FCC SAR

TEST REPORT

of

GSM Mobile Phone

Model Name: HG-M320
Trade Name: Haier
Report No.:   SZ10010057S01
FCC ID: SG71001HG-M320

prepared for

Qingdao Haier Telecom Co.Ltd.

No.1,HaierRoad,Hi-tech Zone,Qingdao,266101,P.R.China

pidrepared by

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OFTA 電訊管理局 | GCF Official Observer of Global Certification Forum | TAF Testing Laboratory | ilac-MRA | CNAS

Bluetooth®   CTIA Authorized Test Lab LAB CODE 20081223-00

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Contents

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.:	SZ10010057S01
Date of Issue:	Jan 29, 2010
Date of Tests:	Jan 19, 2010 –Jan 19, 2010
Responsible for Accreditation:	Shu Luan
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 4.5 of this report haven been performed succ essfully with the tested equipment.

Chen Chao
Tested by
(Responsible for the Test Report)

Li Lei
Reviewed by
(Verification of the Test Report)

Shu Luan
Approved by
(Responsible Test Lab Manager)

2. Testing Laboratory

2.1. Identification of the Responsible Testing Laboratory

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

2.2. Identification of the Responsible Testing Location

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

2.3. Accreditation Certificate

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

2.4. List of Test Equipments

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

3. Technical Information

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

3.1. Identification of Applicant

Company Name: Qingdao Haier Telecom Co.Ltd.
Address: No.1,HaierRoad,Hi-tech Zone,Qingdao,266101,P.R.China

3.2. Identification of Manufacturer

Company Name: Qingdao Haier Telecom Co.Ltd.
Address: No.1,HaierRoad,Hi-tech Zone,Qingdao,266101,P.R.China

3.3. Equipment Under Test (EUT)

Brand Name: Haier
Type Name: Haier
Marking Name: HG-M320
Hardware Version: SP
Software Version: HG-M307S-H01-S001-Latin-T
Frequency Bands: GSM 850MHz (channel 128:824.20MHz,channel 190:836.59MHz, channel 251:848.29MHz)
                     PCS 1900MHz (channel 512:1850.19MHz,channel 661:1880.00MHz, channel 810:1909.80MHz)
Modulation Mode: GMSK
Antenna type: Build inside
Development Stage: Identical prototype
Battery Model: H15132
Battery specification: 1000mAh 3.7V

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#	SP	HG-M307S-H01-S001-Latin-T

4. Test Results

4.1. Applied Reference Documents

Leading reference documents for testing:

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

4.2. Test Environment/Conditions

Normal Temperature (NT):	20 ... 25 °C
Relative Humidity:	30 ... 75 %
Air Pressure:	980 ... 1020 hPa
Details of Power Supply:	220V/50Hz AC

Extreme Temperature:	Low Temperature (LT)	=	-10°C
	High Temperature (HT)	=	55°C
Extreme Voltage of the EUT:	Normal Voltage (NV)	=	3.70V
	Low Voltage (LV)	=	3.60V
	High Voltage (HV)	=	4.20V

Test frequency:	GSM 850MHz
	PCS 1900MHz
Operation mode:	Call established
Power Level:	GSM 850 MHz Maximum output power(level 5)
	PCS 1900 MHz Maximum output power(level 0)

During SAR test, EUT is in Traffic Mode (Channel Allocated) at Normal Voltage Condition. A communication link is set up with a System Simulator (SS) by air link, and a call is established.

The Absolute Radio Frequency Channel Number (ARFCN) is allocated to 125, 190 and 251 respectively in the case of GSM 850 MHz, or to 512, 661 and 810 respectively in the case of PCS 1900 MHz, The EUT, The EUT is commanded to operate at maximum transmitting power.

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

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

4.3.Operational Conditions During Test

4.3.1. Informations On The Testing

I. INFORMATIONS ON THE TESTING

I.1. Normative reference

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

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

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

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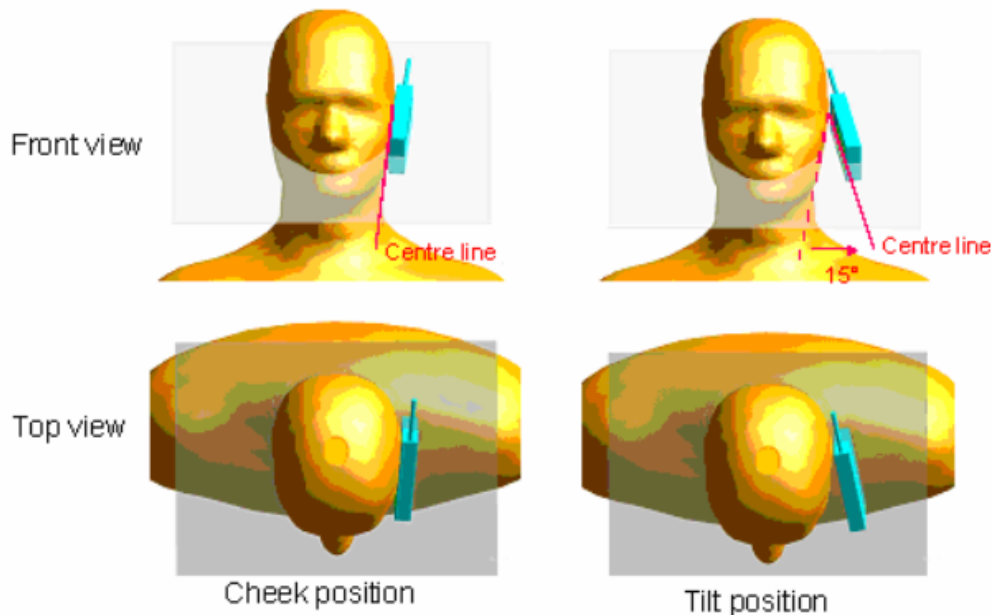
Description of the « cheek » position:

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

Description of the « tilted » position:

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

4.3.2. The Measurement System

Comosar is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The Comosar system consists of the following items:
- Main computer to control all the system
- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Phone holder
- Head simulating tissue

The following figure shows the system.

COMOSAR bench

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

II.1. Phantom

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

II.2. Probe

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

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

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

II.3. Measurement procedure

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

II.4 Description of interpolation/extrapolation scheme

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

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

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

4.3.3. Uncertainty Assessment

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

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

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

4.3.4. Equipments and results of validation testing

Equipments :

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

Results:

Frequency	835MHz	1900MHz
Target value (1g)	10.8 W/Kg(body)	39.7 W/Kg
250 mW input power	2.627 W/Kg (head) 2.711 W/Kg (body)	9.903 W/Kg (head) 9.835 W/Kg (body)
Test value (1g)	10.508 W/Kg (head) 10.844 W/Kg (body)	39.612 W/Kg (head) 39.34 W/Kg (body)

Note:Please refer to check the system performance data, the first 132-143 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.

Table 1: Dielectric Performance of Head Tissue Simulating Liquid

Temperature: 23.0~23.8°C, humidity: 54~60%.			
/	Frequency	Permittivity ε	Conductivity σ (S/m)
Target value	835 MHZ	41.5	0.90
Validation value (Jan 19)	835 MHZ	41.675999	0.894409
Target value	1900 MHZ	40	1.40
Validation value (Jan 19)	1900 MHZ	38.509998	1.436111

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 2: Dielectric Performance of Body Tissue Simulating Liquid

Temperature: 23.0~23.8°C, humidity: 54~60%.			
/	Frequency	Permittivity ε	Conductivity σ (S/m)
Target value	835 MHz	55.0	0.95
Validation value (Jan 19)	835 MHz	55.709999	1.009033
Target value	1900 MHz	53.3	1.52

Validation value (Jan 19)	1900 MHz	52.548876	1.573978

4.3.6. Simulant liquids

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

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

4.4. Items used in the Test Results List

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

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

4.5. Test Results List

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

Temperature: 23.0~23.8°C, humidity: 54~60%.		
Limit of SAR (W/kg)	1 g Average	
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average (W/kg)	Power level (dBm)
Left head, Touch cheek, Channel Low	0.620	30.68
Left head, Touch cheek, Channel Middle	0.757	30.74
Left head, Touch cheek, Channel High	1.042	30.57
Left head, Tilt 15 Degree, Channel Low	0.374	30.68
Left head, Tilt 15 Degree, Channel Middle	0.497	30.74
Left head, Tilt 15 Degree, Channel High	0.727	30.57
Right head, Touch cheek, Channel Low	0.726	30.68
Right head, Touch cheek, Channel Middle	0.892	30.74
Right head, Touch cheek, Channel High	1.242	30.57
Right head, Tilt 15 Degree, Channel Low	0.448	30.68
Right head, Tilt 15 Degree, Channel Middle	0.581	30.74
Right head, Tilt 15 Degree, Channel High	0.872	30.57

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

Temperature: 23.0~23.8°C, humidity: 54~60%.		
Limit of SAR (W/kg)	1 g Average	
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average (W/kg)	Power level (dBm)
Left head, Touch cheek, Channel Low	0.671	27.34
Left head, Touch cheek, Channel Middle	0.739	29.14
Left head, Touch cheek, Channel High	0.580	29.16
Left head, Tilt 15 Degree, Channel Low	0.683	27.34
Left head, Tilt 15 Degree, Channel Middle	0.740	29.14
Left head, Tilt 15 Degree, Channel High	0.564	29.16
Right head, Touch cheek, Channel Low	1.178	27.34

Right head, Touch cheek, Channel Middle	1.271	29.14
Right head, Touch cheek, Channel High	0.893	29.16
Right head, Tilt 15 Degree, Channel Low	0.989	27.34
Right head, Tilt 15 Degree, Channel Middle	1.058	29.14
Right head, Tilt 15 Degree, Channel High	0.750	29.16

SAR Values (GSM 850MHz Band), Measured against the body.

Temperature: 23.0~23.8°C, humidity: 54~60%.		
Limit of SAR (W/kg)	1 g Average	
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average (W/kg)	Power level (dBm)
Side, Low frequency	0.985	30.68
Side, Middle frequency	1.001	30.74
Side, High frequency	0.841	30.57
Side, Low frequency (back)	0.726	30.74
Side, Low frequency (with GPRS)	1.282	30.74
Side, Low frequency (with earphone)	0.994	30.74

SAR Values (GSM 1900MHz Band), Measured against the body.

Temperature: 23.0~23.8°C, humidity: 54~60%.		
Limit of SAR (W/kg)	1 g Average	
	1.6	
Test Case	Measurement Result (W/kg)	
	1 g Average (W/kg)	Power level (dBm)
Side, Low frequency	0.379	27.34
Side, Middle frequency	0.417	29.14
Side, High frequency	0.258	29.16
Side, Middle frequency (back)	0.300	29.14
Side, Middle frequency (with GPRS)	0.828	29.14
Side, Middle frequency (with earphone)	0.418	29.14

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

Annex A   Accreditation Certificate

ilac-MRA   CNAS

China National Accreditation Service for Conformity Assessment

LABORATORY ACCREDITATION CERTIFICATE

(No. CNAS L1659)

China National Accreditation Service for Conformity Assessment has accredited

Shenzhen Electronic Product Quality Testing Center

Electronic Testing Building, Shahe Road, Xili, Nanshan District,

Shenzhen, Guangdong, China

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

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

Date of Issue: 2009-09-29

Date of Expiry: 2012-09-28

Date of Initial Accreditation: 1999-08-03

Signed on behalf of China National Accreditation Service
for Conformity Assessment

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

Annex B Photographs of the EUT

1   EUT Left Head Touch Cheek Position
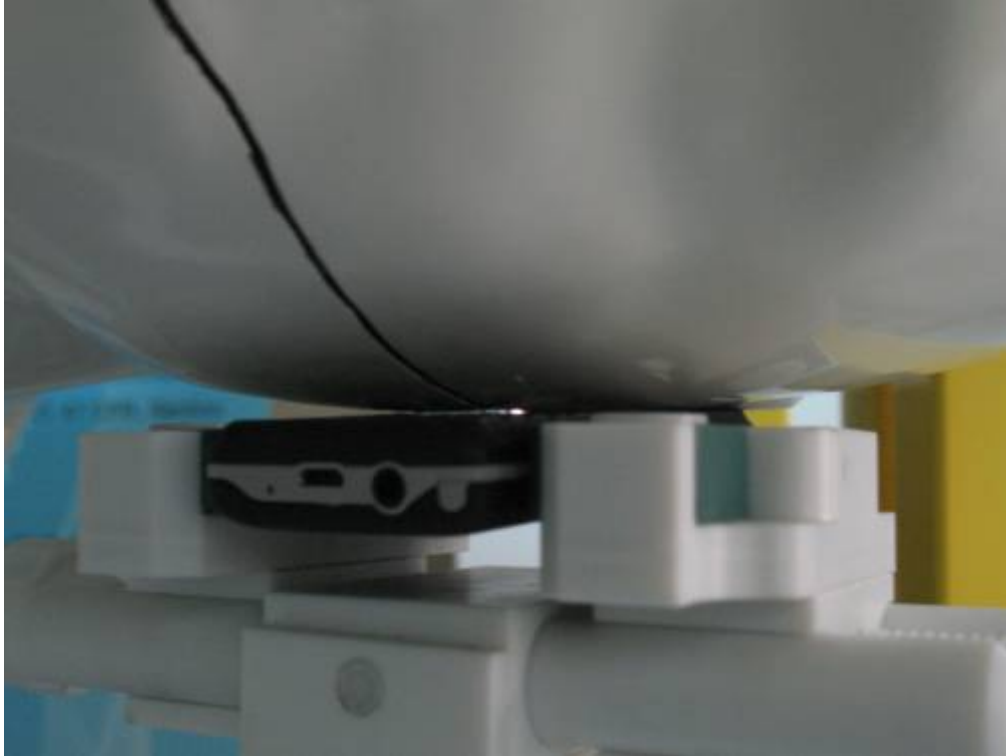
2   EUT Left Head Tilt15 Position

3   EUT Right Head Touch Cheek Position
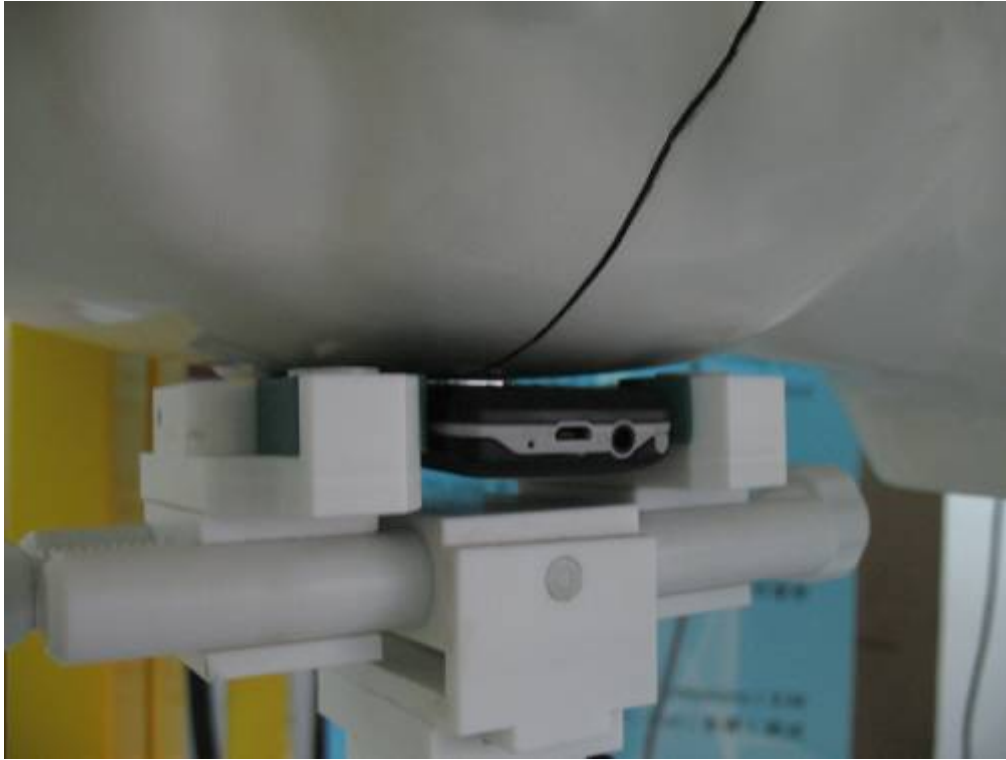
4   EUT Right Head Tilt15 Position

5   Side Position

6   With Headphone

7   spacer 1.5cm

Note：piece of wood only to show that distance, the test is taken away.

Annex C   Graph Test Results

	BAND	<u>PARAMETERS</u>
<u>**TYPE**</u>	<u>**GSM850**</u>	<u>Measurement 1:</u> Right Head with Cheek device position on Low Channel in GSM mode <u>Measurement 2:</u> Right Head with Cheek device position on Middle Channel in GSM mode <u>Measurement 3:</u> Right Head with Cheek device position on High Channel in GSM mode <u>Measurement 4:</u> Right Head with Tilt device position on Low Channel in GSM mode <u>Measurement 5:</u> Right Head with Tilt device position on Middle Channel in GSM mode <u>Measurement 6:</u> Right Head with Tilt device position on High Channel in GSM mode <u>Measurement 7:</u> Left Head with Cheek device position on Low Channel in GSM mode <u>Measurement 8:</u> Left Head with Cheek device position on Middle Channel in GSM mode <u>Measurement 9:</u> Left Head with Cheek device position on High Channel in GSM mode <u>Measurement 10:</u> Left Head with Tilt device position on Low Channel in GSM mode <u>Measurement 11:</u> Left Head with Tilt device position on Middle Channel in GSM mode <u>Measurement 12:</u> Left Head with Tilt device position on High Channel in GSM mode <u>Measurement 13:</u> Validation Plane with Body device position on Low Channel in GSM mode <u>Measurement 14:</u> Validation Plane with Body device position on Middle Channel in GSM mode <u>Measurement 15:</u> Validation Plane with Body device position on High Channel in GSM mode <u>Measurement 16:</u> Validation Plane with Body device position on Low Channel in GSM mode（back） <u>Measurement 17:</u> Validation Plane with Body device position on Low Channel in GSM mode（with GPRS） <u>Measurement 18:</u> Validation Plane with Body device position on Low Channel in GSM mode（with earphone）

	GSM 1900	Measurement 19: Right Head with Cheek device position on Low Channel in GSM mode Measurement 20: Right Head with Cheek device position on Middle Channel in GSM mode Measurement 21: Right Head with Cheek device position on High Channel in GSM mode Measurement 22: Right Head with Tilt device position on Low Channel in GSM mode Measurement 23: Right Head with Tilt device position on Middle Channel in GSM mode Measurement 24: Right Head with Tilt device position on High Channel in GSM mode Measurement 25: Left Head with Cheek device position on Low Channel in GSM mode Measurement 26: Left Head with Cheek device position on Middle Channel in GSM mode Measurement 27: Left Head with Cheek device position on High Channel in GSM mode Measurement 28: Left Head with Tilt device position on Low Channel in GSM mode Measurement 29: Left Head with Tilt device position on Middle Channel in GSM mode Measurement 30: Left Head with Tilt device position on High Channel in GSM mode Measurement 31: Validation Plane with Body device position on Low Channel in GSM mode Measurement 32: Validation Plane with Body device position on Middle Channel in GSM mode Measurement 33: Validation Plane with Body device position on High Channel in GSM mode Measurement 34: Validation Plane with Body device position on Middle Channel in GSM mode（back） Measurement 35: Validation Plane with Body device position on Middle Channel in GSM mode（with GPRS） Measurement 36: Validation Plane with Body device position on Middle Channel in GSM mode（with earphone）

MEASUREMENT 1

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 30 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 128):

Frequency (MHz)	824.200012
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Variation (%)	0.720000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
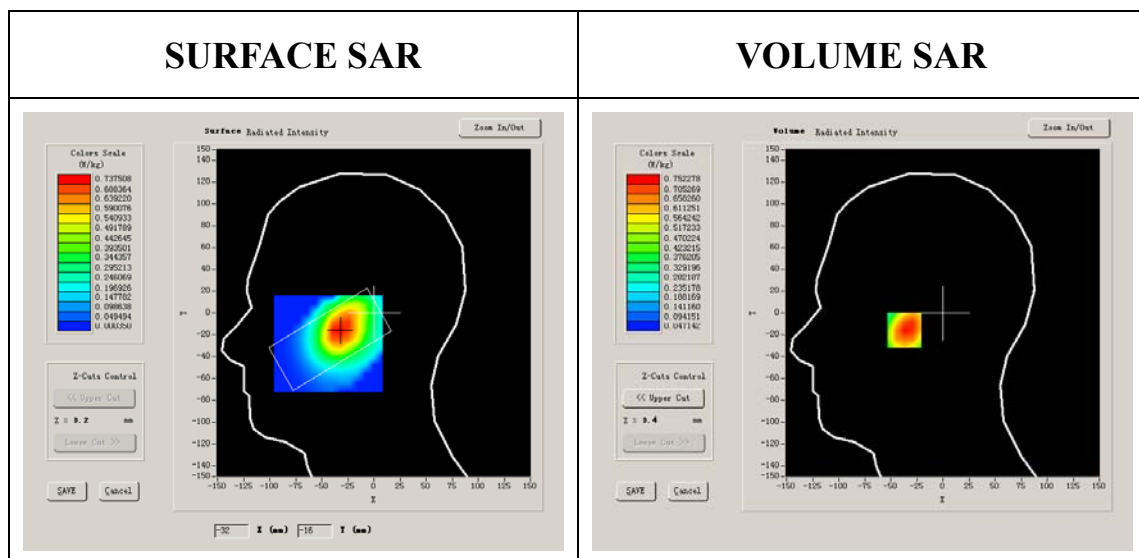
Maximum location: X=-34.00, Y=-16.00

SAR 10g (W/Kg)	0.478667
SAR 1g (W/Kg)	0.725857

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7523	0.5373	0.3851	0.2718	0.1835	0.1273

SAR, Z Axis Scan (X = −34, Y = −16)
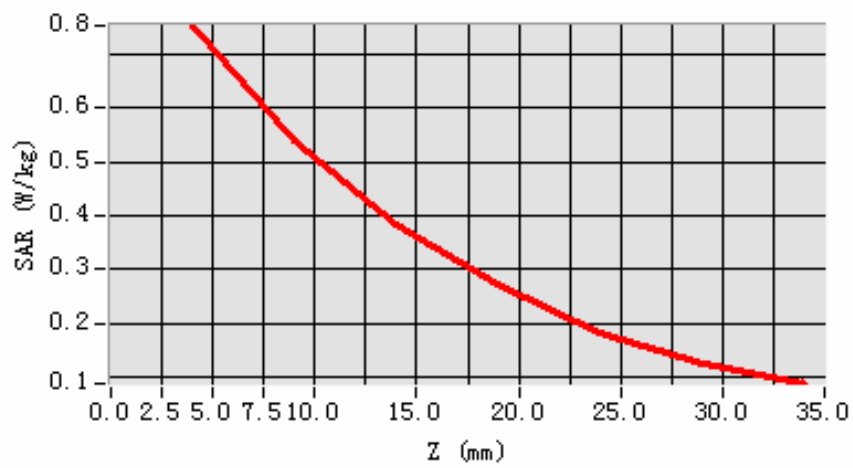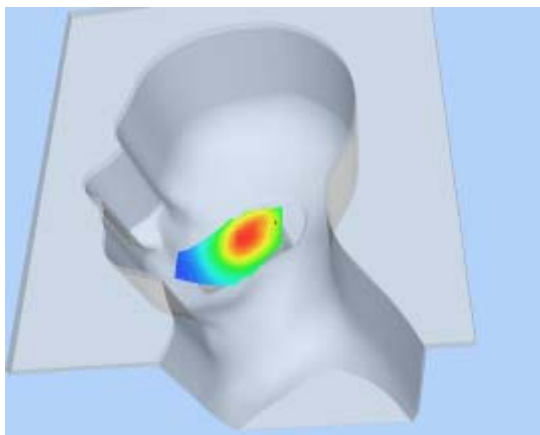
3D sceen shot	Hot spot position
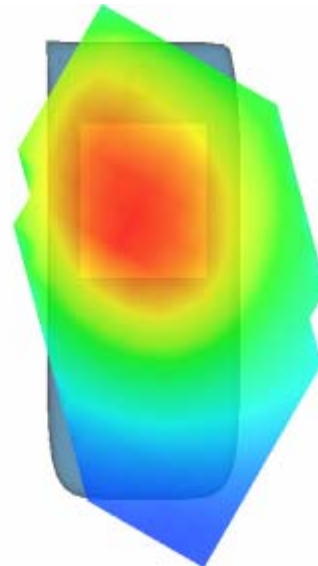
MEASUREMENT 2

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 30 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 190):

Frequency (MHz)	836.599976
Relative permittivity (real part)	40.669998
Relative permittivity	19.120001

Conductivity (S/m)	0.888655
Variation (%)	0.290000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
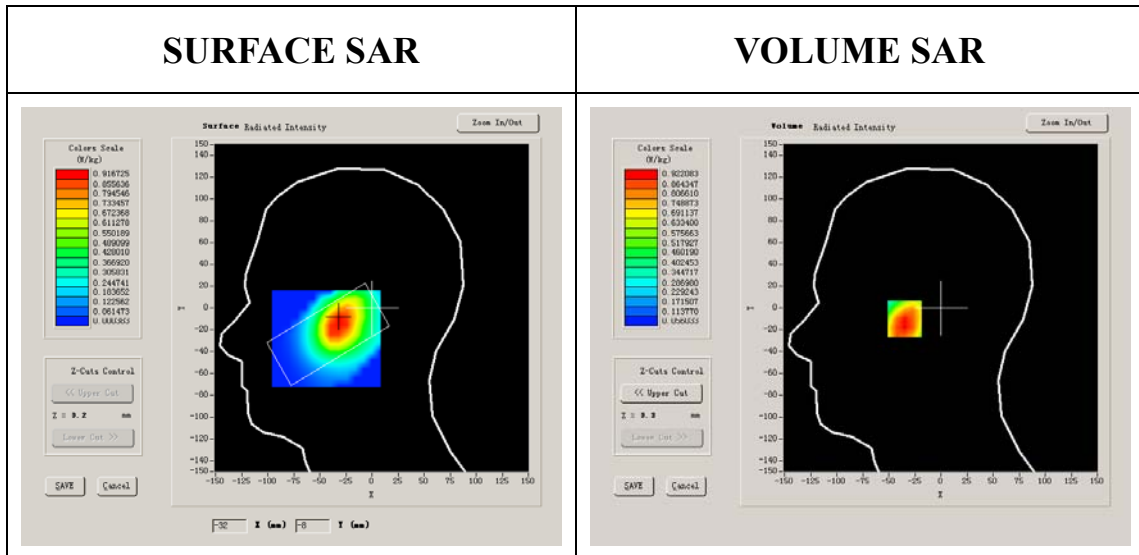
Maximum location: X=-31.00, Y=-10.00

SAR 10g (W/Kg)	0.593218
SAR 1g (W/Kg)	0.891594

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.9193	0.6352	0.4508	0.3106	0.2196	0.1511

3D sceen shot	Hot spot position
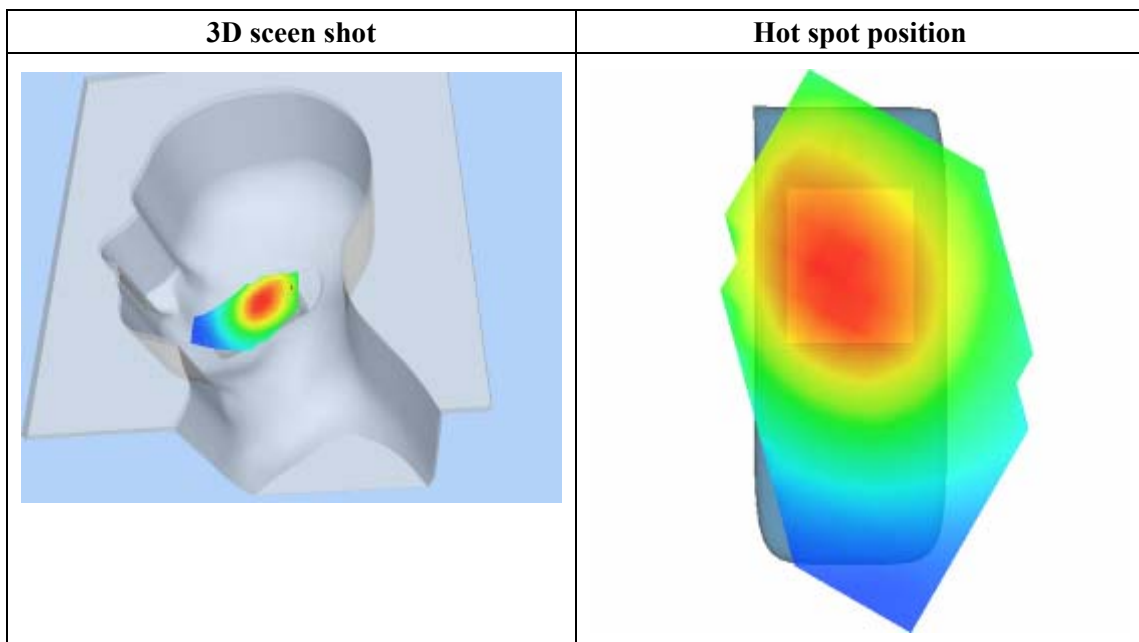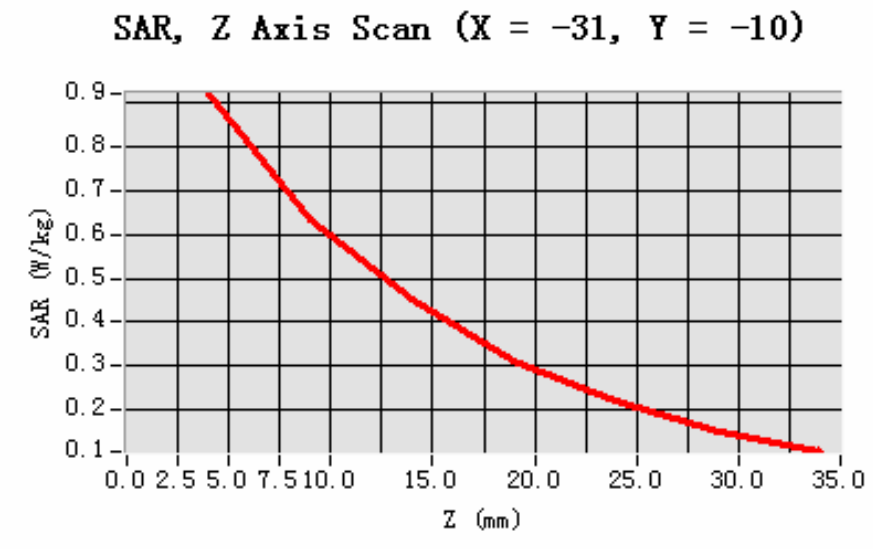
MEASUREMENT 3

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 34 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 251):

Frequency (MHz)	848.799988
Relative permittivity (real part)	41.675999
Relative permittivity	18.967199

