



REPORT No. : SZ14100116S01

FCC SAR TEST REPORT

APPLICANT : ZTE Corporation

PRODUCT NAME : Tablet PC

MODEL NAME : ZTE K70

TRADE NAME : ZTE

BRAND NAME : ZTE

FCC ID : SRQ-K70

STANDARD(S) : 47CFR 2.1093
IEEE 1528-2013

ISSUE DATE : 2014-11-13



SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.

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DIRECTORY

TEST REPORT DECLARATION..... 4

1.TECHNICAL INFORMATION..... 5

1.1 IDENTIFICATION OF APPLICANT..... 5

1.2 IDENTIFICATION OF MANUFACTURER 5

1.3 EQUIPMENT UNDER TEST (EUT)..... 5

1.3.1 PHOTOGRAPHS OF THE EUT 6

1.3.2 IDENTIFICATION OF ALL USED EUT..... 6

1.4 APPLIED REFERENCE DOCUMENTS..... 6

1.5 DEVICE CATEGORY AND SAR LIMITS 6

2. SPECIFIC ABSORPTION RATE (SAR)..... 7

2.1 INTRODUCTION..... 7

2.2 SAR DEFINITION 7

3. SAR MEASUREMENT SETUP..... 8

3.1 THE MEASUREMENT SYSTEM..... 8

3.2 PROBE..... 8

3.3 PROBE CALIBRATION PROCESS..... 10

3.3.1 DOSIMETRIC ASSESSMENT PROCEDURE 10

3.3.2 FREE SPACE ASSESSMENT PROCEDURE..... 10

3.3.3 TEMPERATURE ASSESSMENT PROCEDURE 10

3.4 PHANTOM 11

3.5 DEVICE HOLDER..... 11

4. TISSUE SIMULATING LIQUIDS..... 12

5. UNCERTAINTY ASSESSMENT..... 14

5.1 UNCERTAINTY EVALUATION FOR EUT SAR TEST..... 14

5.2 UNCERTAINTY FOR SYSTEM PERFORMANCE CHECK..... 15



6. SAR MEASUREMENT EVALUATION..... 17

6.1 SYSTEM SETUP 17

6.2 VALIDATION RESULTS 18

7. OPERATIONAL CONDITIONS DURING TEST..... 19

7.1 INFORMATION ON THE TESTING 19

7.2 BODY-WORN CONFIGURATIONS 20

7.3 MEASUREMENT PROCEDURE..... 20

7.4 DESCRIPTION OF INTERPOLATION/EXTRAPOLATION SCHEME 21

8. HOTSPOT MODE EVALUATION PROCEDURE..... 22

9. MEASUREMENT OF CONDUCTED OUTPUT POWER 23

10. TEST RESULTS LIST 27

11. REPEATED SAR MEASUREMENT 32

12. MULTIPLE TRANSMITTERS EVALUATION 33

ANNEX A GRAPH TEST RESULTS 36

ANNEX B GENERAL INFORMATION..... 151

Change History		
Issue	Date	Reason for change
1.0	2014-11-13	First edition

**TEST REPORT DECLARATION**

Applicant	ZTE Corporation		
Applicant Address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China		
Manufacturer	ZTE Corporation		
Manufacturer Address	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China		
Product Name	WCDMA Digital Mobile Phone Handset		
Model Name	Tablet PC		
Brand Name	ZTE K70		
HW Version	ZTE		
SW Version	K111_MB_V1.1		
Test Standards	47CFR 2.1093; IEEE 1528-2013		
Test Date	2014-11-2 to 2014-11-3		
The Highest Reported 1g-SAR(W/kg)	Head	0.318W/kg	Limit(W/kg): 1.6W/kg
	Body	1.194W/kg	

Tested by : Liu Jun
Liu Jun

Reviewed by : Peng Huarui
Peng Huarui

Approved by : Zeng Dexin
Zeng Dexin



1. TECHNICAL INFORMATION

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

1.1 Identification of Applicant

Company Name:	ZTE Corporation
Address:	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China

1.2 Identification of Manufacturer

Company Name:	ZTE Corporation
Address:	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China

1.3 Equipment Under Test (EUT)

Model Name:	ZTE K70
Trade Name:	ZTE
Brand Name:	ZTE
Hardware Version:	K111_MB_V1.1
Software Version:	V1.7.6
Tx Frequency Bands:	GSM 850: 824-849MHz; GSM 1900: 1850-1910MHz; WCDMA Band II : 1850-1910MHz; WCDMA Band V : 824-849MHz 802.11 b/g/n20/n40: 2412-2462 MHz; Bluetooth; Bluetooth4.0;
Uplink Modulations:	GSM/GPRS: GSMK; GPRS: GMSK/8PSK; WCDMA/HSDPA/HSUPA/HSPA+: QPSK; WIFI 802.11b: DSSS; WIFI 802.11g: OFDM; WIFI 802.11n20/n40: OFDM; Bluetooth: GFSK/ π /4-DQPSK/8-DPSK; Bluetooth4.0: GFSK
Multislot Class:	GPRS: Class 12; EGPRS: 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



1.3.1 Photographs of the EUT

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

1.3.2 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#	K111_MB_V1.1	V1.7.6

1.4 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 D01v02	SAR Measurement Guidance for IEEE 802.11 Transmitters
5	KDB 941225 D01v03	SAR Measurement Procedures for 3G Devices
6	KDB 941225 D02v02r02	HSPA and 1x Advanced
7	KDB 941225 D03v01	SAR Test Reduction GSM GPRS GPRS
8	KDB 941225 D04v01	SAR for GSM E GPRS Dual Xfer Mode
9	KDB 941225 D06v02	Hotspot Mode SAR
10	KDB 941225 D07v01r01	SAR Evaluation Procedures for UMPC Mini-Tablet Devices
11	KDB 865664 D01v01r02	SAR Measurement 100 MHz to 6 GHz
12	KDB 865664 D02v01r01	SAR Reporting

1.5 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.



2. SPECIFIC ABSORPTION RATE (SAR)

2.1 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.

2.2 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. (p). 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 head 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.

3. SAR MEASUREMENT SETUP

3.1 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.

3.2 Probe

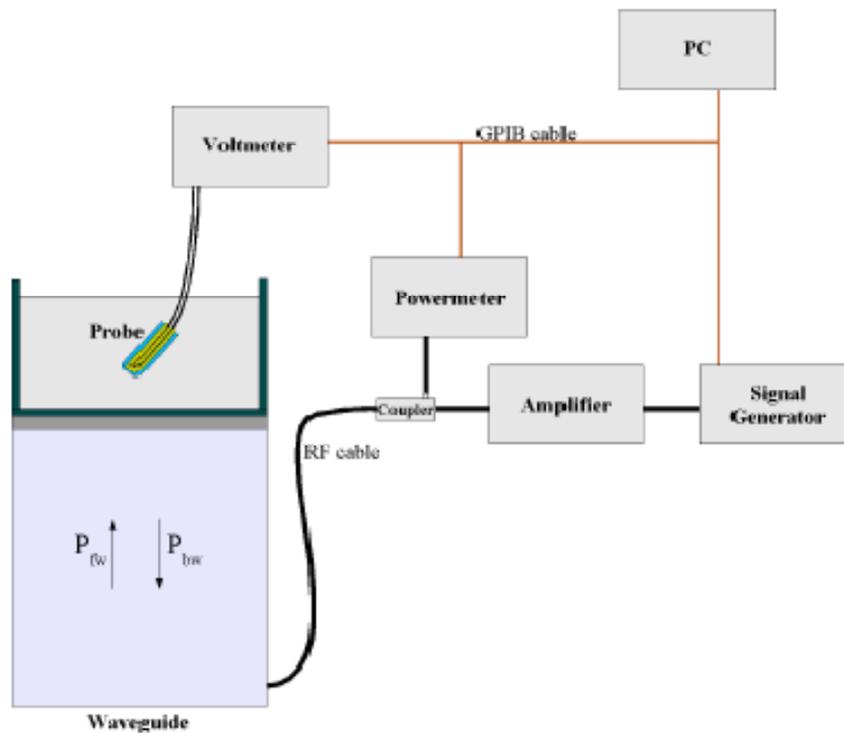
For the measurements the Specific Dosimetric E-Field Probe SN 37/08 EP80 with Following specifications is used

- 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, Antenna proprietary calibration system. The calibration is performed with the EN 622091 annex technique using reference guide at the five frequencies.



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

Where :

P_{fw} = Forward Power

P_{bw} = Backward Power

a and b = Waveguide dimensions

l = 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.

3.3 Probe Calibration Process

3.3.1 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.

3.3.2 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 .

3.3.3 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:

$$\delta t = \text{exposure time (30 seconds),}$$

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

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,

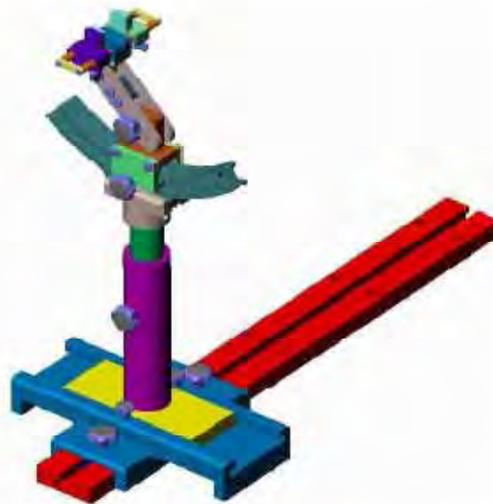
ρ = Tissue density (1.25 g/cm³ for brain tissue)

3.4 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.

3.5 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



4. 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
Ingredients (% by weight)					
Deionised Water	50.36	50.20	54.90	40.40	62.70
Salt(NaCl)	1.25	0.90	0.18	0.50	0.50
Sugar	0.00	48.50	0.00	58.00	0.00
Tween 20	48.39	0.00	0.00	0.00	0.00
HEC	0.00	0.20	0.00	1.00	0.00
Bactericide	0.00	0.20	0.00	0.10	0.00
Triton X-100	0.00	0.00	0.00	0.00	36.80
DGBE	0.00	0.00	44.92	0.00	0.00
Diethylenglycol monohexylether	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
Conductivity (S/m)	0.90	0.95	1.42	1.52	1.80

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±(%)
2014/11/2	Head 835	Relative Permittivity(ϵ_r):	41.28	41.5	-0.53	5
		Conductivity(σ):	0.89	0.90	-1.11	5
2014/11/2	Body 835	Relative Permittivity(ϵ_r):	56.21	56.10	-0.20	5
		Conductivity(σ):	0.93	0.95	-2.11	5
2014/11/3	Head 1900	Relative Permittivity(ϵ_r):	39.98	39.90	0.20	5
		Conductivity(σ):	1.40	1.42	-0.70	5
2014/11/3	Body 1900	Relative Permittivity(ϵ_r):	53.47	53.3	0.32	5
		Conductivity(σ):	1.51	1.52	-0.66	5
2014/11/3	Head 2450	Relative Permittivity(ϵ_r):	39.29	39.20	0.23	5
		Conductivity(σ):	1.79	1.80	-0.56	5
2014/11/3	Body 2450	Relative Permittivity(ϵ_r):	52.48	52.70	-0.42	5
		Conductivity(σ):	1.96	1.95	0.51	5



5. UNCERTAINTY ASSESSMENT

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

5.1 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 Algorithms 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.	5.00	N	1	1	1	5.00	5.0	N-



	1							0	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	0.0 3	∞
Liquid conductivity - deviation from target value	E.3.2	4.57	R	$\sqrt{3}$	0.64	0.43	1.69	1.1 3	∞
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	1	0.64	0.43	3.20	2.1 5	M
Liquid permittivity - deviation from target value	E.3.2	3.69	R	$\sqrt{3}$	0.6	0.49	1.28	1.0 4	∞
Liquid permittivity - measurement uncertainty	E.3.3	10.0 0	N	1	0.6	0.49	6.00	4.9 0	M
Combined Standard Uncertainty			RSS				11.55	10. 67	
Expanded Uncertainty (95% Confidence interval)			K=2				23.11	21. 33	

5.2 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	∞

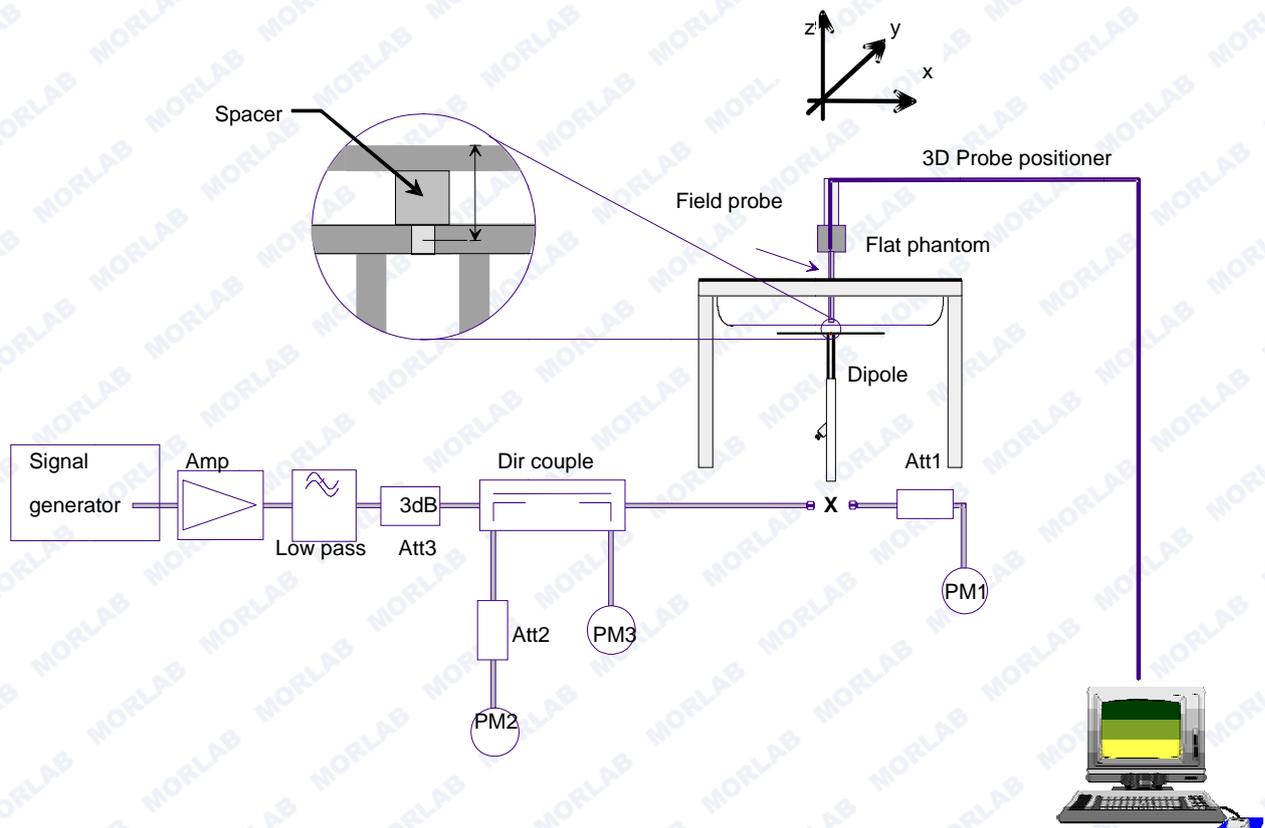


Reponse Time	E.2.7	3.0	R	$\sqrt{3}$	1	1	1.73	1.7	∞
Integration Time	E.2.8	2.0	R	$\sqrt{3}$	1	1	1.15	1.1	∞
RF ambient Conditions	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.7	∞
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	$\sqrt{3}$	1	1	1.15	1.1 5	∞
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	$\sqrt{3}$	1	1	0.03	0.0 3	∞
Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation	E.5.2	5.0	R	$\sqrt{3}$	1	1	2.89	2.8 9	∞
Dipole									
Dipole axis to liquid Distance	8,E.4. 2	1.00	N	$\sqrt{3}$	1	1	0.58	0.5 8	∞
Input power and SAR drift measurement	8,6.6. 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	0.0 3	∞
Liquid conductivity - deviation from target value	E.3.2	4.57	R	$\sqrt{3}$	0.64	0.43	1.69	1.1 3	∞
Liquid conductivity - measurement uncertainty	E.3.3	5.00	N	$\sqrt{3}$	0.64	0.43	1.85	1.2 4	M
Liquid permittivity - deviation from target value	E.3.2	3.69	R	$\sqrt{3}$	0.6	0.49	1.28	1.0 4	∞
Liquid permittivity - measurement uncertainty	E.3.3	10.0 0	N	$\sqrt{3}$	0.6	0.49	3.46	2.8 3	M
Combined Standard Uncertainty			RSS				8.83	8.3 7	
Expanded Uncertainty (95% Confidence interval)			K=2				17.66	16. 73	

6. SAR MEASUREMENT EVALUATION

6.1 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.

6.2 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)	9.68 W/Kg	10.04 W/Kg	39.36 W/Kg	42.36 W/Kg
Test value 1g (250 mW input power)	2.421 W/Kg (11.2)	2.488 W/Kg (11.2)	9.781 W/Kg (11.3)	9.993 W/Kg (11.3)
Normalized to 1W value(1g)	9.684 W/Kg	9.952 W/Kg	39.124 W/Kg	39.972 W/Kg

Frequency	2450MHz(H)	2450MHz(B)
Target value 1W (1g)	54.74 W/Kg	56.13 W/Kg
Test value 1g (250 mW input power)	12.942 W/Kg (11.3)	13.287W/Kg (11.3)
Normalized to 1W value(1g)	51.768 W/Kg	53.148 W/Kg

Note: System checks the specific test data please see 139~150.

7. OPERATIONAL CONDITIONS DURING TEST

7.1 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.

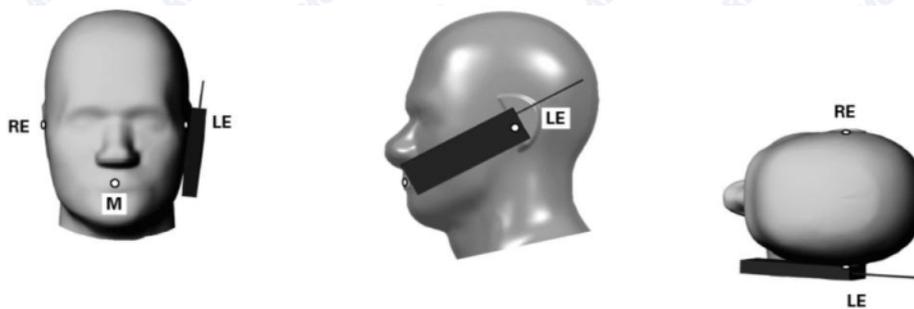


Illustration for Cheek Position

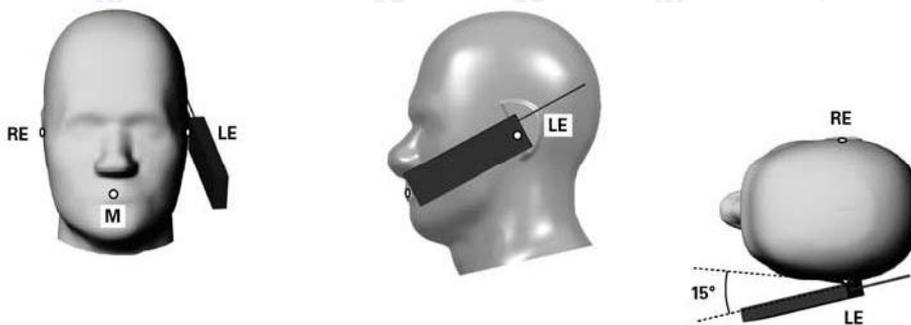


Illustration for Tilted Position

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.

7.2 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.

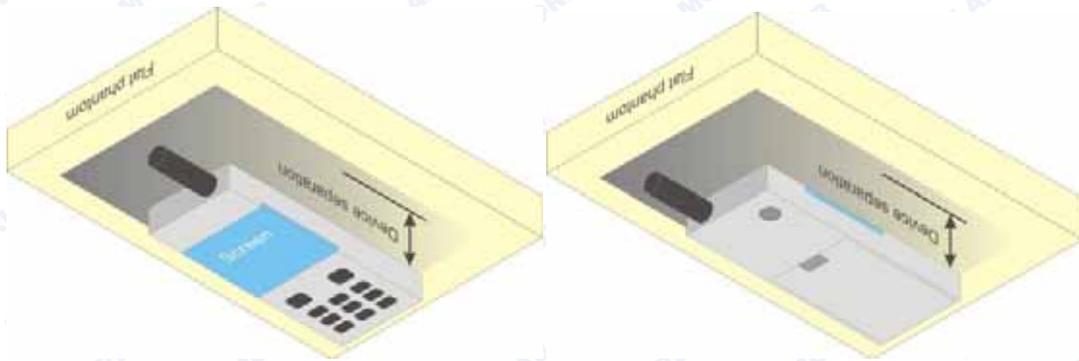


Illustration for Body Worn Position

7.3 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.

7.4 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.

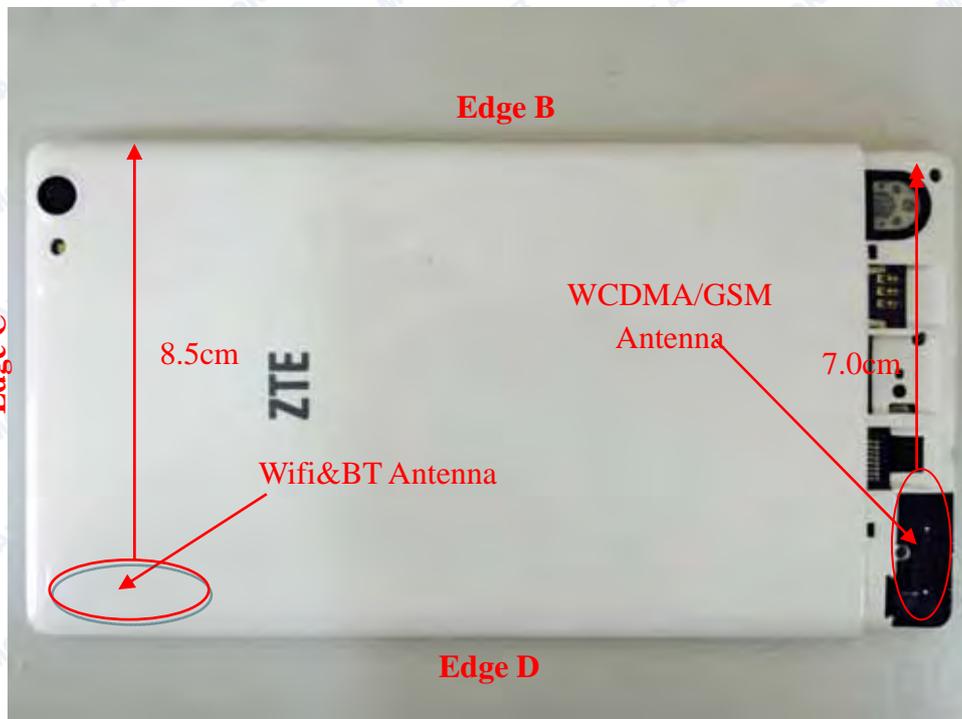
The measurements have to be performed over a limited time (due to the duration of the battery) so the step of measurement is high. It could vary between 5 and 8 mm. To obtain an accurate assessment of the maximum SAR averaged over 10 grams and 1 gram requires a very fine resolution in the three dimensional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

8. 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 GPRSs (side) with a transmitting antenna with in 2.5 cm from that surface or GPRS, at a test separation distance of 10 mm, in the wireless mode that support wireless routing.

GPRS configurations:



Assessment	Hotspot side for SAR					
	Test distance: 5mm					
Antennas	Back	Front	Edge A	Edge B	Edge C	Edge D
WCDMA/GSM	Yes	Yes	Yes	No	No	Yes
WLAN&BT	Yes	Yes	No	No	Yes	Yes



9. 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	24.41	24.51	24.68	23.13	23.60	23.12
HSDPA	1	24.30	23.77	24.20	23.14	23.47	23.12
	2	24.29	23.78	24.22	23.15	23.48	23.13
	3	23.78	23.27	23.71	23.64	22.98	22.62
	4	23.79	23.29	23.72	22.65	22.97	22.63
HSUPA	1	24.48	23.71	24.15	23.09	23.57	22.98
	2	22.47	21.72	22.16	21.10	21.56	20.99
	3	23.48	22.70	23.16	22.08	22.58	21.98
	4	22.48	21.71	22.15	21.09	21.57	20.96
	5	24.47	23.70	24.16	23.08	23.58	22.97
HSPA+	1	24.47	23.70	24.15	23.08	23.58	22.95
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	33.90
	190	836.6	33.87
	251	848.8	33.78
PCS 1900	512	1850.2	30.79
	661	1880.0	30.23
	810	1909.8	29.06



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	33.88	32.73	31.76	30.88
	190	836.6	33.15	32.00	31.03	30.15
	251	848.8	33.75	32.60	31.63	30.75
PCS 1900	512	1850.2	30.40	29.25	28.28	27.40
	661	1880.0	29.98	28.83	27.86	26.98
	810	1909.8	28.04	26.89	25.92	25.04

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	24.85	26.71	27.50	27.87
	190	836.6	24.12	25.98	26.77	27.14
	251	848.8	24.72	26.58	27.37	27.74
PCS 1900	512	1850.2	21.37	23.23	24.02	24.39
	661	1880.0	20.95	22.81	23.60	23.97
	810	1909.8	19.01	20.87	21.66	22.03

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



3. 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	33.01	31.88	30.92	30.07
	190	836.6	32.29	31.16	30.20	29.35
	251	848.8	32.93	31.80	30.84	29.99
PCS 1900	512	1850.2	30.55	29.42	28.46	27.61
	661	1880.0	30.12	28.99	28.03	27.18
	810	1909.8	28.22	27.09	26.13	25.28

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	23.98	25.86	26.66	27.06
	190	836.6	23.26	25.14	25.94	26.34
	251	848.8	23.90	25.78	26.58	26.98
PCS 1900	512	1850.2	21.52	23.40	24.20	24.60
	661	1880.0	21.09	22.97	23.77	24.17
	810	1909.8	19.19	21.07	21.87	22.27

5. WiFi Average output power

Band	Channel	Frequency (MHz)	Output Power(dBm)		
			802.11b (DSSS)	802.11g (OFDM)	802.11n20 (OFDM)
WiFi	1	2412	10.25	7.44	7.60
	6	2437	10.44	7.50	7.80
	11	2462	10.32	7.77	7.50

Band	Channel	Frequency (MHz)	Output Power(dBm)
			802.11n40 (OFDM)
Wifi	3	2422	7.90
	6	2437	7.94
	9	2452	6.72



6. BT+EDR 2.1 peak output power

Band	Channel	Frequency (MHz)	Output Power(dBm)		
			GFSK	$\pi/4$ -DQPSK	8-DPSK
BT	0	2402	-5.60	-5.83	-5.56
	39	2441	-5.31	-5.69	-5.42
	78	2480	-5.33	-5.58	-5.51

Band	Channel	Frequency (MHz)	Output Power(dBm)
			GFSK
BT	0	2402	-13.03
	19	2441	-12.25
	39	2480	-11.99



10. 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		128	0.125	1.023	0.128				
	Ear/Tilt			0.100		0.102				
Left Side Of Head	Cheek/Touch			0.311		1.028	0.318			
	Ear/Tilt			0.227			0.232			
Body (5mm Separation)	GSM	Back upward		0.735			1.028	0.752		
		Front upward		0.505				0.517		
	GPRS	Back upward		128				0.966	1.028	0.993
				190				0.882	1.216	1.073
		Front upward	251	0.942	1.059			0.998		
			Edge A	128	0.515			1.028	0.529	
Edge D	0.505	0.519								
Edge D	0.308	0.317								



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	0.039	1.050	0.041	
	Ear/Tilt			0.021		0.022	
Left Side Of Head	Cheek/Touch			0.237		0.249	
	Ear/Tilt			0.075		0.079	
Body (5mm Separation)	GSM	Back upward		0.121		0.127	
		Front upward		0.113		0.119	
	EDGE	Back upward		512		0.533	0.583
		Front upward				0.207	0.226
		Edge A	0.090		0.098		
		Edge D	0.371		0.406		

Note:

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

Band	Channel	Slots	Power control level	Duty Cycle	Powe Class
GPRS850	128	4	5	1:2	4
EDGE1900	512	4	0	1:2	1



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	4233	0.112	1.076	0.121		
	Ear/Tilt		0.082		0.088		
Left Side Of Head	Cheek/Touch		0.112		0.121		
	Ear/Tilt		0.068		0.073		
Body (5mm Separation)	Back upward		4132		0.824	1.146	0.944
			4175		0.829	1.119	0.928
		4233	0.949	1.076	1.021		
	Front upward	4132	1.042	1.146	1.194		
		4175	0.860	1.119	0.962		
		4233	1.054	1.076	1.134		
	Edge A	4233	0.708	1.076	0.761		
	Edge D		0.467		0.502		

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	9400	0.056	1.096	0.061
	Ear/Tilt		0.019		0.021
Left Side Of Head	Cheek/Touch		0.010		0.011
	Ear/Tilt		0.021		0.023
Body (5mm Separation)	Back upward		0.527		0.578
	Front upward		0.311		0.341
	Edge A	0.152	0.167		
	Edge D	0.260	0.285		



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	6	0.282	1.014	0.286
	Ear/Tilt		0.247		0.250
Left Side Of Head	Cheek/Touch		0.303		0.307
	Ear/Tilt		0.254		0.258
Body (5mm Separation)	Back upward		0.381		0.386
	Front upward		0.373		0.378
	Edge C		0.106		0.107
	Edge D		0.112		0.114

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 v05r02)
 - ≤ 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 ≤ 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.
- BT & WiFi SAR test is conducted according to section 12 stand-alone SAR evaluation of this report.
- 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.
- 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 > ½ dB, instead of the middle channel, the



highest output power channel must be used.

7. 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.
8. 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+.
9. Scaling Factor calculation

Band	Tune-up power tolerance(dBm)	SAR test channel Power (dBm)	Scaling Factor
GSM 850	PCL = 5, PWR =33.5+-0.5	33.90	1.023
GPRS 850	PCL = 5, PWR =30.5+-0.5(4 slots)	30.88	1.028
		30.15	1.216
		30.75	1.059
GSM1900	PCL = 0, PWR =30.5+-0.5	30.79	1.050
EDGE1900	PCL=0,PWR= 27.5+-0.5(4 slots)	27.61	1.094
WCDMA 850	Max output power =24(+1/-2)	24.41	1.146
		24.51	1.119
		24.68	1.076
WCDMA 1900	Max output power =23(+1/-2)	23.60	1.096
802.11b	Max output power =10+-0.5	10.44	1.014



11. REPEATED SAR MEASUREMENT

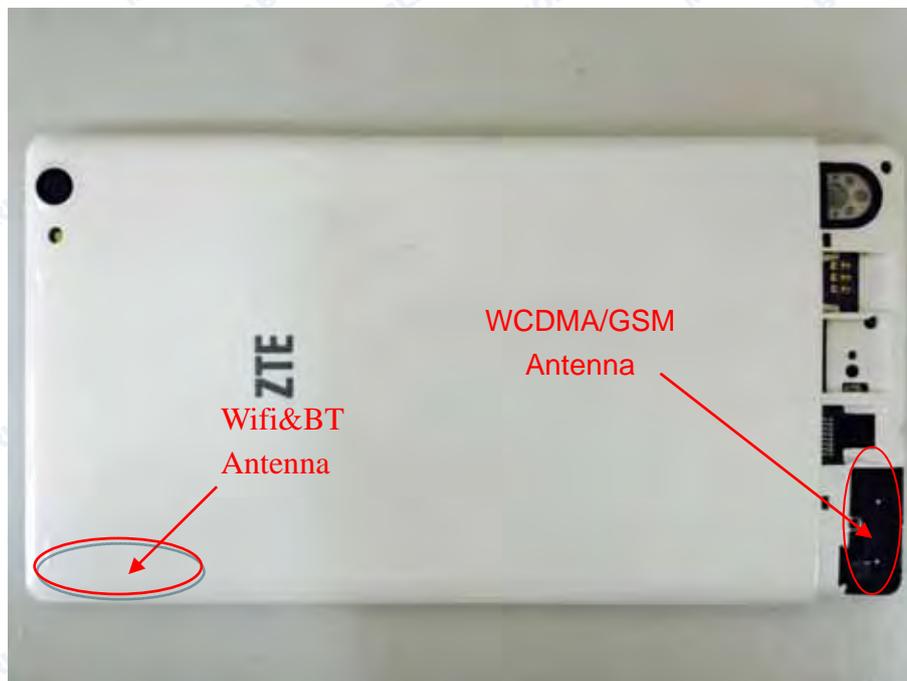
In accordance with published RF Exposure KDB procedure 865664 D01 SAR measurement 100 MHz to 6 GHz. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
- 3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

Band	Test Position	Test Channel	Meas.SAR(W/kg)		Largest to Smallest SAR Ratio
			Original	Repeated	
GSM850	Body	128	0.966	0.960	1.006
WCDMA850	Body	4233	1.054	1.049	1.005

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)	11.07	$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR}$	Yes
BT	0.29		No

Test distance: 5mm			
Band	Highest power(mW) per tune up	1-g SAR test threshold	Test required?
WIFI(2.4G)	11.07	$\left[\frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \cdot \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR}$	Yes
BT	0.29		No



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

The Head SAR test for 802.11b (2.4GHz) is required, Body SAR for BT is not 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 SAR is not required, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

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

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

(Max power= 7.46 mW; min. test separation distance= 5mm for head; $f=2.4\text{GHz}$)

BT estimated Head SAR = **0.012 W/Kg** (1g)

(Max power= 7.46 mW; min. test separation distance= 10mm for body; $f=2.4\text{GHz}$)

BT estimated Body SAR = **0.012W/Kg** (1g)

Simultaneous SAR

#	Simultaneous transmission conditions				Sum of WWAN& WLAN
	WWAN		WLAN		
	GSM	UMTS	802.11b/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.



3. GSM supports voice and data transmission, though not simultaneously. WCDMA supports voice and data transmission simultaneously.
4. 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: $(SAR1 + SAR2) \wedge 1.5/Ri \leq 0.04$,
 Ri 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)	Σ 1-g SARMax(W/Kg)	
				BT&Main Ant	WiFi&Main Ant
Head SAR	0.318	0.012	0.307	0.330	0.625
Body SAR	1.194	0.012	0.386	1.206	1.580

Simultaneous Transmission SAR evaluation is not required for WiFi and WCDMA&GSM, because the sum of 1g SARMax is **1.580W/Kg** < 1.6W/Kg for Wifi and WCDMA&GSM.

Simultaneous Transmission SAR evaluation is not required for BT and WCDMA&GSM, because the sum of 1g SARMax is **1.206W/Kg** < 1.6W/Kg for BT and 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	<u>PARAMETERS</u>
<u>GSM850</u>	<p><u>Measurement 1:</u> Right Head with Cheek device position on Low Channel in GSM mode</p> <p><u>Measurement 2:</u> Right Head with Tilt device position on Low Channel in GSM mode</p> <p><u>Measurement 3:</u> Left Head with Cheek device position on Low Channel in GSM mode</p> <p><u>Measurement 4:</u> Left Head with Tilt device position on Low Channel in GSM mode</p> <p><u>Measurement 5:</u> Flat Plane with Body device position on Low Channel in GSM mode</p> <p><u>Measurement 6:</u> Flat Plane with Body device position on Low Channel in GSM mode</p> <p><u>Measurement 7:</u> Flat Plane with Body device position on Low Channel in GPRS mode</p> <p><u>Measurement 8:</u> Flat Plane with Body device position on Middle Channel in GPRS mode</p> <p><u>Measurement 9:</u> Flat Plane with Body device position on High Channel in GPRS mode</p> <p><u>Measurement 10:</u> Flat Plane with Body device position on Low Channel in GPRS mode</p> <p><u>Measurement 11:</u> Flat Plane with Body device position on Low Channel in GPRS mode</p> <p><u>Measurement 12:</u> Flat Plane with Body device position on Low Channel in GPRS mode</p>
	<p><u>Measurement 13:</u> Right Head with Cheek device position on Low Channel in GSM mode</p> <p><u>Measurement 14:</u> Right Head with Tilt device position on Low Channel in GSM mode</p> <p><u>Measurement 15:</u> Left Head with Cheek device position on Low Channel in GSM mode</p> <p><u>Measurement 16:</u> Left Head with Tilt device position on Low Channel in GSM mode</p> <p><u>Measurement 17:</u> Flat Plane with Body device position Low Channel in GSM mode</p>



<u>GSM1900</u>	<p><u>Measurement 18:</u> Flat Plane with Body device position on Low Channel in GSM mode</p> <p><u>Measurement 19:</u> Flat Plane with Body device position on Low Channel in EDGE mode</p> <p><u>Measurement 20:</u> Flat Plane with Body device position on Low Channel in EDGE mode</p> <p><u>Measurement 21:</u> Flat Plane with Body device position on Low Channel in EDGE mode</p> <p><u>Measurement 22:</u> Flat Plane with Body device position on Low Channel in EDGE mode</p>
<u>WCDMA</u> <u>850</u>	<p><u>Measurement 23:</u> Right Head with Cheek device position on High Channel in WCDMA mode</p> <p><u>Measurement 24:</u> Right Head with Tilt device position on High Channel in WCDMA mode</p> <p><u>Measurement 25:</u> Left Head with Cheek device position on High Channel in WCDMA mode</p> <p><u>Measurement 26:</u> Left Head with Tilt device position on High Channel in WCDMA mode</p> <p><u>Measurement 27:</u> Flat Plane with Body device position on Low Channel in WCDMA mode</p> <p><u>Measurement 28:</u> Flat Plane with Body device position on Middle Channel in WCDMA mode</p> <p><u>Measurement 29:</u> Flat Plane with Body device position on High Channel in WCDMA mode</p> <p><u>Measurement 30:</u> Flat Plane with Body device position on Low Channel in WCDMA mode</p> <p><u>Measurement 31:</u> Flat Plane with Body device position on Middle Channel in WCDMA mode</p> <p><u>Measurement 32:</u> Flat Plane with Body device position on High Channel in WCDMA mode</p> <p><u>Measurement 33:</u> Flat Plane with Body device position on High Channel in WCDMA mode</p> <p><u>Measurement 34:</u> Flat Plane with Body device position on High Channel in WCDMA mode</p>
	<p><u>Measurement 35:</u> Right Head with Cheek device position on Middle Channel in WCDMA mode</p> <p><u>Measurement 36:</u> Right Head with Tilt device position on Middle Channel in WCDMA mode</p>



<p><u>WCDMA</u> <u>1900</u></p>	<p><u>Measurement 37:</u> Left Head with Cheek device position on Middle Channel in WCDMA mode <u>Measurement 38:</u> Left Head with Tilt device position on Middle Channel in WCDMA mode <u>Measurement 39:</u> Flat Plane with Body device position on Middle Channel in WCDMA mode <u>Measurement 40:</u> Flat Plane with Body device position on Middle Channel in WCDMA mode <u>Measurement 41:</u> Flat Plane with Body device position on Middle Channel in WCDMA mode <u>Measurement 42:</u> Flat Plane with Body device position on Middle Channel in WCDMA mode</p>
<p><u>802.11b</u></p>	<p><u>Measurement 43:</u> Right Head with Cheek device position on Middle Channel in DSSS mode <u>Measurement 44:</u> Right Head with Tilt device position on Middle Channel in DSSS mode <u>Measurement 45:</u> Left Head with Cheek device position on Middle Channel in DSSS mode <u>Measurement 46:</u> Left Head with Tilt device position on Middle Channel in DSSS mode <u>Measurement 47:</u> Flat Plane with Body device position on Middle Channel in DSSS mode <u>Measurement 48:</u> Flat Plane with Body device position on Middle Channel in DSSS mode <u>Measurement 49:</u> Flat Plane with Body device position on Middle Channel in DSSS mode <u>Measurement 50:</u> Flat Plane with Body device position on Middle Channel in DSSS mode.</p>

MEASUREMENT 1

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.11.2

Measurement duration: 9 minutes 1 second

A. Experimental conditions.

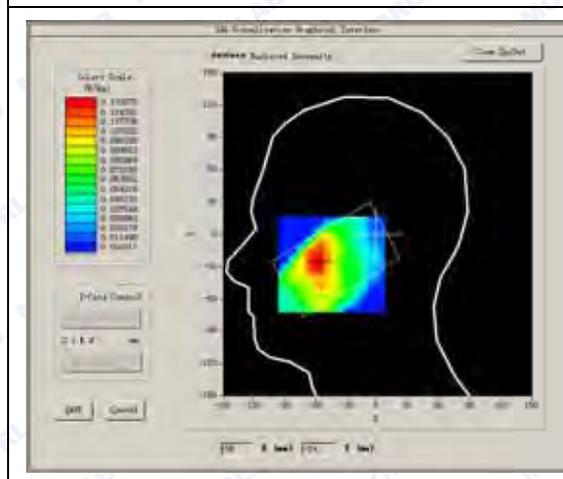
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	GSM

B. SAR Measurement Results

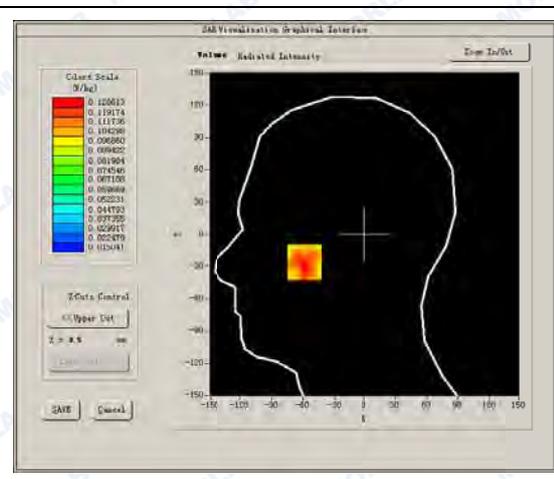
Low Band SAR (Channel 128):

Frequency (MHz)	824.200000
Relative permittivity (real part)	41.284372
Conductivity (S/m)	0.885967
Power drift (%)	1.270000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.73
Crest factor:	1:8

SURFACE SAR



VOLUME SAR

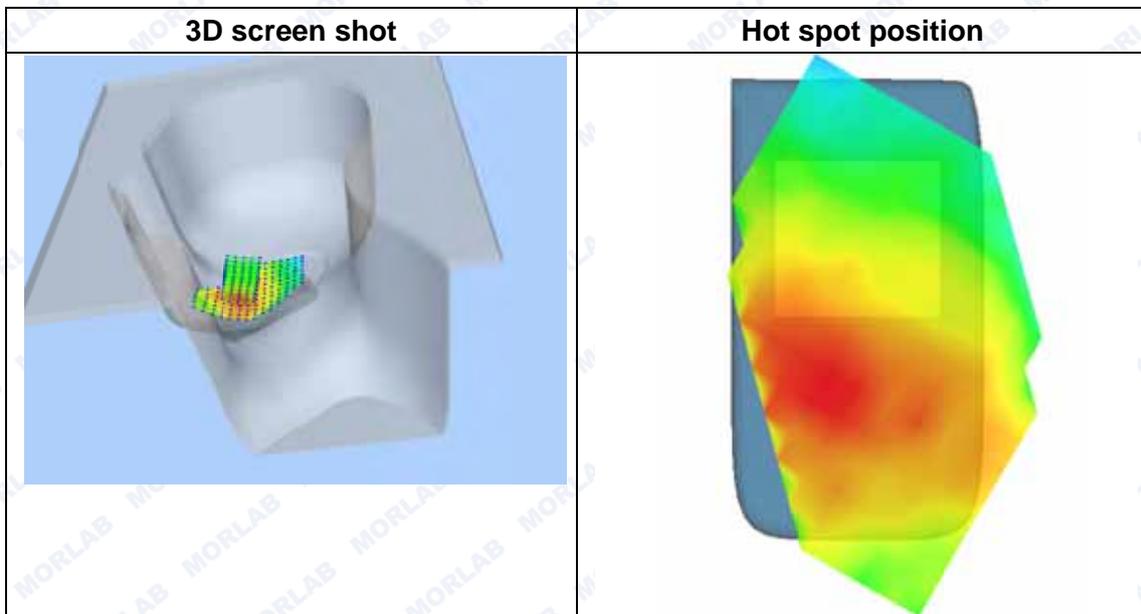
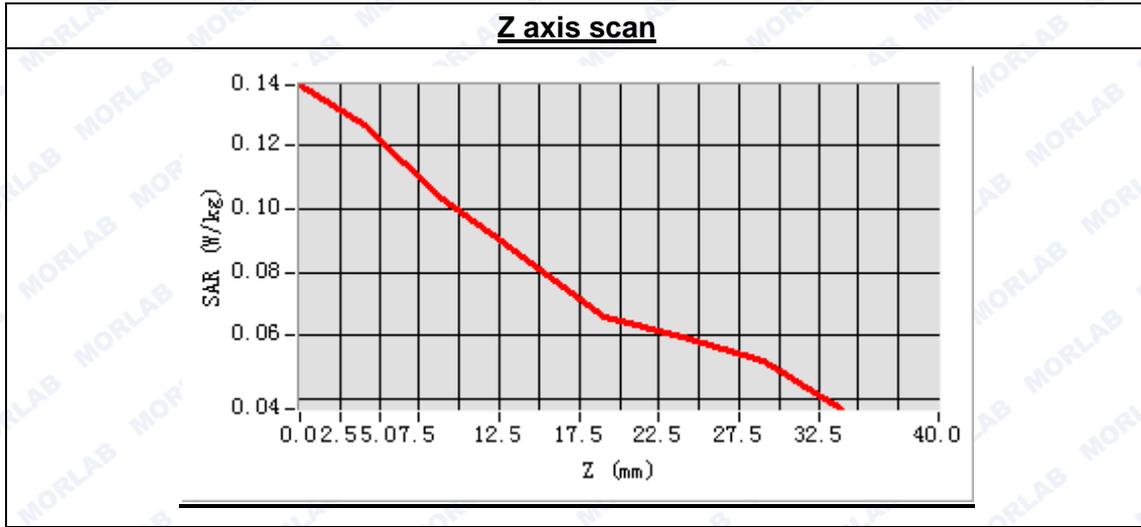




Maximum location: X=-59.00, Y=-26.00

SAR Peak: 0.17 W/kg

SAR 10g (W/Kg)	0.092981
SAR 1g (W/Kg)	0.125307





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: 2014.11.2
 Measurement duration: 8 minutes 24 seconds

A. Experimental conditions.

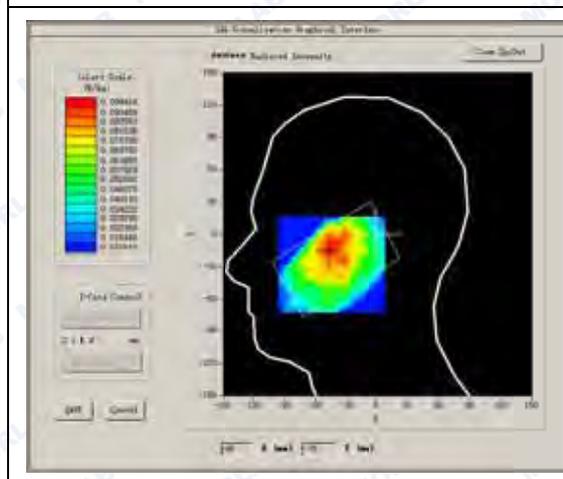
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Tilt
Band	GSM850
Channels	Low
Signal	GSM

B. SAR Measurement Results

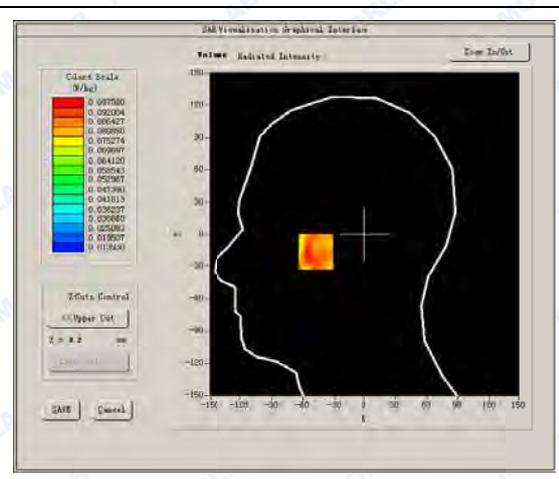
Low Band SAR (Channel 128):

Frequency (MHz)	824.200000
Relative permittivity (real part)	41.284372
Conductivity (S/m)	0.885967
Power drift(%)	2.070000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.73
Crest factor:	1:8

