




REPORT No. : SZ17080018S01

# FCC SAR TEST REPORT

**APPLICANT** : Silex Technology, Inc.

**PRODUCT NAME** : SDIO Wireless Module

**MODEL NAME** : SX-SDMAN

**BRAND NAME** : 

**FCC ID** : N6C-SDMAN

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

**ISSUE DATE** : 2017-08-25

**SHENZHEN MORLAB COMMUNICATIONS TECHNOLOGY Co., Ltd.**

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## DIRECTORY

<b>TEST REPORT DECLARATION</b>	<b>4</b>
<b>1. SUMMARY OF MAXIMUM SAR VALUE</b>	<b>5</b>
<b>2. TECHNICAL INFORMATION</b>	<b>6</b>
2.1 IDENTIFICATION OF APPLICANT	6
2.2 IDENTIFICATION OF MANUFACTURER	6
2.3 EQUIPMENT UNDER TEST (EUT)	6
2.3.1 PHOTOGRAPHS OF THE EUT	6
2.4 APPLIED REFERENCE DOCUMENTS	6
<b>3. SPECIFIC ABSORPTION RATE (SAR)</b>	<b>8</b>
3.1 INTRODUCTION	8
3.2 SAR DEFINITION	8
<b>4. SAR MEASUREMENT SETUP</b>	<b>9</b>
4.1 THE MEASUREMENT SYSTEM	9
4.2 PROBE	9
4.3 PROBE CALIBRATION PROCESS	11
4.3.1 DOSIMETRIC ASSESSMENT PROCEDURE	11
4.3.2 FREE SPACE ASSESSMENT PROCEDURE	11
4.3.3 TEMPERATURE ASSESSMENT PROCEDURE	11
4.4 PHANTOM	12
4.5 DEVICE HOLDER	12
<b>5. TISSUE SIMULATING LIQUIDS</b>	<b>13</b>
<b>6. UNCERTAINTY ASSESSMENT</b>	<b>15</b>
6.1 UNCERTAINTY EVALUATION FOR EUT SAR TEST	15
6.2 UNCERTAINTY FOR SYSTEM PERFORMANCE CHECK	16



<b>7. SAR MEASUREMENT EVALUATION</b>	<b>18</b>
7.1 SYSTEM SETUP	18
7.2 VALIDATION RESULTS	19
<b>8. OPERATIONAL CONDITIONS DURING TEST</b>	<b>20</b>
8.1 BODY-WORN CONFIGURATIONS	20
8.3 MEASUREMENT PROCEDURE	20
8.4 DESCRIPTION OF INTERPOLATION/EXTRAPOLATION SCHEME	21
<b>9. HOTSPOT MODE EVALUATION PROCEDURE</b>	<b>22</b>
<b>10. MEASUREMENT OF CONDUCTED OUTPUT POWER</b>	<b>25</b>
<b>11. TEST RESULTS LIST</b>	<b>30</b>
<b>12. REPEATED SAR MEASUREMENT</b>	<b>36</b>
<b>13. BLUETOOTH EXCLUSIONS APPLIED</b>	<b>37</b>

Change History		
Issue	Date	Reason for change
1.0	2017-08-25	First edition

**TEST REPORT DECLARATION**

Applicant		Silex Technology, Inc.	
Applicant Address		2-3-1 Hikaridai, Seika-cho Sourakugun, Kyoto 619-0237, Japan	
Manufacturer		Silex Technology, Inc.	
Manufacturer Address		2-3-1 Hikaridai, Seika-cho Sourakugun, Kyoto 619-0237, Japan	
Product Name		SDIO Wireless Module	
Model Name		SX-SDMAN	
Brand Name			
HOST device	Applicant	Honeywell International Inc Honeywell Sensing & Productivity Solutions	
	Applicant Address	9680 Old Bailes Rd. Fort Mill, SC 29707 United States	
	Product Name	Thermal Printer	
	Model Name	RP2D,RP4D	
Test Standards		47CFR 2.1093; IEEE 1528-2013	
Test Date		2017-08-09 to 2017-08-10	
The Highest Reported 1g-SAR(W/kg)		RP2D Body-worn	0.230 W/kg
		RP4D Body-worn	0.131 W/kg
		Limit(W/kg): 1.6W/kg	

Tested by

:



Peng Fuwei (Test engineer)

Approved by

:



Peng Huarui (Supervisor)



## 1. SUMMARY OF MAXIMUM SAR VALUE

Model	Ant Port	Mode/Band	Test Position	Measurement SAR-1g(W/kg)	Scaled SAR-1g(W/Kg)	Plot
RP2D	0	WLAN 2.4GHz	Body-worn (0mm Gap)	0.203	0.230	6#
	1			0.016	0.019	4#
	0	WLAN 5.2GHz		0.048	0.051	7#
	1			0.029	0.031	24#
	0	WLAN 5.6GHz		0.031	0.034	8#
	1			0.025	0.026	29#
	0	WLAN 5.8GHz		0.032	0.032	19#
	1			0.012	0.013	32#
RP4D	0	WLAN 2.4GHz		0.031	0.036	53#
	1			0.116	0.131	48#
	0	WLAN 5.2GHz		0.033	0.035	41#
	1			0.020	0.021	50#
	0	WLAN 5.6GHz		0.029	0.032	52#
	1			0.025	0.026	61#
	0	WLAN 5.8GHz		0.032	0.032	47#
	1			0.011	0.012	62#

Note:

1. The SAR limit(1.6W/kg) for general population/uncontrolled exposure is specified in FCC 47 CFR part2(2.1093) and ANSI/IEEE C95.1-1991.
2. Since the Bluetooth maximum power is less than  $P_{Ref}$  and maximum SAR for others transmitter is less than 1.2W/kg,SAR testing for Bluetooth is not required.



## 2. TECHNICAL INFORMATION

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


### 2.1 Identification of Applicant

Company Name:	Silex Technology, Inc.
Address:	2-3-1 Hikaridai, Seika-cho Sourakugun, Kyoto 619-0237, Japan

### 2.2 Identification of Manufacturer

Company Name:	Silex Technology, Inc.
Address:	2-3-1 Hikaridai, Seika-cho Sourakugun, Kyoto 619-0237, Japan

### 2.3 Equipment Under Test (EUT)

Model Name:	SX-SDMAN
Brand Name:	
Tx Frequency Bands:	802.11 b/g/n20/n40/a: 2412-2462 MHz; 5.15-5.85GHz Bluetooth4.0: 2402-2480 MHz;
Uplink Modulations:	WIFI : 802.11b: DSSS, 802.11 a/g/n-20/n-40: OFDM Bluetooth4.0 : FHSS( GFSK, $\pi/4$ DQPSK, 8DPSK)

#### 2.3.1 Photographs of the EUT

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

### 2.4 Applied Reference Documents

Leading reference documents for testing:

No.	Identity	Document Title
1	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
2	KDB 447498 D01v06	General RF Exposure Guidance
3	KDB 248227 D01v02r02	SAR Measurement Guidance for IEEE 802.11 Transmitters
4	KDB 865664 D01v01r04	SAR Measurement 100 MHz to 6 GHz
5	KDB 865664 D02v01r02	SAR Reporting
6	KDB 616217 D04v01r02	SAR for laptop and Tablets

Note: The test method is in accordance with PAG, the tracking number is 859776.



## 2.5 Device Category and SAR Limits

### **Uncontrolled Environment**

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

### **Controlled Environment**

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

#### **Limits for Occupational/Controlled Exposure (W/kg)**

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

#### **Limits for General Population/Uncontrolled Exposure (W/kg)**

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

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

### 3. SPECIFIC ABSORPTION RATE (SAR)

#### 3.1 Introduction

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

#### 3.2 SAR Definition

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

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

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

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

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

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

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

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

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



## 4. SAR MEASUREMENT SETUP

### 4.1 The Measurement System

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

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

The Following figure shows the system.



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

### 4.2 Probe

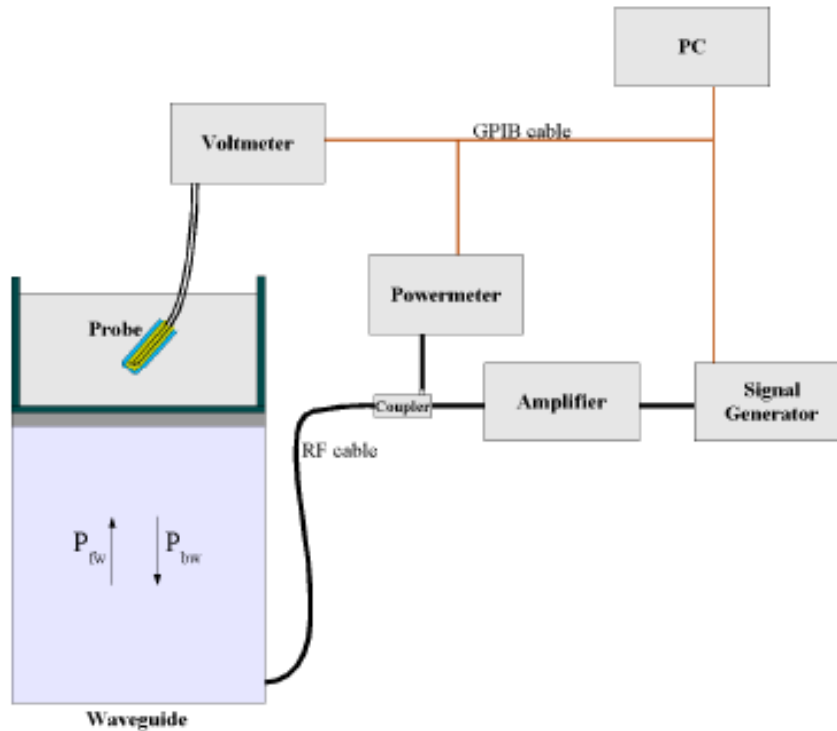
For the measurements the Specific Dosimetric E-Field Probe SN 37/08 EP80 with Following specifications is used

- Dynamic range: 0.01-100 W/kg
- Tip Diameter: 6.5 mm

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

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

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



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

Where :

P<sub>fw</sub> = Forward Power

P<sub>bw</sub> = 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 ANPL calibrated probe, to verify it.

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

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

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

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

Where DCP is the diode compression point in mV.

### 4.3 Probe Calibration Process

#### 4.3.1 Dosimetric Assessment Procedure

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

#### 4.3.2 Free Space Assessment Procedure

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

#### 4.3.3 Temperature Assessment Procedure

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

Where:

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

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

$\delta T$  = 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:

$\sigma$  = simulated tissue conductivity,

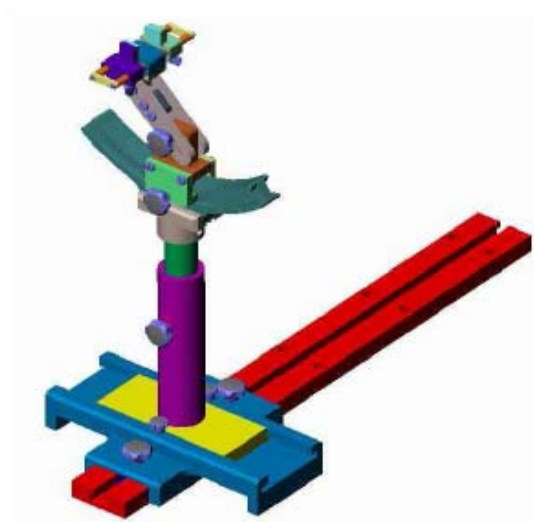
$\rho$  = Tissue density (1.25 g/cm<sup>3</sup> for brain tissue)

#### 4.4 Phantom

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

#### 4.5 Device Holder

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



Device holder

System Material	Permittivity	Loss Tangent
Delrin	3.7	0.005

## 5. TISSUE SIMULATING LIQUIDS

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

The following table gives the recipes for tissue simulating liquids

Frequency Band (MHz)	2450	5200-5800
Tissue Type	Body	Body
Ingredients (% by weight )		
Deionised Water	73.20	78.60
Salt(NaCl)	0.10	0.00
Sugar	0.00	0.00
Tween 20	0.00	0.00
HEC	0.00	0.00
Bactericide	0.00	0.00
Triton X-100	0.00	10.70
DGBE	26.70	0.00
Diethylenglycol monohexylether	0.00	10.70
Target dielectric parameters		
Dielectric Constant	52.70	48.7
Conductivity (S/m)	1.95	5.53

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±(%)
2017/08/09	Body 2450	Relative Permittivity( $\epsilon_r$ ):	52.88	52.70	0.34	5
		Conductivity( $\sigma$ ):	1.97	1.95	1.03	5
2017/08/09	Body 2600	Relative Permittivity( $\epsilon_r$ ):	52.36	52.5	-0.27	5
		Conductivity( $\sigma$ ):	2.11	2.16	-2.31	5
2017/08/09	Body 5200	Relative Permittivity( $\epsilon_r$ ):	48.27	49.0	-1.49	5
		Conductivity( $\sigma$ ):	5.54	5.30	4.53	5
2017/08/09	Body 5600	Relative Permittivity( $\epsilon_r$ ):	48.39	48.5	-0.23	5
		Conductivity( $\sigma$ ):	5.74	5.77	-0.52	5
2017/08/09	Body 5800	Relative Permittivity( $\epsilon_r$ ):	48.09	48.2	-0.23	5
		Conductivity( $\sigma$ ):	5.93	6.00	-1.17	5



## 6. UNCERTAINTY ASSESSMENT

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

### 6.1 UNCERTAINTY EVALUATION FOR EUT SAR TEST

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/e	k
Uncertainty Component	Sec.	Tol (+- % )	Prob . Dist.	Div.	Ci (1g )	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	Vi
<b>Measurement System</b>									
Probe calibration	E.2.1	5.83	N	1	1	1	5.83	5.83	$\infty$
Axial Isotropy	E.2.2	3.5	R	$\sqrt{3}$	1	1	2.02	2.02	$\infty$
Hemispherical Isotropy	E.2.2	5.9	R	$\sqrt{3}$	1	1	3.41	3.41	$\infty$
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	$\infty$
Linearity	E.2.4	4.7	R	$\sqrt{3}$	1	1	2.71	2.71	$\infty$
System detection limits	E.2.5	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	$\infty$
Readout Electronics	E.2.6	0.5	N	1	1	1	0.5	0.5	$\infty$
Reponse Time	E.2.7	3.0	R	$\sqrt{3}$	1	1	3.0	3.0	$\infty$
Integration Time	E.2.8	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	$\infty$
RF ambient Conditions	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	$\infty$
Probe positioner Mechanical Tolerance	E.6.2	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	$\infty$
Probe positioning with respect to Phantom Shell	E.6.3	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	$\infty$
Extrapolation, interpolation and integration Algorithms for Max. SAR Evaluation	E.5.2	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	$\infty$
<b>Test sample Related</b>									
Test sample positioning	E.4.2. 1	2.6	N	1	1	1	2.6	2.6	N-1
Device Holder Uncertainty	E.4.1. 1	3.0	N	1	1	1	3.0	3.0	N-1
Output power Power drift -	6.6.2	5.0	R	$\sqrt{3}$	1	1	2.89	2.89	$\infty$



SAR drift measurement									
<b>Phantom and Tissue Parameters</b>									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	4.0	R	$\sqrt{3}$	1	1	2.31	2.31	$\infty$
Liquid conductivity - deviation from target value	E.3.2	2.0	R	$\sqrt{3}$	0.6 4	0.43	1.69	1.13	$\infty$
Liquid conductivity - measurement uncertainty	E.3.3	2.5	N	1	0.6 4	0.43	3.20	2.15	M
Liquid permittivity - deviation from target value	E.3.2	2.5	R	$\sqrt{3}$	0.6	0.49	1.28	1.04	$\infty$
Liquid permittivity - measurement uncertainty	E.3.3	5.0	N	1	0.6	0.49	6.00	4.90	M
Liquid conductivity -temperature uncertainty	E.3.4		R	$\sqrt{3}$	0.7 8	0.41			$\infty$
Liquid permittivity -temperature uncertainty	E.3.4		R	$\sqrt{3}$	0.2 3	0.26			$\infty$
Combined Standard Uncertainty			RSS				11.55	12.0 7	
Expanded Uncertainty (95% Confidence interval)			K=2				$\pm$ 23.20	$\pm$ 24.17	

## 6.2 UNCERTAINTY FOR SYSTEM PERFORMANCE CHECK

a	b	c	d	e= f(d,k)	f	g	h= c*f/e	i= c*g/ e	k
Uncertainty Component	Sec.	Tol (+- %)	Prob . Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+- %)	Vi
<b>Measurement System</b>									
Probe calibration	E.2.1	4.76	N	1	1	1	4.76	4.7	$\infty$
Axial Isotropy	E.2.2	2.5	R	$\sqrt{3}$	1	1	1.44	1.4	$\infty$
Hemispherical Isotropy	E.2.2	4.0	R	$\sqrt{3}$	1	1	2.31	2.3	$\infty$
Boundary effect	E.2.3	1.0	R	$\sqrt{3}$	1	1	0.58	0.5	$\infty$
Linearity	E.2.4	5.0	R	$\sqrt{3}$	1	1	2.89	2.8	$\infty$



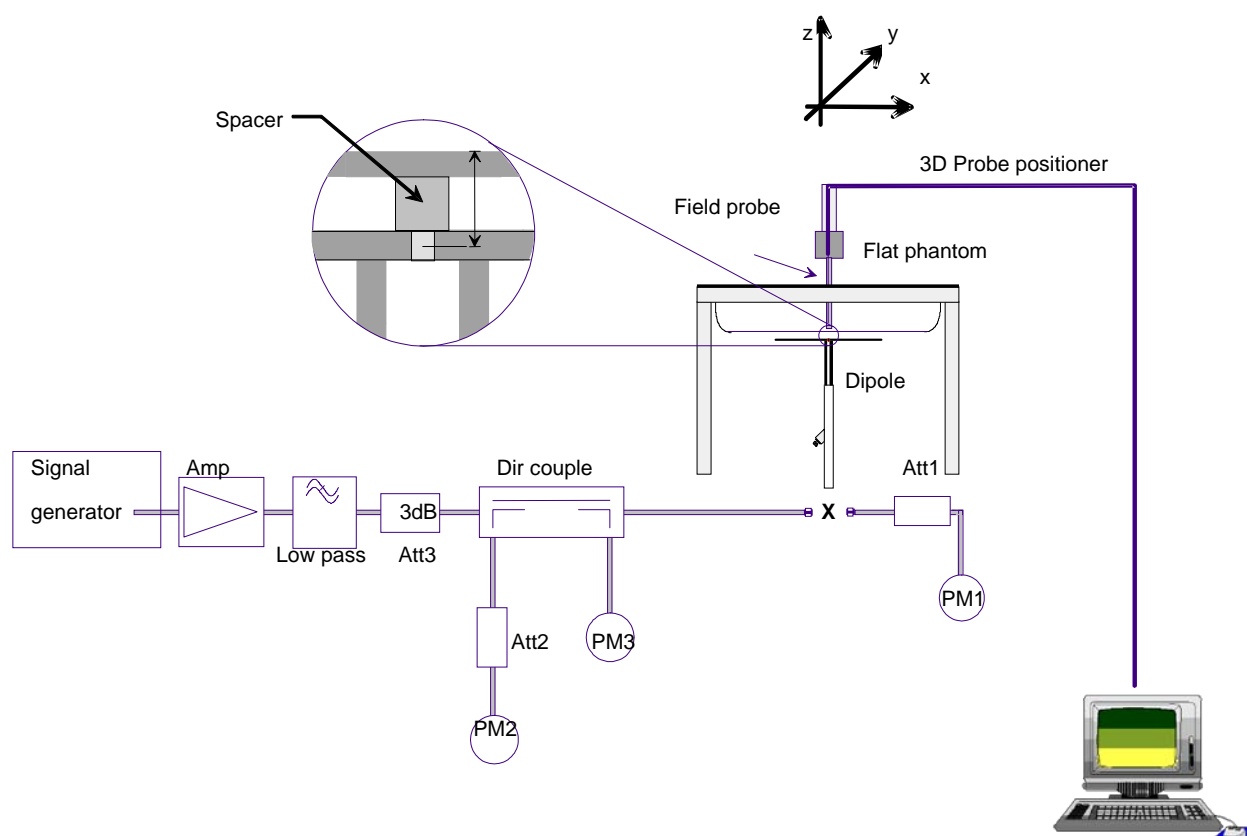


System detection limits	E.2.5	1.0	R	$\sqrt{3}$	1	1	0.58	0.5	$\infty$
Readout Electronics	E.2.6	0.02	N	1	1	1	0.02	0.0	$\infty$
Reponse Time	E.2.7	3.0	R	$\sqrt{3}$	1	1	1.73	1.7	$\infty$
Integration Time	E.2.8	2.0	R	$\sqrt{3}$	1	1	1.15	1.1	$\infty$
RF ambient Conditions	E.6.1	3.0	R	$\sqrt{3}$	1	1	1.73	1.7	$\infty$
Probe positioner Mechanical Tolerance	E.6.2	2.0	R	$\sqrt{3}$	1	1	1.15	1.1 5	$\infty$
Probe positioning with respect to Phantom Shell	E.6.3	0.05	R	$\sqrt{3}$	1	1	0.03	0.0 3	$\infty$
Extrapolation, interpolation and integration Algoritms for Max. SAR Evaluation	E.5.2	5.0	R	$\sqrt{3}$	1	1	2.89	2.8 9	$\infty$
<b>Dipole</b>									
Dipole axis to liquid Distance	8,E.4. 2	1.00	N	$\sqrt{3}$	1	1	0.58	0.5 8	$\infty$
Input power and SAR drift measurement	8,6.6. 2	4.04	R	$\sqrt{3}$	1	1	2.33	2.3 3	$\infty$
<b>Phantom and Tissue Parameters</b>									
Phantom Uncertainty (Shape and thickness tolerances)	E.3.1	0.05	R	$\sqrt{3}$	1	1	0.03	0.0 3	$\infty$
Liquid conductivity - deviation from target value	E.3.2	4.57	R	$\sqrt{3}$	0.64	0.43	1.69	1.1 3	$\infty$
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	$\infty$
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	

## 7. SAR MEASUREMENT EVALUATION

### 7.1 System Setup

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



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



6 GHz) at the dipole connector and the power meter PM2 is read at that level. After connecting the cable to the dipole, the signal generator is readjusted for the same reading at power meter

## 7.2 Validation Results

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

Frequency	2450MHz(B)	2600MHz(B)	5200MHz(B)	5600MHz(B)	5800MHz(B)
Target value 1W (1g)	50.93W/Kg	54.07W/Kg	163.36W/Kg	172.11W/Kg	177.10W/Kg
Test value 1g (100 mW input power)	5.081 W/Kg	5.386 W/Kg	16.284W/Kg	17.196W/Kg	17.695W/Kg
Normalized to 1W value(1g)	50.81 W/Kg	53.86W/Kg	162.84W/Kg	171.96W/Kg	17695W/Kg
Deviation	0.24%	0.24%	0.32%	0.09%	0.08%

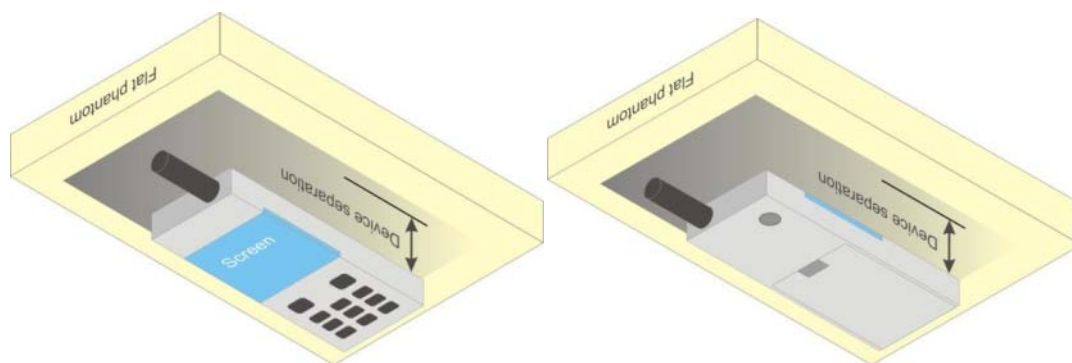
**Note:** System checks the specific test data please see Annex D

## 8. OPERATIONAL CONDITIONS DURING TEST

### 8.1 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.



**IllustrationforBodyWornPosition**

### 8.3 Measurement procedure

The Following steps are used for each test position

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



#### **8.4 Description of interpolation/extrapolation scheme**

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

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

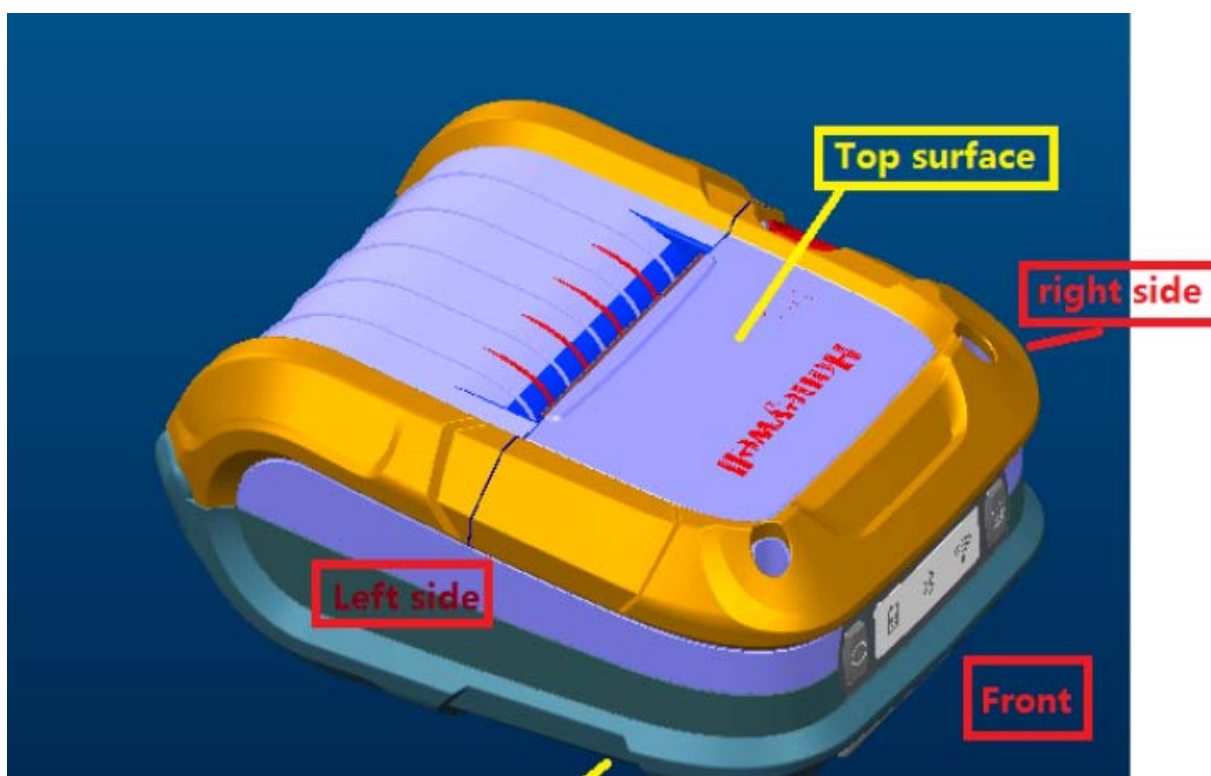
The measurements have to be performed over a limited time (due to the duration of the battery) so the step of measurement is high. It could vary between 5 and 8 mm. To obtain an accurate assessment of the maximum SAR averaged over 10 grams and 1 gram requires a very fine resolution in the three dimensional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

## 9. HOTSPOT MODE EVALUATION PROCEDURE

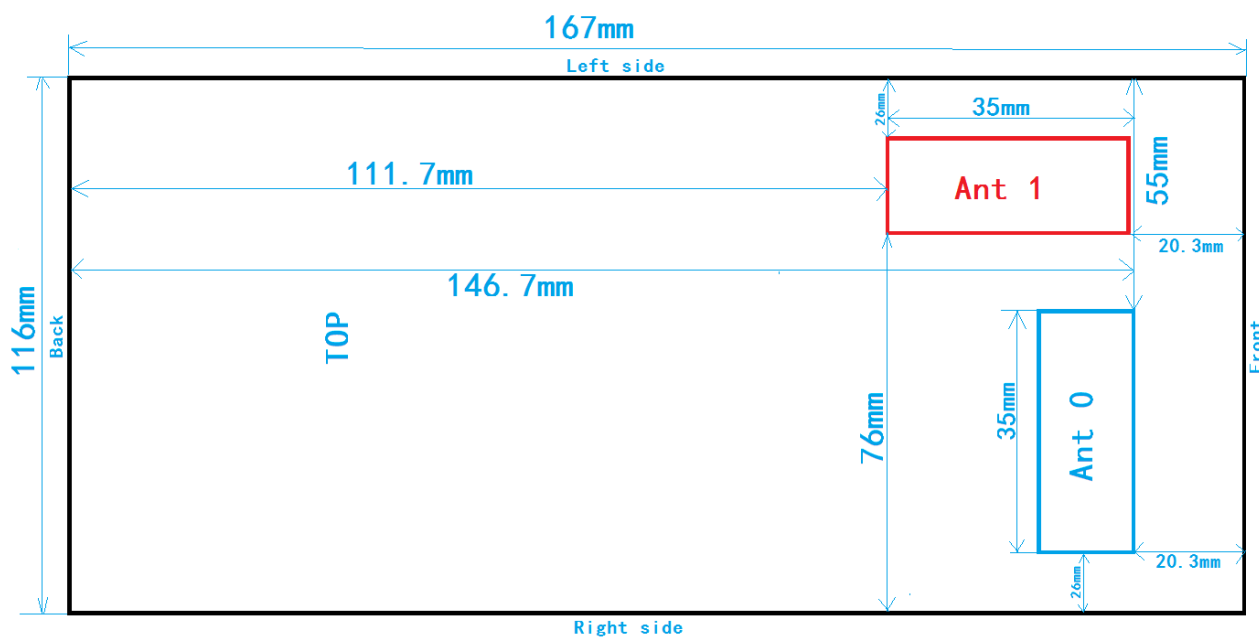
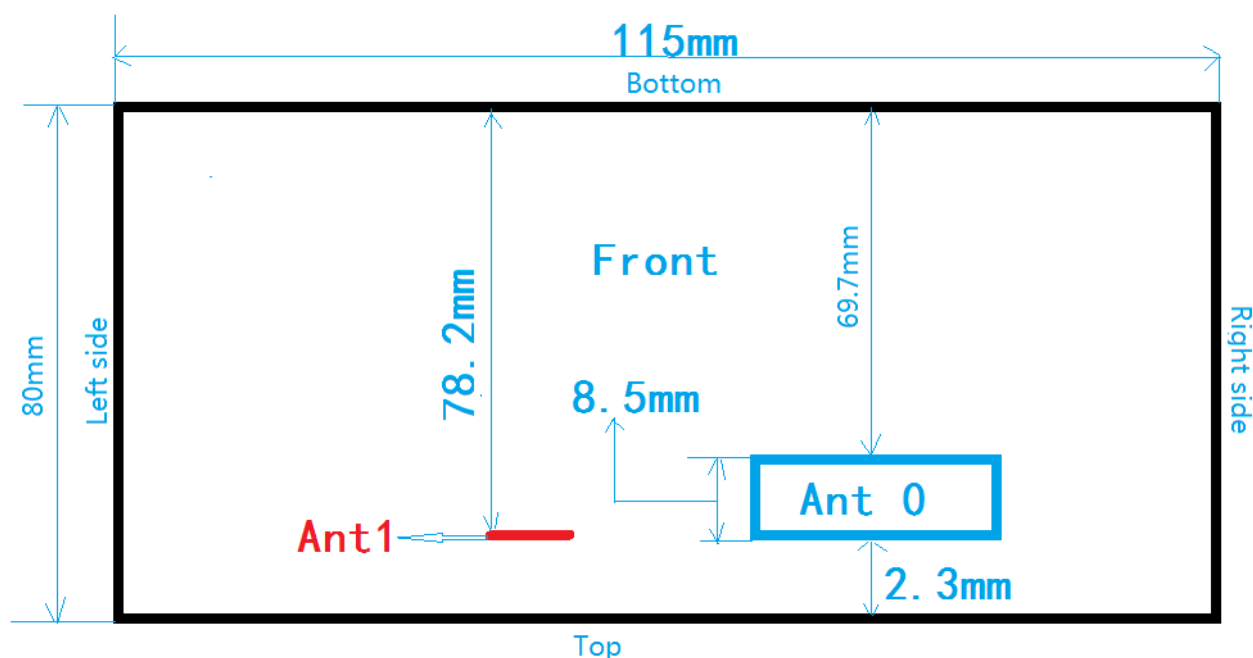
The SAR evaluation procedures for Portable Devices with Wireless Router function is according to KDB 941225 D06 HotSpot SAR v02r01.

SAR must be tested for all surfaces and edges (side) with a transmitting antenna with in 2.5 cm from that surface or edge, at a test separation distance of 0 mm, in the wireless mode that support wireless routing.

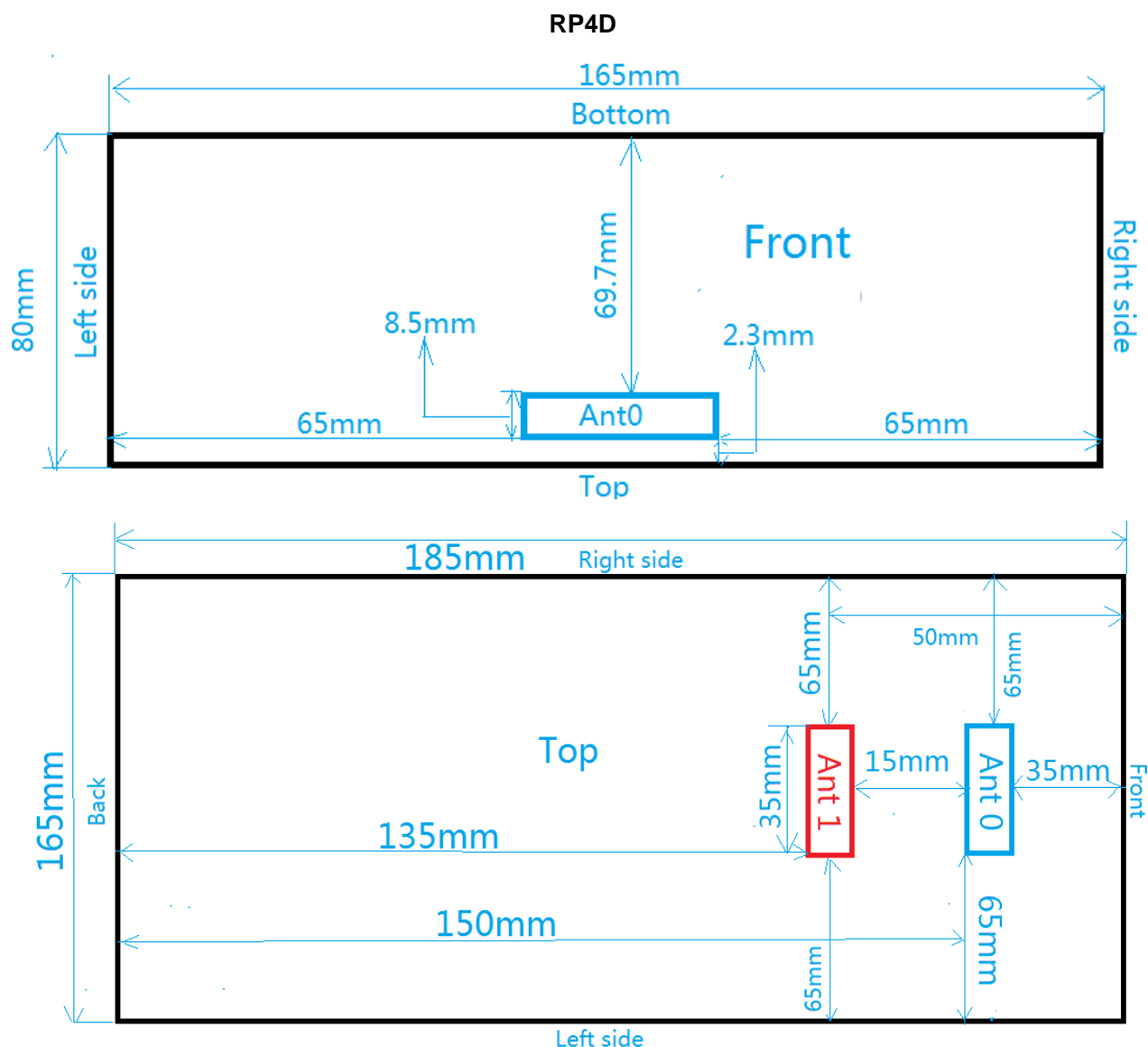
Edge configurations:



**RP2D**



Assessment		Hotspot side for SAR				
		Test distance: 0mm				
Antennas	Bottom	Front	Left	Right	Back	Top
Ant0	Yes	Yes	No	Yes	No	Yes
Ant1	Yes	Yes	Yes	No	No	Yes



Assessment		Hotspot side for SAR				
		Test distance: 0mm				
Antennas	Bottom	Front	Left	Right	Back	Top
Ant0	Yes	Yes	No	No	No	Yes
Ant1	Yes	Yes	No	No	No	Yes



## 10. MEASUREMENT OF CONDUCTED OUTPUT POWER

### 1. 2.4G WiFi Average output power

Band	Channel	Frequency (MHz)	Ant 0 Output Power(dBm)		
			802.11b (DSSS)	802.11g (OFDM)	802.11n20 (OFDM)
2.4G WiFi	1	2412	14.05	8.65	7.26
	6	2437	14.96	10.37	10.46
	11	2462	15.44	8.95	7.37

Band	Channel	Frequency (MHz)	Ant 1 Output Power(dBm)		
			802.11b (DSSS)	802.11g (OFDM)	802.11n20 (OFDM)
2.4G WiFi	1	2412	14.02	8.28	7.35
	6	2437	14.86	10.66	10.43
	11	2462	15.07	8.53	7.29

### 2. 5G WiFi Average output power of Ant 0

Band	Channel	Frequency (MHz)	Output Power(dBm)	
			802.11a (DSSS)	802.11n20 (OFDM)
5.2G WiFi	36	5180	13.35	13.57
	44	5220	13.56	13.74
	48	5240	13.65	13.76

Band	Channel	Frequency (MHz)	Output Power(dBm)
			802.11n40 (GFSK)
5.2G WiFii	38	5190	9.49
	46	5230	12.02



Band	Channel	Frequency (MHz)	Output Power(dBm)	
			802.11a (DSSS)	802.11n20 (OFDM)
5.3G WiFi	52	5260	12.85	12.89
	60	5300	13.42	13.46
	64	5320	13.47	13.51

Band	Channel	Frequency (MHz)	Output Power(dBm)
			802.11n40 (GFSK)
5.3G WiFi	54	5270	13.94
	62	5310	10.65

Band	Channel	Frequency (MHz)	Output Power(dBm)	
			802.11a (DSSS)	802.11n20 (OFDM)
5.6G WiFi	100	5500	10.77	12.14
	116	5580	10.94	12.08
	128	5640	11.03	12.11

Band	Channel	Frequency (MHz)	Output Power(dBm)
			802.11n40 (GFSK)
5.6G WiFi	100	5510	9.88
	118	5590	10.09
	134	5670	10.45



Band	Channel	Frequency (MHz)	Output Power(dBm)	
			802.11a (DSSS)	802.11n20 (OFDM)
5.8G WiFi	149	5745	11.91	12.42
	157	5785	11.83	12.02
	165	5825	11.88	12.06

Band	Channel	Frequency (MHz)	Output Power(dBm)
			802.11n40 (GFSK)
5.8G WiFi	151	5755	12.46
	159	5795	12.41

### 3. 5G WiFi Average output power of **Ant 1**

Band	Channel	Frequency (MHz)	Output Power(dBm)	
			802.11a (DSSS)	802.11n20 (OFDM)
5.2G WiFi	36	5180	13.38	13.51
	44	5220	13.72	13.58
	48	5240	13.76	13.44

Band	Channel	Frequency (MHz)	Output Power(dBm)
			802.11n40 (GFSK)
5.2G WiFi	38	5190	9.36
	46	5230	11.99



Band	Channel	Frequency (MHz)	Output Power(dBm)	
			802.11a (DSSS)	802.11n20 (OFDM)
5.3G WiFi	52	5260	12.68	12.62
	60	5300	13.44	13.41
	64	5320	13.48	13.43

Band	Channel	Frequency (MHz)	Output Power(dBm)
			802.11n40 (GFSK)
5.3G WiFi	54	5270	13.02
	62	5310	10.61

Band	Channel	Frequency (MHz)	Output Power(dBm)	
			802.11a (DSSS)	802.11n20 (OFDM)
5.6G WiFi	100	5500	10.52	11.83
	116	5580	10.35	11.56
	128	5640	10.71	11.59

Band	Channel	Frequency (MHz)	Output Power(dBm)
			802.11n40 (GFSK)
5.6G WiFi	102	5510	8.78
	112	5550	9.45
	118	5590	10.44



Band	Channel	Frequency (MHz)	Output Power(dBm)	
			802.11a (DSSS)	802.11n20 (OFDM)
5.8G WiFi	149	5745	13.28	13.16
	157	5785	13.24	13.17
	165	5825	13.48	13.28

Band	Channel	Frequency (MHz)	Output Power(dBm)
			802.11n40 (GFSK)
5.8G WiFi	151	5755	12.57
	159	5795	12.79

#### 5. BT average output power

Band	Channel	Output Power(dBm)		
		GFSK	$\pi/4$ -DQPSK	8-DPSK
BT 2.1+EDR	2402	0.03	2.37	3.64
	2441	0.05	2.25	3.53
	2480	0.02	2.39	3.62

Band	Channel	Frequency (MHz)	Output Power(dBm)
			GFSK
BT4.0	0	2402	-0.12
	19	2441	-0.28
	39	2480	-0.26



## 11. TEST RESULTS LIST

Summary of Measurement Results (WLAN 802.11b Band-RP2D)

Ant Port	Phantom Configurations	Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Duty Cycle	Scaling Factor (Duty Cycle)	Scaling Factor (Power)	Scaled SAR (W/Kg), 1g
0	Body (0mm Separation)	Bottom	6	0.013	100%	1	1.132	0.015
		Top		0.203				<b>0.230</b>
		Front		0.068				0.077
		right-edge		0.028				0.032
		left-edge		0.030				0.034
1		Bottom		0.008			1.159	0.009
		Top		0.016				<b>0.019</b>
		Front		0.011				0.013
		right-edge		0.010				0.012
		left-edge		0.009				0.010

Summary of Measurement Results (WLAN 802.11a Band-RP2D)

Ant Port	Phantom Configurations	Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Duty Cycle	Scaling Factor (Duty Cycle)	Scaling Factor (Power)	Scaled SAR (W/Kg), 1g
0	Body (0mm Separation)	Bottom	48	0.012	100%	1	1.057	0.013
		Top		0.041				0.043
		Front		0.048				<b>0.051</b>
		right-edge		0.020				0.021
		left-edge		0.017				0.018
1		Bottom		0.010			1.067	0.011
		Top		0.023				0.025
		Front		0.029				<b>0.031</b>
		right-edge		0.011				0.012
		left-edge		0.009				0.010



Ant Port	Phantom Configurations	Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Duty Cycle	Scaling Factor (Duty Cycle)	Scaling Factor (Power)	Scaled SAR (W/Kg), 1g
0	Body (0mm Separation)	Bottom	116	0.023	100%	1	1.102	0.025
		Top		0.026				0.029
		Front		0.031				<b>0.034</b>
		right-edge		0.028				0.031
		left-edge		0.018				0.020
1		Bottom	100	0.018			1.040	0.019
		Top		0.021				0.022
		Front		0.025				<b>0.026</b>
		right-edge		0.016				0.017
		left-edge		0.008				0.008

Ant Port	Phantom Configurations	Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Duty Cycle	Scaling Factor (Duty Cycle)	Scaling Factor (Power)	Scaled SAR (W/Kg), 1g
0	Body (0mm Separation)	Bottom	151	0.032	100%	1	1.009	<b>0.032</b>
		Top		0.021				0.021
		Front		0.030				0.030
		right-edge		0.022				0.022
		left-edge		0.026				0.026
1		Bottom	165	0.012			1.052	<b>0.013</b>
		Top		0.009				0.009
		Front		0.011				0.012
		right-edge		0.008				0.008
		left-edge		0.010				0.011



## Notes:

1. Adjust SAR for OFDM is  $0.205 \times 10.46 / 14.95 = 0.143 \text{ W/Kg} < 1.2$ , so SAR is not required for OFDM modes.
2. SAR is measured for 2.4 GHz 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:
  - 1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is  $\leq 0.8 \text{ W/kg}$ , no further SAR testing is required for 802.11b DSSS in that exposure configuration.
  - 2) When the reported SAR is  $> 0.8 \text{ W/kg}$ , SAR is required for that position using the next highest measured output power channel. When any reported SAR is  $> 1.2 \text{ W/kg}$ , SAR is required for the third channel; i.e., all channels require testing.
3. 2.4 GHz 802.11 g/n OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is  $> 1.2 \text{ W/kg}$ . When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed.
4. Justification for test configurations for WLAN per KDB Publication 248227 D01DR02-41929 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR.
6. Scaling Factor calculation

Band	Ant Port	Channel	Tune-up power tolerance(dBm)	SAR test channel Power (dBm)	Scaling Factor
802.11b	0	6	Max output power =15+-0.5	14.96	1.132
	1		Max output power =15+-0.5	14.86	1.159
802.11a	0	48	Max output power =13.5+-0.5	13.76	1.057
	1		Max output power =13.5+-0.5	13.72	1.067
	0	116	Max output power =12+-0.5	12.08	1.102
	1	100	Max output power =11.5+-0.5	11.83	1.040
	0	151	Max output power =12+-0.5	12.46	1.009
	1	165	Max output power =13+-0.5	13.28	1.052





## Summary of Measurement Results (WLAN 802.11b Band-RP4D)

Ant Port	Phantom Configurations	Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Duty Cycle	Scaling Factor (Duty Cycle)	Scaling Factor (Power)	Scaled SAR (W/Kg), 1g
1	Body (0mm Separation)	Bottom	6	0.030	100%	1	1.132	0.034
		Top		0.116				<b>0.131</b>
		Front		0.028				0.032
0		Bottom		0.011			1.159	0.013
		Top		0.031				<b>0.036</b>
		Front		0.016				0.019

## Summary of Measurement Results (WLAN 802.11a Band-RP4D)

Ant Port	Phantom Configurations	Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Duty Cycle	Scaling Factor (Duty Cycle)	Scaling Factor (Power)	Scaled SAR (W/Kg), 1g
0	Body (0mm Separation)	Bottom	48	0.033	100%	1	1.057	<b>0.035</b>
		Top		0.016				0.017
		Front		0.026				0.027
1		Bottom		0.020			1.067	<b>0.021</b>
		Top		0.013				0.014
		Front		0.019				0.020

Ant Port	Phantom Configurations	Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Duty Cycle	Scaling Factor (Duty Cycle)	Scaling Factor (Power)	Scaled SAR (W/Kg), 1g
0	Body (0mm Separation)	Bottom	116	0.029	100%	1	1.102	<b>0.032</b>
		Top		0.020				0.022
		Front		0.020				0.022
1		Bottom	100	0.018			1.040	0.019
		Top		0.021				0.022
		Front		0.025				<b>0.026</b>



Ant Port	Phantom Configurations	Device Test Positions	Device Test channel	SAR(W/Kg), 1g Peak	Duty Cycle	Scaling Factor (Duty Cycle)	Scaling Factor (Power)	Scaled SAR (W/Kg), 1g
0	Body (0mm Separation)	Bottom	151	0.021	100%	1	1.009	0.021
		Top		0.012				0.012
		Front		0.032				<b>0.032</b>
1		Bottom	165	0.010			1.052	0.011
		Top		0.008				0.008
		Front		0.011				<b>0.012</b>

## Notes:

- Adjust SAR for OFDM is  $0.117 \times 10.66 / 14.86 = 0.084 \text{ W/Kg} < 1.2$ , so SAR is not required for OFDM modes.
- SAR is measured for 2.4 GHz 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:
  - When the reported SAR of the highest measured maximum output power channel for the exposure configuration is  $\leq 0.8 \text{ W/kg}$ , no further SAR testing is required for 802.11b DSSS in that exposure configuration.
  - When the reported SAR is  $> 0.8 \text{ W/kg}$ , SAR is required for that position using the next highest measured output power channel. When any reported SAR is  $> 1.2 \text{ W/kg}$ , SAR is required for the third channel; i.e., all channels require testing.
- 2.4 GHz 802.11 g/n OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is  $> 1.2 \text{ W/kg}$ . When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed.
- For held-to-ear and hotspot operations, the initial test position procedures were applied. The test position with the highest extrapolated peak SAR will be used as the initial test position. When reported SAR for the initial test position is  $\leq 0.4 \text{ W/kg}$ , no additional testing for the remaining test positions was required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is  $\leq 0.8 \text{ W/kg}$  or all test positions are measured.



5. Justification for test configurations for WLAN per KDB Publication 248227 D01DR02-41929 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n) was not required due to the maximum allowed powers and the highest reported DSSS SAR.