Conductivity (S/m)	0.894409
Variation (%)	1.360000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
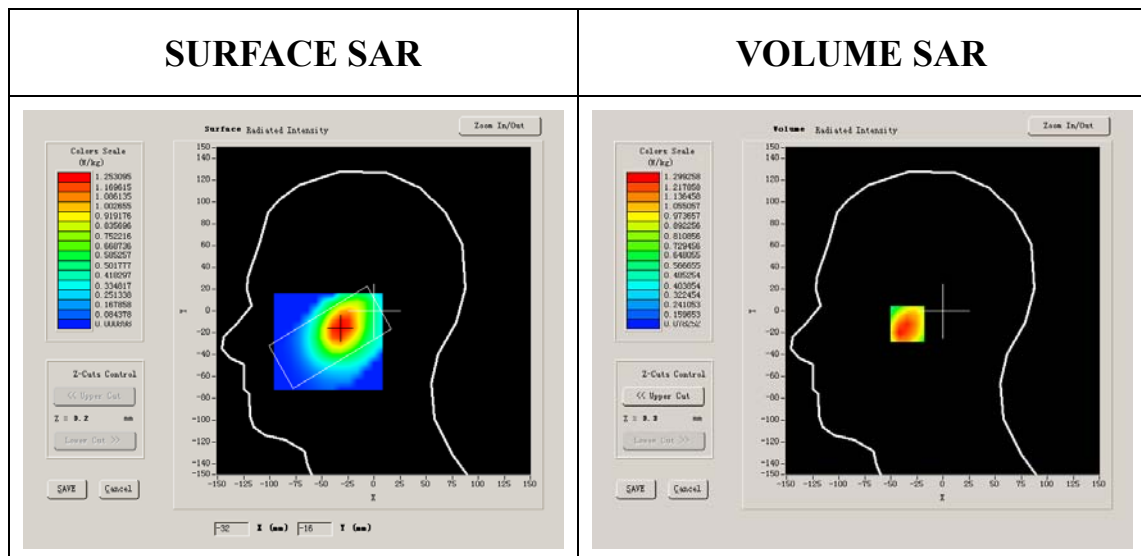
Maximum location: X=-30.00, Y=-12.00

SAR 10g (W/Kg)	0.801588
SAR 1g (W/Kg)	1.242453

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.2676	0.8861	0.6526	0.4434	0.3063	0.2112

SAR, Z Axis Scan (X = −30, Y = −12)
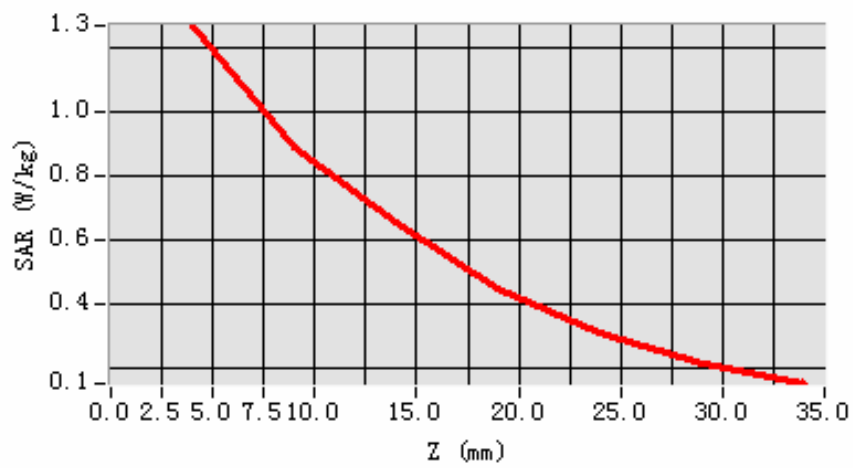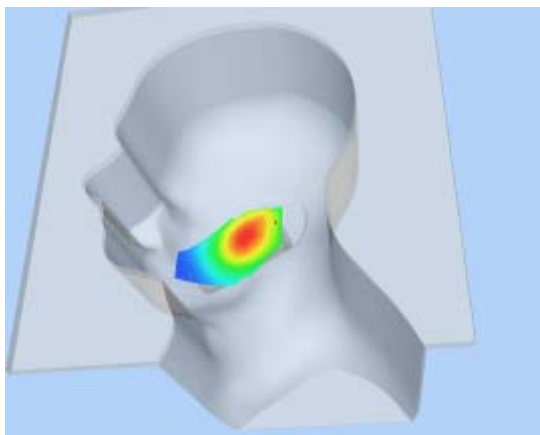
3D sceen shot	Hot spot position
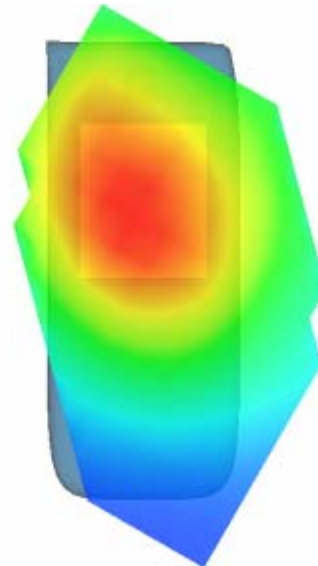
MEASUREMENT 4

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

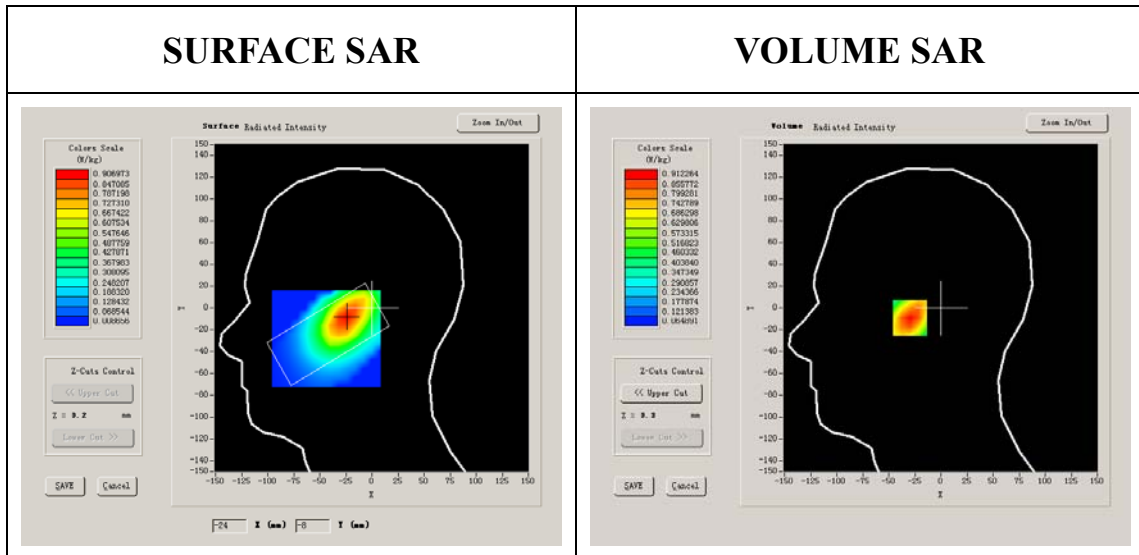Measurement duration: 7 minutes 27 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM850
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 128):

Frequency (MHz)	824.200012
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Variation (%)	-3.790039
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
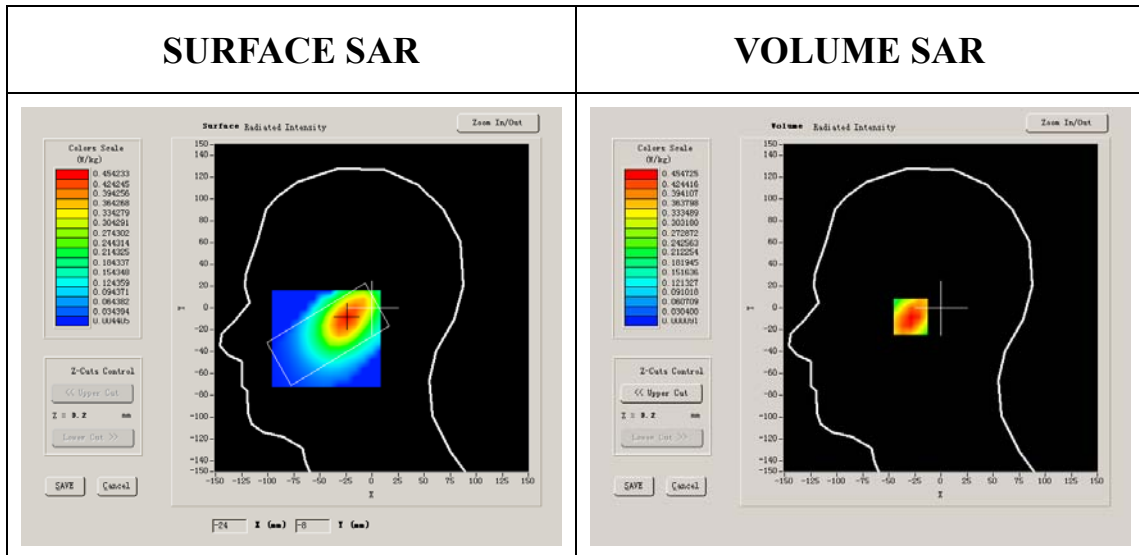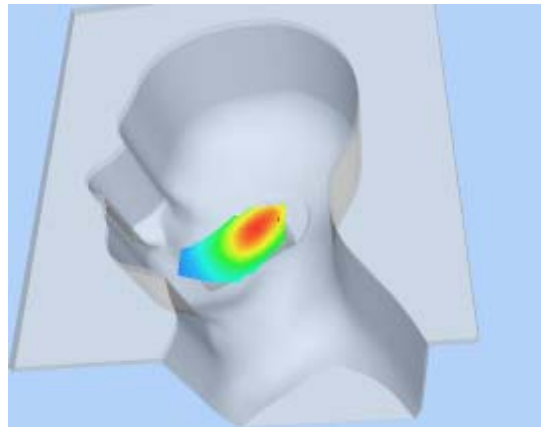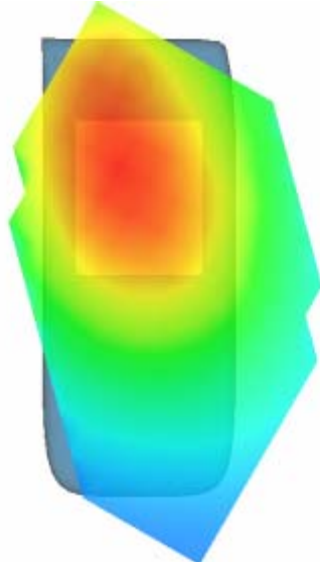
Maximum location: X=-24.00, Y=-8.00

SAR 10g (W/Kg)	0.291702
SAR 1g (W/Kg)	0.448208

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	0.3155	0.2261	0.1563	0.1091	0.0787

SAR, Z Axis Scan (X = -24, Y = -8)
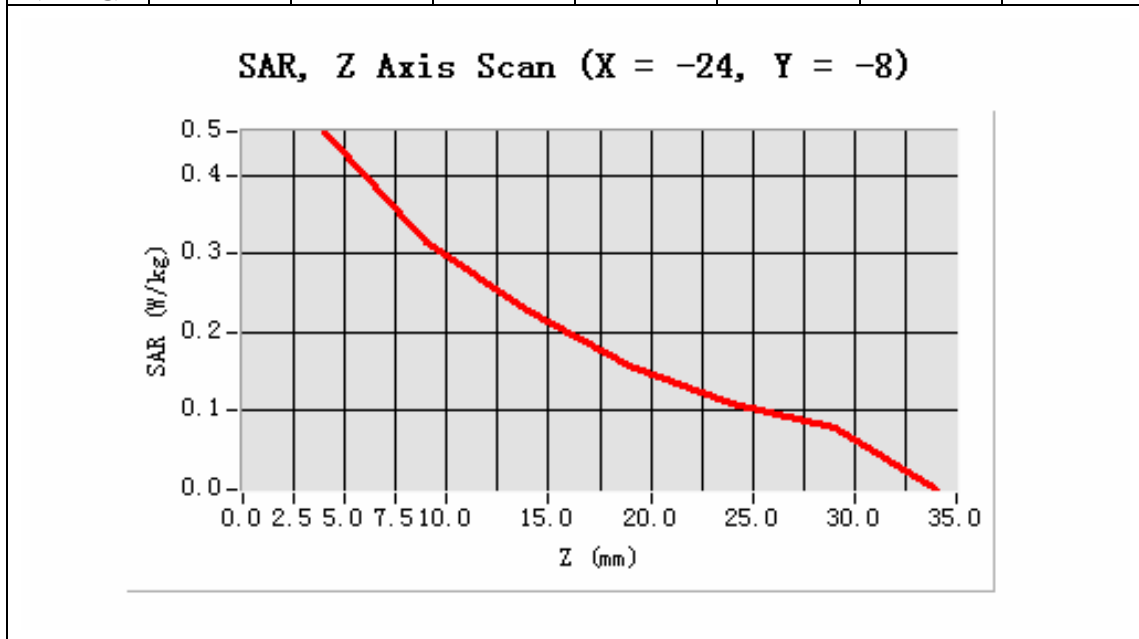
3D sceen shot	Hot spot position

MEASUREMENT 5

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 28 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM850
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 190):

Frequency (MHz)	836.599976
Relative permittivity (real part)	40.669998
Relative permittivity	19.120001

Conductivity (S/m)	0.888655
Variation (%)	1.060000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
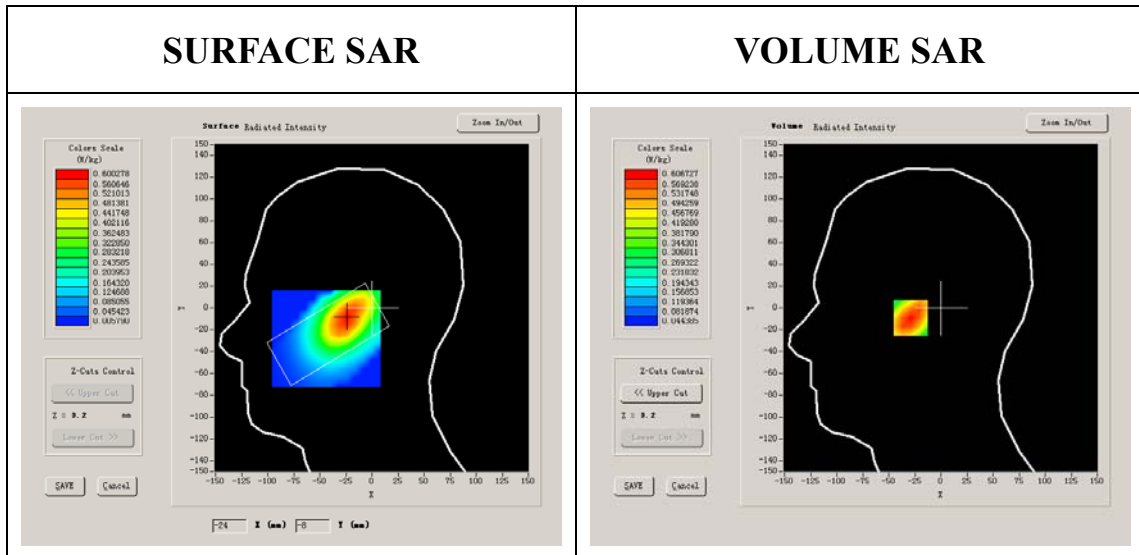
Maximum location: X=-24.00, Y=-9.00

SAR 10g (W/Kg)	0.384752
SAR 1g (W/Kg)	0.580874

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.6067	0.4107	0.2979	0.2074	0.1449	0.1043
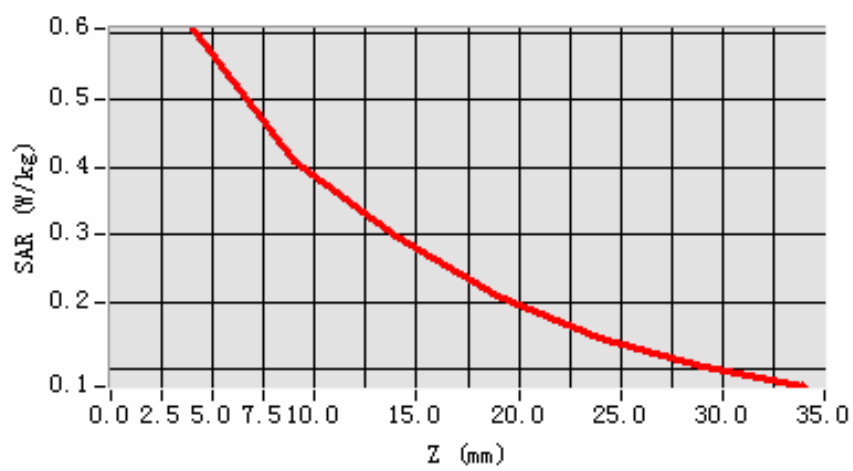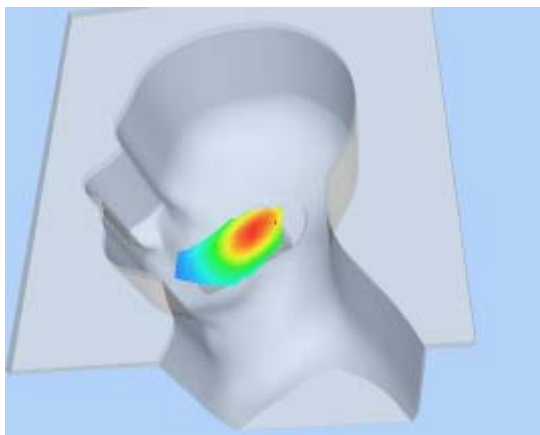
3D sceen shot	Hot spot position
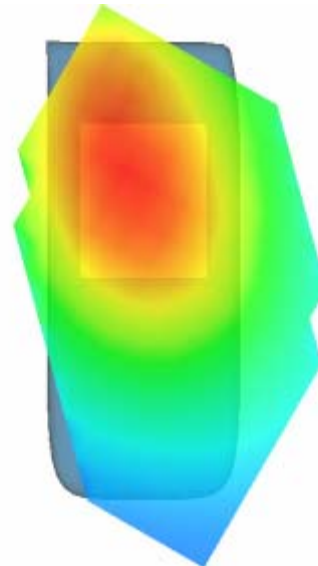
MEASUREMENT 6

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 28 seconds
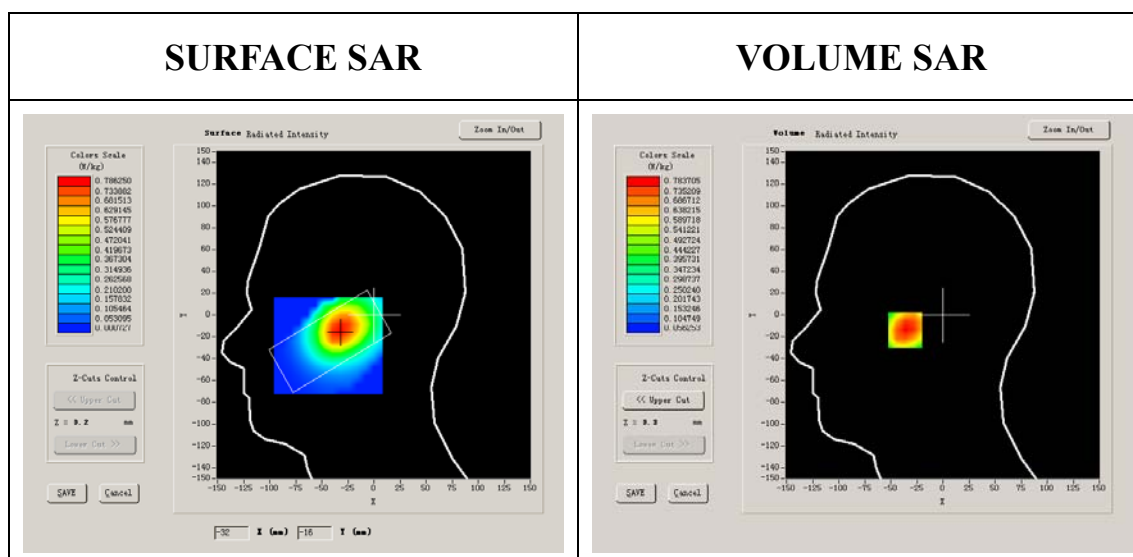
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM850
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 251):

Frequency (MHz)	848.799988
Relative permittivity (real part)	41.675999
Relative permittivity	18.967199

Conductivity (S/m)	0.894409
Variation (%)	0.030000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor:	1:8

SURFACE SAR	VOLUME SAR

Maximum location: X=-25.00, Y=-9.00

SAR 10g (W/Kg)	0.565754
SAR 1g (W/Kg)	0.871779

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.9123	0.6282	0.4249	0.3127	0.2124	0.1526

SAR, Z Axis Scan (X = −25, Y = −9)
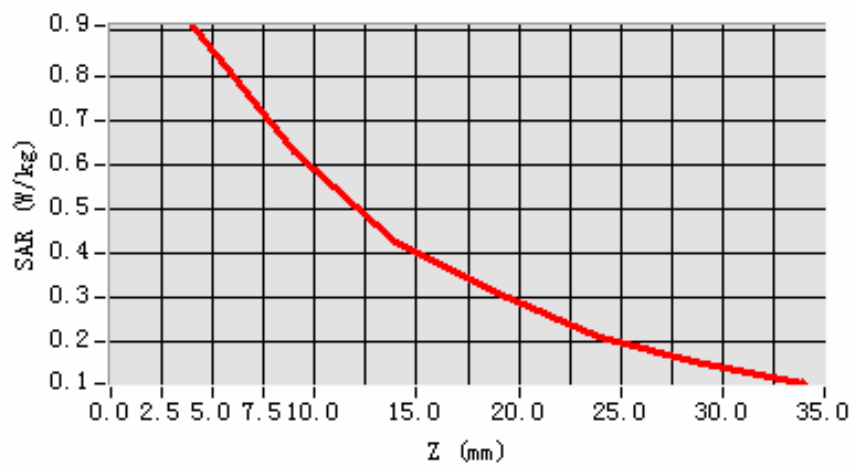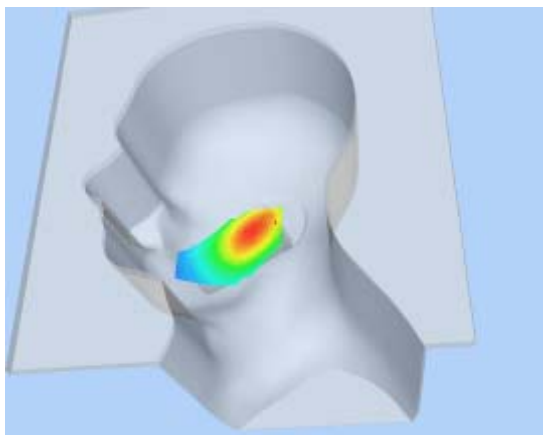
3D sceen shot	Hot spot position
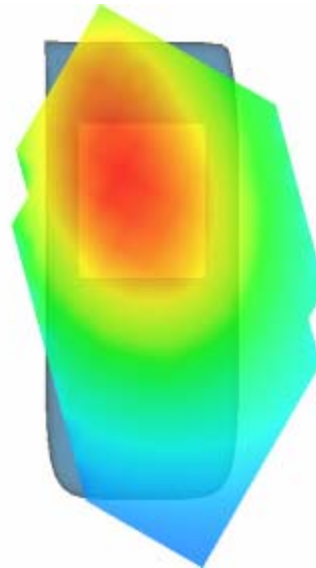
MEASUREMENT 7

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 32 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 128):

Frequency (MHz)	824.200012
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Variation (%)	0.860000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
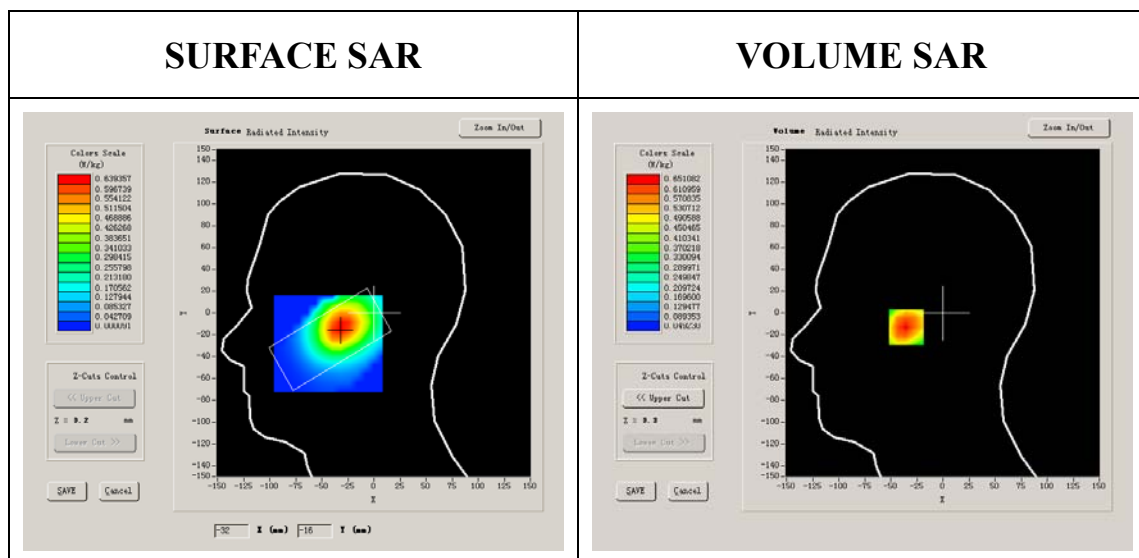
Maximum location: X=-31.00, Y=-13.00

SAR 10g (W/Kg)	0.417803
SAR 1g (W/Kg)	0.619770

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.6511	0.4713	0.3459	0.2395	0.1690	0.1175

SAR, Z Axis Scan (X = -31, Y = -13)
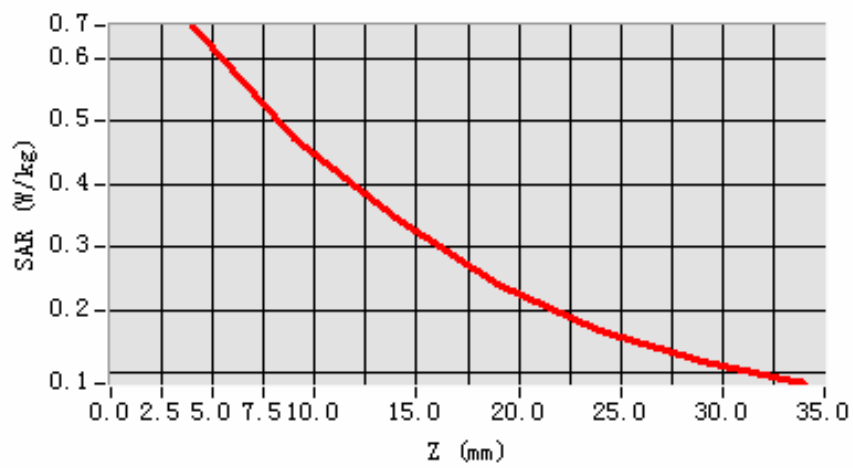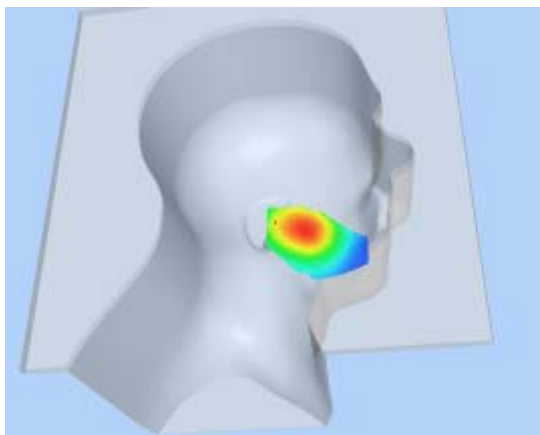
3D sceen shot	Hot spot position
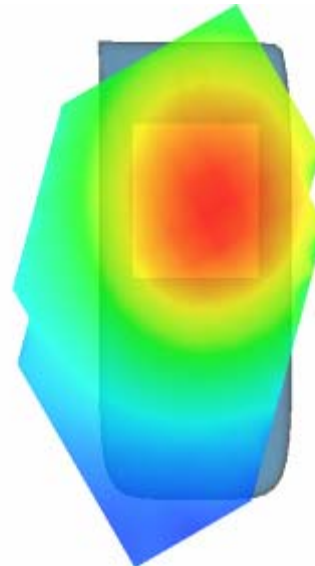
MEASUREMENT 8

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 32 seconds
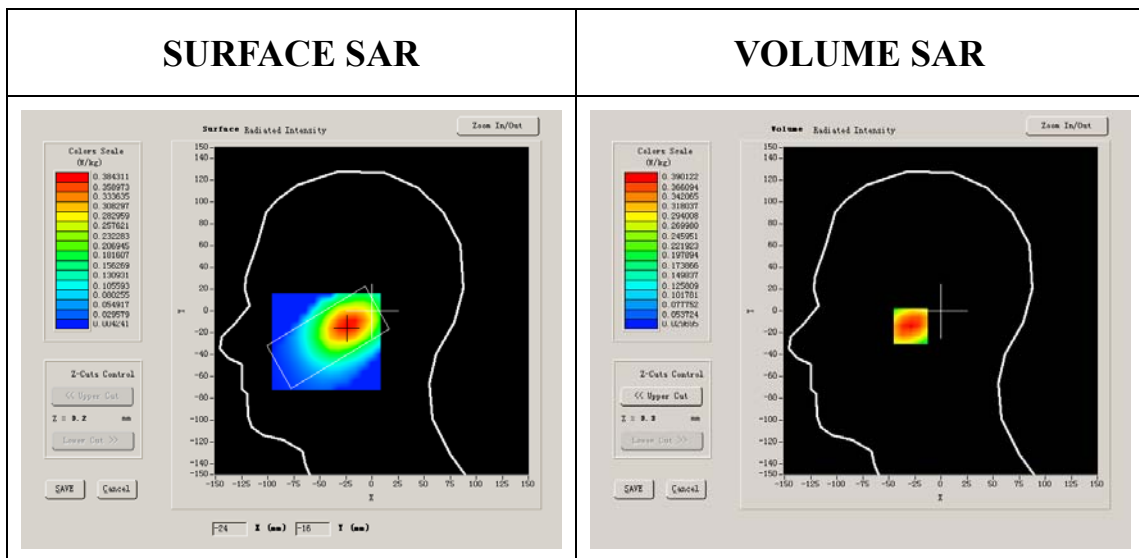
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 190):

Frequency (MHz)	836.599976
Relative permittivity (real part)	40.669998
Relative permittivity	19.120001

Conductivity (S/m)	0.888655
Variation (%)	0.390000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

SURFACE SAR	VOLUME SAR

Maximum location: X=-33.00, Y=-14.00
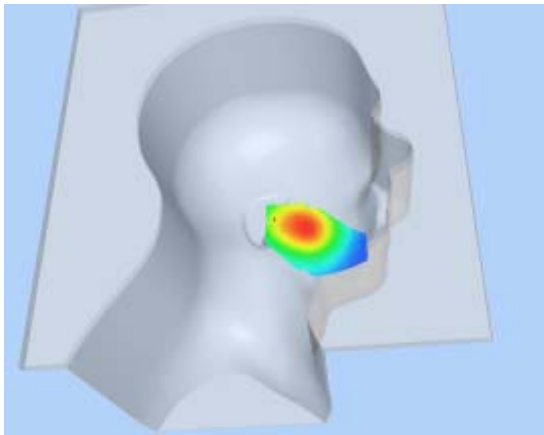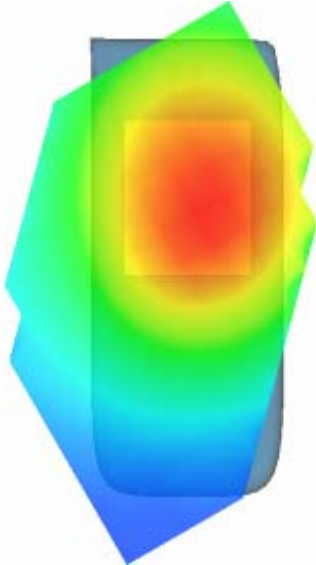
SAR 10g (W/Kg)	0.510409
SAR 1g (W/Kg)	0.756905