SURFACE SAR



VOLUME SAR

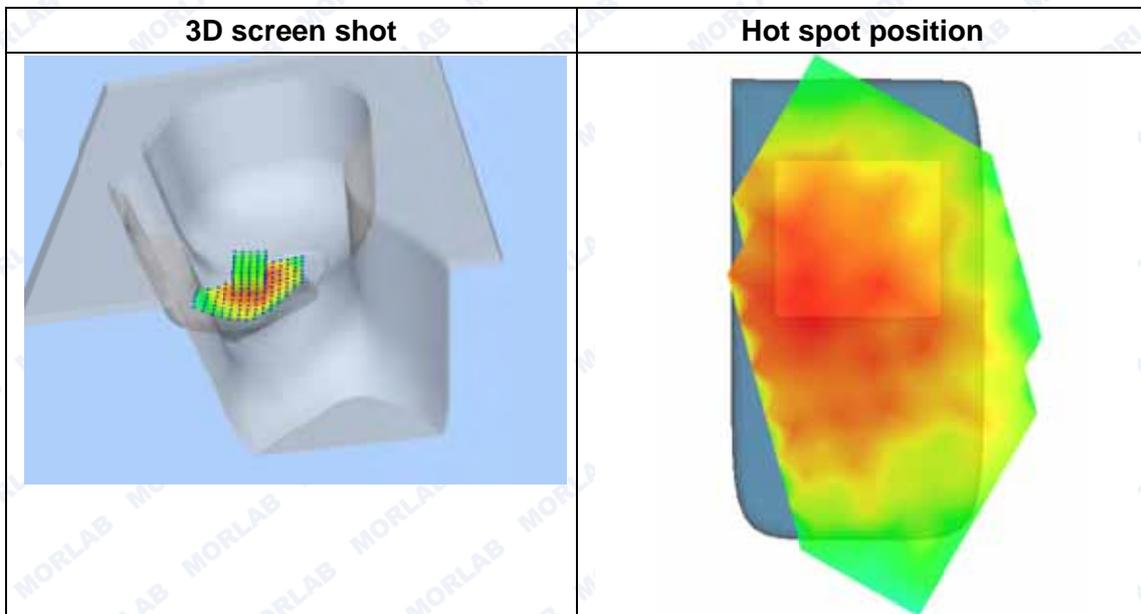
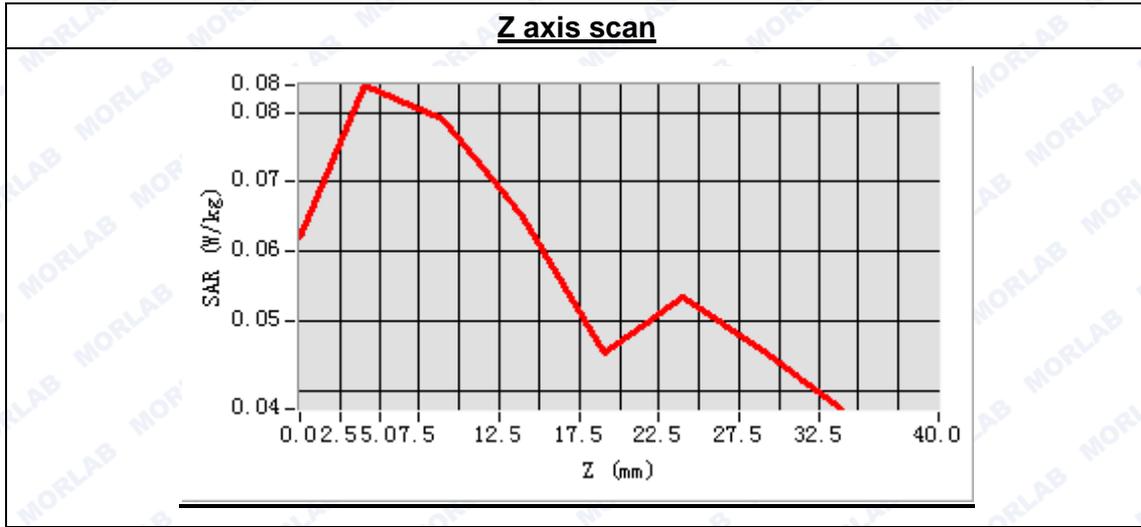




Maximum location: X=-48.00, Y=-15.00

SAR Peak: 0.16 W/kg

SAR 10g (W/Kg)	0.072178
SAR 1g (W/Kg)	0.100077



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: 2014.11.2

Measurement duration: 8 minutes 56 seconds

A. Experimental conditions.

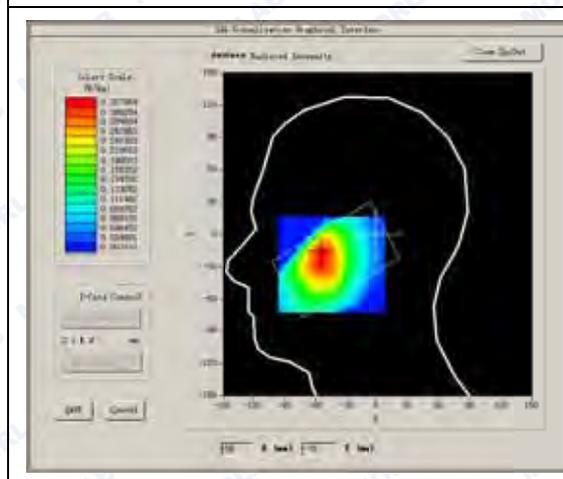
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Low
Signal	GSM

B. SAR Measurement Results

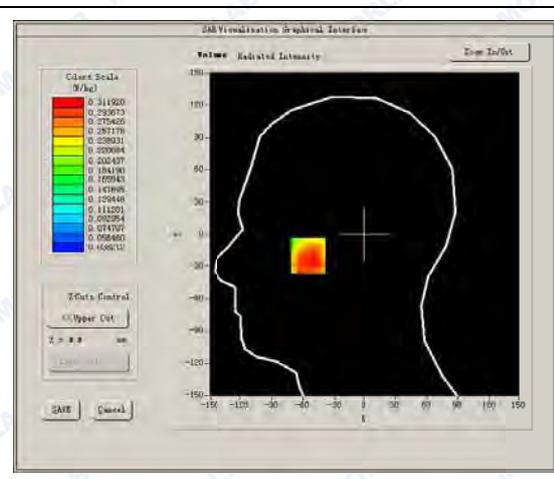
Low Band SAR (Channel 128):

Frequency (MHz)	824.200000
Relative permittivity (real part)	41.284372
Conductivity (S/m)	0.885967
Power drift (%)	2.550000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.73
Crest factor:	1:8

SURFACE SAR



VOLUME SAR

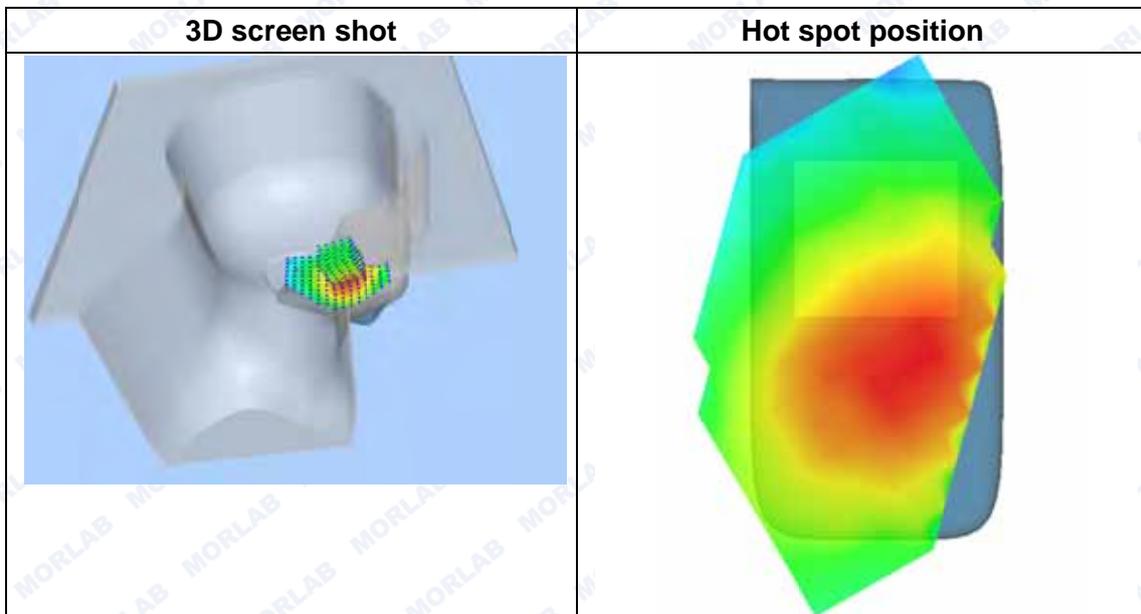
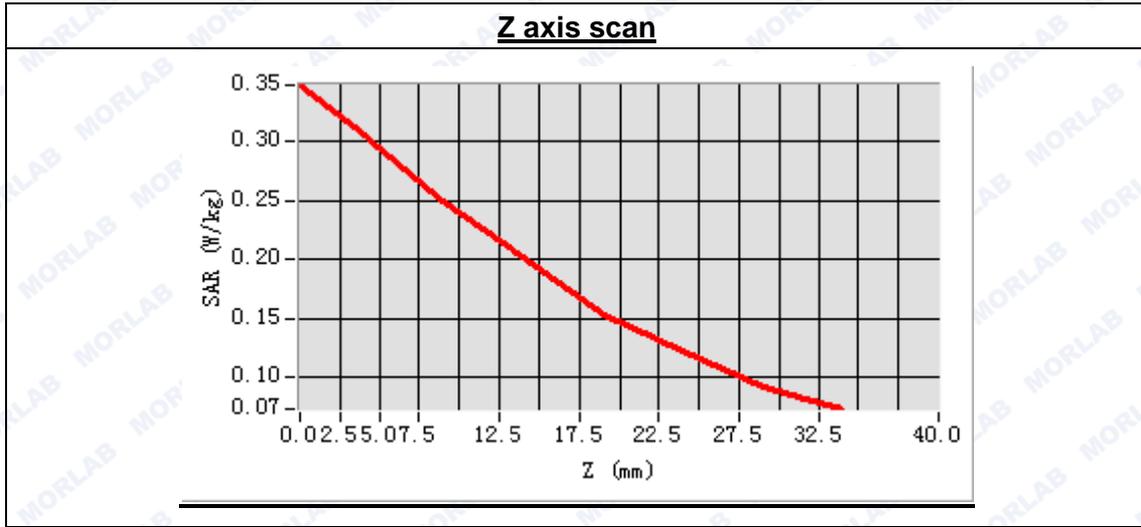




Maximum location: X=-55.00, Y=-19.00

SAR Peak: 0.45 W/kg

SAR 10g (W/Kg)	0.223699
SAR 1g (W/Kg)	0.310676



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: 2014.11.2
 Measurement duration: 8 minutes 18 seconds

A. Experimental conditions.

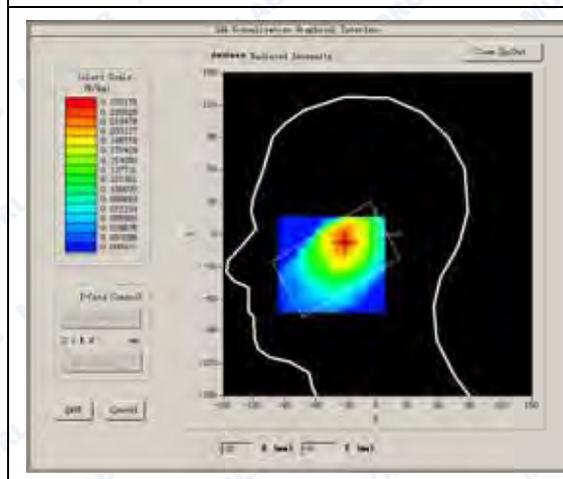
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	Low
Signal	GSM

B. SAR Measurement Results

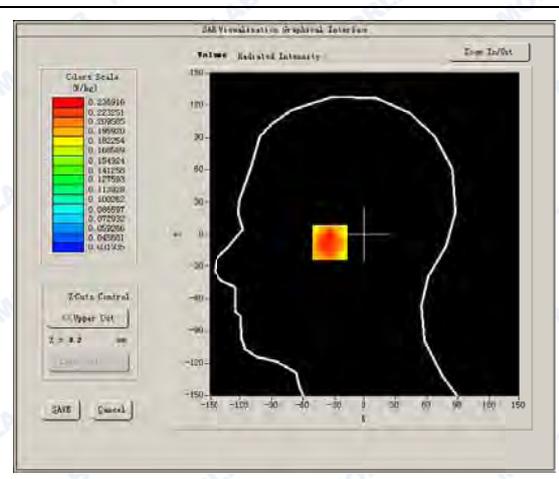
Low Band SAR (Channel 128):

Frequency (MHz)	824.200000
Relative permittivity (real part)	41.284372
Conductivity (S/m)	0.885967
Power drift(%)	0.850000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.73
Crest factor:	1:8

SURFACE SAR



VOLUME SAR

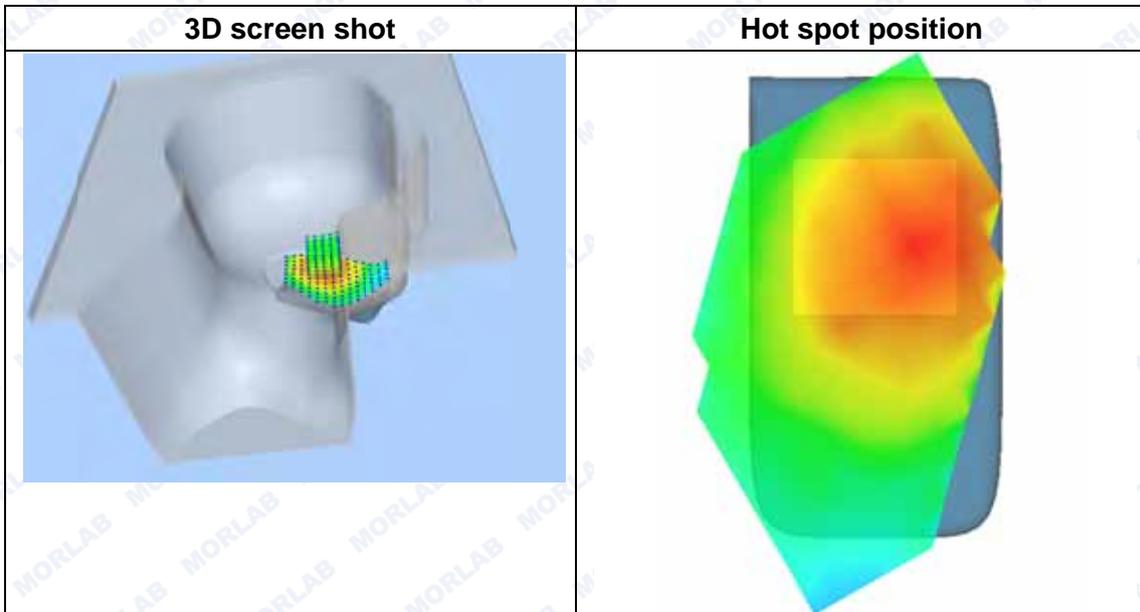
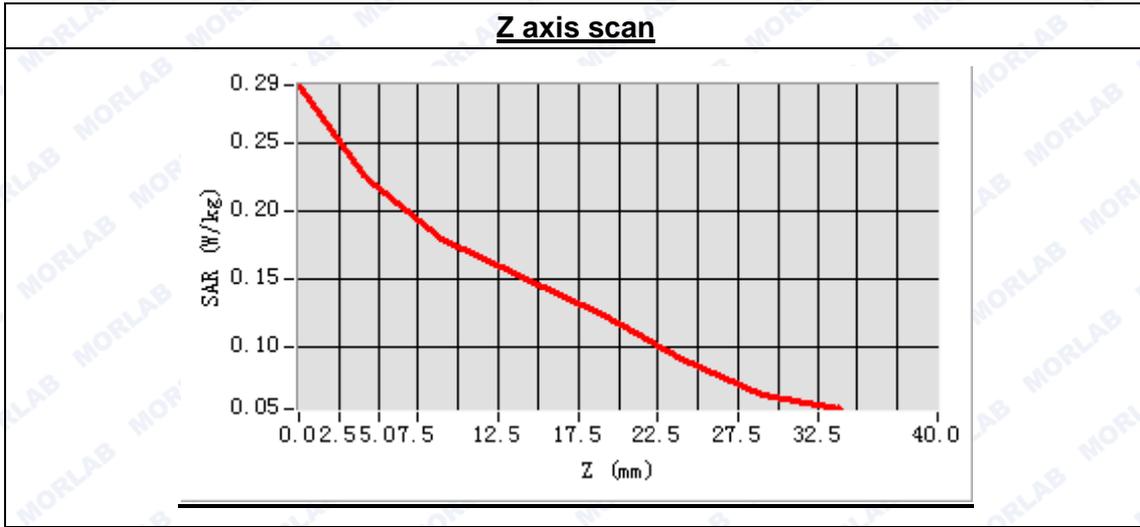




Maximum location: X=-32.00, Y=-7.00

SAR Peak: 0.30 W/kg

SAR 10g (W/Kg)	0.166184
SAR 1g (W/Kg)	0.226683





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: 2014.11.2
 Measurement duration: 9 minutes 37 seconds

A. Experimental conditions.

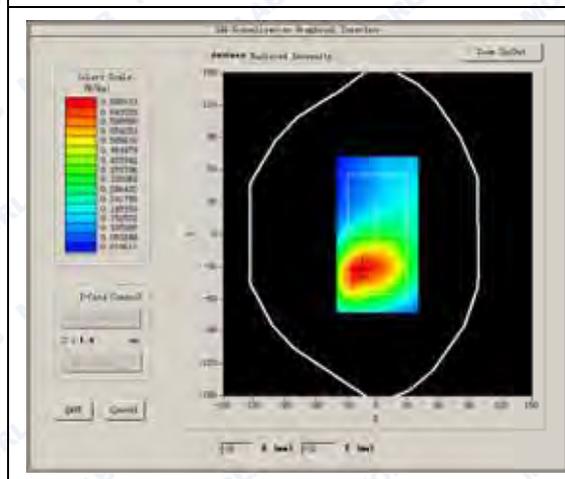
Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	Low
Signal	GSM

B. SAR Measurement Results

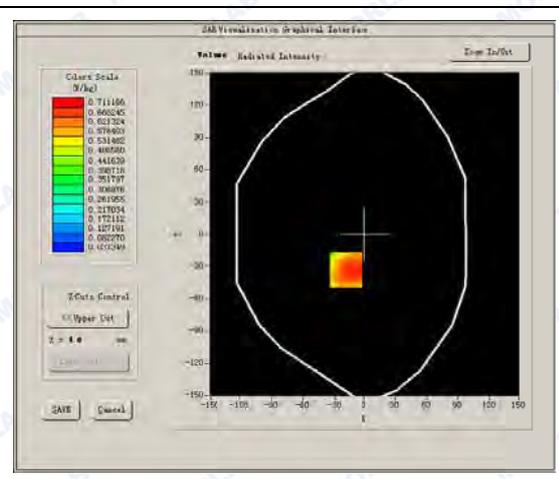
Low Band SAR (Channel 128):

Frequency (MHz)	824.200000
Relative permittivity (real part)	56.210453
Conductivity (S/m)	0.932437
Power drift (%)	2.210000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:8

SURFACE SAR



VOLUME SAR

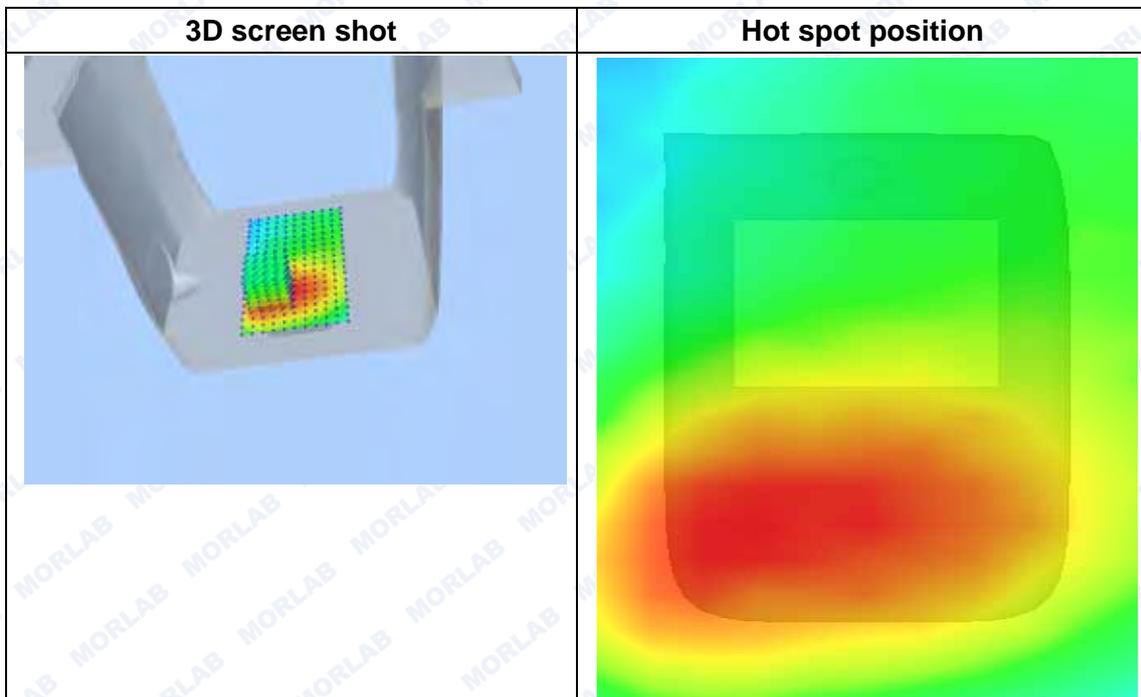
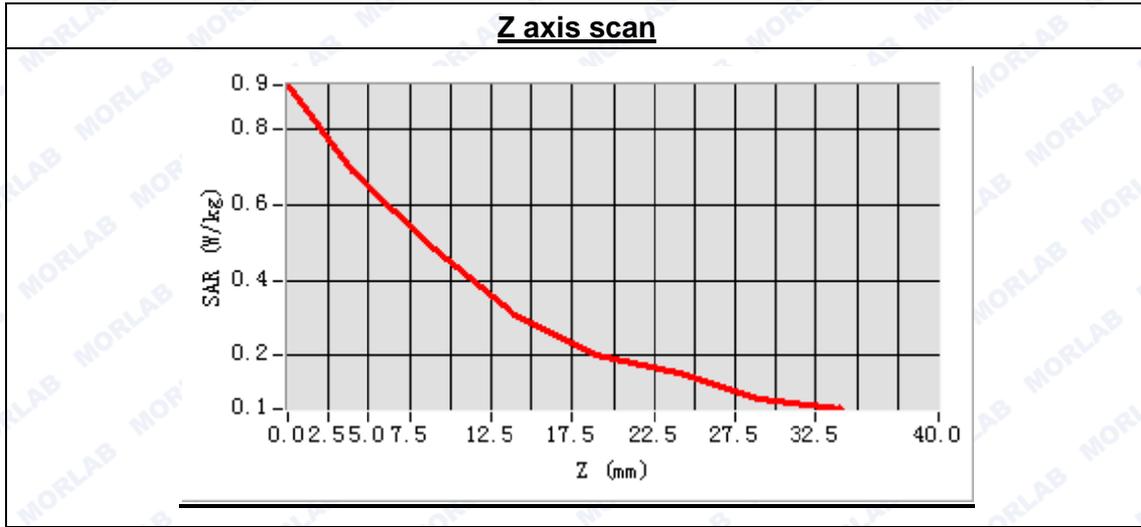




Maximum location: X=-18.00, Y=-33.00

SAR Peak: 1.16 W/kg

SAR 10g (W/Kg)	0.481099
SAR 1g (W/Kg)	0.734945





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: 2014.11.2
 Measurement duration: 9 minutes 28 seconds

A. Experimental conditions.

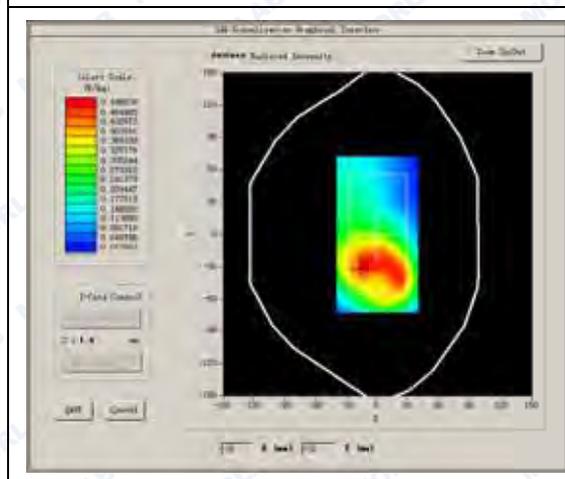
Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	Low
Signal	GSM

B. SAR Measurement Results

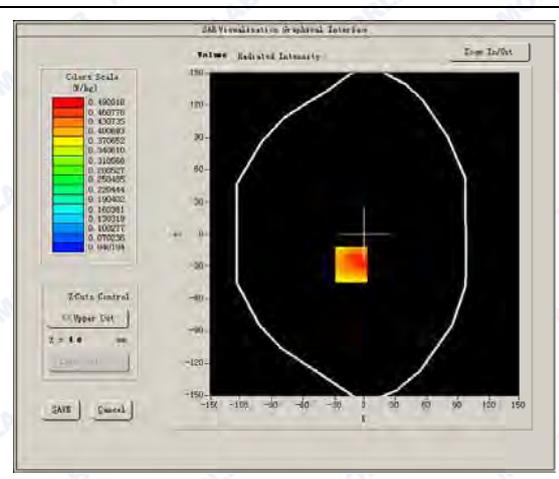
Low Band SAR (Channel 128):

Frequency (MHz)	824.200000
Relative permittivity (real part)	56.210453
Conductivity (S/m)	0.932437
Power drift(%)	-2.390000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:8

SURFACE SAR



VOLUME SAR

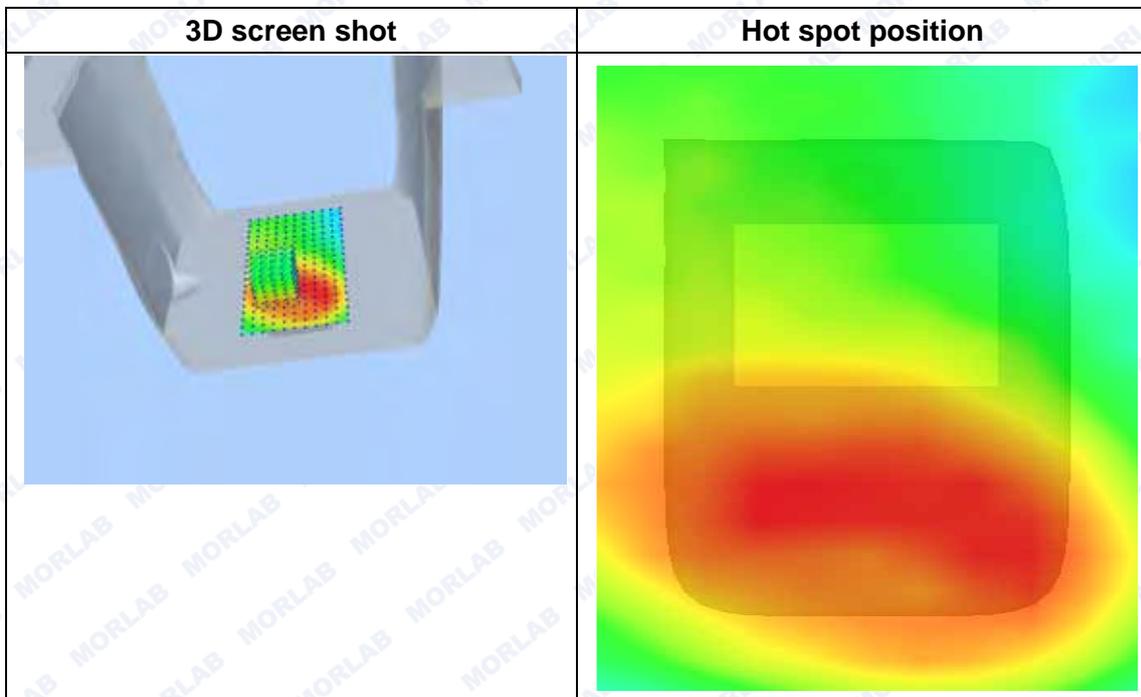
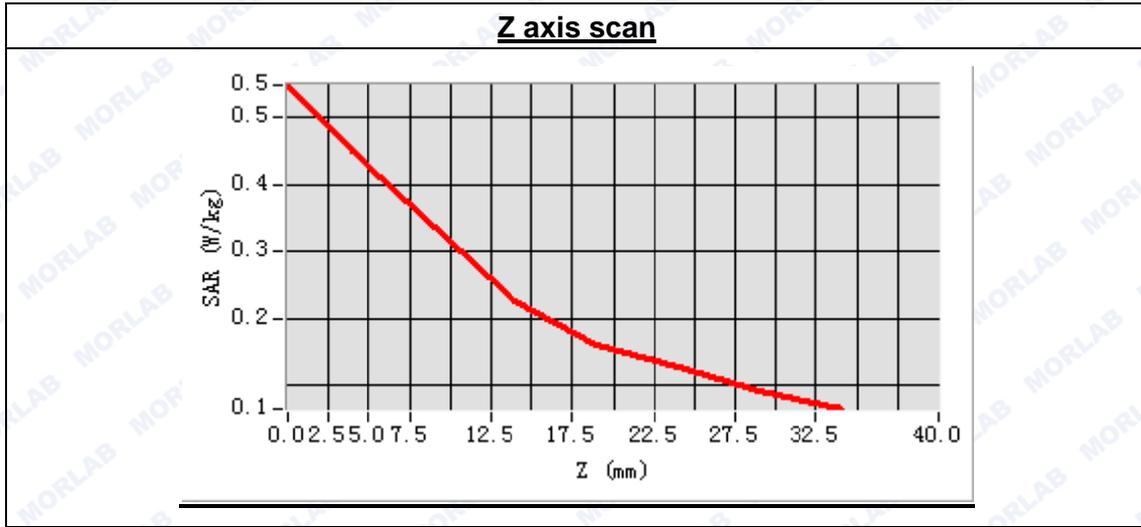




Maximum location: X=-13.00, Y=-28.00

SAR Peak: 0.74 W/kg

SAR 10g (W/Kg)	0.337372
SAR 1g (W/Kg)	0.505475





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: 2014.11.2
 Measurement duration: 9 minutes 33 seconds

A. Experimental conditions.

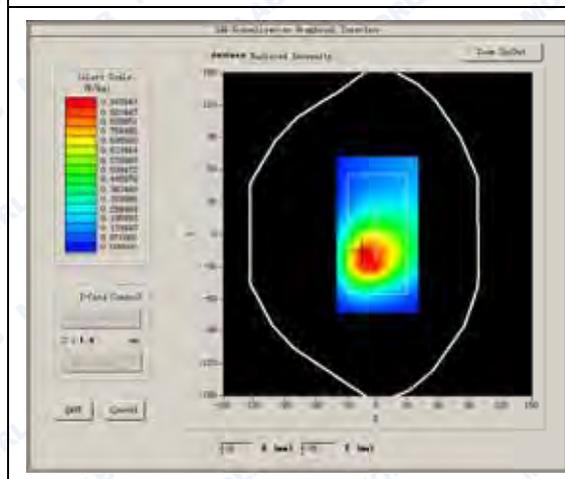
Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	Low
Signal	GPRS

B. SAR Measurement Results

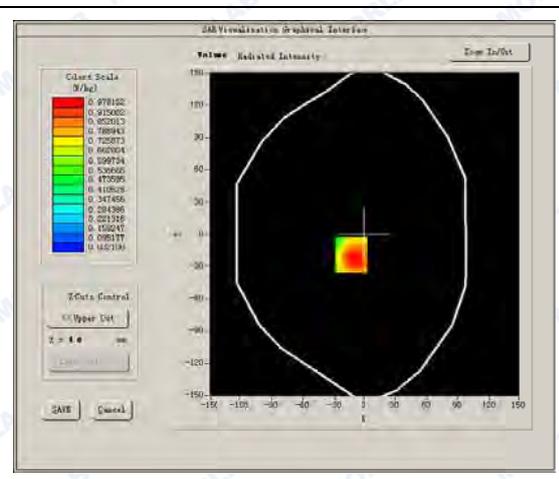
Low Band SAR (Channel 128):

Frequency (MHz)	824.200000
Relative permittivity (real part)	56.210453
Conductivity (S/m)	0.932437
Power drift(%)	-1.520000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:2

SURFACE SAR



VOLUME SAR

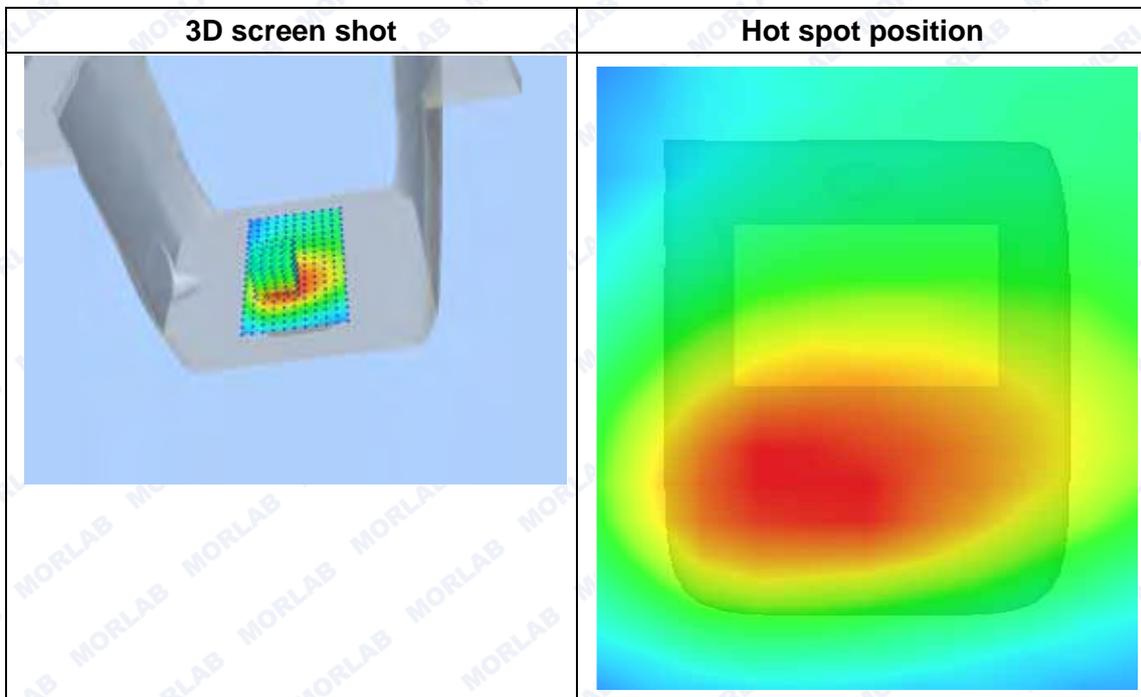
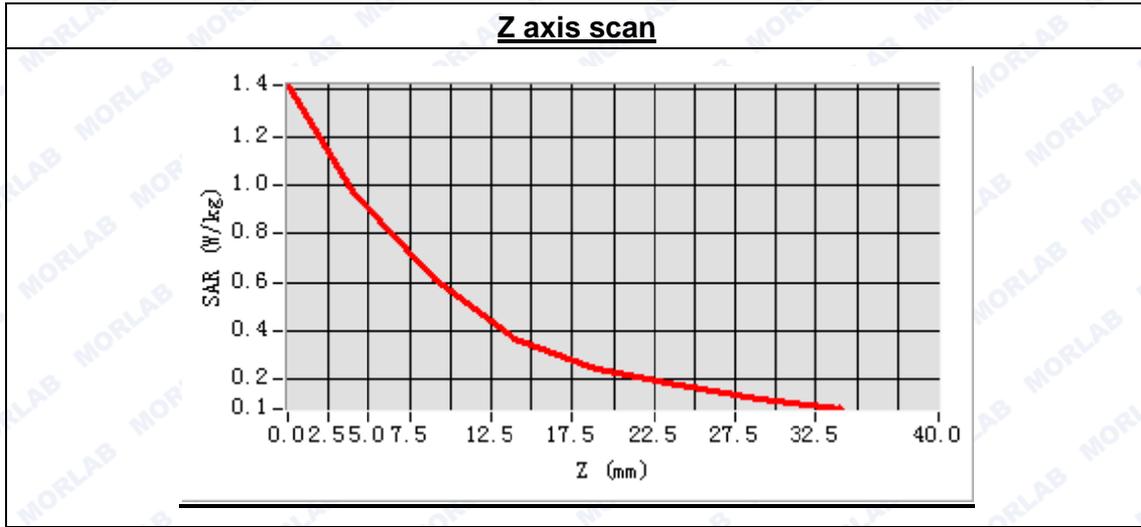




Maximum location: X=-13.00, Y=-19.00

SAR Peak: 1.48 W/kg

SAR 10g (W/Kg)	0.589393
SAR 1g (W/Kg)	0.966448





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: 2014.11.2
 Measurement duration: 9 minutes 32 seconds

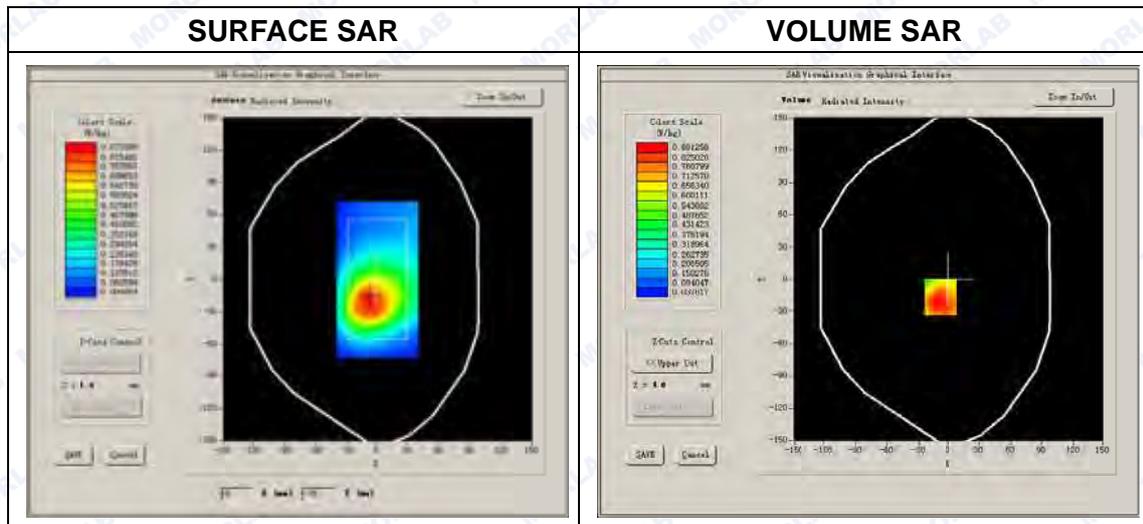
A. Experimental conditions.

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)	56.210453
Conductivity (S/m)	0.932437
Power drift(%)	-3.000000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:2

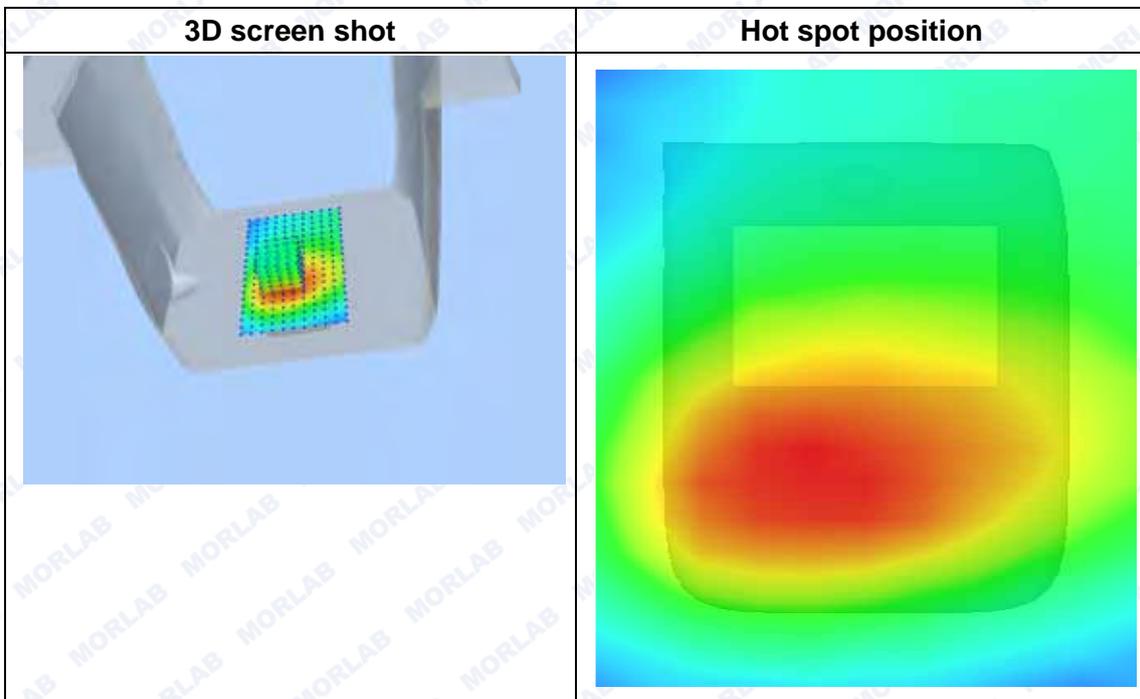
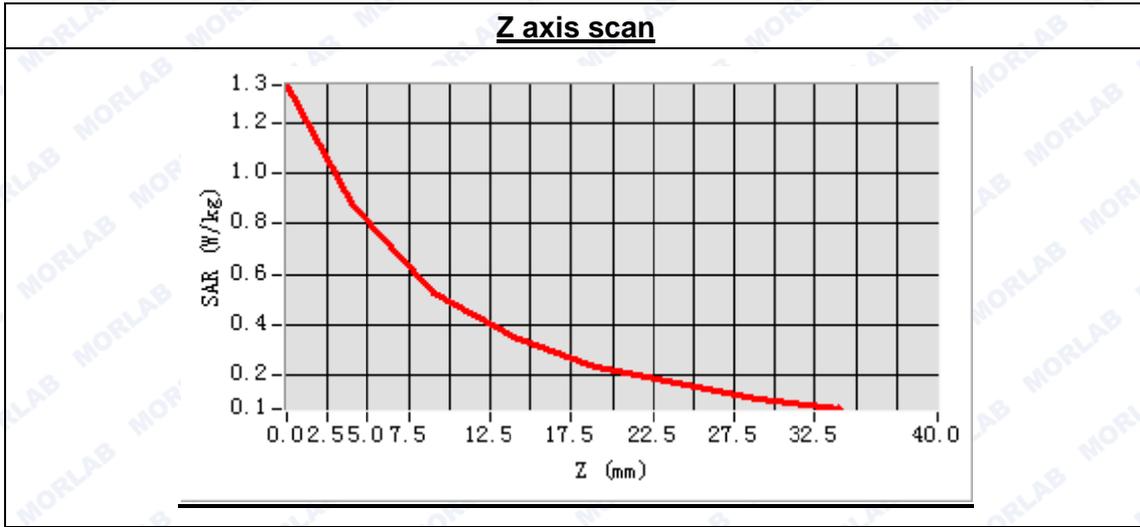




Maximum location: X=-8.00, Y=-17.00

SAR Peak: 1.38 W/kg

SAR 10g (W/Kg)	0.540149
SAR 1g (W/Kg)	0.881953





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: 2014.11.2
Measurement duration: 9 minutes 36 seconds

A. Experimental conditions.

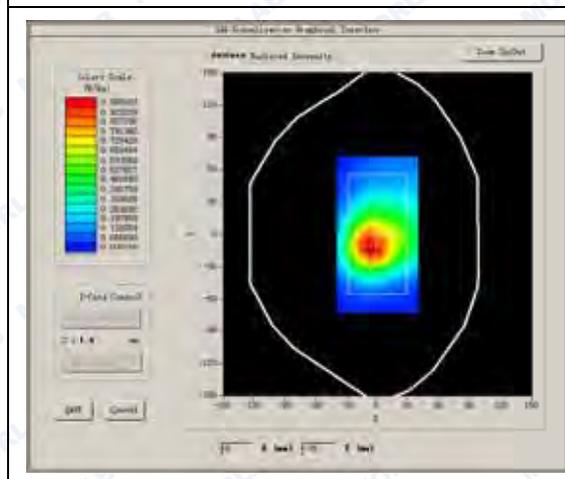
Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	High
Signal	GPRS

B. SAR Measurement Results

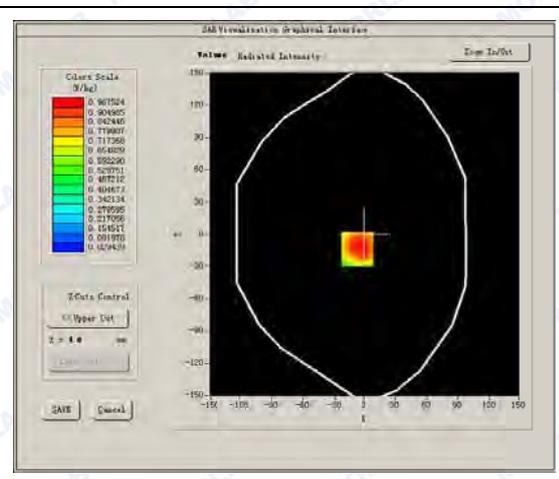
High Band SAR (Channel 251):

Frequency (MHz)	848.800000
Relative permittivity (real part)	56.210453
Conductivity (S/m)	0.932437
Power drift(%)	2.470000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:2

SURFACE SAR



VOLUME SAR

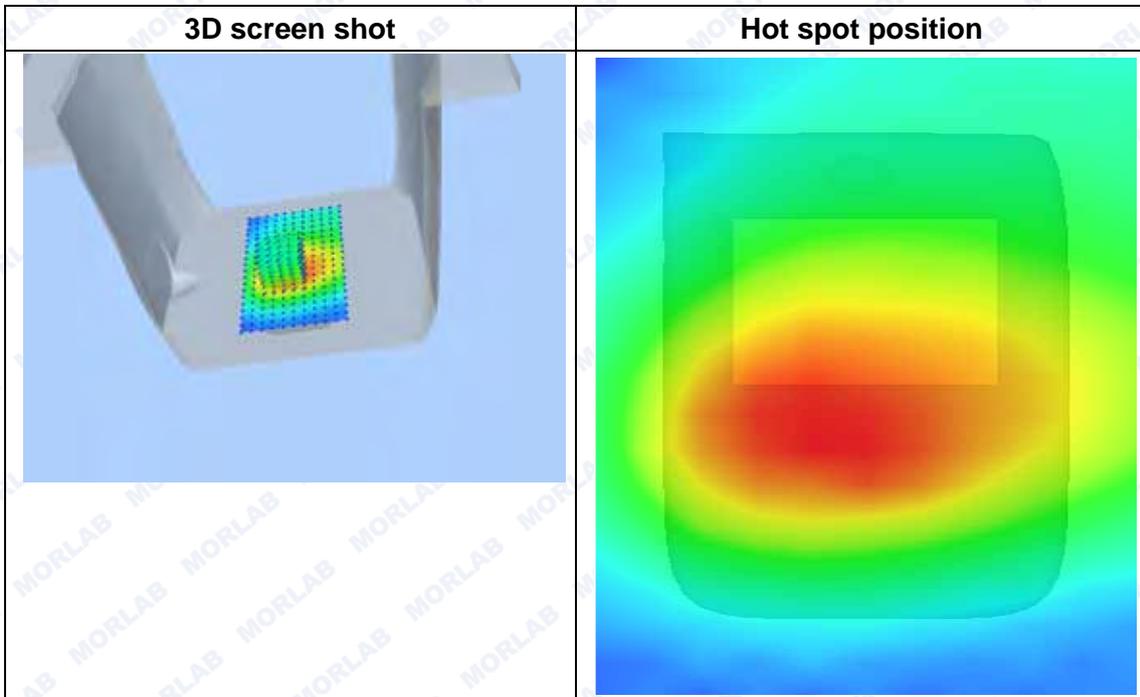
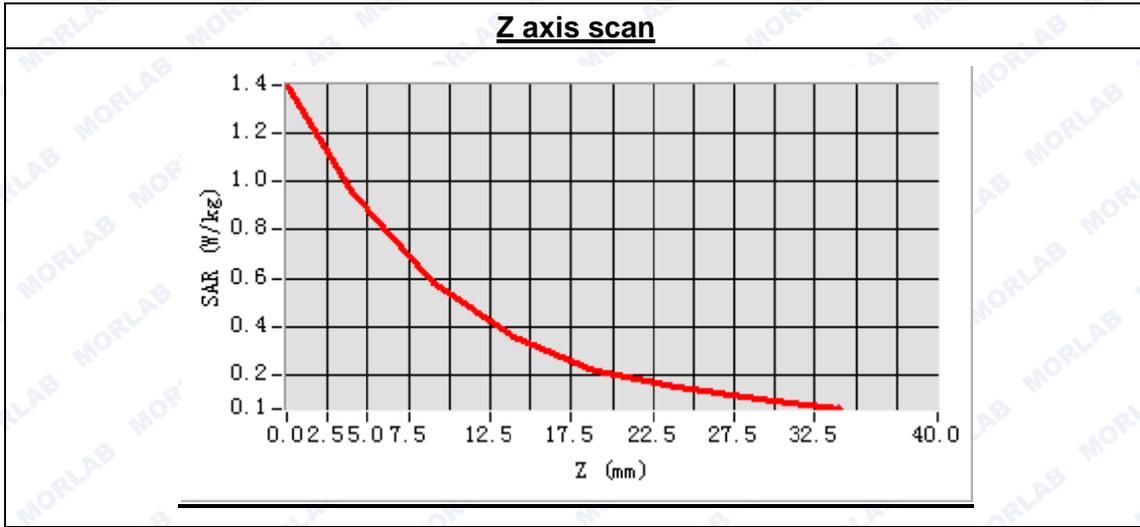




Maximum location: X=-7.00, Y=-14.00

SAR Peak: 1.51 W/kg

SAR 10g (W/Kg)	0.569469
SAR 1g (W/Kg)	0.942369





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: 2014.11.2
 Measurement duration: 9 minutes 36 seconds

A. Experimental conditions.

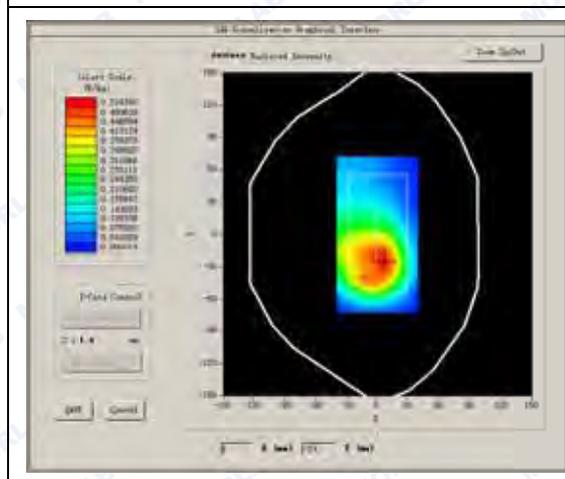
Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	Low
Signal	GPRS

