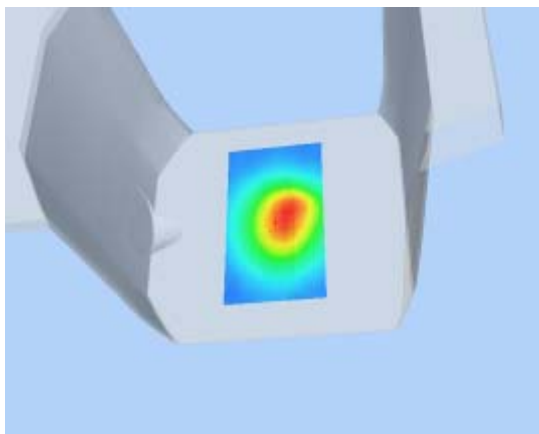
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1940	0.1275	0.0846	0.0549	0.0382	0.0252

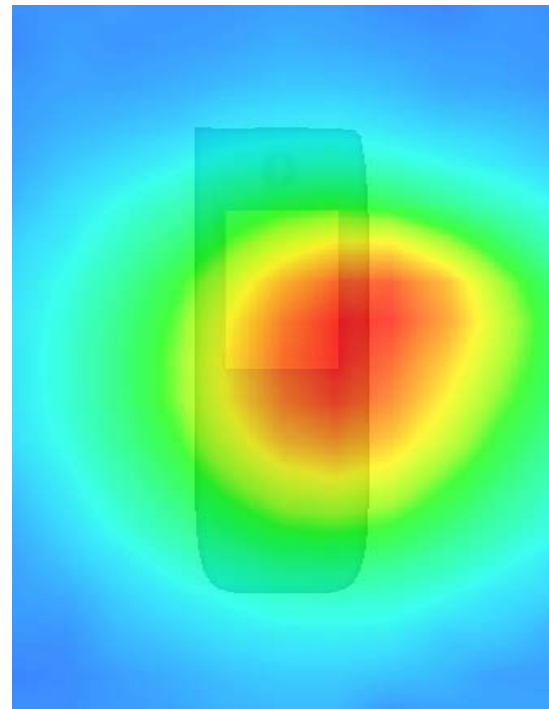
**SAR, Z Axis Scan (X = 9, Y = 6)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 15

Type: Phone measurement (Complete)

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

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

Date of measurement: 27/9/2009

Measurement duration: 9 minutes 9 seconds

### A. Experimental conditions.

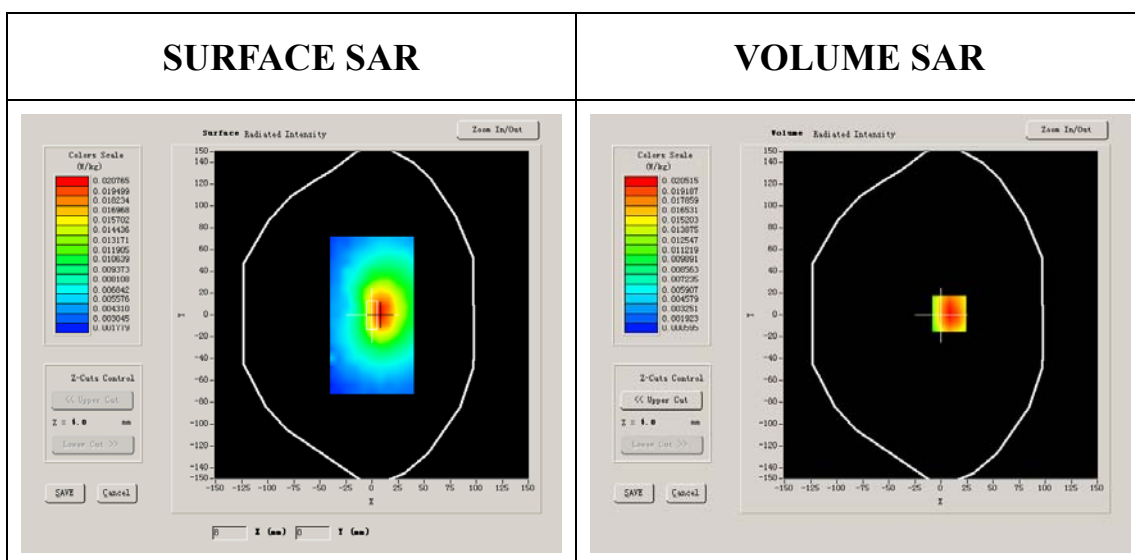
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM850
<b>Channels</b>	Low
<b>Signal</b>	GSM

### B. SAR Measurement Results

Lower Band SAR (Channel 128):

<b>Frequency (MHz)</b>	824.200012
<b>Relative permittivity (real part)</b>	54.116001
<b>Relative permittivity</b>	21.284550

<b>Conductivity (S/m)</b>	0.974596
<b>Variation (%)</b>	0.650000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:8



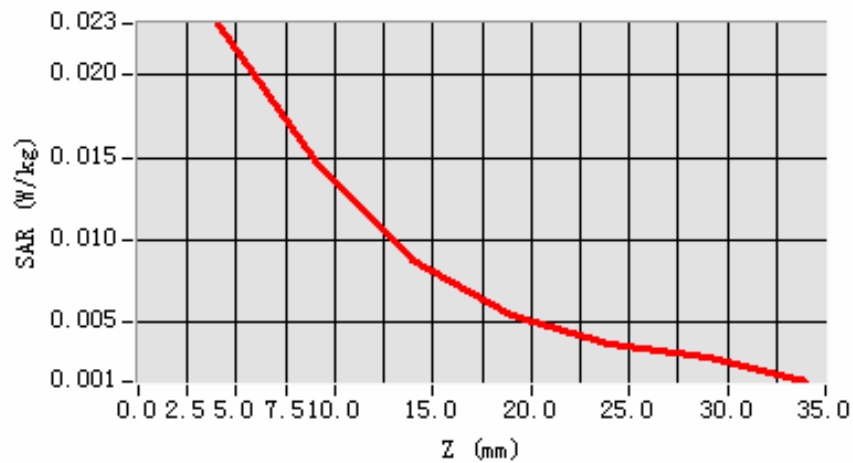
**Maximum location: X=8.00, Y=1.00**

<b>SAR 10g (W/Kg)</b>	0.013895
<b>SAR 1g (W/Kg)</b>	0.021907

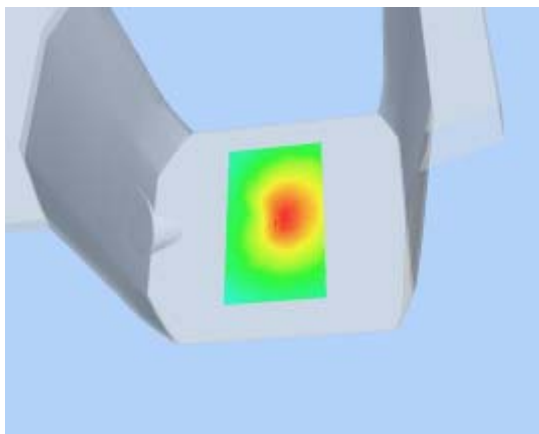
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.0231	0.0148	0.0088	0.0054	0.0037	0.0029

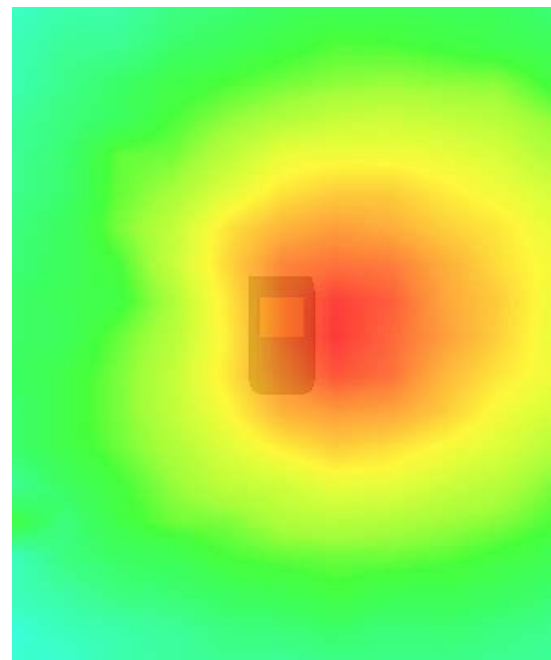
**SAR, Z Axis Scan (X = 8, Y = 1)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 16

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 9 seconds

### A. Experimental conditions.

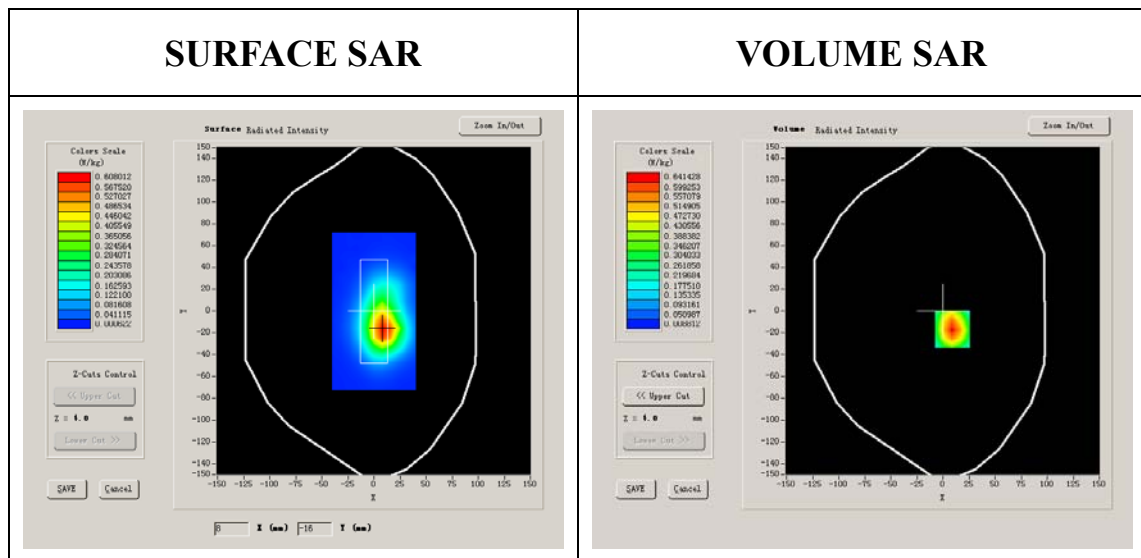
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM1900
<b>Channels</b>	Low
<b>Signal</b>	GSM

### B. SAR Measurement Results

Lower Band SAR (Channel 512):

<b>Frequency (MHz)</b>	1850.199951
<b>Relative permittivity (real part)</b>	51.540001
<b>Relative permittivity</b>	12.000000

<b>Conductivity (S/m)</b>	1.433467
<b>Variation (%)</b>	1.250000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:8



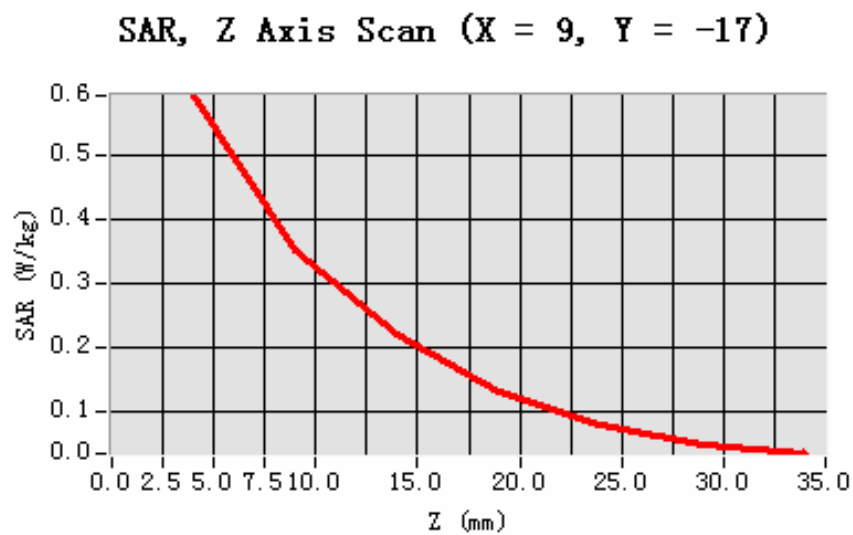
**Maximum location: X=9.00, Y=-17.00**

<b>SAR 10g (W/Kg)</b>	0.310525
<b>SAR 1g (W/Kg)</b>	0.552438

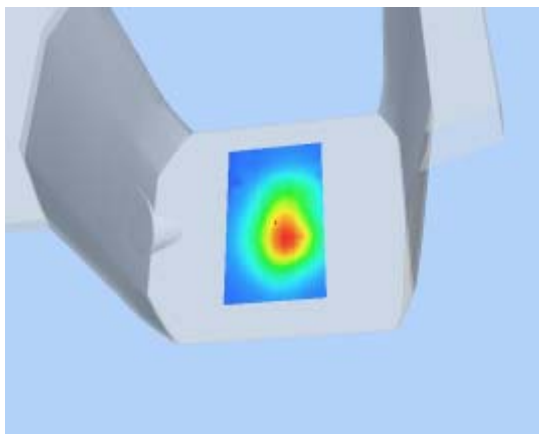


### Z Axis Scan

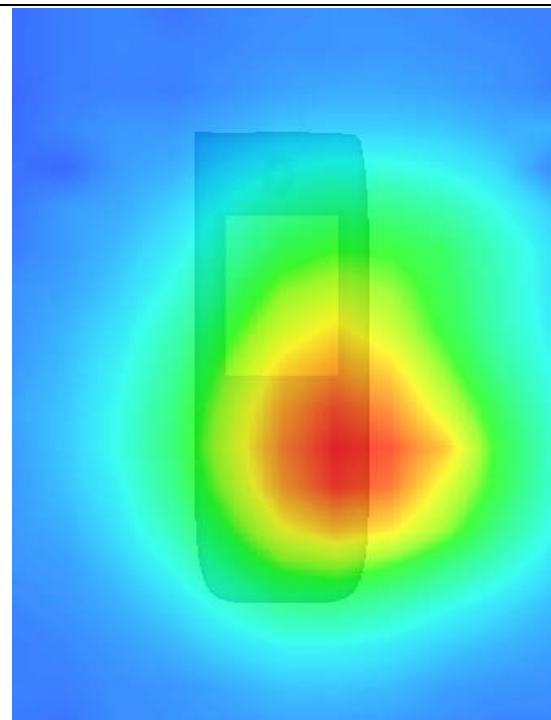
Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.5925	0.3520	0.2192	0.1298	0.0779	0.0481



**3D scene shot**



**Hot spot position**



## MEASUREMENT 17

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 15 seconds

### A. Experimental conditions.

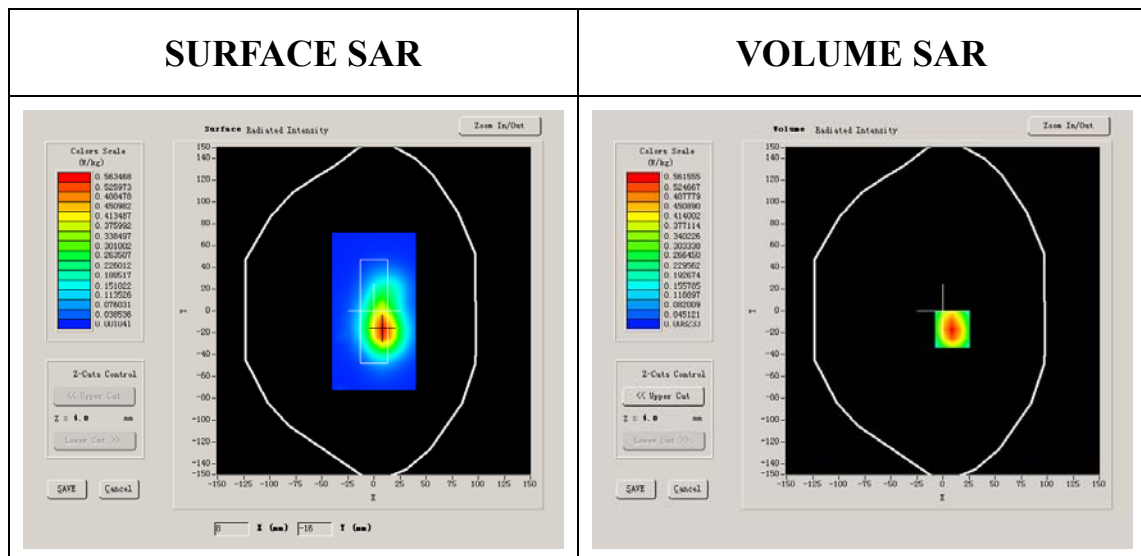
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM1900
<b>Channels</b>	Middle
<b>Signal</b>	GSM

### B. SAR Measurement Results

Middle Band SAR (Channel 661):

<b>Frequency (MHz)</b>	1880.000000
<b>Relative permittivity (real part)</b>	51.540001
<b>Relative permittivity</b>	15.070000

<b>Conductivity (S/m)</b>	1.473978
<b>Variation (%)</b>	3.250000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:8



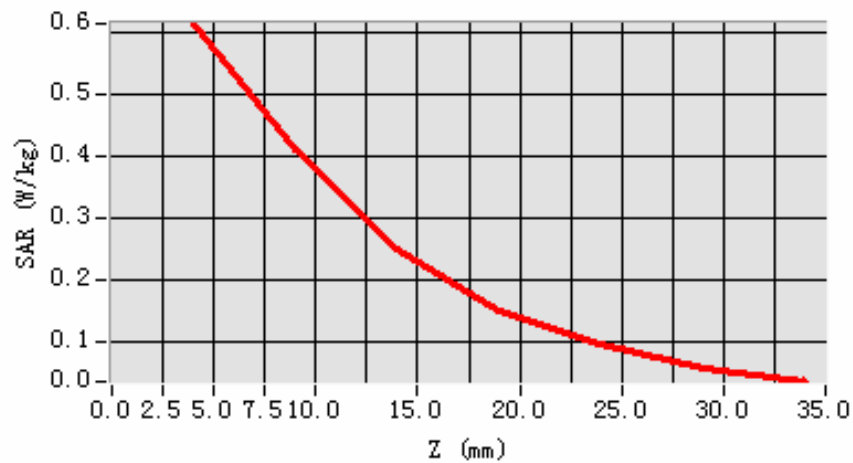
**Maximum location: X=9.00, Y=-17.00**

<b>SAR 10g (W/Kg)</b>	0.332881
<b>SAR 1g (W/Kg)</b>	0.571057

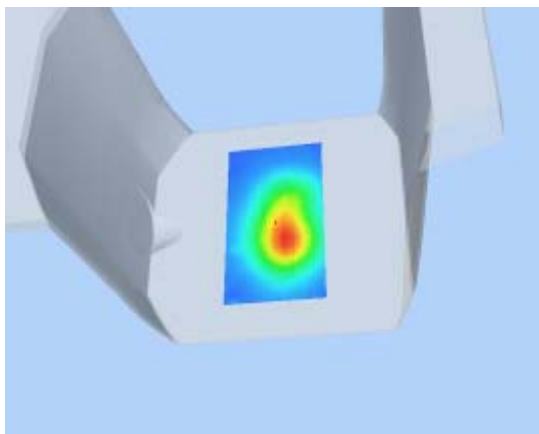
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.6155	0.4094	0.2506	0.1504	0.0936	0.0550

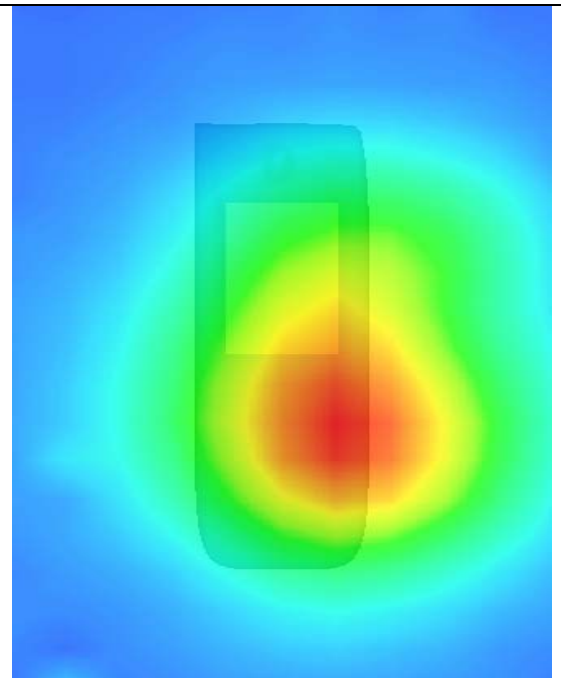
SAR, Z Axis Scan (X = 9, Y = -17)



3D scene shot



Hot spot position



## MEASUREMENT 18

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 4 seconds

### A. Experimental conditions.

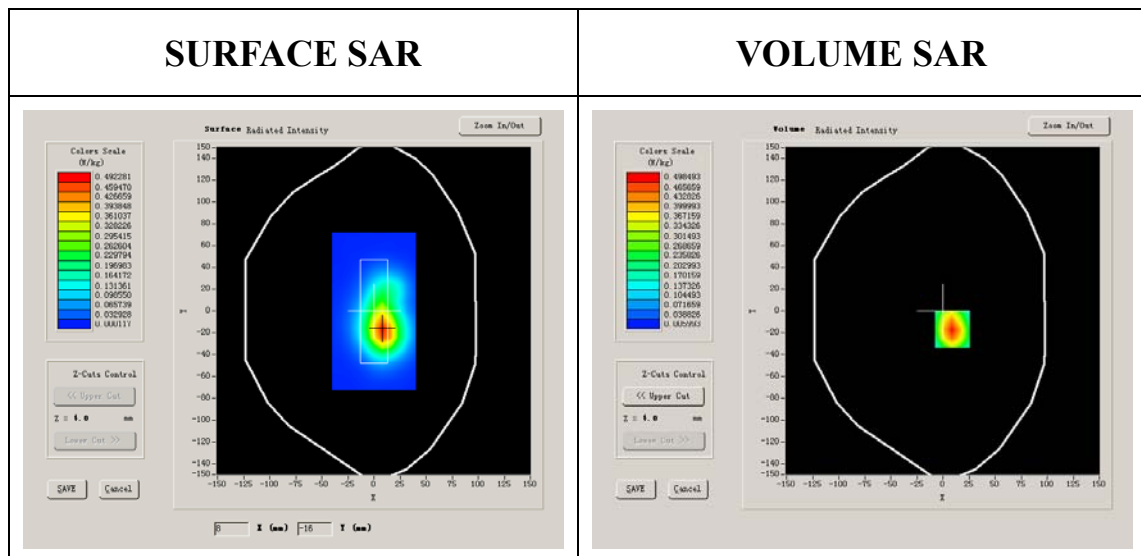
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM1900
<b>Channels</b>	High
<b>Signal</b>	GSM

### B. SAR Measurement Results

Higher Band SAR (Channel 810):

<b>Frequency (MHz)</b>	1909.800049
<b>Relative permittivity (real part)</b>	10.000000
<b>Relative permittivity</b>	12.000000

<b>Conductivity (S/m)</b>	1.373200
<b>Variation (%)</b>	-1.480000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:8



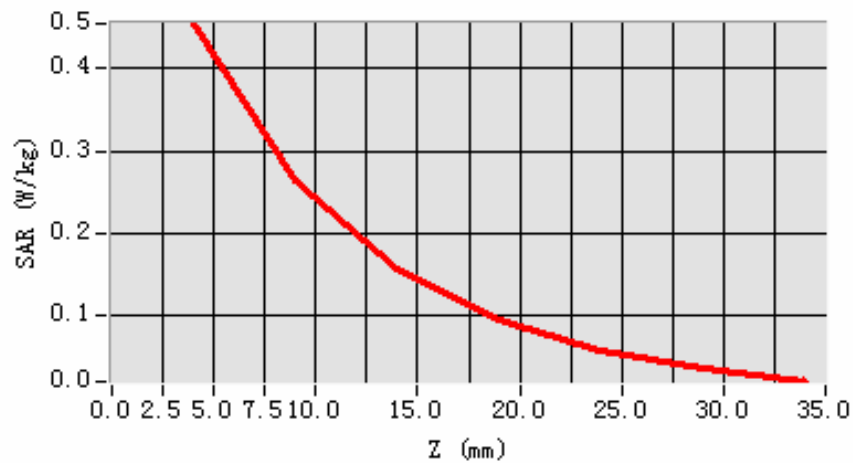
**Maximum location: X=9.00, Y=-17.00**

<b>SAR 10g (W/Kg)</b>	0.234053
<b>SAR 1g (W/Kg)</b>	0.422938

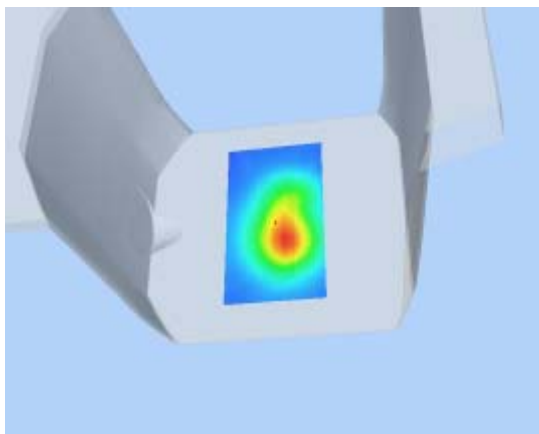
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.4547	0.2645	0.1582	0.0956	0.0567	0.0351

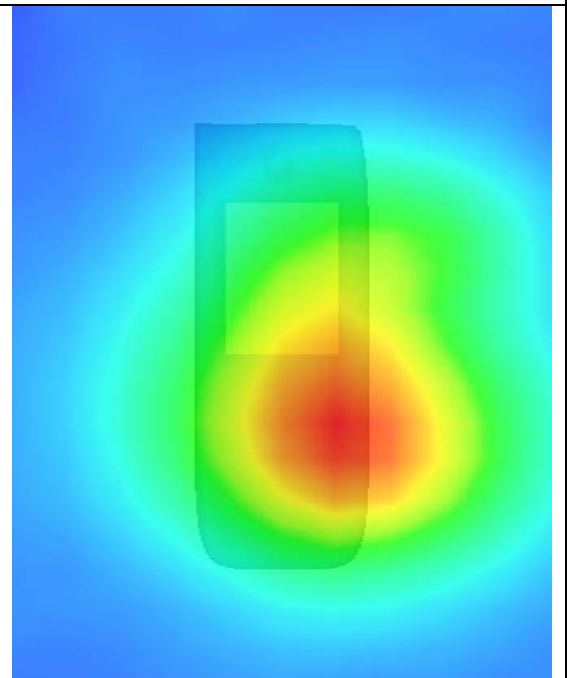
SAR, Z Axis Scan (X = 9, Y = -17)



3D scene shot



Hot spot position



## MEASUREMENT 19

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 3 seconds

### A. Experimental conditions.

<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM1900
<b>Channels</b>	Low
<b>Signal</b>	GSM

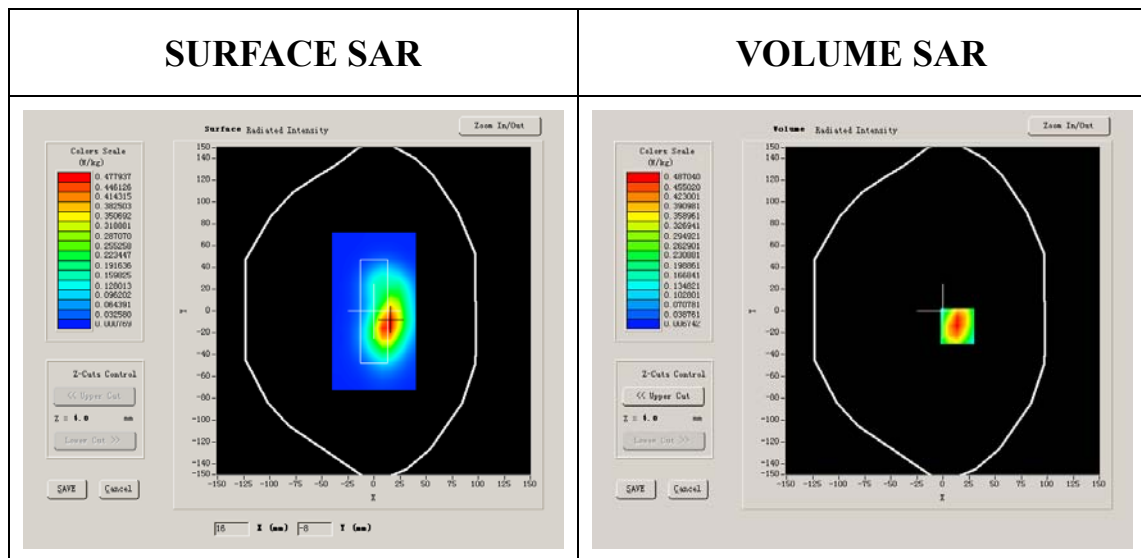
### B. SAR Measurement Results

Lower Band SAR (Channel 512):

<b>Frequency (MHz)</b>	1850.199951
<b>Relative permittivity (real part)</b>	51.540001
<b>Relative permittivity</b>	12.000000



<b>Conductivity (S/m)</b>	1.333467
<b>Variation (%)</b>	-0.340000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:8



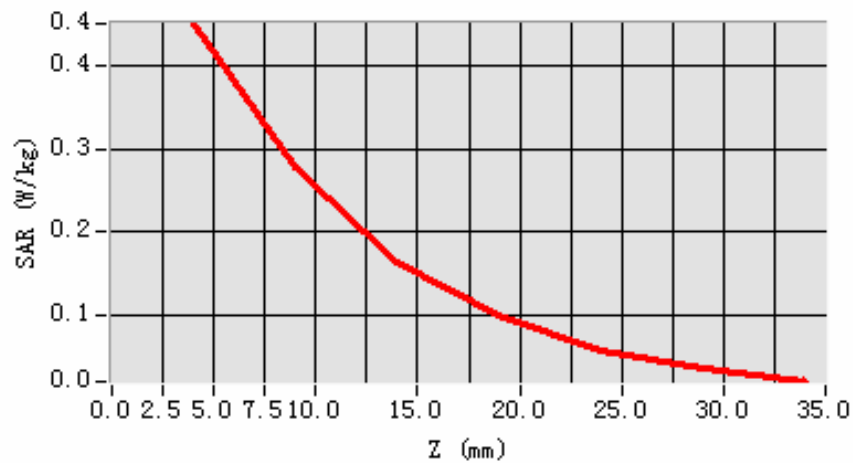
**Maximum location: X=14.00, Y=-14.00**

<b>SAR 10g (W/Kg)</b>	0.236478
<b>SAR 1g (W/Kg)</b>	0.421707

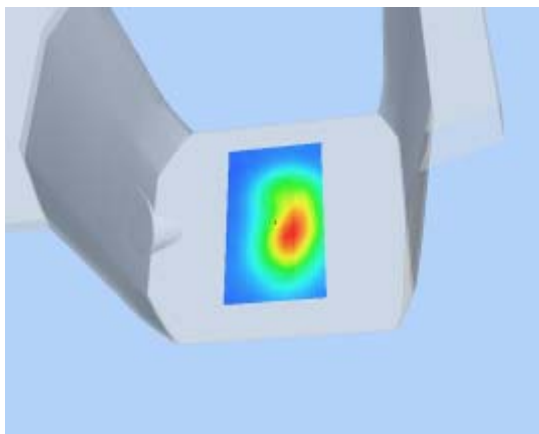
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.4499	0.2768	0.1644	0.0990	0.0572	0.0361

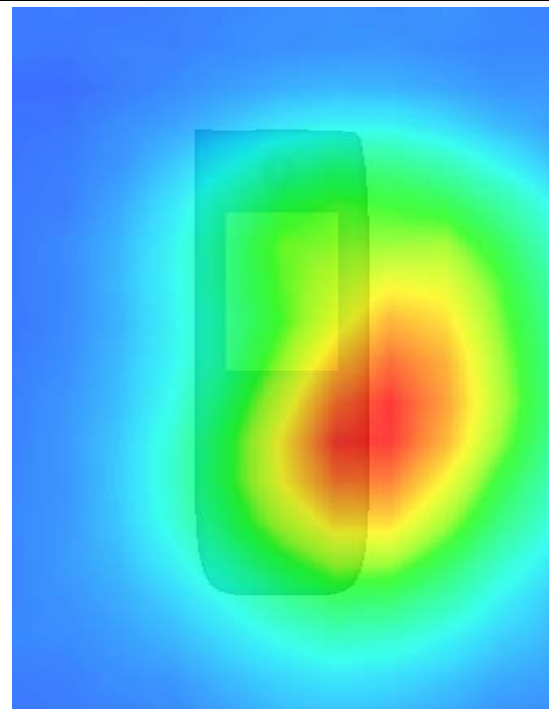
**SAR, Z Axis Scan (X = 14, Y = -14)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 20

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

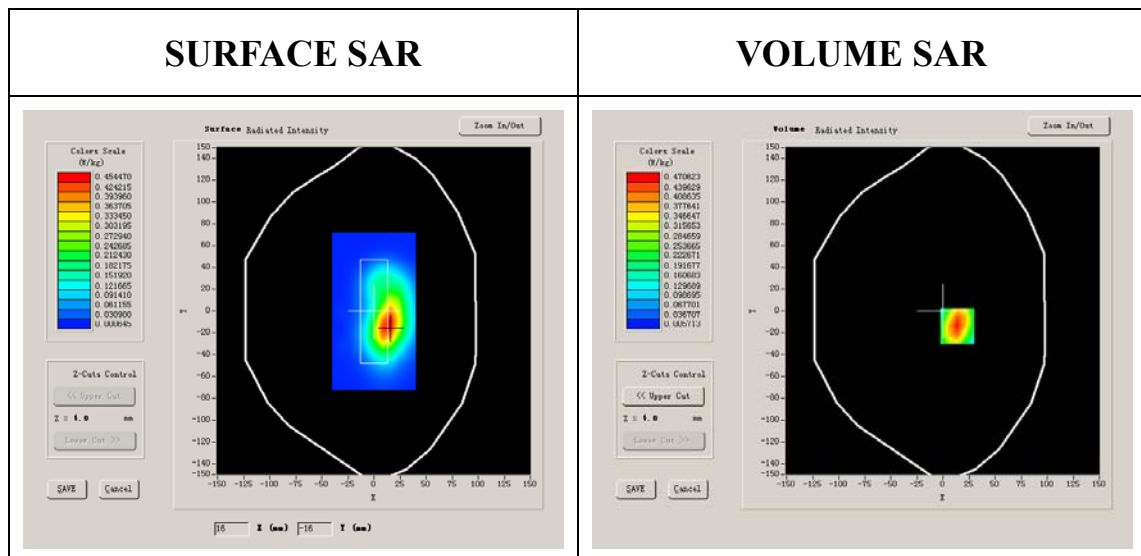
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM1900
<b>Channels</b>	Middle
<b>Signal</b>	GSM

### B. SAR Measurement Results

Middle Band SAR (Channel 661):

<b>Frequency (MHz)</b>	1880.000000
<b>Relative permittivity (real part)</b>	51.540001
<b>Relative permittivity</b>	15.070000

<b>Conductivity (S/m)</b>	1.473978
<b>Variation (%)</b>	0.460000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:8