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7837	0.5853	0.4045	0.2962	0.2050	0.1446
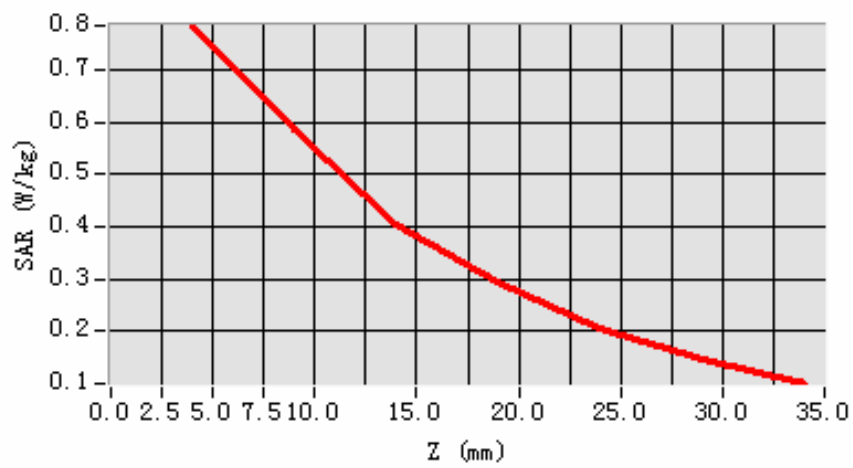
3D sceen shot	Hot spot position

MEASUREMENT 9

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 30 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 251):

Frequency (MHz)	848.799988
Relative permittivity (real part)	41.675999
Relative permittivity	18.967199

Conductivity (S/m)	0.894409
Variation (%)	-0.850000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
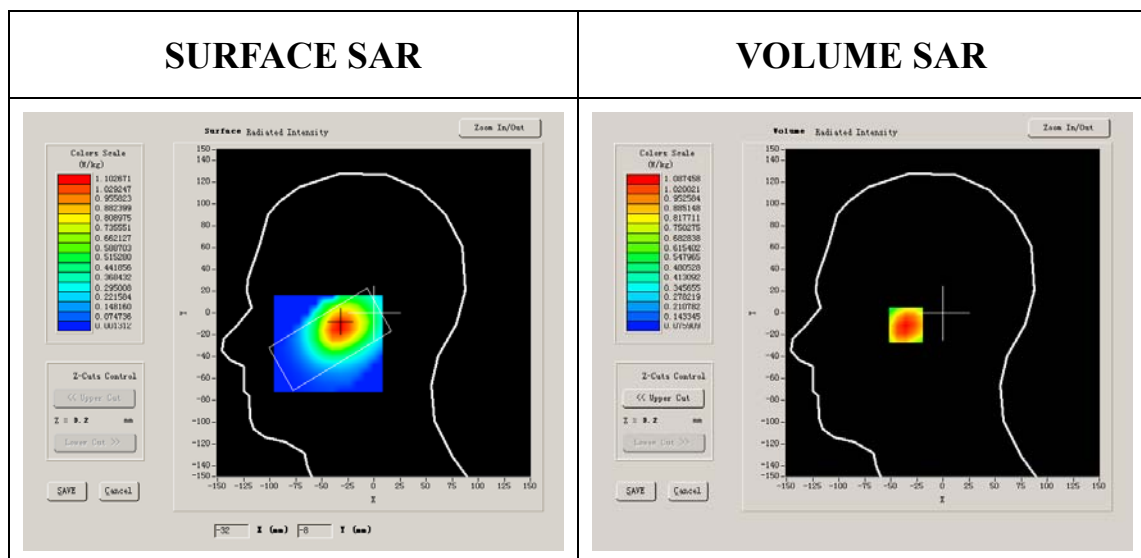
Maximum location: X=-32.00, Y=-11.00

SAR 10g (W/Kg)	0.697081
SAR 1g (W/Kg)	1.042315

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.0875	0.7988	0.5597	0.3936	0.2787	0.1928

SAR, Z Axis Scan (X = −32, Y = −11)
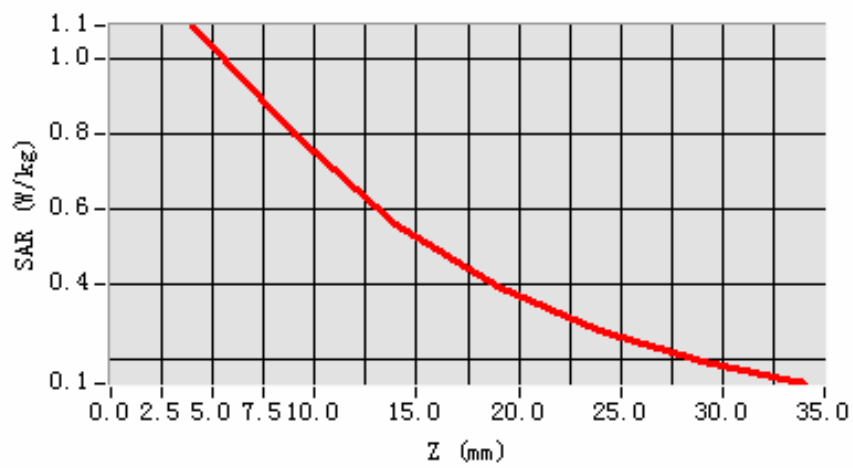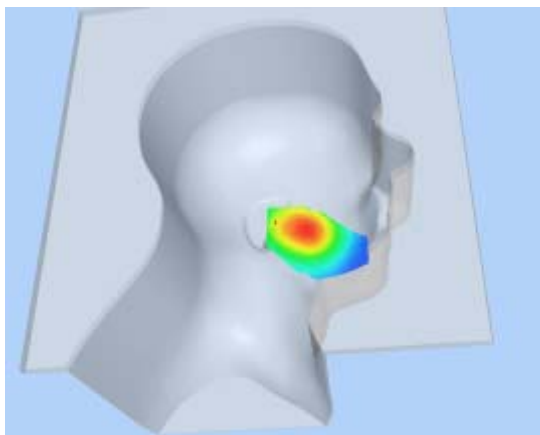
3D sceen shot	Hot spot position
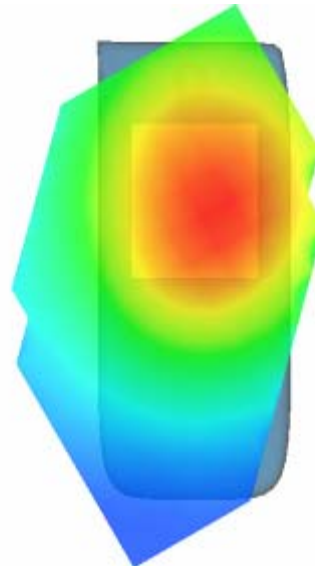
MEASUREMENT 10

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 26 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 128):

Frequency (MHz)	824.200012
Relative permittivity (real part)	41.790001
Relative permittivity	18.926250

Conductivity (S/m)	0.866612
Variation (%)	0.320000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

SURFACE SAR	VOLUME SAR

Maximum location: X=-23.00, Y=-14.00
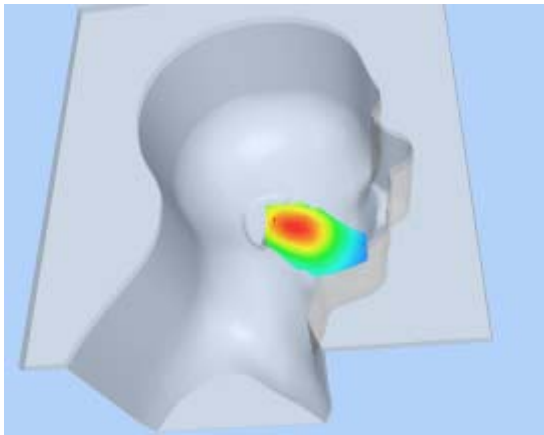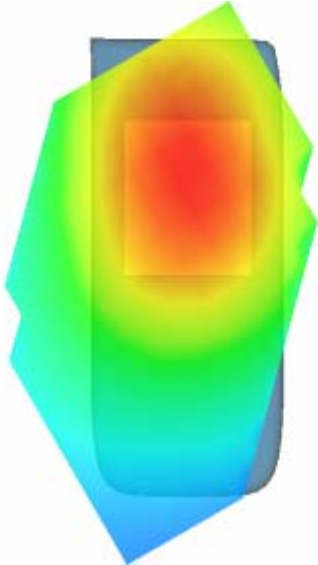
SAR 10g (W/Kg)	0.251511
SAR 1g (W/Kg)	0.374335

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.3901	0.2799	0.1999	0.1418	0.1007	0.0709

SAR, Z Axis Scan (X = -23, Y = -14)
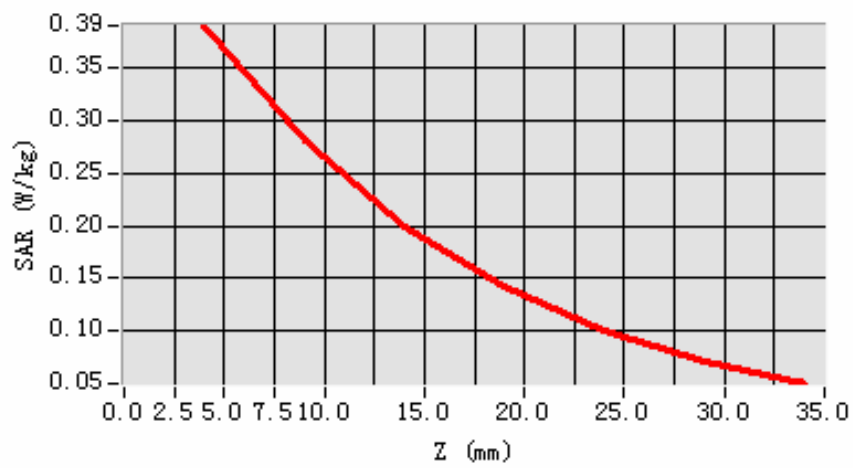
3D sceen shot	Hot spot position

MEASUREMENT 11

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 27 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 190):

Frequency (MHz)	836.599976
Relative permittivity (real part)	40.669998
Relative permittivity	19.120001

Conductivity (S/m)	0.888655
Variation (%)	0.020000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
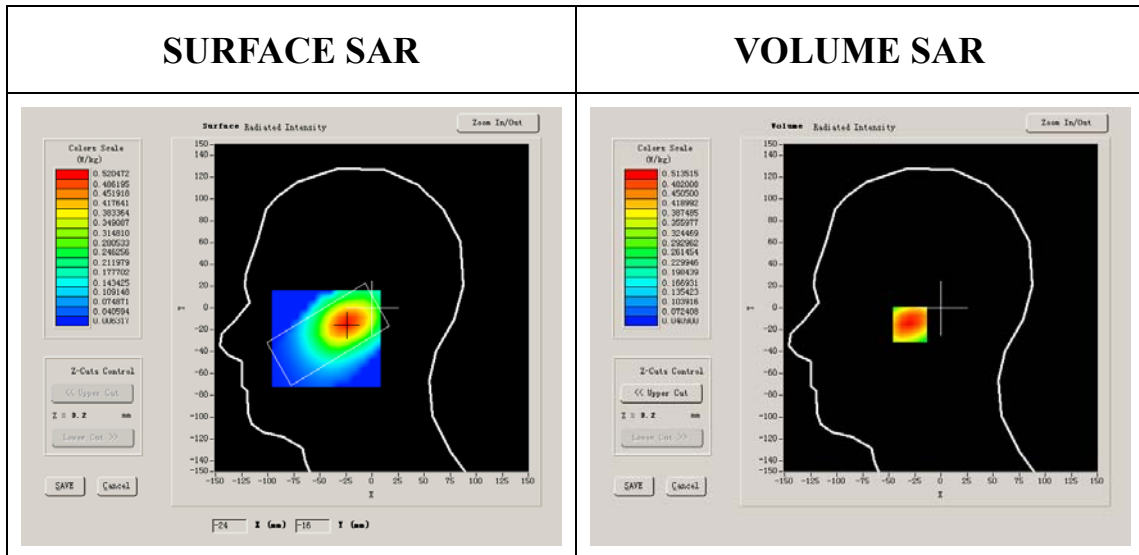
Maximum location: X=-24.00, Y=-15.00
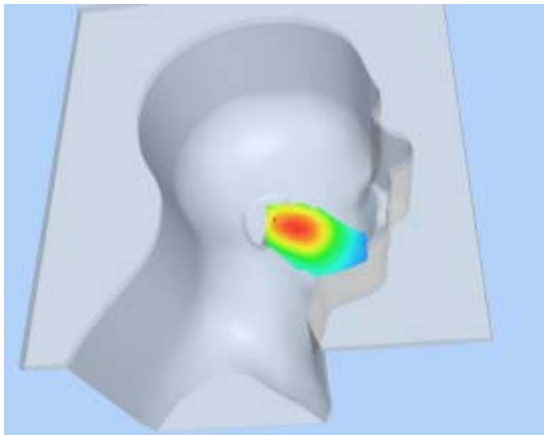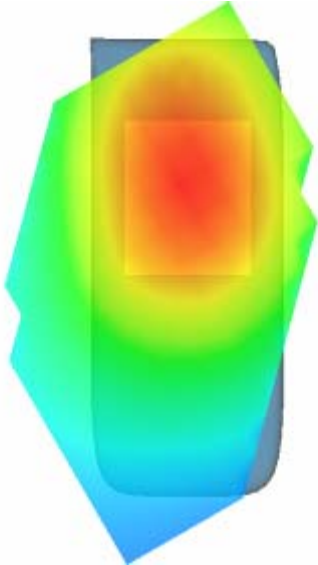
SAR 10g (W/Kg)	0.331395
SAR 1g　(W/Kg)	0.497225

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.5135	0.3661	0.2568	0.1820	0.1302	0.0925

SAR, Z Axis Scan (X = -24, Y = -15)
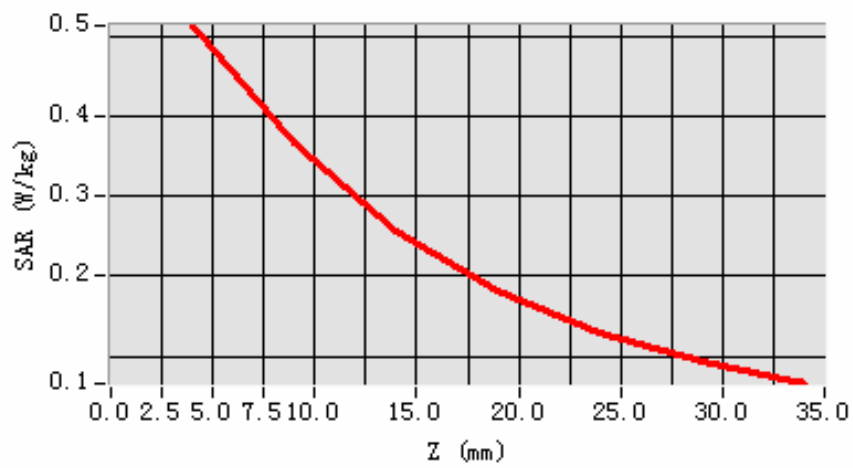
3D sceen shot	Hot spot position

MEASUREMENT 12

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 25 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 251):

Frequency (MHz)	848.799988
Relative permittivity (real part)	41.675999
Relative permittivity	18.967199

Conductivity (S/m)	0.894409
Variation (%)	-0.650000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
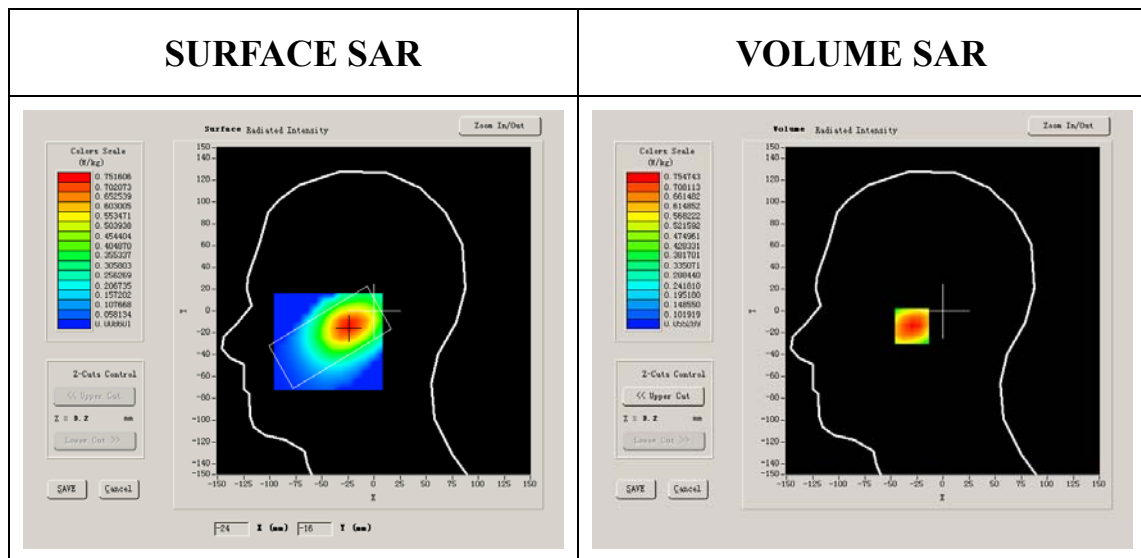
Maximum location: X=-24.00, Y=-14.00
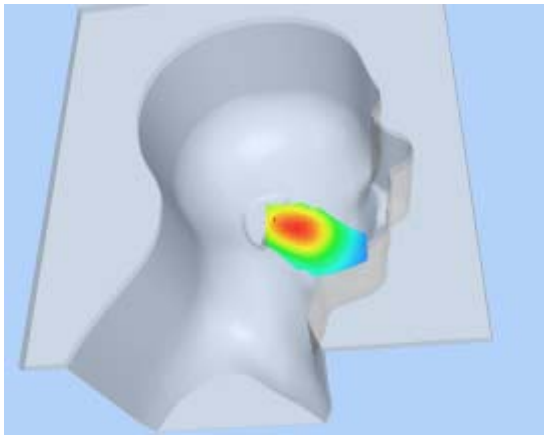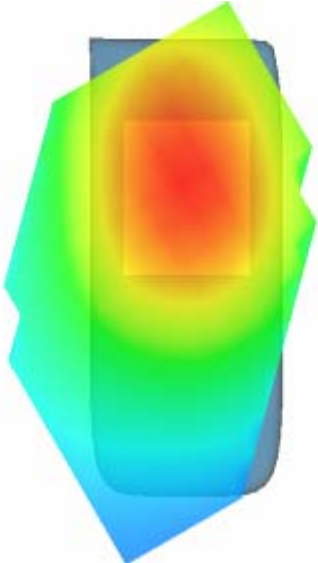
SAR 10g (W/Kg)	0.482681
SAR 1g (W/Kg)	0.726612

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7547	0.5307	0.3717	0.2655	0.1864	0.1342

SAR, Z Axis Scan (X = -24, Y = -14)
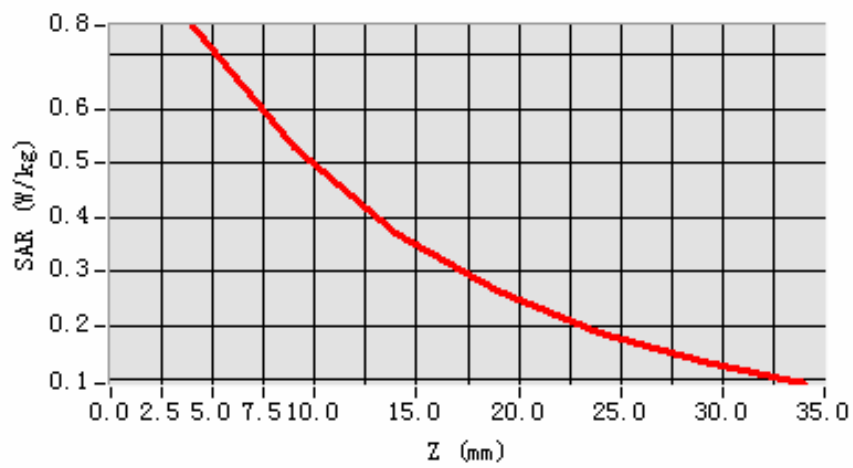
3D sceen shot	Hot spot position

MEASUREMENT 13

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 9 minutes 7 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

Conductivity (S/m)	0.974596
Variation (%)	-0.440000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
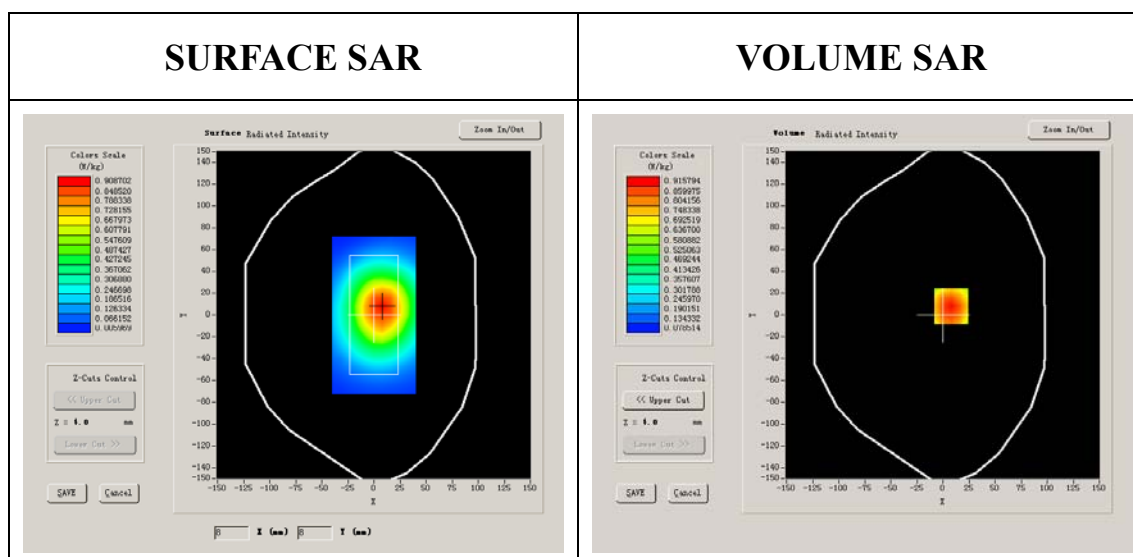
Maximum location: X=8.00, Y=8.00

SAR 10g (W/Kg)	0.670843
SAR 1g (W/Kg)	0.984633

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.0299	0.7377	0.5188	0.3693	0.2653	0.1892

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

3D sceen shot	Hot spot position
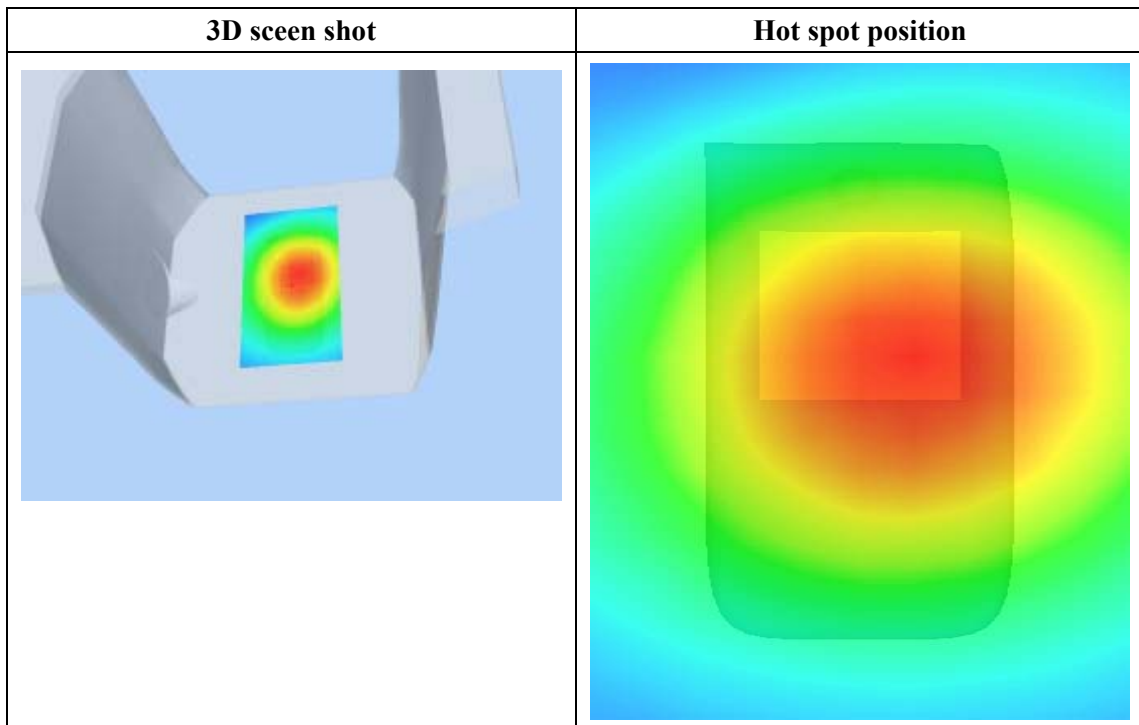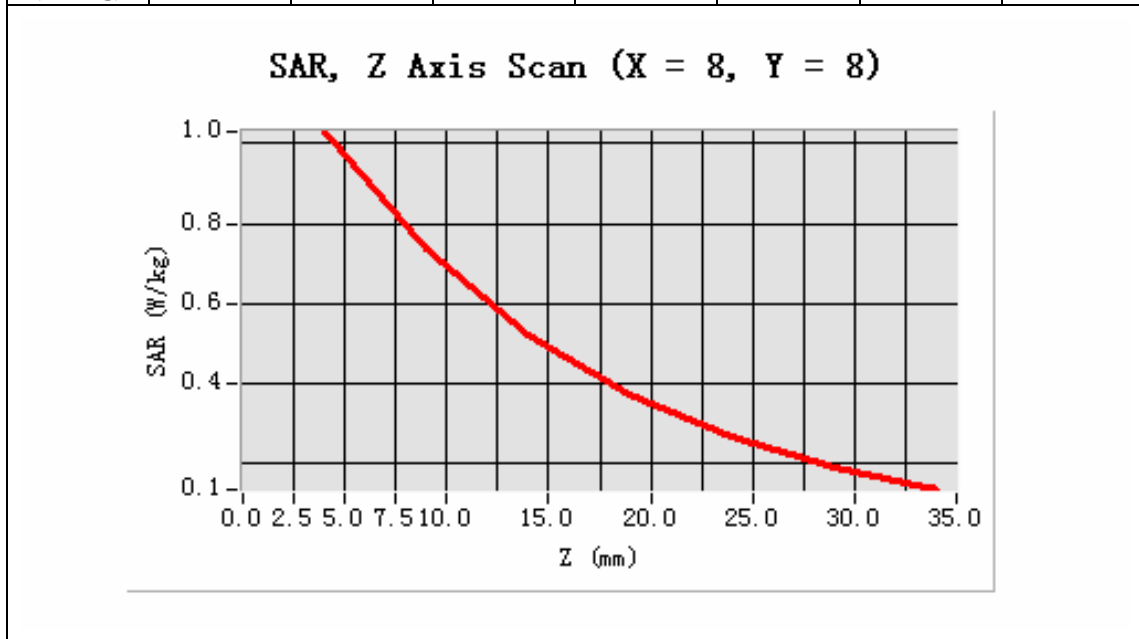
MEASUREMENT 14

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 9 minutes 9 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

Conductivity (S/m)	1.009033
Variation (%)	1.490000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
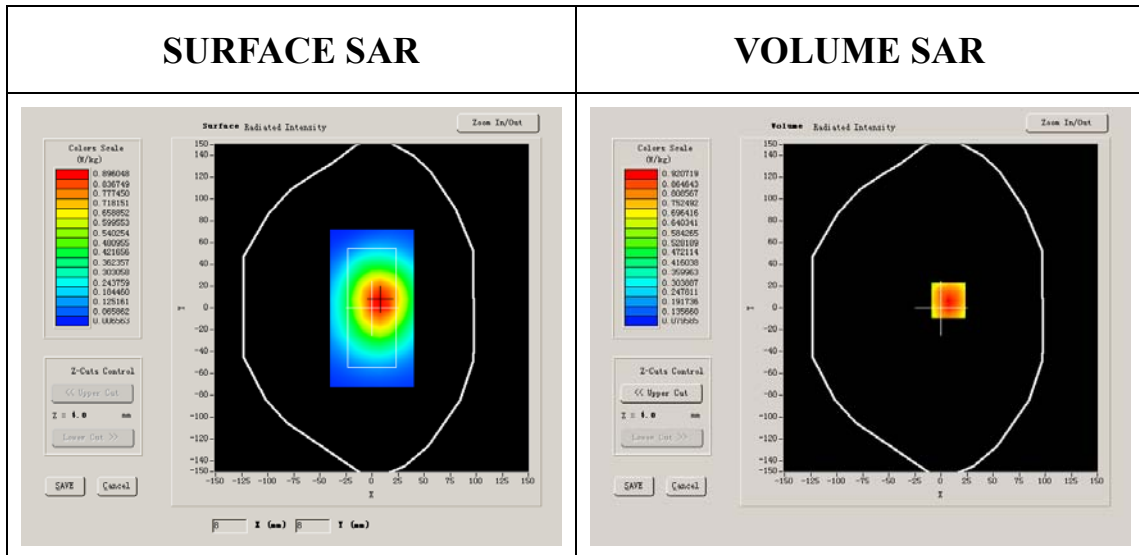
Maximum location: X=7.00, Y=7.00

SAR 10g (W/Kg)	0.677284
SAR 1g　(W/Kg)	1.000569

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.0454	0.7301	0.5327	0.3756	0.2626	0.1856
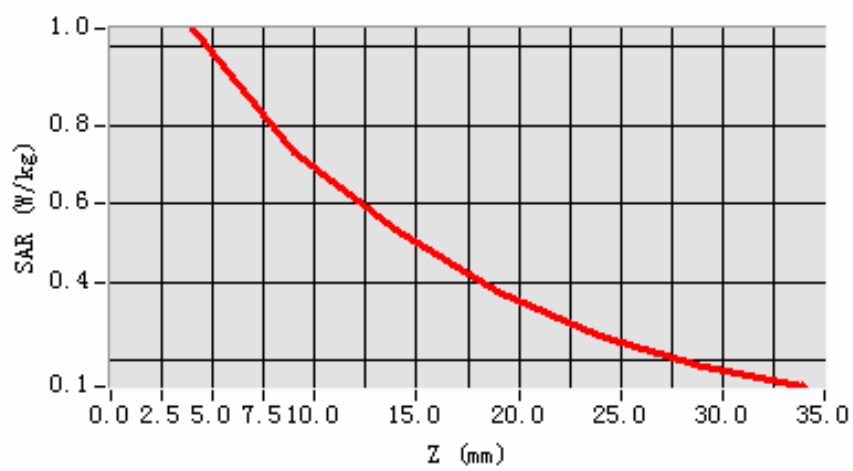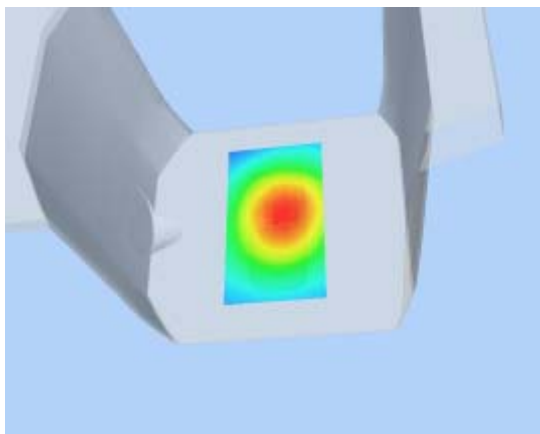
3D sceen shot	Hot spot position
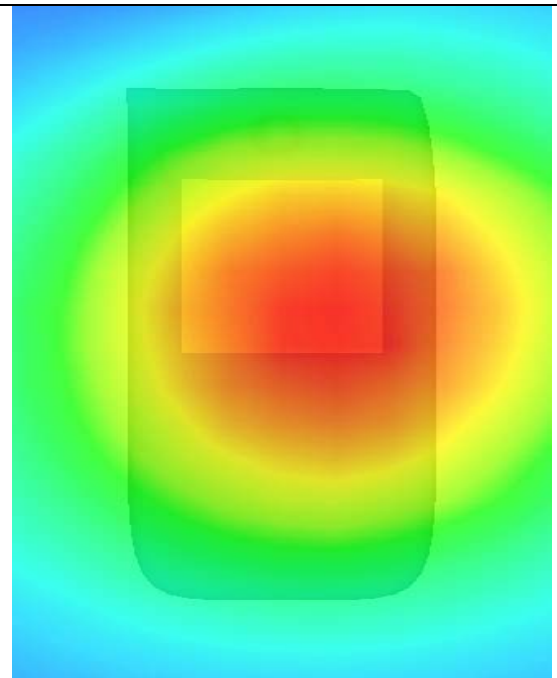
MEASUREMENT 15

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 9 minutes 8 seconds
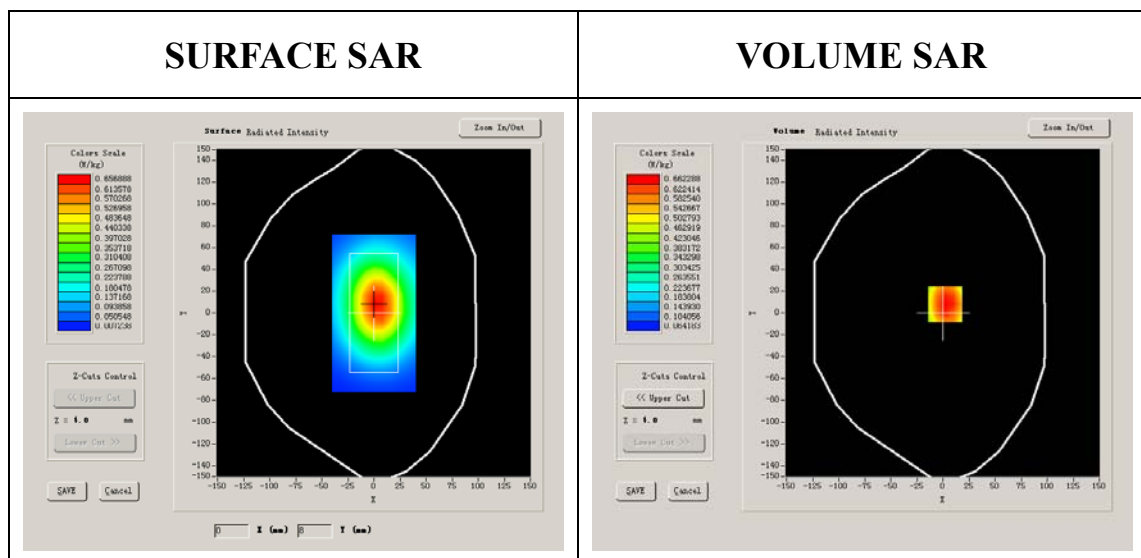
A. Experimental conditions.