B. SAR Measurement Results

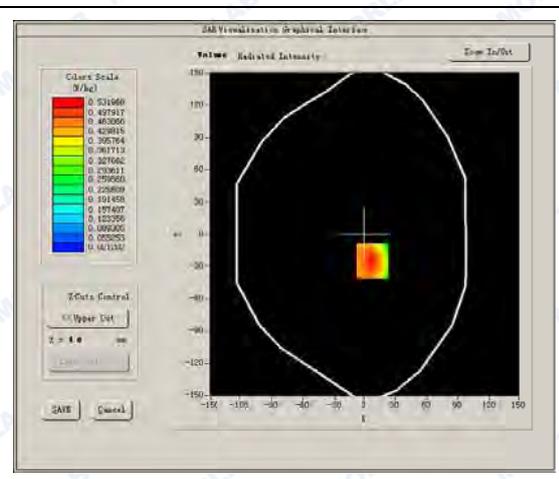
Low Band SAR (Channel 128):

Frequency (MHz)	824.200000
Relative permittivity (real part)	56.210453
Conductivity (S/m)	0.932437
Power drift(%)	0.730000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:2

SURFACE SAR



VOLUME SAR

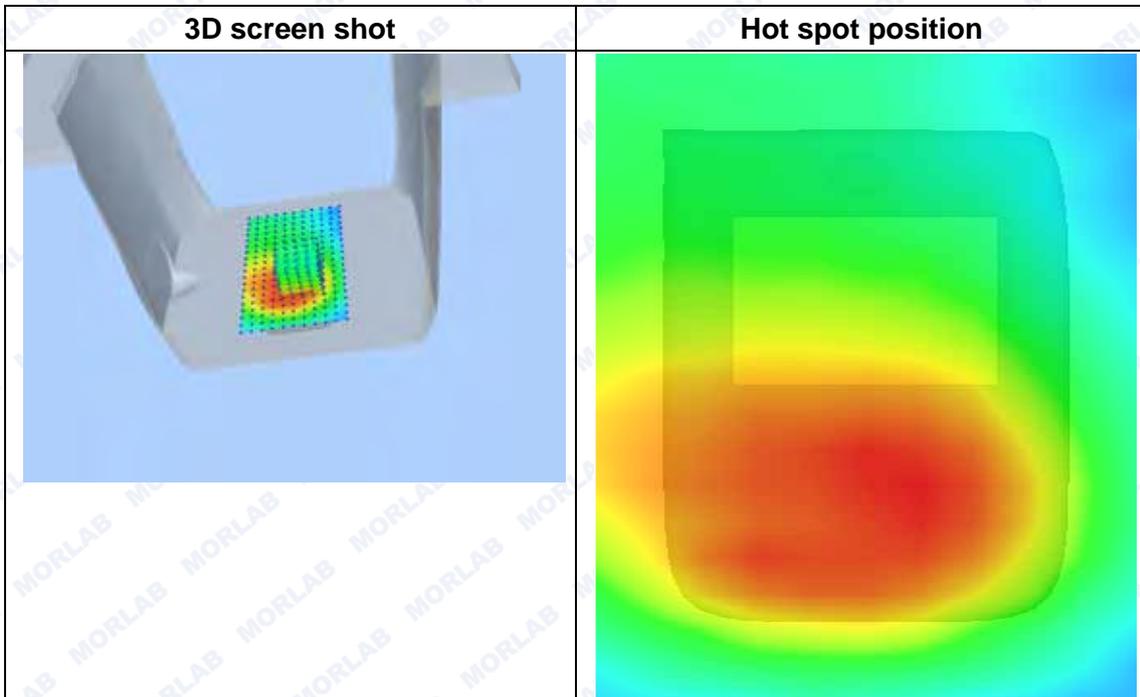
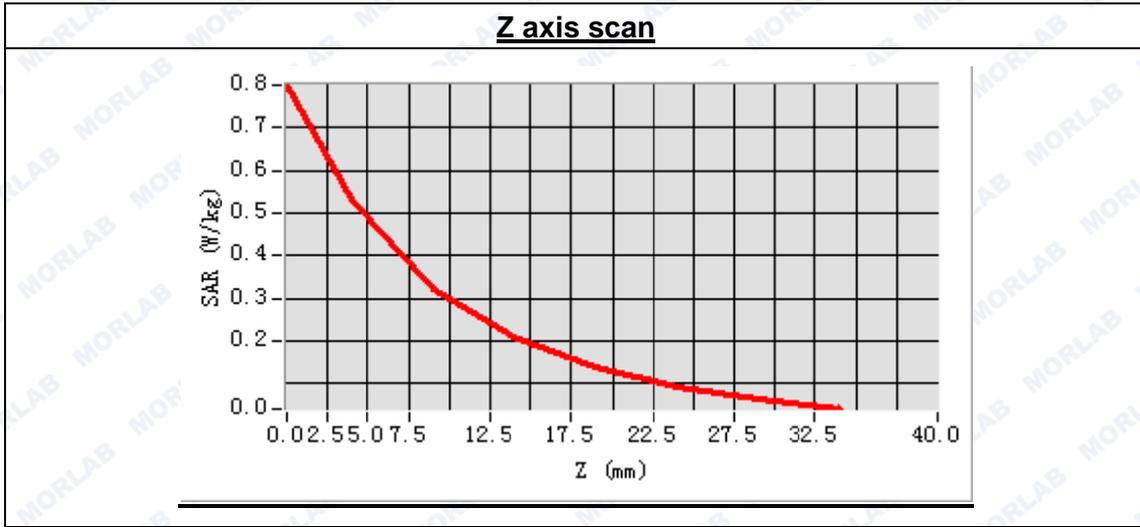




Maximum location: X=7.00, Y=-25.00

SAR Peak: 0.80 W/kg

SAR 10g (W/Kg)	0.314331
SAR 1g (W/Kg)	0.514955





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: 2014.11.2
 Measurement duration: 9 minutes 34 seconds

A. Experimental conditions.

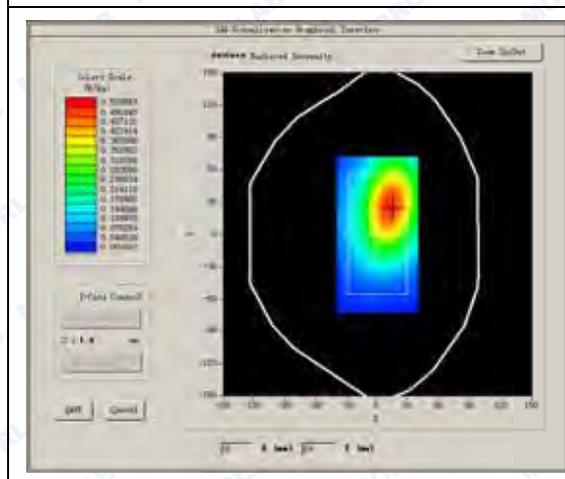
Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	Low
Signal	GPRS

B. SAR Measurement Results

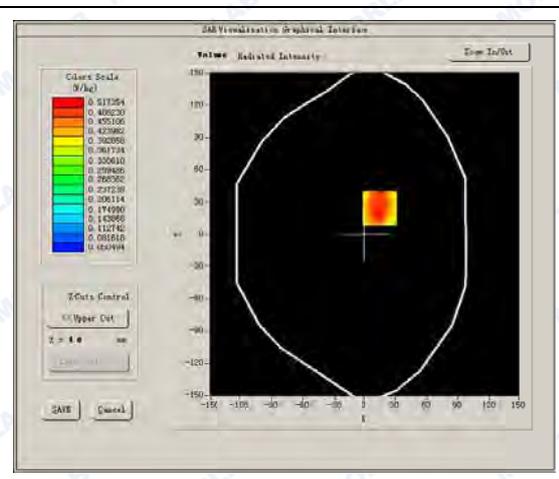
Low Band SAR (Channel 128):

Frequency (MHz)	824.200000
Relative permittivity (real part)	56.210453
Conductivity (S/m)	0.932437
Power drift(%)	-0.160000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:2

SURFACE SAR



VOLUME SAR

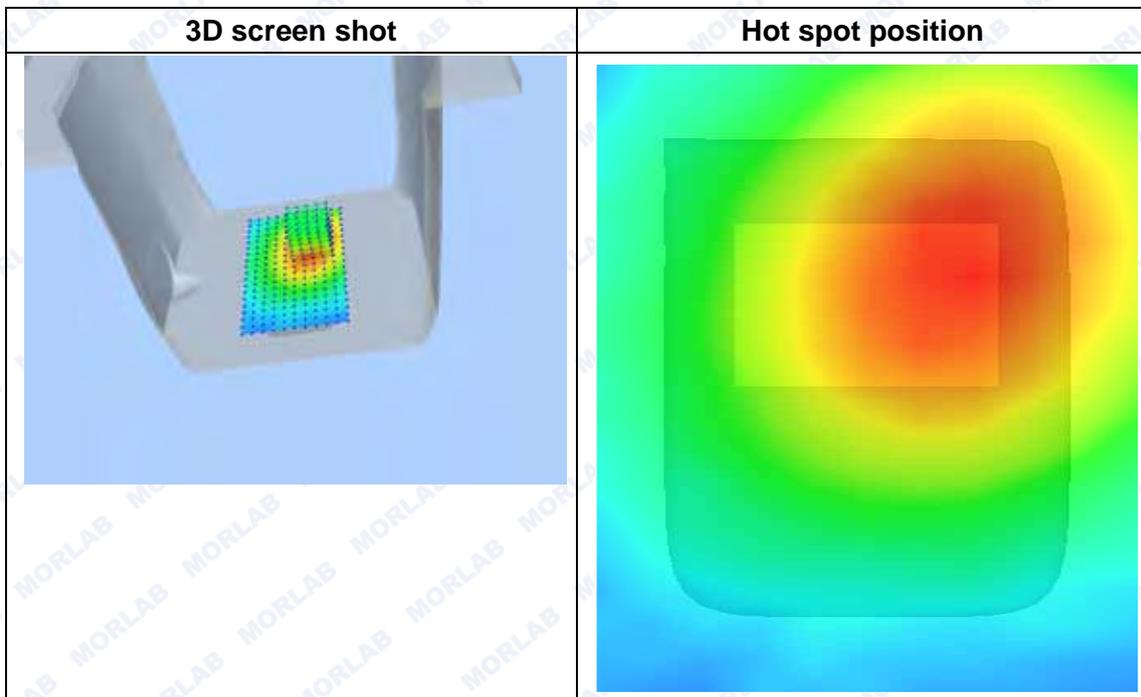
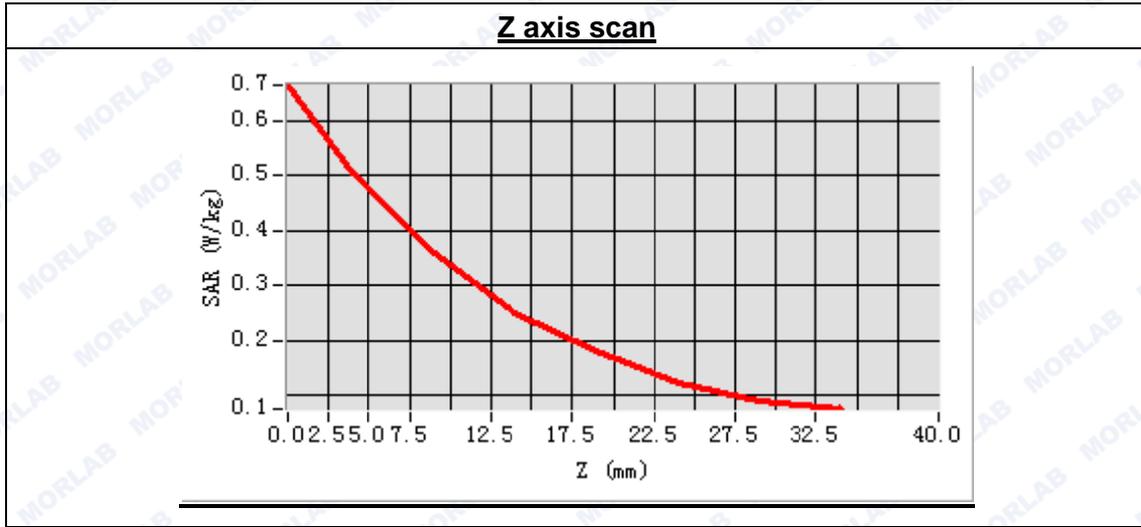




Maximum location: X=15.00, Y=24.00

SAR Peak: 0.74 W/kg

SAR 10g (W/Kg)	0.330238
SAR 1g (W/Kg)	0.504966





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: 2014.11.2
 Measurement duration: 9 minutes 34 seconds

A. Experimental conditions.

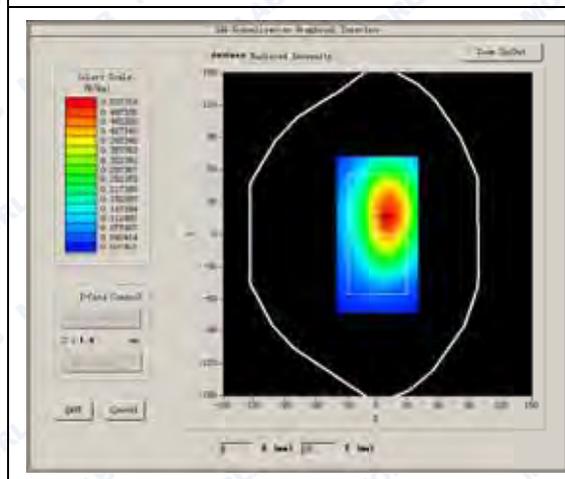
Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	GPRS

B. SAR Measurement Results

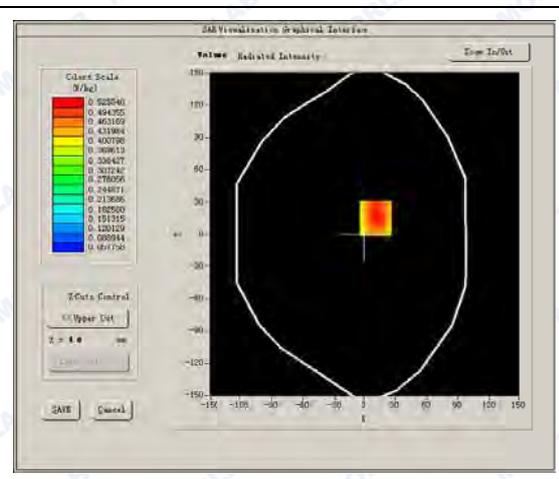
Low Band SAR (Channel 128):

Frequency (MHz)	824.200000
Relative permittivity (real part)	56.210453
Conductivity (S/m)	0.932437
Power drift(%)	-2.470000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:2

SURFACE SAR



VOLUME SAR

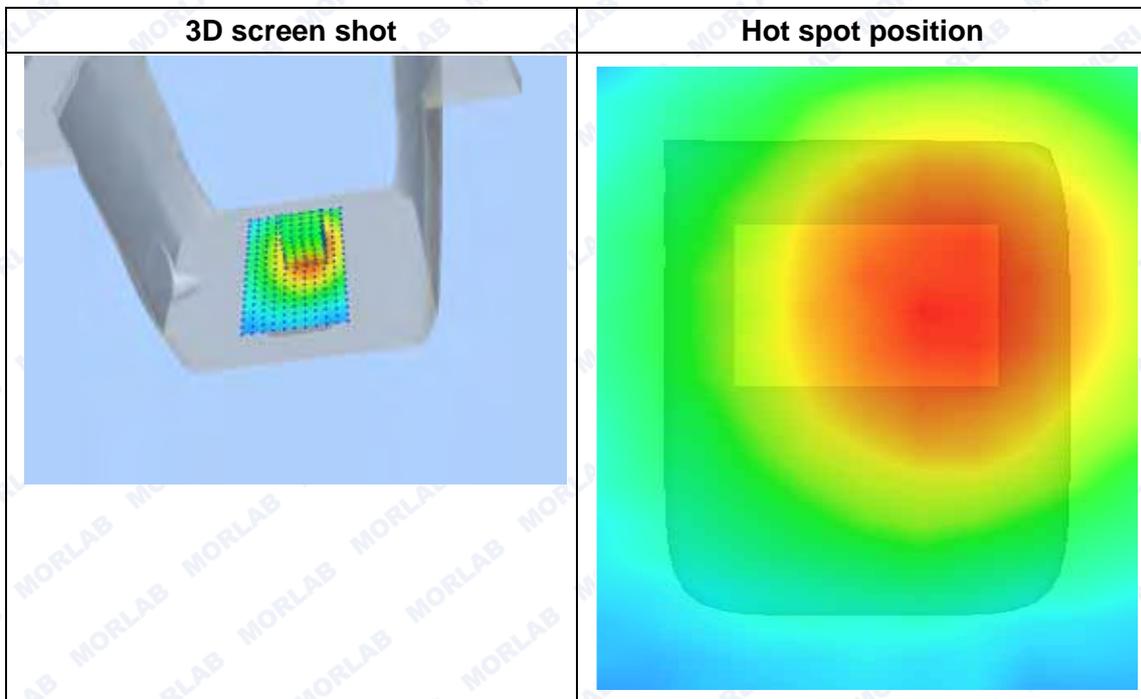
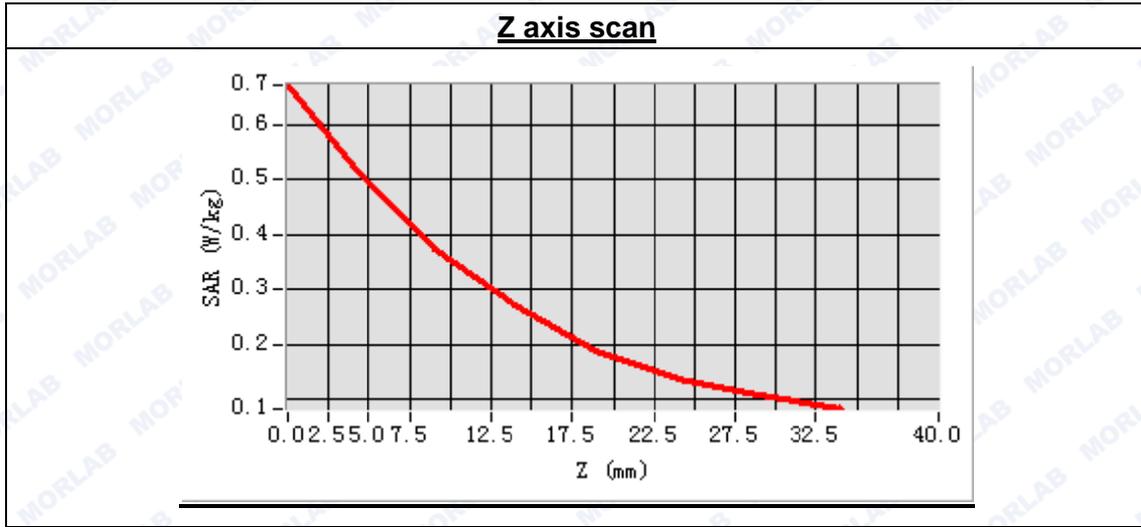




Maximum location: X=10.00, Y=15.00

SAR Peak: 0.71 W/kg

SAR 10g (W/Kg)	0.343383
SAR 1g (W/Kg)	0.510492





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: 2014.11.3

Measurement duration: 9 minutes 24 seconds

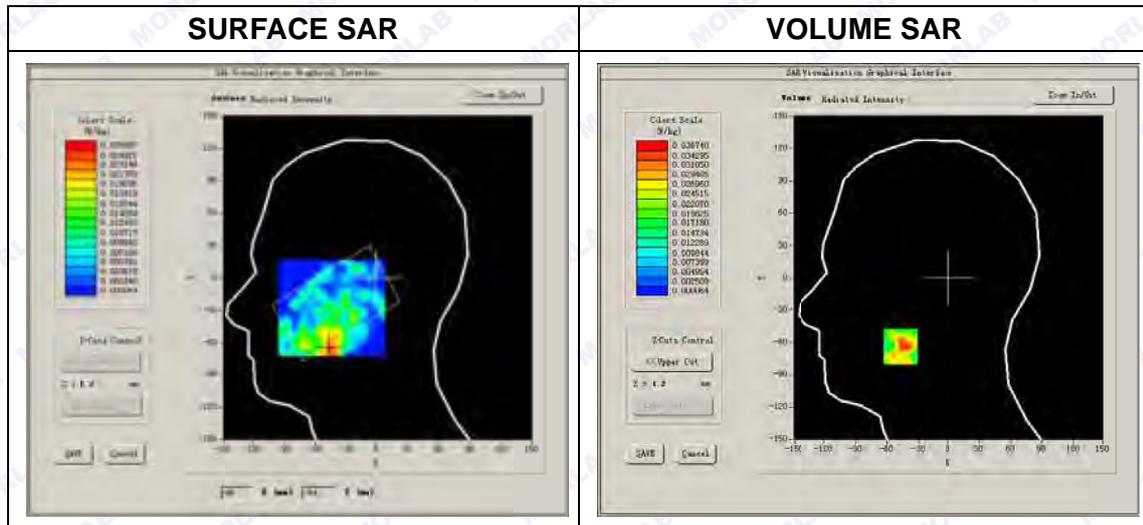
A. Experimental conditions.

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)	39.975586
Conductivity (S/m)	1.404357
Power drift(%)	1.390000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:8

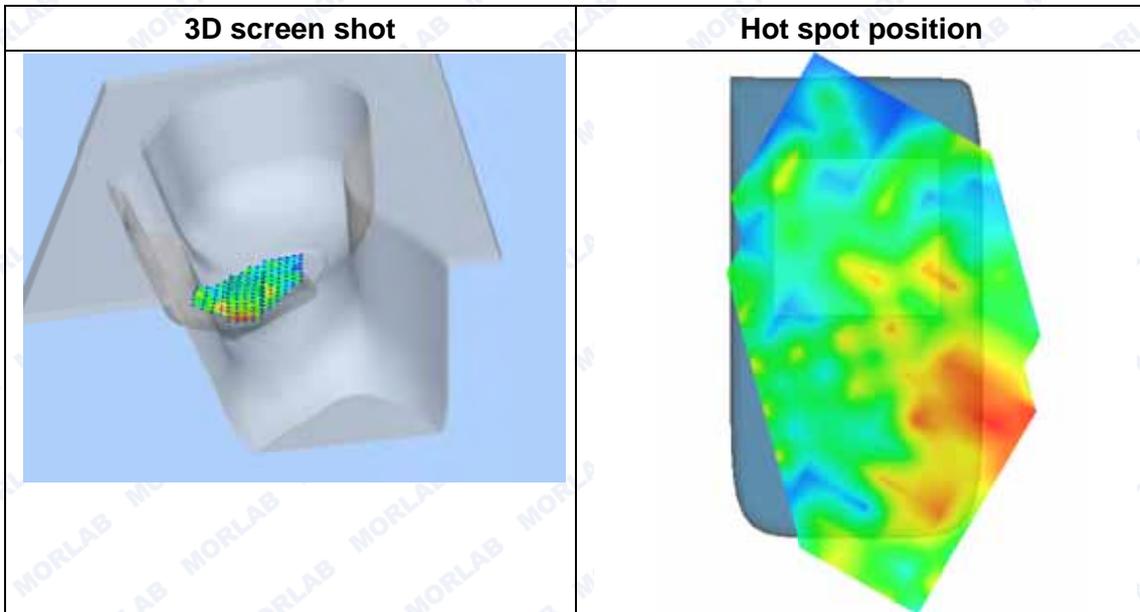
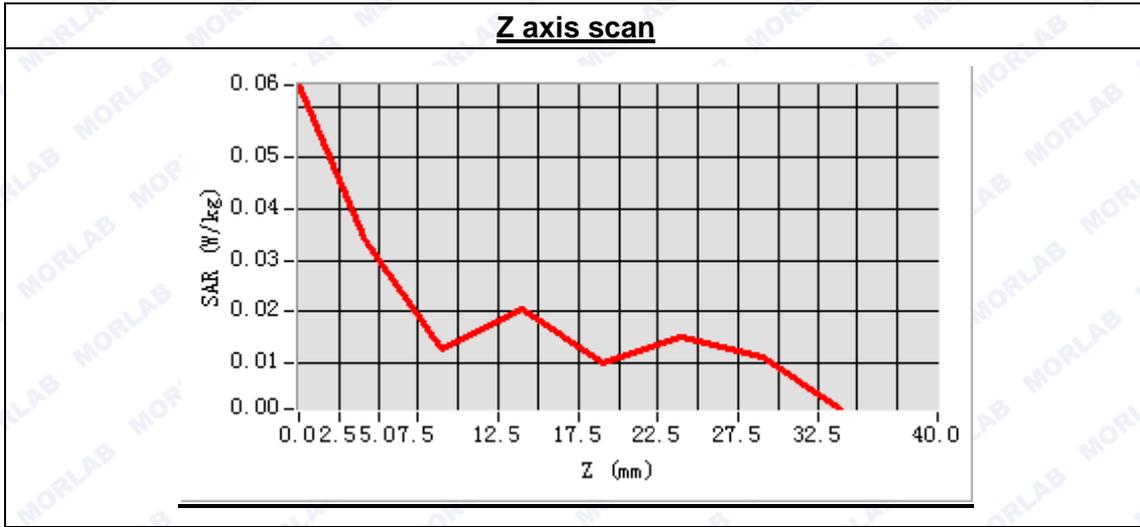




Maximum location: X=-47.00, Y=-64.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.019819
SAR 1g (W/Kg)	0.039274



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: 2014.11.3

Measurement duration: 8 minutes 7 seconds

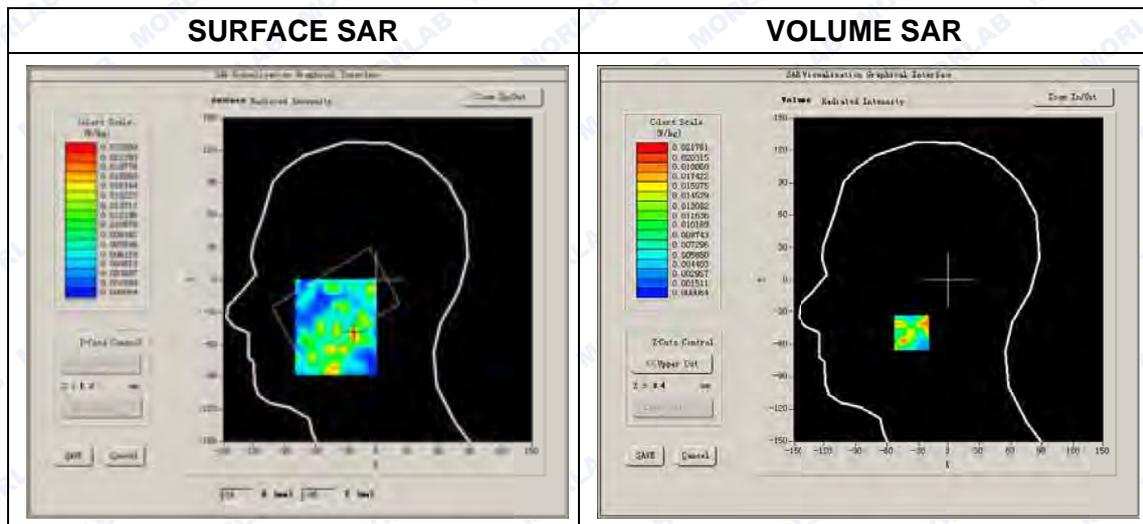
A. Experimental conditions.

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)	39.975586
Conductivity (S/m)	1.404357
Power drift(%)	-3.540000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:8

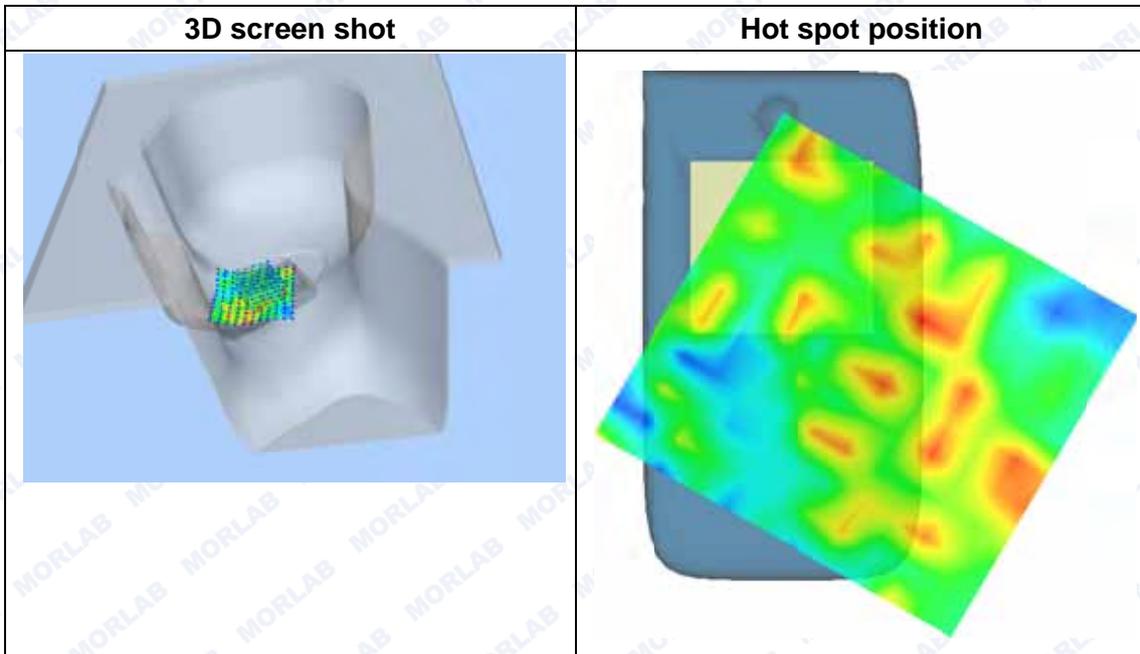
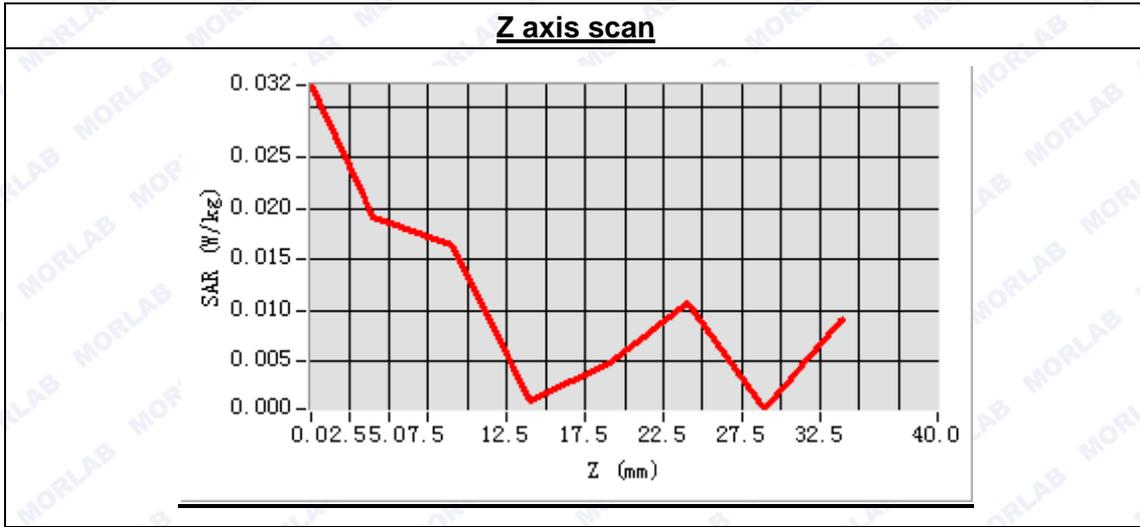




Maximum location: X=-24.00, Y=-49.00

SAR Peak: 0.07 W/kg

SAR 10g (W/Kg)	0.010831
SAR 1g (W/Kg)	0.021378



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: 2014.11.3

Measurement duration: 9 minutes 13 seconds

A. Experimental conditions.

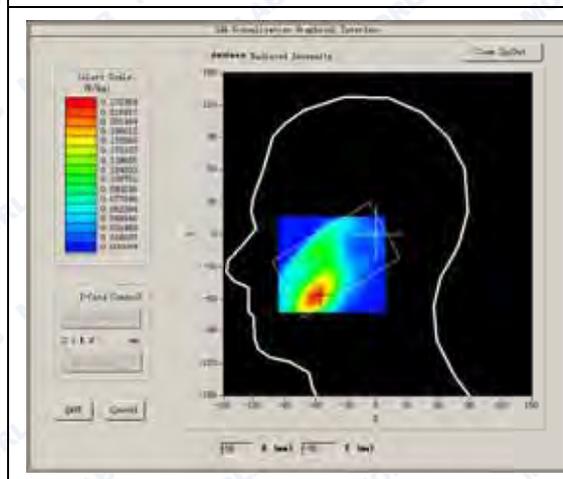
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	Low
Signal	GSM

B. SAR Measurement Results

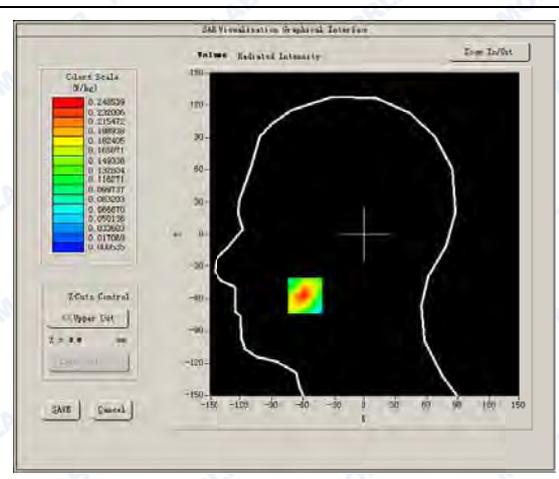
Low Band SAR (Channel 512):

Frequency (MHz)	1850.200000
Relative permittivity (real part)	39.975586
Conductivity (S/m)	1.404357
Power drift(%)	-1.730000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:8

SURFACE SAR



VOLUME SAR

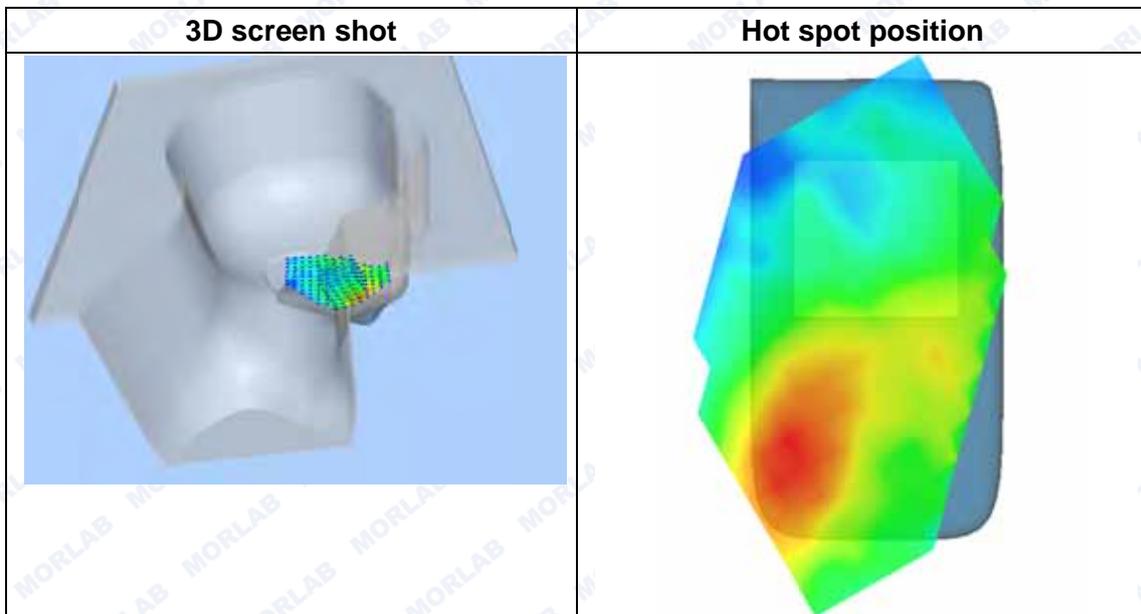
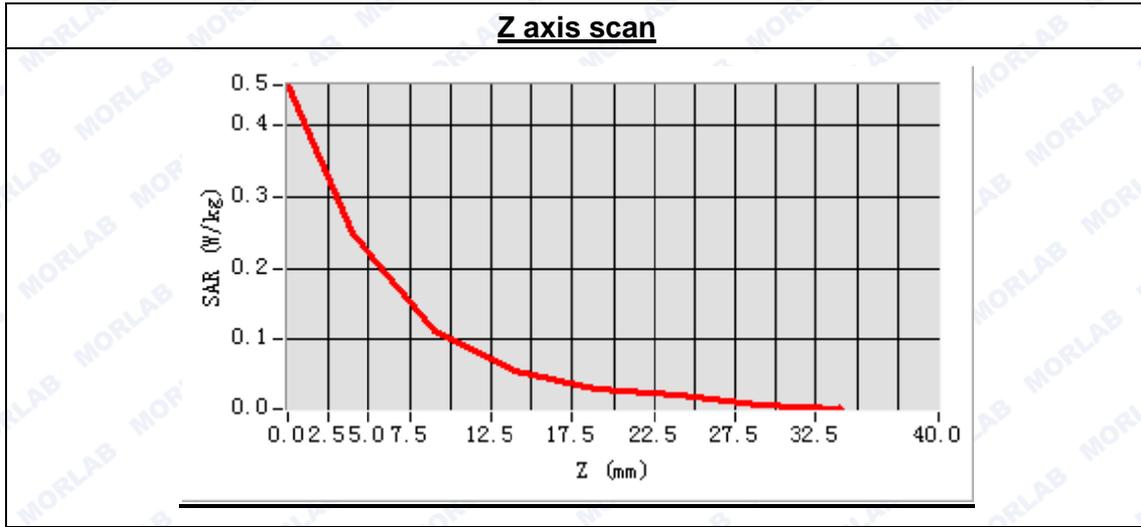




Maximum location: X=-58.00, Y=-57.00

SAR Peak: 0.45 W/kg

SAR 10g (W/Kg)	0.115431
SAR 1g (W/Kg)	0.236572



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: 2014.11.3
 Measurement duration: 7 minutes 47 seconds

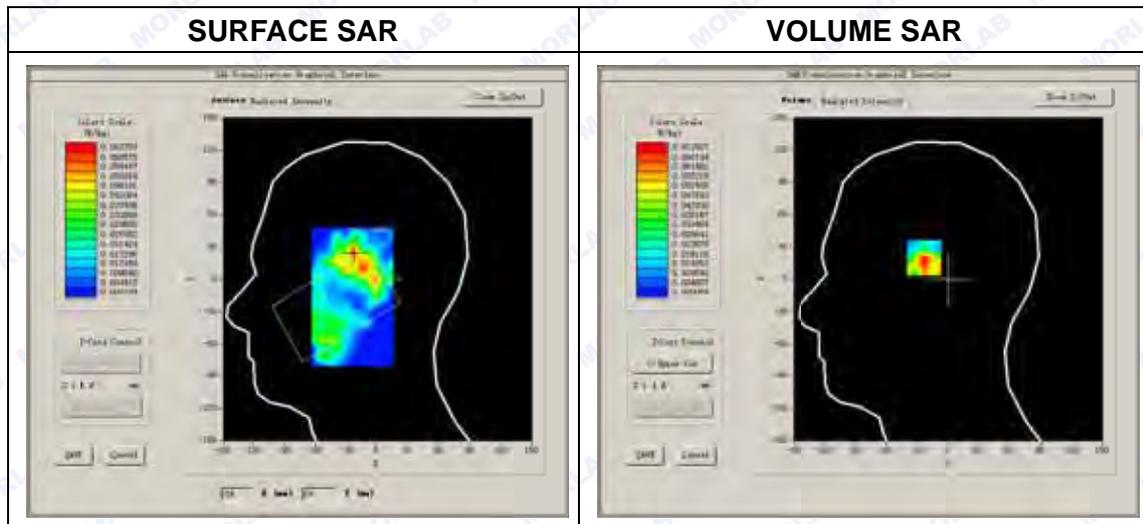
A. Experimental conditions.

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)	39.975586
Conductivity (S/m)	1.404357
Power drift(%)	2.000000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:8

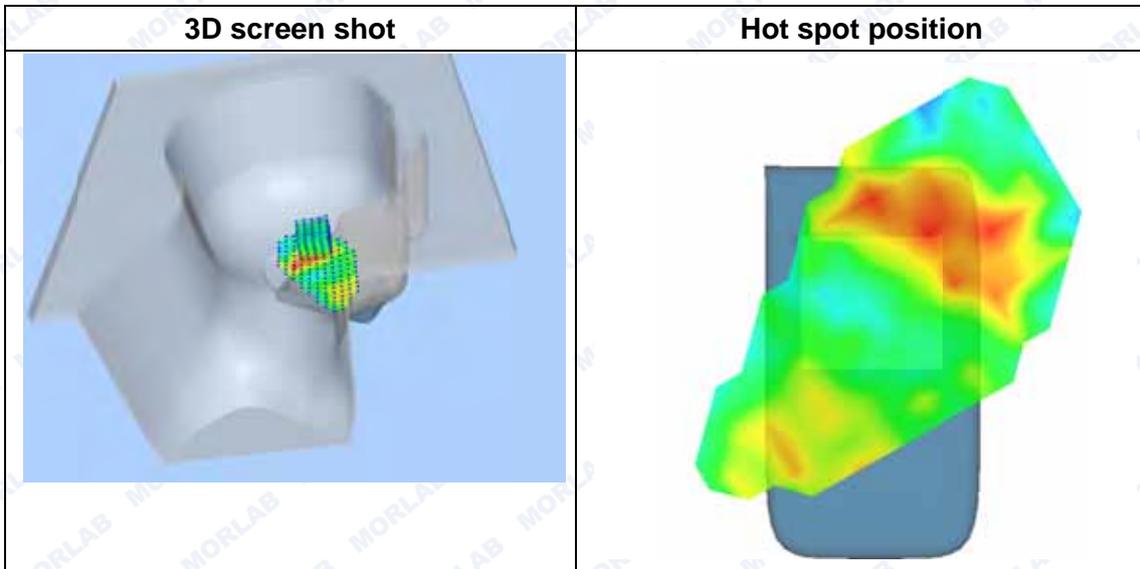
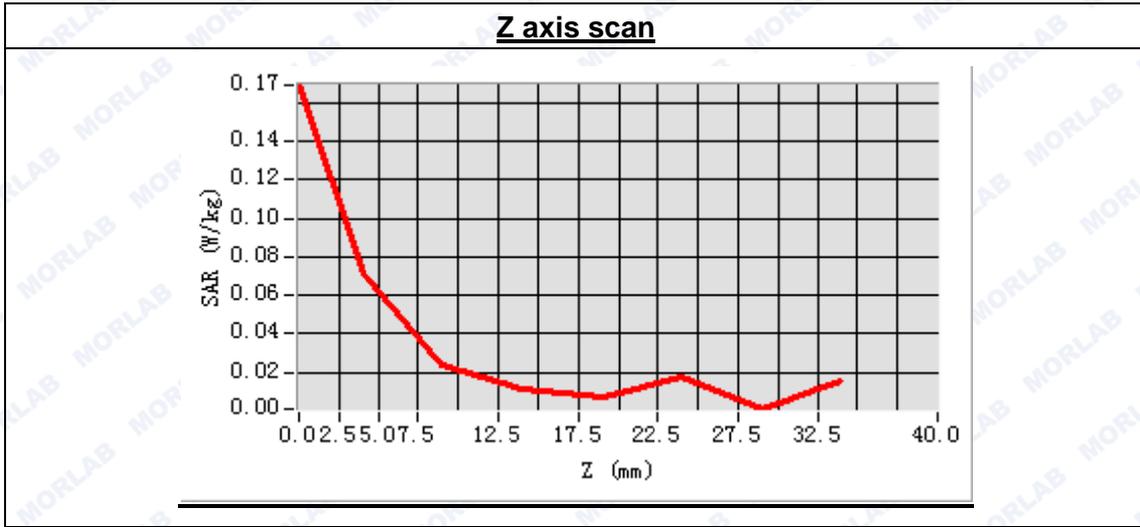




Maximum location: X=-24.00, Y=24.00

SAR Peak: 0.17 W/kg

SAR 10g (W/Kg)	0.030465
SAR 1g (W/Kg)	0.074994



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: 2014.11.3
 Measurement duration: 9 minutes 30 seconds

A. Experimental conditions.

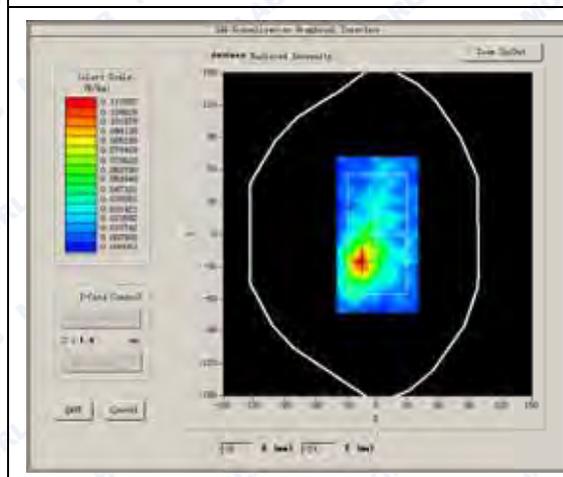
Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM1900
Channels	Low
Signal	GSM

B. SAR Measurement Results

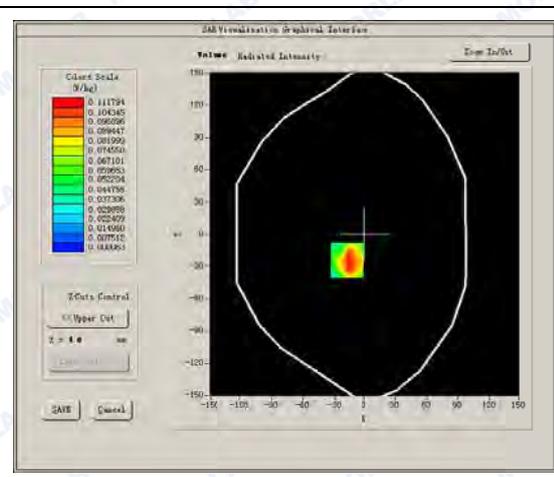
Low Band SAR (Channel 512):

Frequency (MHz)	1850.200000
Relative permittivity (real part)	53.466747
Conductivity (S/m)	1.505866
Power drift(%)	-3.770000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:8

SURFACE SAR



VOLUME SAR

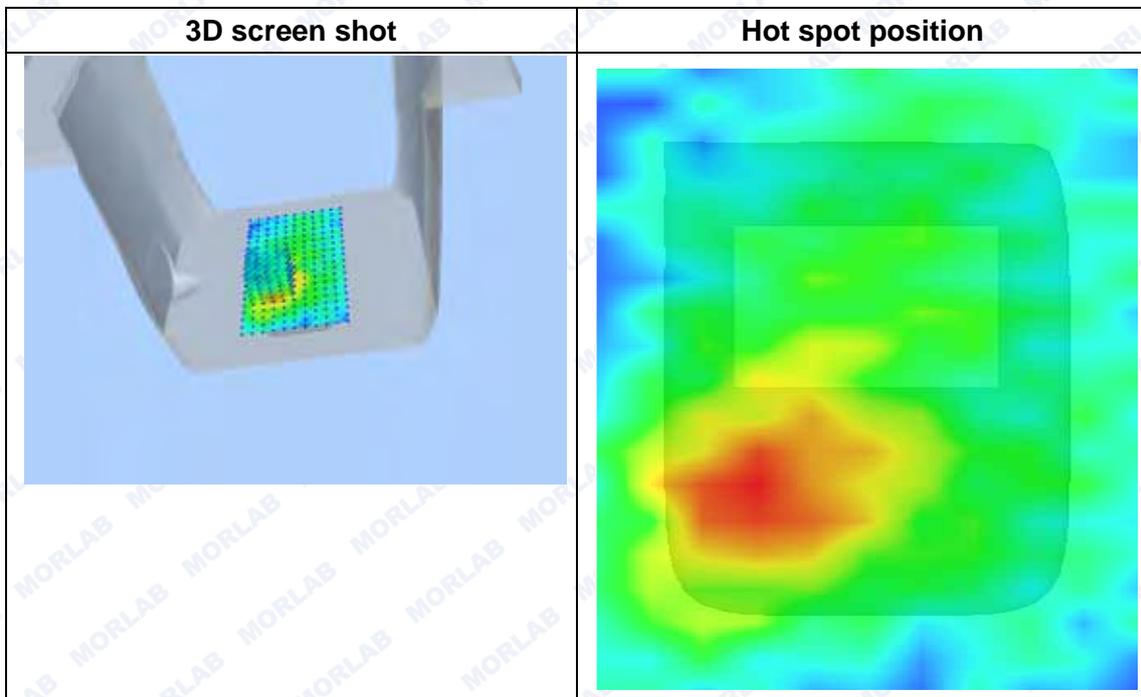
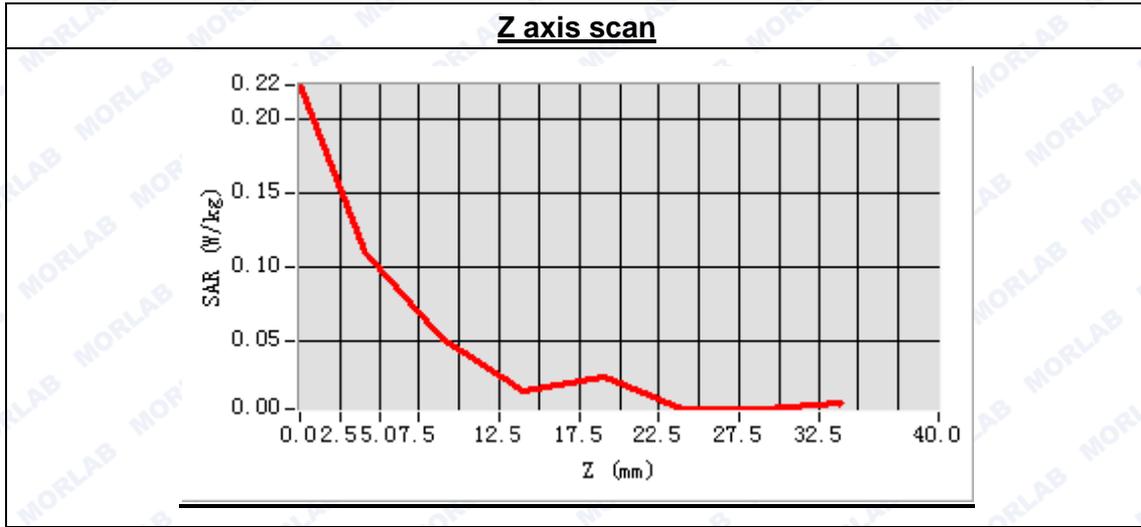




