

FCC SAR TEST REPORT



Issued to

VSN Technologies Inc.

For

Mobile phone

Model Name : V3000
Trade Name : Revel Mobile
Brand Name : Revel
FCC ID : 2AA9WV3000
Standard : 47CFR 2.1093
IEEE 1528-2013
MAX SAR : Head: 0.283W/kg
Body: 1.194W/kg
Test date : 2014-5-19 to 2014-5-21
Issue date : 2014-6-5

by

Shenzhen Morlab Communications Technology Co., Ltd.

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Change History		
Issue	Date	Reason for change
1.0	June 5, 2014	First edition

1. TESTING LABORATORY

1.1 Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd. Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China 518101

1.2 Accreditation Certificate

Accredited Testing Laboratory: No. CNAS L3572

1.3 List of Test Equipments

No.	Instrument	Type	Cal. Date	Cal. Due
1	PC	Dell (Pentium IV 2.4GHz, SN:X10-23533)	(n.a)	(n.a)
2	Network Emulator	Aglient (8960, SN:10752)	2014-2-21	1year
3	Network Analyzer	Agilent(E5071B ,SN:MY42404762)	2013-9-26	1year
4	Voltmeter	Keithley (2000, SN:1000572)	2013-9-24	1year
5	Signal Generator	Rohde&Schwarz (SMP_02)	2013-9-24	1year
6	Power Amplifier	PRANA (Ap32 SV125AZ)	2013-9-24	1year
7	Power Meter	Agilent (E4416A, SN:MY45102093)	2013-5-07	1year
8	Power Sensor	Agilent (N8482A, SN:MY41091706)	2013-5-07	1year
9	Directional coupler	Giga-tronics(SN:1829112)	2013-9-24	1year
10	Probe	Satimo (SN:SN 37/08 EP80)	2013-9-25	1year
11	Dielectric Probe Kit	Agilent (85033E)	2013-9-24	1year
12	Phantom	Satimo (SN:SN_36_08_SAM62)	2013-9-24	1year
13	Liquid	Satimo(Last Calibration: 2014-5-19 to 201454-21)	N/A	N/A
14	Dipole 835MHz	Satimo (SN 20/08 DIPC 99)	2013-9-25	1year
15	Dipole 1900MHz	Satimo (SN 30/13 DIP1G900-261)	2013-9-25	1year
16	Dipole 2450MHz	Satimo (SN 30/13 DIP2G450-263)	2013-9-25	1year

2. TECHNICAL INFORMATION

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

2.1 Identification of Applicant

Company Name:	VSN Technologies Inc.
Address:	1975 E Sunrise Blvd, Suite 400, Fort Lauderdale, Fl. 33304

2.2 Identification of Manufacturer

Company Name:	Beijing Benywave technology Co., Ltd
Address:	No 55, Jiachuang second road, Zhongguancun Science Park OPTO-Mechatronics Industrial Park, Tongzhou District, Beijing, China

2.3 Equipment Under Test (EUT)

Model Name:	V3000
Trade Name:	Revel Mobile
Brand Name:	Revel
Hardware Version:	TBW5976B_P3_002
Software Version:	597611_9511_V009011
Tx Frequency Bands:	GSM 850: 824-849 MHz; GSM 1900: 1850-1910 MHz; WCDMA Band II : 1850-1910MHz; WCDMA Band V: 824-849 MHz; 802.11 b/g/n20: 2412-2462 MHz; Bluetooth;
Uplink Modulations:	GSM/GPRS: GSMK; EDGE: GMSK/8PSK; WCDMA/HSDPA/HSUPA/HSPA+:QPSK; WIFI 802.11b: DSSS; WIFI 802.11g: OFDM; WIFI 802.11n20:OFDM; Bluetooth: GFSK/ $\pi/4$ -DQPSK/8-DPSK;
Multislot Class:	GPRS: Class 12; EDGE: Class 12;
GPRS Class:	Class B
DTM:	Not support
Antenna type:	Fixed Internal Antenna
Development Stage:	Identical prototype
3GPP Version:	Release 8
Hotspot function:	Support

2.3.1 Photographs of the EUT

Please refer to the External Photos for the Photos of the EUT

2.3.2 Identification of all used EUT

The EUT identity consists of numerical and letter characters, the letter character indicates the test sample, and the Following two numerical characters indicate the software version of the test sample.

EUT Identity	Hardware Version	Software Version
1#	TBW5976B_P3_002	597611_9511_V009011

2.4 Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	47 CFR§2.1093	Radiofrequency Radiation Exposure Evaluation: Portable Devices
2	IEEE 1528-2013	IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
3	KDB 447498 D01v05r02	General RF Exposure Guidance
4	KDB 248227 D01v01r02	SAR Measurement Procedures for 802.11 a/b/g Transmitters
5	KDB 941225 D01v02	SAR Measurement Procedures for 3G Devices
6	KDB 941225 D02v02r02	HSPA and 1x Advanced
7	KDB 941225 D03v01	SAR Test Reduction GSM GPRS EDGE
8	KDB 941225 D04v01	SAR for GSM E GPRS Dual Xfer Mode
9	KDB941225 D06v01r01	Hotspot Mode SAR
10	KDB 865664 D01v01r02	SAR Measurement 100 MHz to 6 GHz
11	KDB 865664 D02v01r01	SAR Reporting
12	KDB648474 D04v01r02	Handset SAR

2.5 Device Category and SAR Limits

This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user. Limit for General Population/Uncontrolled exposure should be applied for this device, it is 1.6 W/kg as averaged over any 1 gram of tissue.

3. SPECIFIC ABSORPTION RATE (SAR)

3.1 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are Middle than the limits for general population/uncontrolled.

3.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density. (ρ). The equation description is as below:

$$\text{SAR} = \frac{d}{dt} \left(\frac{dW}{dm} \right) = \frac{d}{dt} \left(\frac{dW}{\rho dv} \right)$$

SAR is expressed in units of Watts per kilogram (W/kg)

SAR measurement can be either related to the temperature elevation in tissue by,

$$\text{SAR} = C \left(\frac{\delta T}{\delta t} \right)$$

Where C is the specific heat capacity, δT is the temperature rise and δt the exposure duration, or related to the electrical field in the tissue by

$$\text{SAR} = \frac{\sigma |E|^2}{\rho}$$

Where σ is the conductivity of the tissue, ρ is the mass density of the tissue and $|E|$ is the rms electrical field strength.

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

4. SAR MEASUREMENT SETUP

4.1 The Measurement System

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

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

The Following figure shows the system.



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

4.2 Probe

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

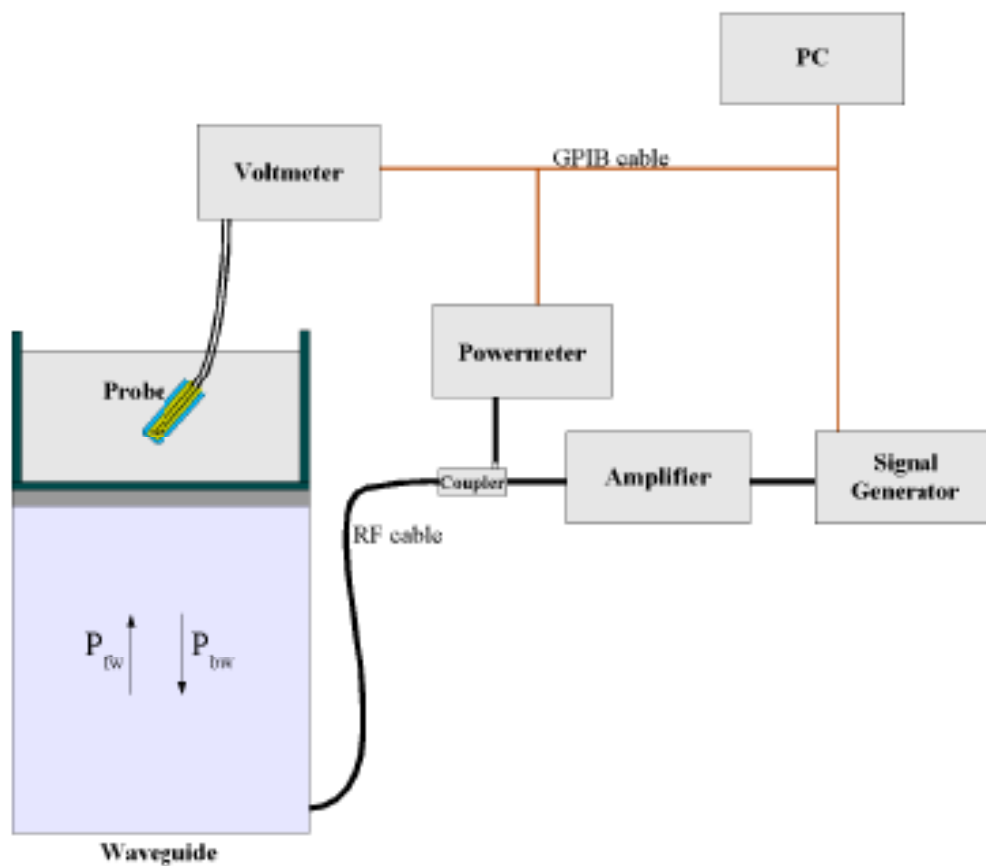
- Dynamic range: 0.01-100 W/kg
- Tip Diameter : 6.5 mm
- Distance between probe tip and sensor center: 2.5mm
- Distance between sensor center and the inner phantom surface: 4 mm

(repeatability better than +/- 1mm)

- Probe linearity: <0.25 dB
- Axial Isotropy: <0.25 dB
- Spherical Isotropy: <0.25 dB
- Calibration range: 835to 2500MHz for head & body simulating liquid.

Angle between probe axis (evaluation axis) and surface normal line: less than 30°

Probe calibration is realized, in compliance with CENELEC EN 62209 and IEEE 1528 std, with CALISAR, Antennessa proprietary calibration system. The calibration is performed with the EN 622091 annex technique using reference guide at the five frequencies.



$$SAR = \frac{4(P_{fw} - P_{bw})}{ab\delta} \cos^2\left(\pi \frac{y}{a}\right) e^{-(2z/\delta)}$$

Where :

P_{fw} = Forward Power

P_{bw} = Backward Power

a and b = Waveguide dimensions

δ = Skin depth

Keithley configuration:

Rate = Medium; Filter =ON; RDGS=10; FILTER TYPE =MOVING AVERAGE; RANGE AUTO

After each calibration, a SAR measurement is performed on a validation dipole and compared with a NPL calibrated probe, to verify it.

The calibration factors, CF(N), for the 3 sensors corresponding to dipole 1, dipole 2 and dipole 3 are:

$$CF(N)=SAR(N)/V_{lin}(N) \quad (N=1,2,3)$$

The linearised output voltage $V_{lin}(N)$ is obtained from the displayed output voltage $V(N)$ using

$$V_{lin}(N)=V(N)*(1+V(N)/DCP(N)) \quad (N=1,2,3)$$

Where DCP is the diode compression point in mV.

4.3 Probe Calibration Process

4.3.1 Dosimetric Assessment Procedure

Each E-Probe/Probe Amplifier combination has unique calibration parameters. SATIMO Probe calibration procedure is conducted to determine the proper amplifier settings to enter in the probe parameters. The amplifier settings are determined for a given frequency by subjecting the probe to a known E-field density (1 mW/cm^2) using an with CALISAR, Antenna proprietary calibration system.

4.3.2 Free Space Assessment Procedure

The free space E-field from amplified probe outputs is determined in a test chamber. This calibration can be performed in a TEM cell if the frequency is below 1 GHz and in a waveguide or other methodologies above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is rotated 360 degrees until the three channels show the maximum reading. The power density readings equates to 1 mW/cm^2

4.3.3 Temperature Assessment Procedure

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulating head tissue. The E-field in the medium correlates with the temperature rise in the dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

Where:

δt = exposure time (30 seconds),

$$SAR = C \left(\frac{\delta T}{\delta t} \right)$$

C = heat capacity of tissue (brain or muscle),

δT = temperature increase due to RF exposure.

SAR is proportional to $\Delta T/\Delta t$, the initial rate of tissue heating, before thermal diffusion takes place. The electric field in the simulated tissue can be used to estimate SAR by equating the thermally derived SAR to that with the E- field component.

Where:

$$SAR = \frac{\sigma |E|^2}{\rho}$$

σ = simulated tissue conductivity,

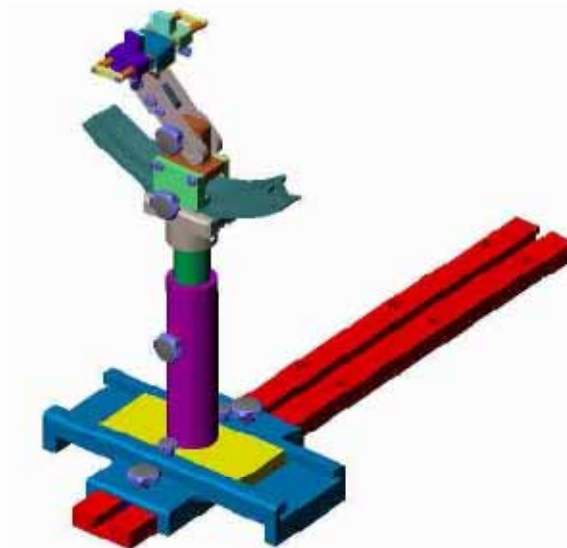
ρ = Tissue density (1.25 g/cm³ for brain tissue)

4.4 Phantom

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2mm +/- 0.2mm. It enables the dosimetric evaluation of left and right phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.

4.5 Device Holder

The positioning system allows obtaining cheek and tilting position with a very good accuracy. In compliance with CENELEC, the tilt angle uncertainty is Middle than 1°.



Device holder

System Material	Permittivity	Loss Tangent
Delrin	3.7	0.005

5. TISSUE SIMULATING LIQUIDS

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5% are listed in below table.

The following table gives the recipes for tissue simulating liquids

Frequency Band (MHz)	835		1900		2450	
Tissue Type	Head	Body	Head	Body	Head	Body
Ingredients (% by weight)						
Deionised Water	50.36	50.20	54.90	40.40	62.70	73.20
Salt(NaCl)	1.25	0.90	0.18	0.50	0.50	0.10
Sugar	0.00	48.50	0.00	58.00	0.00	0.00
Tween 20	48.39	0.00	0.00	0.00	0.00	0.00
HEC	0.00	0.20	0.00	1.00	0.00	0.00
Bactericide	0.00	0.20	0.00	0.10	0.00	0.00
Triton X-100	0.00	0.00	0.00	0.00	36.80	0.00
DGBE	0.00	0.00	44.92	0.00	0.00	26.70
Diethylenglycol monohexylether	0.00	0.00	0.00	0.00	0.00	0.00
Measured dielectric parameters						
Dielectric Constant	41.50	56.10	39.90	53.30	39.20	52.70
Conductivity (S/m)	0.90	0.95	1.42	1.52	1.80	1.95

Note: Please refer to the validation results for dielectric parameters of each frequency band.

The dielectric properties of the tissue simulating liquids were verified prior to the SAR evaluation using an Agilent 85033E Dielectric Probe Kit and an Agilent Network Analyzer.

Table 1: Dielectric Performance of Tissue Simulating Liquid

Temperature: 22.0~23.8°C, humidity: 54~60%.						
Date	Freq.(MHz)	Liquid Parameters	Meas.	Target	Delta(%)	Limit±(%)
2014/5/19	Head 835	Relative Permittivity(ϵ_r):	41.44	41.5	-0.14	5
		Conductivity(σ):	0.89	0.90	-1.11	5
2014/5/19	Body 835	Relative Permittivity(ϵ_r):	55.12	55.2	-0.14	5
		Conductivity(σ):	0.98	0.97	1.03	5
2014/5/20	Head 1900	Relative Permittivity(ϵ_r):	39.92	40.0	-0.20	5
		Conductivity(σ):	1.42	1.40	1.43	5
2014/5/20	Body 1900	Relative Permittivity(ϵ_r):	53.11	53.3	-0.36	5
		Conductivity(σ):	1.53	1.52	0.66	5
2014/5/21	Head 2450	Relative Permittivity(ϵ_r):	39.08	39.20	-0.31	5
		Conductivity(σ):	1.78	1.80	-1.11	5
2014/5/21	Body 2450	Relative Permittivity(ϵ_r):	52.57	52.70	-0.25	5
		Conductivity(σ):	1.93	1.95	-1.03	5

6. UNCERTAINTY ASSESSMENT

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

6.1 UNCERTAINTY EVALUATION FOR EUT SAR TEST

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/ e	k
Uncertainty Component	Sec.	Tol (+-%)	Prob Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	Vi
Measurement System									
Probe calibration	E.2.1	4.76	N	1	1	1	4.76	4.7	∞
Axial Isotropy	E.2.2	2.5	R	$\sqrt{3}$	0.7	0.7	1.01	1.0	∞
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	0.7	0.7	1.62	1.6	∞
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.5	∞
Linearity	E.2.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.8	∞
System detection limits	E.2.5	1.0	R	$\sqrt{3}$	1	1	0.58	0.5	∞
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.0	∞
Reponse Time	E.2.7	3.0	R	$\sqrt{3}$	1	1	1.73	1.7	∞
Integration Time	E.2.8	2.0	R	$\sqrt{3}$	1	1	1.15	1.1	∞
RF ambient Conditions	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.7	∞
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	$\sqrt{3}$	1	1	1.15	1.1 5	∞
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	$\sqrt{3}$	1	1	0.03	0.0 3	∞
Extrapolation, interpolation and integration Algoritms for Max. SAR Evaluation	E.5.2	5.0	R	$\sqrt{3}$	1	1	2.89	2.8 9	∞
Test sample Related									
Test sample positioning	E.4.2. 1	0.03	N	1	1	1	0.03	0.0 3	N- 1
Device Holder Uncertainty	E.4.1. 1	5.00	N	1	1	1	5.00	5.0 0	N- 1
Output power Power drift - SAR drift measurement	6.6.2	4.04	R	$\sqrt{3}$	1	1	2.33	2.3 3	∞

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	4.57	R	$\sqrt{3}$	0.64	0.43	1.69	1.13	∞
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	1	0.64	0.43	3.20	2.15	M
Liquid permittivity - deviation from target value	E.3.2	3.69	R	$\sqrt{3}$	0.6	0.49	1.28	1.04	∞
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	1	0.6	0.49	6.00	4.90	M
Combined Standard Uncertainty			RSS				11.55	10.67	
Expanded Uncertainty (95% Confidence interval)			K=2				23.11	21.33	

6.2 UNCERTAINTY FOR SYSTEM PERFORMANCE CHECK

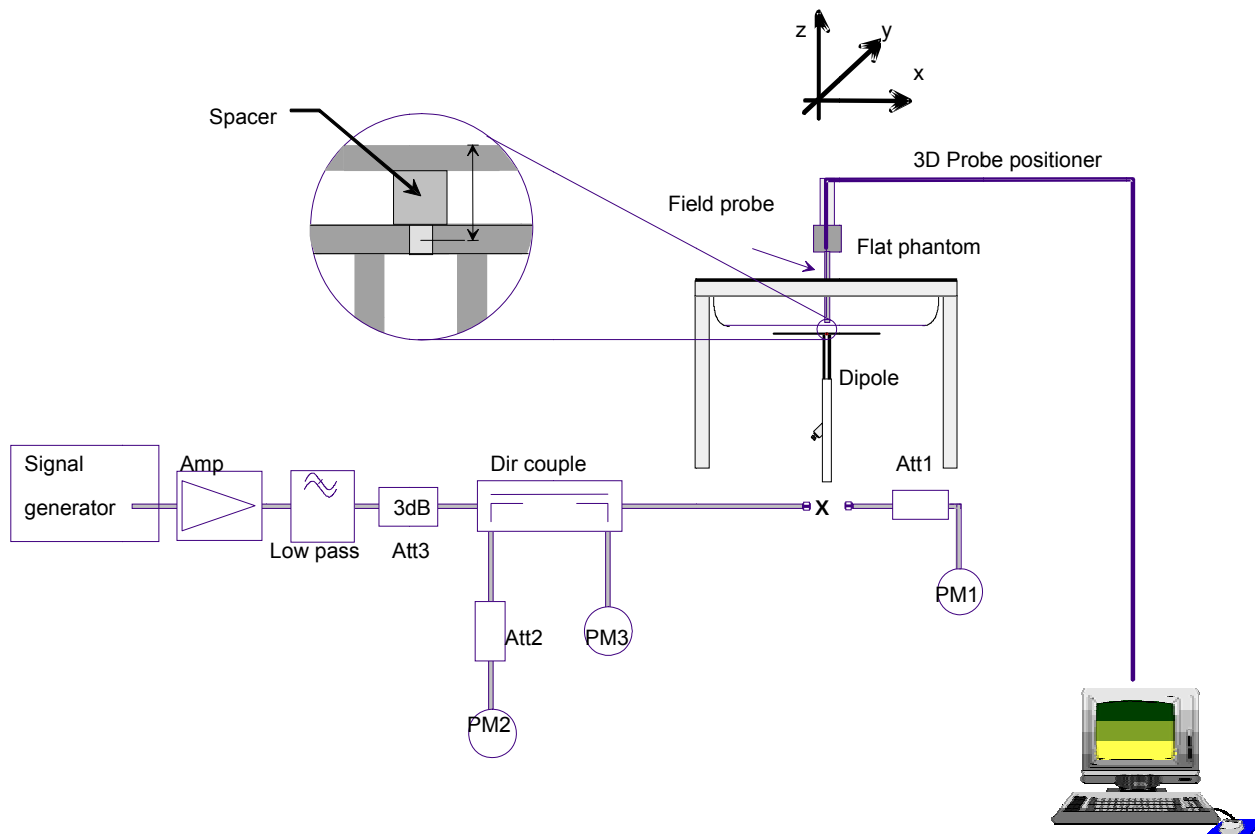
a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/ e	k
Uncertainty Component	Sec.	Tol (+-%)	Prob Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	Vi
Measurement System									
Probe calibration	E.2.1	4.76	N	1	1	1	4.76	4.7	∞
Axial Isotropy	E.2.2	2.5	R	$\sqrt{3}$	0.7	0.7	1.01	1.0	∞
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	0.7	0.7	1.62	1.6	∞
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.5	∞
Linearity	E.2.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.8	∞
System detection limits	E.2.5	1.0	R	$\sqrt{3}$	1	1	0.58	0.5	∞
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.0	∞
Reponse Time	E.2.7	3.0	R	$\sqrt{3}$	1	1	1.73	1.7	∞
Integration Time	E.2.8	2.0	R	$\sqrt{3}$	1	1	1.15	1.1	∞
RF ambient Conditions	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.7	∞

Probe positioner Mechanical Tolerance	E.6.2	2.0	R	$\sqrt{3}$	1	1	1.15	1.15	∞
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	$\sqrt{3}$	1	1	0.03	0.03	∞
Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation	E.5.2	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	∞
Dipole									
Dipole axis to liquid Distance	8,E.4.2	1.00	N	$\sqrt{3}$	1	1	0.58	0.58	∞
Input power and SAR drift measurement	8,6.6.2	4.04	R	$\sqrt{3}$	1	1	2.33	2.33	∞
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	4.57	R	$\sqrt{3}$	0.64	0.43	1.69	1.13	∞
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	$\sqrt{3}$	0.64	0.43	1.85	1.24	M
Liquid permittivity - deviation from target value	E.3.2	3.69	R	$\sqrt{3}$	0.6	0.49	1.28	1.04	∞
Liquid permittivity - measurement uncertainty	E.3.3	10.00	N	$\sqrt{3}$	0.6	0.49	3.46	2.83	M
Combined Standard Uncertainty			RSS				8.83	8.37	
Expanded Uncertainty (95% Confidence interval)			K=2				17.66	16.73	

7. SAR MEASUREMENT EVALUATION

7.1 System Setup

In the simplified setup for system evaluation, the DUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave which comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The system check verifies that the system operates within its specifications. It is performed daily or before every SAR measurement. The system check uses normal SAR measurements in the flat section of the phantom with a matched dipole at a specified distance. The system verification setup is shown as below.



The validation dipole is placed beneath the flat phantom with the specific spacer in place. The distance spacer is touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The power meter PM1 measures the forward power at the location of the system check dipole connector. The signal generator is adjusted for the desired forward power (250 mW is used for 700 MHz to 3 GHz, 100 mW is used for 3.5 GHz to 6 GHz) at the dipole connector and the power meter PM2 is read at that level. After connecting the cable to the dipole, the signal generator is readjusted for the same reading at power meter PM2.

7.2 Validation Results

After system check testing, the SAR result will be normalized to 1W forward input power and compared with the reference SAR value derived from validation dipole certificate report. The deviation of system check should be within 10 %.

Frequency	835MHz(H)	835MHz(B)	1900MHz(H)	1900MHz(B)
Target value 1W (1g)	9.71 W/Kg	10.02 W/Kg	39.39 W/Kg	42.33 W/Kg
Test value 1g (250 mW input power)	2.380 W/Kg (5.19)	2.446 W/Kg (5.19)	9.772 W/Kg (5.20)	9.981 W/Kg (5.20)
Normalized to 1W value(1g)	9.520 W/Kg	9.784 W/Kg	39.088 W/Kg	39.924 W/Kg

Frequency	2450MHz(H)	2450MHz(B)
Target value 1W (1g)	54.77 W/Kg	56.09 W/Kg
Test value 1g (250 mW input power)	12.834 W/Kg (5.21)	12.924 W/Kg (5.21)
Normalized to 1W value(1g)	51.336 W/Kg	51.696 W/Kg

Note: System checks the specific test data please see 148~159.

8. OPERATIONAL CONDITIONS DURING TEST

8.1 Information on the testing

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.

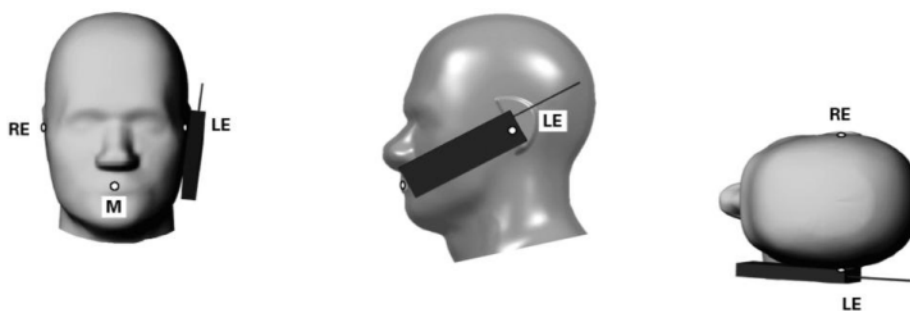


Illustration for Cheek Position

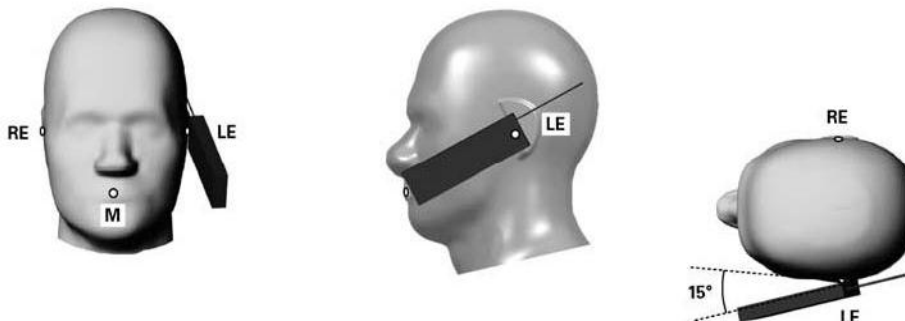


Illustration for Tilted Position

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 placed 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.

Remark: Please refer to Appendix B for the test setup photos.

8.2 Body-worn Configurations

The body-worn configurations shall be tested with the supplied accessories (belt-clips, holsters, etc.) attached to the device in normal use configuration.

For body-worn and other configurations a flat phantom shall be used which is comprised of material with electrical properties similar to the corresponding tissues.

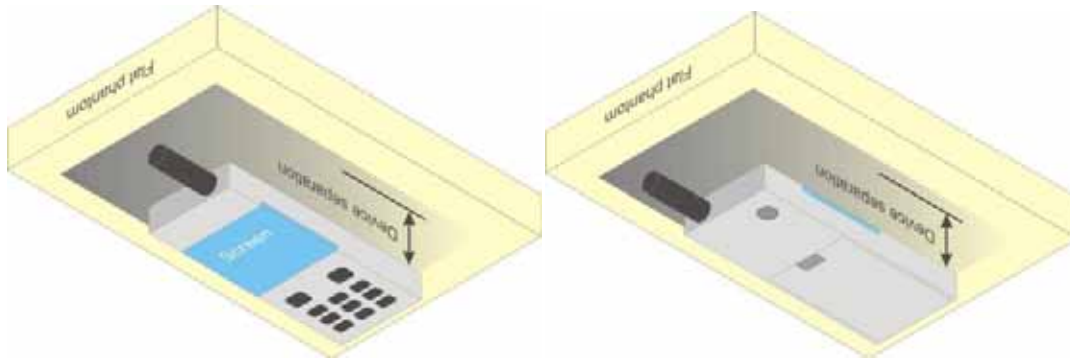


Illustration for Body Worn Position

8.3 Measurement procedure

The Following steps are used for each test position

1. 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.
2. Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
3. Measurement of the SAR distribution with a grid of 8 to 16mm * 8 to 16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot 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.
4. Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 * 32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

8.4 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 minimize measurements errors, but the highest local SAR will occur at the surface of the phantom.



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

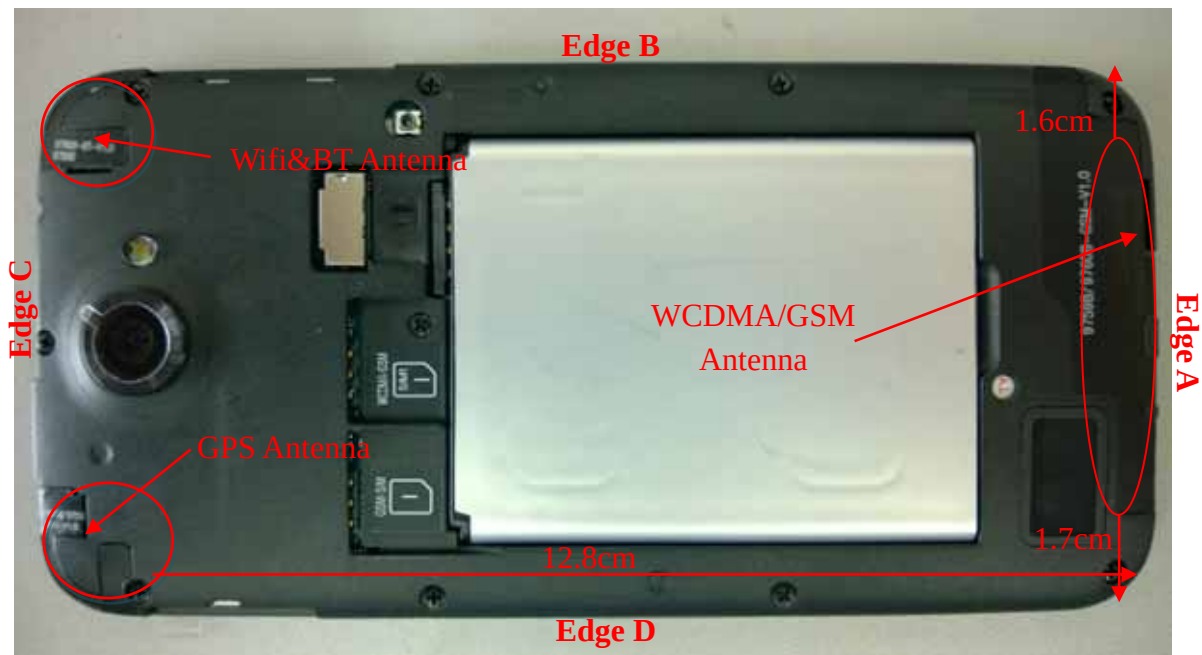
The measurements have to be performed over a limited time (due to the duration of the battery) so the step of measurement is high. It could vary between 5 and 8 mm. To obtain an accurate assessment of the maximum SAR averaged over 10 grams and 1 gram requires a very fine resolution in the three dimensional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

9. HOTSPOT MODE EVALUATION PROCEDURE

The SAR evaluation procedures for Portable Devices with Wireless Router function is according to KDB 941225 D06 Hot Spot SAR v01r01.

SAR must be tested for all surfaces and edges (side) with a transmitting antenna with in 2.5 cm from that surface or edge, at a test separation distance of 10 mm, in the wireless mode that support wireless routing.

Edge configurations:



Assessment		Hotspot side for SAR				
		Test distance: 10mm				
Antennas	Back	Front	Edge A	Edge B	Edge C	Edge D
WCDMA/GSM	Yes	Yes	Yes	Yes	No	Yes
WLAN&BT	Yes	Yes	No	Yes	Yes	No

10. MEASUREMENT OF CONDUCTED OUTPUT POWER

1. WCDMA mode conducted output power values

Item	band	WCDMA 850			WCDMA 1900		
	ARFCN	4132	4175	4233	9262	9400	9538
	subtest	dBm			dBm		
5.2(WCDMA)	non	23.70	24.26	24.04	22.89	23.94	24.40
HSDPA	1	23.68	24.23	24.01	22.80	23.92	24.33
	2	23.66	24.26	24.03	22.85	23.93	24.38
	3	23.16	23.75	23.54	22.34	23.44	23.81
	4	23.20	23.77	23.53	22.30	23.40	23.85
HSUPA	1	23.62	24.26	23.98	22.81	23.96	24.41
	2	21.59	22.30	21.99	20.83	21.98	22.38
	3	22.60	23.24	22.94	21.79	22.89	23.40
	4	21.63	22.26	21.93	20.86	21.99	22.44
	5	23.66	24.22	23.99	22.75	23.86	24.35
HSPA+	1	23.69	24.28	23.98	22.67	23.92	24.39
Note:	The Conducted RF Output Power test of WCDMA /HSDPA /HSUPA/HSPA+ was tested by power meter.						

2. GSM Mode

Band	Channel	Frequency (MHz)	Output Power(dBm)
GSM 850	128	824.2	33.36
	190	836.6	33.91
	251	848.8	34.21
PCS 1900	512	1850.2	31.08
	661	1880.0	30.75
	810	1909.8	30.09

3. GPRS Mode Conducted peak output power

Band	Channel	Frequency (MHz)	Output Power(dBm)			
			Slot 1	Slot 2	Slot 3	Slot 4
GSM 850	128	824.2	31.61	30.35	29.63	29.25
	190	836.6	31.63	30.37	29.65	29.27
	251	848.8	31.56	30.30	29.58	29.20
PCS 1900	512	1850.2	26.18	24.92	24.20	23.82
	661	1880.0	28.46	27.20	26.48	26.10
	810	1909.8	27.80	26.54	25.82	25.44

GPRS Time-based Average Power

Band	Channel	Frequency (MHz)	Output Power(dBm)			
			Slot 1	Slot 2	Slot 3	Slot 4
GSM 850	128	824.2	22.58	24.33	25.37	26.24
	190	836.6	22.60	24.35	25.39	26.26
	251	848.8	22.53	24.28	25.32	26.19
PCS 1900	512	1850.2	17.15	18.90	19.94	20.81
	661	1880.0	19.43	21.18	22.22	23.09
	810	1909.8	18.77	20.52	21.56	22.43

Timeslot consignations:

No. Of Slots	Slot 1	Slot 2	Slot 3	Slot 4
Slot Consignation	1Up4Down	2Up2Down	3Up2Down	4Up1Down
Duty Cycle	1:8	1:4	1:2.67	1:2
Correct Factor	-9.03dB	-6.02dB	-4.26dB	-3.01dB

4. EDGE Mode Conducted peak output power

Band	Channel	Frequency (MHz)	Output Power(dBm)			
			Slot 1	Slot 2	Slot 3	Slot 4
GSM 850	128	824.2	31.08	29.66	28.77	28.35
	190	836.6	31.45	30.03	29.14	28.72
	251	848.8	31.77	30.35	29.46	29.04
PCS 1900	512	1850.2	30.63	29.21	28.32	27.90
	661	1880.0	30.70	29.28	28.39	27.97
	810	1909.8	30.37	28.95	28.06	27.64

EDGE Time-based Average Power

Band	Channel	Frequency (MHz)	Output Power(dBm)			
			Slot 1	Slot 2	Slot 3	Slot 4
GSM 850	128	824.2	22.05	23.64	24.51	25.34
	190	836.6	22.42	24.01	24.88	25.71
	251	848.8	22.74	24.33	25.20	26.03
PCS 1900	512	1850.2	21.60	23.19	24.06	24.89
	661	1880.0	21.67	23.26	24.13	24.96
	810	1909.8	21.34	22.93	23.80	24.63

5. WiFi peak output power

Band	Channel	Frequency (MHz)	Output Power(dBm)		
			802.11b (DSSS)	802.11g (OFDM)	802.11n20 (OFDM)
WiFi	1	2412	13.68	11.41	11.57
	6	2437	15.08	12.81	12.69
	11	2462	15.75	13.37	13.49

6. BT+EDR 2.1 peak output power

Band	Channel	Frequency (MHz)	Output Power(dBm)		
			GFSK	$\pi/4$ -DQPSK	8-DPSK
BT	0	2402	11.48	11.33	11.58
	39	2441	10.85	10.55	10.83
	78	2480	10.95	10.65	10.85

11. TEST RESULTS LIST

Summary of Measurement Results (GSM 850MHz Band)

Temperature: 21.0~23.8°C, humidity: 54~60%.						
Phantom Configurations		Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Scaling Factor	Scaled SAR (W/Kg), 1g
Right Side Of Head		Cheek/Touch	251	0.235	1.069	0.251
		Ear/Tilt		0.162		0.173
Left Side Of Head		Cheek/Touch		0.219		0.234
		Ear/Tilt		0.139		0.149
Body (10mm Separation)	GSM	Back upward		0.419		0.448
		Front upward		0.313		0.335
	GPRS	Back upward	128	0.979	1.059	1.037
			190	1.063	1.054	1.120
			251	1.114	1.072	1.194
		Front upward	190	0.752	1.054	0.793
		Edge A		0.232		0.245
		Edge B		0.671		0.707
		Edge D		0.451		0.475
	EDGE	Back upward	251	0.718	1.112	0.798

Summary of Measurement Results (GSM 1900MHz Band)

Temperature: 21.0~23.8°C, humidity: 54~60%.						
Phantom Configurations		Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Scaling Factor	Scaled SAR (W/Kg), 1g
Right Side Of Head		Cheek/Touch	512	0.073	1.102	0.080
		Ear/Tilt		0.019		0.021
Left Side Of Head		Cheek/Touch		0.063		0.069
		Ear/Tilt		0.026		0.029
Body (10mm Separation)	GSM	Back upward		0.316		0.348
		Front upward		0.200		0.220
	EDGE	Back upward	661	0.753	1.007	0.758
		Front upward		0.411		0.414
		Edge A		0.362		0.365
		Edge B		0.139		0.140
		Edge D		0.166		0.167
	GPRS	Front upward	661	0.596	1.097	0.654

Note:

1. GPRS/EDGE test Scenario(Based on the Max. Time-based Average Power)

Band	Channel	Slots	Power level	Duty Cycle
GPRS850	190	4	5	1:2
EDGE850	251	4	5	1:2
GPRS1900	661	4	0	1:2
EDGE1900	661	4	0	1:2

Summary of Measurement Results (WCDMA 850MHz Band)

Temperature: 21.0~23.8°C, humidity: 54~60%.					
Phantom Configurations	Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Scaling Factor	Scaled SAR (W/Kg), 1g
Right Side Of Head	Cheek/Touch	4175	0.268	1.057	0.283
	Ear/Tilt		0.160		0.169
Left Side Of Head	Cheek/Touch		0.196		0.207
	Ear/Tilt		0.162		0.171
Body (10mm Separation)	Back upward		0.449		0.475
	Front upward		0.327		0.346
	Edge A		0.073		0.077
	Edge B		0.223		0.236
	Edge D		0.266		0.281

Summary of Measurement Results (WCDMA 1900MHz Band)

Temperature: 21.0~23.8°C, humidity: 54~60%.					
Phantom Configurations	Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Scaling Factor	Scaled SAR (W/Kg), 1g
Right Side Of Head	Cheek/Touch	9538	0.139	1.023	0.142
	Ear/Tilt		0.028		0.029
Left Side Of Head	Cheek/Touch		0.181		0.185
	Ear/Tilt		0.031		0.032
Body (10mm Separation)	Back upward		0.673		0.688
	Front upward		0.421		0.431
	Edge A		0.596		0.610
	Edge B		0.078		0.080
	Edge D		0.084		0.086

Summary of Measurement Results (WLAN 802.11b Band)

Temperature: 21.0~23.8°C, humidity: 54~60%.					
Phantom Configurations	Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Scaling Factor	Scaled SAR (W/Kg), 1g
Right Side Of Head	Cheek/Touch	11	0.102	1.059	0.108
	Ear/Tilt		0.088		0.093
Left Side Of Head	Cheek/Touch		0.145		0.154
	Ear/Tilt		0.057		0.060
Body (10mm Separation)	Back upward		0.102		0.108
	Front upward		0.079		0.084
	Edge B		0.053		0.056
	Edge C		0.097		0.103

Summary of Measurement Results (Bluetooth)

Temperature: 21.0~23.8°C, humidity: 54~60%.					
Phantom Configurations	Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Scaling Factor	Scaled SAR (W/Kg), 1g
Right Side Of Head	Cheek/Touch	0 8-DPSK	0.095	1.102	0.105
	Ear/Tilt		0.083		0.091
Left Side Of Head	Cheek/Touch		0.133		0.147
	Ear/Tilt		0.097		0.107

Note:

- When the 1-g SAR for the mid-band channel or the channel with the Highest output power satisfy the following conditions, testing of the other channels in the band is not required. (Per KDB 447498 D01 General RF Exposure Guidance v05r01)
 - ≤ 0.8 W/kg and transmission band ≤ 100 MHz
 - ≤ 0.6 W/kg and, 100 MHz $<$ transmission bandwidth ≤ 200 MHz
 - ≤ 0.4 W/kg and transmission band > 200 MHz
- The WCDMA mode is test with 12.2kbps RMC and TPC set to all "1", if maximum SAR for 12.2kbps RMC is $\leq 75\%$ of the SAR limit (i.e. 1.2W/Kg 1g) and maximum average output of each RF channel with HSDPA/HSUPA active is less than 1/4 dB Middle than that measured without HSDPA/HSUPA using 12.2kbps RMC, according to KDB 941225D01v02, SAR is not required for this handset with HSPA capabilities.

3. BT & WiFi SAR test is conducted according to section 12 stand-alone SAR evaluation of this report.
4. During 802.11 testing, engineering testing software installed on the EUT can provide continuous transmitting RF signal. The RF signal utilized in SAR measurement has almost 100% duty cycle, and its crest factor is 1.
5. IEEE Std 1528-2013 require the middle channel to be tested first. This generally applies to wireless devices that are designed to operate in technologies with tight tolerances for maximum output power variations across channels in the band. When the maximum output power variation across the required test channels is $> \frac{1}{2}$ dB, instead of the middle channel, the highest output power channel must be used.
6. Per KDB 447498, when the SAR procedures require multiple channels to be tested and the 1-g SAR for the highest output channel is less than 0.8 W/kg and peak SAR is less than 1.6W/kg, where the transmission band corresponding to all channels is ≤ 100 MHz, testing for the other channels is not required.
7. The WCDMA mode is test with 12.2kbps RMC and TPC set to all "1", if maximum SAR for 12.2kbps RMC is $\leq 75\%$ of the SAR limit (i.e. 1.2W/Kg 1g) and maximum average output of each RF channel with HSDPA/HSUPA active is less than 1/4 dB higher than that measured without HSDPA/HSUPA using 12.2kbps RMC, according to KDB 941225D01v02, SAR is not required for this handset with HSPA capabilities. This module supports 3GPP release R7 HSPA+ using QPSK only without 16QAM in the uplink. So PBA is not required for HSPA+.
8. Scaling Factor calculation

Band	Tune-up power tolerance(dBm)	SAR test channel Power (dBm)	Scaling Factor
GSM 850	PCL = 5, PWR =34+-0.5	34.21	1.069
GPRS 850	PCL = 5, PWR =29+-0.5(4 slots)	29.25	1.059
		29.27	1.054
		29.20	1.072
EDGE 850	PCL = 5, PWR =29+-0.5(4 slots)	29.04	1.112
GSM1900	PCL = 0, PWR =31+-0.5	31.08	1.102
GPRS 1900	PCL=0,PWR= 26+-0.5(4 slots)	26.10	1.097
EDGE 1900	PCL=0,PWR= 27.5+-0.5(4 slots)	27.97	1.007
WCDMA 850	Max output power =23.5(+1/-2)	24.26	1.057
WCDMA 1900	Max output power =23.5(+1/-2)	24.40	1.023
802.11b	Max output power =15.5+-0.5	15.75	1.059
Bluetooth	Max output power =11.5+-0.5	11.58	1.102

12. MULTIPLE TRANSMITTERS EVALUATION

The are three transmitters build in EUT, as following:



Stand-alone SAR

Test distance: 5mm			
Band	Highest power(mW) per tune up	1-g SAR test threshold	Test required?
WIFI(2.4G)	39.81	$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \cdot \left[\sqrt{f(\text{GHz})} \right] \leq 3.0 \text{ for 1-g SAR}$	Yes
BT	15.85		Yes

Test distance: 10mm			
Band	Highest power(mW) per tune up	1-g SAR test threshold	Test required?
WIFI(2.4G)	39.81	$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \cdot \left[\sqrt{f(\text{GHz})} \right] \leq 3.0 \text{ for 1-g SAR}$	Yes
BT	15.85		No

The Head SAR test for BT is required for highest power exceed the power threshold for 2450MHz at the test distance of 5 mm, Body SAR for BT is not required.

The SAR test for 802.11b (2.4GHz) is required, 802.11g/HT20/HT40 is not required, for the maximum average output power is less than 1/4 dB Higher than measured on the corresponding 802.11b channels. As per KDB 248227

The BT stand-alone body SAR is not required, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

$(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm}) \cdot [\sqrt{f(\text{GHz})} / x]$
W/kg for test separation distances ≤ 50 mm;

where $x = 7.5$ for 1-g SAR, and $x = 18.75$ for 10-g SAR.

(Max power= 15.85 mW; min. test separation distance= 10mm for body; $f=2.4\text{GHz}$)

BT estimated Body SAR = 0.327W/Kg (1g)

Simultaneous SAR

	Simultaneous transmission conditions				
	WWAN		WLAN		Sum of WWAN& WLAN
#	GSM	UMTS	802.11a/b/g/n	BT	
1	x		x		x
2		x	x		x
3	x			x	x
4		x		x	x

Note:

- When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the Wi-Fi transmitter and another WWAN transmitter. Both transmitter often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. The "Portable Hotspot" feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.
- The hotspot SAR result may overlap with the body-worn accessory SAR requirements, per KDB 941225 D06, the more conservative configurations can be considered, thus excluding some unnecessary body-worn accessory SAR tests.
- GSM supports voice and data transmission, though not simultaneously. WCDMA supports voice and data transmission simultaneously.
- Simultaneous Transmission SAR evaluation is not required for BT and WiFi, because the software mechanism have been incorporated to guarantee that the WLAN and Bluetooth transmitters would not simultaneously operate.

5. Per KDB 447498D01v05r01, Simultaneous Transmission SAR Evaluation procedures is as followed:
- Step 1: If sum of 1 g SAR < 1.6 W/kg, Simultaneous SAR measurement is not required.
- Step 2: If sum of 1 g SAR > 1.6 W/kg, ratio of SAR to peak separation distance for pair of transmitters calculated.
- Step 3: If the ratio of SAR to peak separation distance is ≤ 0.04 , Simultaneous SAR measurement is not required.
- Step 4: If the ratio of SAR to peak separation distance is > 0.04, Simultaneous SAR measurement is required and simultaneous transmission SAR value is calculated.
- (The ratio is determined by: $(SAR1 + SAR2)^{1.5}/R_i \leq 0.04$,
R_i is the separation distance between the peak SAR locations for the antenna pair in mm)

6. Applicable Multiple Scenario Evaluation

Test Position	Main Ant. SARMax (W/Kg)	Bluetooth SAR(W/Kg)	WiFi SARMax(W/Kg)	Σ1-g SARMax(W/Kg)	
				BT&Main Ant	WiFi&Main Ant
Head SAR	0.283	0.147	0.154	0.430	0.437
Body SAR	1.194	0.327	0.108	1.521	1.302

Simultaneous Transmission SAR evaluation is not required for WiFi and WCDMA&GSM, because the sum of 1g SARMax is **1.302W/Kg** < 1.6W/Kg for Wifi and LTE&WCDMA&GSM.

Simultaneous Transmission SAR evaluation is not required for BT and WCDMA&GSM, because the sum of 1g SARMax is **1.521W/Kg** < 1.6W/Kg for BT and LTE&WCDMA&GSM.

(According to KDB 447498D01v05r01, the sum of the Highest reported SAR of each antenna does not exceed the limit, simultaneous transmission SAR evaluation is not required.)

ANNEX A GRAPH TEST RESULTS

BAND	PARAMETERS
<u>GSM850</u>	<u>Measurement 1:</u> Right Head with Cheek device position on High Channel in GSM mode <u>Measurement 2:</u> Right Head with Tilt device position on High Channel in GSM mode <u>Measurement 3:</u> Left Head with Cheek device position on High Channel in GSM mode <u>Measurement 4:</u> Left Head with Tilt device position on High Channel in GSM mode <u>Measurement 5:</u> Flat Plane with Body device position on High Channel in GSM mode <u>Measurement 6:</u> Flat Plane with Body device position on High Channel in GSM mode <u>Measurement 7:</u> Flat Plane with Body device position on Low Channel in GPRS mode <u>Measurement 8:</u> Flat Plane with Body device position on Middle Channel in GPRS mode <u>Measurement 9:</u> Flat Plane with Body device position on High Channel in GPRS mode <u>Measurement 10:</u> Flat Plane with Body device position on Middle Channel in GPRS mode <u>Measurement 11:</u> Flat Plane with Body device position on Middle Channel in GPRS mode <u>Measurement 12:</u> Flat Plane with Body device position on Middle Channel in GPRS mode <u>Measurement 13:</u> Flat Plane with Body device position on Middle Channel in GPRS mode <u>Measurement 14:</u> Flat Plane with Body device position on High Channel in EDGE mode
	<u>Measurement 15:</u> Right Head with Cheek device position on Low Channel in GSM mode <u>Measurement 16:</u> Right Head with Tilt device position on Low Channel in GSM mode <u>Measurement 17:</u> Left Head with Cheek device position on Low Channel in GSM mode <u>Measurement 18:</u> Left Head with Tilt device position on Low Channel in GSM mode <u>Measurement 19:</u> Flat Plane with Body device position Low Channel in GSM mode

<u>GSM1900</u>	<u>Measurement 20:</u> Flat Plane with Body device position on Low Channel in GSM mode <u>Measurement 21:</u> Flat Plane with Body device position on Middle Channel in EGPRS mode <u>Measurement 22:</u> Flat Plane with Body device position on Middle Channel in EGPRS mode <u>Measurement 23:</u> Flat Plane with Body device position on Middle Channel in EGPRS mode <u>Measurement 24:</u> Flat Plane with Body device position on Middle Channel in EGPRS mode <u>Measurement 25:</u> Flat Plane with Body device position on Middle Channel in EGPRS mode <u>Measurement 26:</u> Flat Plane with Body device position on Middle Channel in GPRS mode
<u>WCDMA 850</u>	<u>Measurement 27:</u> Right Head with Cheek device position on Middle Channel in WCDMA mode <u>Measurement 28:</u> Right Head with Tilt device position on Middle Channel in WCDMA mode <u>Measurement 29:</u> Left Head with Cheek device position on Middle Channel in WCDMA mode <u>Measurement 30:</u> Left Head with Tilt device position on Middle Channel in WCDMA mode <u>Measurement 31:</u> Flat Plane with Body device position on Middle Channel in WCDMA mode <u>Measurement 32:</u> Flat Plane with Body device position on Middle Channel in WCDMA mode <u>Measurement 33:</u> Flat Plane with Body device position on Middle Channel in WCDMA mode <u>Measurement 34:</u> Flat Plane with Body device position on Middle Channel in WCDMA mode <u>Measurement 35:</u> Flat Plane with Body device position on Middle Channel in WCDMA mode
<u>WCDMA 1900</u>	<u>Measurement 36:</u> Right Head with Cheek device position on Low Channel in WCDMA mode <u>Measurement 37:</u> Right Head with Tilt device position on Low Channel in WCDMA mode <u>Measurement 38:</u> Left Head with Cheek device position on Low Channel in WCDMA mode <u>Measurement 39:</u> Left Head with Tilt device position on Low Channel in WCDMA mode

	<u>Measurement 40:</u> Flat Plane with Body device position on Low Channel in WCDMA mode <u>Measurement 41:</u> Flat Plane with Body device position on Low Channel in WCDMA mode <u>Measurement 42:</u> Flat Plane with Body device position on Low Channel in WCDMA mode <u>Measurement 43:</u> Flat Plane with Body device position on Low Channel in WCDMA mode <u>Measurement 44:</u> Flat Plane with Body device position on Low Channel in WCDMA mode
<u>802.11b</u> <u>(2450)</u>	<u>Measurement 45:</u> Right Head with Cheek device position on High Channel in DSSS mode <u>Measurement 46:</u> Right Head with Tilt device position on High Channel in DSSS mode <u>Measurement 47:</u> Left Head with Cheek device position on High Channel in DSSS mode <u>Measurement 48:</u> Left Head with Tilt device position on High Channel in DSSS mode <u>Measurement 49:</u> Flat Plane with Body device position on High Channel in DSSS mode <u>Measurement 50:</u> Flat Plane with Body device position on High Channel in DSSS mode <u>Measurement 51:</u> Flat Plane with Body device position on High Channel in DSSS mode <u>Measurement 52:</u> Flat Plane with Body device position on High Channel in DSSS mode.
<u>Bluetooth</u>	<u>Measurement 53:</u> Right Head with Cheek device position on Low Channel in 8-DPSK mode <u>Measurement 54:</u> Right Head with Tilt device position on Low Channel in 8-DPSK mode <u>Measurement 55:</u> Left Head with Cheek device position on Low Channel in 8-DPSK mode <u>Measurement 56:</u> Left Head with Tilt device position on Low Channel in 8-DPSK mode

MEASUREMENT 1

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.19

Measurement duration: 8 minutes 35 seconds

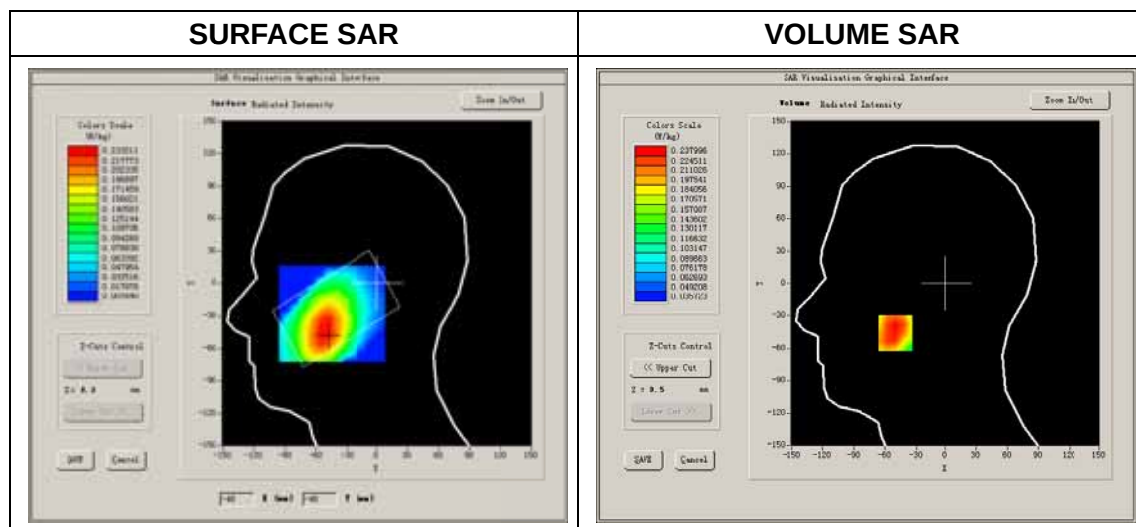
A. Experimental conditions.