6. Scaling Factor calculation

Band	Ant Port	Channel	Tune-up power tolerance(dBm)	SAR test channel Power (dBm)	Scaling Factor
802.11b	0	6	Max output power =15+-0.5	14.96	1.132
	1		Max output power =15+-0.5	14.86	1.159
802.11a	0	48	Max output power =13.5+-0.5	13.76	1.057
	1		Max output power =13.5+-0.5	13.72	1.067
	0	116	Max output power =12+-0.5	12.08	1.102
	1	100	Max output power =11.5+-0.5	11.83	1.040
	0	151	Max output power =12+-0.5	12.46	1.009
	1	165	Max output power =13+-0.5	13.28	1.052



## 12. 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  $\geq 0.80$  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  $\geq 1.45$  W/kg ( $\sim 10\%$  from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is  $\geq 1.5$  W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is  $> 1.20$ .



### 13. BLUETOOTH EXCLUSIONS APPLIED

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

*(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(GHz)/x] W/kg for test separation distances ≤ 50 mm;*

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

(Max power=2.51 mW; min. test separation distance= 5mm for Body;  $f=2.4\text{GHz}$ )

BT estimated Body SAR =0.104W/Kg (1g)



REPORT No. : SZ17080018S01

## **11 ANNEX A GENERAL INFORMATION**

## **12 ANNEX B PLOTS OF SAR TEST RESULTS**

## **13 ANNEX C SYSTEM CHECK DATA**

## **14 ANNEX D SETUP PHOTOS**

## ANNEX B SETUP PHOTOS

### 1. EUT Top surface Position of RP2D

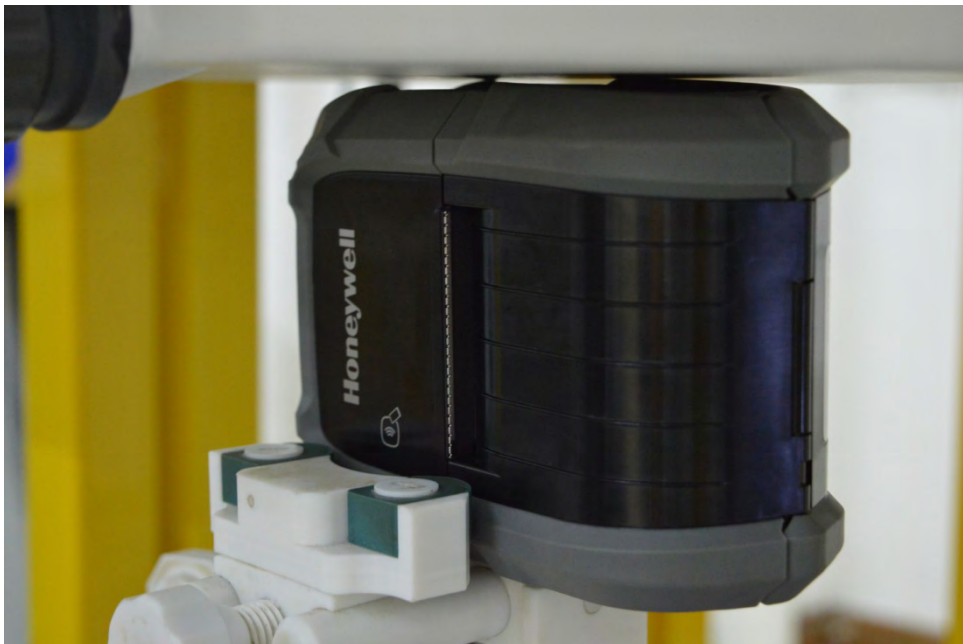


### 2. EUT Bottom surface Position of RP2D





3. EUT Left Side Position of RP2D



4. EUT Right Side Position of RP2D





5. EUT Front Position of RP2D



6. EUT Top surface Position of RP4D



7. EUT Bottom surface Position of RP4D



8. EUT Front Position of RP4D





REPORT No. : SZ17070018S01

9. Liquid Level Photo



**ANNEX B PLOTS OF SAR TEST RESULTS****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: 2017.08.09

Measurement duration: 13 minutes 32 seconds

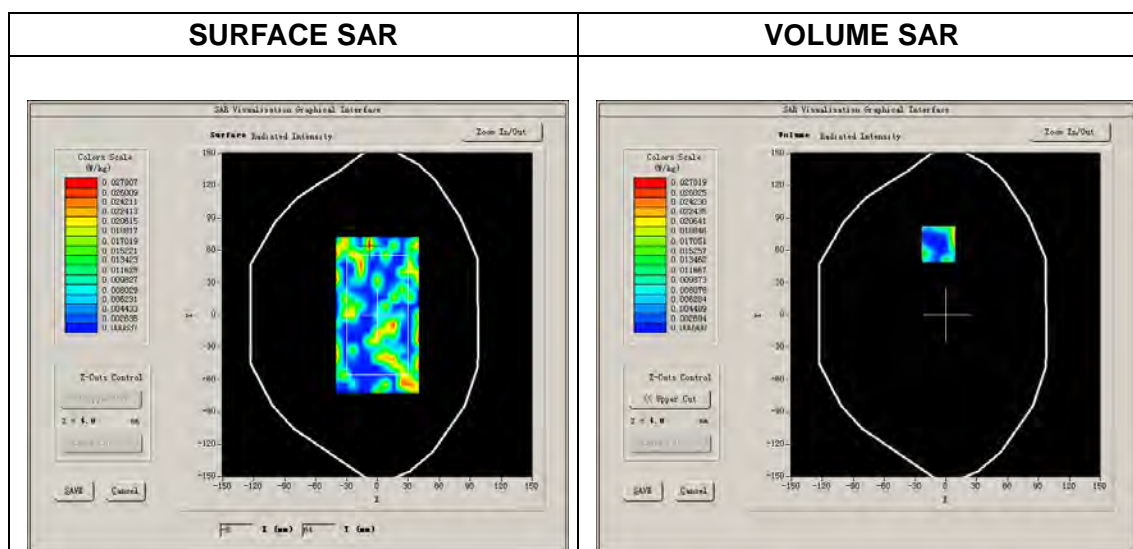
**A. Experimental conditions.**

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

**B. SAR Measurement Results**

Middle Band SAR (Channel 6):

<b>Frequency (MHz)</b>	2437.000000
<b>Relative permittivity (real part)</b>	52.884446
<b>Conductivity (S/m)</b>	1.966143
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	4.96
<b>Crest factor:</b>	1:1

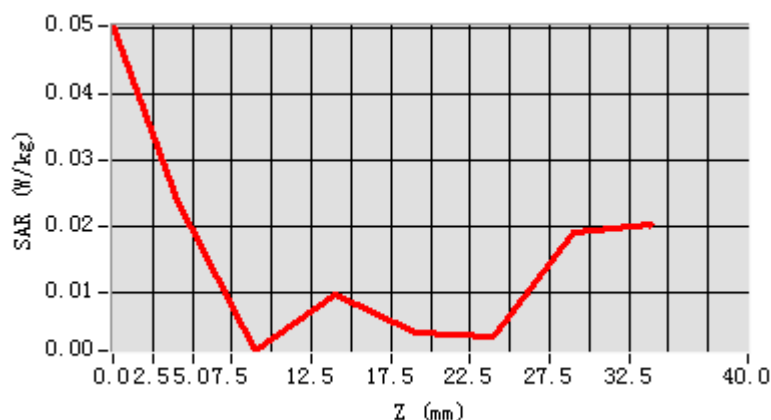


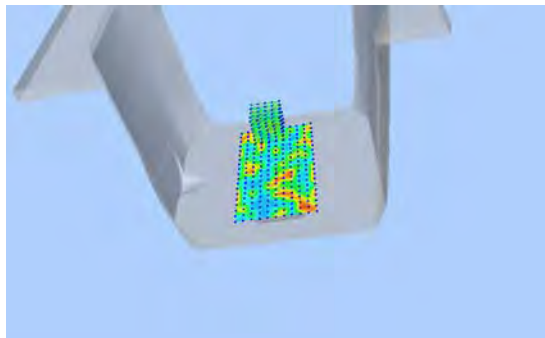
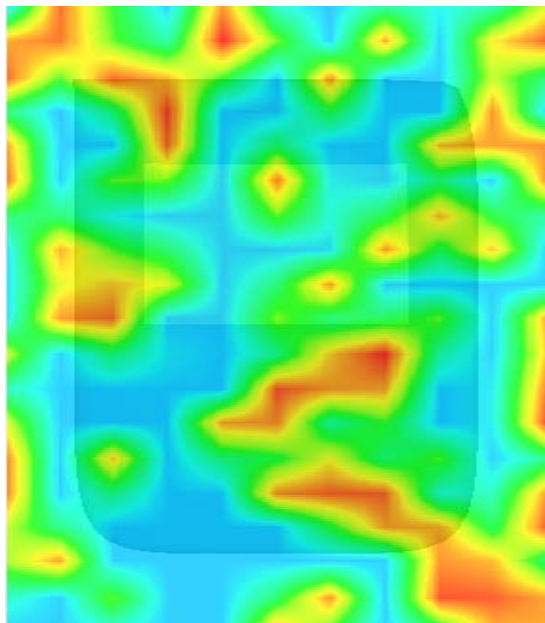
Maximum location: X=-7.00, Y=66.00

SAR Peak: 0.06 W/kg

SAR 10g (W/Kg)	0.006414
SAR 1g (W/Kg)	0.013212

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0502	0.0239	0.0011	0.0095	0.0039	0.0033	0.0191



3D screen shot	Hot spot position
	



**MEASUREMENT 2**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 31 seconds

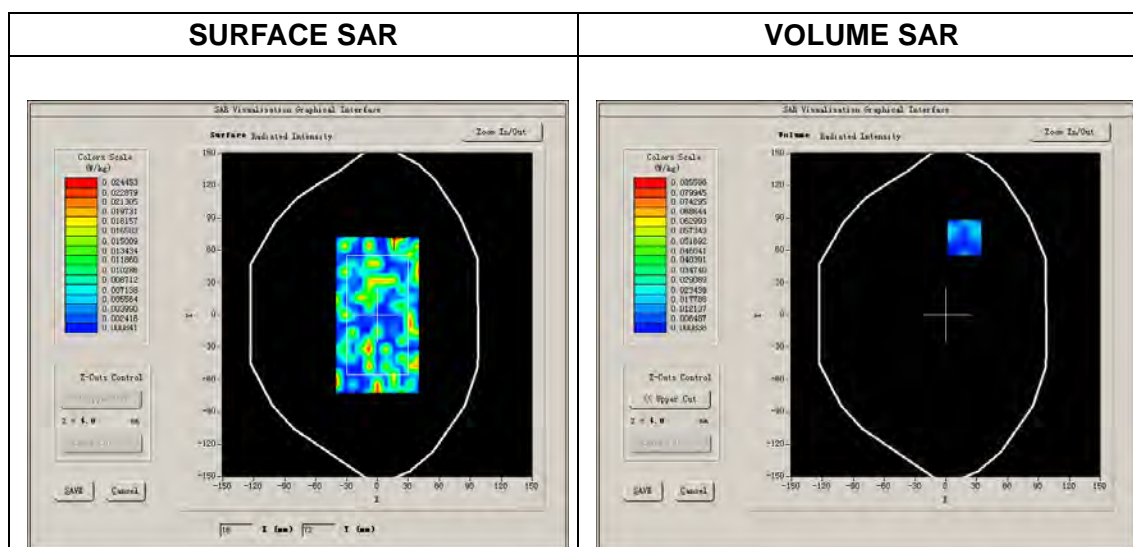
**A. Experimental conditions.**

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

**B. SAR Measurement Results**

Middle Band SAR (Channel 6):

<b>Frequency (MHz)</b>	2437.000000
<b>Relative permittivity (real part)</b>	52.884446
<b>Conductivity (S/m)</b>	1.966143
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	4.96
<b>Crest factor:</b>	1:1

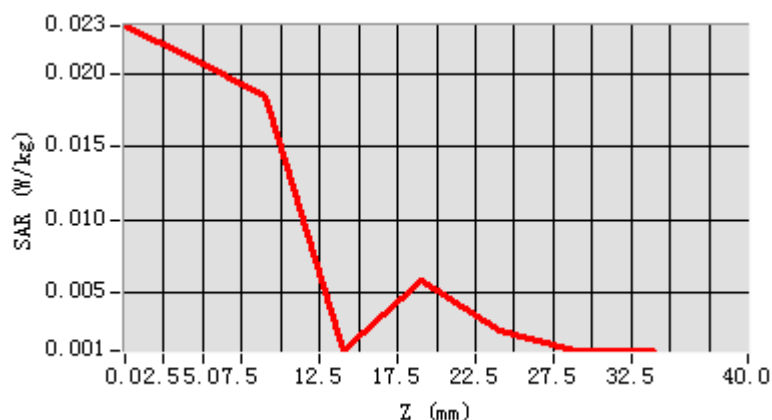


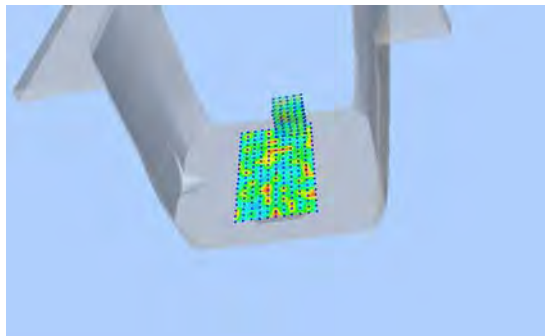
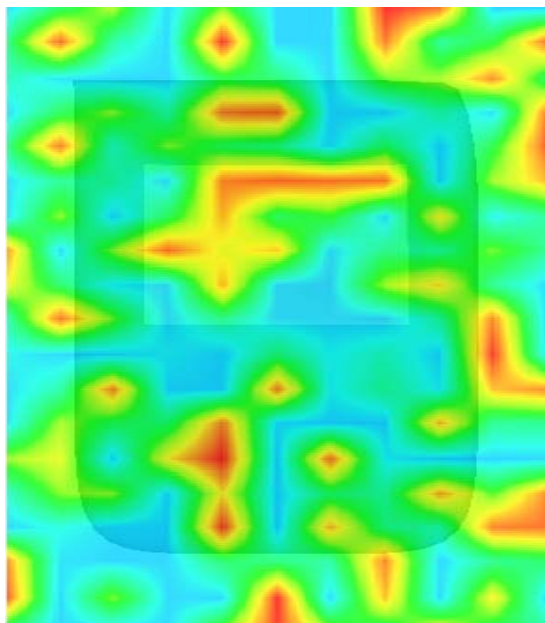
Maximum location: X=18.00, Y=72.00

SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.011472
SAR 1g (W/Kg)	0.023354

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0233	0.0213	0.0186	0.0010	0.0058	0.0023	0.0010



3D screen shot	Hot spot position
	

**MEASUREMENT 3**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 32 seconds

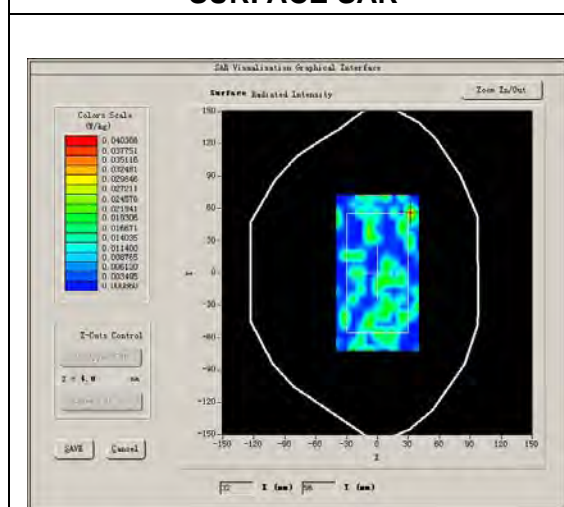
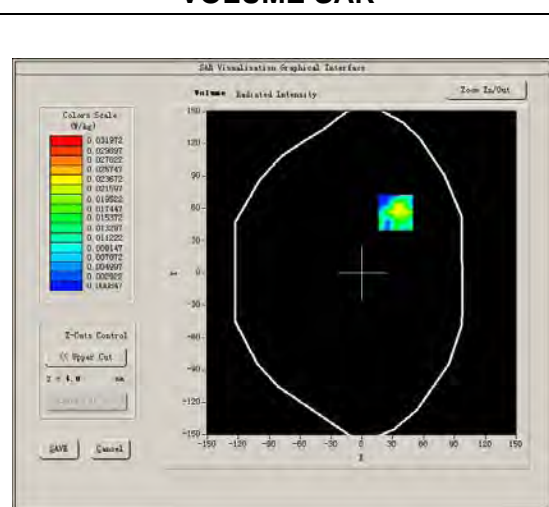
**A. Experimental conditions.**

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

**B. SAR Measurement Results**

Middle Band SAR (Channel 6):

<b>Frequency (MHz)</b>	2437.000000
<b>Relative permittivity (real part)</b>	52.884446
<b>Conductivity (S/m)</b>	1.966143
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	4.96
<b>Crest factor:</b>	1:1

**SURFACE SAR****VOLUME SAR**

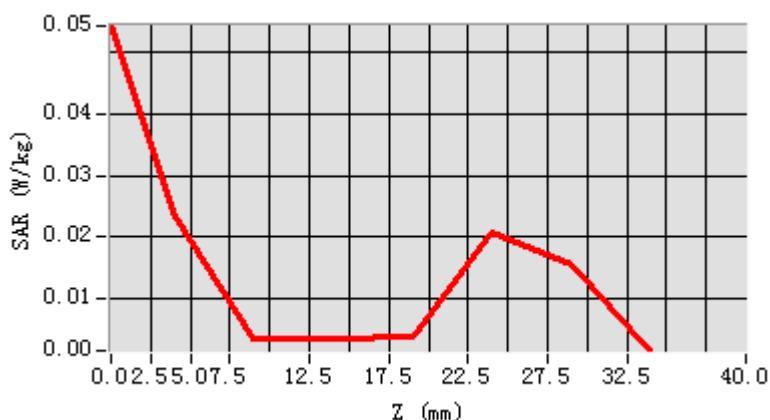


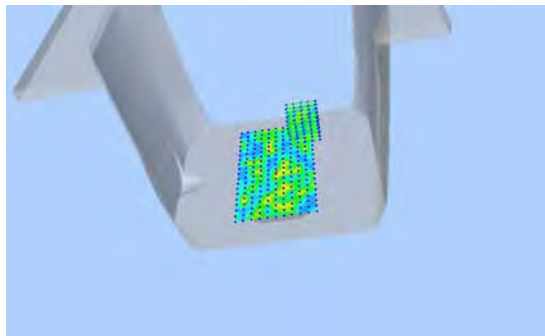
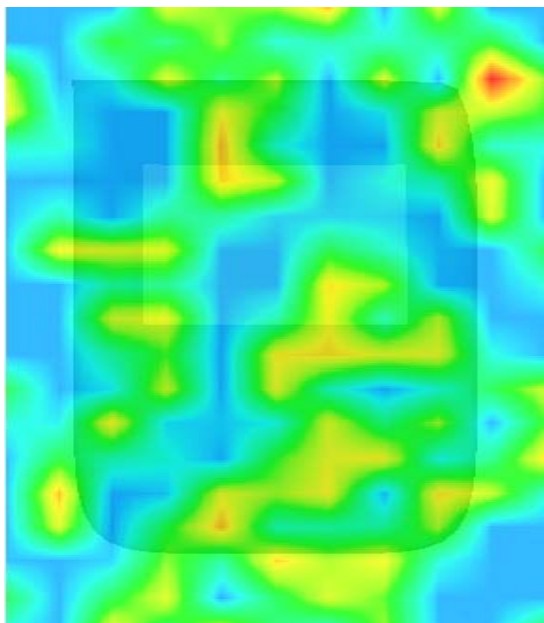
Maximum location: X=33.00, Y=56.00

SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.014775
SAR 1g (W/Kg)	0.030326

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0543	0.0233	0.0035	0.0035	0.0038	0.0207	0.0156



3D screen shot	Hot spot position
	

**MEASUREMENT 4**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 37 seconds

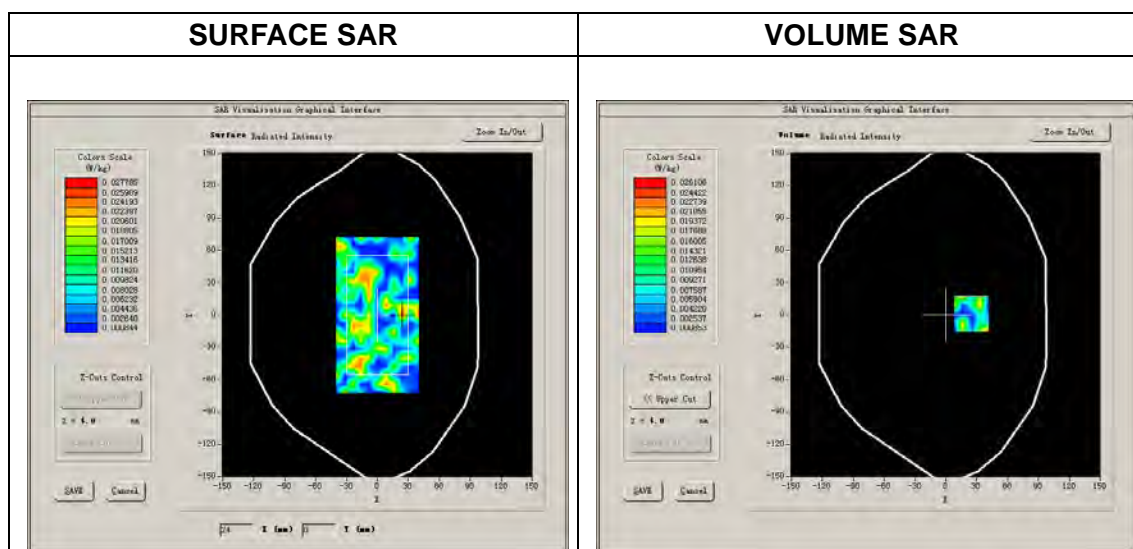
**A. Experimental conditions.**

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

**B. SAR Measurement Results**

Middle Band SAR (Channel 6):

<b>Frequency (MHz)</b>	2437.000000
<b>Relative permittivity (real part)</b>	52.884446
<b>Conductivity (S/m)</b>	1.966143
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	4.96
<b>Crest factor:</b>	1:1

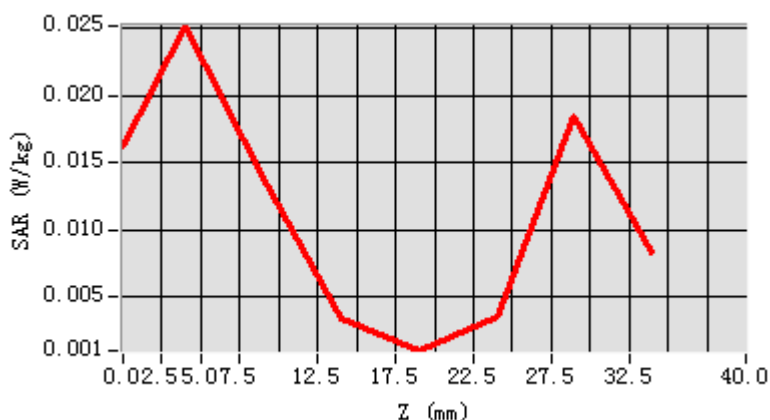


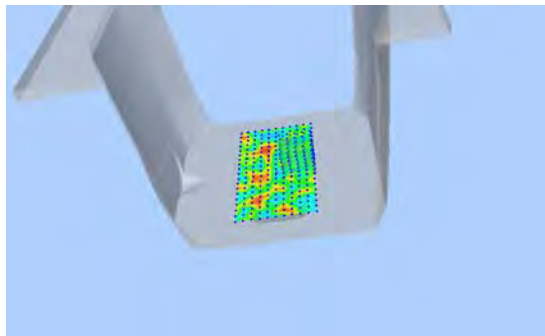
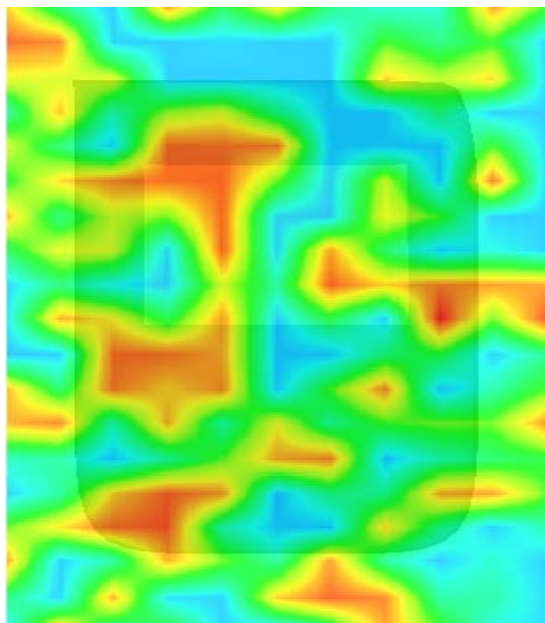
Maximum location: X=25.00, Y=1.00

SAR Peak: 0.06 W/kg

SAR 10g (W/Kg)	0.006025
SAR 1g (W/Kg)	0.016078

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0163	0.0252	0.0139	0.0035	0.0010	0.0036	0.0185



3D screen shot	Hot spot position
	

**MEASUREMENT 5**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 32 seconds

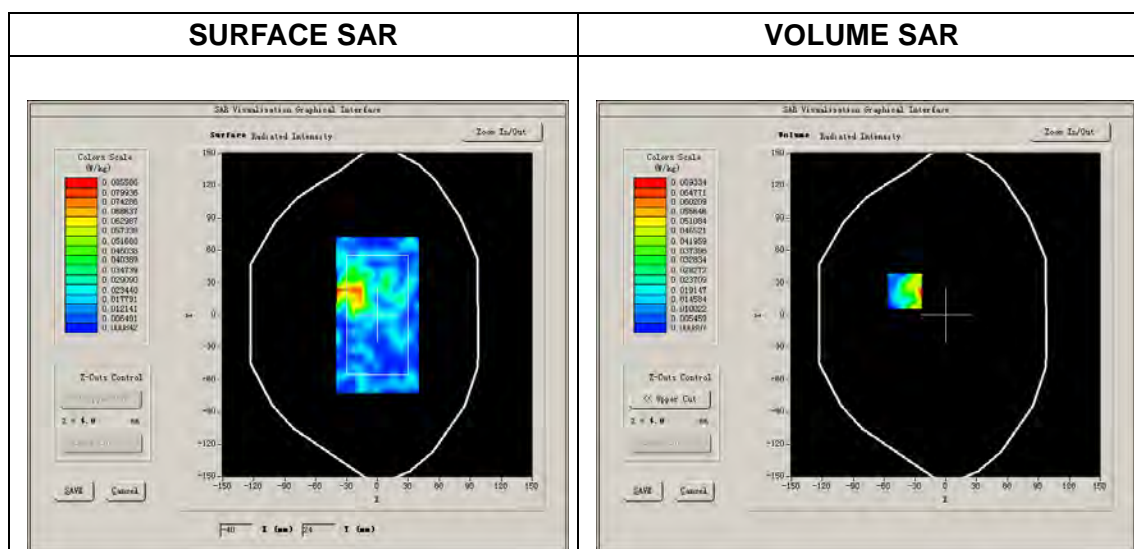
**A. Experimental conditions.**

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

**B. SAR Measurement Results**

Middle Band SAR (Channel 6):

<b>Frequency (MHz)</b>	2437.000000
<b>Relative permittivity (real part)</b>	52.884446
<b>Conductivity (S/m)</b>	1.966143
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	4.96
<b>Crest factor:</b>	1:1

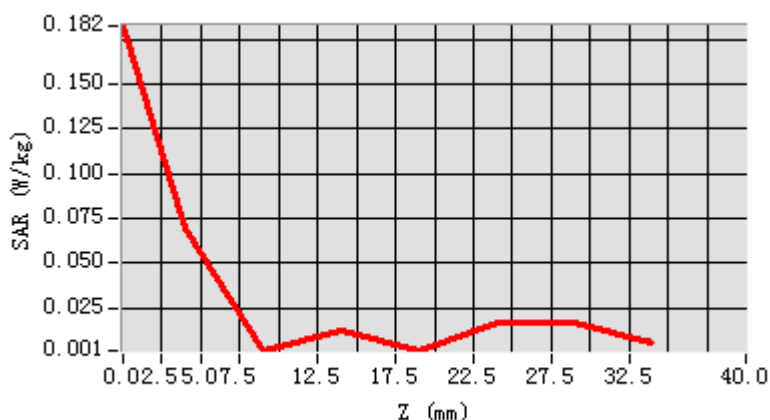


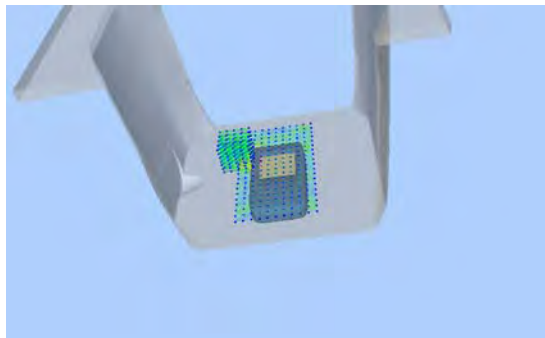
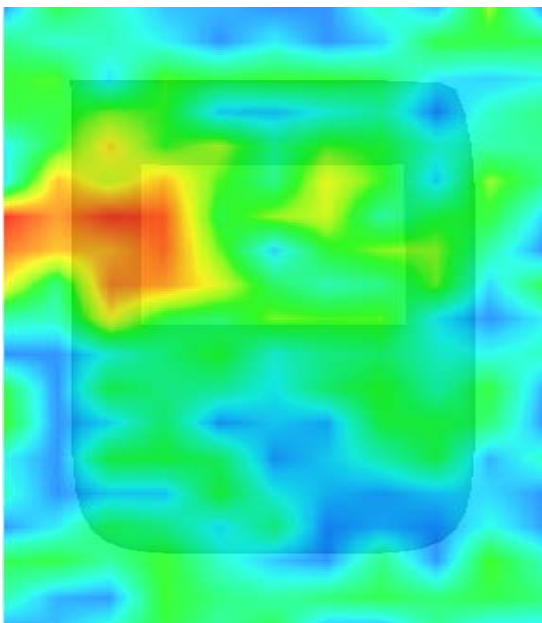
Maximum location: X=-40.00, Y=22.00

SAR Peak: 0.19 W/kg

SAR 10g (W/Kg)	0.024597
SAR 1g (W/Kg)	0.067819

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1823	0.0693	0.0010	0.0123	0.0010	0.0170	0.0161



3D screen shot	Hot spot position
	

**MEASUREMENT 6**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 56 seconds

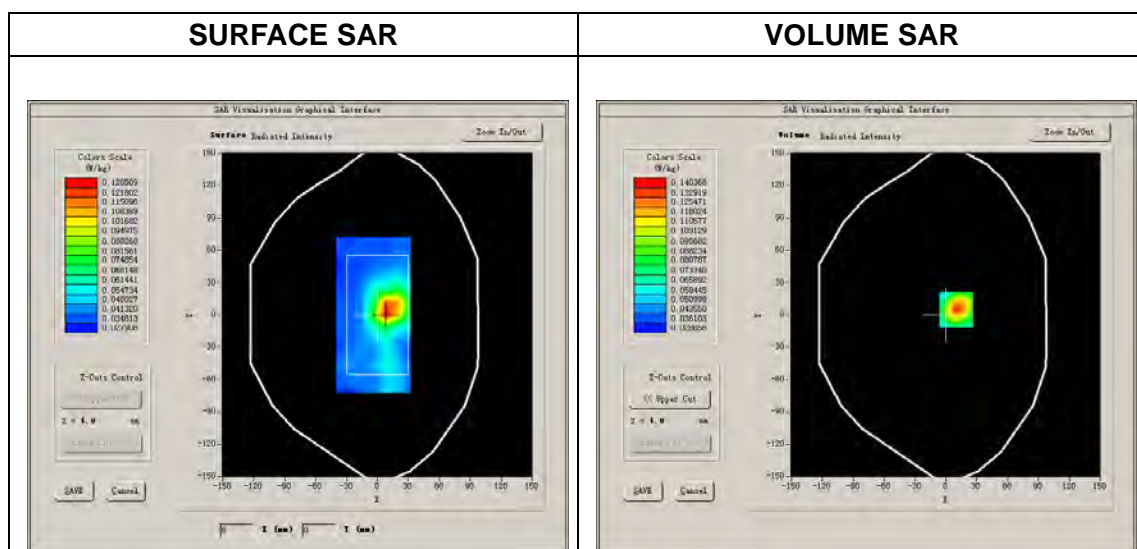
**A. Experimental conditions.**

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

**B. SAR Measurement Results**

Middle Band SAR (Channel 6)

<b>Frequency (MHz)</b>	2437.000000
<b>Relative permittivity (real part)</b>	52.884446
<b>Conductivity (S/m)</b>	1.966143
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	4.96
<b>Crest factor:</b>	1:1





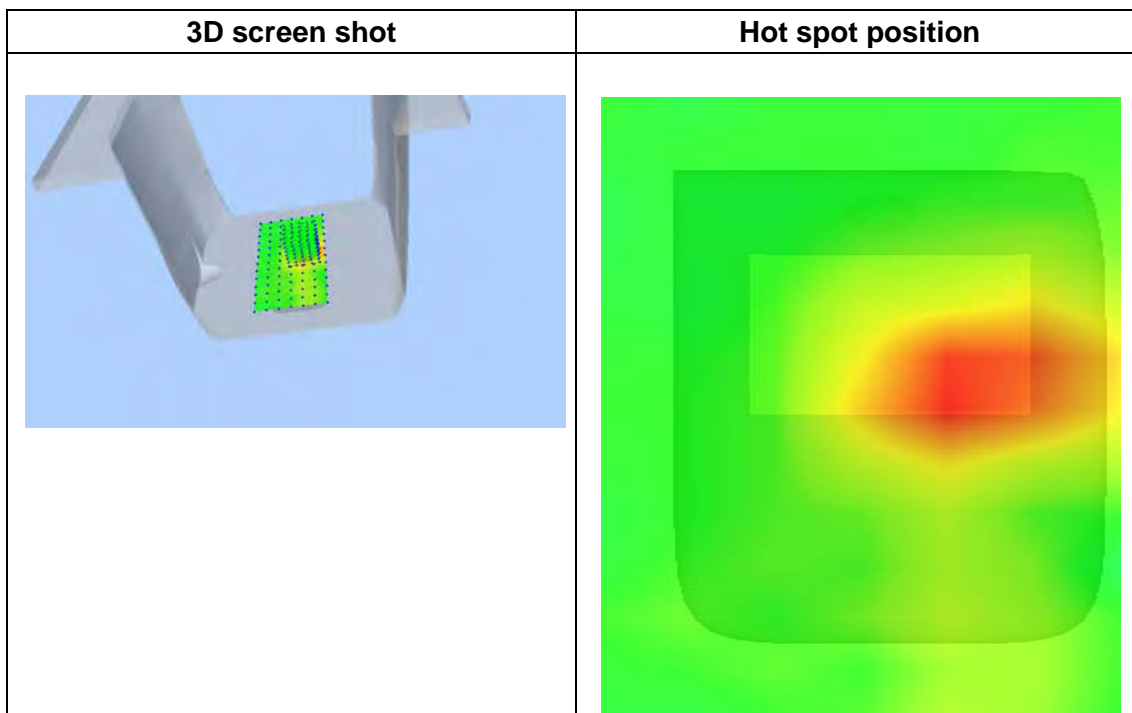
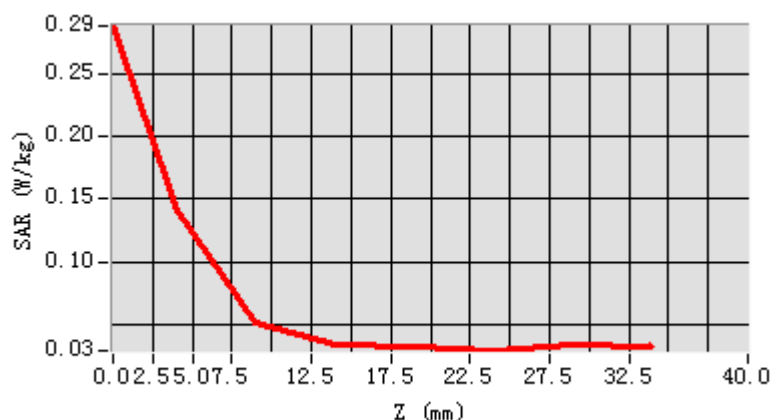


Maximum location: X=10.00, Y=5.00

SAR Peak: 0.28 W/kg

SAR 10g (W/Kg)	0.083204
SAR 1g (W/Kg)	0.203276

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2877	0.1404	0.0526	0.0350	0.0333	0.0296	0.0339



**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: 2017.08.09

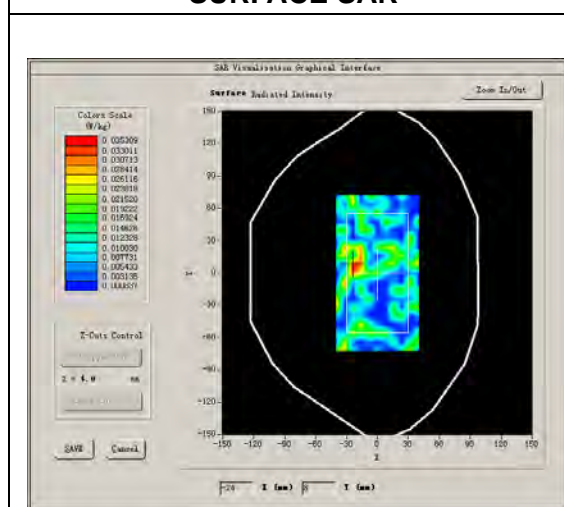
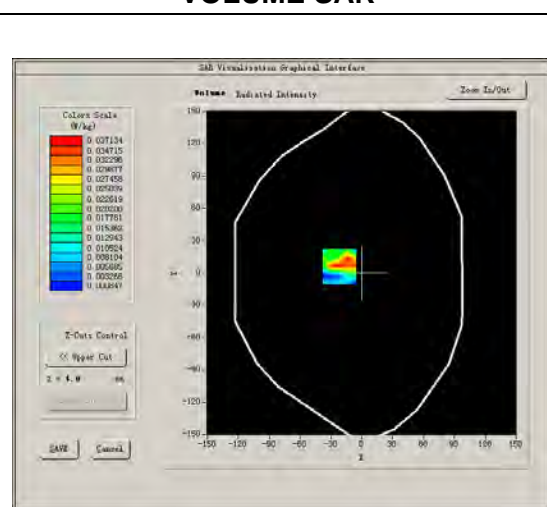
Measurement duration: 13 minutes 32 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 48)

<b>Frequency (MHz)</b>	5240.000000
<b>Relative permittivity (real part)</b>	48.273014
<b>Conductivity (S/m)</b>	5.543260
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	22.11
<b>Crest factor:</b>	1:1

**SURFACE SAR****VOLUME SAR**



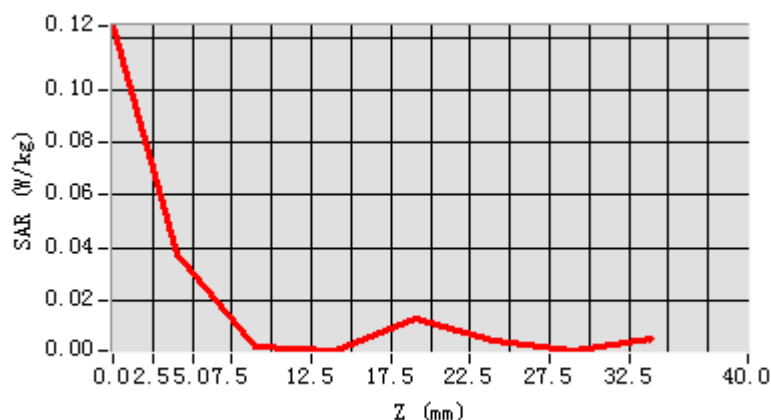


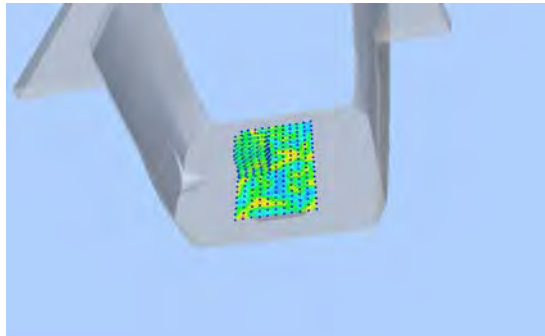
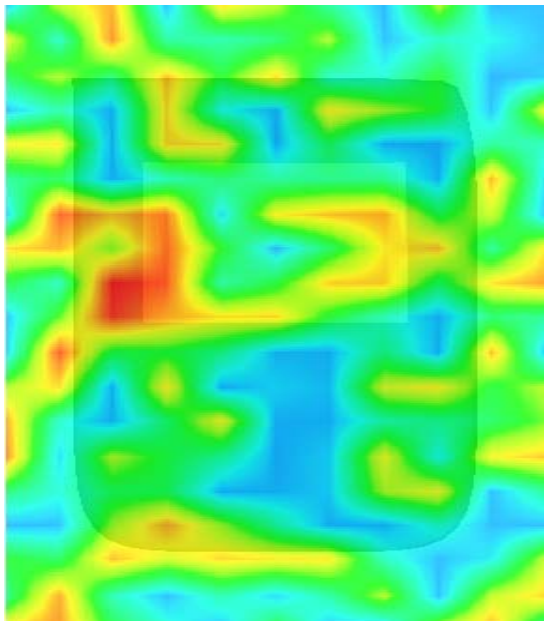
Maximum location: X=-22.00, Y=6.00

SAR Peak: 0.13 W/kg

SAR 10g (W/Kg)	0.018666
SAR 1g (W/Kg)	0.047568

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1242	0.0371	0.0025	0.0010	0.0135	0.0048	0.0012



3D screen shot	Hot spot position
	



## MEASUREMENT 8

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 33 seconds

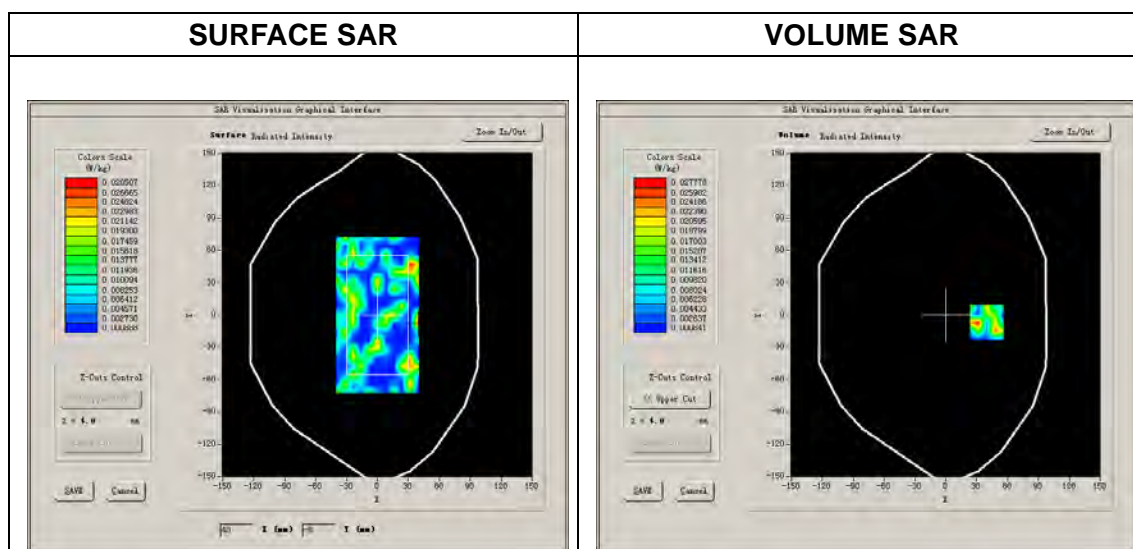
### A. Experimental conditions.