Maximum location: X=-17.00, Y=-24.00

SAR Peak: 0.24 W/kg

SAR 10g (W/Kg)	0.055496
SAR 1g (W/Kg)	0.120642





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: 2014.11.3
 Measurement duration: 9 minutes 32 seconds

A. Experimental conditions.

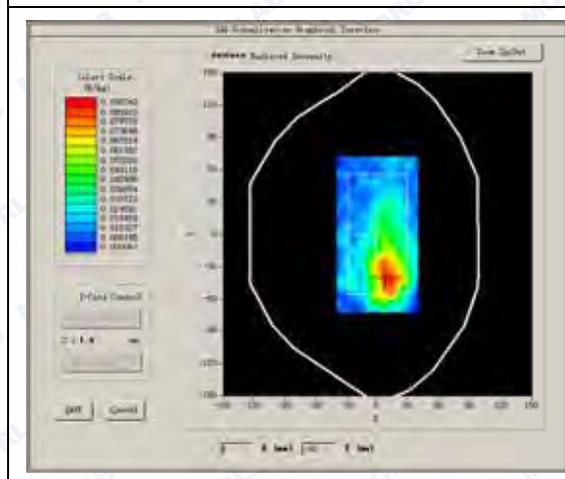
Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM1900
Channels	Low
Signal	GSM

B. SAR Measurement Results

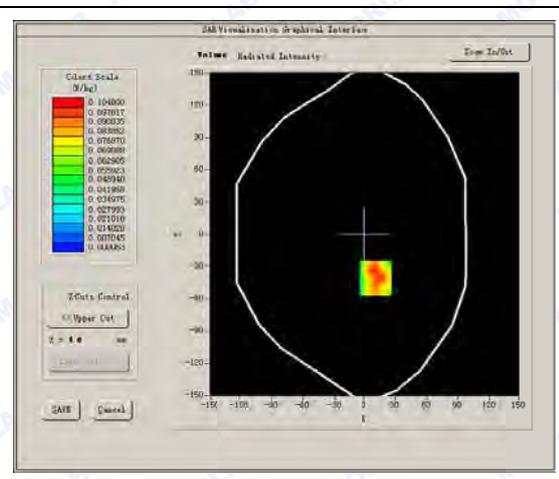
Low Band SAR (Channel 512):

Frequency (MHz)	1850.200000
Relative permittivity (real part)	53.466747
Conductivity (S/m)	1.505866
Power drift(%)	3.550000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:8

SURFACE SAR



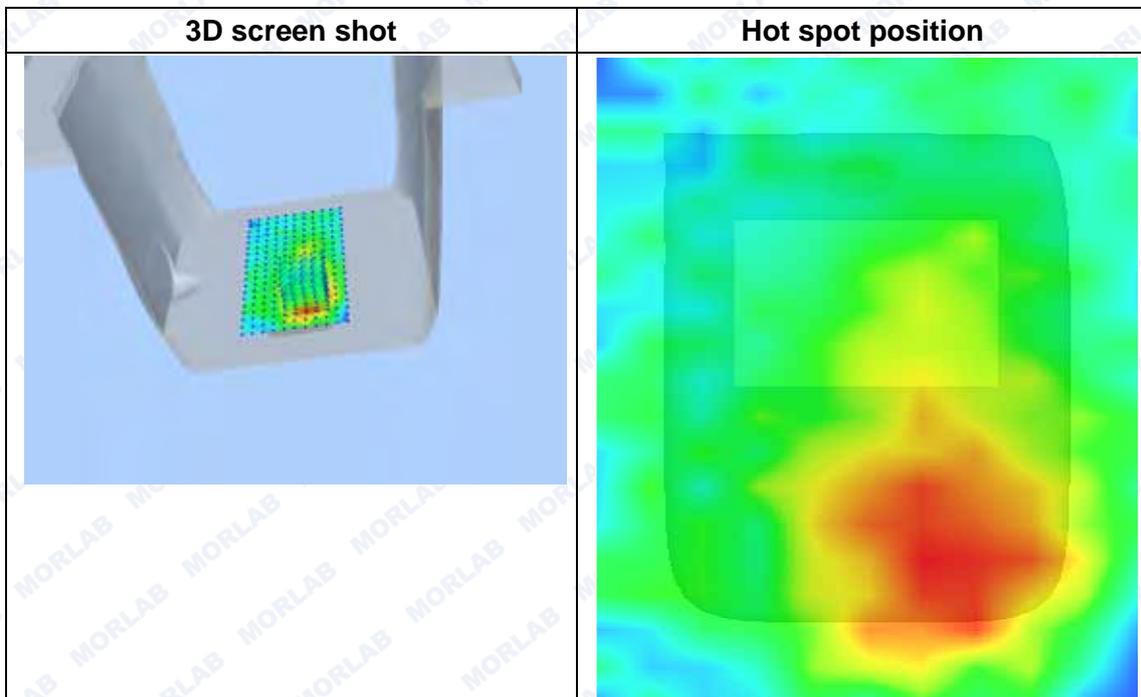
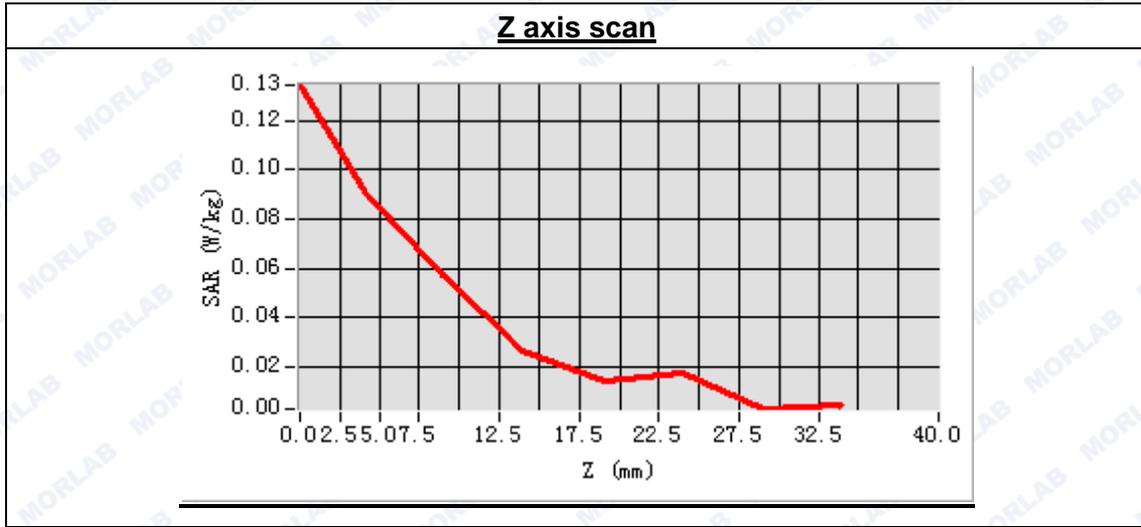
VOLUME SAR





Maximum location: X=10.00, Y=-41.00
SAR Peak: 0.23 W/kg

SAR 10g (W/Kg)	0.058125
SAR 1g (W/Kg)	0.112601





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: 2014.11.3
 Measurement duration: 9 minutes 30 seconds

A. Experimental conditions.

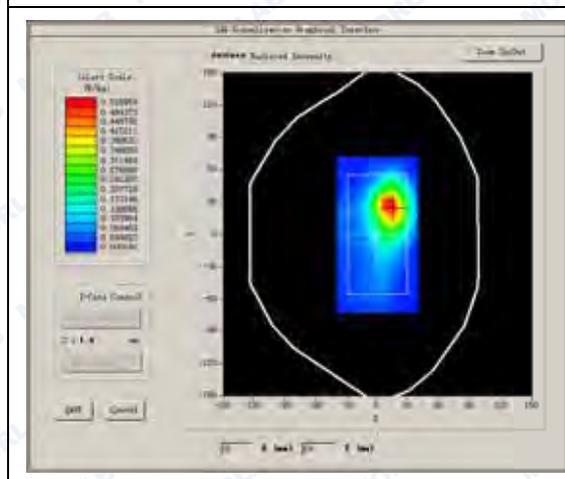
Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM1900
Channels	Low
Signal	EDGE

B. SAR Measurement Results

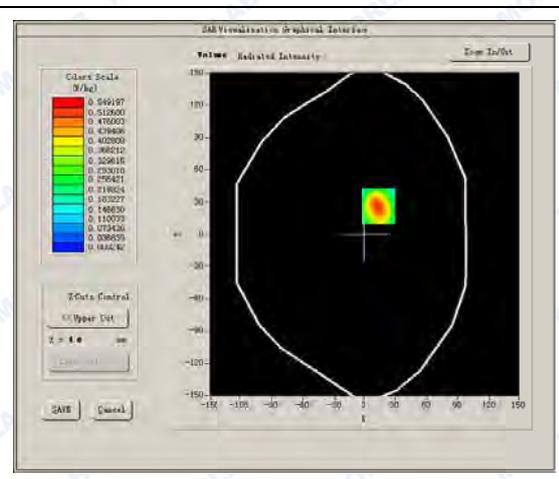
Low Band SAR (Channel 512):

Frequency (MHz)	1850.200000
Relative permittivity (real part)	53.466747
Conductivity (S/m)	1.505866
Power drift(%)	-1.370000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:2

SURFACE SAR



VOLUME SAR

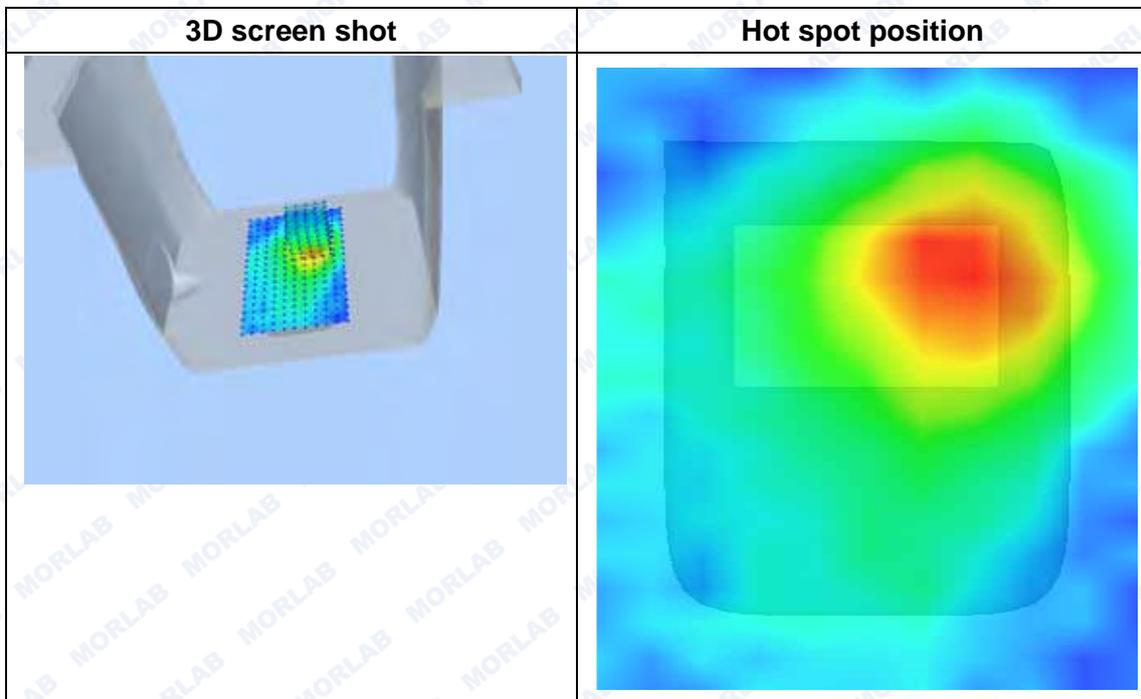
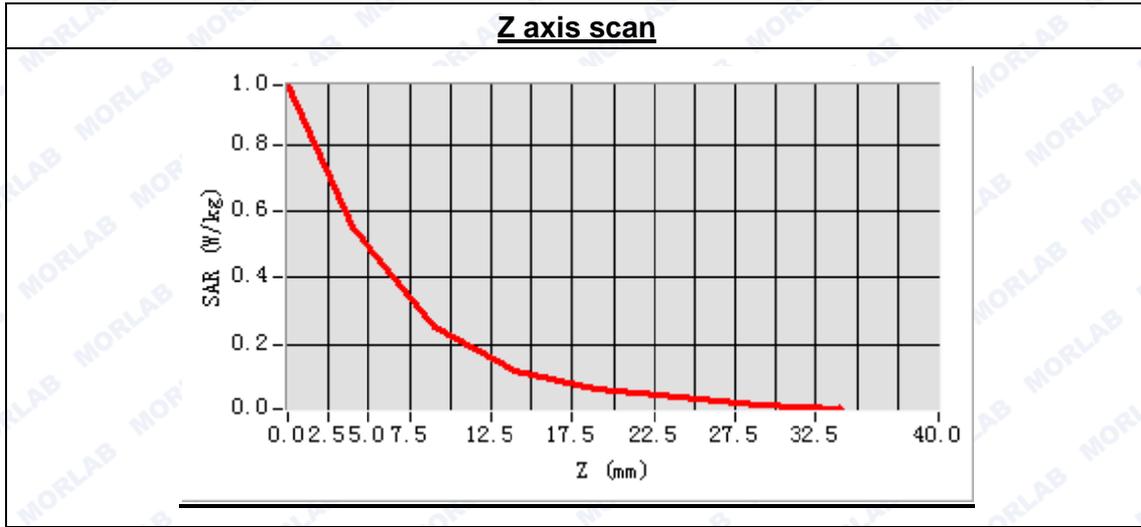




Maximum location: X=14.00, Y=26.00

SAR Peak: 0.96 W/kg

SAR 10g (W/Kg)	0.254283
SAR 1g (W/Kg)	0.532594





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: 2014.11.3
 Measurement duration: 9 minutes 30 seconds

A. Experimental conditions.

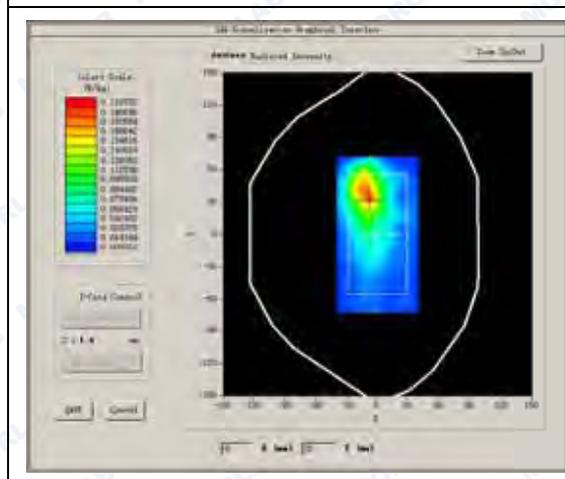
Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM1900
Channels	Low
Signal	EDGE

B. SAR Measurement Results

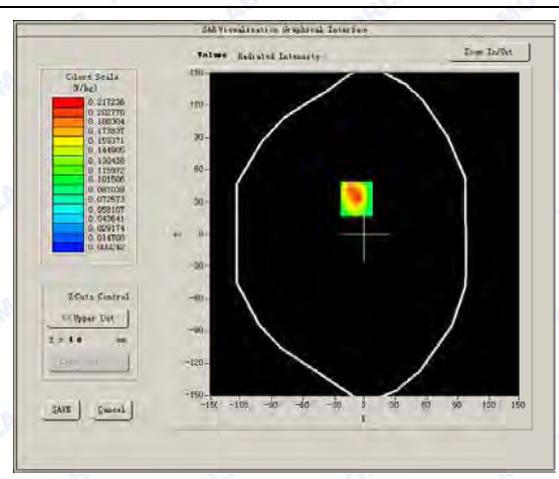
Low Band SAR (Channel 512):

Frequency (MHz)	1850.200000
Relative permittivity (real part)	53.466747
Conductivity (S/m)	1.505866
Power drift(%)	0.520000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:2

SURFACE SAR



VOLUME SAR

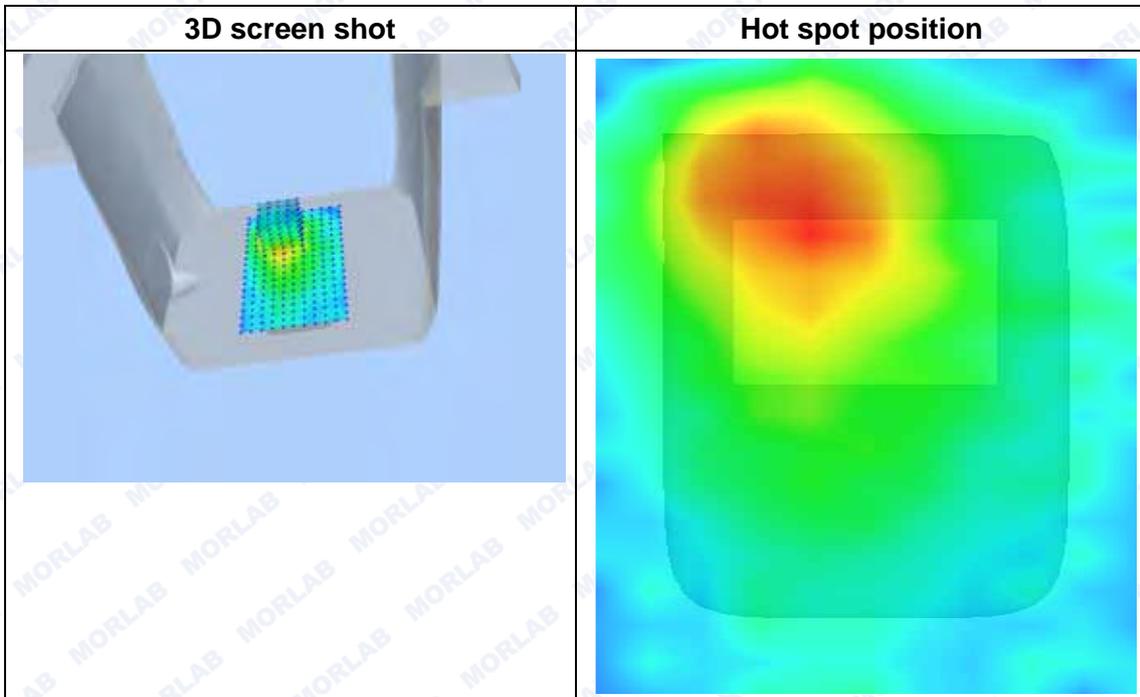
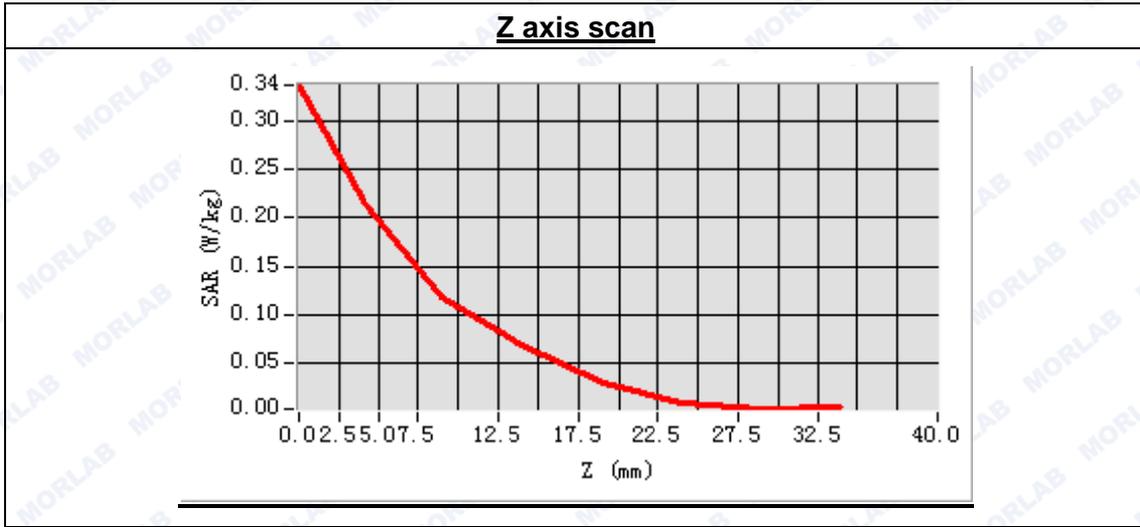




Maximum location: X=-8.00, Y=33.00

SAR Peak: 0.35 W/kg

SAR 10g (W/Kg)	0.103402
SAR 1g (W/Kg)	0.207280



**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: 2014.11.3

Measurement duration: 9 minutes 30 seconds

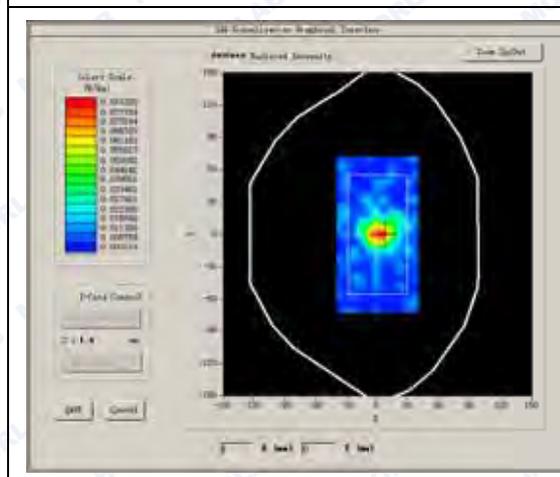
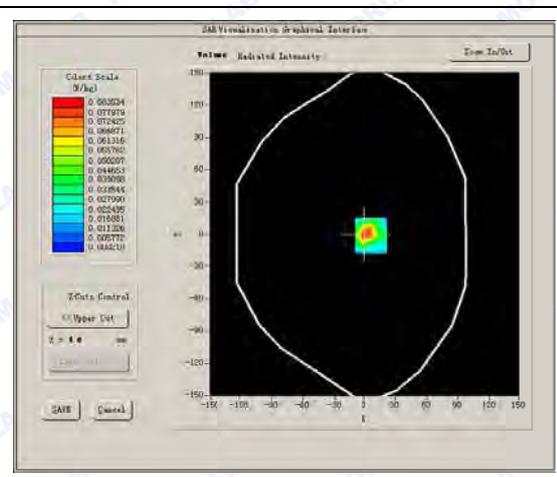
A. Experimental conditions.

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

B. SAR Measurement Results

Low Band SAR (Channel 512):

Frequency (MHz)	1850.200000
Relative permittivity (real part)	53.466747
Conductivity (S/m)	1.505866
Power drift(%)	-3.770000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:2

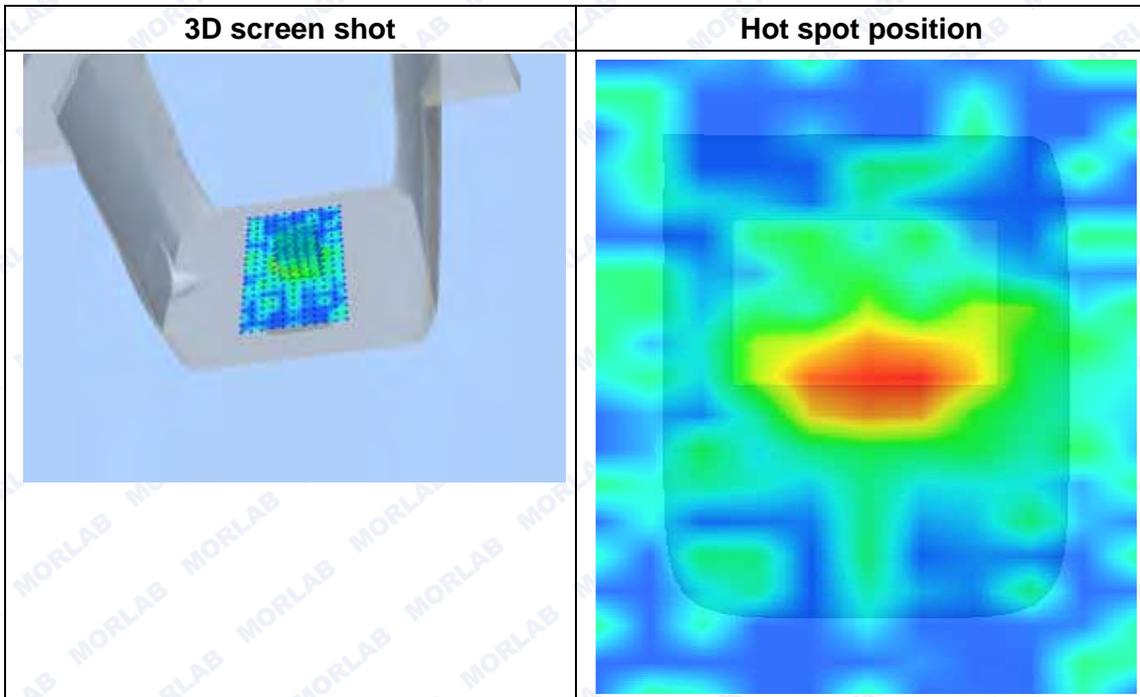
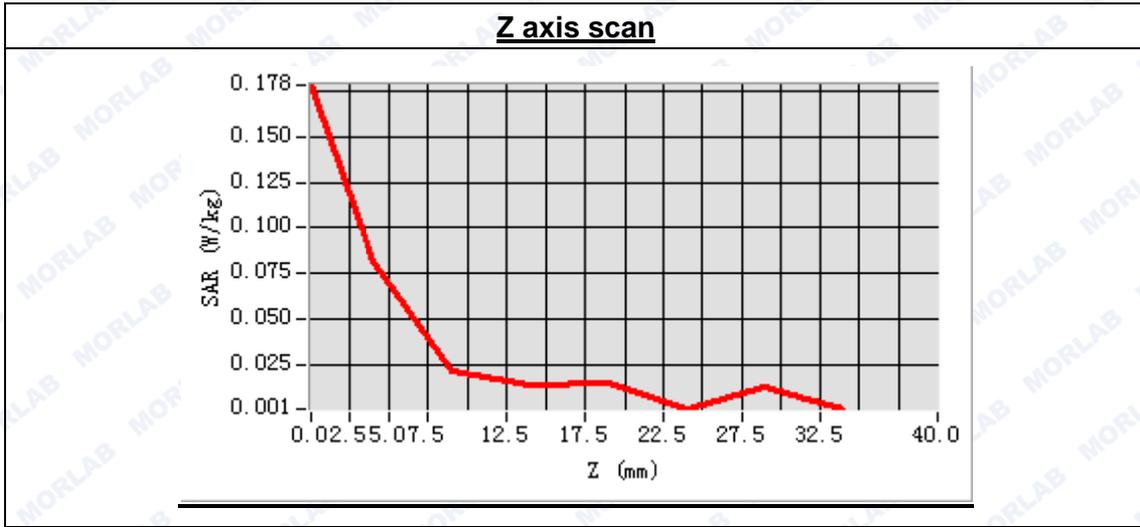
SURFACE SAR**VOLUME SAR**



Maximum location: X=6.00, Y=-1.00

SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.033567
SAR 1g (W/Kg)	0.089967





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: 2014.11.3
 Measurement duration: 9 minutes 31 seconds

A. Experimental conditions.

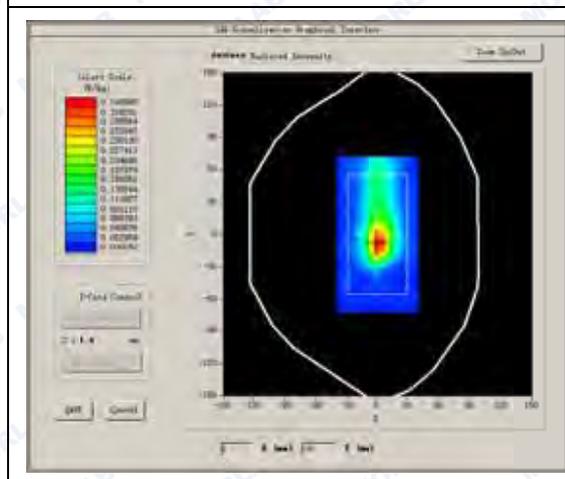
Phantom File	surf_sam_plan.txt
Phantom	Flat Plane
Device Position	Body
Band	GSM1900
Channels	Low
Signal	EDGE

B. SAR Measurement Result

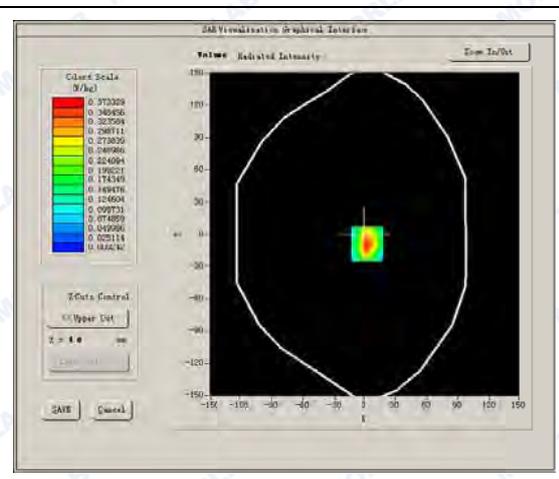
Low Band SAR (Channel 512):

Frequency (MHz)	1880.800000
Relative permittivity (real part)	53.466747
Conductivity (S/m)	1.505866
Power drift(%)	0.260000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:2

SURFACE SAR



VOLUME SAR

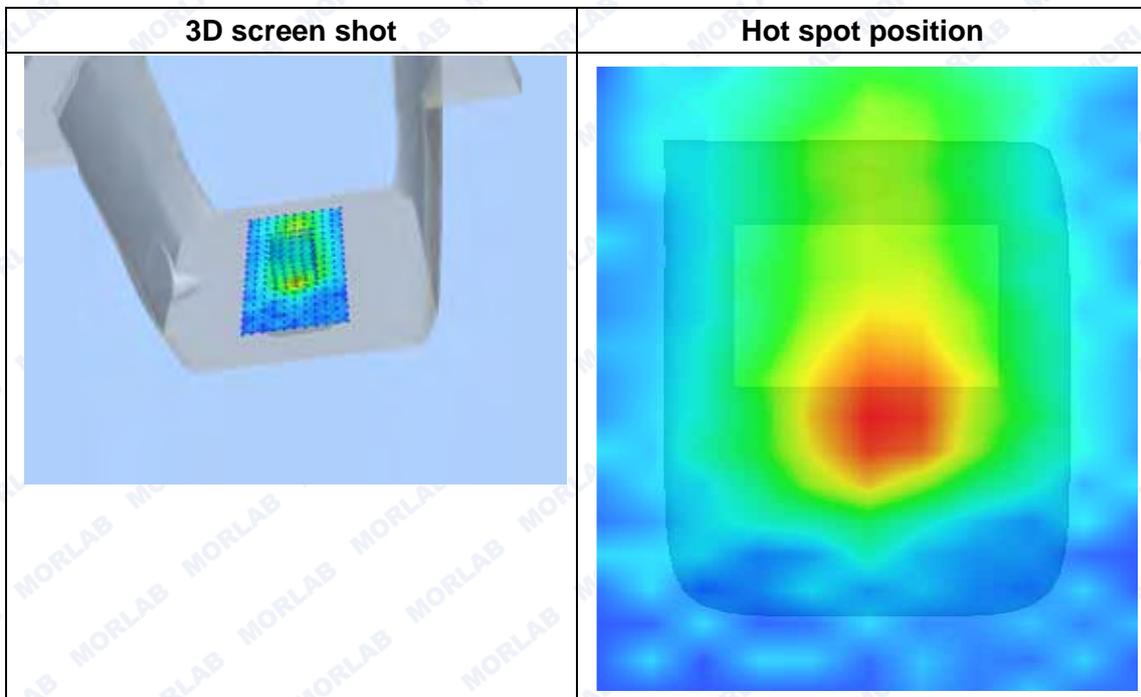
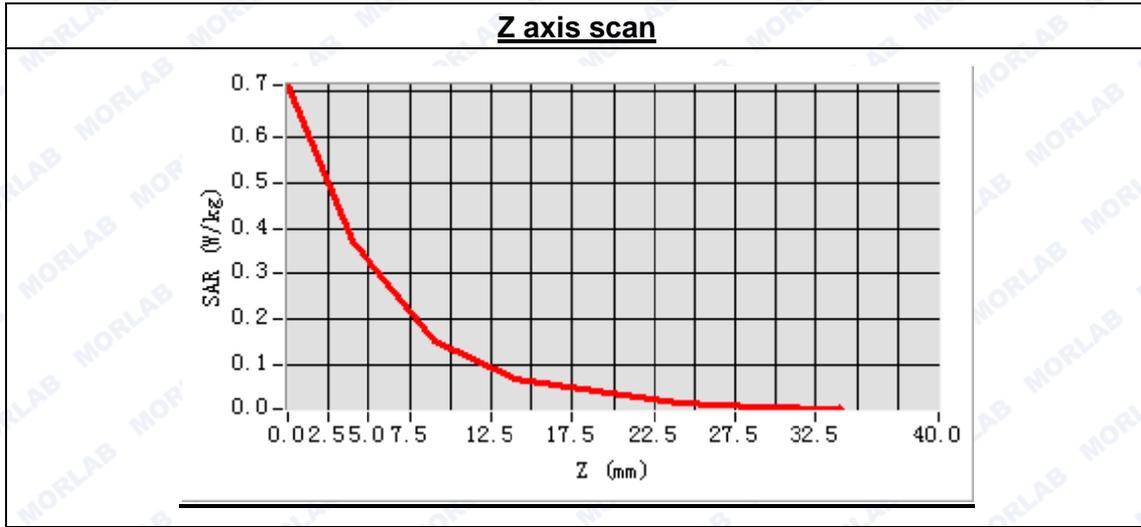




Maximum location: X=2.00, Y=-9.00

SAR Peak: 0.73 W/kg

SAR 10g (W/Kg)	0.158273
SAR 1g (W/Kg)	0.370539





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: 2014.11.2
 Measurement duration: 9 minutes 16 seconds

A. Experimental conditions.

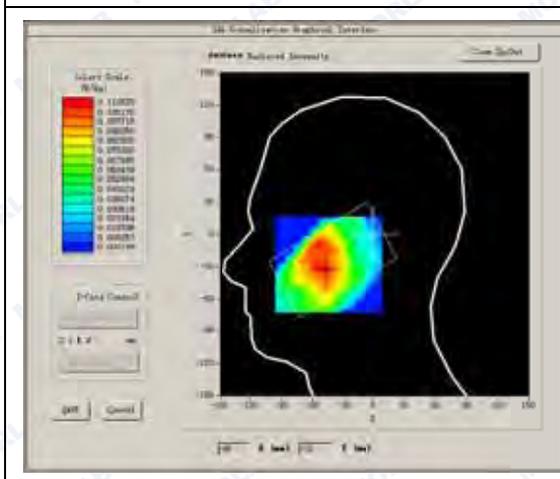
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	WCDMA850
Channels	High
Signal	CDMA

B. SAR Measurement Results

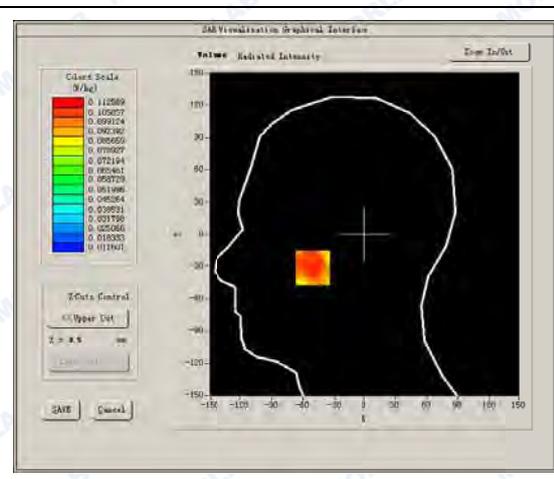
High Band SAR (Channel 4233):

Frequency (MHz)	848.800000
Relative permittivity (real part)	41.284372
Conductivity (S/m)	0.885967
Power drift (%)	-1.700000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	6.73
Crest factor:	1:1

SURFACE SAR



VOLUME SAR

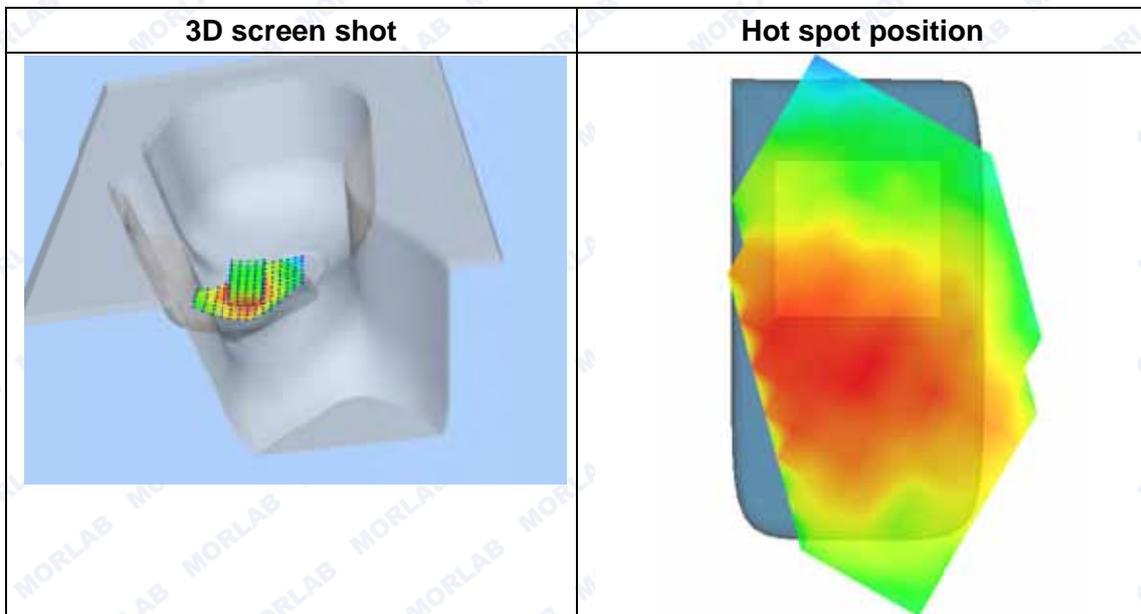
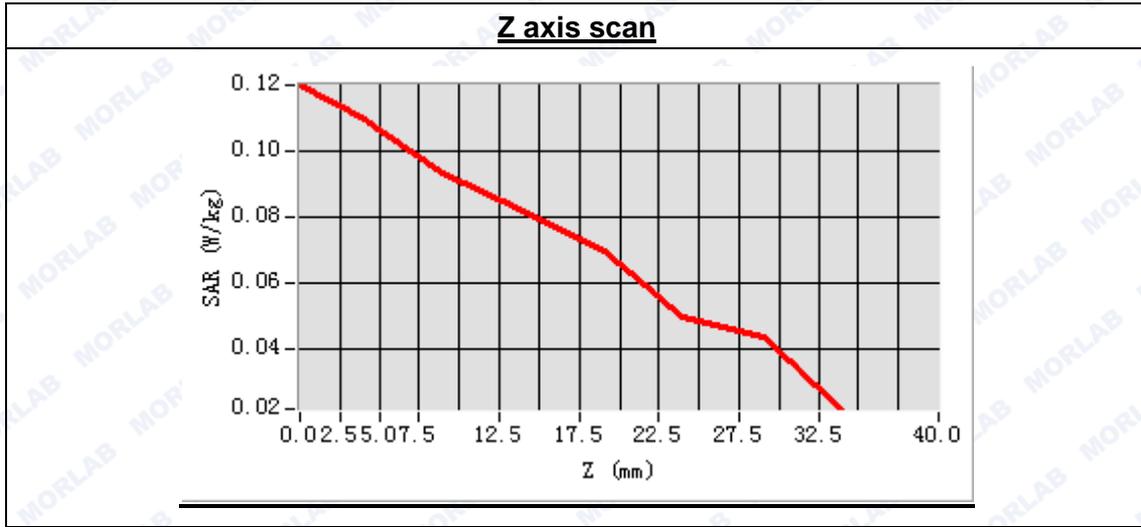




Maximum location: X=-51.00, Y=-31.00

SAR Peak: 0.17 W/kg

SAR 10g (W/Kg)	0.084450
SAR 1g (W/Kg)	0.112495



**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: 2014.11.2

Measurement duration: 8 minutes 13 seconds

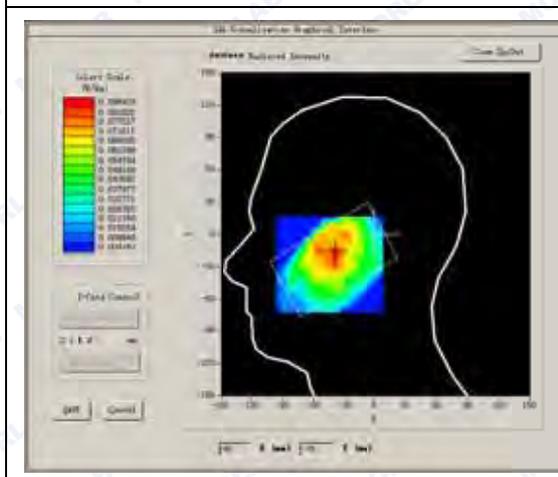
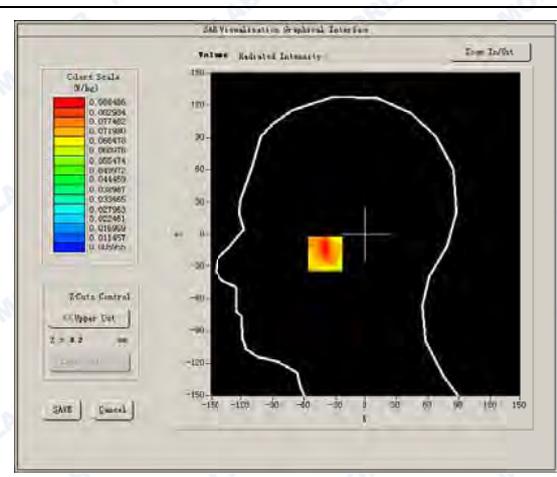
A. Experimental conditions.