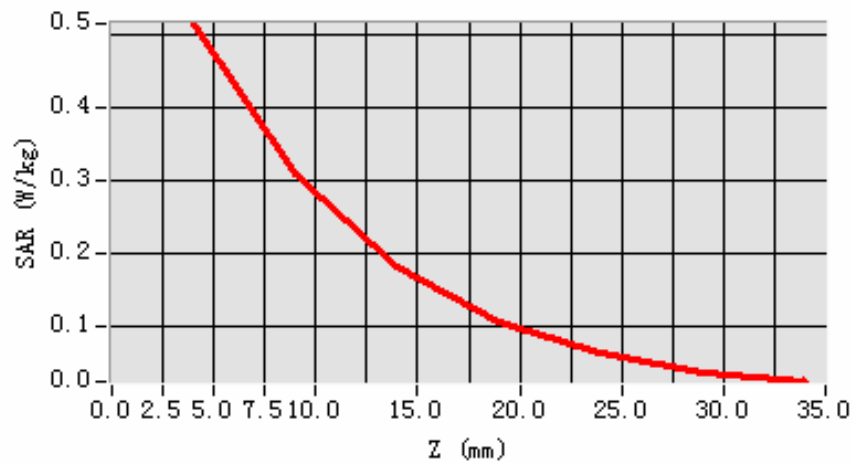
**Maximum location: X=14.00, Y=-14.00**

<b>SAR 10g (W/Kg)</b>	0.269459
<b>SAR 1g (W/Kg)</b>	0.480641

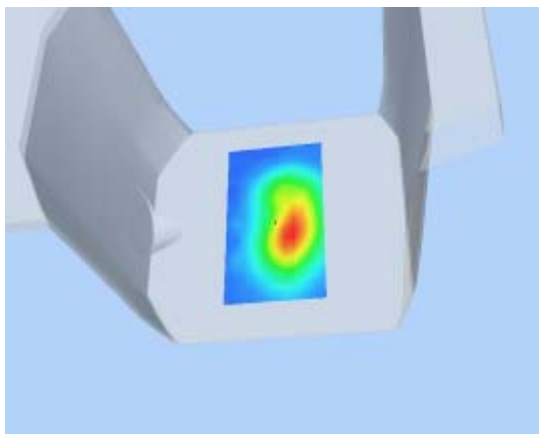
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.5158	0.3084	0.1834	0.1077	0.0651	0.0381

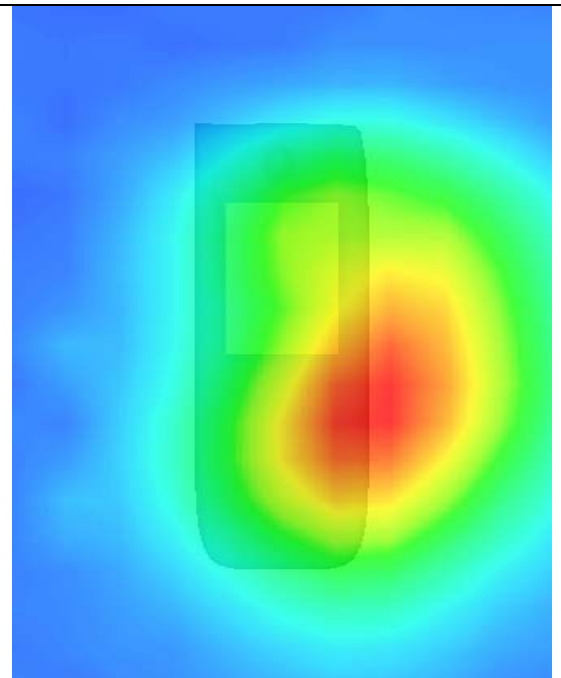
**SAR, Z Axis Scan (X = 14, Y = -14)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 21

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 5 seconds

### A. Experimental conditions.

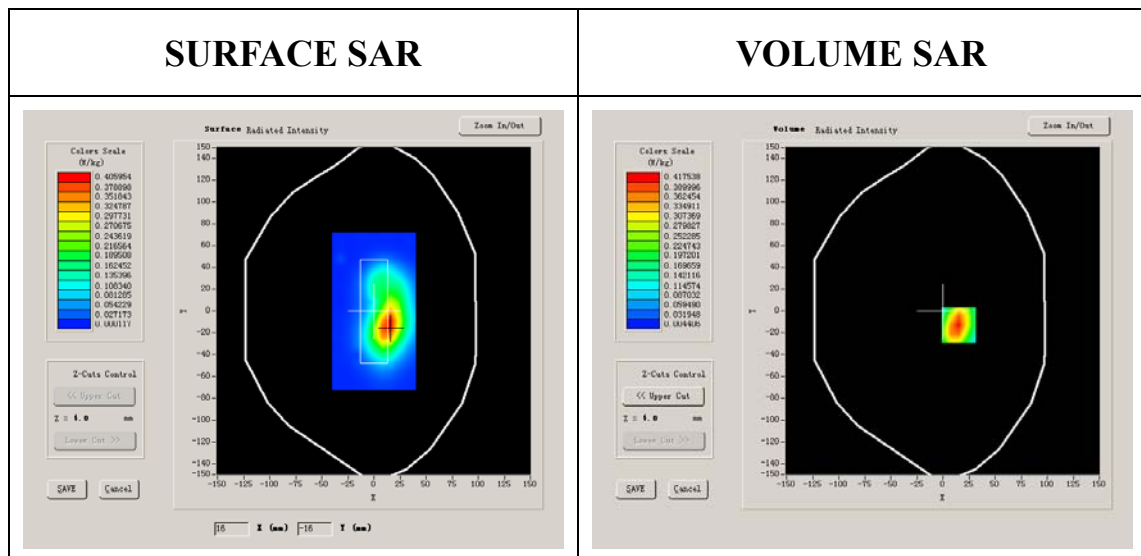
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM1900
<b>Channels</b>	High
<b>Signal</b>	GSM

### B. SAR Measurement Results

Higher Band SAR (Channel 810):

<b>Frequency (MHz)</b>	1909.800049
<b>Relative permittivity (real part)</b>	10.000000
<b>Relative permittivity</b>	12.000000

<b>Conductivity (S/m)</b>	1.273200
<b>Variation (%)</b>	-1.290000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:8



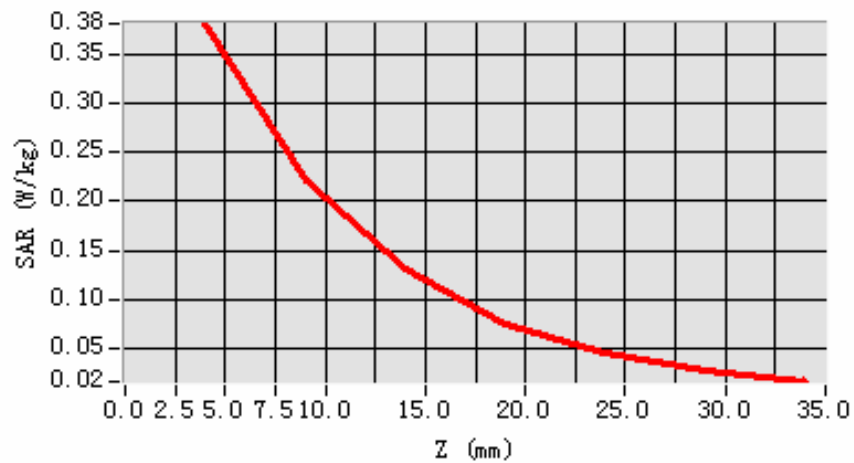
**Maximum location: X=15.00, Y=-13.00**

<b>SAR 10g (W/Kg)</b>	0.195821
<b>SAR 1g (W/Kg)</b>	0.356297

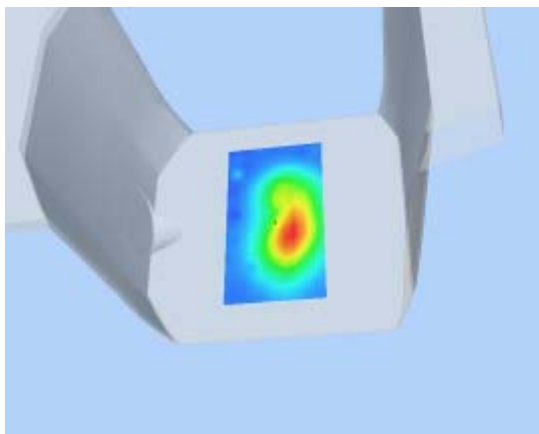
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.3808	0.2209	0.1301	0.0760	0.0459	0.0280

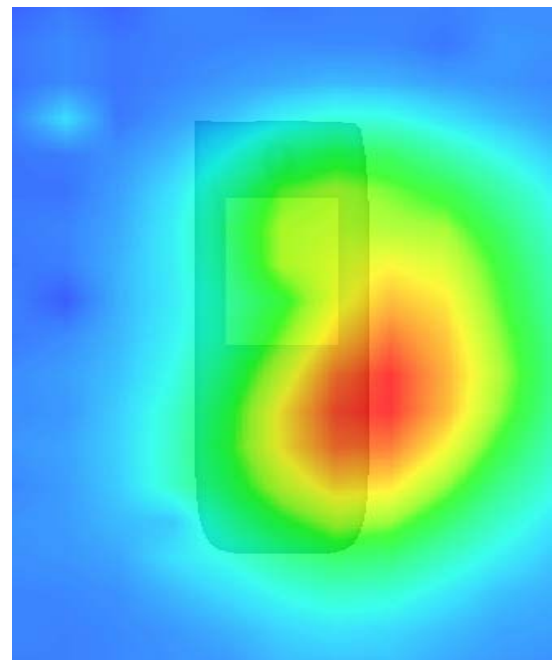
**SAR, Z Axis Scan (X = 15, Y = -13)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 22

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 9 seconds

### A. Experimental conditions.

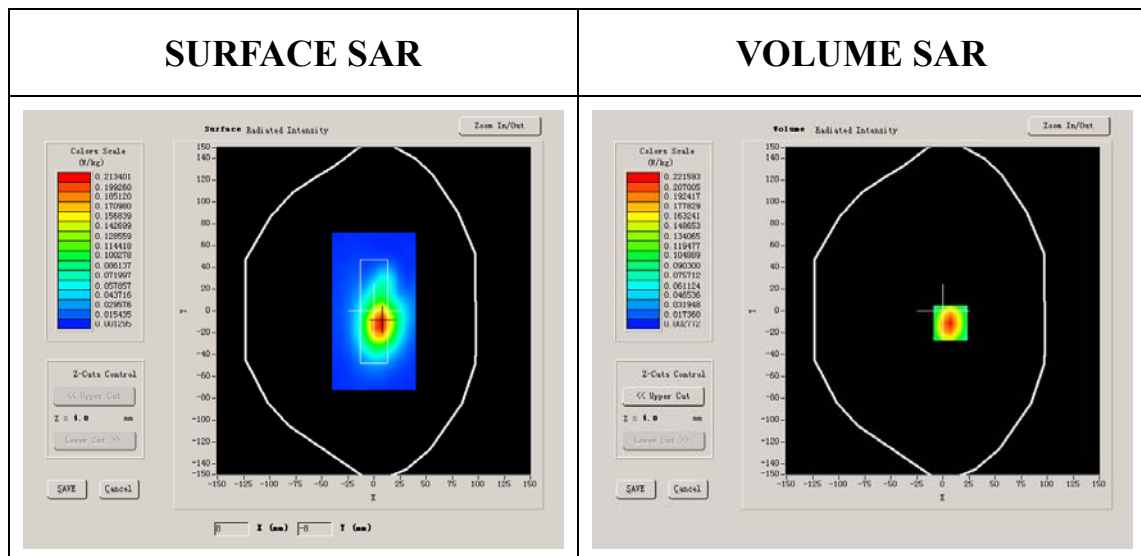
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM1900
<b>Channels</b>	Low
<b>Signal</b>	GSM

### B. SAR Measurement Results

Lower Band SAR (Channel 512):

<b>Frequency (MHz)</b>	1850.199951
<b>Relative permittivity (real part)</b>	51.540001
<b>Relative permittivity</b>	12.000000

<b>Conductivity (S/m)</b>	1.233467
<b>Variation (%)</b>	-1.220000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:8



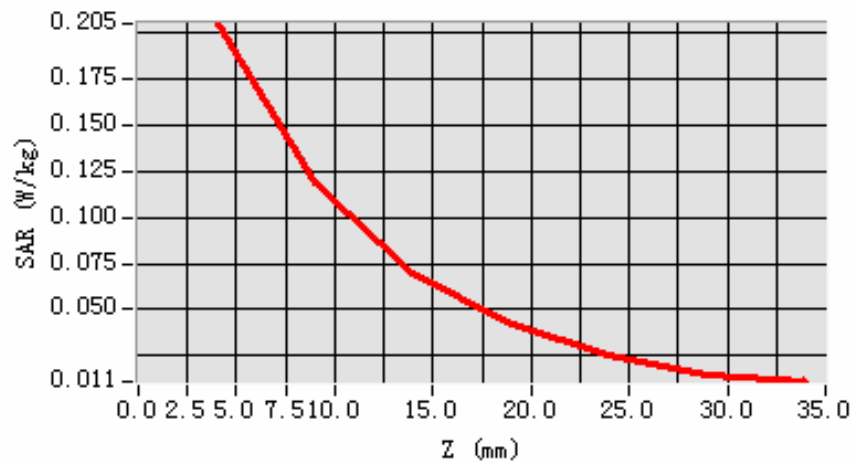
**Maximum location: X=7.00, Y=-11.00**

<b>SAR 10g (W/Kg)</b>	0.105120
<b>SAR 1g (W/Kg)</b>	0.191851

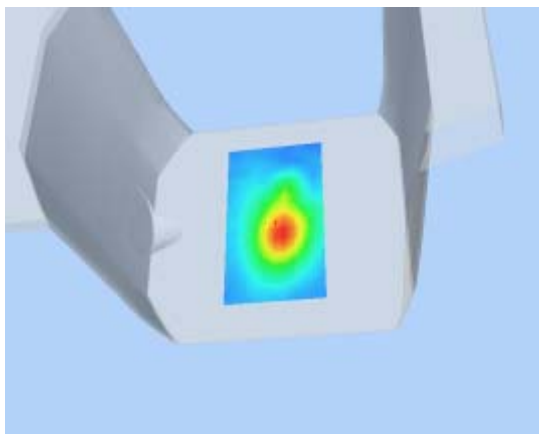
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2047	0.1188	0.0695	0.0418	0.0251	0.0148

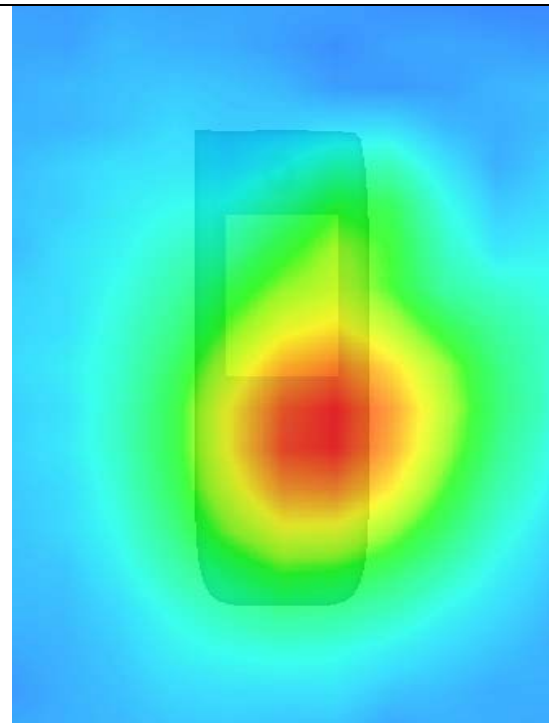
**SAR, Z Axis Scan (X = 7, Y = -11)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 23

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

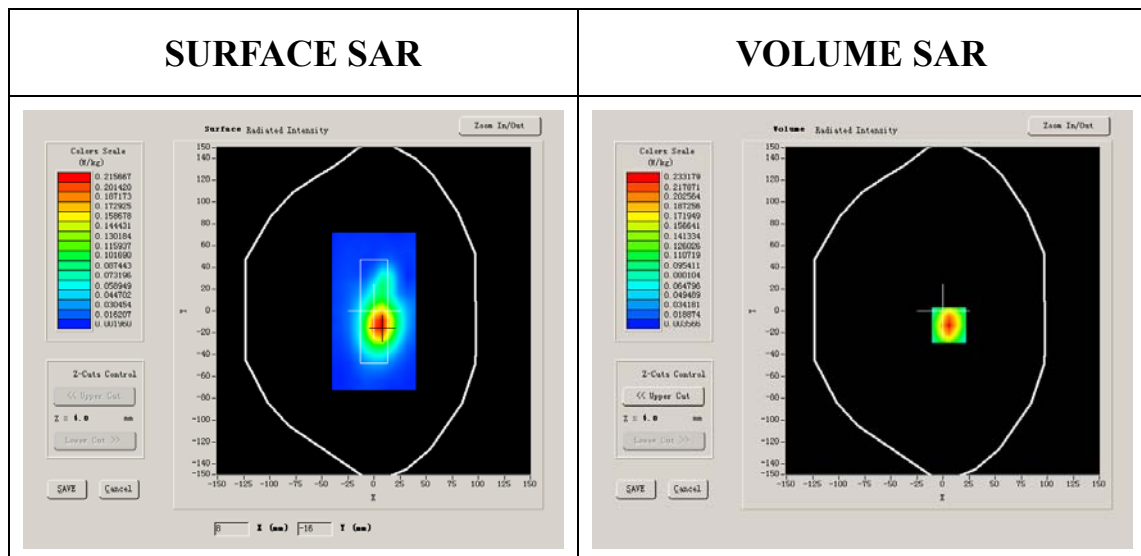
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM1900
<b>Channels</b>	Middle
<b>Signal</b>	GSM

### B. SAR Measurement Results

Middle Band SAR (Channel 661):

<b>Frequency (MHz)</b>	1880.000000
<b>Relative permittivity (real part)</b>	51.540001
<b>Relative permittivity</b>	15.070000

<b>Conductivity (S/m)</b>	1.573978
<b>Variation (%)</b>	0.570000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:8

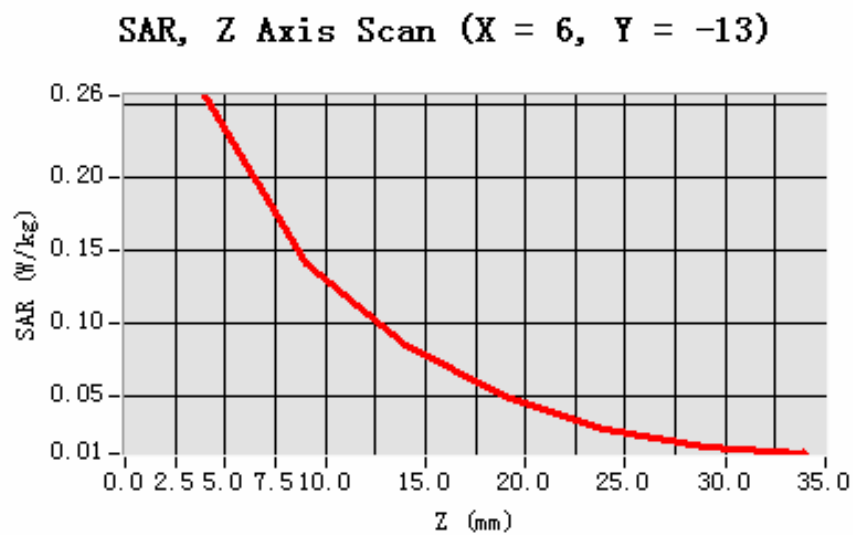


**Maximum location: X=6.00, Y=-13.00**

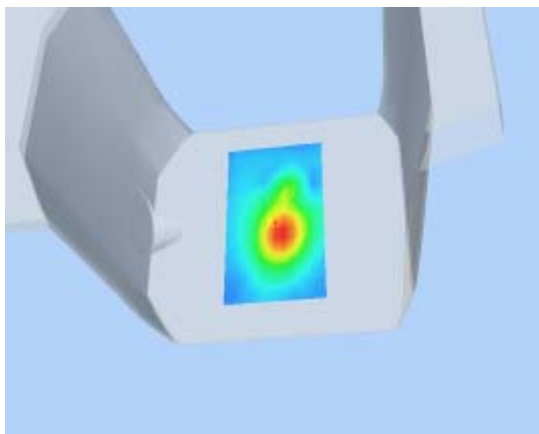
<b>SAR 10g (W/Kg)</b>	0.127667
<b>SAR 1g (W/Kg)</b>	0.237338

### Z Axis Scan

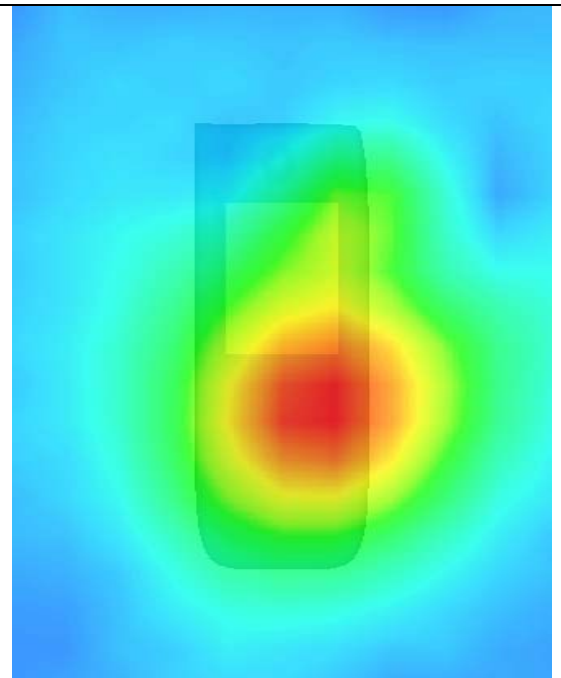
Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2556	0.1412	0.0842	0.0507	0.0280	0.0153



3D scene shot



Hot spot position



## MEASUREMENT 24

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

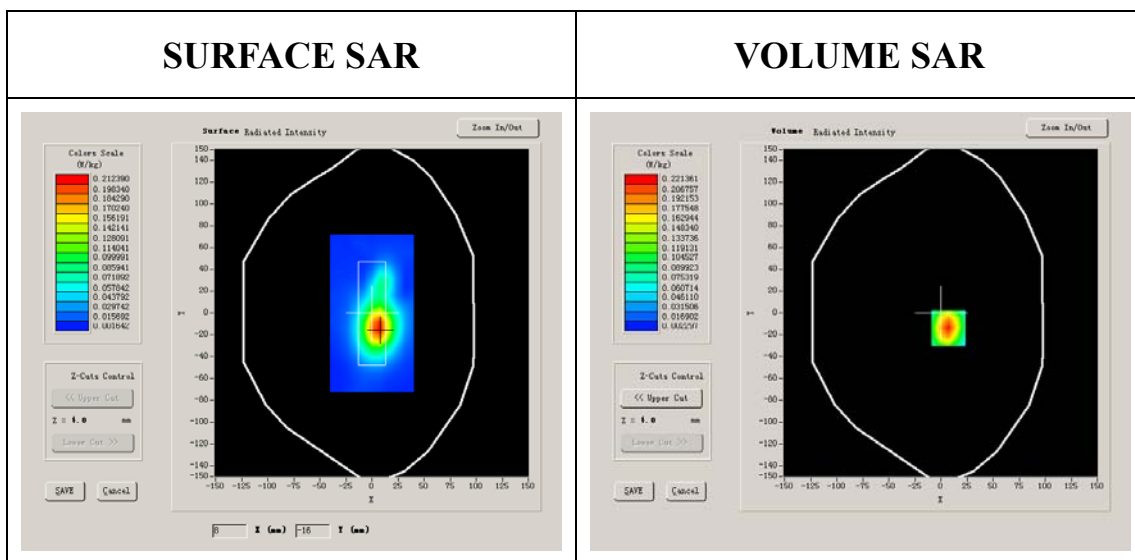
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM1900
<b>Channels</b>	High
<b>Signal</b>	GSM

### B. SAR Measurement Results

Higher Band SAR (Channel 810):

<b>Frequency (MHz)</b>	1909.800049
<b>Relative permittivity (real part)</b>	10.000000
<b>Relative permittivity</b>	12.000000

<b>Conductivity (S/m)</b>	1.273200
<b>Variation (%)</b>	-1.500000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:8



**Maximum location: X=7.00, Y=-14.00**

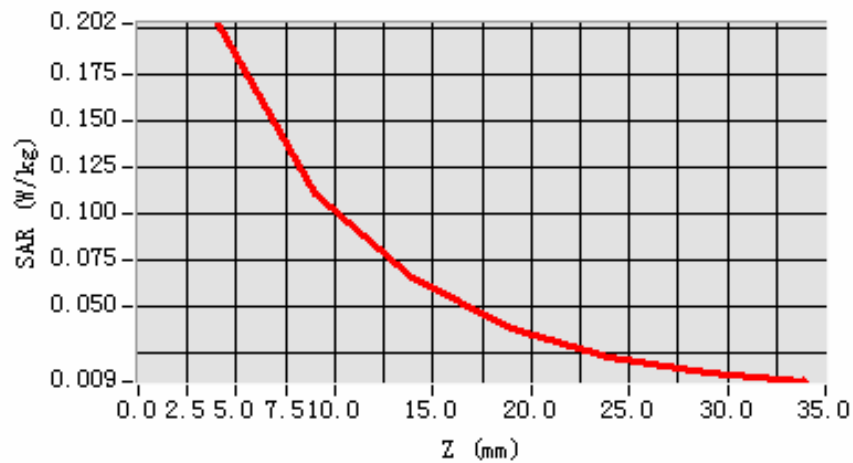
<b>SAR 10g (W/Kg)</b>	0.099873
<b>SAR 1g (W/Kg)</b>	0.186623



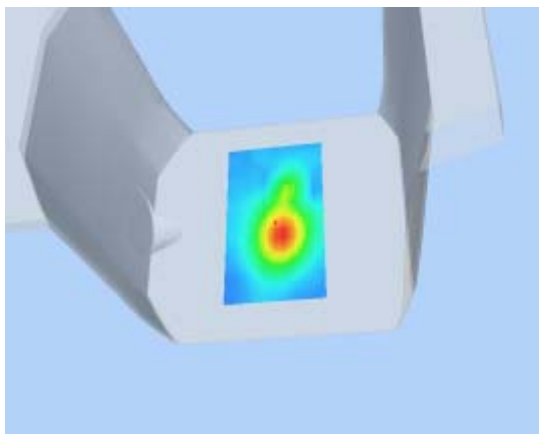
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2019	0.1103	0.0656	0.0379	0.0224	0.0139

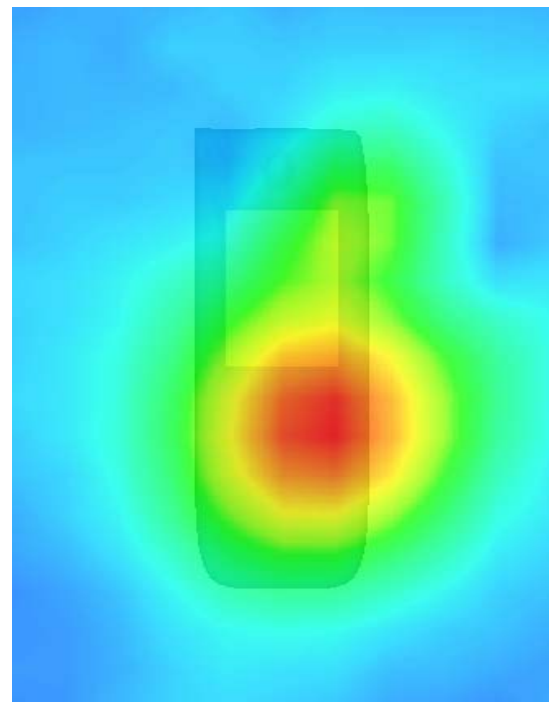
**SAR, Z Axis Scan (X = 7, Y = -14)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 25

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

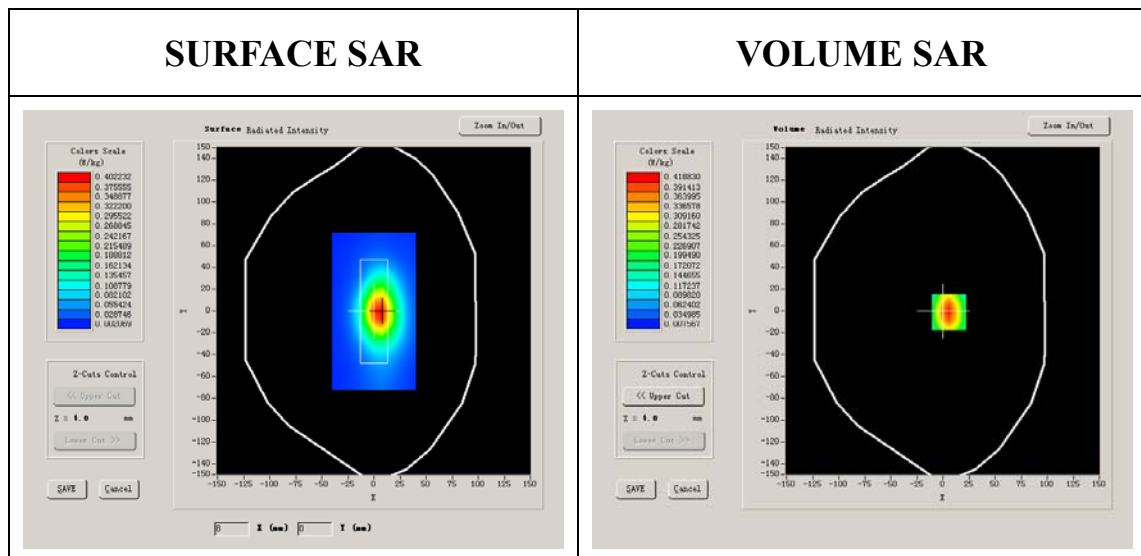
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM1900
<b>Channels</b>	Low
<b>Signal</b>	GSM

### B. SAR Measurement Results

Lower Band SAR (Channel 512):

<b>Frequency (MHz)</b>	1850.199951
<b>Relative permittivity (real part)</b>	51.540001
<b>Relative permittivity</b>	12.000000

<b>Conductivity (S/m)</b>	1.233467
<b>Variation (%)</b>	1.350000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:8



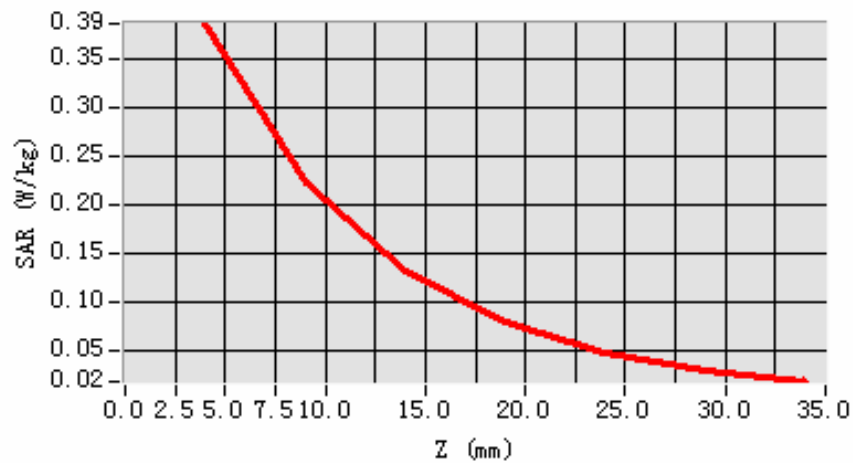
**Maximum location: X=6.00, Y=-1.00**

<b>SAR 10g (W/Kg)</b>	0.201868
<b>SAR 1g (W/Kg)</b>	0.362148

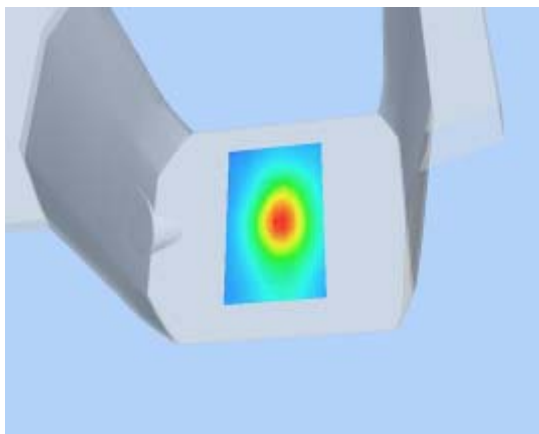
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.3869	0.2233	0.1320	0.0792	0.0476	0.0282

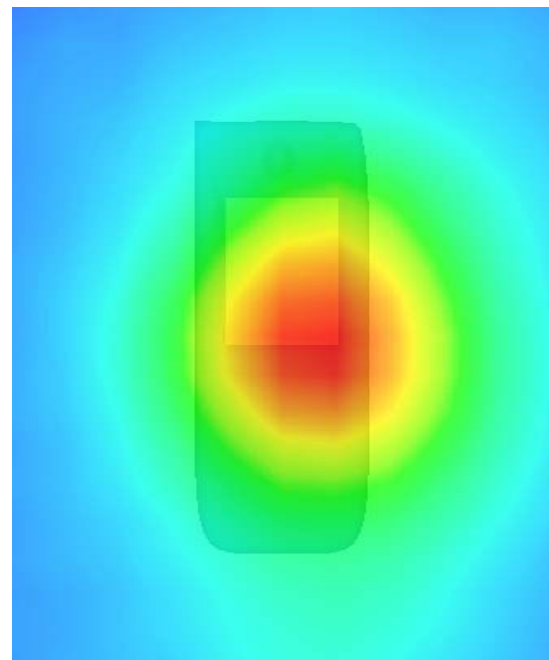
**SAR, Z Axis Scan (X = 6, Y = -1)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 26

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 9 seconds

### A. Experimental conditions.

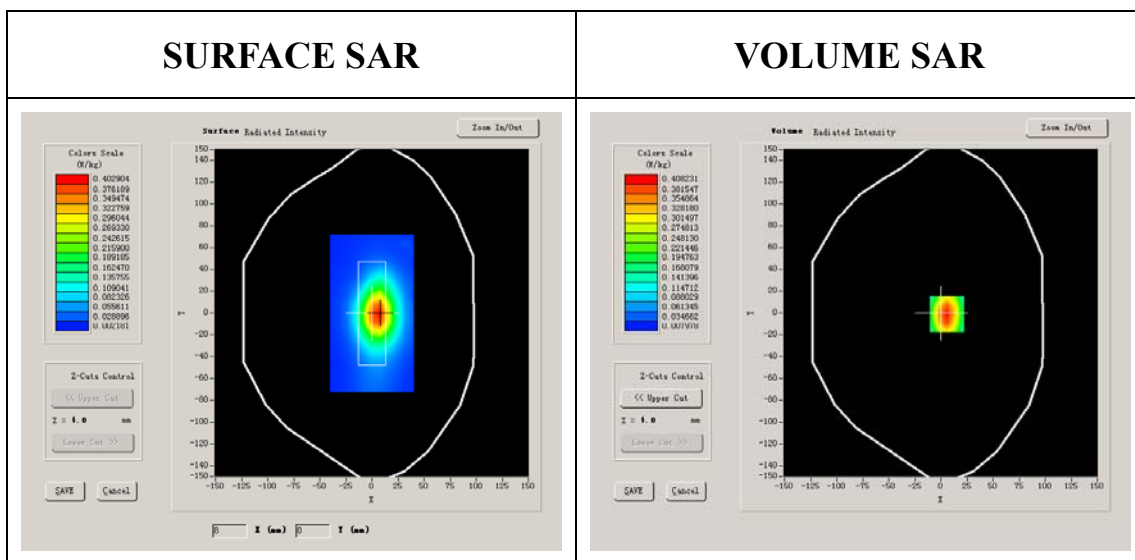
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM1900
<b>Channels</b>	Middle
<b>Signal</b>	GSM

### B. SAR Measurement Results

Middle Band SAR (Channel 661):

<b>Frequency (MHz)</b>	1880.000000
<b>Relative permittivity (real part)</b>	51.540001
<b>Relative permittivity</b>	15.070000