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

B. SAR Measurement Results

High Band SAR (Channel 251):

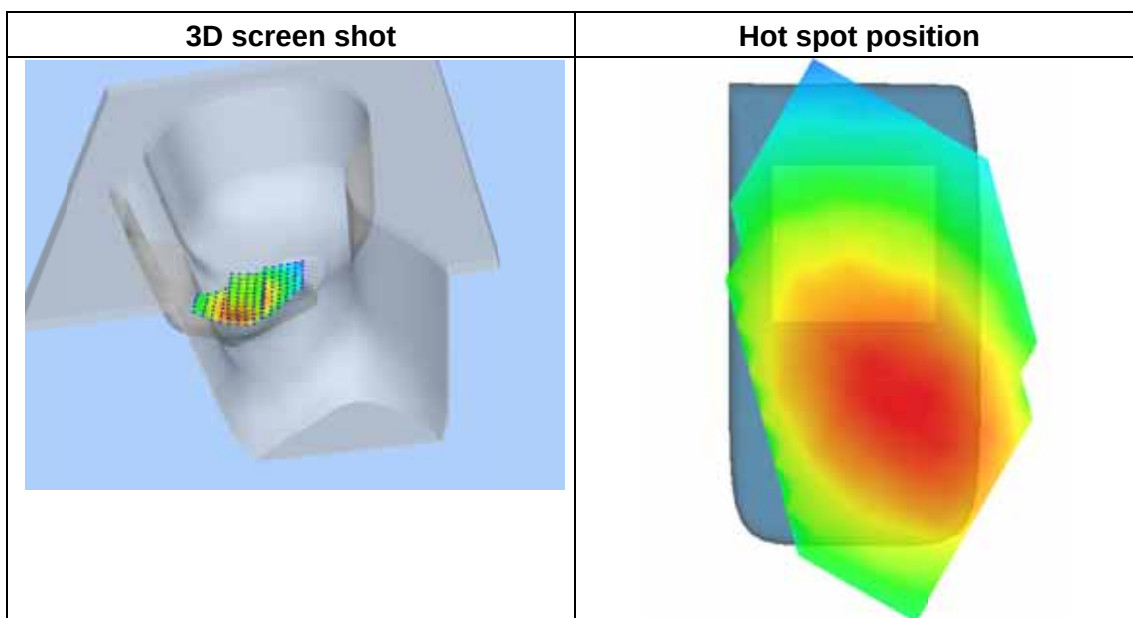
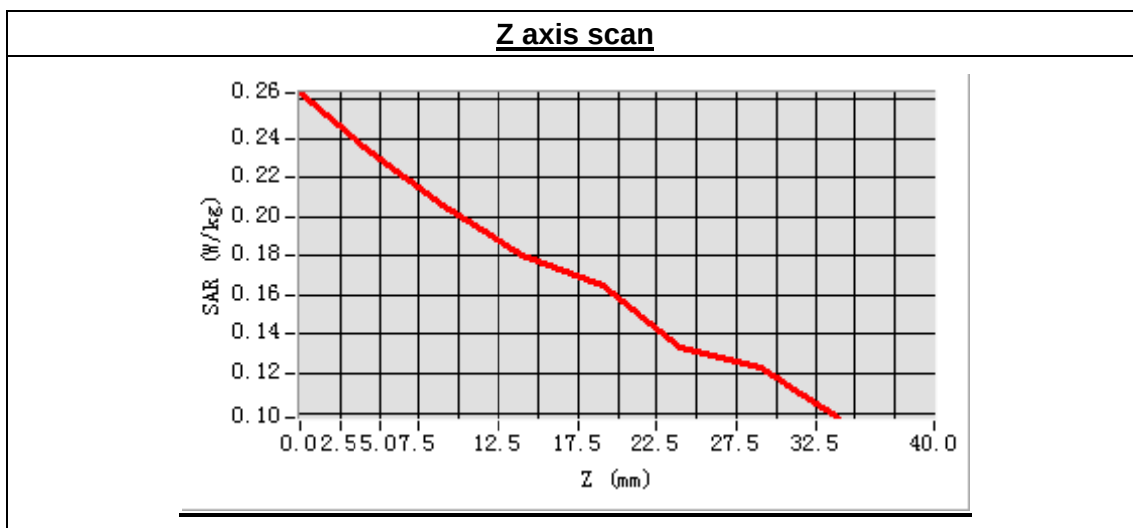
Frequency (MHz)	848.800000
Relative permittivity (real part)	41.442835
Conductivity (S/m)	0.886729
Power drift (%)	-1.640000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.73
Crest factor:	1:8



Maximum location: X=-50.00, Y=-46.00

SAR Peak: 0.29 W/kg

SAR 10g (W/Kg)	0.191438
SAR 1g (W/Kg)	0.234838



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: 2014.5.19

Measurement duration: 8 minutes 9 seconds

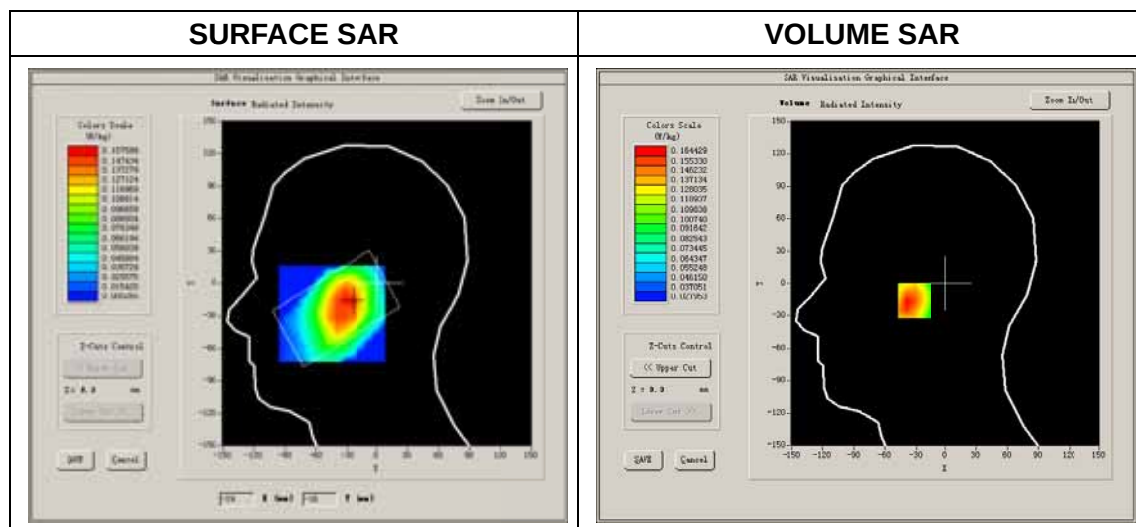
A. Experimental conditions.

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

B. SAR Measurement Results

High Band SAR (Channel 251):

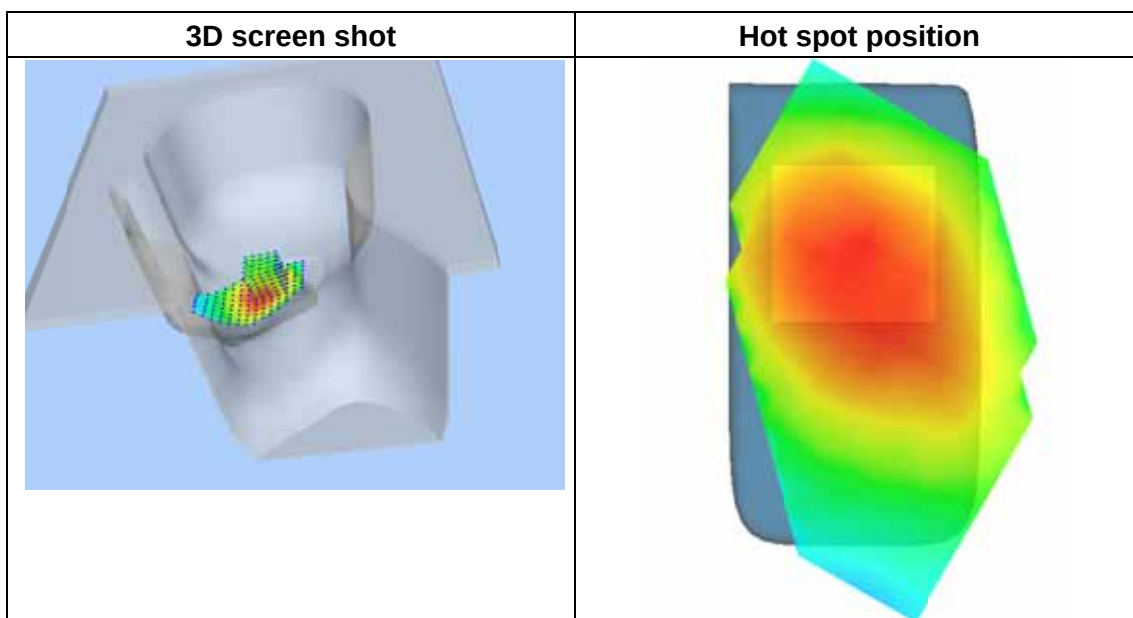
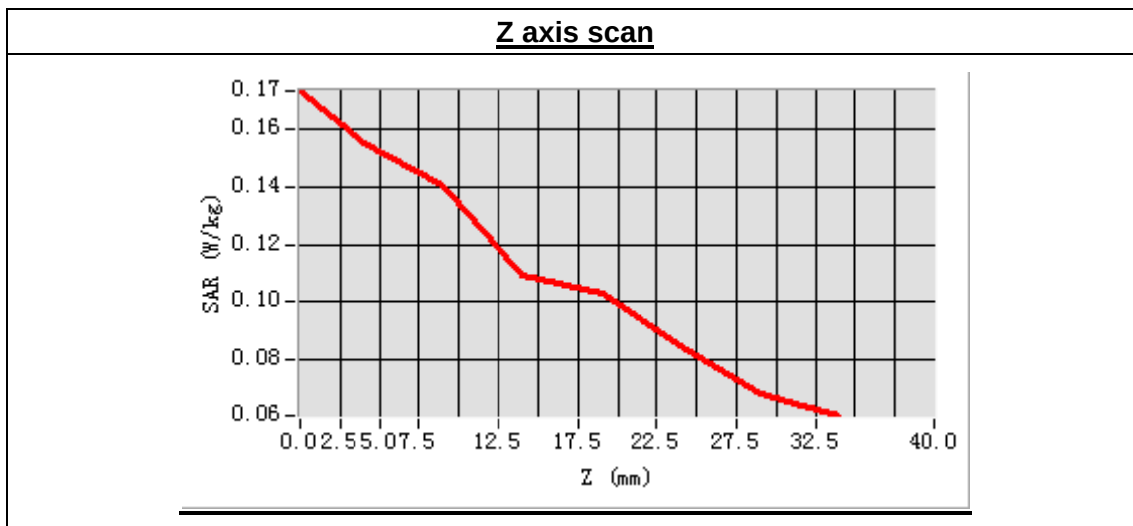
Frequency (MHz)	848.800000
Relative permittivity (real part)	41.442835
Conductivity (S/m)	0.886729
Power drift(%)	4.130000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.73
Crest factor:	1:8



Maximum location: X=-25.00, Y=-16.00

SAR Peak: 0.21 W/kg

SAR 10g (W/Kg)	0.125759
SAR 1g (W/Kg)	0.162369



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: 2014.5.19

Measurement duration: 8 minutes 55 seconds

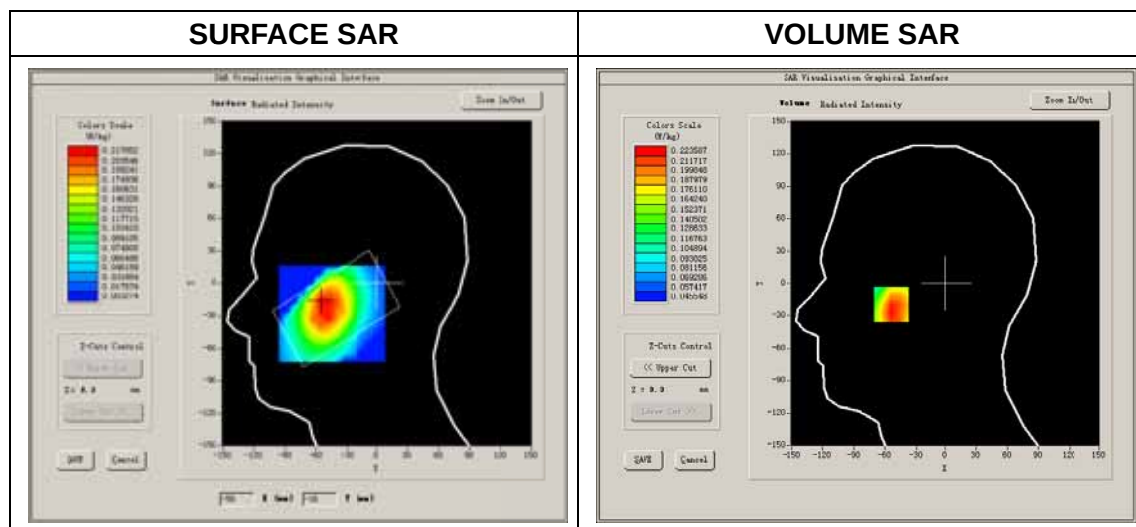
A. Experimental conditions.

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

B. SAR Measurement Results

High Band SAR (Channel 251):

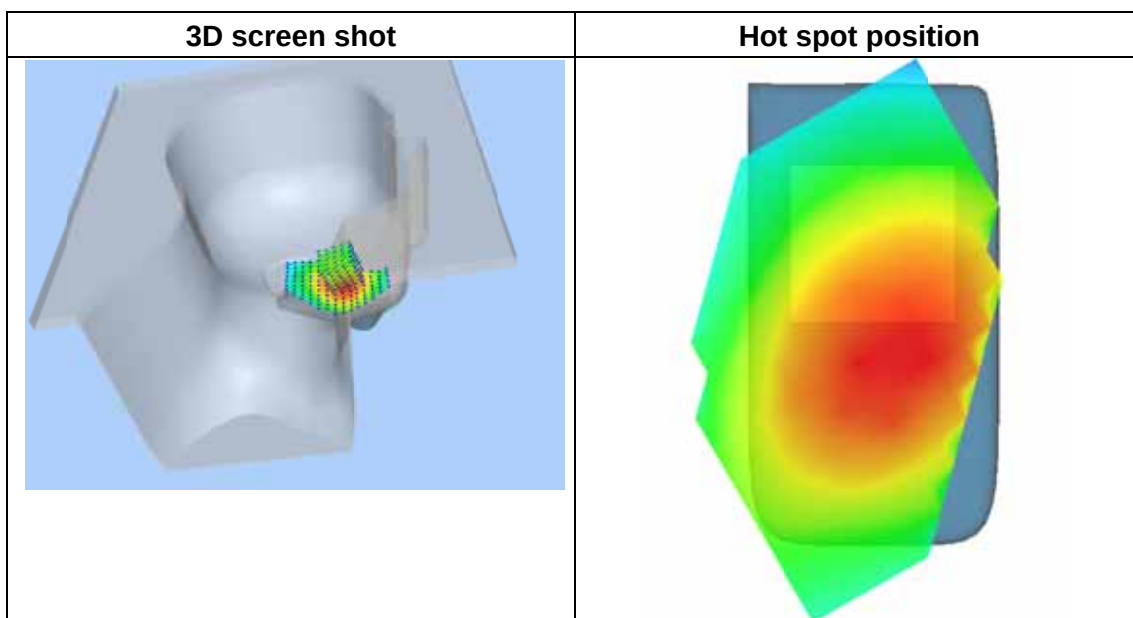
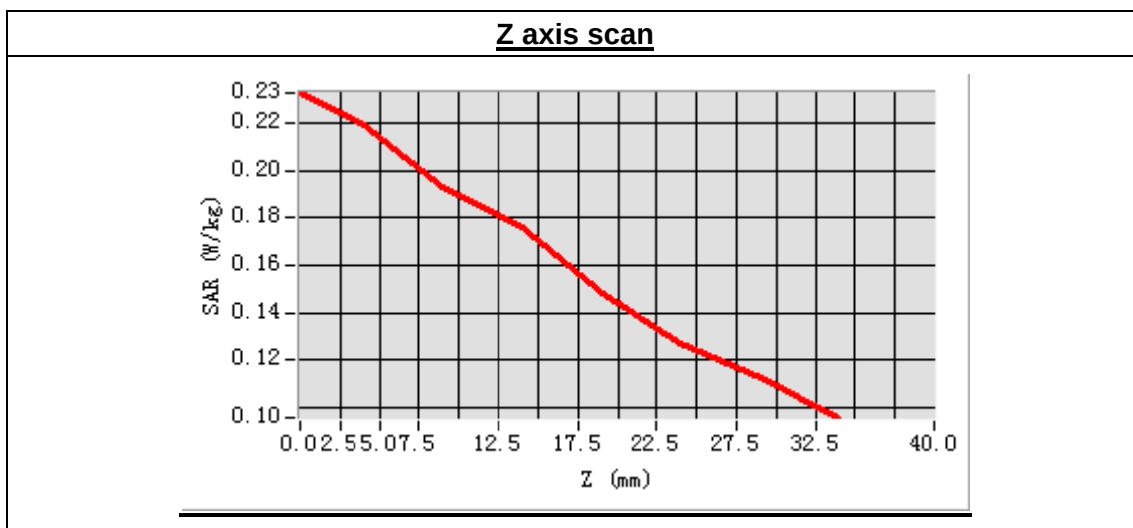
Frequency (MHz)	848.800000
Relative permittivity (real part)	41.442835
Conductivity (S/m)	0.886729
Power drift (%)	0.970000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.73
Crest factor:	1:8



Maximum location: X=-54.00, Y=-18.00

SAR Peak: 0.26 W/kg

SAR 10g (W/Kg)	0.177211
SAR 1g (W/Kg)	0.218857



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: 2014.5.19

Measurement duration: 8 minutes 10 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

High Band SAR (Channel 251):

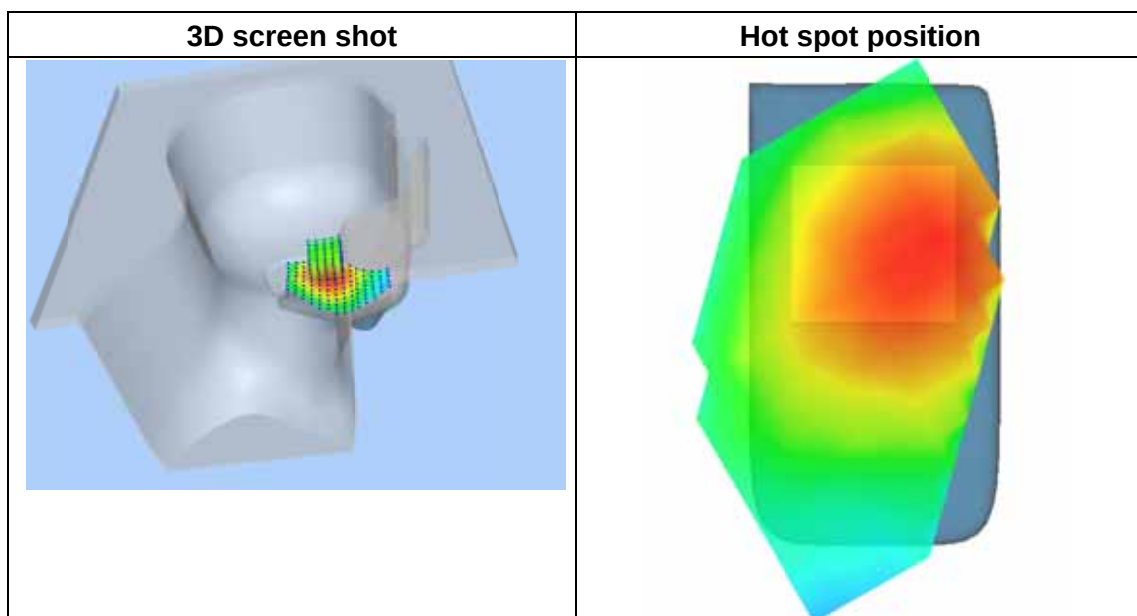
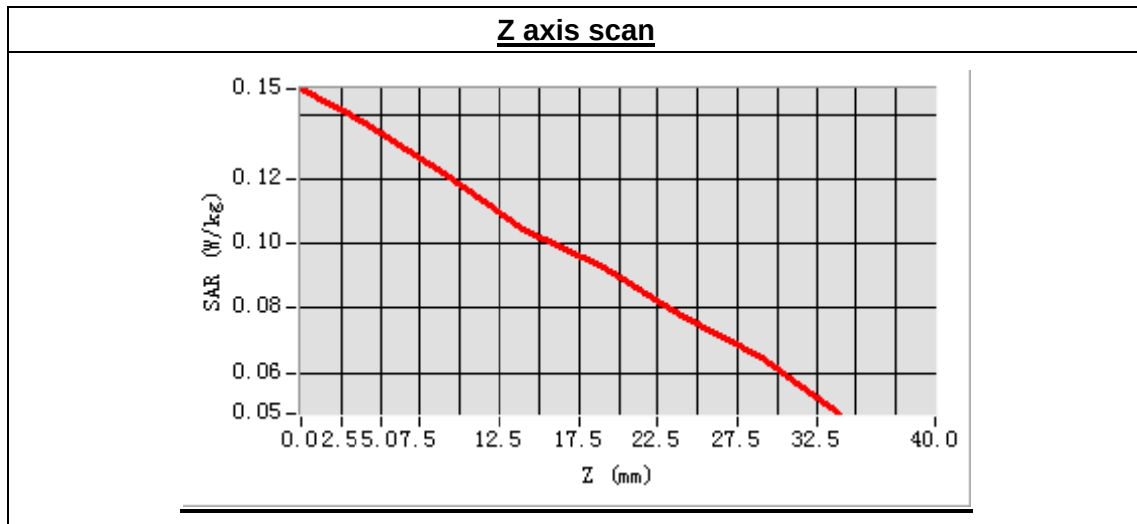
Frequency (MHz)	848.800000
Relative permittivity (real part)	41.442835
Conductivity (S/m)	0.886729
Power drift(%)	-4.160000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.73
Crest factor:	1:8



Maximum location: X=-32.00, Y=-1.00

SAR Peak: 0.17 W/kg

SAR 10g (W/Kg)	0.112864
SAR 1g (W/Kg)	0.139282



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: 2014.5.19

Measurement duration: 9 minutes 37 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	High
Signal	GSM

B. SAR Measurement Results

High Band SAR (Channel 251):

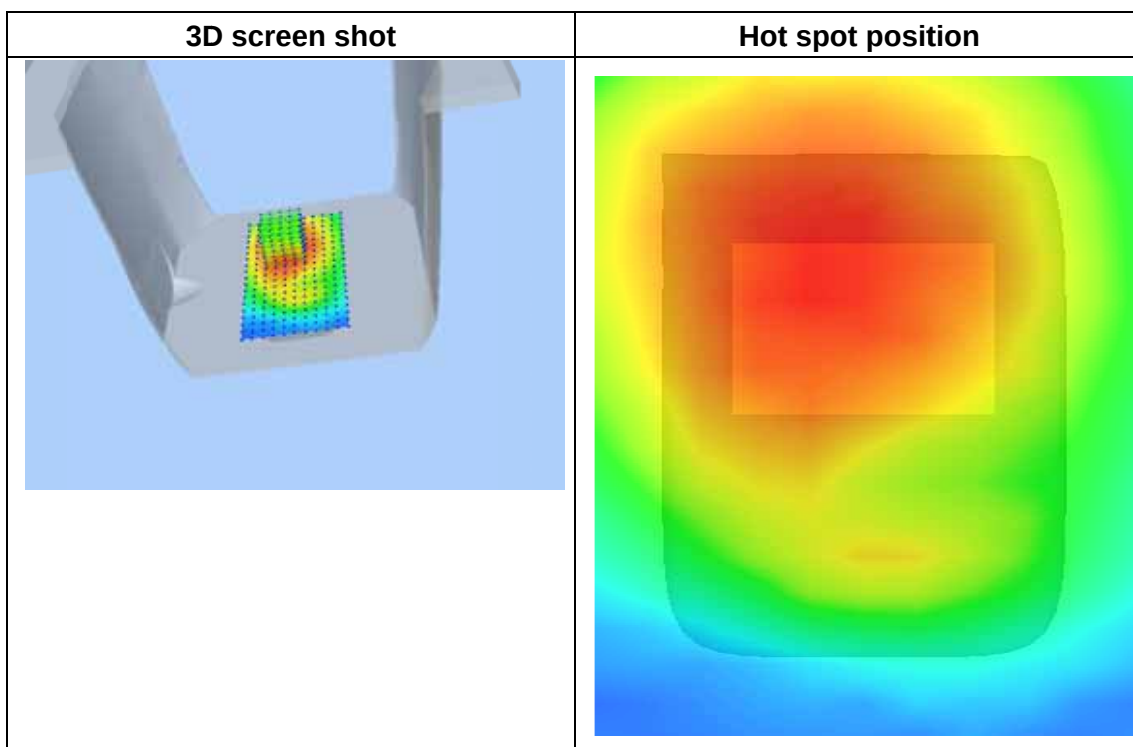
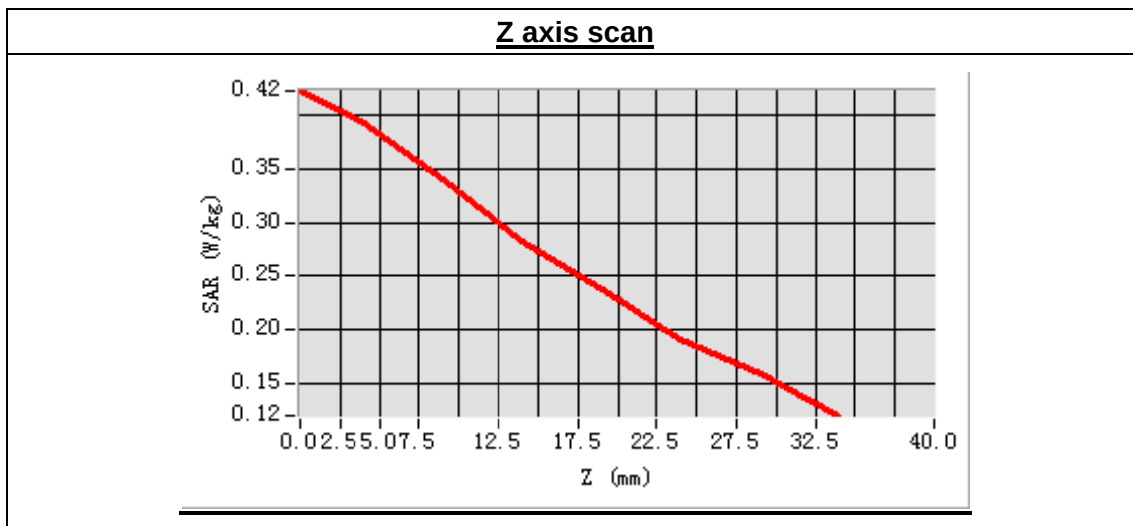
Frequency (MHz)	848.800000
Relative permittivity (real part)	55.124386
Conductivity (S/m)	0.976854
Power drift (%)	-1.590000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:8



Maximum location: X=-7.00, Y=27.00

SAR Peak: 0.53 W/kg

SAR 10g (W/Kg)	0.333096
SAR 1g (W/Kg)	0.418745



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: 2014.5.19

Measurement duration: 9 minutes 39 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	High
Signal	GSM

B. SAR Measurement Results

High Band SAR (Channel 251):

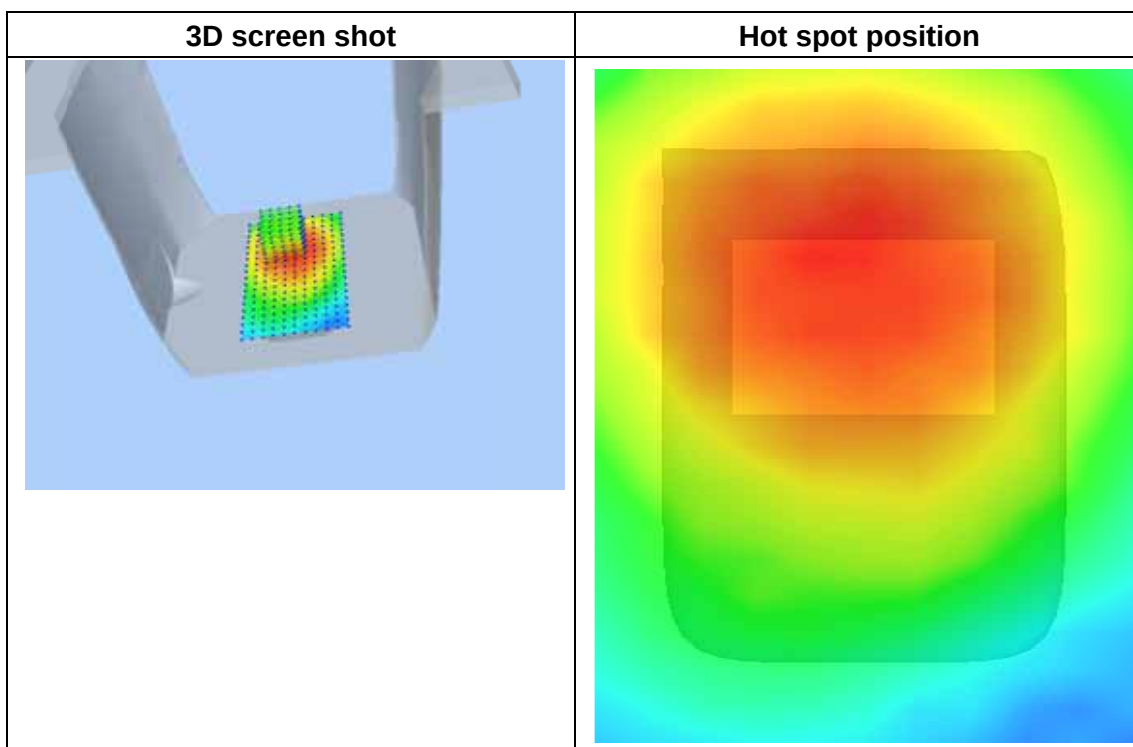
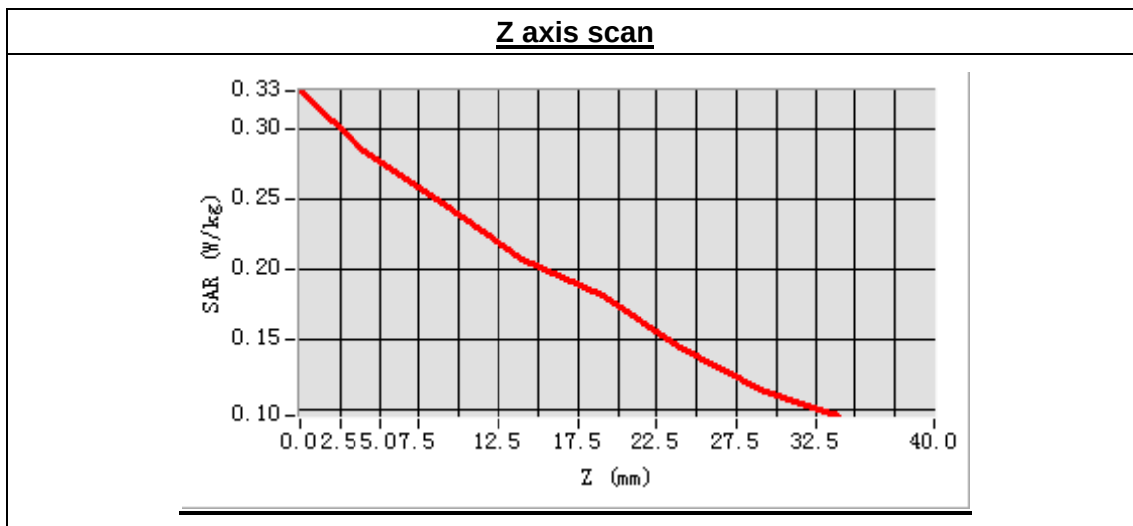
Frequency (MHz)	848.800000
Relative permittivity (real part)	55.124386
Conductivity (S/m)	0.976854
Power drift(%)	-0.780000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:8



Maximum location: X=-7.00, Y=32.00

SAR Peak: 0.40 W/kg

SAR 10g (W/Kg)	0.251709
SAR 1g (W/Kg)	0.313081



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: 2014.5.19

Measurement duration: 9 minutes 27 seconds

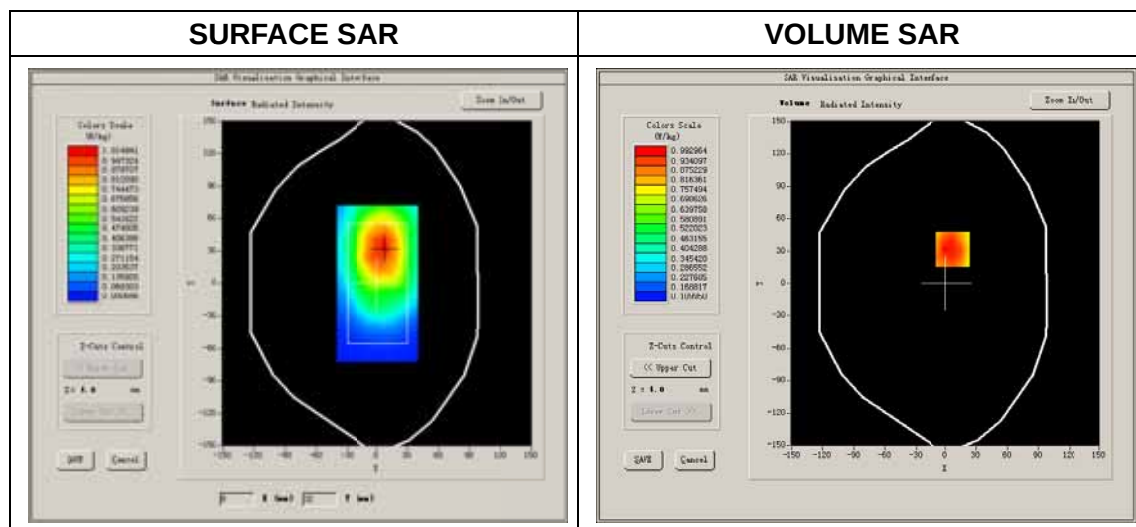
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	Low
Signal	GPRS

B. SAR Measurement Results

Low Band SAR (Channel 128):

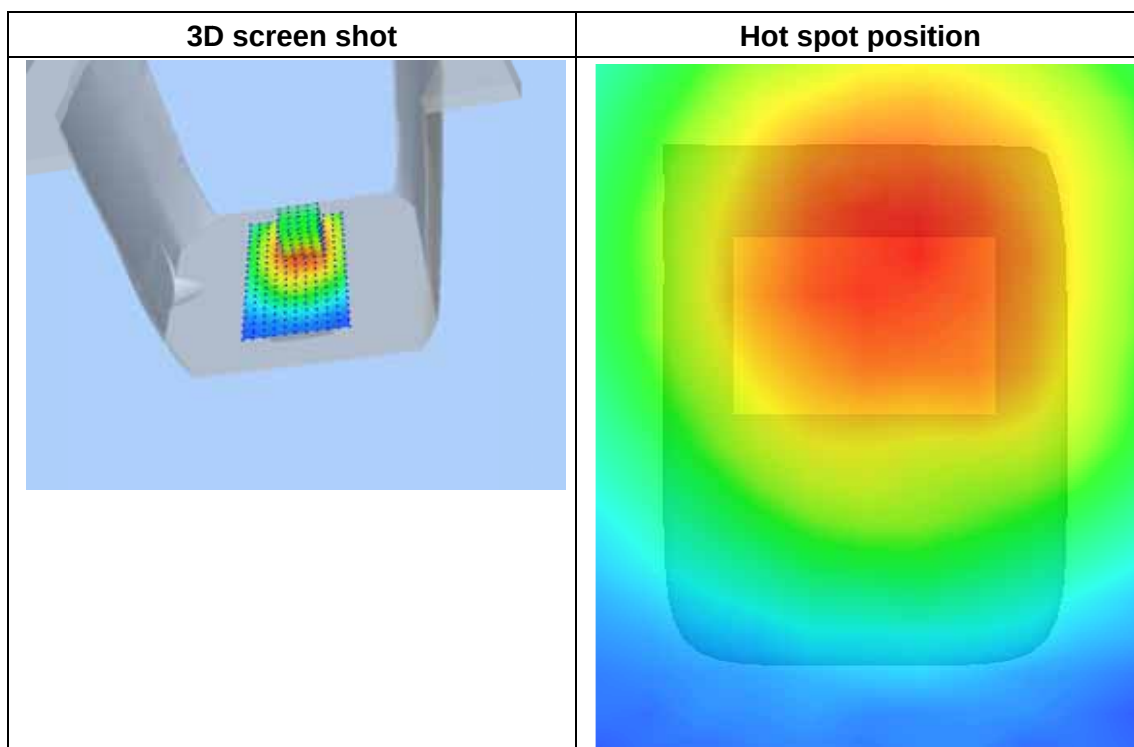
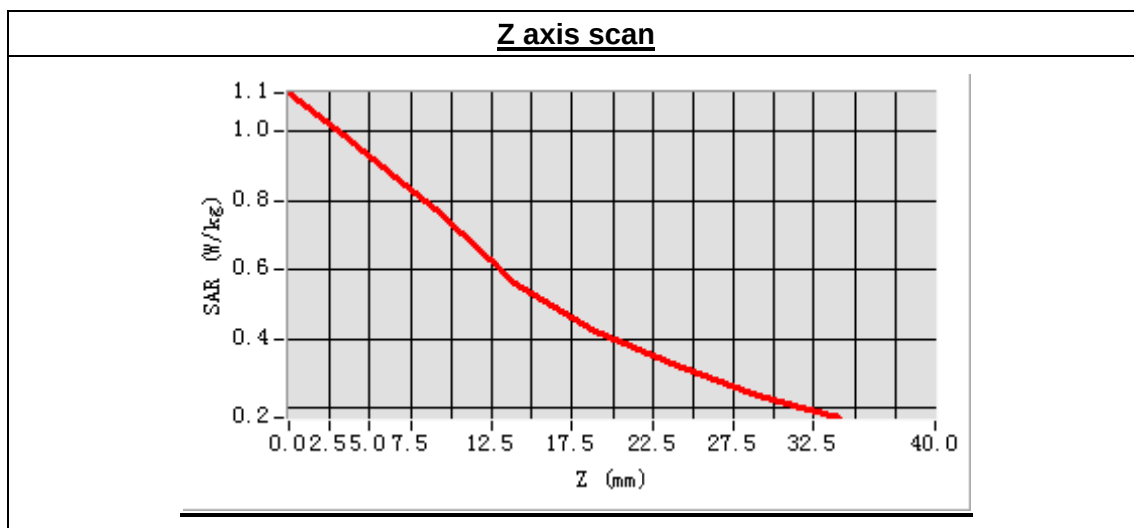
Frequency (MHz)	824.200000
Relative permittivity (real part)	55.124386
Conductivity (S/m)	0.976854
Power drift(%)	-2.890000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:2



Maximum location: X=7.00, Y=32.00

SAR Peak: 1.33 W/kg

SAR 10g (W/Kg)	0.690490
SAR 1g (W/Kg)	0.978554



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: 2014.5.19

Measurement duration: 9 minutes 28 seconds

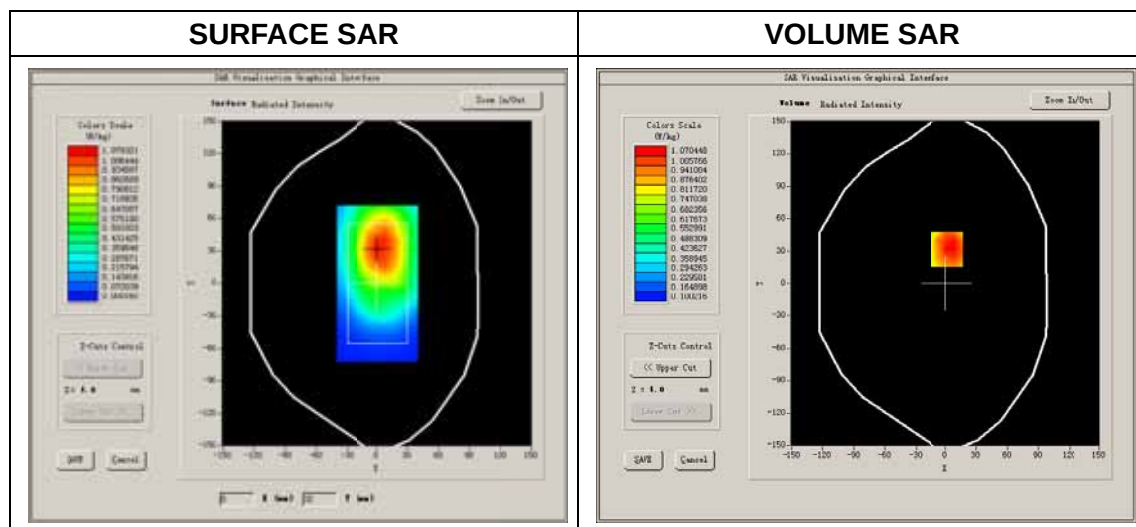
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	GPRS

B. SAR Measurement Results

Middle Band SAR (Channel 190):

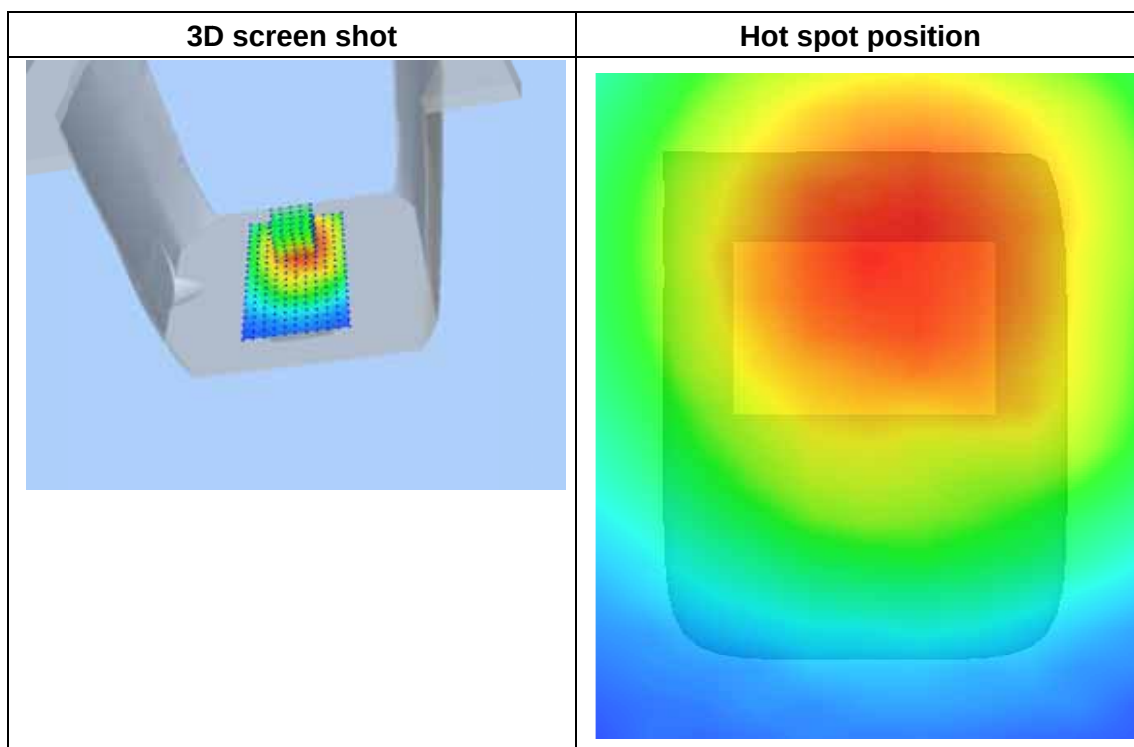
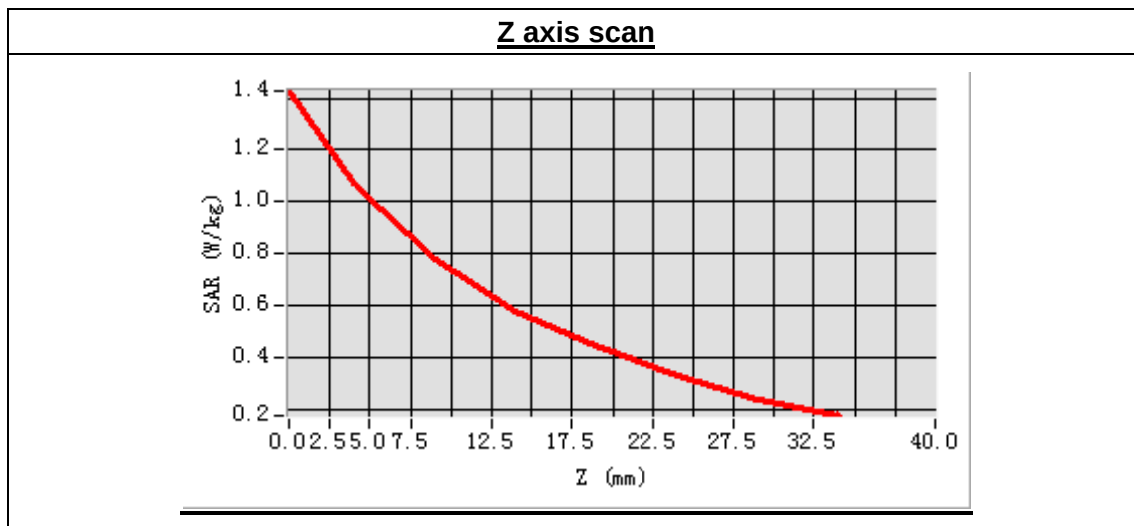
Frequency (MHz)	836.600000
Relative permittivity (real part)	55.124386
Conductivity (S/m)	0.976854
Power drift(%)	-4.550000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:2



Maximum location: X=1.00, Y=32.00

SAR Peak: 1.43 W/kg

SAR 10g (W/Kg)	0.738212
SAR 1g (W/Kg)	1.063175



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: 2014.5.19

Measurement duration: 9 minutes 27 seconds

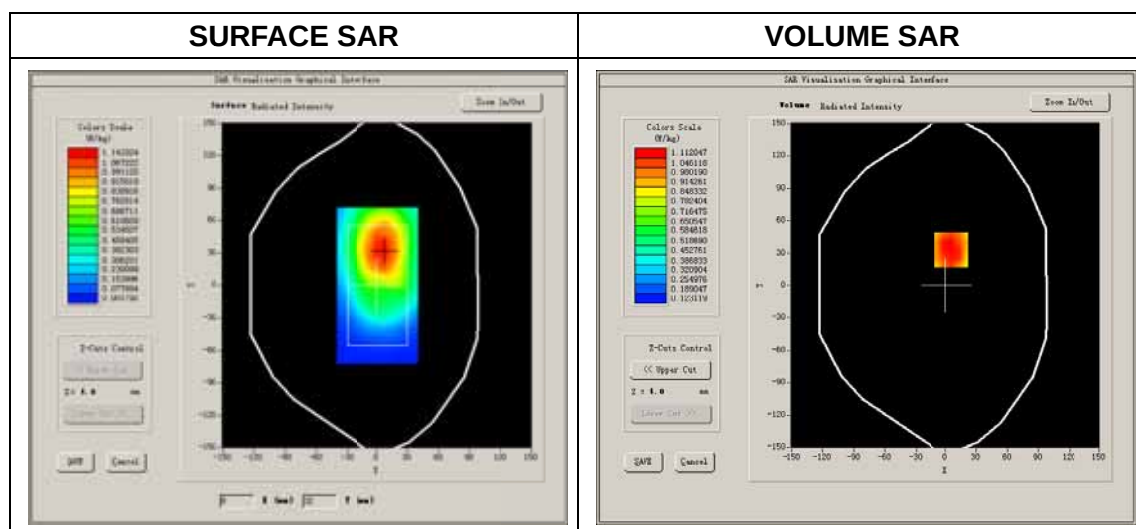
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	High
Signal	GPRS

B. SAR Measurement Results

High Band SAR (Channel 251):

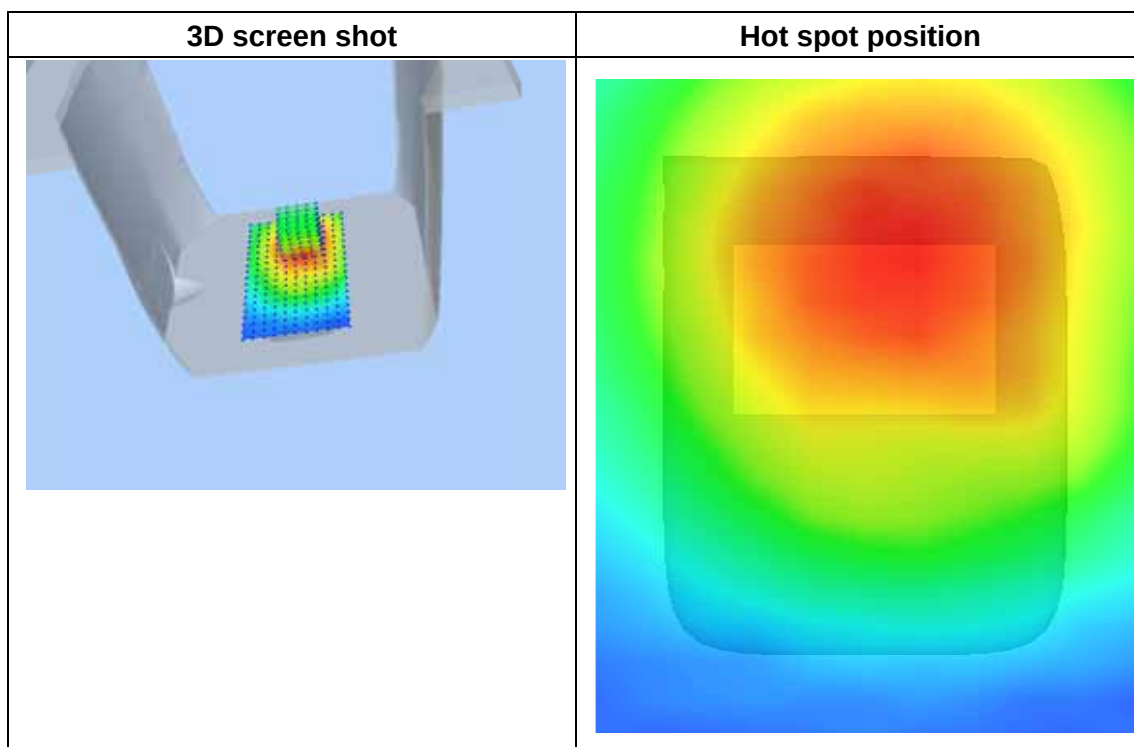
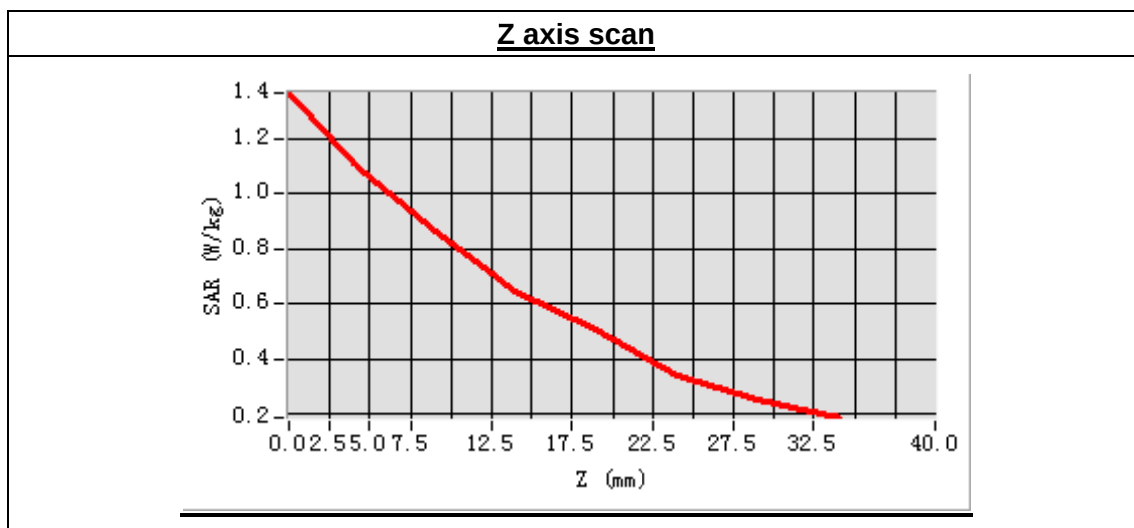
Frequency (MHz)	848.800000
Relative permittivity (real part)	55.124386
Conductivity (S/m)	0.976854
Power drift(%)	-0.940000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:2