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

B. SAR Measurement Results

Higher Band SAR (Channel 251):

Frequency (MHz)	848.799988
Relative permittivity (real part)	54.014999
Relative permittivity	21.332850

Conductivity (S/m)	1.005962
Variation (%)	-1.610000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
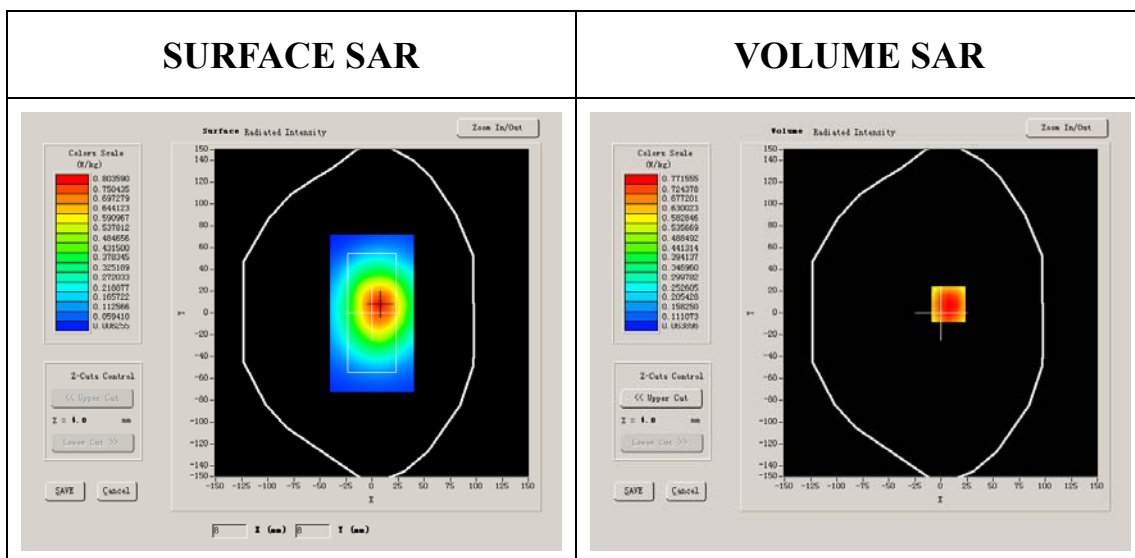
Maximum location: X=7.00, Y=8.00

SAR 10g (W/Kg)	0.575468
SAR 1g (W/Kg)	0.841466

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.8678	0.6141	0.4452	0.3083	0.2131	0.1577
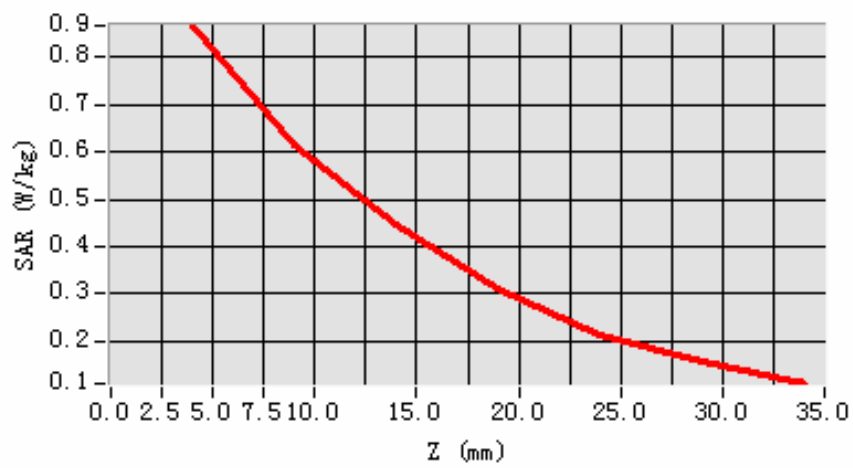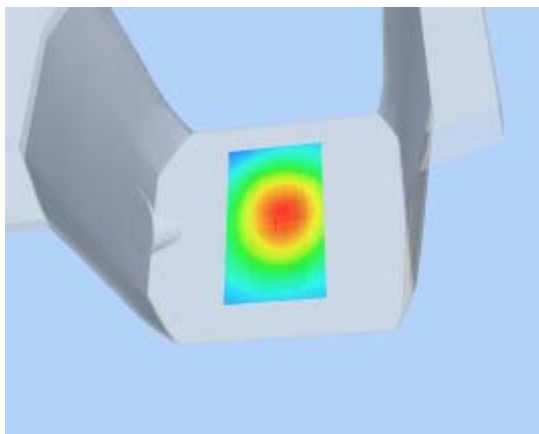
3D sceen shot	Hot spot position
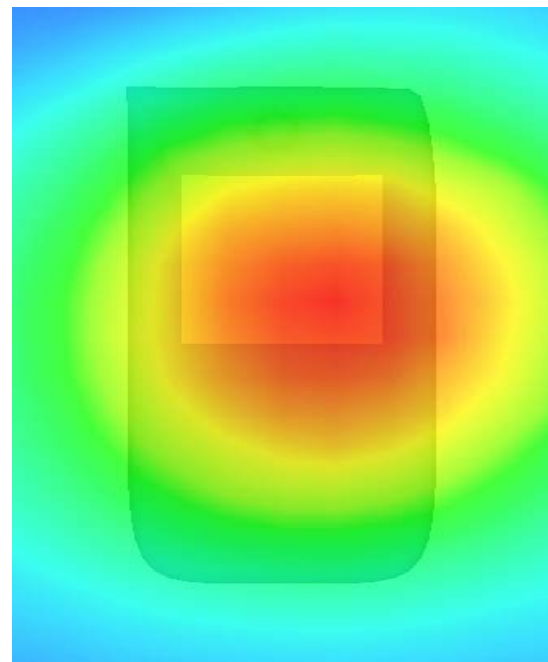
MEASUREMENT 16

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 9 minutes 9 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

Conductivity (S/m)	1.009033
Variation (%)	0.210000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor:	1:8

SURFACE SAR	VOLUME SAR

Maximum location: X=2.00, Y=8.00

SAR 10g (W/Kg)	0.496147
SAR 1g　(W/Kg)	0.726454

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7520	0.5475	0.3893	0.2767	0.1951	0.1420

SAR, Z Axis Scan (X = 2, Y = 8)
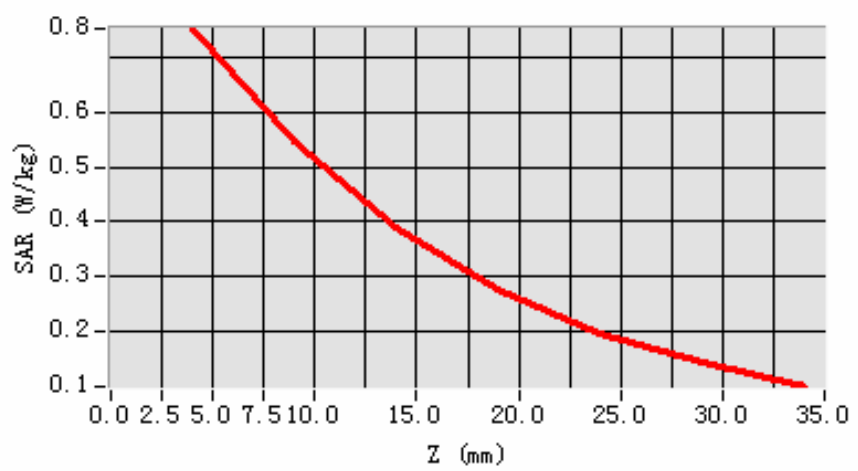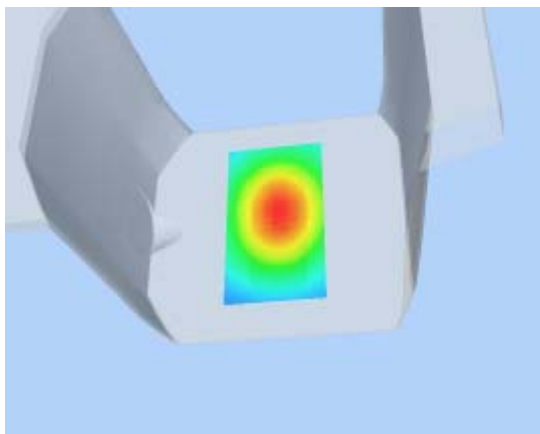
3D sceen shot	Hot spot position
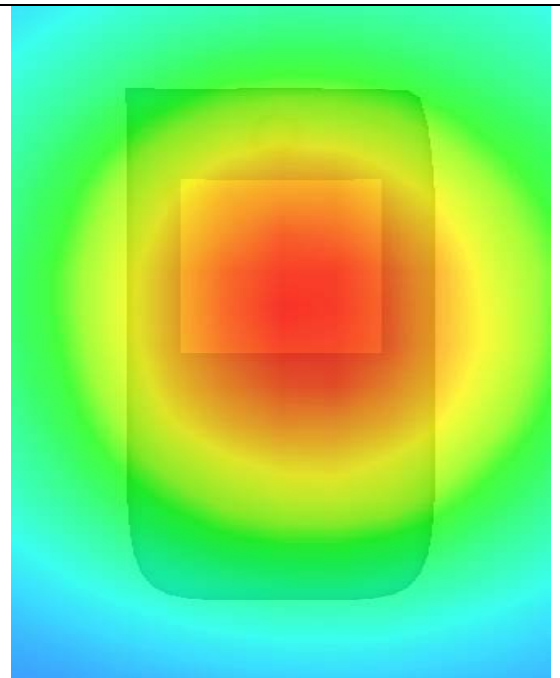
MEASUREMENT 17

Type: Phone measurement (Complete)

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

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

Date of measurement: 27/1/2010

Measurement duration: 9 minutes 9 seconds
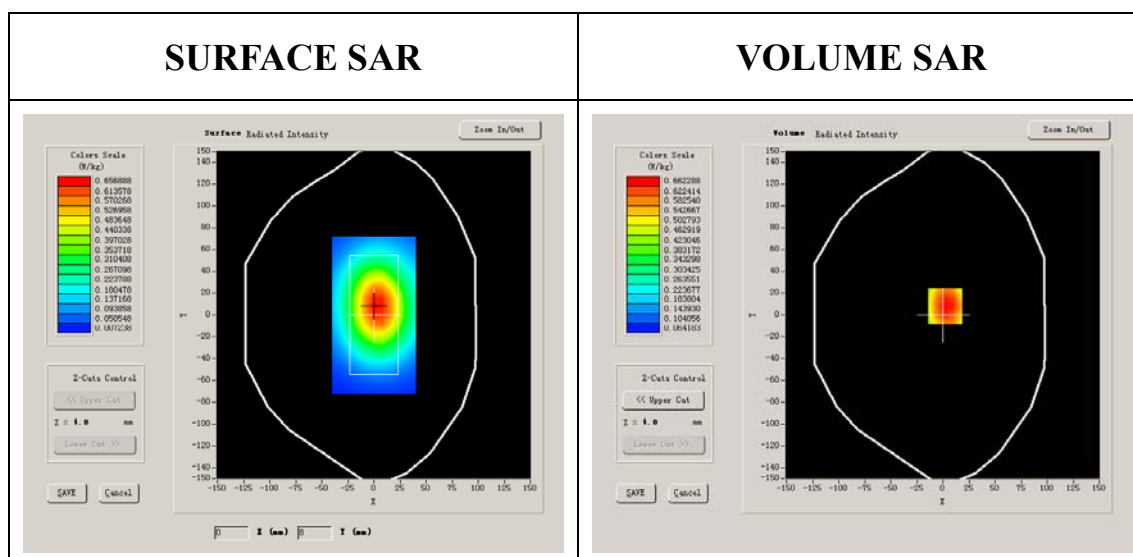
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	Custom (Duty Cycle: 2.00)

B. SAR Measurement Results

Middle Band SAR (Channel 190):

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

Conductivity (S/m)	1.009033
Variation (%)	-1.600000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
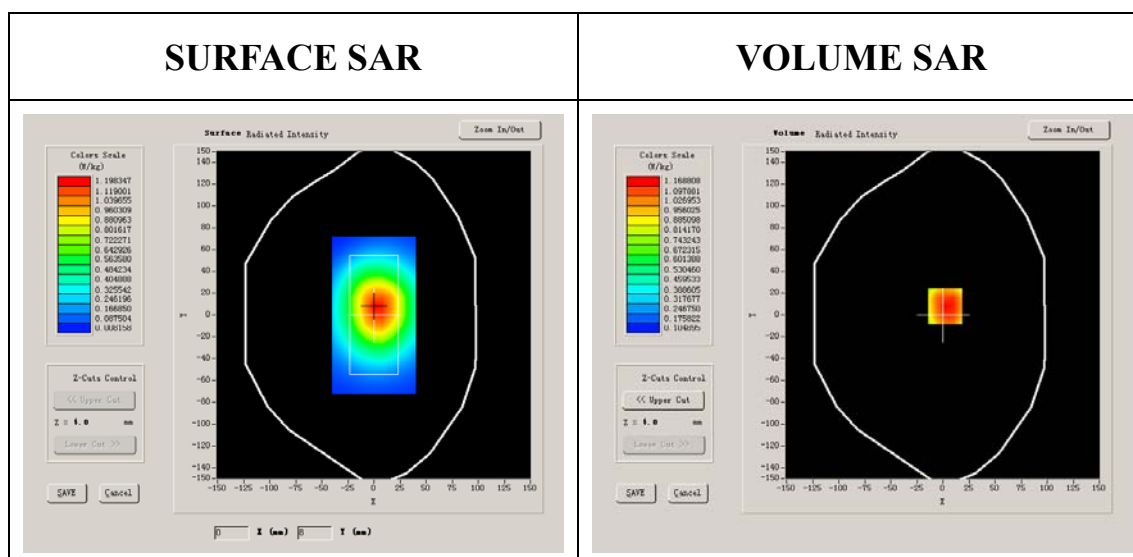
Maximum location: X=2.00, Y=8.00

SAR 10g (W/Kg)	0.877956
SAR 1g (W/Kg)	1.281688

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.3271	0.9543	0.6597	0.4814	0.3335	0.2375

SAR, Z Axis Scan (X = 2, Y = 8)
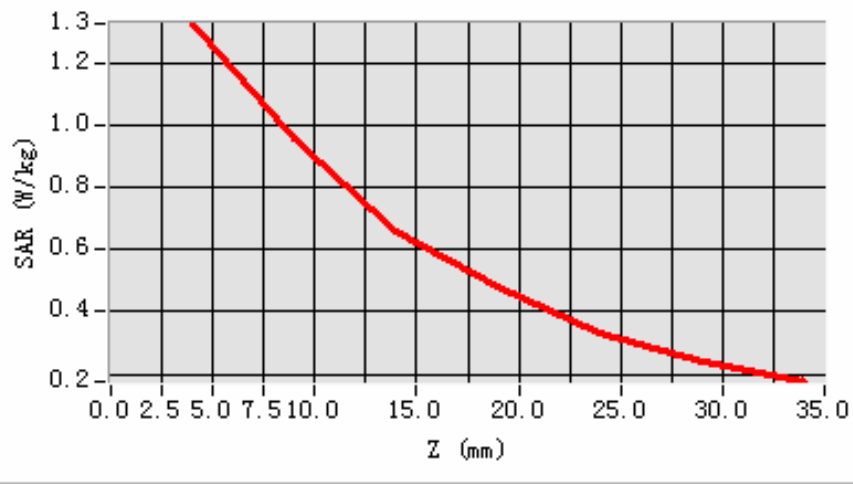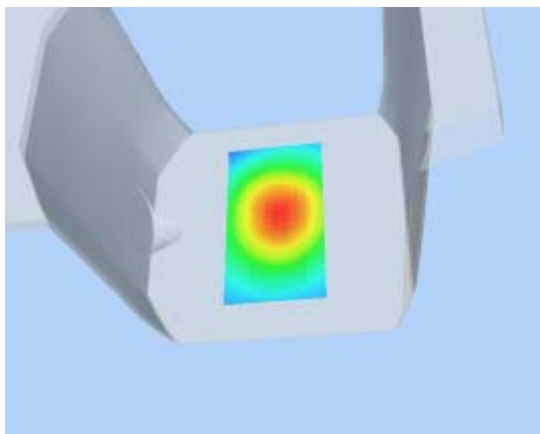
3D sceen shot	Hot spot position
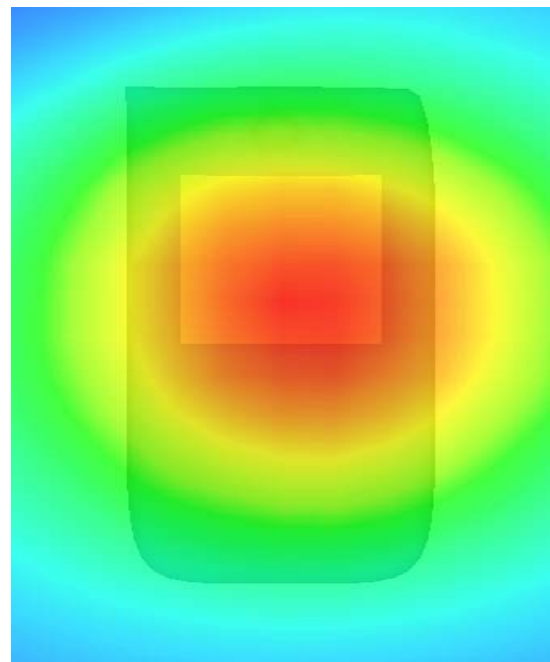
MEASUREMENT 18

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 9 minutes 9 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

Conductivity (S/m)	1.009033
Variation (%)	0.210000
Ambient Temperature:	21.9°C
Liquid Temperature:	21.6°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:8

SURFACE SAR	VOLUME SAR

Maximum location: X=2.00, Y=8.00

SAR 10g (W/Kg)	0.523552
SAR 1g　(W/Kg)	0.994622

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7520	0.5475	0.3893	0.2767	0.1951	0.1420

SAR, Z Axis Scan (X = 2, Y = 8)
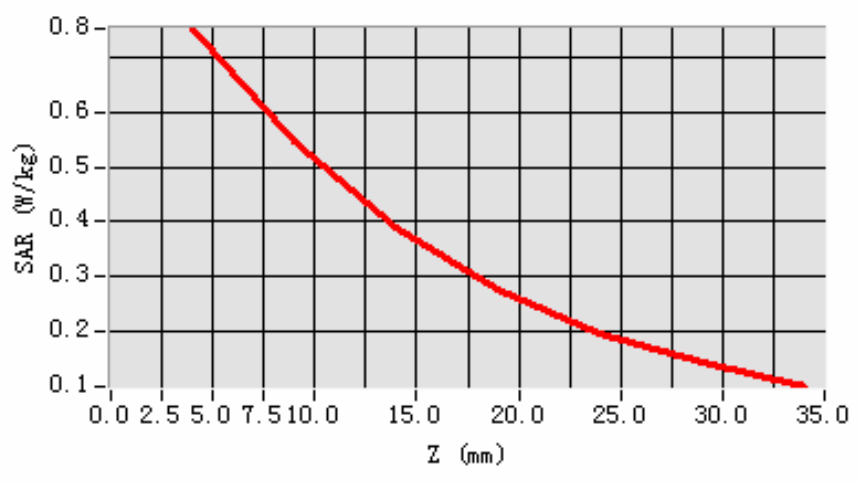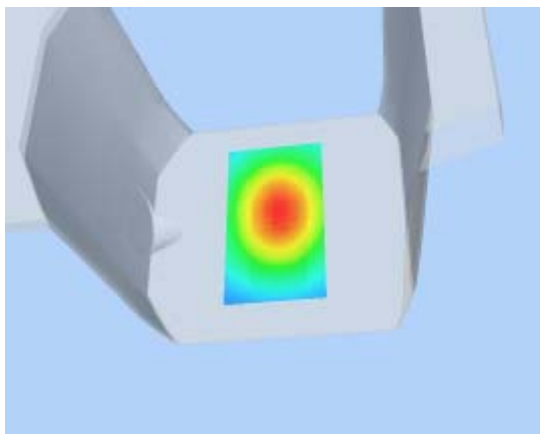
3D sceen shot	Hot spot position
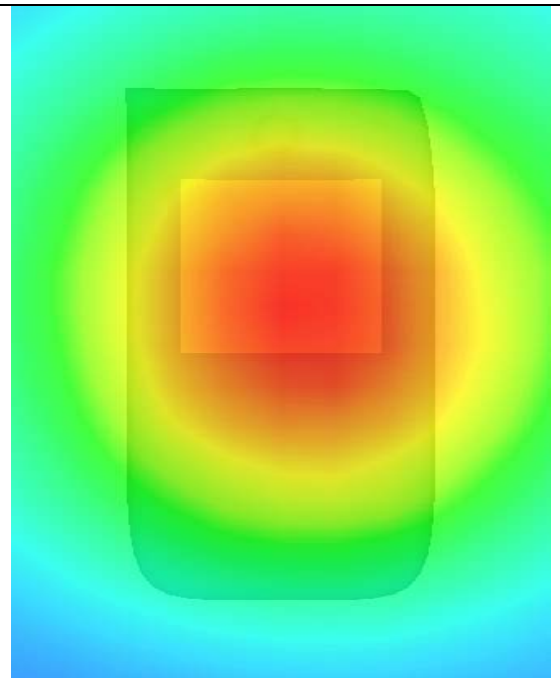
MEASUREMENT 19

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 27 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 512):

Frequency (MHz)	1850.199951
Relative permittivity (real part)	39.993999
Relative permittivity	12.991650

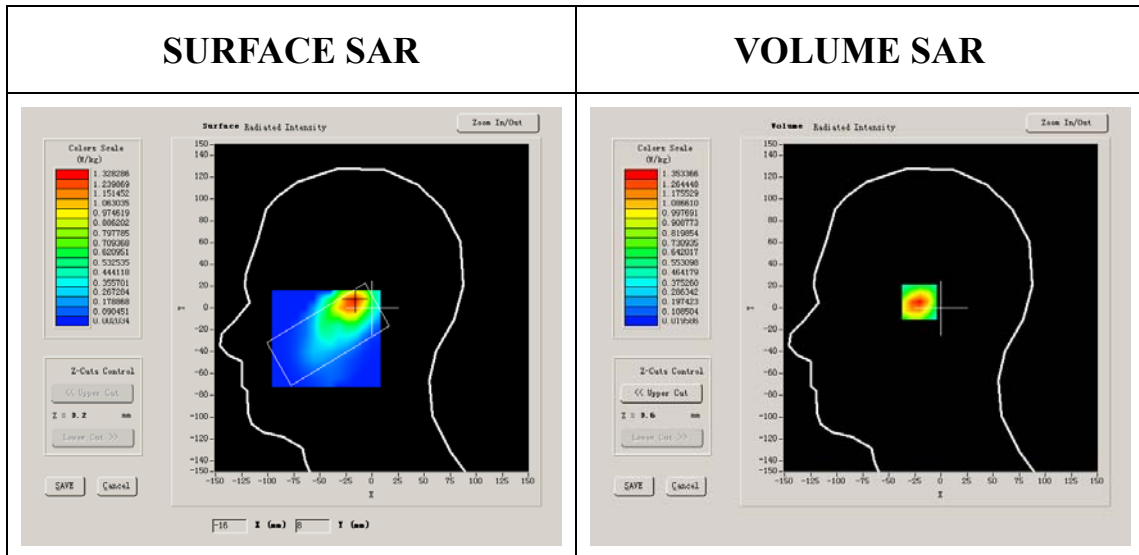| Conductivity (S/m)	1.335397
Variation (%)	-0.030000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

SURFACE SAR	VOLUME SAR

Maximum location: X=-18.00, Y=6.00

SAR 10g (W/Kg)	0.643249
SAR 1g (W/Kg)	1.177536

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.2448	0.7078	0.3893	0.2199	0.1253	0.0701

SAR, Z Axis Scan (X = -18, Y = 6)

3D sceen shot	Hot spot position
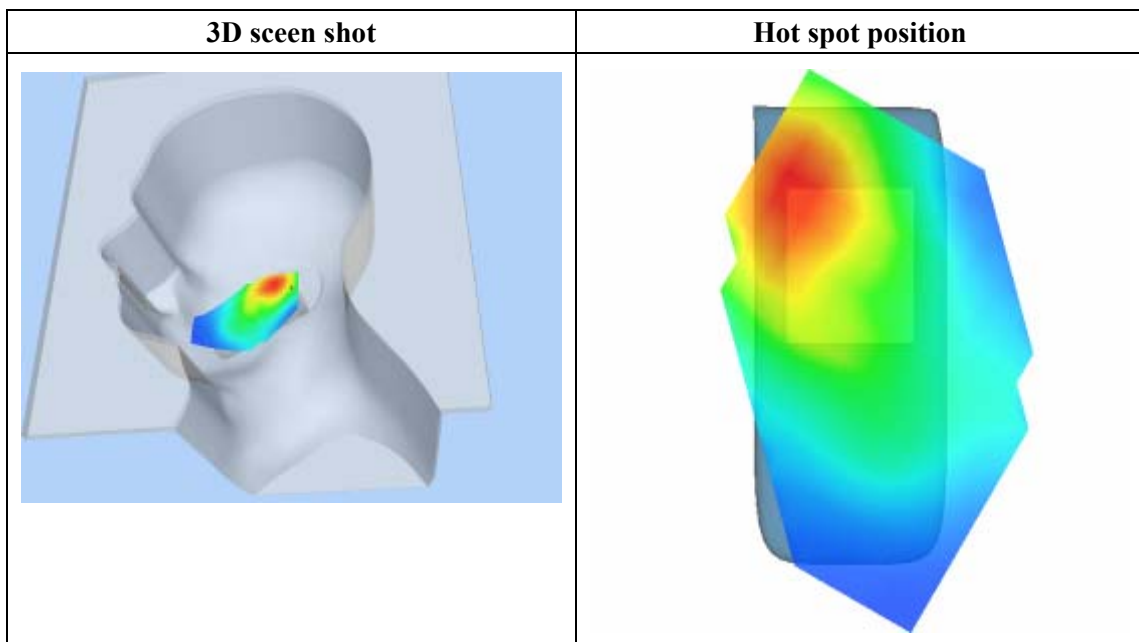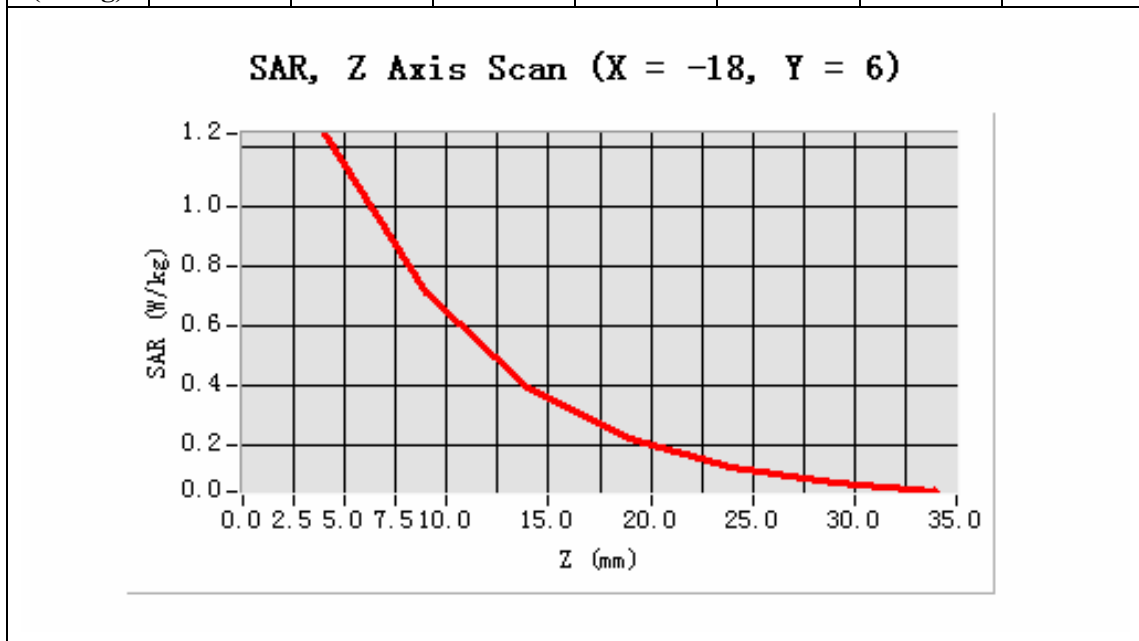
MEASUREMENT 20

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 26 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 661):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	38.509998
Relative permittivity	13.750000

Conductivity (S/m)	1.436111
Variation (%)	-0.100000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