<b>Conductivity (S/m)</b>	1.573978
<b>Variation (%)</b>	2.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:8



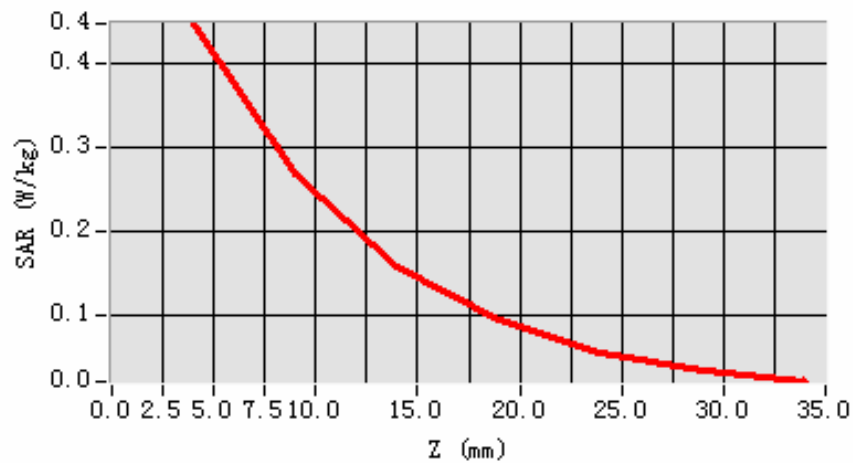
**Maximum location: X=6.00, Y=-1.00**

<b>SAR 10g (W/Kg)</b>	0.235824
<b>SAR 1g (W/Kg)</b>	0.421910

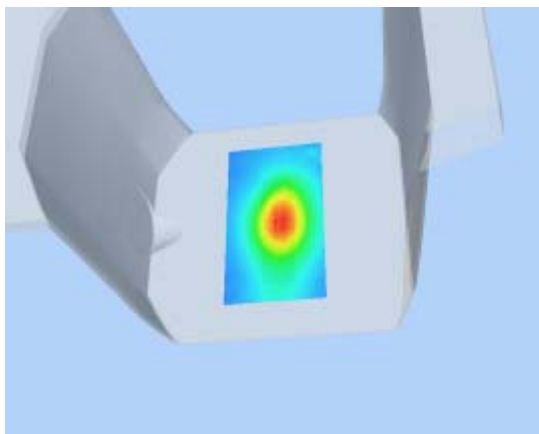
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.4474	0.2671	0.1581	0.0956	0.0543	0.0327

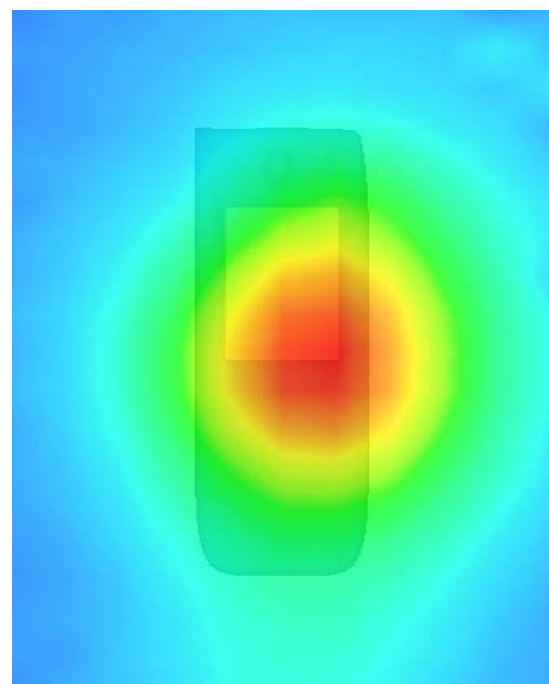
**SAR, Z Axis Scan (X = 6, Y = -1)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 27

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 10 seconds

### A. Experimental conditions.

<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM1900
<b>Channels</b>	High
<b>Signal</b>	GSM

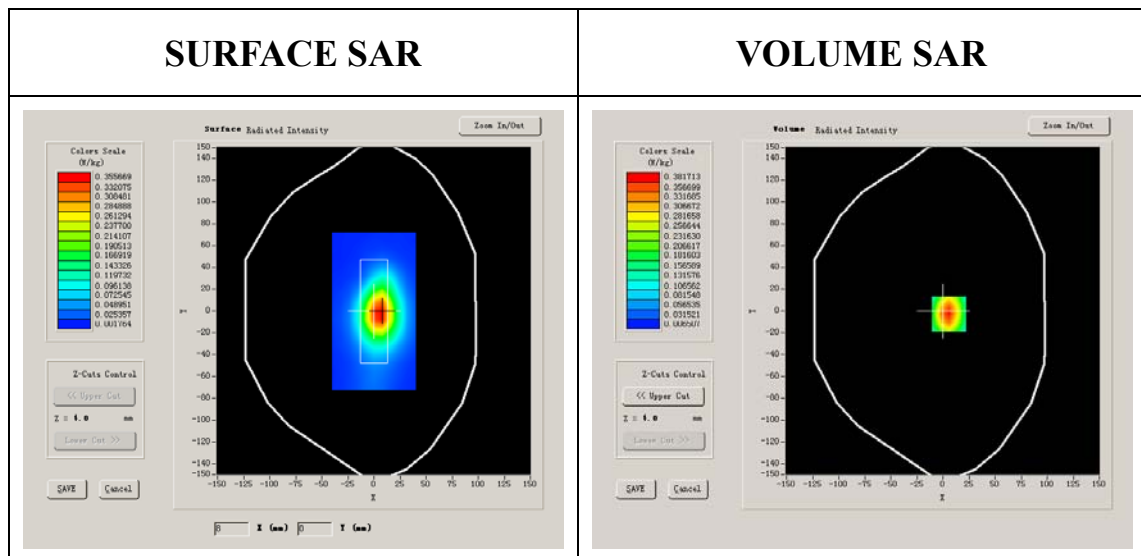
### B. SAR Measurement Results

Higher Band SAR (Channel 810):

<b>Frequency (MHz)</b>	1909.800049
<b>Relative permittivity (real part)</b>	10.000000
<b>Relative permittivity</b>	12.000000



<b>Conductivity (S/m)</b>	1.273200
<b>Variation (%)</b>	0.660000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:8



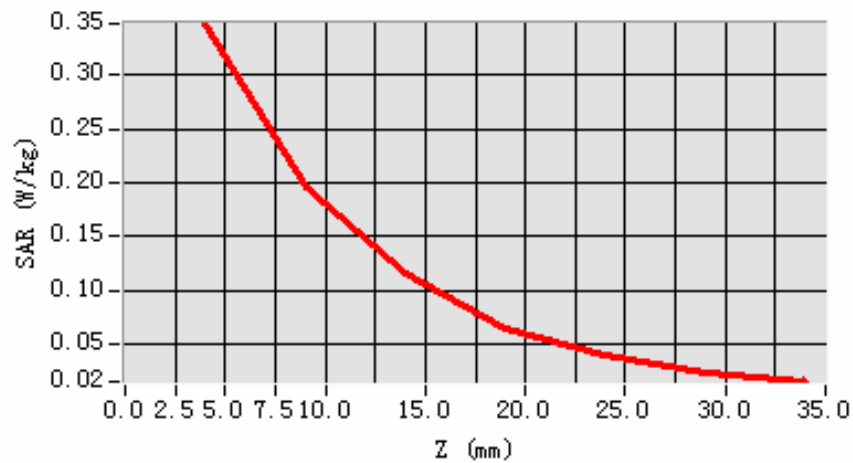
**Maximum location: X=6.00, Y=-3.00**

<b>SAR 10g (W/Kg)</b>	0.178142
<b>SAR 1g (W/Kg)</b>	0.326142

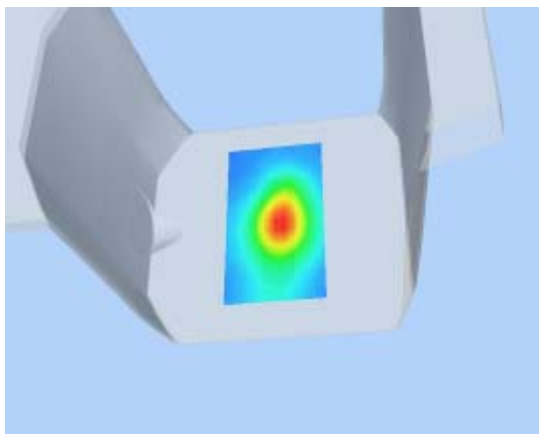
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.3482	0.1970	0.1150	0.0648	0.0404	0.0243

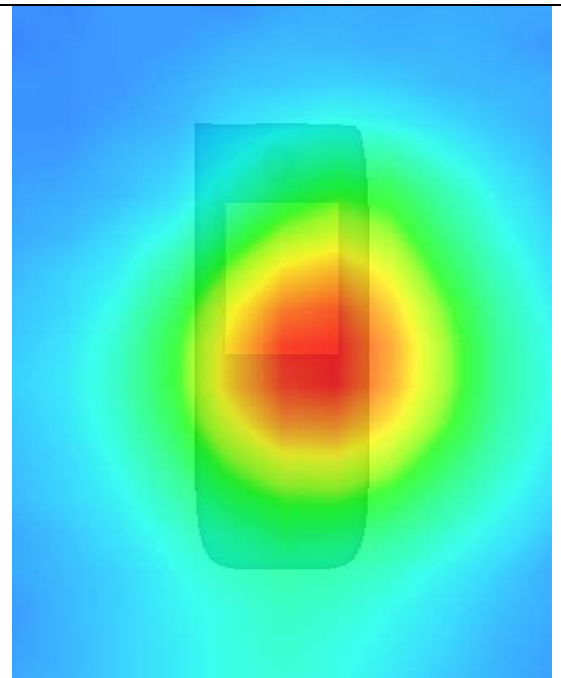
**SAR, Z Axis Scan (X = 6, Y = -3)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 28

Type: Phone measurement (Complete)

Area scan resolution:  $dx=8\text{mm}, dy=8\text{mm}$

Zoom scan resolution:  $dx=5\text{mm}, dy=5\text{mm}, dz=5\text{mm}$

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

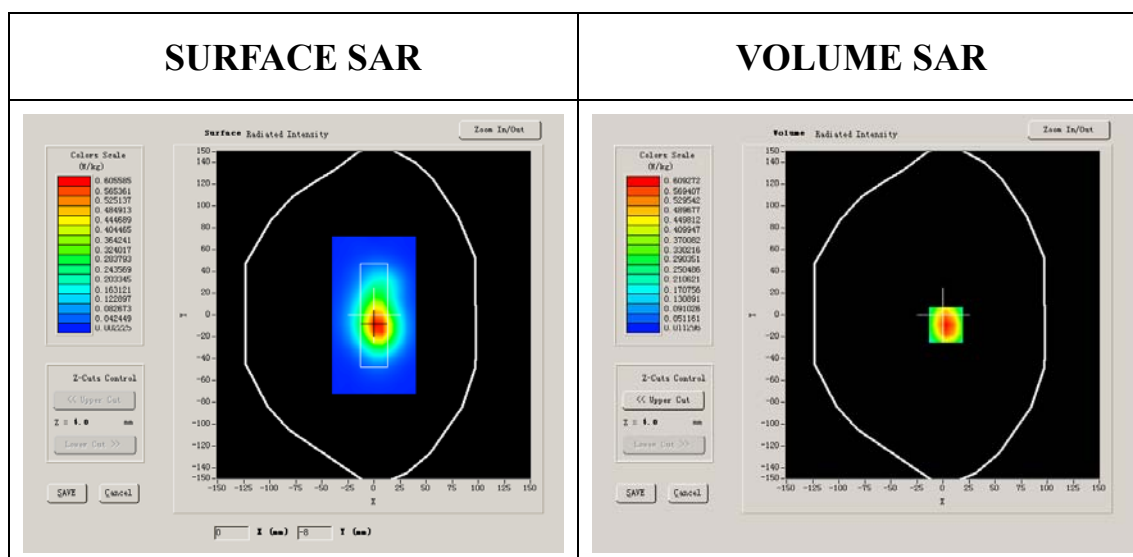
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM1900
<b>Channels</b>	Middle
<b>Signal</b>	GPRS

### B. SAR Measurement Results

Middle Band SAR (Channel 661):

<b>Frequency (MHz)</b>	1880.000000
<b>Relative permittivity (real part)</b>	51.540001
<b>Relative permittivity</b>	15.070000

<b>Conductivity (S/m)</b>	1.573978
<b>Variation (%)</b>	-3.320000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:2



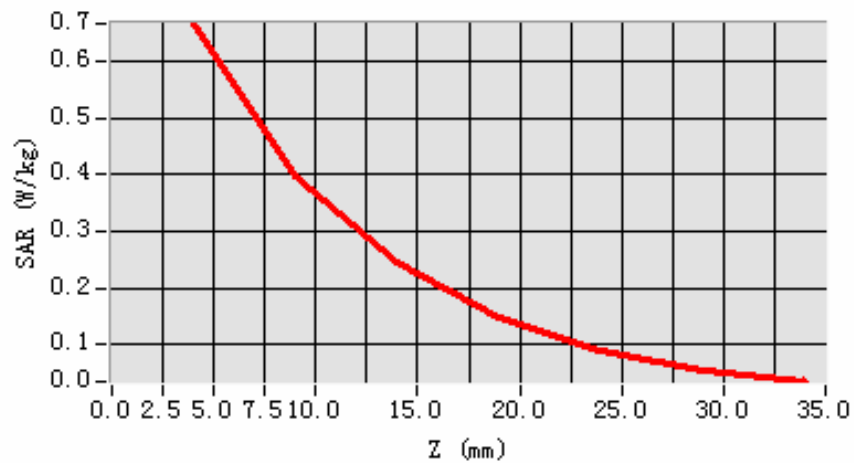
**Maximum location: X=3.00, Y=-9.00**

<b>SAR 10g (W/Kg)</b>	0.356718
<b>SAR 1g (W/Kg)</b>	0.631744

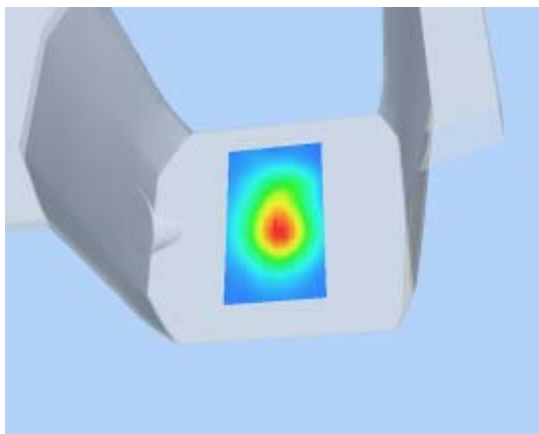
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.6678	0.3992	0.2440	0.1472	0.0886	0.0540

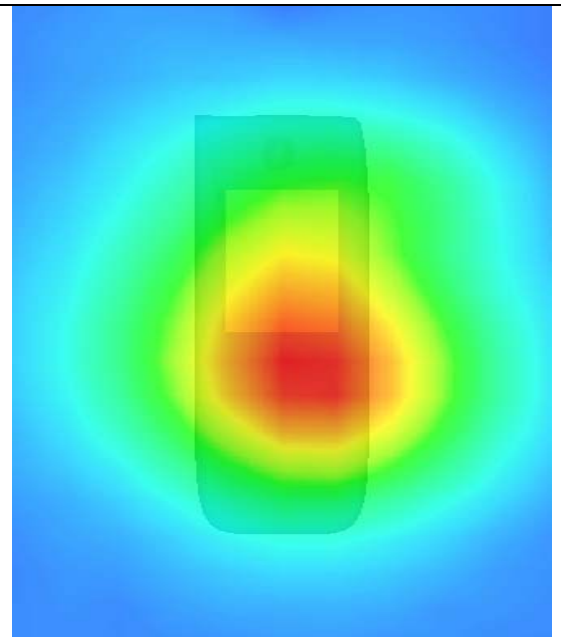
**SAR, Z Axis Scan (X = 3, Y = -9)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 29

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

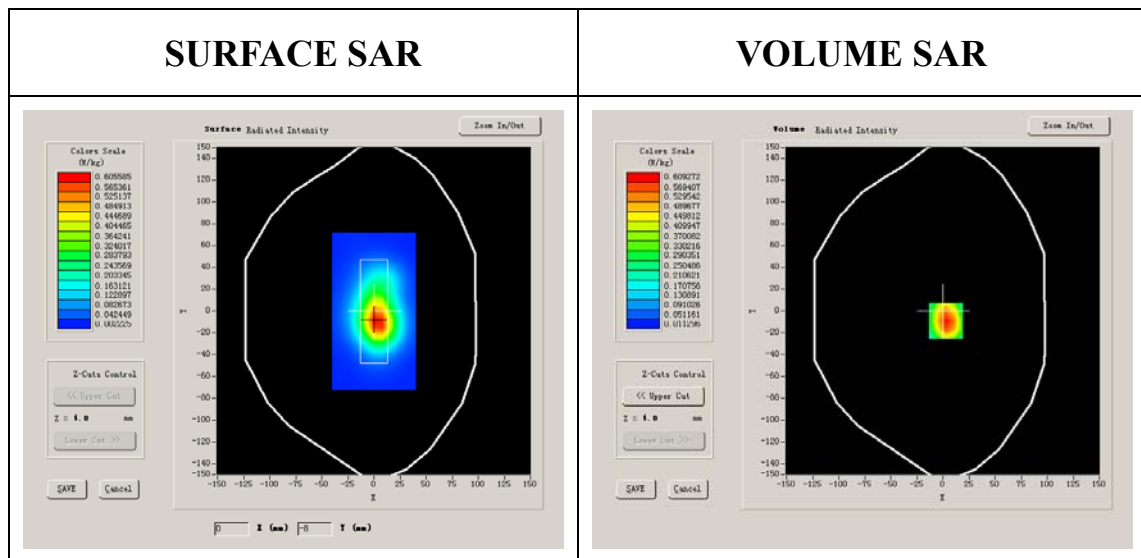
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM1900
<b>Channels</b>	Middle
<b>Signal</b>	EDGE

### B. SAR Measurement Results

Middle Band SAR (Channel 661):

<b>Frequency (MHz)</b>	1880.000000
<b>Relative permittivity (real part)</b>	51.540001
<b>Relative permittivity</b>	15.070000

<b>Conductivity (S/m)</b>	1.573978
<b>Variation (%)</b>	-3.320000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:2



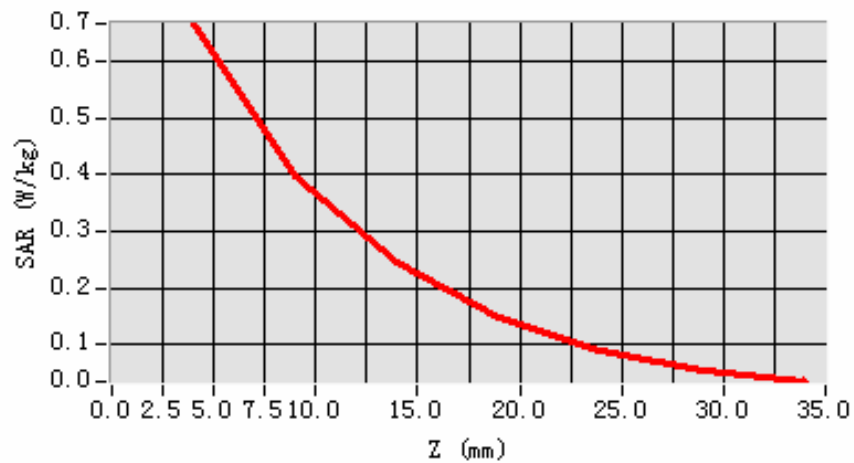
**Maximum location: X=3.00, Y=-9.00**

<b>SAR 10g (W/Kg)</b>	0.397781
<b>SAR 1g (W/Kg)</b>	0.673454

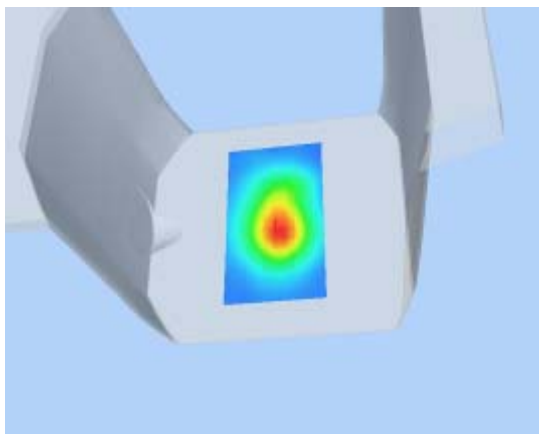
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.6678	0.3992	0.2440	0.1472	0.0886	0.0540

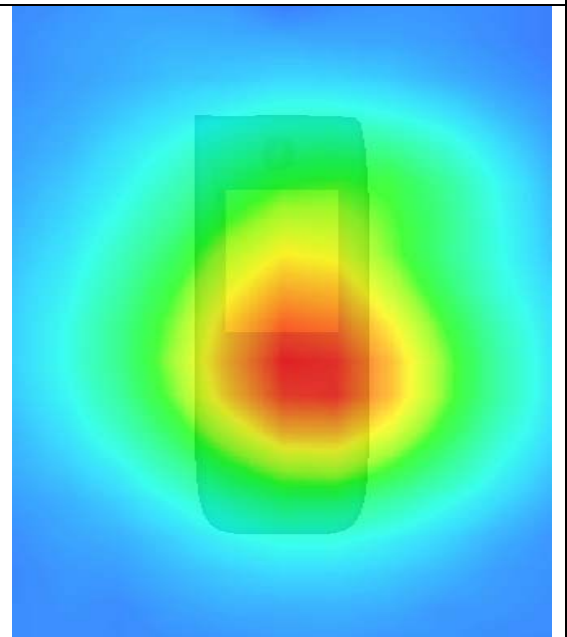
**SAR, Z Axis Scan (X = 3, Y = -9)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 30

Type: Phone measurement (Complete)

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

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

Date of measurement: 27/9/2009

Measurement duration: 9 minutes 5 seconds

### A. Experimental conditions.

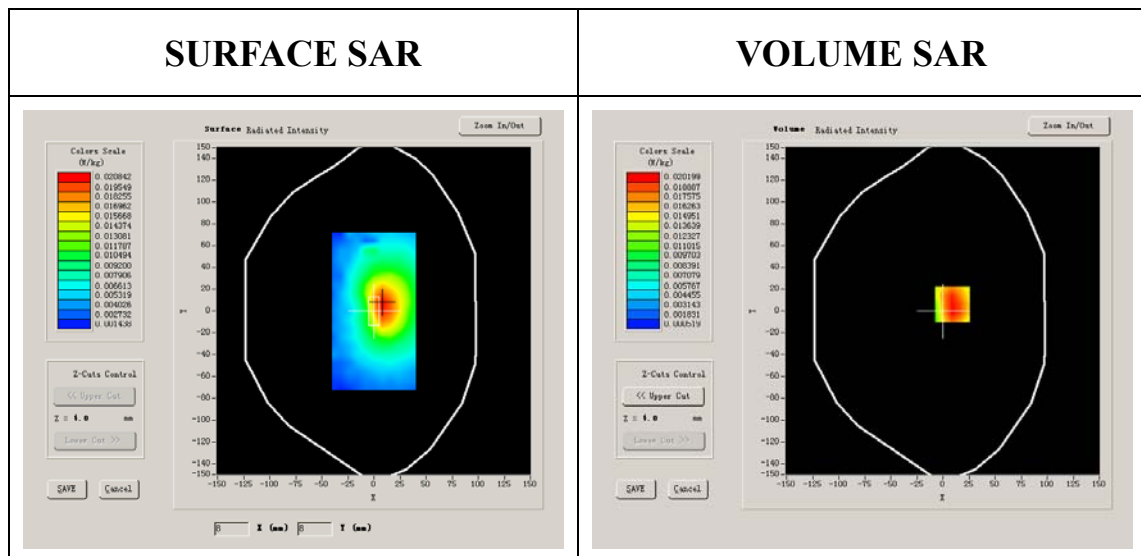
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	GSM1900
<b>Channels</b>	Middle
<b>Signal</b>	GSM

### B. SAR Measurement Results

Middle Band SAR (Channel 661):

<b>Frequency (MHz)</b>	1880.000000
<b>Relative permittivity (real part)</b>	55.709999
<b>Relative permittivity</b>	21.709999

<b>Conductivity (S/m)</b>	1.009033
<b>Variation (%)</b>	-1.540000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:8



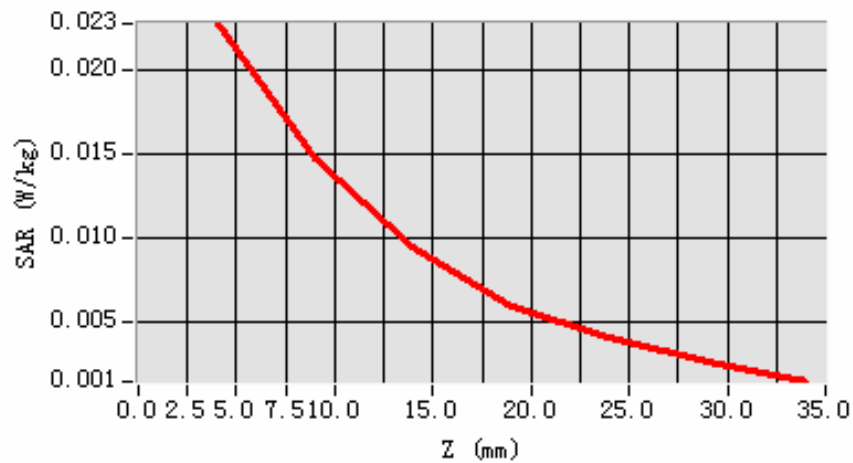
**Maximum location: X=9.00, Y=6.00**

<b>SAR 10g (W/Kg)</b>	0.012689
<b>SAR 1g (W/Kg)</b>	0.019966

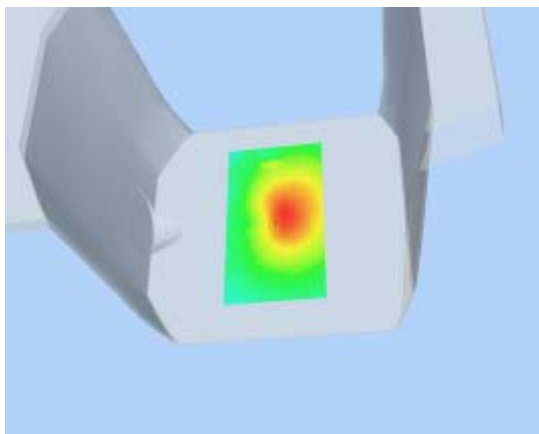
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.0227	0.0147	0.0094	0.0059	0.0040	0.0025

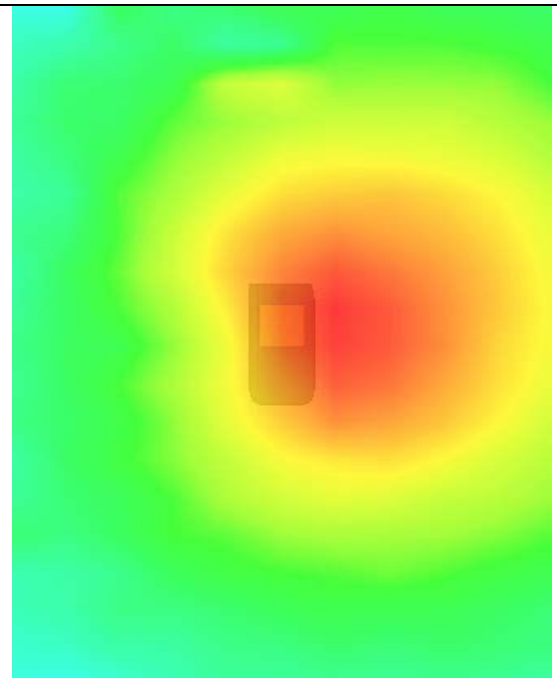
**SAR, Z Axis Scan (X = 9, Y = 6)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 31

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 4 seconds

### A. Experimental conditions.

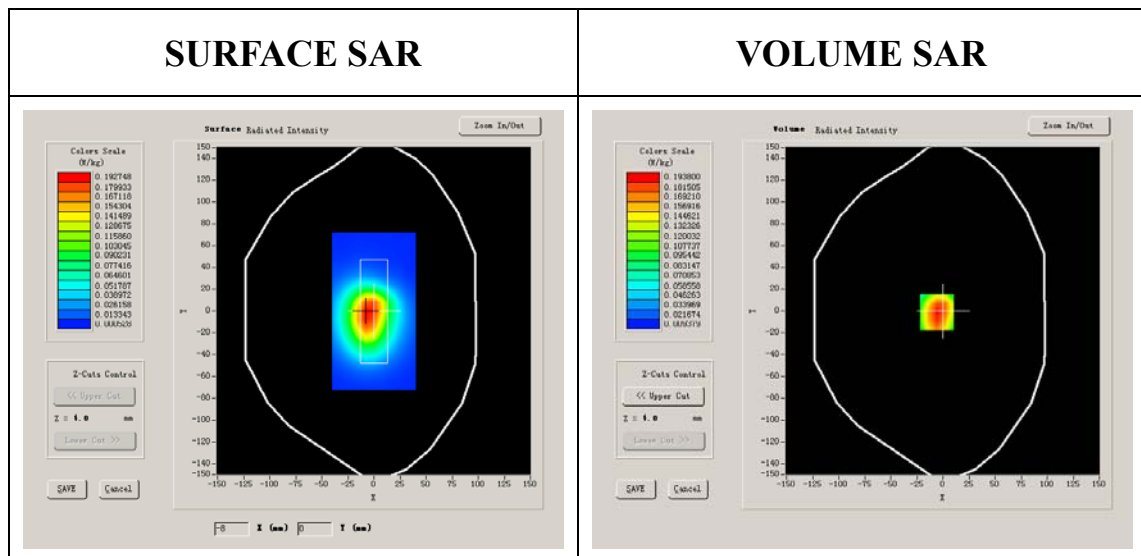
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Low
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Lower Band SAR (Channel 4132):

<b>Frequency (MHz)</b>	826.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	0.728580
<b>Variation (%)</b>	-0.590000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:1



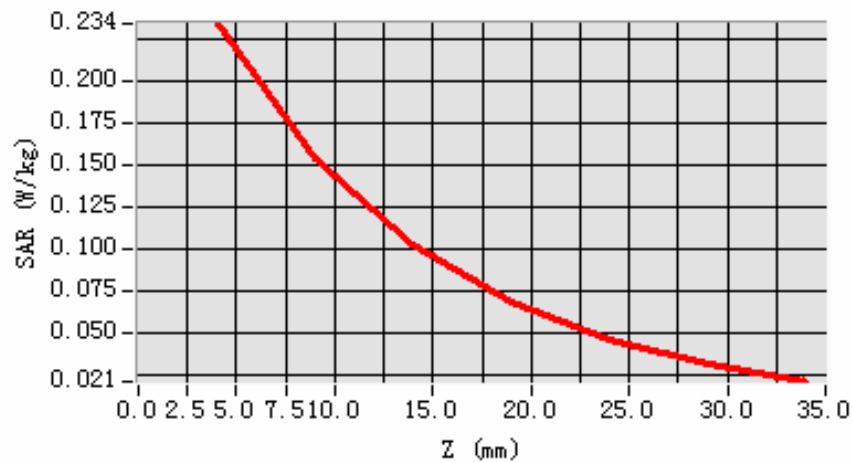
**Maximum location: X=-6.00, Y=-1.00**

<b>SAR 10g (W/Kg)</b>	0.139205
<b>SAR 1g (W/Kg)</b>	0.222198

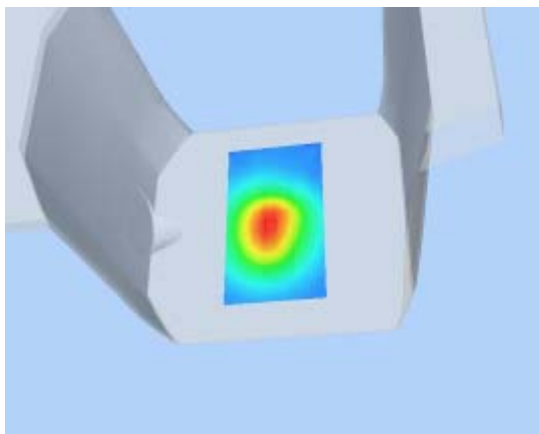
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2336	0.1534	0.1026	0.0680	0.0465	0.0316

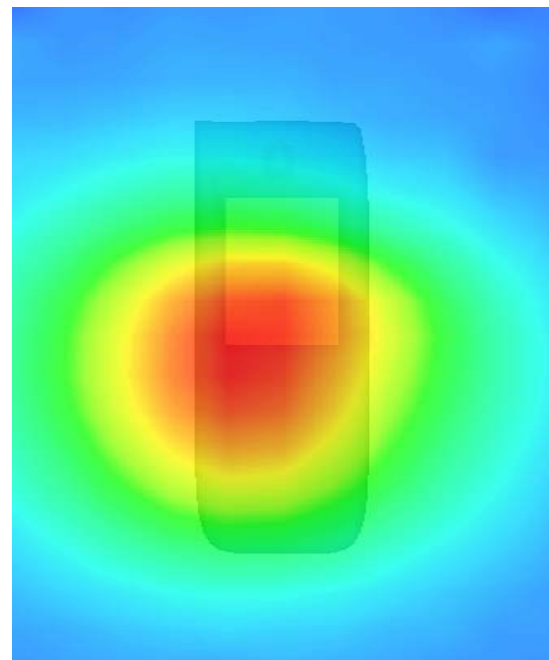
**SAR, Z Axis Scan (X = -6, Y = -1)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 32

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

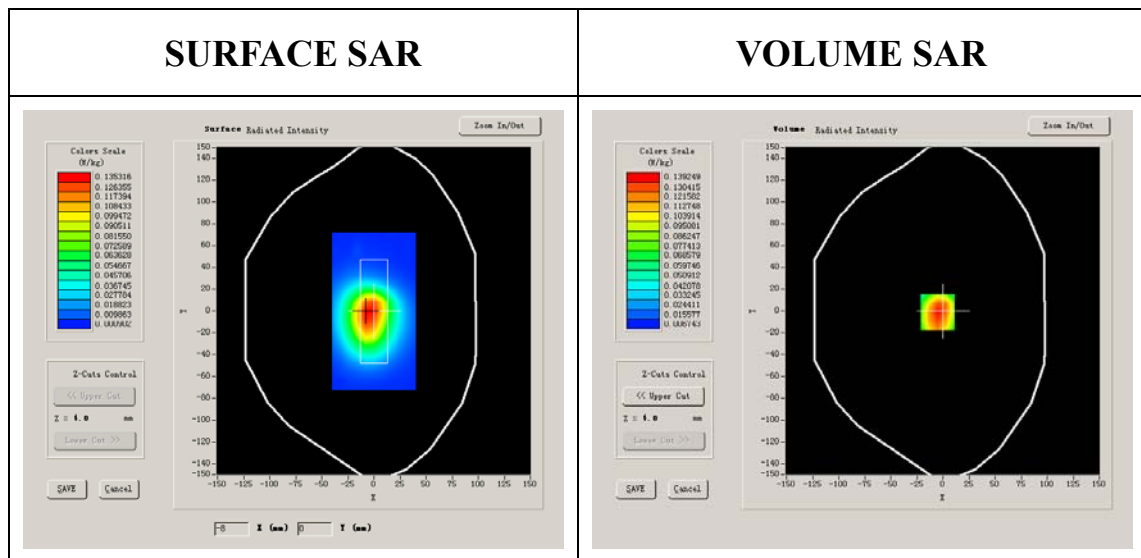
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Middle
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Middle Band SAR (Channel 4182):