Maximum location: X=6.00, Y=33.00

SAR Peak: 1.49 W/kg

SAR 10g (W/Kg)	0.779765
SAR 1g (W/Kg)	1.114384



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: 2014.5.19

Measurement duration: 9 minutes 27 seconds

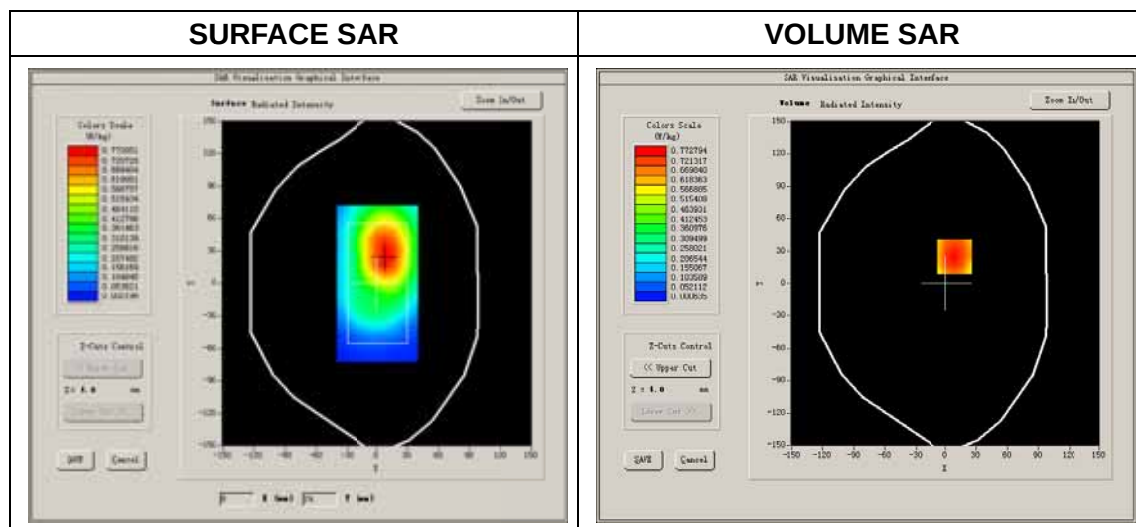
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	GPRS

B. SAR Measurement Results

Middle Band SAR (Channel 190):

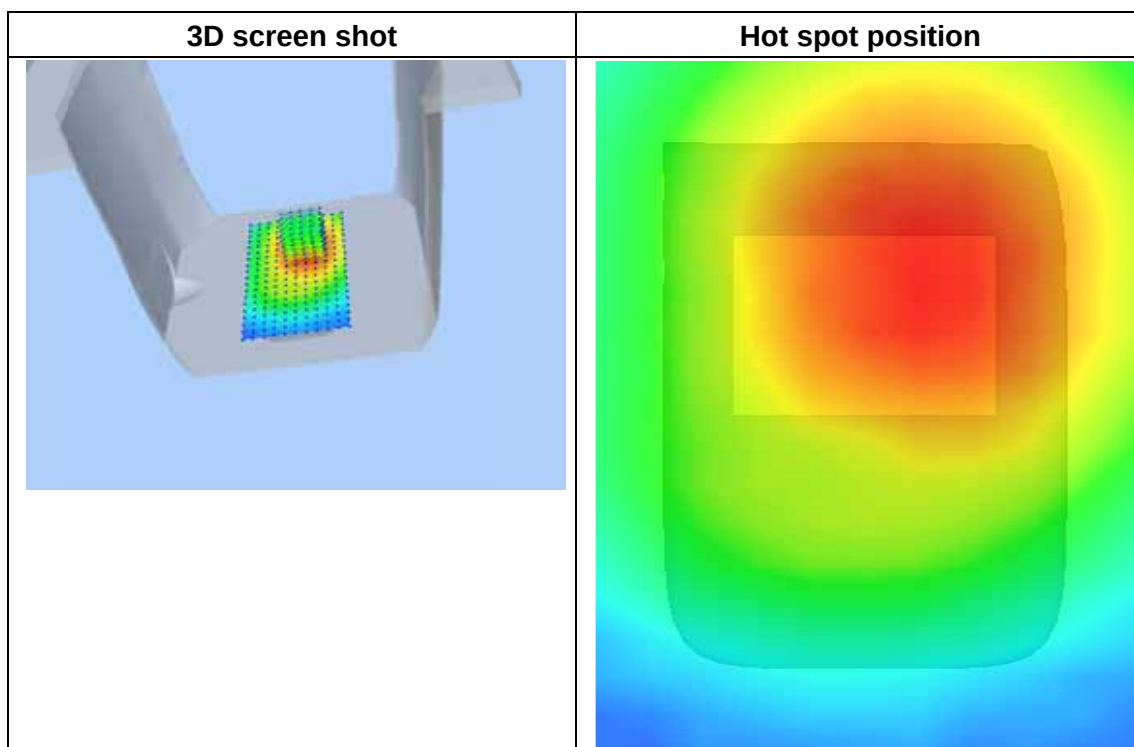
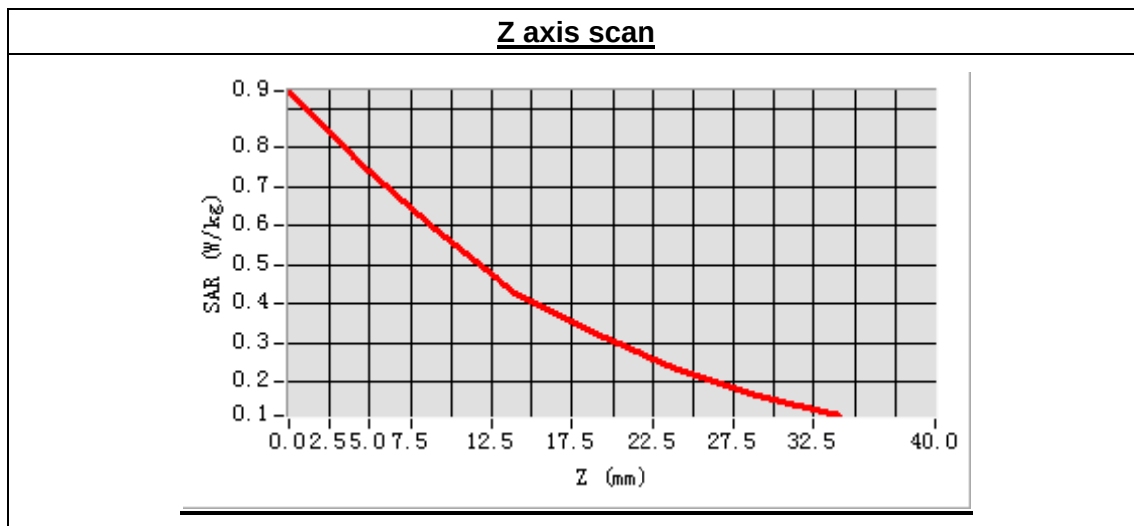
Frequency (MHz)	836.600000
Relative permittivity (real part)	55.124386
Conductivity (S/m)	0.976854
Power drift(%)	1.650000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:2



Maximum location: X=9.00, Y=25.00

SAR Peak: 0.98 W/kg

SAR 10g (W/Kg)	0.528025
SAR 1g (W/Kg)	0.751633



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: 2014.5.19

Measurement duration: 9 minutes 28 seconds

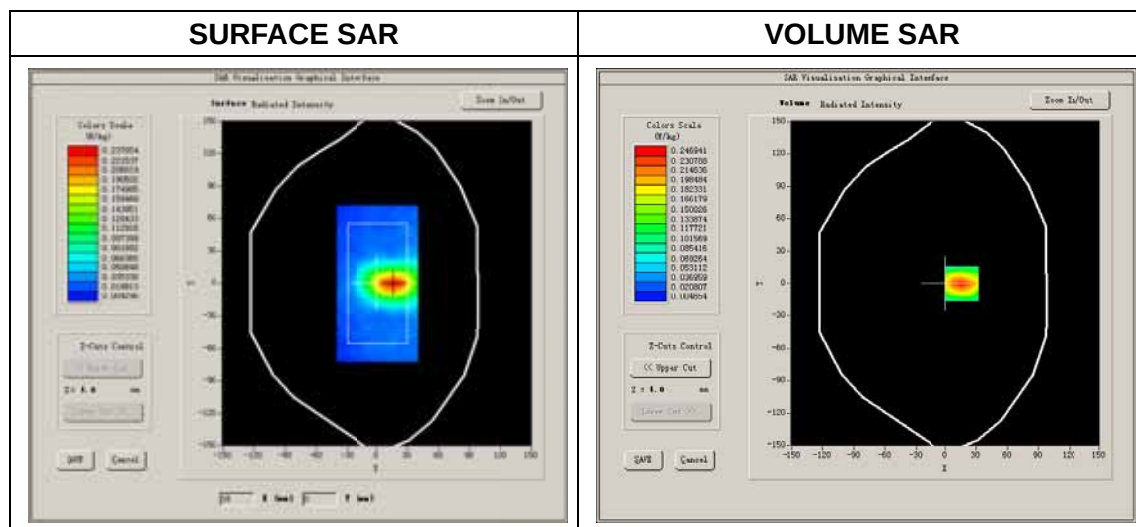
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	GPRS

B. SAR Measurement Results

Middle Band SAR (Channel 190):

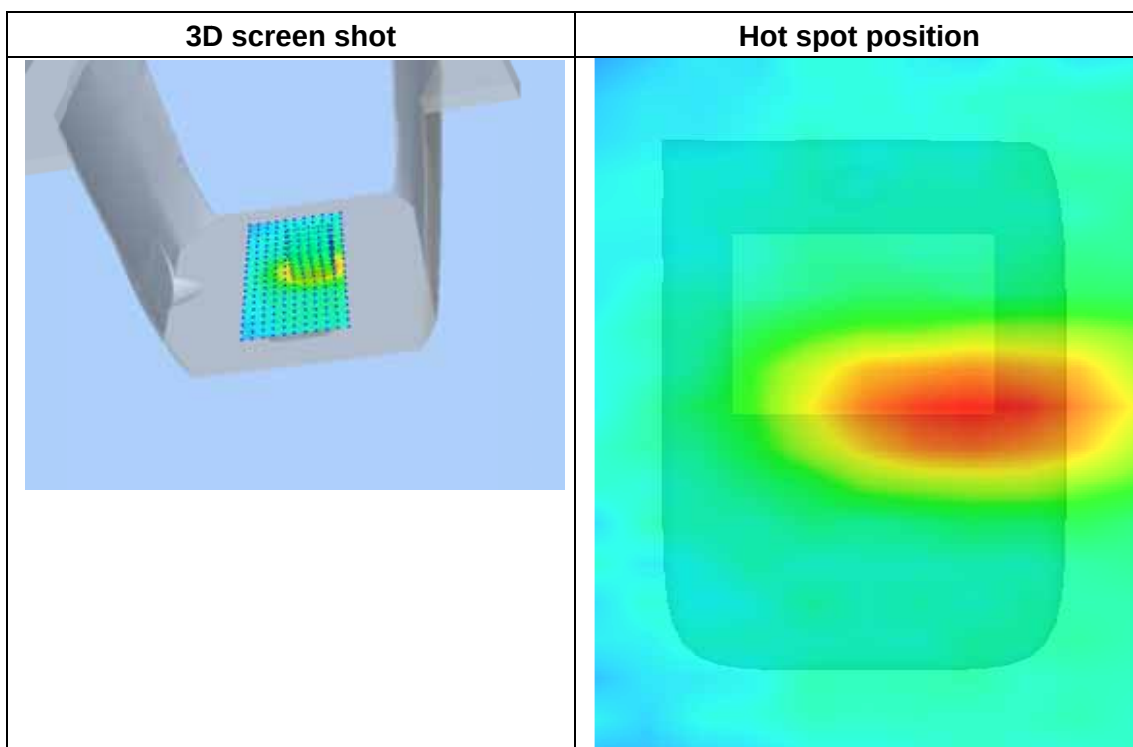
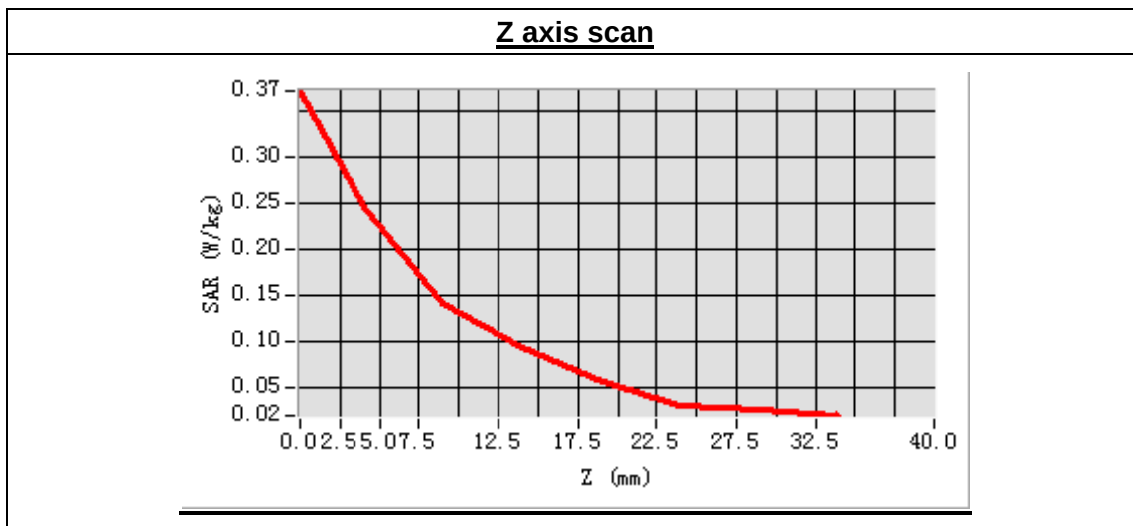
Frequency (MHz)	836.600000
Relative permittivity (real part)	55.124386
Conductivity (S/m)	0.976854
Power drift(%)	2.540000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:2



Maximum location: X=16.00, Y=0.00

SAR Peak: 0.37 W/kg

SAR 10g (W/Kg)	0.126262
SAR 1g (W/Kg)	0.232390



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: 2014.5.19

Measurement duration: 9 minutes 26 seconds

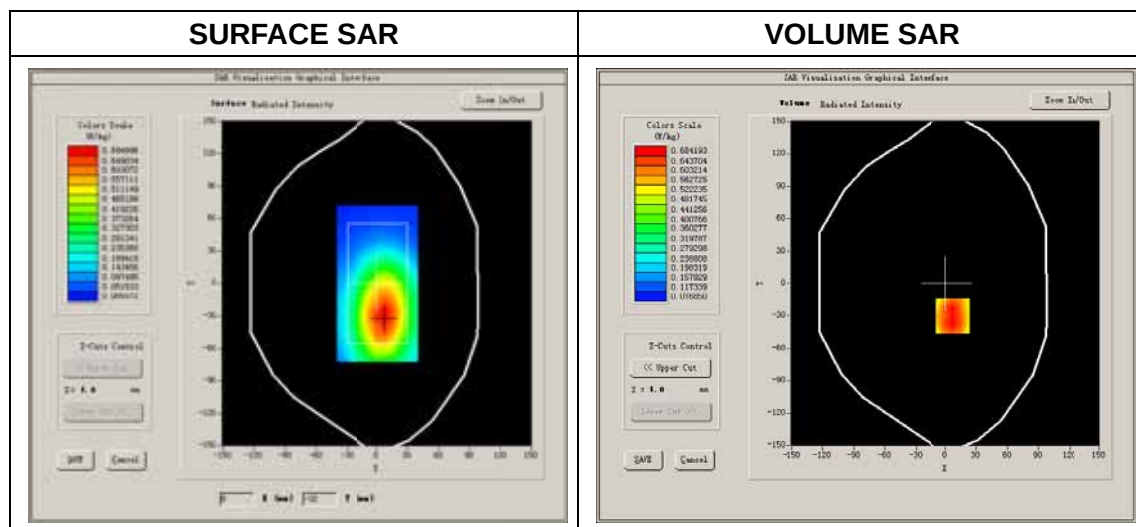
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	GPRS

B. SAR Measurement Results

Middle Band SAR (Channel 190):

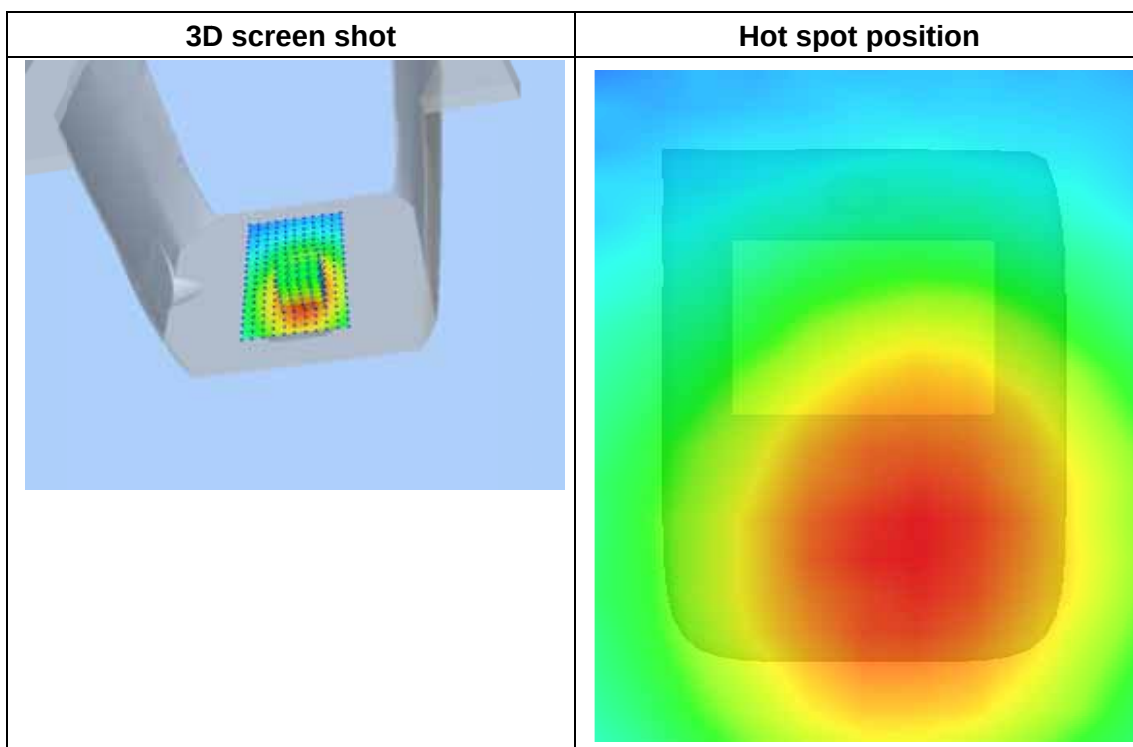
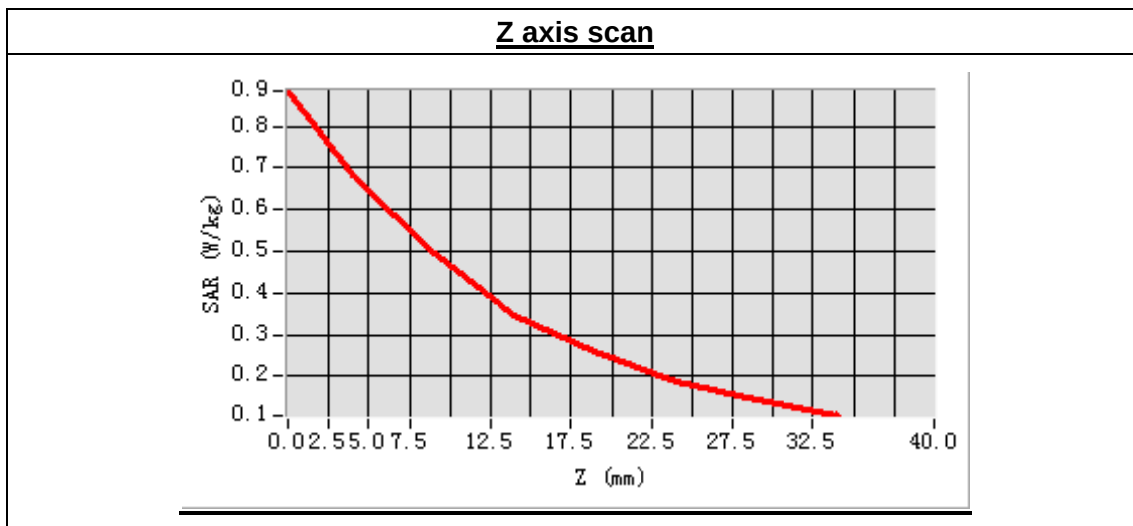
Frequency (MHz)	836.600000
Relative permittivity (real part)	55.124386
Conductivity (S/m)	0.976854
Power drift(%)	1.470000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:2



Maximum location: X=7.00, Y=-30.00

SAR Peak: 0.93 W/kg

SAR 10g (W/Kg)	0.452873
SAR 1g (W/Kg)	0.671417



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: 2014.5.19

Measurement duration: 9 minutes 31 seconds

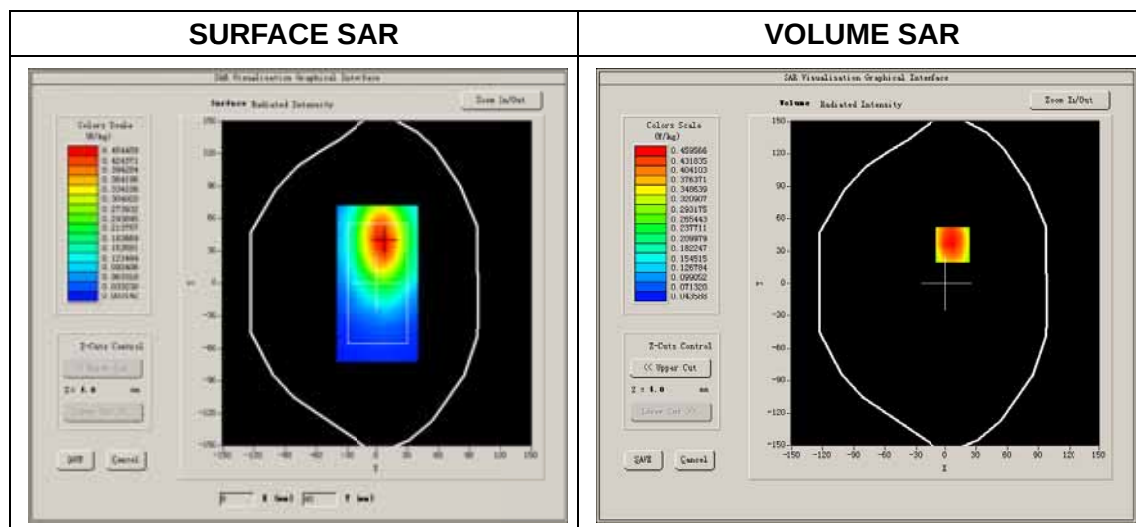
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	GPRS

B. SAR Measurement Results

Middle Band SAR (Channel 190):

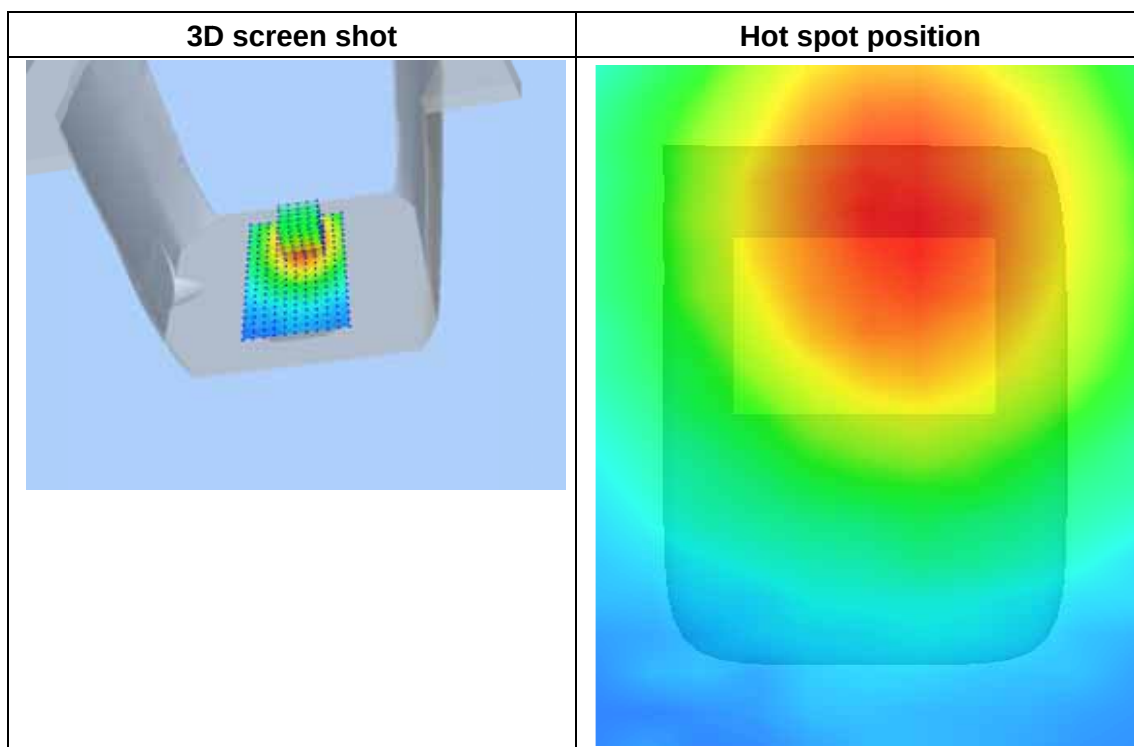
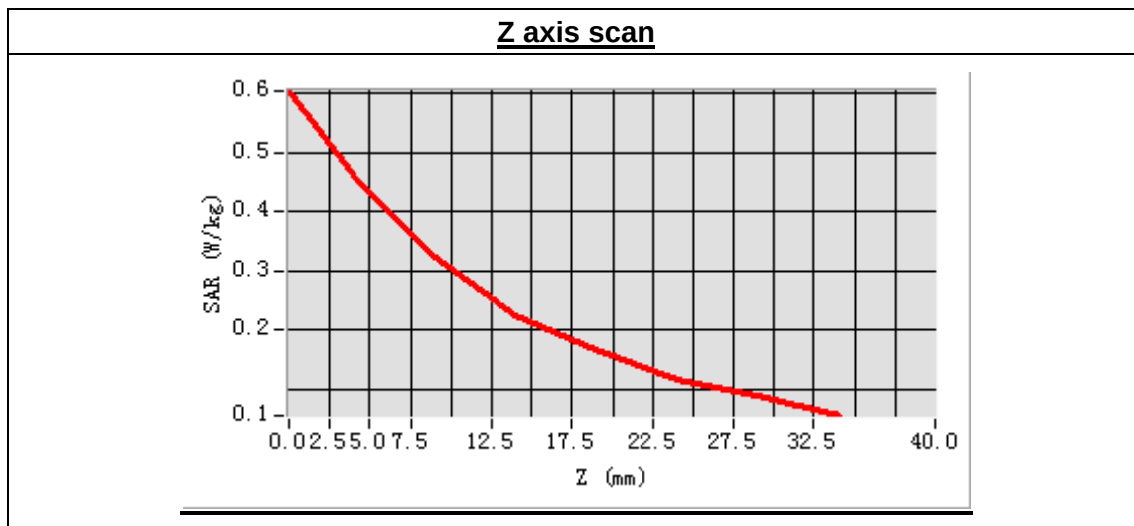
Frequency (MHz)	836.600000
Relative permittivity (real part)	55.124386
Conductivity (S/m)	0.976854
Power drift(%)	2.340000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:2



Maximum location: X=7.00, Y=36.00

SAR Peak: 0.64 W/kg

SAR 10g (W/Kg)	0.298478
SAR 1g (W/Kg)	0.451491



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: 2014.5.19

Measurement duration: 9 minutes 28 seconds

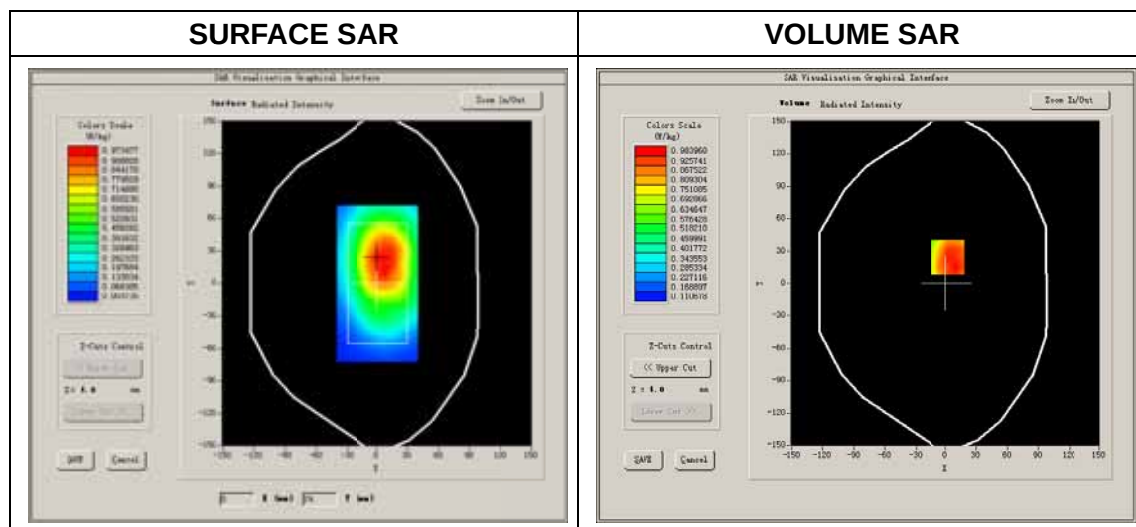
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	High
Signal	EGPRS

B. SAR Measurement Results

High Band SAR (Channel 251):

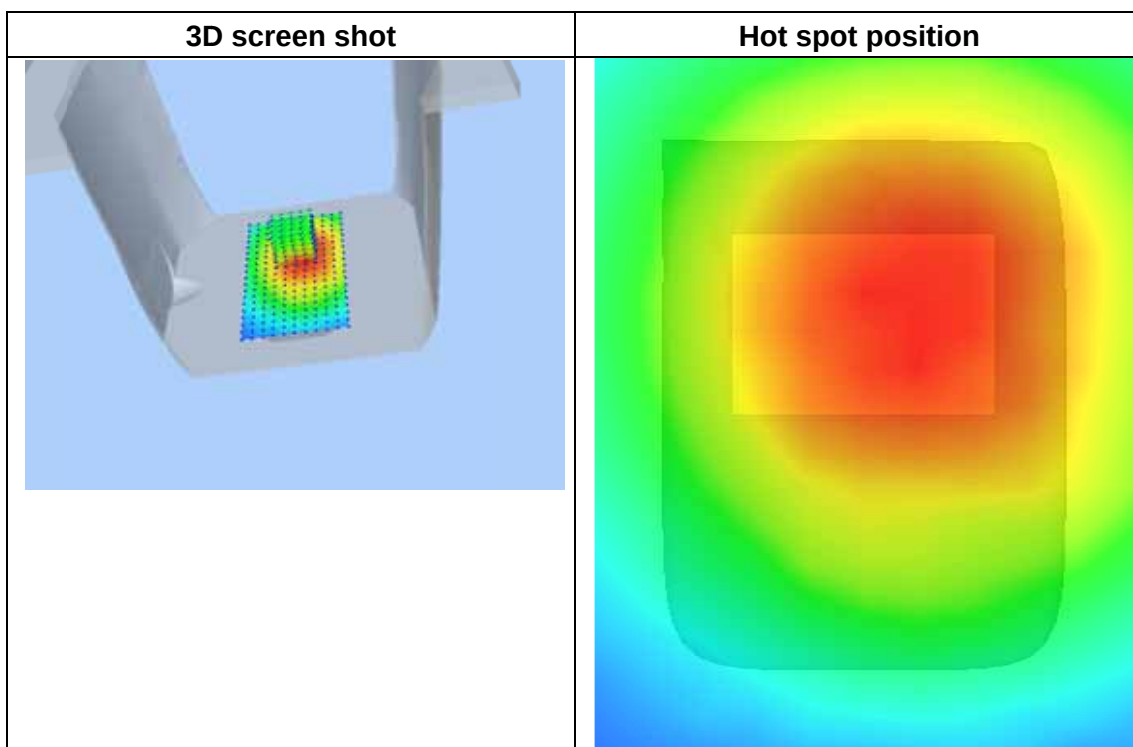
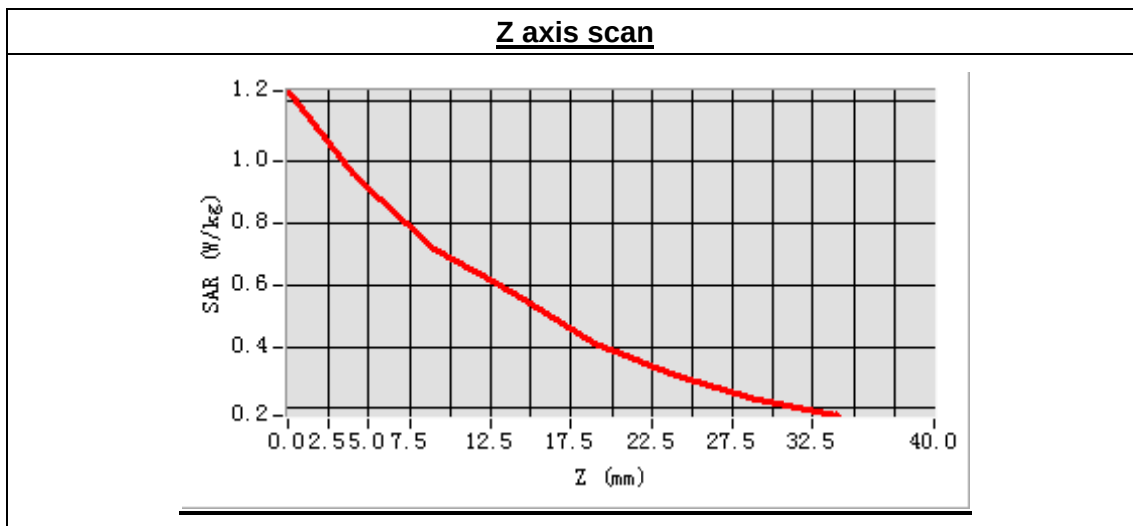
Frequency (MHz)	848.800000
Relative permittivity (real part)	55.124386
Conductivity (S/m)	0.976854
Power drift(%)	2.000000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:2



Maximum location: X=2.00, Y=24.00

SAR Peak: 1.27 W/kg

SAR 10g (W/Kg)	0.581329
SAR 1g (W/Kg)	0.718236



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: 2014.5.20

Measurement duration: 9 minutes 32 seconds

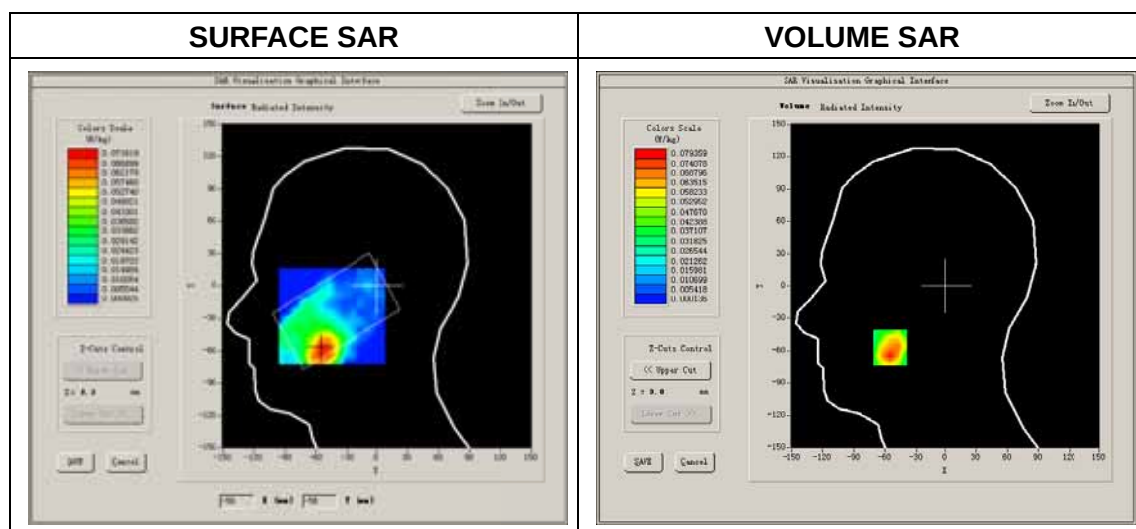
A. Experimental conditions.

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

B. SAR Measurement Results

Low Band SAR (Channel 512):

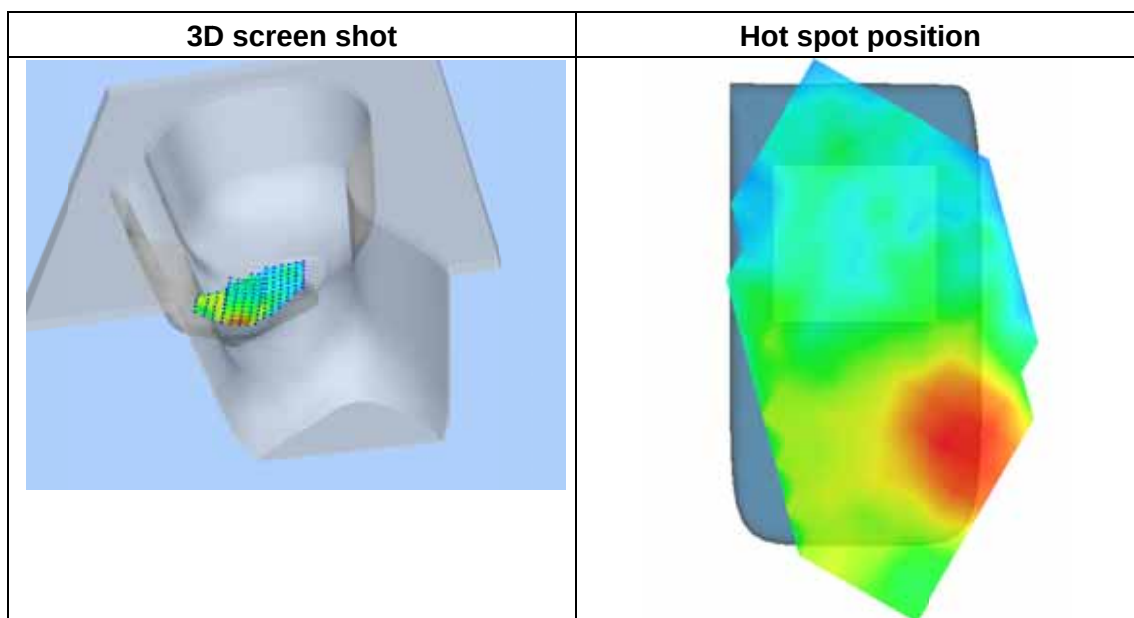
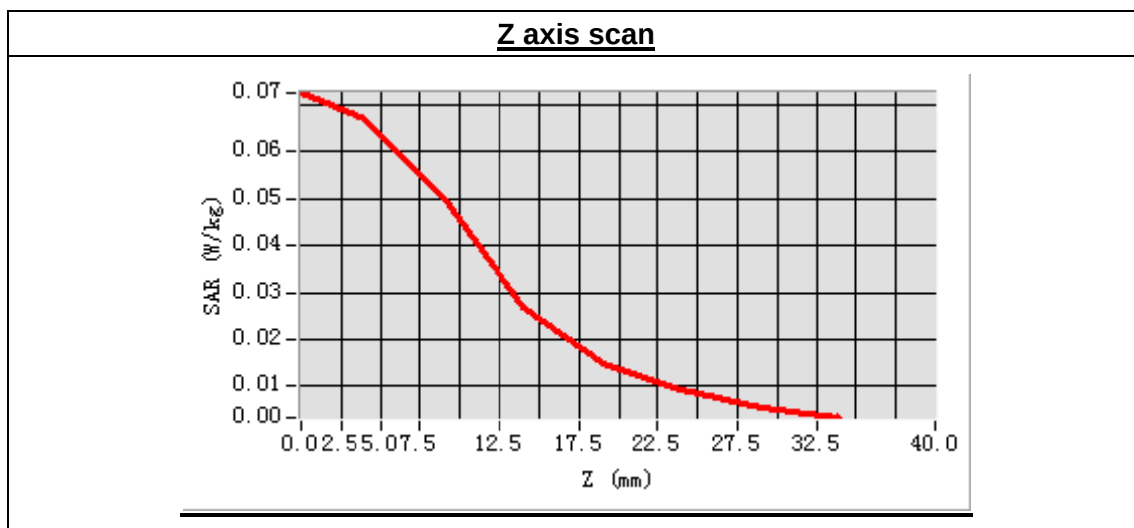
Frequency (MHz)	1850.200000
Relative permittivity (real part)	39.916742
Conductivity (S/m)	1.416850
Power drift(%)	0.970000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:8



Maximum location: X=-55.00, Y=-57.00

SAR Peak: 0.13 W/kg

SAR 10g (W/Kg)	0.040671
SAR 1g (W/Kg)	0.073500



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: 2014.5.20

Measurement duration: 8 minutes 3 seconds

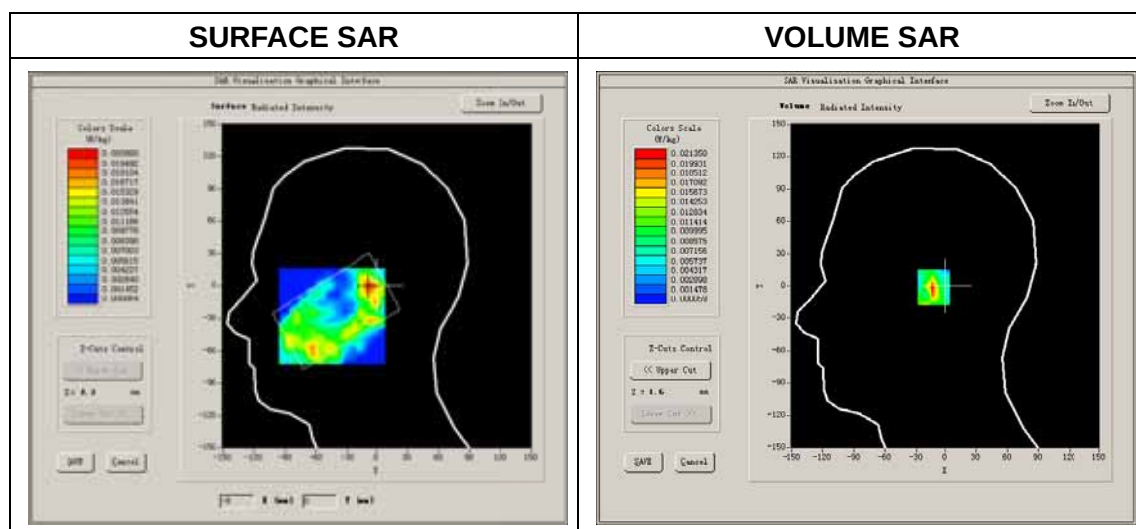
A. Experimental conditions.

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

B. SAR Measurement Results

Low Band SAR (Channel 512):

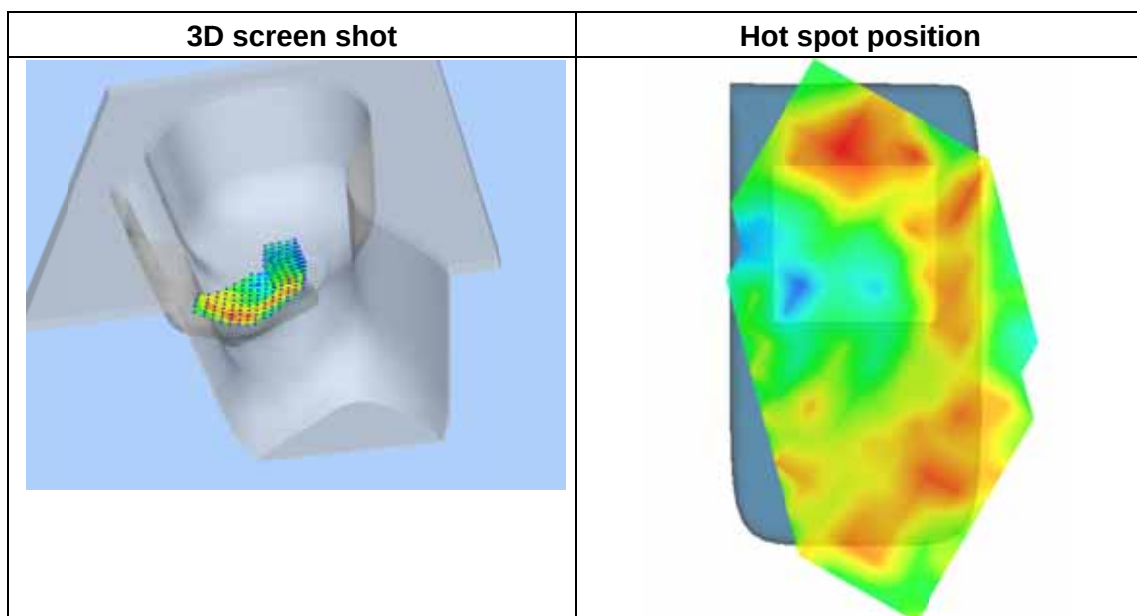
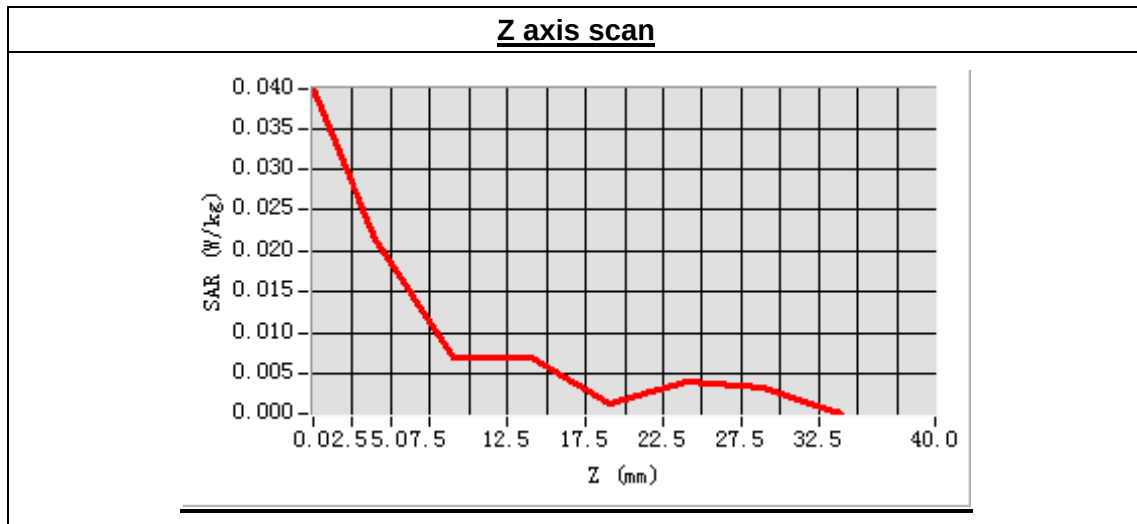
Frequency (MHz)	1850.200000
Relative permittivity (real part)	39.916742
Conductivity (S/m)	1.416850
Power drift(%)	3.660000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:8



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

SAR Peak: 0.04 W/kg

SAR 10g (W/Kg)	0.008970
SAR 1g (W/Kg)	0.019366



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: 2014.5.20

Measurement duration: 9 minutes 25 seconds

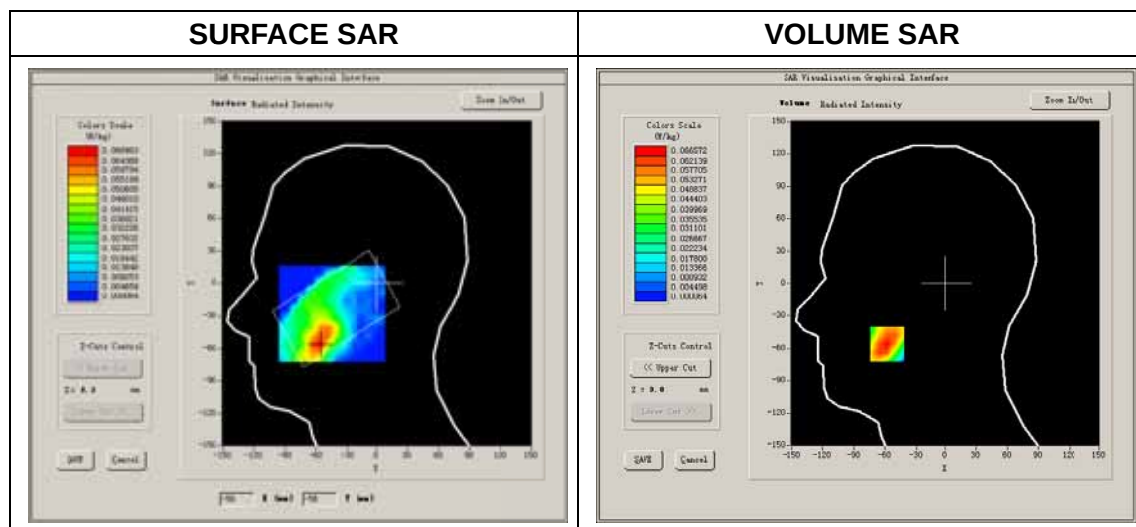
A. Experimental conditions.

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

B. SAR Measurement Results

Low Band SAR (Channel 512):

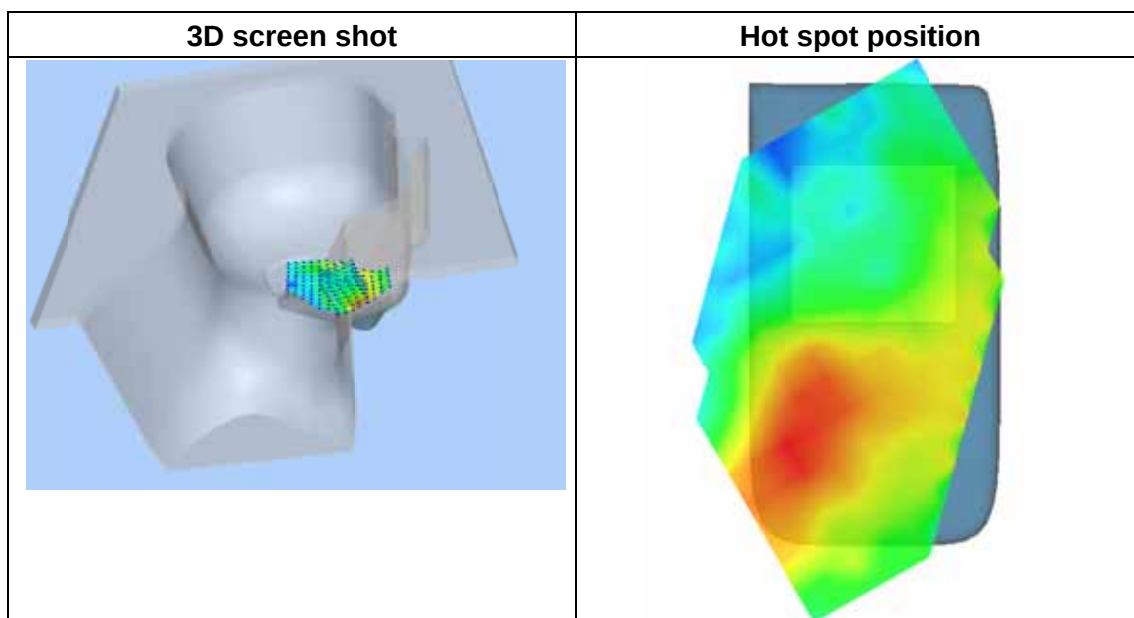
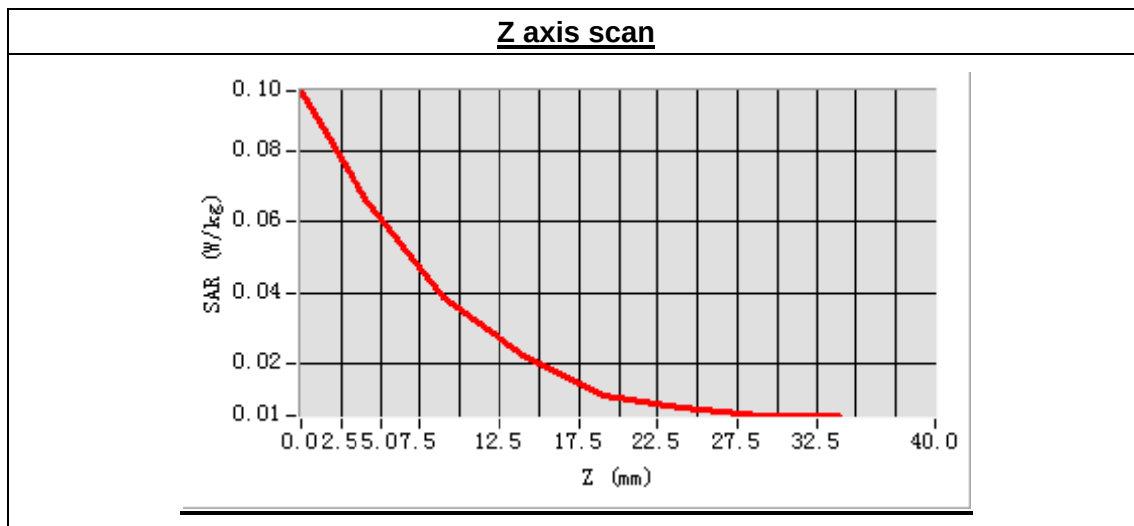
Frequency (MHz)	1850.200000
Relative permittivity (real part)	39.916742
Conductivity (S/m)	1.416850
Power drift(%)	4.570000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:8



Maximum location: X=-58.00, Y=-56.00

SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.035423
SAR 1g (W/Kg)	0.062778



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: 2014.5.20

Measurement duration: 7 minutes 52 seconds

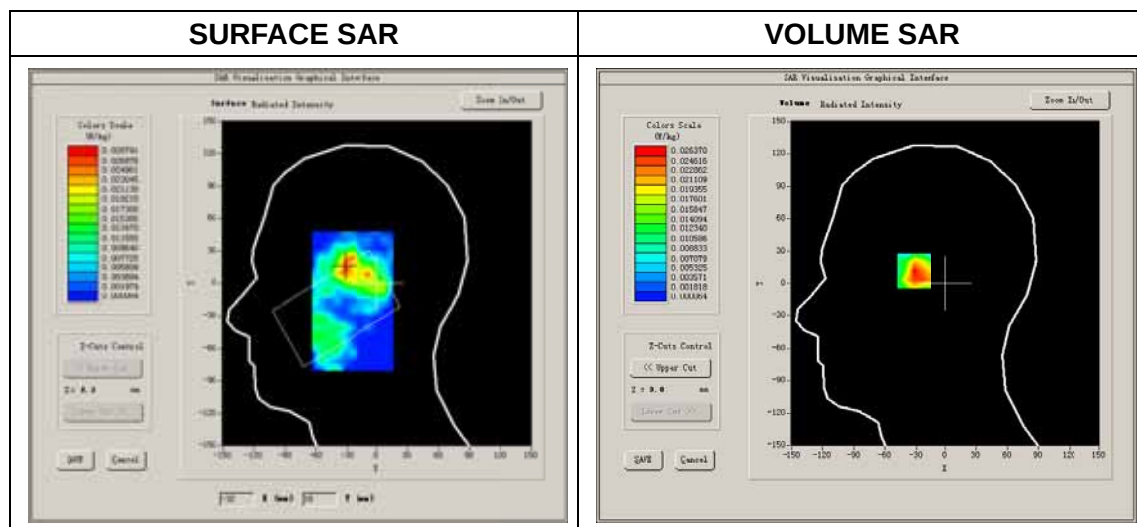
A. Experimental conditions.