SURFACE SAR	VOLUME SAR

Maximum location: X=-17.00, Y=6.00

SAR 10g (W/Kg)	0.677089
SAR 1g (W/Kg)	1.271223

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.3534	0.7341	0.4011	0.2310	0.1317	0.0733
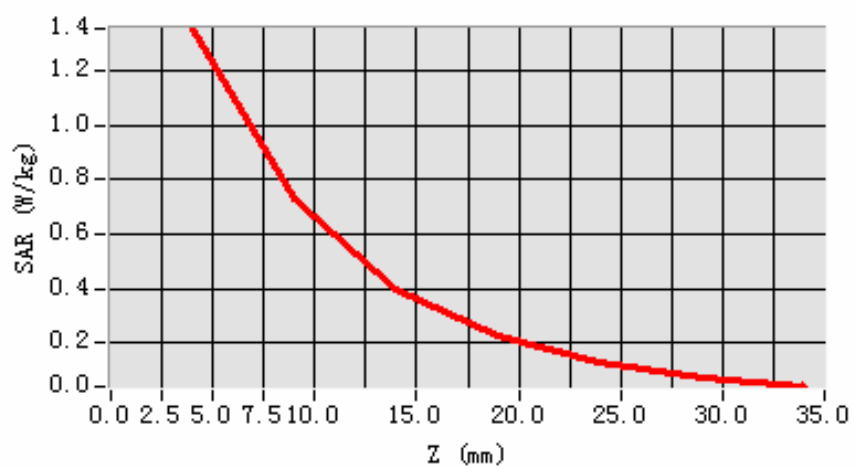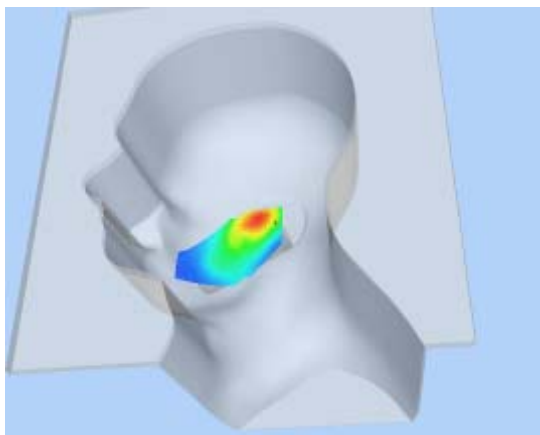
3D sceen shot	Hot spot position
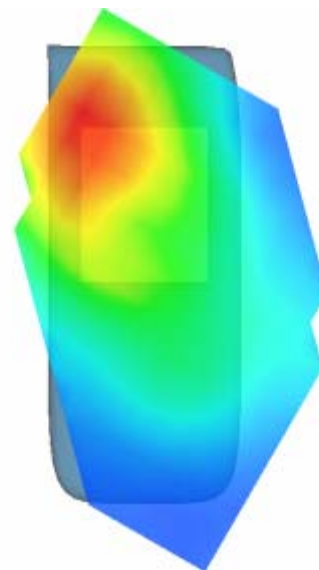
MEASUREMENT 21

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

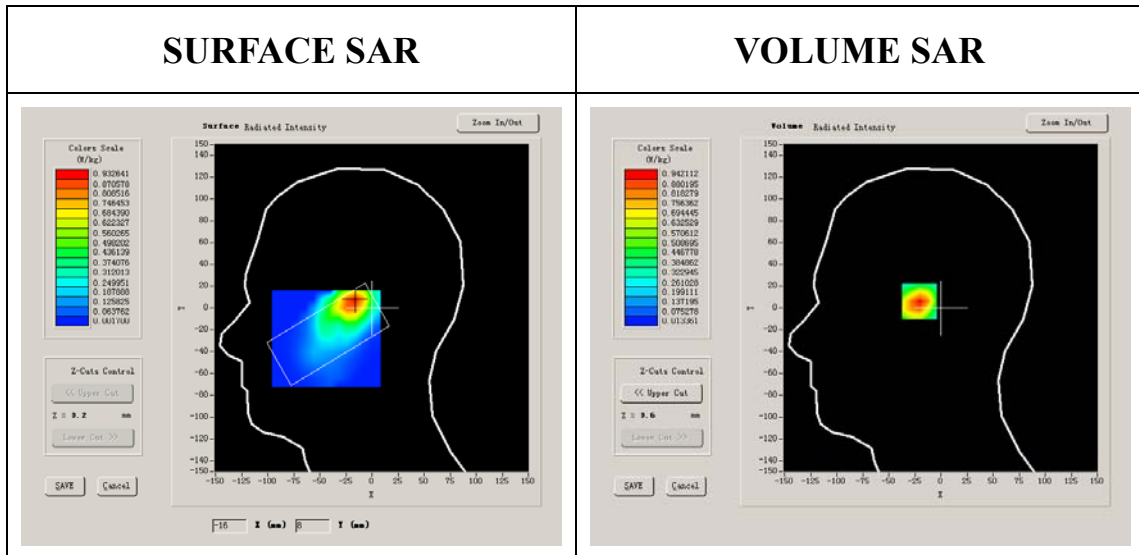Measurement duration: 7 minutes 27 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 810):

Frequency (MHz)	1909.800049
Relative permittivity (real part)	39.929001
Relative permittivity	13.156500

Conductivity (S/m)	1.395905
Variation (%)	0.390000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

SURFACE SAR	VOLUME SAR

Maximum location: X=-17.00, Y=7.00

SAR 10g (W/Kg)	0.477773
SAR 1g (W/Kg)	0.892593

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.9421	0.5072	0.2815	0.1547	0.0877	0.0479

SAR, Z Axis Scan (X = -17, Y = 7)

3D sceen shot	Hot spot position
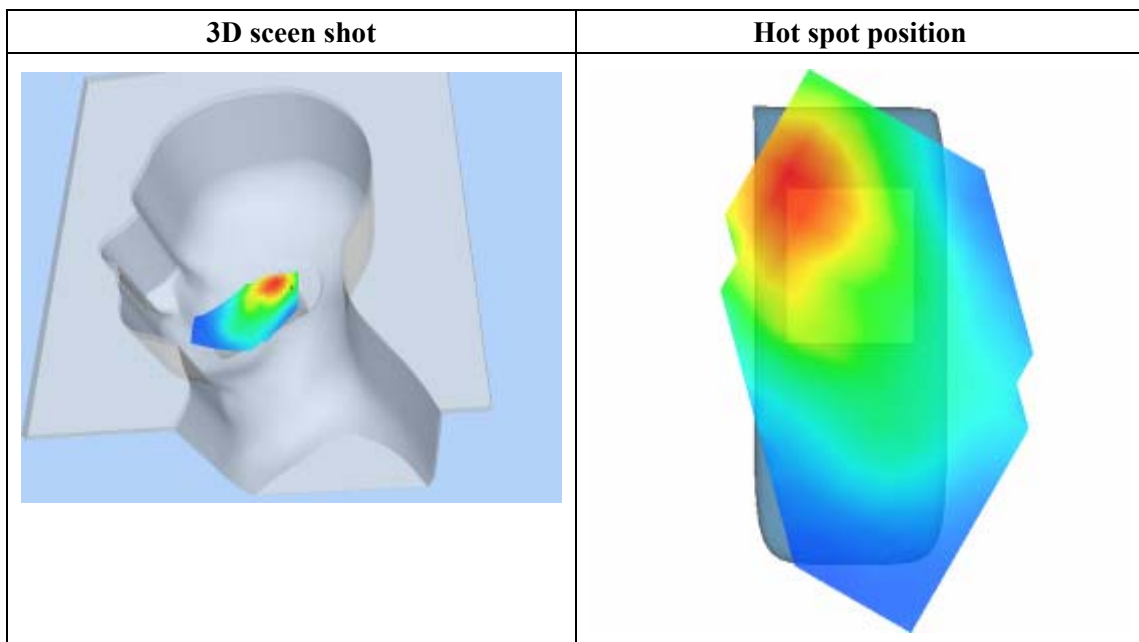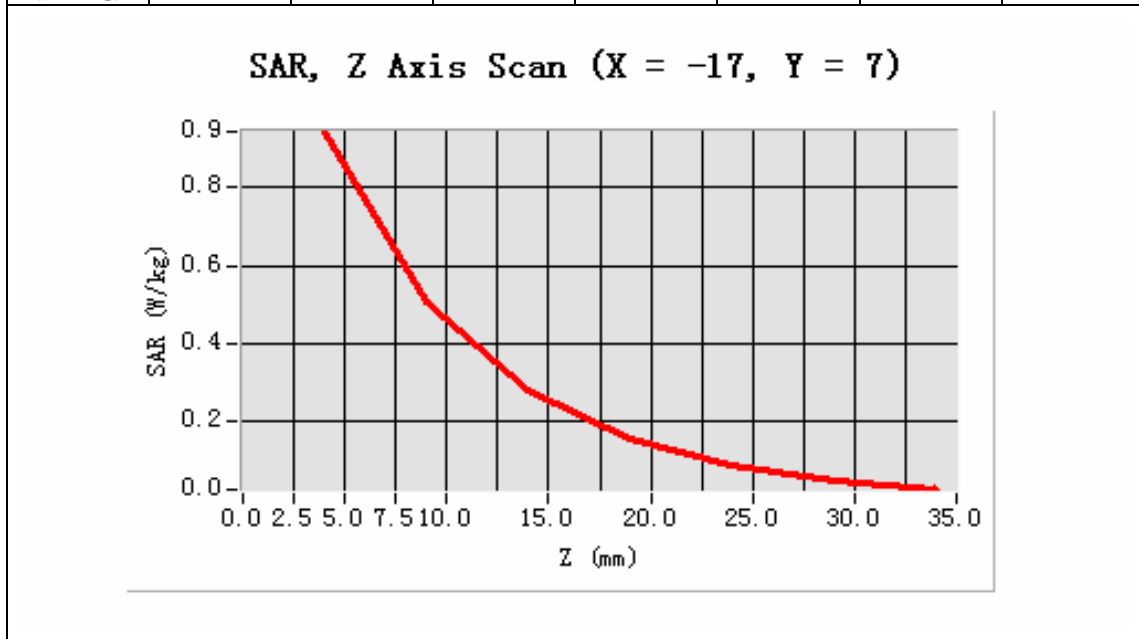
MEASUREMENT 22

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 25 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 512):

Frequency (MHz)	1850.199951
Relative permittivity (real part)	39.993999
Relative permittivity	12.991650

Conductivity (S/m)	1.335397
Variation (%)	-0.920000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
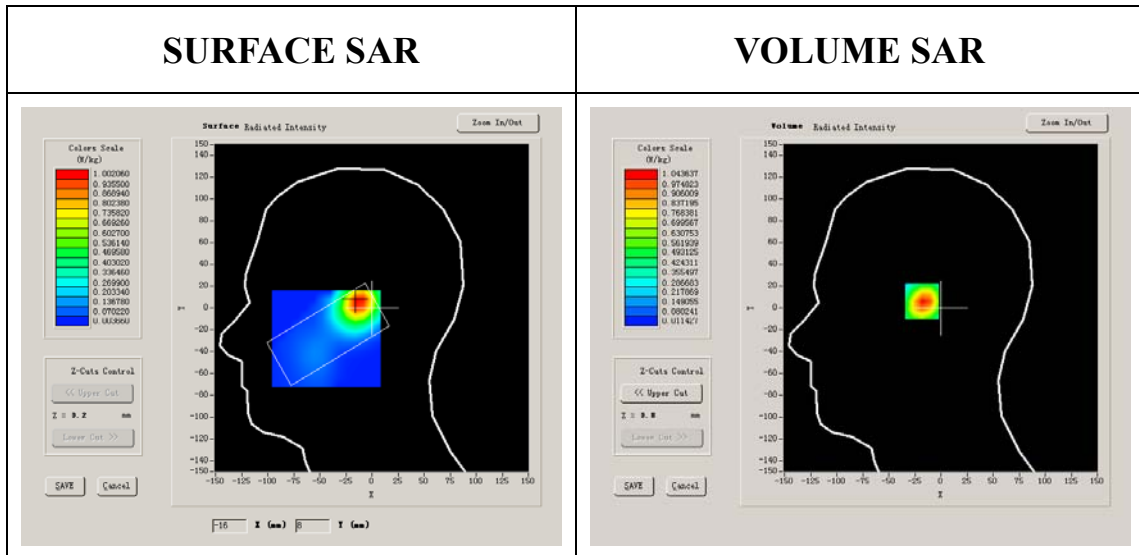
Maximum location: X=-14.00, Y=6.00

SAR 10g (W/Kg)	0.537815
SAR 1g (W/Kg)	0.988814

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.0436	0.6032	0.3492	0.1991	0.1148	0.0664

3D sceen shot	Hot spot position
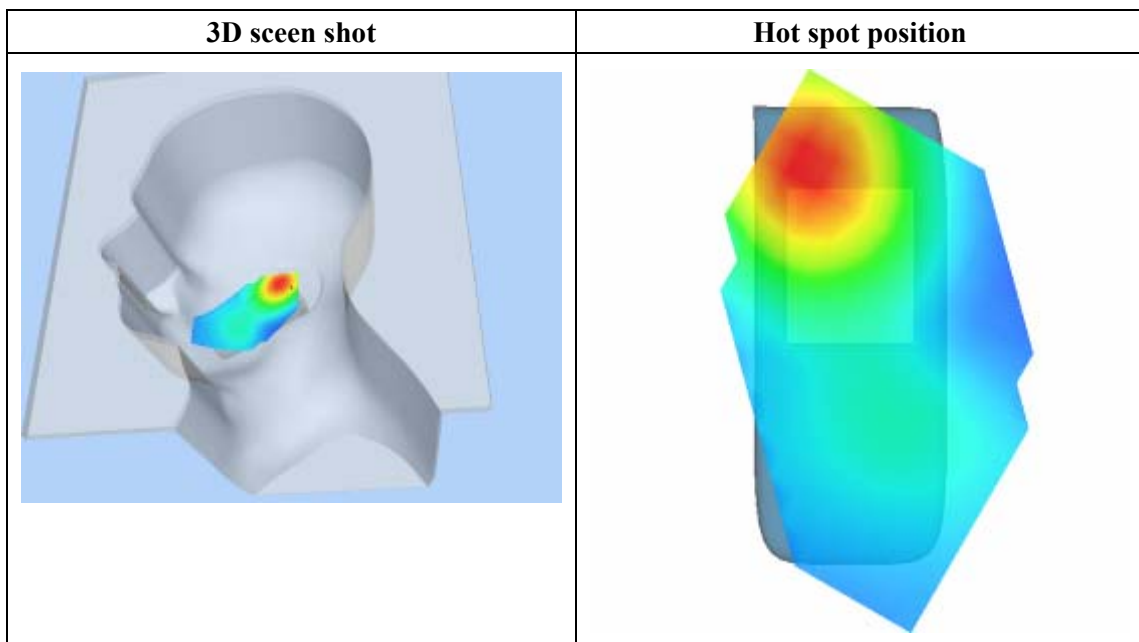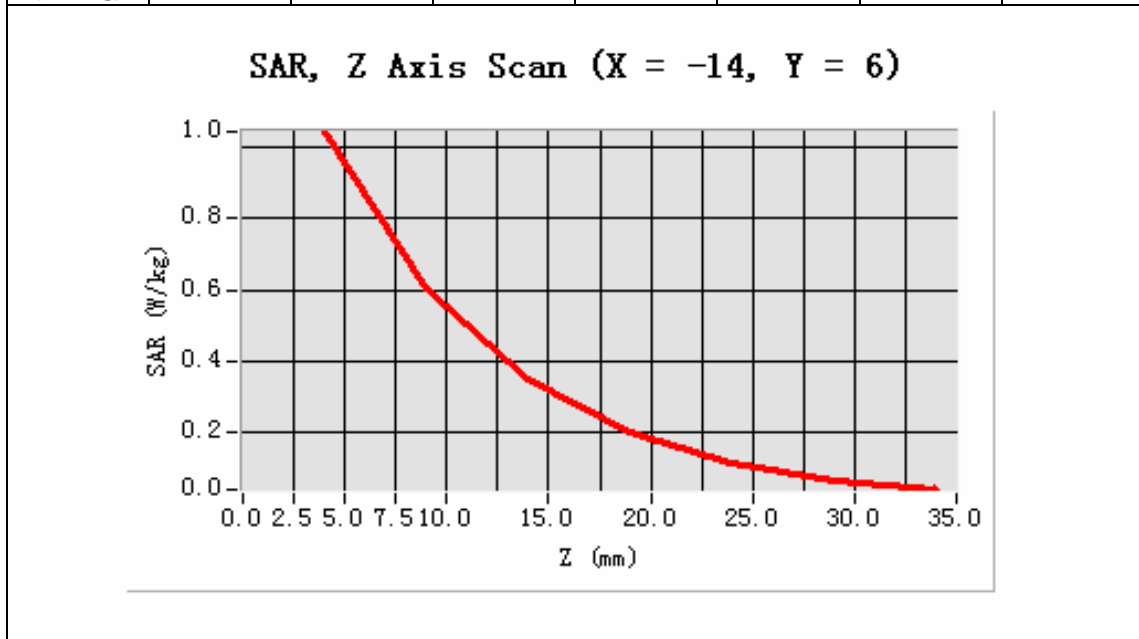
MEASUREMENT 23

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 21 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 661):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	38.509998
Relative permittivity	13.750000

Conductivity (S/m)	1.436111
Variation (%)	0.010000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
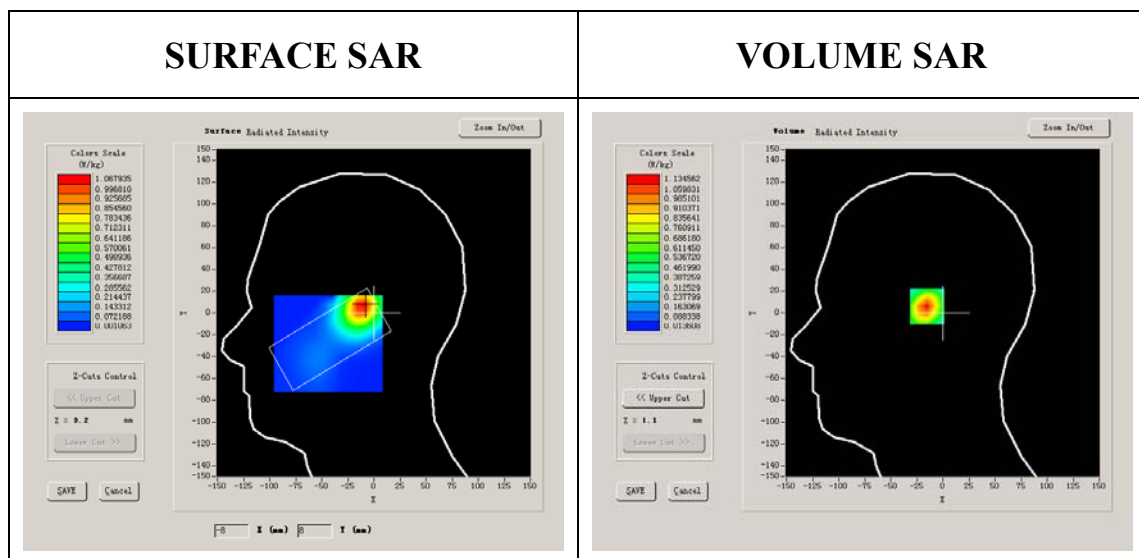
Maximum location: X=-11.00, Y=6.00

SAR 10g (W/Kg)	0.564574
SAR 1g　(W/Kg)	1.057752

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	1.1346	0.6299	0.3564	0.2077	0.1201	0.0692

SAR, Z Axis Scan (X = −11, Y = 6)

3D sceen shot	Hot spot position
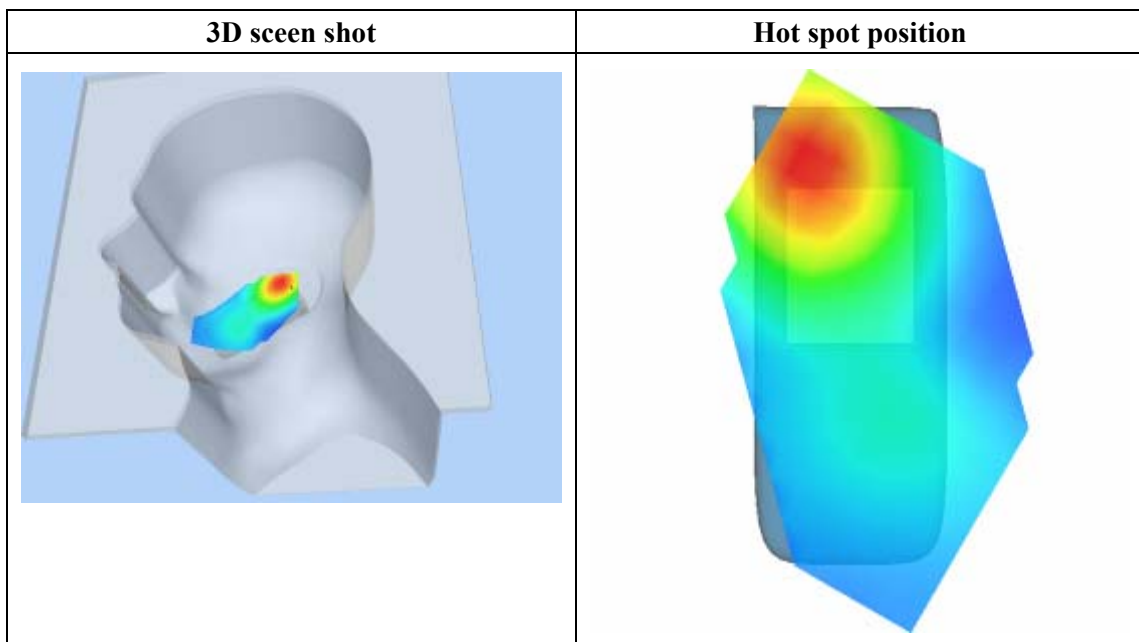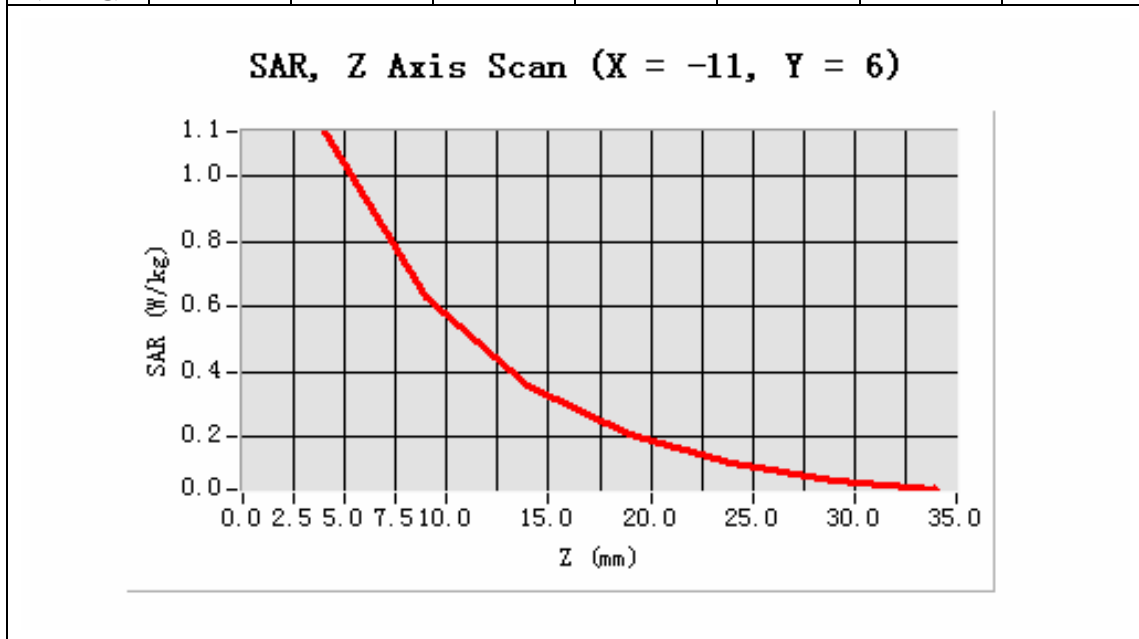
MEASUREMENT 24

Type: Phone measurement (Complete)

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

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

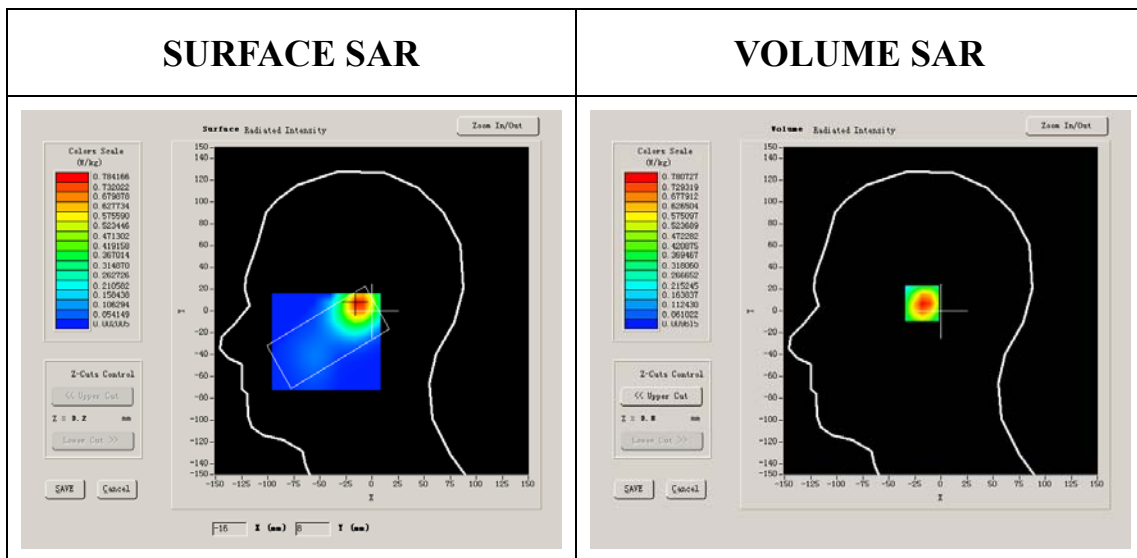Date of measurement: 19/1/2010

Measurement duration: 7 minutes 25 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 810):

Frequency (MHz)	1909.800049
Relative permittivity (real part)	39.929001
Relative permittivity	13.156500

Conductivity (S/m)	1.395905
Variation (%)	-0.890000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor:	1:8

SURFACE SAR	VOLUME SAR

Maximum location: X=-14.00, Y=7.00

SAR 10g (W/Kg)	0.406361
SAR 1g (W/Kg)	0.750121

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7807	0.4398	0.2530	0.1421	0.0826	0.0451

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

3D sceen shot	Hot spot position
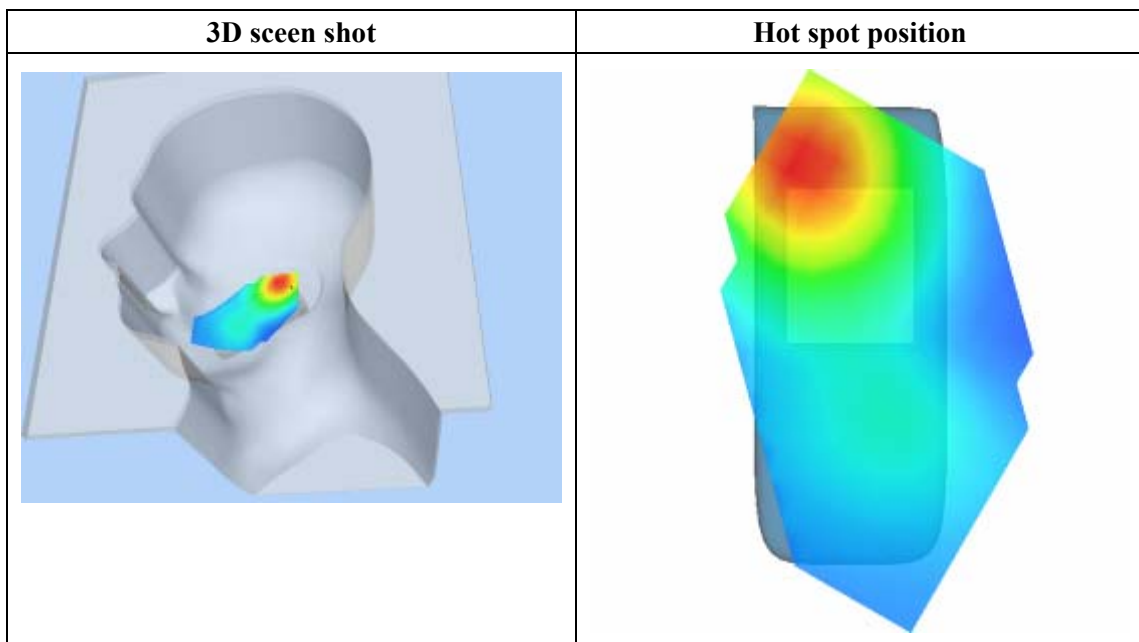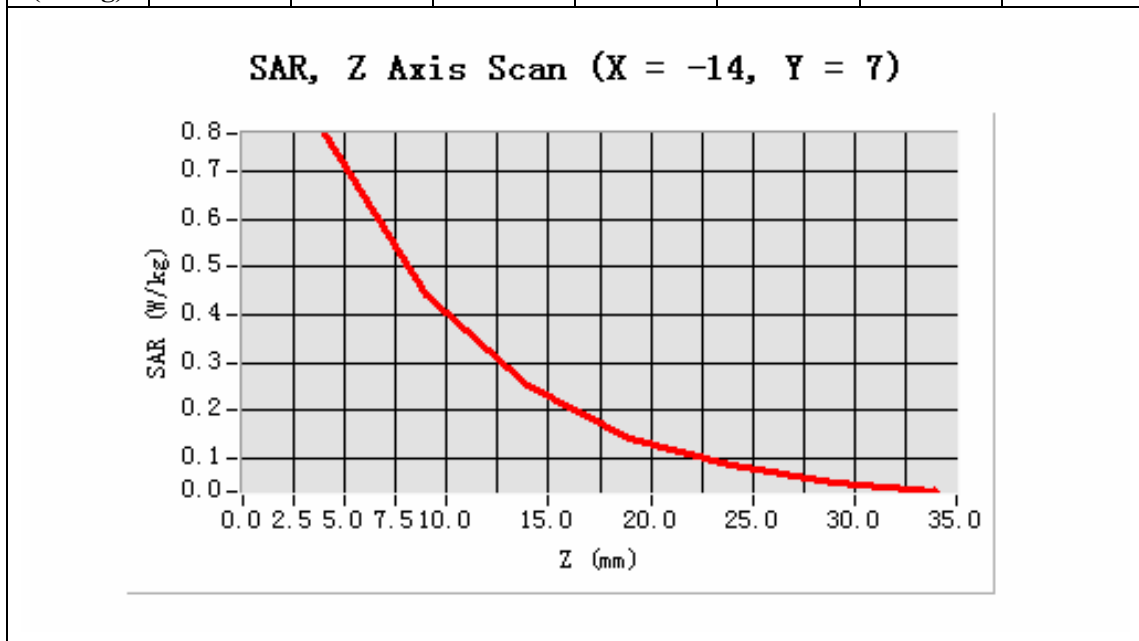
MEASUREMENT 25

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 29 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 512):

Frequency (MHz)	1850.199951
Relative permittivity (real part)	39.993999
Relative permittivity	12.991650