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

### B. SAR Measurement Results

Middle Band SAR (Channel 116)

<b>Frequency (MHz)</b>	5580.000000
<b>Relative permittivity (real part)</b>	48.394381
<b>Conductivity (S/m)</b>	5.7432600
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.69
<b>Crest factor:</b>	1:1



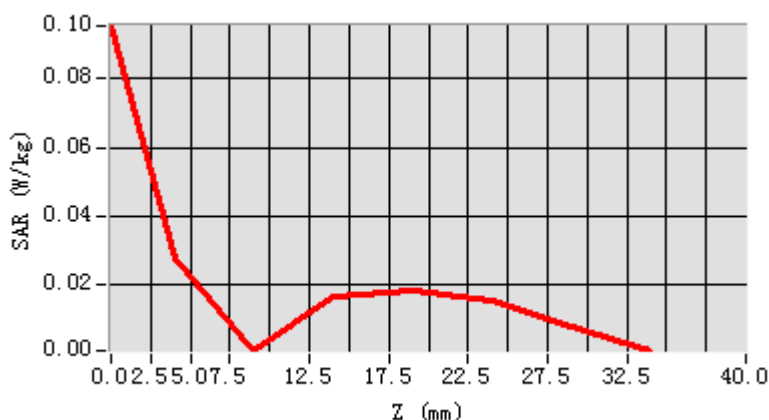


Maximum location: X=40.00, Y=-7.00

SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.013596
SAR 1g (W/Kg)	0.030597

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0952	0.0278	0.0010	0.0165	0.0186	0.0157	0.0082



3D screen shot	Hot spot position

**MEASUREMENT 9**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

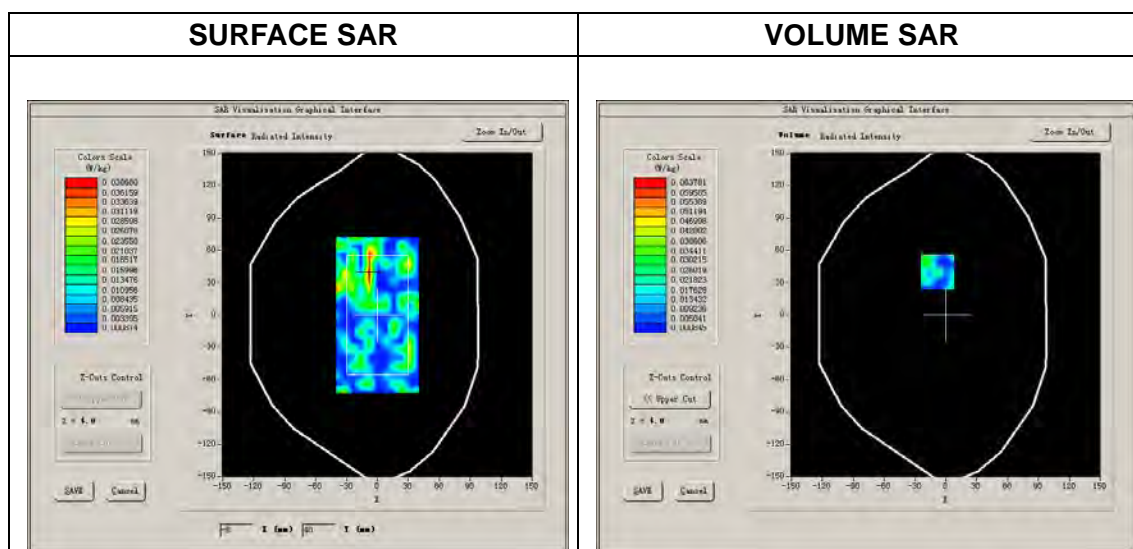
Measurement duration: 13 minutes 33 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 151)

<b>Frequency (MHz)</b>	5755.000000
<b>Relative permittivity (real part)</b>	48.093428
<b>Conductivity (S/m)</b>	5.930716
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.02
<b>Crest factor:</b>	1:1



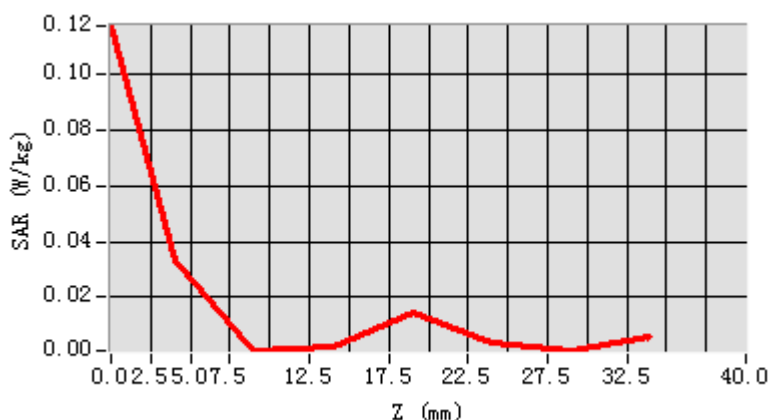


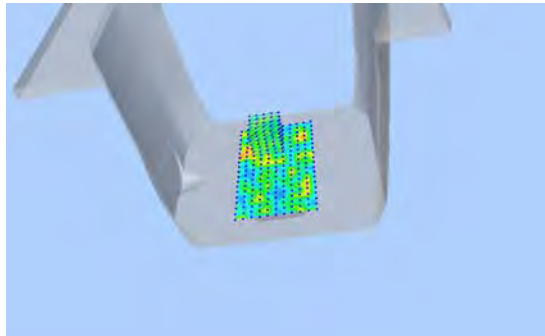
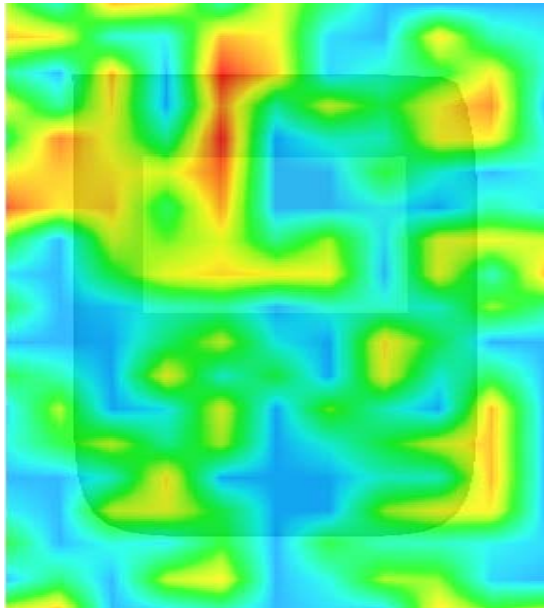
Maximum location: X=-8.00, Y=40.00

SAR Peak: 0.11 W/kg

SAR 10g (W/Kg)	0.012327
SAR 1g (W/Kg)	0.029865

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1171	0.0331	0.0010	0.0025	0.0145	0.0041	0.0010



3D screen shot	Hot spot position
	

**MEASUREMENT 10**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

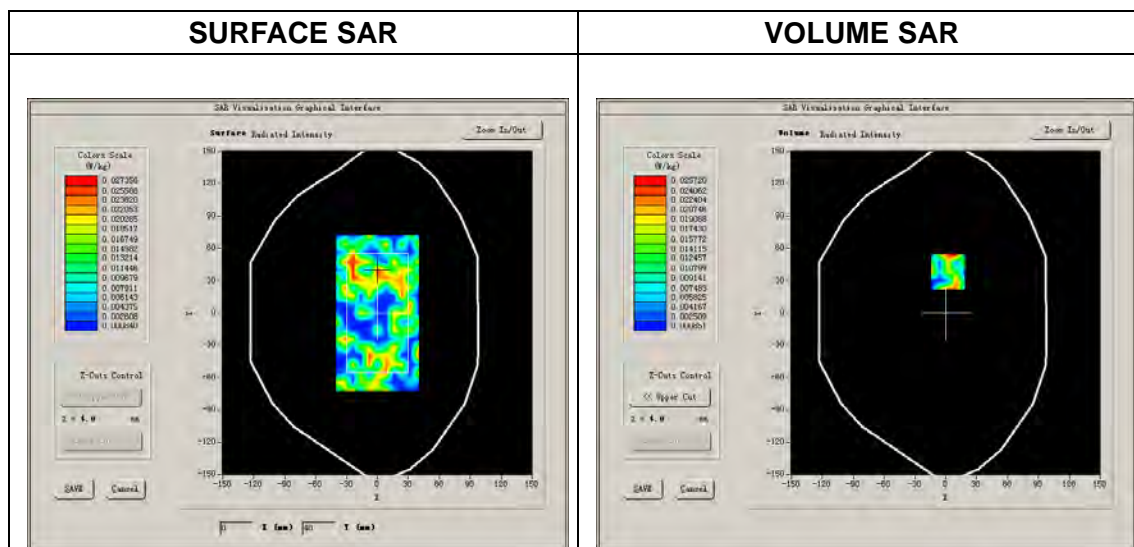
Measurement duration: 13 minutes 30 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 48)

<b>Frequency (MHz)</b>	5240.000000
<b>Relative permittivity (real part)</b>	48.273014
<b>Conductivity (S/m)</b>	5.543260
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	22.11
<b>Crest factor:</b>	1:1





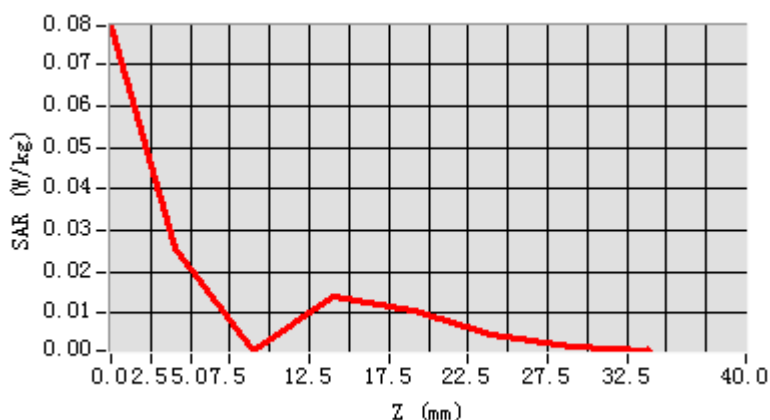


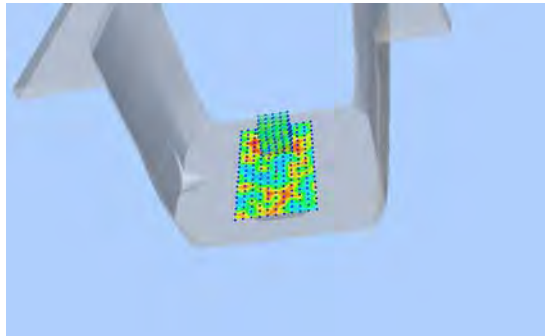
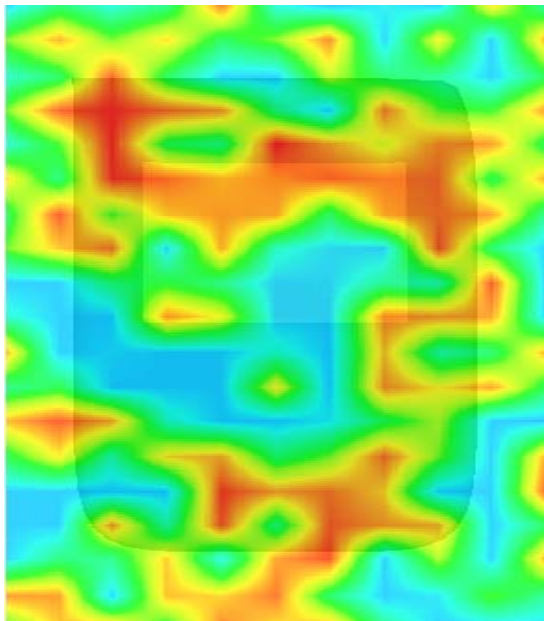
Maximum location: X=2.00, Y=38.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.010081
SAR 1g (W/Kg)	0.017263

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0794	0.0257	0.0012	0.0141	0.0106	0.0050	0.0022



3D screen shot	Hot spot position
	



## MEASUREMENT 11

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 30 seconds

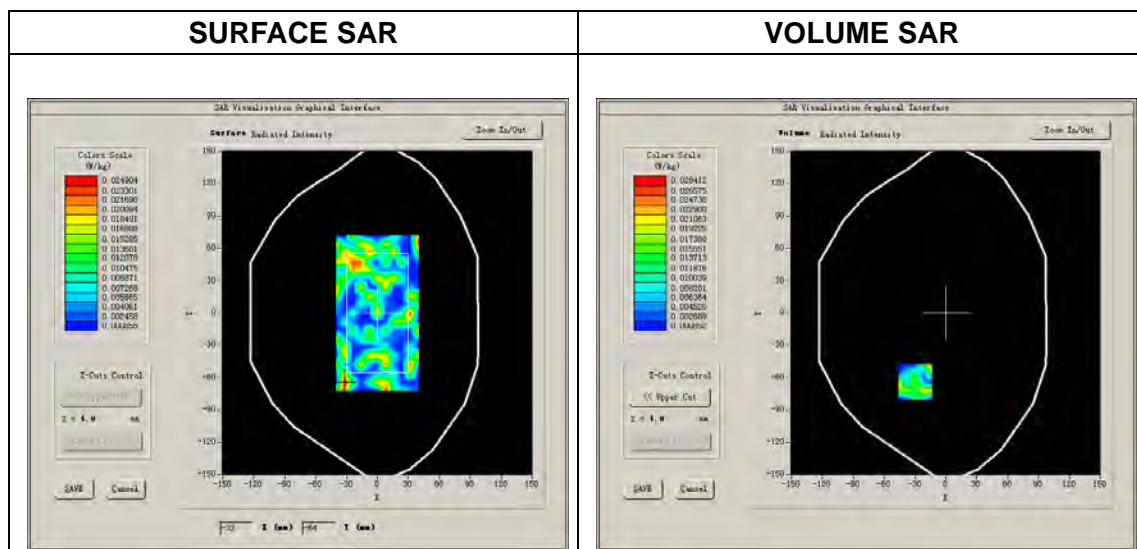
### A. Experimental conditions.

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

### B. SAR Measurement Results

Middle Band SAR (Channel 116)

<b>Frequency (MHz)</b>	5580.000000
<b>Relative permittivity (real part)</b>	48.394381
<b>Conductivity (S/m)</b>	5.7432600
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.69
<b>Crest factor:</b>	1:1





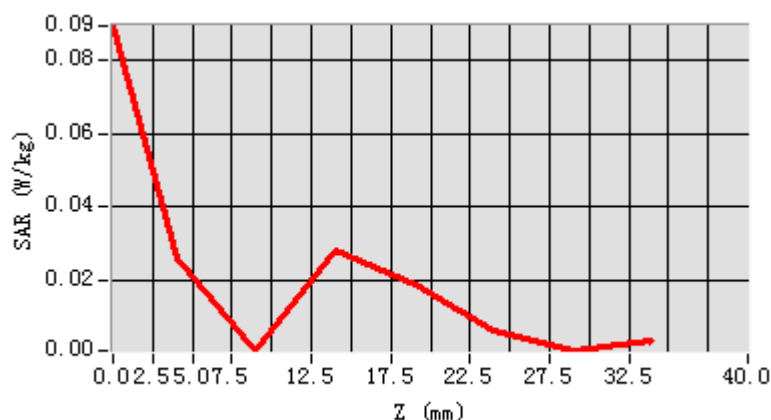


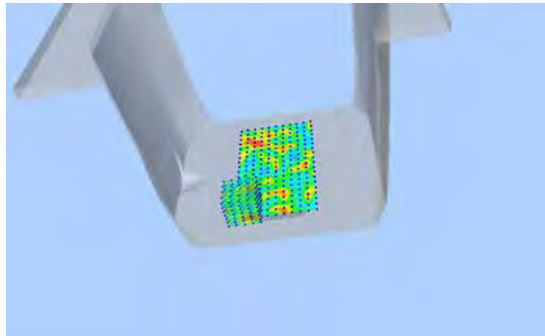
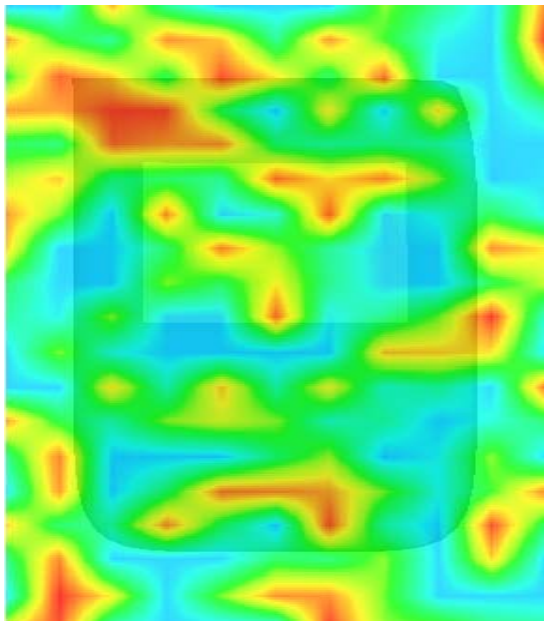
Maximum location: X=-30.00, Y=-64.00

SAR Peak: 0.06 W/kg

SAR 10g (W/Kg)	0.011009
SAR 1g (W/Kg)	0.018086

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0891	0.0260	0.0010	0.0284	0.0190	0.0066	0.0010



3D screen shot	Hot spot position
	

**MEASUREMENT 12**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

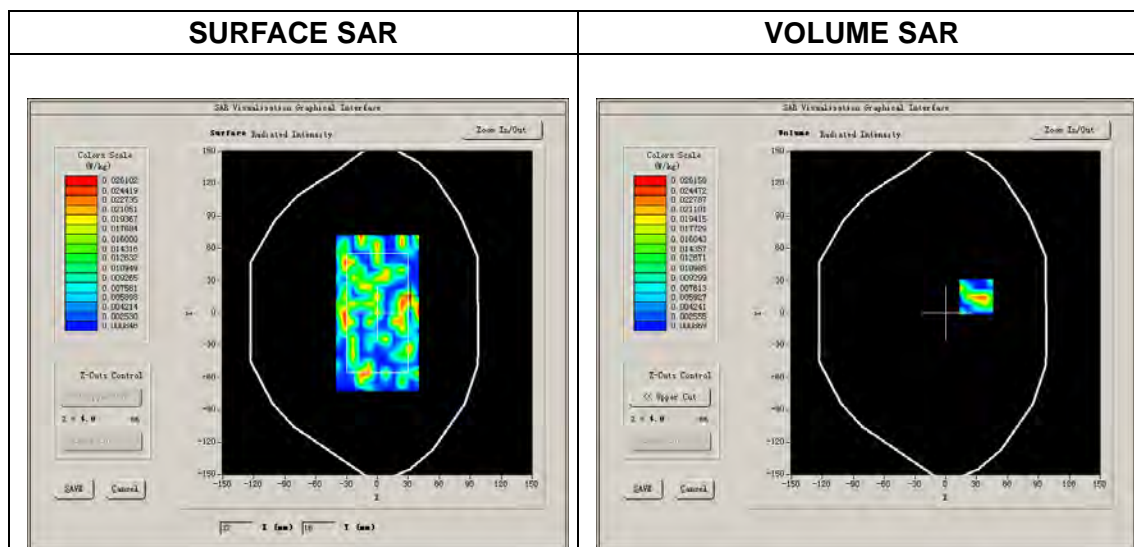
Measurement duration: 13 minutes 33 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 116)

<b>Frequency (MHz)</b>	5580.000000
<b>Relative permittivity (real part)</b>	48.394381
<b>Conductivity (S/m)</b>	5.7432600
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.69
<b>Crest factor:</b>	1:1



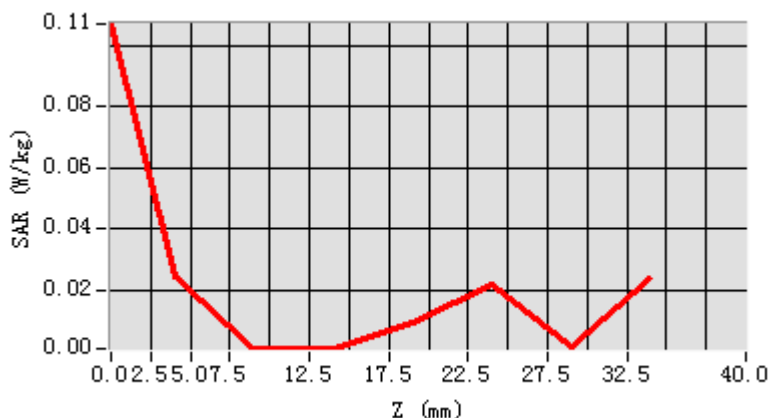


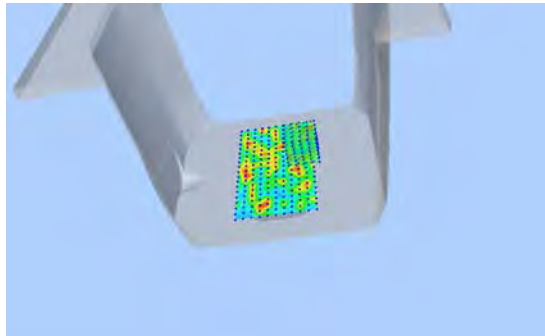
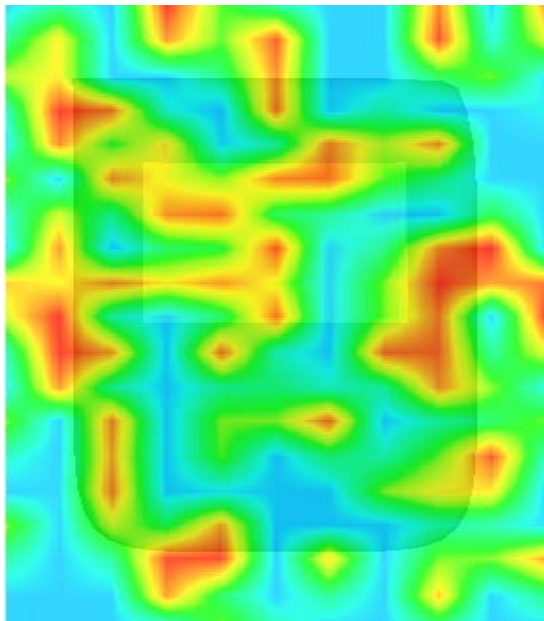
Maximum location: X=30.00, Y=15.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.010027
SAR 1g (W/Kg)	0.026380

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1070	0.0247	0.0010	0.0010	0.0095	0.0217	0.0015



3D screen shot	Hot spot position
	

**MEASUREMENT 13**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

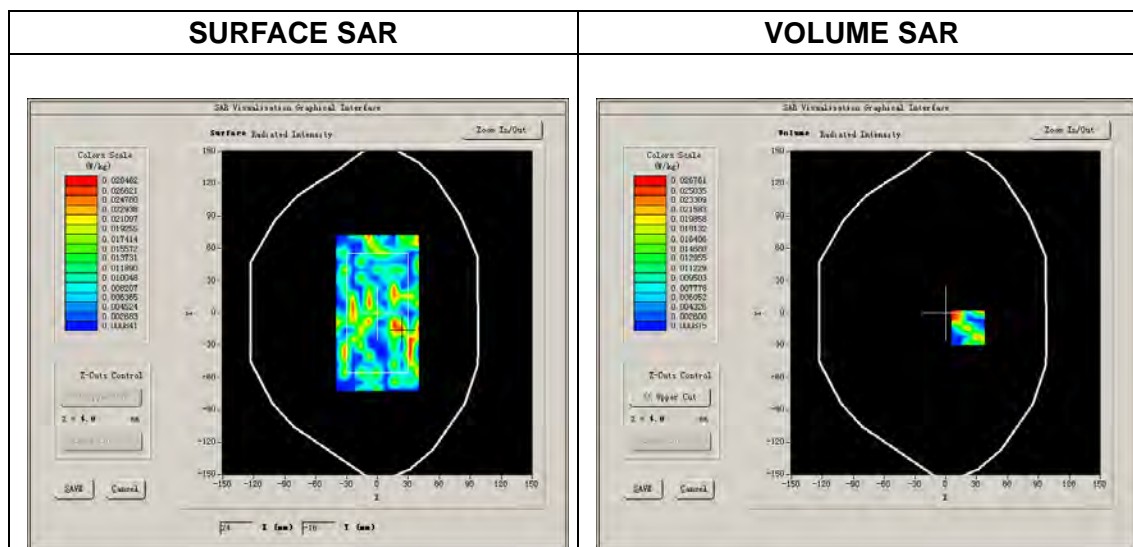
Measurement duration: 13 minutes 31 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 48)

<b>Frequency (MHz)</b>	5240.000000
<b>Relative permittivity (real part)</b>	48.273014
<b>Conductivity (S/m)</b>	5.543260
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	22.11
<b>Crest factor:</b>	1:1

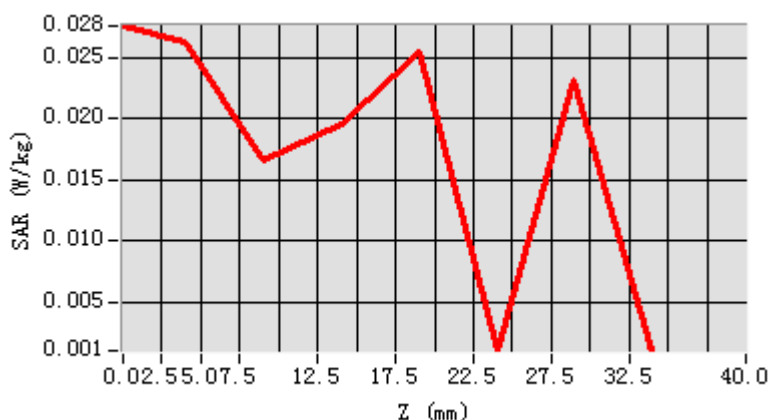


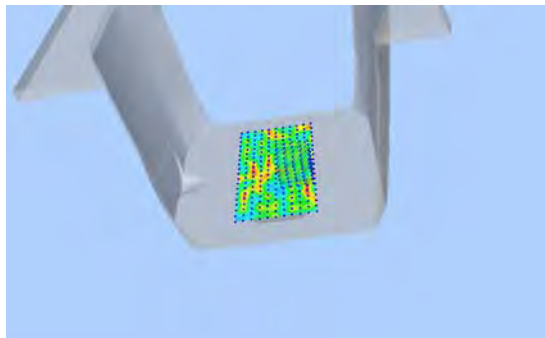
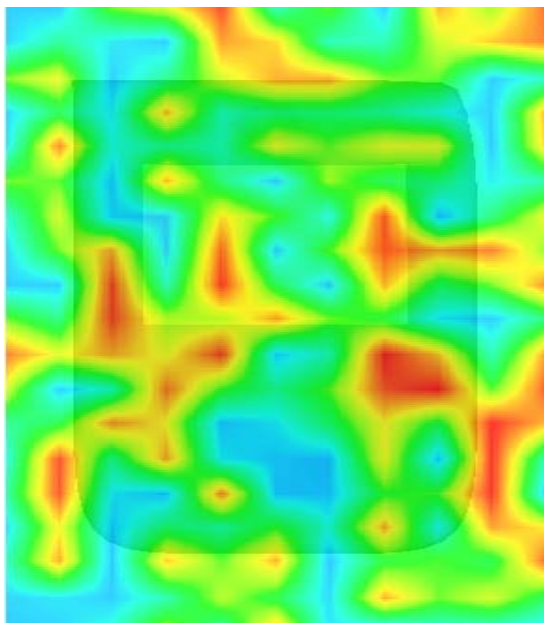
Maximum location: X=22.00, Y=-14.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.014525
SAR 1g (W/Kg)	0.012244

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0276	0.0264	0.0166	0.0195	0.0255	0.0011	0.0231



3D screen shot	Hot spot position
	

**MEASUREMENT 14**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

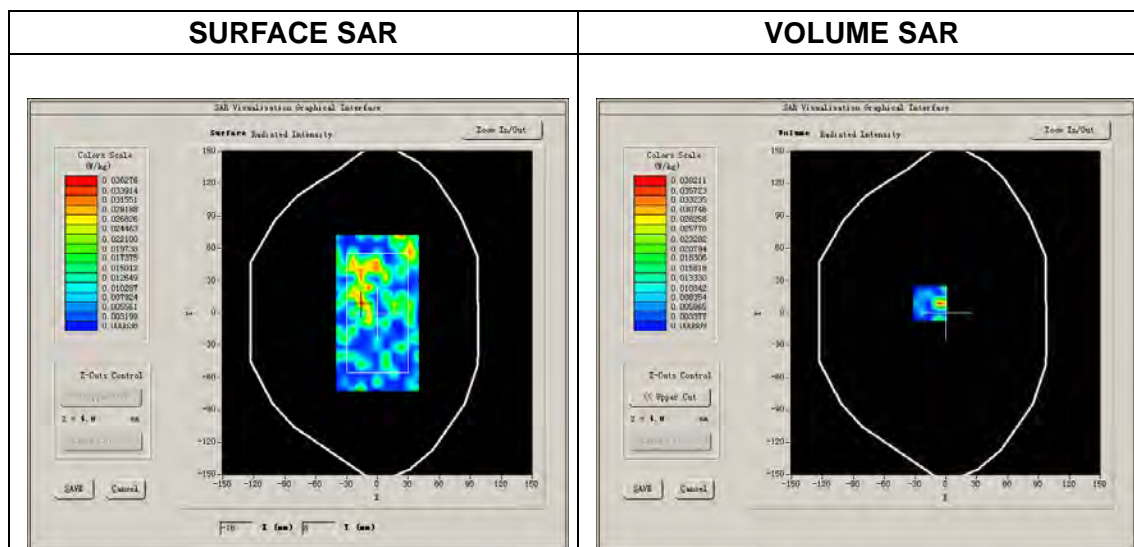
Measurement duration: 13 minutes 30 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 116)

<b>Frequency (MHz)</b>	5580.000000
<b>Relative permittivity (real part)</b>	48.394381
<b>Conductivity (S/m)</b>	5.7432600
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.69
<b>Crest factor:</b>	1:1





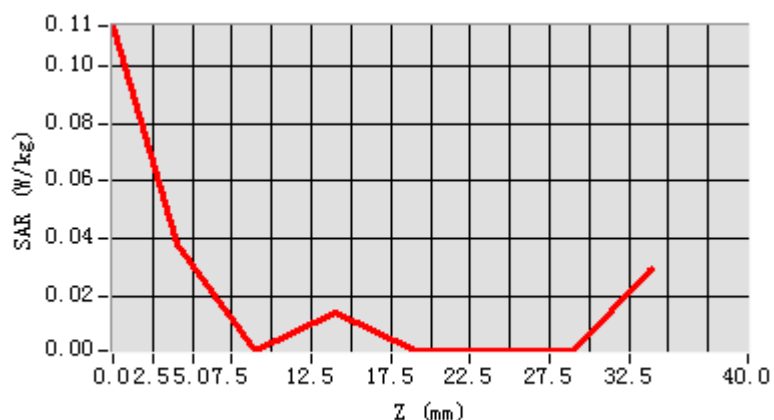


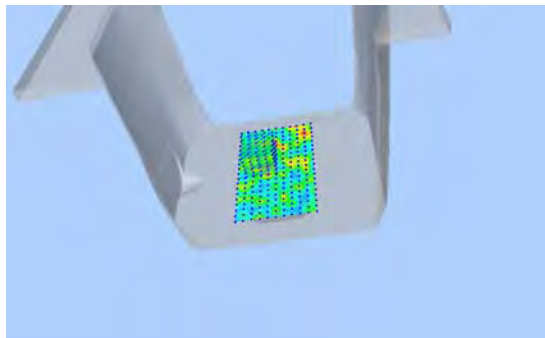
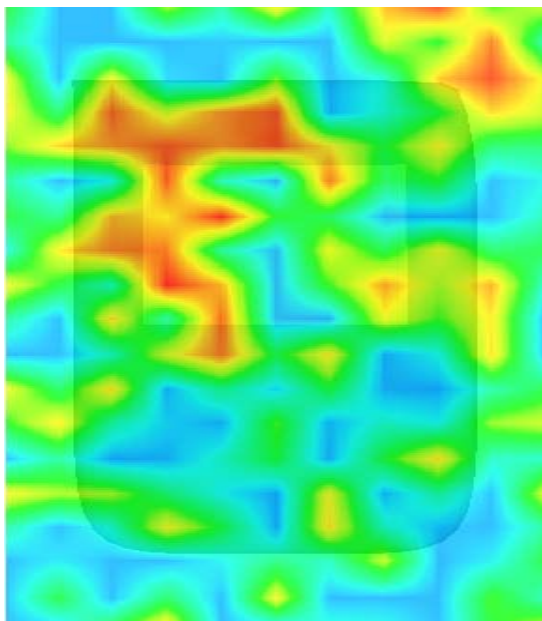
Maximum location: X=-15.00, Y=9.00

SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.010518
SAR 1g (W/Kg)	0.028290

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1139	0.0382	0.0010	0.0145	0.0010	0.0010	0.0010



3D screen shot	Hot spot position
	

**MEASUREMENT 15**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

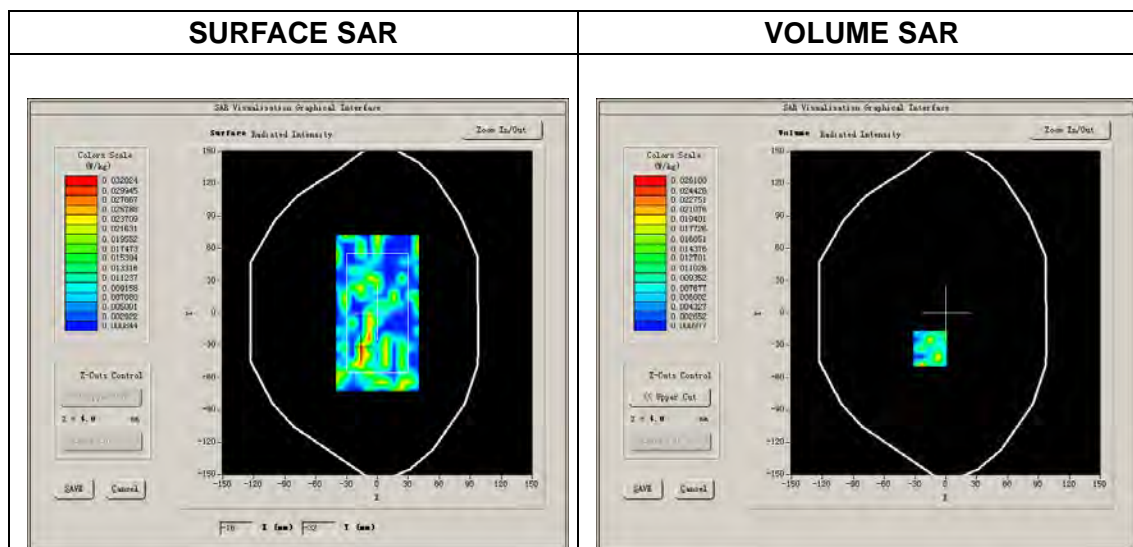
Measurement duration: 13 minutes 31 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 48)

<b>Frequency (MHz)</b>	5240.000000
<b>Relative permittivity (real part)</b>	48.273014
<b>Conductivity (S/m)</b>	5.543260
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	22.11
<b>Crest factor:</b>	1:1





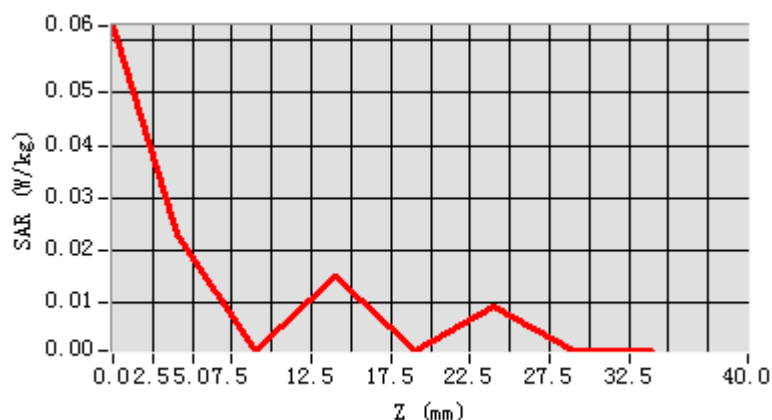


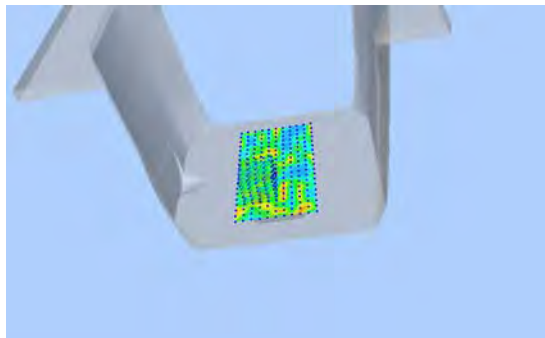
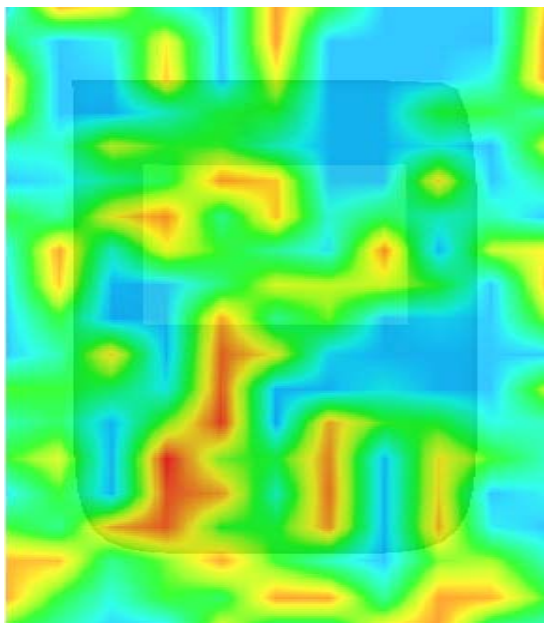
Maximum location: X=-15.00, Y=-33.00

SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.010237
SAR 1g (W/Kg)	0.019596

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0627	0.0232	0.0010	0.0151	0.0010	0.0092	0.0010



3D screen shot	Hot spot position
	



## MEASUREMENT 16

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 31 seconds

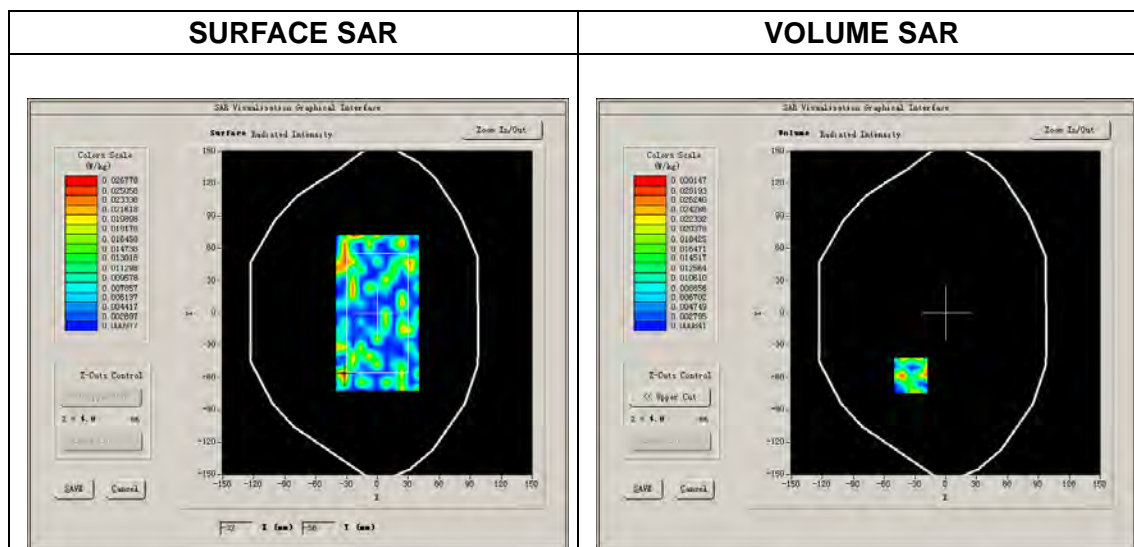
### A. Experimental conditions.

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

### B. SAR Measurement Results

Middle Band SAR (Channel 151)

<b>Frequency (MHz)</b>	5755.000000
<b>Relative permittivity (real part)</b>	48.093428
<b>Conductivity (S/m)</b>	5.930716
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.02
<b>Crest factor:</b>	1:1

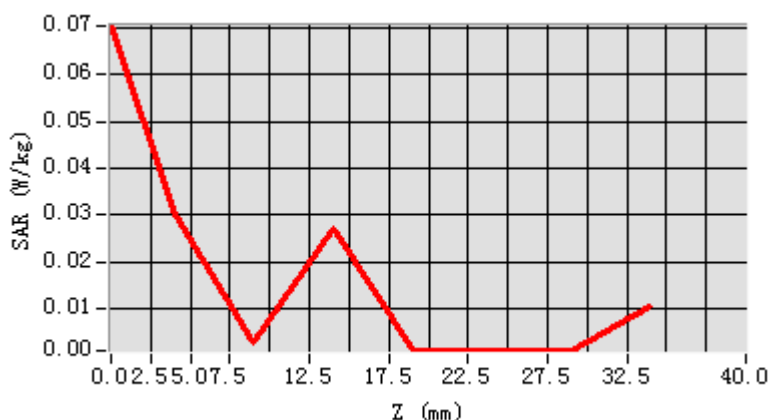


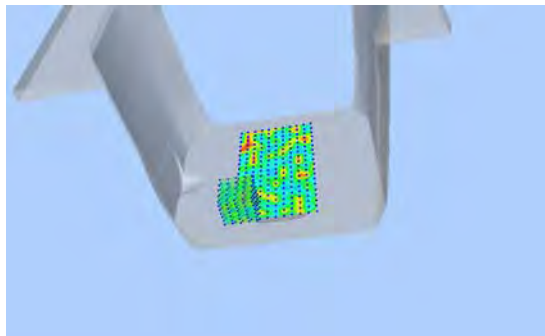
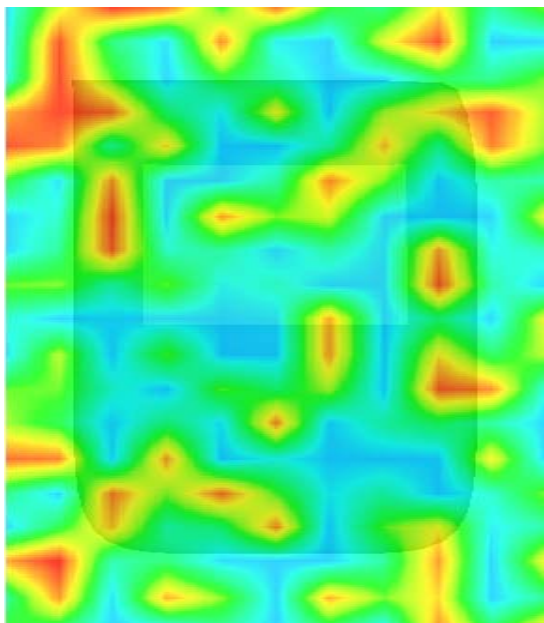
Maximum location: X=-34.00, Y=-58.00

SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.011875
SAR 1g (W/Kg)	0.026515

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0705	0.0301	0.0025	0.0271	0.0010	0.0010	0.0010



3D screen shot	Hot spot position
	



## MEASUREMENT 17

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 30 seconds

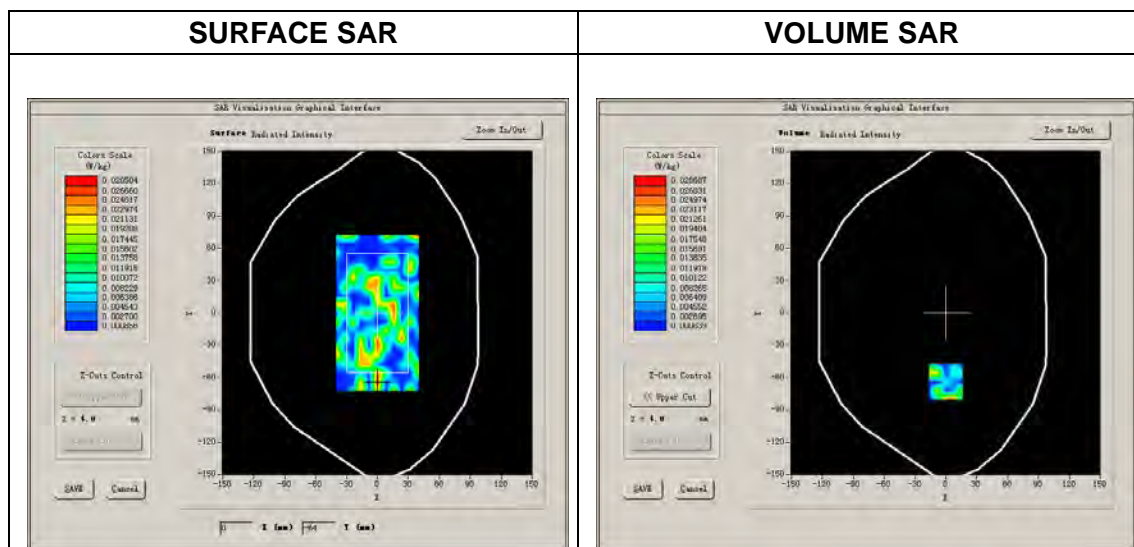
### A. Experimental conditions.

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

### B. SAR Measurement Results

Middle Band SAR (Channel 151)

<b>Frequency (MHz)</b>	5755.000000
<b>Relative permittivity (real part)</b>	48.093428
<b>Conductivity (S/m)</b>	5.930716
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.02
<b>Crest factor:</b>	1:1



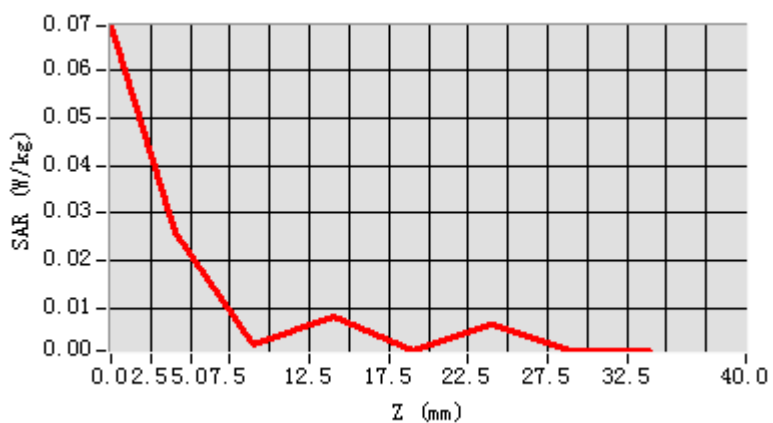


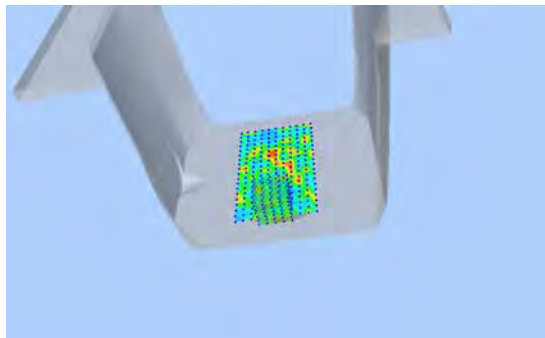
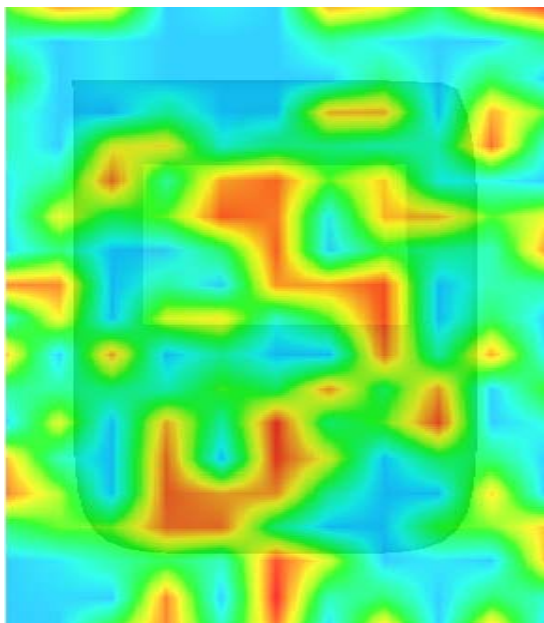
Maximum location: X=0.00, Y=-64.00

SAR Peak: 0.06 W/kg

SAR 10g (W/Kg)	0.009469
SAR 1g (W/Kg)	0.022186

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0694	0.0260	0.0022	0.0082	0.0010	0.0063	0.0010



3D screen shot	Hot spot position
	



## MEASUREMENT 18

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 30 seconds

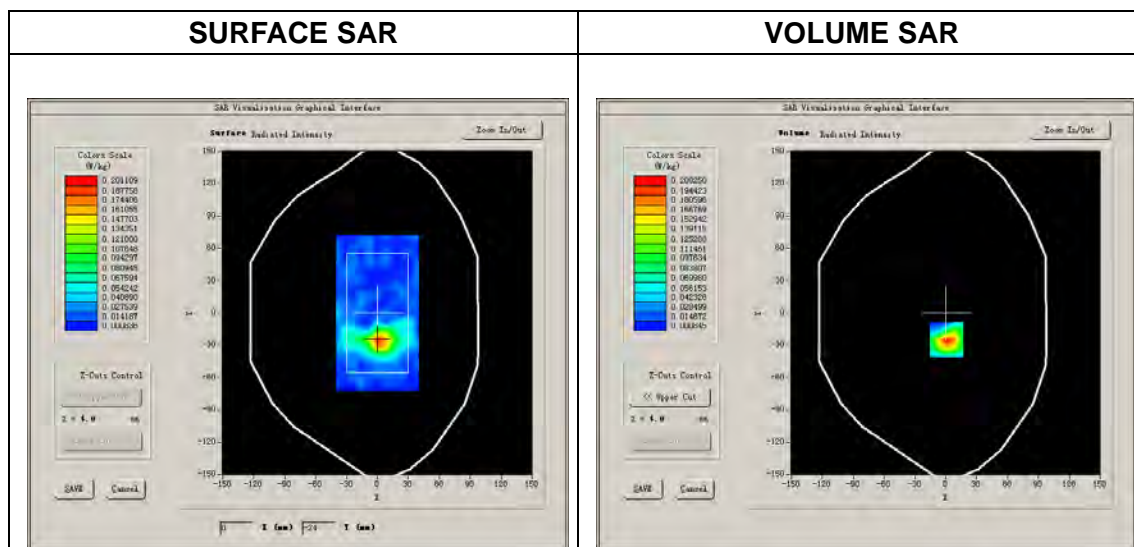
### A. Experimental conditions.