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

B. SAR Measurement Results

Low Band SAR (Channel 512):

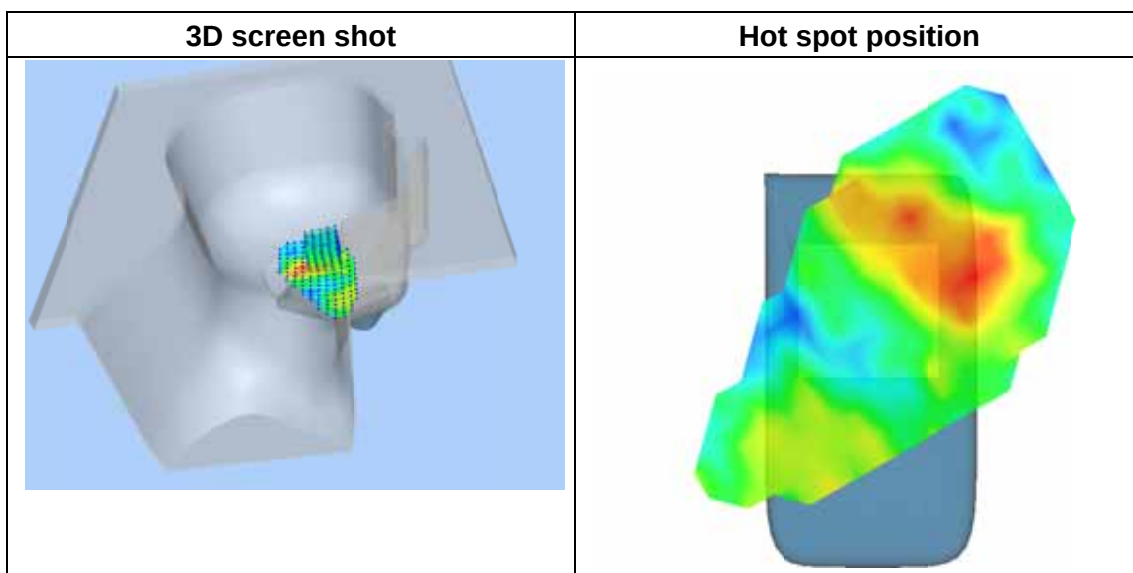
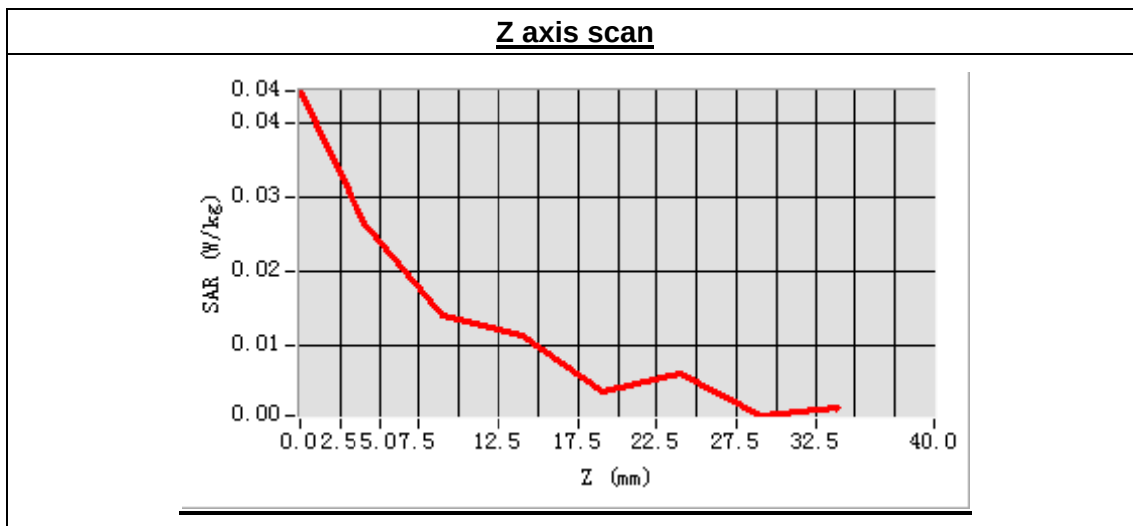
Frequency (MHz)	1850.200000
Relative permittivity (real part)	39.916742
Conductivity (S/m)	1.416850
Power drift(%)	-4.190000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:8



Maximum location: X=-32.00, Y=16.00

SAR Peak: 0.05 W/kg

SAR 10g (W/Kg)	0.013771
SAR 1g (W/Kg)	0.026055



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: 2014.5.20

Measurement duration: 9 minutes 29 seconds

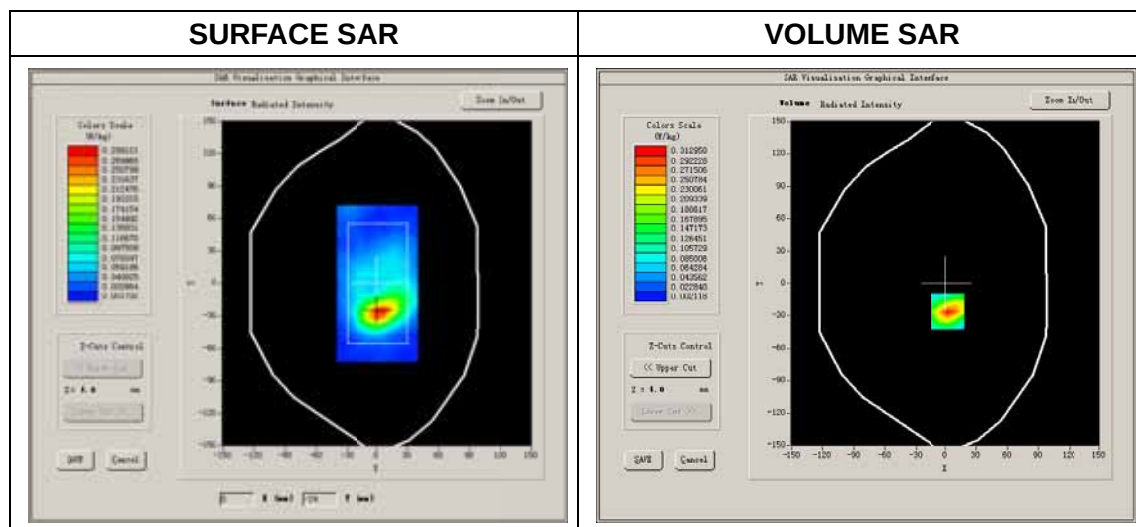
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM1900
Channels	Low
Signal	GSM

B. SAR Measurement Results

Low Band SAR (Channel 512):

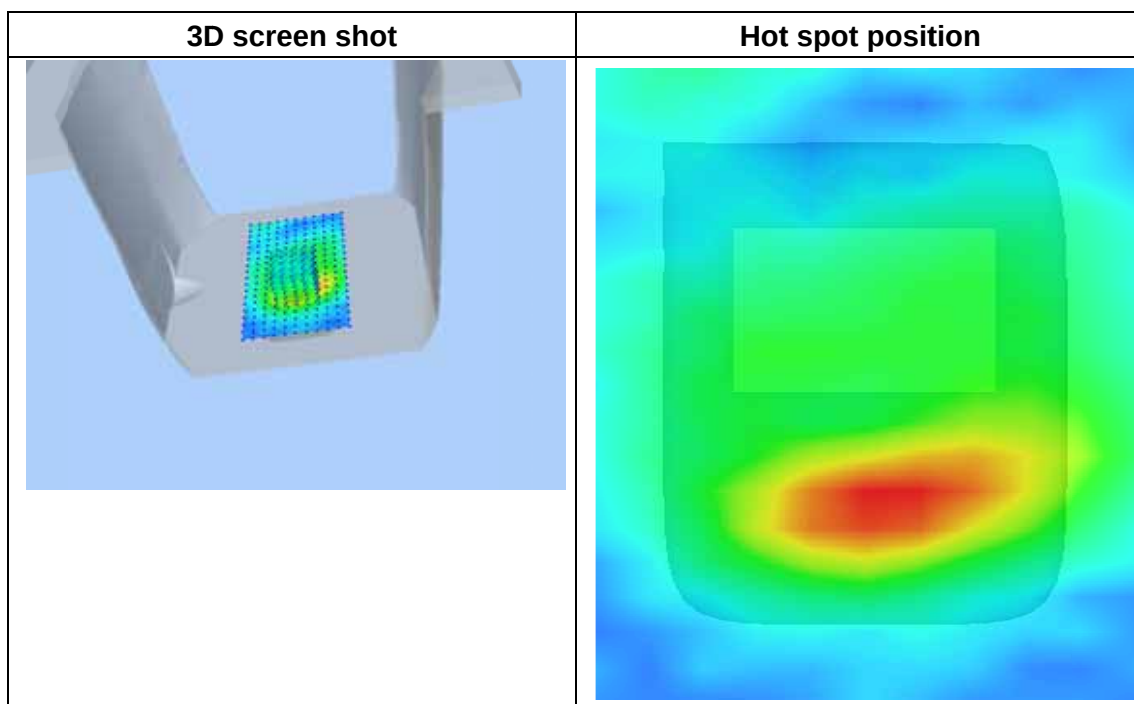
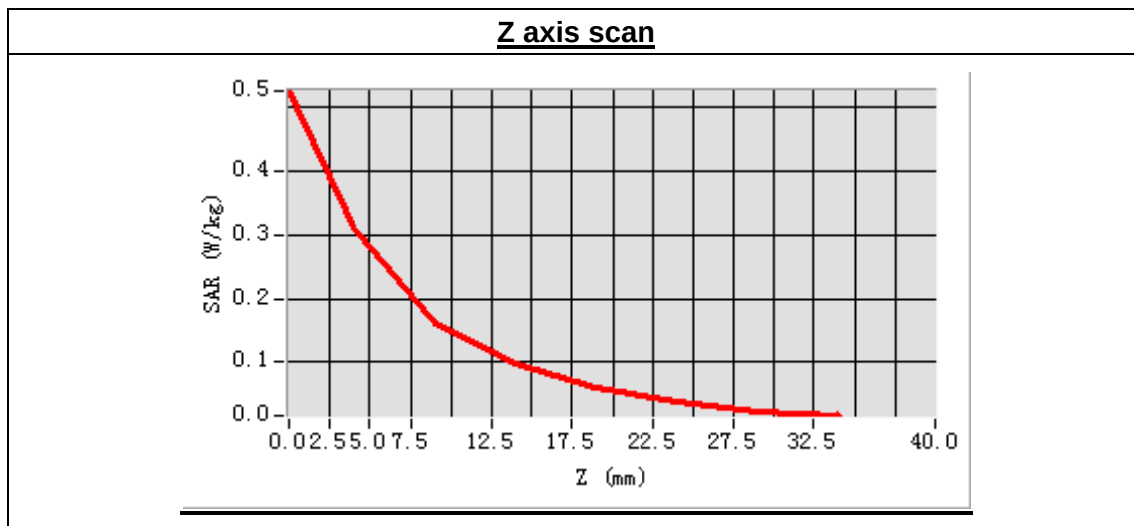
Frequency (MHz)	1850.200000
Relative permittivity (real part)	53.112847
Conductivity (S/m)	1.534067
Power drift(%)	0.200000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:8



Maximum location: X=2.00, Y=-26.00

SAR Peak: 0.56 W/kg

SAR 10g (W/Kg)	0.155832
SAR 1g (W/Kg)	0.315852



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: 2014.5.20

Measurement duration: 9 minutes 37seconds

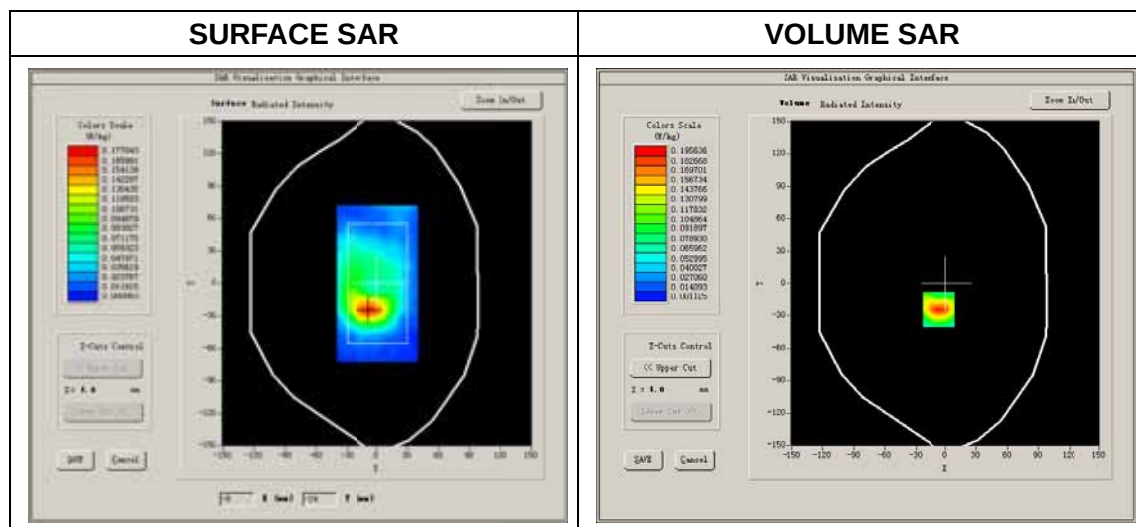
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM1900
Channels	Low
Signal	GSM

B. SAR Measurement Results

Low Band SAR (Channel 512):

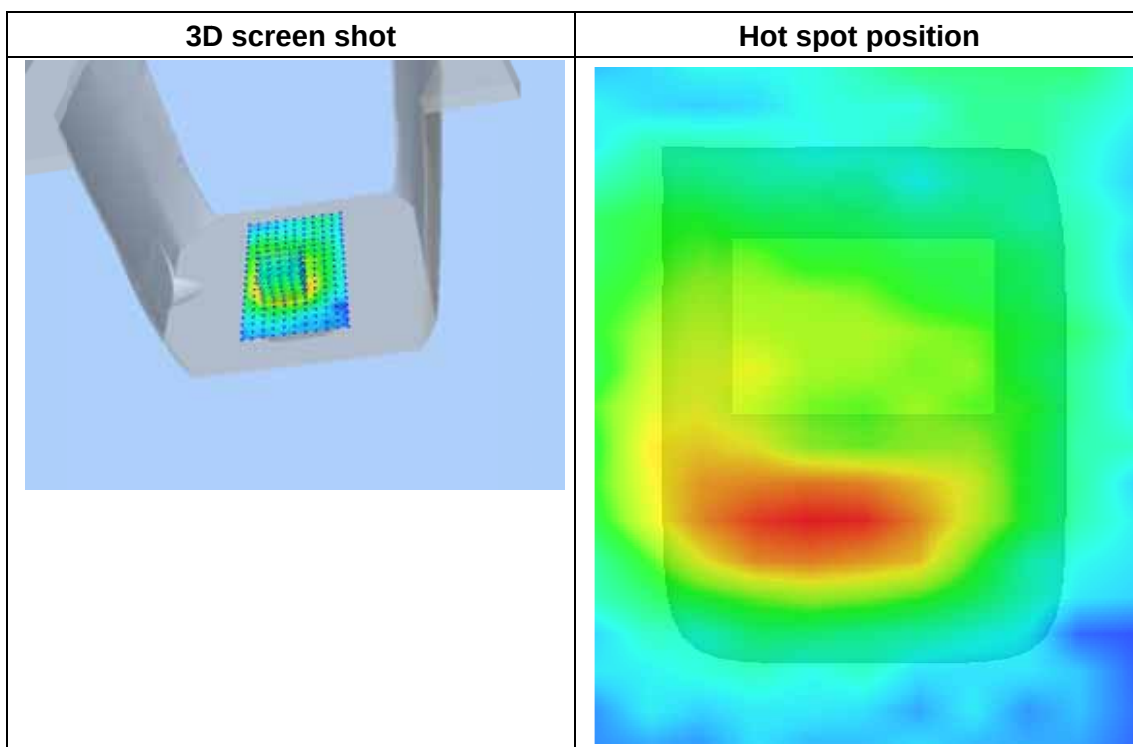
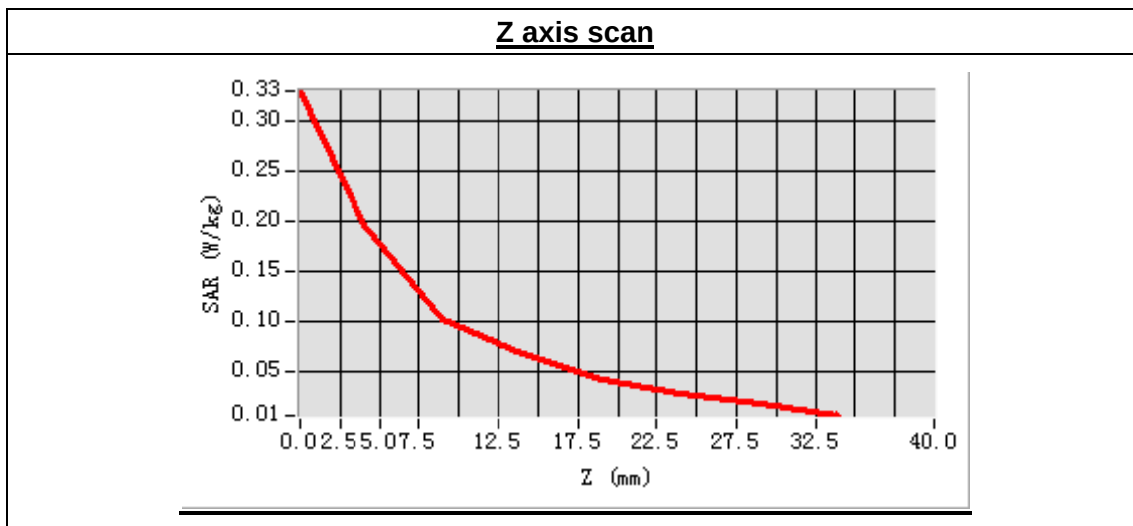
Frequency (MHz)	1850.200000
Relative permittivity (real part)	53.112847
Conductivity (S/m)	1.534067
Power drift(%)	1.940000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:8



Maximum location: X=-7.00, Y=-24.00

SAR Peak: 0.35 W/kg

SAR 10g (W/Kg)	0.102515
SAR 1g (W/Kg)	0.200175



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: 2014.5.20

Measurement duration: 9 minutes 25 seconds

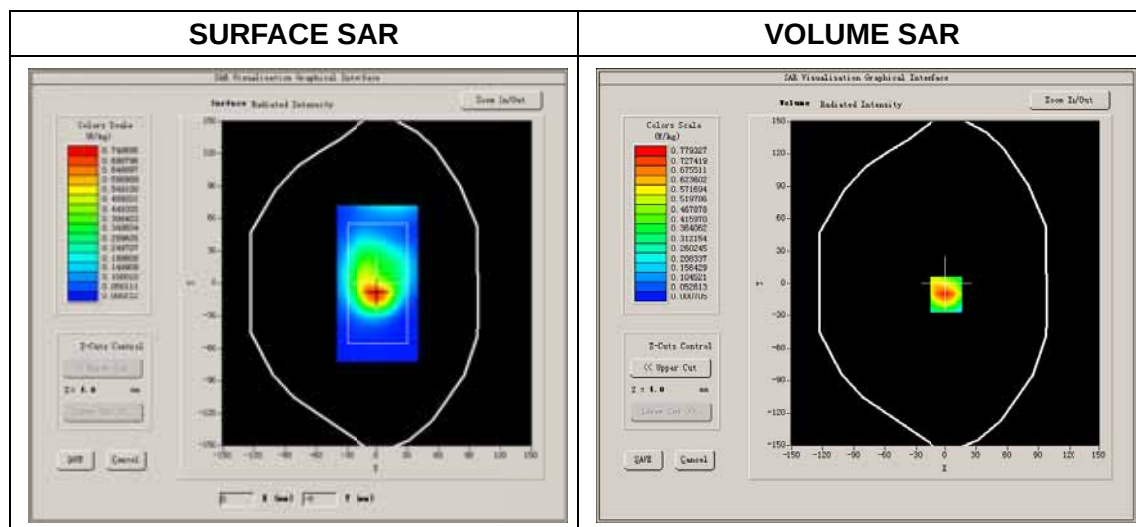
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	EGPRS

B. SAR Measurement Results

Middle Band SAR (Channel 661):

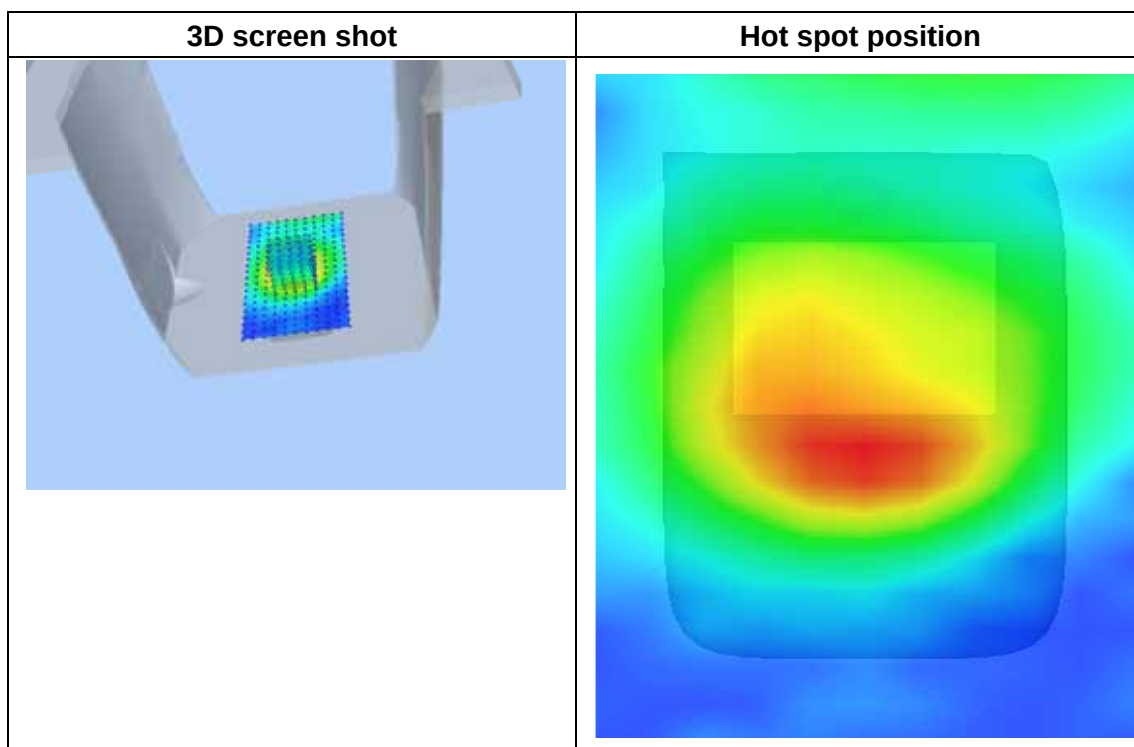
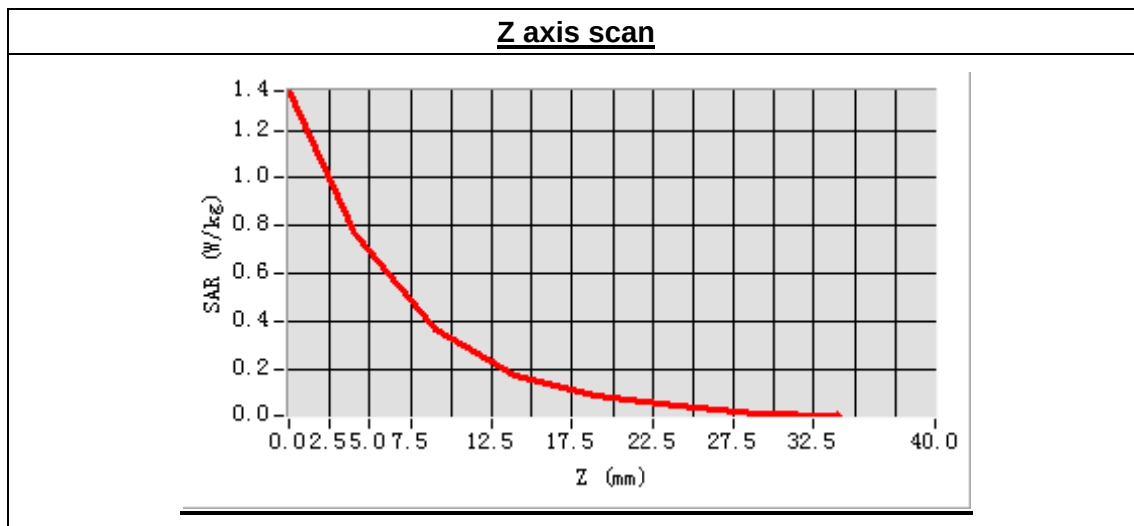
Frequency (MHz)	1880.000000
Relative permittivity (real part)	53.112847
Conductivity (S/m)	1.534067
Power drift(%)	-2.600000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:2



Maximum location: X=0.00, Y=-10.00

SAR Peak: 1.35 W/kg

SAR 10g (W/Kg)	0.355211
SAR 1g (W/Kg)	0.752764



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: 2014.5.20

Measurement duration: 9 minutes 27 seconds

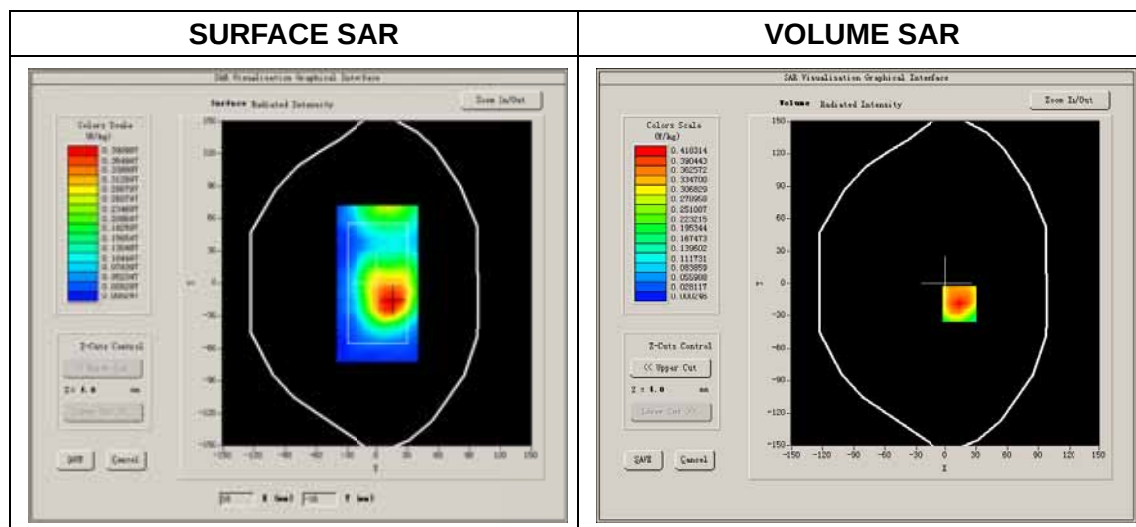
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	EGPRS

B. SAR Measurement Results

Middle Band SAR (Channel 661):

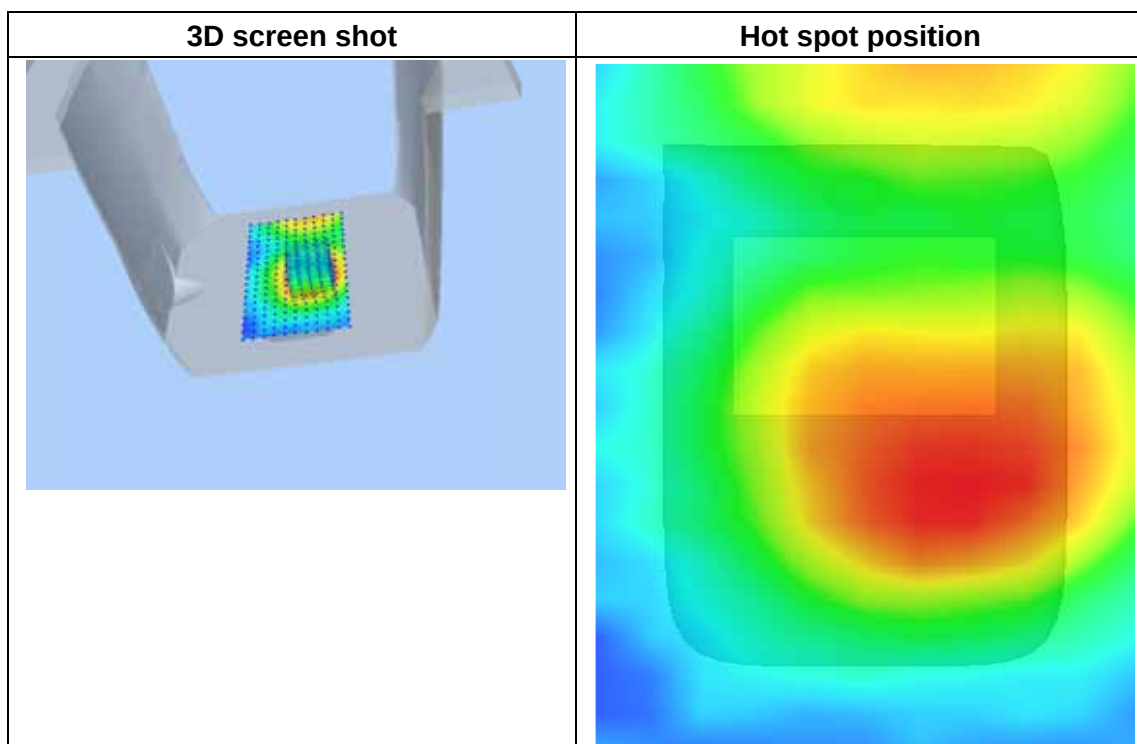
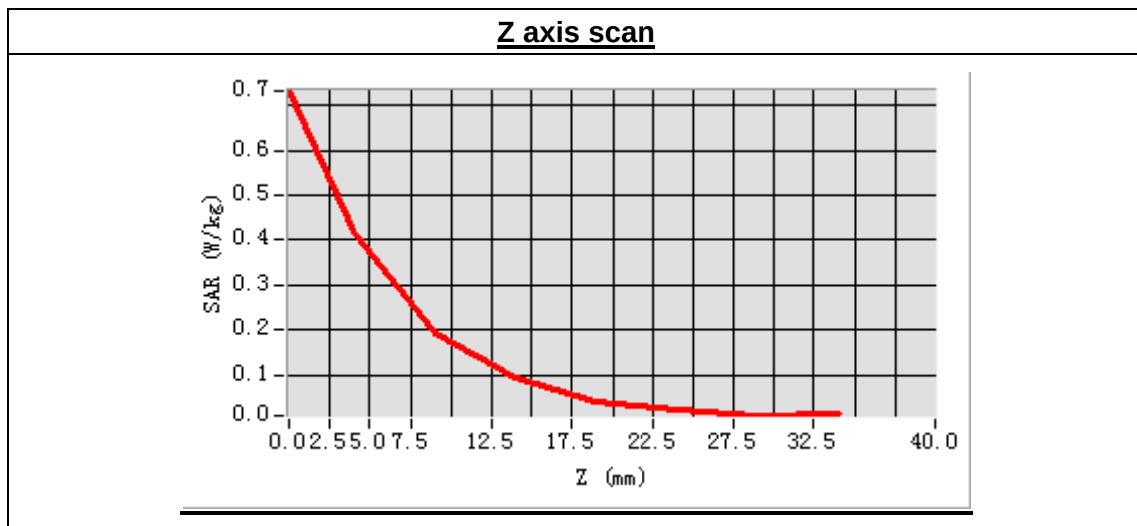
Frequency (MHz)	1880.000000
Relative permittivity (real part)	53.112847
Conductivity (S/m)	1.534067
Power drift(%)	-2.670000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:2



Maximum location: X=14.00, Y=-19.00

SAR Peak: 0.72 W/kg

SAR 10g (W/Kg)	0.209633
SAR 1g (W/Kg)	0.410941



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: 2014.5.20

Measurement duration: 9 minutes 29 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	EGPRS

B. SAR Measurement Results

Middle Band SAR (Channel 661):

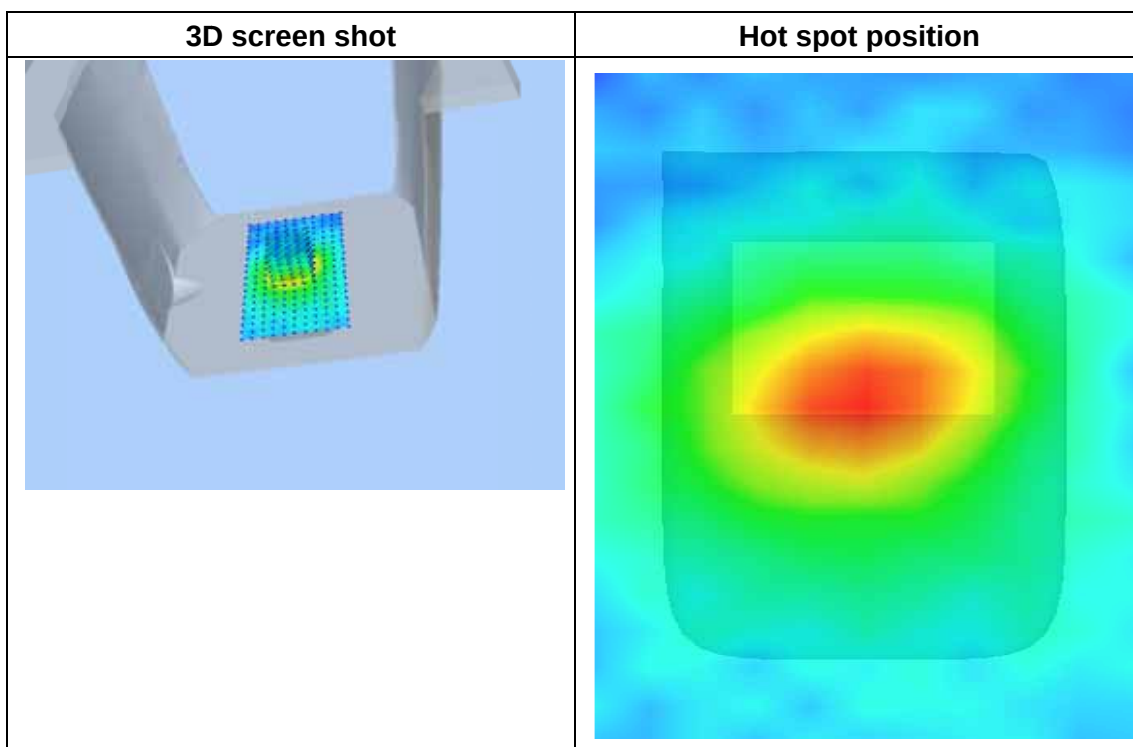
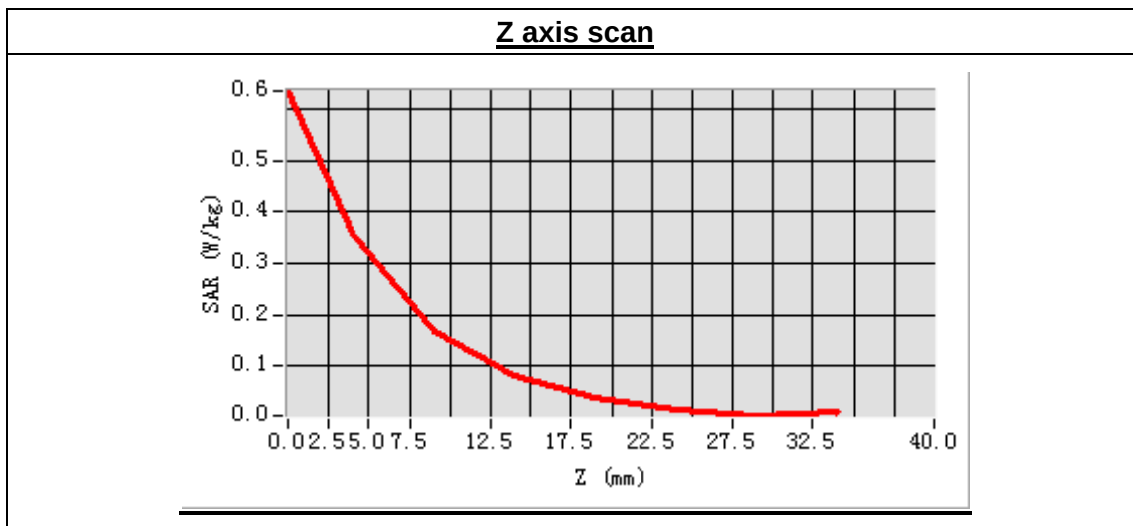
Frequency (MHz)	1880.000000
Relative permittivity (real part)	53.112847
Conductivity (S/m)	1.534067
Power drift(%)	-0.880000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:2



Maximum location: X=-1.00, Y=1.00

SAR Peak: 0.66 W/kg

SAR 10g (W/Kg)	0.170618
SAR 1g (W/Kg)	0.362292



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: 2014.5.20

Measurement duration: 9 minutes 26 seconds

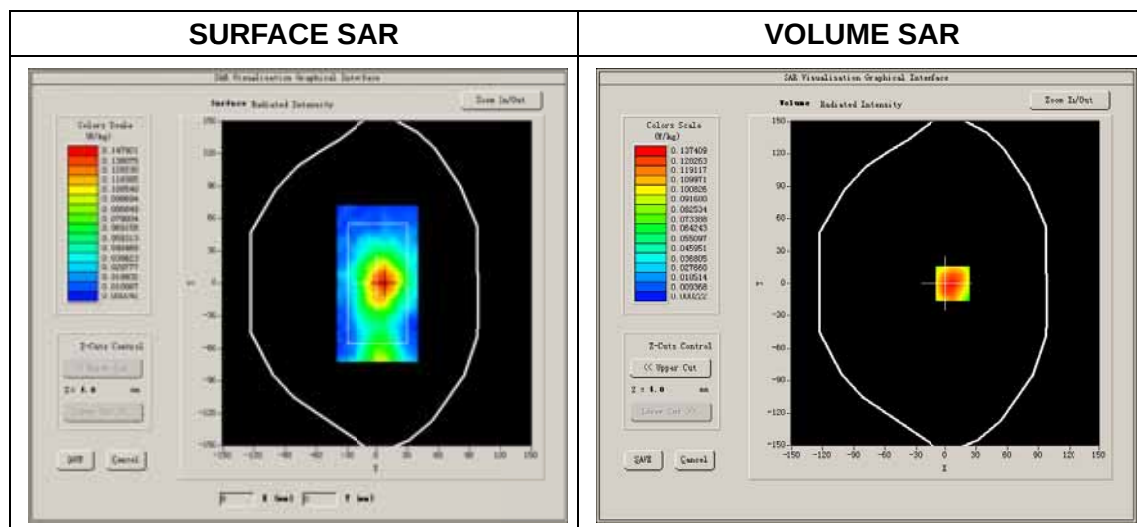
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	EGPRS

B. SAR Measurement Result

Middle Band SAR (Channel 661):

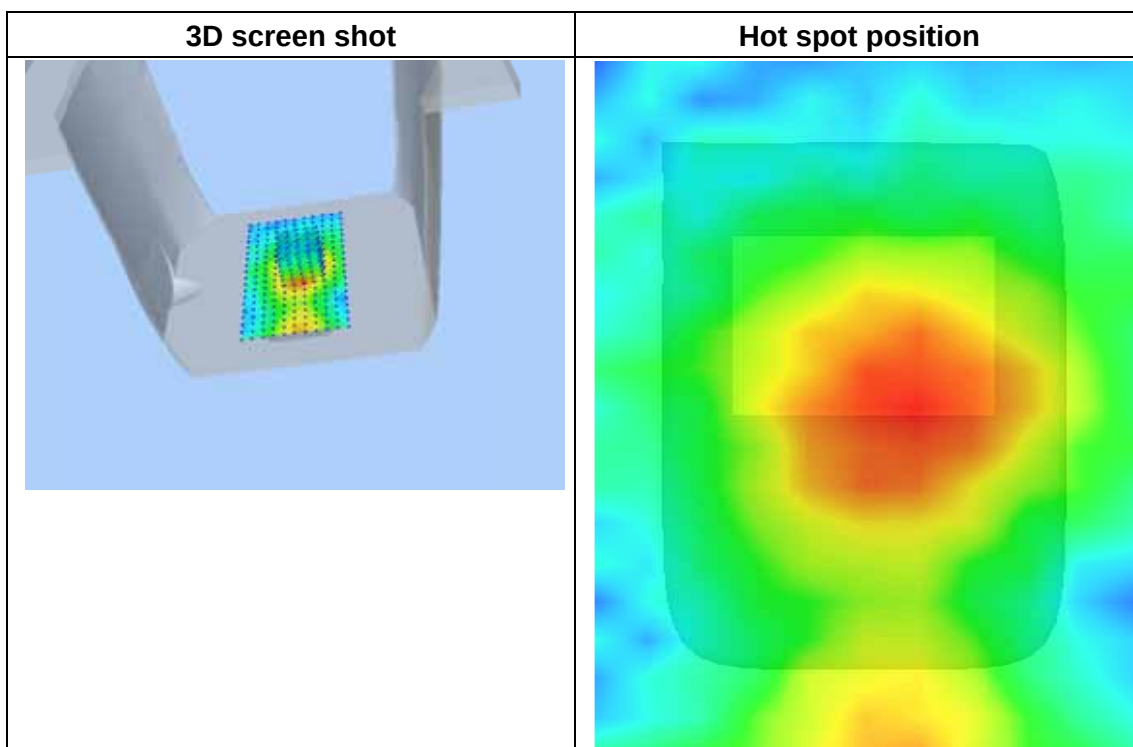
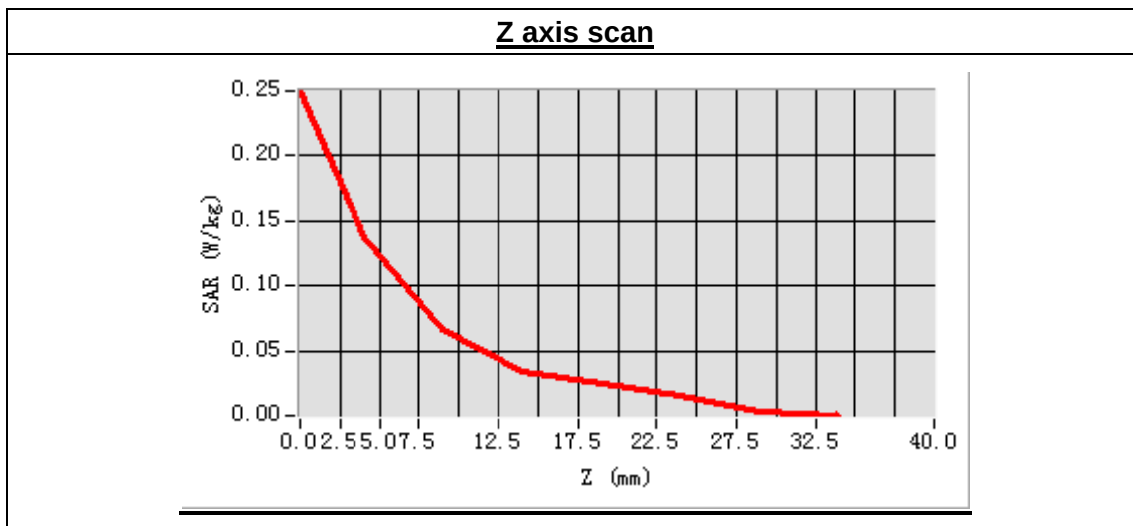
Frequency (MHz)	1880.000000
Relative permittivity (real part)	53.112847
Conductivity (S/m)	1.534067
Power drift(%)	2.550000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:2



Maximum location: X=7.00, Y=0.00

SAR Peak: 0.25 W/kg

SAR 10g (W/Kg)	0.070808
SAR 1g (W/Kg)	0.139465



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: 2014.5.20

Measurement duration: 9 minutes 26 seconds

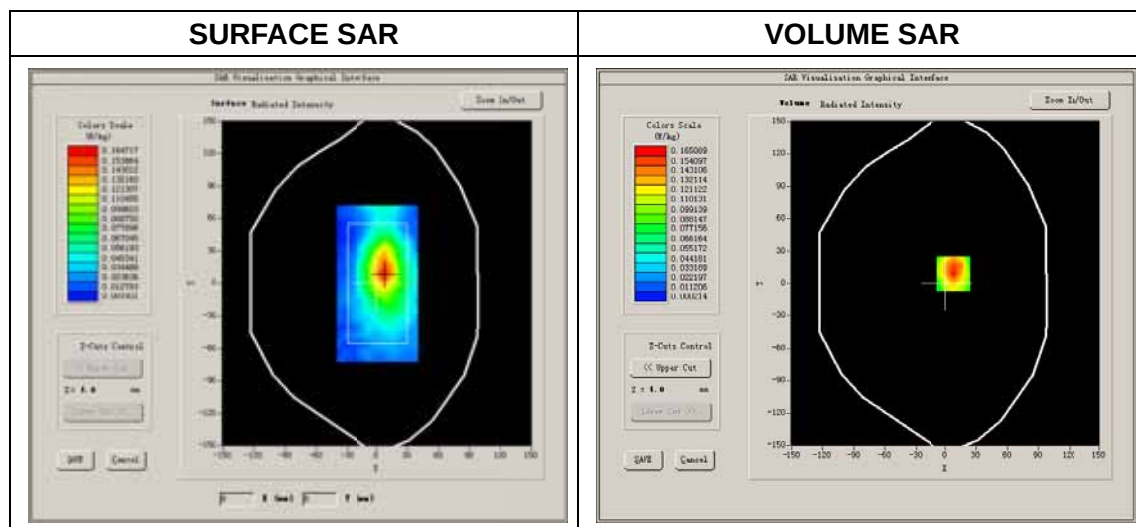
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	EGPRS

B. SAR Measurement Results

Middle Band SAR (Channel 661):

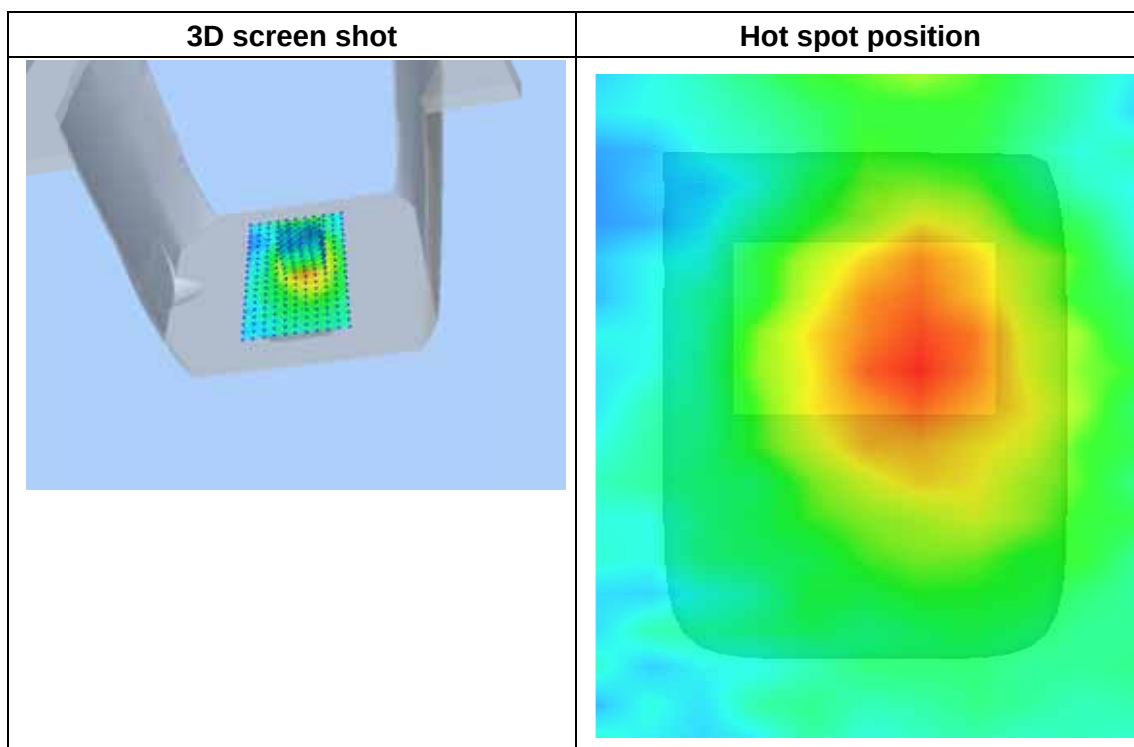
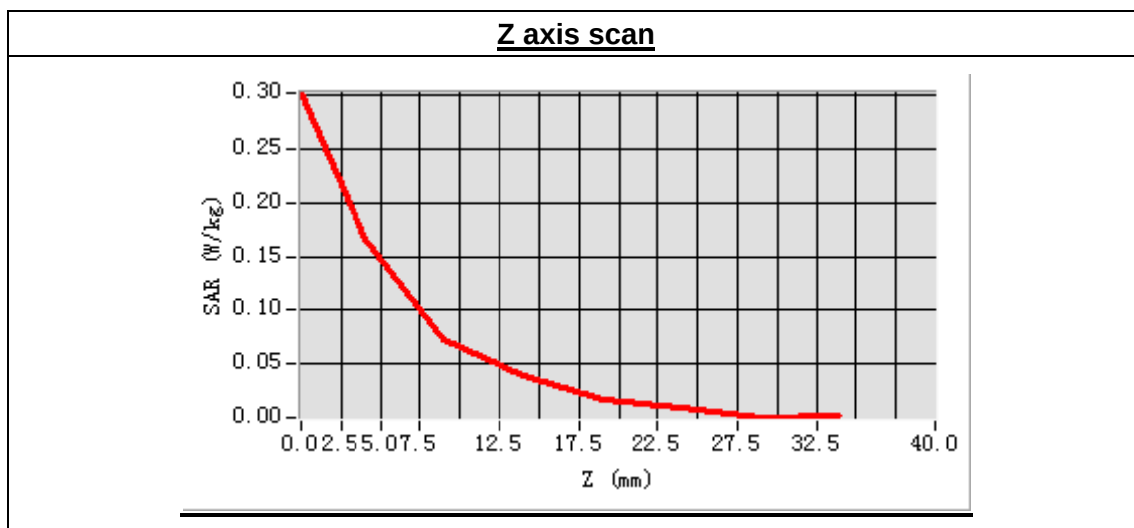
Frequency (MHz)	1880.000000
Relative permittivity (real part)	53.112847
Conductivity (S/m)	1.534067
Power drift(%)	-0.260000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:2



Maximum location: X=8.00, Y=9.00

SAR Peak: 0.30 W/kg

SAR 10g (W/Kg)	0.080558
SAR 1g (W/Kg)	0.166359



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: 2014.5.20

Measurement duration: 9 minutes 26 seconds

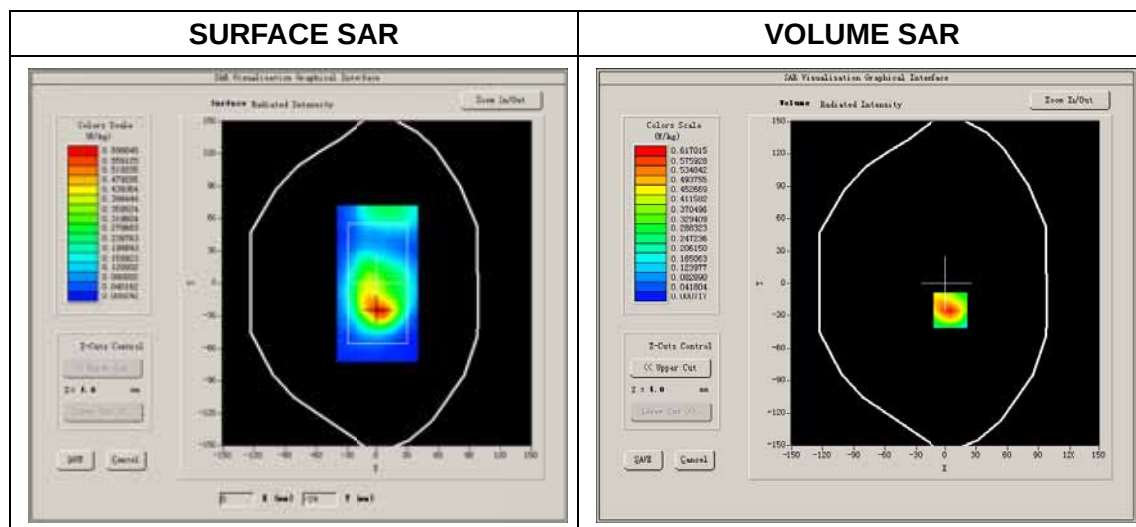
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	GPRS