<b>Frequency (MHz)</b>	836.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	0.737401
<b>Variation (%)</b>	-0.120000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:1



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

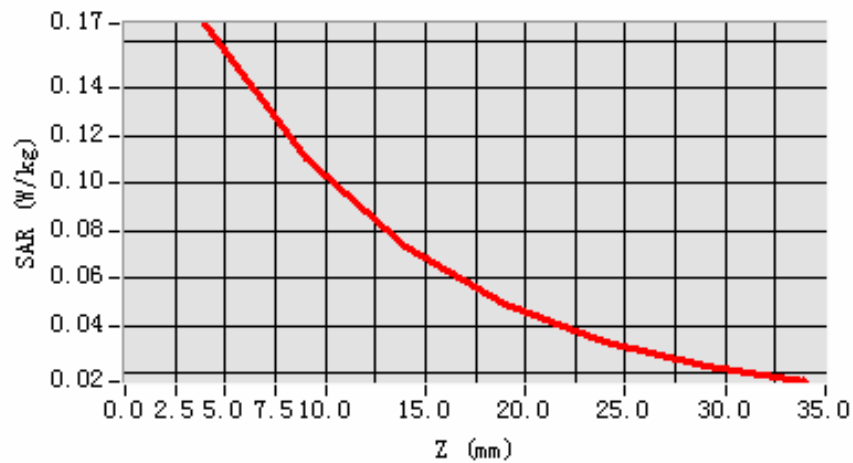
<b>SAR 10g (W/Kg)</b>	0.099563
<b>SAR 1g (W/Kg)</b>	0.159224



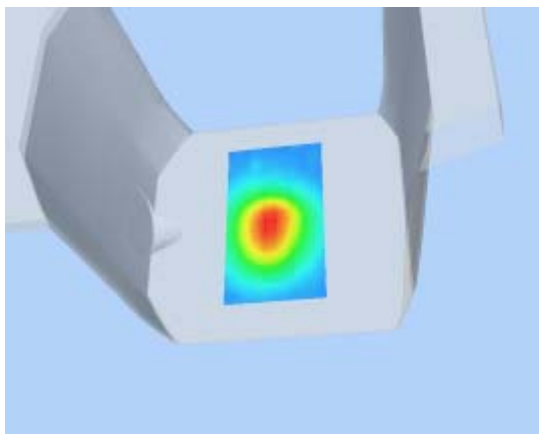
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1671	0.1101	0.0728	0.0491	0.0333	0.0227

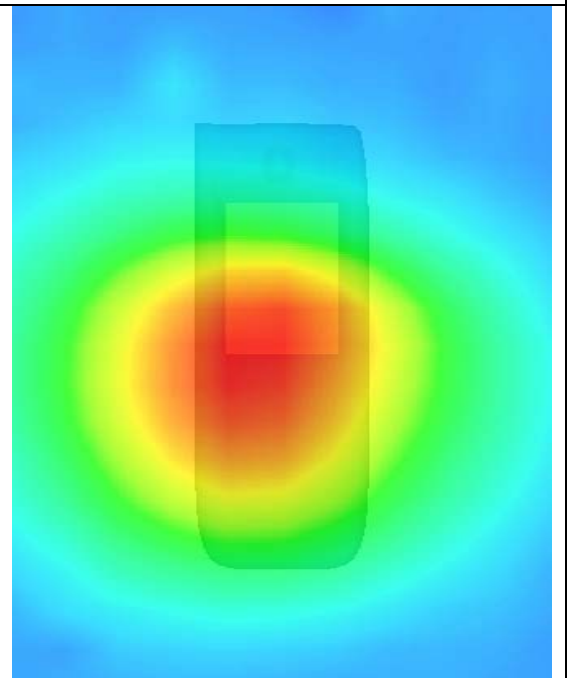
**SAR, Z Axis Scan (X = -5, Y = -1)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 33

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration:13 minutes 6 seconds

### A. Experimental conditions.

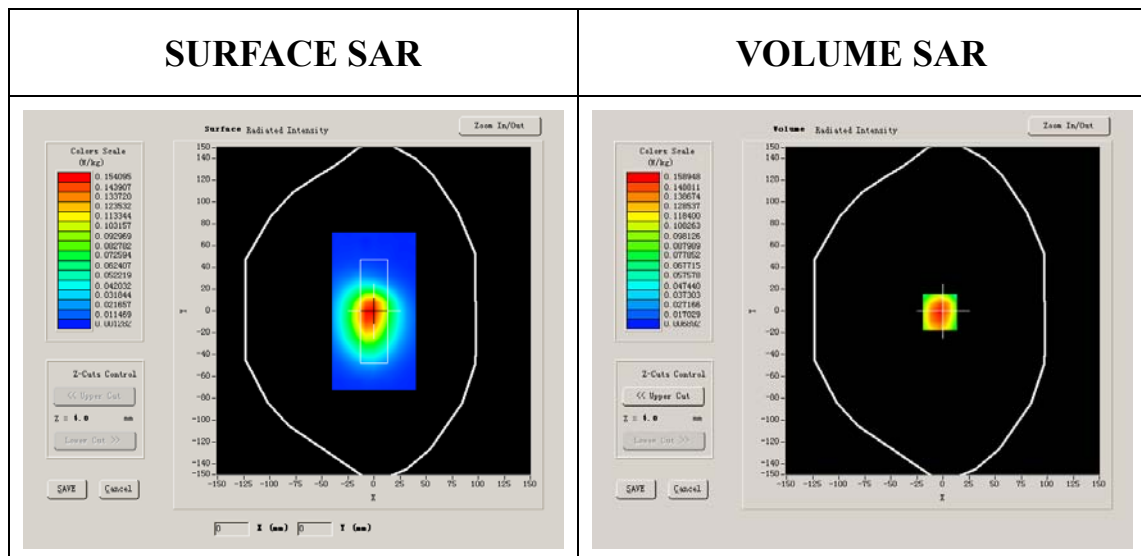
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	High
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Higher Band SAR (Channel 4233):

<b>Frequency (MHz)</b>	846.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	0.746221
<b>Variation (%)</b>	1.610000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:1

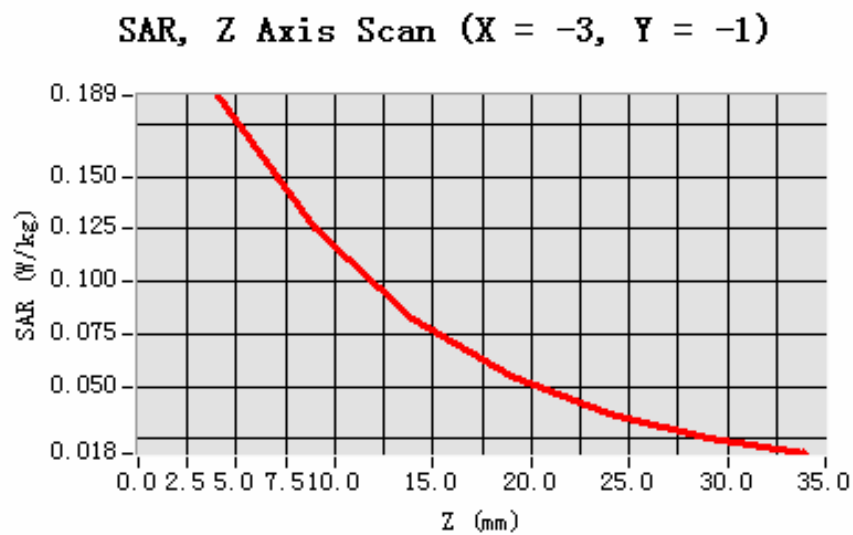


**Maximum location: X=-3.00, Y=-1.00**

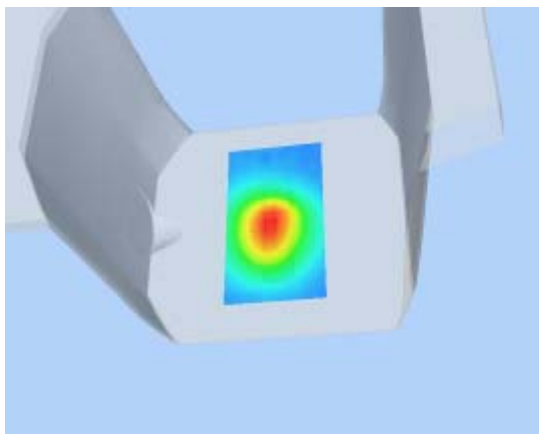
<b>SAR 10g (W/Kg)</b>	0.112889
<b>SAR 1g (W/Kg)</b>	0.179552

### Z Axis Scan

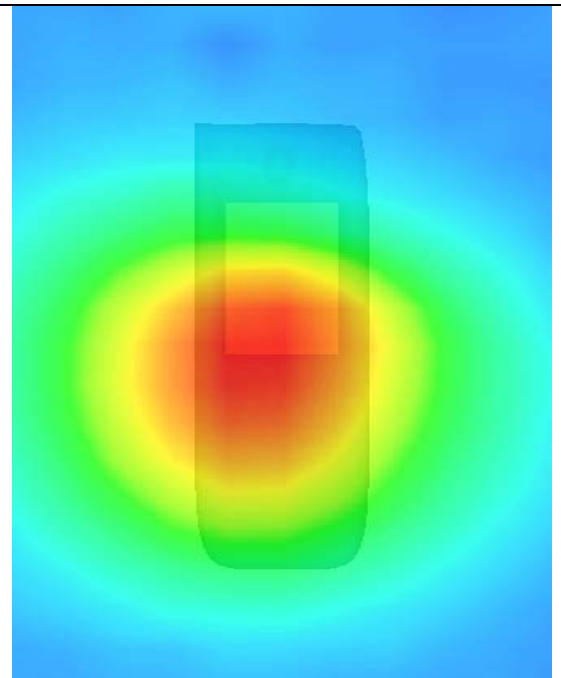
Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1886	0.1256	0.0822	0.0544	0.0365	0.0248



**3D scene shot**



**Hot spot position**



## MEASUREMENT 34

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 6 seconds

### A. Experimental conditions.

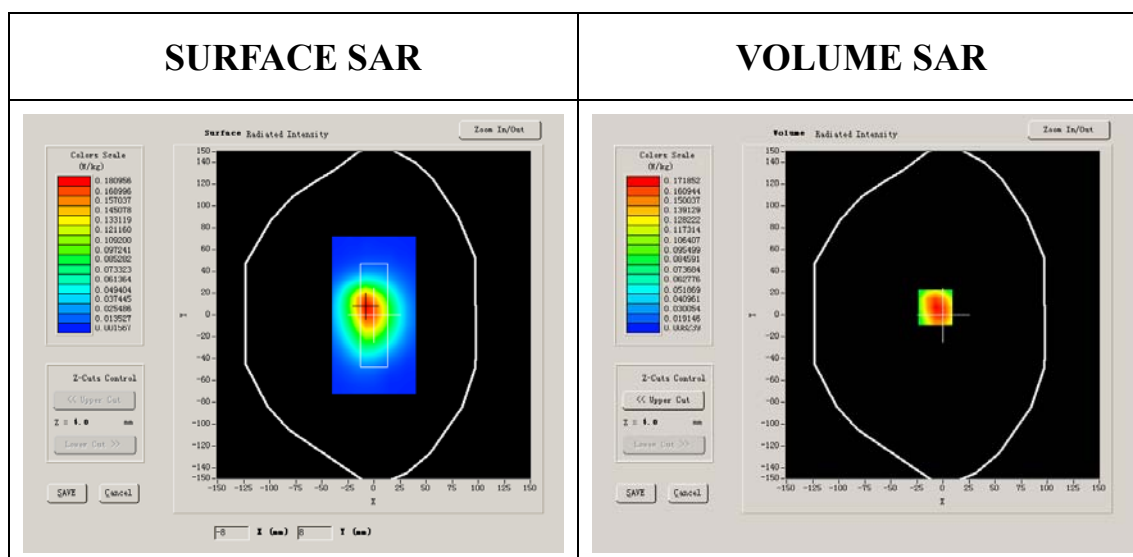
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Low
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Lower Band SAR (Channel 4132):

<b>Frequency (MHz)</b>	826.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	0.728580
<b>Variation (%)</b>	-4.690000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:1



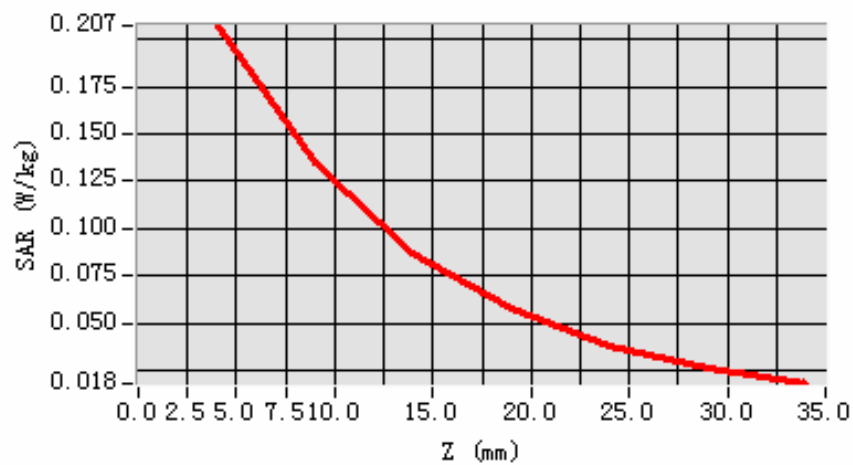
**Maximum location: X=-7.00, Y=7.00**

<b>SAR 10g (W/Kg)</b>	0.124244
<b>SAR 1g (W/Kg)</b>	0.199808

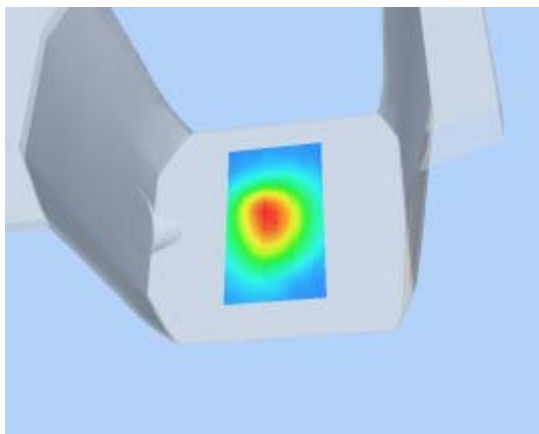
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2072	0.1343	0.0866	0.0576	0.0385	0.0262

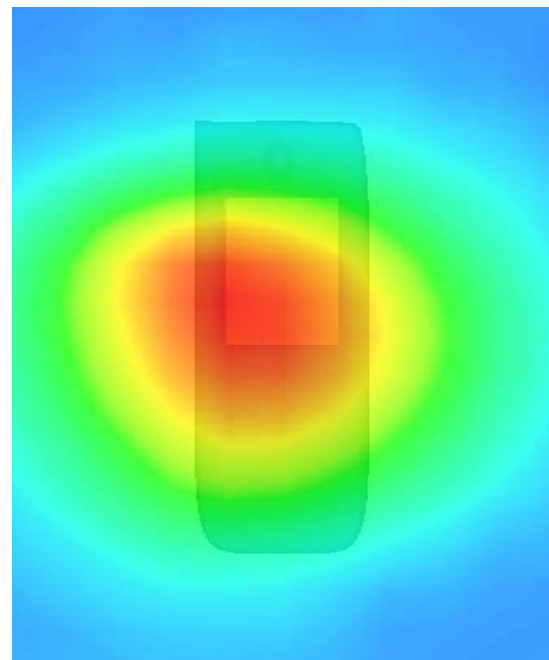
**SAR, Z Axis Scan (X = -7, Y = 7)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 35

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 10 seconds

### A. Experimental conditions.

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

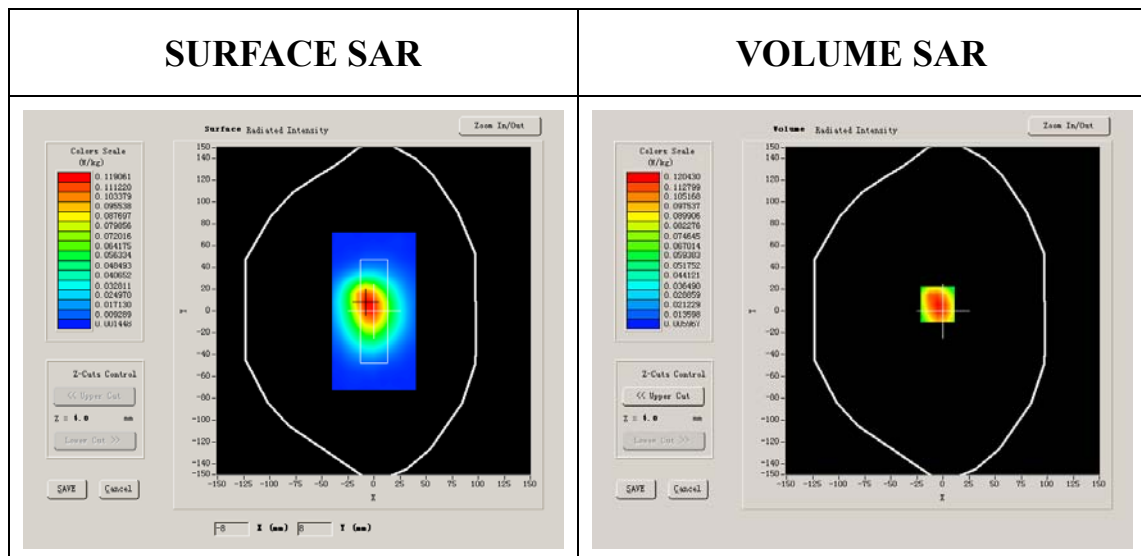
### B. SAR Measurement Results

Middle Band SAR (Channel 4182):

<b>Frequency (MHz)</b>	836.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050



<b>Conductivity (S/m)</b>	0.737401
<b>Variation (%)</b>	-0.360000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:8



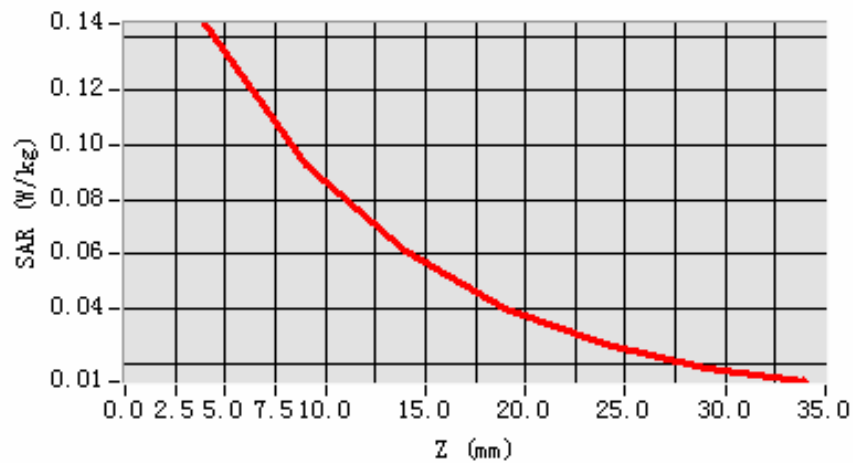
**Maximum location: X=-5.00, Y=6.00**

<b>SAR 10g (W/Kg)</b>	0.087103
<b>SAR 1g (W/Kg)</b>	0.138881

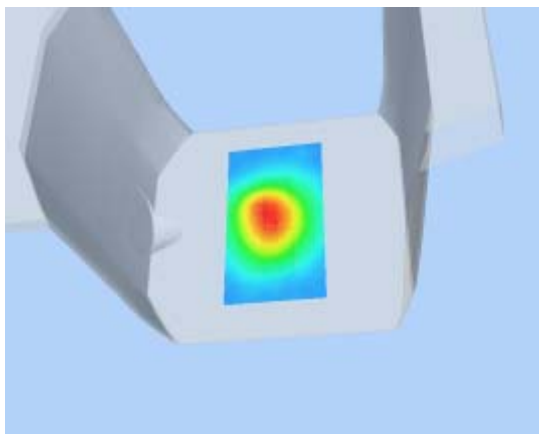
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1445	0.0928	0.0610	0.0405	0.0273	0.0185

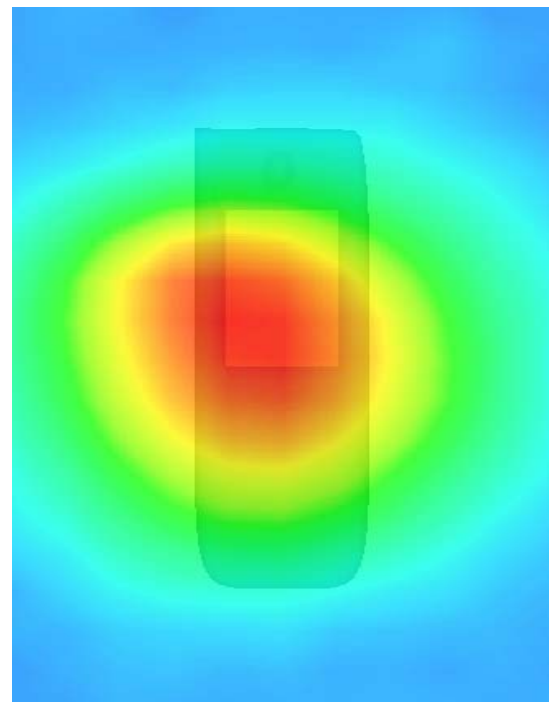
**SAR, Z Axis Scan (X = -5, Y = 6)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 36

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 4 seconds

### A. Experimental conditions.

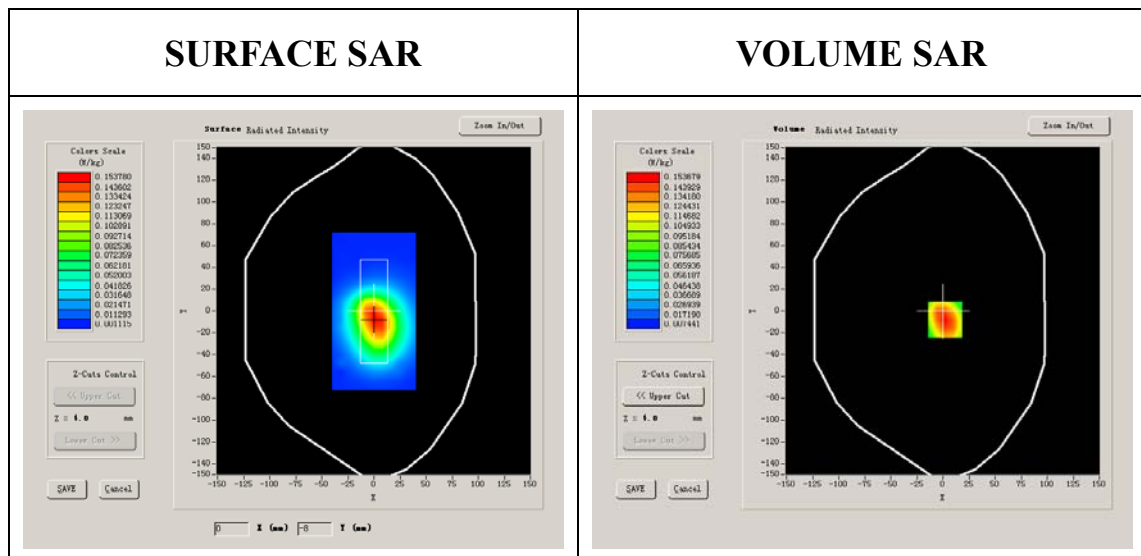
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	High
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Higher Band SAR (Channel 4233):

<b>Frequency (MHz)</b>	846.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	0.746221
<b>Variation (%)</b>	-0.440000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:1



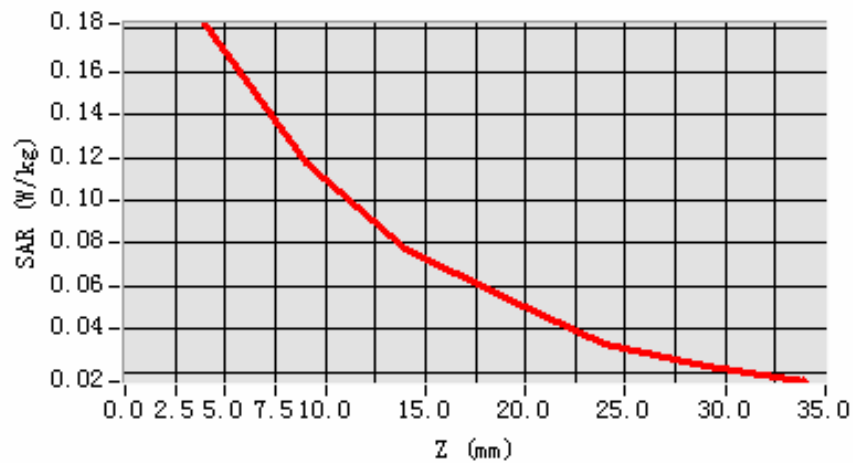
**Maximum location: X=2.00, Y=-8.00**

<b>SAR 10g (W/Kg)</b>	0.109601
<b>SAR 1g (W/Kg)</b>	0.175579

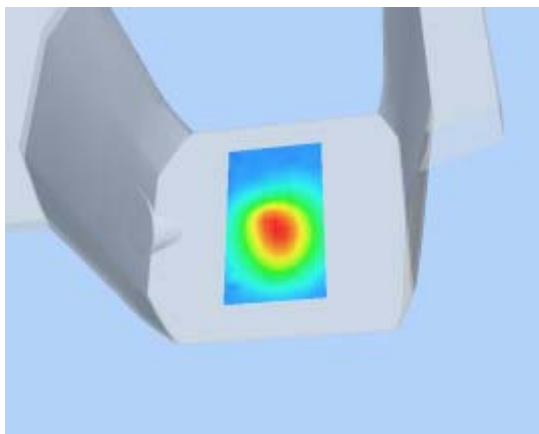
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1824	0.1172	0.0776	0.0545	0.0335	0.0229

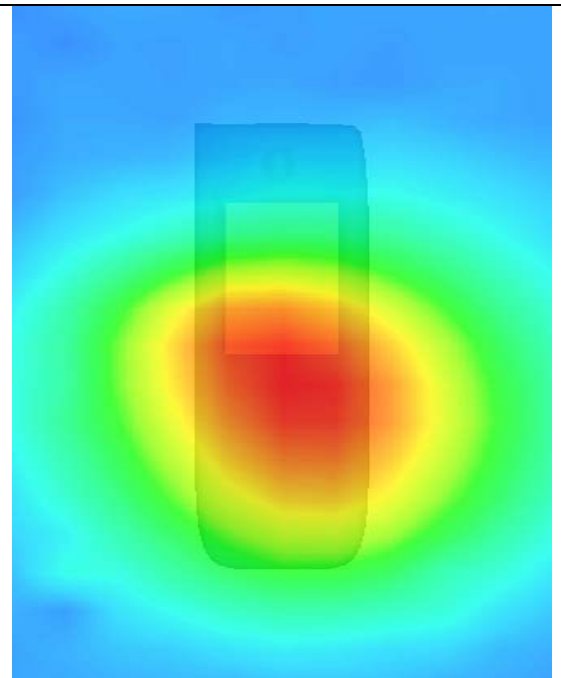
**SAR, Z Axis Scan (X = 2, Y = -8)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 37

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 9 seconds

### A. Experimental conditions.

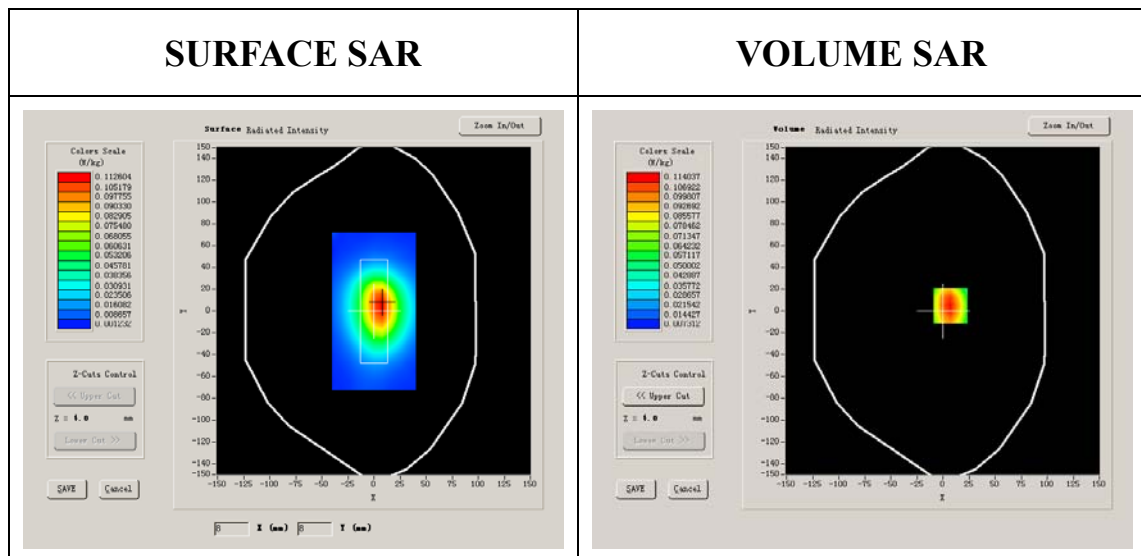
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Low
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Lower Band SAR (Channel 4132):

<b>Frequency (MHz)</b>	826.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	0.728580
<b>Variation (%)</b>	1.240000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:1



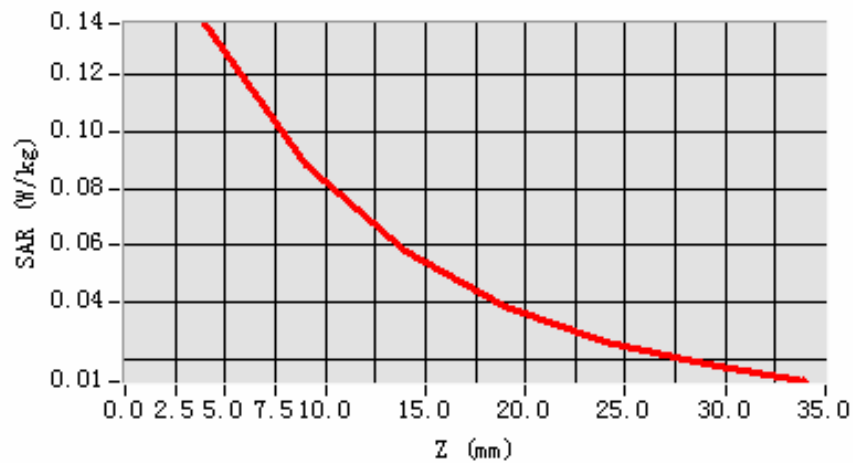
**Maximum location: X=7.00, Y=5.00**

<b>SAR 10g (W/Kg)</b>	0.081662
<b>SAR 1g (W/Kg)</b>	0.131085

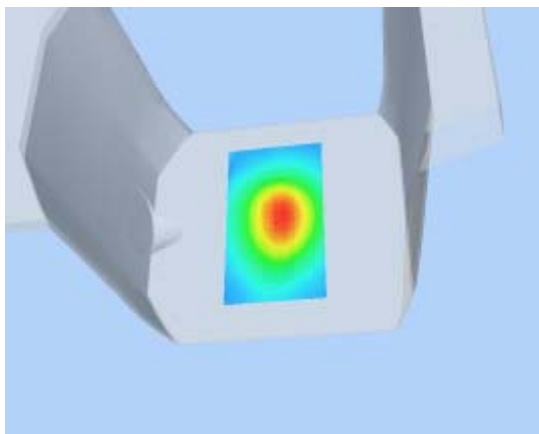
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1375	0.0883	0.0578	0.0388	0.0266	0.0185

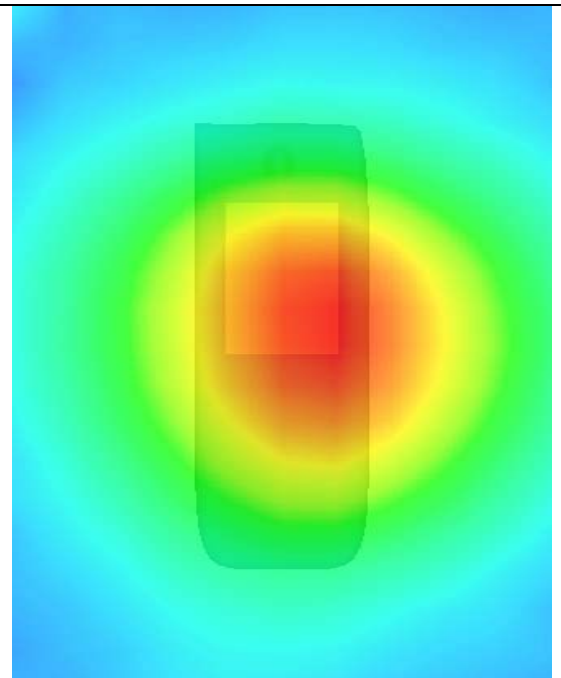
**SAR, Z Axis Scan (X = 7, Y = 5)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 38

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

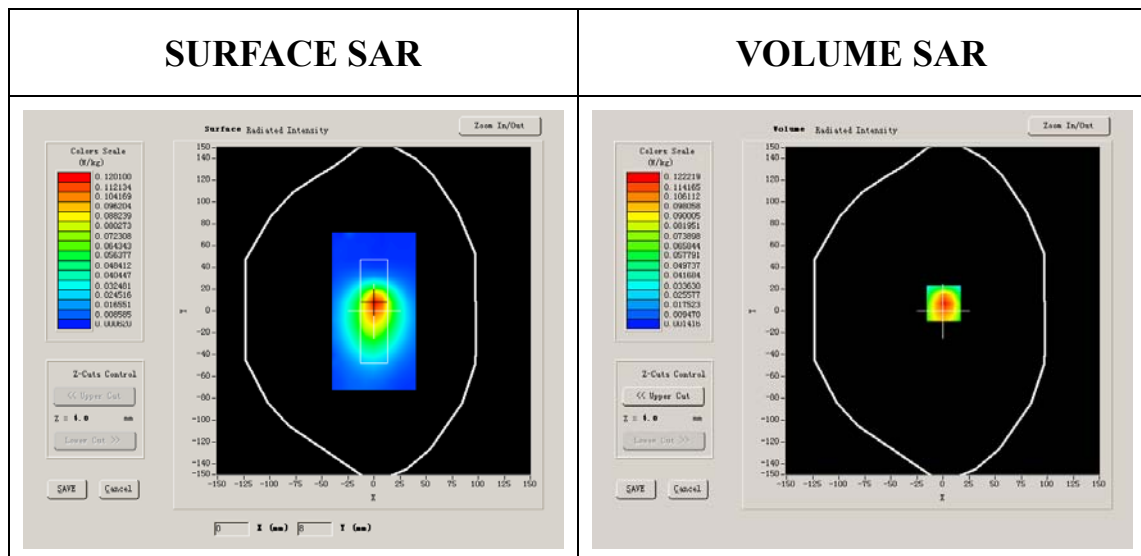
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Middle
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Middle Band SAR (Channel 4182):

<b>Frequency (MHz)</b>	836.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	0.737401
<b>Variation (%)</b>	-1.869995
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:1