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

### B. SAR Measurement Results

Middle Band SAR (Channel 151)

<b>Frequency (MHz)</b>	5755.000000
<b>Relative permittivity (real part)</b>	48.093428
<b>Conductivity (S/m)</b>	5.930716
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.02
<b>Crest factor:</b>	1:1



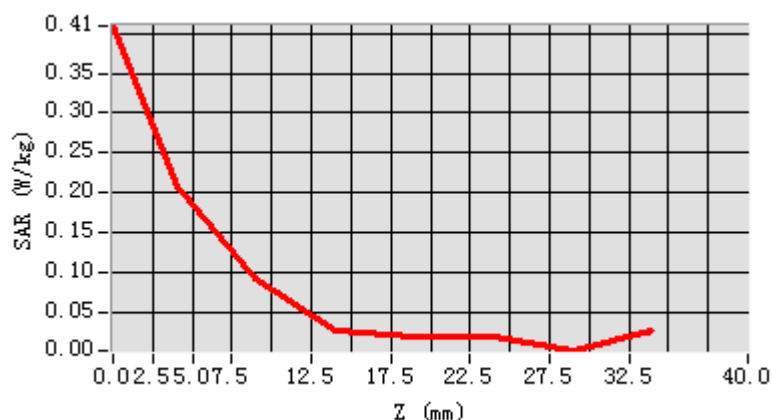


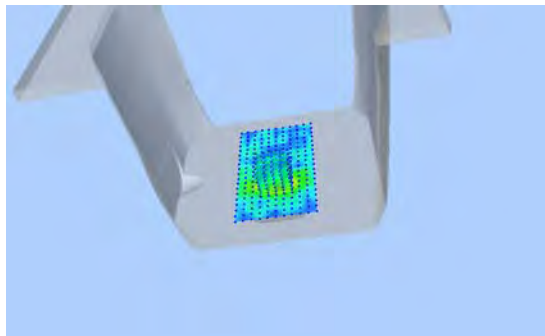
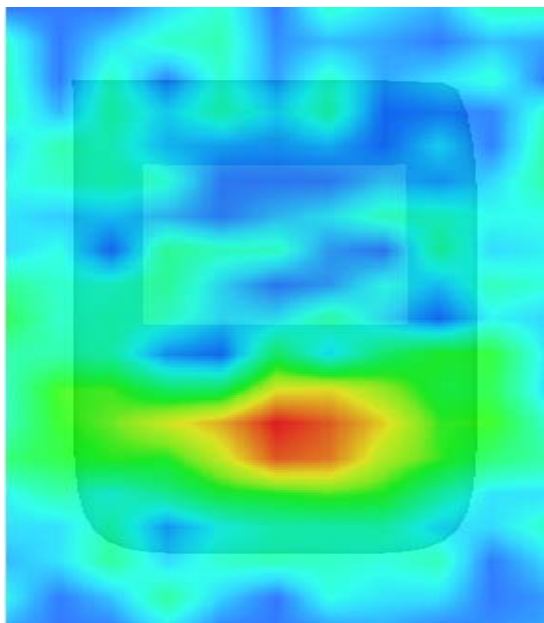
Maximum location: X=1.00, Y=-25.00

SAR Peak: 0.43 W/kg

SAR 10g (W/Kg)	0.013366
SAR 1g (W/Kg)	0.021283

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.4094	0.2082	0.0907	0.0253	0.0190	0.0190	0.0010



3D screen shot	Hot spot position
	



**MEASUREMENT 19**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

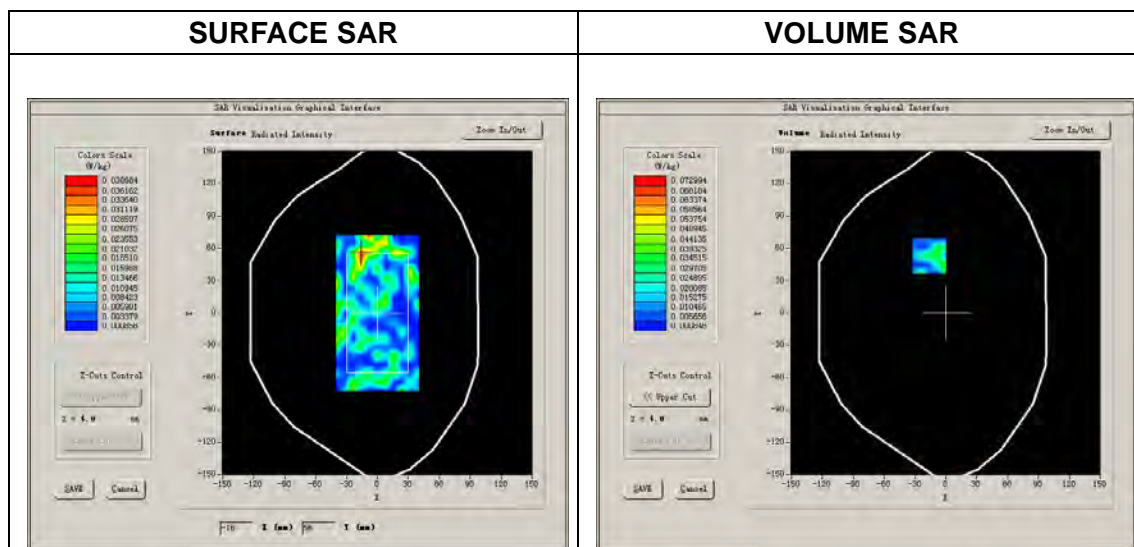
Measurement duration: 13 minutes 41 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 151)

<b>Frequency (MHz)</b>	5755.000000
<b>Relative permittivity (real part)</b>	48.093428
<b>Conductivity (S/m)</b>	5.930716
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.02
<b>Crest factor:</b>	1:1



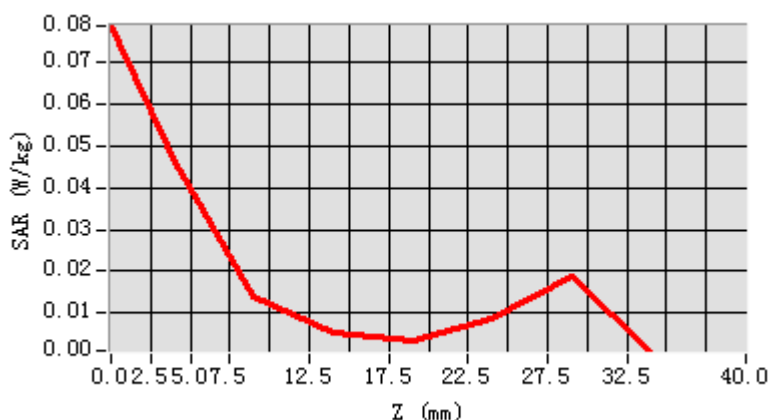


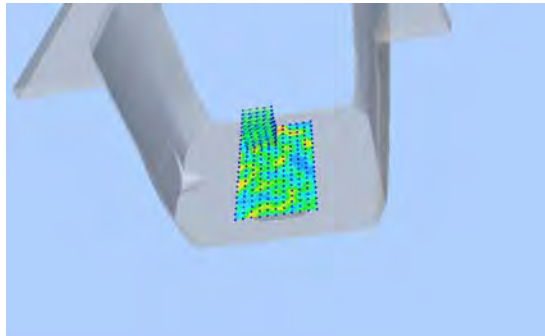
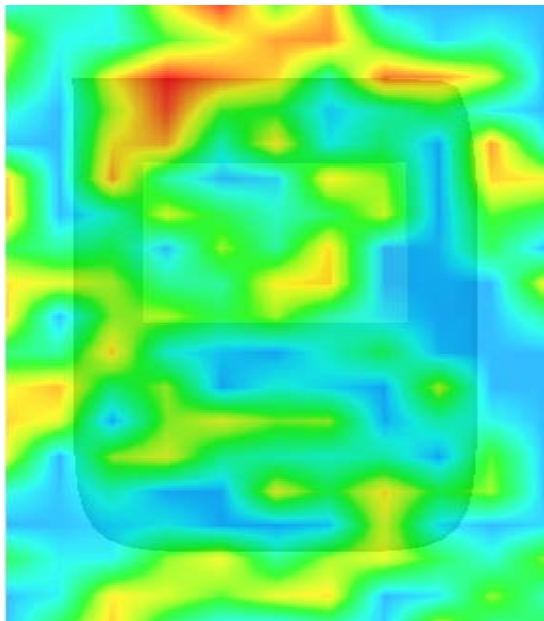
Maximum location: X=-16.00, Y=53.00

SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.018765
SAR 1g (W/Kg)	0.032472

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0789	0.0462	0.0139	0.0053	0.0035	0.0087	0.0188



3D screen shot	Hot spot position
	



## MEASUREMENT 20

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 32 seconds

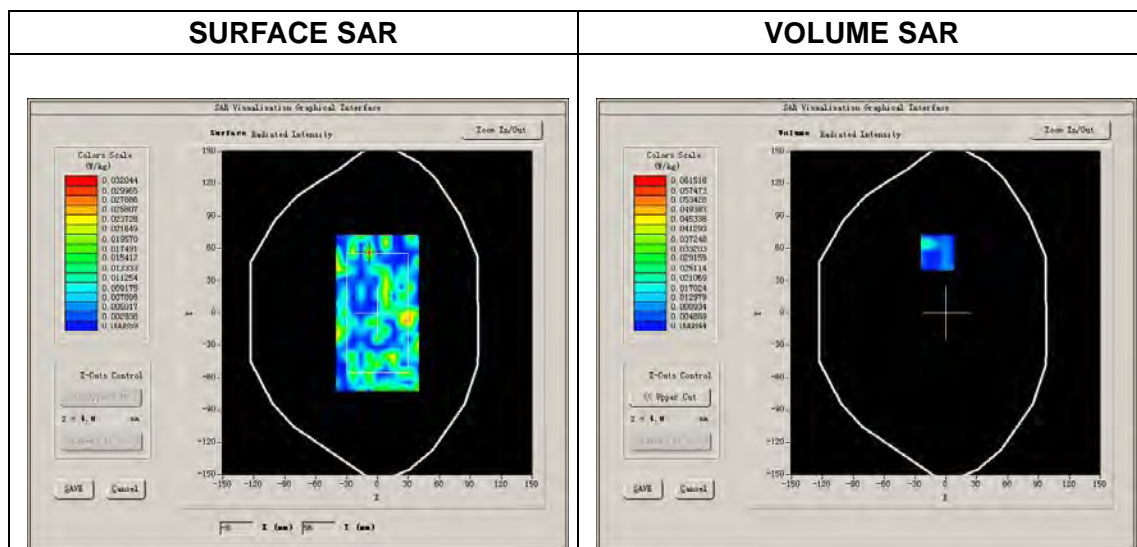
### A. Experimental conditions.

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

### B. SAR Measurement Results

Middle Band SAR (Channel 116)

<b>Frequency (MHz)</b>	5580.000000
<b>Relative permittivity (real part)</b>	48.394381
<b>Conductivity (S/m)</b>	5.7432600
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.69
<b>Crest factor:</b>	1:1



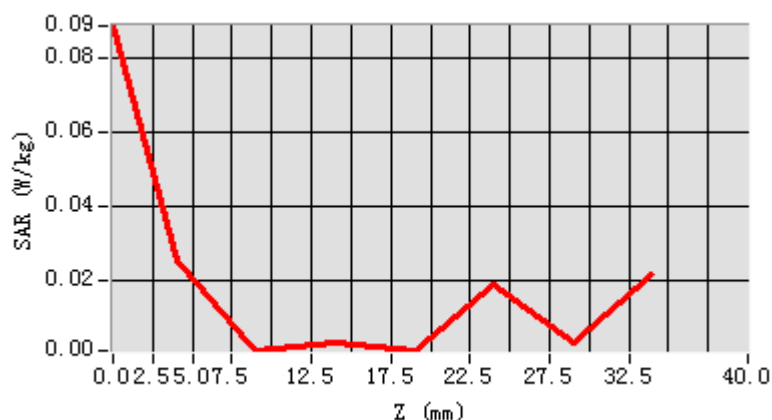


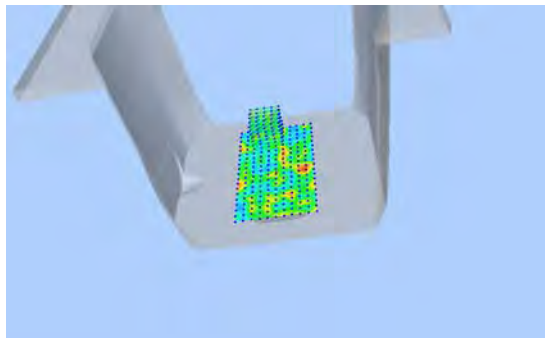
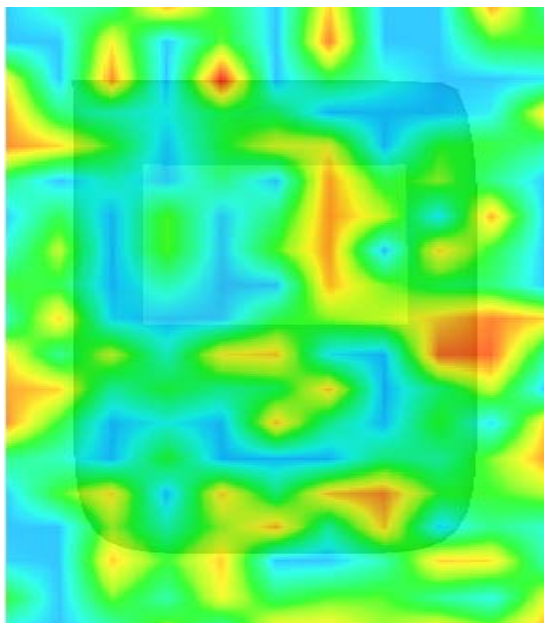
Maximum location: X=-8.00, Y=56.00

SAR Peak: 0.07 W/kg

SAR 10g (W/Kg)	0.009691
SAR 1g (W/Kg)	0.023353

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0890	0.0251	0.0010	0.0032	0.0010	0.0188	0.0031



3D screen shot	Hot spot position
	

**MEASUREMENT 21**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 31 seconds

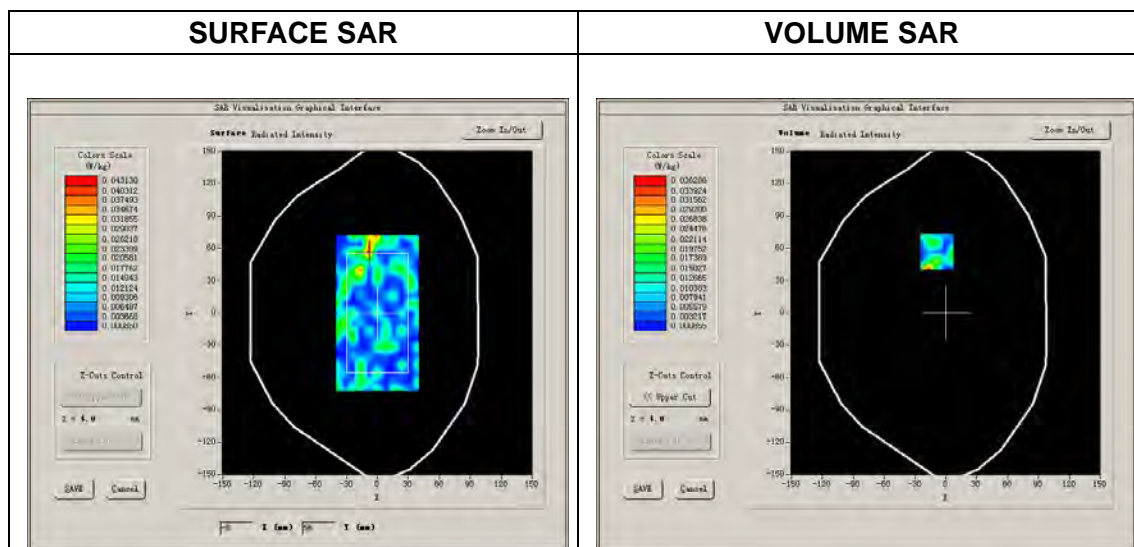
**A. Experimental conditions.**

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

**B. SAR Measurement Results**

Middle Band SAR (Channel 48)

<b>Frequency (MHz)</b>	5240.000000
<b>Relative permittivity (real part)</b>	48.273014
<b>Conductivity (S/m)</b>	5.543260
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	22.11
<b>Crest factor:</b>	1:1



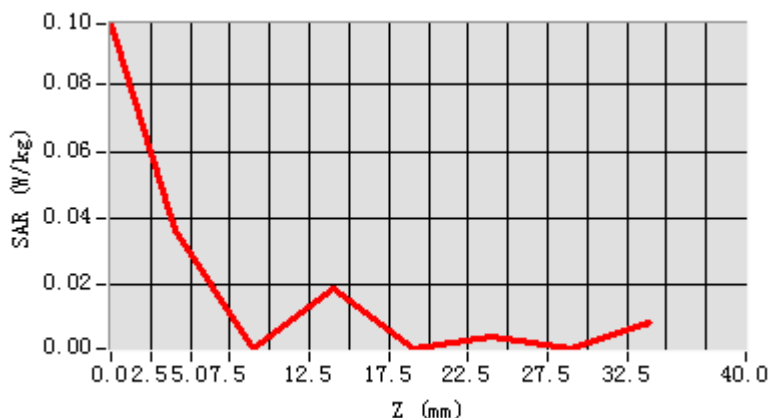


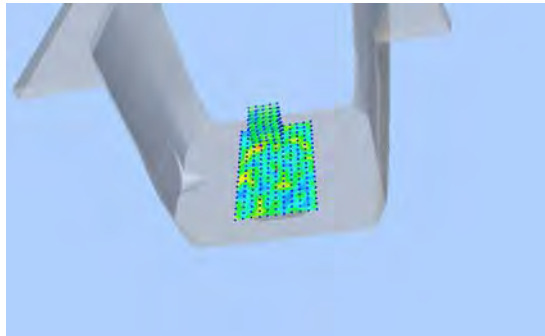
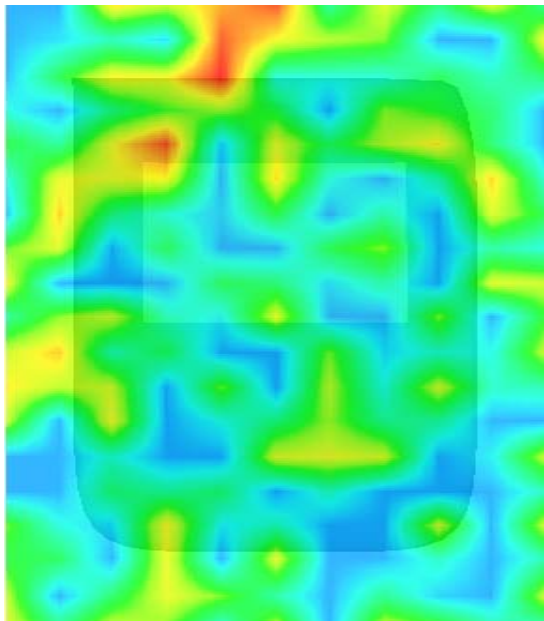
Maximum location: X=-9.00, Y=57.00

SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.010487
SAR 1g (W/Kg)	0.041648

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0981	0.0363	0.0010	0.0192	0.0010	0.0044	0.0010



3D screen shot	Hot spot position
	



**MEASUREMENT 22**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

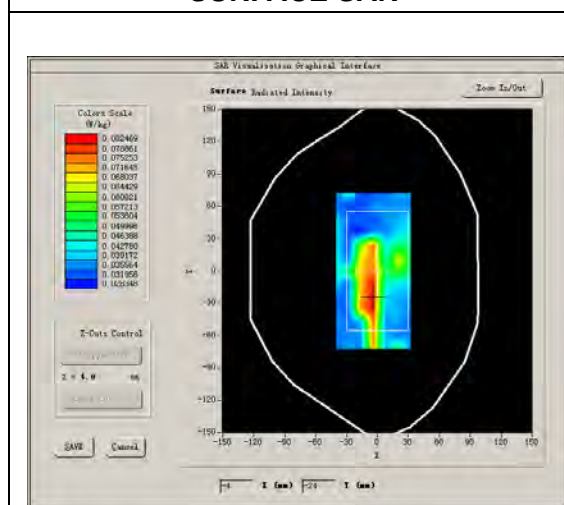
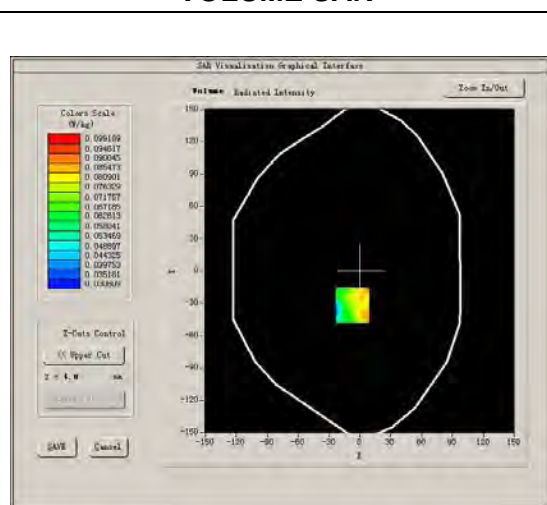
Measurement duration: 13 minutes 1 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 48)

<b>Frequency (MHz)</b>	5240.000000
<b>Relative permittivity (real part)</b>	48.273014
<b>Conductivity (S/m)</b>	5.543260
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	22.11
<b>Crest factor:</b>	1:1

**SURFACE SAR****VOLUME SAR**

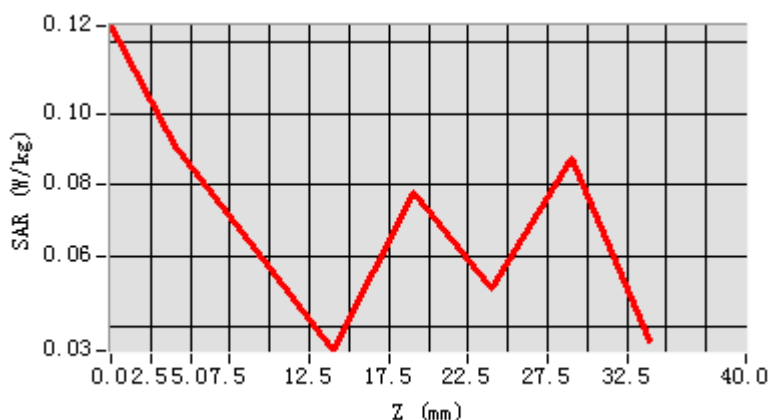


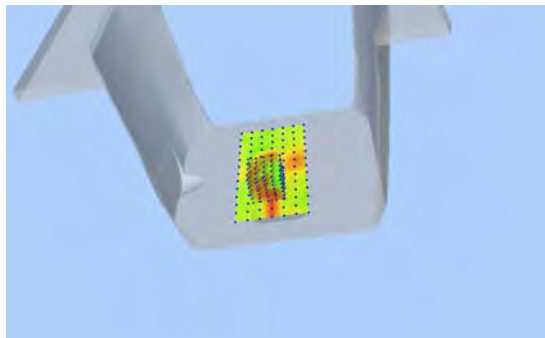
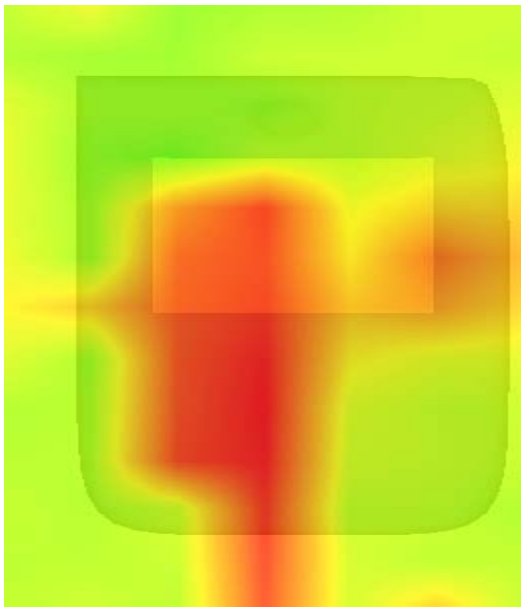
Maximum location: X=-7.00, Y=-32.00

SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.006546
SAR 1g (W/Kg)	0.010132

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1247	0.0907	0.0626	0.0332	0.0778	0.0509	0.0874



3D screen shot	Hot spot position
	



## MEASUREMENT 23

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 56 seconds

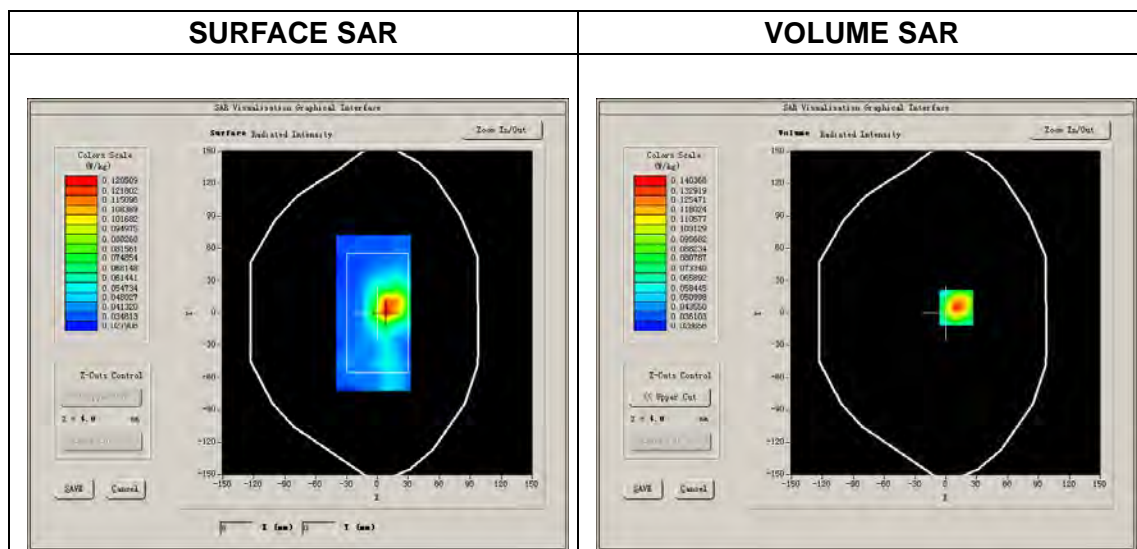
### A. Experimental conditions.

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

### B. SAR Measurement Results

Middle Band SAR (Channel 48)

<b>Frequency (MHz)</b>	5240.000000
<b>Relative permittivity (real part)</b>	48.273014
<b>Conductivity (S/m)</b>	5.543260
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	22.11
<b>Crest factor:</b>	1:1



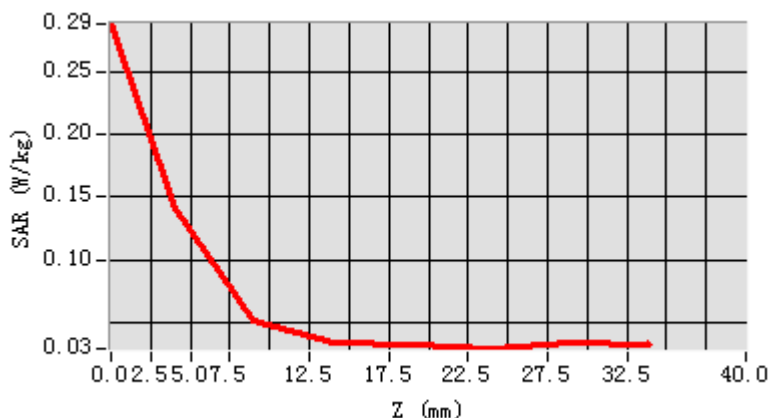


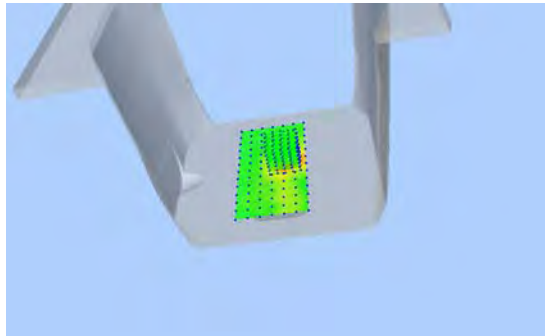
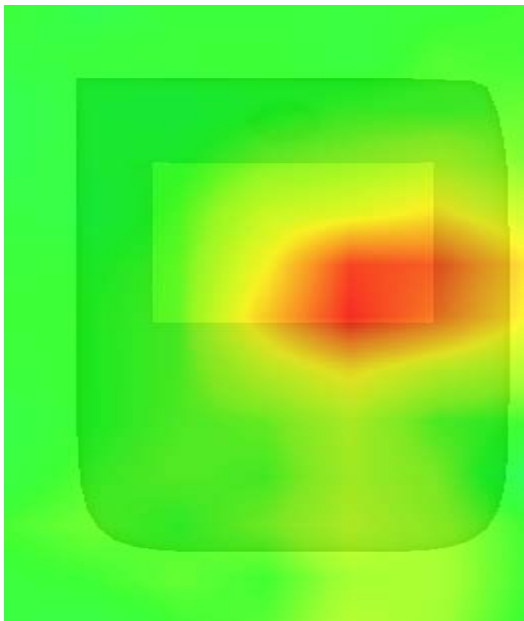
Maximum location: X=10.00, Y=5.00

SAR Peak: 0.28 W/kg

SAR 10g (W/Kg)	0.014204
SAR 1g (W/Kg)	0.023127

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2877	0.1404	0.0526	0.0350	0.0333	0.0296	0.0339



<b>3D screen shot</b>	<b>Hot spot position</b>
	

**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: 2017.08.09

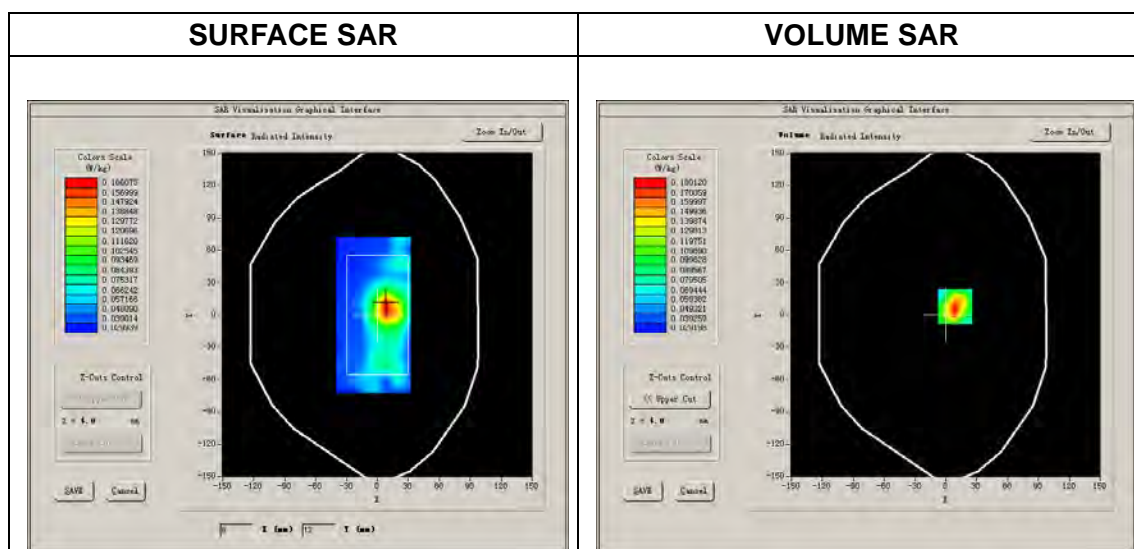
Measurement duration: 13 minutes 58 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 48)

<b>Frequency (MHz)</b>	5240.000000
<b>Relative permittivity (real part)</b>	48.273014
<b>Conductivity (S/m)</b>	5.543260
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	22.11
<b>Crest factor:</b>	1:1



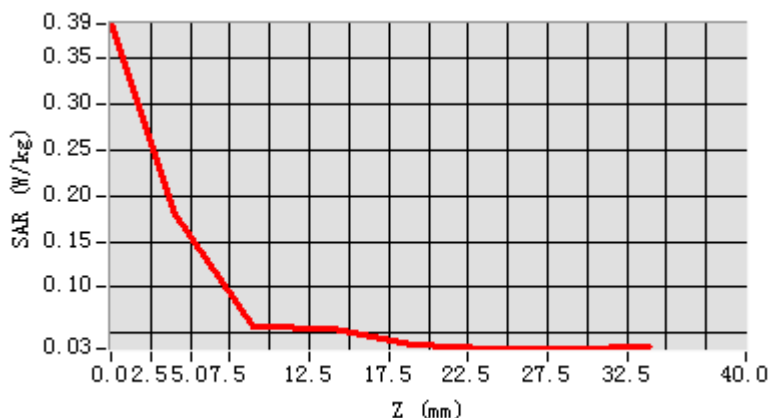


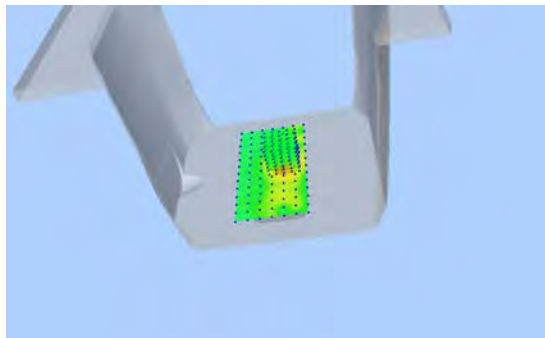
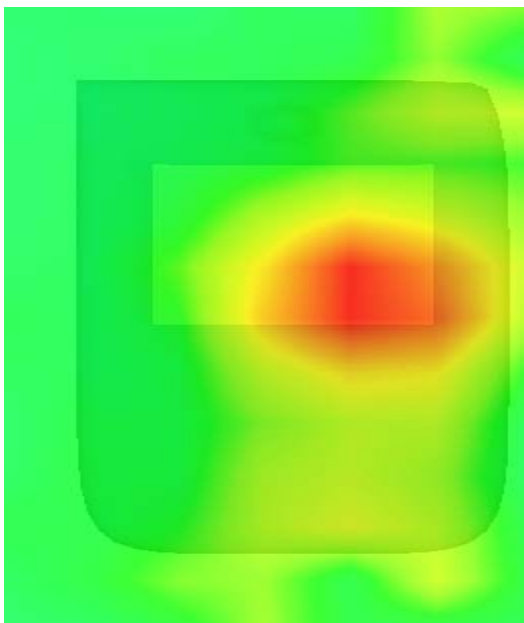
Maximum location: X=9.00, Y=8.00

SAR Peak: 0.32 W/kg

SAR 10g (W/Kg)	0.019683
SAR 1g (W/Kg)	0.029049

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.3877	0.1801	0.0574	0.0557	0.0365	0.0338	0.0331



3D screen shot	Hot spot position
	

**MEASUREMENT 25**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

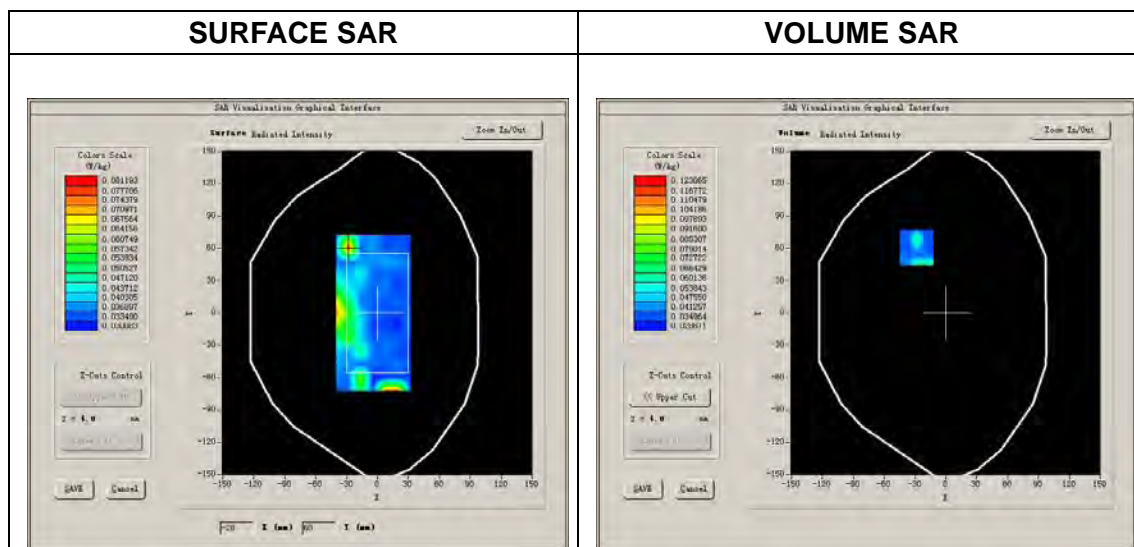
Measurement duration: 13 minutes 58 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 48)

<b>Frequency (MHz)</b>	5240.000000
<b>Relative permittivity (real part)</b>	48.273014
<b>Conductivity (S/m)</b>	5.543260
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	22.11
<b>Crest factor:</b>	1:1

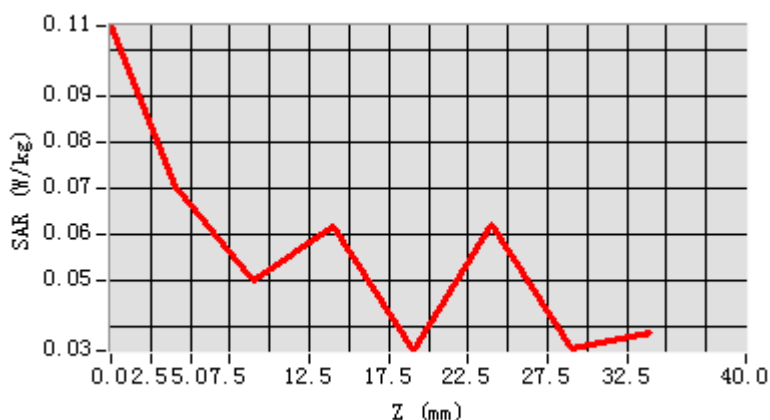


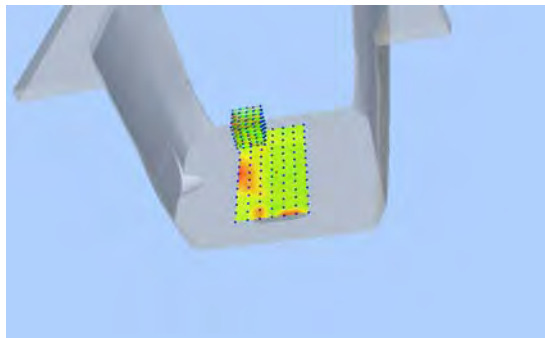
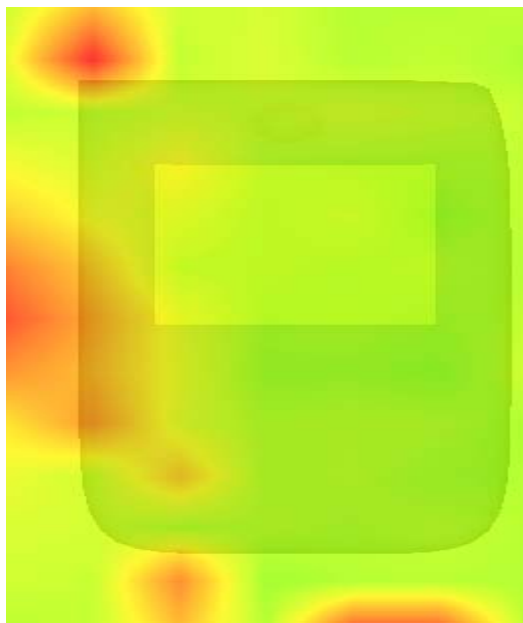
Maximum location: X=-28.00, Y=61.00

SAR Peak: 0.16 W/kg

SAR 10g (W/Kg)	0.009187
SAR 1g (W/Kg)	0.011438

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1053	0.0705	0.0498	0.0616	0.0348	0.0623	0.0354



3D screen shot	Hot spot position
	





## MEASUREMENT 26

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 58 seconds

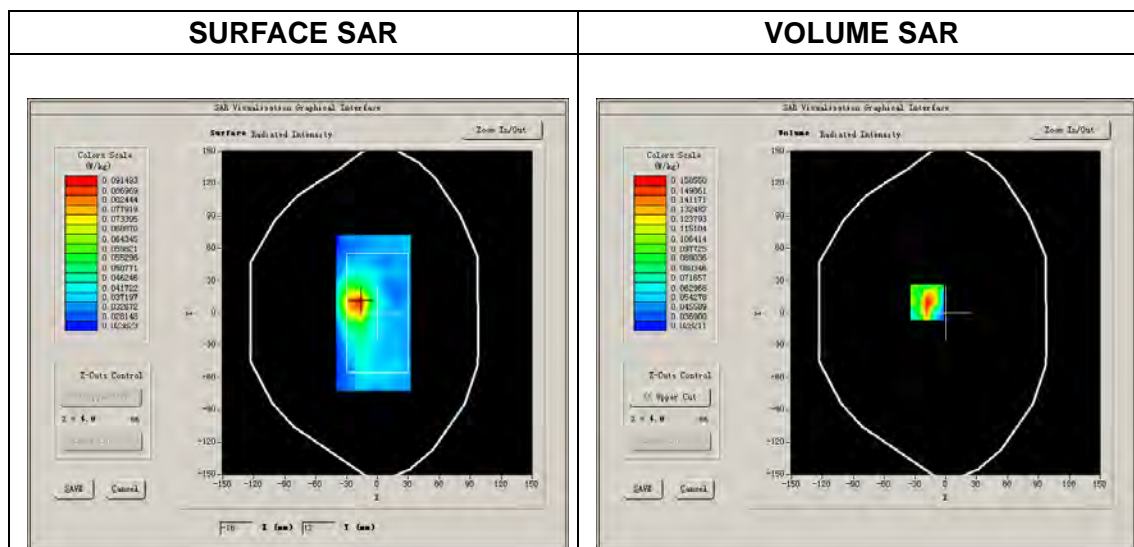
### A. Experimental conditions.

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

### B. SAR Measurement Results

Middle Band SAR (Channel 48)

<b>Frequency (MHz)</b>	5240.000000
<b>Relative permittivity (real part)</b>	48.273014
<b>Conductivity (S/m)</b>	5.543260
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	22.11
<b>Crest factor:</b>	1:1



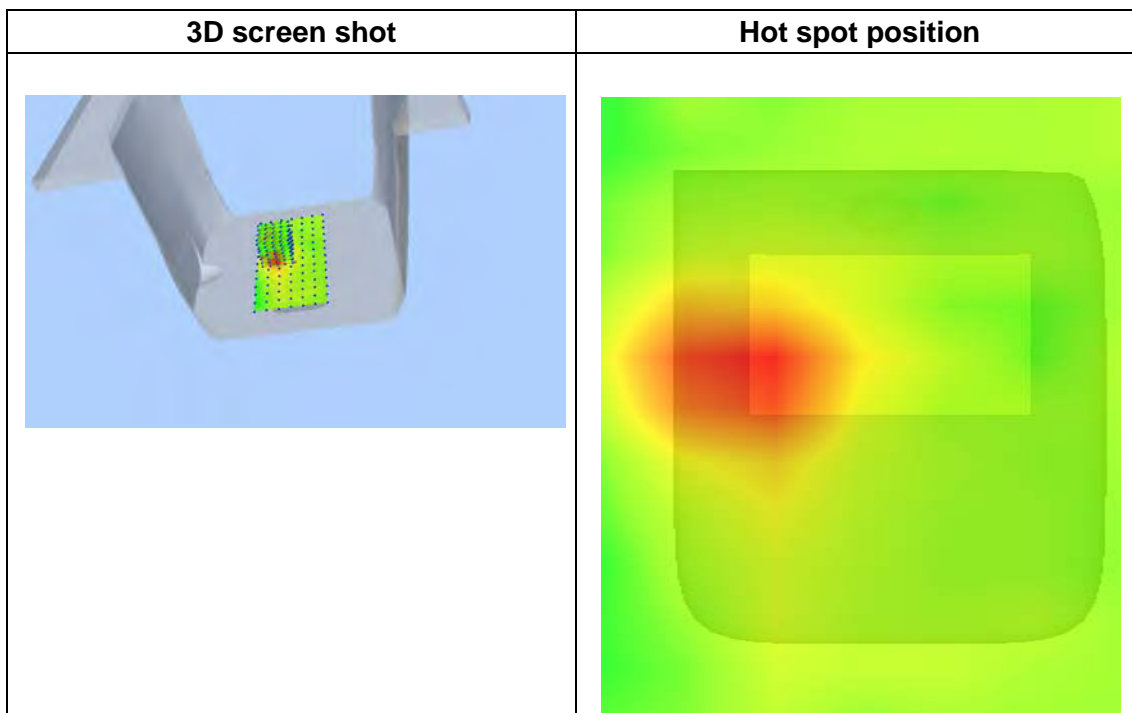
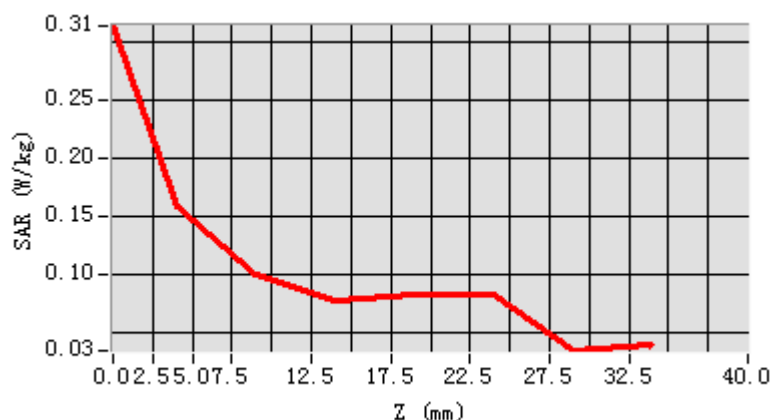


Maximum location: X=-18.00, Y=10.00

SAR Peak: 0.27 W/kg

SAR 10g (W/Kg)	0.004995
SAR 1g (W/Kg)	0.009649

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.3137	0.1585	0.0992	0.0777	0.0831	0.0837	0.0345



**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: 2017.08.09

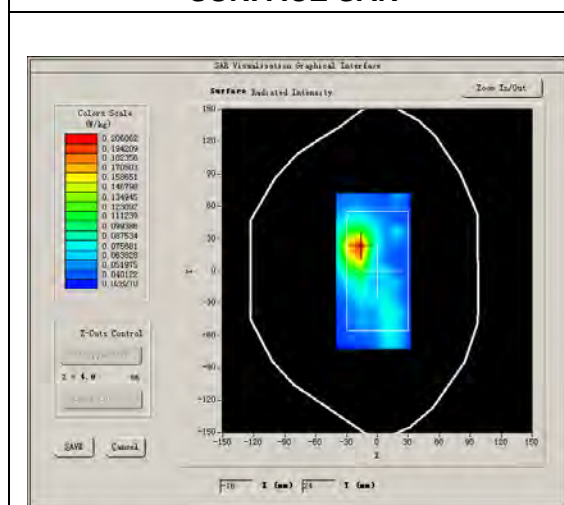
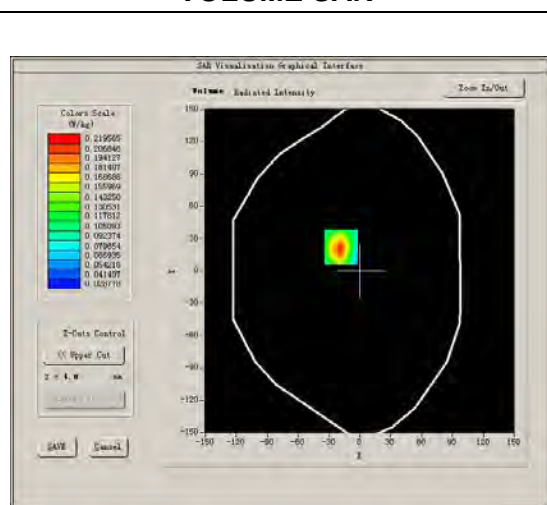
Measurement duration: 13 minutes 59 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 100)

<b>Frequency (MHz)</b>	5500.000000
<b>Relative permittivity (real part)</b>	48.394381
<b>Conductivity (S/m)</b>	5.7432600
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.69
<b>Crest factor:</b>	1:1

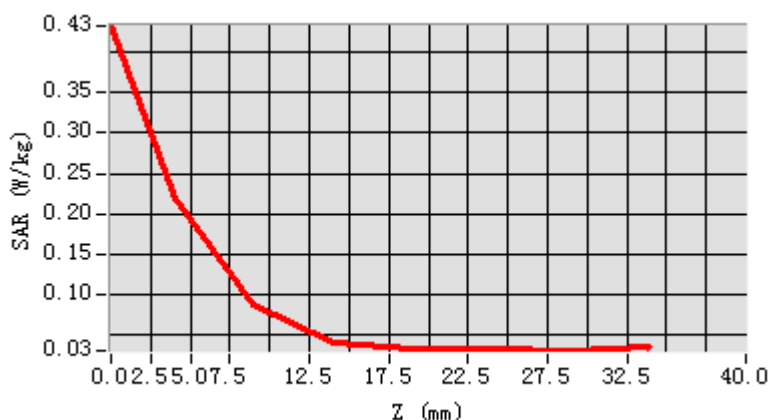
**SURFACE SAR****VOLUME SAR**

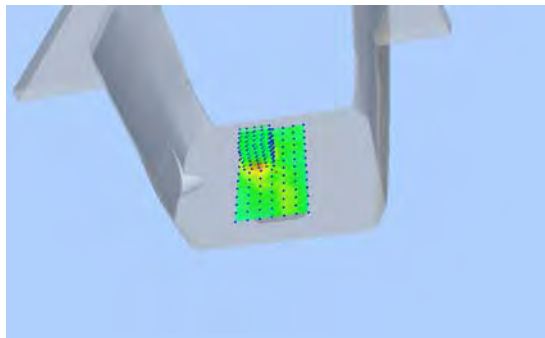
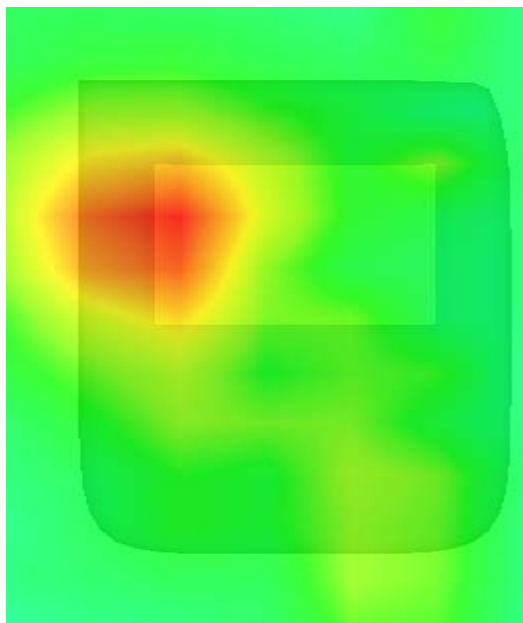
Maximum location: X=-18.00, Y=22.00

SAR Peak: 0.45 W/kg

SAR 10g (W/Kg)	0.089147
SAR 1g (W/Kg)	0.017732

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.4320	0.2196	0.0870	0.0416	0.0326	0.0330	0.0309