B. SAR Measurement Results

Middle Band SAR (Channel 661):

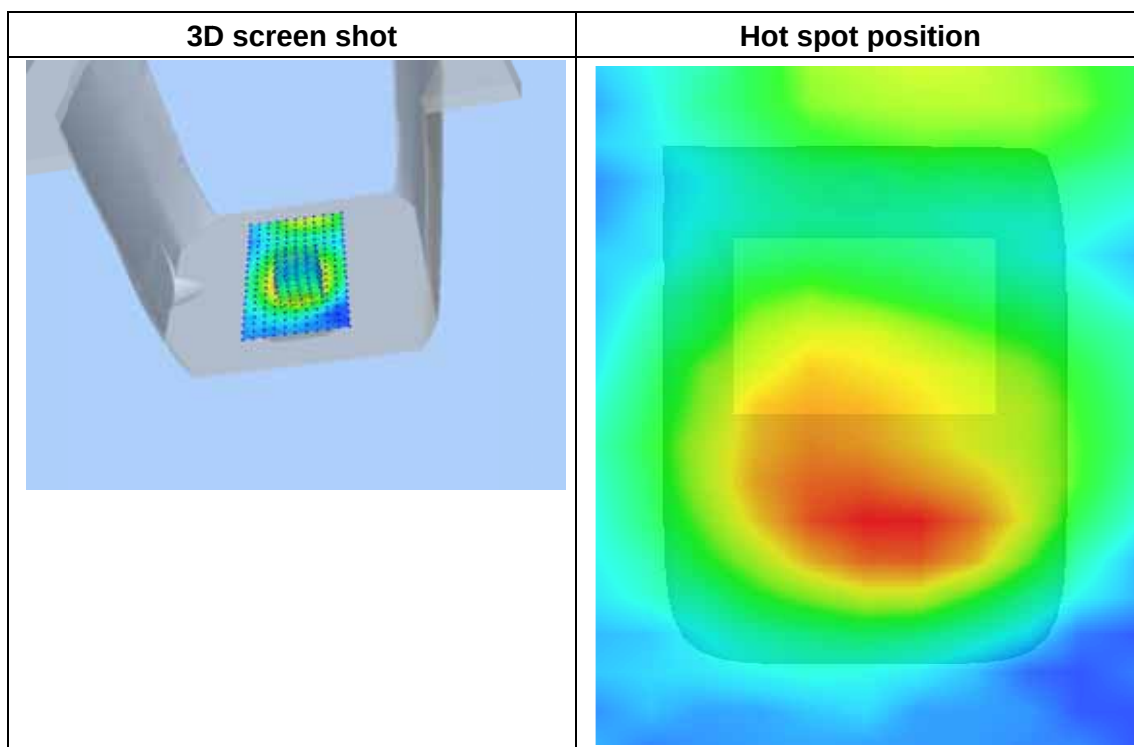
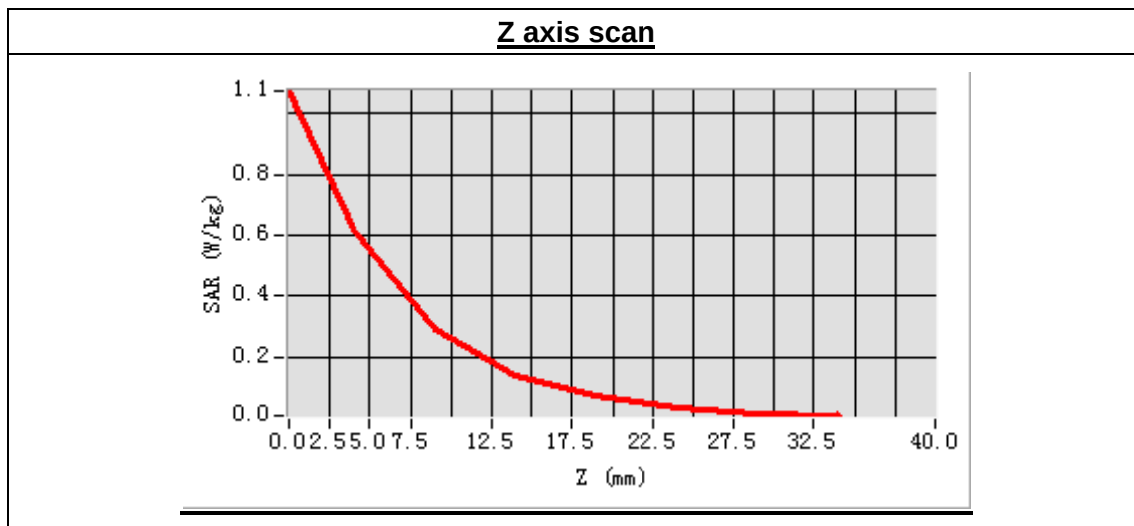
Frequency (MHz)	1880.000000
Relative permittivity (real part)	53.112847
Conductivity (S/m)	1.534067
Power drift(%)	0.570000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:2



Maximum location: X=5.00, Y=-25.00

SAR Peak: 1.06 W/kg

SAR 10g (W/Kg)	0.285368
SAR 1g (W/Kg)	0.595739



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: 2014.5.19

Measurement duration: 8 minutes 59 seconds

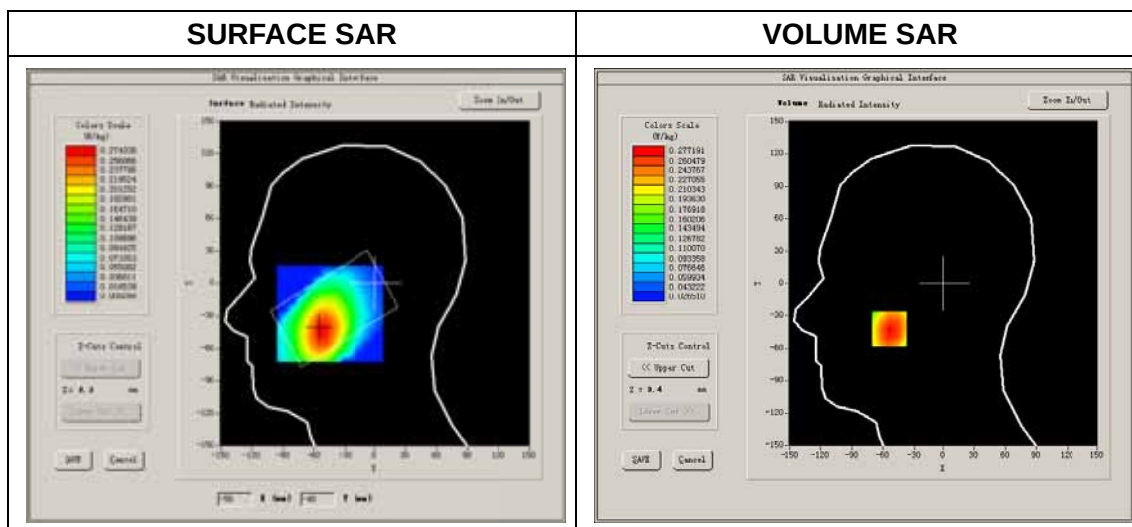
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	WCDMA850
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 4175):

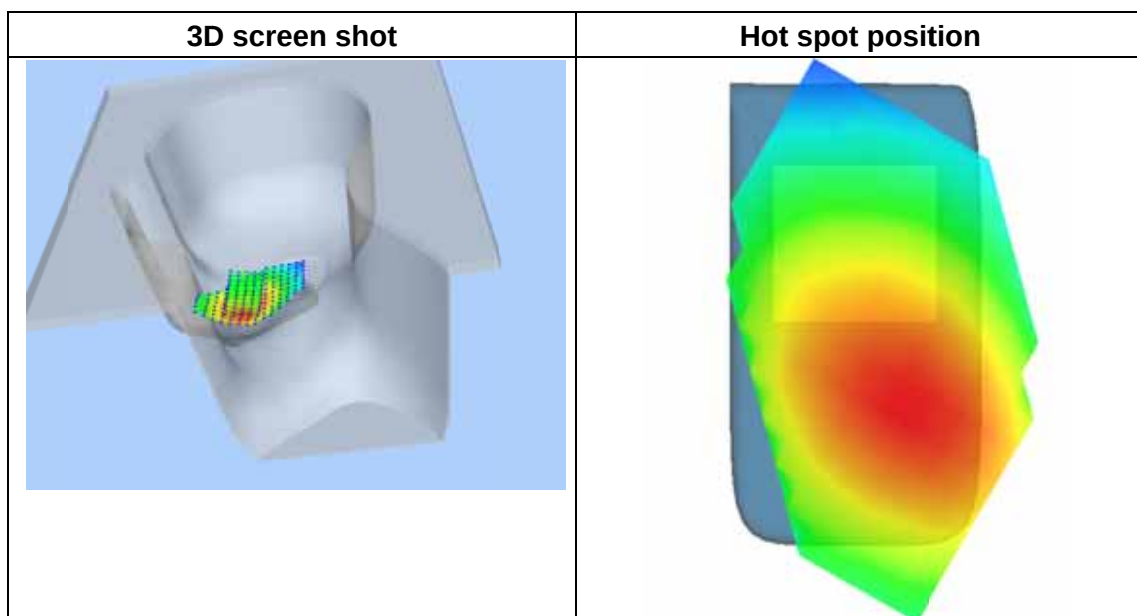
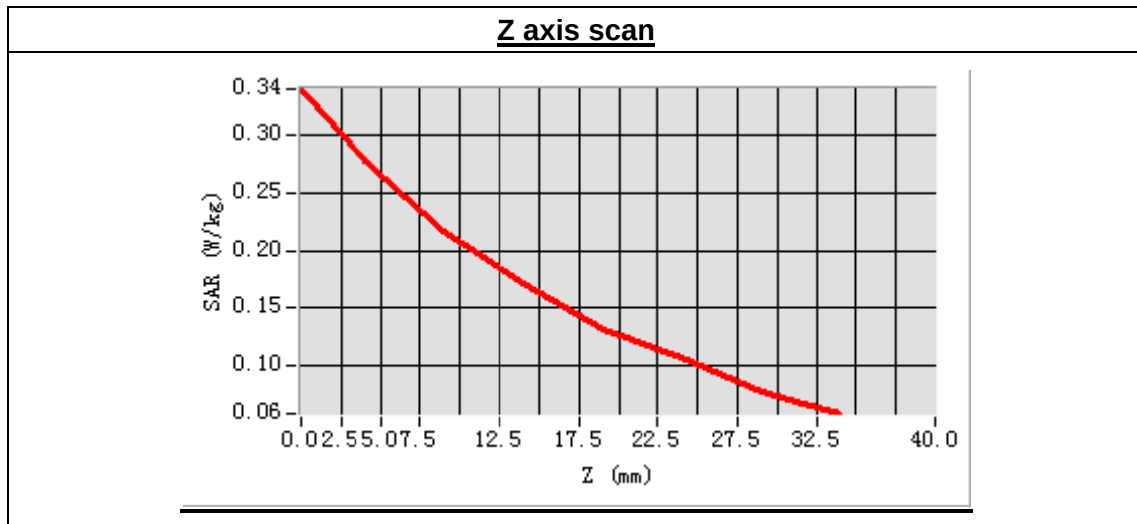
Frequency (MHz)	835.000000
Relative permittivity (real part)	41.442835
Conductivity (S/m)	0.886729
Power drift (%)	-2.930000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.73
Crest factor:	1:1



Maximum location: X=-54.00, Y=-42.00

SAR Peak: 0.34 W/kg

SAR 10g (W/Kg)	0.196155
SAR 1g (W/Kg)	0.267895



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: 2014.5.19

Measurement duration: 8 minutes 9 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	WCDMA850
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 4175):

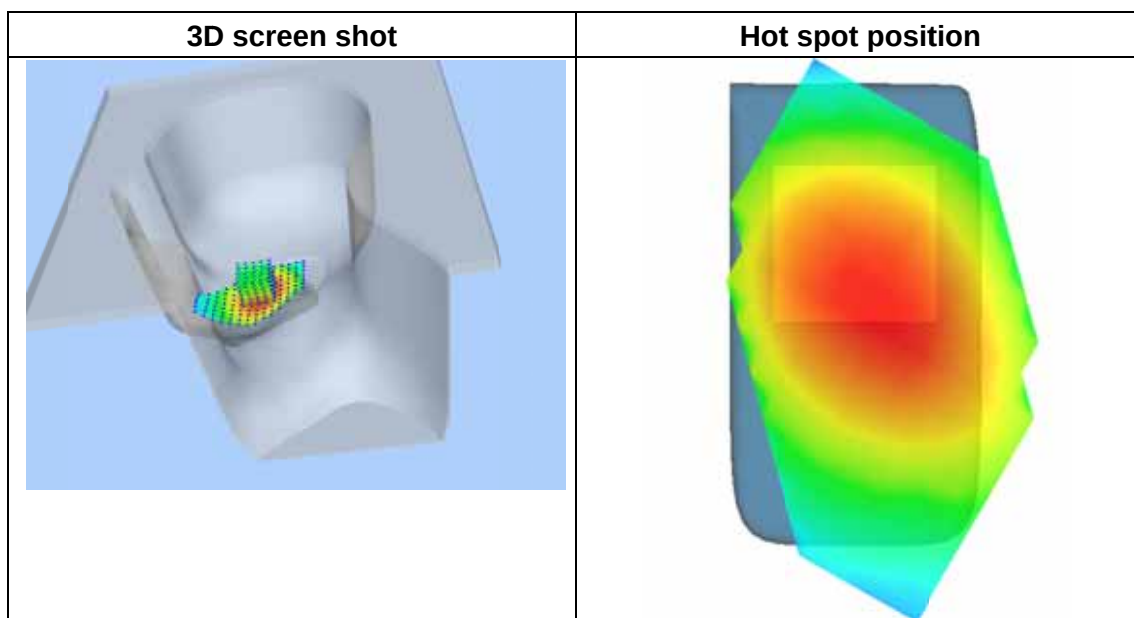
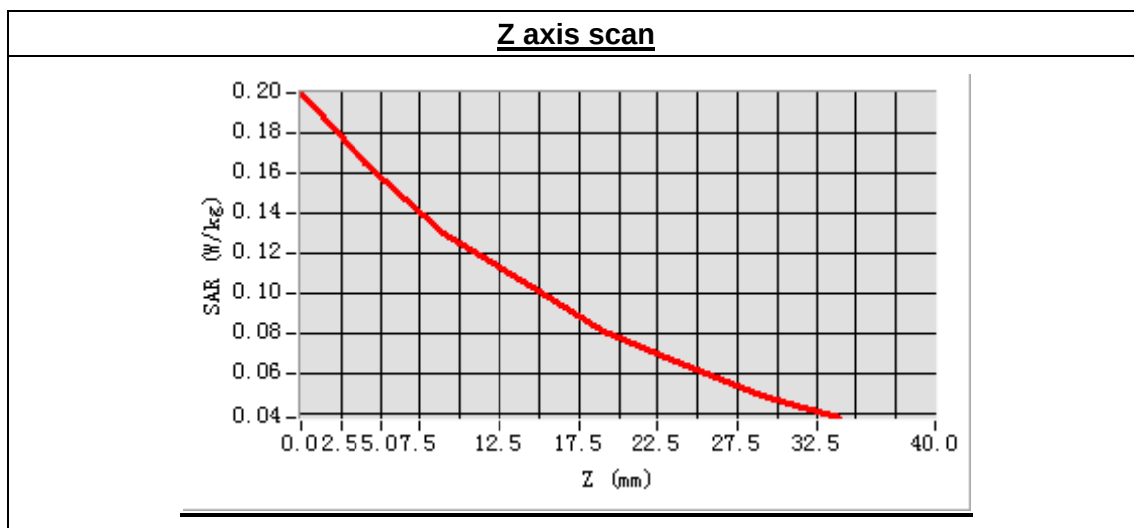
Frequency (MHz)	835.000000
Relative permittivity (real part)	41.442835
Conductivity (S/m)	0.886729
Power drift (%)	-2.180000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.73
Crest factor:	1:1



Maximum location: X=-37.00, Y=-25.00

SAR Peak: 0.21 W/kg

SAR 10g (W/Kg)	0.118810
SAR 1g (W/Kg)	0.160296



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: 2014.5.19

Measurement duration: 8 minutes 53 seconds

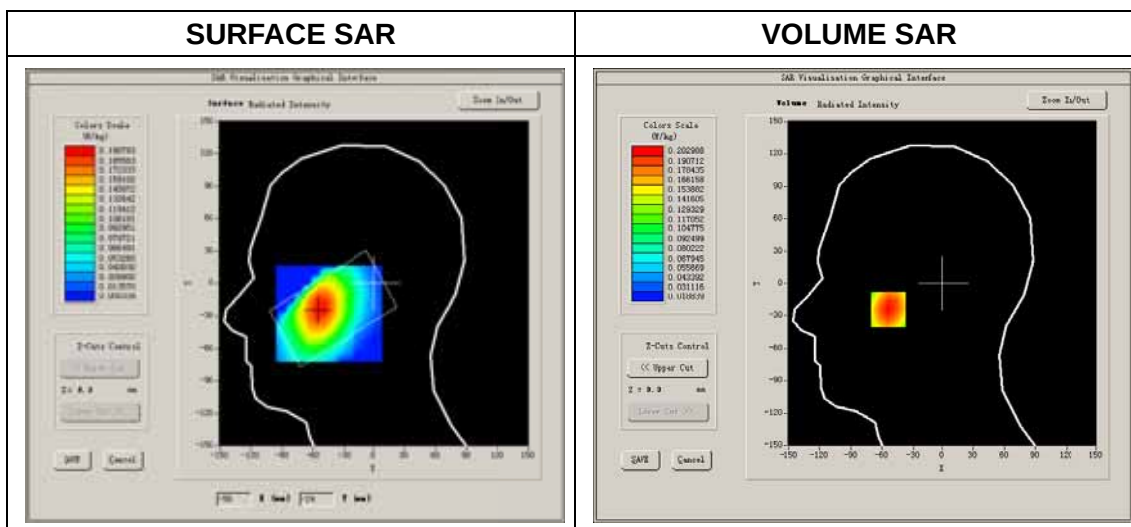
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	WCDMA850
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 4175):

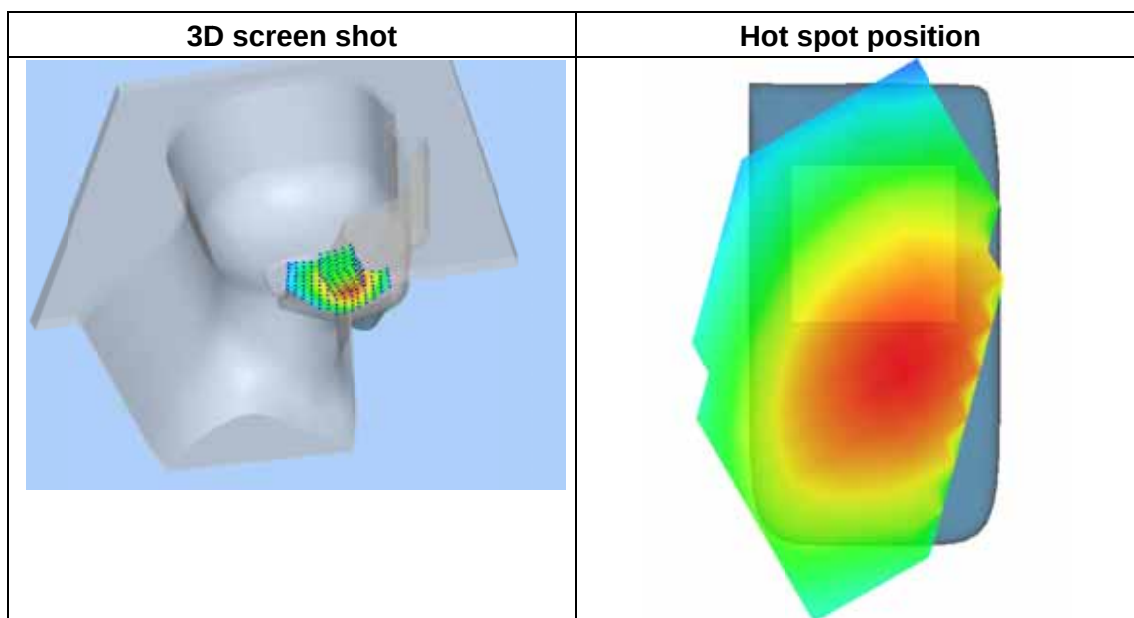
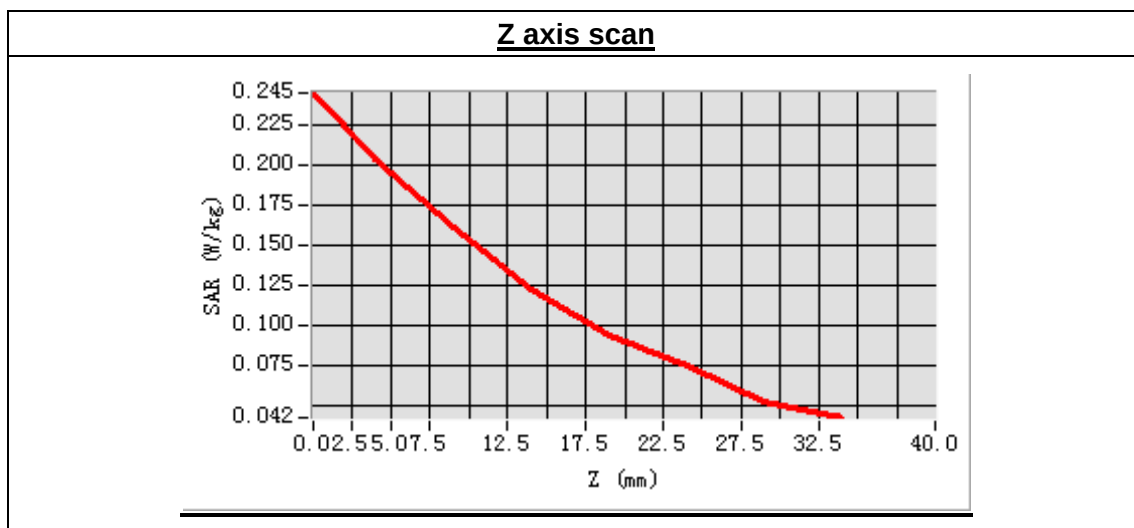
Frequency (MHz)	835.000000
Relative permittivity (real part)	41.442835
Conductivity (S/m)	0.886729
Power drift (%)	-0.650000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.73
Crest factor:	1:1



Maximum location: X=-54.00, Y=-24.00

SAR Peak: 0.25 W/kg

SAR 10g (W/Kg)	0.141899
SAR 1g (W/Kg)	0.195710



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: 2014.5.19

Measurement duration: 8 minutes 14 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	WCDMA850
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 4175):

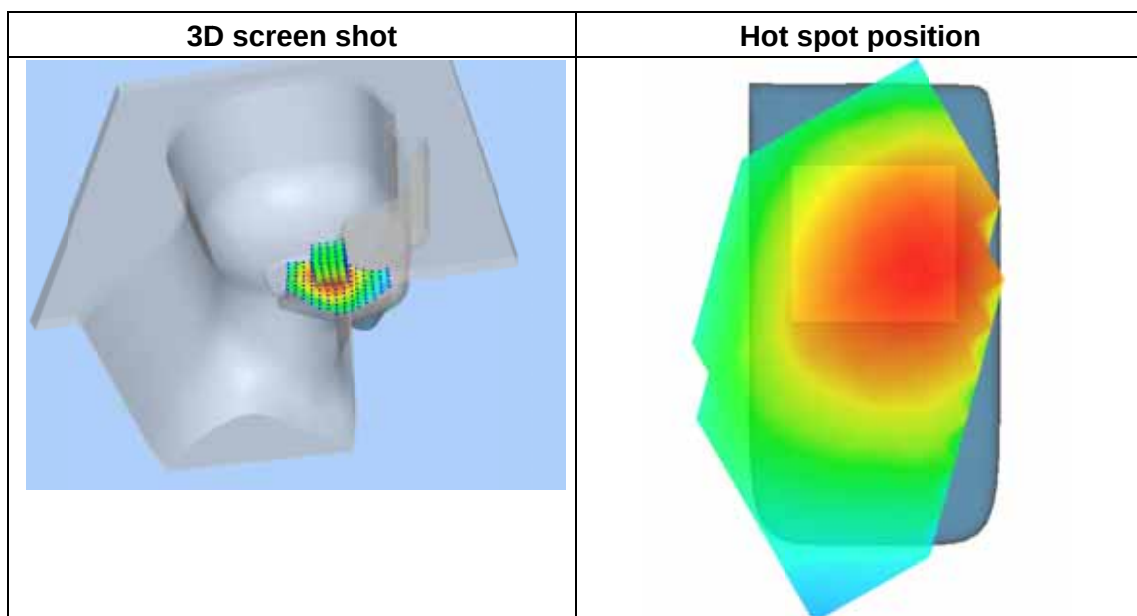
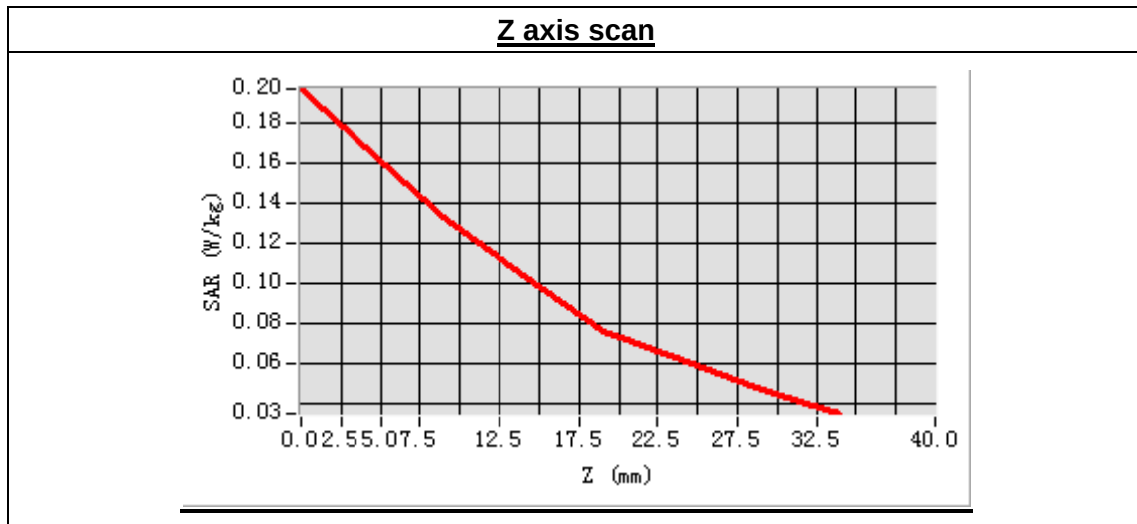
Frequency (MHz)	835.000000
Relative permittivity (real part)	41.442835
Conductivity (S/m)	0.886729
Power drift (%)	-1.570000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.73
Crest factor:	1:1



Maximum location: X=-37.00, Y=-8.00

SAR Peak: 0.21 W/kg

SAR 10g (W/Kg)	0.118415
SAR 1g (W/Kg)	0.161588



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: 2014.5.19

Measurement duration: 9 minutes 36 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WCDMA850
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 4175):

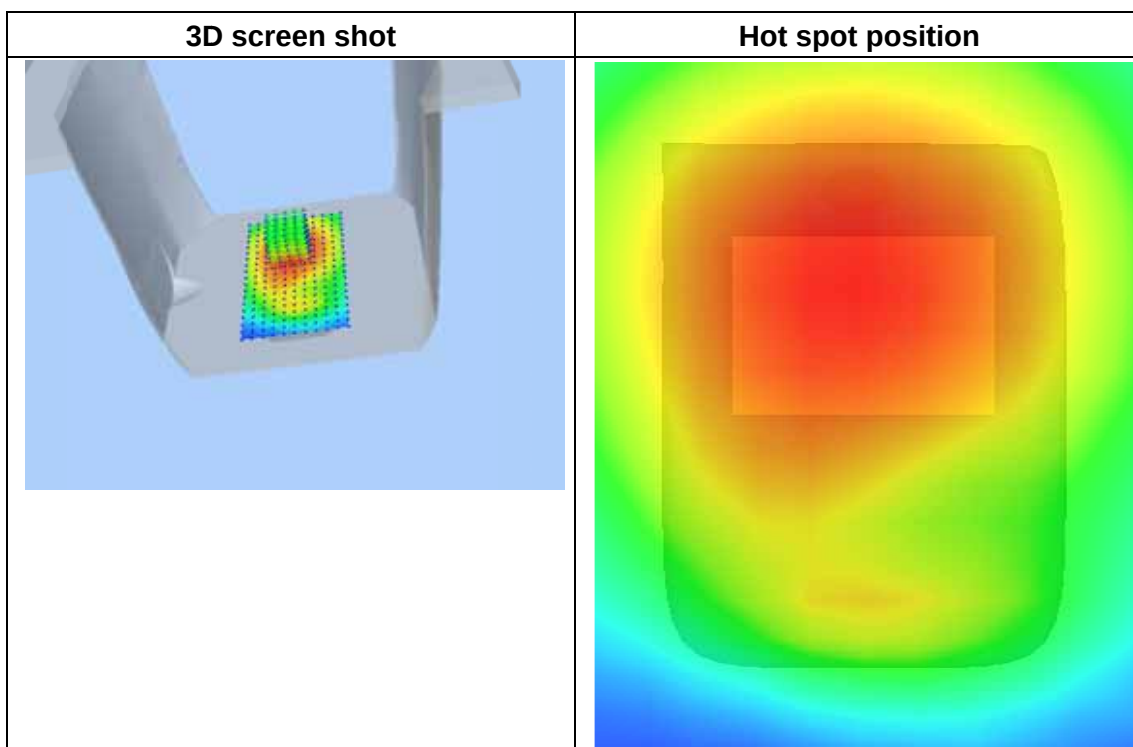
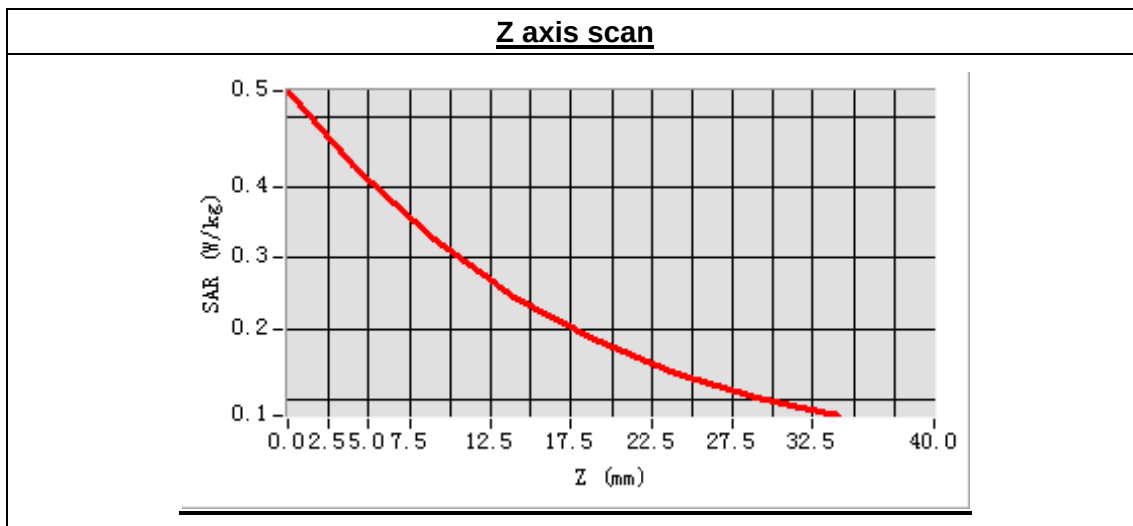
Frequency (MHz)	835.000000
Relative permittivity (real part)	55.124386
Conductivity (S/m)	0.976854
Power drift (%)	-0.430000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:1



Maximum location: X=-3.00, Y=25.00

SAR Peak: 0.58 W/kg

SAR 10g (W/Kg)	0.324968
SAR 1g (W/Kg)	0.449000



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: 2014.5.19

Measurement duration: 9 minutes 29 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WCDMA850
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 4175):

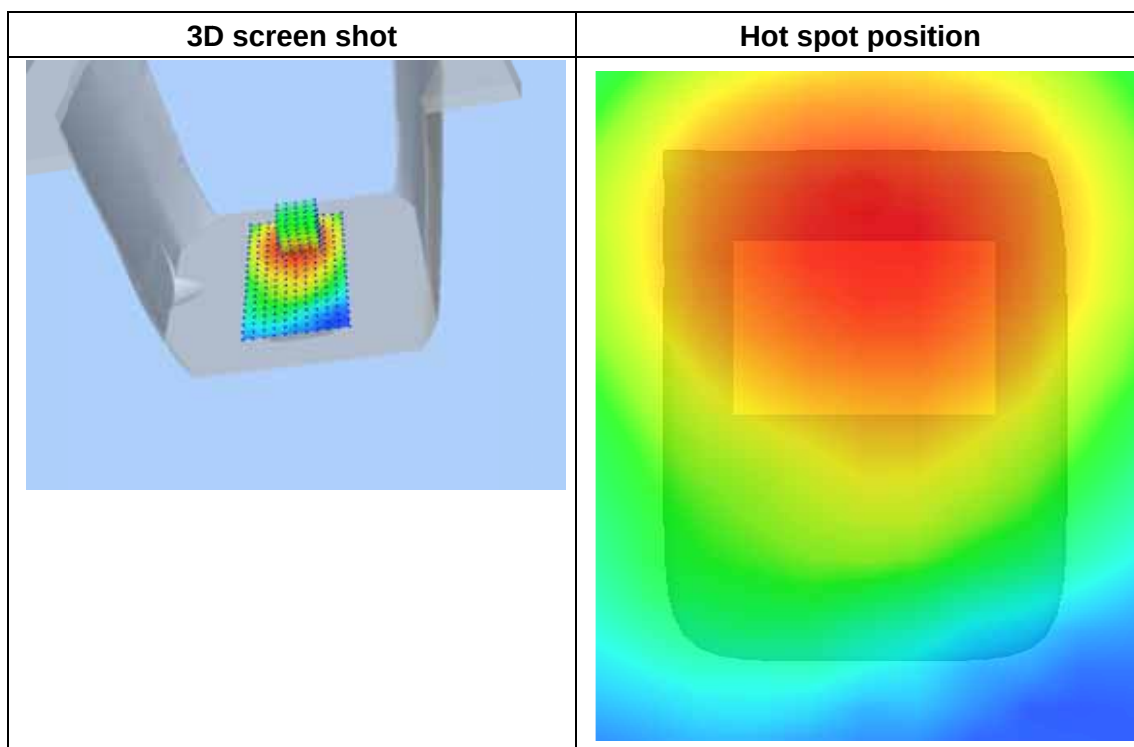
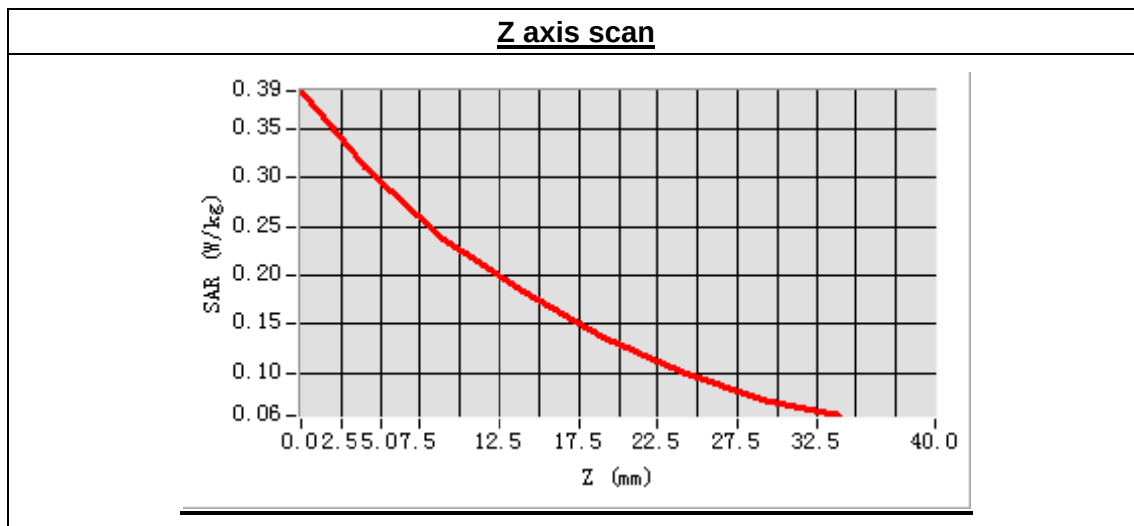
Frequency (MHz)	835.000000
Relative permittivity (real part)	55.124386
Conductivity (S/m)	0.976854
Power drift (%)	-3.210000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:1



Maximum location: X=5.00, Y=38.00

SAR Peak: 0.43 W/kg

SAR 10g (W/Kg)	0.239392
SAR 1g (W/Kg)	0.327164



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: 2014.5.19

Measurement duration: 9 minutes 31seconds

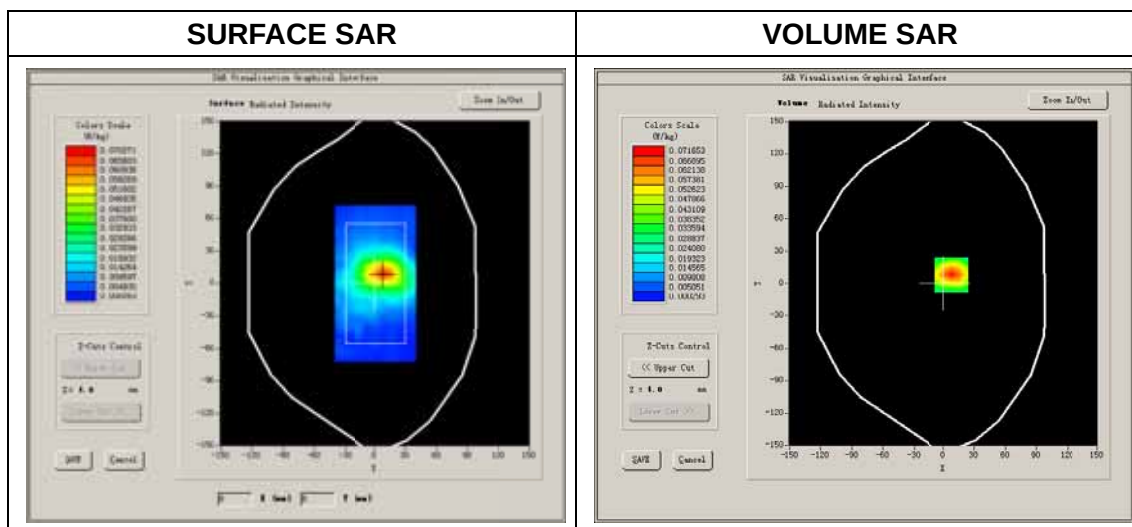
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WCDMA850
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 4175):

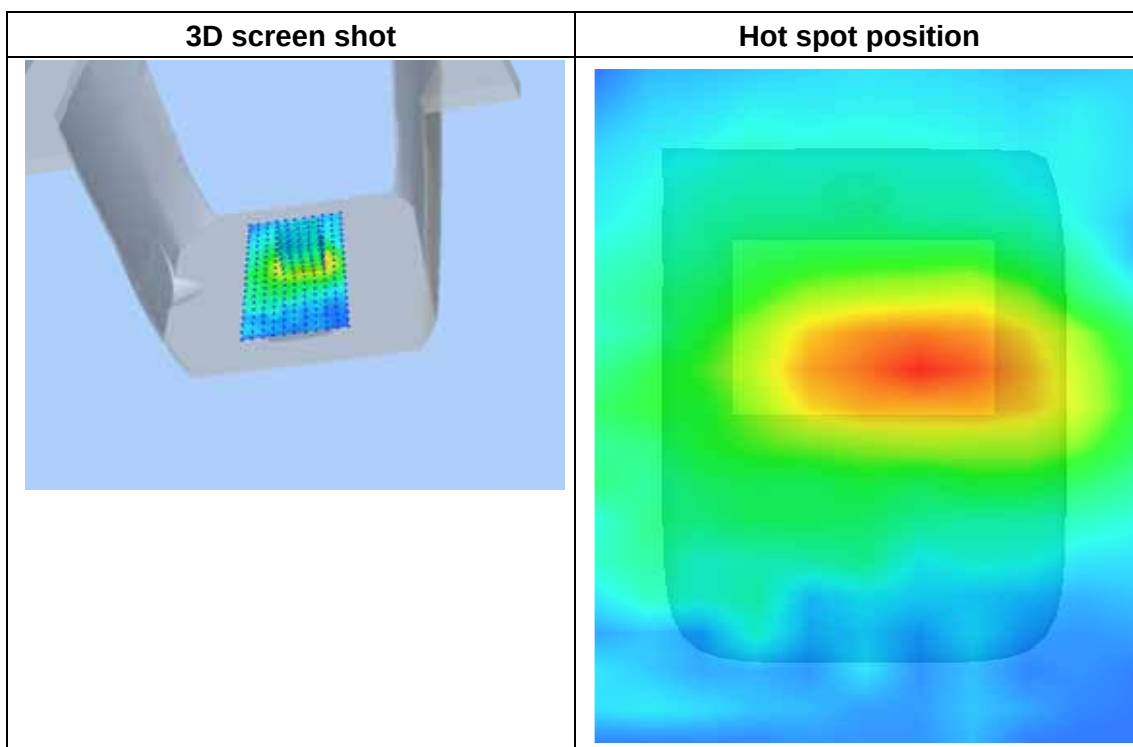
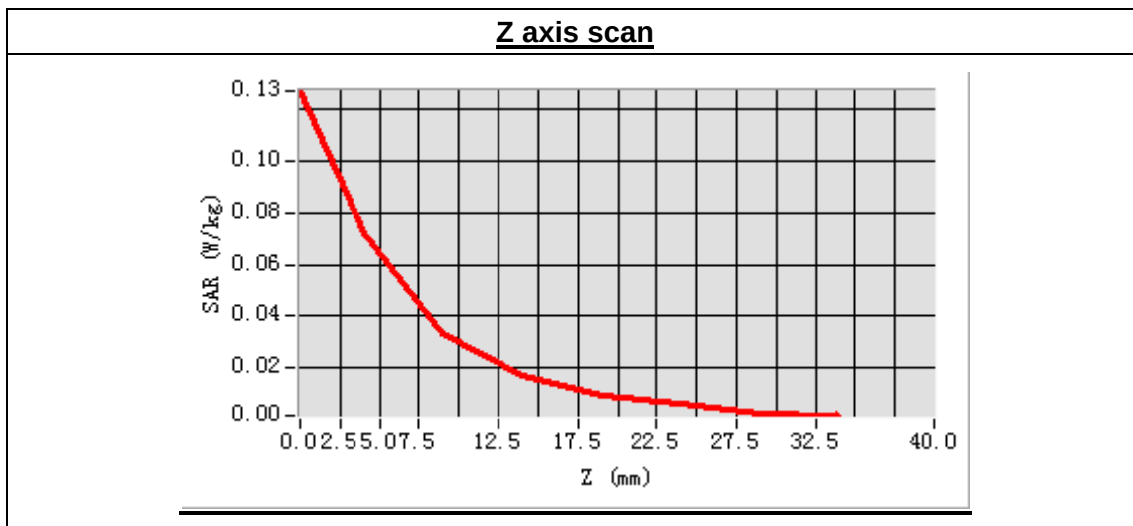
Frequency (MHz)	835.000000
Relative permittivity (real part)	55.124386
Conductivity (S/m)	0.976854
Power drift (%)	-1.370000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:1



Maximum location: X=8.00, Y=8.00

SAR Peak: 0.13 W/kg

SAR 10g (W/Kg)	0.036716
SAR 1g (W/Kg)	0.073090



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: 2014.5.19

Measurement duration: 9 minutes 30 seconds

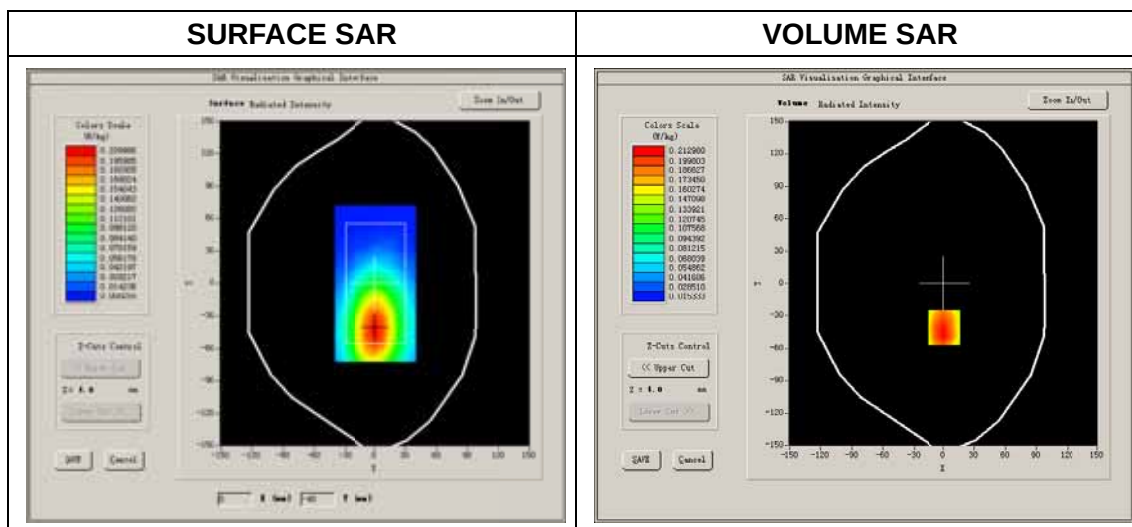
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WCDMA850
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 4175):

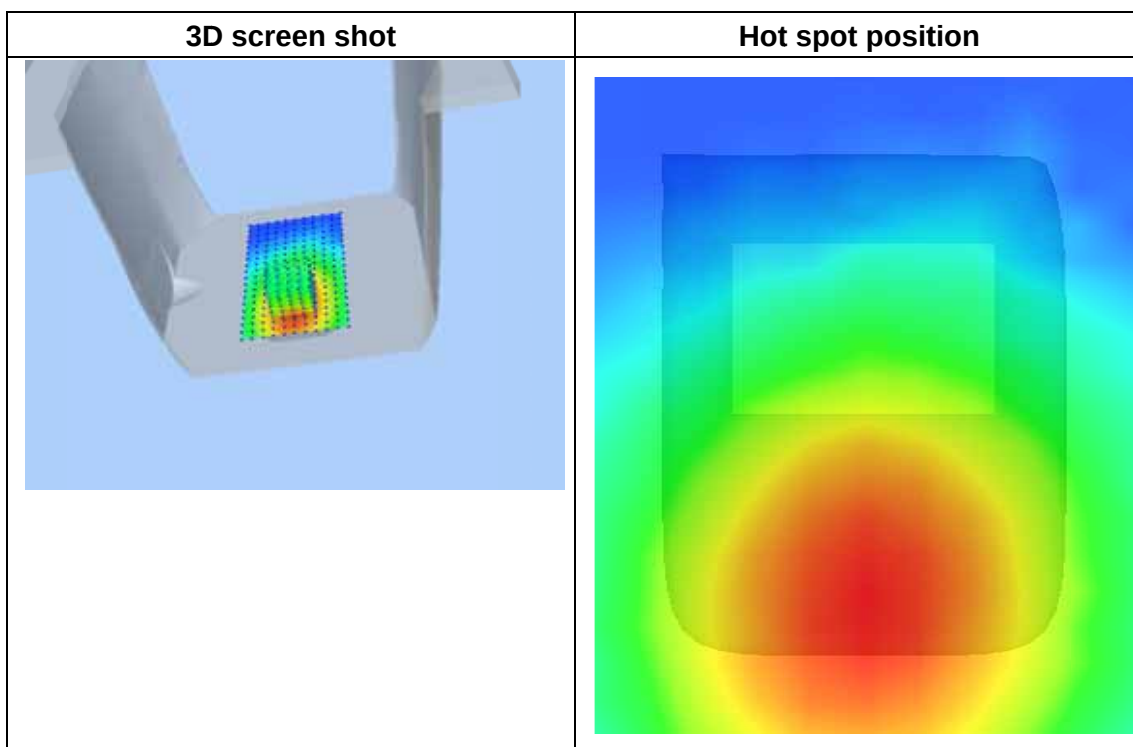
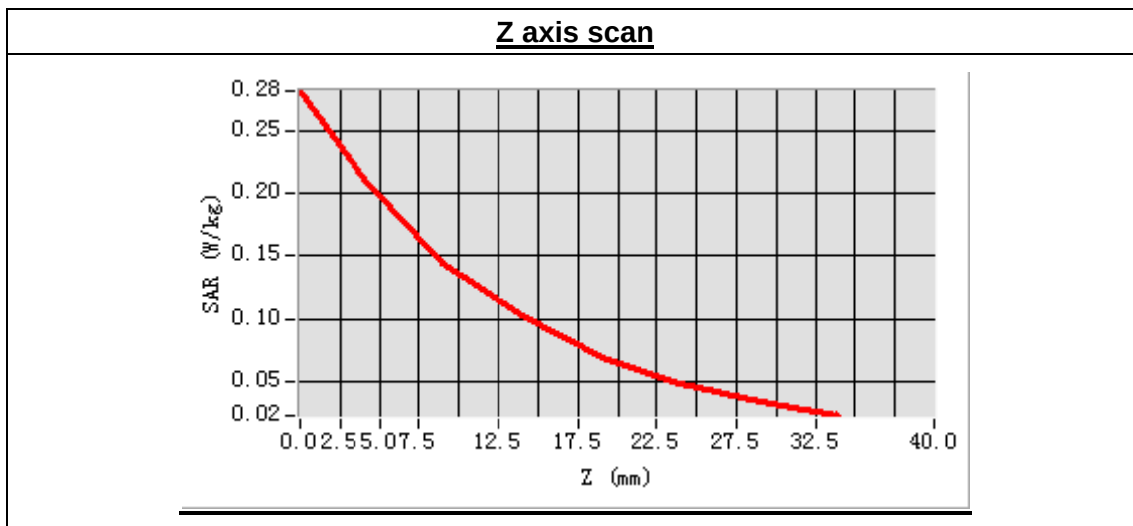
Frequency (MHz)	835.000000
Relative permittivity (real part)	55.124386
Conductivity (S/m)	0.976854
Power drift (%)	-0.580000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:1



Maximum location: X=0.00, Y=-41.00

SAR Peak: 0.32 W/kg

SAR 10g (W/Kg)	0.145277
SAR 1g (W/Kg)	0.223272



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: 2014.5.19

Measurement duration: 9 minutes 31 seconds

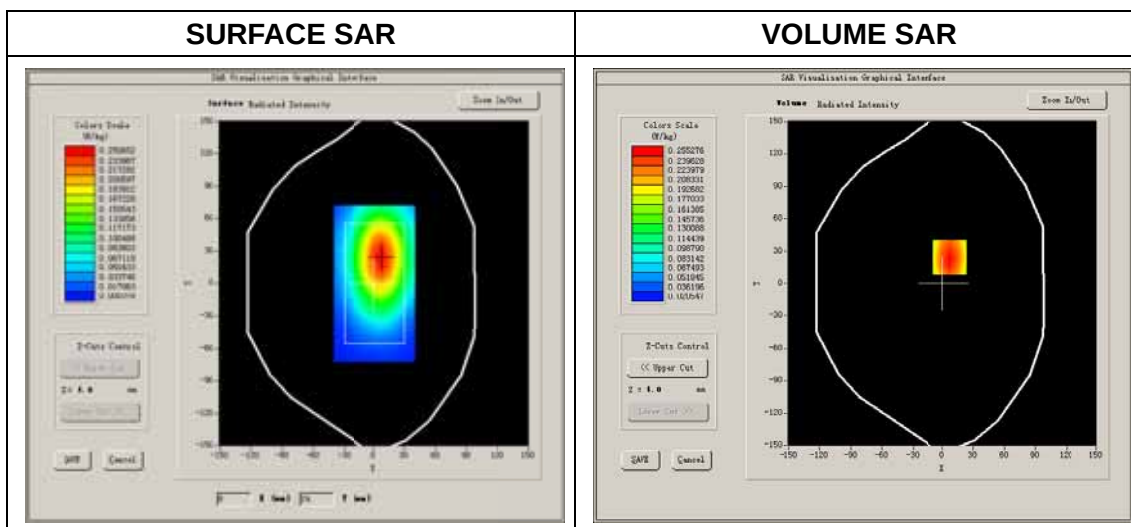
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WCDMA850
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

Middle Band SAR (Channel 4175):