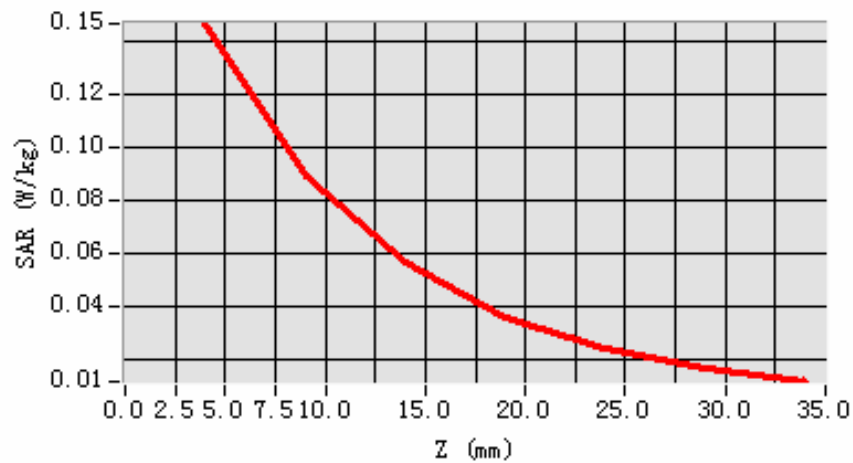
**Maximum location: X=1.00, Y=7.00**

<b>SAR 10g (W/Kg)</b>	0.081129
<b>SAR 1g (W/Kg)</b>	0.138529

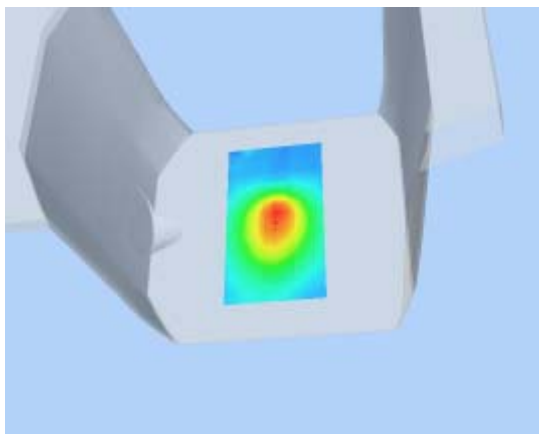
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1467	0.0894	0.0561	0.0356	0.0241	0.0160

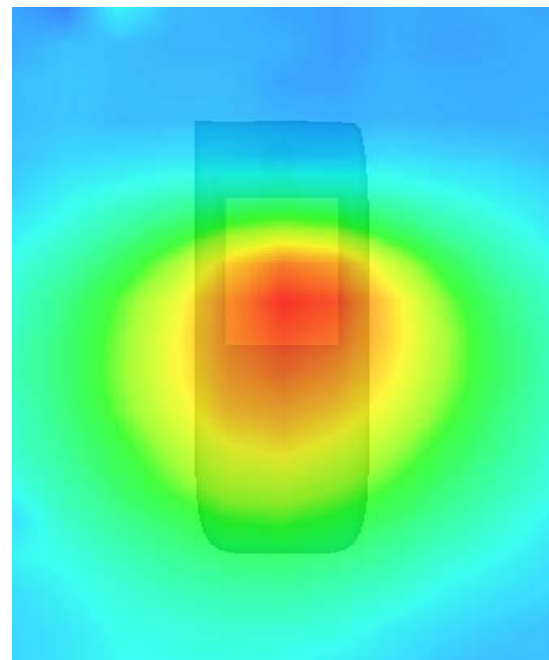
**SAR, Z Axis Scan (X = 1, Y = 7)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 39

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

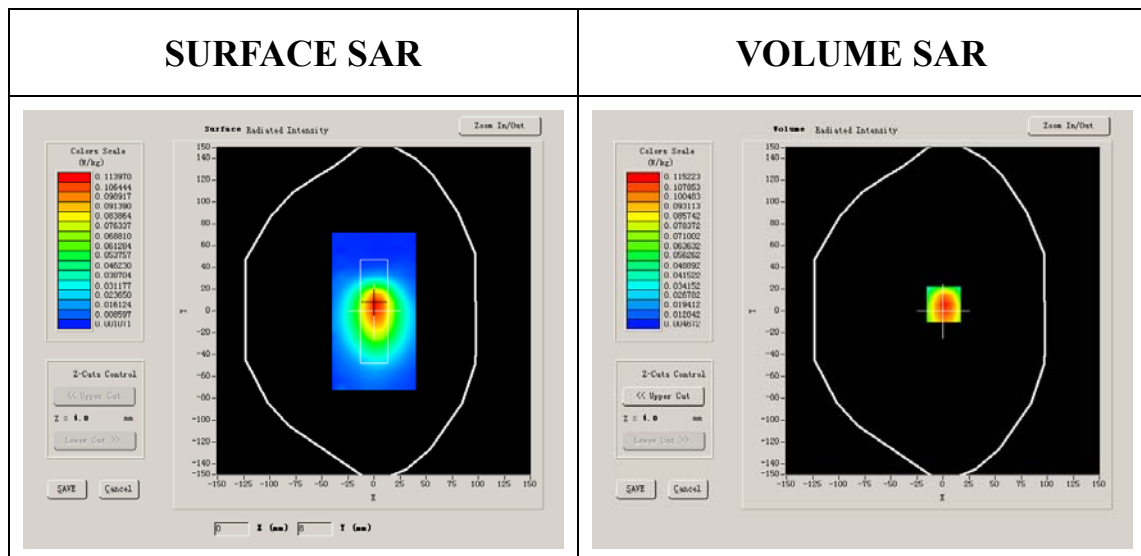
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	High
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Higher Band SAR (Channel 4233):

<b>Frequency (MHz)</b>	846.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	0.746221
<b>Variation (%)</b>	0.880000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:1



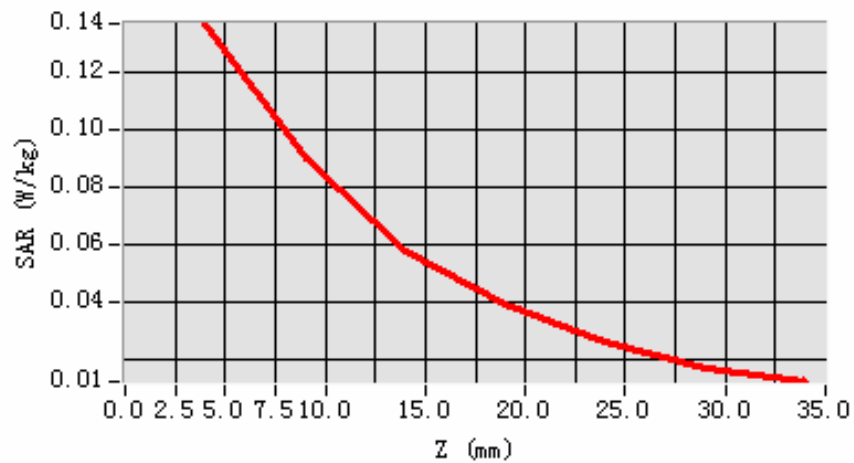
**Maximum location: X=1.00, Y=6.00**

<b>SAR 10g (W/Kg)</b>	0.080781
<b>SAR 1g (W/Kg)</b>	0.130446

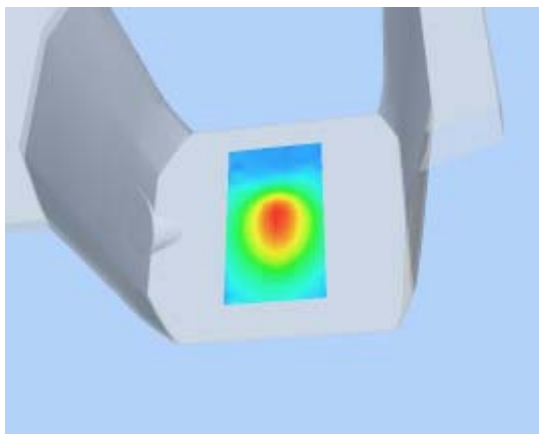
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1367	0.0897	0.0579	0.0390	0.0261	0.0169

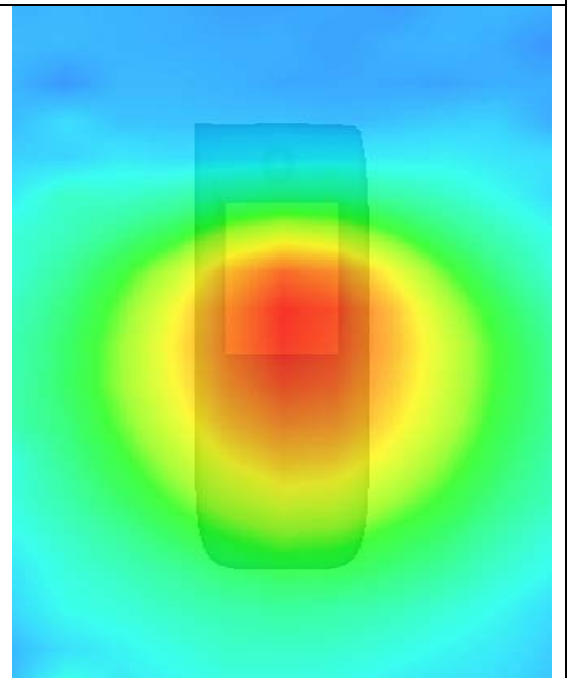
**SAR, Z Axis Scan (X = 1, Y = 6)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 40

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 14 seconds

### A. Experimental conditions.

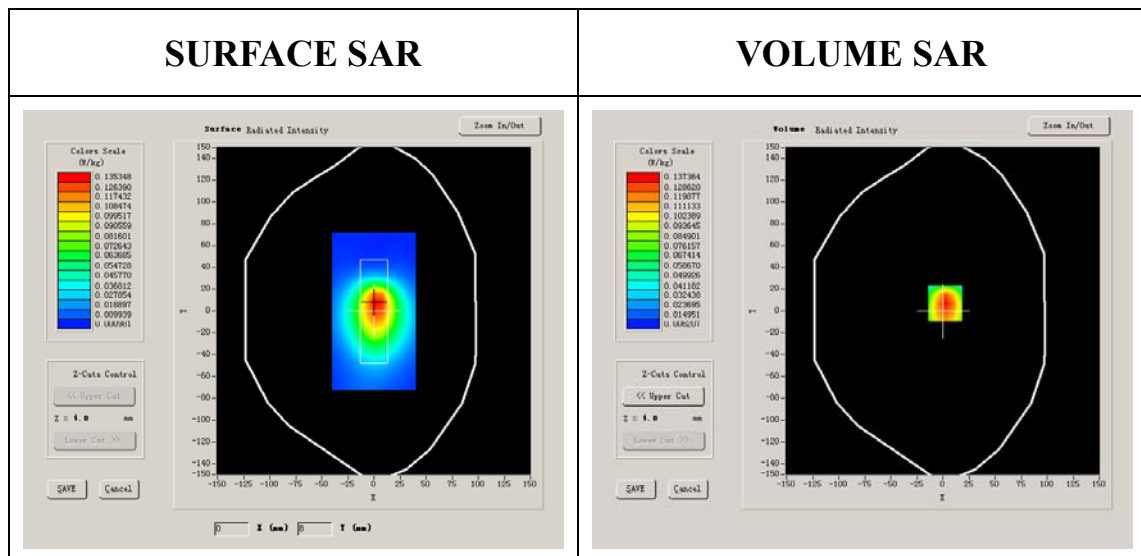
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Low
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Lower Band SAR (Channel 4132):

<b>Frequency (MHz)</b>	826.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	0.728580
<b>Variation (%)</b>	-0.020000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:1



**Maximum location: X=2.00, Y=7.00**

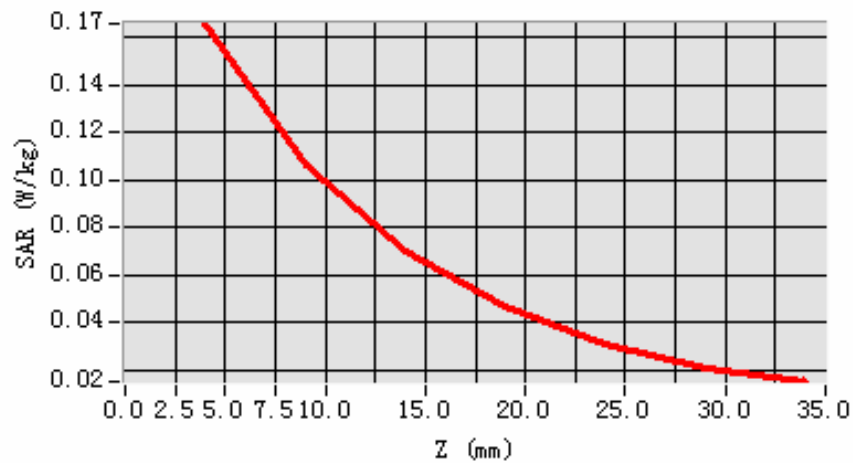
<b>SAR 10g (W/Kg)</b>	0.097124
<b>SAR 1g (W/Kg)</b>	0.157883



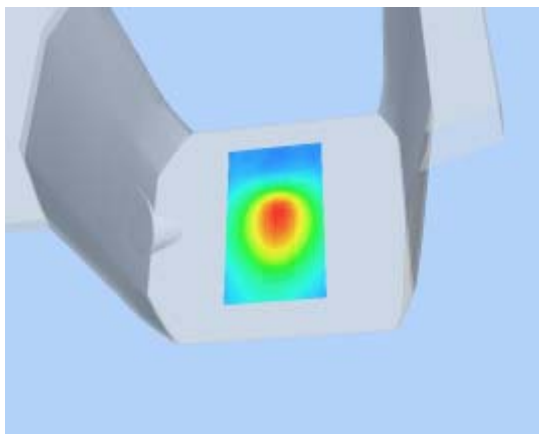
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1656	0.1065	0.0698	0.0469	0.0311	0.0211

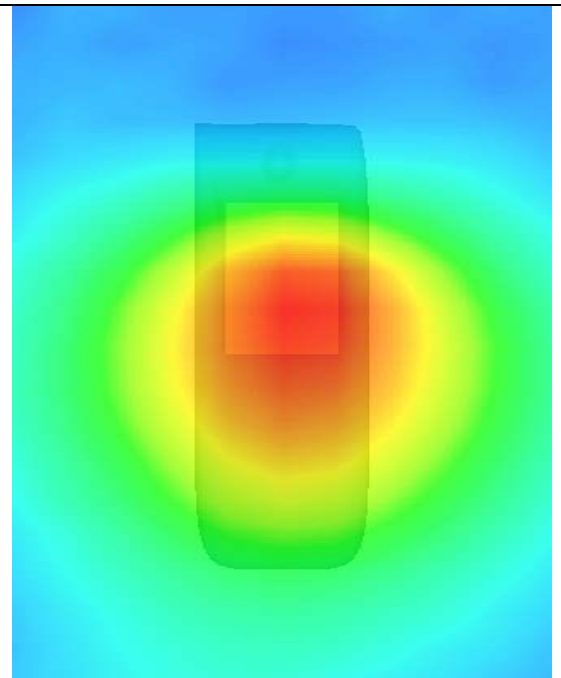
**SAR, Z Axis Scan (X = 2, Y = 7)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 41

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

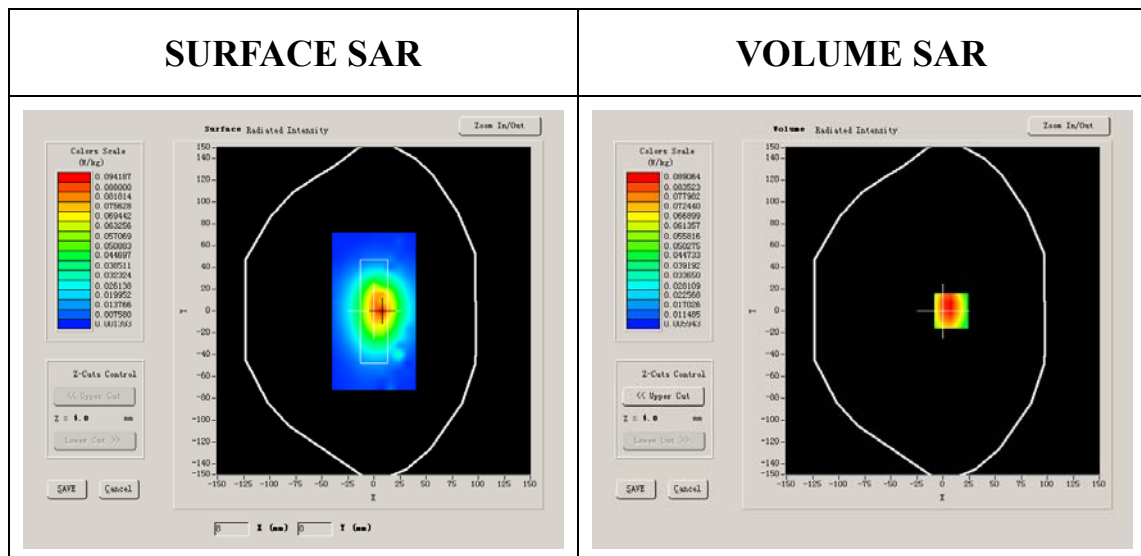
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Middle
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Middle Band SAR (Channel 4182):

<b>Frequency (MHz)</b>	836.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	0.737401
<b>Variation (%)</b>	-2.670000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:1



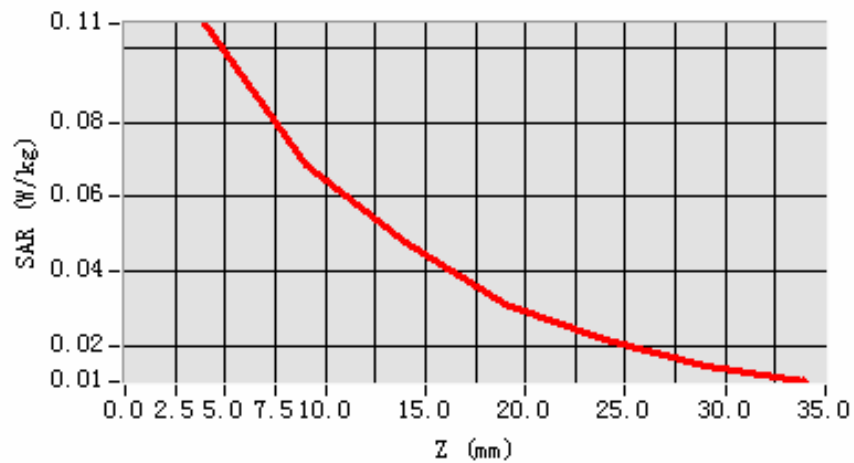
**Maximum location: X=8.00, Y=0.00**

<b>SAR 10g (W/Kg)</b>	0.064630
<b>SAR 1g (W/Kg)</b>	0.104075

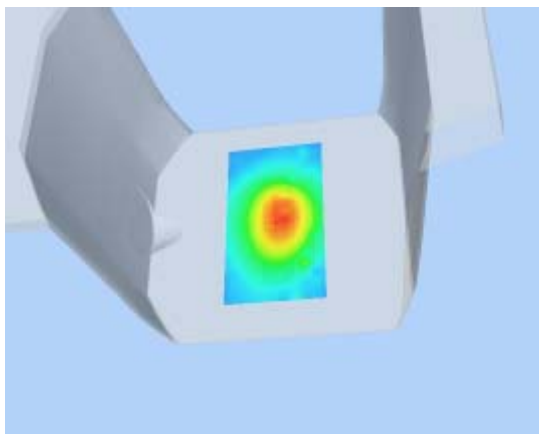
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1065	0.0687	0.0476	0.0310	0.0217	0.0147

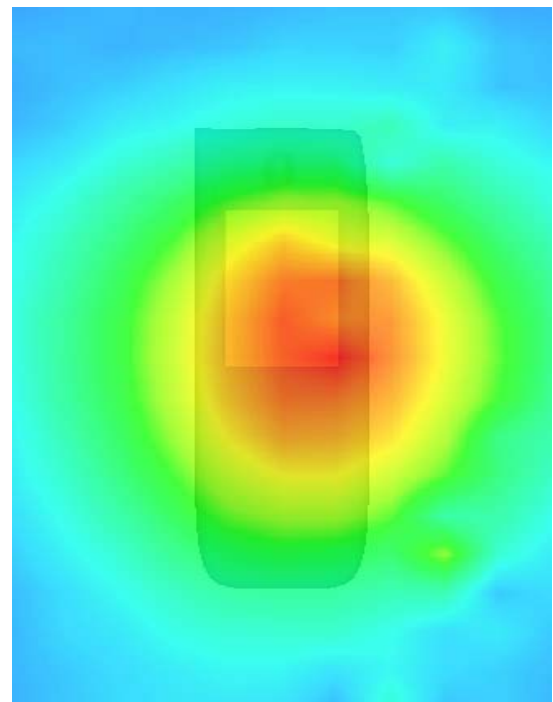
**SAR, Z Axis Scan (X = 8, Y = 0)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 42

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 8 seconds

### A. Experimental conditions.

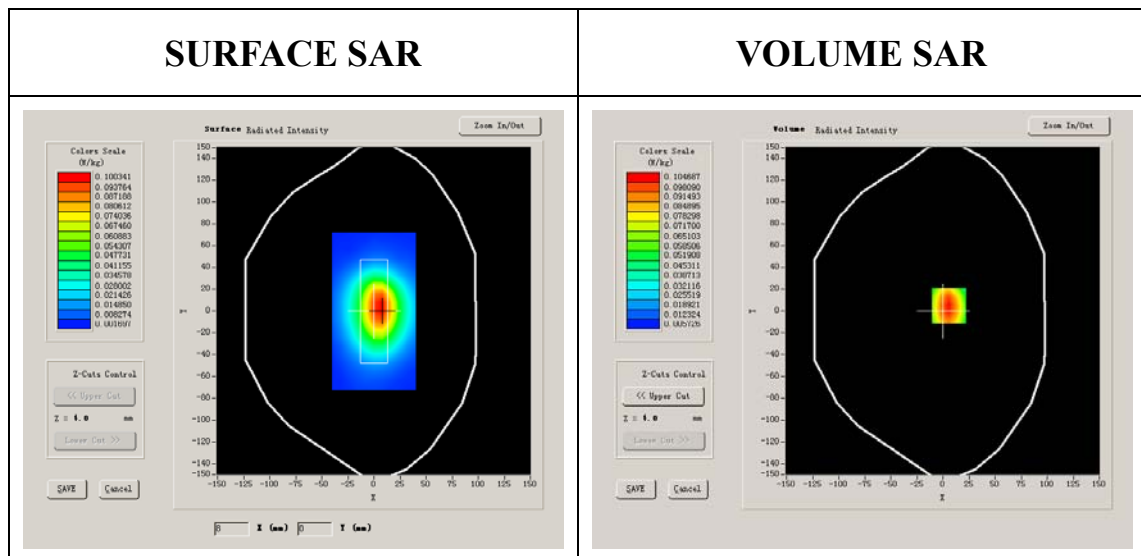
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	High
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Higher Band SAR (Channel 4233):

<b>Frequency (MHz)</b>	846.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	0.746221
<b>Variation (%)</b>	1.150000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:1



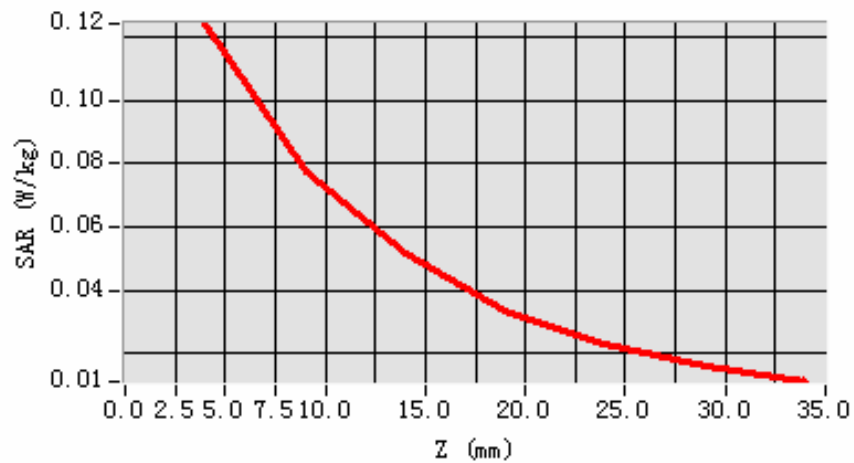
**Maximum location: X=6.00, Y=5.00**

<b>SAR 10g (W/Kg)</b>	0.073158
<b>SAR 1g (W/Kg)</b>	0.117708

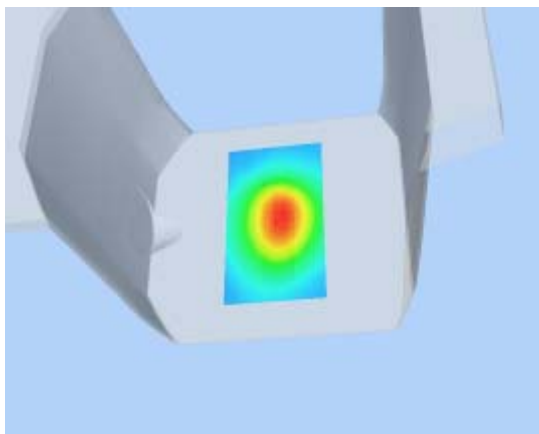
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.1242	0.0777	0.0517	0.0331	0.0231	0.0163

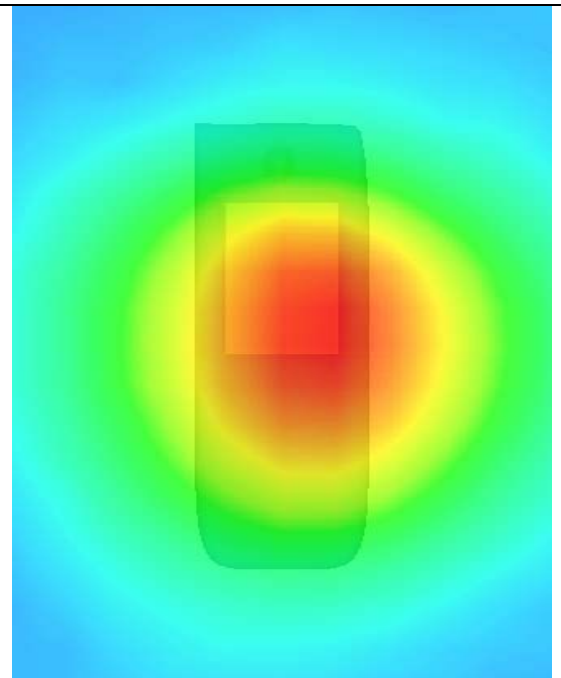
**SAR, Z Axis Scan (X = 6, Y = 5)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 43

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 4 seconds

### A. Experimental conditions.

<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Low
<b>Signal</b>	HSDPA

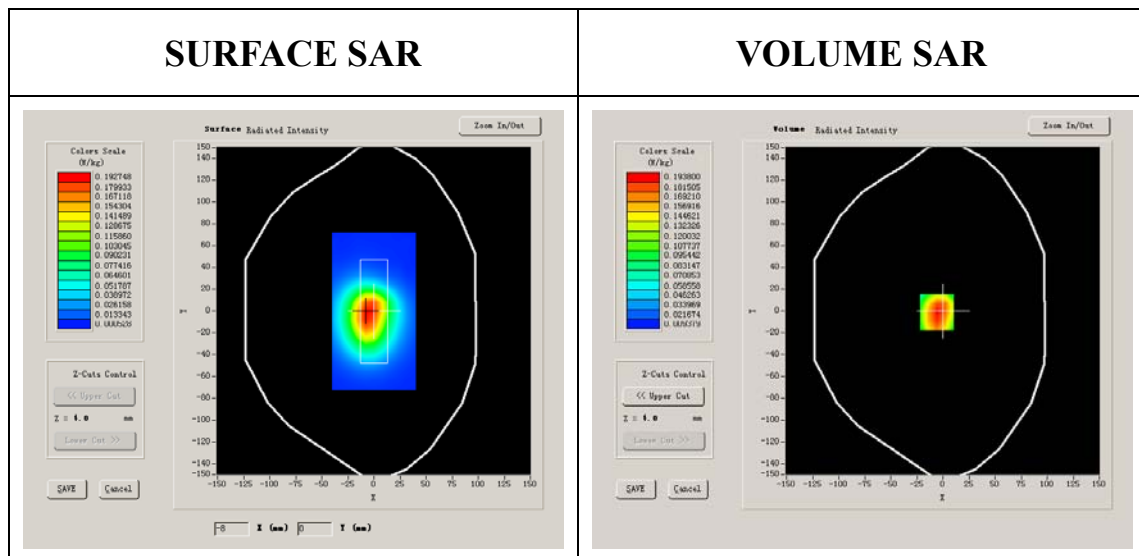
### B. SAR Measurement Results

Lower Band SAR (Channel 4132):

<b>Frequency (MHz)</b>	826.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050



<b>Conductivity (S/m)</b>	0.728580
<b>Variation (%)</b>	-0.590000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:1



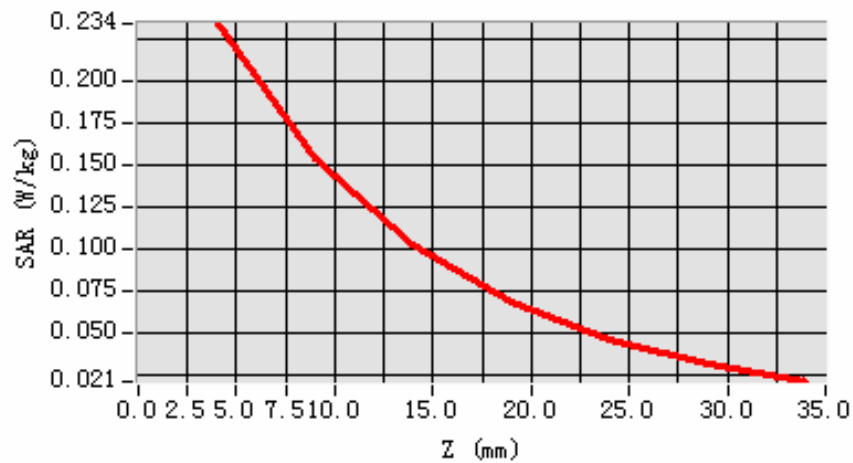
**Maximum location: X=-6.00, Y=-1.00**

<b>SAR 10g (W/Kg)</b>	0.173466
<b>SAR 1g (W/Kg)</b>	0.263984

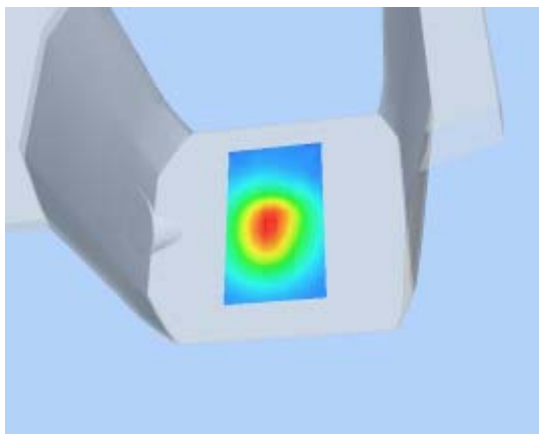
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2336	0.1534	0.1026	0.0680	0.0465	0.0316

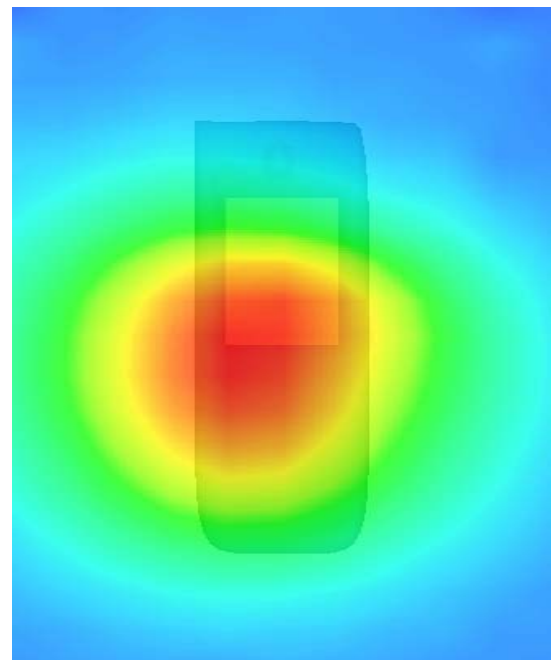
**SAR, Z Axis Scan (X = -6, Y = -1)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 44

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 4 seconds

### A. Experimental conditions.

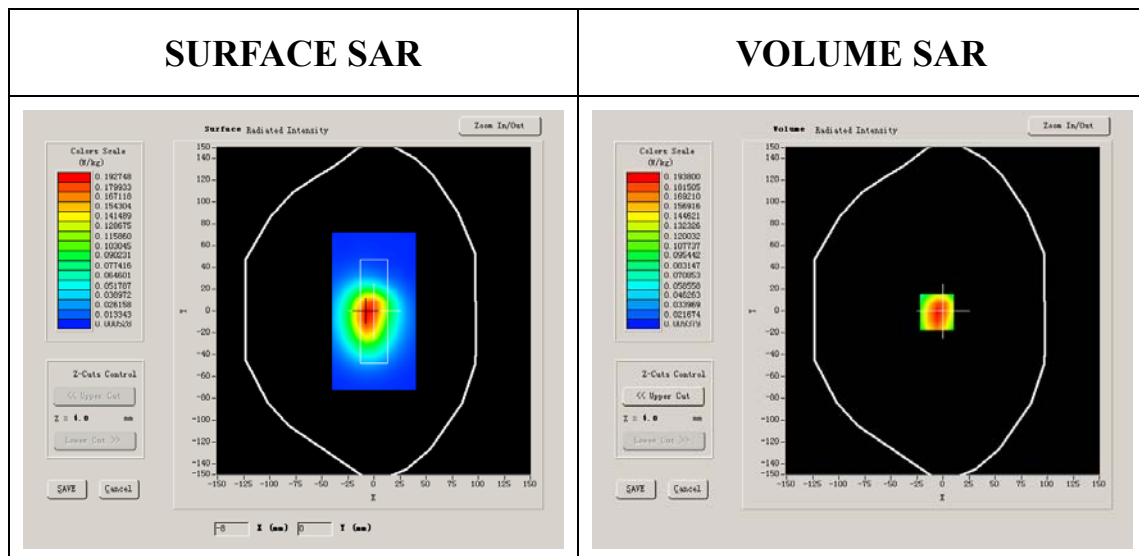
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Low
<b>Signal</b>	HSUPA

### B. SAR Measurement Results

Lower Band SAR (Channel 4132):

<b>Frequency (MHz)</b>	826.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	0.728580
<b>Variation (%)</b>	-0.590000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:1



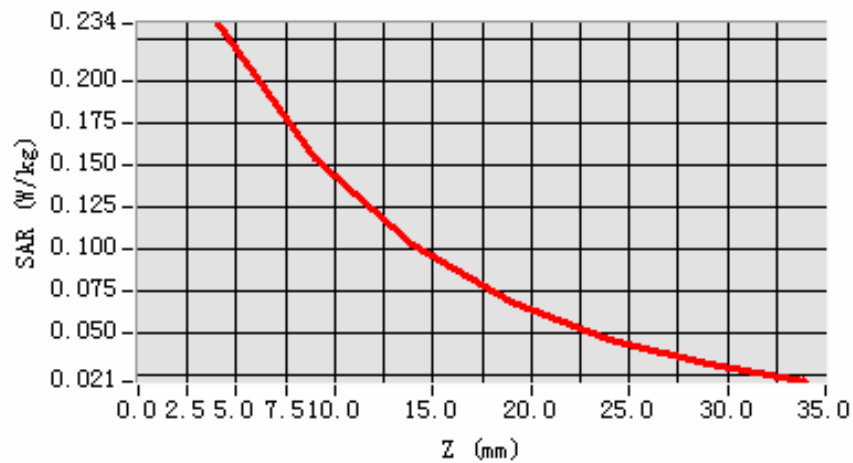
**Maximum location: X=-6.00, Y=-1.00**

<b>SAR 10g (W/Kg)</b>	0.163544
<b>SAR 1g (W/Kg)</b>	0.253766

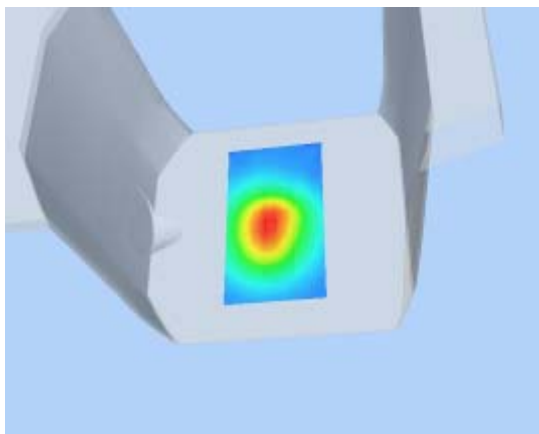
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2336	0.1534	0.1026	0.0680	0.0465	0.0316