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

B. SAR Measurement Results

High Band SAR (Channel 4233):

Frequency (MHz)	848.800000
Relative permittivity (real part)	41.284372
Conductivity (S/m)	0.885967
Power drift (%)	-3.430000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	6.73
Crest factor:	1:1

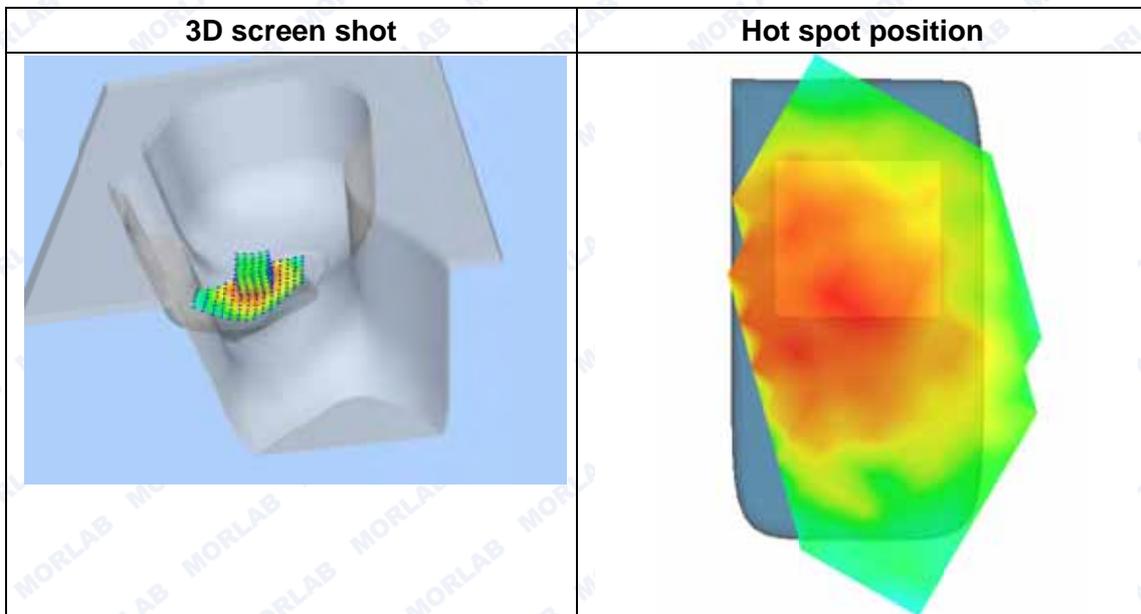
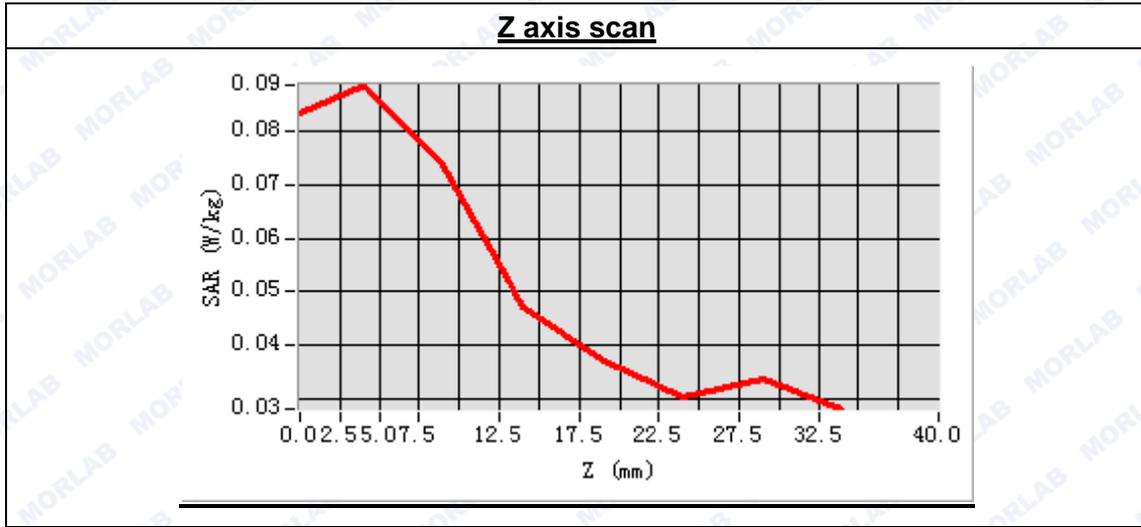
SURFACE SAR**VOLUME SAR**



Maximum location: X=-40.00, Y=-18.00

SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.059574
SAR 1g (W/Kg)	0.082063





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: 2014.11.2
 Measurement duration: 8 minutes 59 seconds

A. Experimental conditions.

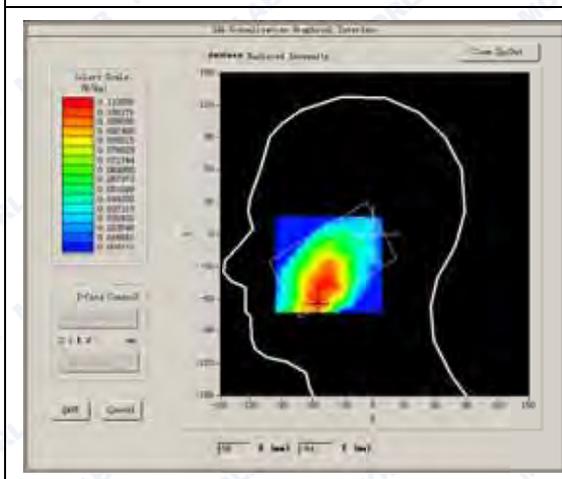
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Cheek
Band	WCDMA850
Channels	High
Signal	CDMA

B. SAR Measurement Results

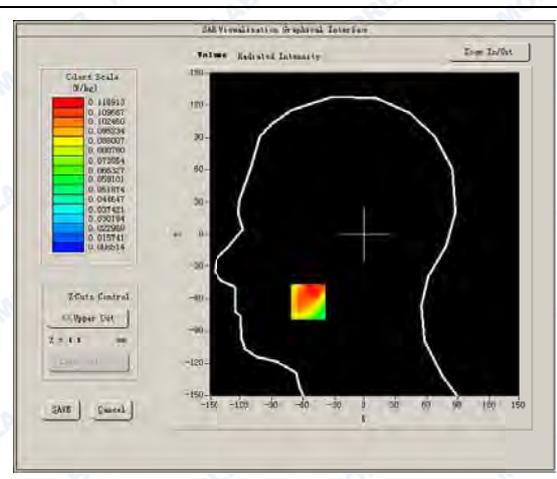
High Band SAR (Channel 4233):

Frequency (MHz)	848.800000
Relative permittivity (real part)	41.284372
Conductivity (S/m)	0.885967
Power drift (%)	3.940000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	6.73
Crest factor:	1:1

SURFACE SAR



VOLUME SAR

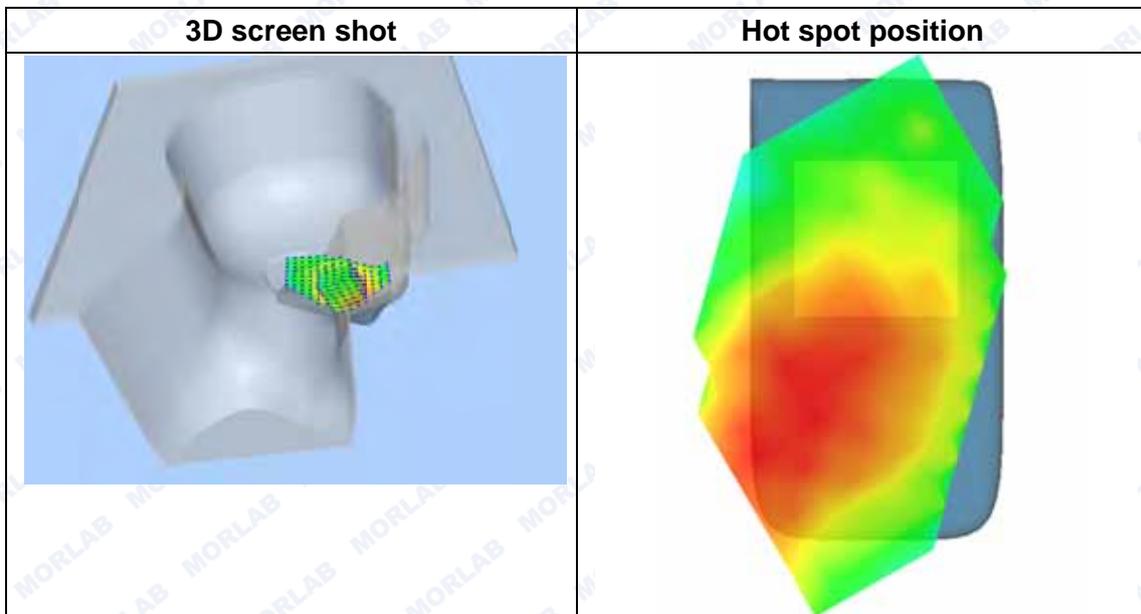
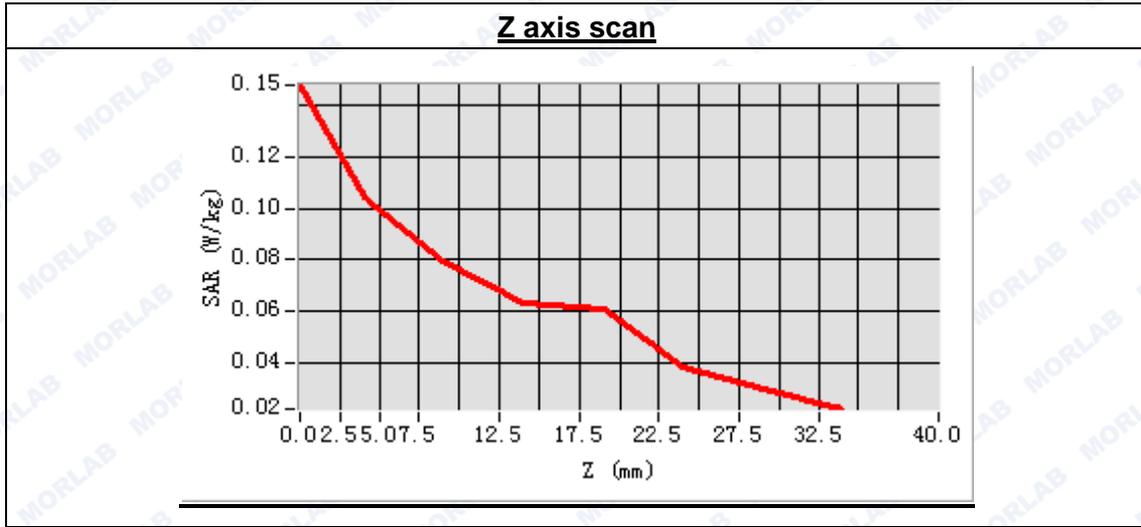




Maximum location: X=-55.00, Y=-63.00

SAR Peak: 0.17 W/kg

SAR 10g (W/Kg)	0.080088
SAR 1g (W/Kg)	0.111761



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: 2014.11.2

Measurement duration: 8 minutes 13 seconds

A. Experimental conditions.

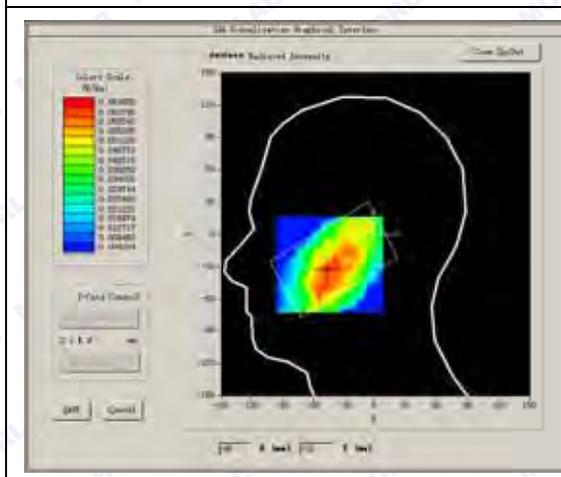
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Left head
Device Position	Tilt
Band	WCDMA850
Channels	High
Signal	CDMA

B. SAR Measurement Results

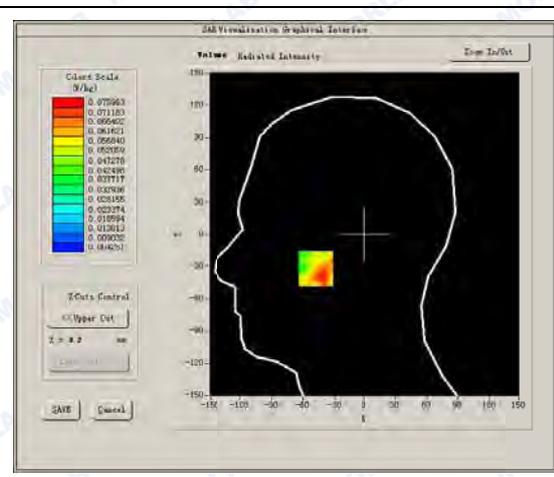
High Band SAR (Channel 4233):

Frequency (MHz)	848.800000
Relative permittivity (real part)	41.284372
Conductivity (S/m)	0.885967
Power drift (%)	0.780000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	6.73
Crest factor:	1:1

SURFACE SAR



VOLUME SAR

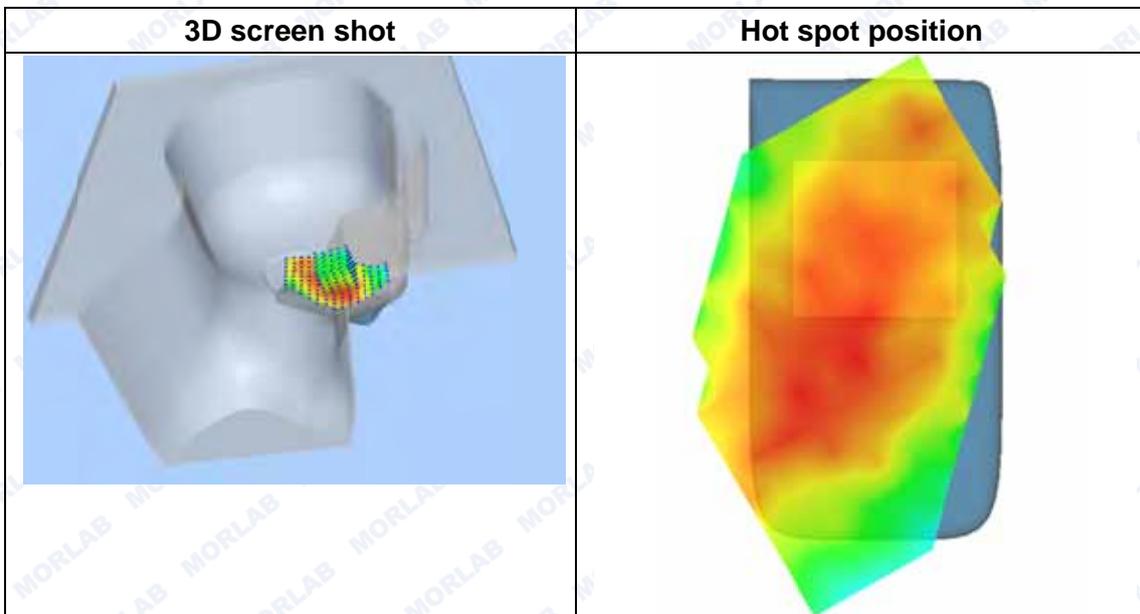
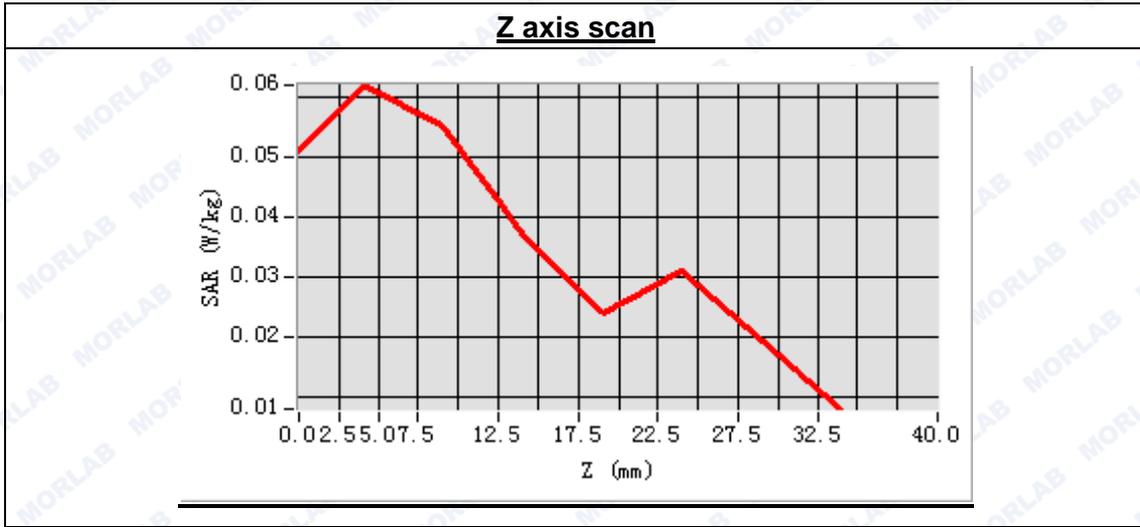




Maximum location: X=-48.00, Y=-32.00

SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.046952
SAR 1g (W/Kg)	0.068152





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: 2014.11.2
 Measurement duration: 9 minutes 32 seconds

A. Experimental conditions.

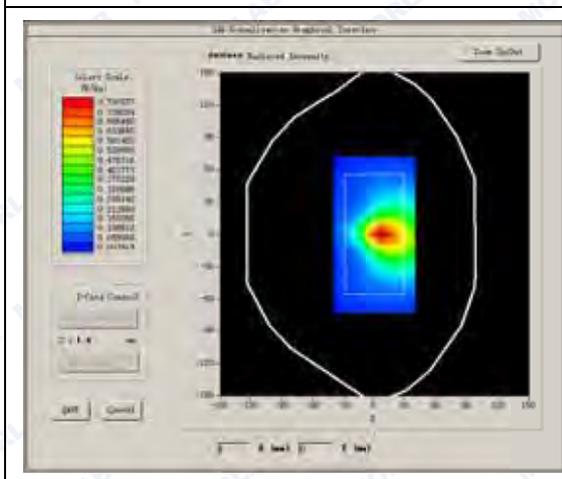
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WCDMA850
Channels	Low
Signal	CDMA

B. SAR Measurement Results

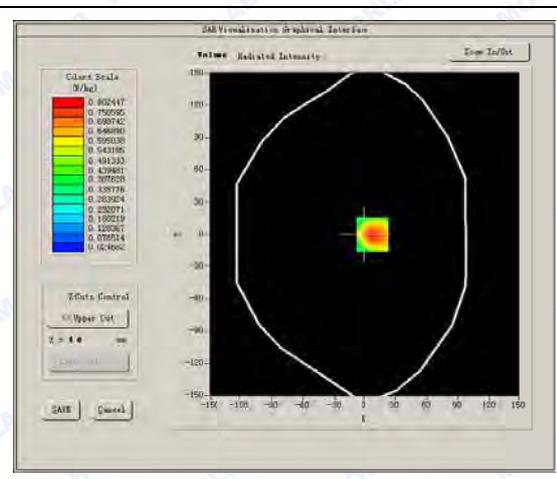
Low Band SAR (Channel 4132):

Frequency (MHz)	826.000000
Relative permittivity (real part)	56.210453
Conductivity (S/m)	0.932437
Power drift (%)	0.370000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	6.99
Crest factor:	1:1

SURFACE SAR



VOLUME SAR

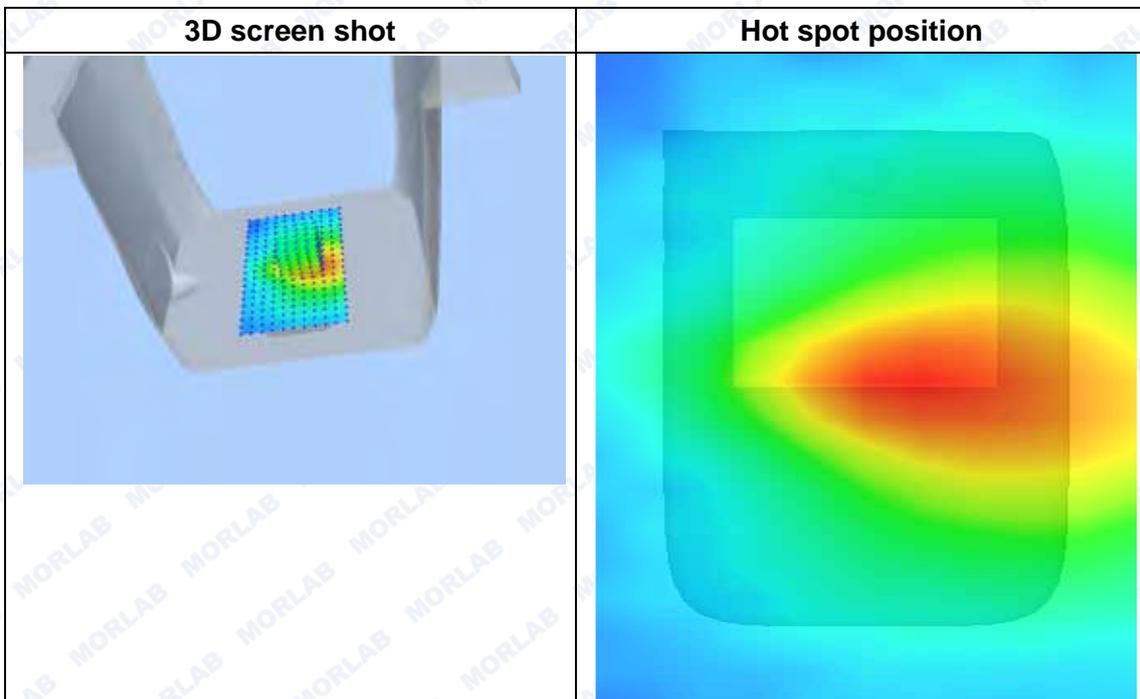
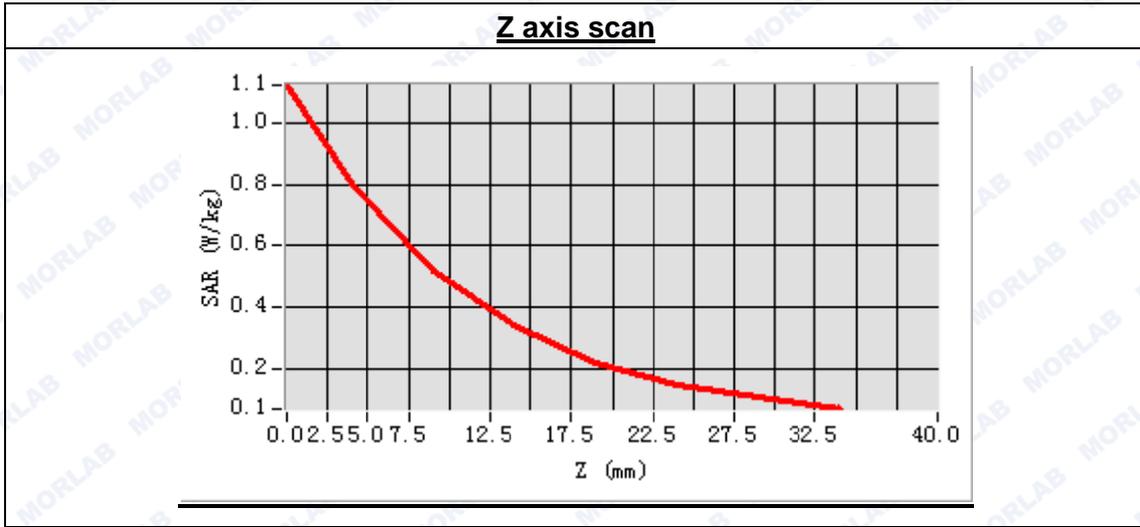




Maximum location: X=7.00, Y=0.00

SAR Peak: 1.23 W/kg

SAR 10g (W/Kg)	0.505307
SAR 1g (W/Kg)	0.823879





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: 2014.11.2
 Measurement duration: 9 minutes 33 seconds

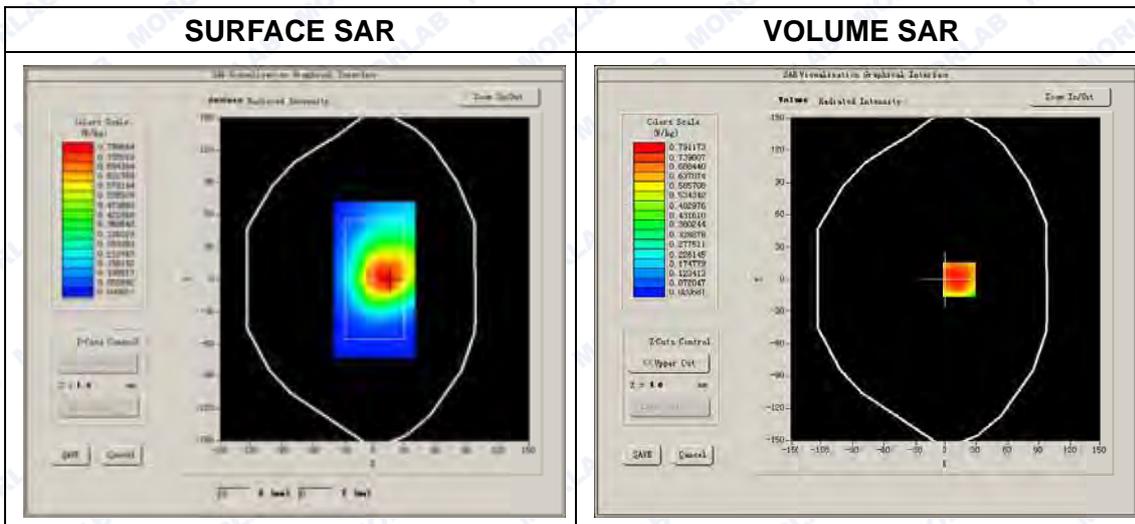
A. Experimental conditions.

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 4182):

Frequency (MHz)	836.000000
Relative permittivity (real part)	56.210453
Conductivity (S/m)	0.932437
Power drift (%)	-0.840000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	6.99
Crest factor:	1:1

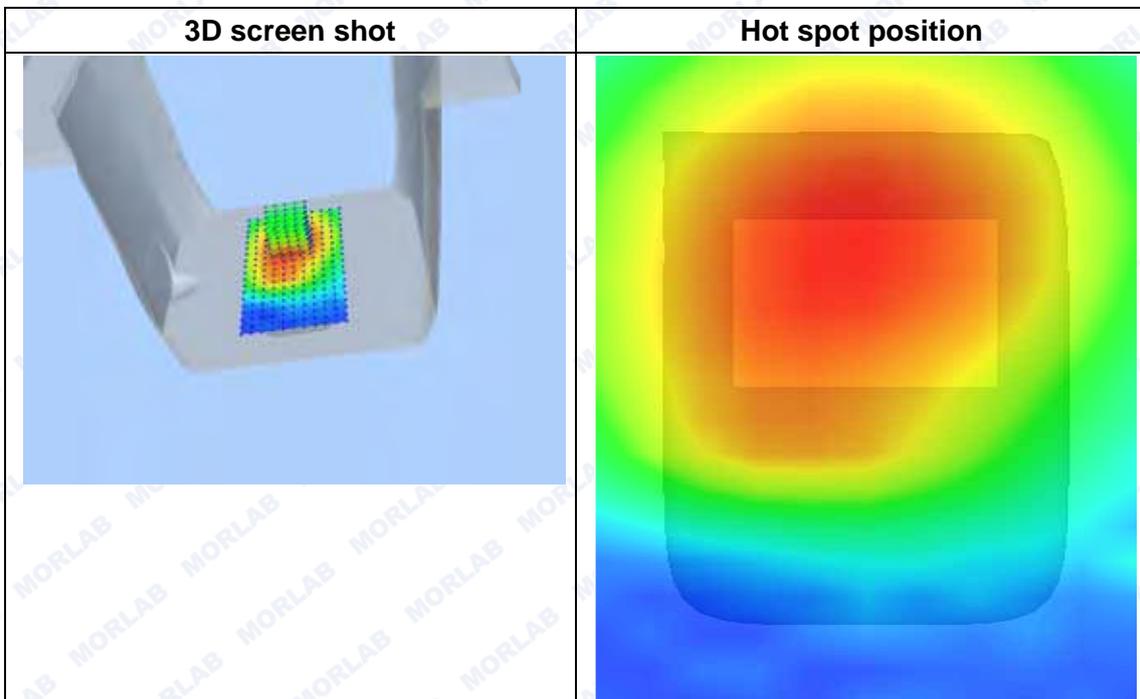
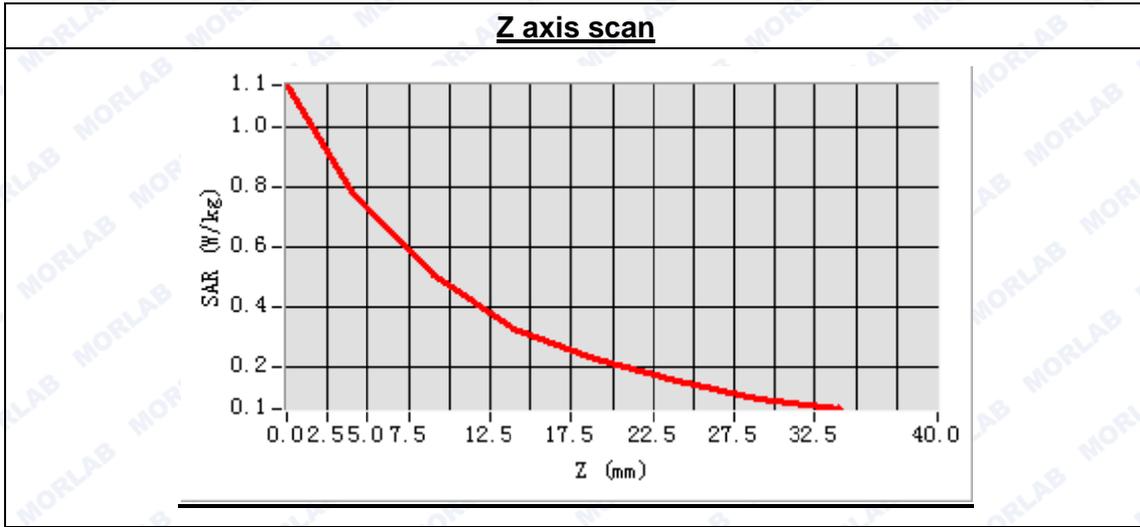




Maximum location: X=0.00, Y=0.00

SAR Peak: 1.27 W/kg

SAR 10g (W/Kg)	0.527447
SAR 1g (W/Kg)	0.828601





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: 2014.11.2
 Measurement duration: 9 minutes 32 seconds

A. Experimental conditions.

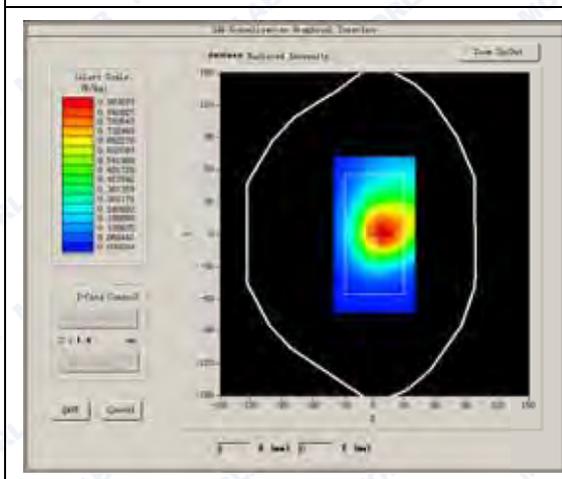
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WCDMA850
Channels	High
Signal	CDMA

B. SAR Measurement Results

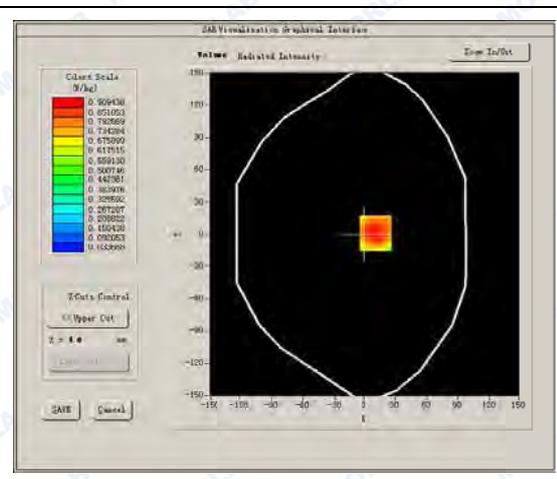
High Band SAR (Channel 4233):

Frequency (MHz)	848.800000
Relative permittivity (real part)	56.210453
Conductivity (S/m)	0.932437
Power drift (%)	-2.230000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	6.99
Crest factor:	1:1

SURFACE SAR



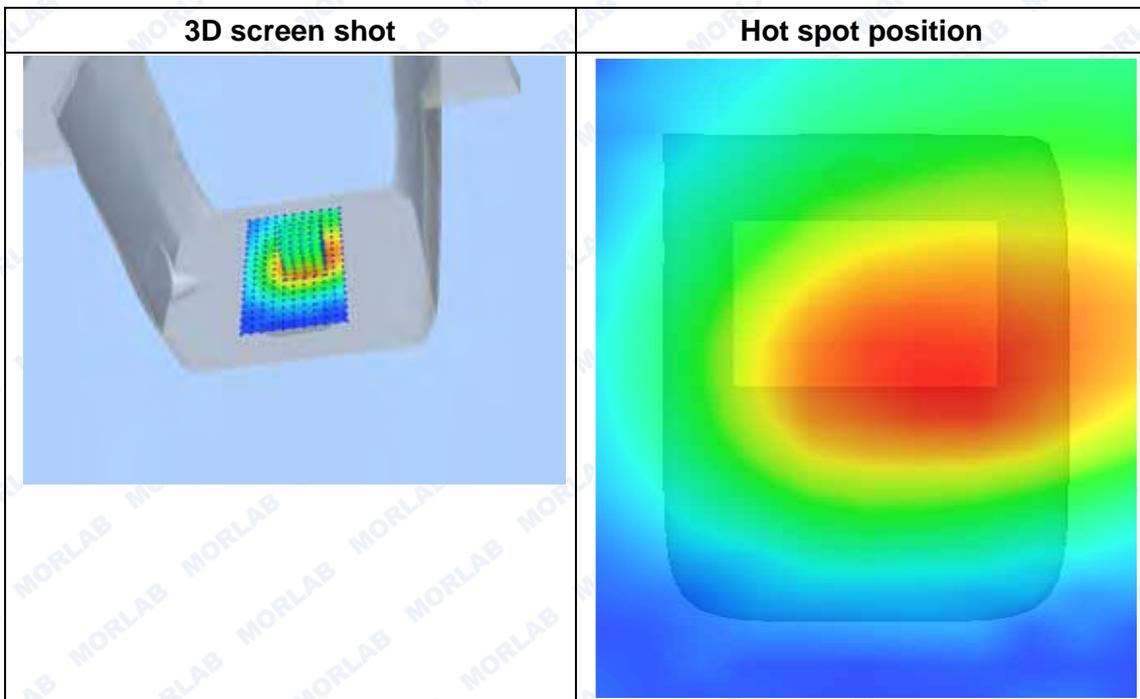
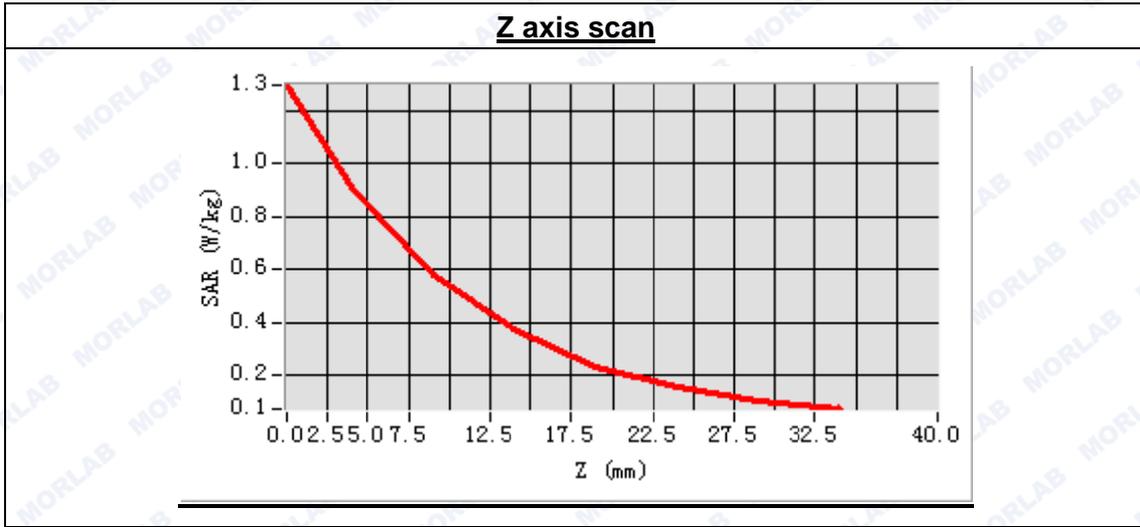
VOLUME SAR





Maximum location: X=10.00, Y=1.00
SAR Peak: 1.43 W/kg

SAR 10g (W/Kg)	0.601380
SAR 1g (W/Kg)	0.948729





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: 2014.11.2
 Measurement duration: 9 minutes 31 seconds

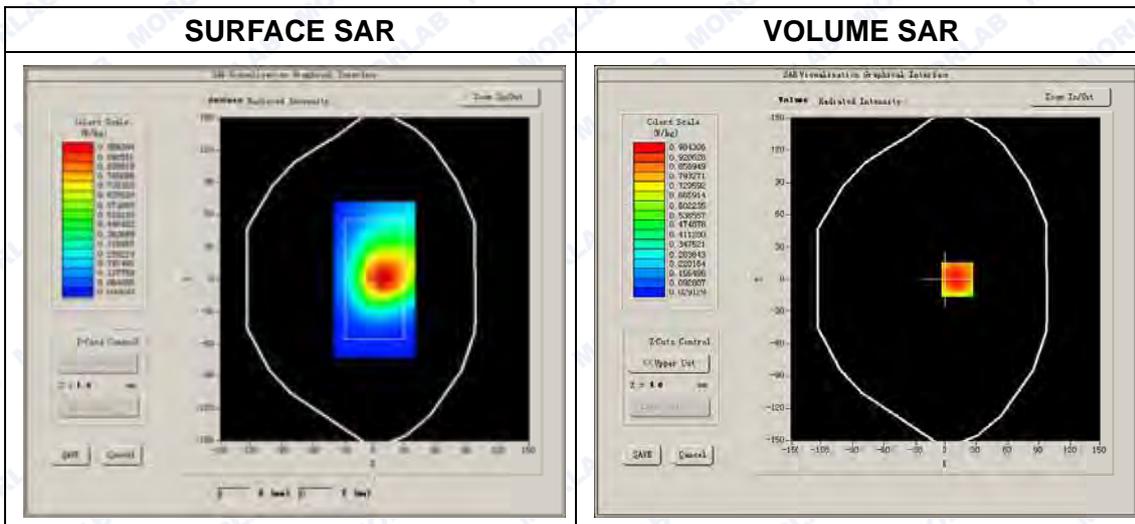
A. Experimental conditions.

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

B. SAR Measurement Results

Low Band SAR (Channel 4132):

Frequency (MHz)	826.000000
Relative permittivity (real part)	56.210453
Conductivity (S/m)	0.932437
Power drift (%)	-0.750000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	6.99
Crest factor:	1:1

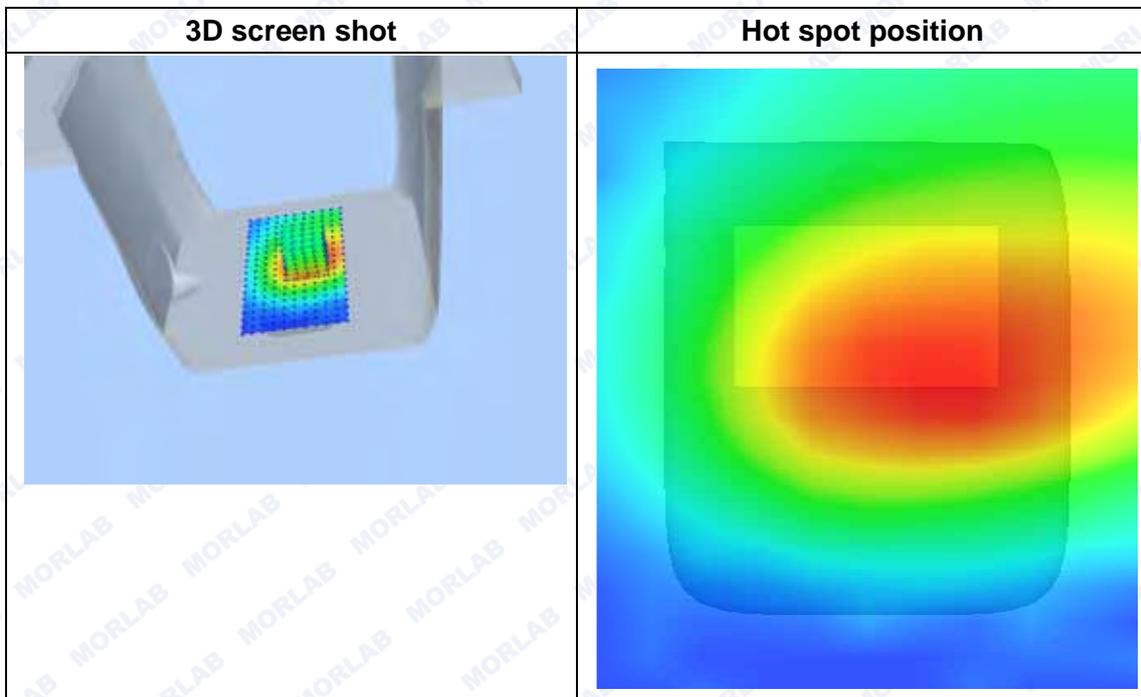
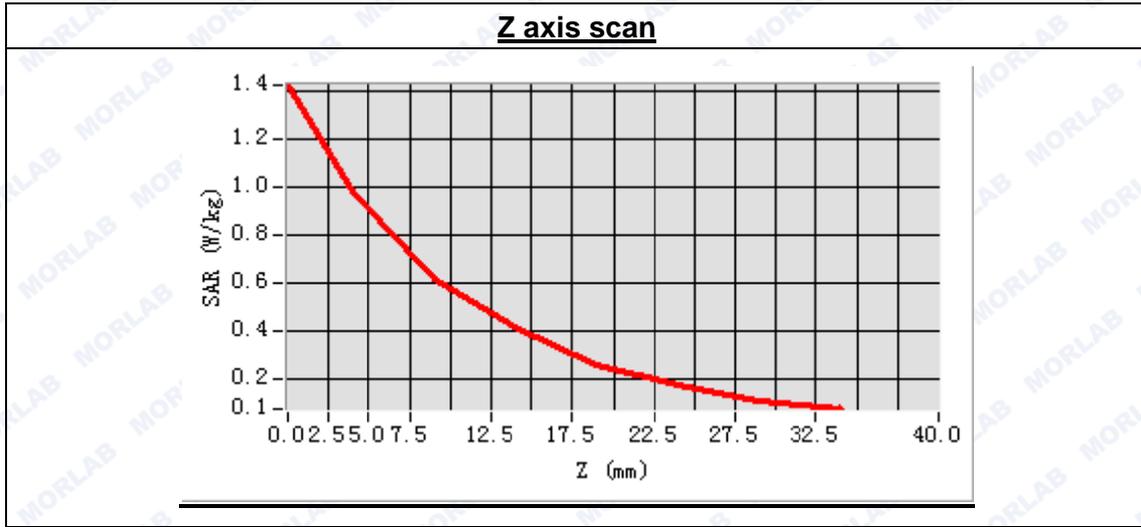




Maximum location: X=11.00, Y=0.00

SAR Peak: 1.56 W/kg

SAR 10g (W/Kg)	0.663933
SAR 1g (W/Kg)	1.041903



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: 2014.11.2
 Measurement duration: 9 minutes 28 seconds

A. Experimental conditions.

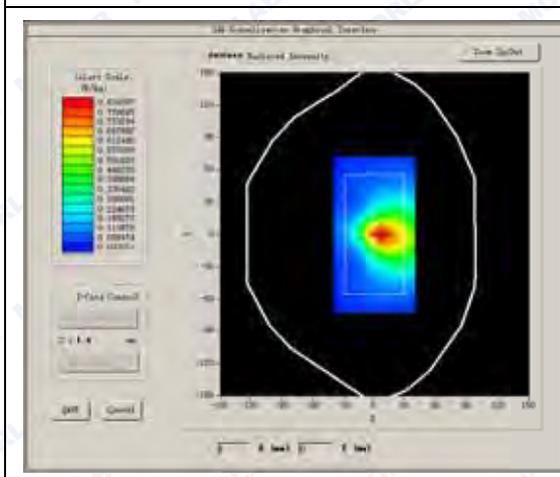
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WCDMA850
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

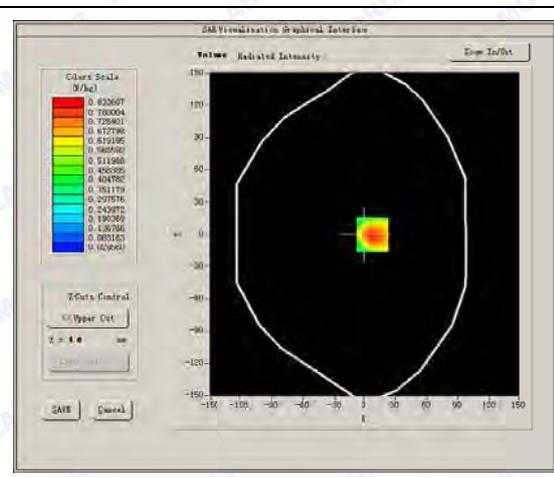
Middle_Band SAR (Channel 4182):

Frequency (MHz)	836.000000
Relative permittivity (real part)	56.210453
Conductivity (S/m)	0.932437
Power drift (%)	-3.470000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	6.99
Crest factor:	1:1

SURFACE SAR



VOLUME SAR

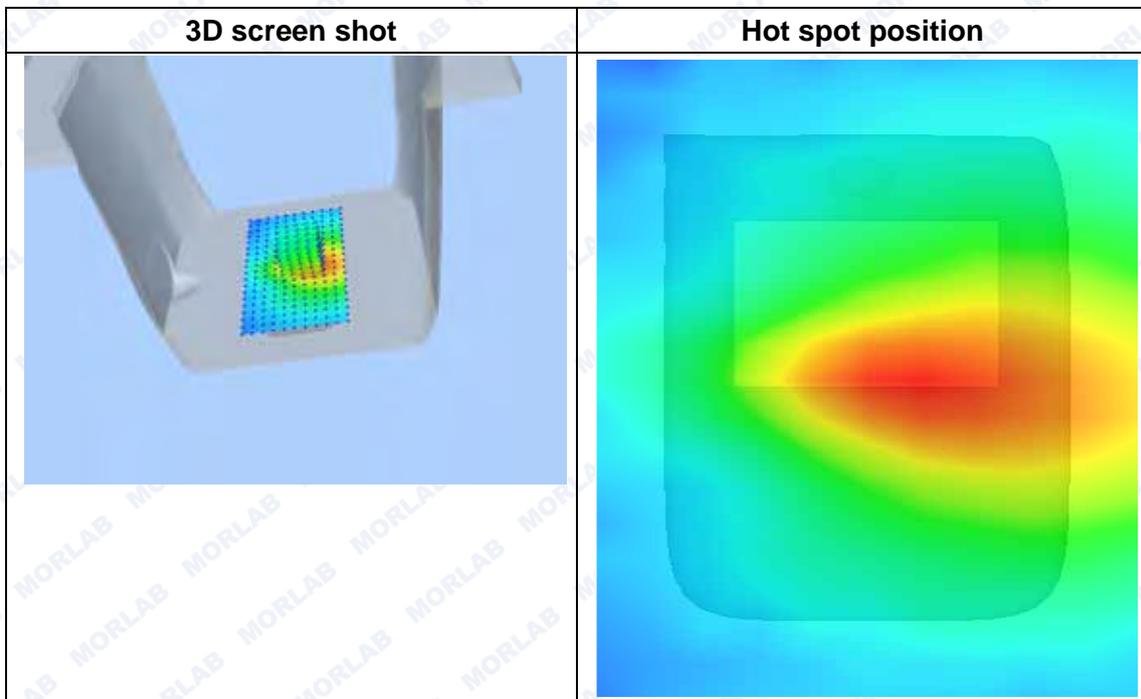
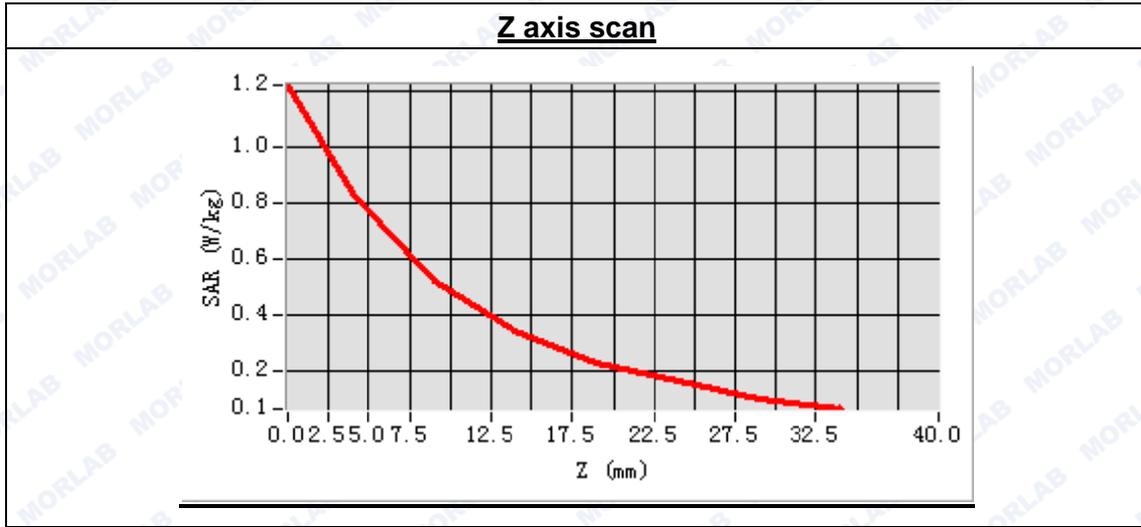




Maximum location: X=7.00, Y=0.00

SAR Peak: 1.33 W/kg

SAR 10g (W/Kg)	0.523572
SAR 1g (W/Kg)	0.859737





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: 2014.11.2
 Measurement duration: 9 minutes 28 seconds

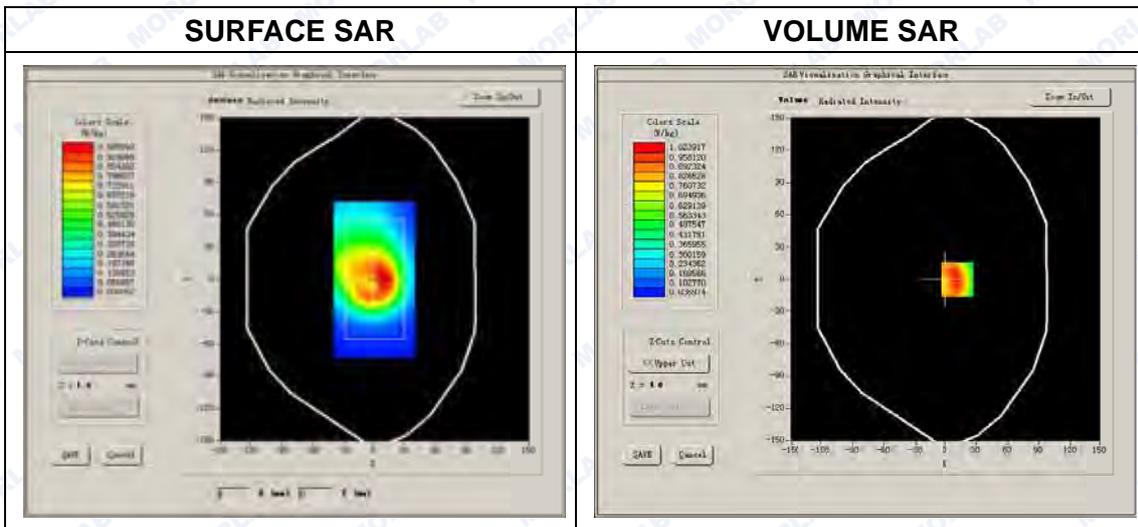
A. Experimental conditions.

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

B. SAR Measurement Results

High Band SAR (Channel 4233):

Frequency (MHz)	848.800000
Relative permittivity (real part)	56.210453
Conductivity (S/m)	0.932437
Power drift (%)	0.190000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	6.99
Crest factor:	1:1

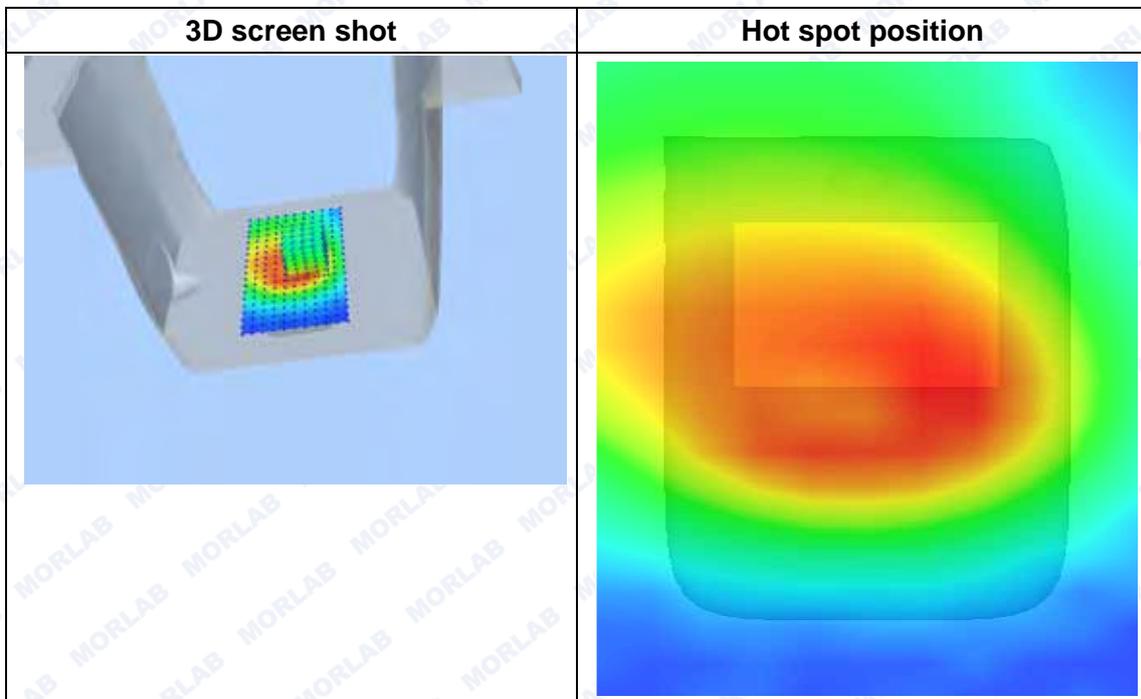
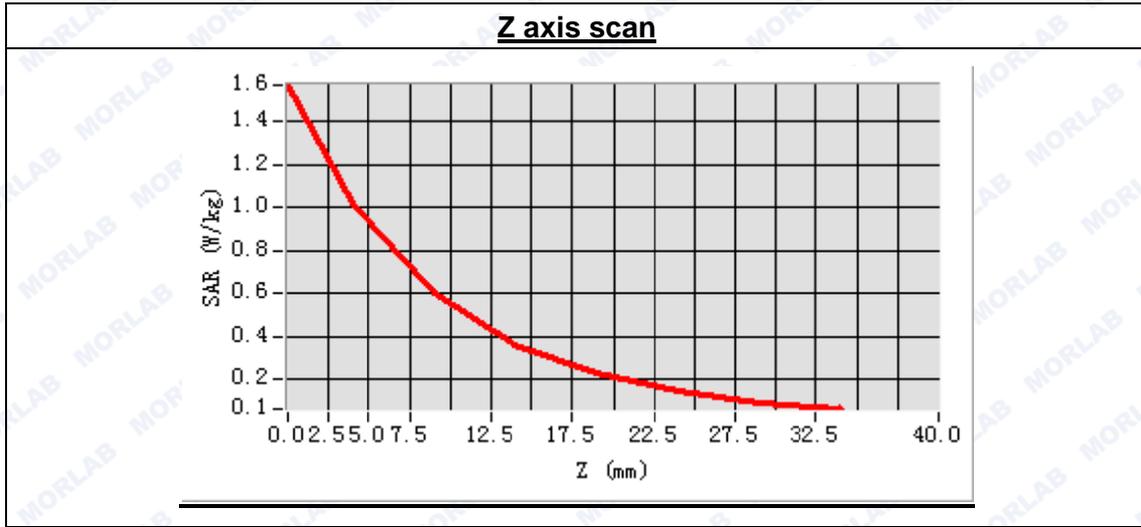




Maximum location: X=11.00, Y=0.00

SAR Peak: 1.71 W/kg

SAR 10g (W/Kg)	0.616632
SAR 1g (W/Kg)	1.054022





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: 2014.11.2
 Measurement duration: 9 minutes 28 seconds

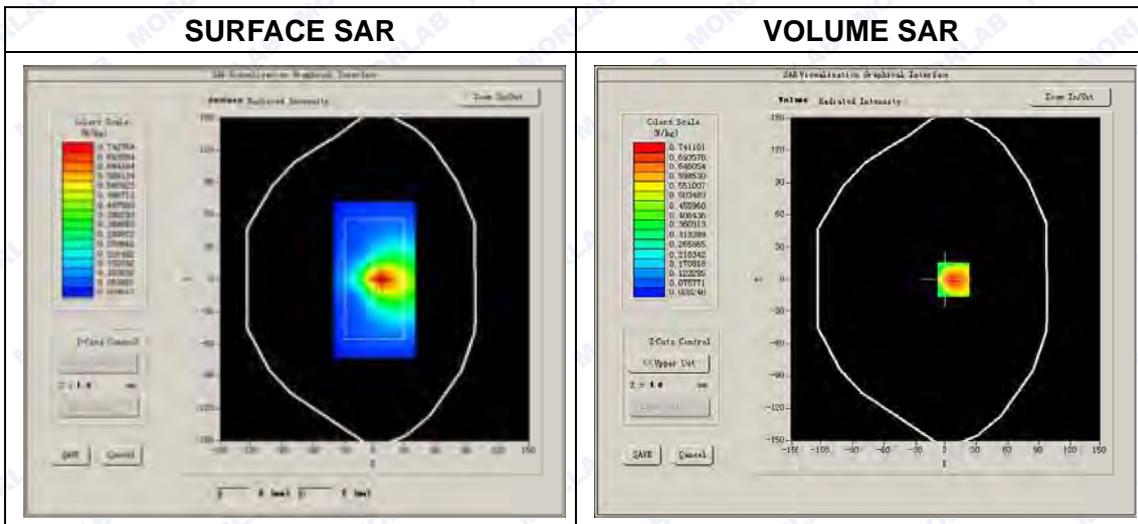
A. Experimental conditions.