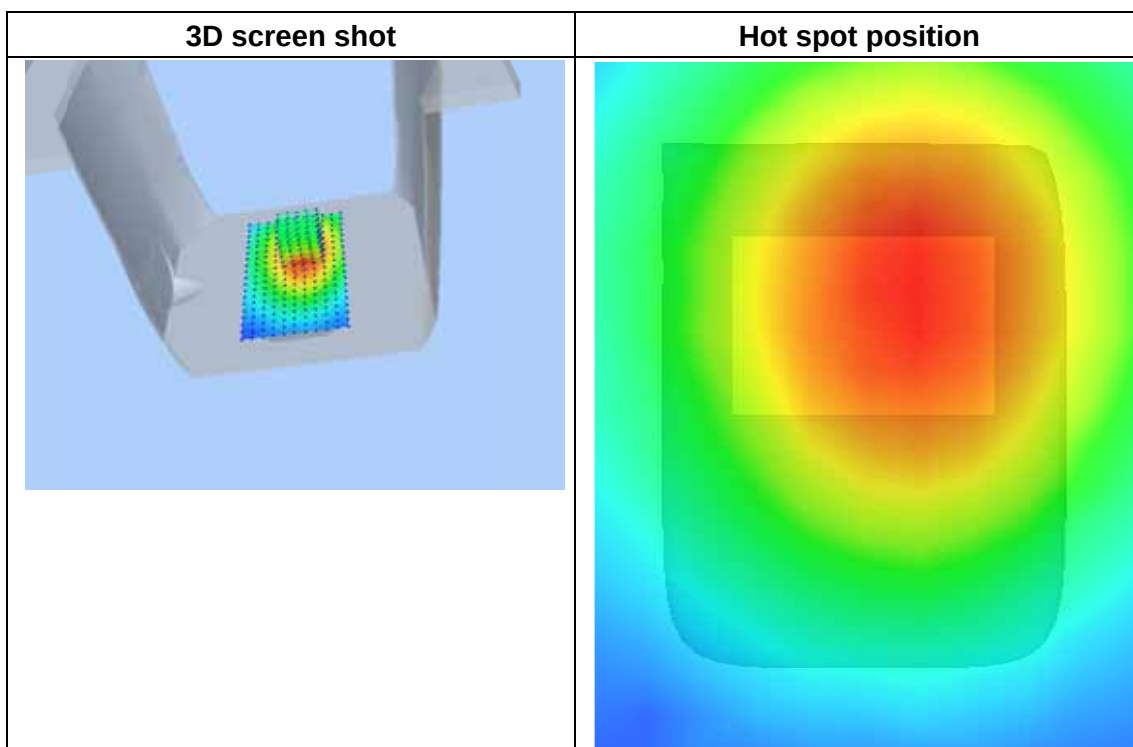
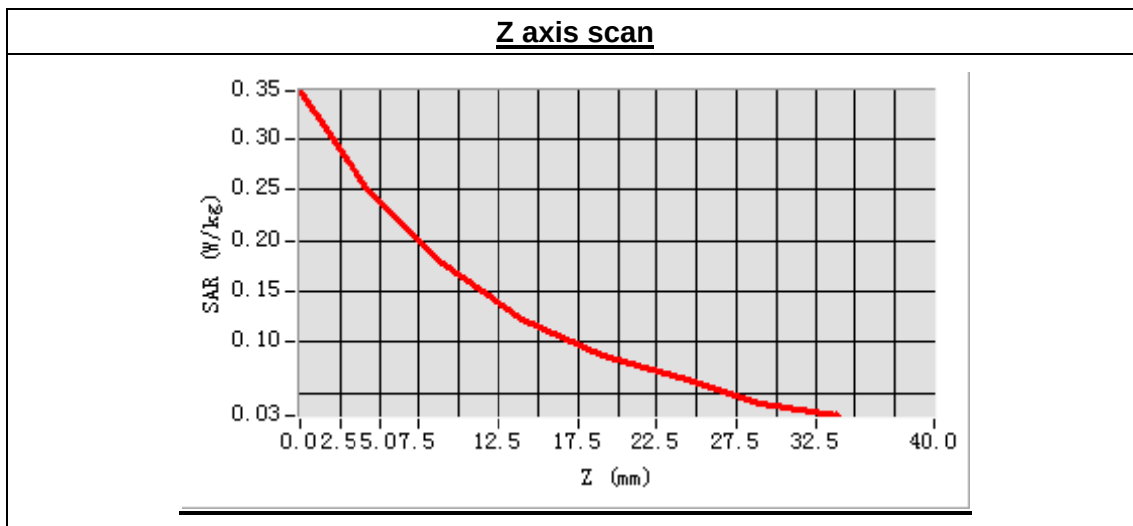
Frequency (MHz)	835.000000
Relative permittivity (real part)	55.124386
Conductivity (S/m)	0.976854
Power drift (%)	-0.680000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:1



Maximum location: X=7.00, Y=24.00

SAR Peak: 0.38 W/kg

SAR 10g (W/Kg)	0.175613
SAR 1g (W/Kg)	0.265833



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: 2014.5.20

Measurement duration: 9 minutes 25 seconds

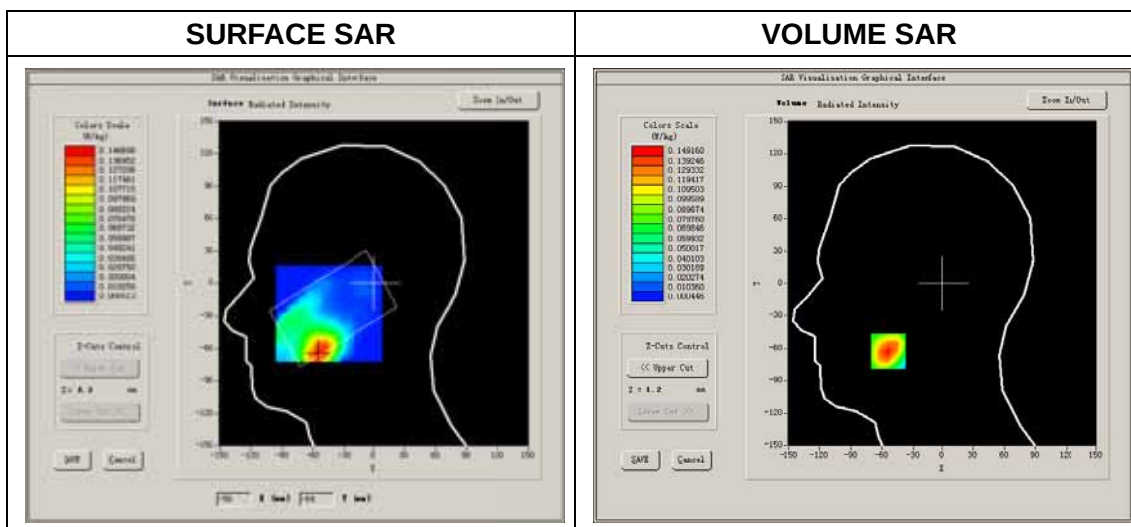
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	WCDMA1900
Channels	High
Signal	CDMA

B. SAR Measurement Results

High Band SAR (Channel 9538):

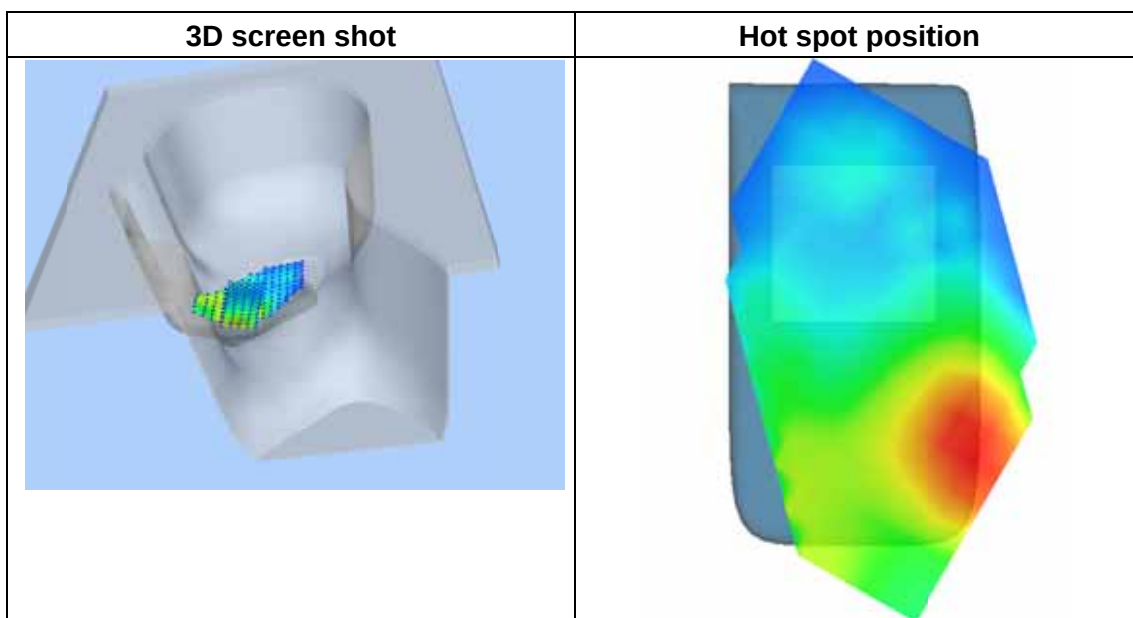
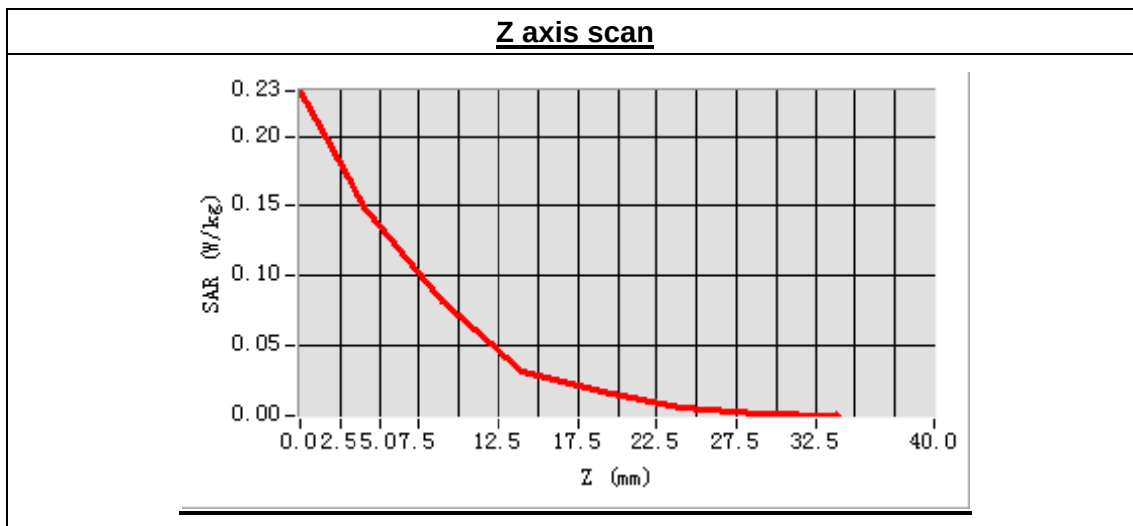
Frequency (MHz)	1907.600000
Relative permittivity (real part)	39.916742
Conductivity (S/m)	1.416850
Power drift (%)	2.120000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:1



Maximum location: X=-54.00, Y=-63.00

SAR Peak: 0.24 W/kg

SAR 10g (W/Kg)	0.069148
SAR 1g (W/Kg)	0.139274



MEASUREMENT 37

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.20

Measurement duration: 7 minutes 23 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	WCDMA1900
Channels	High
Signal	CDMA

B. SAR Measurement Results

High Band SAR (Channel 9538):

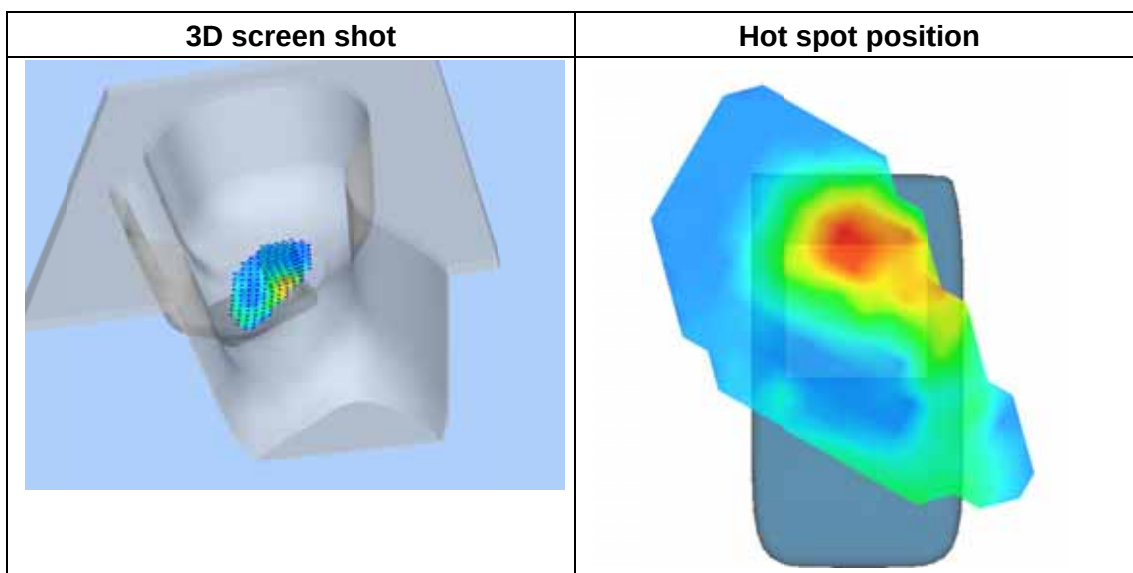
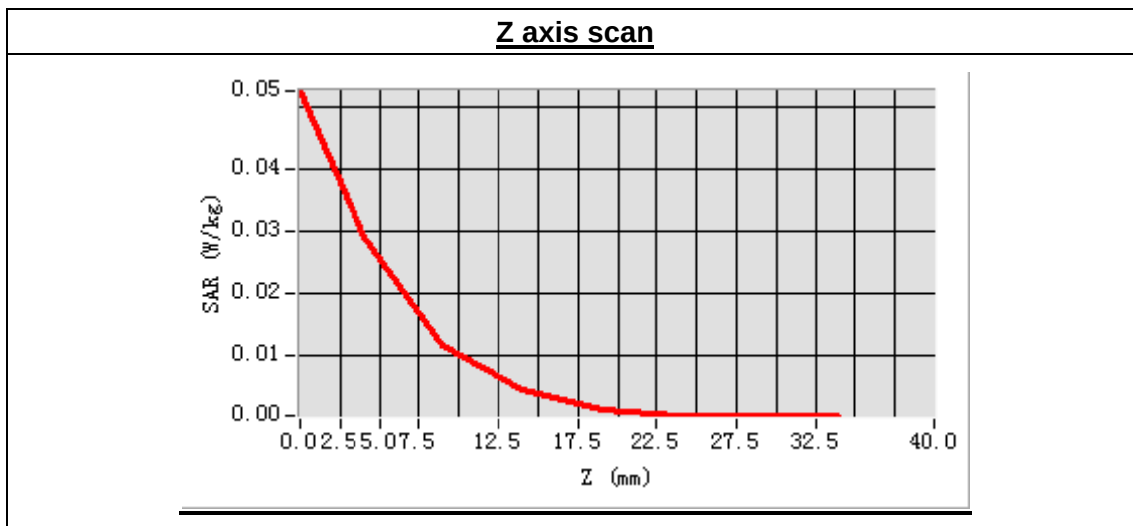
Frequency (MHz)	1907.600000
Relative permittivity (real part)	39.916742
Conductivity (S/m)	1.416850
Power drift (%)	-3.180000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:1



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

SAR Peak: 0.06 W/kg

SAR 10g (W/Kg)	0.011705
SAR 1g (W/Kg)	0.028026



MEASUREMENT 38

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.20

Measurement duration: 9 minutes 7 seconds

A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	WCDMA1900
Channels	High
Signal	CDMA

B. SAR Measurement Results

High Band SAR (Channel 9538):

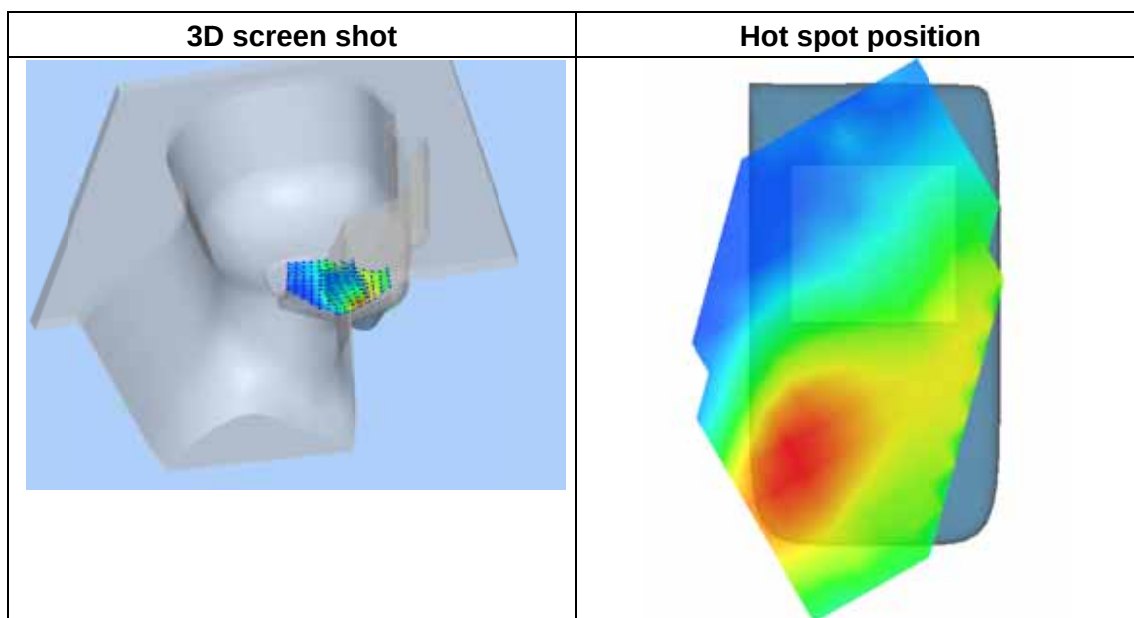
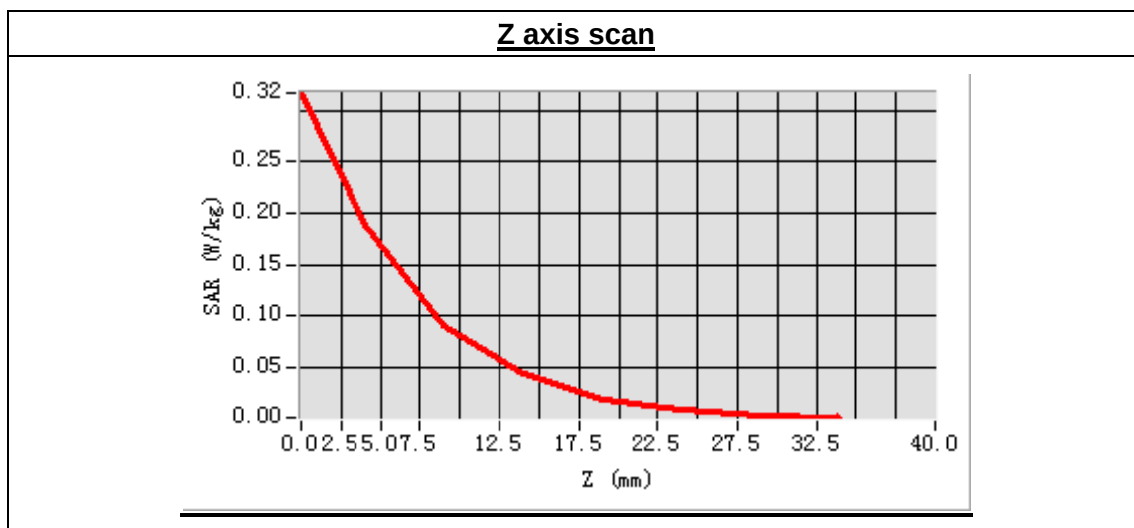
Frequency (MHz)	1907.600000
Relative permittivity (real part)	39.916742
Conductivity (S/m)	1.416850
Power drift (%)	3.060000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:1



Maximum location: X=-59.00, Y=-56.00

SAR Peak: 0.32 W/kg

SAR 10g (W/Kg)	0.089261
SAR 1g (W/Kg)	0.181306



MEASUREMENT 39

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.20

Measurement duration: 7 minutes 30 seconds

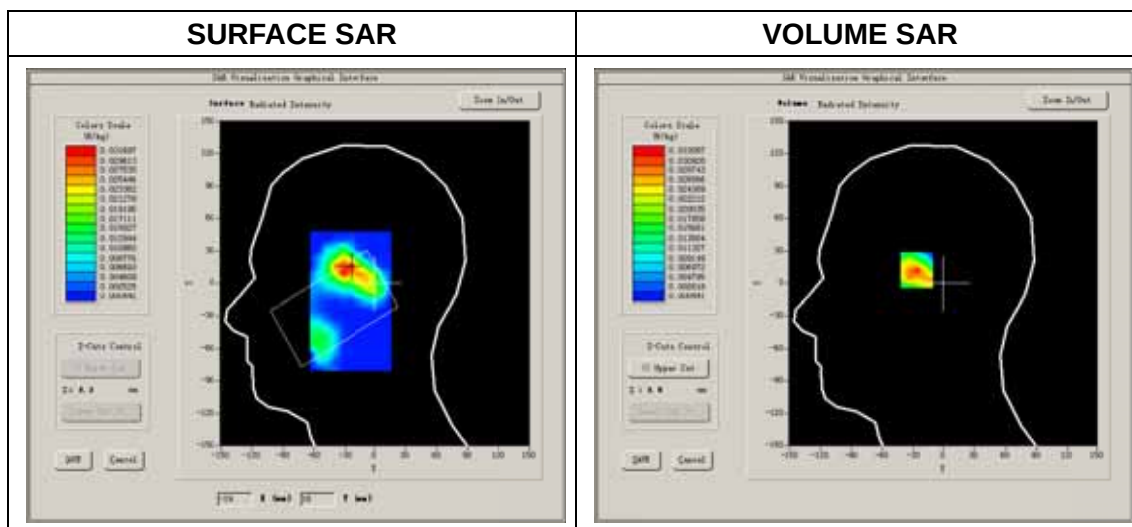
A. Experimental conditions.

Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	WCDMA1900
Channels	High
Signal	CDMA

B. SAR Measurement Results

High Band SAR (Channel 9538):

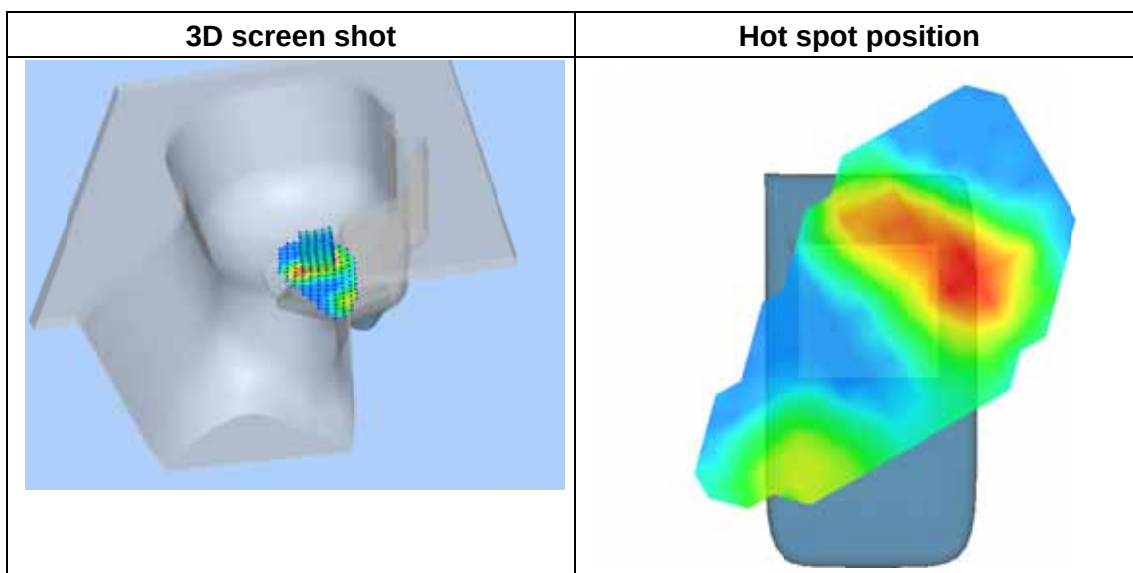
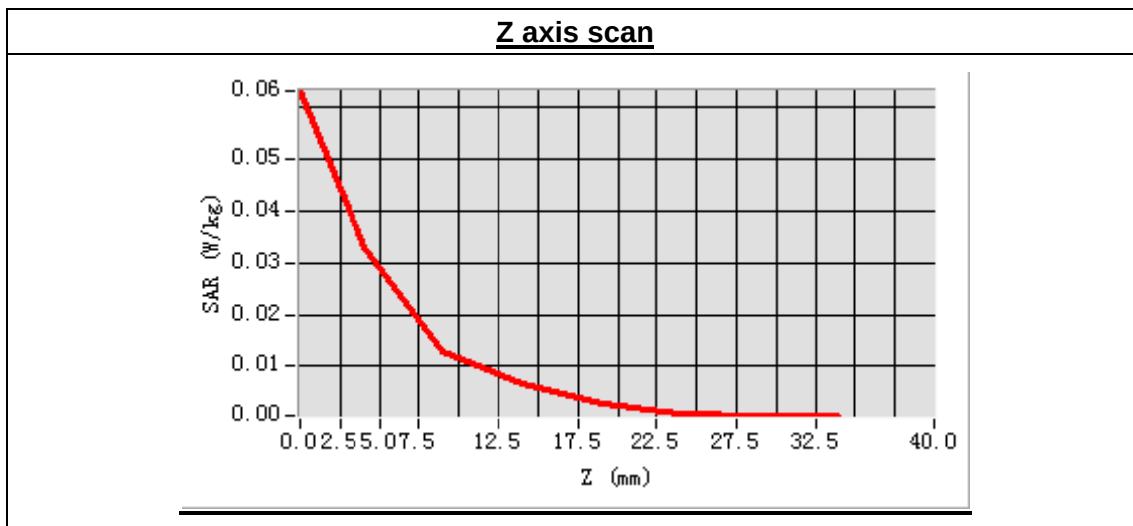
Frequency (MHz)	1907.600000
Relative permittivity (real part)	39.916742
Conductivity (S/m)	1.416850
Power drift (%)	4.190000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:1



Maximum location: X=-25.00, Y=15.00

SAR Peak: 0.06 W/kg

SAR 10g (W/Kg)	0.013608
SAR 1g (W/Kg)	0.030782



MEASUREMENT 40

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.20

Measurement duration: 9 minutes 32 seconds

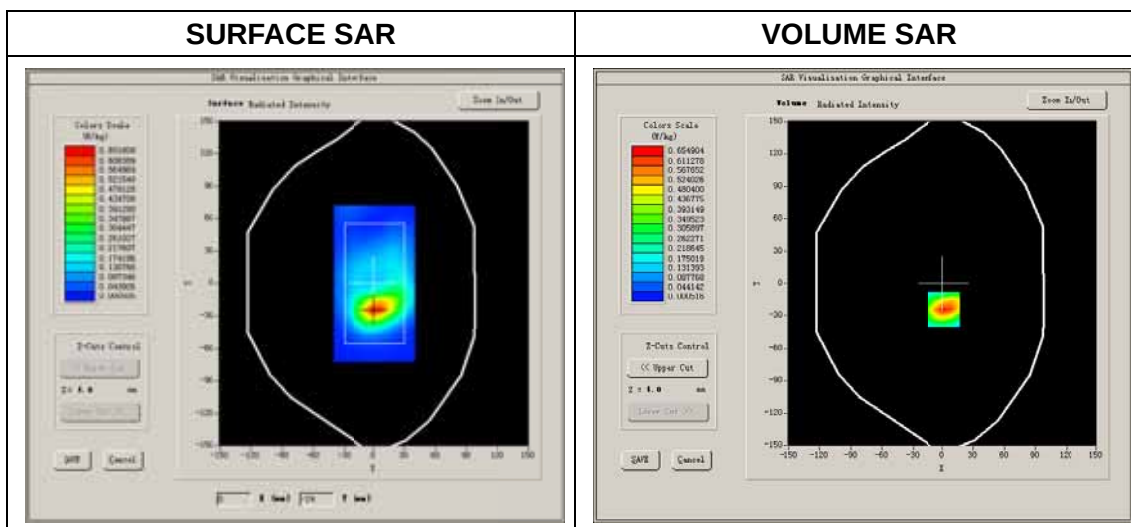
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WCDMA1900
Channels	High
Signal	CDMA

B. SAR Measurement Results

High Band SAR (Channel 9538):

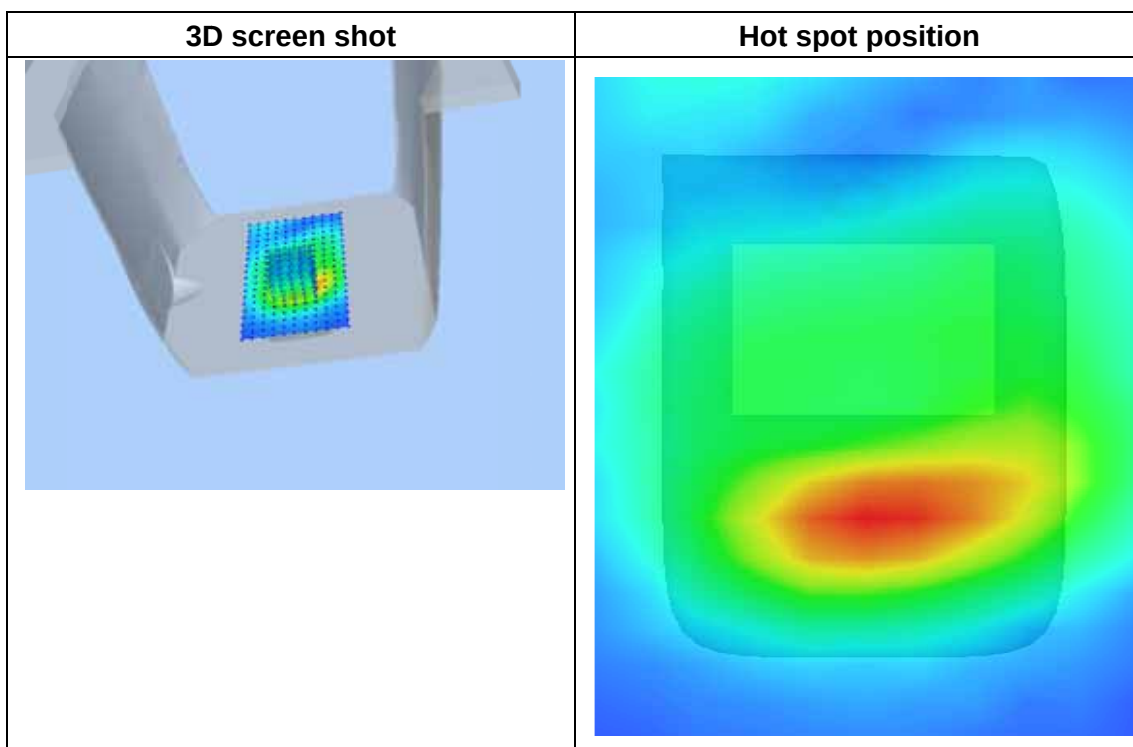
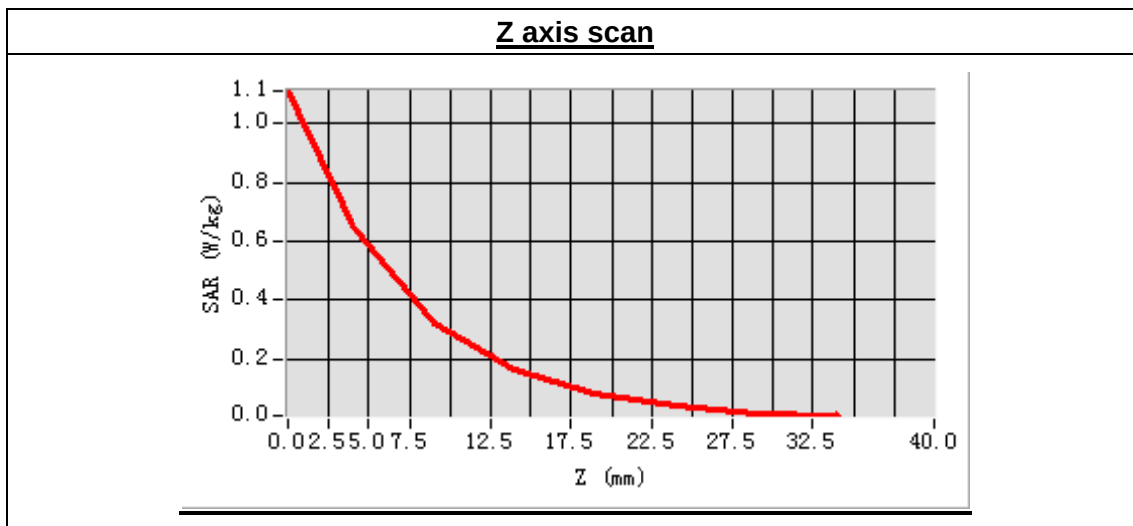
Frequency (MHz)	1907.600000
Relative permittivity (real part)	53.112847
Conductivity (S/m)	1.534067
Power drift (%)	0.870000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:1



Maximum location: X=1.00, Y=-24.00

SAR Peak: 1.21 W/kg

SAR 10g (W/Kg)	0.321611
SAR 1g (W/Kg)	0.673347



MEASUREMENT 41

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.20

Measurement duration: 9 minutes 33 seconds

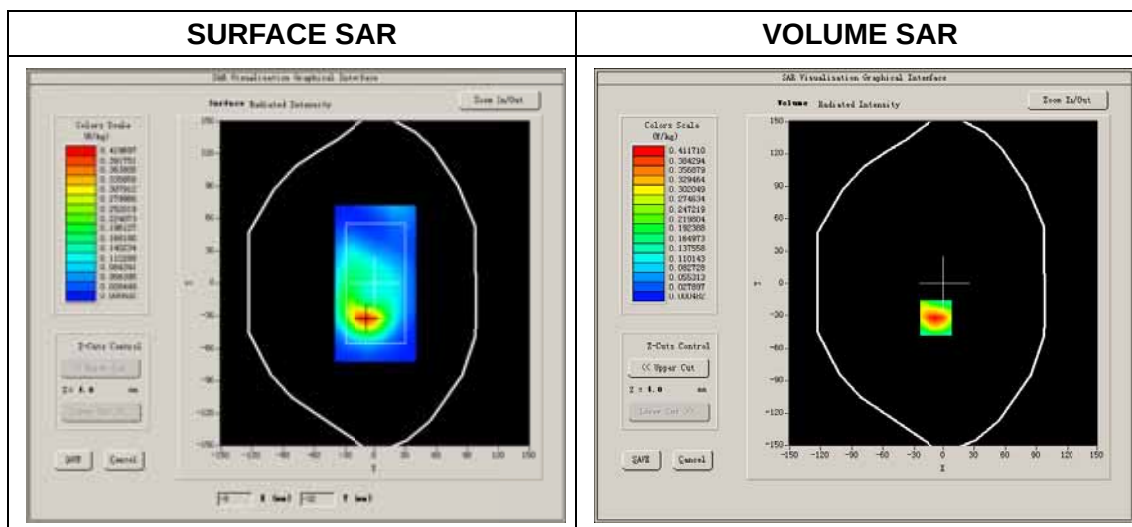
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WCDMA1900
Channels	High
Signal	CDMA

B. SAR Measurement Results

High Band SAR (Channel 9538):

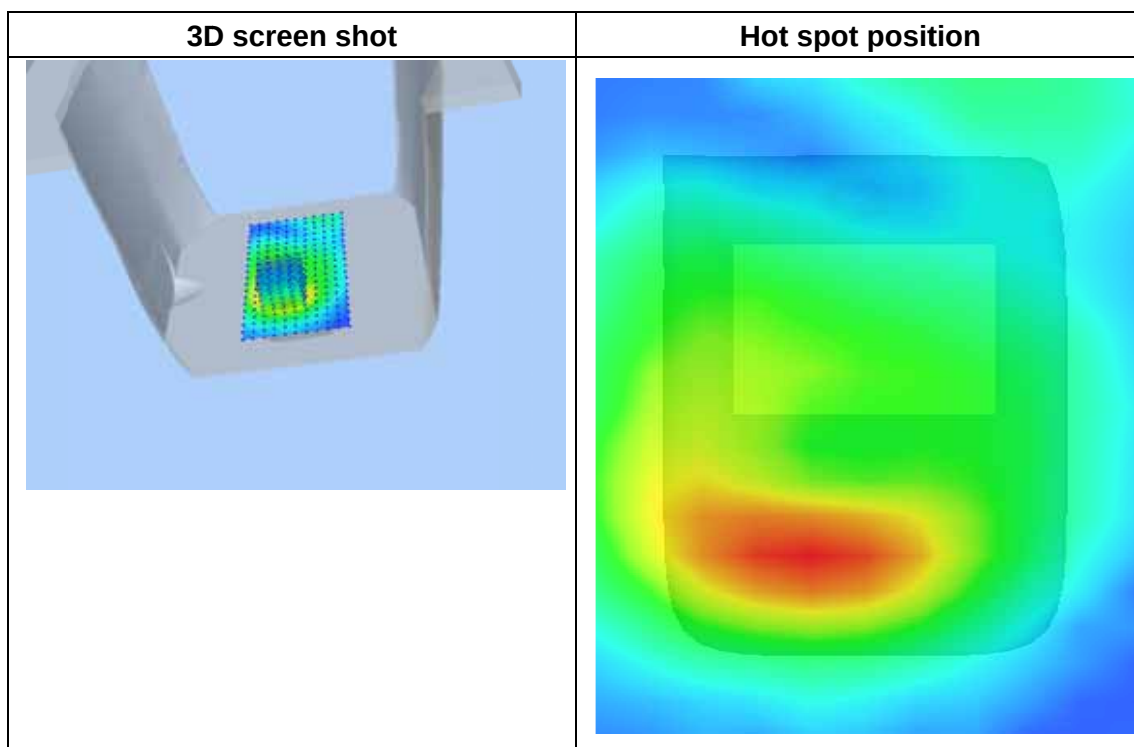
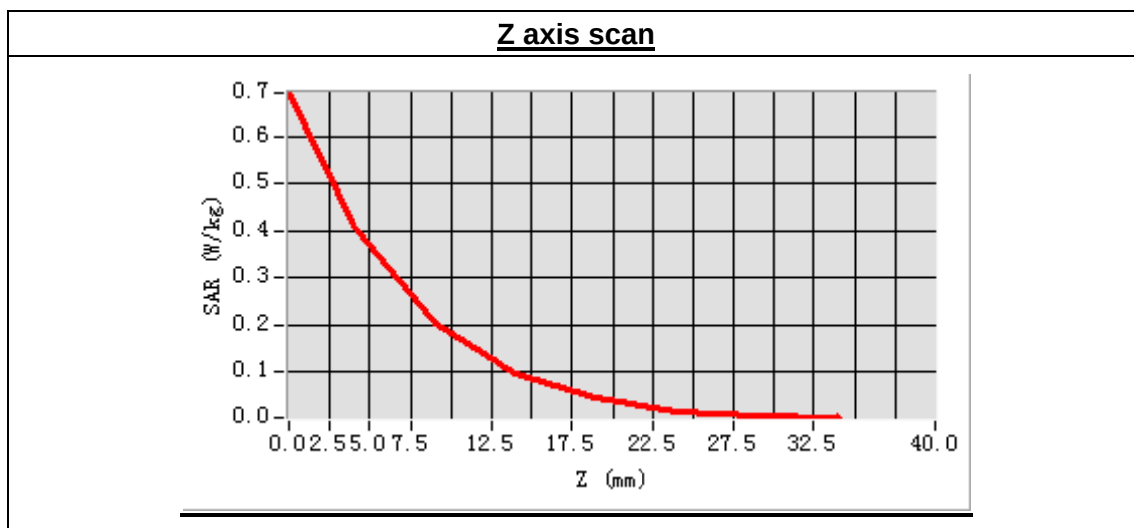
Frequency (MHz)	1907.600000
Relative permittivity (real part)	53.112847
Conductivity (S/m)	1.534067
Power drift (%)	-3.460000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:1



Maximum location: X=-8.00, Y=-32.00

SAR Peak: 0.75 W/kg

SAR 10g (W/Kg)	0.201943
SAR 1g (W/Kg)	0.421392



MEASUREMENT 42

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.20

Measurement duration: 9 minutes 29 seconds

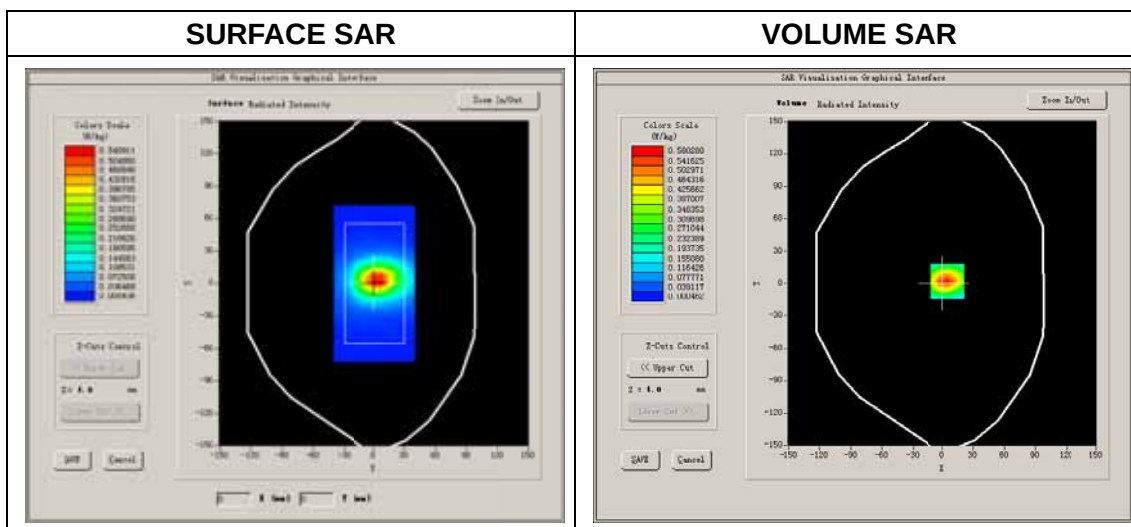
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WCDMA1900
Channels	High
Signal	CDMA

B. SAR Measurement Results

High Band SAR (Channel 9538):

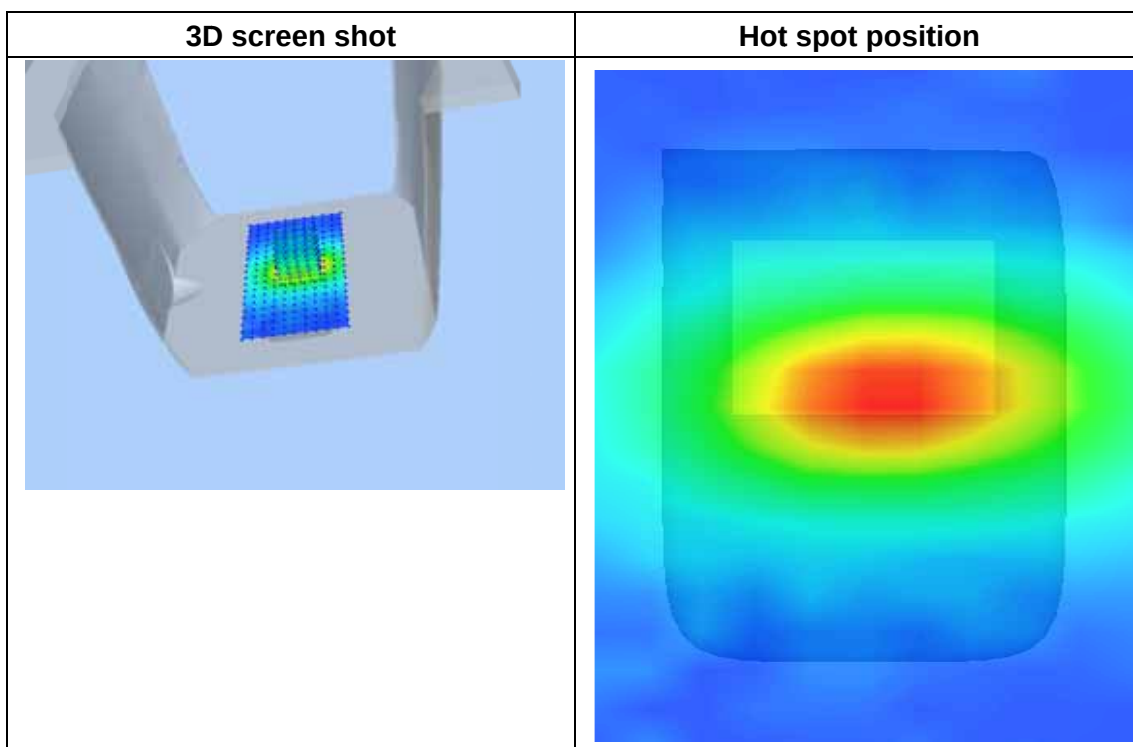
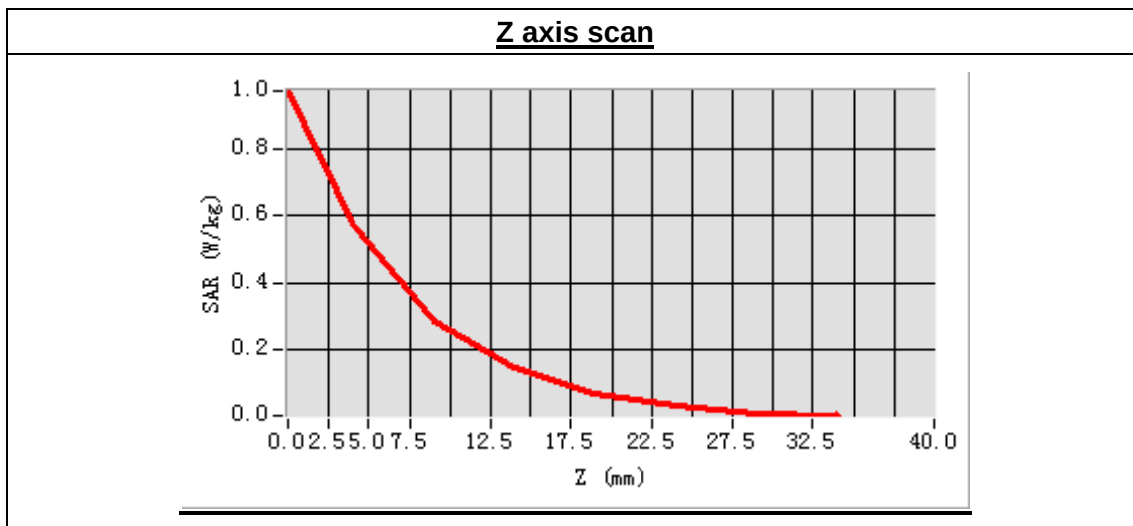
Frequency (MHz)	1907.600000
Relative permittivity (real part)	53.112847
Conductivity (S/m)	1.534067
Power drift (%)	-0.360000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:1



Maximum location: X=5.00, Y=2.00

SAR Peak: 1.05 W/kg

SAR 10g (W/Kg)	0.283489
SAR 1g (W/Kg)	0.596453



MEASUREMENT 43

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.20

Measurement duration: 9 minutes 34seconds

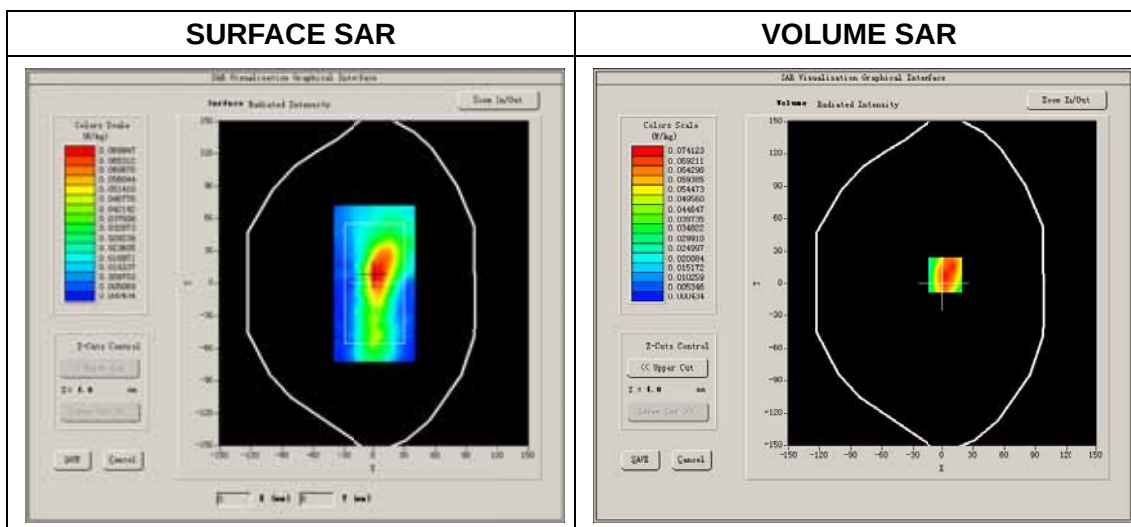
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WCDMA1900
Channels	High
Signal	CDMA

B. SAR Measurement Results

High Band SAR (Channel 9538):

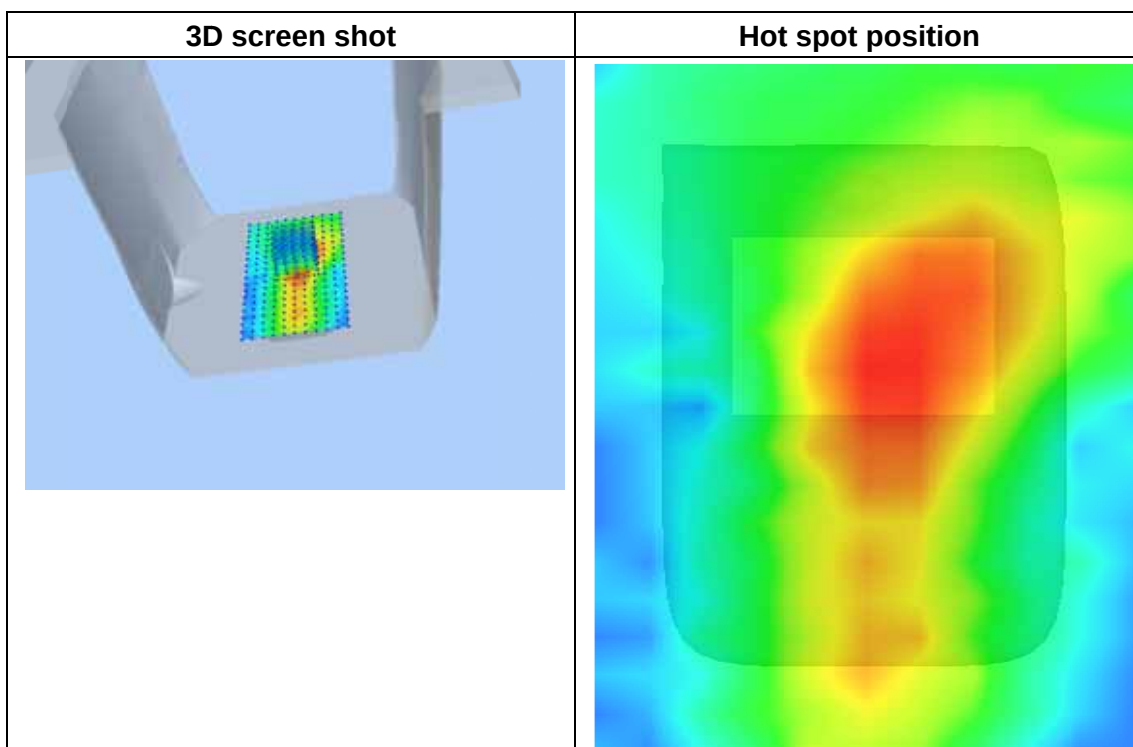
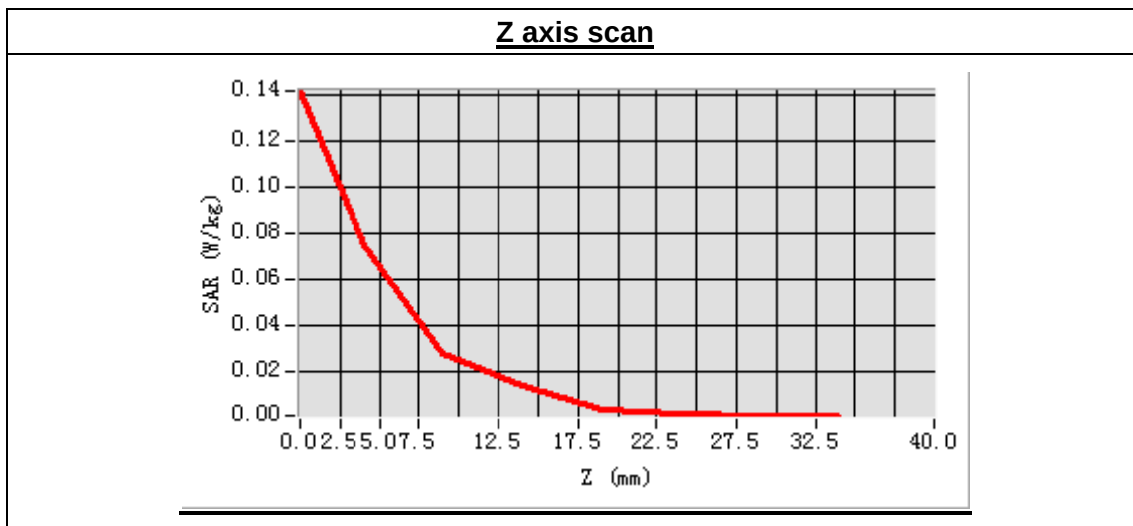
Frequency (MHz)	1907.600000
Relative permittivity (real part)	53.112847
Conductivity (S/m)	1.534067
Power drift (%)	1.810000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:1



Maximum location: X=3.00, Y=8.00

SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.036389
SAR 1g (W/Kg)	0.078004



MEASUREMENT 44

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.20

Measurement duration: 9 minutes 32 seconds

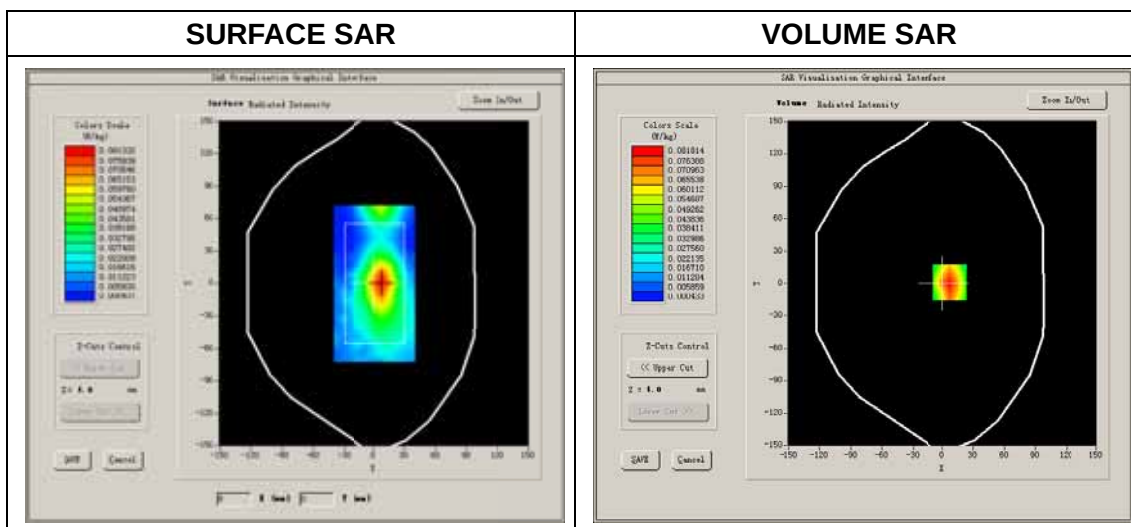
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WCDMA1900
Channels	High
Signal	CDMA