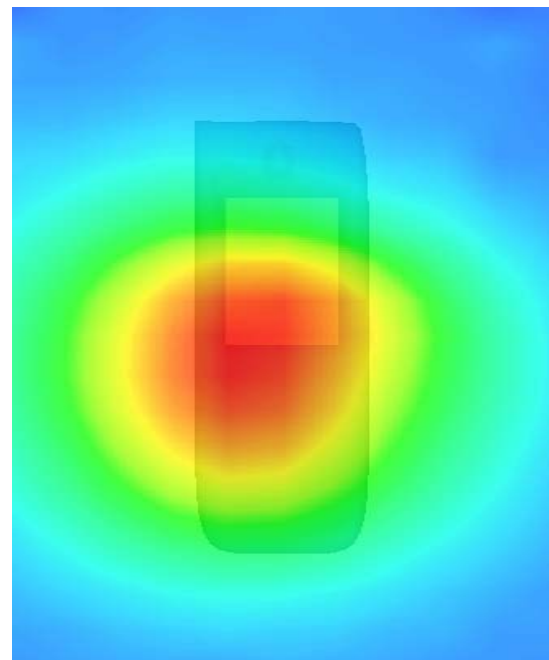
**SAR, Z Axis Scan (X = -6, Y = -1)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 45

Type: Phone measurement (Complete)

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

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

Date of measurement: 25/9/2009

Measurement duration: 9 minutes 6 seconds

### A. Experimental conditions.

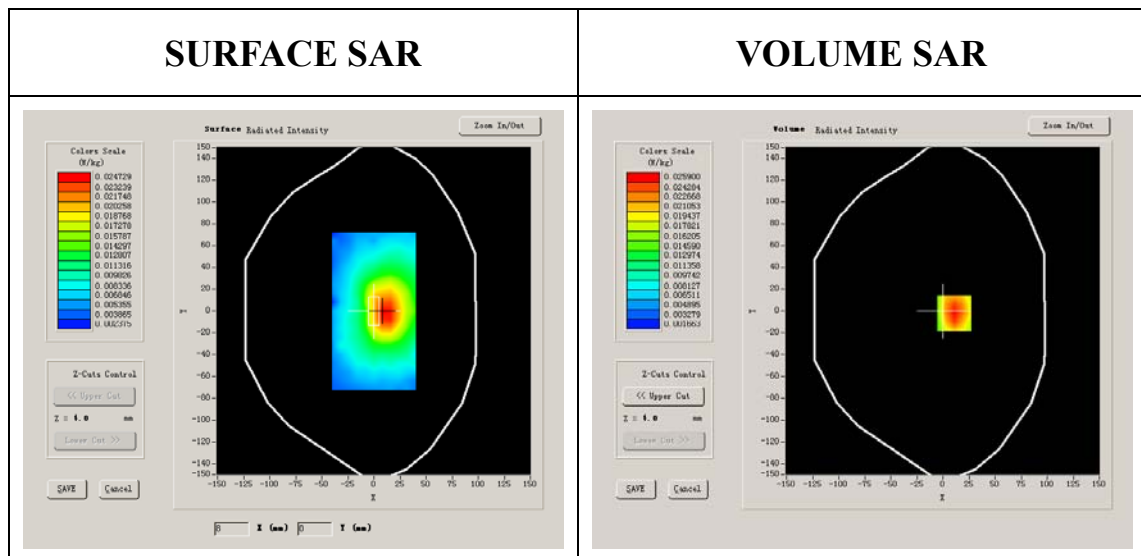
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Low
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Lower Band SAR (Channel 4132):

<b>Frequency (MHz)</b>	826.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	0.728580
<b>Variation (%)</b>	0.470000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:1



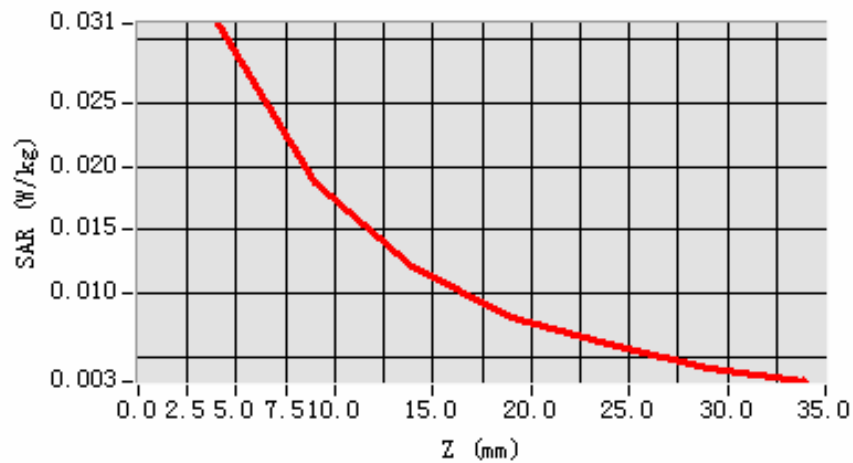
**Maximum location: X=11.00, Y=-2.00**

<b>SAR 10g (W/Kg)</b>	0.018942
<b>SAR 1g (W/Kg)</b>	0.029973

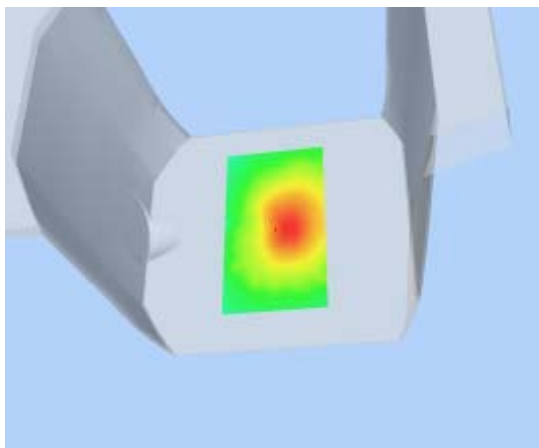
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.0312	0.0186	0.0121	0.0081	0.0060	0.0042

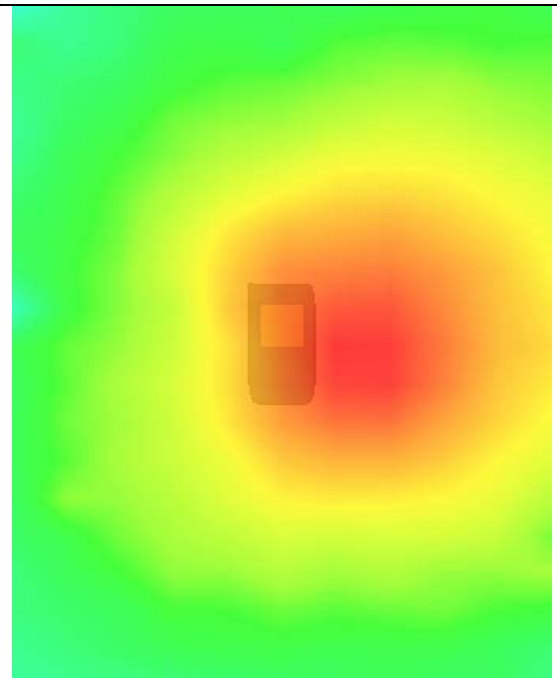
**SAR, Z Axis Scan (X = 11, Y = -2)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 46

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

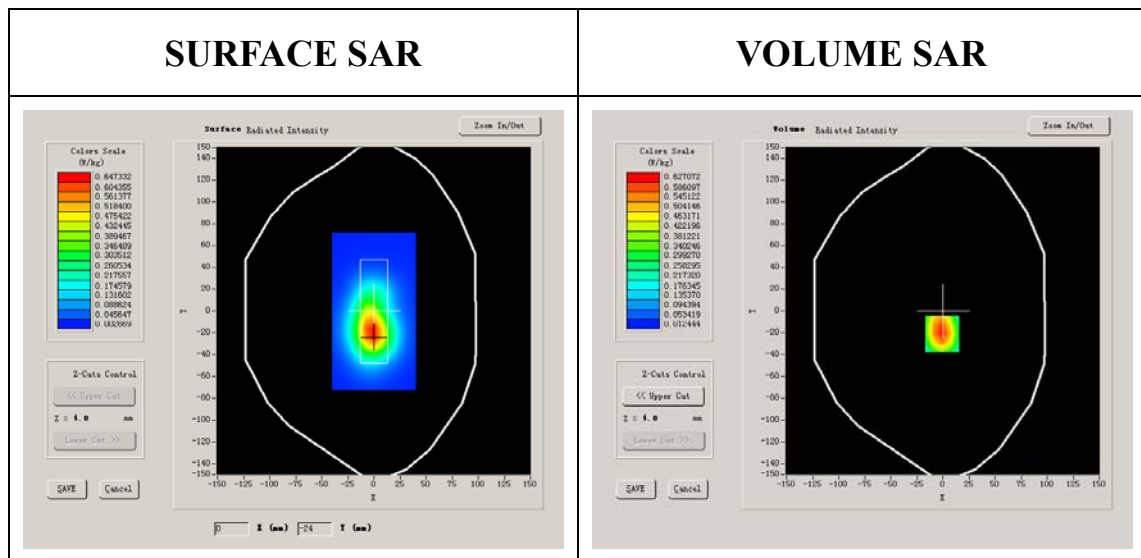
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Low
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Lower Band SAR (Channel 9262):

<b>Frequency (MHz)</b>	1852.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	1.633572
<b>Variation (%)</b>	-3.120000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:1



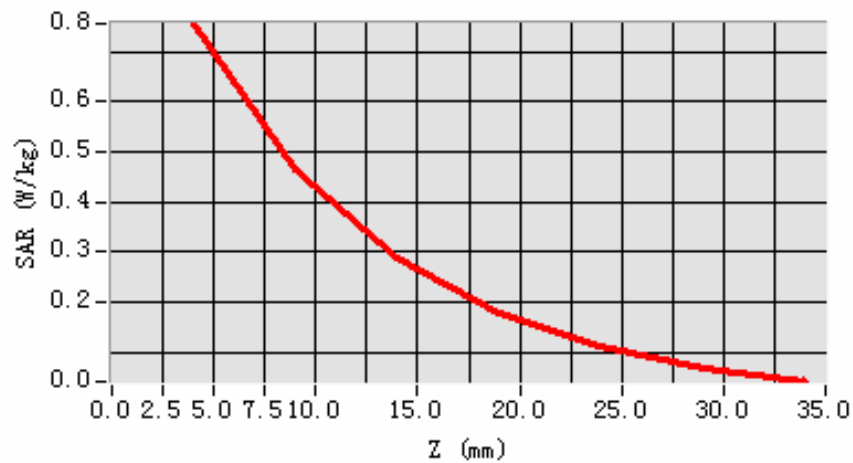
**Maximum location: X=-1.00, Y=-21.00**

<b>SAR 10g (W/Kg)</b>	0.413016
<b>SAR 1g (W/Kg)</b>	0.712829

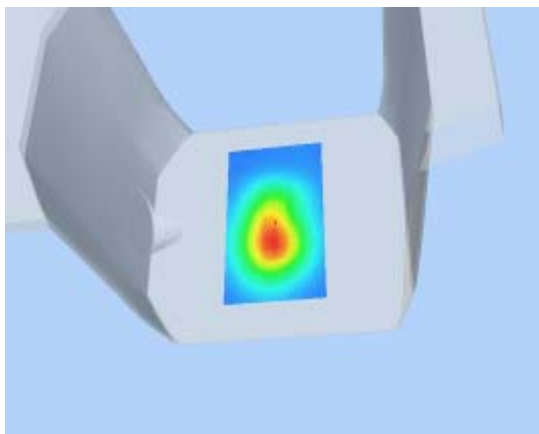
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7560	0.4640	0.2874	0.1775	0.1098	0.0668

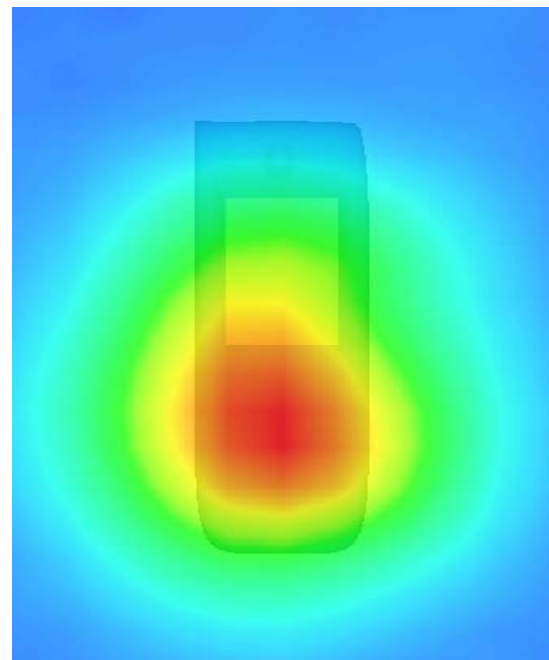
**SAR, Z Axis Scan (X = -1, Y = -21)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 47

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

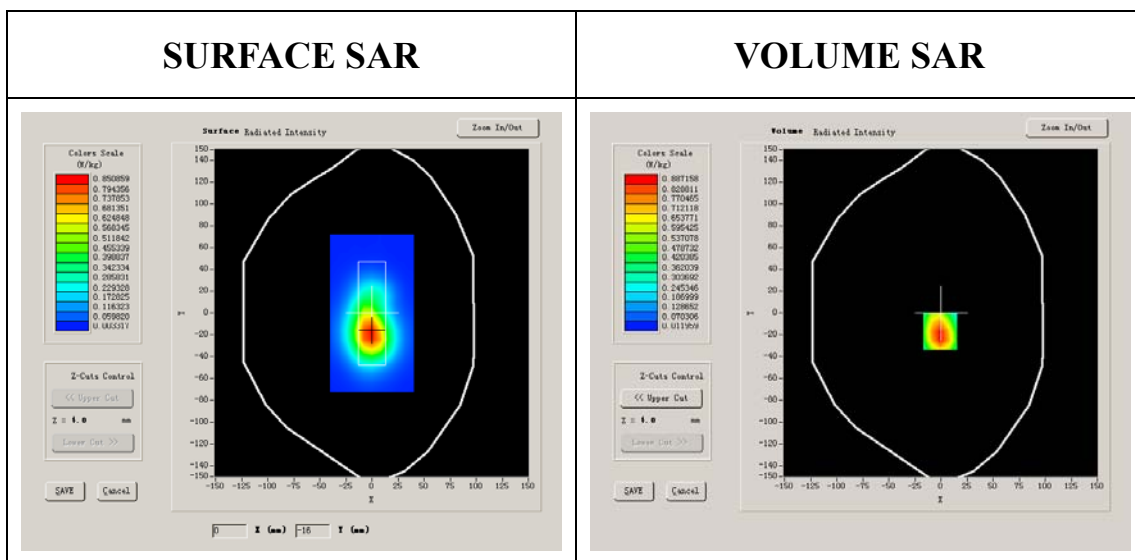
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Middle
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Middle Band SAR (Channel 9400):

<b>Frequency (MHz)</b>	1880.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	1.658270
<b>Variation (%)</b>	-0.280000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:1



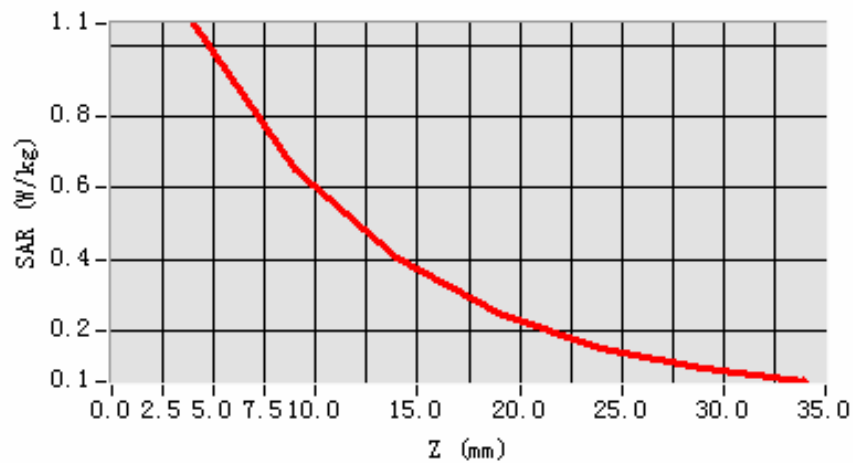
**Maximum location: X=-1.00, Y=-17.00**

<b>SAR 10g (W/Kg)</b>	0.580338
<b>SAR 1g (W/Kg)</b>	1.022543

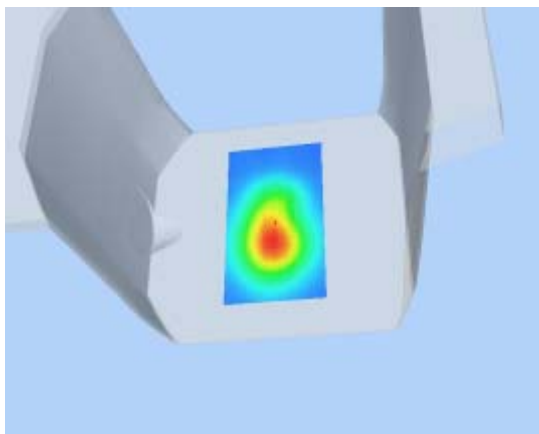
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.0647	0.6505	0.4041	0.2455	0.1476	0.0893

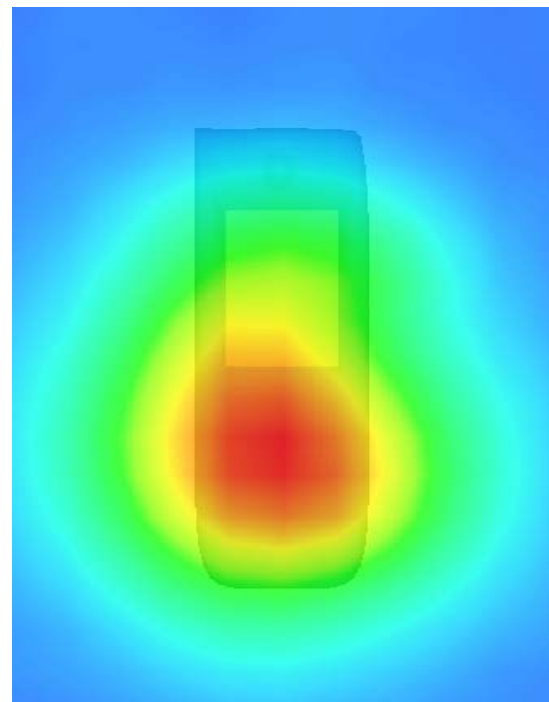
**SAR, Z Axis Scan (X = -1, Y = -17)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 48

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 8 seconds

### A. Experimental conditions.

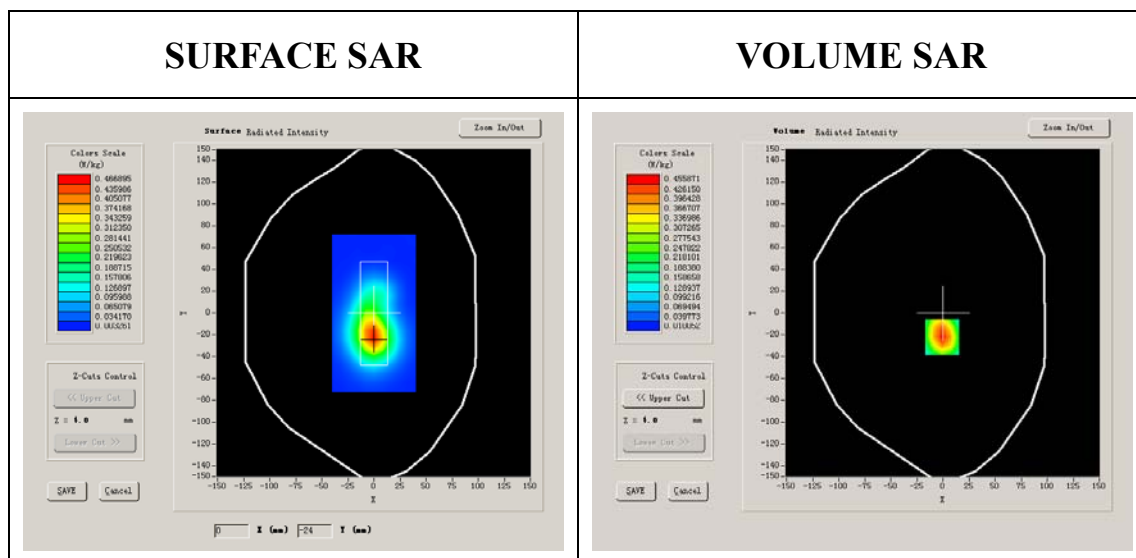
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	High
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Higher Band SAR (Channel 9538):

<b>Frequency (MHz)</b>	1907.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	1.682085
<b>Variation (%)</b>	-2.080000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:1



**Maximum location: X=-1.00, Y=-22.00**

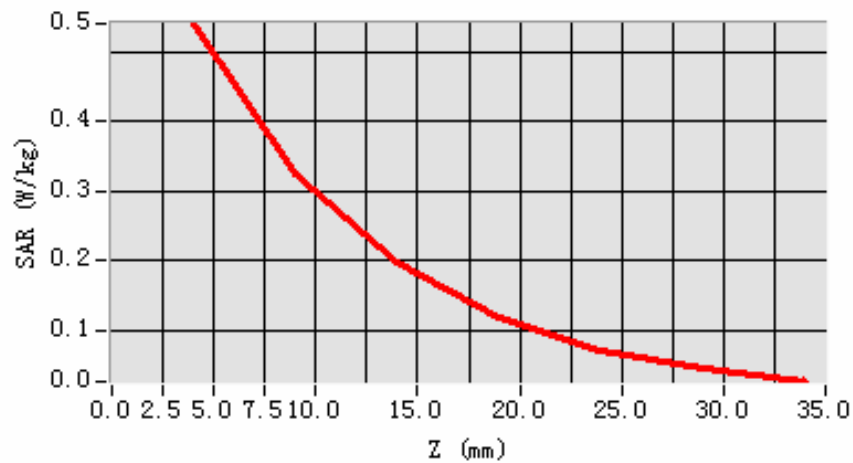
<b>SAR 10g (W/Kg)</b>	0.287282
<b>SAR 1g (W/Kg)</b>	0.507125



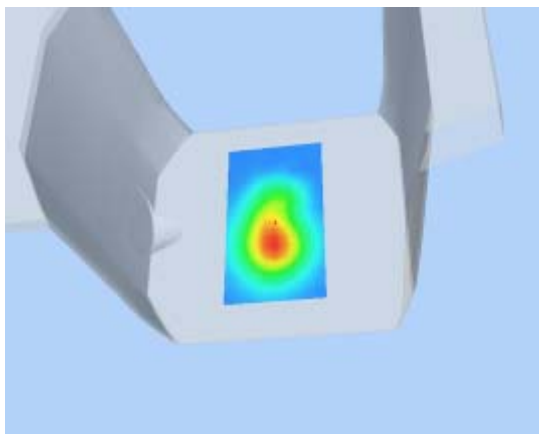
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.5409	0.3241	0.1979	0.1182	0.0728	0.0451

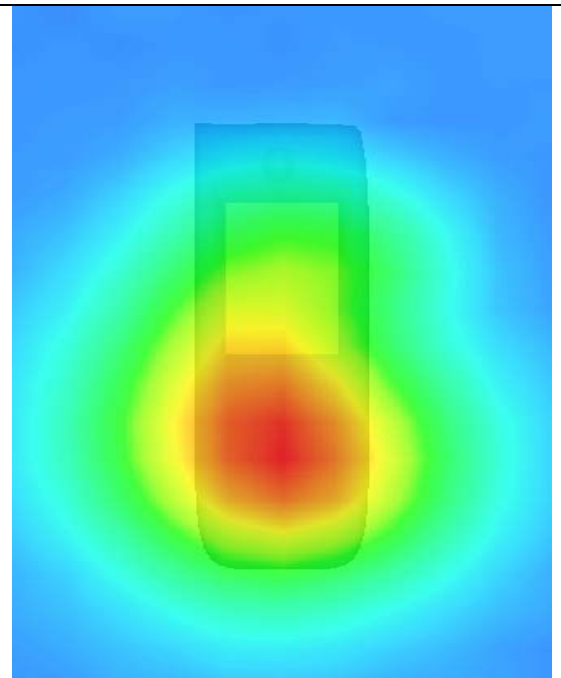
**SAR, Z Axis Scan (X = -1, Y = -22)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 49

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 0 seconds

### A. Experimental conditions.

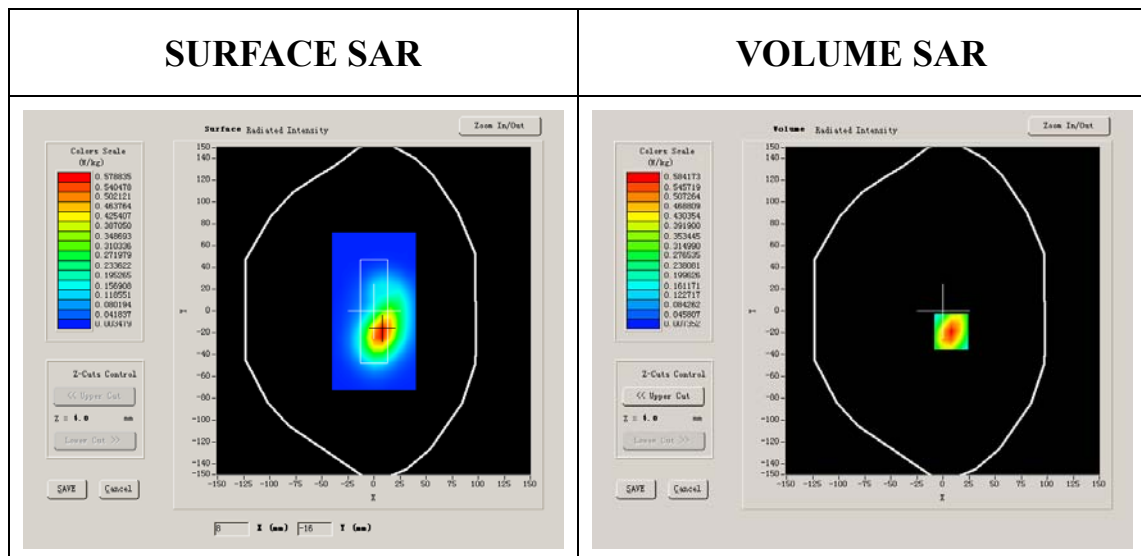
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Low
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Lower Band SAR (Channel 9262):

<b>Frequency (MHz)</b>	1852.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	1.633572
<b>Variation (%)</b>	-0.670000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:1



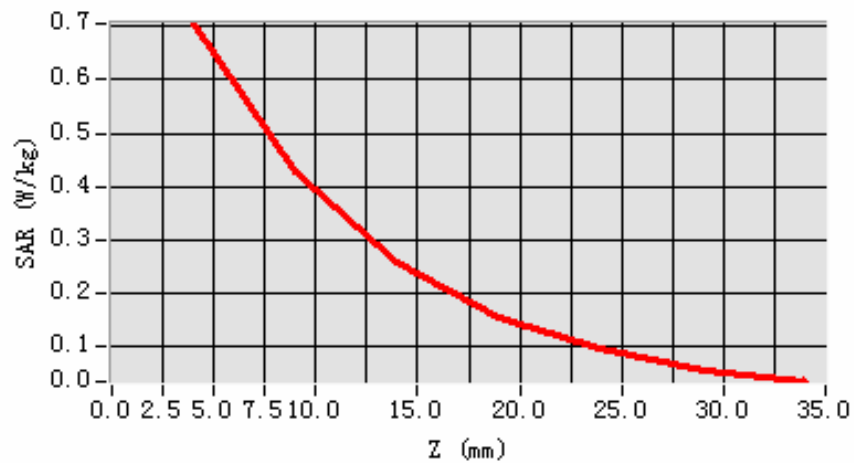
**Maximum location: X=8.00, Y=-19.00**

<b>SAR 10g (W/Kg)</b>	0.368526
<b>SAR 1g (W/Kg)</b>	0.656198

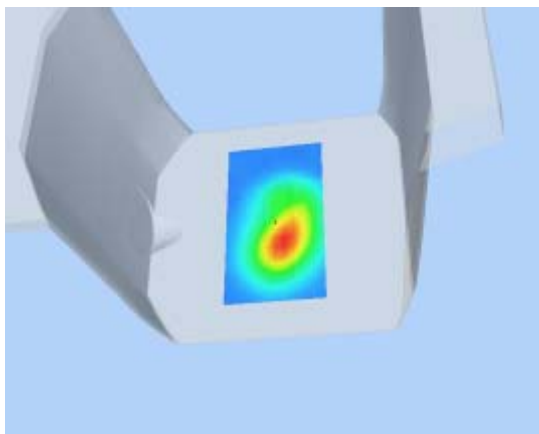
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7042	0.4273	0.2601	0.1555	0.0961	0.0578

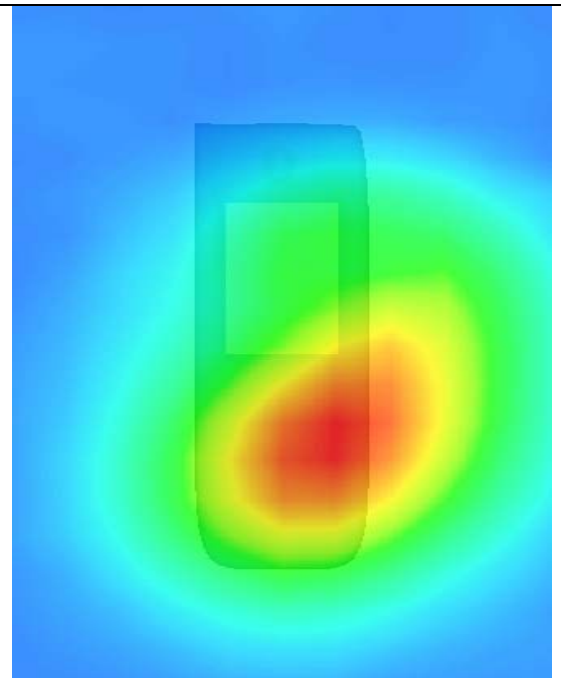
**SAR, Z Axis Scan (X = 8, Y = -19)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 50

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 13 seconds

### A. Experimental conditions.

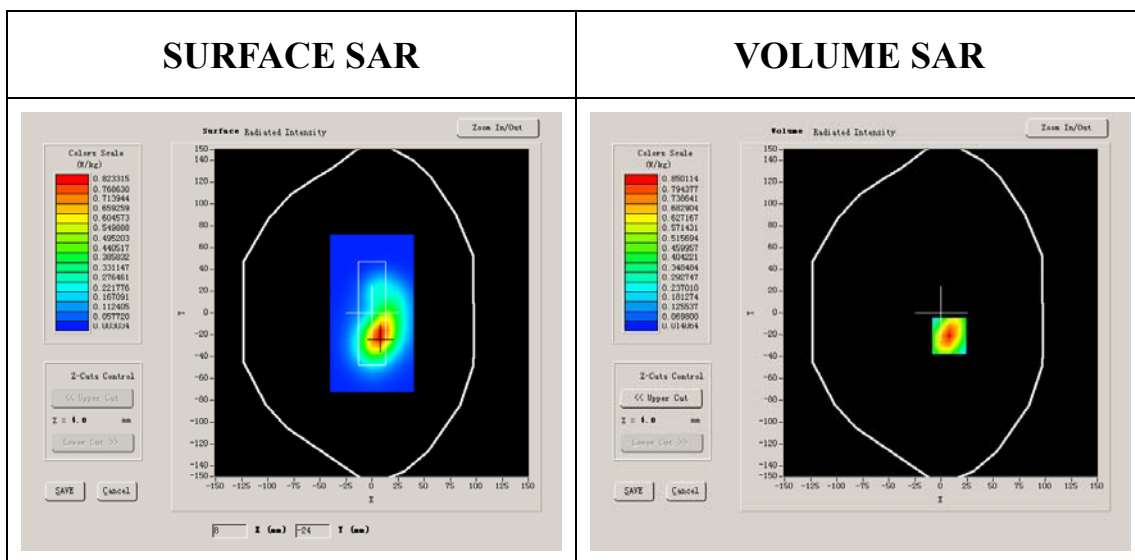
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Middle
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Middle Band SAR (Channel 9400):

<b>Frequency (MHz)</b>	1880.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	1.658270
<b>Variation (%)</b>	1.250000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:1



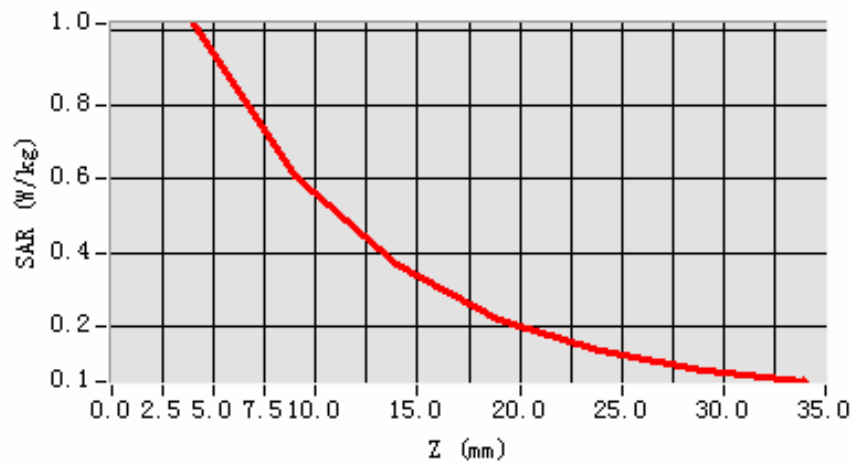
**Maximum location: X=8.00, Y=-21.00**

<b>SAR 10g (W/Kg)</b>	0.528429
<b>SAR 1g (W/Kg)</b>	0.948655

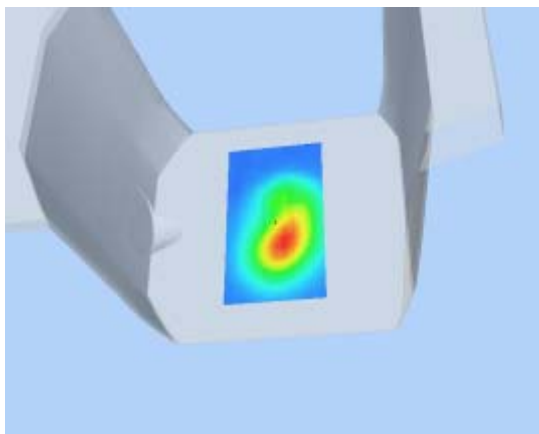
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.0202	0.6082	0.3656	0.2175	0.1321	0.0793