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

B. SAR Measurement Results

High Band SAR (Channel 4233):

Frequency (MHz)	848.800000
Relative permittivity (real part)	56.210453
Conductivity (S/m)	0.932437
Power drift (%)	-0.170000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	6.99
Crest factor:	1:1

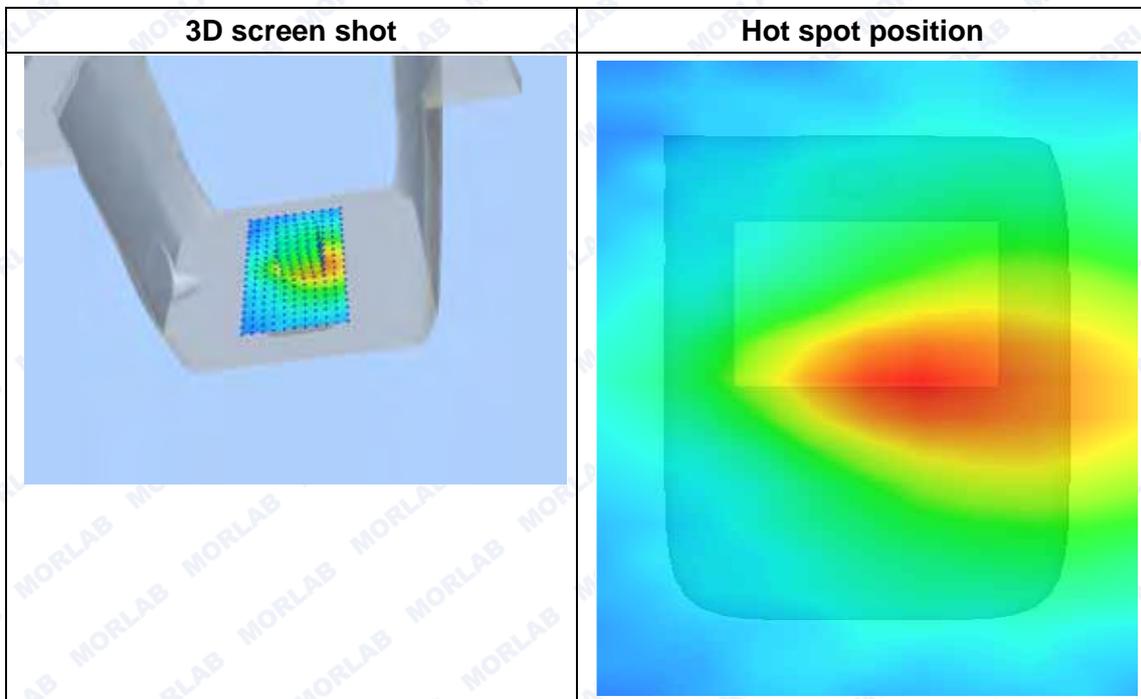
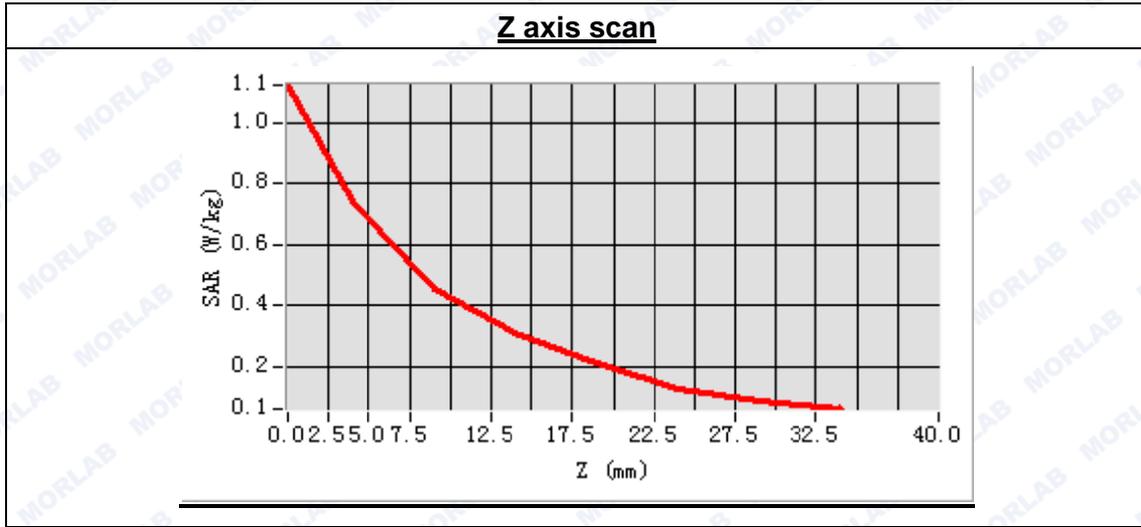




Maximum location: X=7.00, Y=0.00

SAR Peak: 1.20 W/kg

SAR 10g (W/Kg)	0.455694
SAR 1g (W/Kg)	0.707781





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: 2014.11.2
 Measurement duration: 9 minutes 28 seconds

A. Experimental conditions.

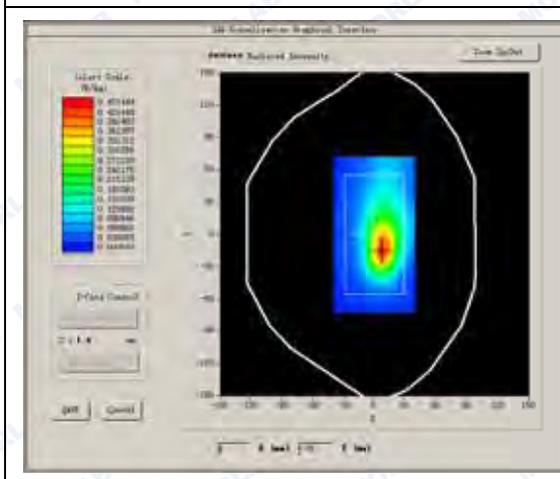
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WCDMA850
Channels	High
Signal	CDMA

B. SAR Measurement Results

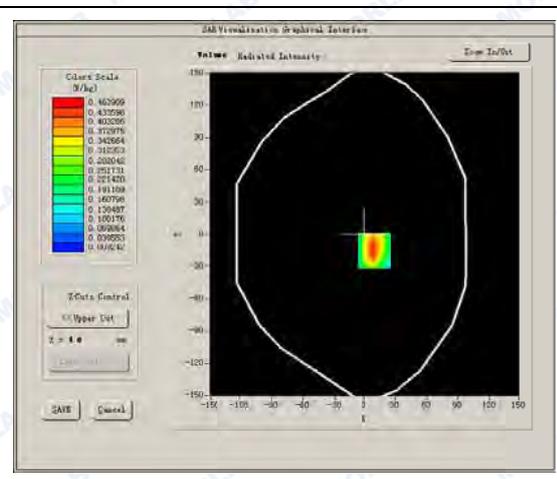
High Band SAR (Channel 4233):

Frequency (MHz)	848.800000
Relative permittivity (real part)	56.210453
Conductivity (S/m)	0.932437
Power drift (%)	-0.270000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	6.99
Crest factor:	1:1

SURFACE SAR



VOLUME SAR

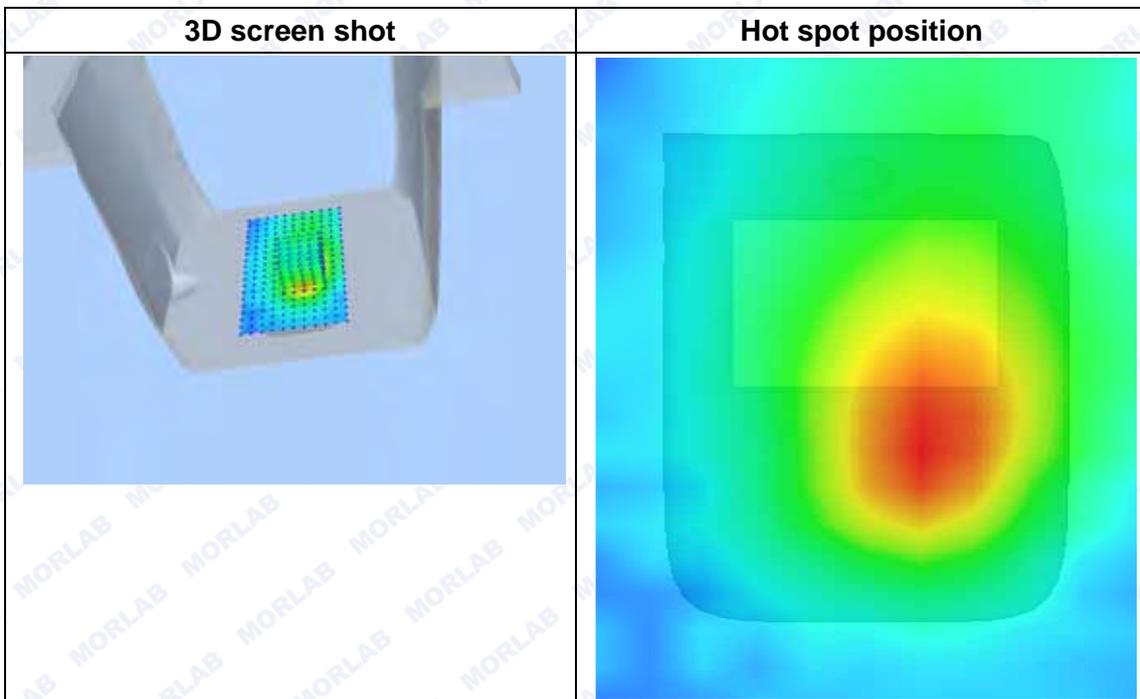
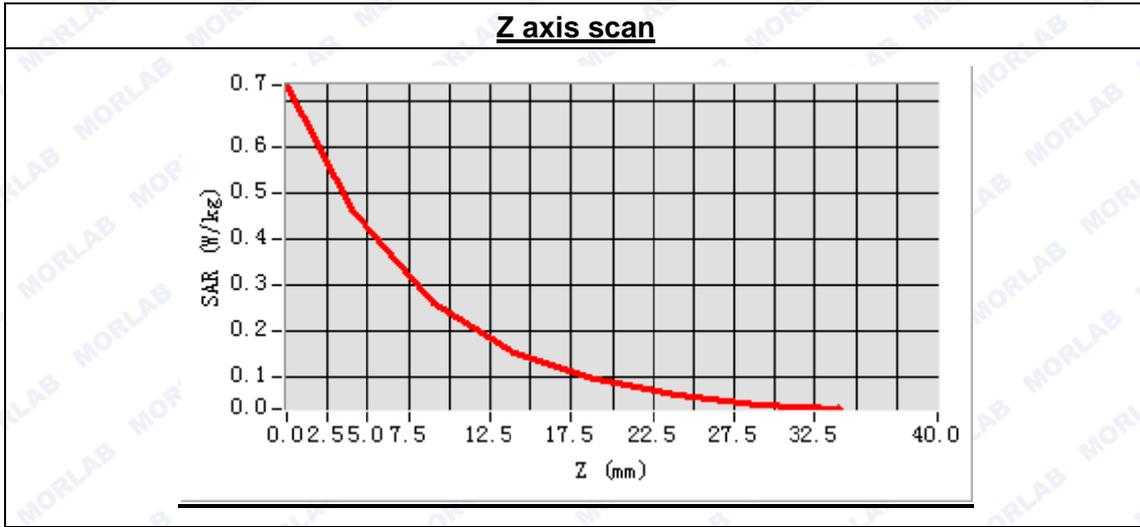




Maximum location: X=9.00, Y=-15.00

SAR Peak: 0.79 W/kg

SAR 10g (W/Kg)	0.254094
SAR 1g (W/Kg)	0.466933



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: 2014.11.3

Measurement duration: 9 minutes 30 seconds

A. Experimental conditions.

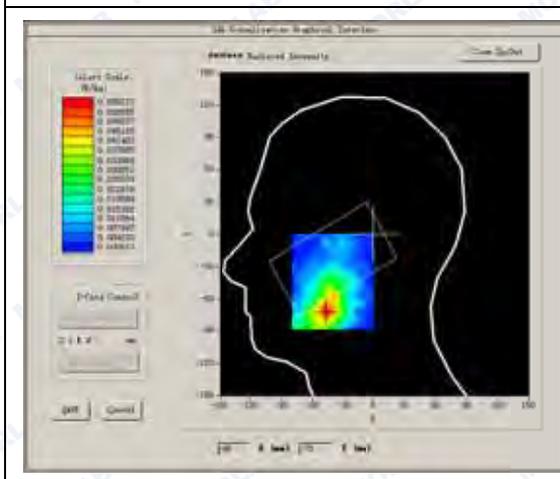
Phantom File	sam_direct_droit2_surf8mm.txt
Phantom	Right head
Device Position	Cheek
Band	WCDMA1900
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

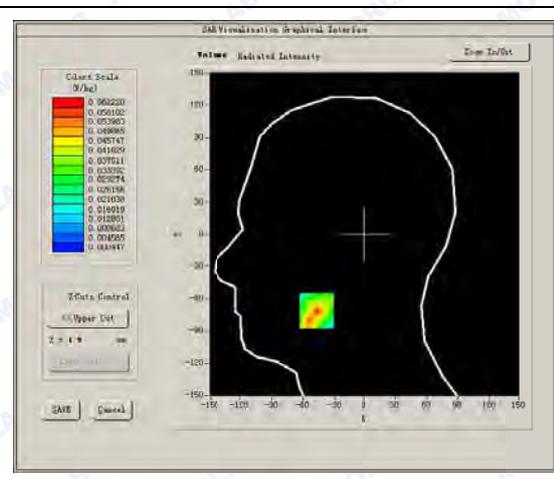
Middle Band SAR (Channel 9400):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	39.975586
Conductivity (S/m)	1.404357
Power drift (%)	-2.950000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:1

SURFACE SAR



VOLUME SAR

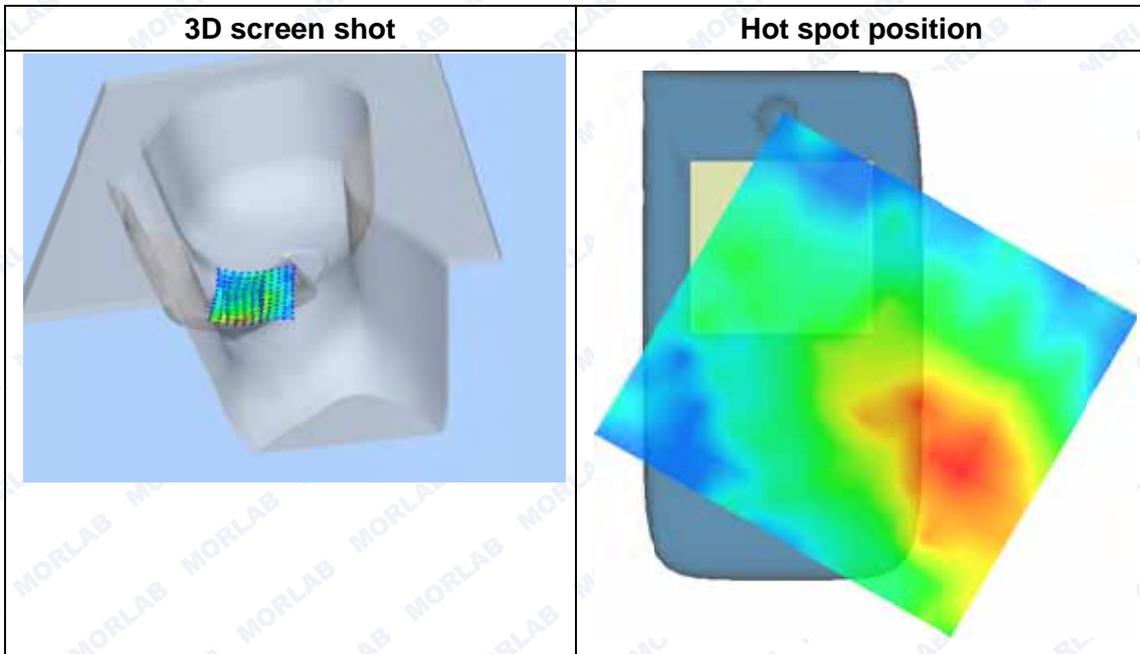
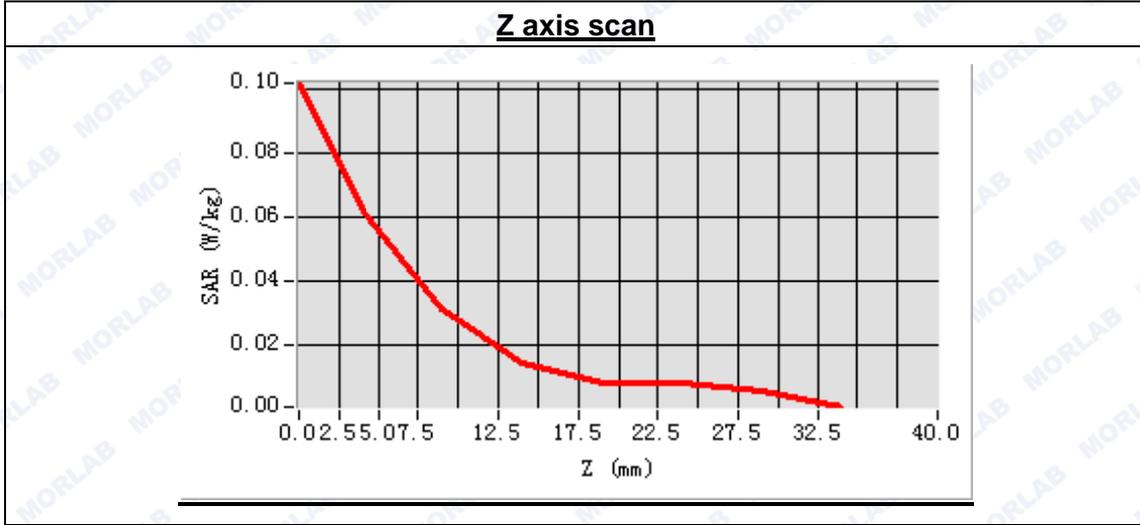




Maximum location: X=-47.00, Y=-71.00

SAR Peak: 0.11 W/kg

SAR 10g (W/Kg)	0.026800
SAR 1g (W/Kg)	0.055688



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: 2014.11.3
 Measurement duration: 7 minutes 54 seconds

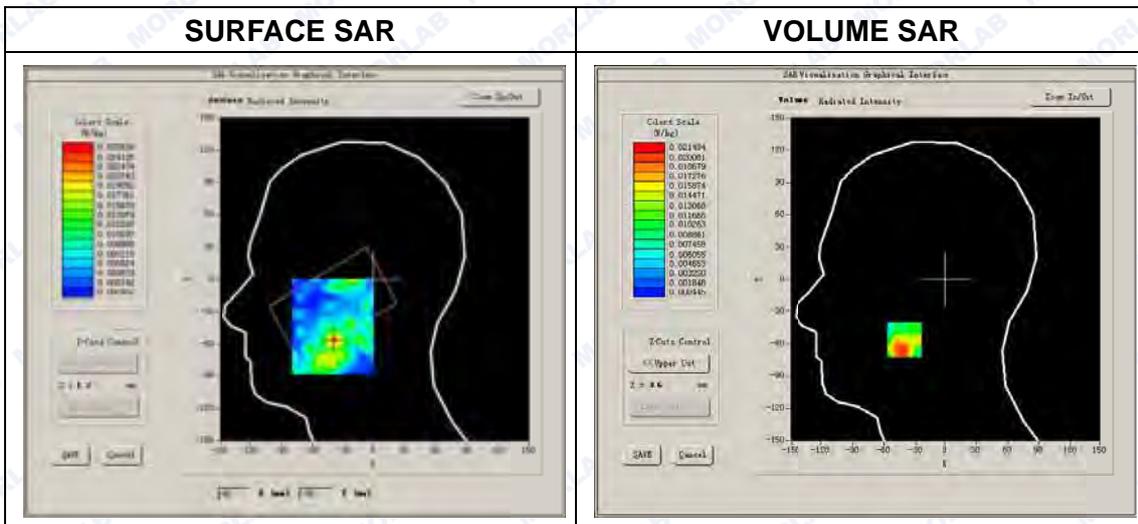
A. Experimental conditions.

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

B. SAR Measurement Results

Middle Band SAR (Channel 9400):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	39.975586
Conductivity (S/m)	1.404357
Power drift (%)	1.740000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:1

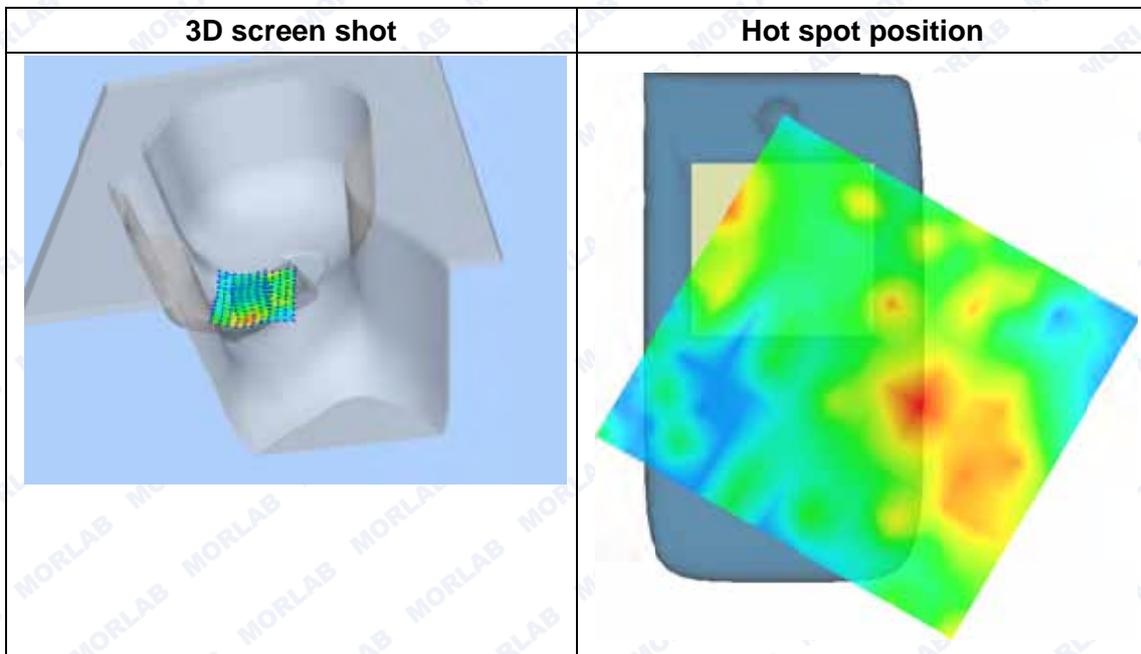
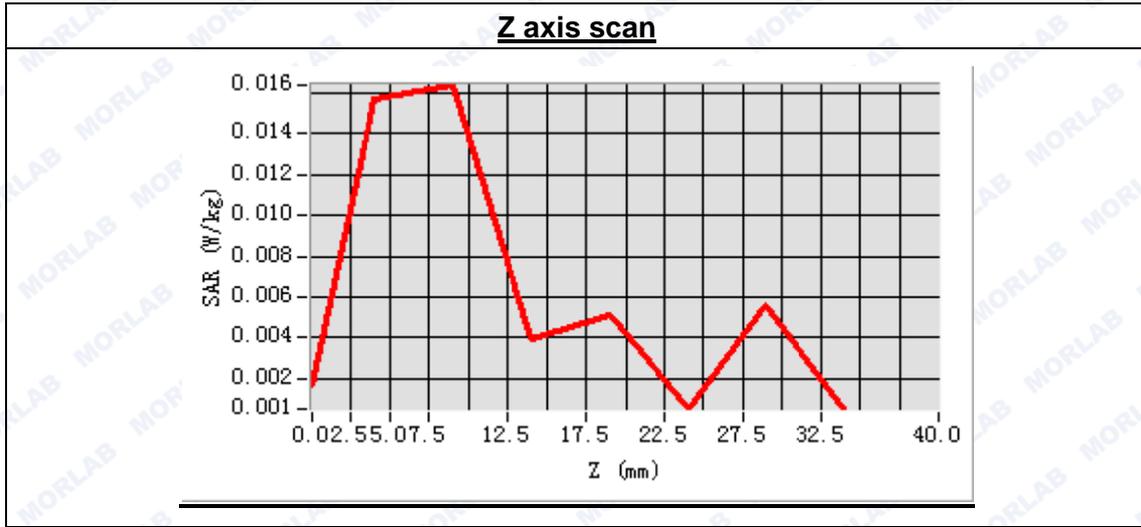




Maximum location: X=-40.00, Y=-56.00

SAR Peak: 0.05 W/kg

SAR 10g (W/Kg)	0.009012
SAR 1g (W/Kg)	0.018577





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: 2014.11.3
 Measurement duration: 9 minutes 37 seconds

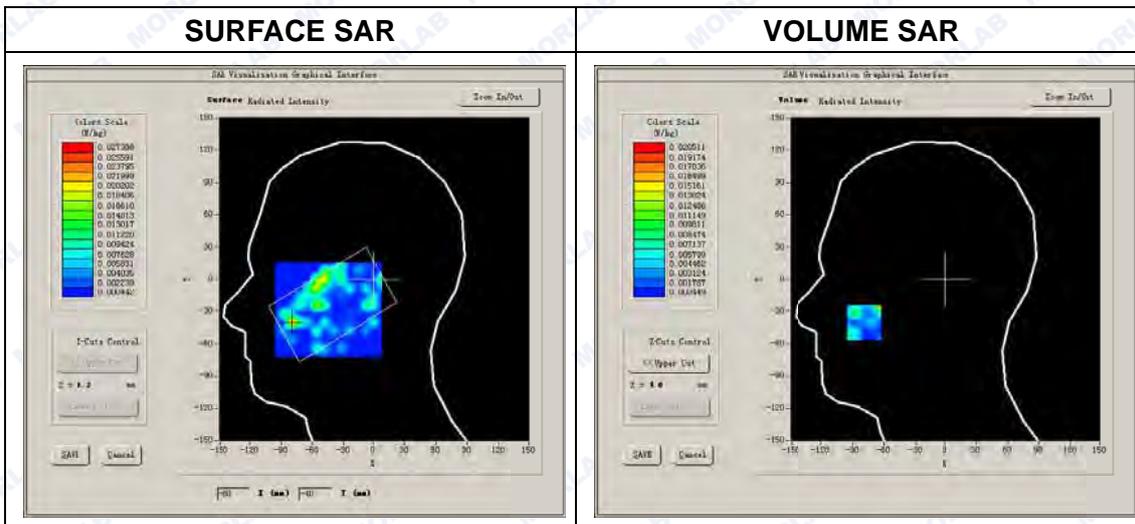
A. Experimental conditions.

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

B. SAR Measurement Results

Middle Band SAR (Channel 9400):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	39.975586
Conductivity (S/m)	1.404357
Power drift (%)	2.820000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:1

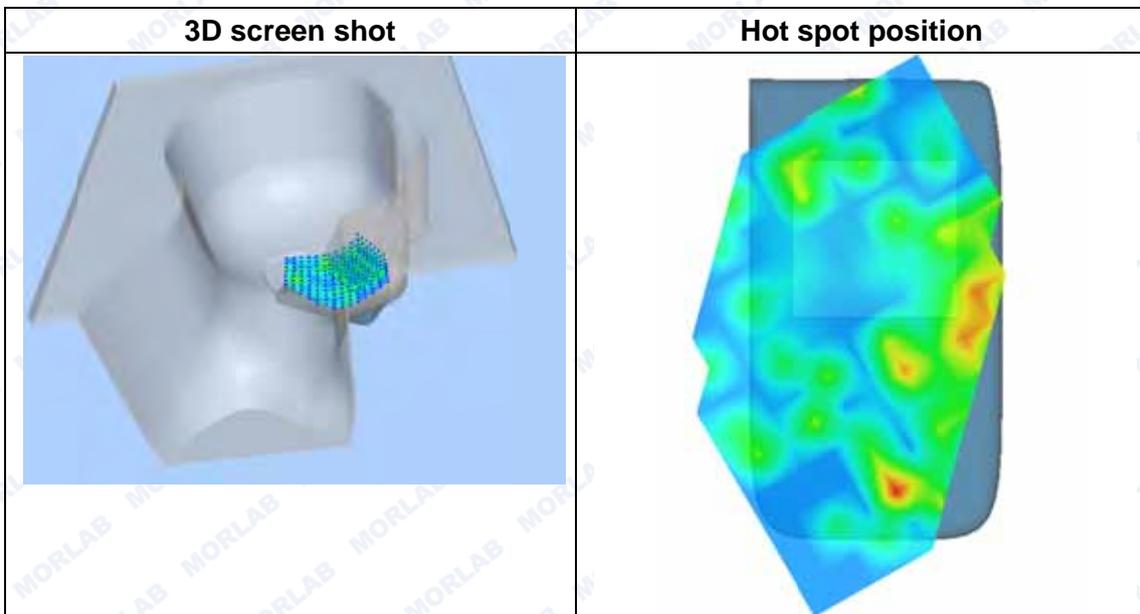
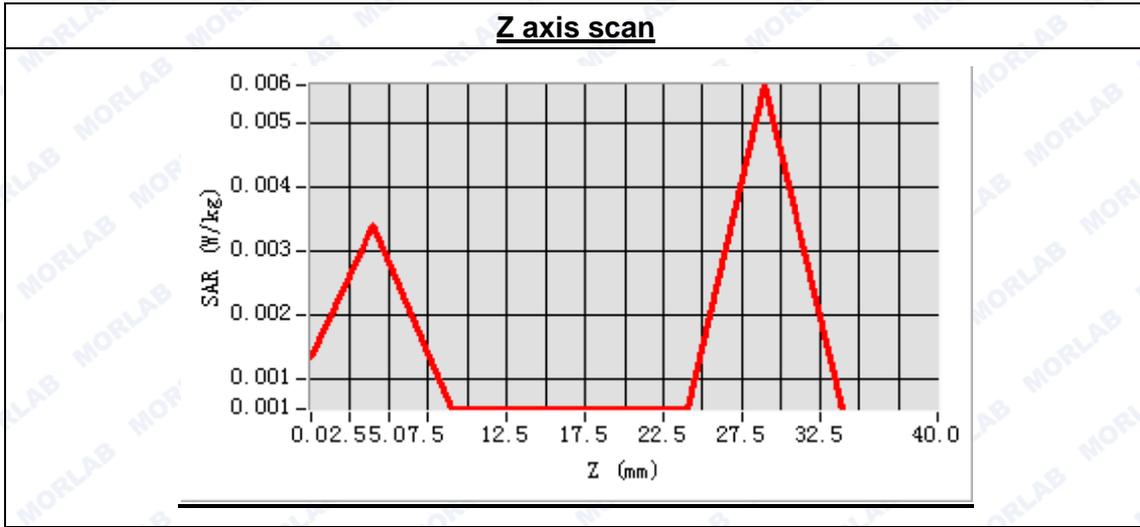




Maximum location: X=-79.00, Y=-40.00

SAR Peak: 0.05 W/kg

SAR 10g (W/Kg)	0.003251
SAR 1g (W/Kg)	0.010102





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: 2014.11.3
 Measurement duration: 7 minutes 51 seconds

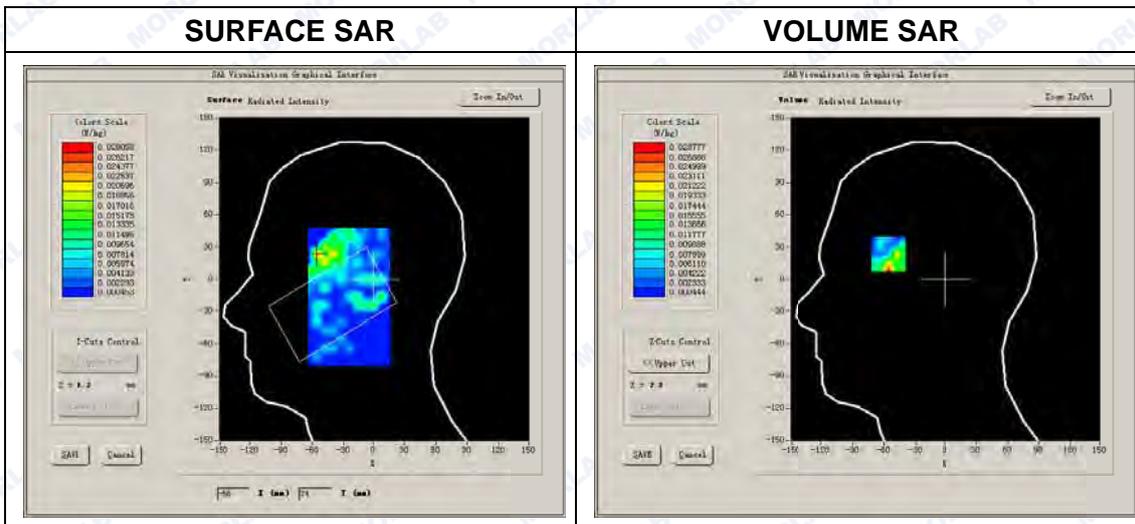
A. Experimental conditions.

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

B. SAR Measurement Results

Middle Band SAR (Channel 9400):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	39.975586
Conductivity (S/m)	1.404357
Power drift (%)	3.480000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:1

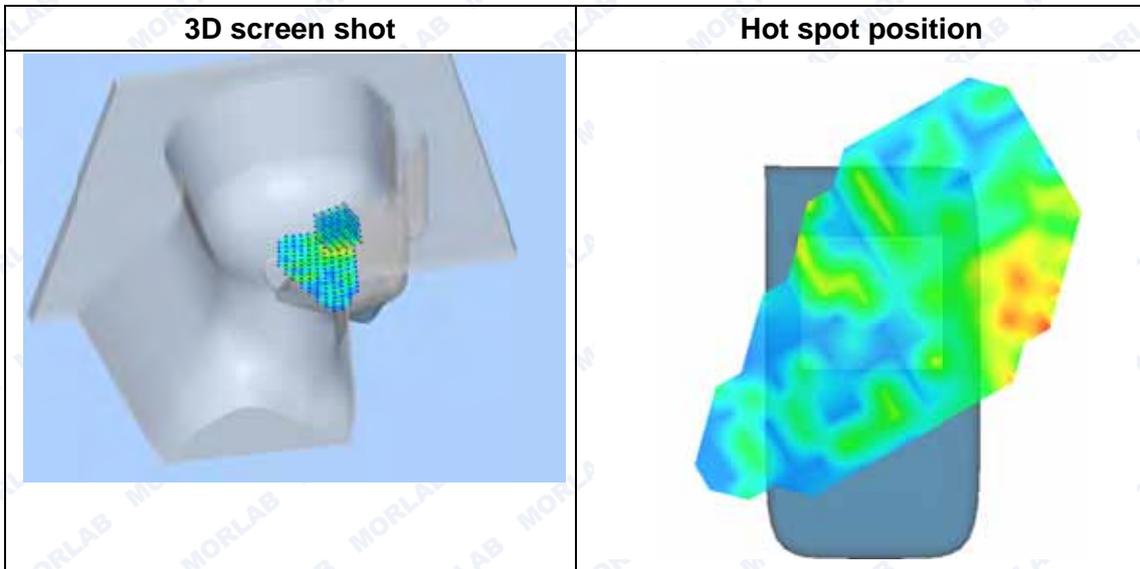
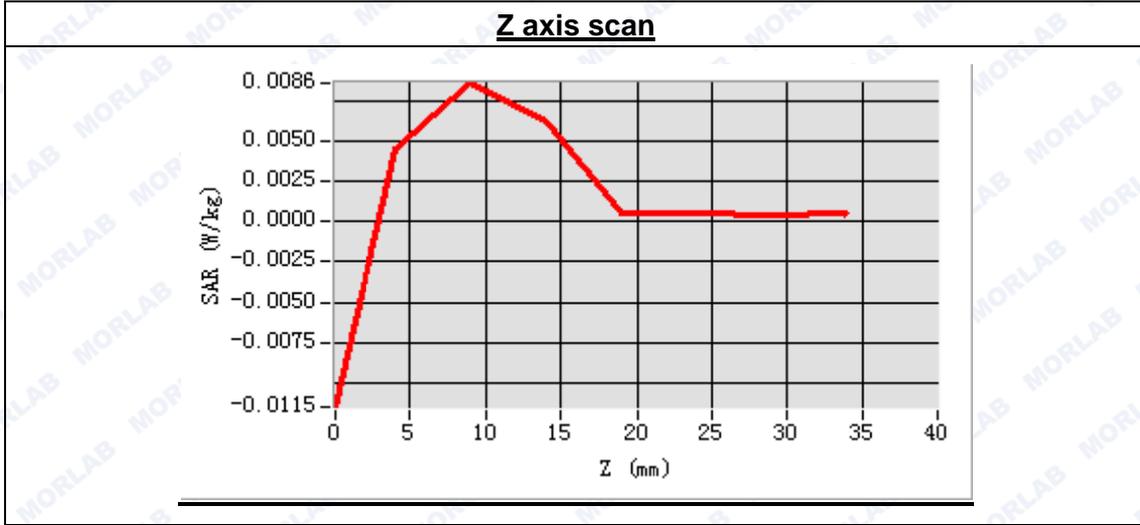




Maximum location: X=-56.00, Y=32.00

SAR Peak: 0.06 W/kg

SAR 10g (W/Kg)	0.008402
SAR 1g (W/Kg)	0.020657





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: 2014.11.3
 Measurement duration: 9 minutes 31 seconds

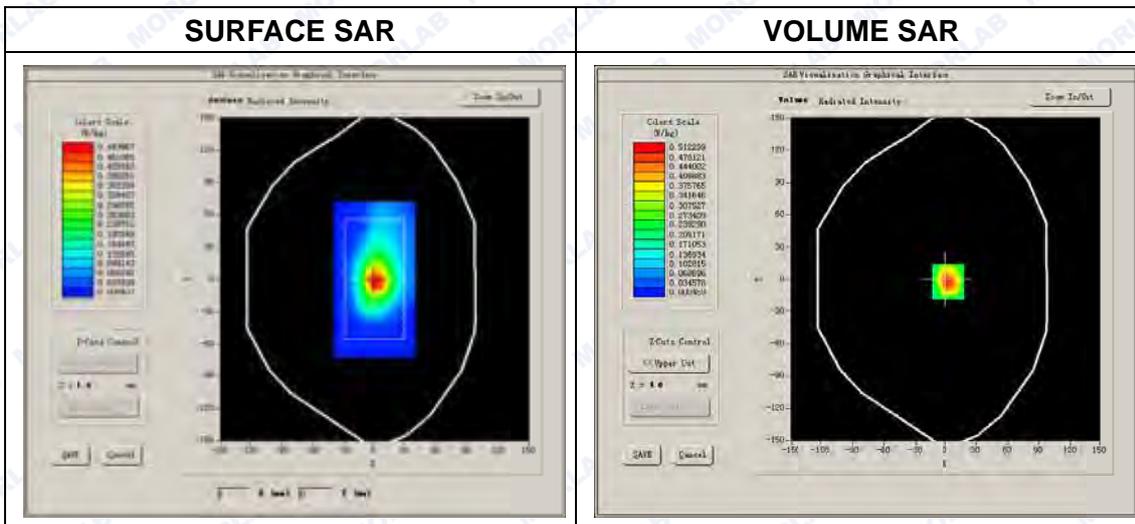
A. Experimental conditions.

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

B. SAR Measurement Results

Middle Band SAR (Channel 9400):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	53.466747
Conductivity (S/m)	1.505866
Power drift (%)	-2.020000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:1

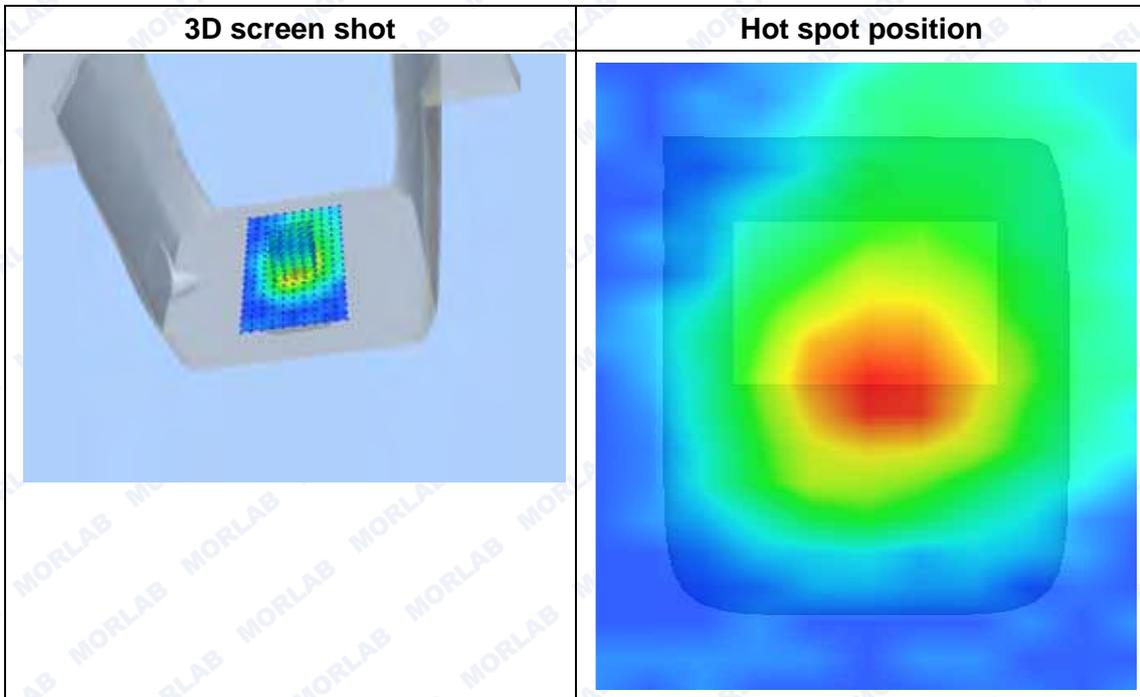
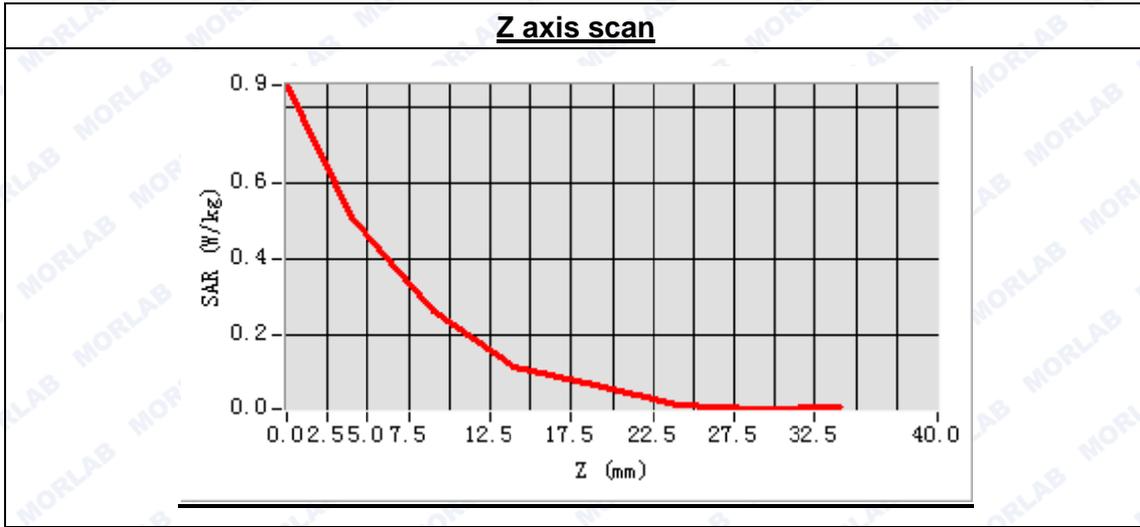




Maximum location: X=2.00, Y=-2.00

SAR Peak: 0.93 W/kg

SAR 10g (W/Kg)	0.249425
SAR 1g (W/Kg)	0.527283





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: 2014.11.3
 Measurement duration: 9 minutes 34 seconds

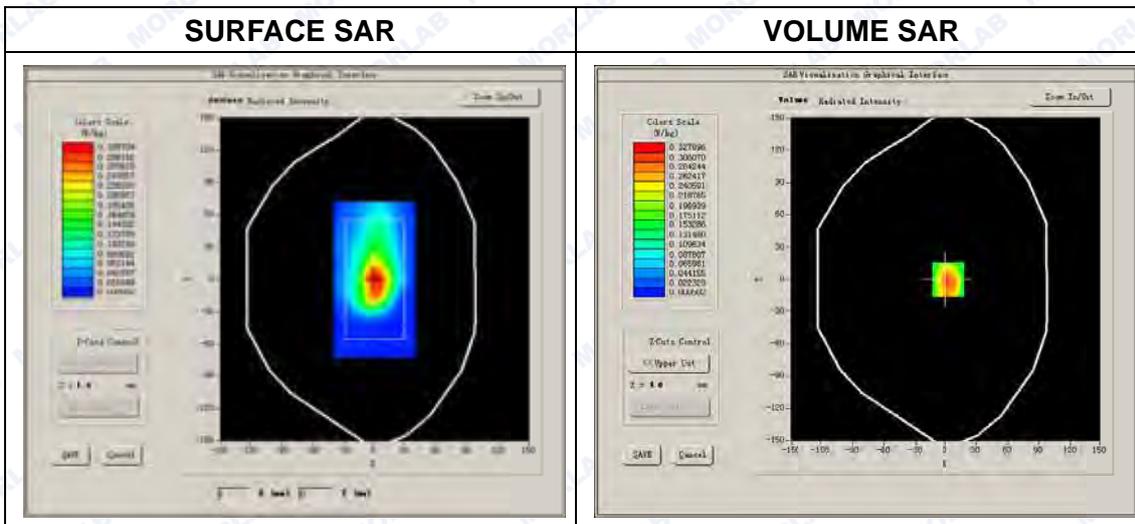
A. Experimental conditions.