Conductivity (S/m)	1.335397
Variation (%)	-0.540000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
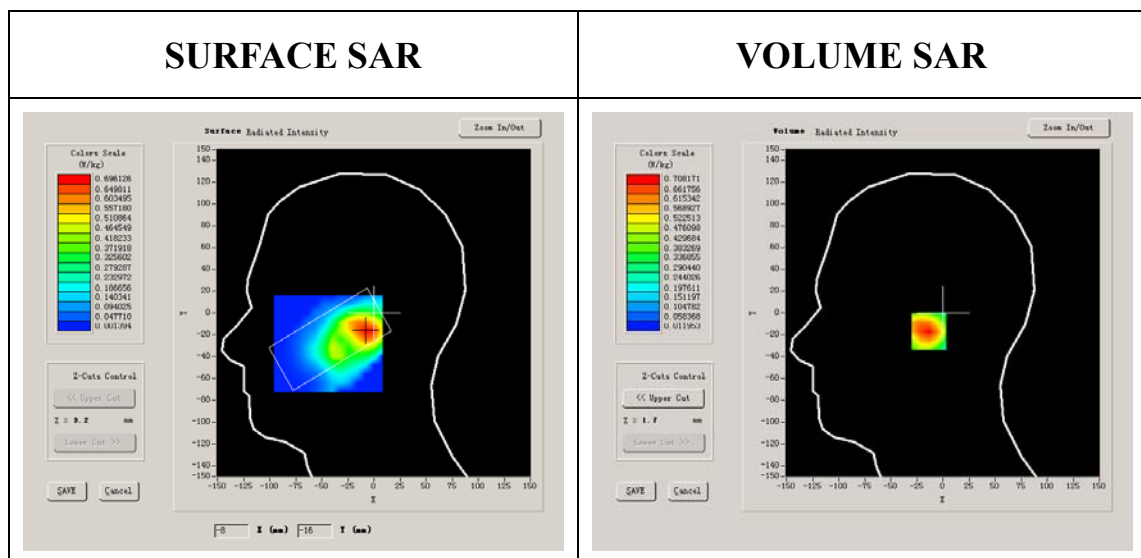
Maximum location: X=-5.00, Y=-17.00

SAR 10g (W/Kg)	0.389467
SAR 1g　(W/Kg)	0.671246

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7082	0.4259	0.2527	0.1574	0.0946	0.0542
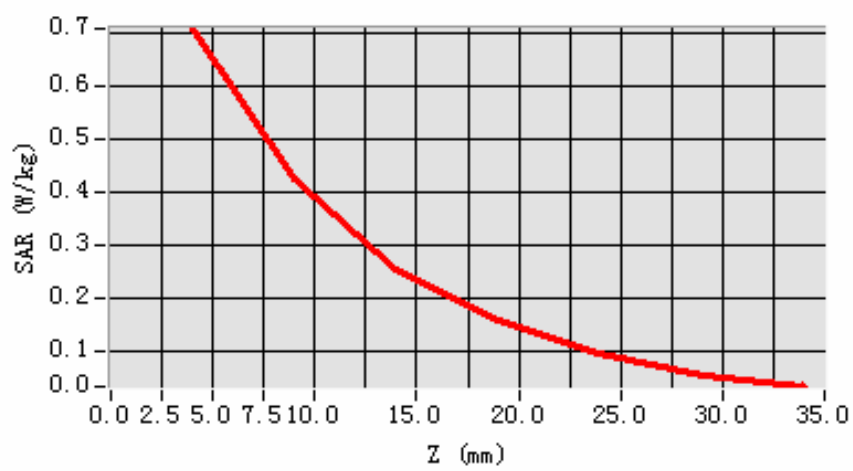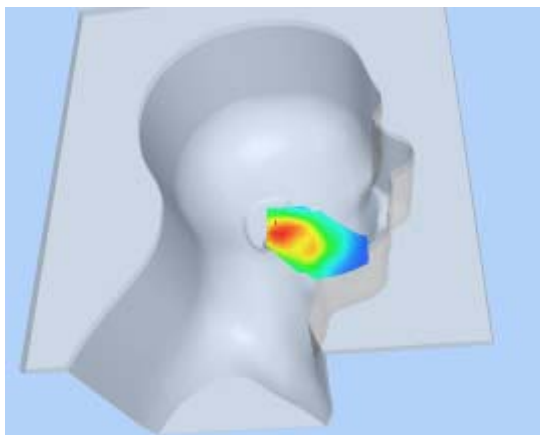
3D sceen shot	Hot spot position
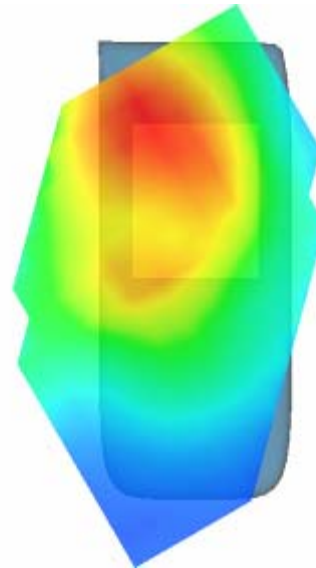
MEASUREMENT 26

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 24 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 661):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	38.509998
Relative permittivity	13.750000

Conductivity (S/m)	1.436111
Variation (%)	-1.810059
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
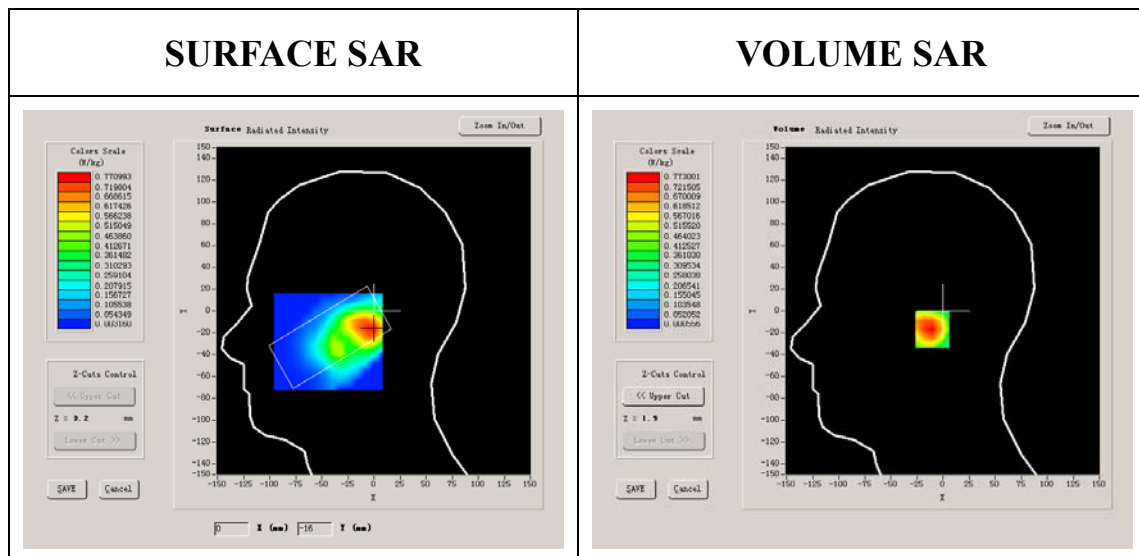
Maximum location: X=-2.00, Y=-17.00
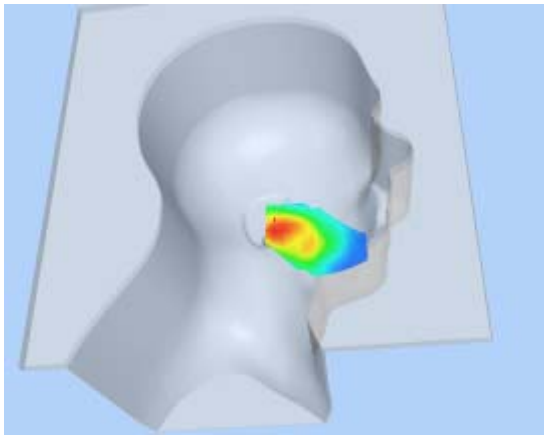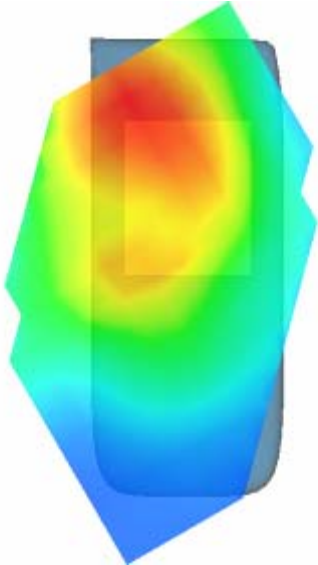
SAR 10g (W/Kg)	0.429061
SAR 1g　(W/Kg)	0.738997

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7730	0.4708	0.2731	0.1687	0.0985	0.0593

SAR, Z Axis Scan (X = -2, Y = -17)
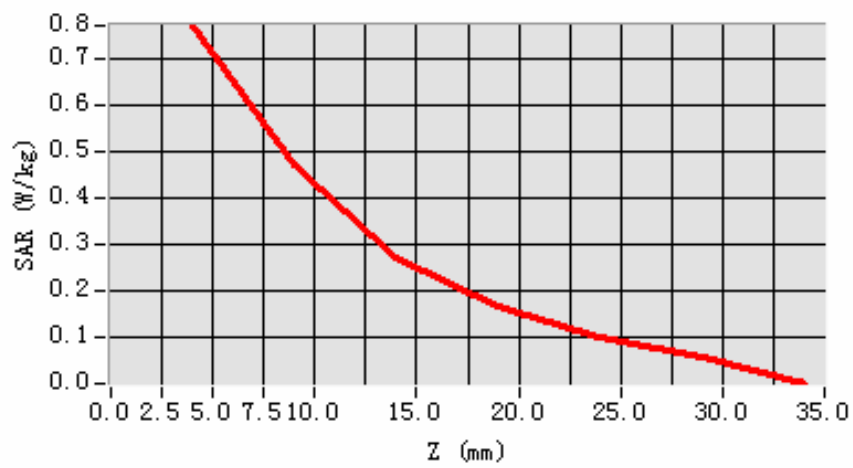
3D sceen shot	Hot spot position

MEASUREMENT 27

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 24 seconds
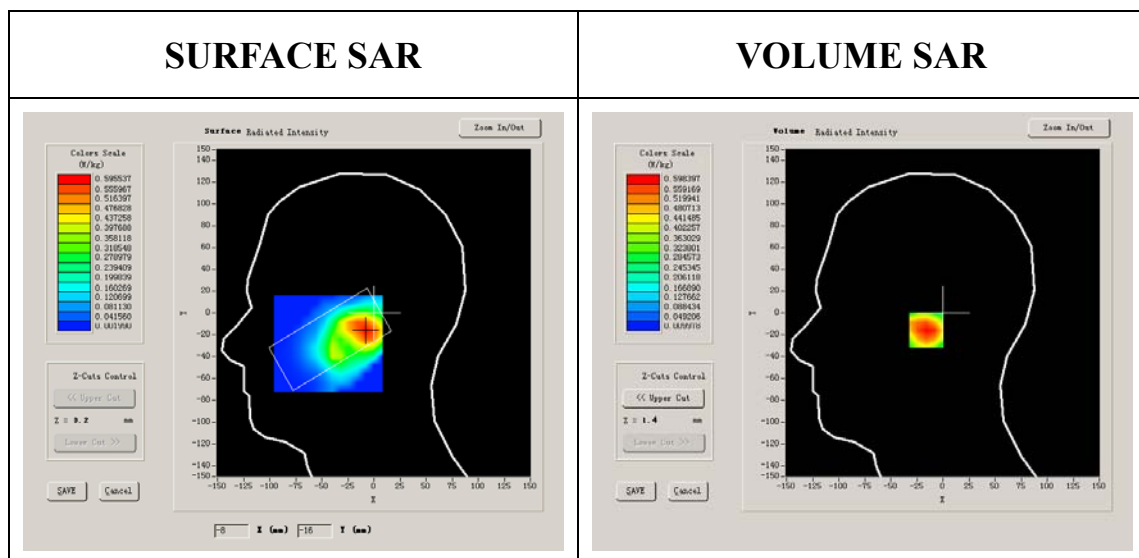
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 810):

Frequency (MHz)	1909.800049
Relative permittivity (real part)	39.929001
Relative permittivity	13.156500

Conductivity (S/m)	1.395905
Variation (%)	-0.100000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

SURFACE SAR	VOLUME SAR

Maximum location: X=-8.00, Y=-16.00

SAR 10g (W/Kg)	0.333179
SAR 1g (W/Kg)	0.579571

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.5984	0.3544	0.2222	0.1332	0.0771	0.0478
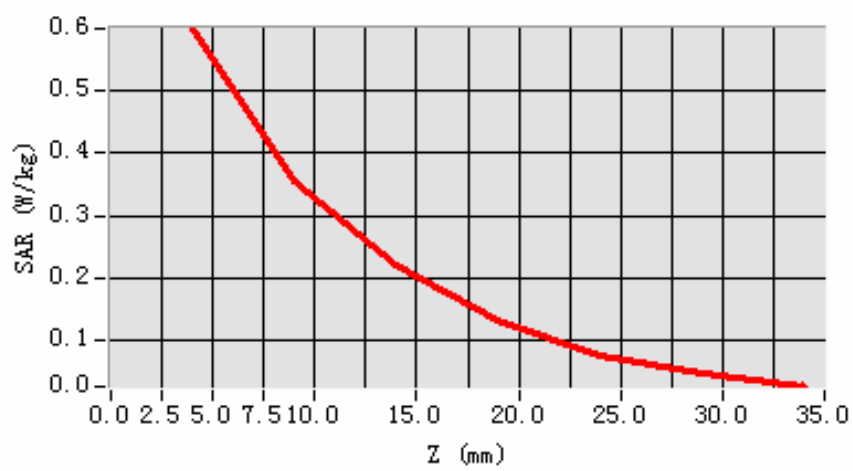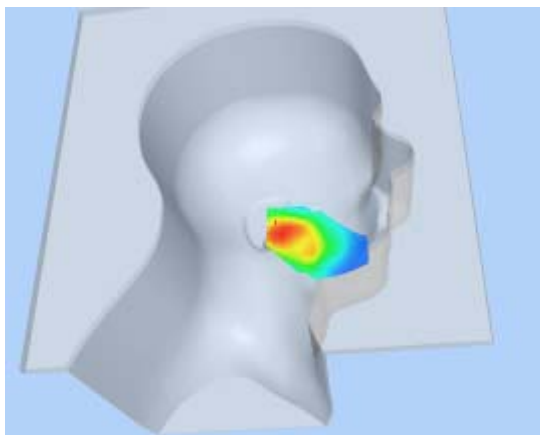
3D sceen shot	Hot spot position
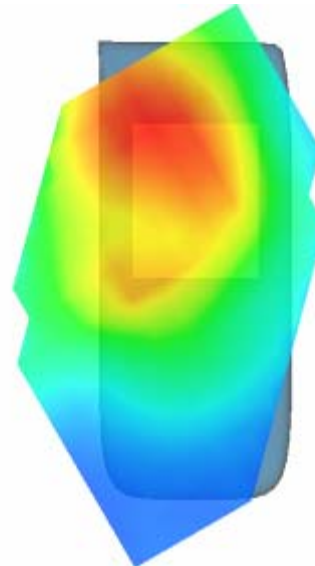
MEASUREMENT 28

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

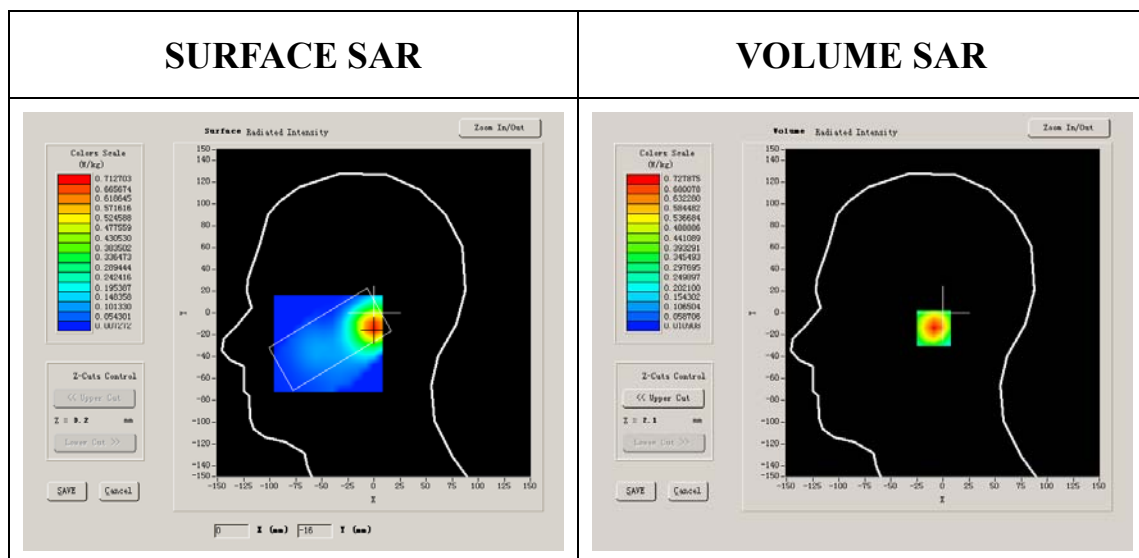Measurement duration: 7 minutes 26 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM1900
Channels	Low
Signal	GSM

B. SAR Measurement Results

Lower Band SAR (Channel 512):

Frequency (MHz)	1850.199951
Relative permittivity (real part)	39.993999
Relative permittivity	12.991650

Conductivity (S/m)	1.335397
Variation (%)	-0.320000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

SURFACE SAR	VOLUME SAR

Maximum location: X=0.00, Y=-14.00

SAR 10g (W/Kg)	0.378239
SAR 1g　(W/Kg)	0.682525

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7279	0.4171	0.2542	0.1564	0.0896	0.0550

SAR, Z Axis Scan (X = 0, Y = -14)

3D sceen shot	Hot spot position
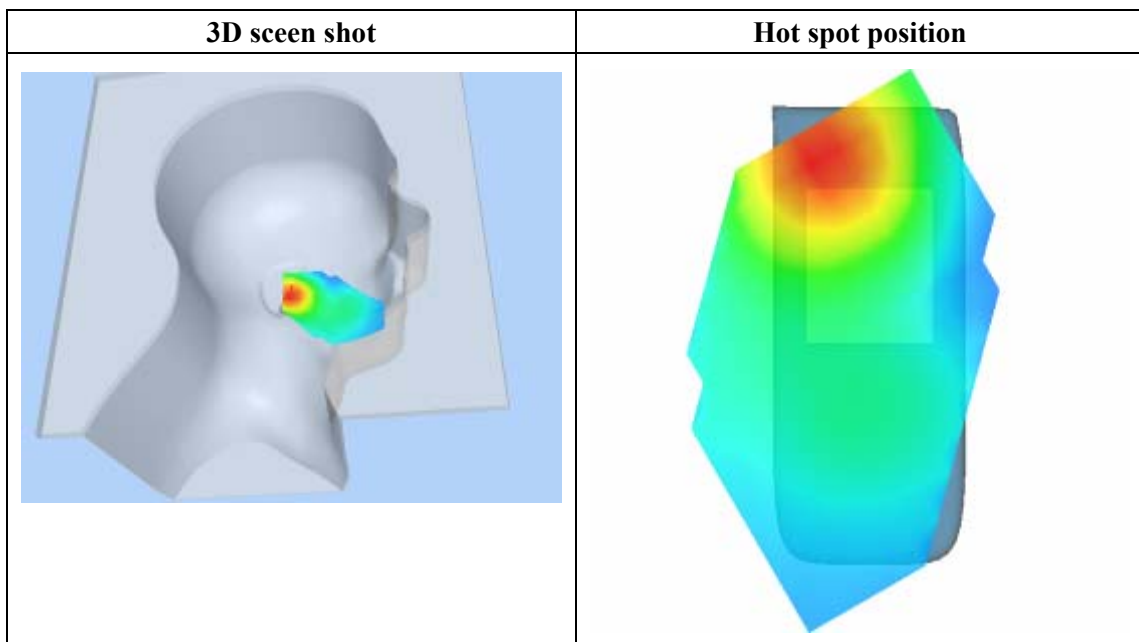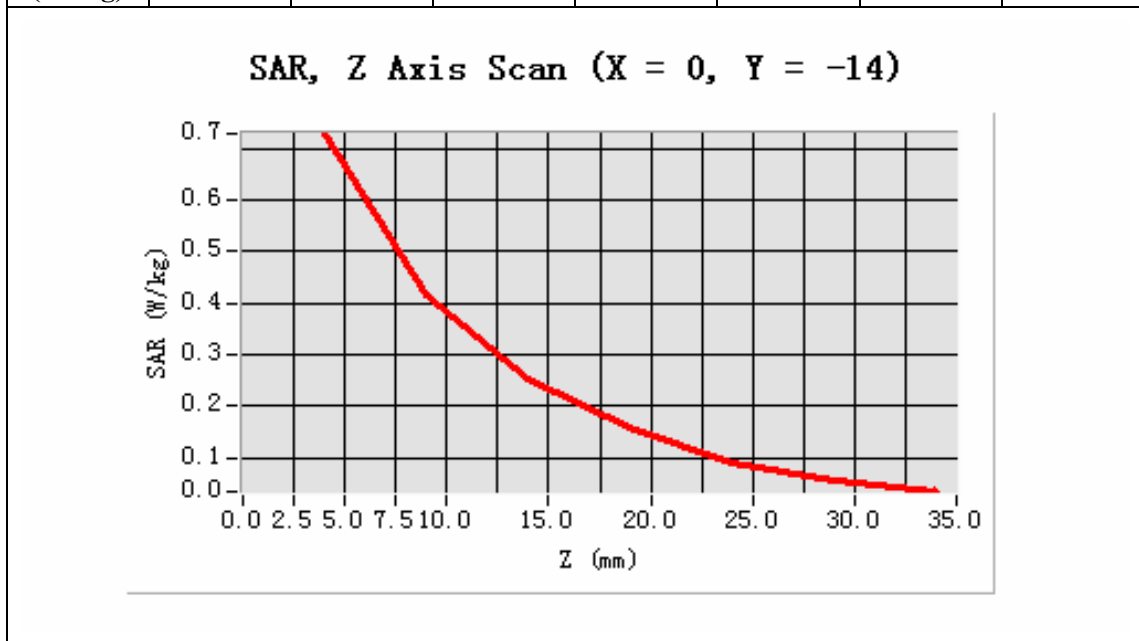
MEASUREMENT 29

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 28 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM1900
Channels	Middle
Signal	GSM

B. SAR Measurement Results

Middle Band SAR (Channel 661):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	38.509998
Relative permittivity	13.750000

Conductivity (S/m)	1.436111
Variation (%)	0.480000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
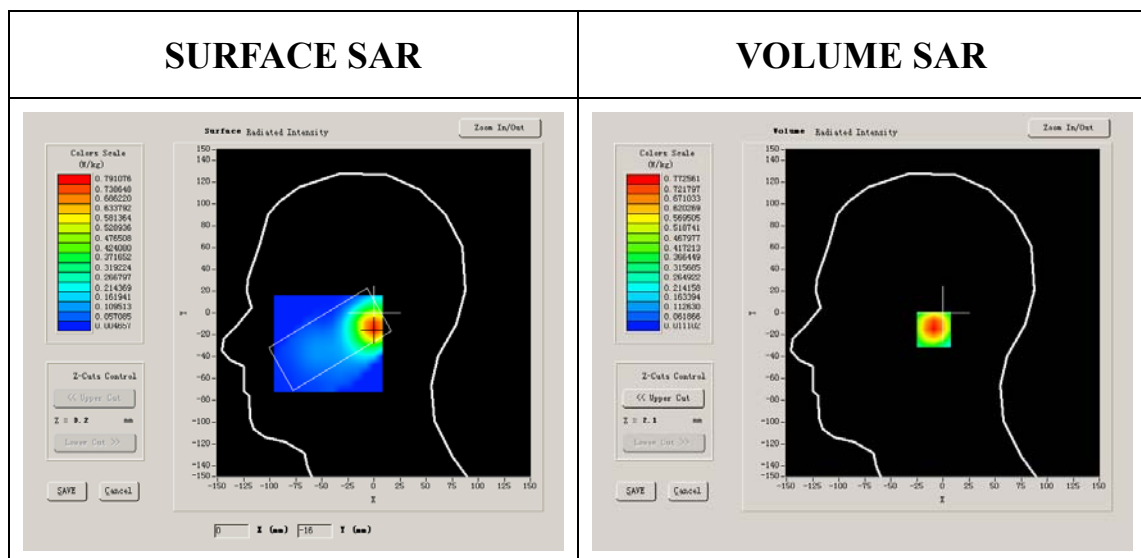
Maximum location: X=0.00, Y=-15.00

SAR 10g (W/Kg)	0.418014
SAR 1g　(W/Kg)	0.739872

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.7726	0.4580	0.2829	0.1630	0.1004	0.0564
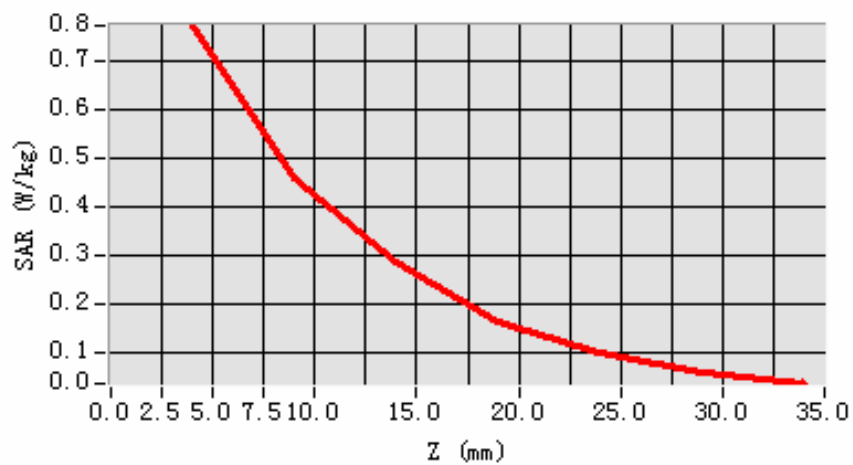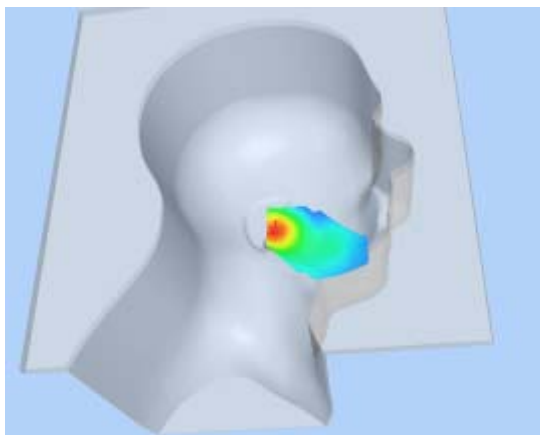
3D sceen shot	Hot spot position
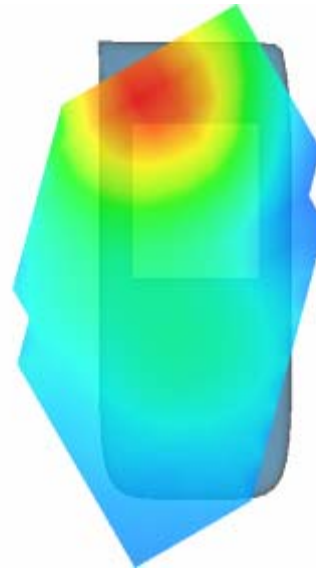
MEASUREMENT 30

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 7 minutes 23 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM1900
Channels	High
Signal	GSM

B. SAR Measurement Results

Higher Band SAR (Channel 810):

Frequency (MHz)	1909.800049
Relative permittivity (real part)	39.929001
Relative permittivity	13.156500

Conductivity (S/m)	1.395905
Variation (%)	-1.120000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
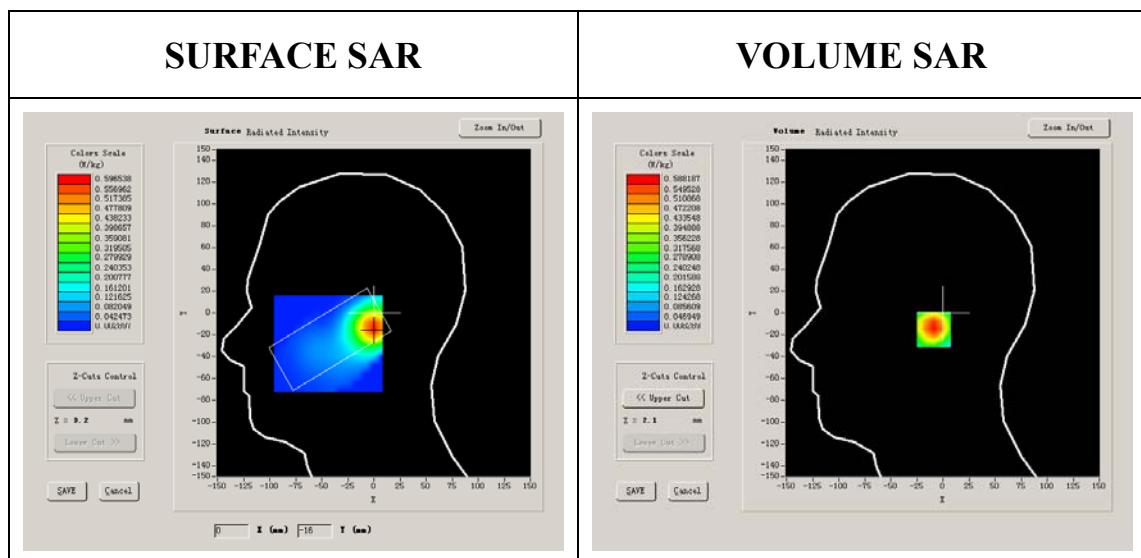
Maximum location: X=0.00, Y=-15.00

SAR 10g (W/Kg)	0.315602
SAR 1g (W/Kg)	0.563622

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.5882	0.3406	0.2026	0.1212	0.0720	0.0435

3D sceen shot	Hot spot position
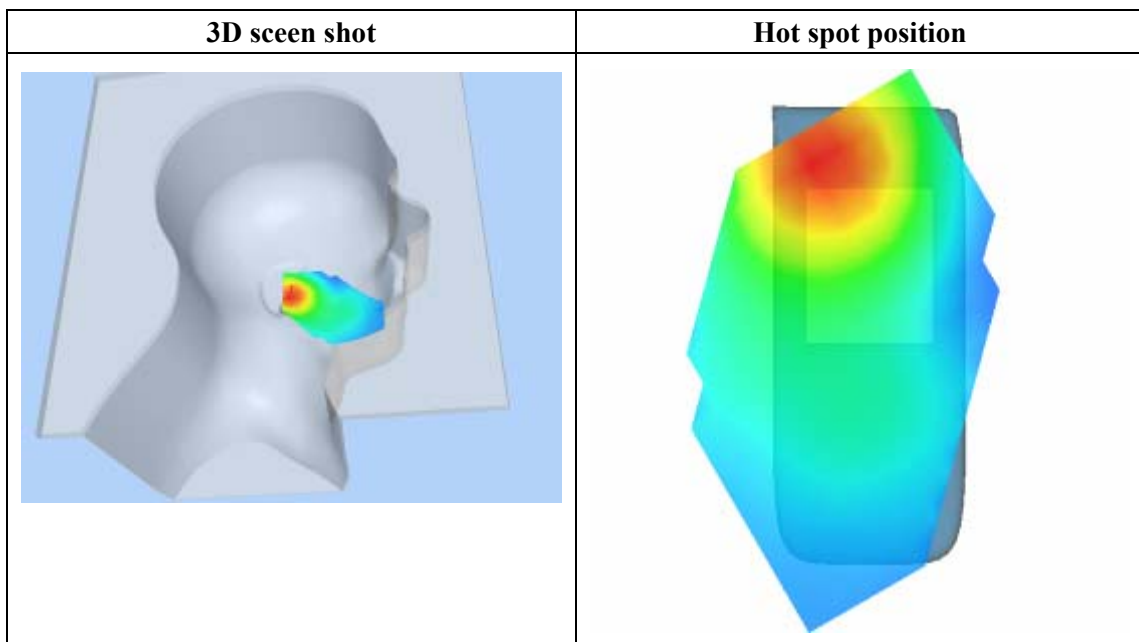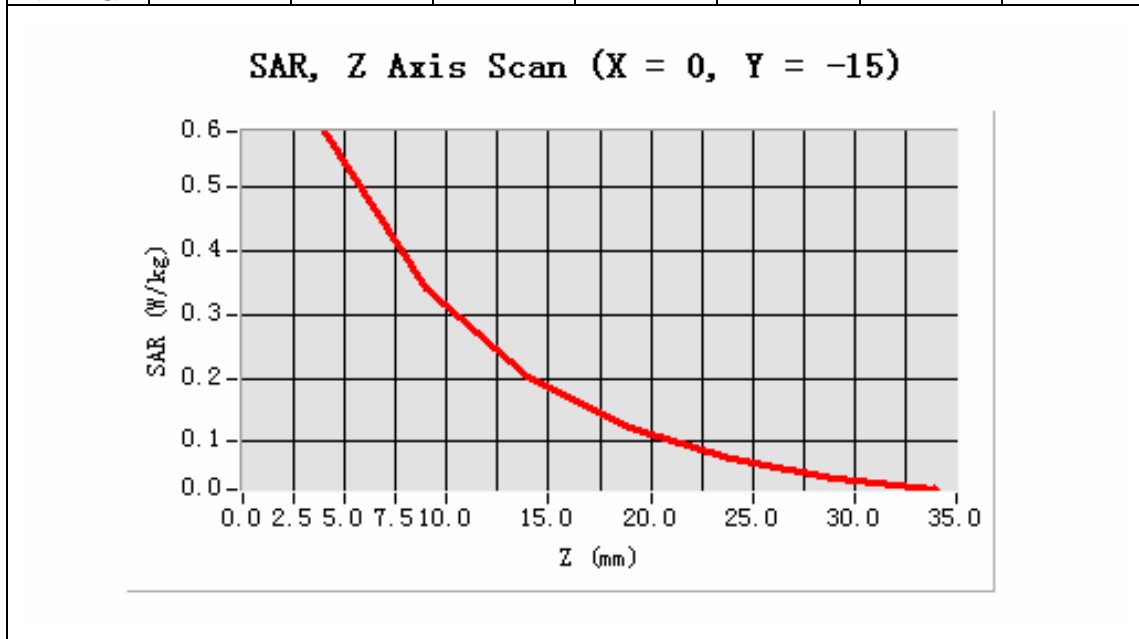
MEASUREMENT 31