B. SAR Measurement Results

High Band SAR (Channel 9538):

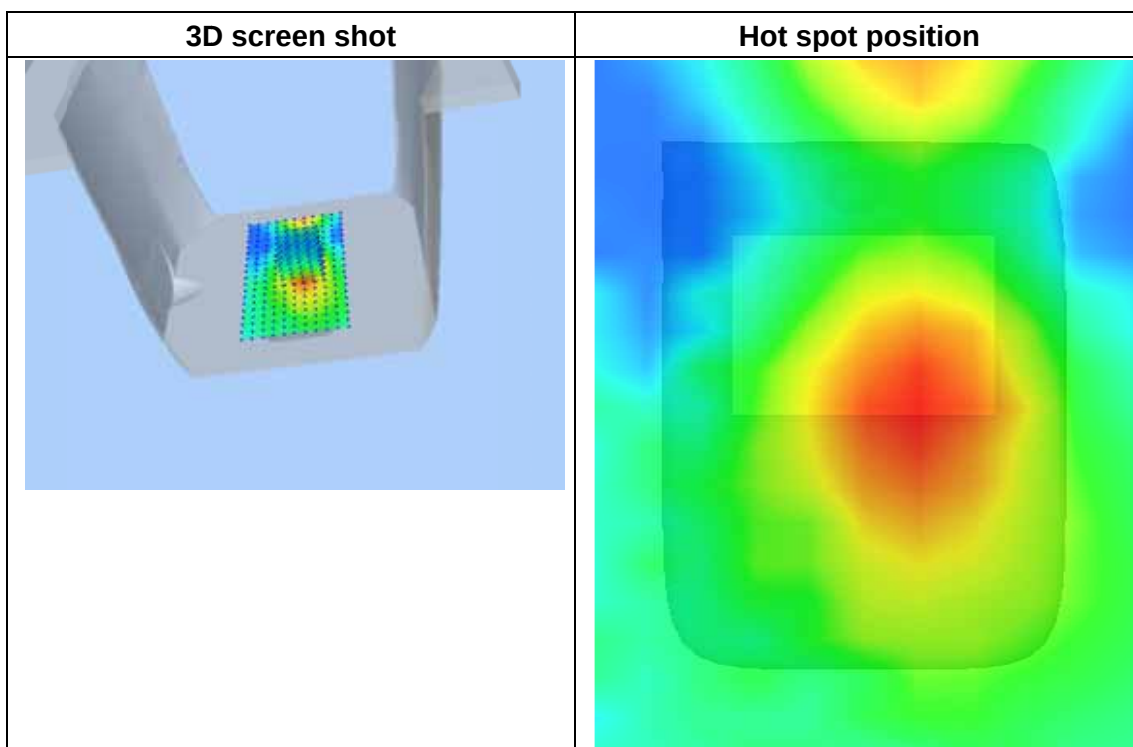
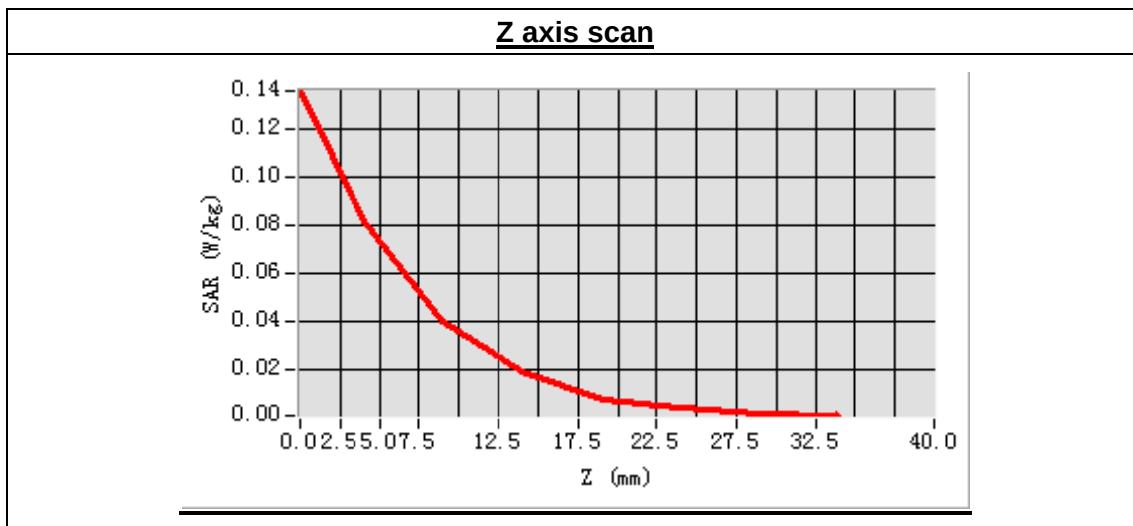
Frequency (MHz)	1907.600000
Relative permittivity (real part)	53.112847
Conductivity (S/m)	1.534067
Power drift (%)	-1.590000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:1



Maximum location: X=7.00, Y=1.00

SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.041389
SAR 1g (W/Kg)	0.084258



MEASUREMENT 45

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.21

Measurement duration: 7 minutes 57 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Right head
Device Position	Cheek
Band	802.11b
Channels	High
Signal	DSSS

B. SAR Measurement Results

High Band SAR (Channel 11):

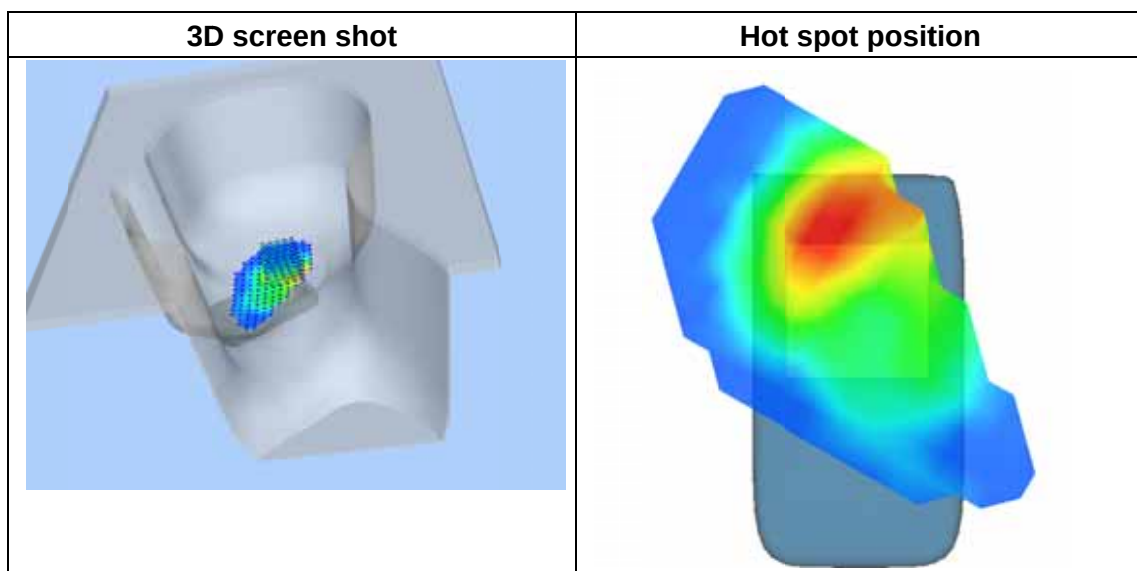
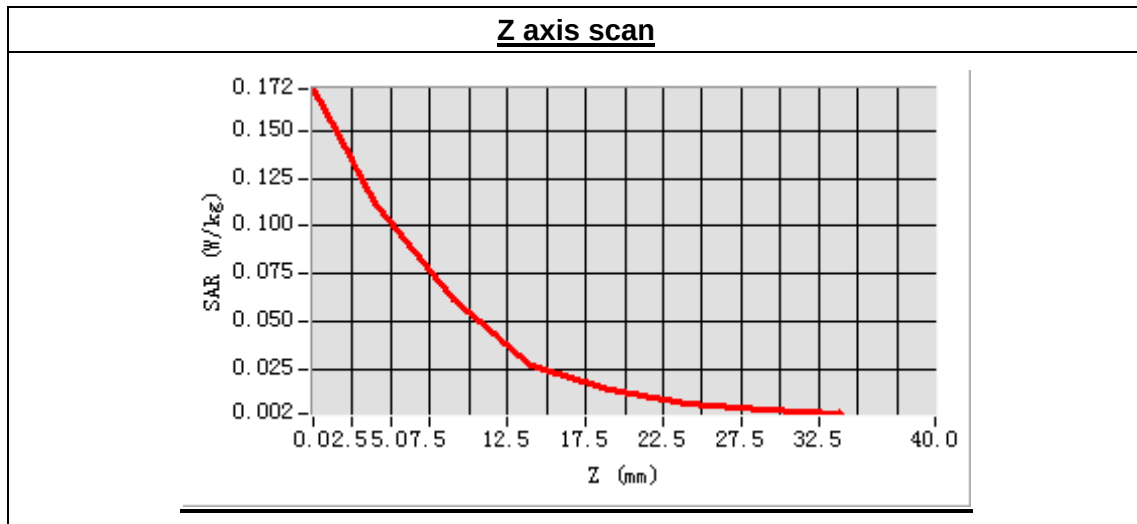
Frequency (MHz)	2462.000000
Relative permittivity (real part)	39.078261
Conductivity (S/m)	1.776823
Power drift (%)	-1.400000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.80
Crest factor:	1:1



Maximum location: X=-7.00, Y=6.00

SAR Peak: 0.18 W/kg

SAR 10g (W/Kg)	0.049645
SAR 1g (W/Kg)	0.101585



MEASUREMENT 46

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.21

Measurement duration: 7 minutes 50 seconds

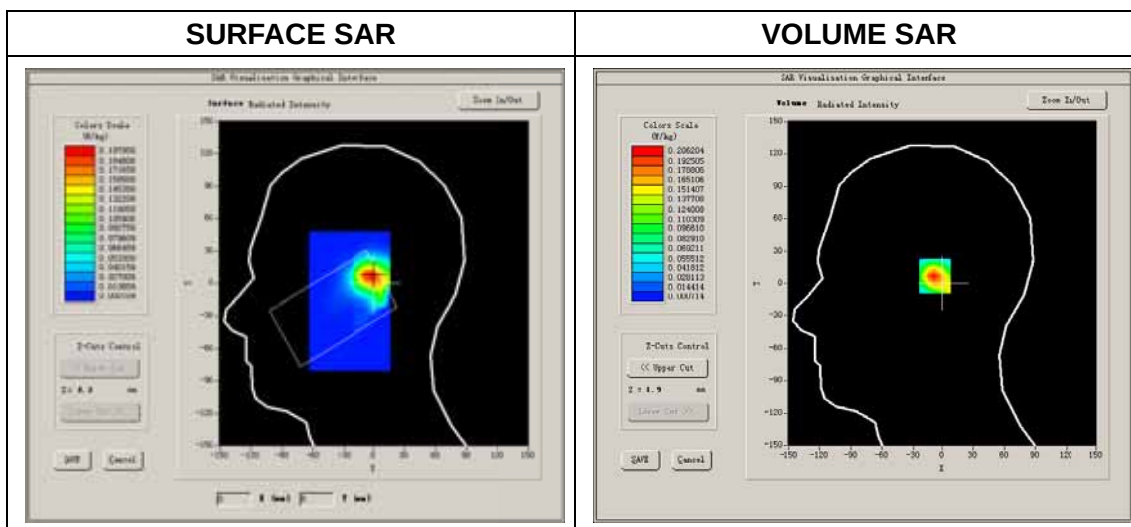
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Right head
Device Position	Tilt
Band	802.11b
Channels	High
Signal	DSSS

B. SAR Measurement Results

High Band SAR (Channel 11)

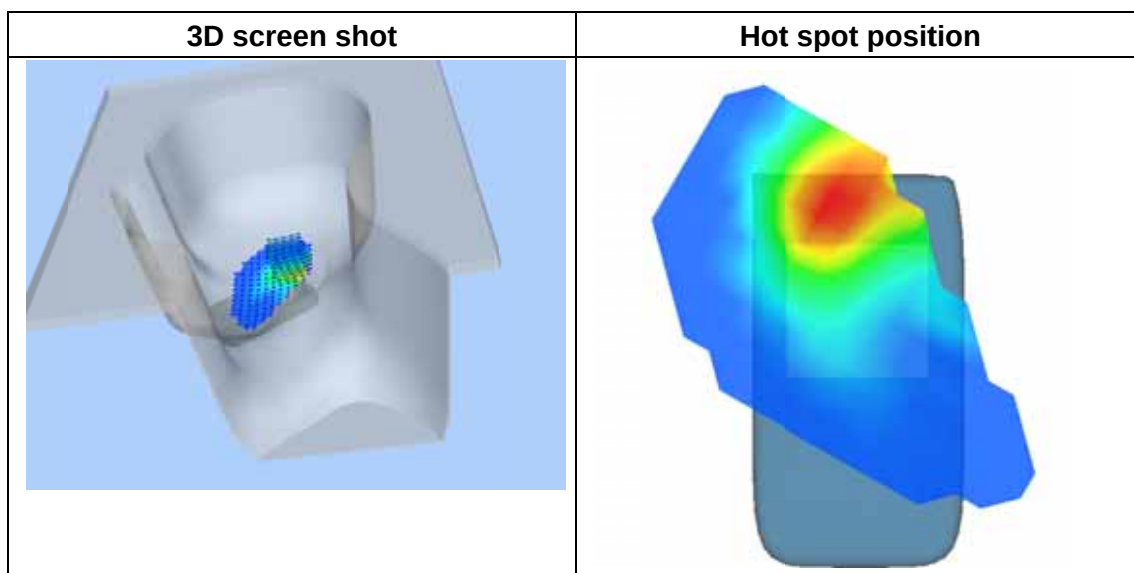
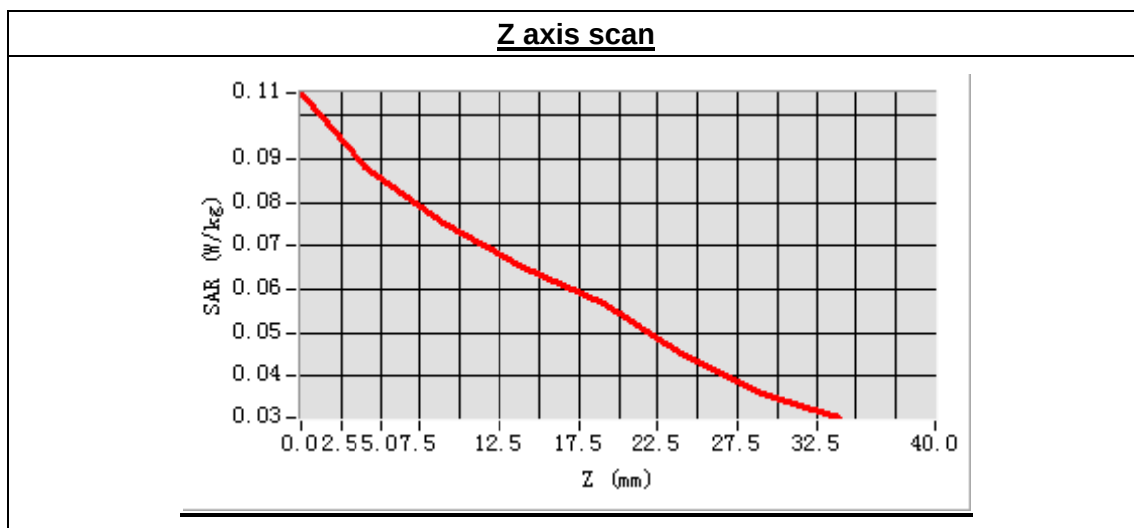
Frequency (MHz)	2462.000000
Relative permittivity (real part)	39.078261
Conductivity (S/m)	1.776823
Power drift (%)	4.190000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.80
Crest factor:	1:1



Maximum location: X=-54.00, Y=-45.00

SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.066387
SAR 1g (W/Kg)	0.086752



MEASUREMENT 47

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.21

Measurement duration: 7 minutes 53 seconds

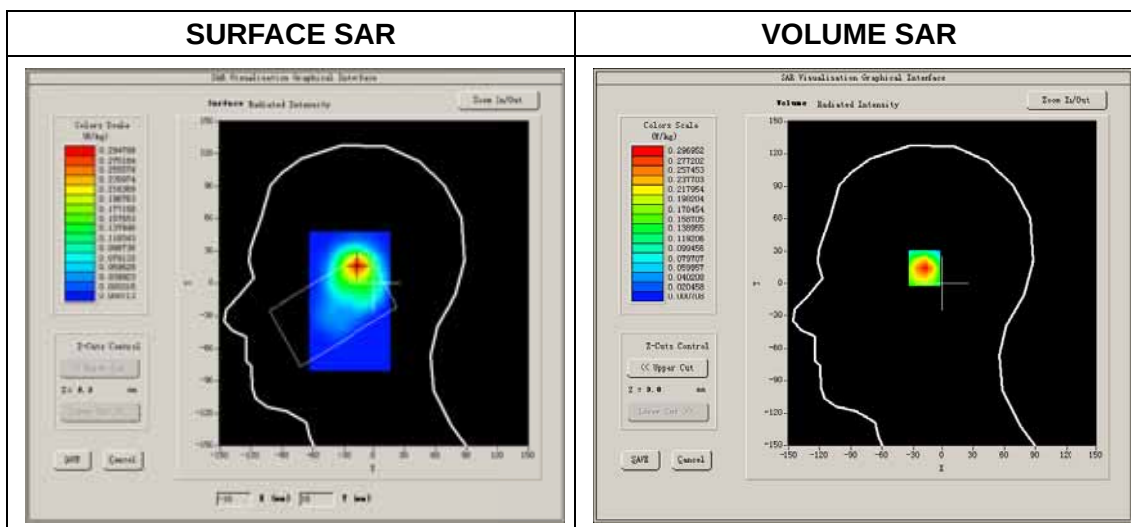
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Left head
Device Position	Cheek
Band	802.11b
Channels	High
Signal	DSSS

B. SAR Measurement Results

High Band SAR (Channel 11)

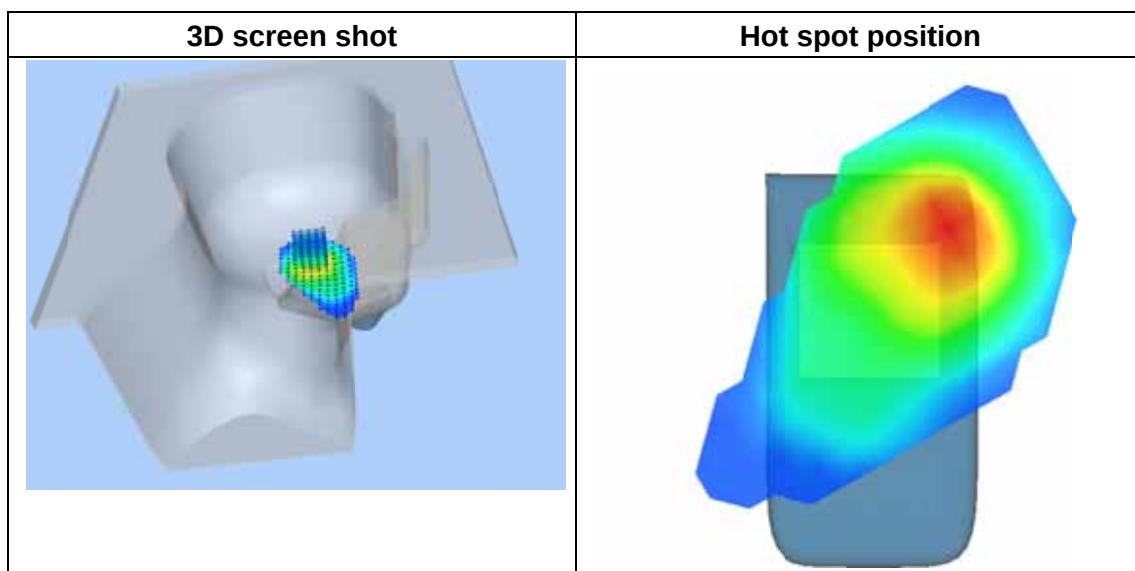
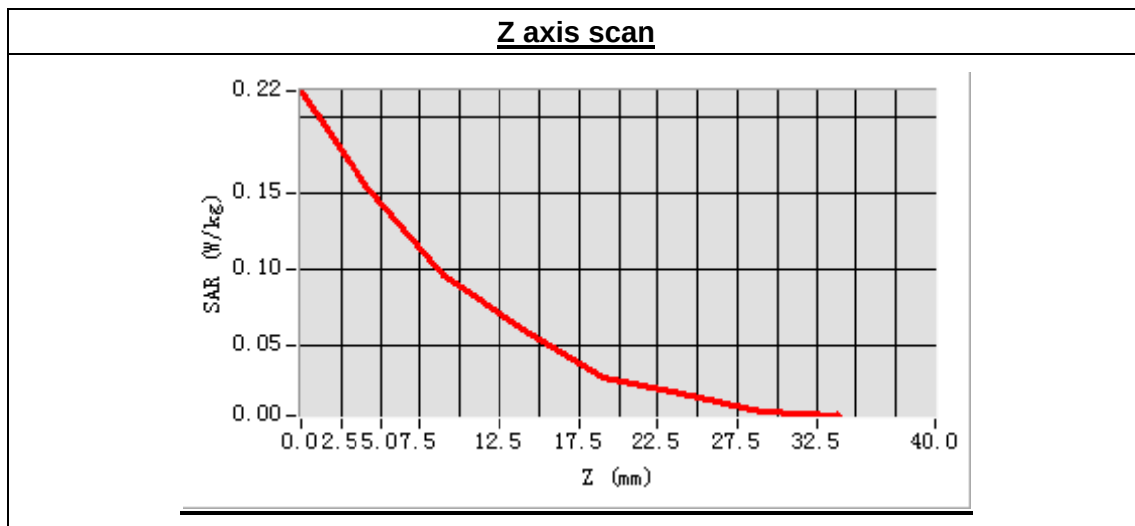
Frequency (MHz)	2462.000000
Relative permittivity (real part)	39.078261
Conductivity (S/m)	1.776823
Power drift (%)	-2.780000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.80
Crest factor:	1:1



Maximum location: X=-27.00, Y=17.00

SAR Peak: 0.22 W/kg

SAR 10g (W/Kg)	0.077729
SAR 1g (W/Kg)	0.144459



MEASUREMENT 48

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.21

Measurement duration: 7 minutes 50 seconds

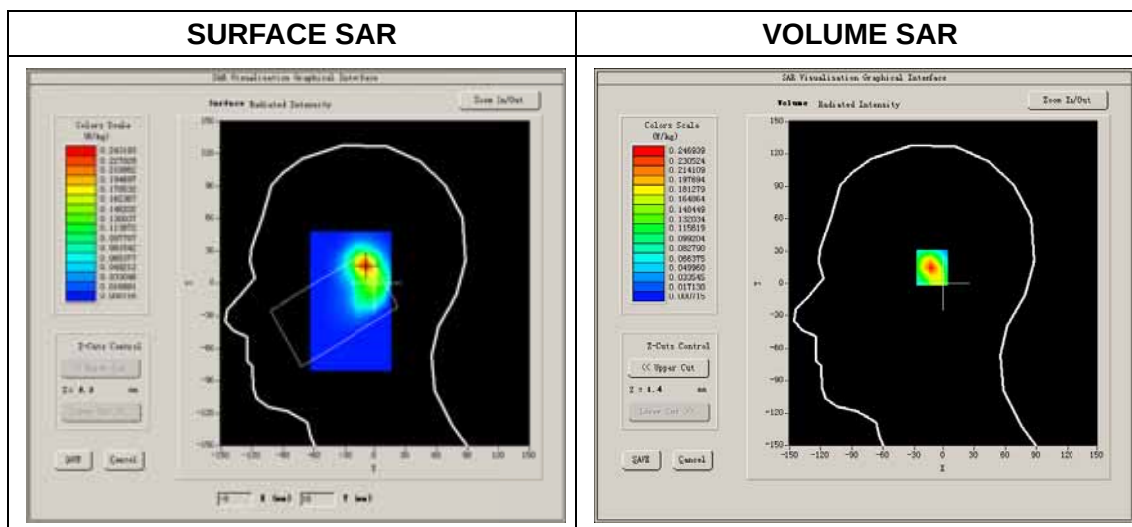
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Left head
Device Position	Tilt
Band	802.11b
Channels	High
Signal	DSSS

B. SAR Measurement Results

High Band SAR (Channel 11)

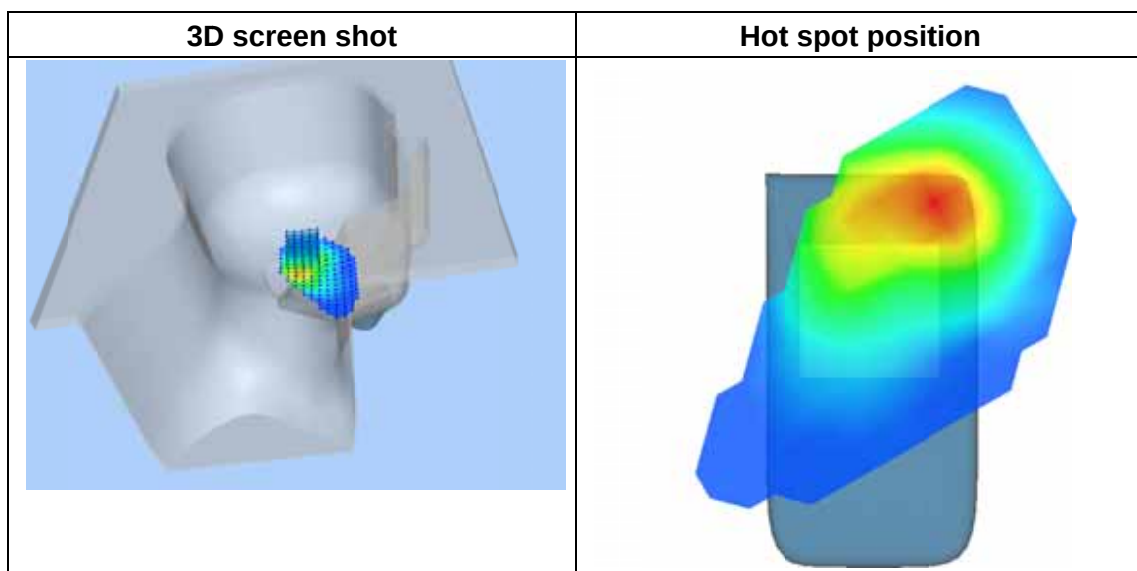
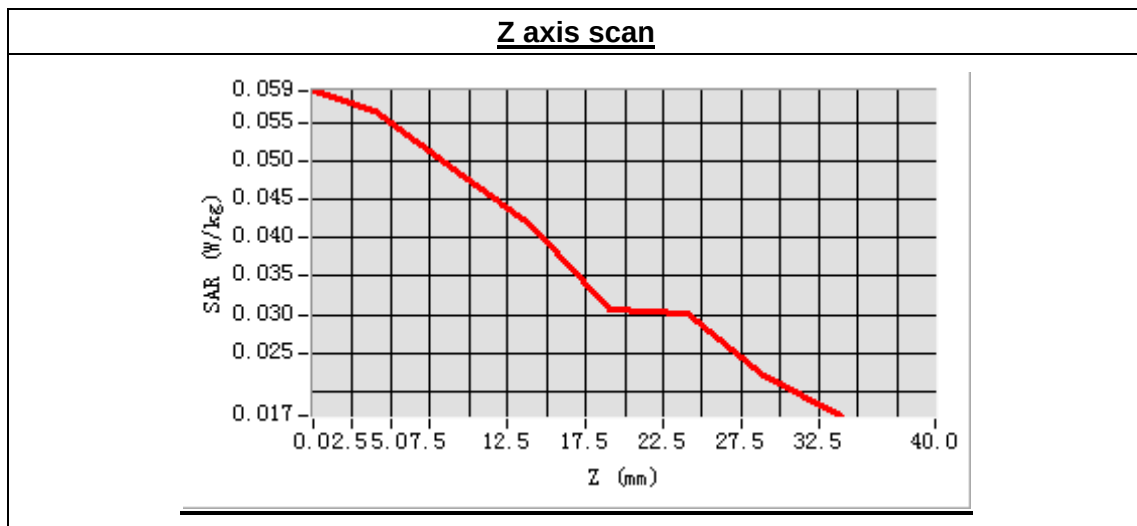
Frequency (MHz)	2462.000000
Relative permittivity (real part)	39.078261
Conductivity (S/m)	1.776823
Power drift (%)	-1.980000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.80
Crest factor:	1:1



Maximum location: X=-32.00, Y=-2.00

SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.042457
SAR 1g (W/Kg)	0.056800



MEASUREMENT 49

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.21

Measurement duration: 9 minutes 35 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	802.11b
Channels	High
Signal	DSSS

B. SAR Measurement Results

High Band SAR (Channel 11)

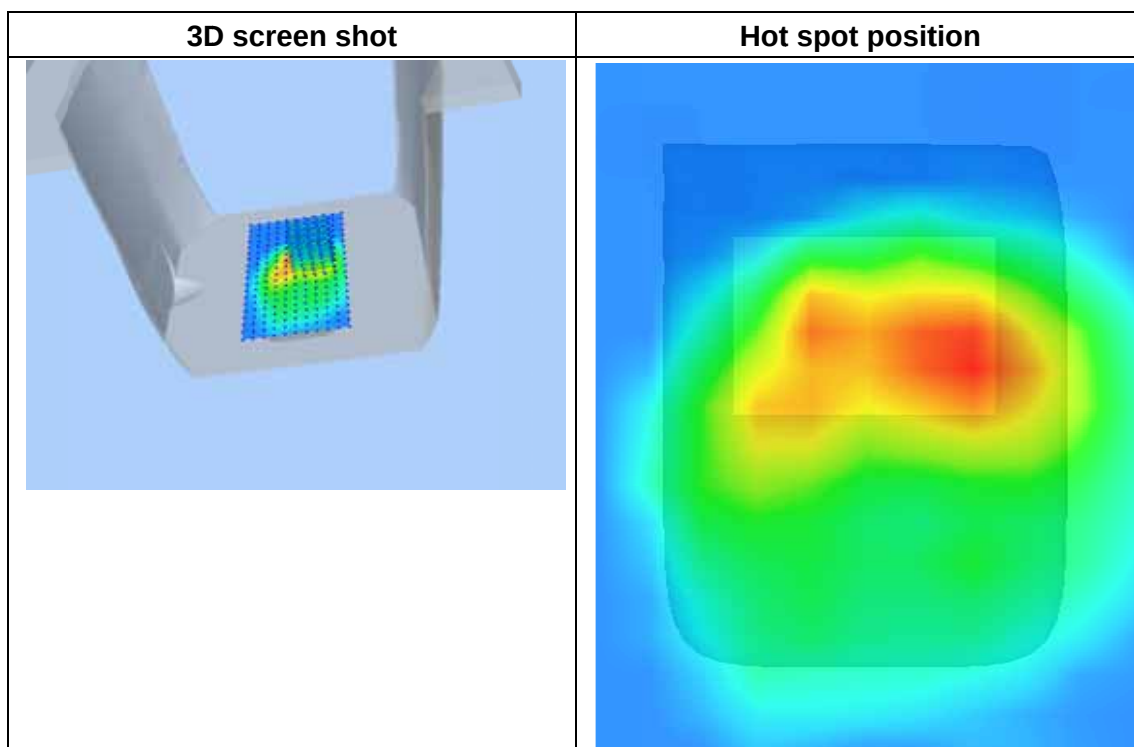
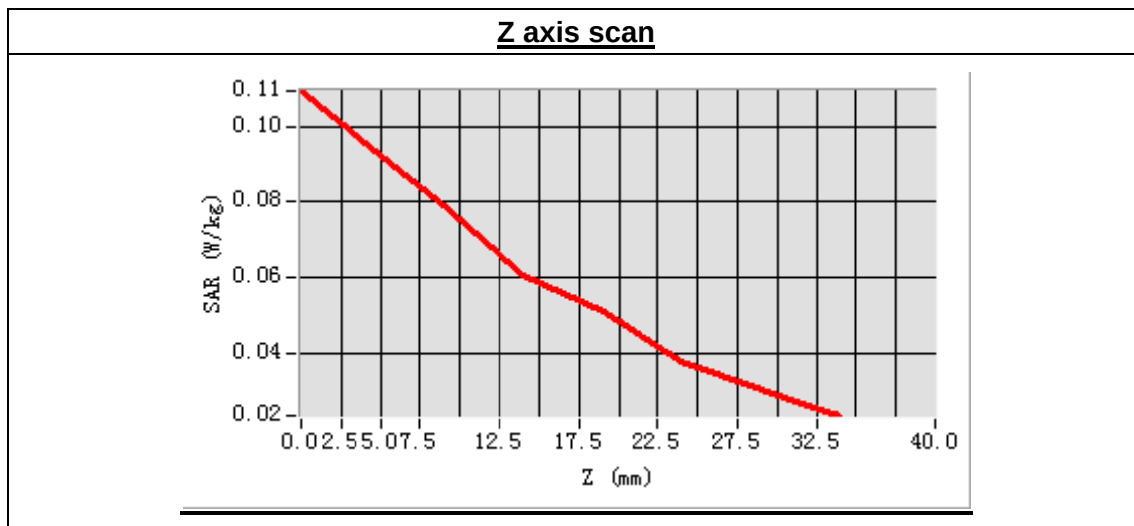
Frequency (MHz)	2462.000000
Relative permittivity (real part)	52.572834
Conductivity (S/m)	1.934068
Power drift (%)	-0.480000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.96
Crest factor:	1:1



Maximum location: X=-3.00, Y=23.00

SAR Peak: 0.13 W/kg

SAR 10g (W/Kg)	0.076964
SAR 1g (W/Kg)	0.102223



MEASUREMENT 50

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.21

Measurement duration: 9 minutes 36 seconds

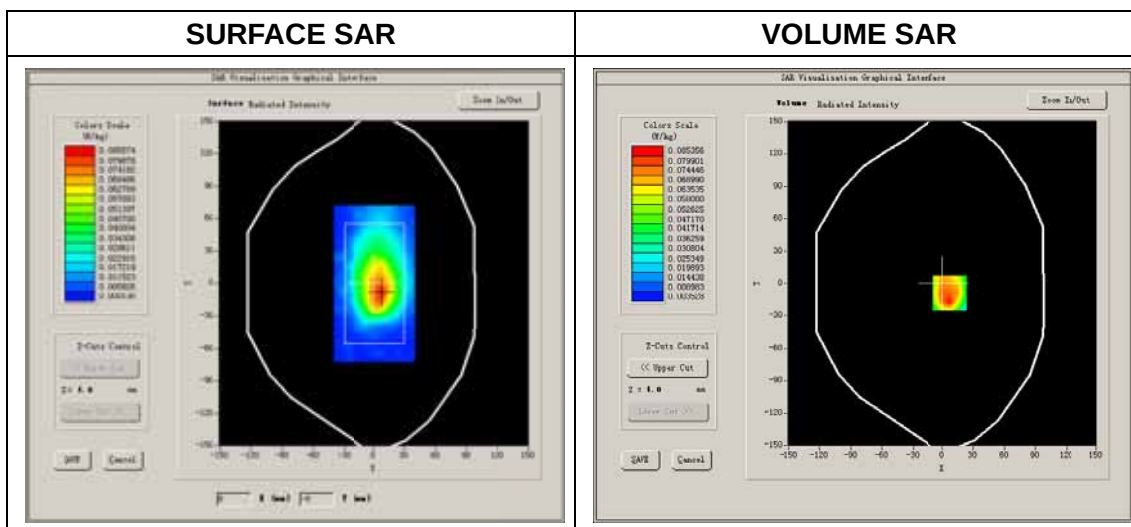
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	802.11b
Channels	High
Signal	DSSS

B. SAR Measurement Results

High Band SAR (Channel 11)

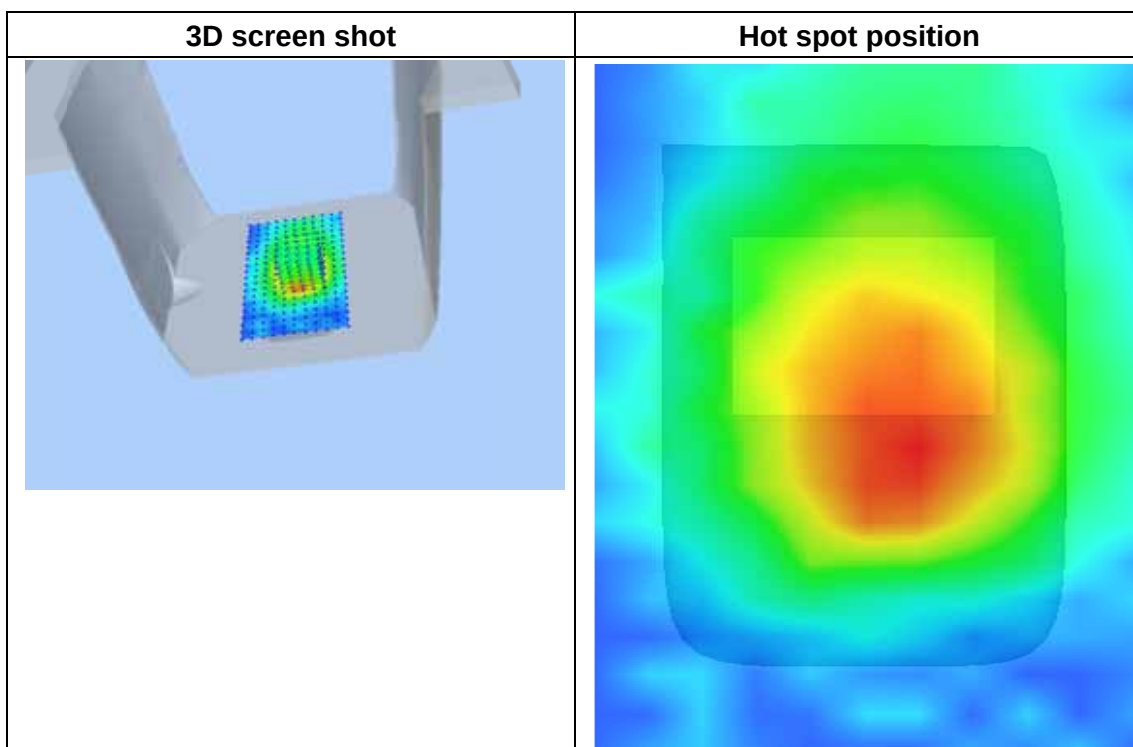
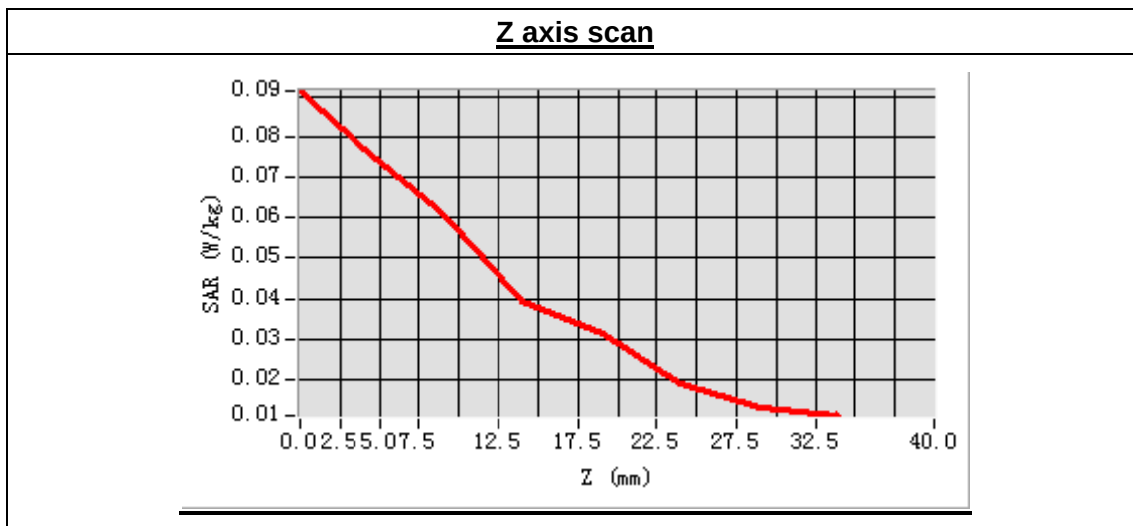
Frequency (MHz)	2462.000000
Relative permittivity (real part)	52.572834
Conductivity (S/m)	1.934068
Power drift (%)	-3.410000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.96
Crest factor:	1:1



Maximum location: X=7.00, Y=-9.00

SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.050457
SAR 1g (W/Kg)	0.079089



MEASUREMENT 51

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.21

Measurement duration: 9 minutes 34 seconds

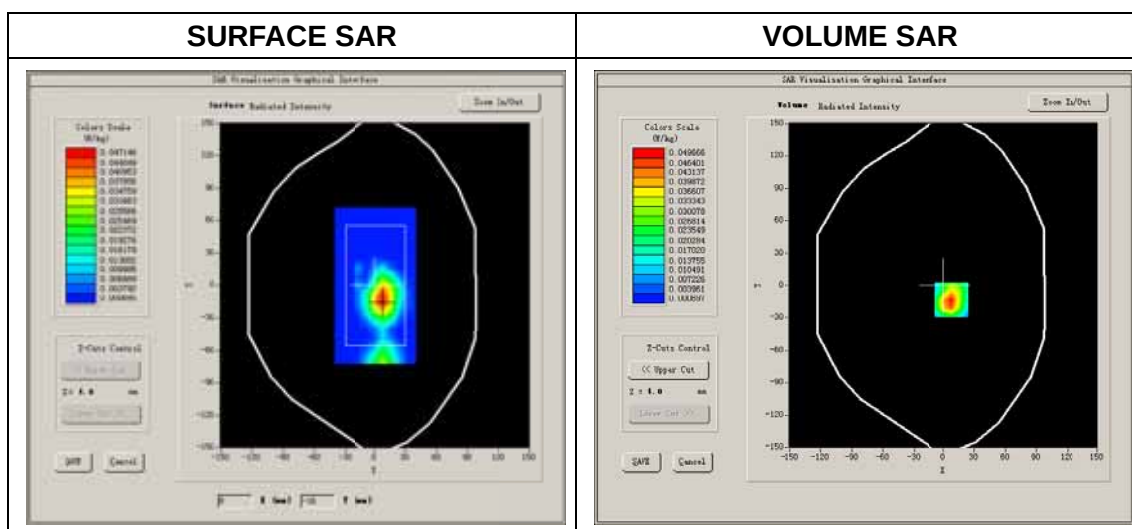
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	802.11b
Channels	High
Signal	DSSS

B. SAR Measurement Results

High Band SAR (Channel 11):

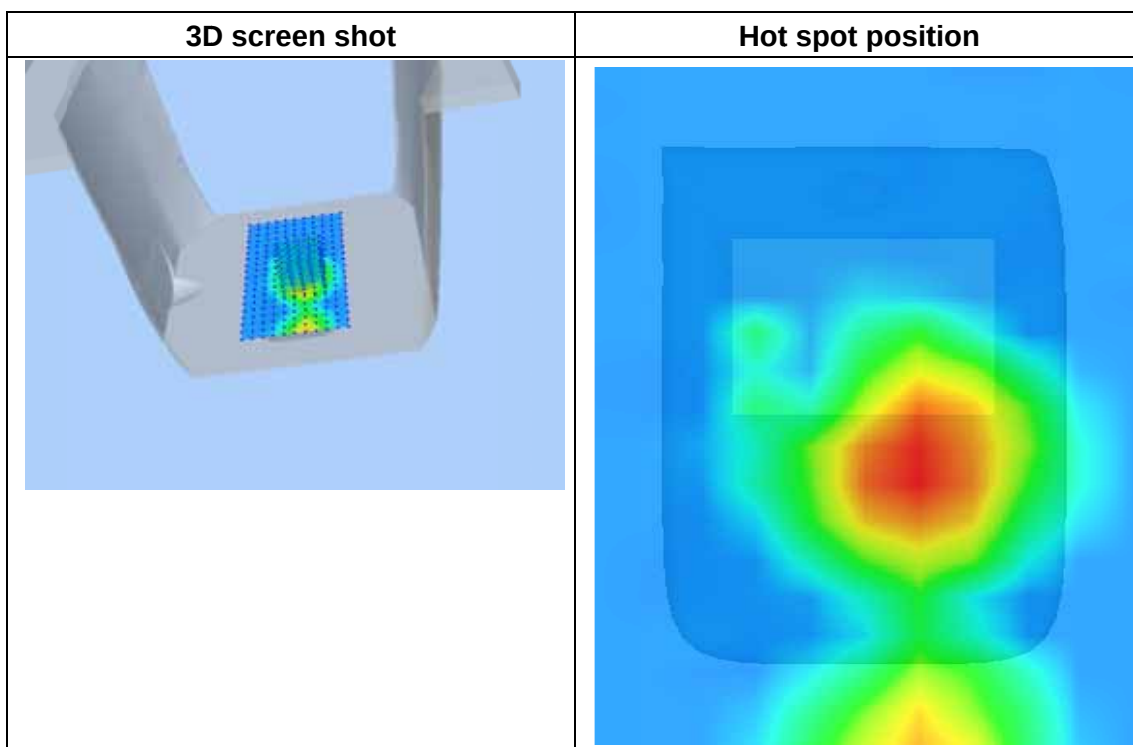
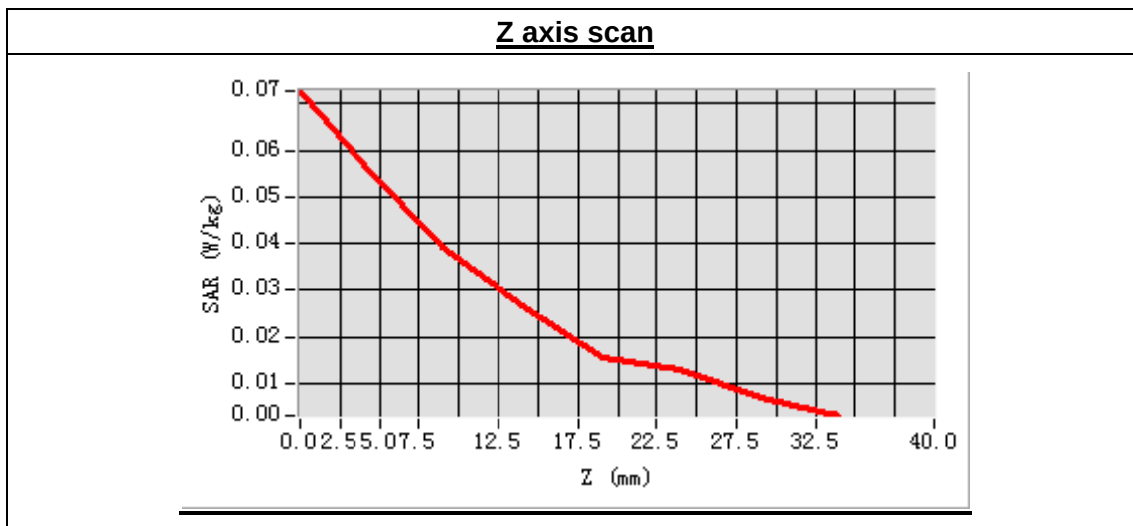
Frequency (MHz)	2462.000000
Relative permittivity (real part)	52.572834
Conductivity (S/m)	1.934068
Power drift (%)	-0.430000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.96
Crest factor:	1:1



Maximum location: X=1.00, Y=-1.00

SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.034625
SAR 1g (W/Kg)	0.052781



MEASUREMENT 52

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.21

Measurement duration: 9 minutes 34 seconds

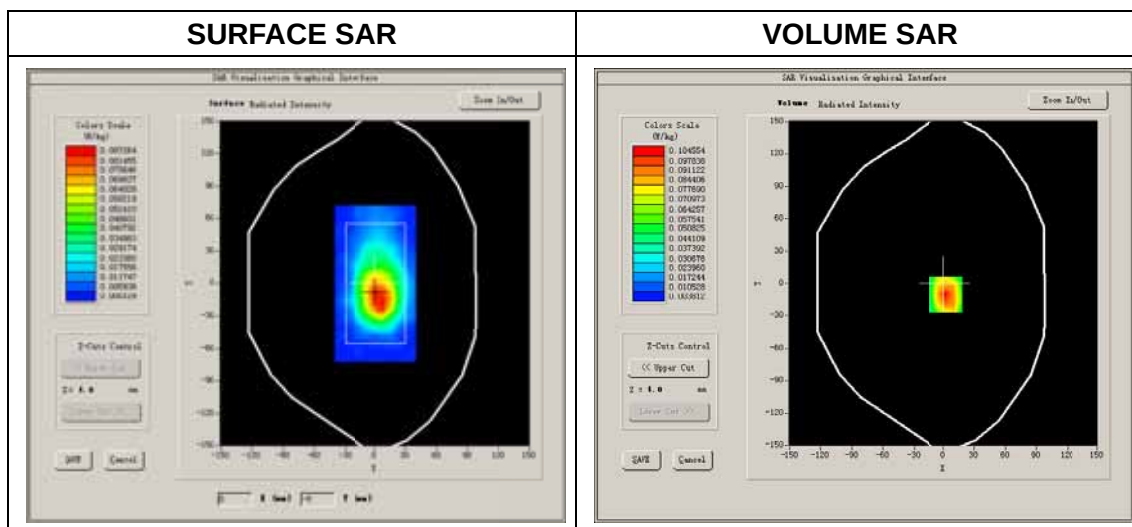
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	802.11b
Channels	High
Signal	DSSS

B. SAR Measurement Results

High Band SAR (Channel 11):

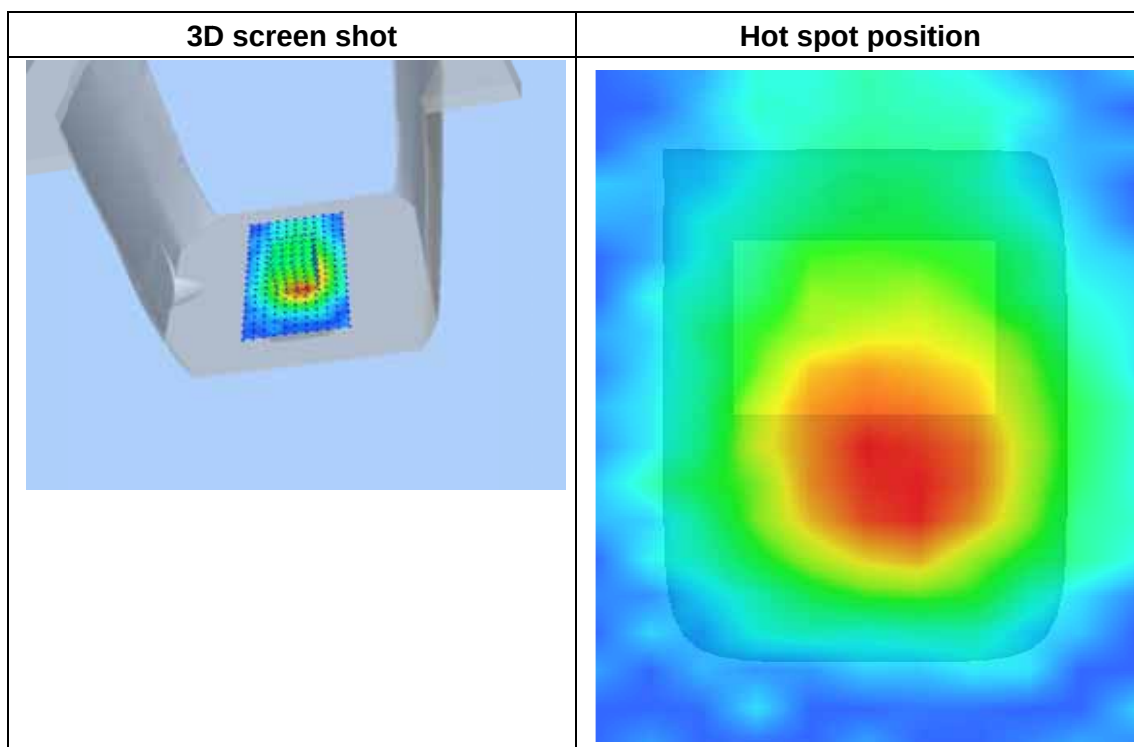
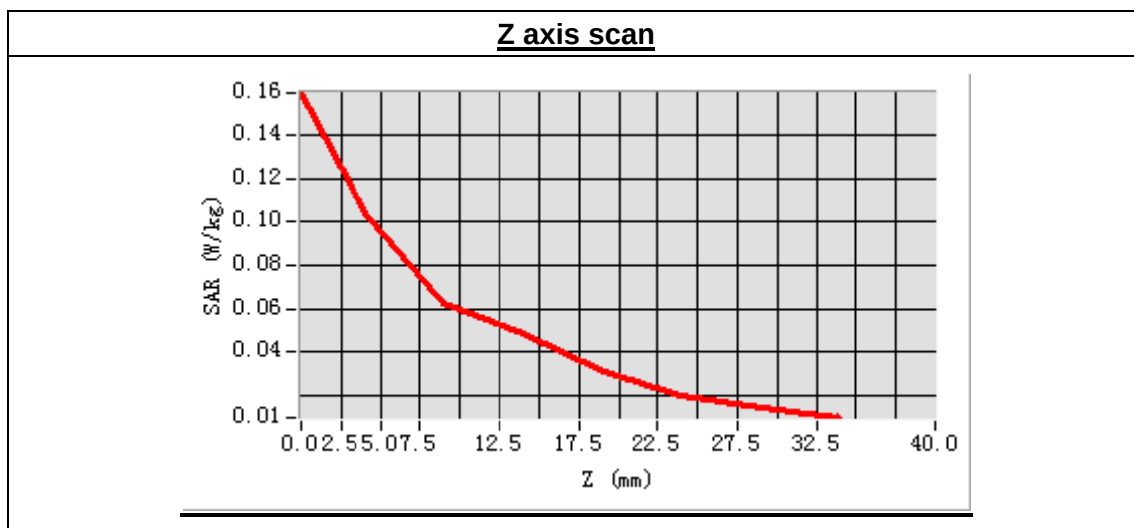
Frequency (MHz)	2462.000000
Relative permittivity (real part)	52.572834
Conductivity (S/m)	1.934068
Power drift (%)	2.500000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.96
Crest factor:	1:1