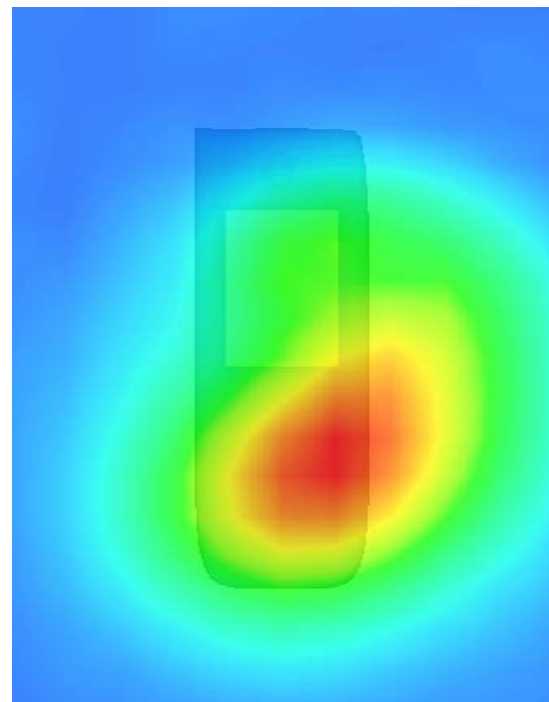
SAR, Z Axis Scan (X = 8, Y = -21)



3D scene shot



Hot spot position



## MEASUREMENT 51

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 6 seconds

### A. Experimental conditions.

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

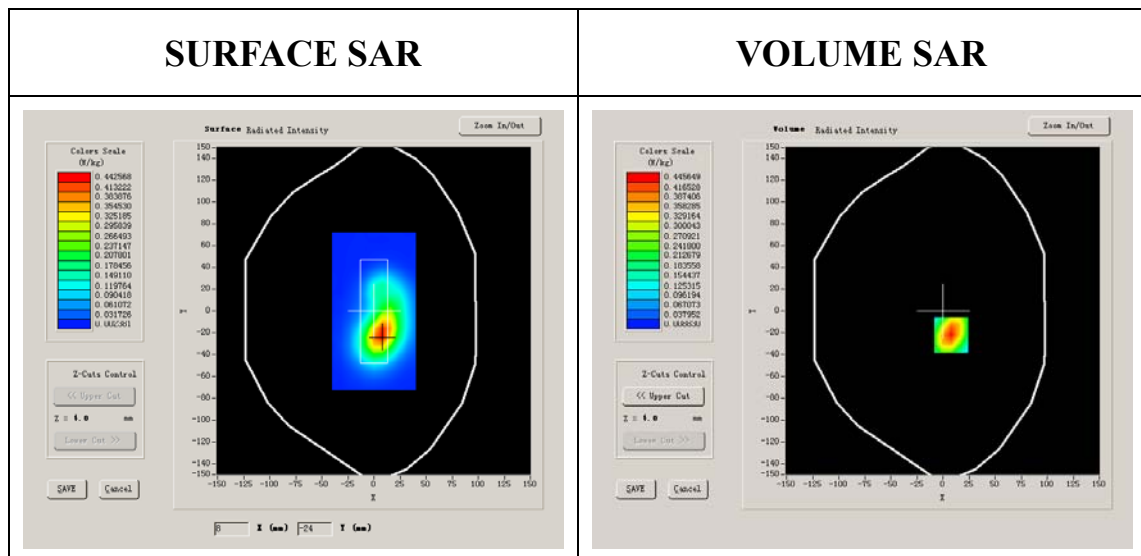
### B. SAR Measurement Results

Higher Band SAR (Channel 9538):

<b>Frequency (MHz)</b>	1907.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050



<b>Conductivity (S/m)</b>	1.682085
<b>Variation (%)</b>	-1.600000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:1



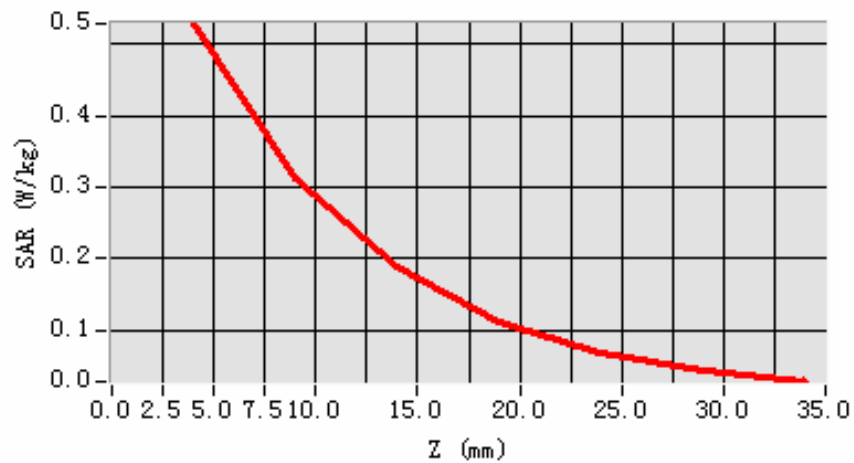
**Maximum location: X=8.00, Y=-22.00**

<b>SAR 10g (W/Kg)</b>	0.274011
<b>SAR 1g (W/Kg)</b>	0.493304

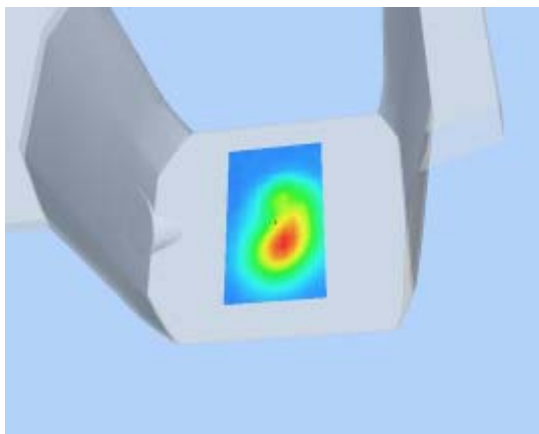
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.5288	0.3122	0.1875	0.1121	0.0684	0.0424

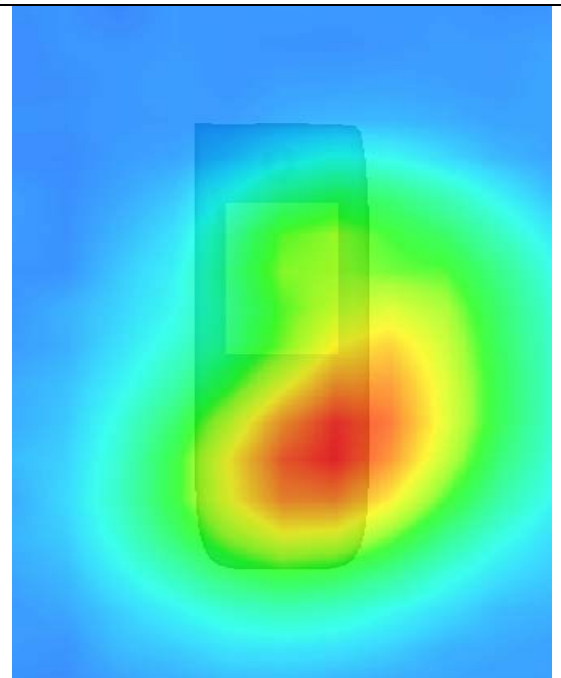
SAR, Z Axis Scan (X = 8, Y = -22)



3D scene shot



Hot spot position



## MEASUREMENT 52

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 4 seconds

### A. Experimental conditions.

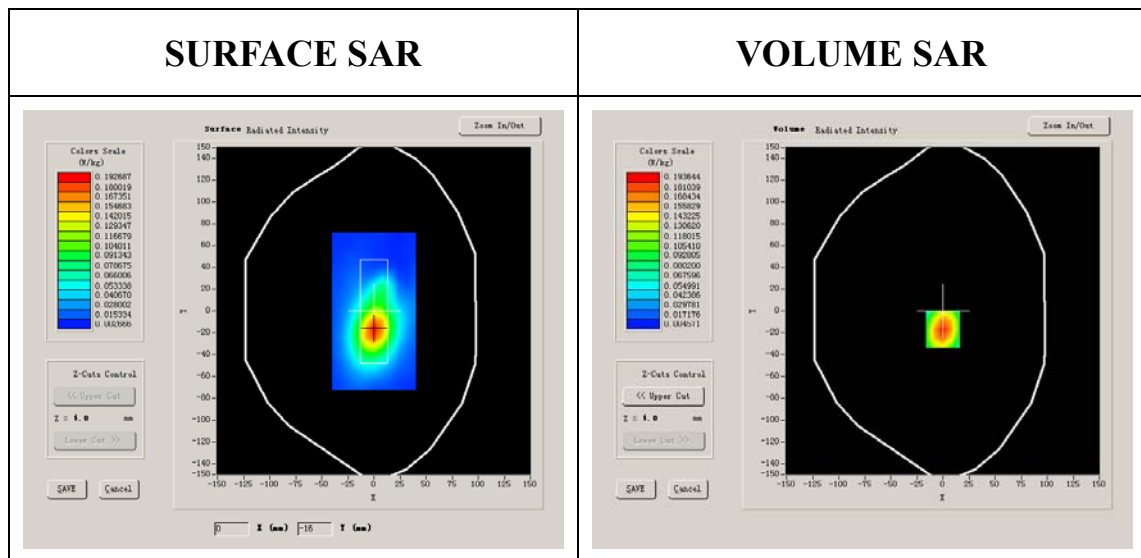
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Low
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Lower Band SAR (Channel 9262):

<b>Frequency (MHz)</b>	1852.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	1.633572
<b>Variation (%)</b>	0.840000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:1

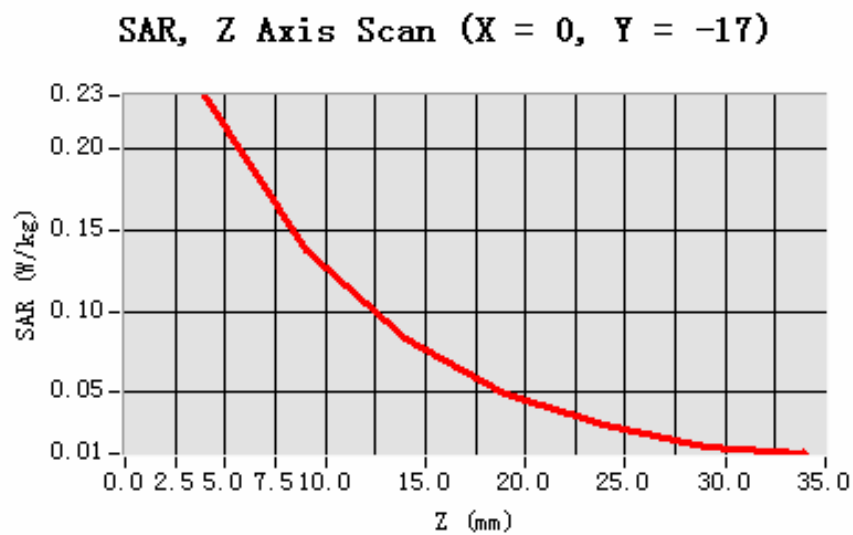


**Maximum location: X=0.00, Y=-17.00**

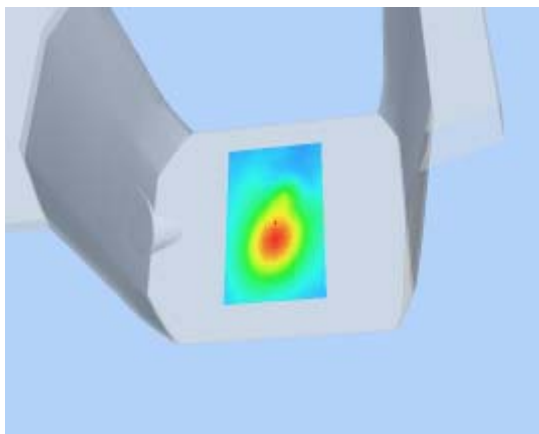
<b>SAR 10g (W/Kg)</b>	0.125073
<b>SAR 1g (W/Kg)</b>	0.220481

### Z Axis Scan

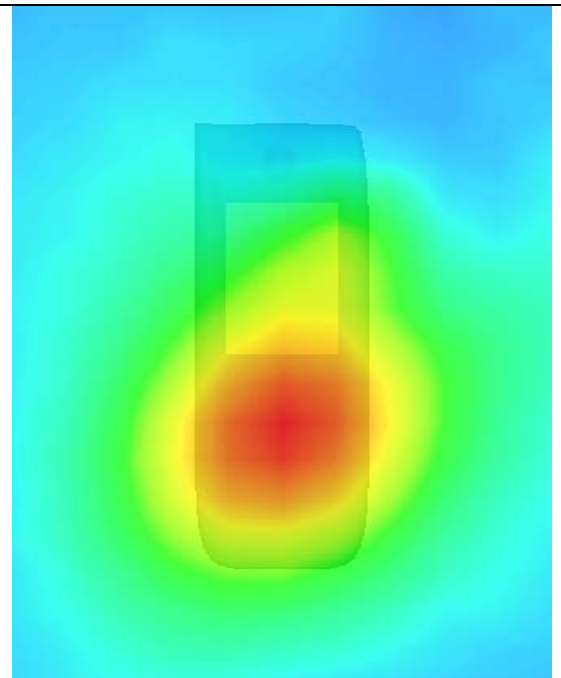
Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2334	0.1383	0.0830	0.0496	0.0294	0.0163



**3D scene shot**



**Hot spot position**



## MEASUREMENT 53

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 11 seconds

### A. Experimental conditions.

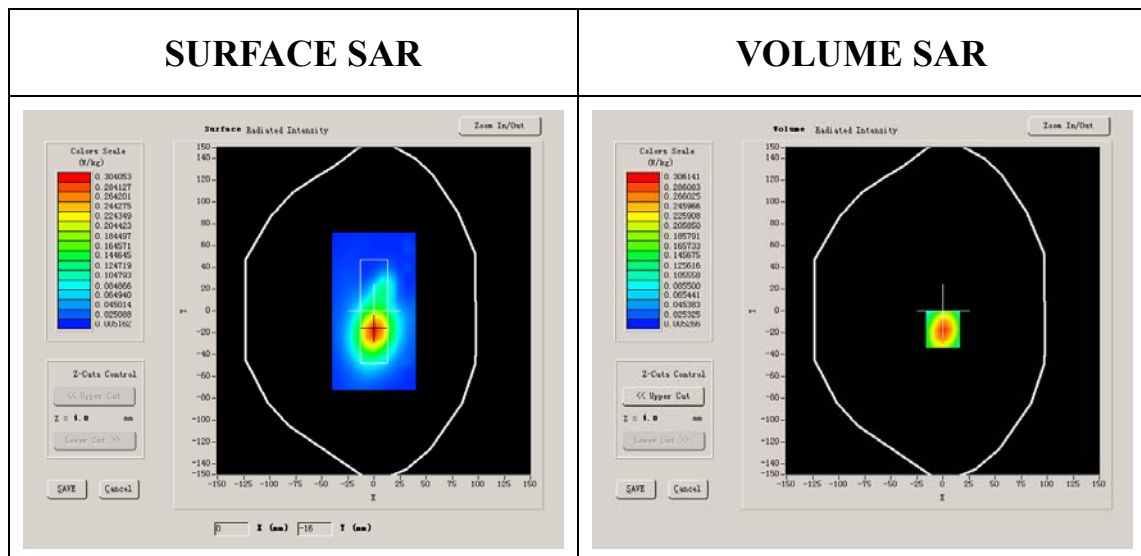
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Middle
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Middle Band SAR (Channel 9400):

<b>Frequency (MHz)</b>	1880.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	1.658270
<b>Variation (%)</b>	-0.590000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:1



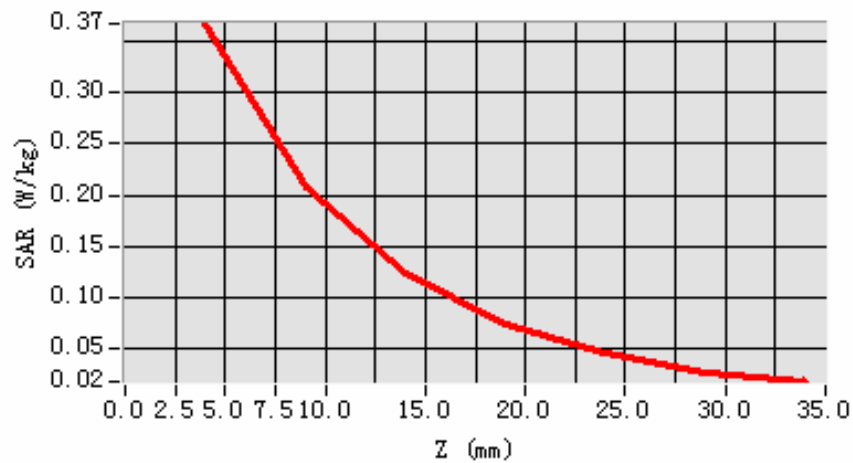
**Maximum location: X=0.00, Y=-17.00**

<b>SAR 10g (W/Kg)</b>	0.191035
<b>SAR 1g (W/Kg)</b>	0.345199

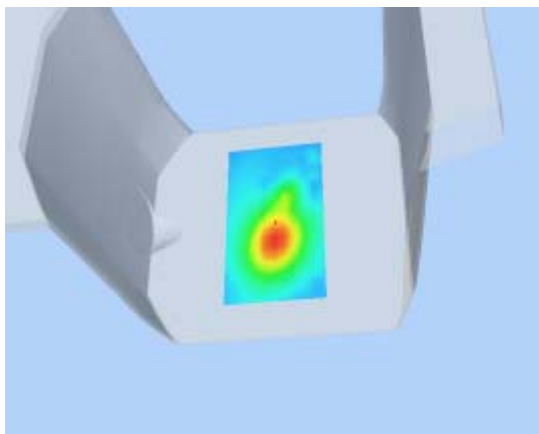
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.3674	0.2088	0.1240	0.0752	0.0454	0.0274

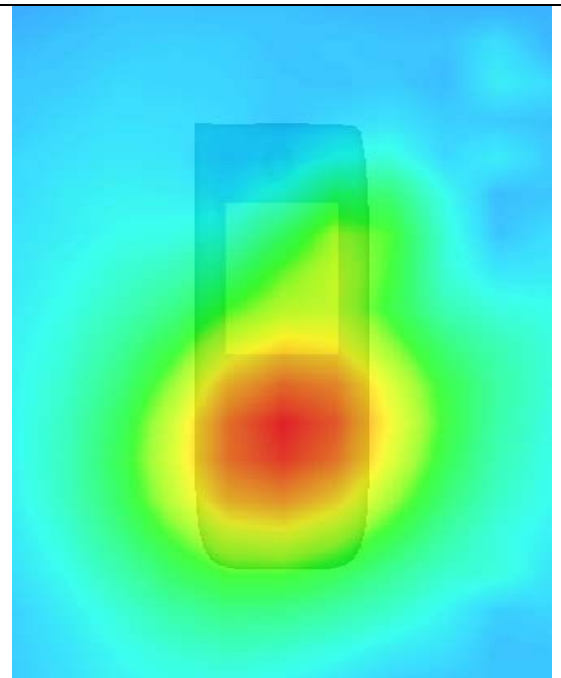
**SAR, Z Axis Scan (X = 0, Y = -17)**



**3D scene shot**



**Hot spot position**





## MEASUREMENT 54

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 11 seconds

### A. Experimental conditions.

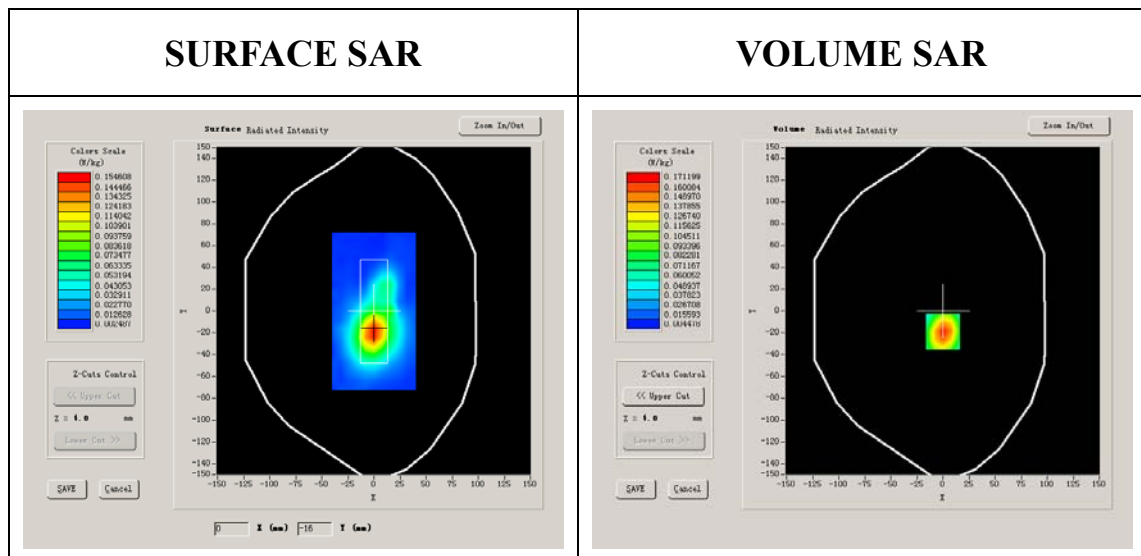
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	High
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Higher Band SAR (Channel 9538):

<b>Frequency (MHz)</b>	1907.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	1.682085
<b>Variation (%)</b>	3.000000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:1



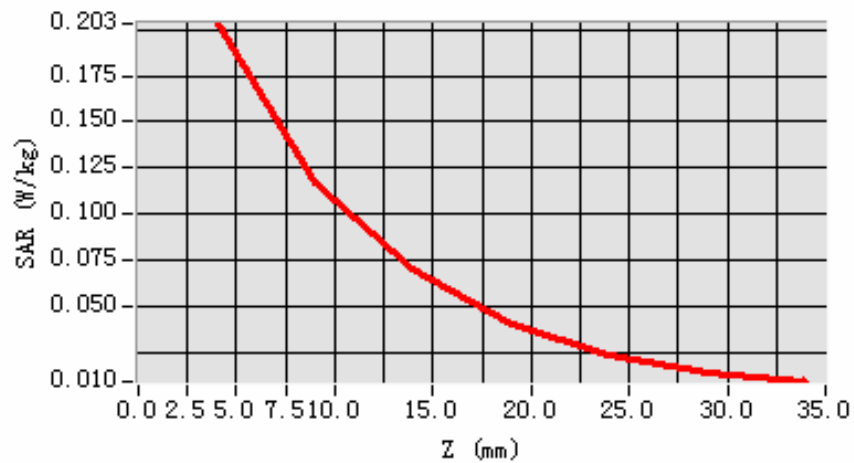
**Maximum location: X=0.00, Y=-19.00**

<b>SAR 10g (W/Kg)</b>	0.105524
<b>SAR 1g (W/Kg)</b>	0.190531

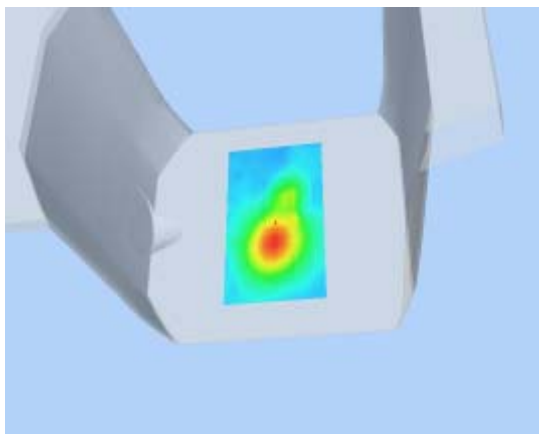
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2031	0.1174	0.0704	0.0412	0.0242	0.0146

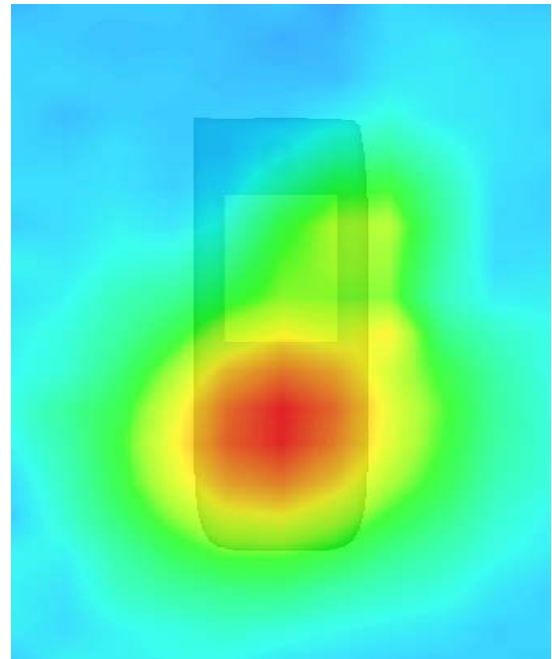
SAR, Z Axis Scan (X = 0, Y = -19)



3D scene shot



Hot spot position



## MEASUREMENT 55

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 6 seconds

### A. Experimental conditions.

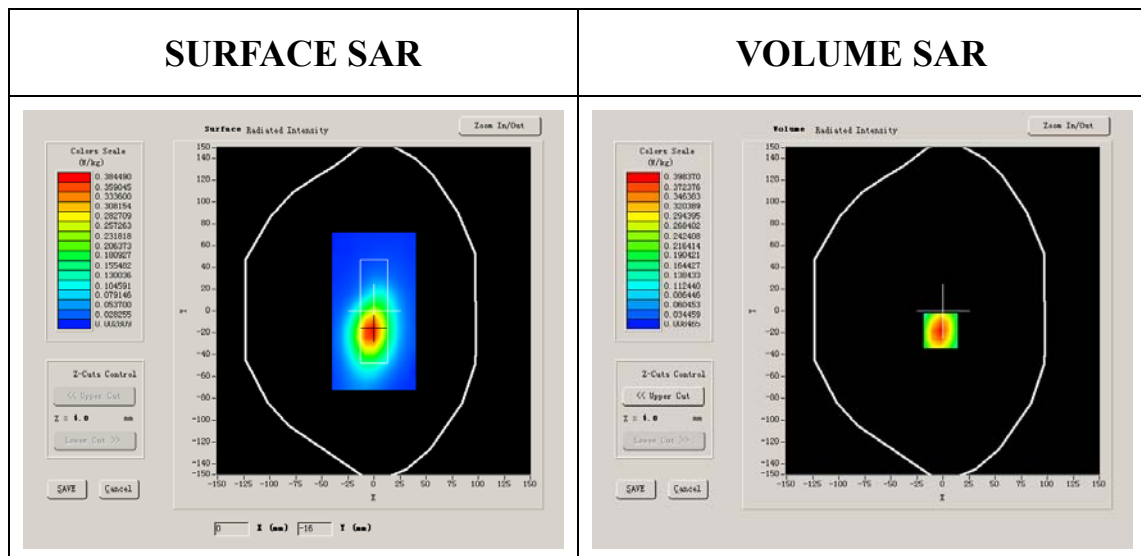
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Low
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Lower Band SAR (Channel 9262):

<b>Frequency (MHz)</b>	1852.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	1.633572
<b>Variation (%)</b>	-1.300000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:1



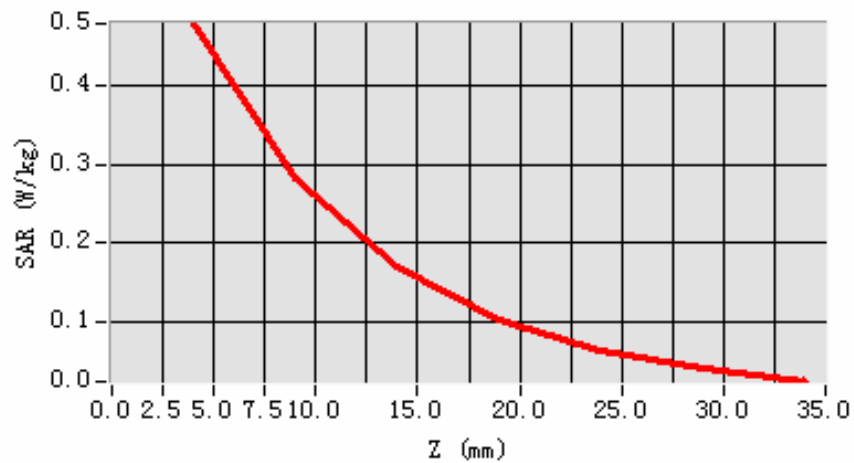
**Maximum location: X=-2.00, Y=-18.00**

<b>SAR 10g (W/Kg)</b>	0.255784
<b>SAR 1g (W/Kg)</b>	0.450700

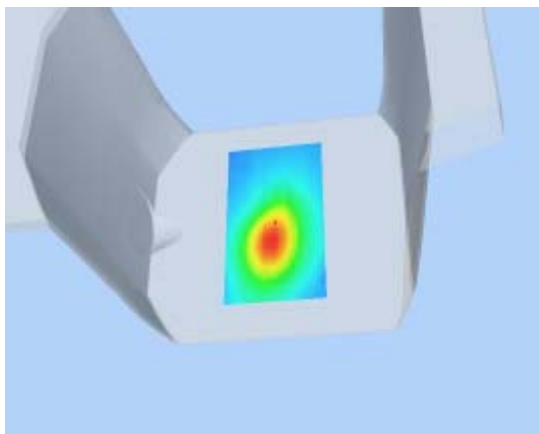
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.4803	0.2817	0.1705	0.1023	0.0636	0.0398

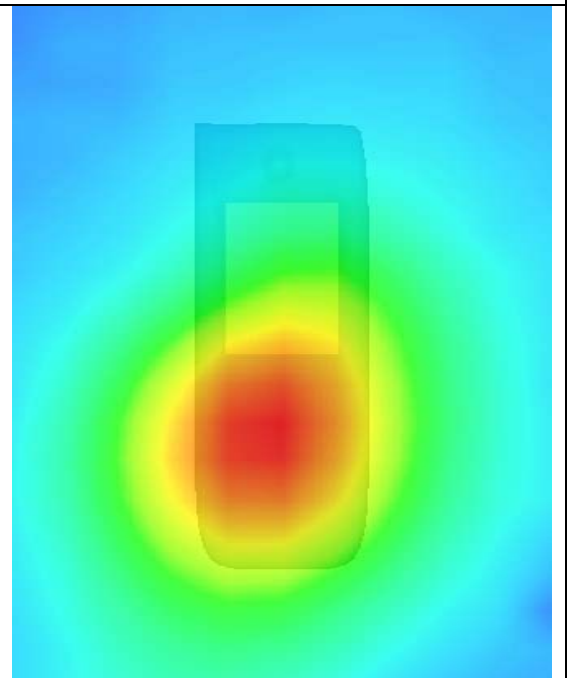
**SAR, Z Axis Scan (X = -2, Y = -18)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 56

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 3 seconds

### A. Experimental conditions.

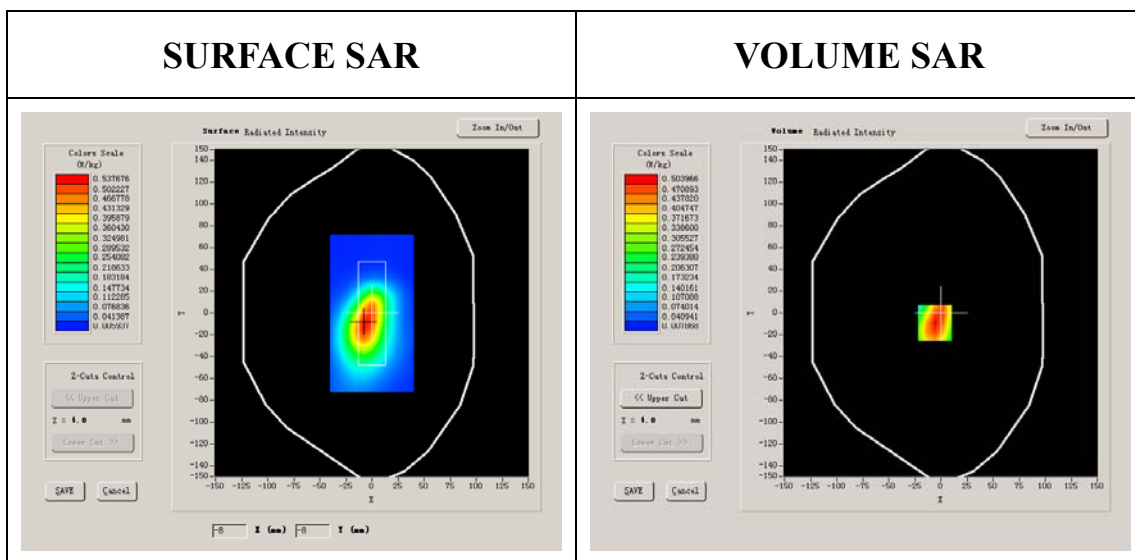
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Middle
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Middle Band SAR (Channel 9400):

<b>Frequency (MHz)</b>	1880.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	1.658270
<b>Variation (%)</b>	-1.620000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:1



**Maximum location: X=-6.00, Y=-9.00**

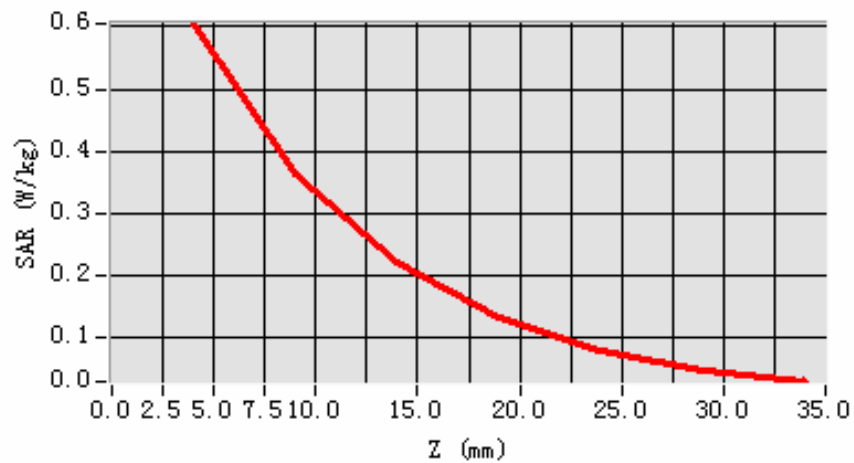
<b>SAR 10g (W/Kg)</b>	0.335577
<b>SAR 1g (W/Kg)</b>	0.569855



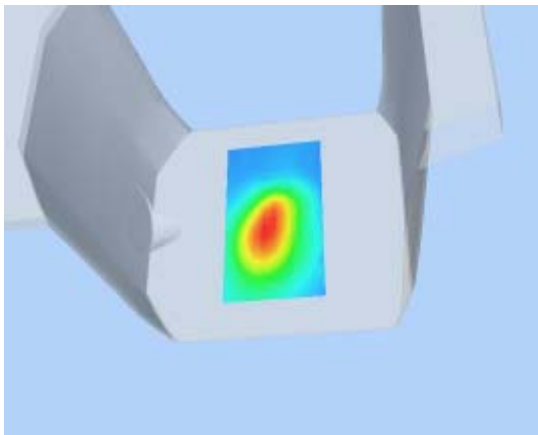
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.6048	0.3631	0.2203	0.1315	0.0799	0.0478