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 9 minutes 8 seconds

A. Experimental conditions.

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

B. SAR Measurement Results

Lower Band SAR (Channel 512):

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

Conductivity (S/m)	1.233467
Variation (%)	0.730000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
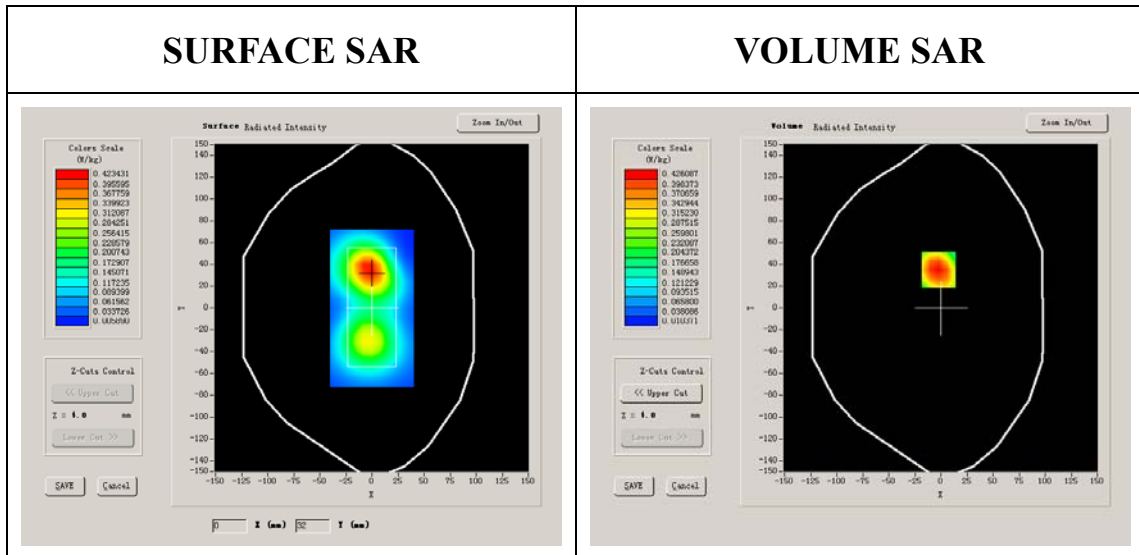
Maximum location: X=-2.00, Y=35.00

SAR 10g (W/Kg)	0.221259
SAR 1g (W/Kg)	0.378862

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.3936	0.2364	0.1404	0.0819	0.0485	0.0288

SAR, Z Axis Scan (X = -2, Y = 35)

3D sceen shot	Hot spot position
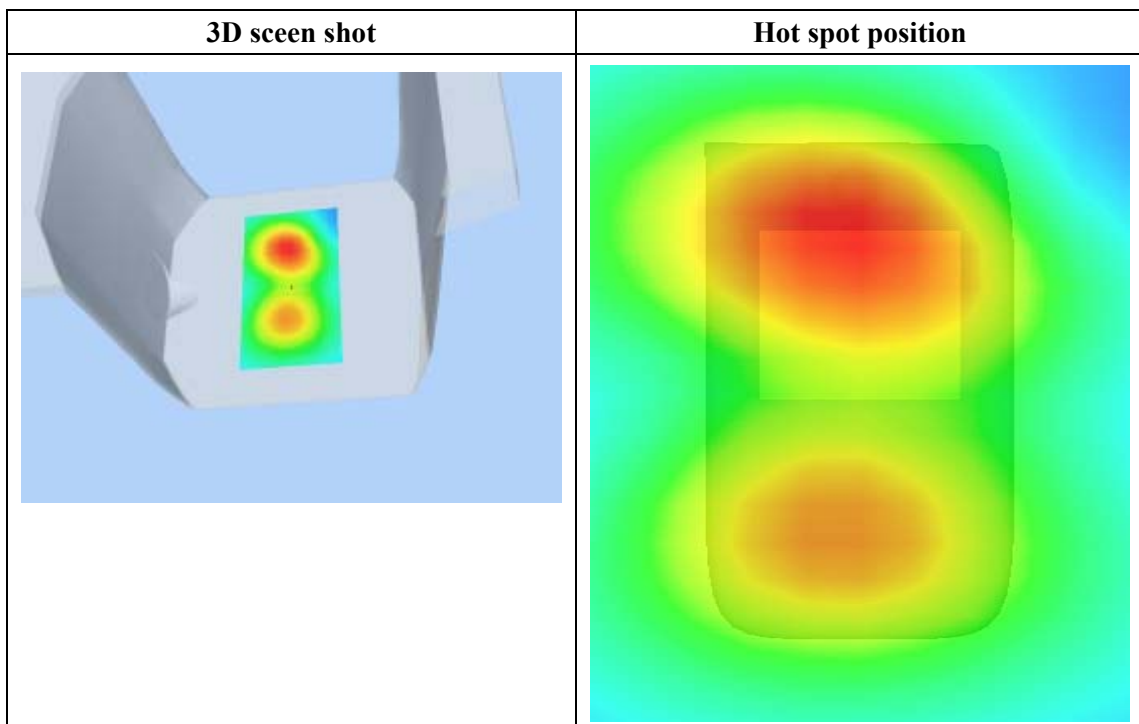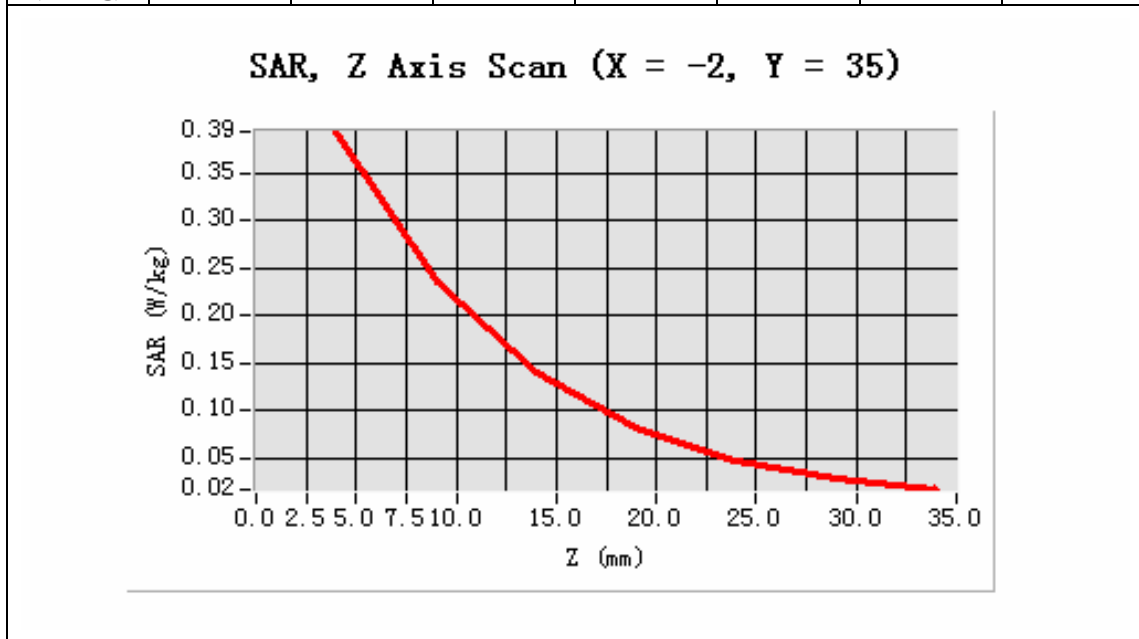
MEASUREMENT 32

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 9 minutes 8 seconds
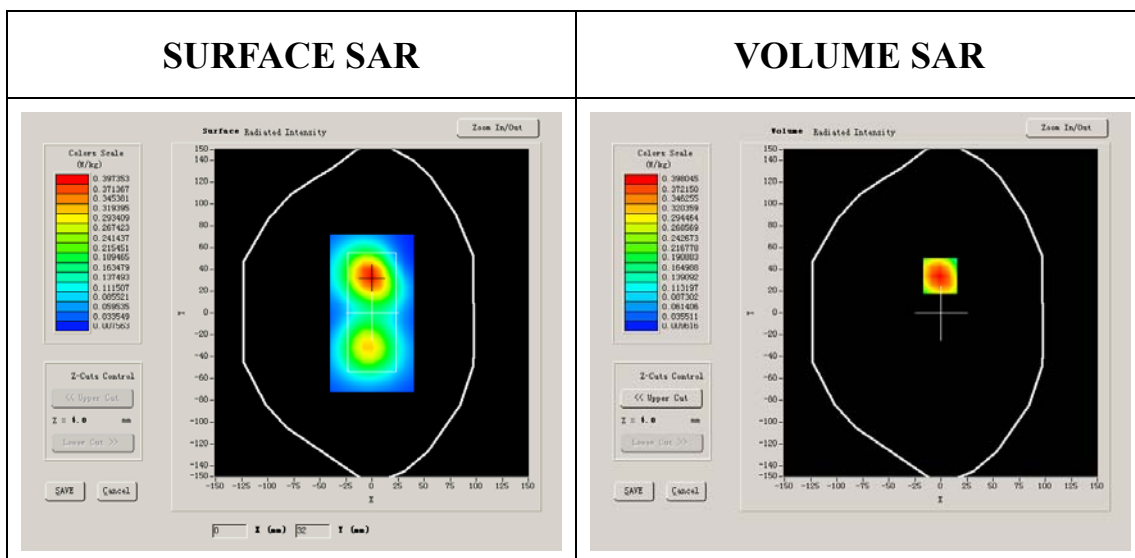
A. Experimental conditions.

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

B. SAR Measurement Results

Middle Band SAR (Channel 661):

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

Conductivity (S/m)	1.573978
Variation (%)	-0.350000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor:	1:8

SURFACE SAR	VOLUME SAR

Maximum location: X=-1.00, Y=34.00

SAR 10g (W/Kg)	0.244029
SAR 1g (W/Kg)	0.417357

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.4363	0.2620	0.1534	0.0869	0.0512	0.0299

SAR, Z Axis Scan (X = −1, Y = 34)
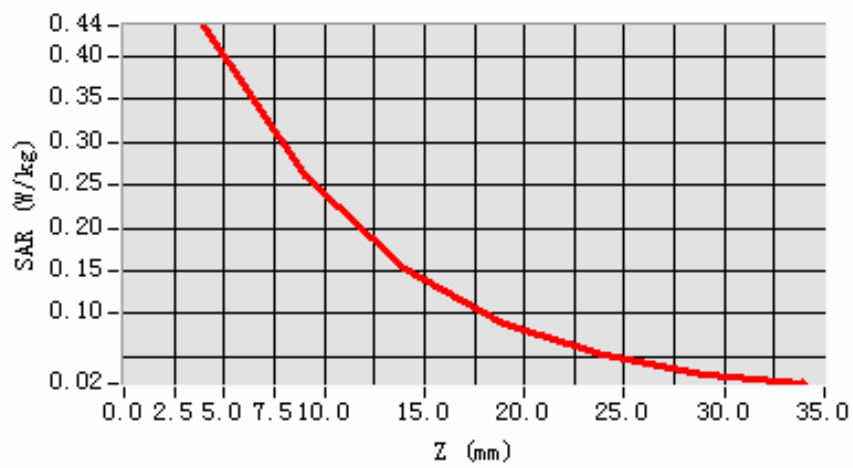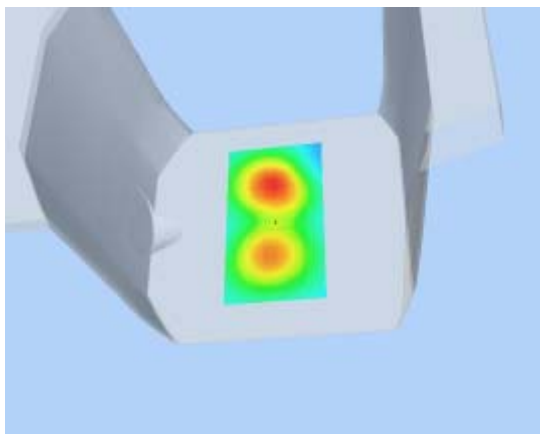
3D sceen shot	Hot spot position
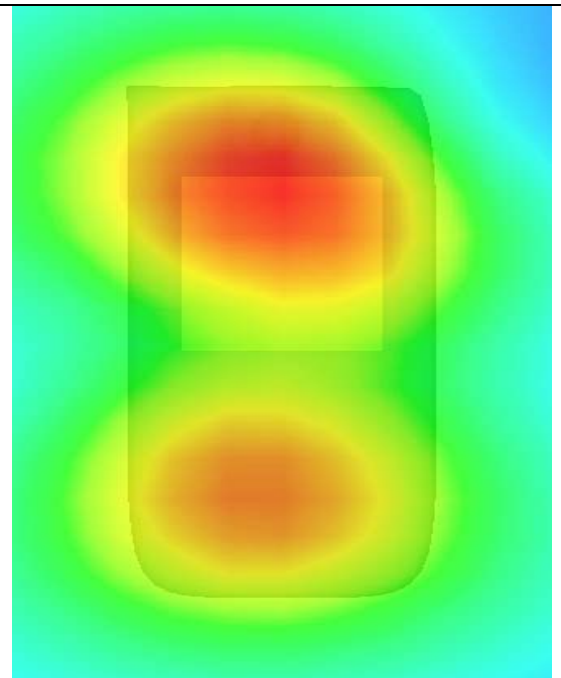
MEASUREMENT 33

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 9 minutes 6 seconds

A. Experimental conditions.

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

B. SAR Measurement Results

Higher Band SAR (Channel 810):

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

Conductivity (S/m)	1.273200
Variation (%)	0.890000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

SURFACE SAR	VOLUME SAR
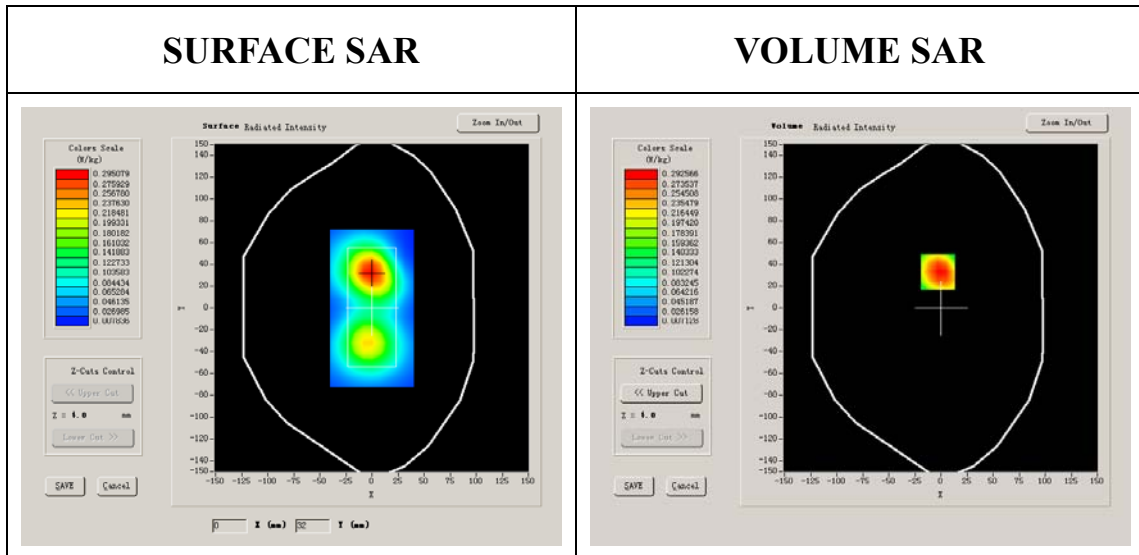
Maximum location: X=-3.00, Y=33.00

SAR 10g (W/Kg)	0.149900
SAR 1g　(W/Kg)	0.257504

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.2668	0.1611	0.0936	0.0548	0.0312	0.0181

SAR, Z Axis Scan (X = −3, Y = 33)

3D sceen shot	Hot spot position
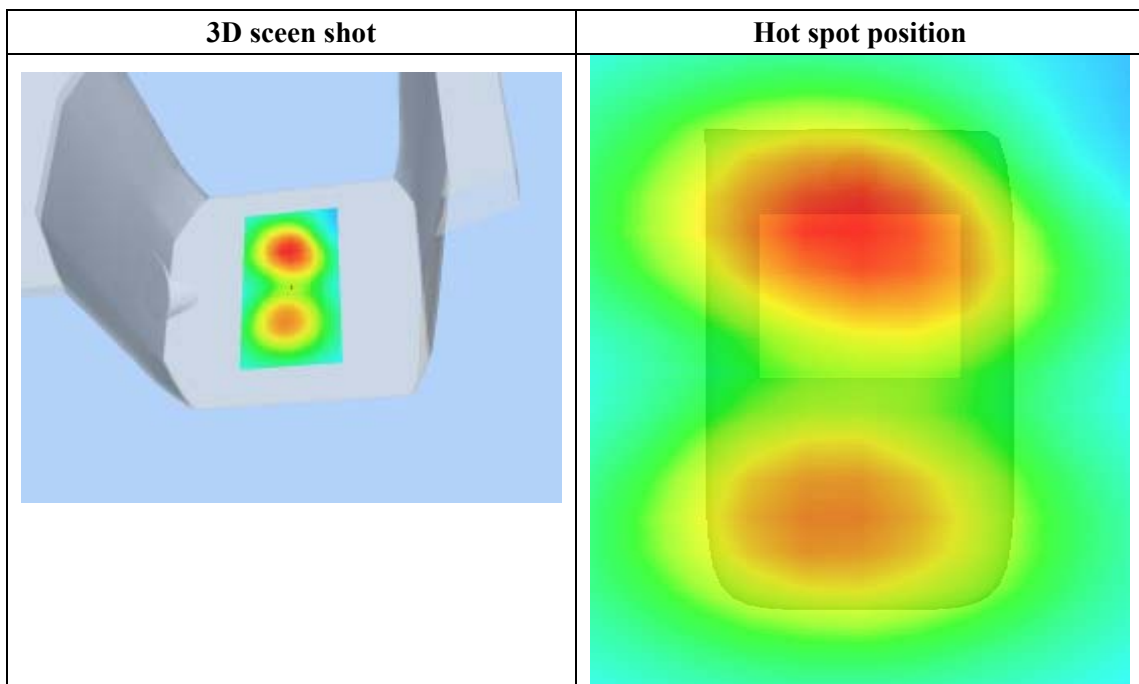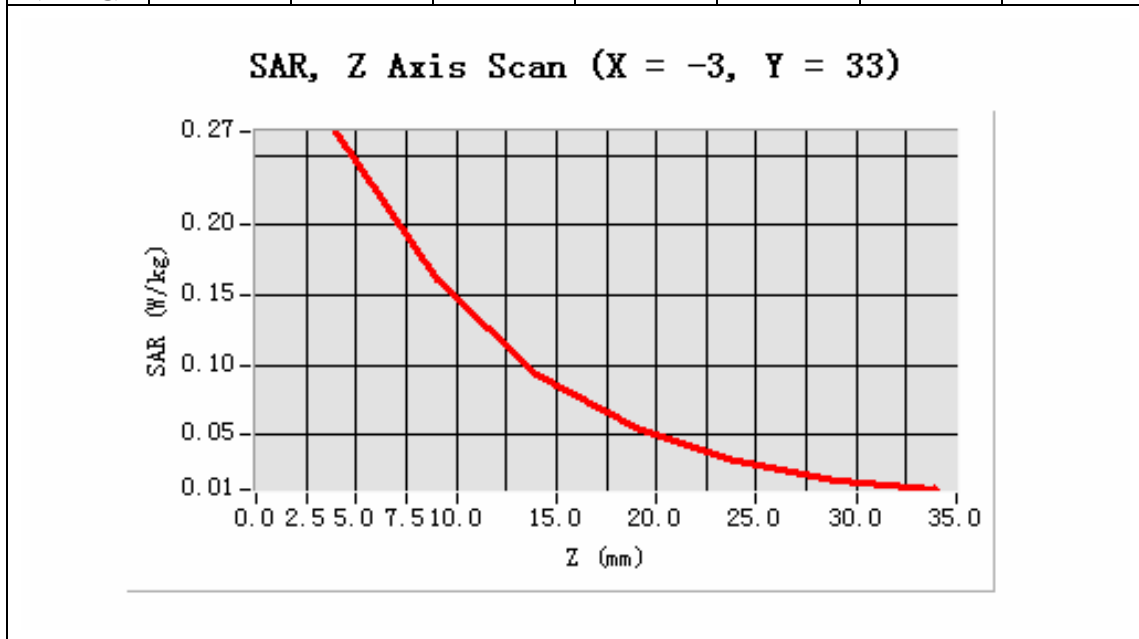
MEASUREMENT 34

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 9 minutes 8 seconds
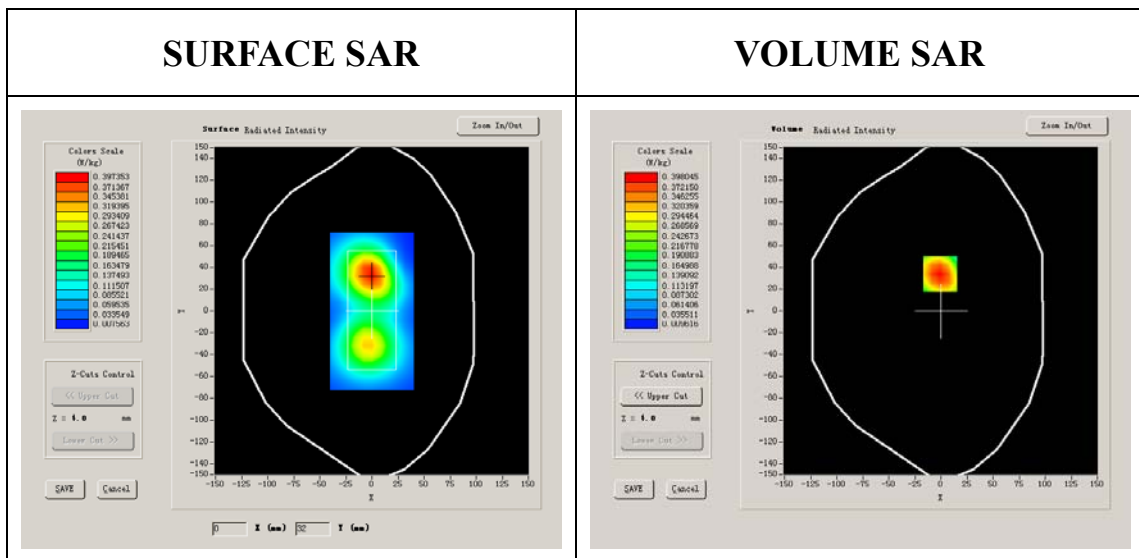
A. Experimental conditions.

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

B. SAR Measurement Results

Middle Band SAR (Channel 661):

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

Conductivity (S/m)	1.573978
Variation (%)	-0.350000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

SURFACE SAR	VOLUME SAR

Maximum location: X=-1.00, Y=34.00

SAR 10g (W/Kg)	0.1735334
SAR 1g (W/Kg)	0.300684

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.4363	0.2620	0.1534	0.0869	0.0512	0.0299
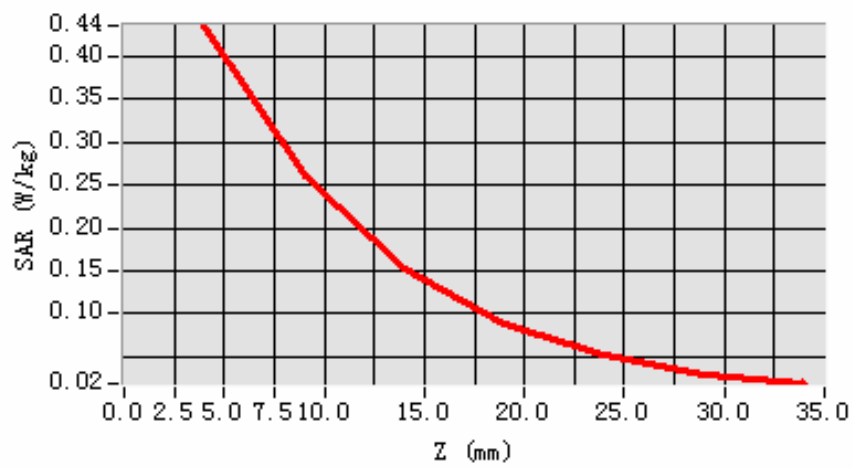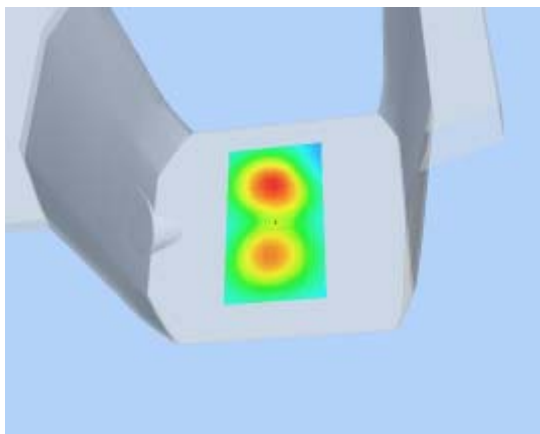
3D sceen shot	Hot spot position
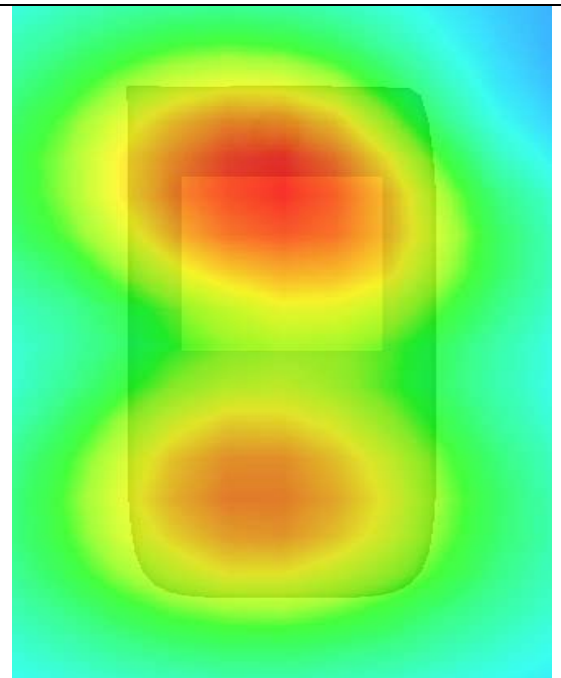
MEASUREMENT 35

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 9 minutes 8 seconds
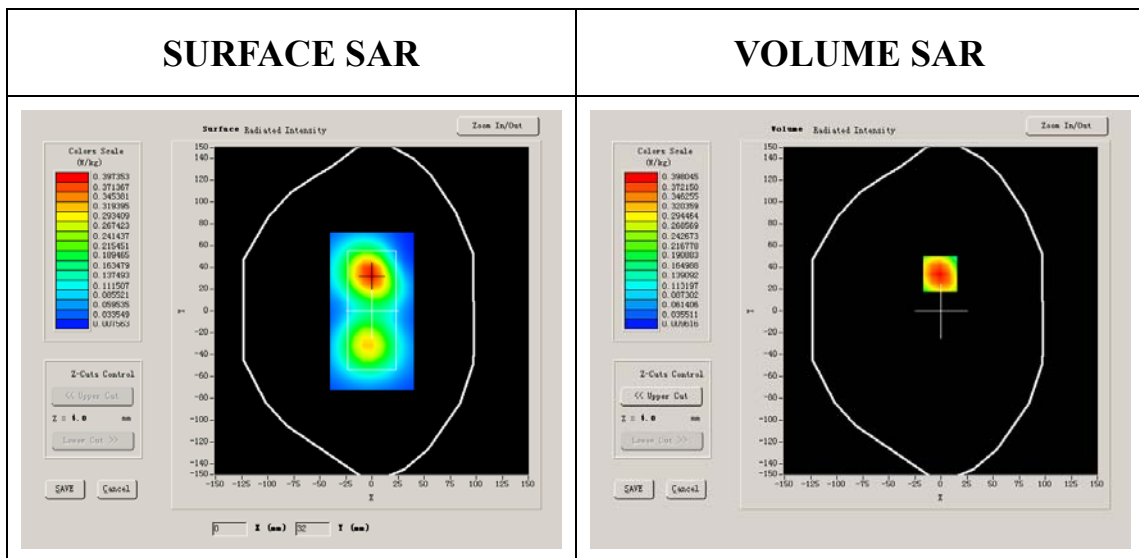
A. Experimental conditions.