3D screen shot	Hot spot position
	

**MEASUREMENT 28**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

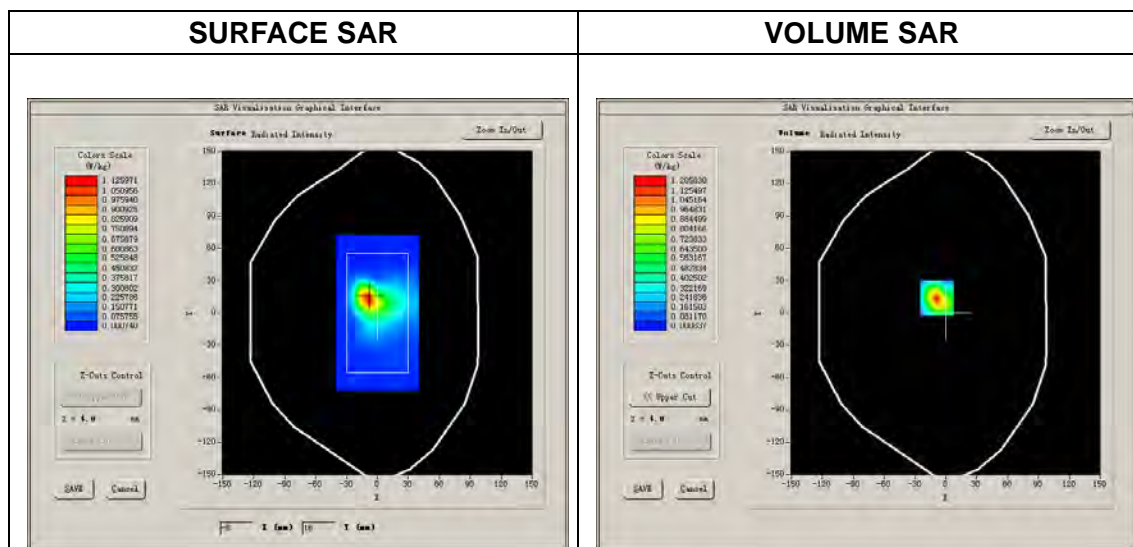
Measurement duration: 13 minutes 34 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 100)

<b>Frequency (MHz)</b>	5500.000000
<b>Relative permittivity (real part)</b>	48.394381
<b>Conductivity (S/m)</b>	5.7432600
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.69
<b>Crest factor:</b>	1:1



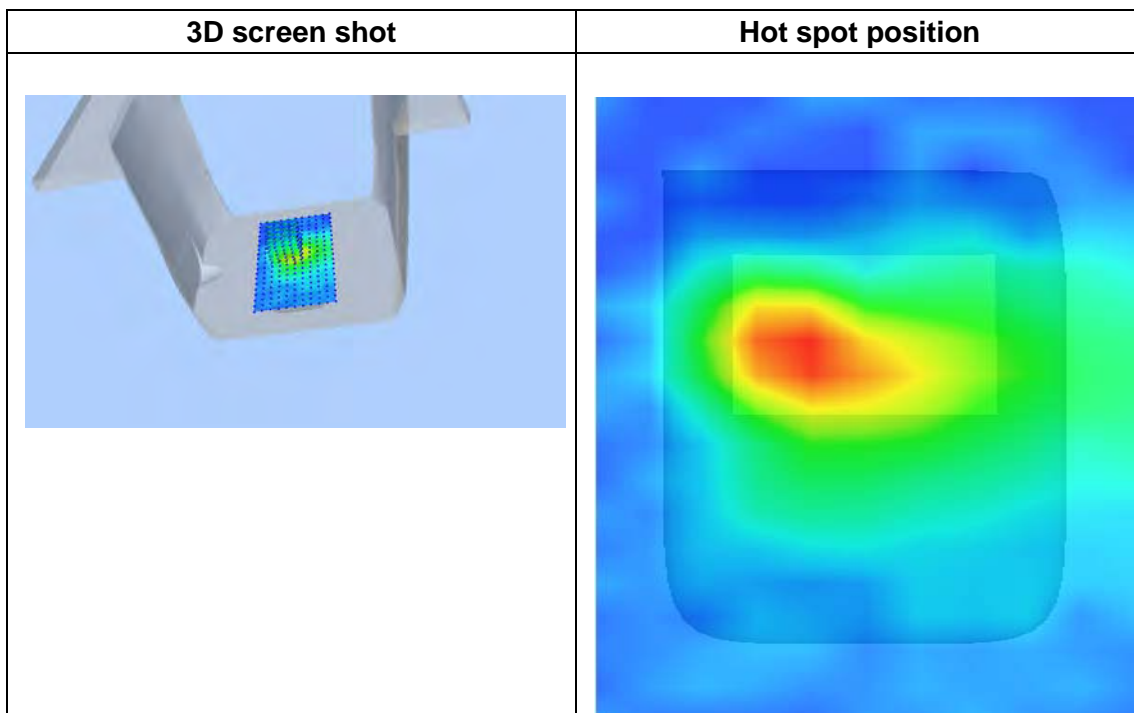
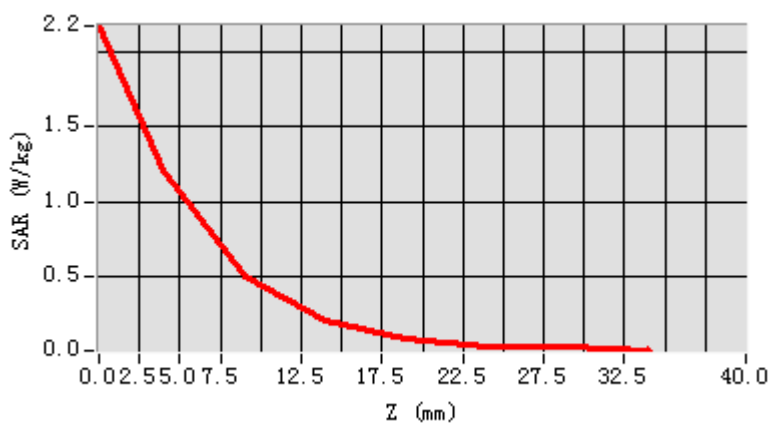


Maximum location: X=-9.00, Y=14.00

SAR Peak: 2.15 W/kg

SAR 10g (W/Kg)	0.010678
SAR 1g (W/Kg)	0.020972

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	2.1753	1.2058	0.5048	0.2049	0.0802	0.0284	0.0316



**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: 2017.08.09

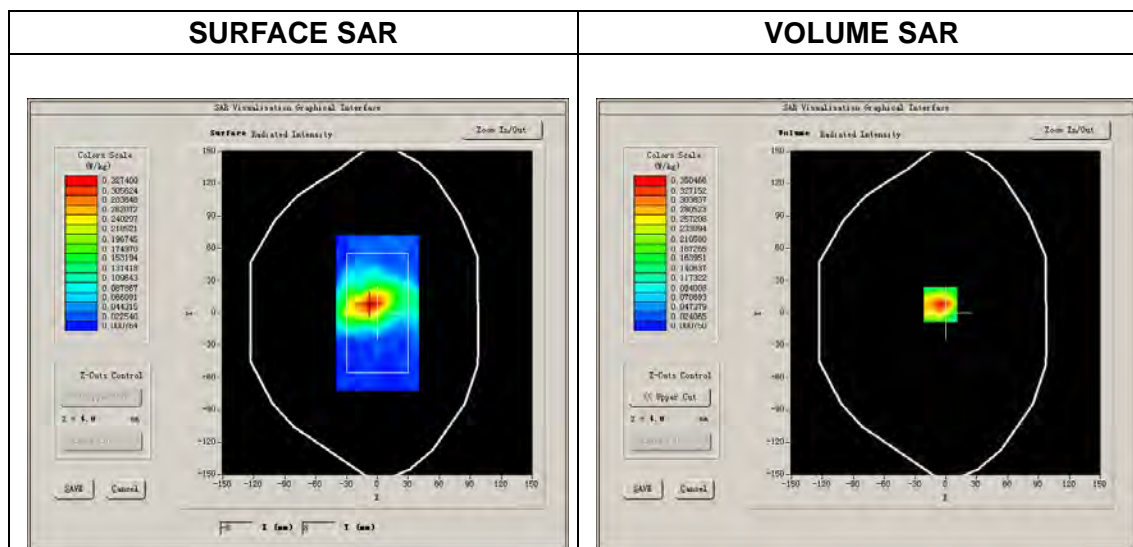
Measurement duration: 13 minutes 30 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 100)

<b>Frequency (MHz)</b>	5500.000000
<b>Relative permittivity (real part)</b>	48.394381
<b>Conductivity (S/m)</b>	5.7432600
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.69
<b>Crest factor:</b>	1:1



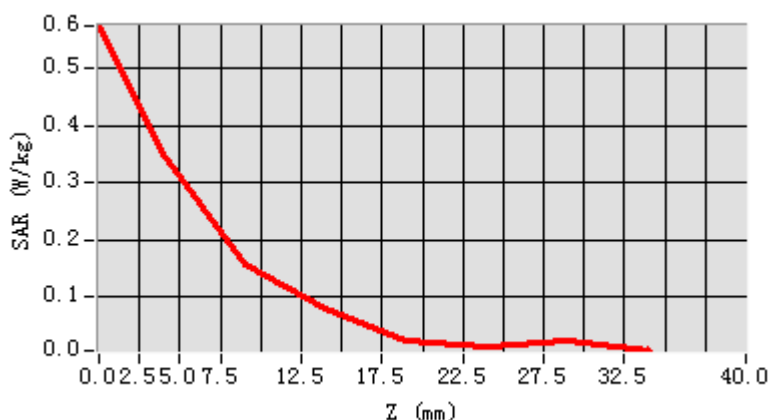


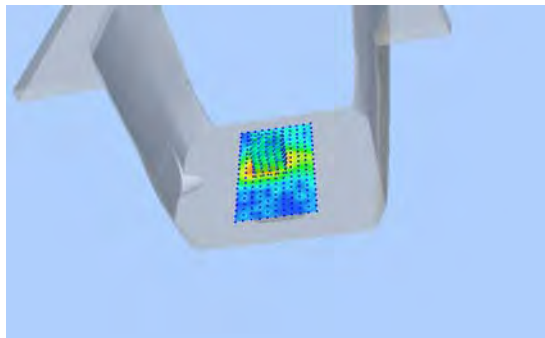
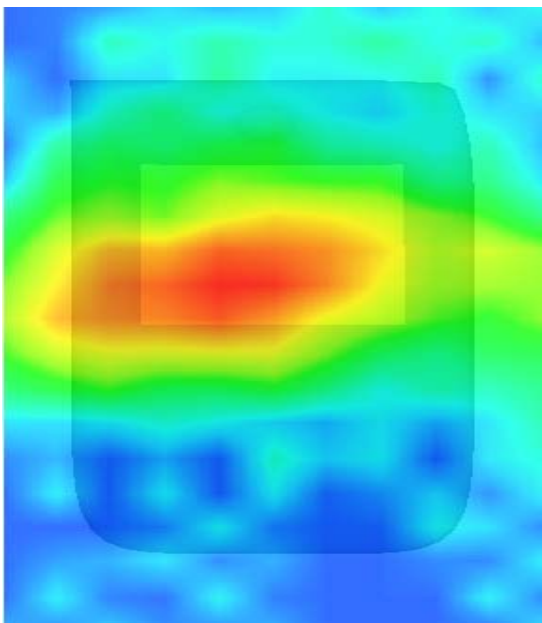
Maximum location: X=-5.00, Y=8.00

SAR Peak: 0.59 W/kg

SAR 10g (W/Kg)	0.015074
SAR 1g (W/Kg)	0.025028

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.5741	0.3505	0.1586	0.0803	0.0228	0.0121	0.0233



3D screen shot	Hot spot position
	



## MEASUREMENT 30

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 29 seconds

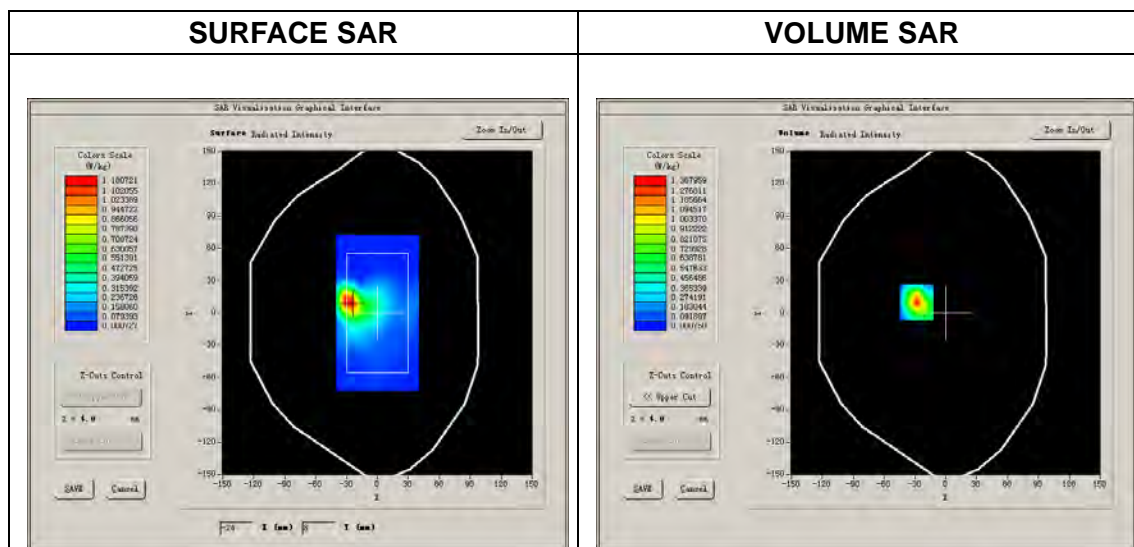
### A. Experimental conditions.

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

### B. SAR Measurement Results

Middle Band SAR (Channel 100)

<b>Frequency (MHz)</b>	5500.000000
<b>Relative permittivity (real part)</b>	48.394381
<b>Conductivity (S/m)</b>	5.7432600
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.69
<b>Crest factor:</b>	1:1

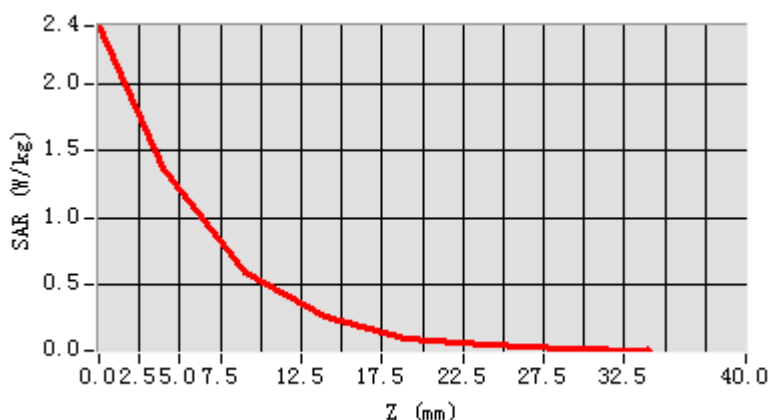


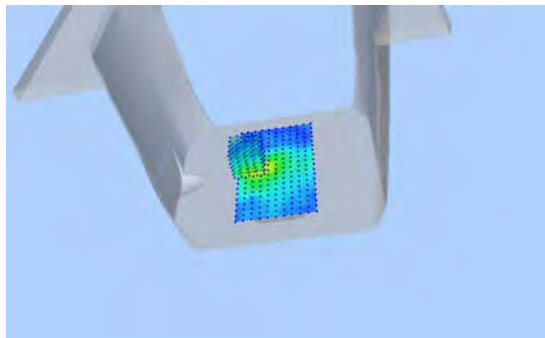
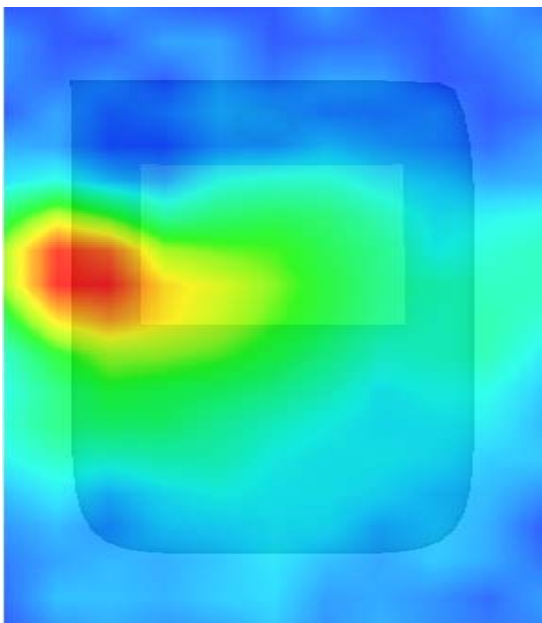
Maximum location: X=-28.00, Y=10.00

SAR Peak: 2.43 W/kg

SAR 10g (W/Kg)	0.008866
SAR 1g (W/Kg)	0.015592

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	2.4353	1.3680	0.5936	0.2686	0.1013	0.0501	0.0275



3D screen shot	Hot spot position
	

**MEASUREMENT 31**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

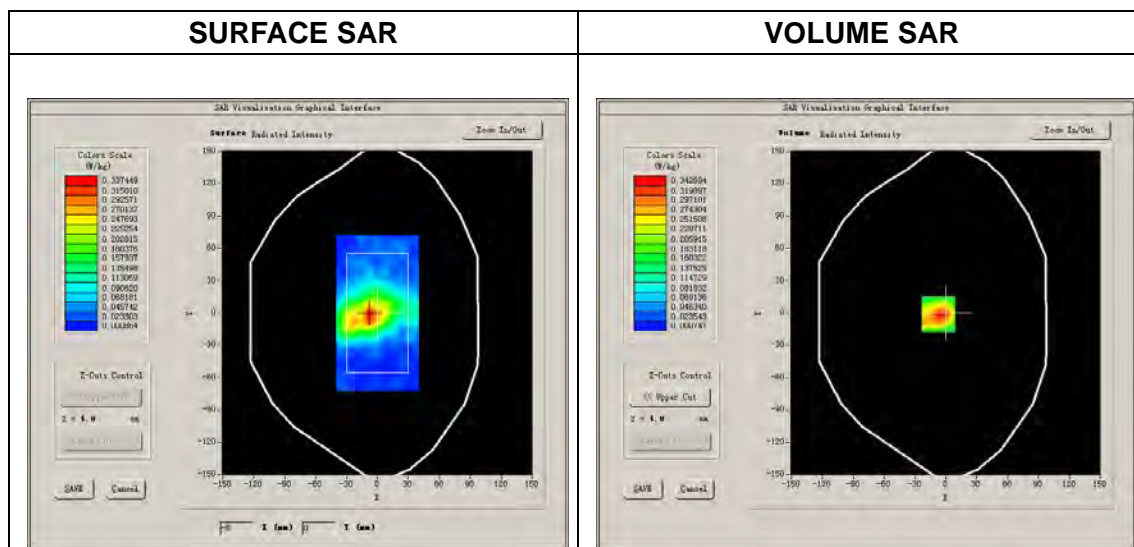
Measurement duration: 13 minutes 29 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 100)

<b>Frequency (MHz)</b>	5500.000000
<b>Relative permittivity (real part)</b>	48.394381
<b>Conductivity (S/m)</b>	5.7432600
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.69
<b>Crest factor:</b>	1:1

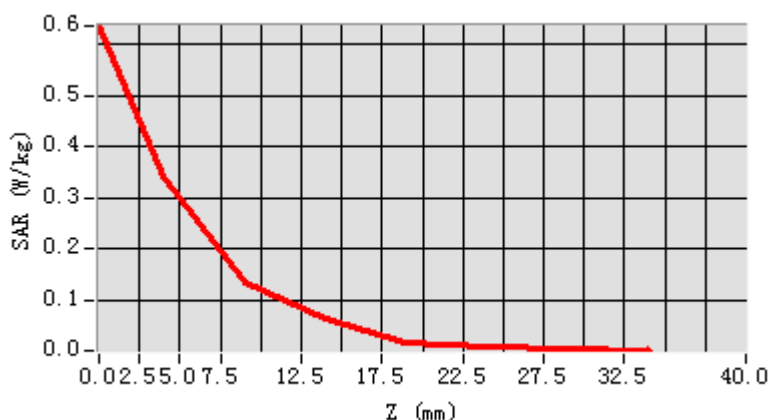


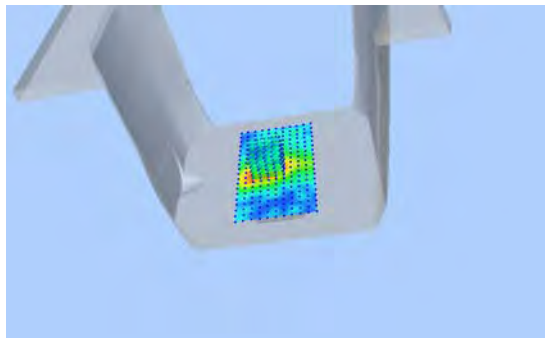
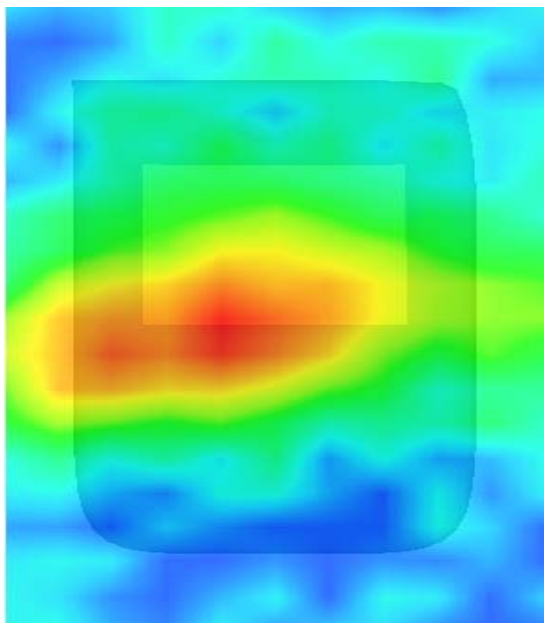
Maximum location: X=-7.00, Y=-1.00

SAR Peak: 0.64 W/kg

SAR 10g (W/Kg)	0.002985
SAR 1g (W/Kg)	0.007678

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.6360	0.3427	0.1330	0.0655	0.0152	0.0088	0.0043



3D screen shot	Hot spot position
	

**MEASUREMENT 32**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

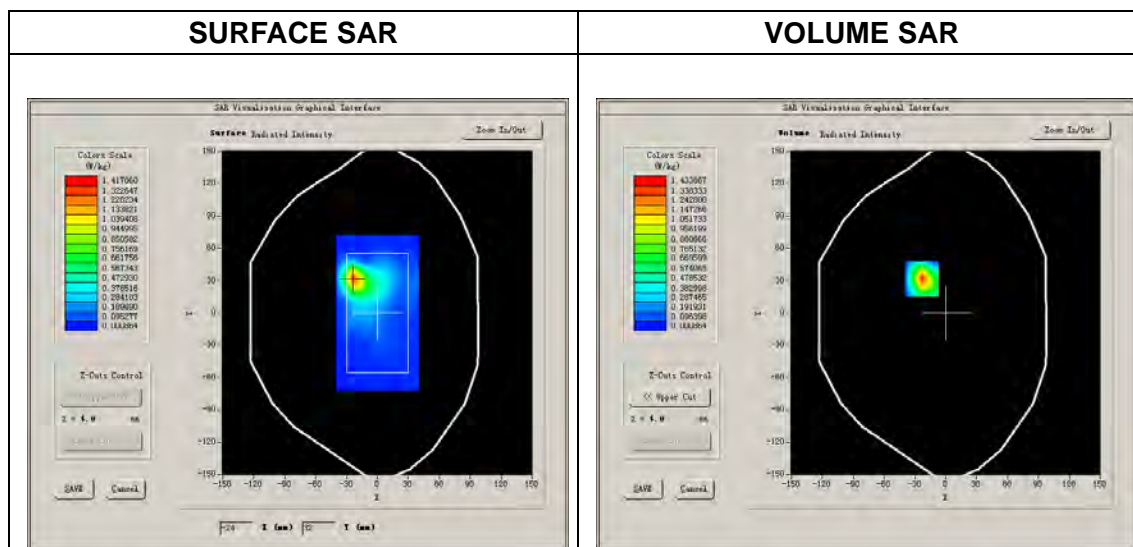
Measurement duration: 13 minutes 30 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 165)

<b>Frequency (MHz)</b>	5825.000000
<b>Relative permittivity (real part)</b>	48.093428
<b>Conductivity (S/m)</b>	5.930716
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.02
<b>Crest factor:</b>	1:1

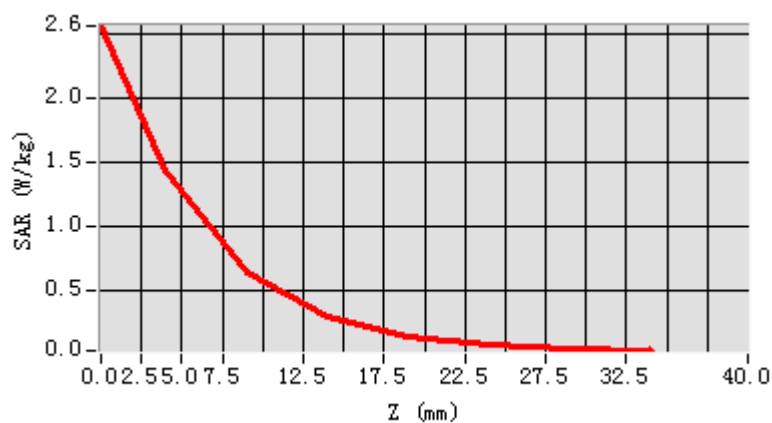


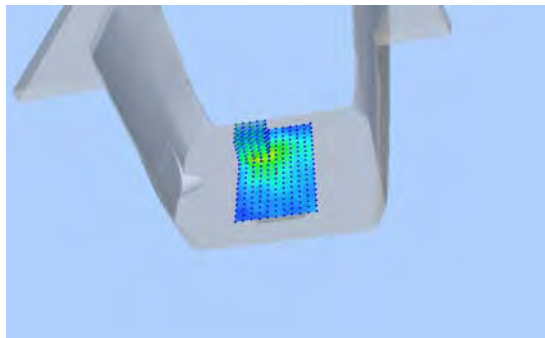
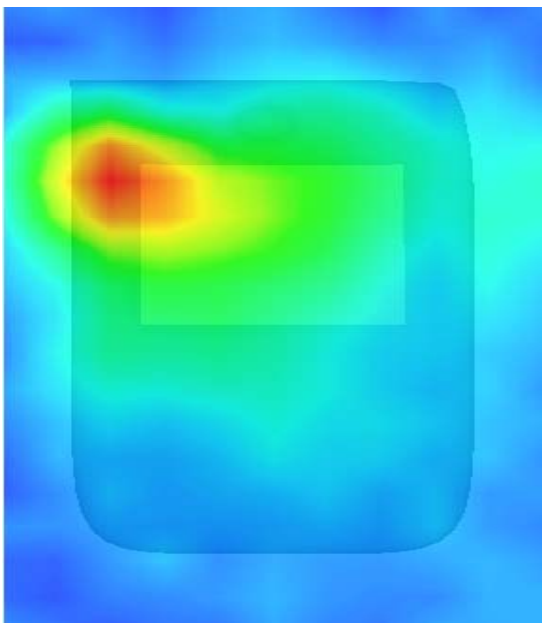
Maximum location: X=-23.00, Y=32.00

SAR Peak: 2.54 W/kg

SAR 10g (W/Kg)	0.006051
SAR 1g (W/Kg)	0.012701

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	2.5706	1.4339	0.6291	0.2850	0.1257	0.0624	0.0322



3D screen shot	Hot spot position
	



**MEASUREMENT 33**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

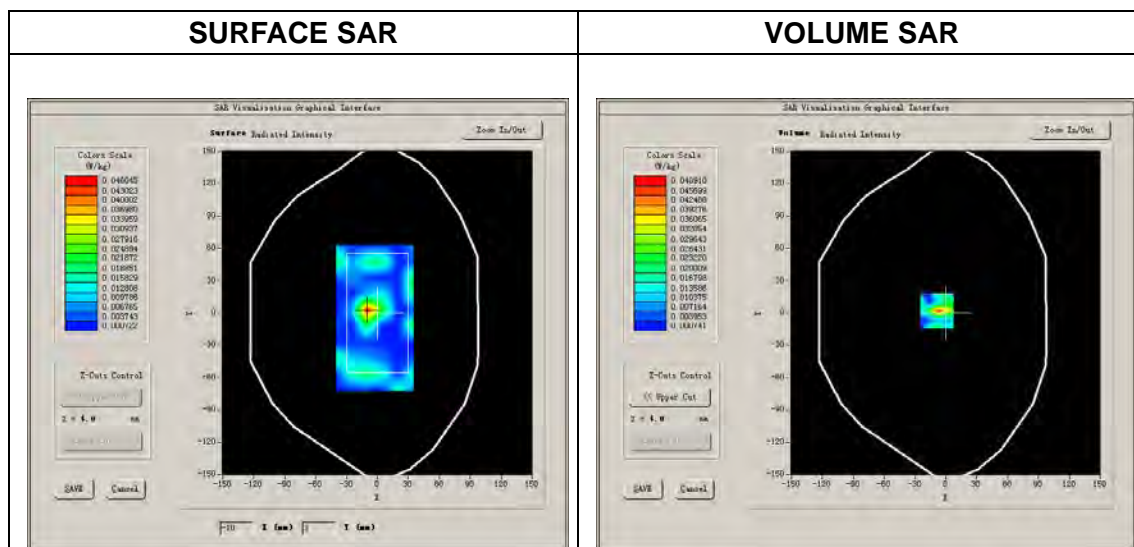
Measurement duration: 13 minutes 15 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 165)

<b>Frequency (MHz)</b>	5825.000000
<b>Relative permittivity (real part)</b>	48.093428
<b>Conductivity (S/m)</b>	5.930716
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.02
<b>Crest factor:</b>	1:1

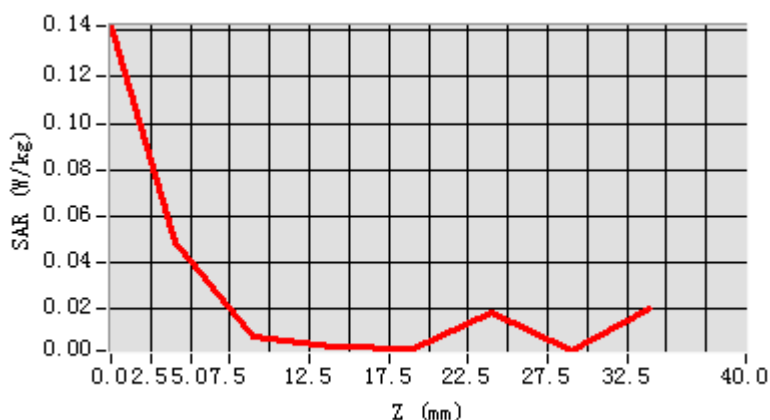


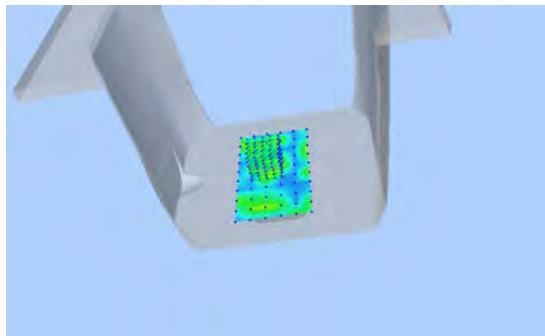
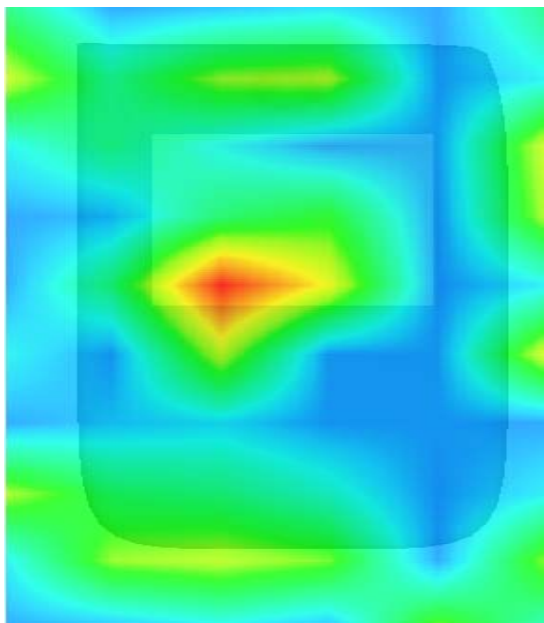
Maximum location: X=-9.00, Y=2.00

SAR Peak: 0.14 W/kg

SAR 10g (W/Kg)	0.004286
SAR 1g (W/Kg)	0.009078

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1421	0.0489	0.0078	0.0036	0.0022	0.0178	0.0017



3D screen shot	Hot spot position
	

**MEASUREMENT 34**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

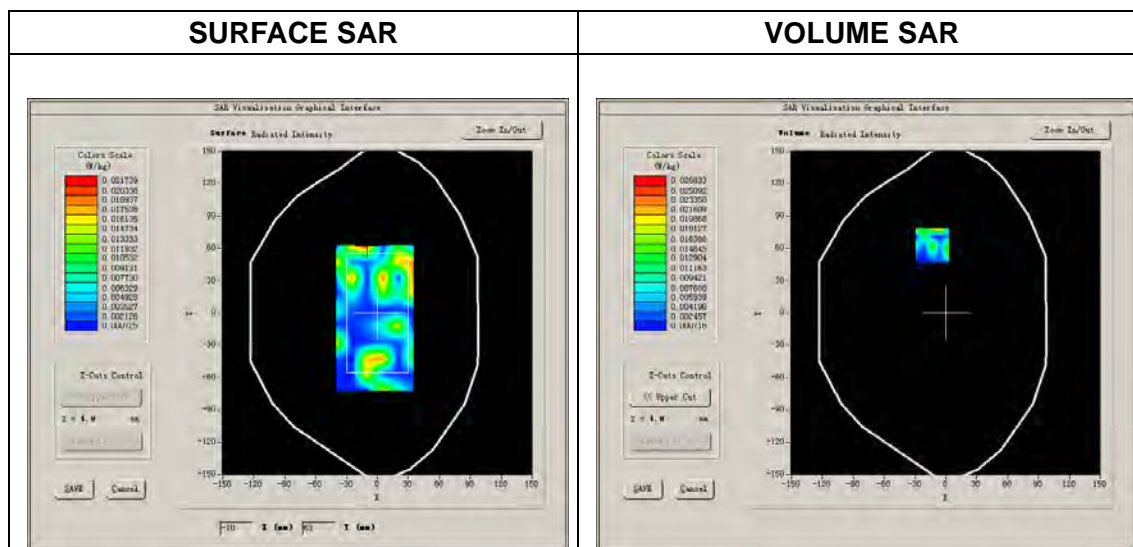
Measurement duration: 13 minutes 12 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 165)

<b>Frequency (MHz)</b>	5825.000000
<b>Relative permittivity (real part)</b>	48.093428
<b>Conductivity (S/m)</b>	5.930716
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.02
<b>Crest factor:</b>	1:1

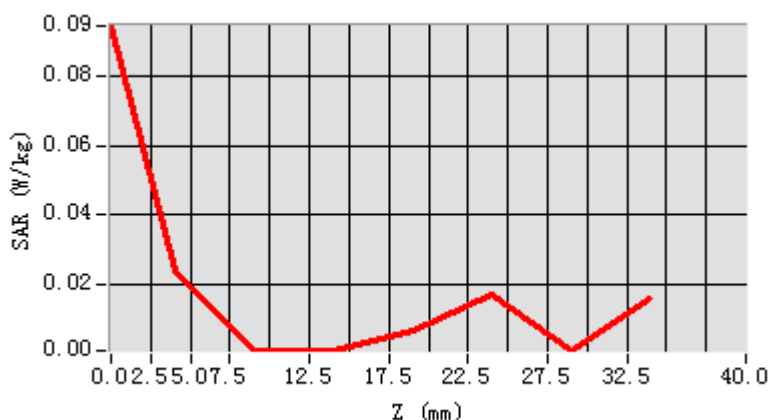


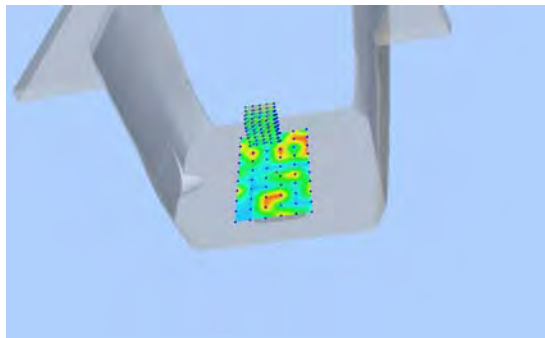
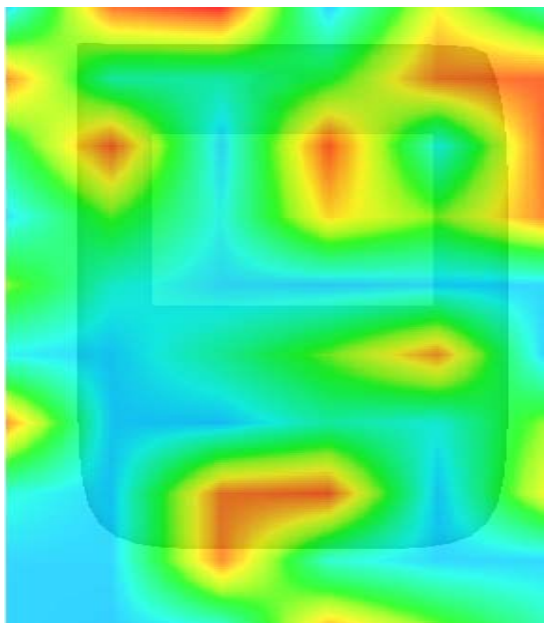
Maximum location: X=-13.00, Y=63.00

SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.009329
SAR 1g (W/Kg)	0.011564

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0946	0.0238	0.0008	0.0008	0.0068	0.0168	0.0008



3D screen shot	Hot spot position
	

**MEASUREMENT 35**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 13 seconds

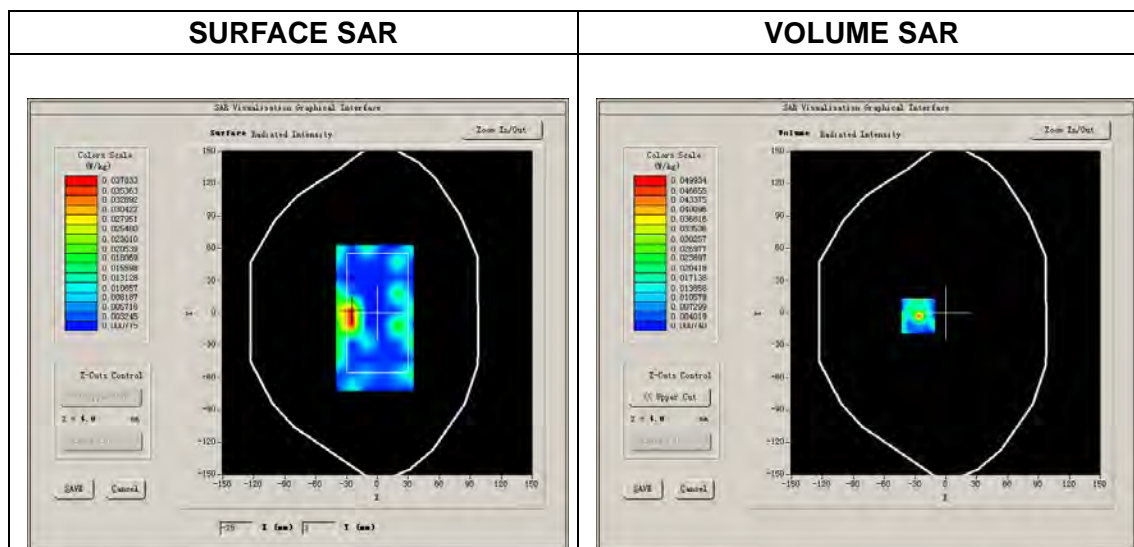
**A. Experimental conditions.**

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

**B. SAR Measurement Results**

Middle Band SAR (Channel 165)

<b>Frequency (MHz)</b>	5825.000000
<b>Relative permittivity (real part)</b>	48.093428
<b>Conductivity (S/m)</b>	5.930716
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.02
<b>Crest factor:</b>	1:1

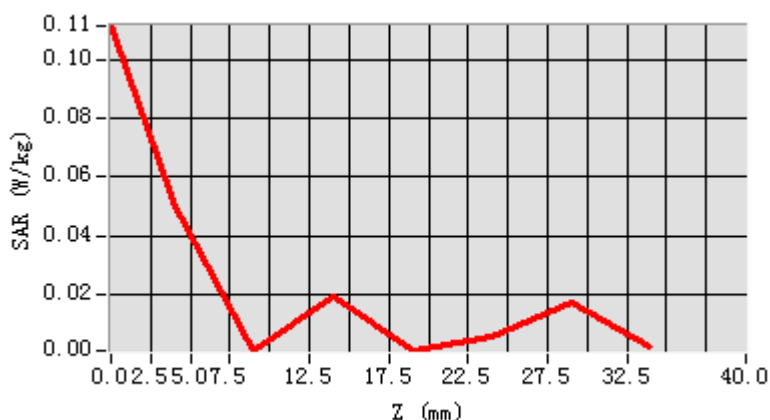


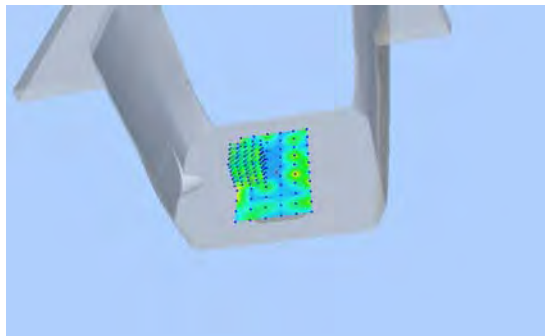
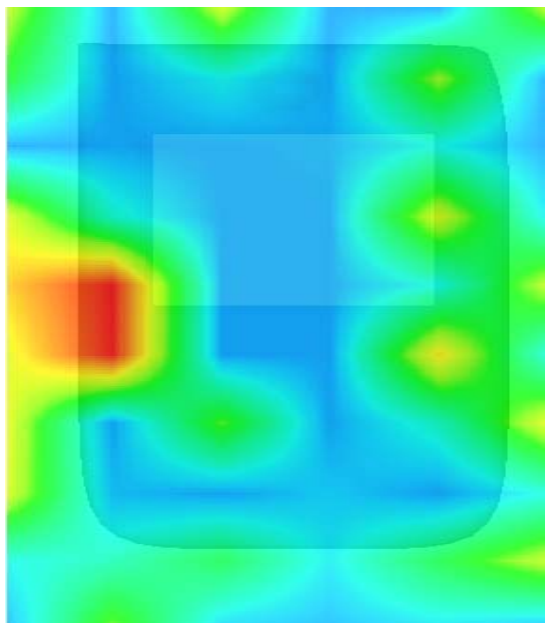
Maximum location: X=-27.00, Y=-3.00

SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.006128
SAR 1g (W/Kg)	0.008304

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1116	0.0499	0.0008	0.0192	0.0009	0.0055	0.0170



3D screen shot	Hot spot position
	





## MEASUREMENT 36

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 17 seconds

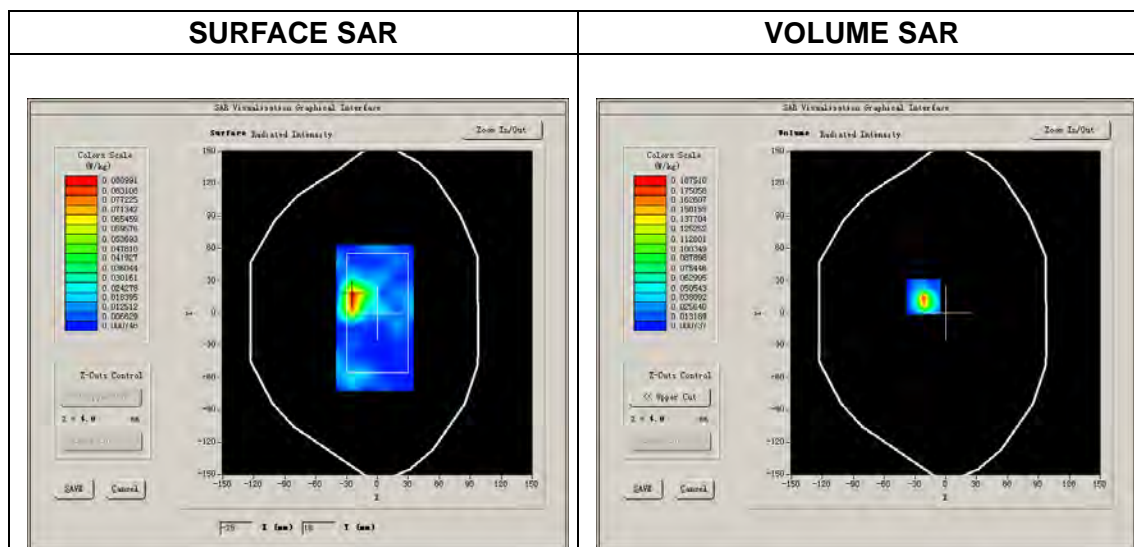
### A. Experimental conditions.