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

B. SAR Measurement Results

Middle Band SAR (Channel 9400):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	53.466747
Conductivity (S/m)	1.505866
Power drift (%)	-0.960000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:1

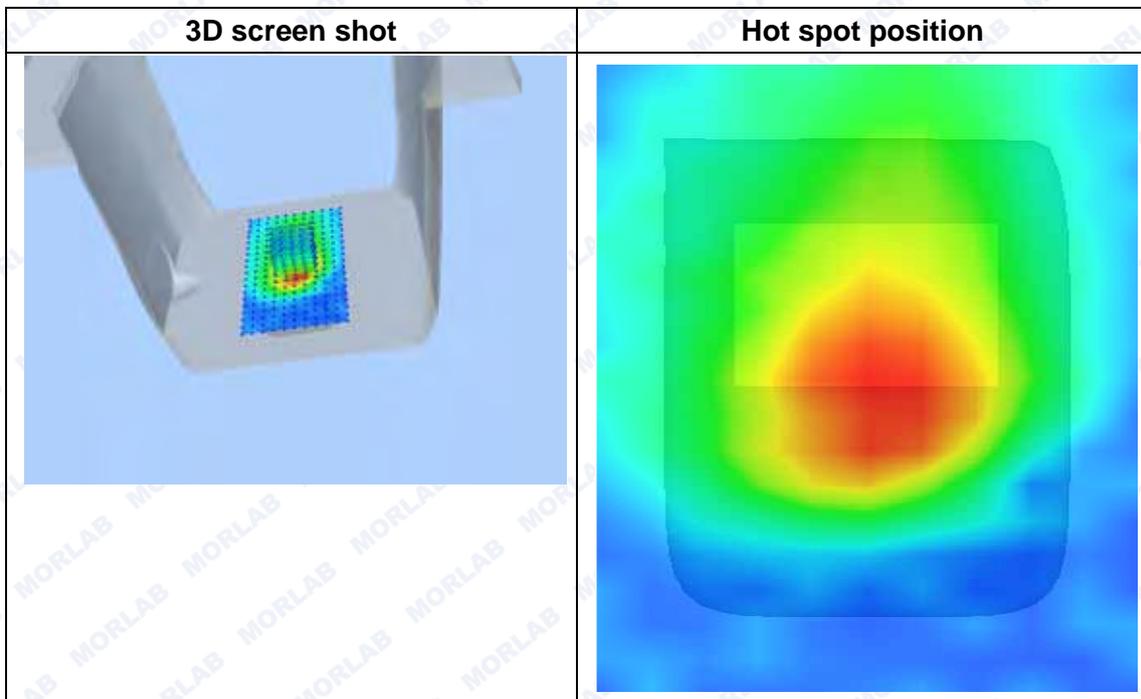
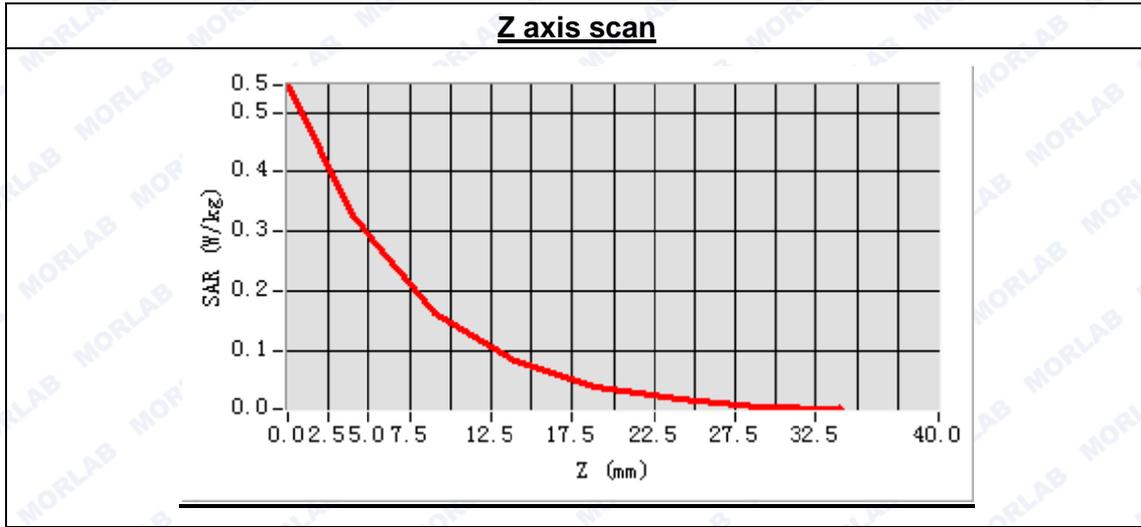




Maximum location: X=2.00, Y=0.00

SAR Peak: 0.59 W/kg

SAR 10g (W/Kg)	0.165892
SAR 1g (W/Kg)	0.330782





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: 2014.11.3
 Measurement duration: 9 minutes 31 seconds

A. Experimental conditions.

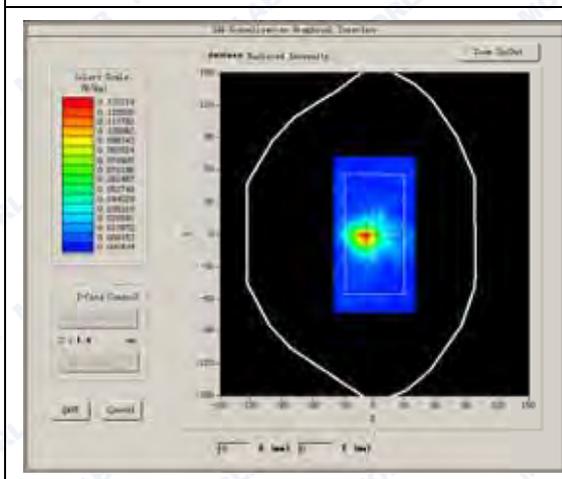
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WCDMA1900
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

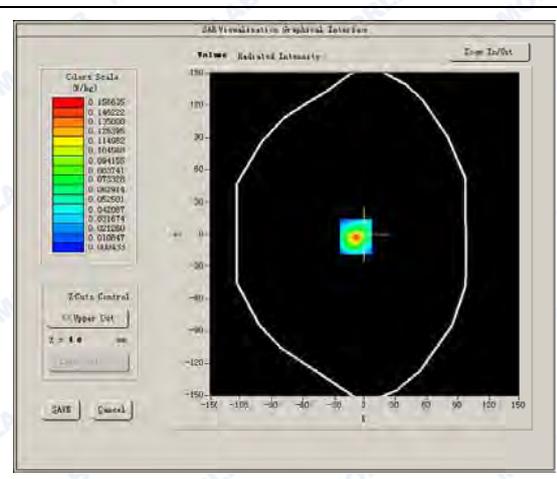
Middle Band SAR (Channel 9400):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	53.466747
Conductivity (S/m)	1.505866
Power drift (%)	-2.860000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:1

SURFACE SAR



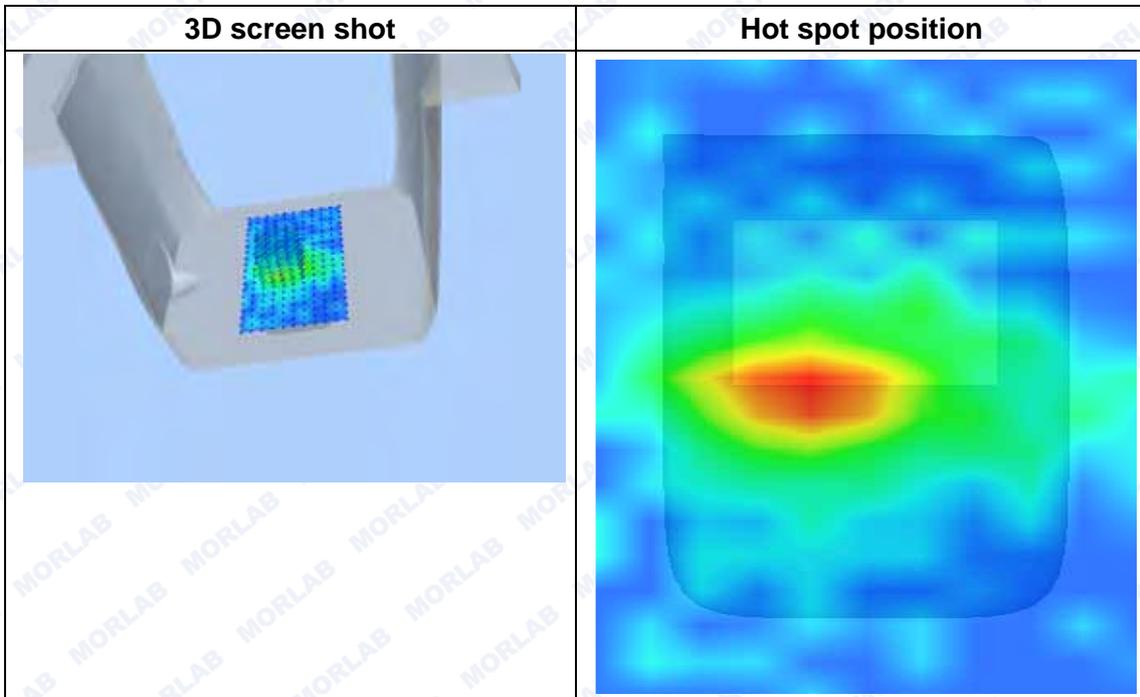
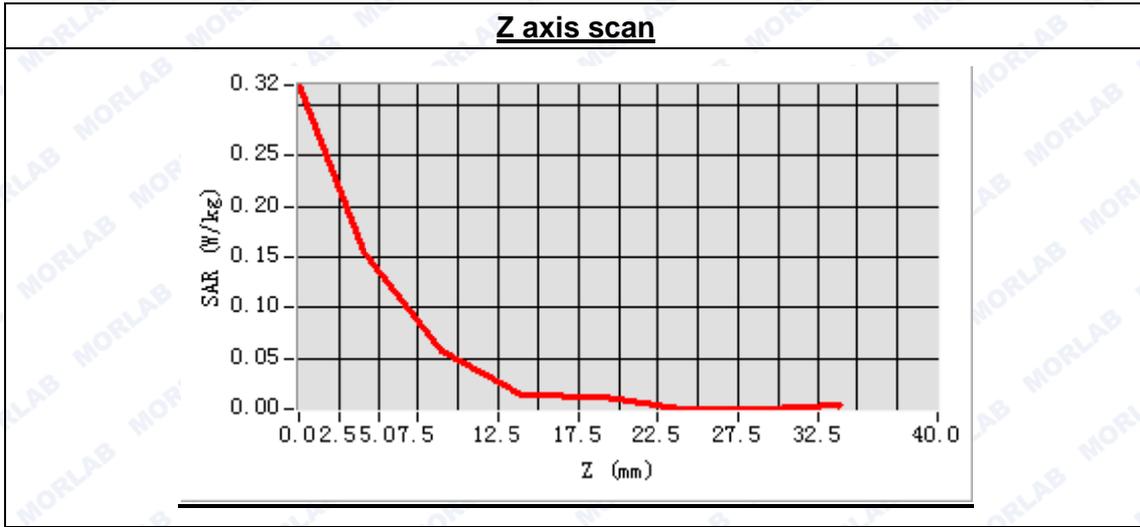
VOLUME SAR





Maximum location: X=-9.00, Y=-2.00
SAR Peak: 0.34 W/kg

SAR 10g (W/Kg)	0.052925
SAR 1g (W/Kg)	0.151719





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: 2014.11.3
 Measurement duration: 9 minutes 31 seconds

A. Experimental conditions.

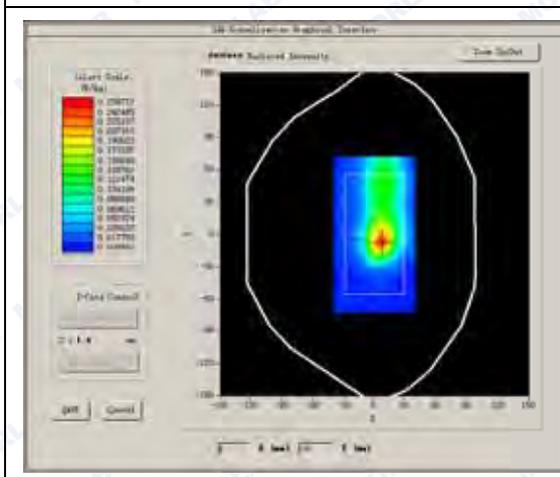
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	WCDMA1900
Channels	Middle
Signal	CDMA

B. SAR Measurement Results

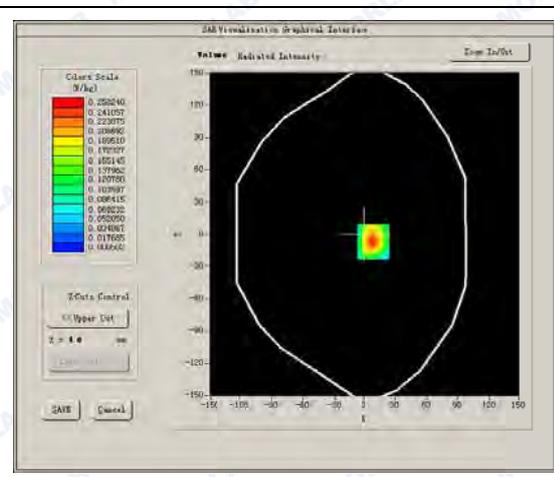
Middle Band SAR (Channel 9400):

Frequency (MHz)	1880.000000
Relative permittivity (real part)	53.466747
Conductivity (S/m)	1.505866
Power drift (%)	-2.030000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:1

SURFACE SAR



VOLUME SAR

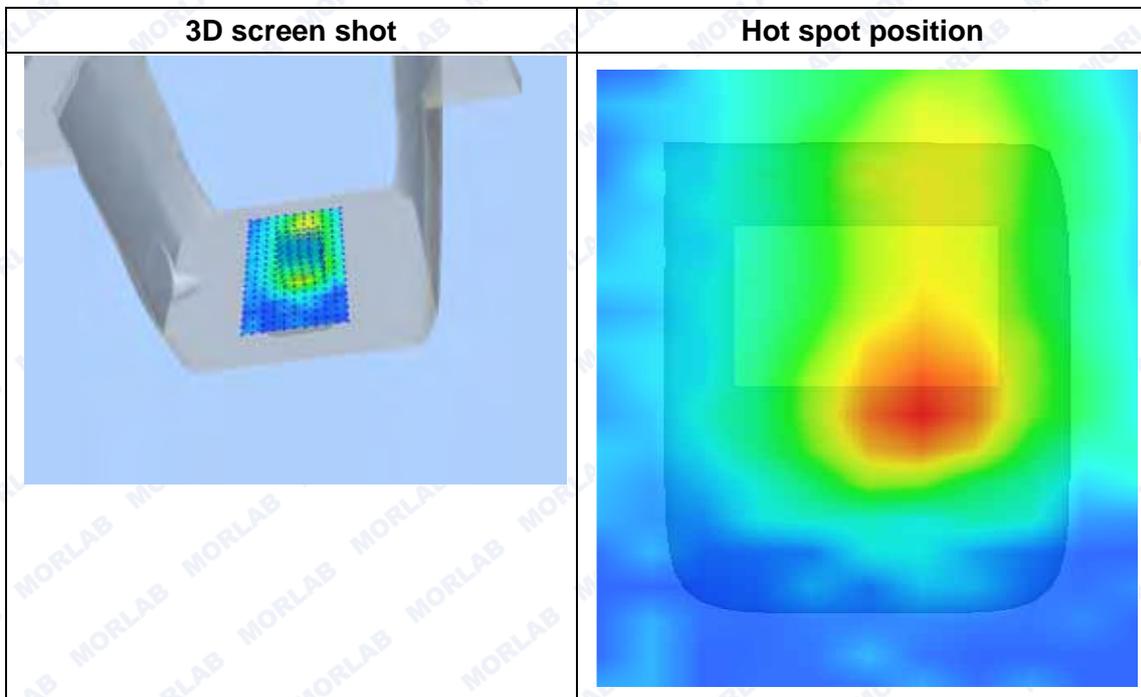
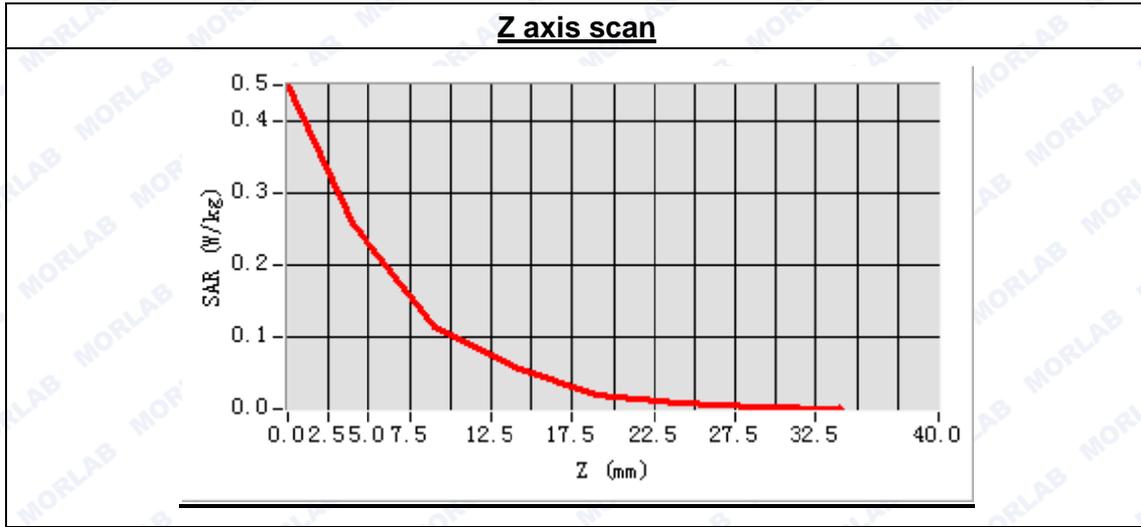




Maximum location: X=8.00, Y=-7.00

SAR Peak: 0.48 W/kg

SAR 10g (W/Kg)	0.118766
SAR 1g (W/Kg)	0.259706





MEASUREMENT 43

Type: Phone measurement (Complete)
 Area scan resolution: dx=8mm,dy=8mm
 Zoom scan resolution: dx=5mm, dy=5mm, dz=5mm
 Date of measurement: 2014.11.3
 Measurement duration: 7 minutes 47 seconds

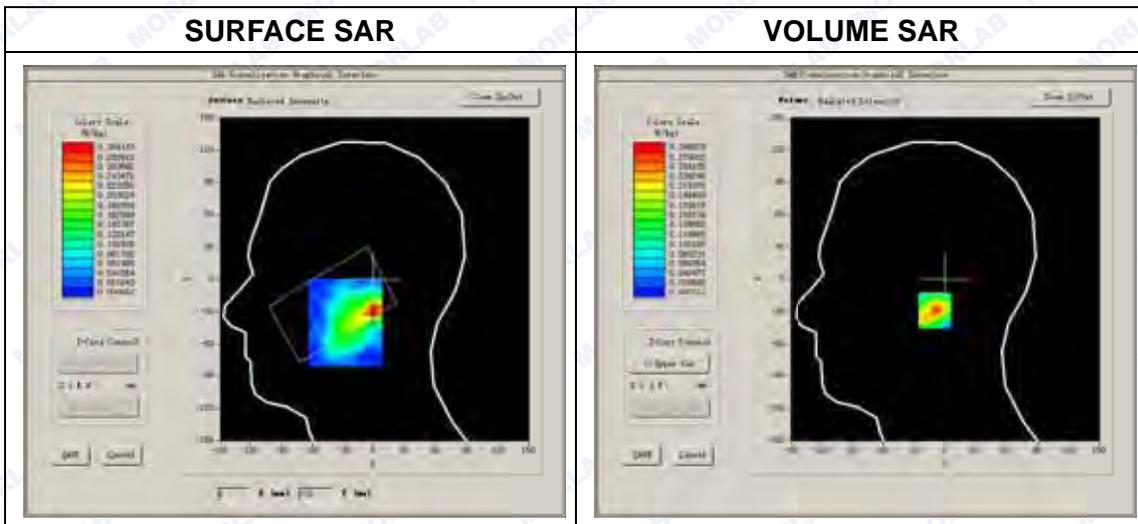
A. Experimental conditions.

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

B. SAR Measurement Results

Middle Band SAR (Channel 6):

Frequency (MHz)	2437.000000
Relative permittivity (real part)	39.288769
Conductivity (S/m)	1.790438
Power drift (%)	-3.480000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.80
Crest factor:	1:1

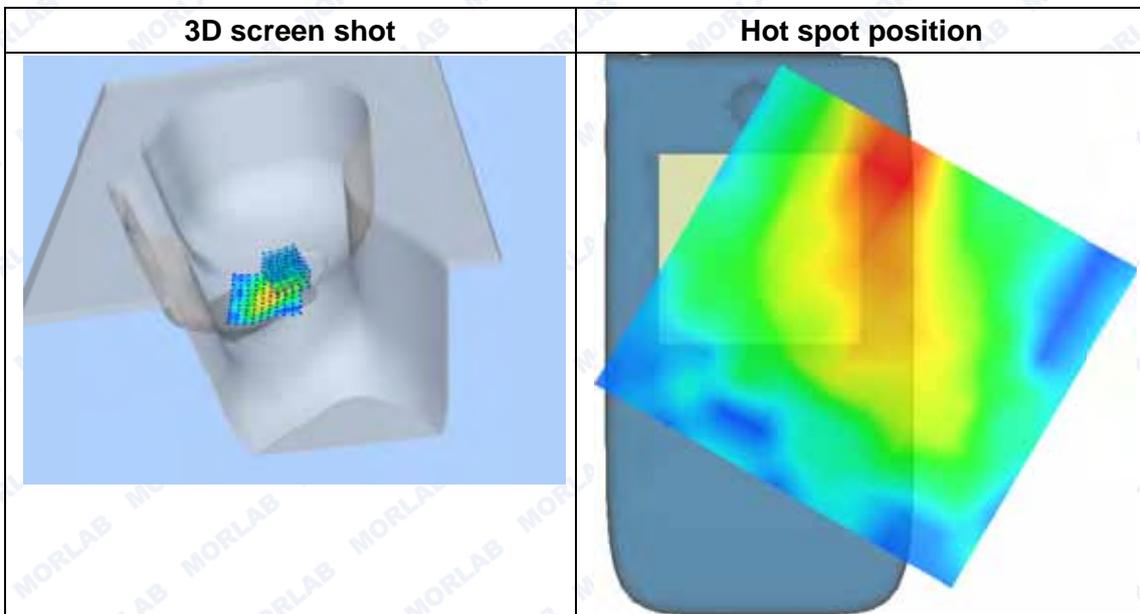
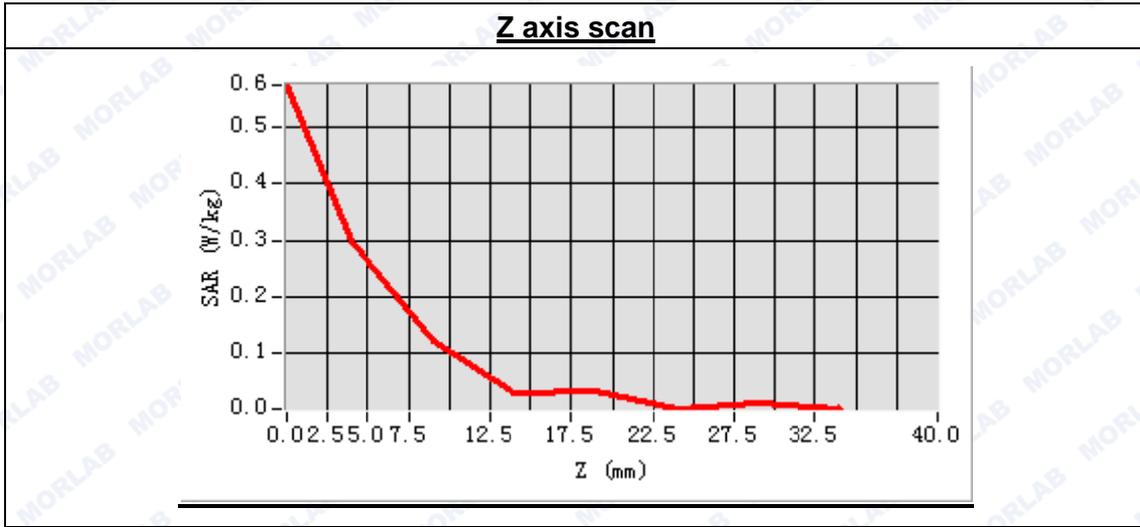




Maximum location: X=1.00, Y=-29.00

SAR Peak: 0.61 W/kg

SAR 10g (W/Kg)	0.113647
SAR 1g (W/Kg)	0.282213



MEASUREMENT 44

Type: Phone measurement (Complete)

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

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

Date of measurement: 2014.11.3

Measurement duration: 7 minutes 50 seconds

A. Experimental conditions.

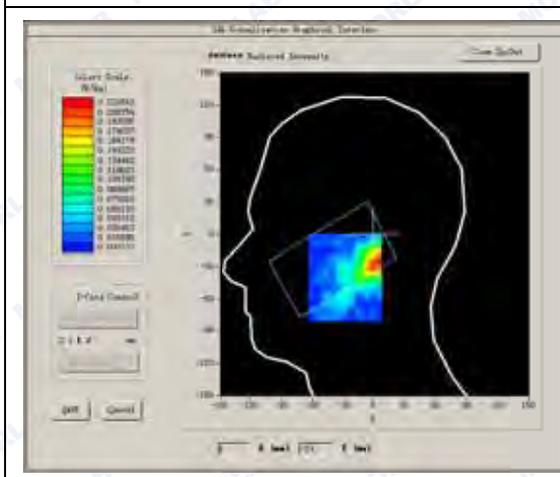
Phantom File	surf_sam_plan.txt
Phantom	Right head
Device Position	Tilt
Band	802.11b
Channels	Middle
Signal	DSSS

B. SAR Measurement Results

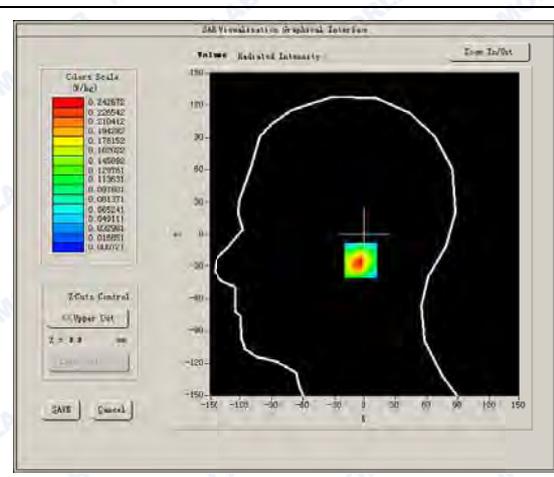
Middle Band SAR (Channel 6)

Frequency (MHz)	2437.000000
Relative permittivity (real part)	39.288769
Conductivity (S/m)	1.790438
Power drift (%)	3.640000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.80
Crest factor:	1:1

SURFACE SAR



VOLUME SAR

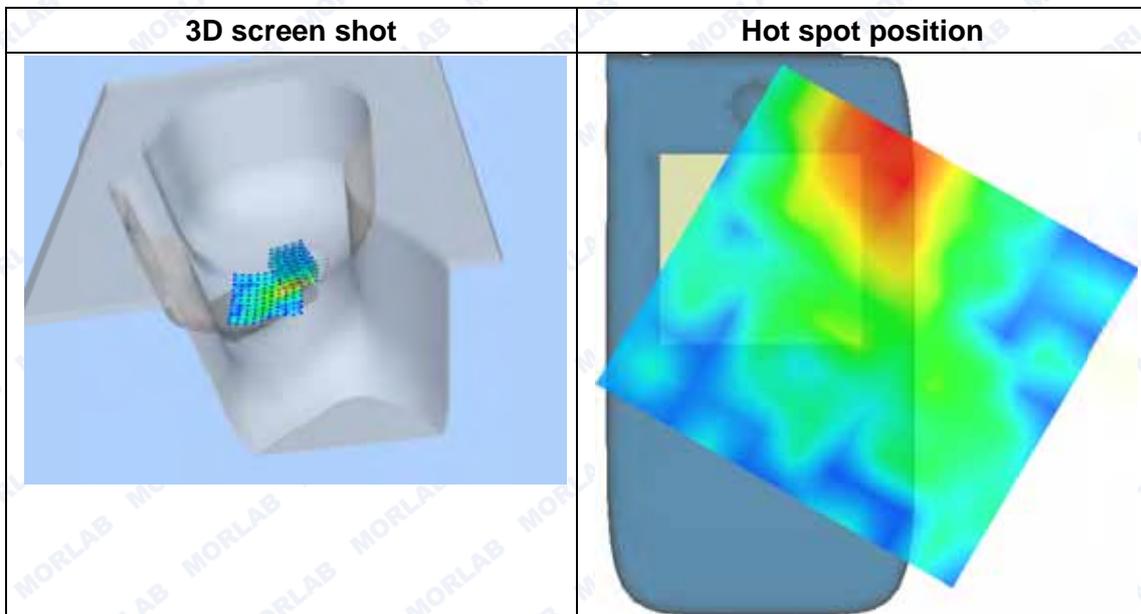
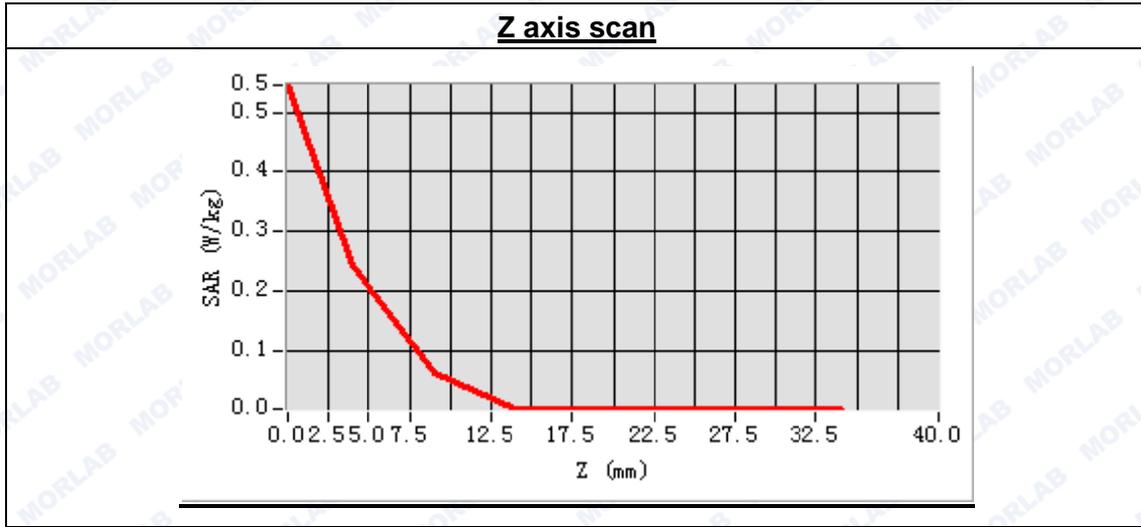




Maximum location: X=8.00, Y=-24.00

SAR Peak: 0.55 W/kg

SAR 10g (W/Kg)	0.095431
SAR 1g (W/Kg)	0.247035



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: 2014.11.3
 Measurement duration: 7 minutes 51 seconds

A. Experimental conditions.

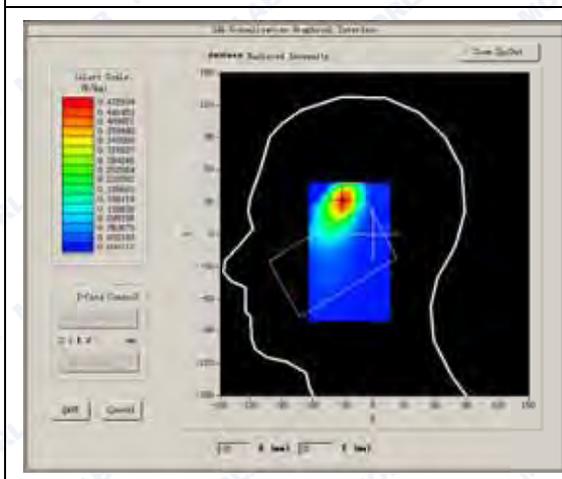
Phantom File	surf_sam_plan.txt
Phantom	Left head
Device Position	Cheek
Band	802.11b
Channels	Middle
Signal	DSSS

B. SAR Measurement Results

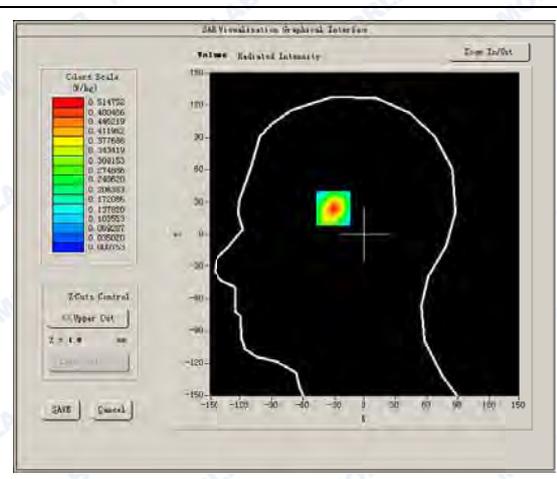
Middle Band SAR (Channel 6)

Frequency (MHz)	2437.000000
Relative permittivity (real part)	39.288769
Conductivity (S/m)	1.790438
Power drift (%)	-2.920000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.80
Crest factor:	1:1

SURFACE SAR



VOLUME SAR

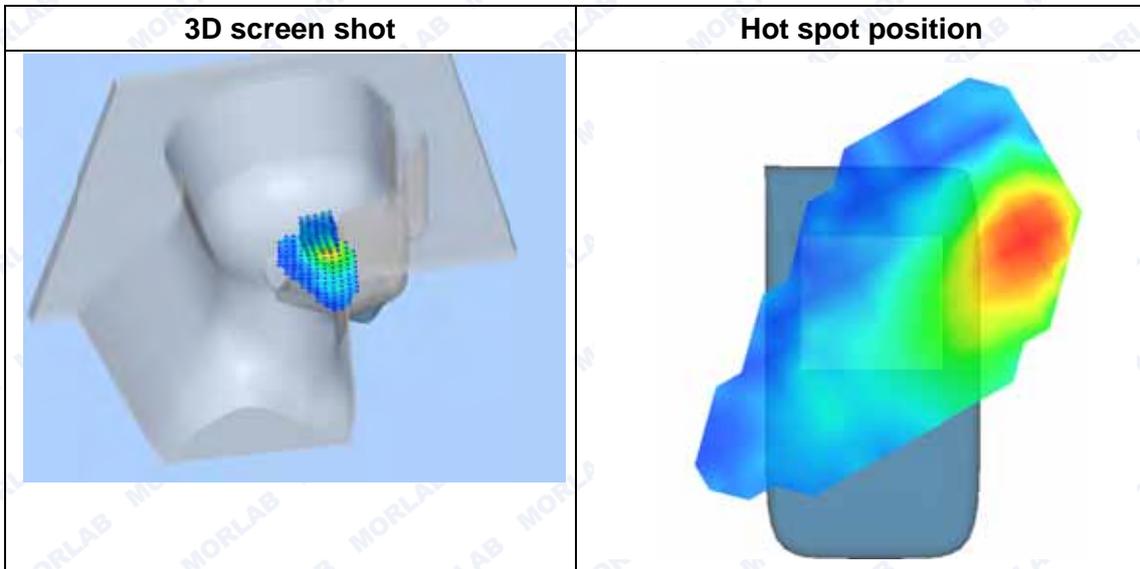
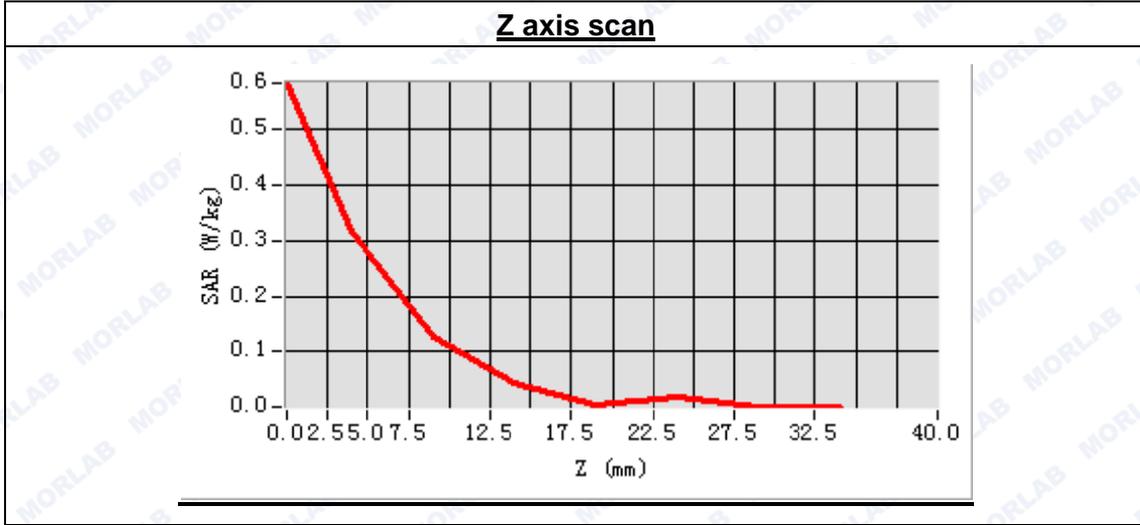




Maximum location: X=-31.00, Y=32.00

SAR Peak: 0.60 W/kg

SAR 10g (W/Kg)	0.126986
SAR 1g (W/Kg)	0.303097





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: 2014.11.3
Measurement duration: 7 minutes 51 seconds

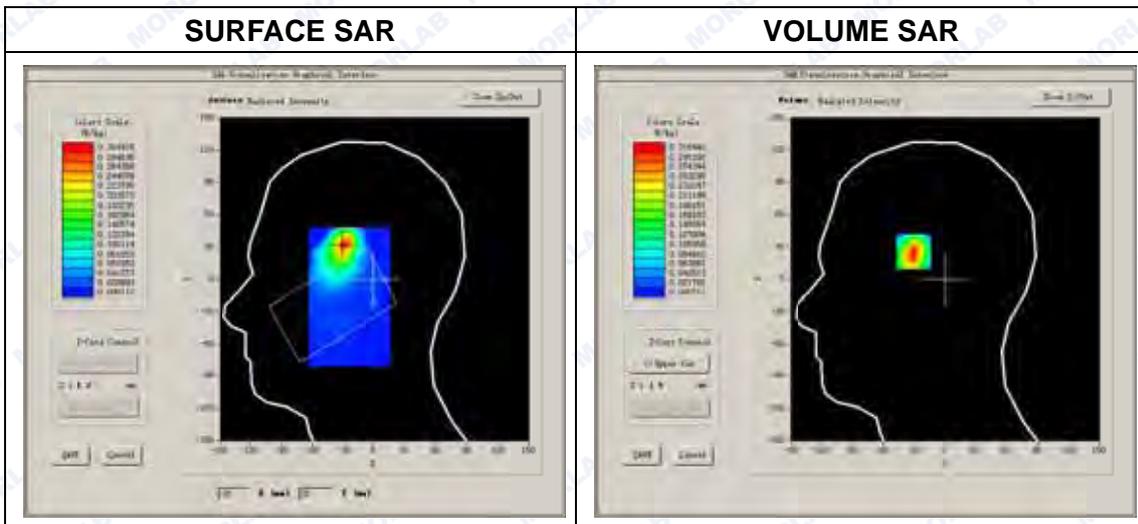
A. Experimental conditions.

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

B. SAR Measurement Results

Middle Band SAR (Channel 6)

Frequency (MHz)	2437.000000
Relative permittivity (real part)	39.288769
Conductivity (S/m)	1.790438
Power drift (%)	0.500000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.80
Crest factor:	1:1

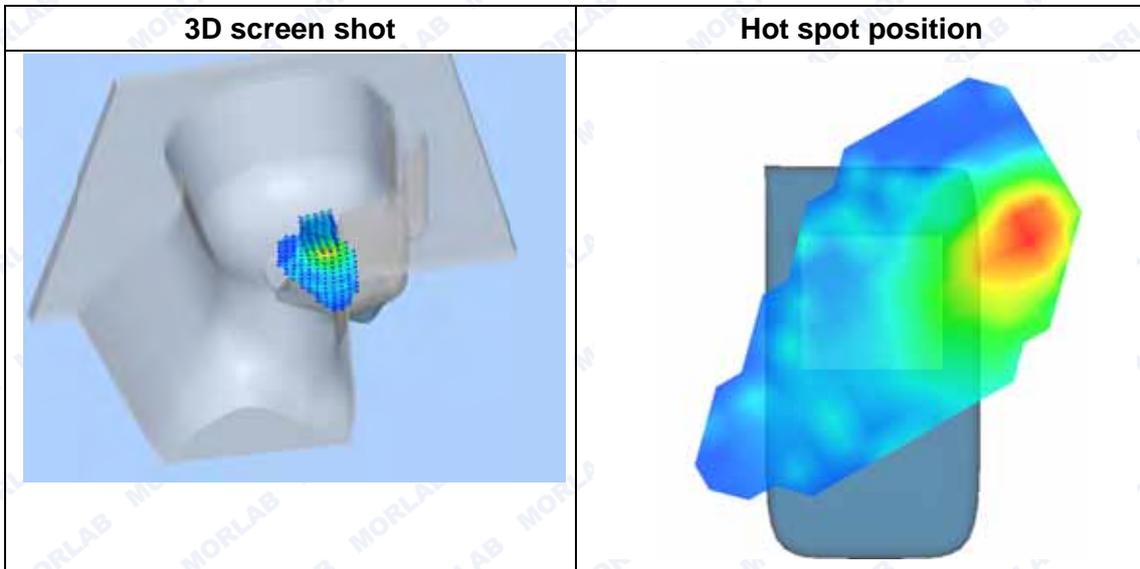
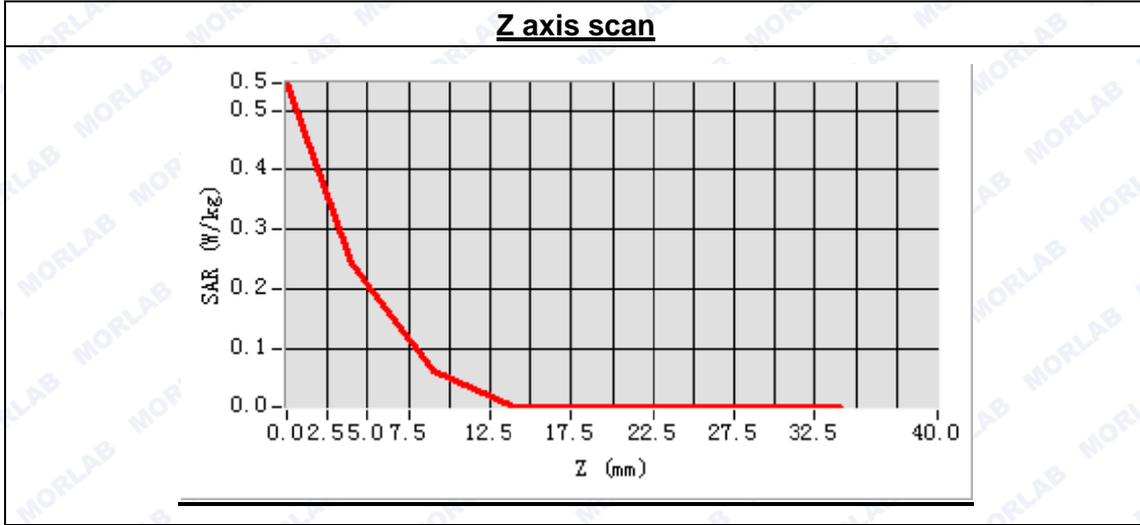




Maximum location: X=-31.00, Y=32.00

SAR Peak: 0.48 W/kg

SAR 10g (W/Kg)	0.126986
SAR 1g (W/Kg)	0.254097





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: 2014.11.3

Measurement duration: 9 minutes 37 seconds

A. Experimental conditions.

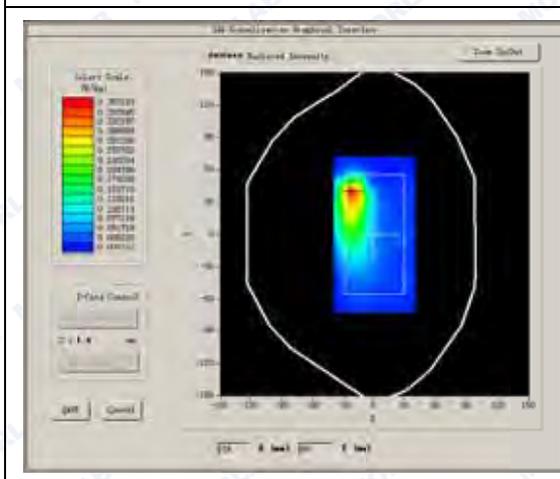
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	802.11b
Channels	Middle
Signal	DSSS

B. SAR Measurement Results

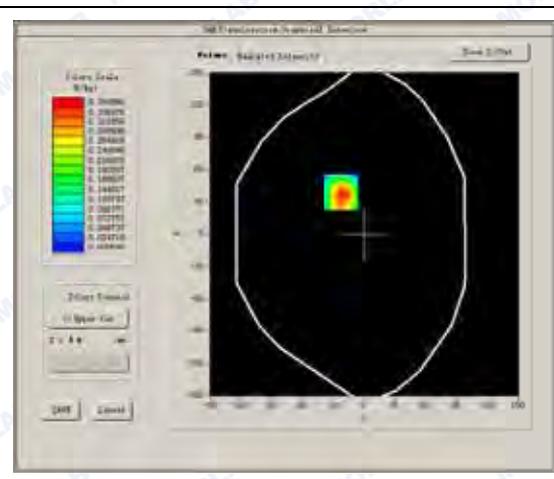
Middle Band SAR (Channel 6)

Frequency (MHz)	2437.000000
Relative permittivity (real part)	52.520628
Conductivity (S/m)	1.958675
Power drift (%)	-3.420000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.96
Crest factor:	1:1

SURFACE SAR



VOLUME SAR

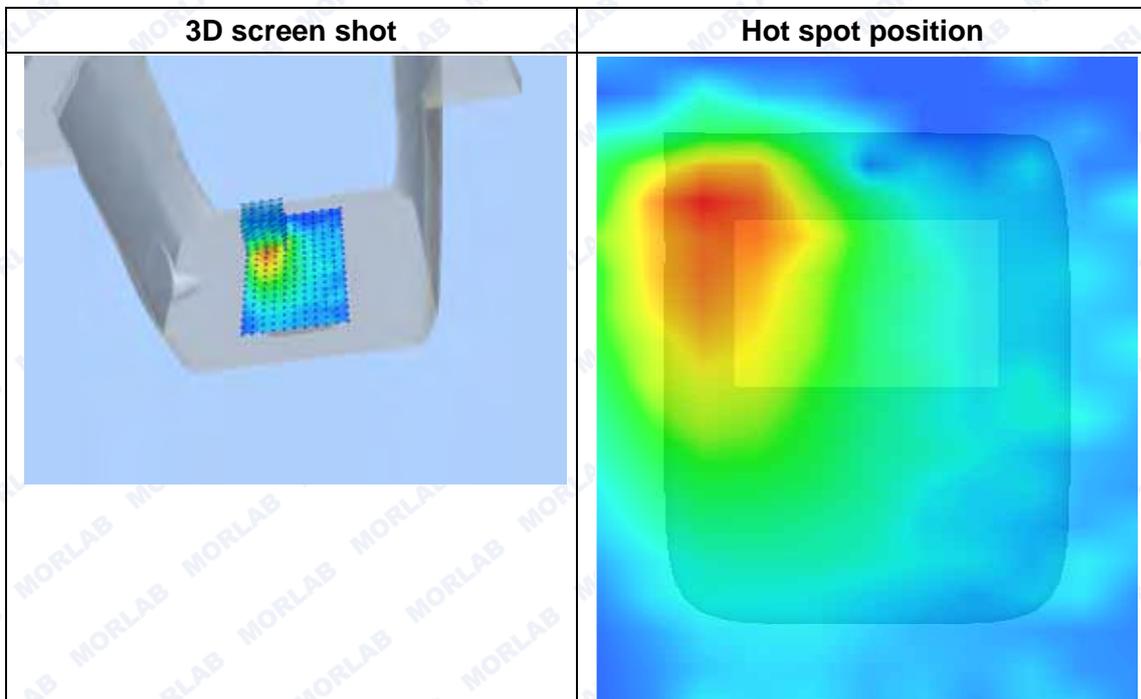
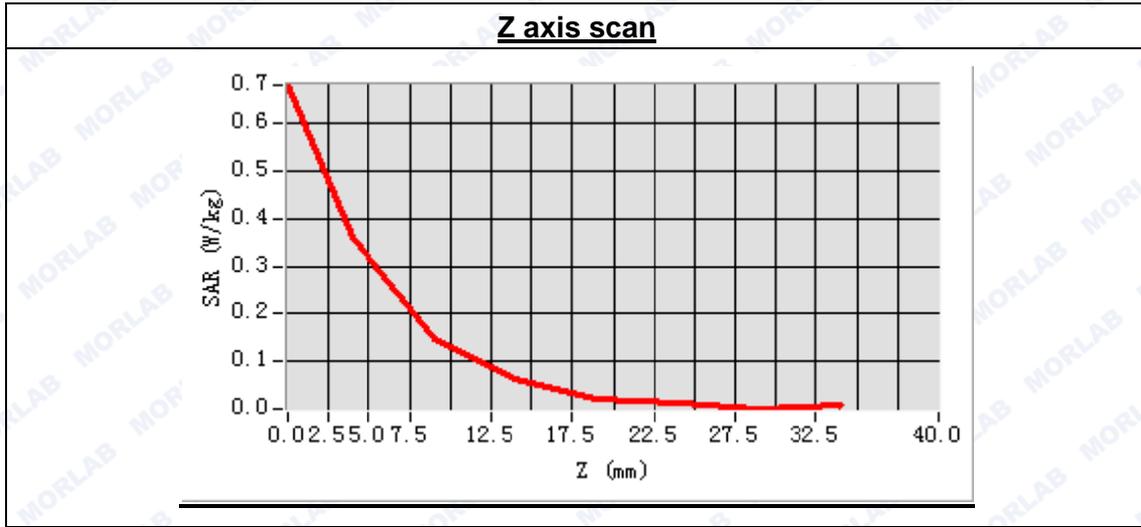




Maximum location: X=-23.00, Y=39.00

SAR Peak: 0.77 W/kg

SAR 10g (W/Kg)	0.153705
SAR 1g (W/Kg)	0.380763





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: 2014.11.3
 Measurement duration: 9 minutes 29 seconds