Maximum location: X=2.00, Y=-10.00

SAR Peak: 0.14 W/kg

SAR 10g (W/Kg)	0.059516
SAR 1g (W/Kg)	0.096876



MEASUREMENT 53

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.21

Measurement duration: 8 minutes 7 seconds

A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Right head
Device Position	Cheek
Band	Bluetooth
Channels	Low
Signal	8-DPSK

B. SAR Measurement Results

Low Band SAR (Channel 0):

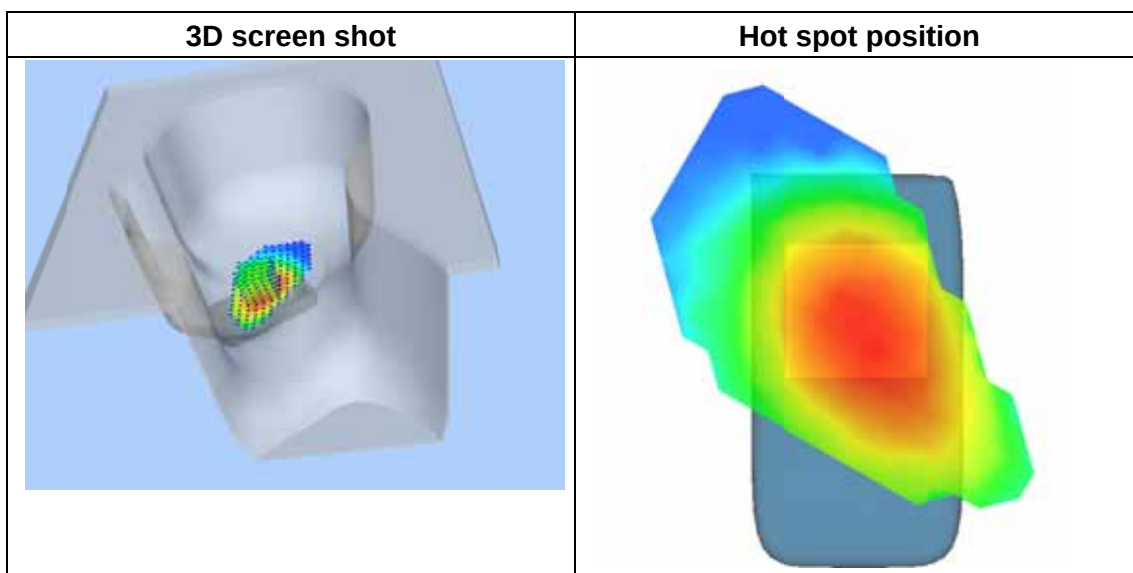
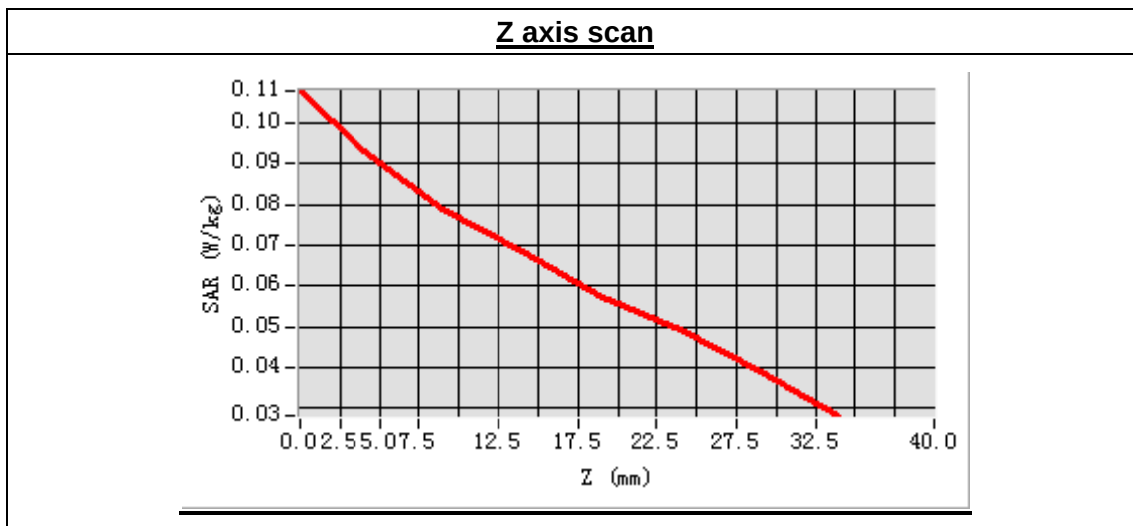
Frequency (MHz)	2402.000000
Relative permittivity (real part)	39.078261
Conductivity (S/m)	1.776823
Power drift (%)	-0.390000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.80
Crest factor:	1:1



Maximum location: X=-32.00, Y=-23.00

SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.073037
SAR 1g (W/Kg)	0.094826



MEASUREMENT 54

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.21

Measurement duration: 7 minutes 50 seconds

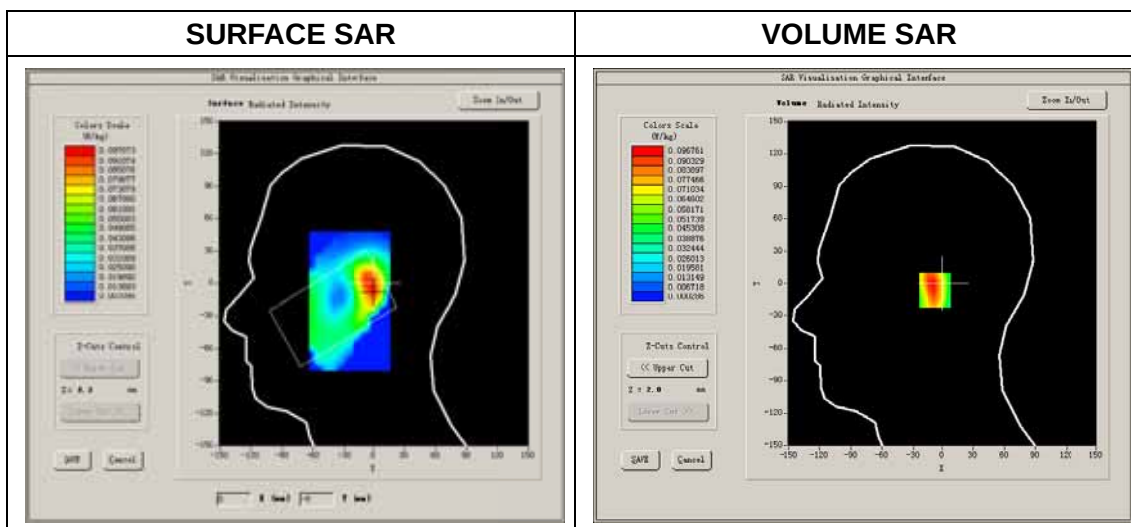
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Right head
Device Position	Tilt
Band	802.11b
Channels	Low
Signal	8-DPSK

B. SAR Measurement Results

Low Band SAR (Channel 0)

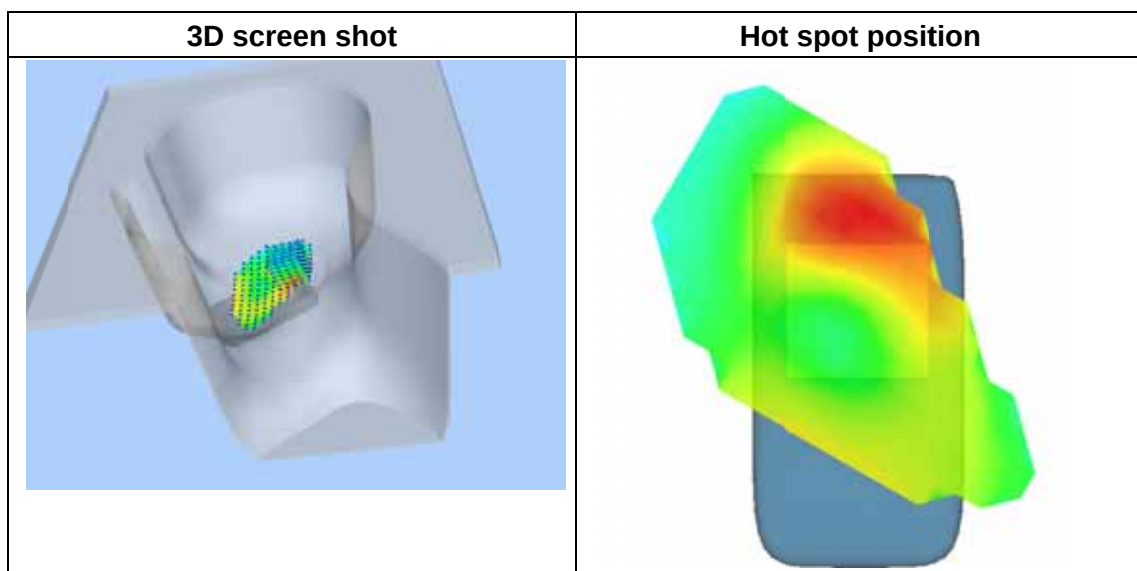
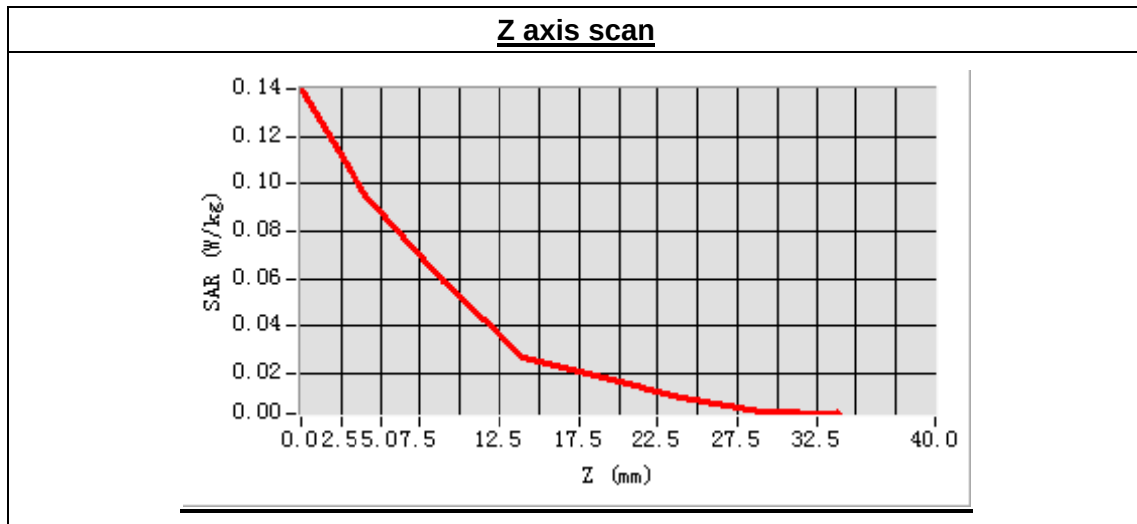
Frequency (MHz)	2402.000000
Relative permittivity (real part)	39.078261
Conductivity (S/m)	1.776823
Power drift (%)	2.800000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.80
Crest factor:	1:1



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

SAR Peak: 0.14 W/kg

SAR 10g (W/Kg)	0.051570
SAR 1g (W/Kg)	0.083309



MEASUREMENT 55

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.21

Measurement duration: 9 minutes 3 seconds

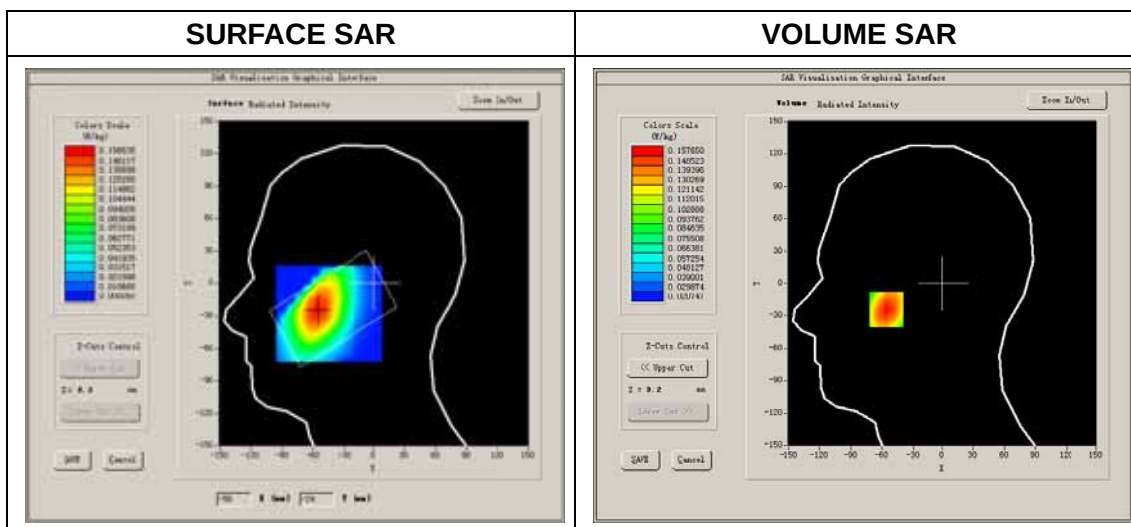
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Left head
Device Position	Cheek
Band	802.11b
Channels	Low
Signal	8-DPSK

B. SAR Measurement Results

Low Band SAR (Channel 0)

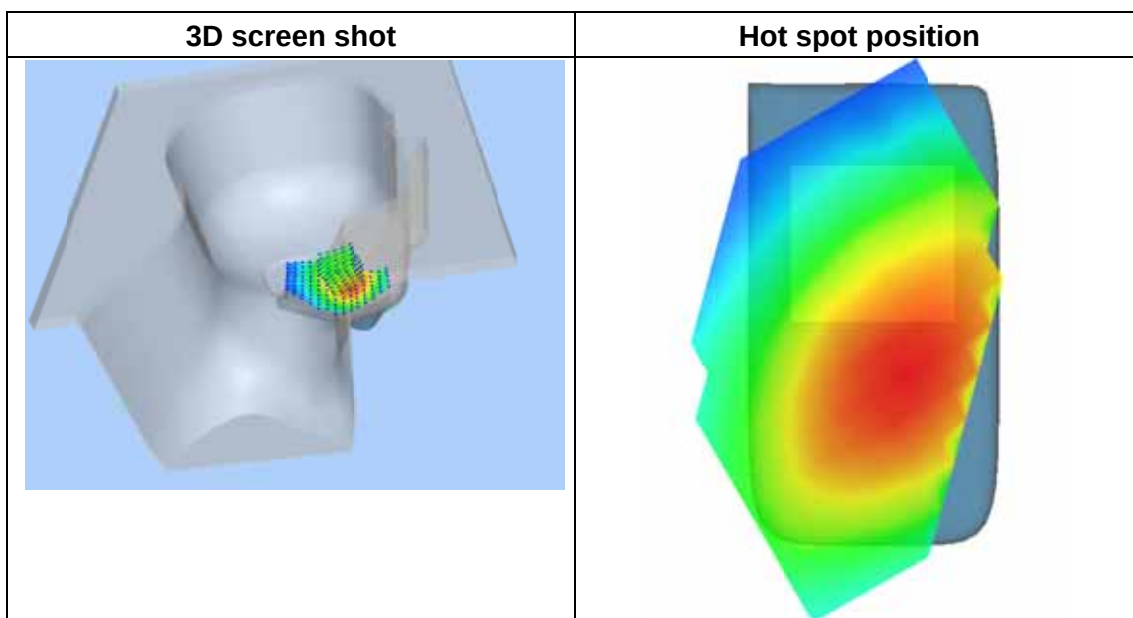
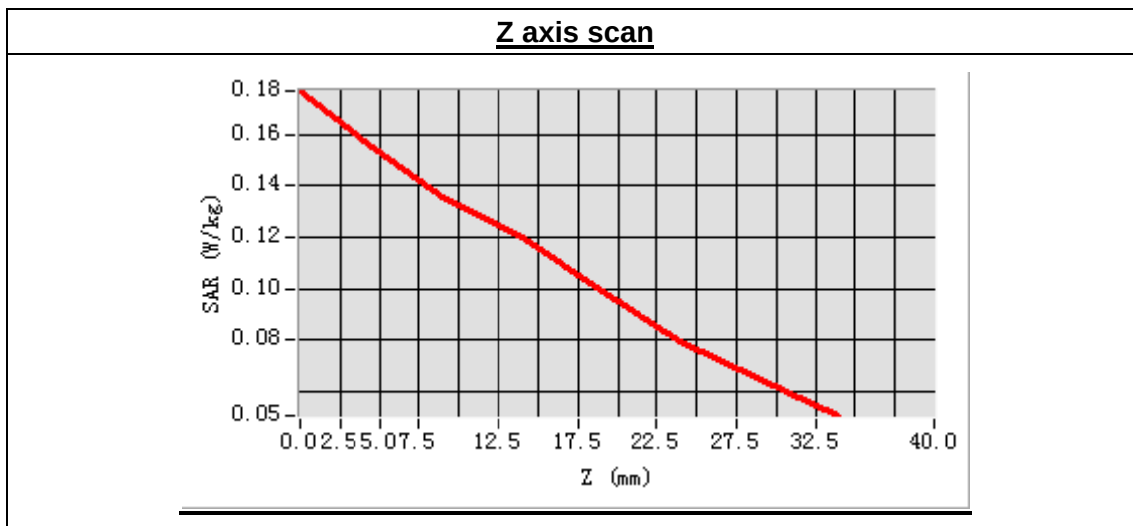
Frequency (MHz)	2402.000000
Relative permittivity (real part)	39.078261
Conductivity (S/m)	1.776823
Power drift (%)	0.620000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.80
Crest factor:	1:1



Maximum location: X=-56.00, Y=-24.00

SAR Peak: 0.18 W/kg

SAR 10g (W/Kg)	0.100989
SAR 1g (W/Kg)	0.132873



MEASUREMENT 56

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.21

Measurement duration: 7 minutes 50 seconds

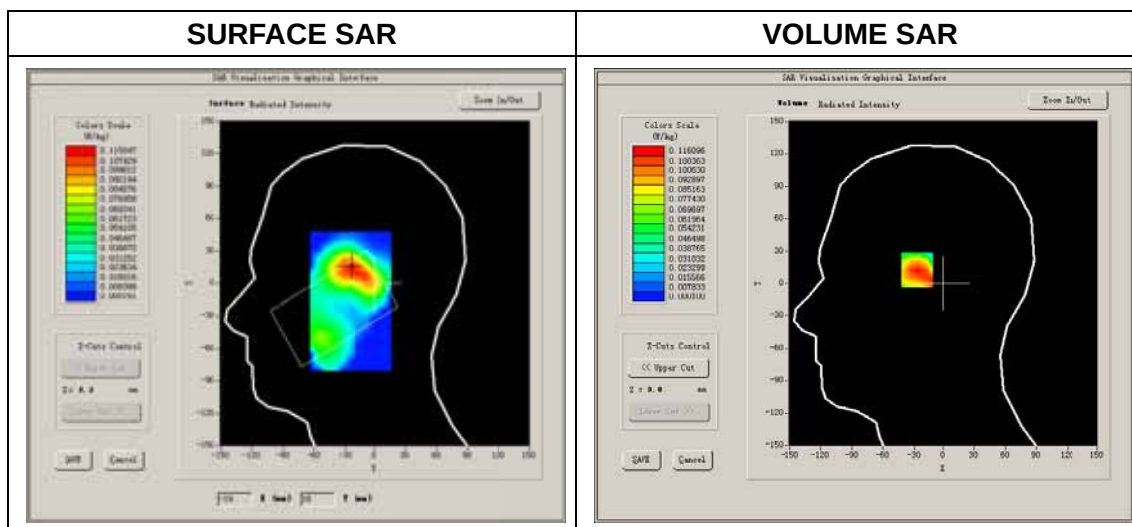
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Left head
Device Position	Tilt
Band	802.11b
Channels	Low
Signal	8-DPSK

B. SAR Measurement Results

Low Band SAR (Channel 0)

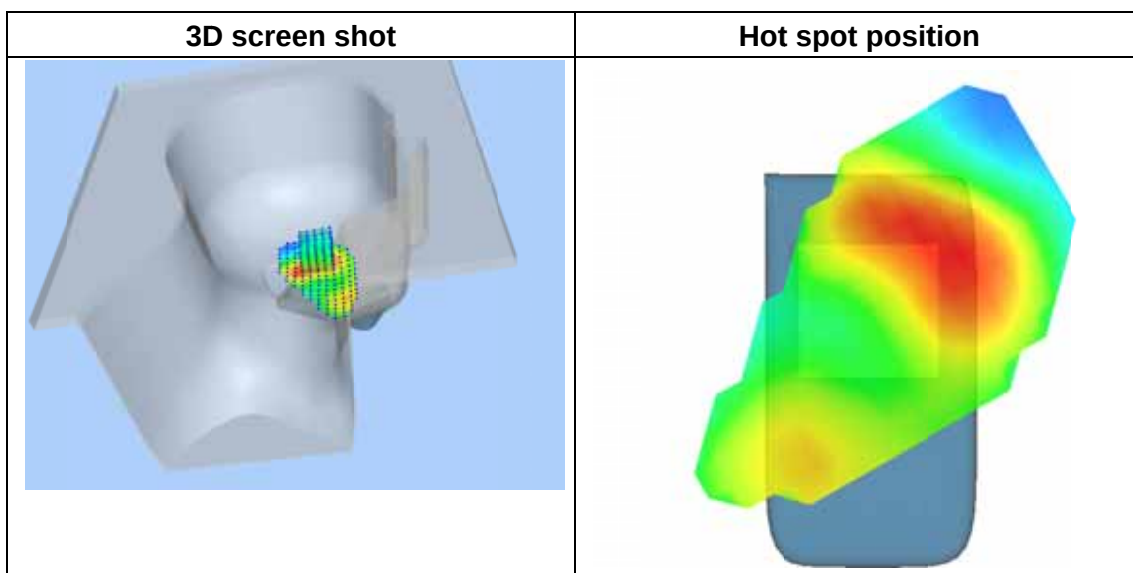
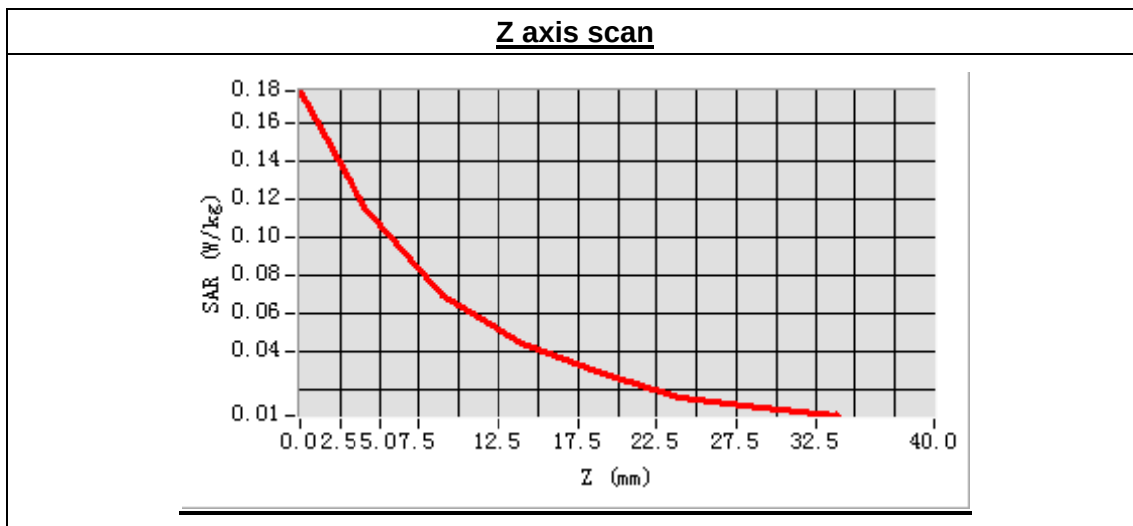
Frequency (MHz)	2402.000000
Relative permittivity (real part)	39.078261
Conductivity (S/m)	1.776823
Power drift (%)	2.080000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.80
Crest factor:	1:1



Maximum location: X=-24.00, Y=15.00

SAR Peak: 0.19 W/kg

SAR 10g (W/Kg)	0.064340
SAR 1g (W/Kg)	0.096463



System Performance Check Data(Head)

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.19

Measurement duration: 13 minutes 27 seconds

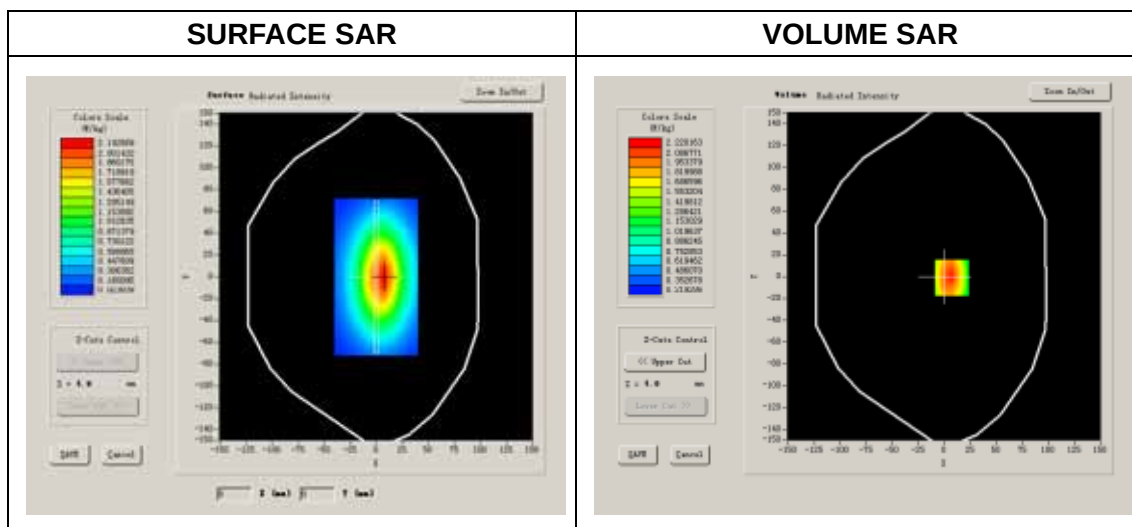
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	
Band	835MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

Frequency (MHz)	835.000000
Relative permittivity (real part)	41.442835
Conductivity (S/m)	0.886729
Power drift (%)	0.580000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.73
Crest factor:	1:1



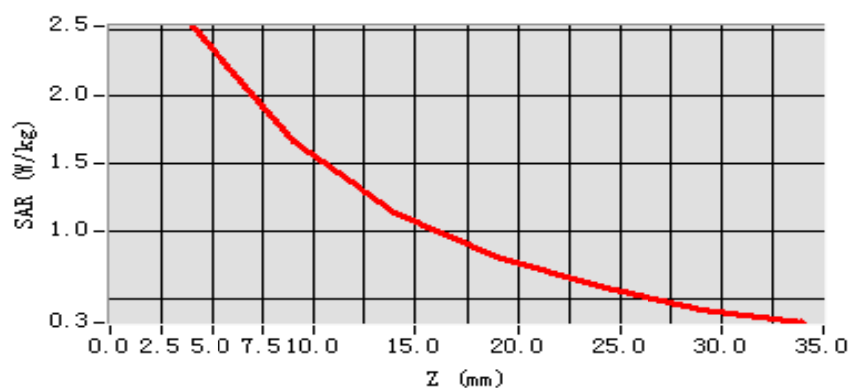
Maximum location: X=7.00, Y=-1.00

SAR 10g (W/Kg)	1.284661
SAR 1g (W/Kg)	2.380276

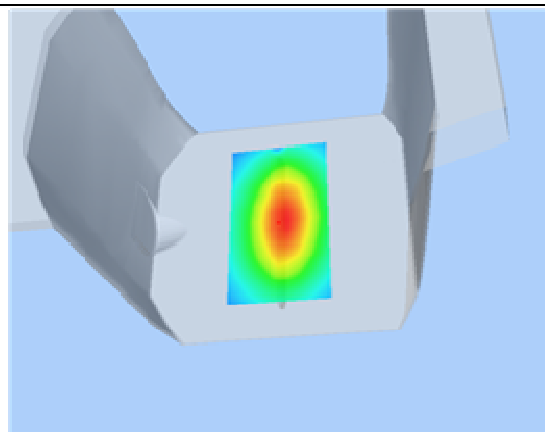
Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	2.5209	1.6629	1.1437	0.8075	0.5889	0.4143

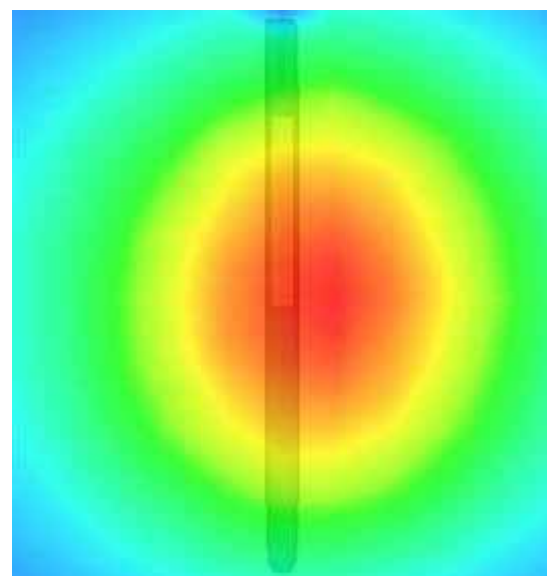
SAR, Z Axis Scan (X = 7, Y = -1)



3D scene shot



Hot spot position



System Performance Check Data(Body)

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.19

Measurement duration: 13 minutes 27 seconds

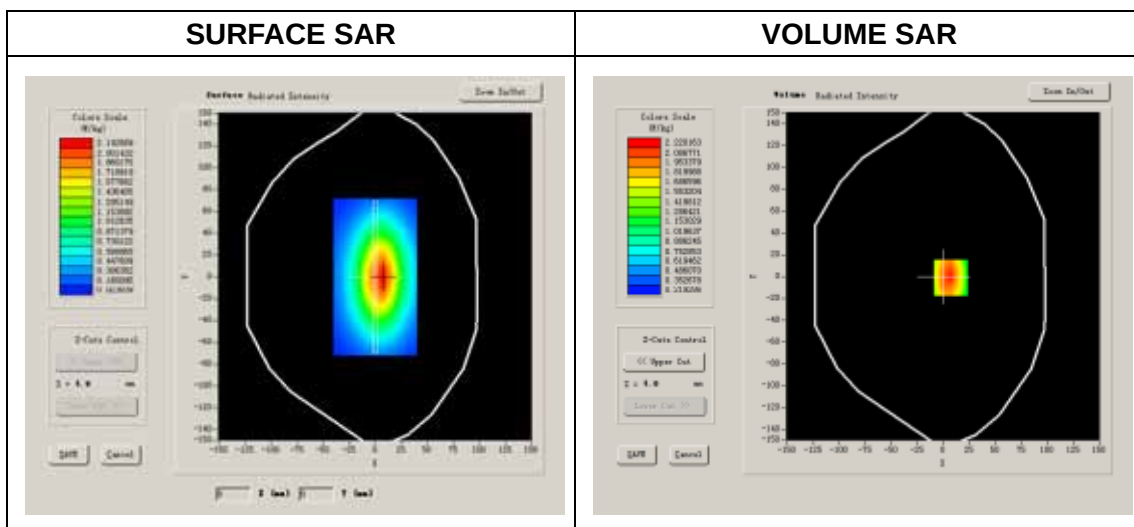
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	
Band	835MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

Frequency (MHz)	835.000000
Relative permittivity (real part)	55.124386
Conductivity (S/m)	0.976854
Power drift (%)	2.200000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:1



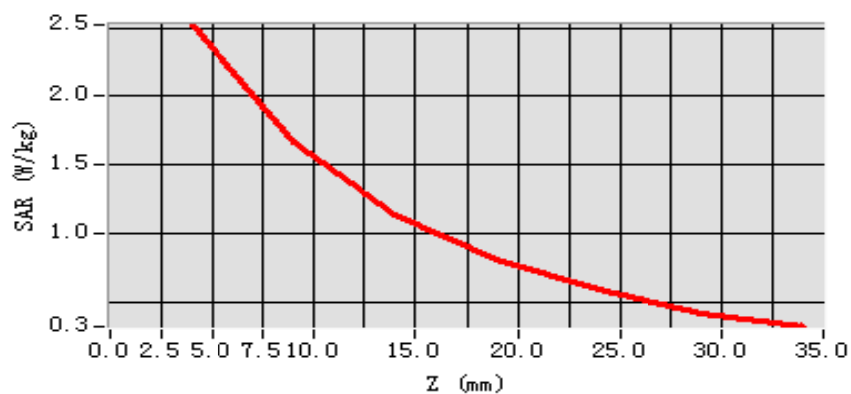
Maximum location: X=7.00, Y=-1.00

SAR 10g (W/Kg)	1.281956
SAR 1g (W/Kg)	2.446273

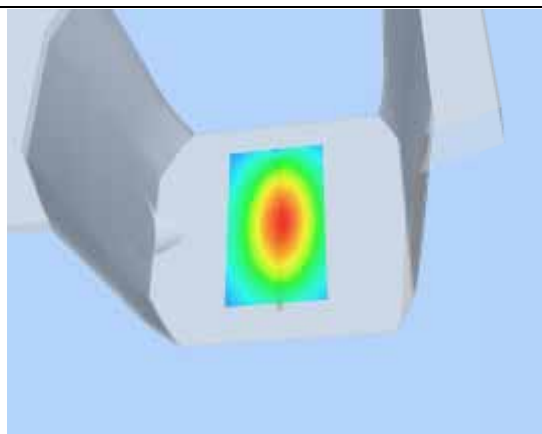
Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	2.5209	1.6629	1.1437	0.8075	0.5889	0.4143

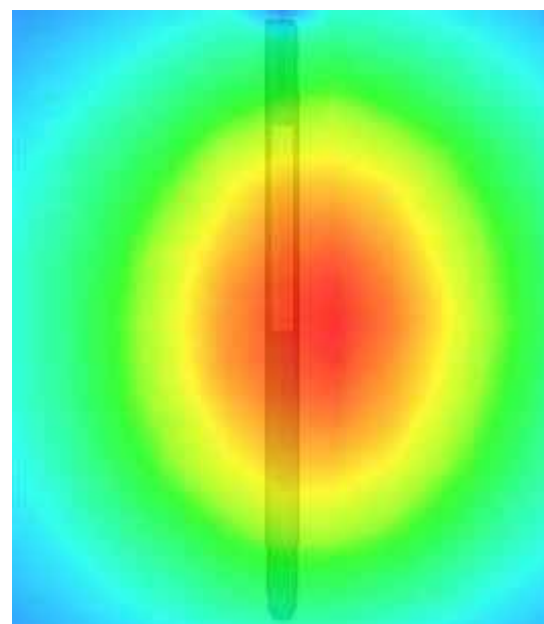
SAR, Z Axis Scan (X = 7, Y = -1)



3D scene shot



Hot spot position



System Performance Check Data(Head)

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.20

Measurement duration: 13 minutes 27 seconds

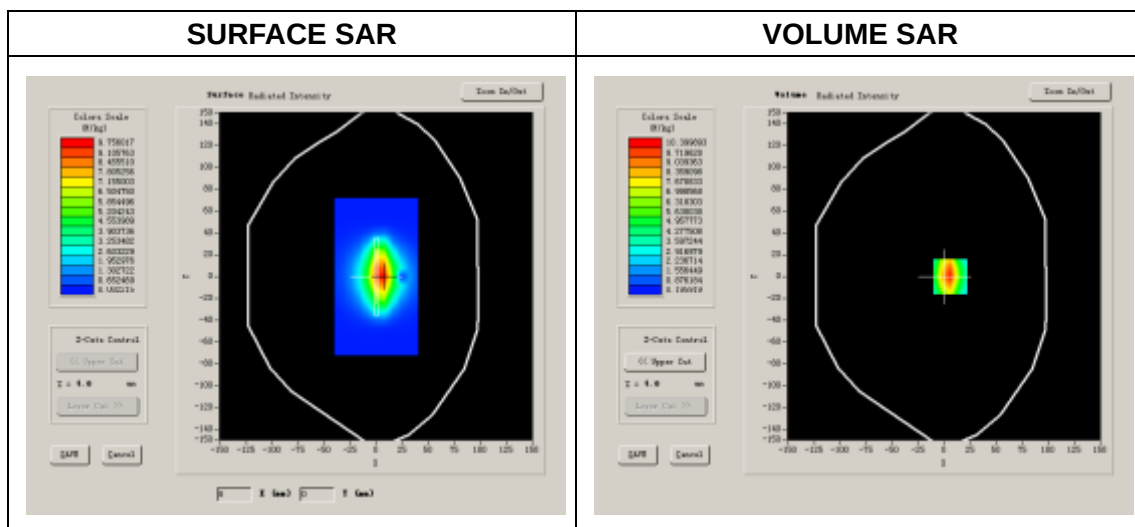
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	
Band	1900MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

Frequency (MHz)	1900.000000
Relative permittivity (real part)	39.916742
Conductivity (S/m)	1.416850
Power drift (%)	-1.030000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:1

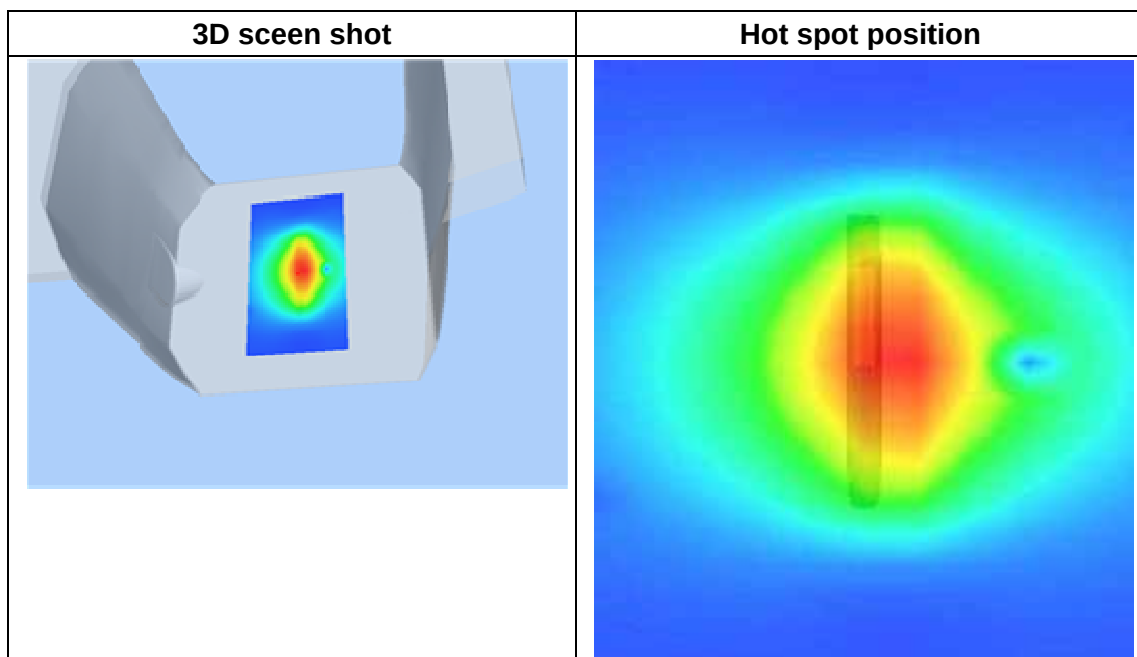
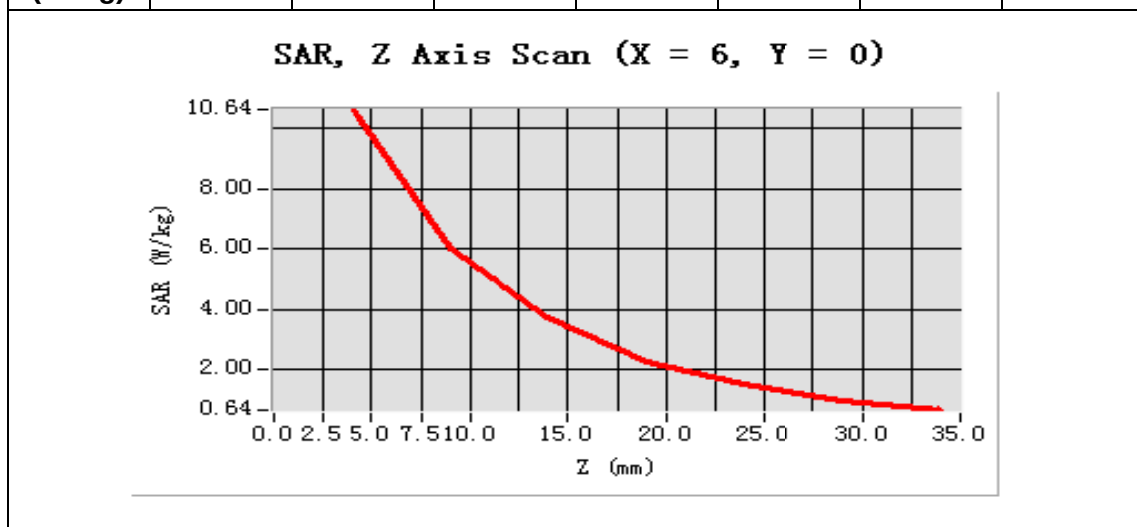


Maximum location: X=6.00, Y=0.00

SAR 10g (W/Kg)	6.346326
SAR 1g (W/Kg)	9.771824

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	10.6419	6.0043	3.7297	2.2606	1.5119	0.9792



System Performance Check Data(Body)

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.20

Measurement duration: 13 minutes 26 seconds

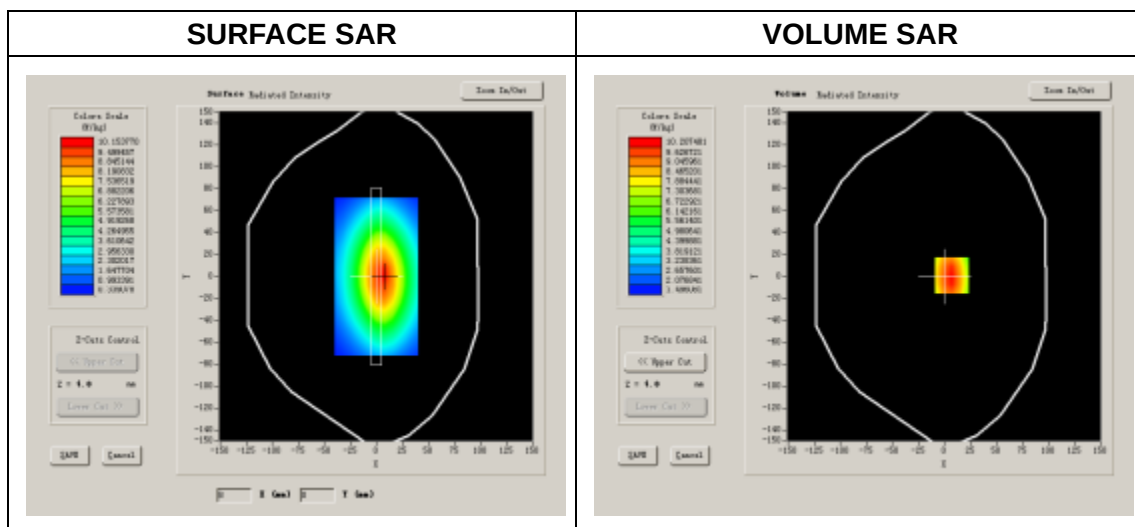
A. Experimental conditions.

Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	
Band	1900MHz
Channels	
Signal	CW

B. SAR Measurement Results

Band SAR

Frequency (MHz)	1900.000000
Relative permittivity (real part)	53.112847
Conductivity (S/m)	1.534067
Power drift (%)	1.320000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:1

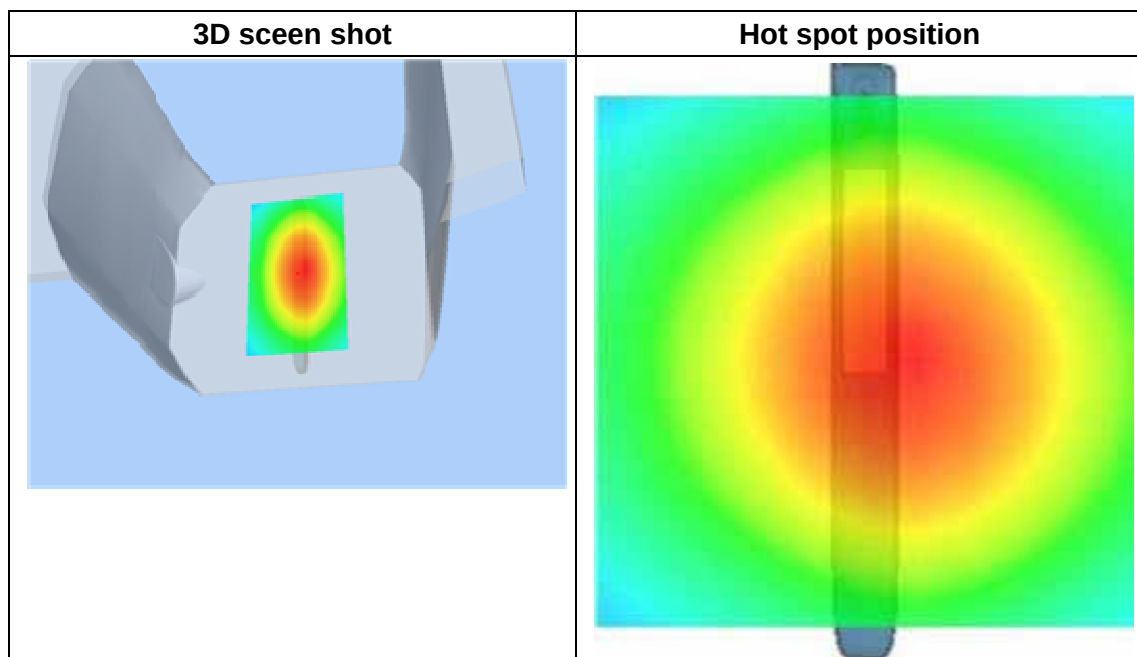
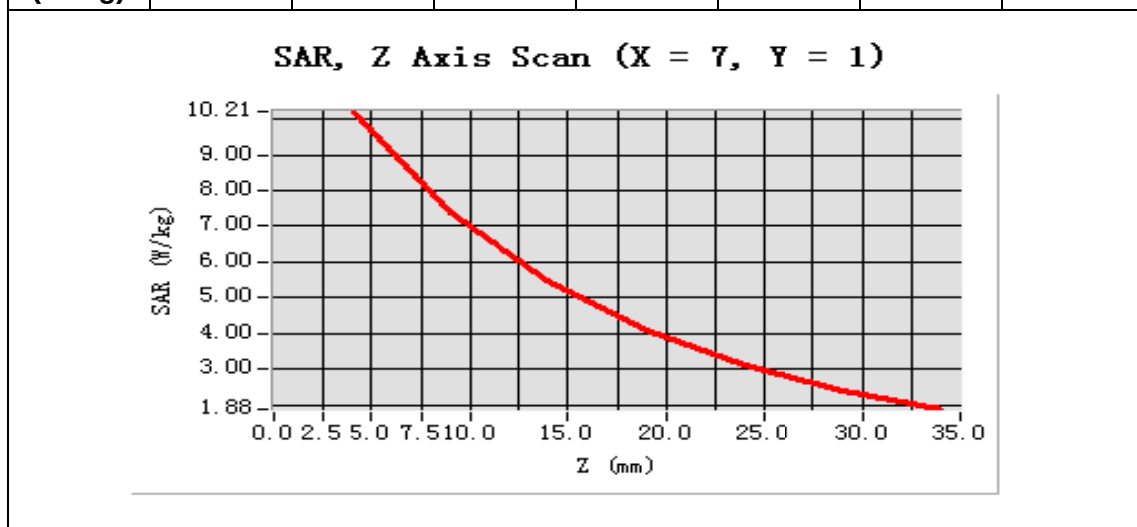


Maximum location: X=7.00, Y=1.00

SAR 10g (W/Kg)	6.736125
SAR 1g (W/Kg)	9.980672

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	10.2075	7.3996	5.4654	4.1101	3.1286	2.4128



System Performance Check Data(Head)

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.21

Measurement duration: 13 minutes 27 seconds

A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

Frequency (MHz)	2450.000000
Relative permittivity (real part)	39.078261
Conductivity (S/m)	1.776823
Power Drift (%)	0.810000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.80
Crest factor:	1:1

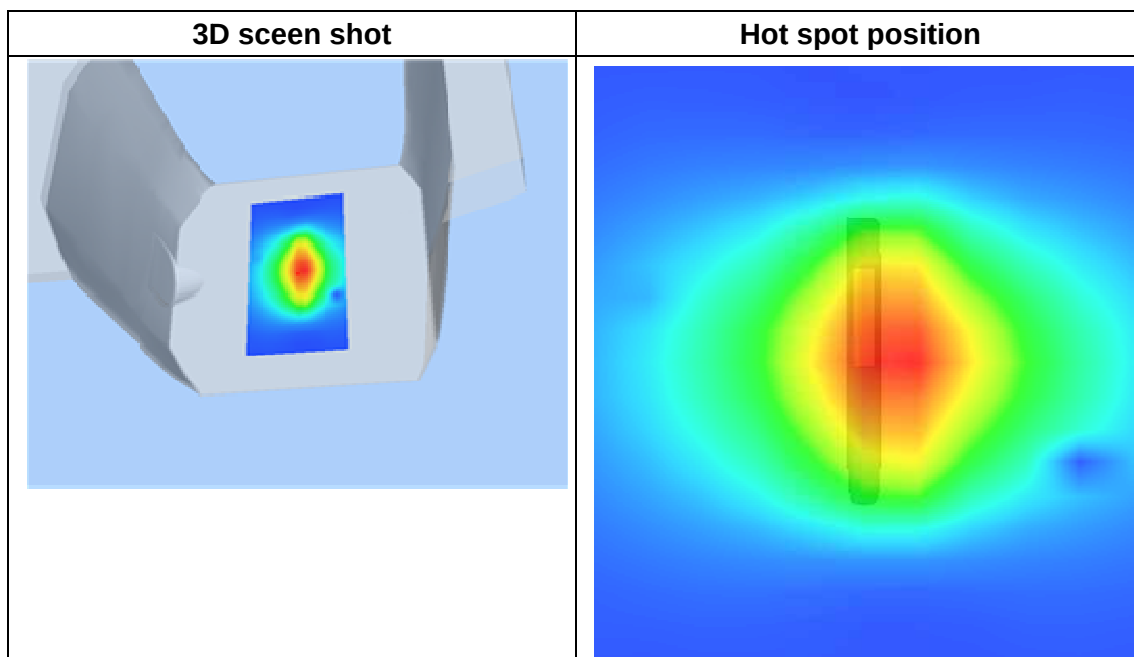
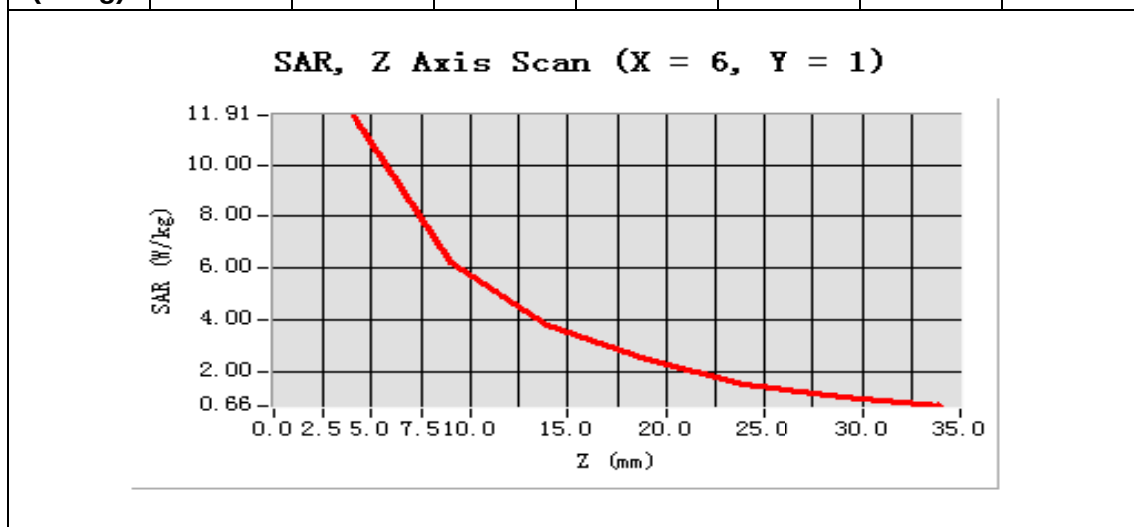


Maximum location: X=6.00, Y=1.00

SAR 10g (W/Kg)	7.694285
SAR 1g (W/Kg)	12.834165

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	11.9115	6.2096	3.8187	2.4504	1.5036	1.0219



System Performance Check Data(Body)

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.5.21

Measurement duration: 13 minutes 27 seconds

A. Experimental conditions.

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

B. SAR Measurement Results

Band SAR

Frequency (MHz)	2450.000000
Relative permittivity (real part)	52.572834
Conductivity (S/m)	1.934068
Power Drift (%)	-1.170000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.96
Crest factor:	1:1



Maximum location: X=-1.00, Y=-50.00

SAR 10g (W/Kg)	7.192846
SAR 1g (W/Kg)	12.924428

Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0000	13.1279	6.8312	3.5991	1.3473