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

### B. SAR Measurement Results

Middle Band SAR (Channel 165)

<b>Frequency (MHz)</b>	5825.000000
<b>Relative permittivity (real part)</b>	48.093428
<b>Conductivity (S/m)</b>	5.930716
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.02
<b>Crest factor:</b>	1:1



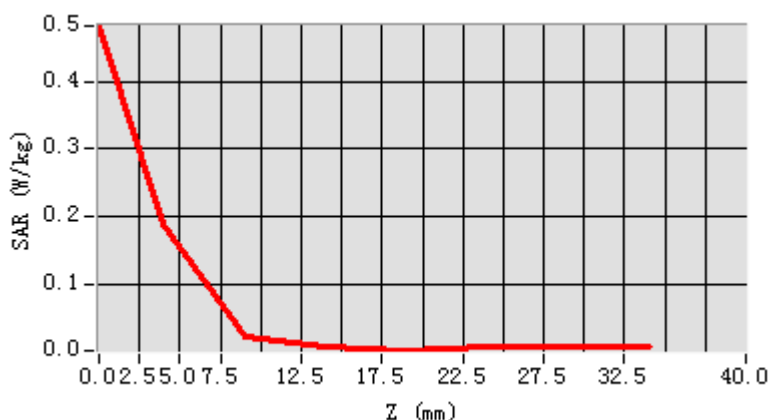


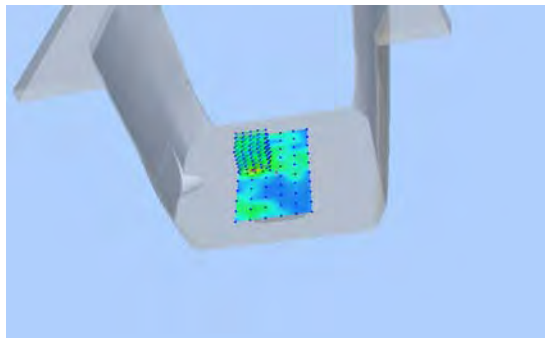
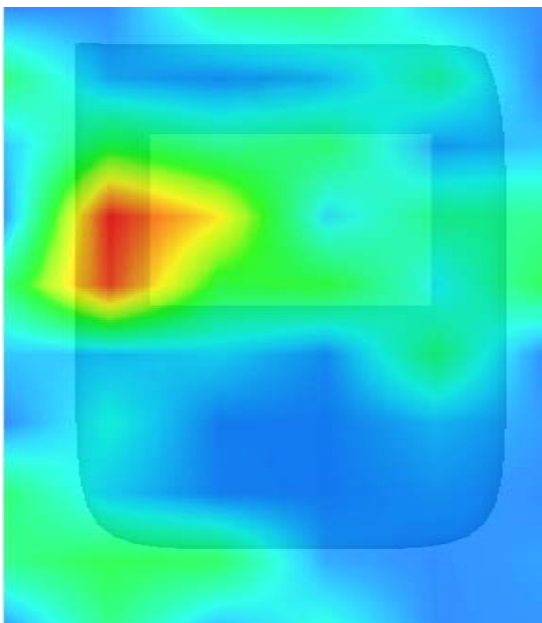
Maximum location: X=-22.00, Y=15.00

SAR Peak: 0.50 W/kg

SAR 10g (W/Kg)	0.004716
SAR 1g (W/Kg)	0.010297

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.4820	0.1875	0.0202	0.0069	0.0009	0.0061	0.0072



3D screen shot	Hot spot position
	

**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: 2017.08.09

Measurement duration: 13 minutes 34 seconds

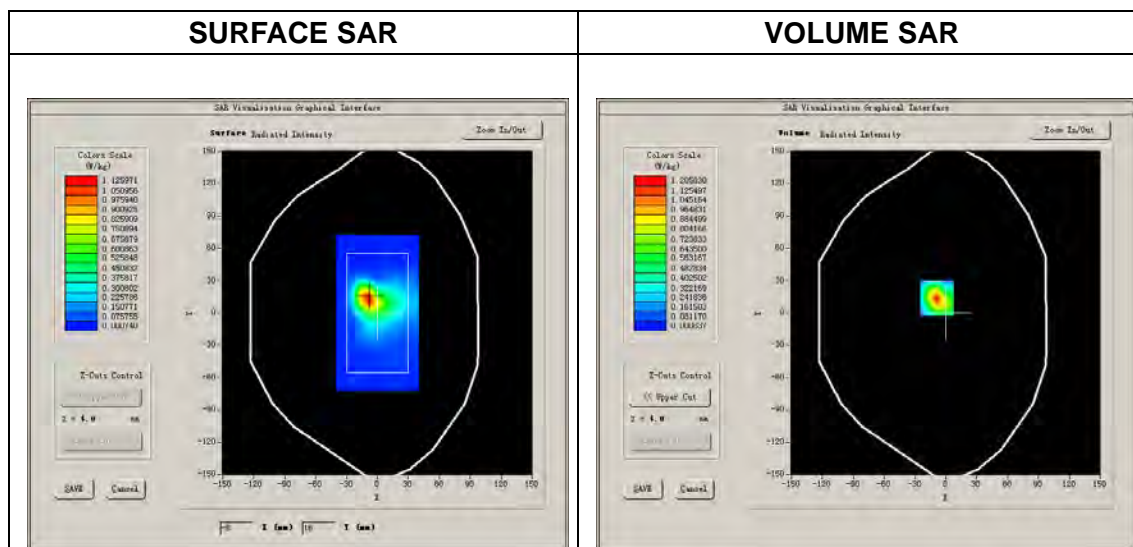
**A. Experimental conditions.**

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

**B. SAR Measurement Results**

Middle Band SAR (Channel 6)

<b>Frequency (MHz)</b>	2437.000000
<b>Relative permittivity (real part)</b>	52.884446
<b>Conductivity (S/m)</b>	1.966143
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	4.96
<b>Crest factor:</b>	1:1

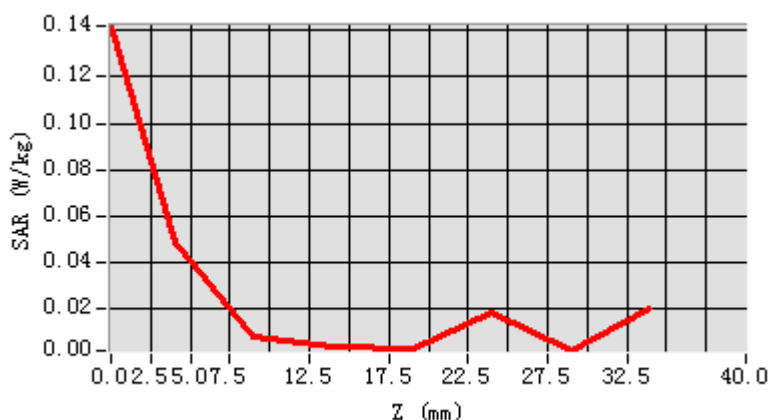


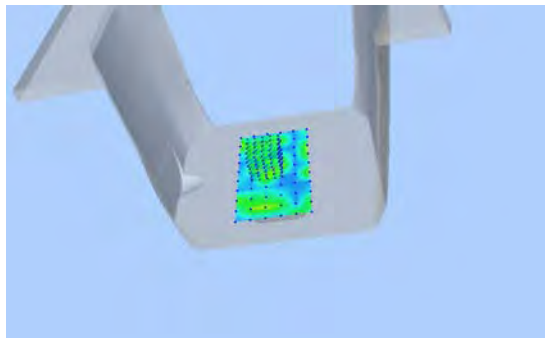
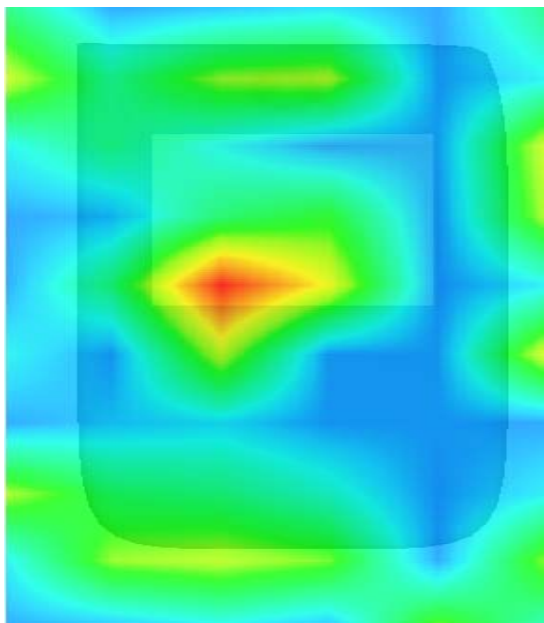
Maximum location: X=-9.00, Y=2.00

SAR Peak: 0.10W/kg

SAR 10g (W/Kg)	0.004286
SAR 1g (W/Kg)	0.008078

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1421	0.0489	0.0078	0.0036	0.0022	0.0178	0.0017



3D screen shot	Hot spot position
	

**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: 2017.08.09

Measurement duration: 13 minutes 30 seconds

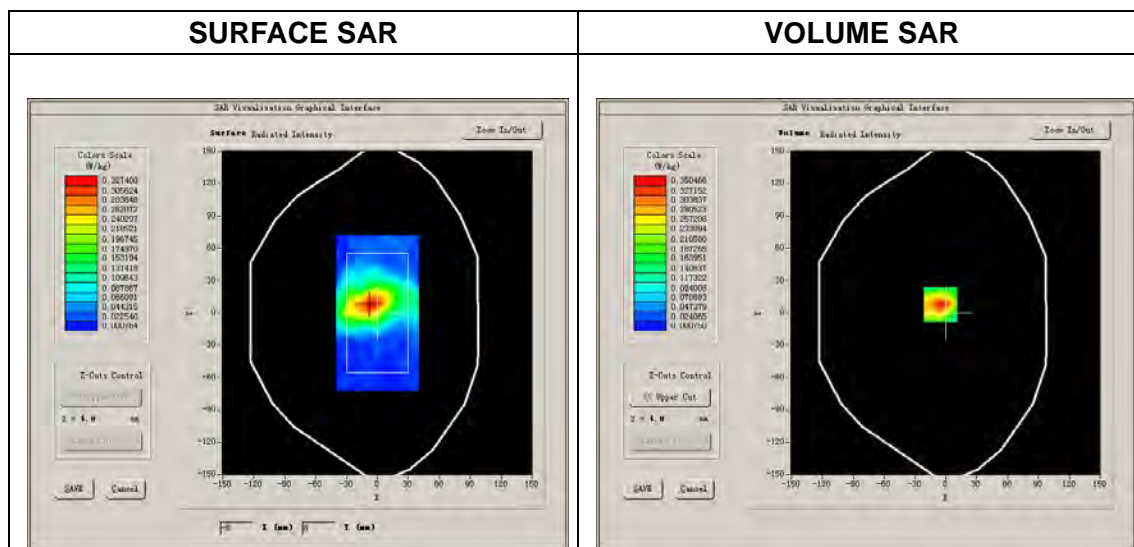
**A. Experimental conditions.**

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

**B. SAR Measurement Results**

Middle Band SAR (Channel 6)

<b>Frequency (MHz)</b>	2437.000000
<b>Relative permittivity (real part)</b>	52.884446
<b>Conductivity (S/m)</b>	1.966143
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	4.96
<b>Crest factor:</b>	1:1

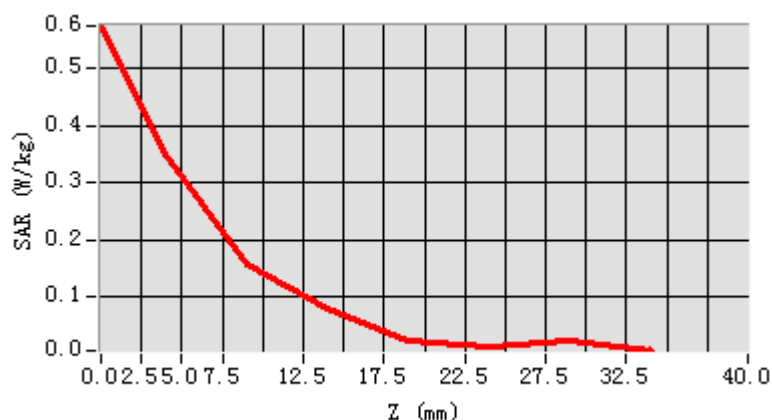


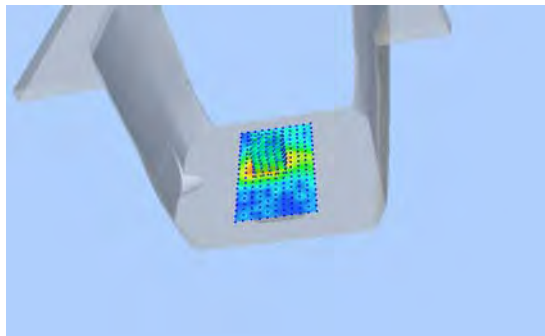
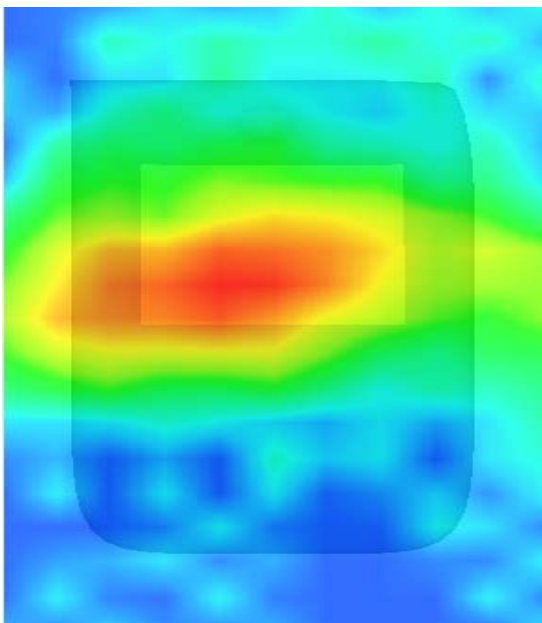
Maximum location: X=-5.00, Y=8.00

SAR Peak: 0.59 W/kg

SAR 10g (W/Kg)	0.005007
SAR 1g (W/Kg)	0.011028

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.5741	0.3505	0.1586	0.0803	0.0228	0.0121	0.0233



3D screen shot	Hot spot position
	

**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: 2017.08.09

Measurement duration: 13 minutes 29 seconds

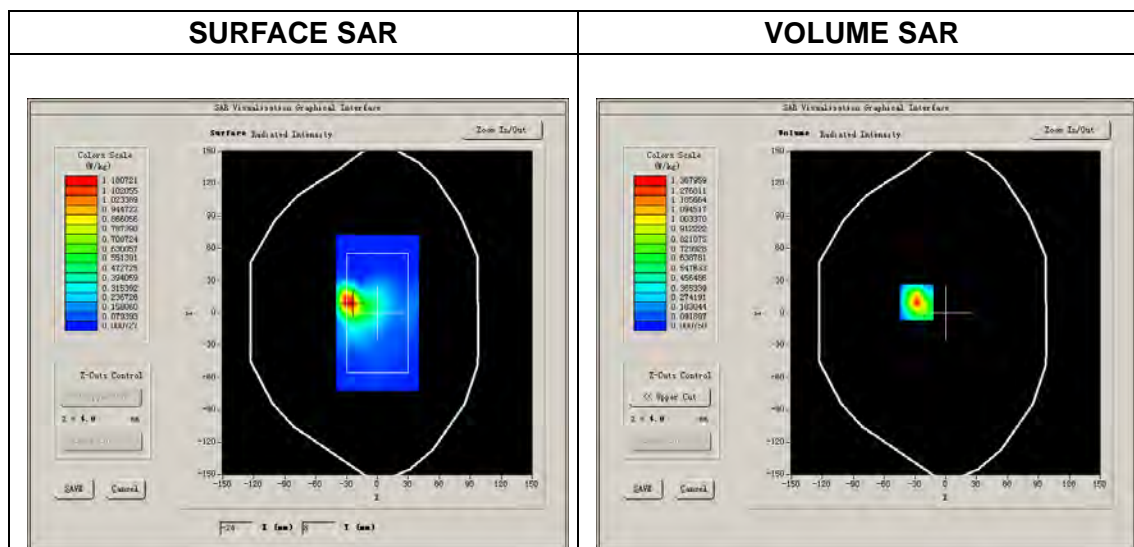
**A. Experimental conditions.**

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

**B. SAR Measurement Results**

Middle Band SAR (Channel 6)

<b>Frequency (MHz)</b>	2437.000000
<b>Relative permittivity (real part)</b>	52.884446
<b>Conductivity (S/m)</b>	1.966143
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	4.96
<b>Crest factor:</b>	1:1



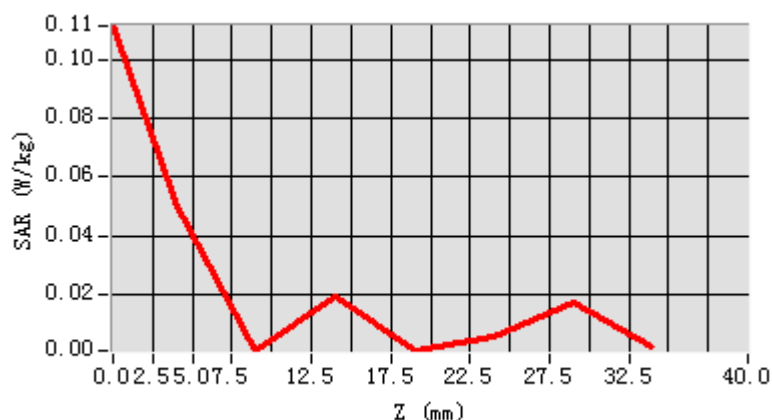


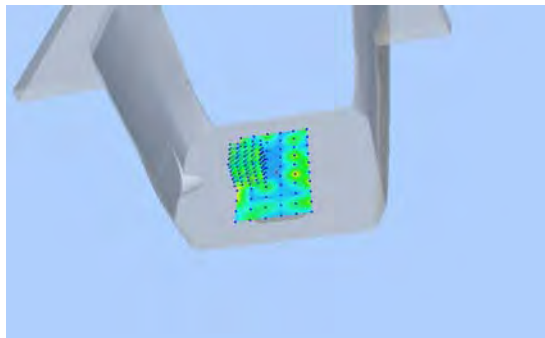
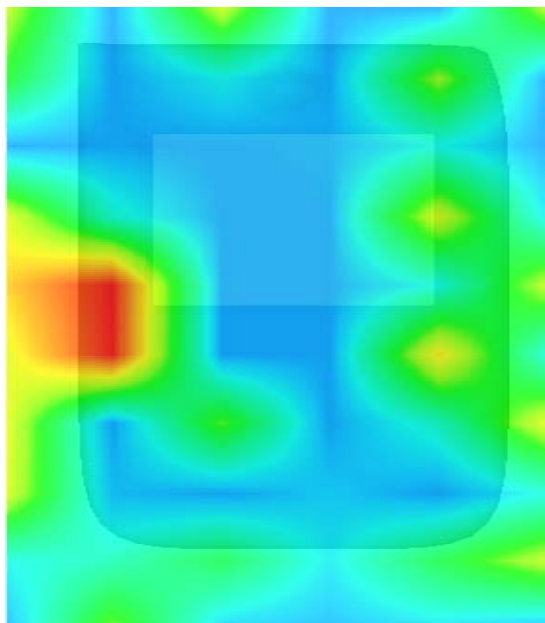
Maximum location: X=-27.00, Y=-3.00

SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.004128
SAR 1g (W/Kg)	0.010304

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1116	0.0499	0.0008	0.0192	0.0009	0.0055	0.0170



3D screen shot	Hot spot position
	



**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: 2017.08.09

Measurement duration: 13 minutes 29 seconds

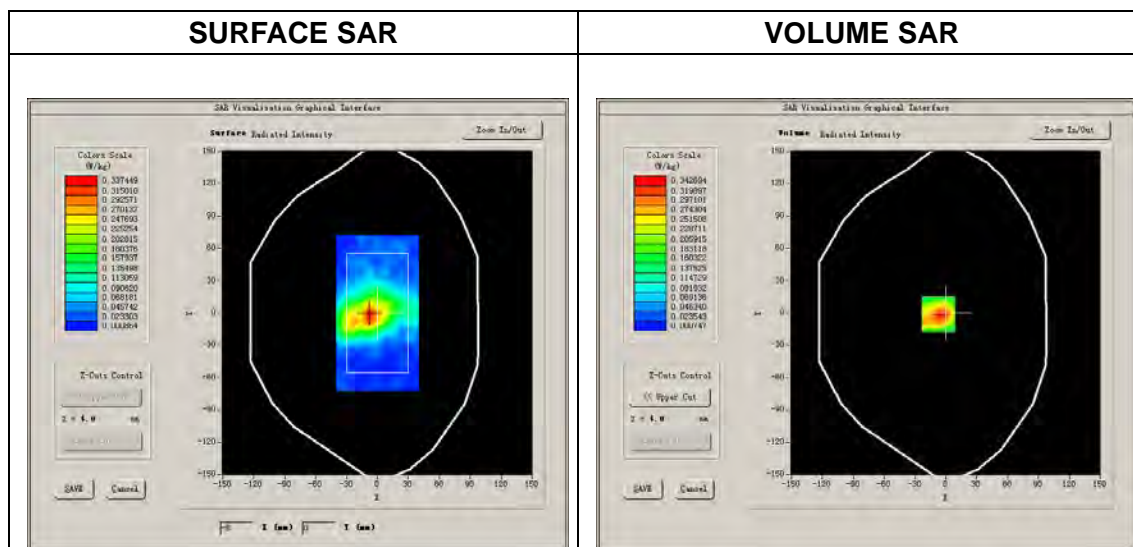
**A. Experimental conditions.**

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

**B. SAR Measurement Results**

Middle Band SAR (Channel 6)

<b>Frequency (MHz)</b>	2437.000000
<b>Relative permittivity (real part)</b>	52.884446
<b>Conductivity (S/m)</b>	1.966143
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	4.96
<b>Crest factor:</b>	1:1

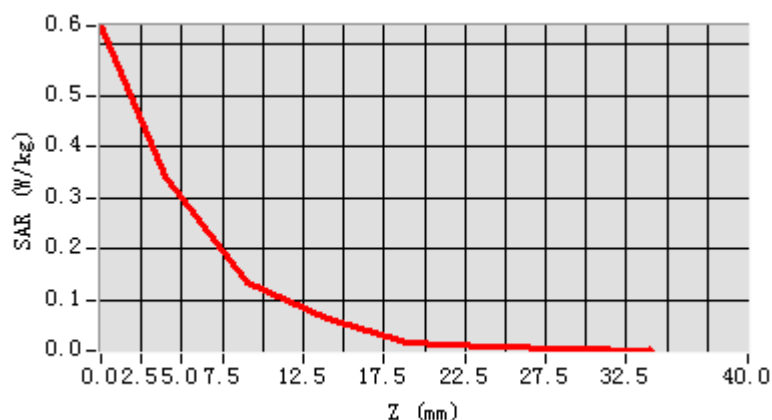


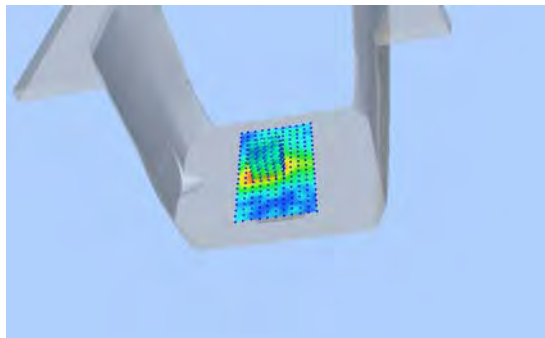
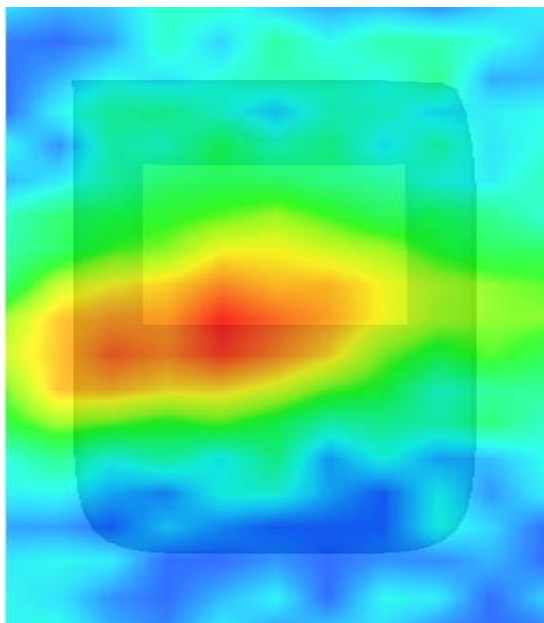
Maximum location: X=-7.00, Y=-1.00

SAR Peak: 0.64 W/kg

SAR 10g (W/Kg)	0.005985
SAR 1g (W/Kg)	0.009178

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.6360	0.3427	0.1330	0.0655	0.0152	0.0088	0.0043



3D screen shot	Hot spot position
	



## 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: 2017.08.09

Measurement duration: 13 minutes 0 seconds

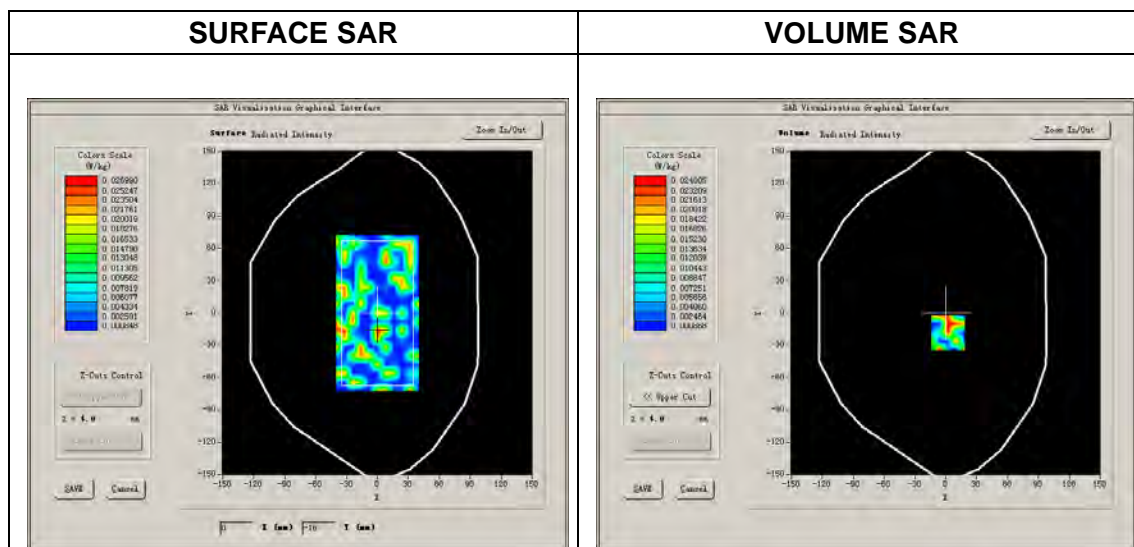
### A. Experimental conditions.

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

### B. SAR Measurement Results

Middle Band SAR (Channel 48)

<b>Frequency (MHz)</b>	5240.000000
<b>Relative permittivity (real part)</b>	48.273014
<b>Conductivity (S/m)</b>	5.543260
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	22.11
<b>Crest factor:</b>	1:1



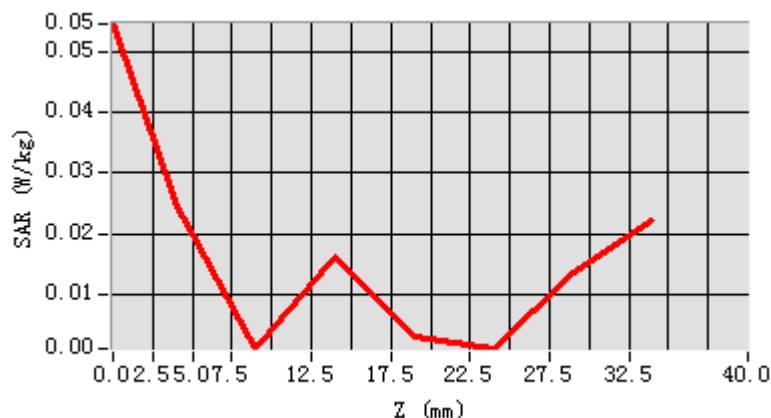


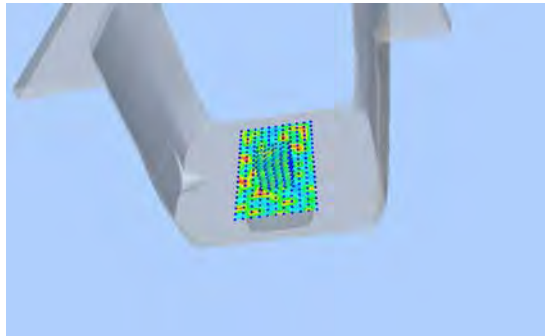
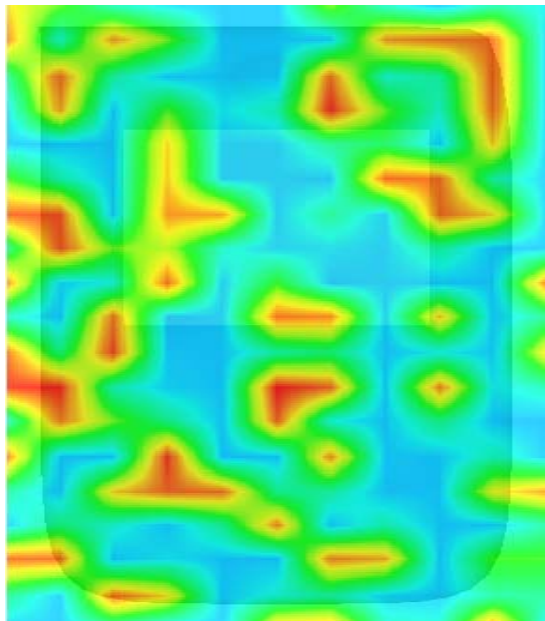
Maximum location: X=2.00, Y=-18.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.013712
SAR 1g (W/Kg)	0.033292

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0546	0.0245	0.0010	0.0162	0.0031	0.0010	0.0136



3D screen shot	Hot spot position
	



## 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: 2017.08.09

Measurement duration: 13 minutes 58 seconds

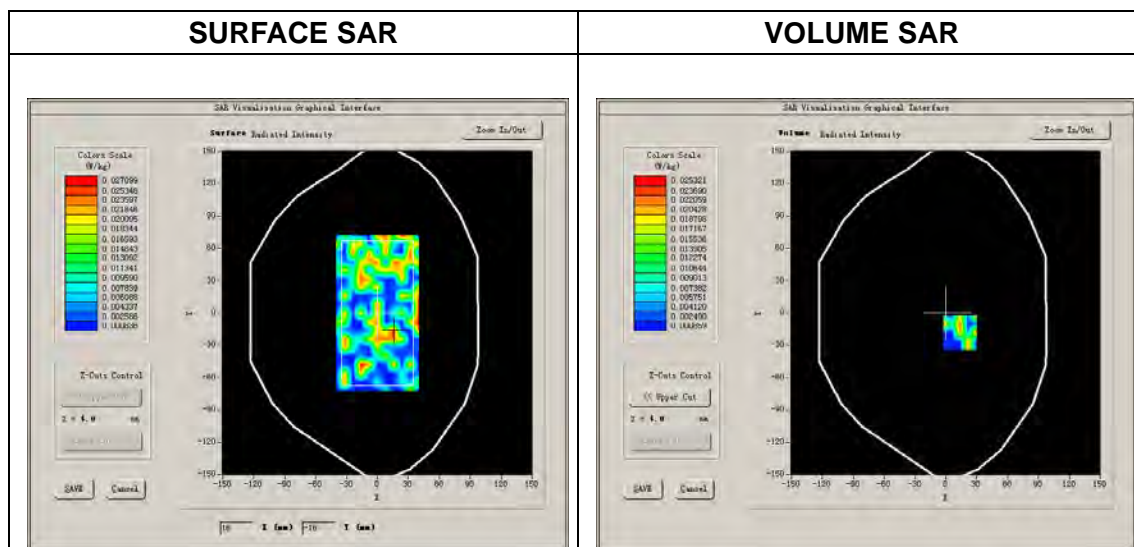
### A. Experimental conditions.

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

### B. SAR Measurement Results

Middle Band SAR (Channel 6)

<b>Frequency (MHz)</b>	2437.000000
<b>Relative permittivity (real part)</b>	52.884446
<b>Conductivity (S/m)</b>	1.966143
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	4.96
<b>Crest factor:</b>	1:1

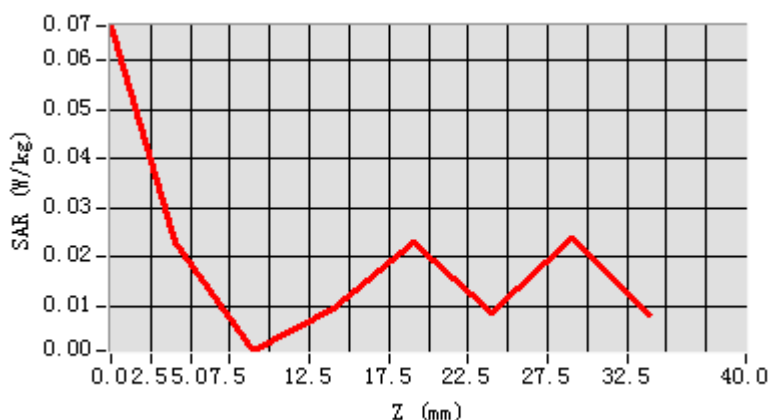


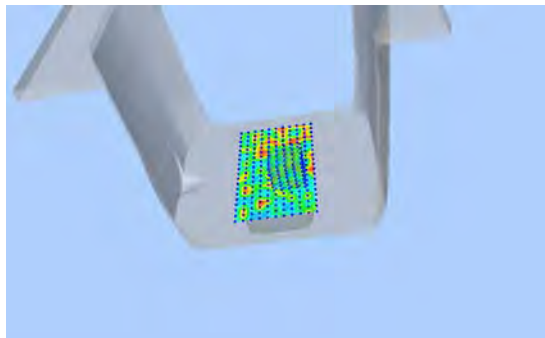
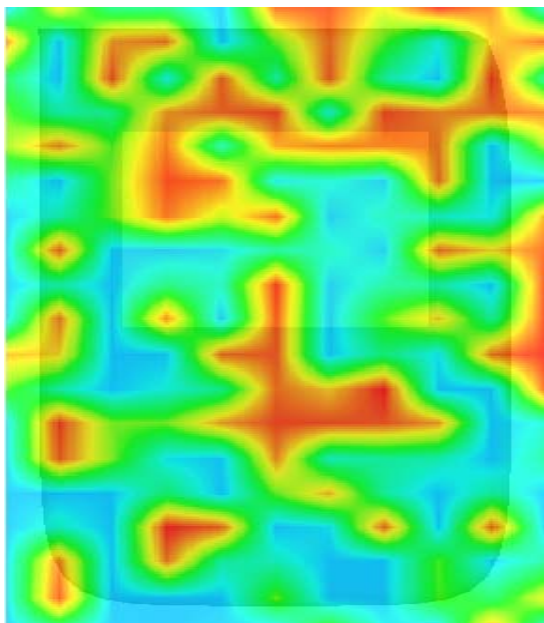
Maximum location: X=14.00, Y=-18.00

SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.010725
SAR 1g (W/Kg)	0.029428

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0671	0.0229	0.0010	0.0094	0.0230	0.0086	0.0237



3D screen shot	Hot spot position
	



**MEASUREMENT 43**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

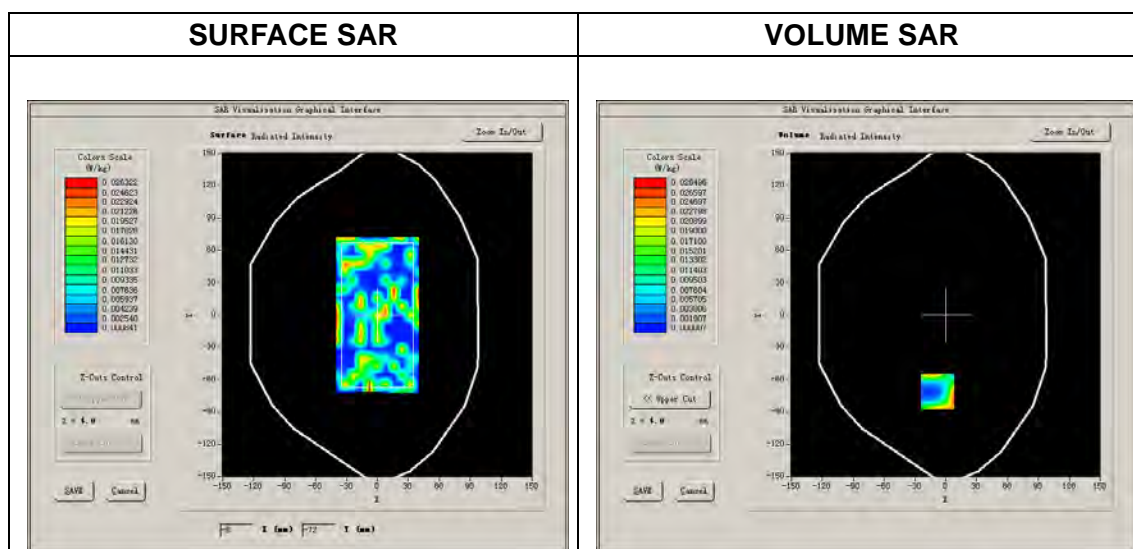
Measurement duration: 13 minutes 58 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 151)

<b>Frequency (MHz)</b>	5755.000000
<b>Relative permittivity (real part)</b>	48.093428
<b>Conductivity (S/m)</b>	5.930716
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.02
<b>Crest factor:</b>	1:1



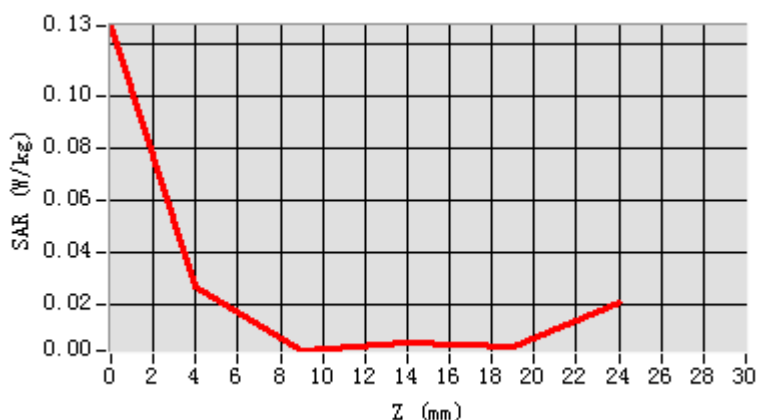


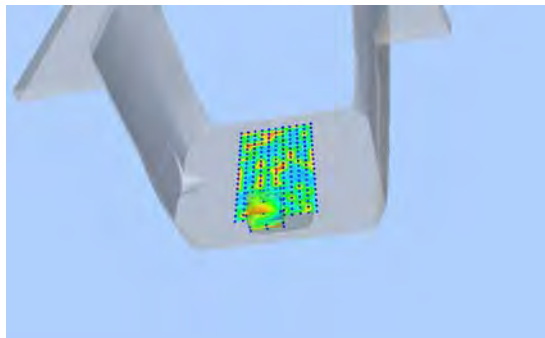
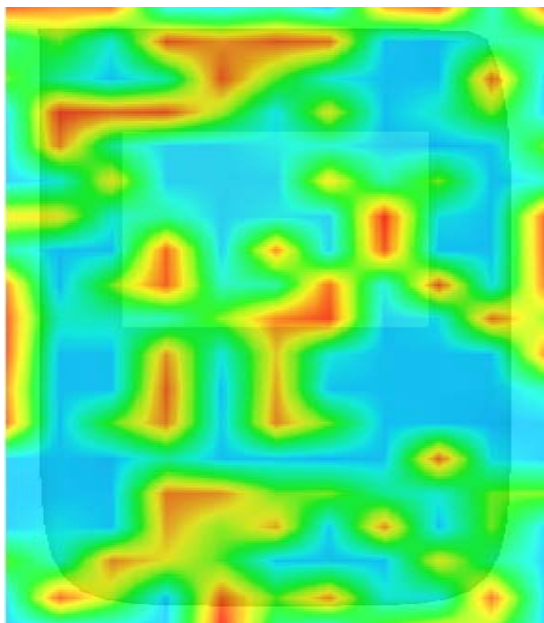
Maximum location: X=-8.00, Y=-71.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.013948
SAR 1g (W/Kg)	0.021355

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.1269	0.0270	0.0022	0.0054	0.0033



3D screen shot	Hot spot position
	

**MEASUREMENT 44**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

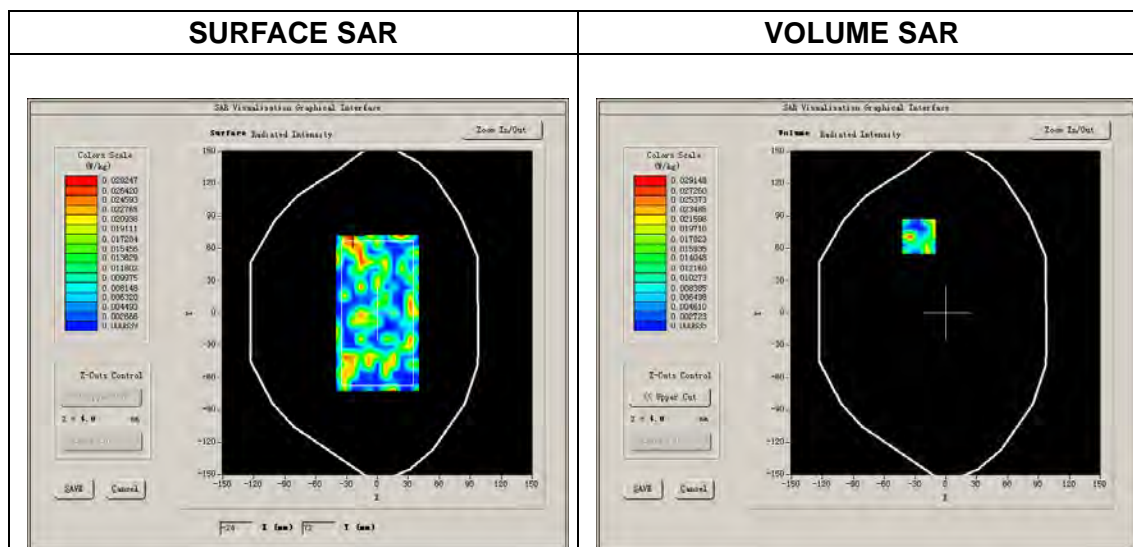
Measurement duration: 13 minutes 0 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11b</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 6)

<b>Frequency (MHz)</b>	2437.000000
<b>Relative permittivity (real part)</b>	52.884446
<b>Conductivity (S/m)</b>	1.966143
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	4.96
<b>Crest factor:</b>	1:1



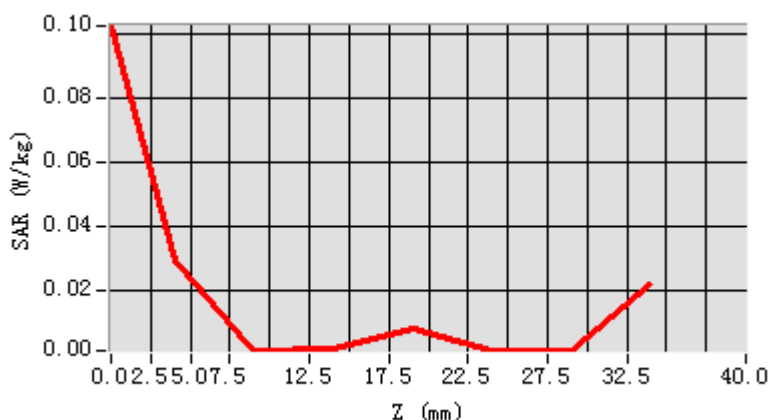


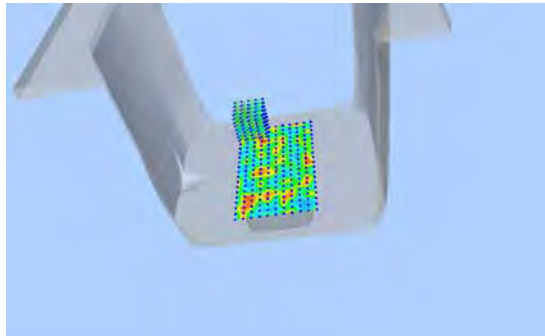
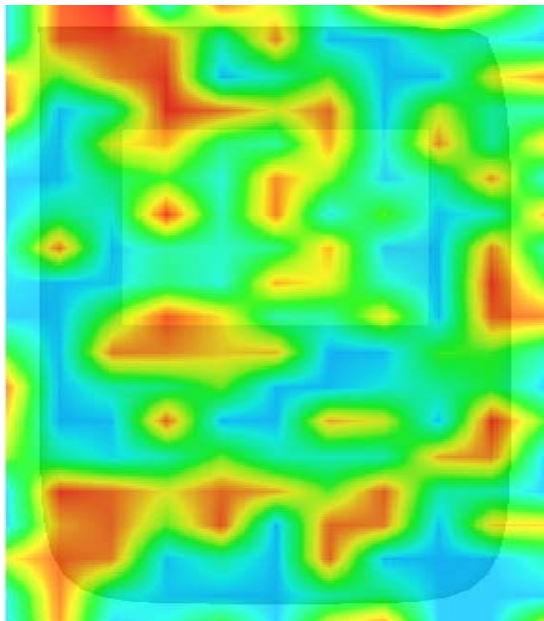
Maximum location: X=-26.00, Y=71.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.010174
SAR 1g (W/Kg)	0.028063

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1022	0.0291	0.0010	0.0015	0.0081	0.0010	0.0010



3D screen shot	Hot spot position
	

**MEASUREMENT 45**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

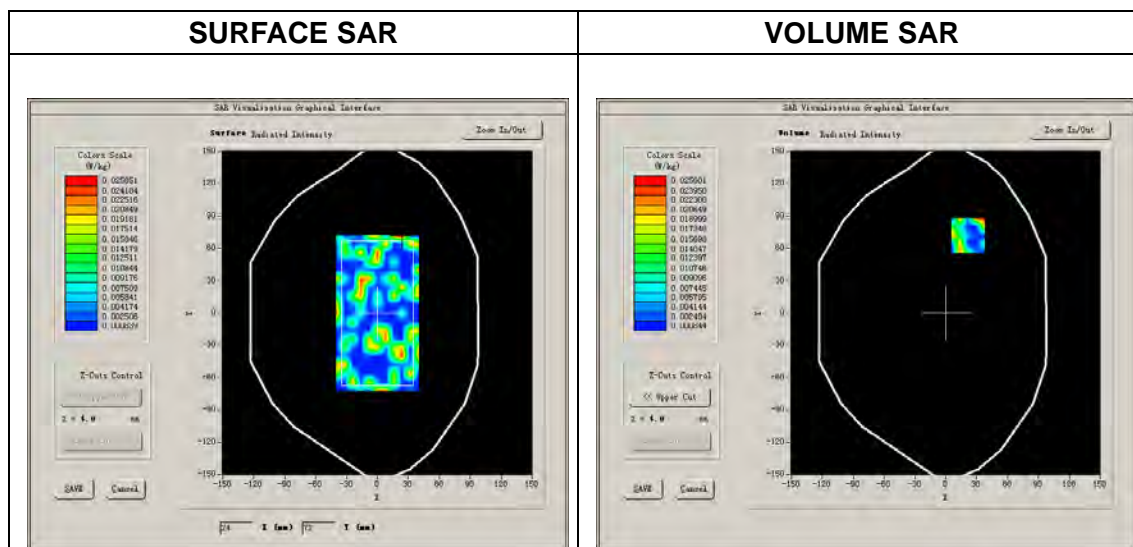
Measurement duration: 13 minutes 58 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 48)

<b>Frequency (MHz)</b>	5240.000000
<b>Relative permittivity (real part)</b>	48.273014
<b>Conductivity (S/m)</b>	5.543260
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	22.11
<b>Crest factor:</b>	1:1



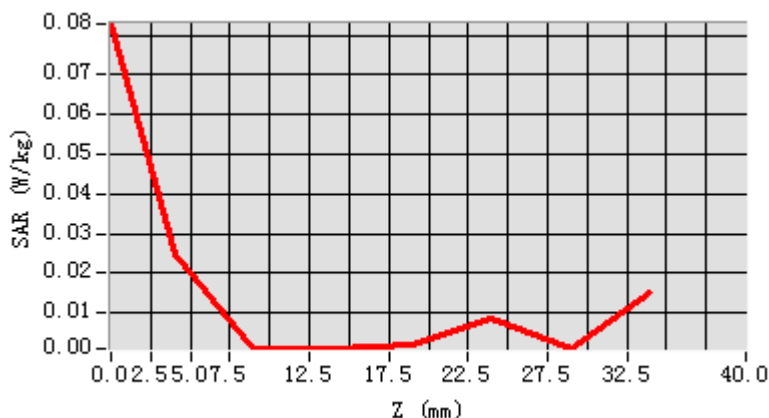


Maximum location: X=22.00, Y=72.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.011689
SAR 1g (W/Kg)	0.026120

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0828	0.0247	0.0010	0.0010	0.0019	0.0086	0.0010



3D screen shot	Hot spot position

**MEASUREMENT 46**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

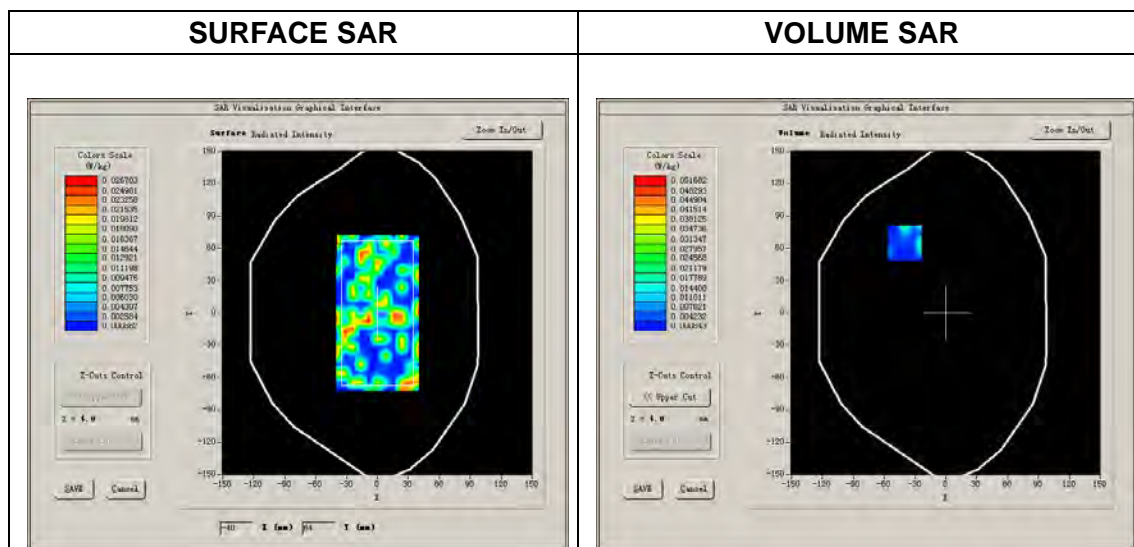
Measurement duration: 13 minutes 54 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 116)

<b>Frequency (MHz)</b>	5580.000000
<b>Relative permittivity (real part)</b>	48.394381
<b>Conductivity (S/m)</b>	5.7432600
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.69
<b>Crest factor:</b>	1:1



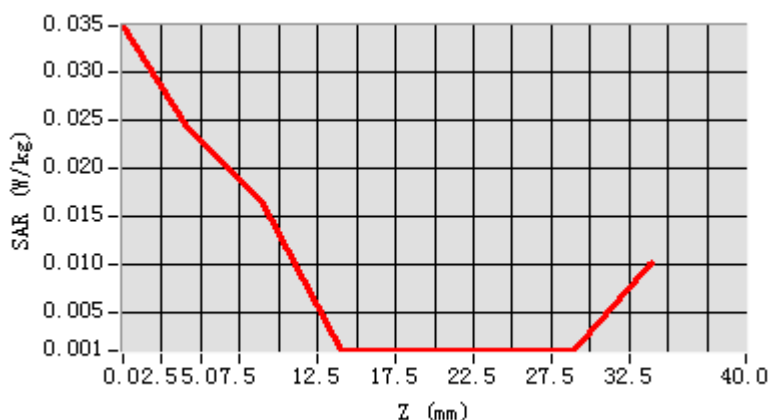


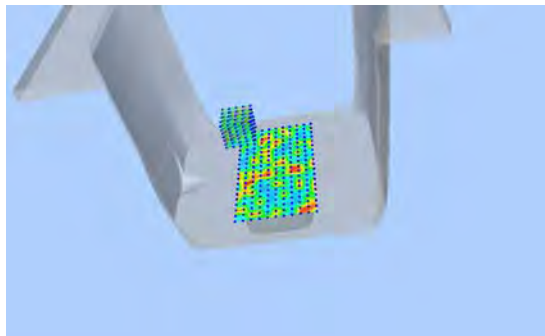
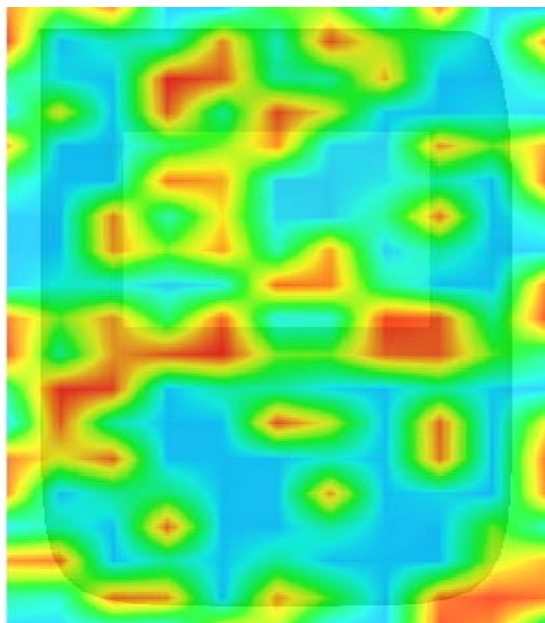
Maximum location: X=-40.00, Y=65.00