A. Experimental conditions.

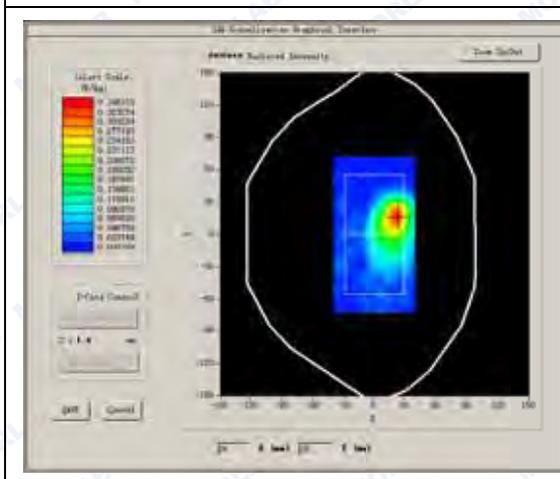
Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	Body
Band	802.11b
Channels	Middle
Signal	DSSS

B. SAR Measurement Results

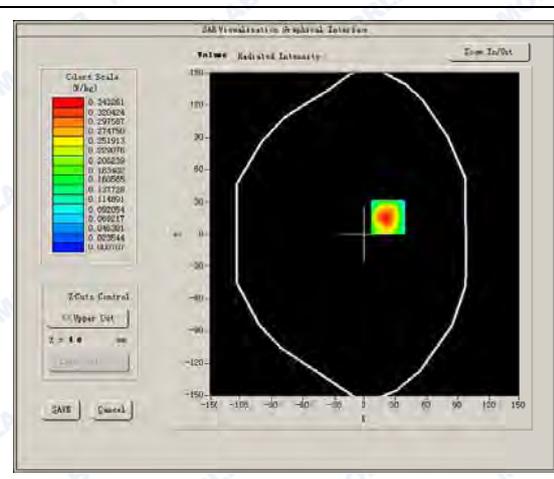
Middle Band SAR (Channel 6)

Frequency (MHz)	2437.000000
Relative permittivity (real part)	52.520628
Conductivity (S/m)	1.958675
Power drift (%)	-2.360000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.96
Crest factor:	1:1

SURFACE SAR



VOLUME SAR

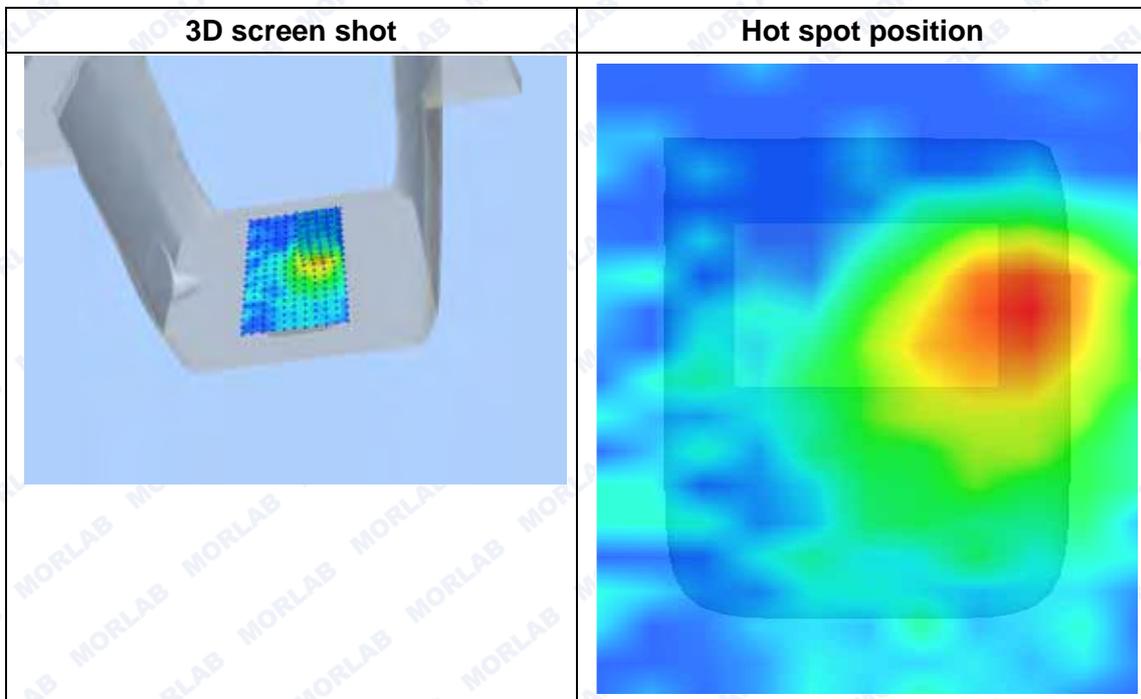
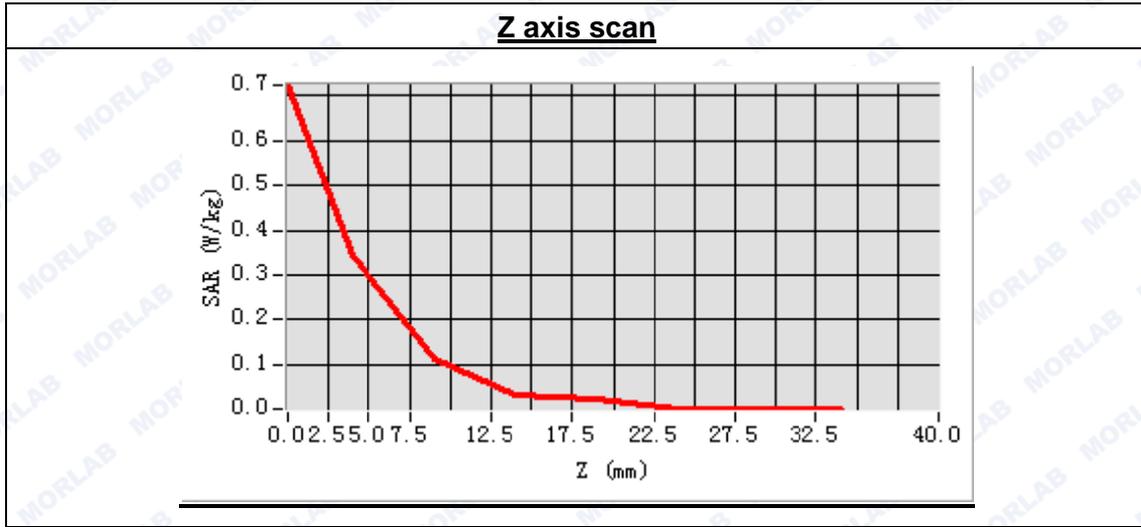




Maximum location: X=23.00, Y=16.00

SAR Peak: 0.77 W/kg

SAR 10g (W/Kg)	0.157166
SAR 1g (W/Kg)	0.373060



**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: 2014.11.3

Measurement duration: 9 minutes 31 seconds

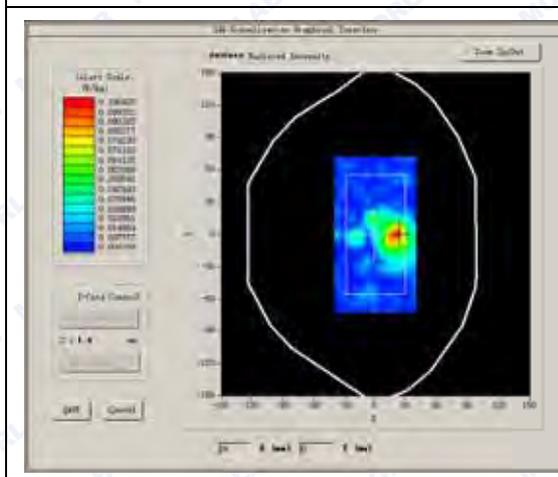
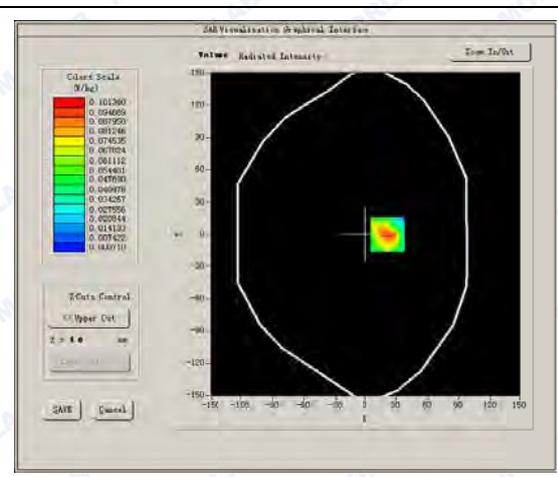
A. Experimental conditions.

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

B. SAR Measurement Results

Middle Band SAR (Channel 6)

Frequency (MHz)	2437.000000
Relative permittivity (real part)	52.520628
Conductivity (S/m)	1.958675
Power drift (%)	-2.740000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.96
Crest factor:	1:1

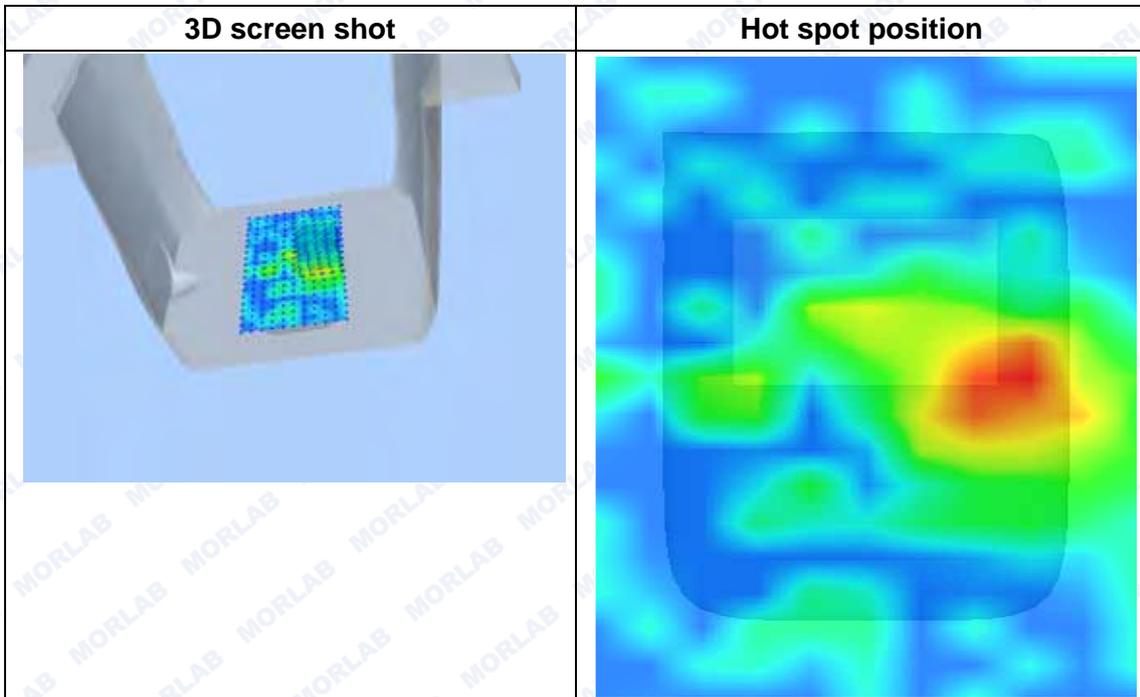
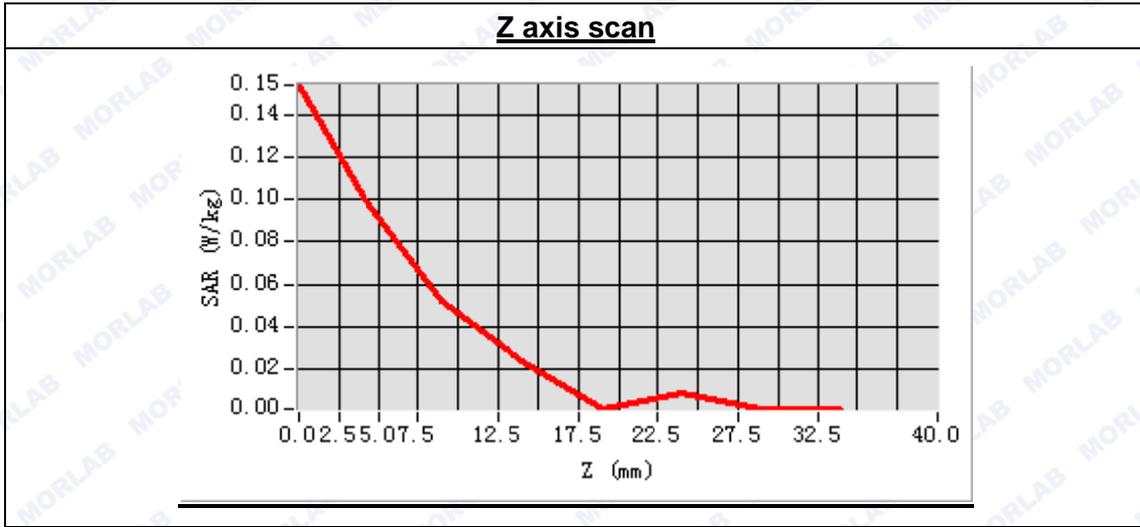
SURFACE SAR**VOLUME SAR**



Maximum location: X=22.00, Y=0.00

SAR Peak: 0.24 W/kg

SAR 10g (W/Kg)	0.041240
SAR 1g (W/Kg)	0.105599



**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: 2014.11.3

Measurement duration: 9 minutes 31 seconds

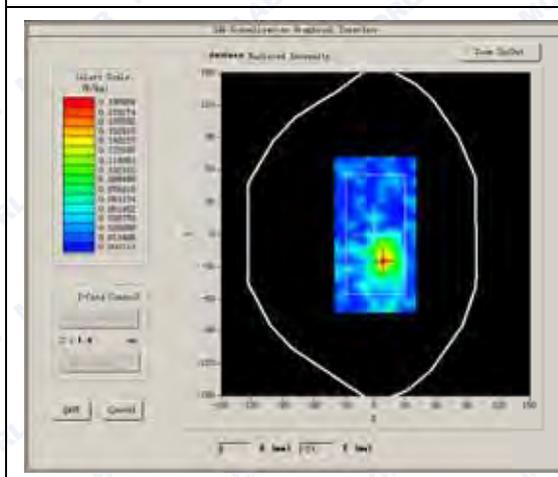
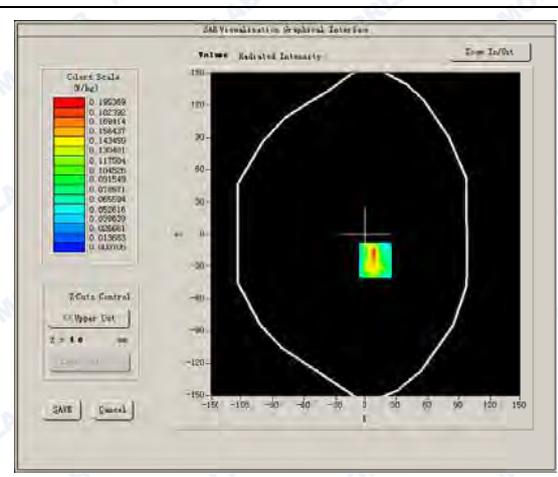
A. Experimental conditions.

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

B. SAR Measurement Results

Middle Band SAR (Channel 6)

Frequency (MHz)	2437.000000
Relative permittivity (real part)	52.520628
Conductivity (S/m)	1.958675
Power drift (%)	3.340000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.96
Crest factor:	1:1

SURFACE SAR**VOLUME SAR**

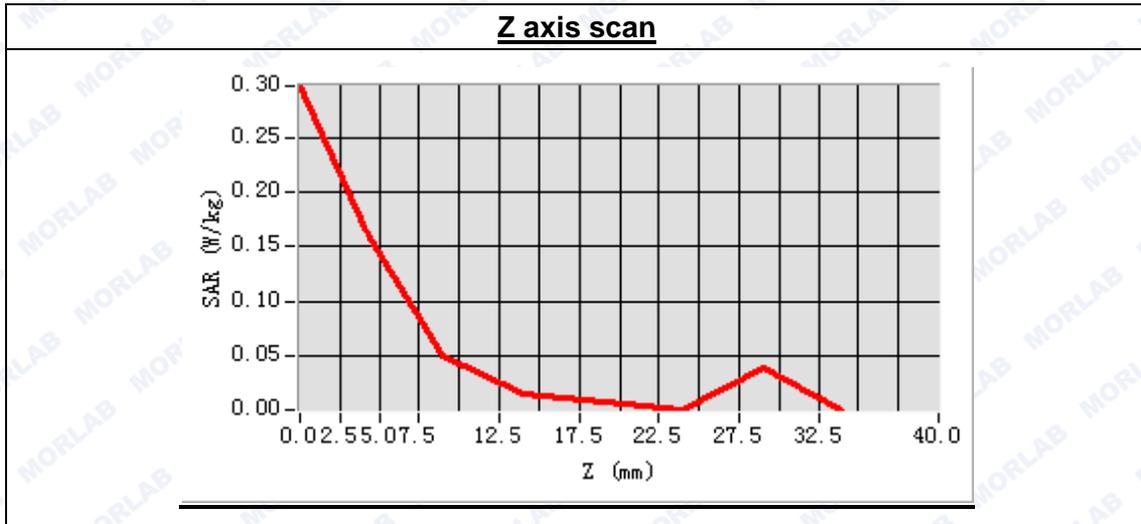


Maximum location: X=9.00, Y=-24.00

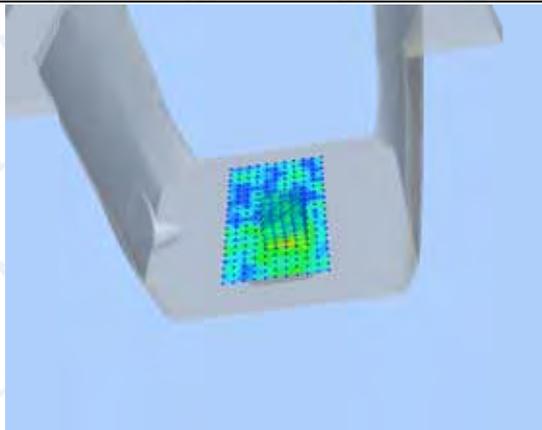
SAR Peak: 0.43 W/kg

SAR 10g (W/Kg)	0.061884
SAR 1g (W/Kg)	0.112130

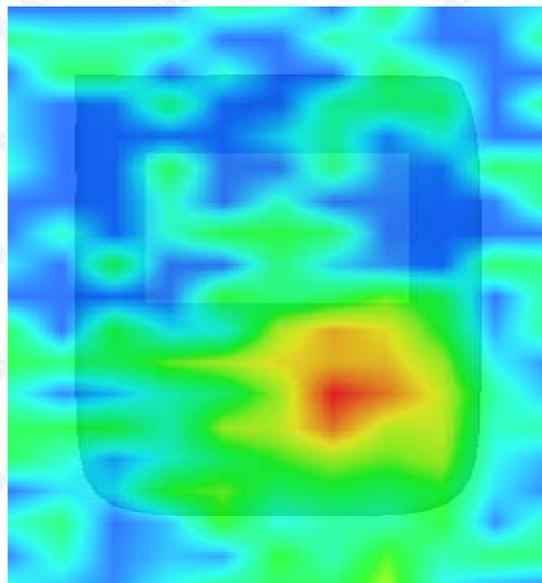
Z axis scan



3D screen 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: 2014.11.2

Measurement duration: 13 minutes 27 seconds

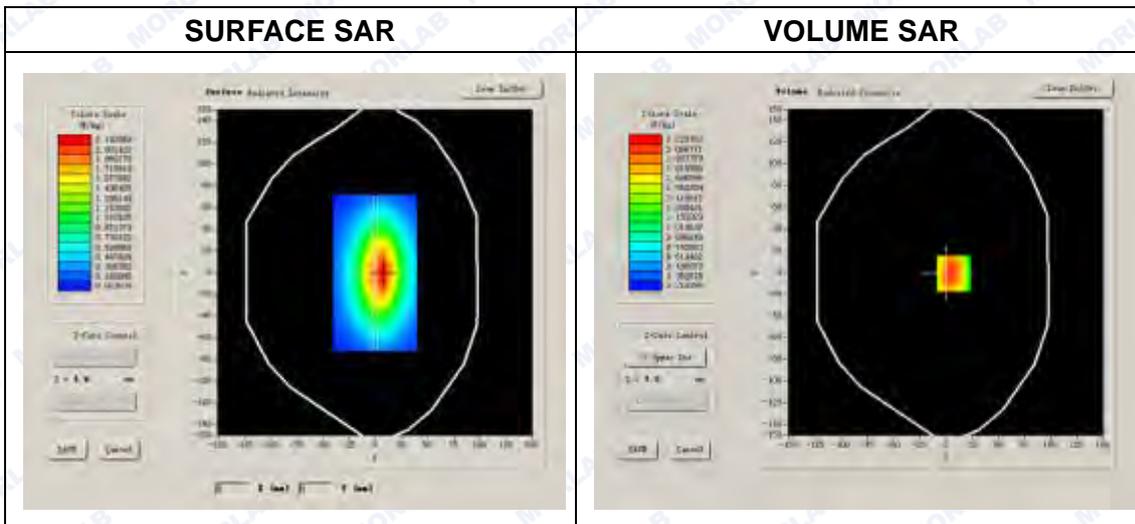
A. Experimental conditions.

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)	41.284372
Conductivity (S/m)	0.885967
Power drift (%)	1.030000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.73
Crest factor:	1:1



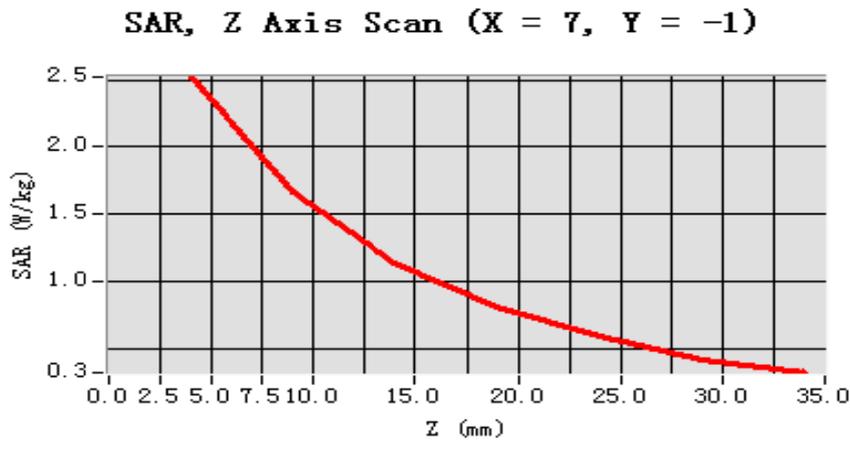


Maximum location: X=7.00, Y=-1.00

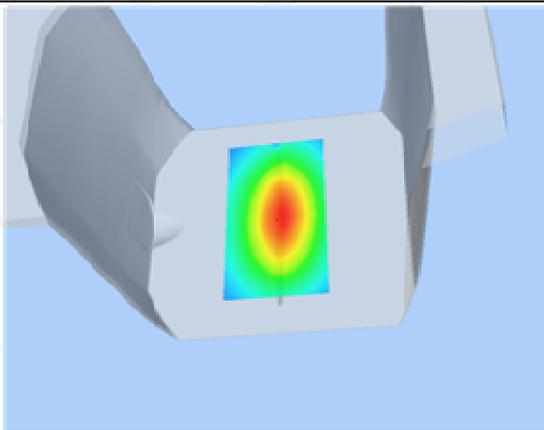
SAR 10g (W/Kg)	1.302731
SAR 1g (W/Kg)	2.421306

Z Axis Scan

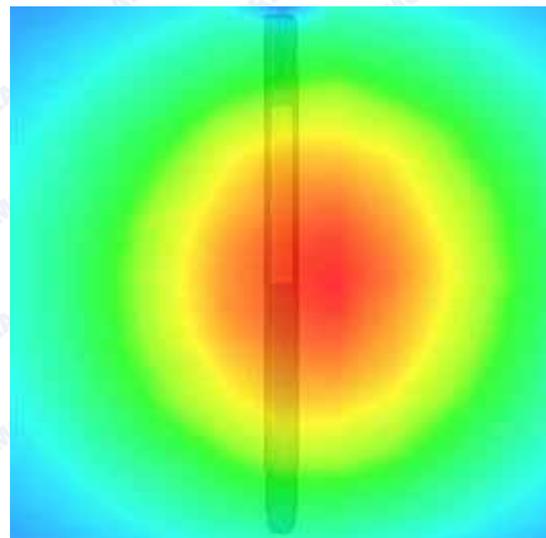
Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	2.5209	1.6629	1.1437	0.8075	0.5889	0.4143



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: 2014.11.2

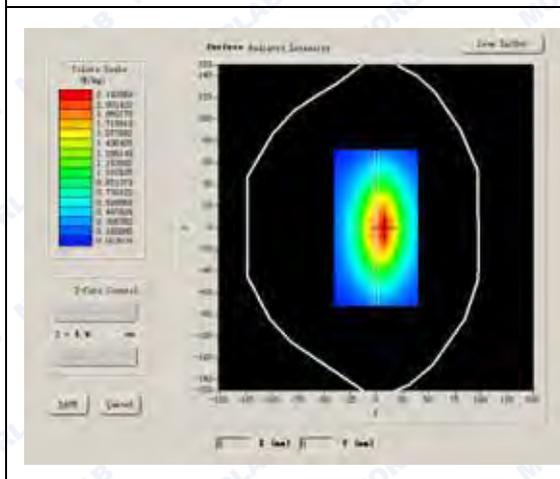
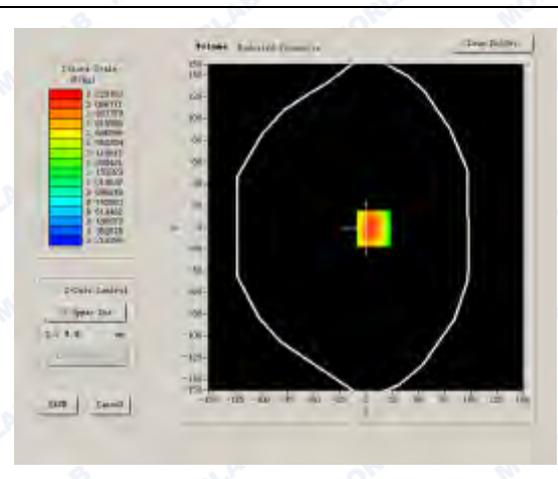
Measurement duration: 13 minutes 30 seconds

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)	56.210453
Conductivity (S/m)	0.932437
Power drift (%)	-0.590000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.99
Crest factor:	1:1

SURFACE SAR**VOLUME SAR**

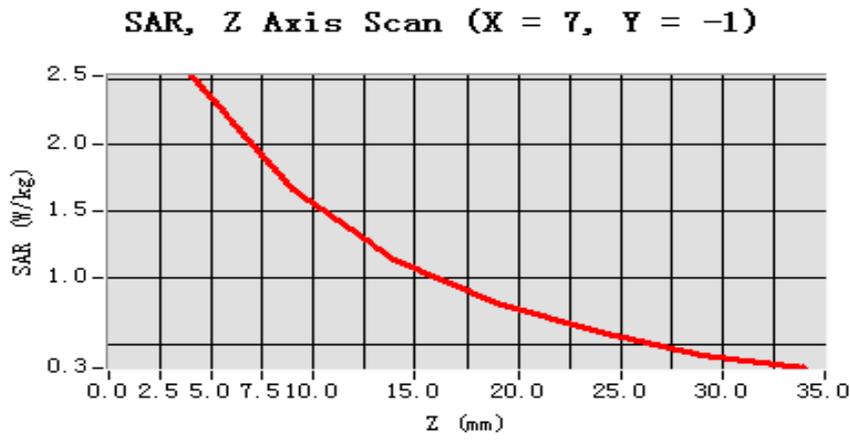


Maximum location: X=7.00, Y=-1.00

SAR 10g (W/Kg)	1.307264
SAR 1g (W/Kg)	2.488308

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



<p>3D scene shot</p>	<p>Hot spot position</p>
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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: 2014.11.3

Measurement duration: 13 minutes 27 seconds

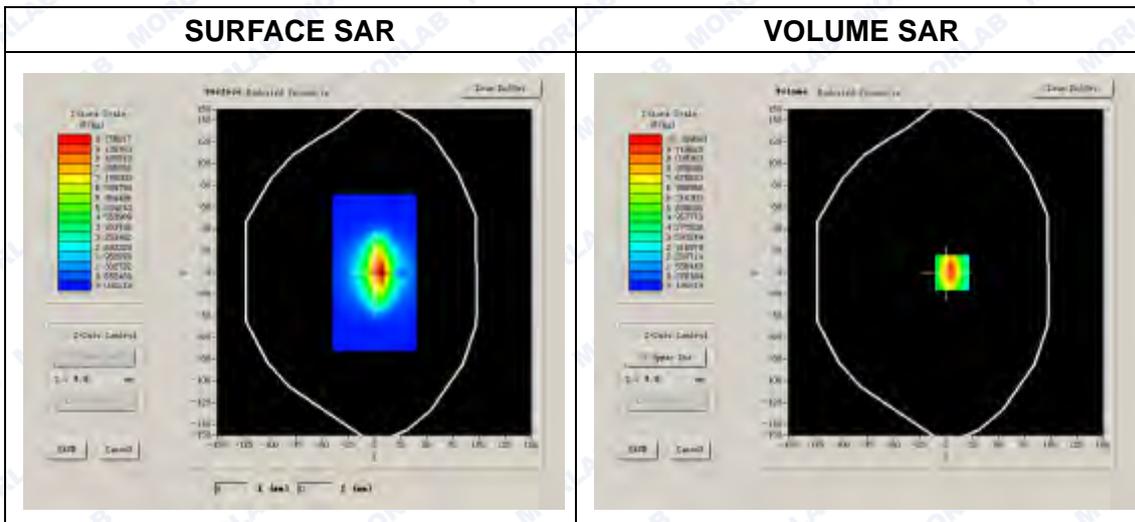
A. Experimental conditions.

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)	39.975586
Conductivity (S/m)	1.404357
Power drift (%)	0.280000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.00
Crest factor:	1:1



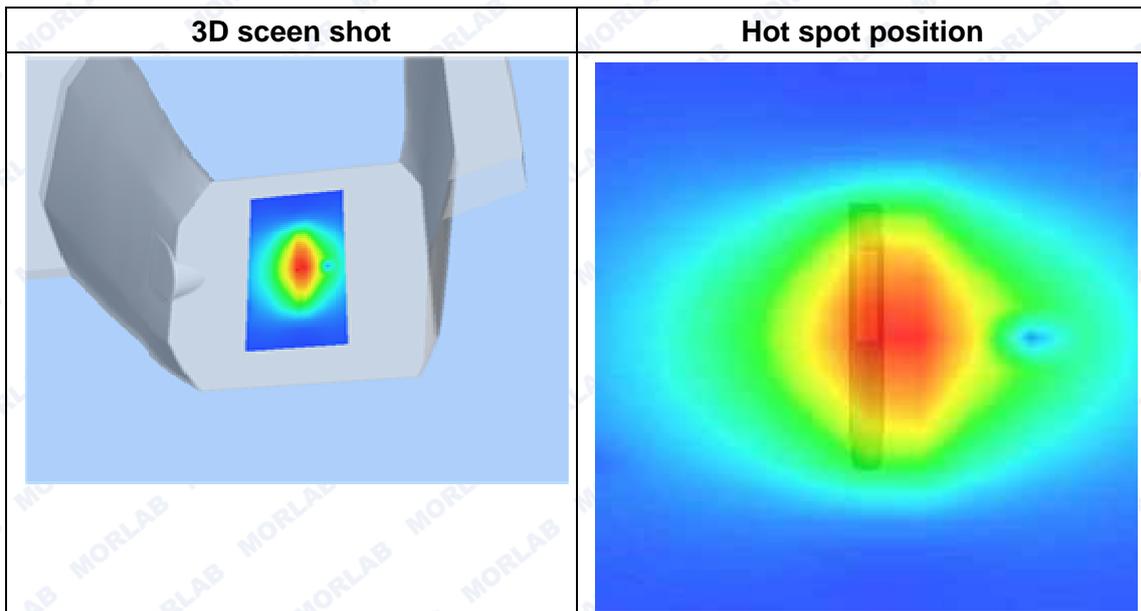
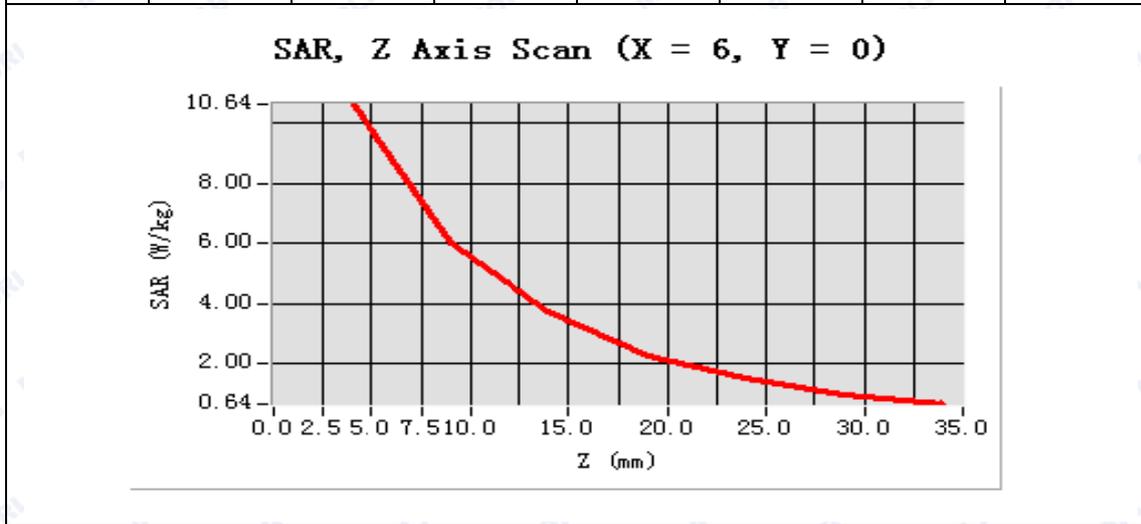


Maximum location: X=6.00, Y=0.00

SAR 10g (W/Kg)	6.402084
SAR 1g (W/Kg)	9.781427

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: 2014.11.3

Measurement duration: 13 minutes 26 seconds

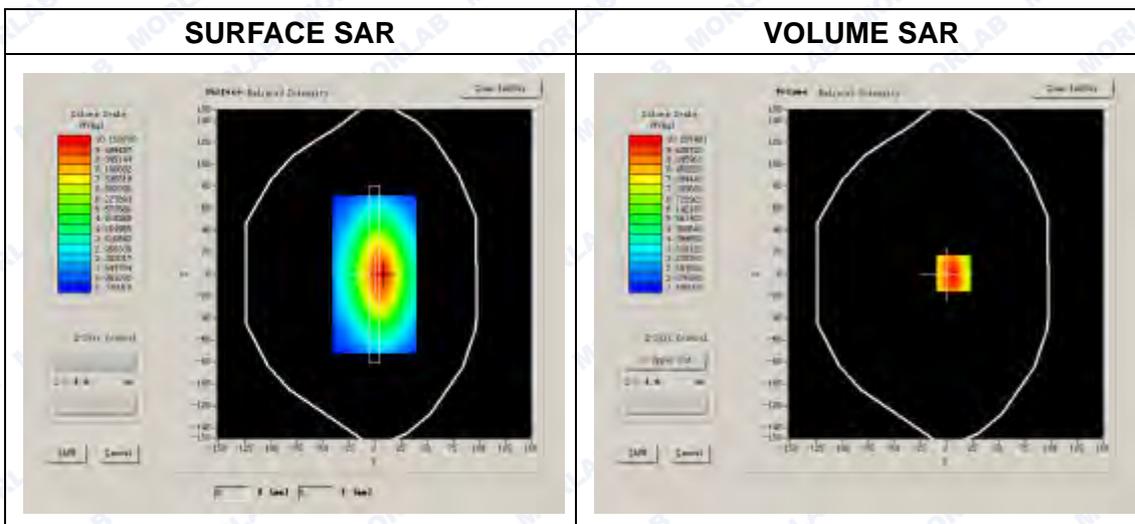
A. Experimental conditions.

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)	53.466747
Conductivity (S/m)	1.505866
Power drift (%)	-0.740000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	6.17
Crest factor:	1:1





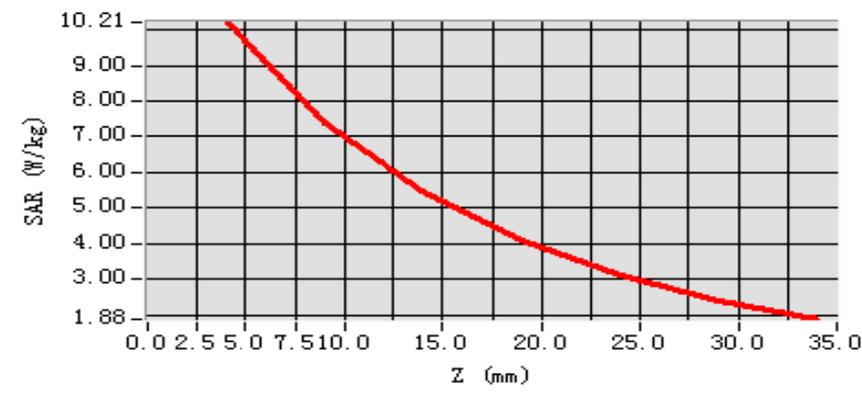
Maximum location: X=7.00, Y=1.00

SAR 10g (W/Kg)	6.754824
SAR 1g (W/Kg)	9.993407

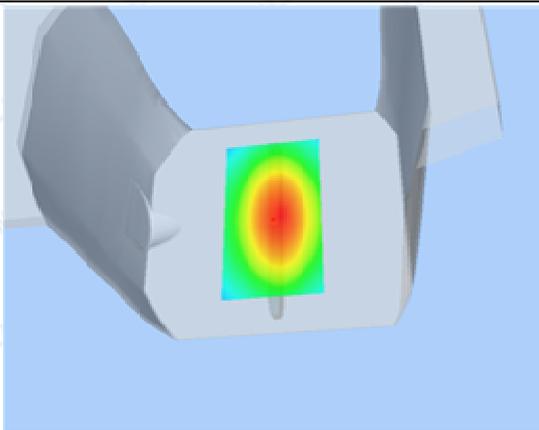
Z Axis Scan

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

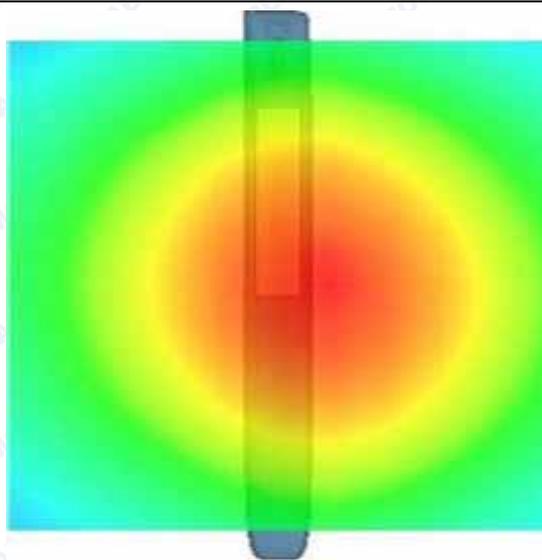
SAR, Z Axis Scan (X = 7, Y = 1)



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=5mm, dy=5mm, dz=5mm

Date of measurement: 2014.11.3

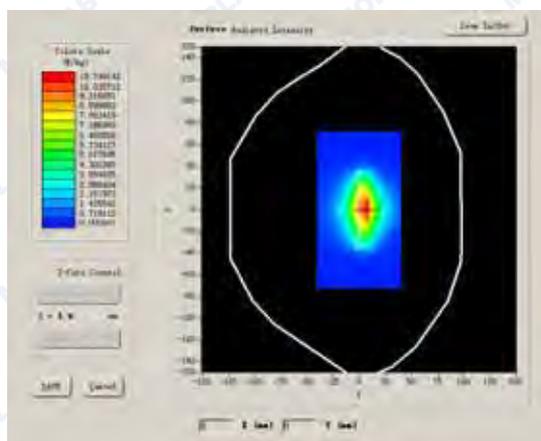
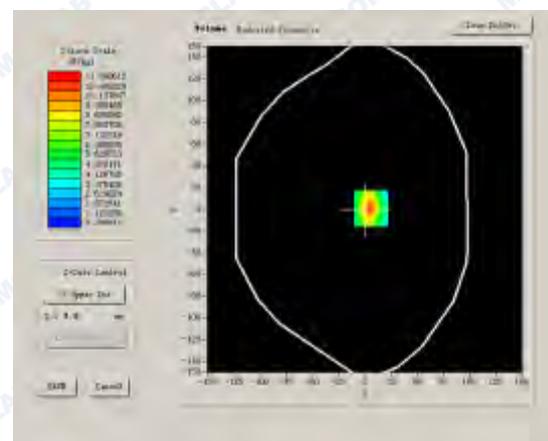
Measurement duration: 13 minutes 27 seconds

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)	39.288769
Conductivity (S/m)	1.790438
Power Drift (%)	0.480000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.80
Crest factor:	1:1

SURFACE SAR**VOLUME SAR**

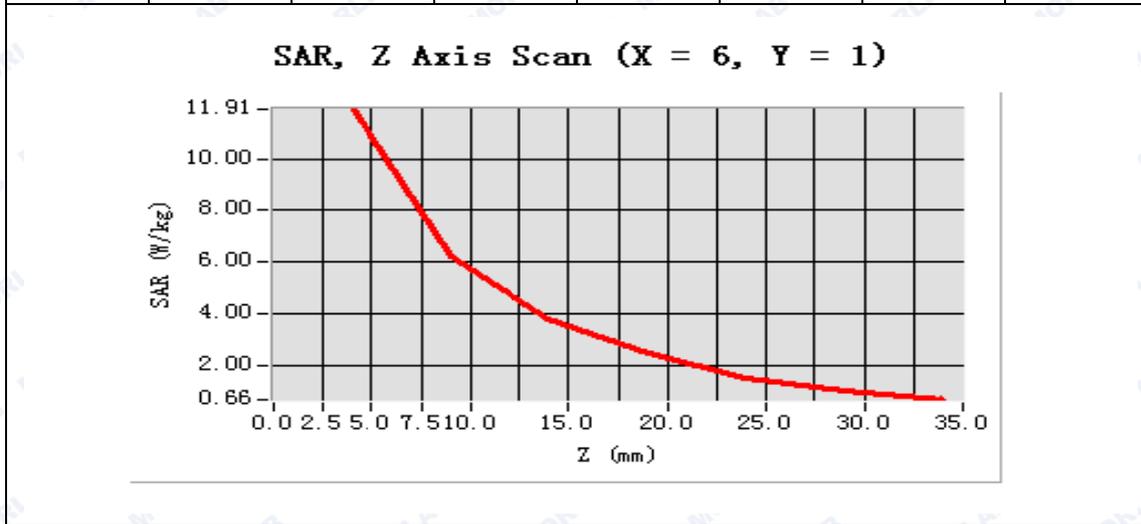


Maximum location: X=6.00, Y=1.00

SAR 10g (W/Kg)	7.708237
SAR 1g (W/Kg)	12.941758

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



<p>3D scene shot</p>	<p>Hot spot position</p>
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**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: 2014.11.3

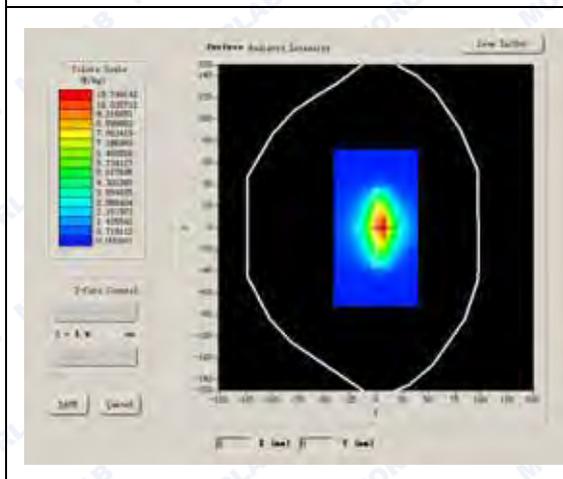
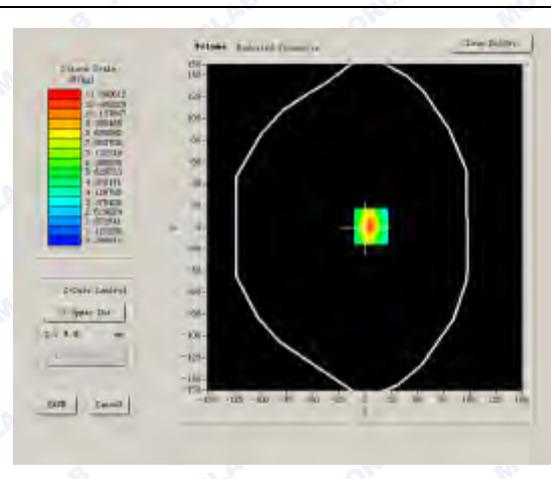
Measurement duration: 13 minutes 27 seconds

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)	52.520628
Conductivity (S/m)	1.958675
Power Drift (%)	0.630000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	4.96
Crest factor:	1:1

SURFACE SAR**VOLUME SAR**



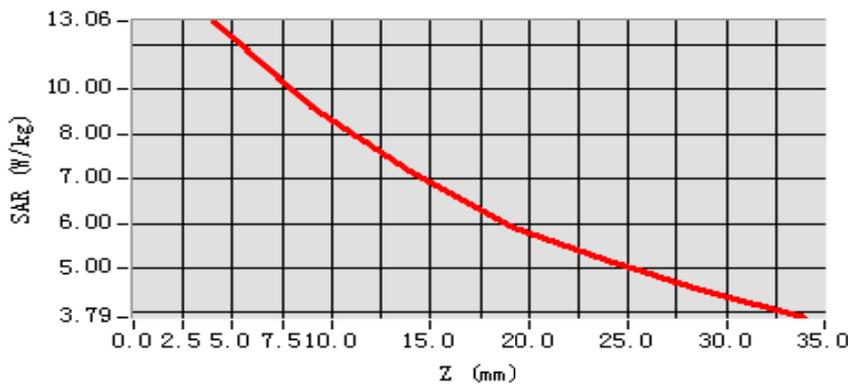
Maximum location: X=-1.00, Y=-50.00

SAR 10g (W/Kg)	7.285412
SAR 1g (W/Kg)	13.286857

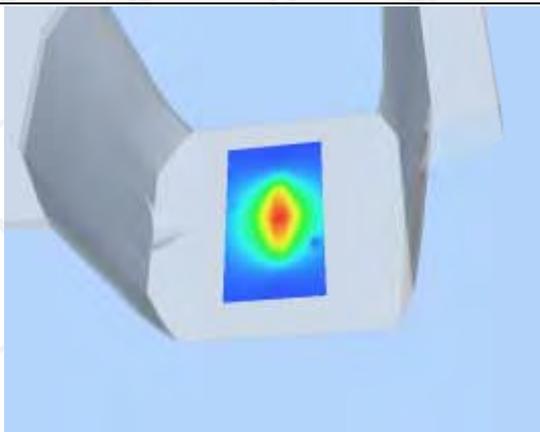
Z Axis Scan

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

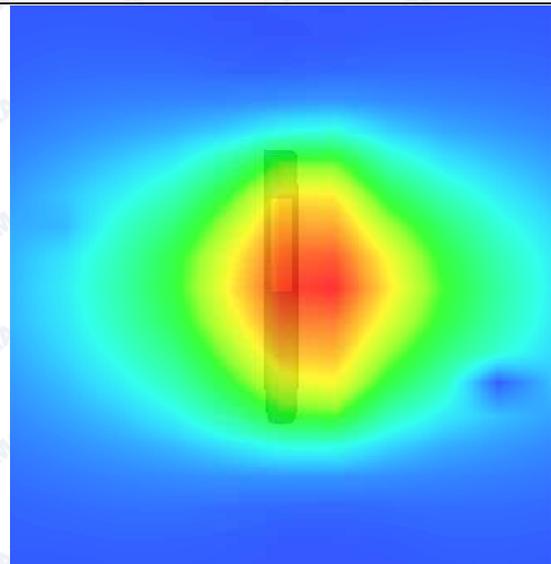
SAR, Z Axis Scan (X = -1, Y = -50)



3D scene shot



Hot spot position





ANNEX B GENERAL INFORMATION

1. Identification of the Responsible Testing Laboratory

Company Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Department:	Morlab Laboratory
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Responsible Test Lab Manager:	Mr. Su Feng
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. 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

3. Accreditation Certificate

Accredited Testing Laboratory: CNAS No. L3572
(Shenzhen Morlab Communications Technology Co., Ltd.)

**4. 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)	2014-9-24	1year
4	Voltmeter	Keithley (2000, SN:1000572)	2014-9-24	1year
5	Signal Generator	Rohde&Schwarz (SMP_02)	2014-9-24	1year
6	Power Amplifier	PRANA (Ap32 SV125AZ)	2014-9-24	1year
7	Power Meter	Agilent (E4416A, SN:MY45102093)	2014-5-07	1year
8	Power Sensor	Agilent (N8482A, SN:MY41091706)	2014-5-07	1year
9	Directional coupler	Giga-tronics(SN:1829112)	2014-9-24	1year
10	Probe	Satimo (SN:SN 37/08 EP80)	2014-9-22	1year
11	Dielectric Probe Kit	Agilent (85033E)	2014-9-24	1year
12	Phantom	Satimo (SN:SN_36_08_SAM62)	2014-9-24	1year
13	Liquid	Satimo(Last Calibration: 2014-11-2 to 2014-11-3)	N/A	N/A
14	Dipole 835MHz	Satimo (SN 20/08 DIPC 99)	2014-9-22	1year
15	Dipole 1900MHz	Satimo (SN 30/13 DIP1G900-261)	2014-9-22	1year
16	Dipole 2450MHz	Satimo (SN 30/13 DIP2G450-263)	2014-9-22	1year

***** END OF REPORT *****