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

B. SAR Measurement Results

Middle Band SAR (Channel 661):

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

Conductivity (S/m)	1.573978
Variation (%)	-0.350000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:2

SURFACE SAR	VOLUME SAR

Maximum location: X=-1.00, Y=34.00

SAR 10g (W/Kg)	0.482552
SAR 1g　(W/Kg)	0.828824

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.4363	0.2620	0.1534	0.0869	0.0512	0.0299

SAR, Z Axis Scan (X = −1, Y = 34)

3D sceen shot	Hot spot position
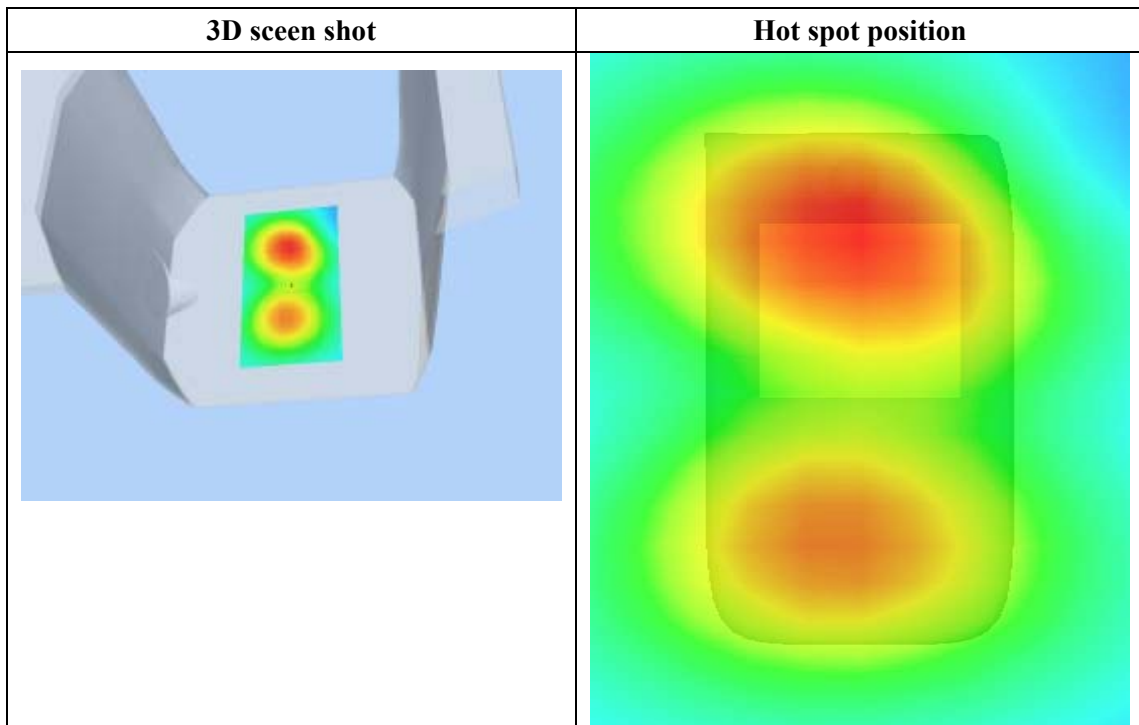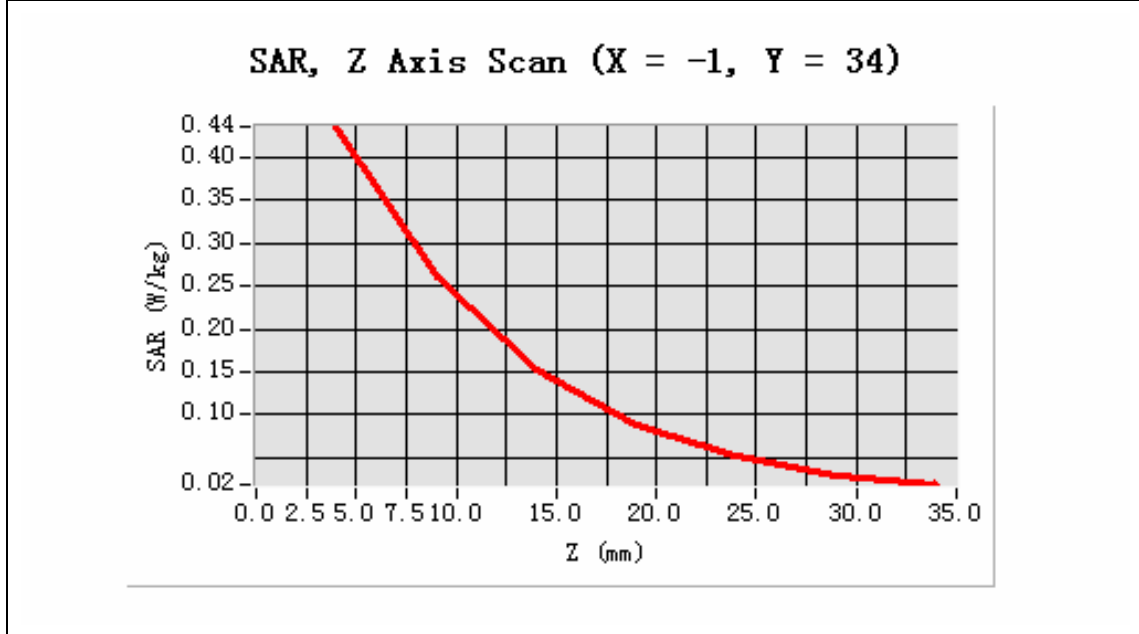
MEASUREMENT 36

Type: Phone measurement (Complete)

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

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

Date of measurement: 19/1/2010

Measurement duration: 9 minutes 8 seconds
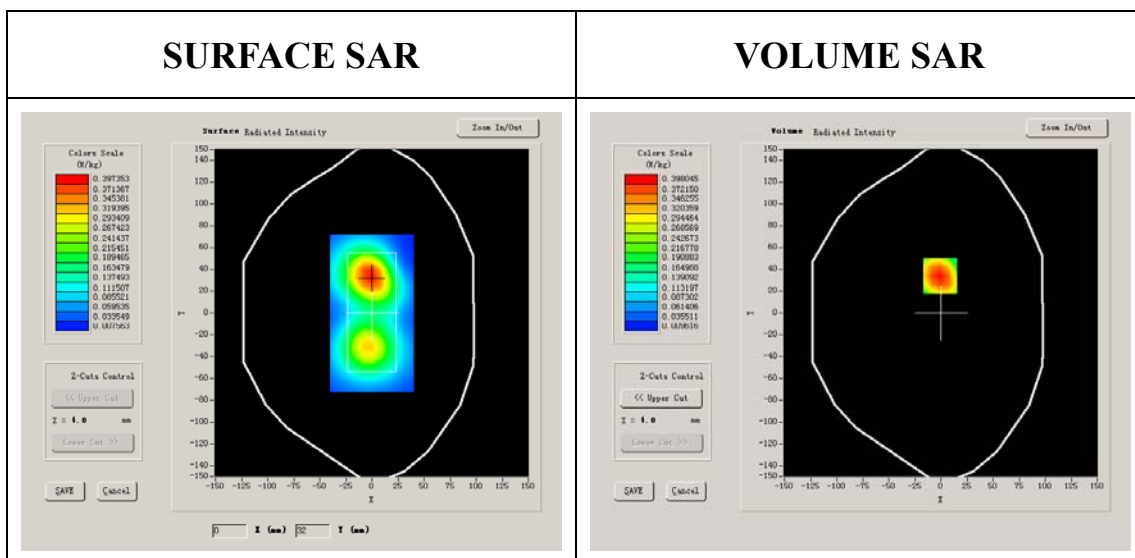
A. Experimental conditions.

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

B. SAR Measurement Results

Middle Band SAR (Channel 661):

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

Conductivity (S/m)	1.573978
Variation (%)	-0.350000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.4°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:8

SURFACE SAR	VOLUME SAR

Maximum location: X=-1.00, Y=34.00

SAR 10g (W/Kg)	0.251772
SAR 1g　(W/Kg)	0.418355

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	0.4363	0.2620	0.1534	0.0869	0.0512	0.0299

SAR, Z Axis Scan (X = -1, Y = 34)
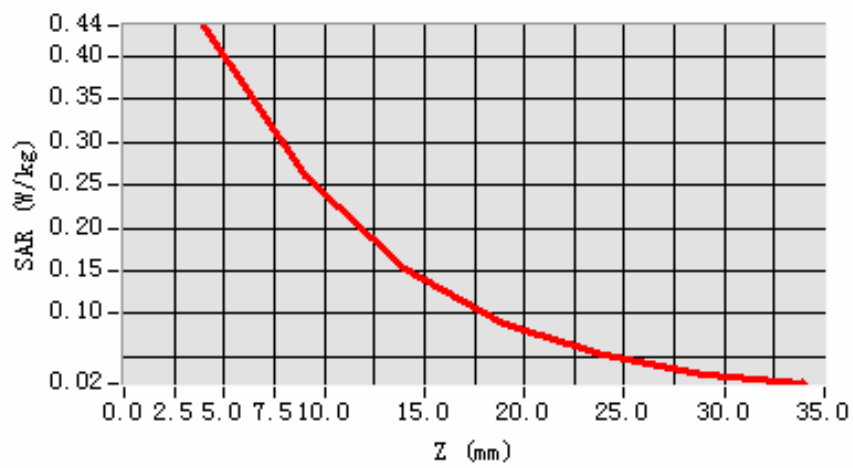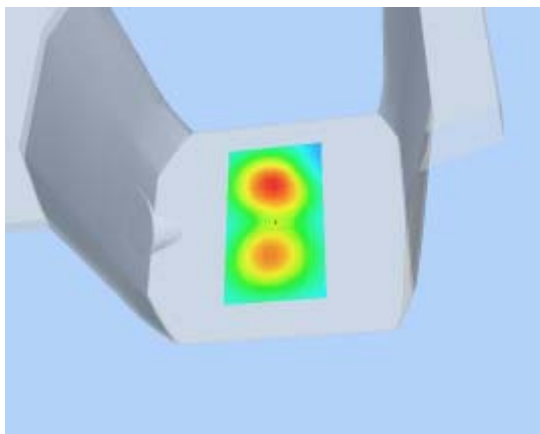
3D sceen shot	Hot spot position
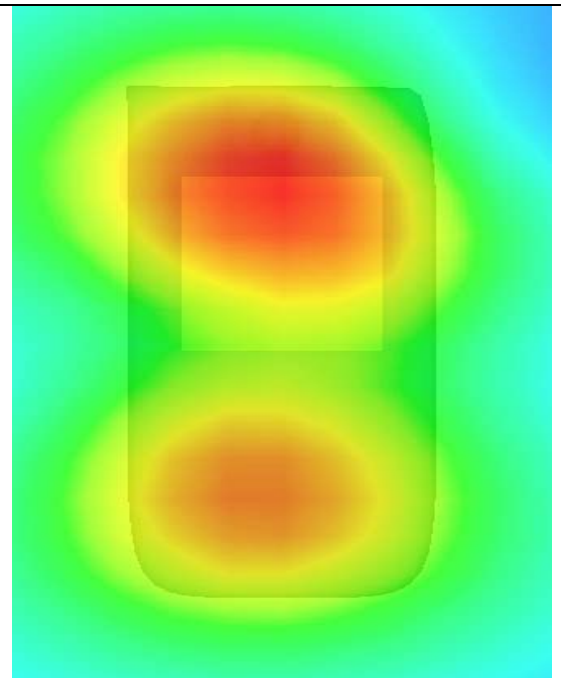
System Performance Check Data(835MHz Head)

Type: Phone measurement (Complete)

Date of measurement: 19/1/2010

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

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

A. Experimental conditions.

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

B. SAR Measurement Results

Middle Band SAR:

Frequency (MHz)	835.00000
Relative permittivity (real part)	41.675999
Relative permittivity	18.926250
Conductivity (S/m)	0.894409

Variation (%)	-0.050000
Ambient Temperature:	23.5°C
Liquid Temperature:	22.8°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:1

SURFACE SAR
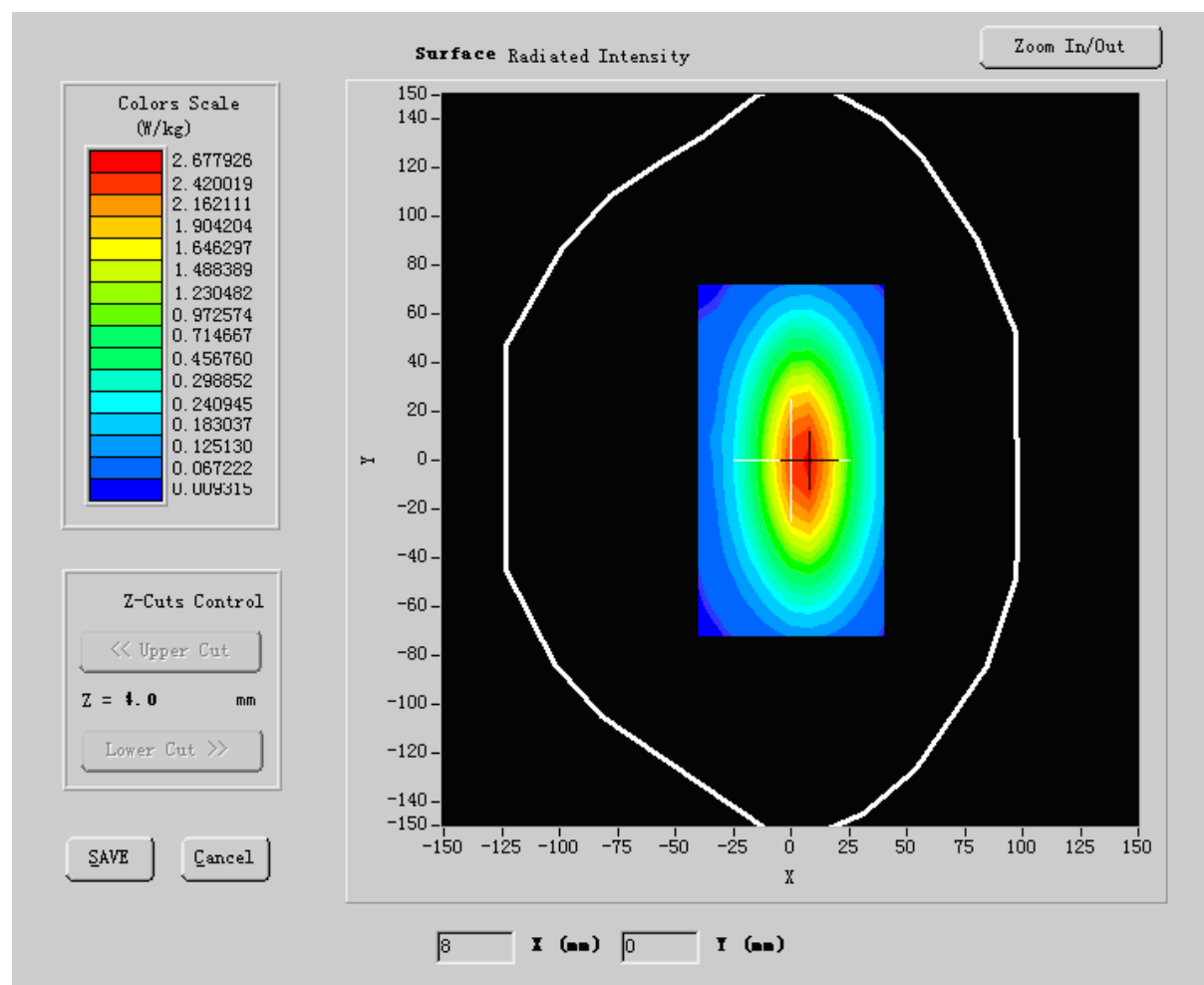
Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	1.875252
SAR 1g　(W/Kg)	2.709422

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	2.6486	1.2069	0.5583	0.3002
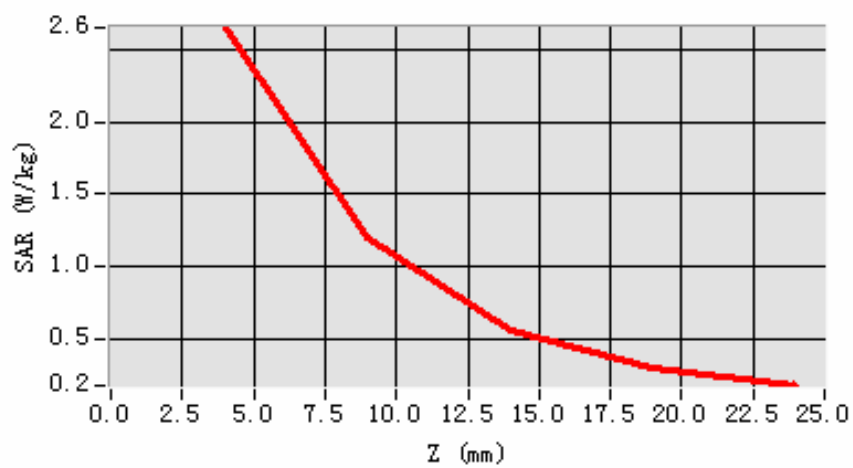
System Performance Check Data(835MHz Body)

Type: Phone measurement (Complete)

Date of measurement: 19/1/2010

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

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

A. Experimental conditions.

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

B. SAR Measurement Results

Middle Band SAR:

Frequency (MHz)	835.000000
Relative permittivity (real part)	55.709999
Relative permittivity	15.070000
Conductivity (S/m)	1.009033

Variation (%)	-0.140000
Ambient Temperature:	23.5°C
Liquid Temperature:	22.8°C
ConvF:	28.479,25.214,27.196
Crest factor：	1:1

SURFACE SAR
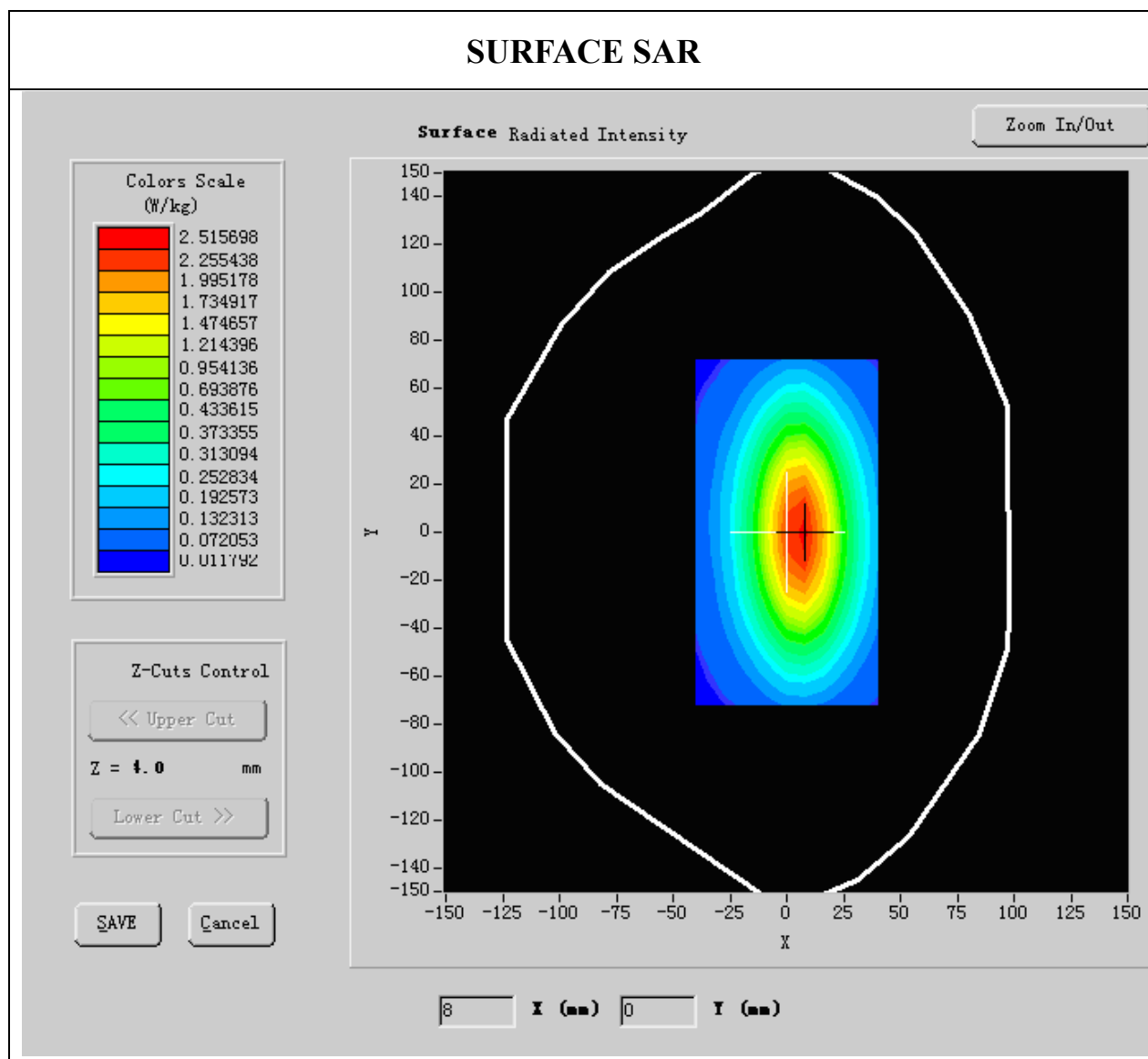
Maximum location: X=5.00, Y=1.00

SAR 10g (W/Kg)	1.652852
SAR 1g (W/Kg)	2.701584

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	2.8536	1.3061	0.6041	0.3211
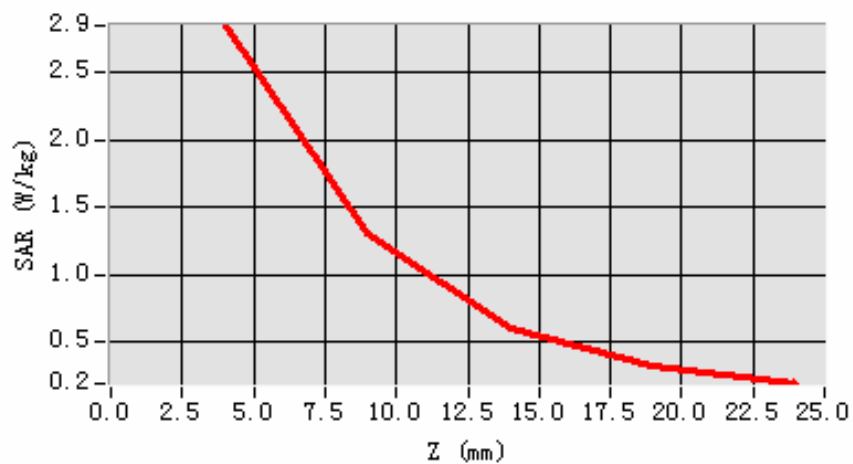
System Performance Check Data(1900MHz Head)

Type: Phone measurement (Complete)

Date of measurement: 19/1/2010

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

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

A. Experimental conditions.

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

B. SAR Measurement Results

Lower Band SAR:

Frequency (MHz)	1900.000000
Relative permittivity (real part)	39.481223
Relative permittivity	12.991650
Conductivity (S/m)	1.395758

Variation (%)	0.570000
Ambient Temperature:	23.5°C
Liquid Temperature:	22.8°C
ConvF:	40.136,34.843,38.721
Crest factor：	1:1

SURFACE SAR

Maximum location: X=7.00, Y=8.00
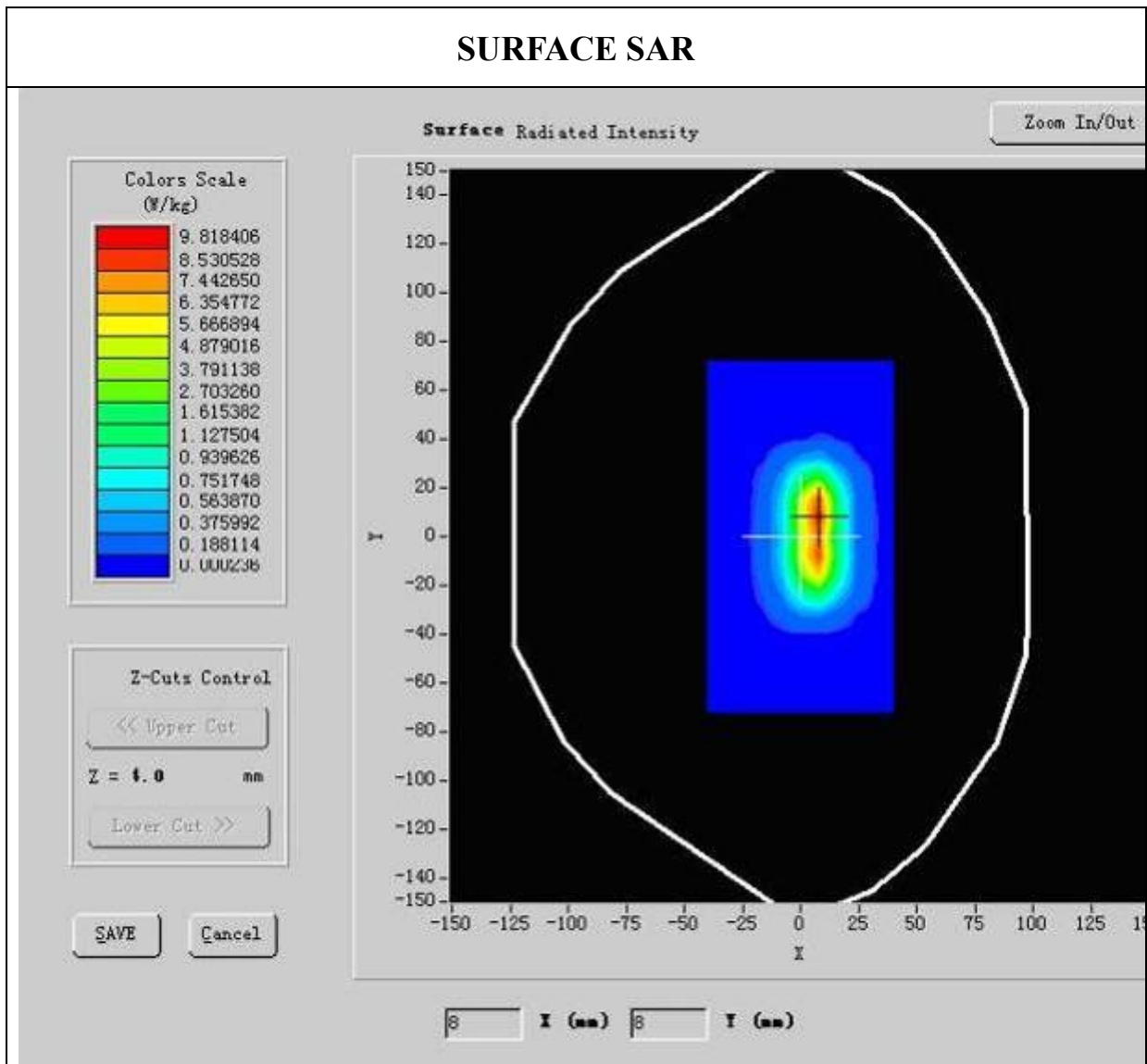
SAR 10g (W/Kg)	5.873331
SAR 1g (W/Kg)	9.843651

Z Axis Scan

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

SAR, Z Axis Scan (X = 7, Y = 8)
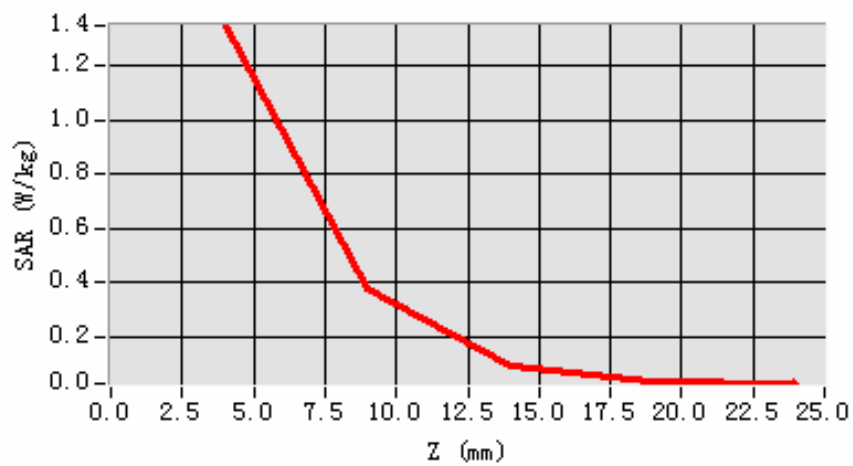
System Performance Check Data(1900MHz Body)

Type: Phone measurement (Complete)

Date of measurement: 19/1/2010

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

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

A. Experimental conditions.

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

B. SAR Measurement Results

Lower Band SAR:

Frequency (MHz)	1900.000000
Relative permittivity (real part)	52.548876
Relative permittivity (imaginary part)	12.991650

Conductivity (S/m)	1.573978
Variation (%)	0.570000
Ambient Temperature:	23.5°C
Liquid Temperature:	22.8°C
ConvF:	40.136,34.843,38.721
Crest factor:	1:1

SURFACE SAR
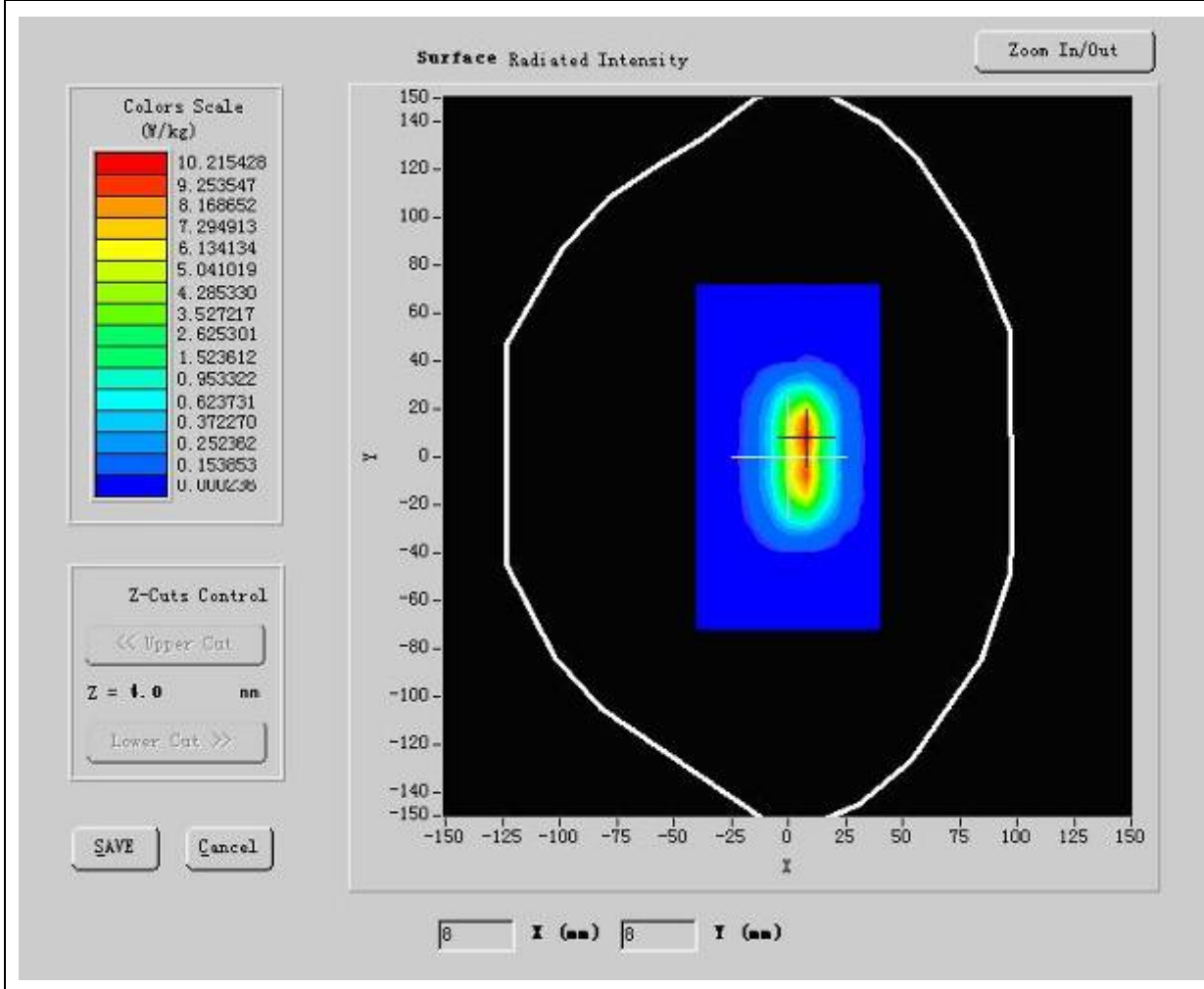
Maximum location: X=7.00, Y=8.00

SAR 10g (W/Kg)	5.487222
SAR 1g (W/Kg)	10.225723

Z Axis Scan

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