SAR Peak: 0.06 W/kg

SAR 10g (W/Kg)	0.007093
SAR 1g (W/Kg)	0.019824

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0349	0.0245	0.0162	0.0010	0.0010	0.0009	0.0010



3D screen shot	Hot spot position
	



**MEASUREMENT 47**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 54 seconds

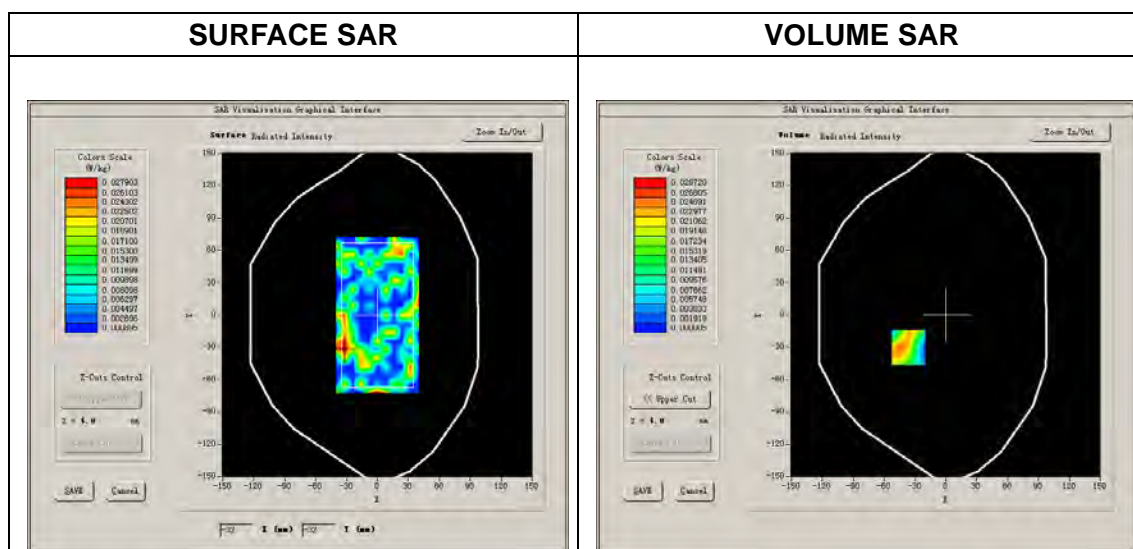
**A. Experimental conditions.**

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

**B. SAR Measurement Results**

M Middle Band SAR (Channel 151)

<b>Frequency (MHz)</b>	5755.000000
<b>Relative permittivity (real part)</b>	48.093428
<b>Conductivity (S/m)</b>	5.930716
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.02
<b>Crest factor:</b>	1:1

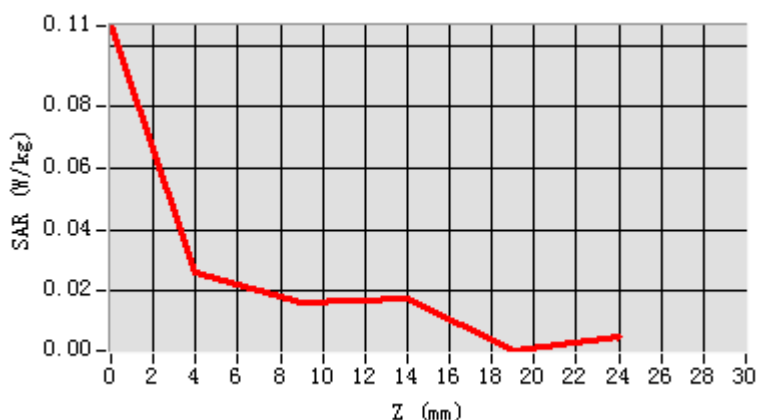


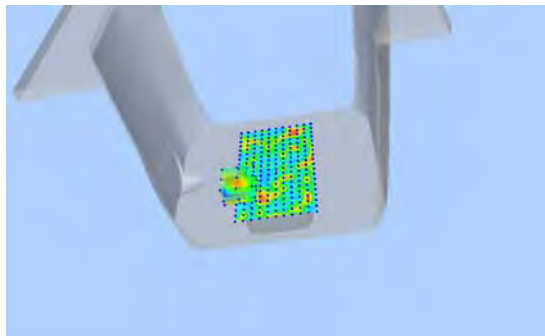
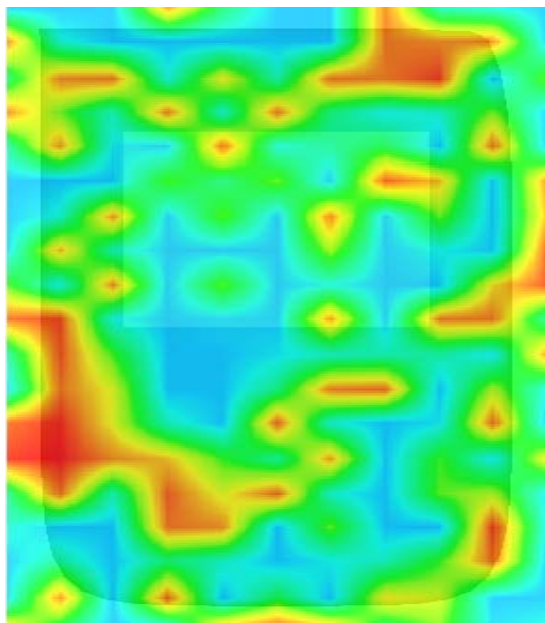
Maximum location: X=-36.00, Y=-30.00

SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.017073
SAR 1g (W/Kg)	0.032294

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.1064	0.0259	0.0161	0.0175	0.0004



3D screen shot	Hot spot position
	

**MEASUREMENT 48**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 54 seconds

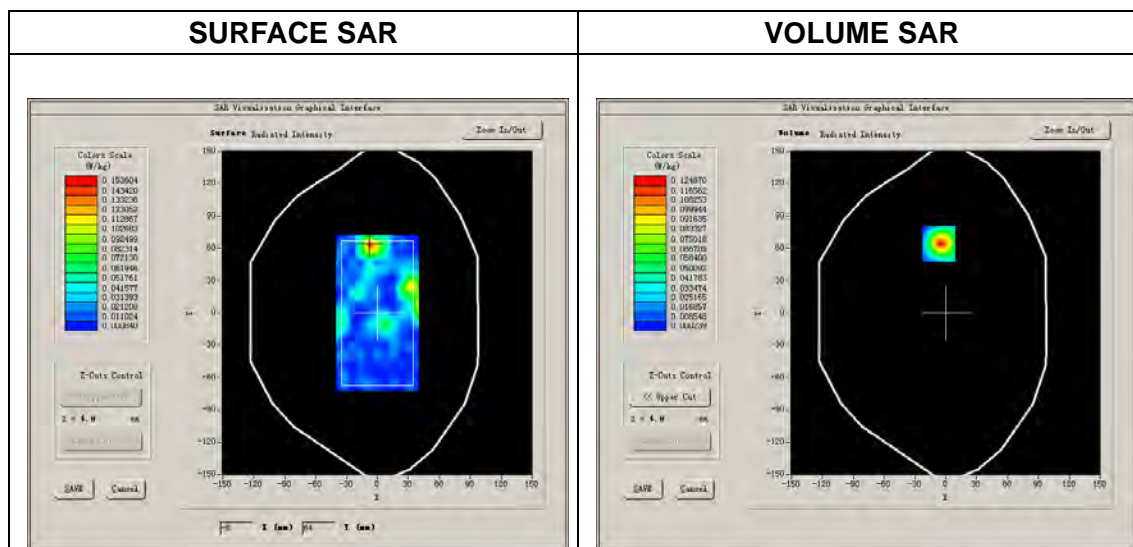
**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11b</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**

Middle Band SAR (Channel 6)

<b>Frequency (MHz)</b>	2437.000000
<b>Relative permittivity (real part)</b>	52.884446
<b>Conductivity (S/m)</b>	1.966143
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	4.96
<b>Crest factor:</b>	1:1

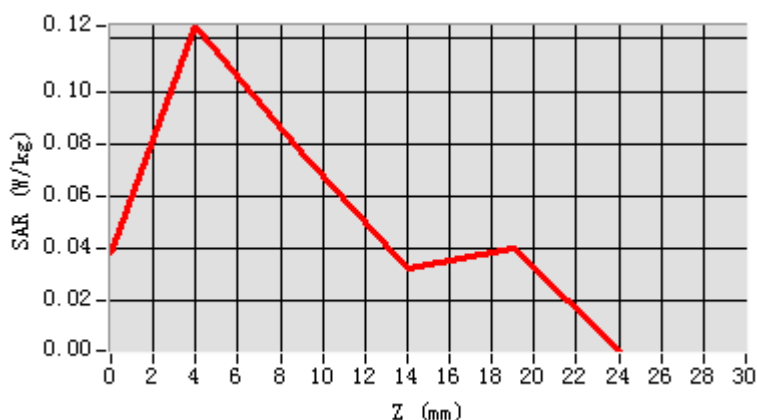


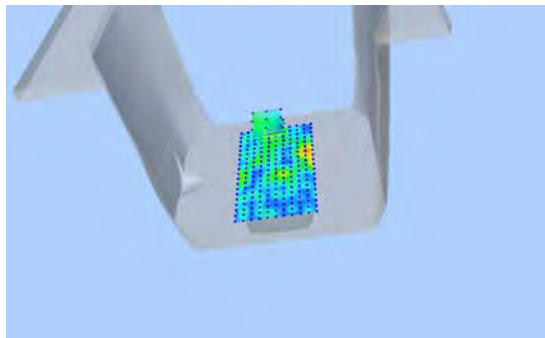
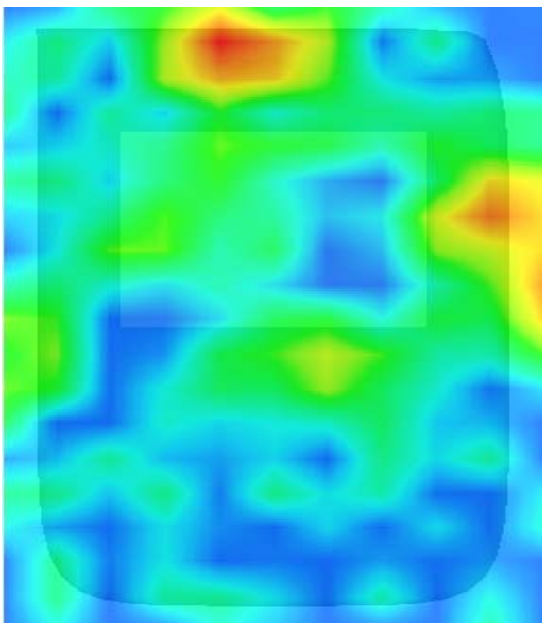
Maximum location: X=-7.00, Y=64.00

SAR Peak: 0.20 W/kg

SAR 10g (W/Kg)	0.059954
SAR 1g (W/Kg)	0.116272

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	0.0381	0.1249	0.0766	0.0320	0.0401



3D screen shot	Hot spot position
	



## MEASUREMENT 49

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 58 seconds

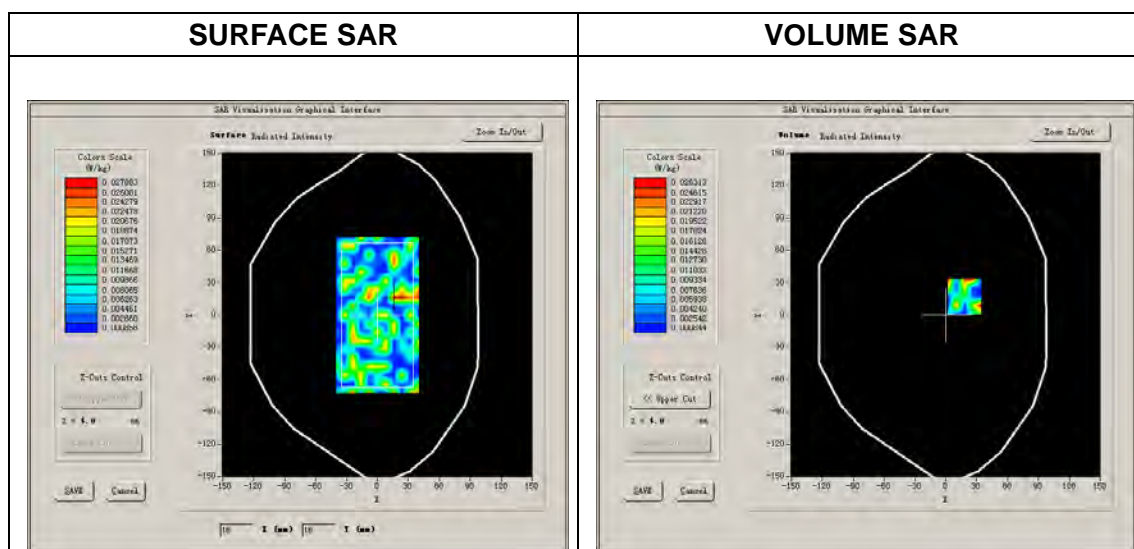
### A. Experimental conditions.

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

### B. SAR Measurement Results

Middle Band SAR (Channel 48)

<b>Frequency (MHz)</b>	5240.000000
<b>Relative permittivity (real part)</b>	48.273014
<b>Conductivity (S/m)</b>	5.543260
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	22.11
<b>Crest factor:</b>	1:1

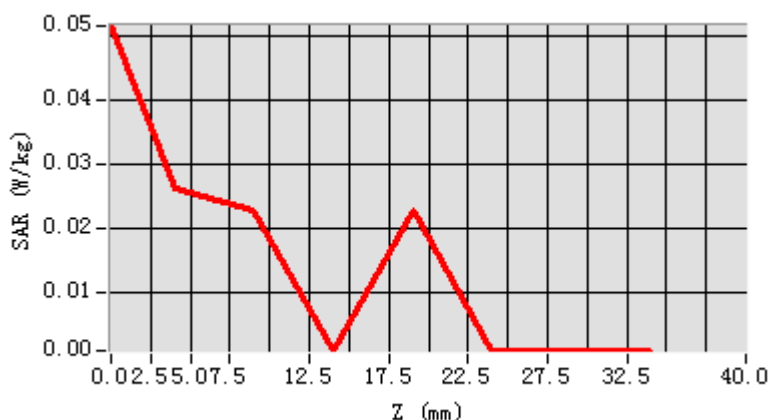


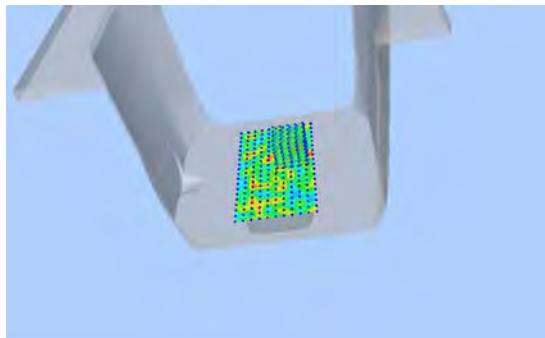
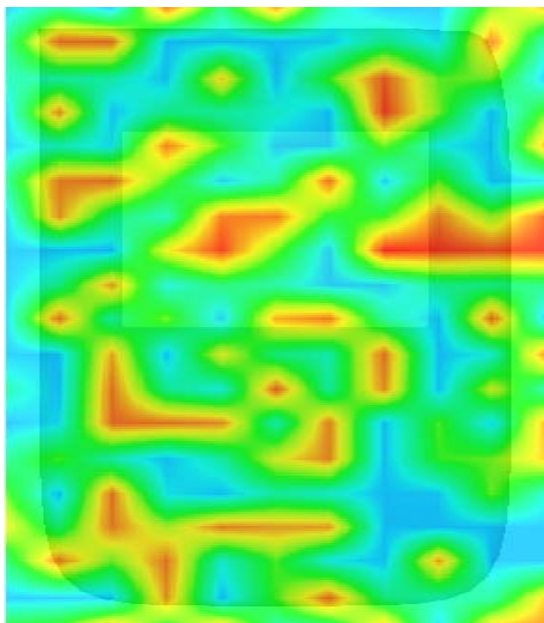
Maximum location: X=18.00, Y=17.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.011330
SAR 1g (W/Kg)	0.015921

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0516	0.0263	0.0228	0.0010	0.0230	0.0010	0.0010



3D screen shot	Hot spot position
	



**MEASUREMENT 50**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 56 seconds

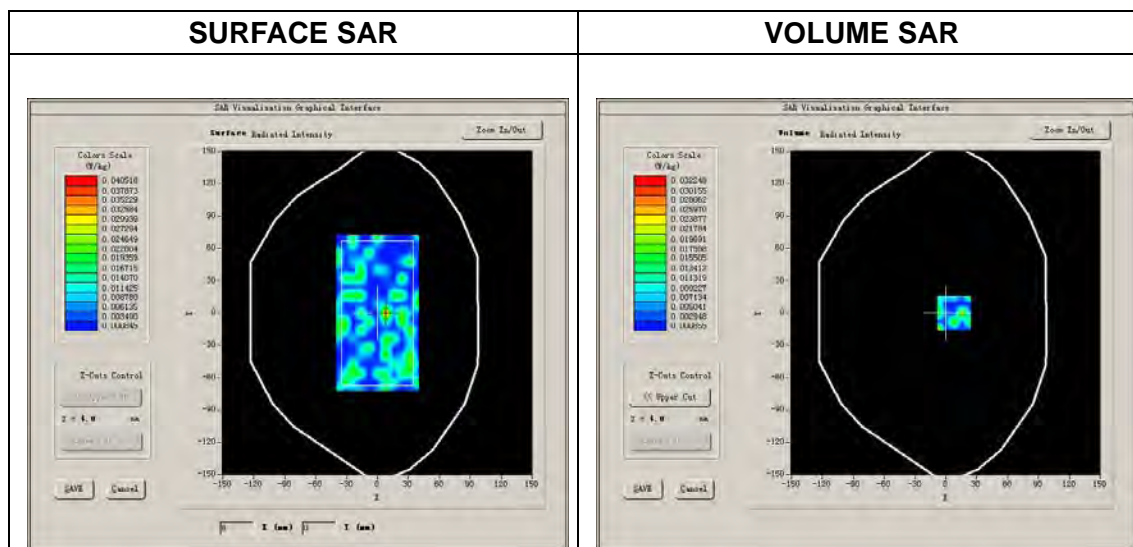
**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**

Middle Band SAR (Channel 116)

<b>Frequency (MHz)</b>	5580.000000
<b>Relative permittivity (real part)</b>	48.394381
<b>Conductivity (S/m)</b>	5.7432600
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.69
<b>Crest factor:</b>	1:1



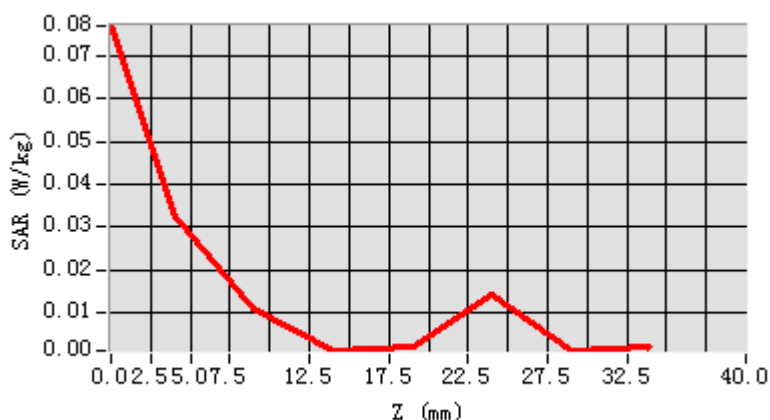


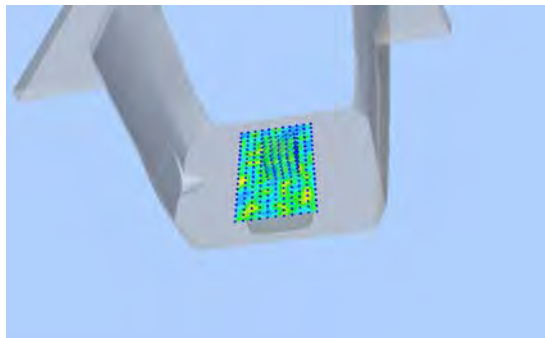
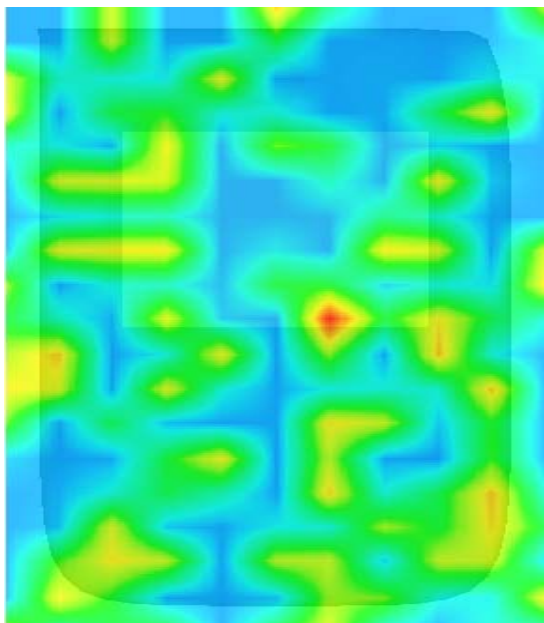
Maximum location: X=8.00, Y=0.00

SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.010290
SAR 1g (W/Kg)	0.020397

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0771	0.0322	0.0110	0.0011	0.0020	0.0139	0.0010



3D screen shot	Hot spot position
	

**MEASUREMENT 51**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

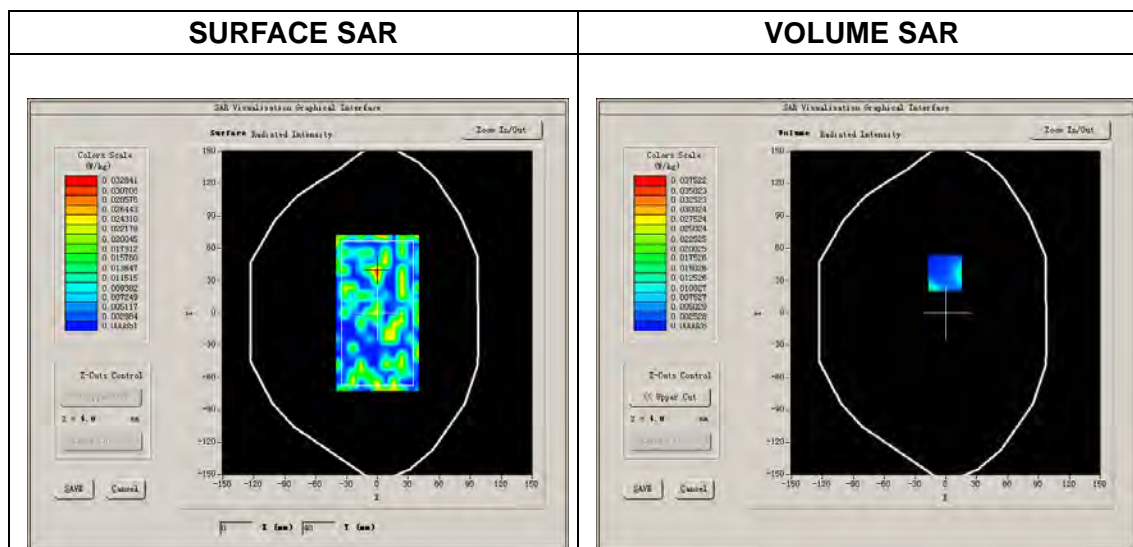
Measurement duration: 13 minutes 56 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 151)

<b>Frequency (MHz)</b>	5755.000000
<b>Relative permittivity (real part)</b>	48.093428
<b>Conductivity (S/m)</b>	5.930716
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.02
<b>Crest factor:</b>	1:1



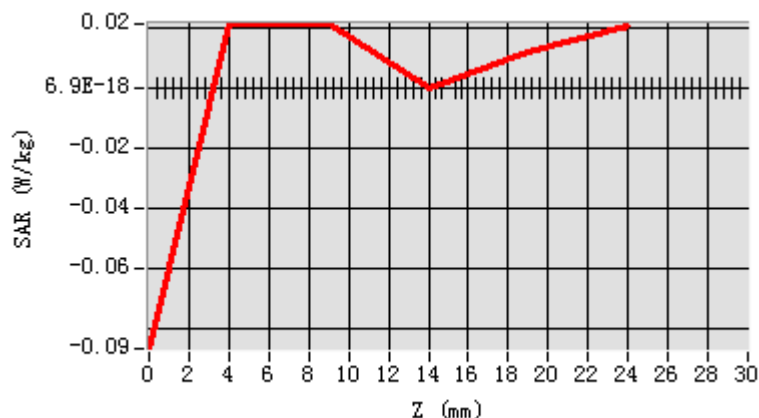


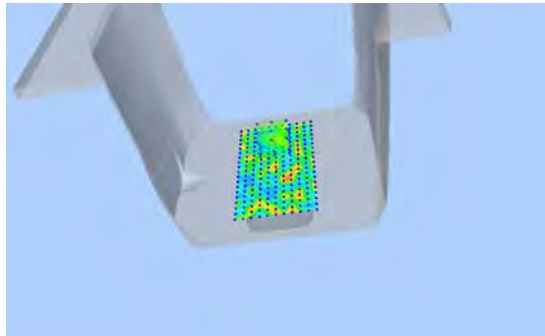
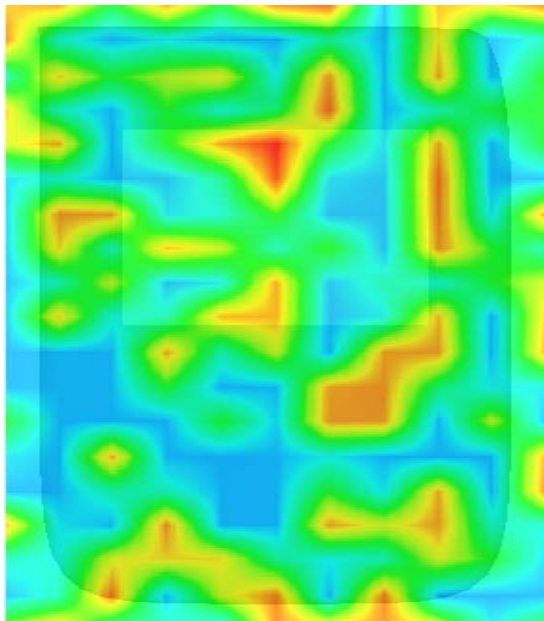
Maximum location: X=-1.00, Y=37.00

SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.010824
SAR 1g (W/Kg)	0.011866

Z (mm)	0.00	4.00	9.00	14.00	19.00
SAR (W/Kg)	-0.0870	0.0213	0.0210	0.0000	0.0121



3D screen shot	Hot spot position
	



## MEASUREMENT 52

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 56 seconds

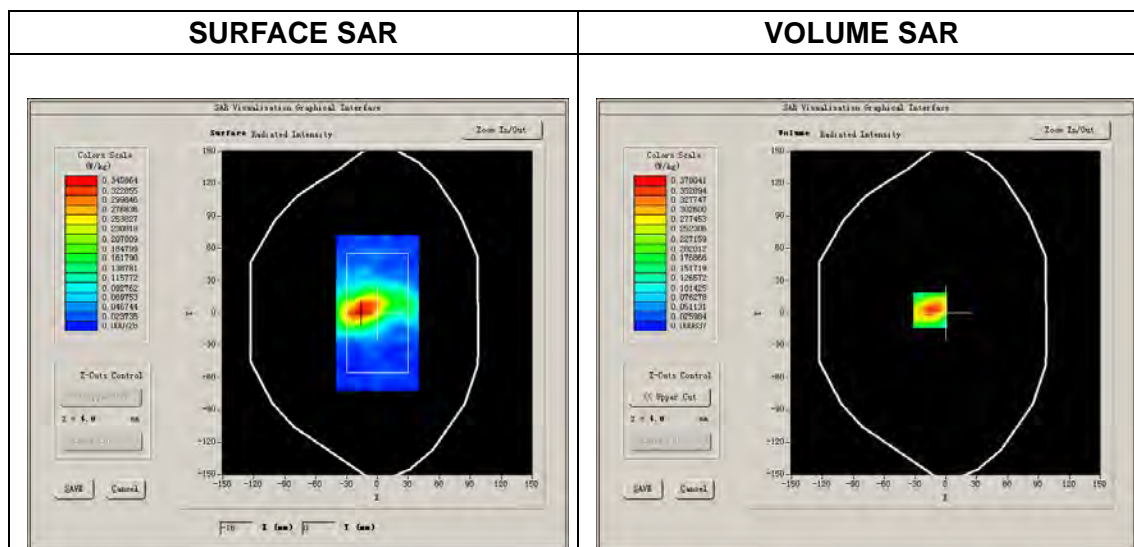
### A. Experimental conditions.

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

### B. SAR Measurement Results

Middle Band SAR (Channel 116)

<b>Frequency (MHz)</b>	5580.000000
<b>Relative permittivity (real part)</b>	48.394381
<b>Conductivity (S/m)</b>	5.7432600
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.69
<b>Crest factor:</b>	1:1

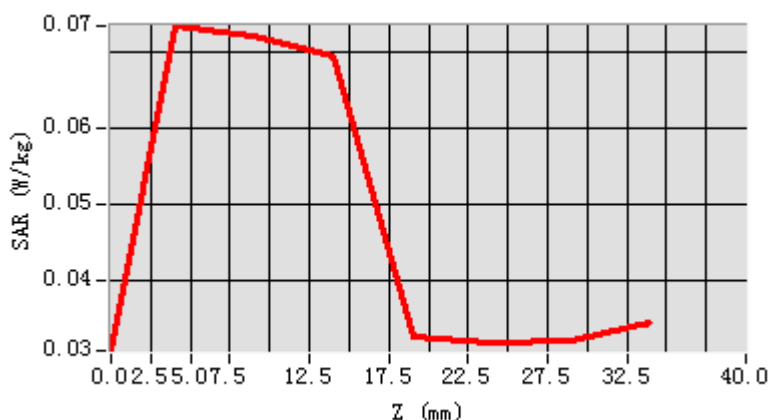


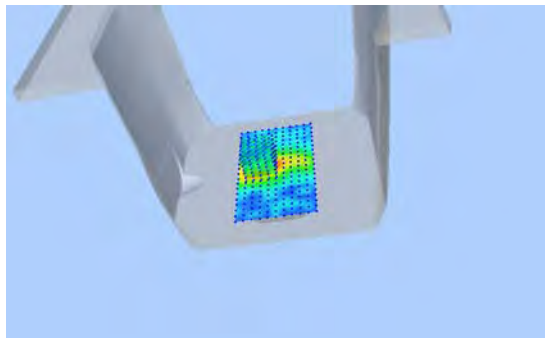
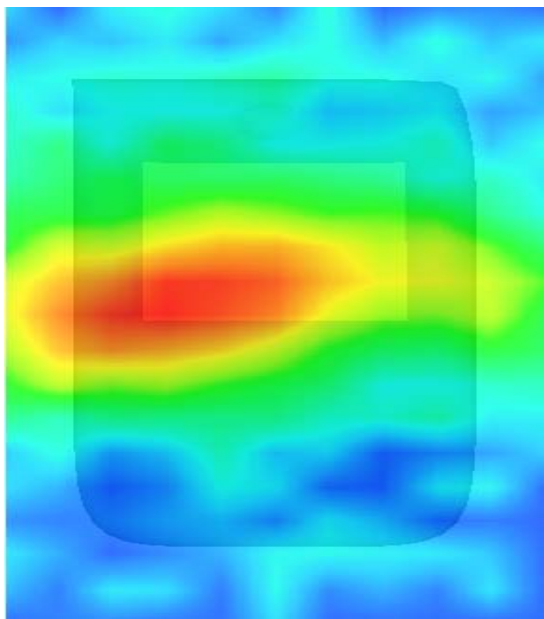
Maximum location: X=-15.00, Y=3.00

SAR Peak: 0.07 W/kg

SAR 10g (W/Kg)	0.019548
SAR 1g (W/Kg)	0.029301

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0306	0.0735	0.0723	0.0697	0.0326	0.0318	0.0320



3D screen shot	Hot spot position
	

**MEASUREMENT 53**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 17 seconds

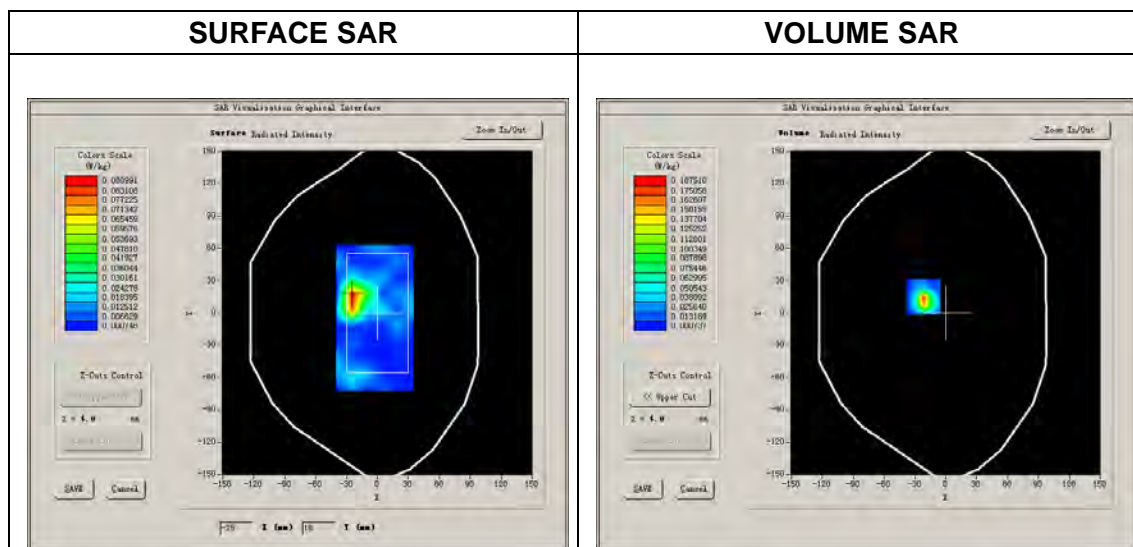
**A. Experimental conditions.**

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

**B. SAR Measurement Results**

Middle Band SAR (Channel 6)

<b>Frequency (MHz)</b>	2437.000000
<b>Relative permittivity (real part)</b>	52.884446
<b>Conductivity (S/m)</b>	1.966143
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	4.96
<b>Crest factor:</b>	1:1



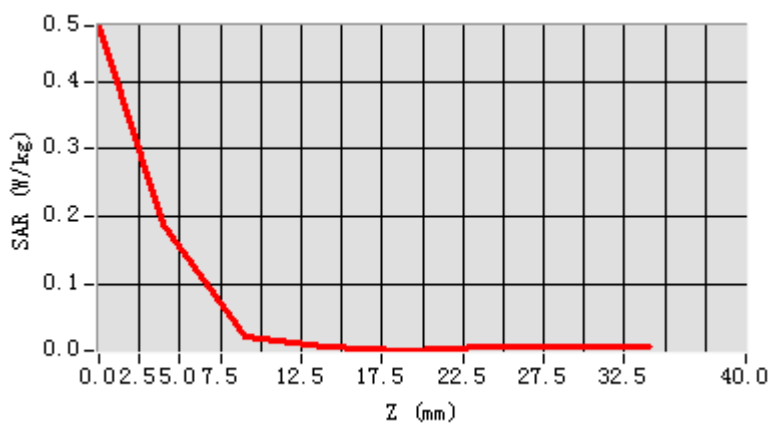


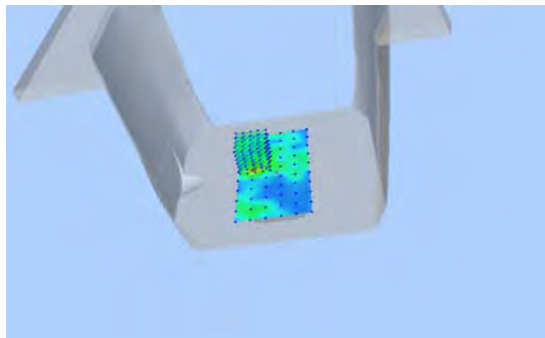
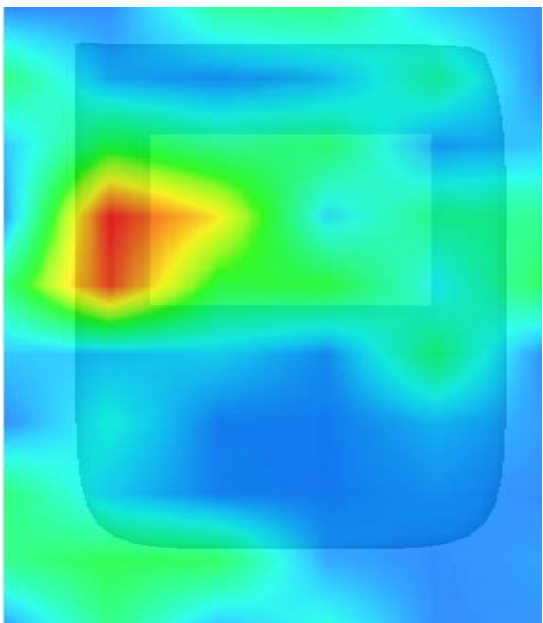
Maximum location: X=-22.00, Y=15.00

SAR Peak: 0.50 W/kg

SAR 10g (W/Kg)	0.017160
SAR 1g (W/Kg)	0.031297

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.4820	0.1875	0.0202	0.0069	0.0009	0.0061	0.0072



3D screen shot	Hot spot position
	



**MEASUREMENT 54**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 18 seconds

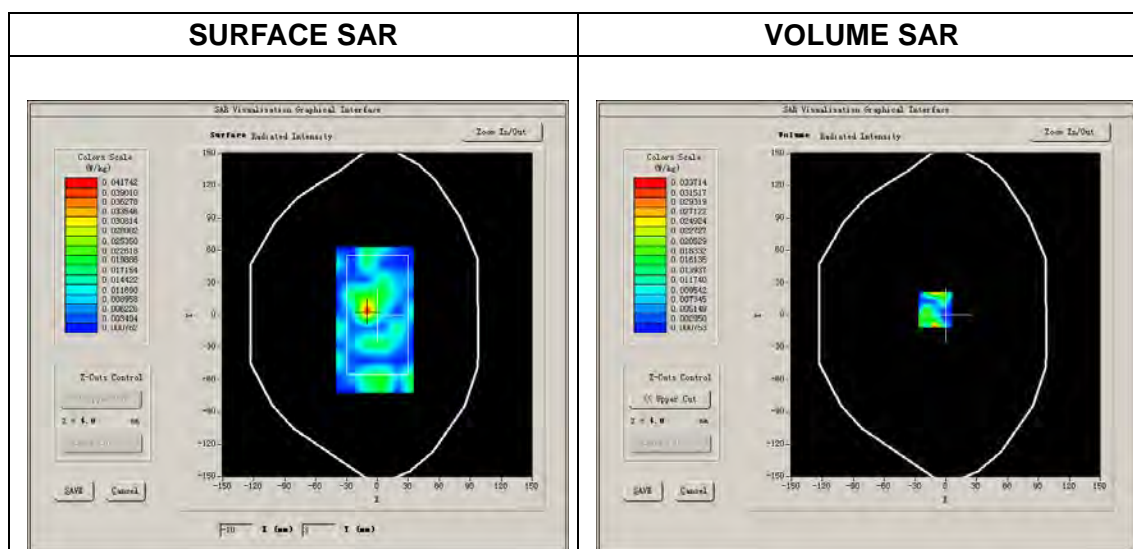
**A. Experimental conditions.**

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

**B. SAR Measurement Results**

Middle Band SAR (Channel 6)

<b>Frequency (MHz)</b>	2437.000000
<b>Relative permittivity (real part)</b>	52.884446
<b>Conductivity (S/m)</b>	1.966143
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	4.96
<b>Crest factor:</b>	1:1

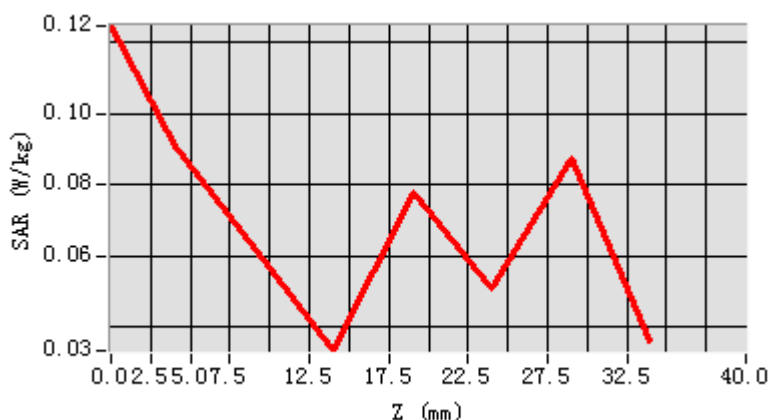


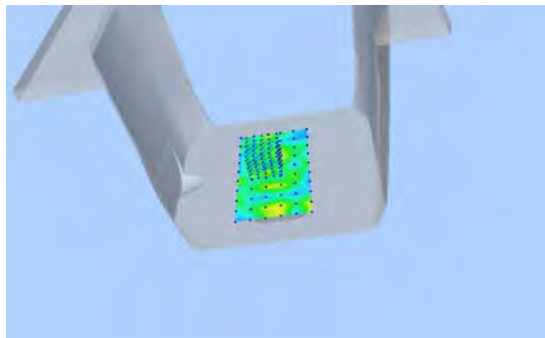
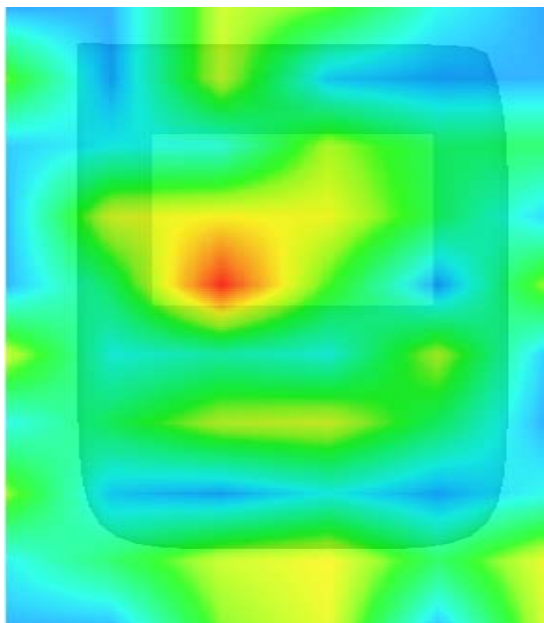
Maximum location: X=-10.00, Y=5.00

SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.004807
SAR 1g (W/Kg)	0.011967

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1247	0.0907	0.0626	0.0332	0.0778	0.0509	0.0874



3D screen shot	Hot spot position
	



## MEASUREMENT 55

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 17 seconds

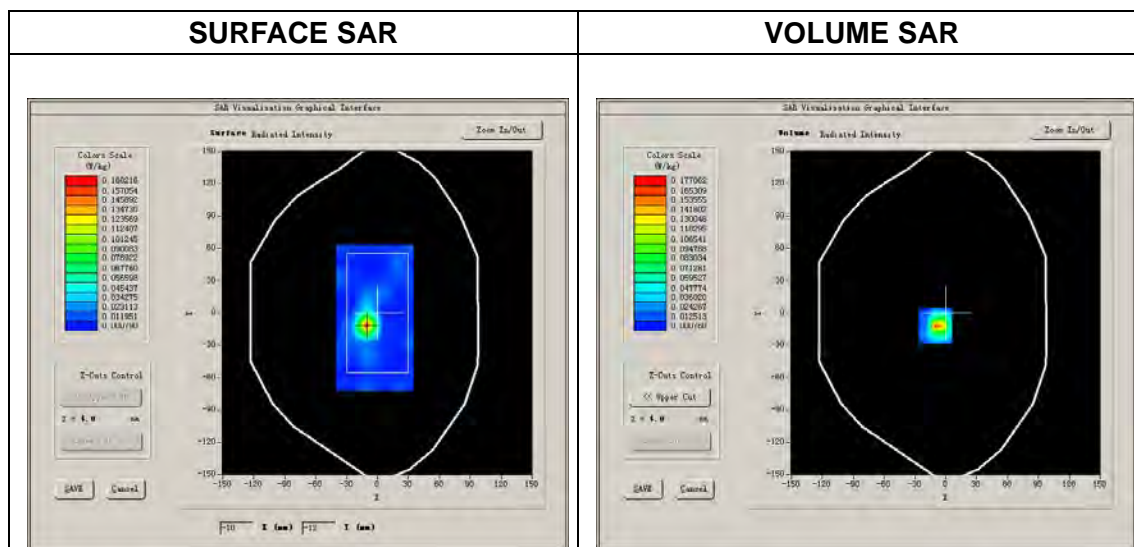
### A. Experimental conditions.