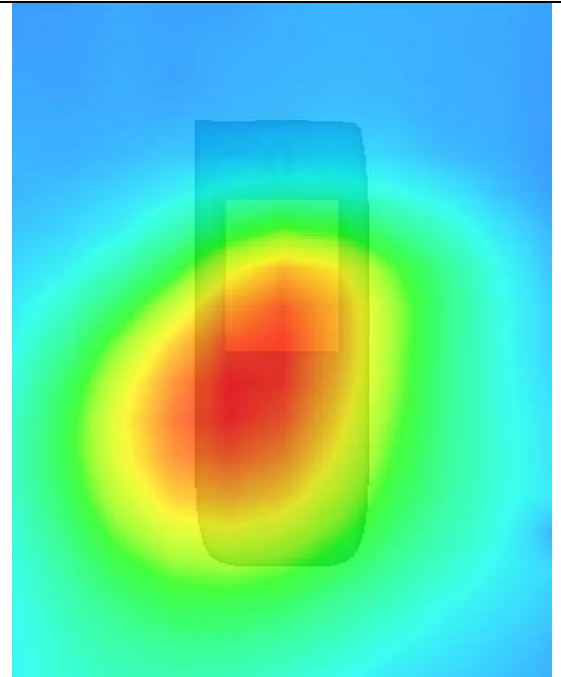
SAR, Z Axis Scan (X = -6, Y = -9)



3D scene shot



Hot spot position



## MEASUREMENT 57

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 13 seconds

### A. Experimental conditions.

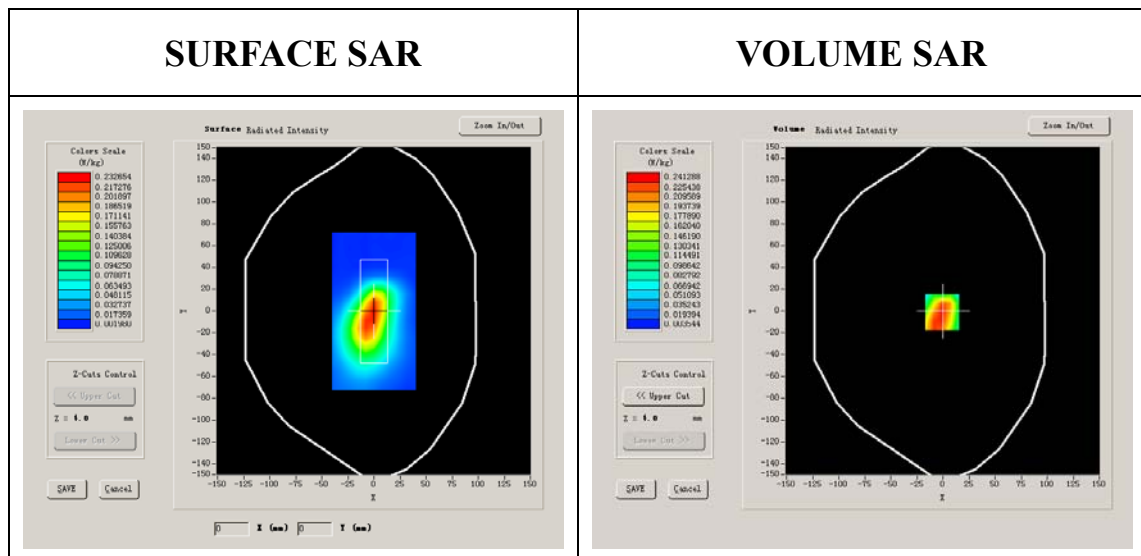
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	High
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Higher Band SAR (Channel 9538):

<b>Frequency (MHz)</b>	1907.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	1.682085
<b>Variation (%)</b>	-1.870000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:1



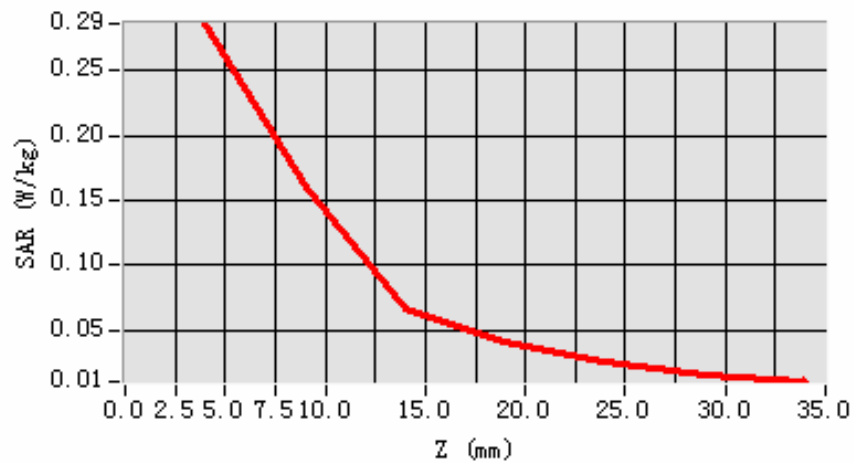
**Maximum location: X=-1.00, Y=-1.00**

<b>SAR 10g (W/Kg)</b>	0.151834
<b>SAR 1g (W/Kg)</b>	0.284279

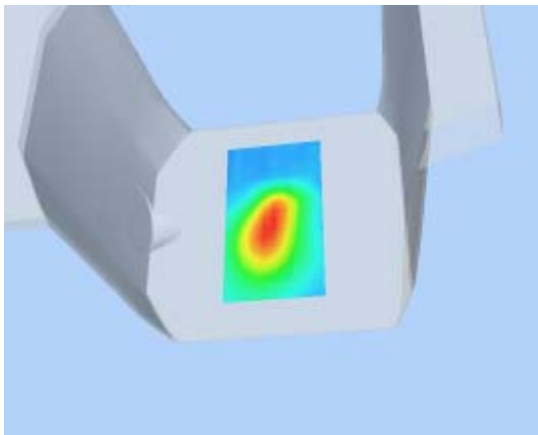
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2863	0.1594	0.0668	0.0414	0.0264	0.0161

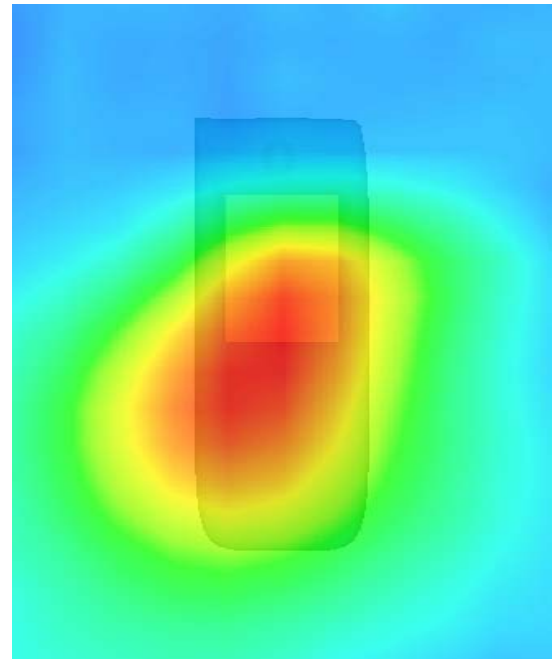
**SAR, Z Axis Scan (X = -1, Y = -1)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 58

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

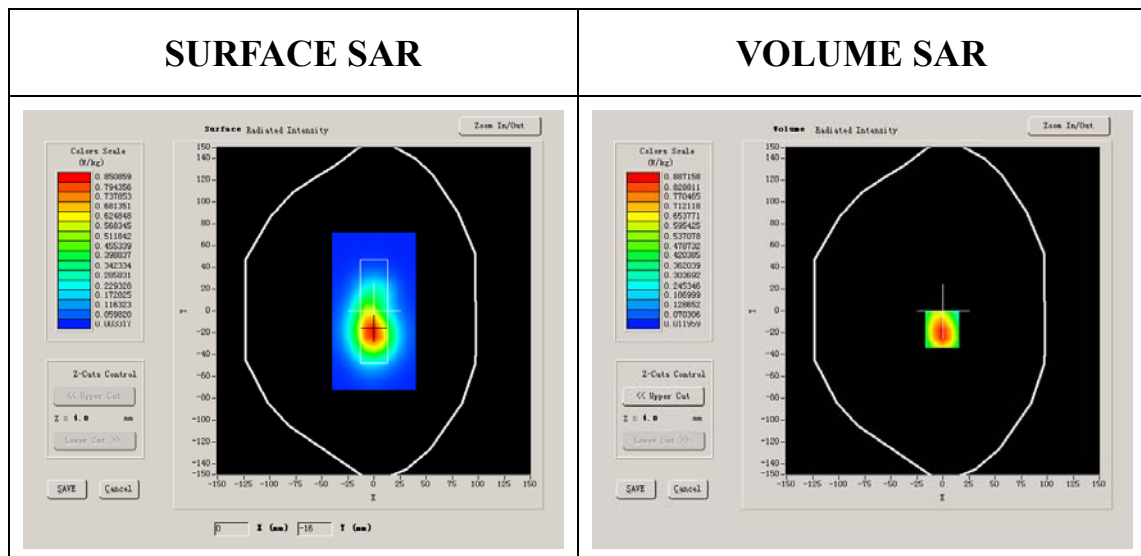
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Middle
<b>Signal</b>	HSDPA

### B. SAR Measurement Results

Middle Band SAR (Channel 9400):

<b>Frequency (MHz)</b>	1880.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	1.658270
<b>Variation (%)</b>	-0.280000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:1



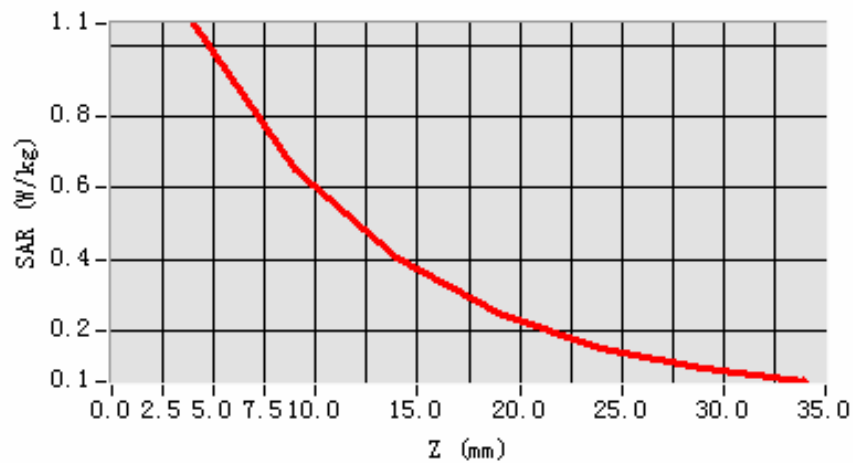
**Maximum location: X=-1.00, Y=-17.00**

<b>SAR 10g (W/Kg)</b>	0.599785
<b>SAR 1g (W/Kg)</b>	1.064885

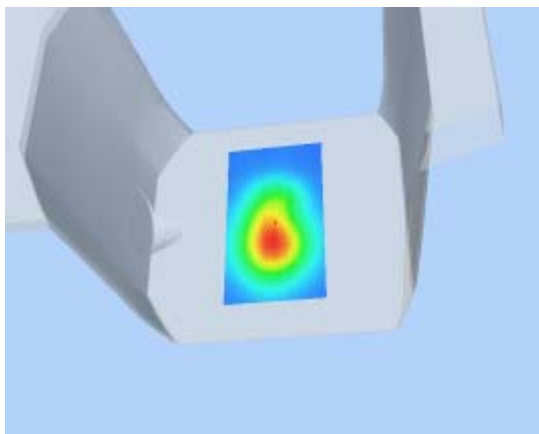
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.0647	0.6505	0.4041	0.2455	0.1476	0.0893

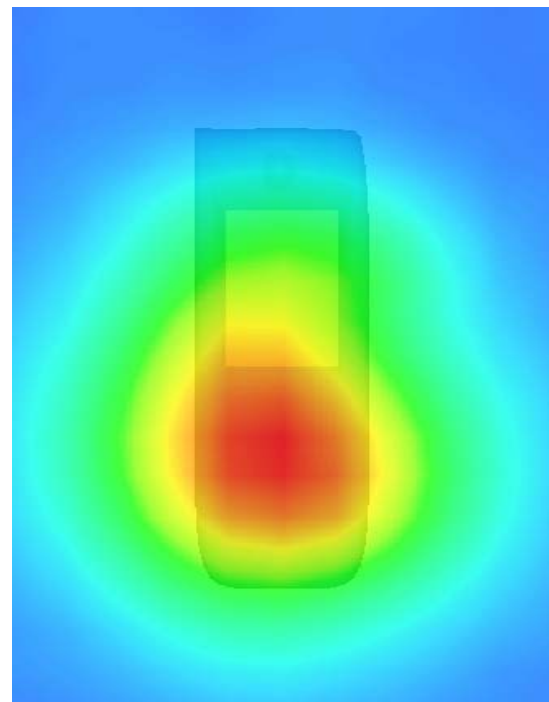
**SAR, Z Axis Scan (X = -1, Y = -17)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 59

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 13 minutes 7 seconds

### A. Experimental conditions.

<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Middle
<b>Signal</b>	HSUPA

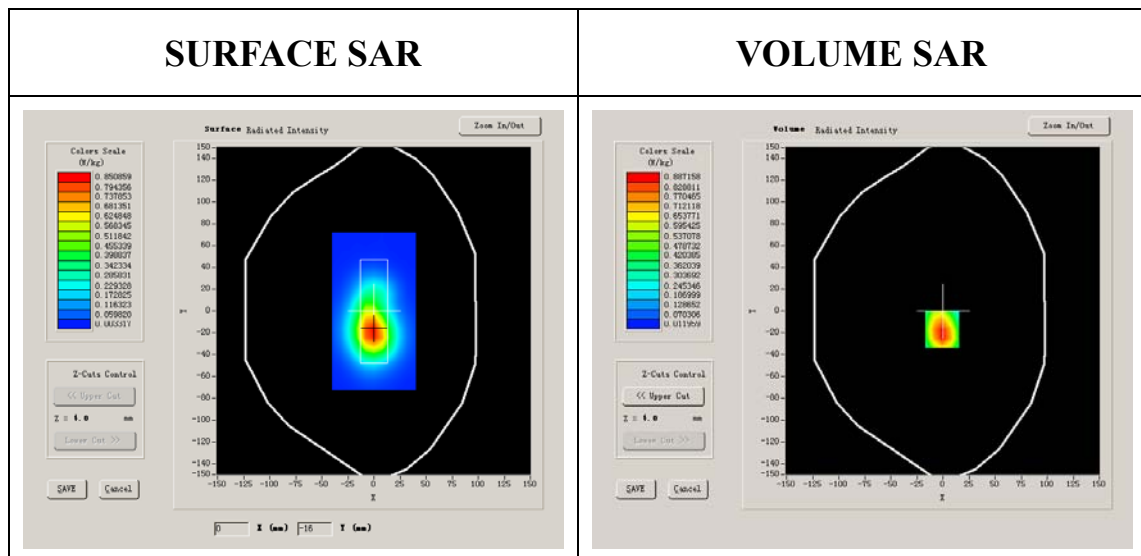
### B. SAR Measurement Results

Middle Band SAR (Channel 9400):

<b>Frequency (MHz)</b>	1880.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050



<b>Conductivity (S/m)</b>	1.658270
<b>Variation (%)</b>	-0.280000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:1



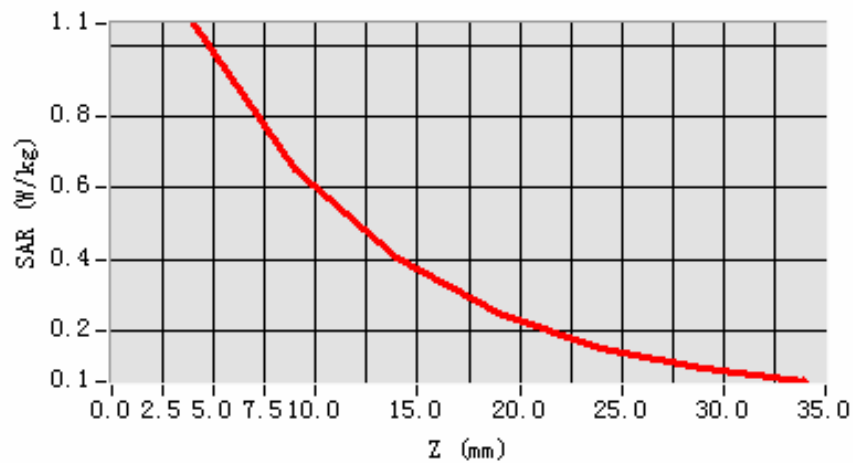
**Maximum location: X=-1.00, Y=-17.00**

<b>SAR 10g (W/Kg)</b>	0.638849
<b>SAR 1g (W/Kg)</b>	1.102854

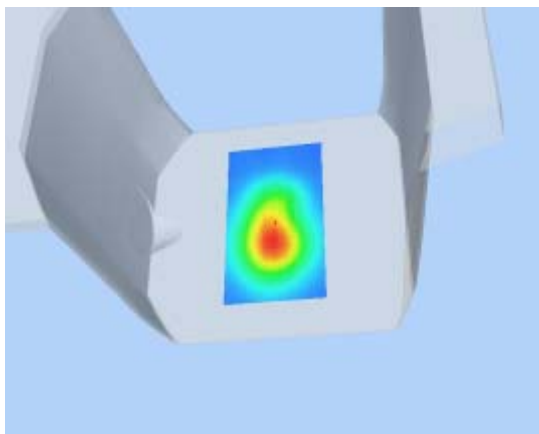
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.0647	0.6505	0.4041	0.2455	0.1476	0.0893

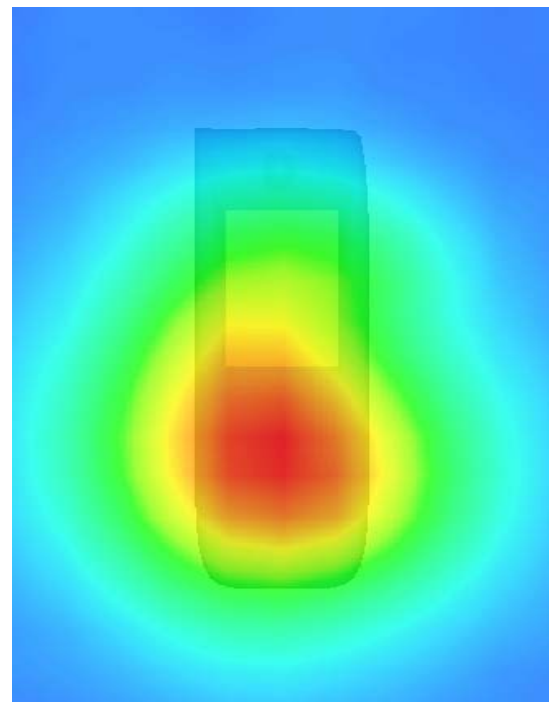
**SAR, Z Axis Scan (X = -1, Y = -17)**



**3D scene shot**



**Hot spot position**



## MEASUREMENT 60

Type: Phone measurement (Complete)

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

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

Date of measurement: 25/9/2009

Measurement duration: 9 minutes 6 seconds

### A. Experimental conditions.

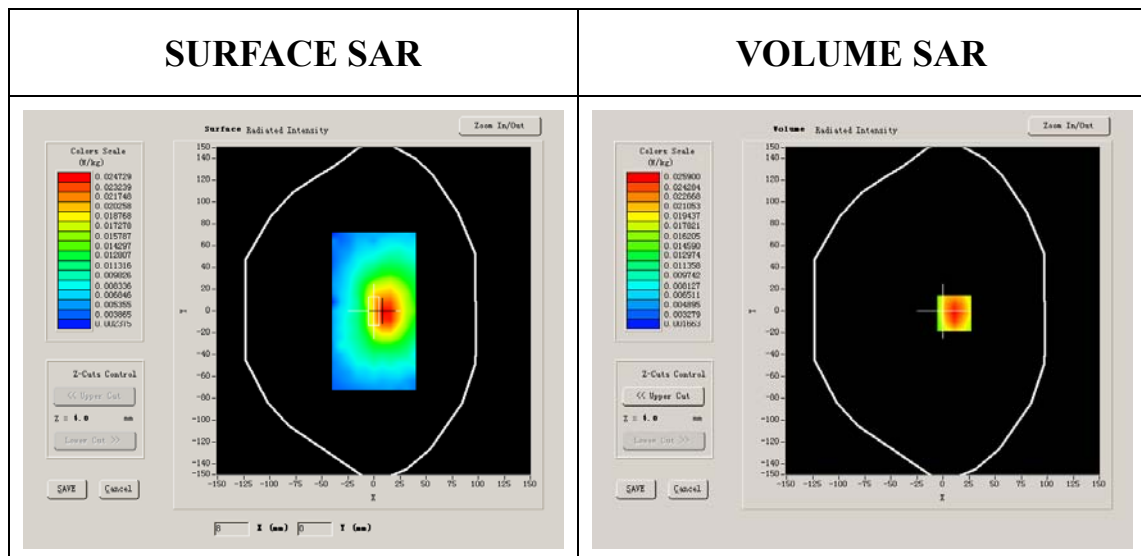
<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	Body
<b>Band</b>	WCDMA
<b>Channels</b>	Middle
<b>Signal</b>	CDMA

### B. SAR Measurement Results

Lower Band SAR (Channel 9400):

<b>Frequency (MHz)</b>	1880.000000
<b>Relative permittivity (real part)</b>	51.341000
<b>Relative permittivity</b>	15.877050

<b>Conductivity (S/m)</b>	0.728580
<b>Variation (%)</b>	0.470000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.5°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:1



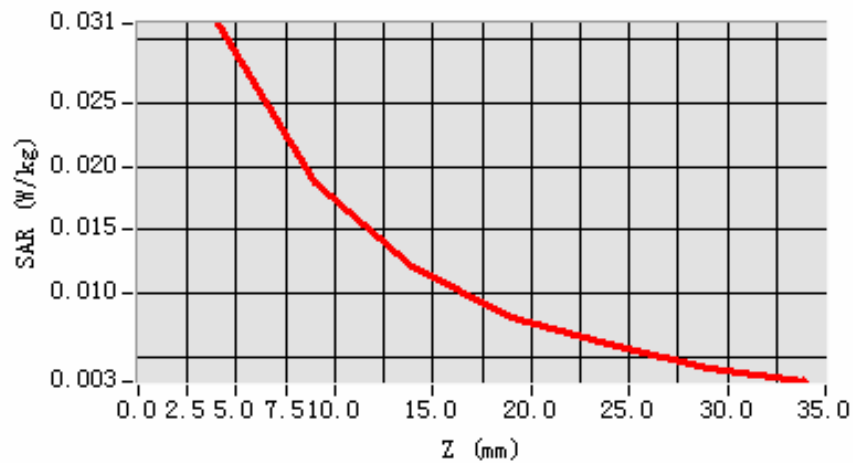
**Maximum location: X=11.00, Y=-2.00**

<b>SAR 10g (W/Kg)</b>	0.014602
<b>SAR 1g (W/Kg)</b>	0.022771

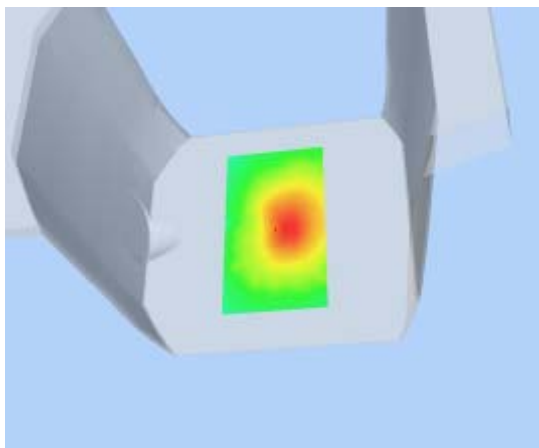
### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.0312	0.0186	0.0121	0.0081	0.0060	0.0042

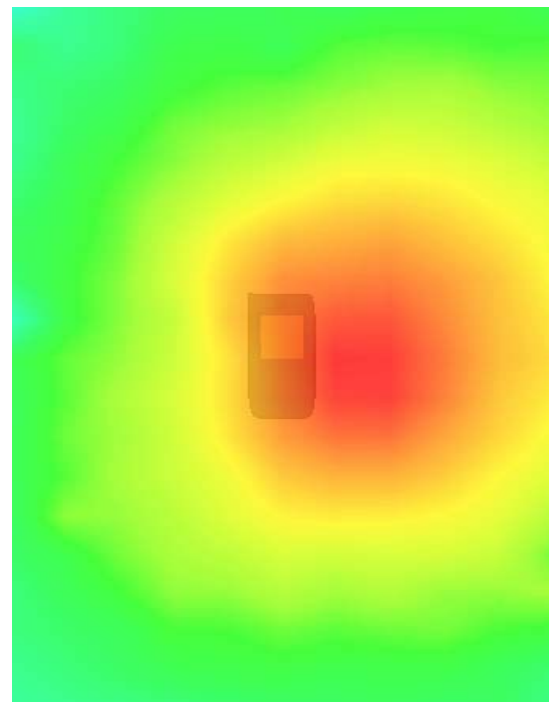
**SAR, Z Axis Scan (X = 11, Y = -2)**



**3D scene shot**



**Hot spot position**



## System Performance Check Data(Body)

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 9 minutes 27 seconds

### A. Experimental conditions.

<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	
<b>Band</b>	835 MHz
<b>Channels</b>	
<b>Signal</b>	CW

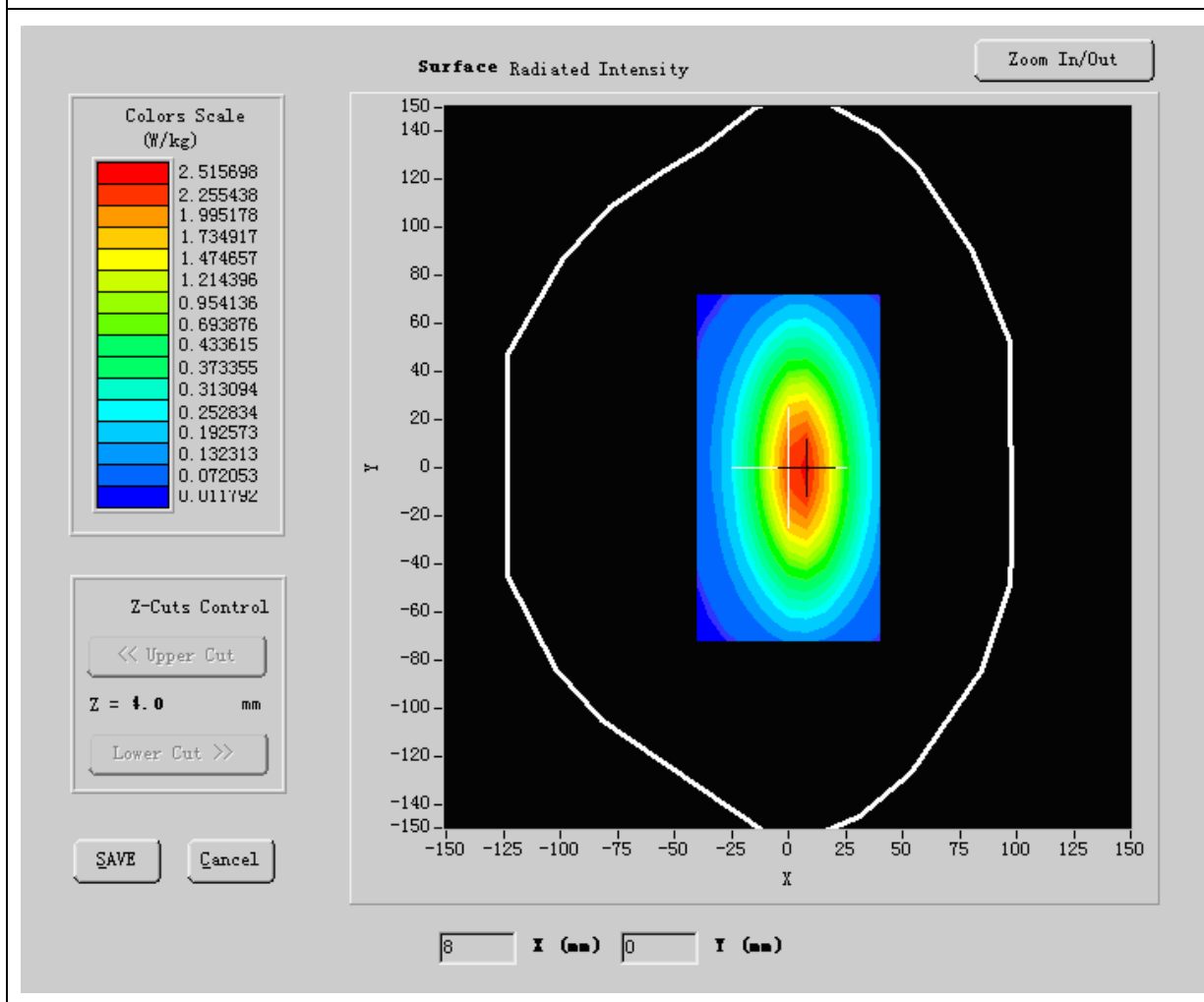
### B. SAR Measurement Results

Band SAR:

<b>Frequency (MHz)</b>	835.000000
<b>Relative permittivity (real part)</b>	55.709999
<b>Relative permittivity</b>	15.070000

<b>Conductivity (S/m)</b>	0.974596
<b>Variation (%)</b>	-0.140000
<b>Ambient Temperature:</b>	22.4°C
<b>Liquid Temperature:</b>	22.1°C
<b>ConvF:</b>	28.479,25.214,27.196
<b>Crest factor:</b>	1:1

## VOLUME SAR



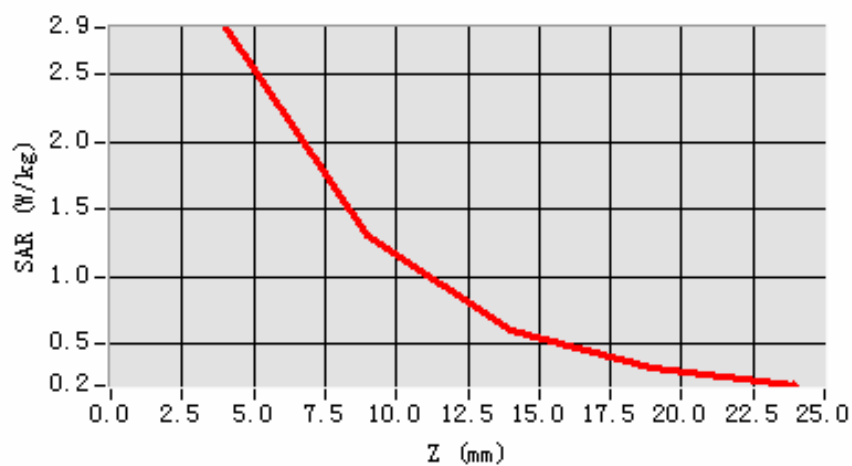
**Maximum location: X=5.00, Y=1.00**

<b>SAR 10g (W/Kg)</b>	1.419838
<b>SAR 1g (W/Kg)</b>	2.508348

### Z Axis Scan

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

**SAR, Z Axis Scan (X = 5, Y = 1)**





## System Performance Check Data(Body)

Type: Phone measurement (Complete)

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

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

Date of measurement: 31/8/2009

Measurement duration: 9 minutes 27 seconds

### A. Experimental conditions.

<b>Phantom File</b>	surf_sam_plan.txt
<b>Phantom</b>	Validation plane
<b>Device Position</b>	
<b>Band</b>	GSM 1900
<b>Channels</b>	
<b>Signal</b>	CW

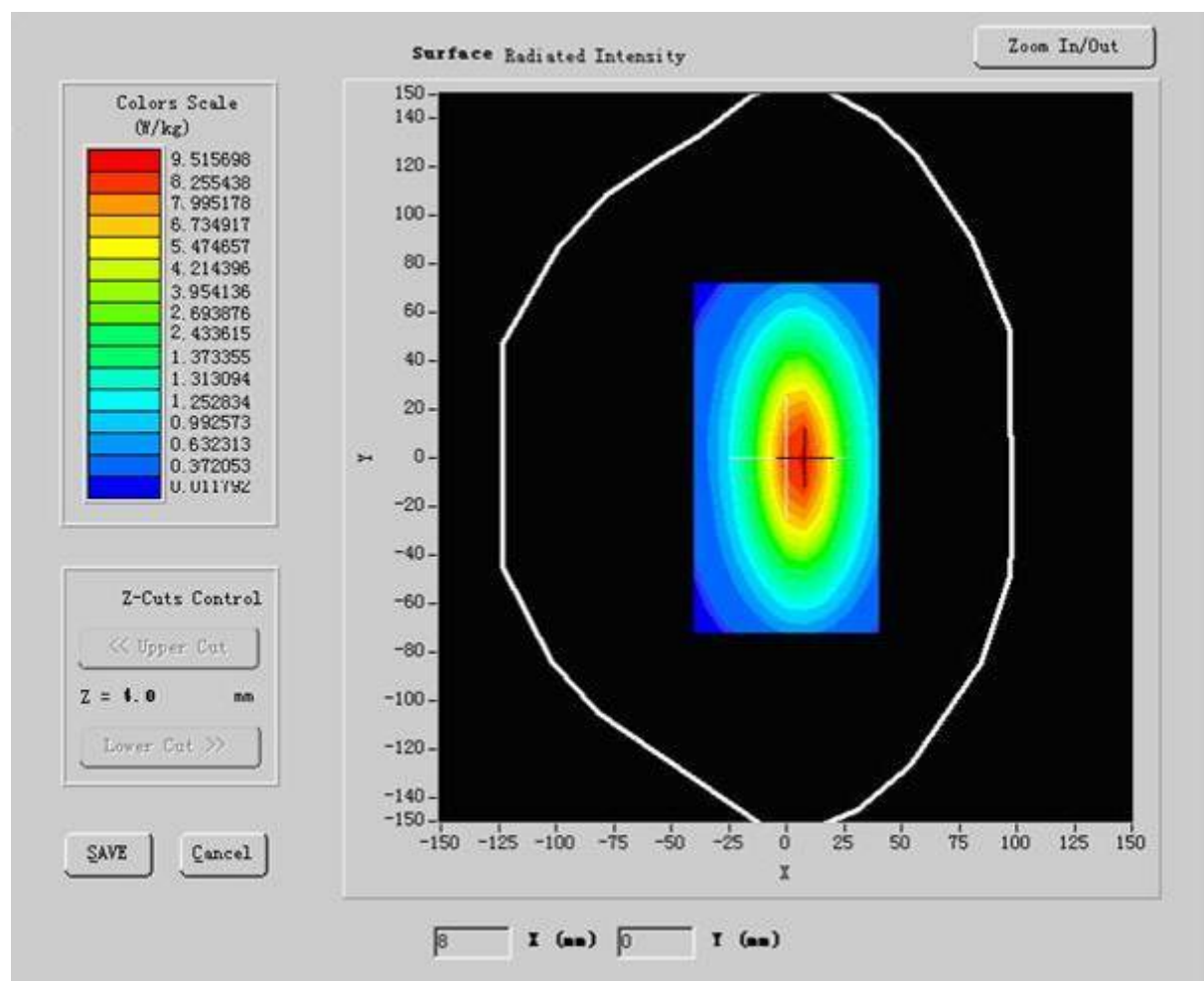
### B. SAR Measurement Results

#### Band SAR

<b>Frequency (MHz)</b>	1900.00MHz
<b>Relative permittivity (real part)</b>	54.116001
<b>Relative permittivity</b>	15.070000

<b>Conductivity (S/m)</b>	1.473978
<b>Variation (%)</b>	-0.140000
<b>Ambient Temperature:</b>	22.4°C
<b>Liquid Temperature:</b>	22.1°C
<b>ConvF:</b>	40.136,34.843,38.721
<b>Crest factor:</b>	1:1

### VOLUME SAR



Maximum location: X=5.00, Y=1.00

<b>SAR 10g (W/Kg)</b>	5.184800
<b>SAR 1g (W/Kg)</b>	9.918478

### Z Axis Scan

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

**SAR, Z Axis Scan (X = 5, Y = 1)**