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

### B. SAR Measurement Results

Middle Band SAR (Channel 6)

<b>Frequency (MHz)</b>	2437.000000
<b>Relative permittivity (real part)</b>	52.884446
<b>Conductivity (S/m)</b>	1.966143
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	4.96
<b>Crest factor:</b>	1:1

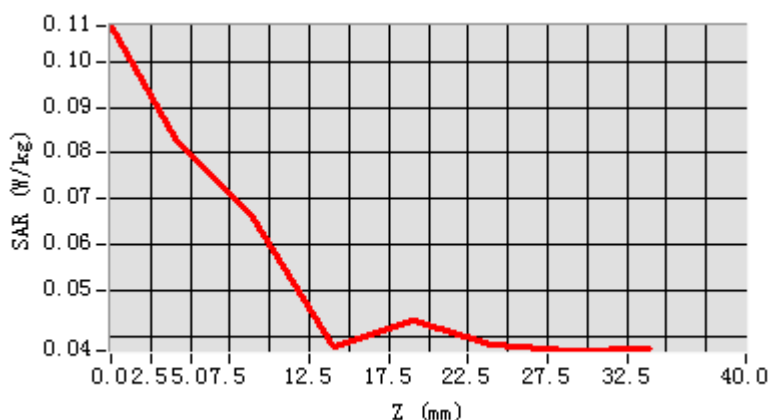


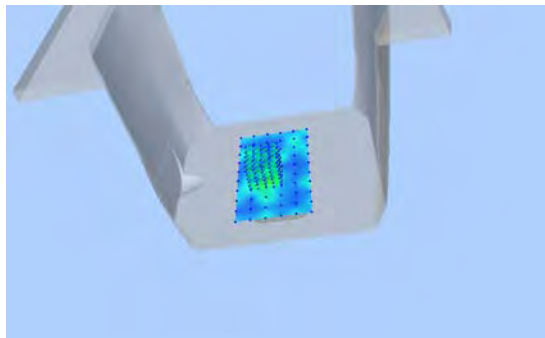
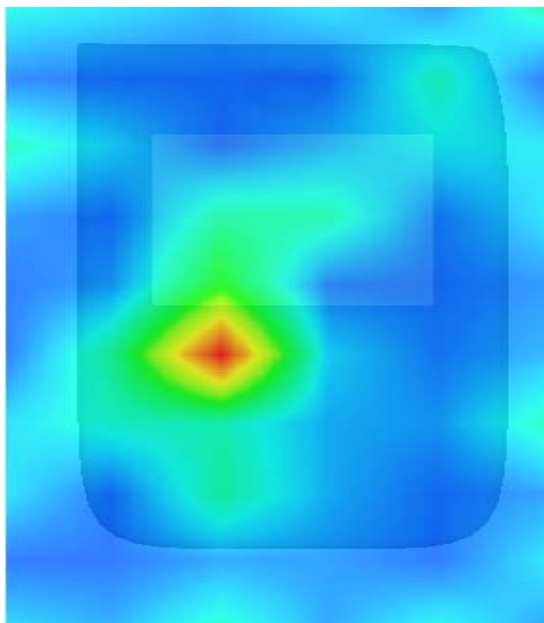
Maximum location: X=-10.00, Y=-12.00

SAR Peak: 0.11 W/kg

SAR 10g (W/Kg)	0.006078
SAR 1g (W/Kg)	0.011975

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1077	0.0831	0.0656	0.0377	0.0433	0.0381	0.0369



3D screen shot	Hot spot position
	

**MEASUREMENT 56**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

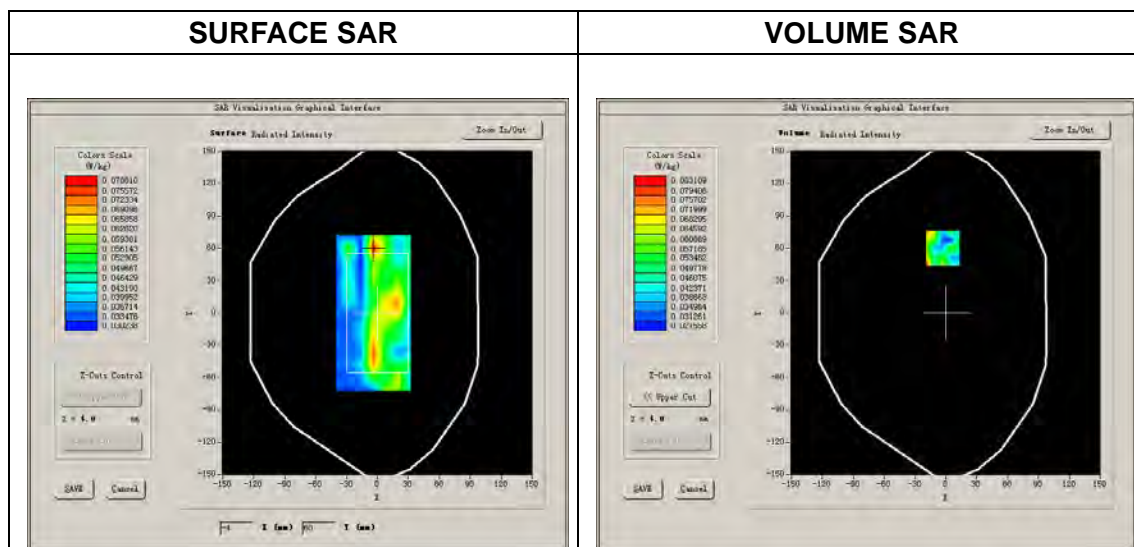
Measurement duration: 13 minutes 1 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 48)

<b>Frequency (MHz)</b>	5240.000000
<b>Relative permittivity (real part)</b>	48.273014
<b>Conductivity (S/m)</b>	5.543260
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	22.11
<b>Crest factor:</b>	1:1



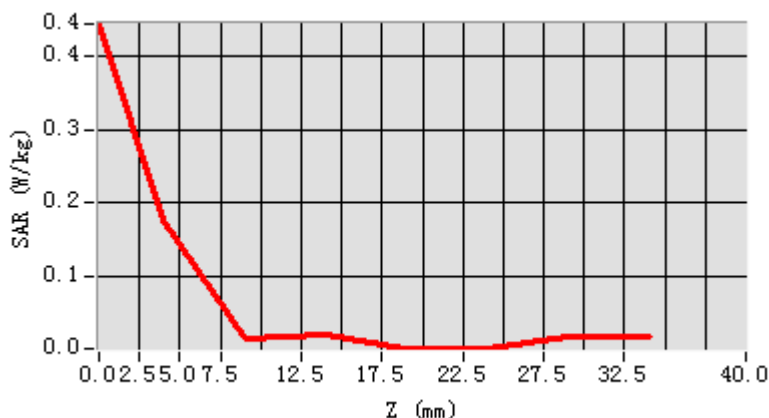


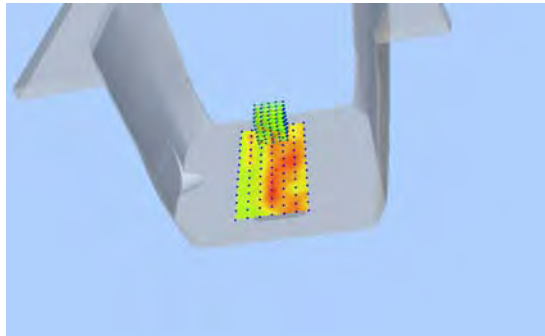
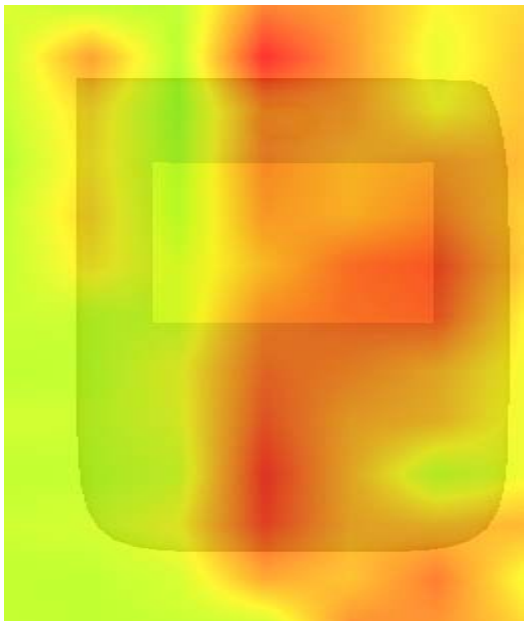
Maximum location: X=-3.00, Y=60.00

SAR Peak: 0.39 W/kg

SAR 10g (W/Kg)	0.015427
SAR 1g (W/Kg)	0.020120

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.4436	0.1771	0.0151	0.0190	0.0009	0.0009	0.0184



3D screen shot	Hot spot position
	



**MEASUREMENT 57**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

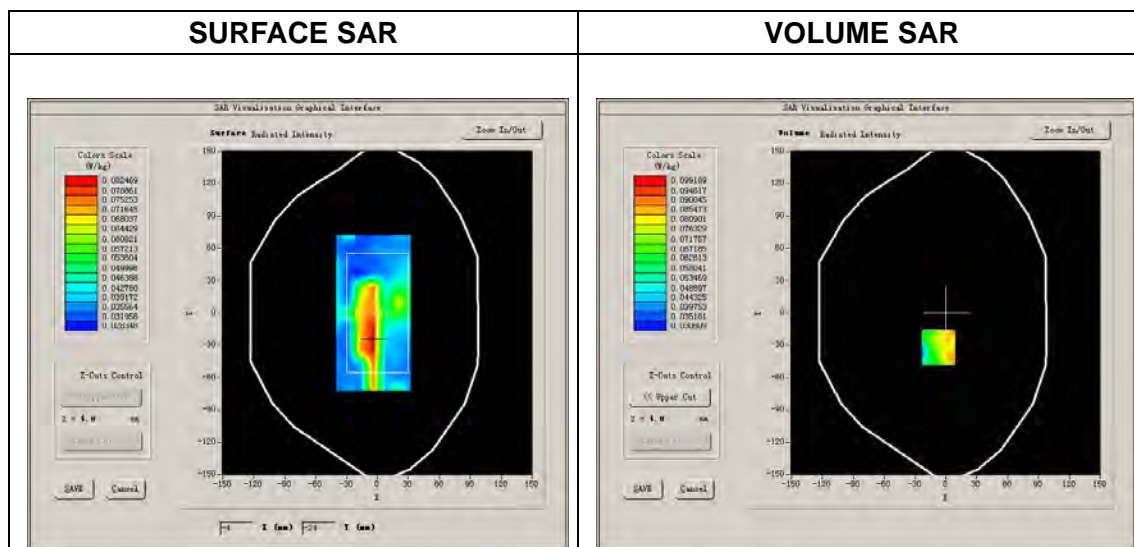
Measurement duration: 13 minutes 1 seconds

**A. Experimental conditions.**

<b>Phantom File</b>	<u>surf_sam_plan.txt</u>
<b>Phantom</b>	<u>Validation plane</u>
<b>Device Position</b>	<u>Body</u>
<b>Band</b>	<u>802.11a</u>
<b>Channels</b>	<u>Middle</u>
<b>Signal</b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 48)

<b>Frequency (MHz)</b>	5240.000000
<b>Relative permittivity (real part)</b>	48.273014
<b>Conductivity (S/m)</b>	5.543260
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	22.11
<b>Crest factor:</b>	1:1



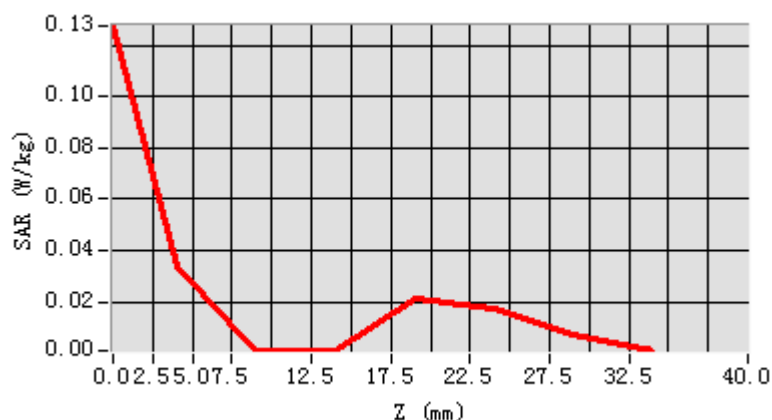


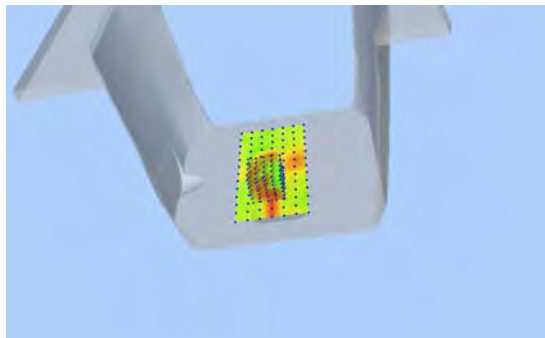
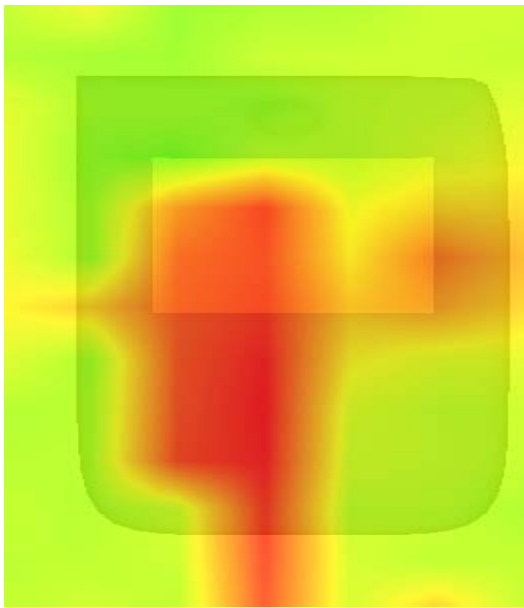
Maximum location: X=-7.00, Y=-32.00

SAR Peak: 0.13 W/kg

SAR 10g (W/Kg)	0.006546
SAR 1g (W/Kg)	0.013132

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1276	0.0337	0.0009	0.0009	0.0209	0.0174	0.0070



3D screen shot	Hot spot position
	

**MEASUREMENT 58**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

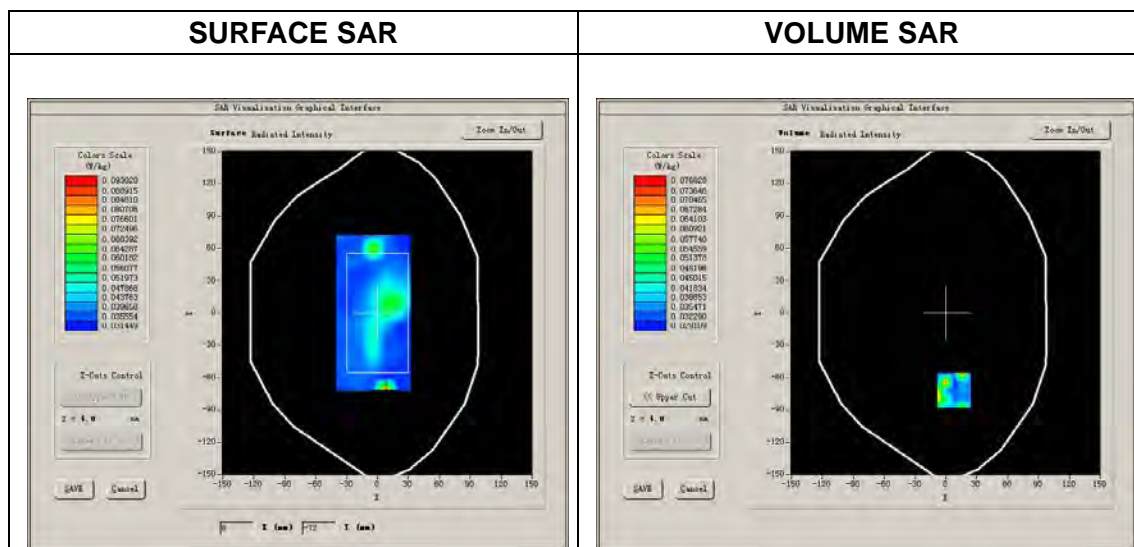
Measurement duration: 13 minutes 59 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 48)

<b>Frequency (MHz)</b>	5240.000000
<b>Relative permittivity (real part)</b>	48.273014
<b>Conductivity (S/m)</b>	5.543260
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	22.11
<b>Crest factor:</b>	1:1

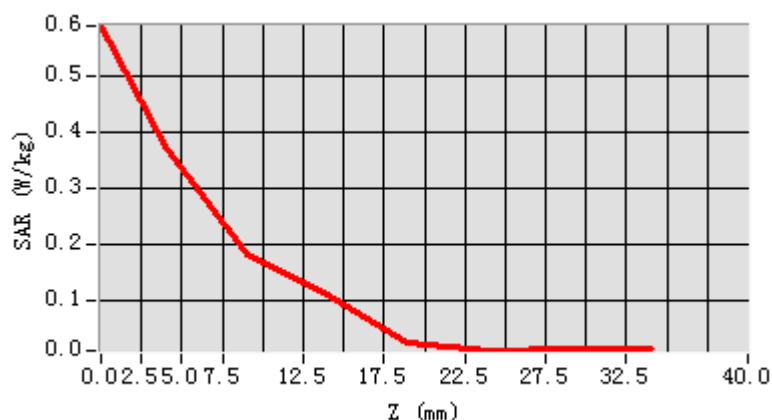


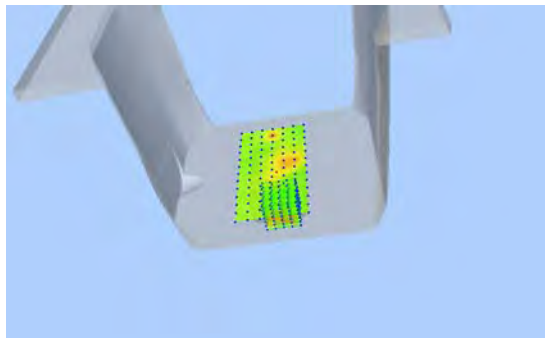
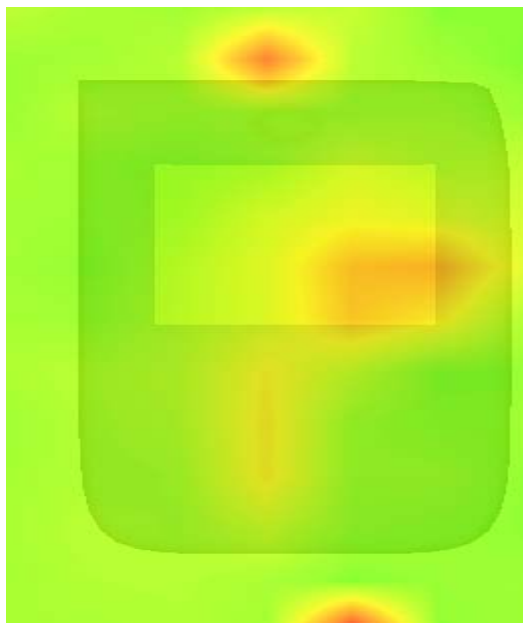
Maximum location: X=8.00, Y=-72.00

SAR Peak: 0.4 W/kg

SAR 10g (W/Kg)	0.010833
SAR 1g (W/Kg)	0.019546

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.5907	0.3780	0.1839	0.1108	0.0264	0.0119	0.0172



3D screen shot	Hot spot position
	



## MEASUREMENT 59

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 56 seconds

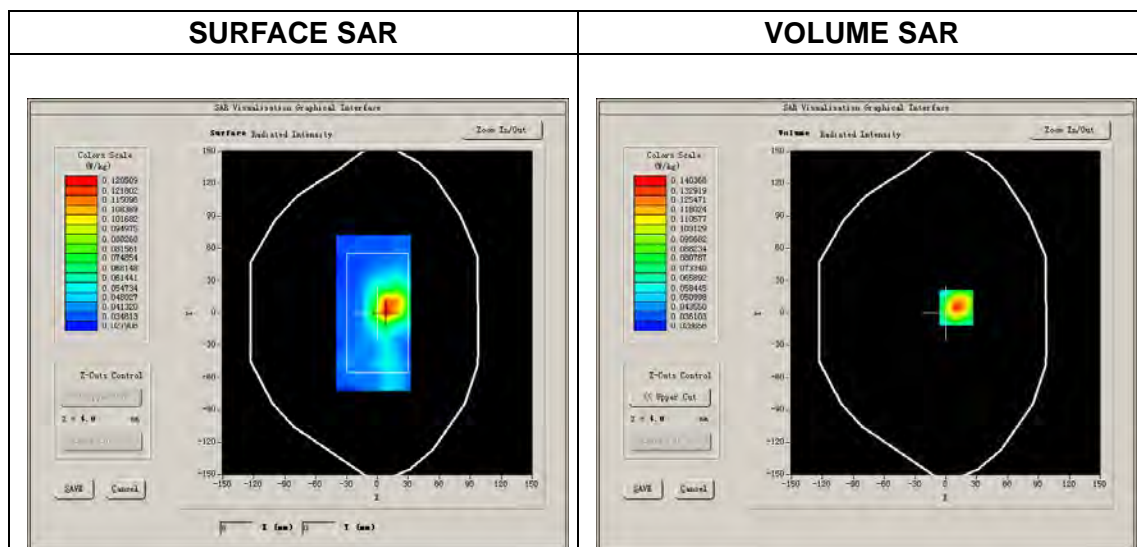
### A. Experimental conditions.

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

### B. SAR Measurement Results

Middle Band SAR (Channel 100)

<b>Frequency (MHz)</b>	5500.000000
<b>Relative permittivity (real part)</b>	48.394381
<b>Conductivity (S/m)</b>	5.7432600
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.69
<b>Crest factor:</b>	1:1



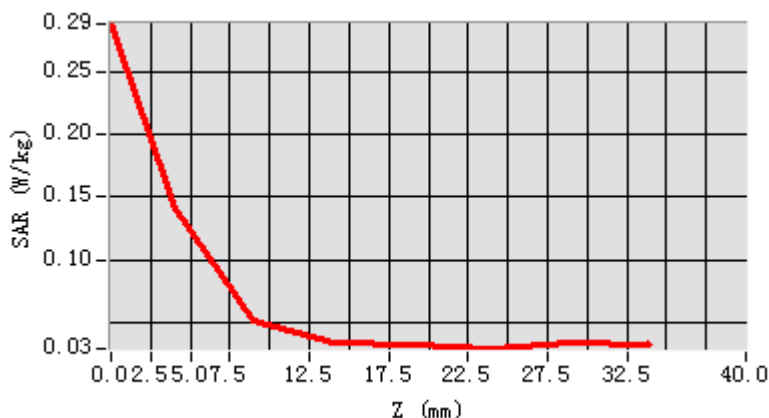


Maximum location: X=10.00, Y=5.00

SAR Peak: 0.28 W/kg

SAR 10g (W/Kg)	0.008204
SAR 1g (W/Kg)	0.018276

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.2877	0.1404	0.0526	0.0350	0.0333	0.0296	0.0339



3D screen shot	Hot spot position

**MEASUREMENT 60**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

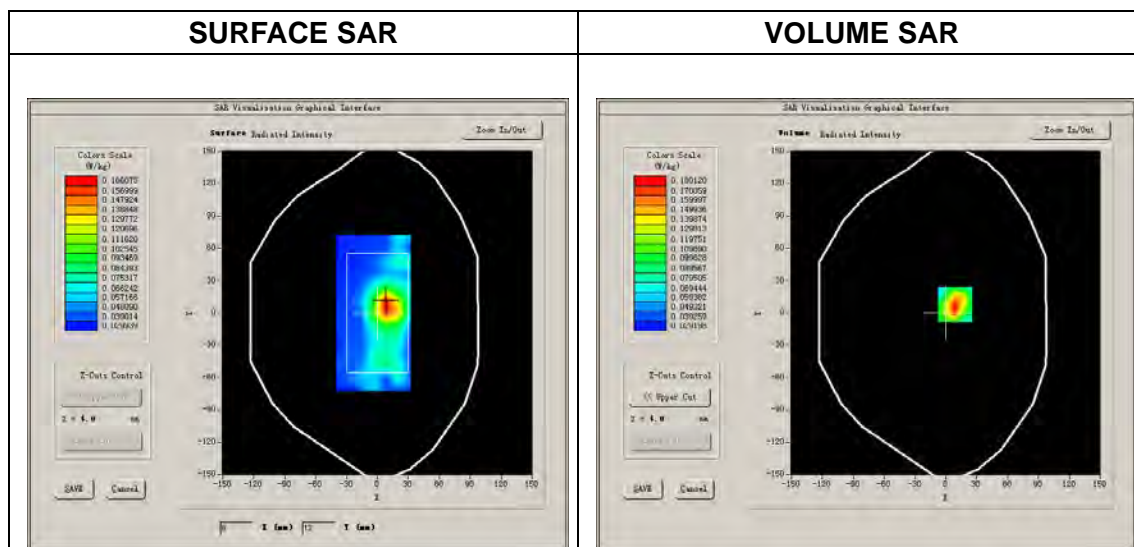
Measurement duration: 13 minutes 58 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 100)

<b>Frequency (MHz)</b>	5500.000000
<b>Relative permittivity (real part)</b>	48.394381
<b>Conductivity (S/m)</b>	5.7432600
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.69
<b>Crest factor:</b>	1:1

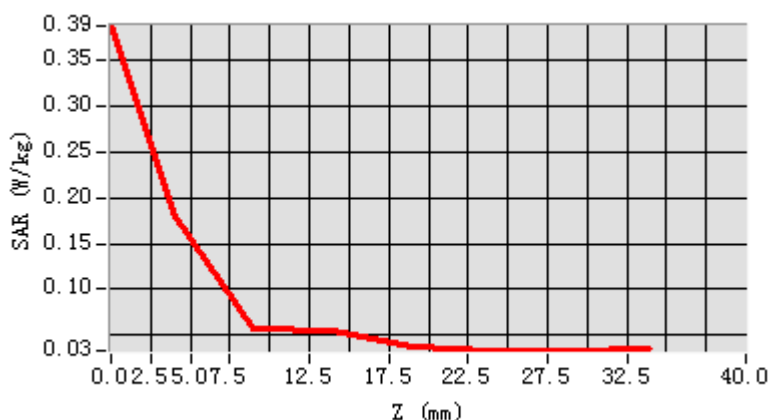


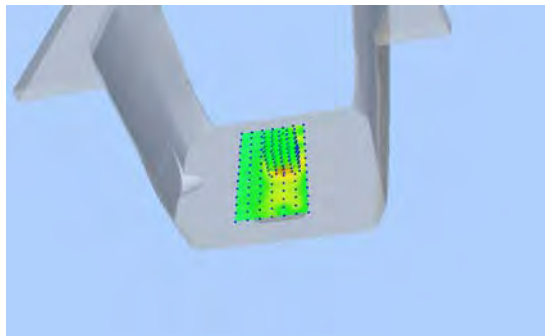
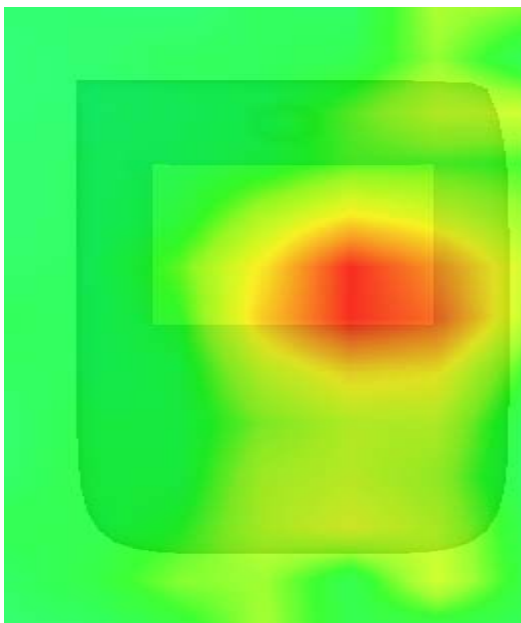
Maximum location: X=9.00, Y=8.00

SAR Peak: 0.29 W/kg

SAR 10g (W/Kg)	0.012839
SAR 1g (W/Kg)	0.021496

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.3877	0.1801	0.0574	0.0557	0.0365	0.0338	0.0331



3D screen shot	Hot spot position
	



**MEASUREMENT 61**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

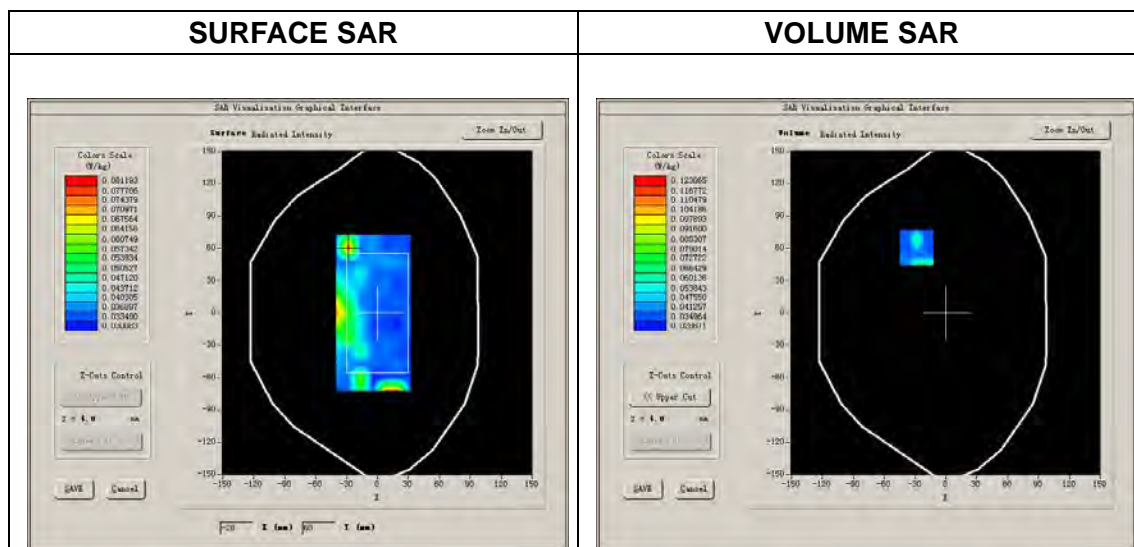
Measurement duration: 13 minutes 58 seconds

**A. Experimental conditions.**

<b><u>Phantom File</u></b>	<u>surf_sam_plan.txt</u>
<b><u>Phantom</u></b>	<u>Validation plane</u>
<b><u>Device Position</u></b>	<u>Body</u>
<b><u>Band</u></b>	<u>802.11a</u>
<b><u>Channels</u></b>	<u>Middle</u>
<b><u>Signal</u></b>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 100)

<b>Frequency (MHz)</b>	5500.000000
<b>Relative permittivity (real part)</b>	48.394381
<b>Conductivity (S/m)</b>	5.7432600
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.69
<b>Crest factor:</b>	1:1

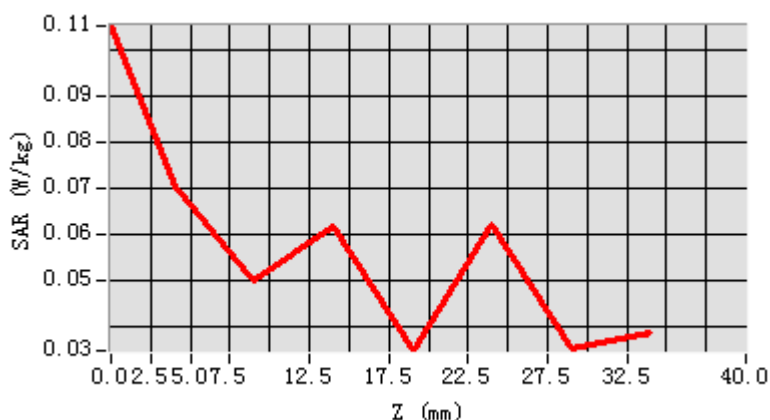


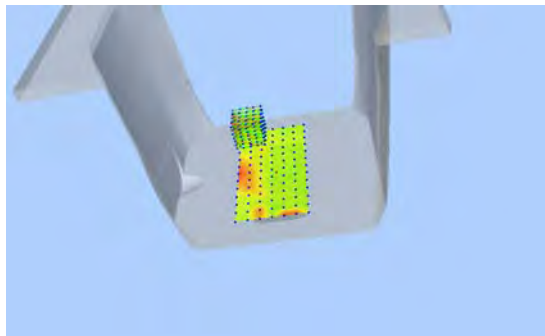
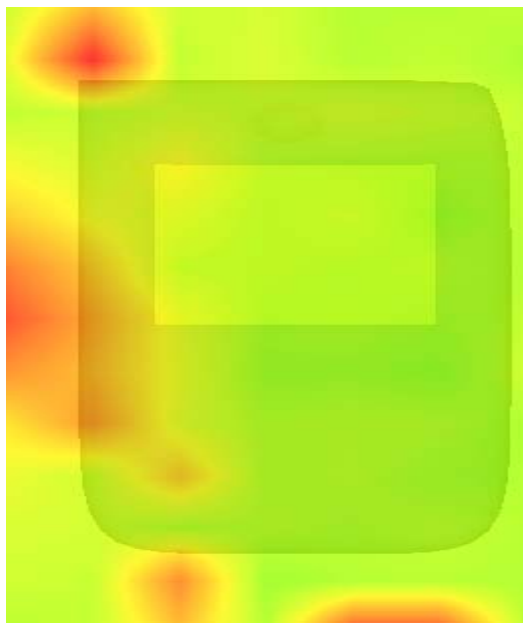
Maximum location: X=-28.00, Y=61.00

SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.014187
SAR 1g (W/Kg)	0.025538

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.1053	0.0705	0.0498	0.0616	0.0348	0.0623	0.0354



3D screen shot	Hot spot position
	

**MEASUREMENT 62**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

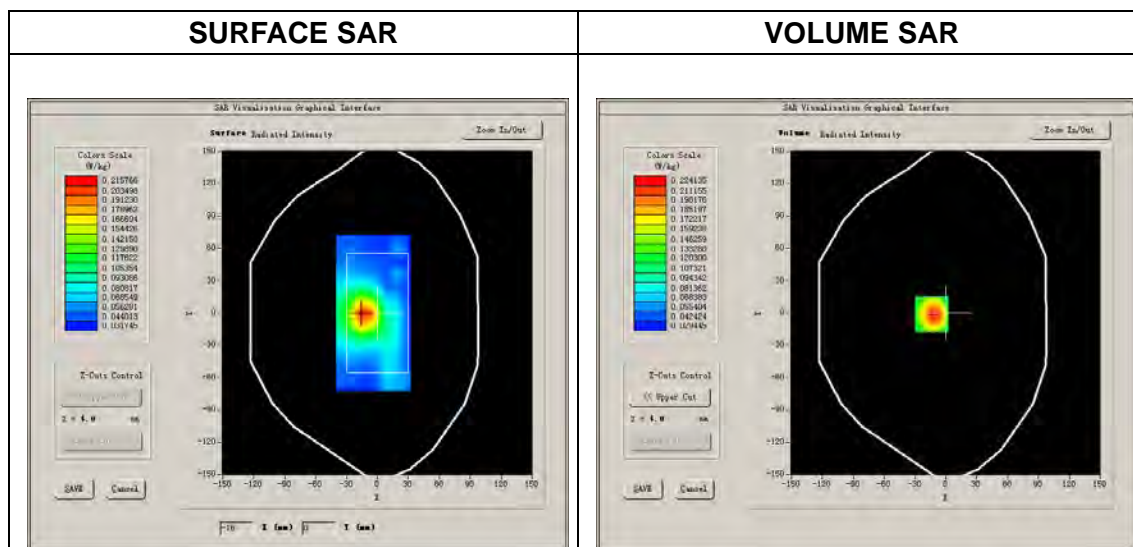
Measurement duration: 13 minutes 55 seconds

**A. Experimental conditions.**

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

**B. SAR Measurement Results**Middle Band SAR (Channel 165)

<b>Frequency (MHz)</b>	5825.000000
<b>Relative permittivity (real part)</b>	48.093428
<b>Conductivity (S/m)</b>	5.930716
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.02
<b>Crest factor:</b>	1:1

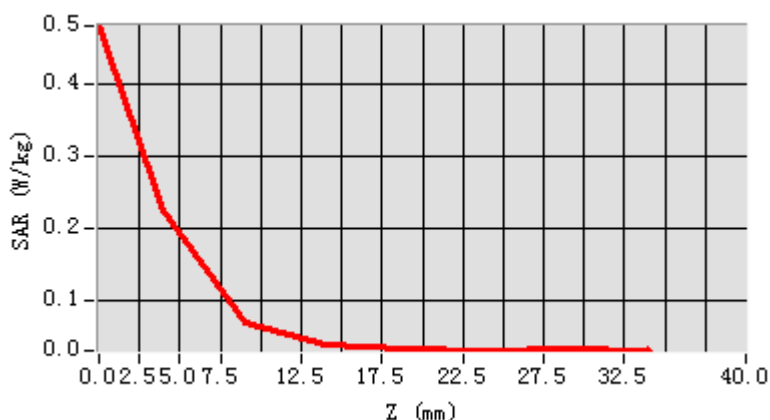


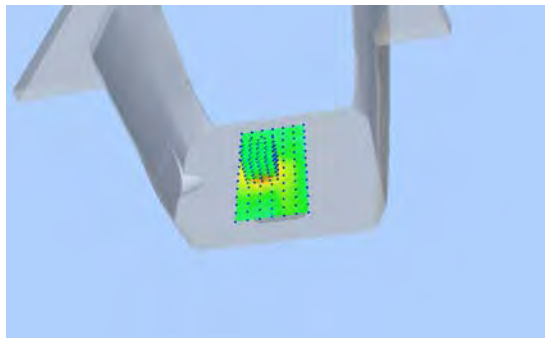
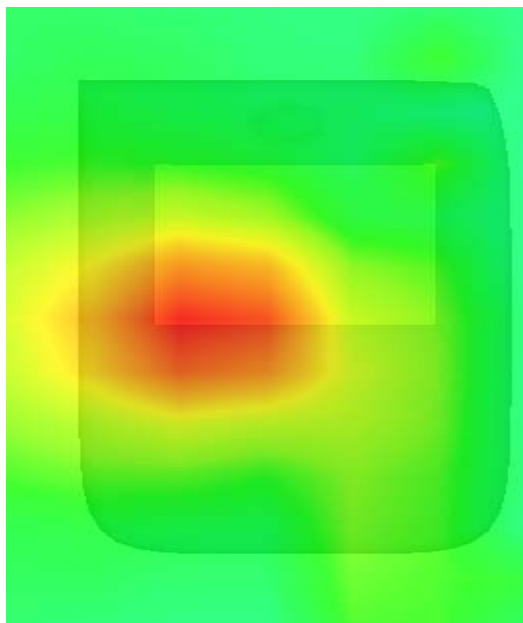
Maximum location: X=-14.00, Y=-1.00

SAR Peak: 0.48 W/kg

SAR 10g (W/Kg)	0.057922
SAR 1g (W/Kg)	0.010962

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.4786	0.2241	0.0717	0.0408	0.0336	0.0320	0.0344



3D screen shot	Hot spot position
	



## MEASUREMENT 63

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

Measurement duration: 13 minutes 58 seconds

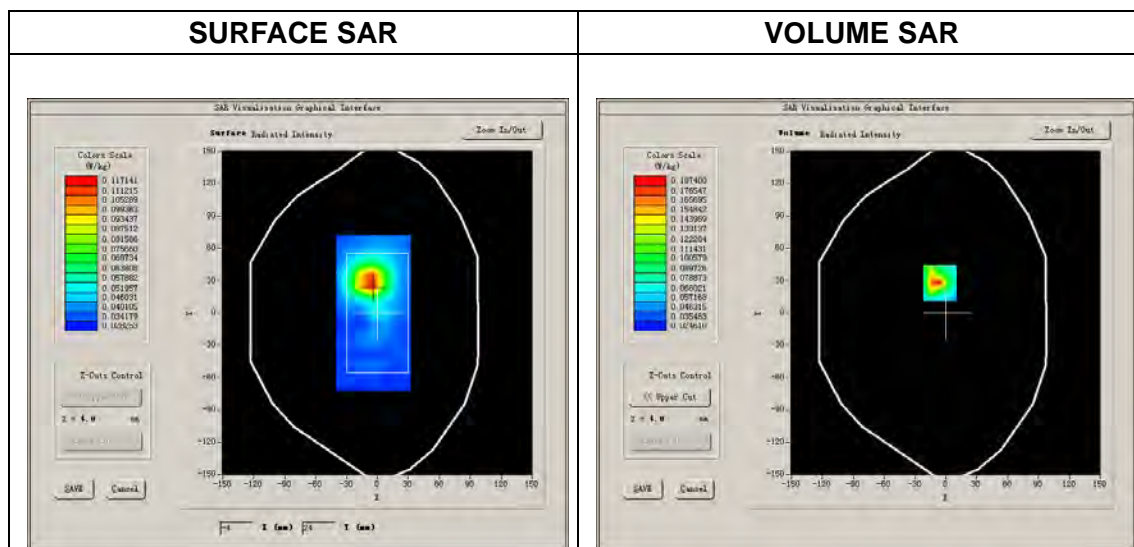
### A. Experimental conditions.

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

### B. SAR Measurement Results

Middle Band SAR (Channel 165)

<b>Frequency (MHz)</b>	5825.000000
<b>Relative permittivity (real part)</b>	48.093428
<b>Conductivity (S/m)</b>	5.930716
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.02
<b>Crest factor:</b>	1:1

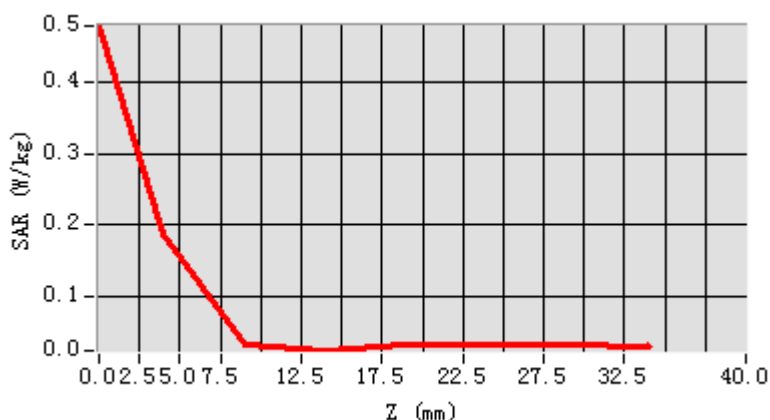


Maximum location: X=-6.00, Y=28.00

SAR Peak: 0.48 W/kg

SAR 10g (W/Kg)	0.004592
SAR 1g (W/Kg)	0.009594

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.4783	0.1874	0.0330	0.0246	0.0325	0.0341	0.0341



3D screen shot	Hot spot position
	



## MEASUREMENT 64

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.03

Measurement duration: 13 minutes 59 seconds

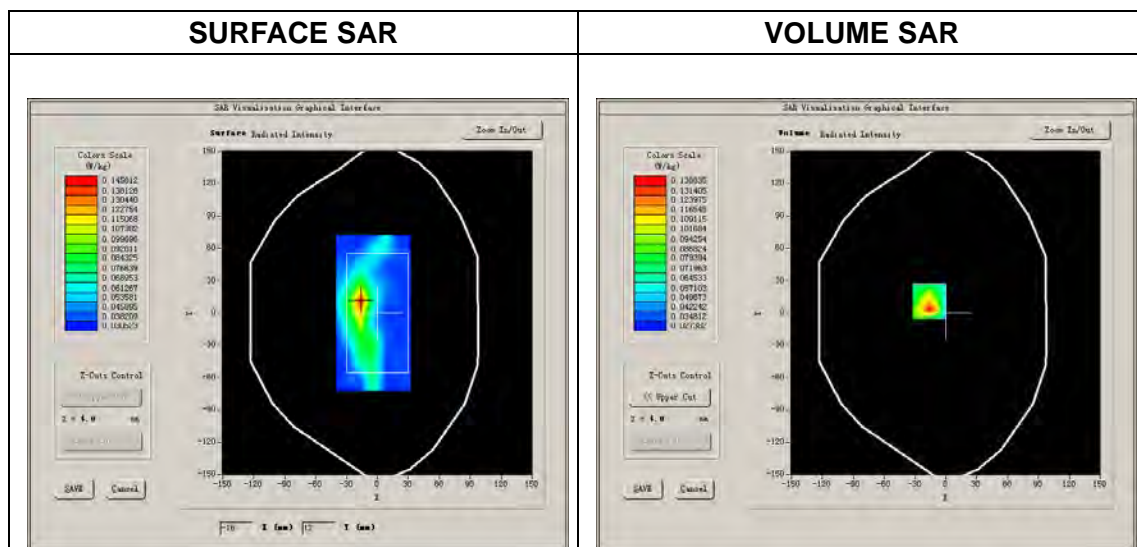
### A. Experimental conditions.

<u>Phantom File</u>	<u>surf_sam_plan.txt</u>
<u>Phantom</u>	<u>Validation plane</u>
<u>Device Position</u>	<u>Body</u>
<u>Band</u>	<u>802.11a</u>
<u>Channels</u>	<u>Middle</u>
<u>Signal</u>	<u>OFDM</u>

### B. SAR Measurement Results

Middle Band SAR (Channel 165)

<b>Frequency (MHz)</b>	5825.000000
<b>Relative permittivity (real part)</b>	48.093428
<b>Conductivity (S/m)</b>	5.930716
<b>Power drift (%)</b>	-3.450000
<b>Ambient Temperature:</b>	22.6°C
<b>Liquid Temperature:</b>	22.7°C
<b>ConvF:</b>	23.02
<b>Crest factor:</b>	1:1



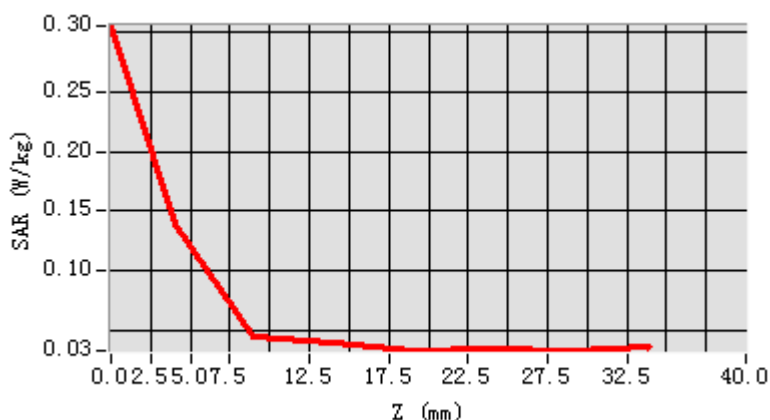


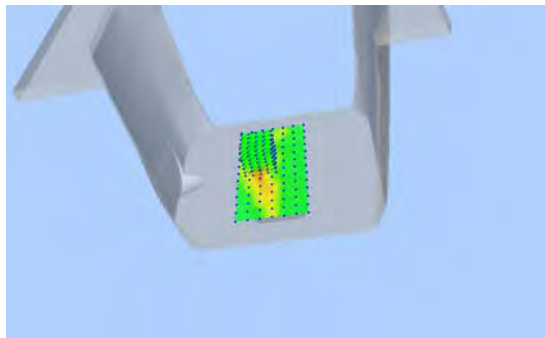
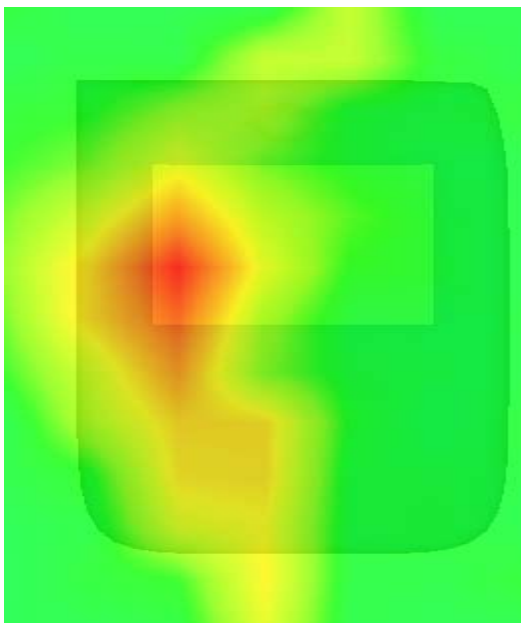
Maximum location: X=-16.00, Y=11.00

SAR Peak: 0.30 W/kg

SAR 10g (W/Kg)	0.005179
SAR 1g (W/Kg)	0.008084

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.3046	0.1388	0.0458	0.0397	0.0335	0.0356	0.0337



3D screen shot	Hot spot position
	

**ANNEX C SYSTEM CHECK DATA****System Performance Check Data(2450MHz Body)**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.09

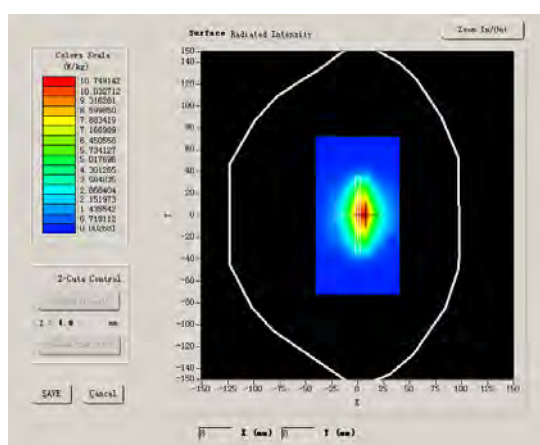
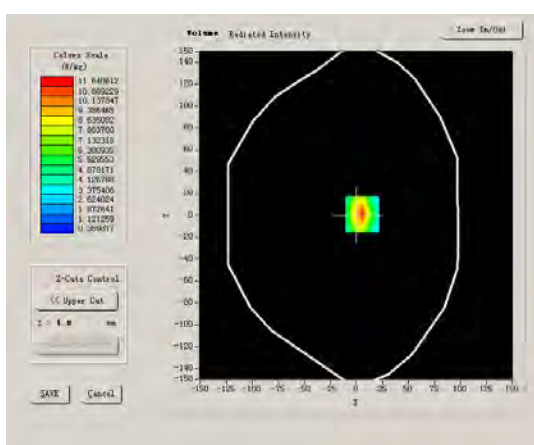
Measurement duration: 13 minutes 31 seconds

**A. Experimental conditions.**

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

**B. SAR Measurement Results****Band SAR**

Frequency (MHz)	2450.000000
Relative permittivity (real part)	52.884446
Conductivity (S/m)	1.966143
Power Drift (%)	1.080000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.8°C
ConvF:	4.93
Crest factor:	1:1

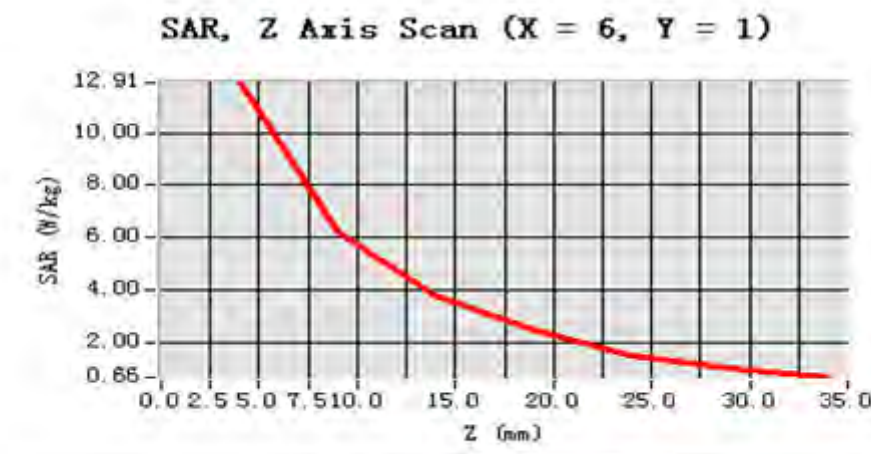
**SURFACE SAR****VOLUME SAR**

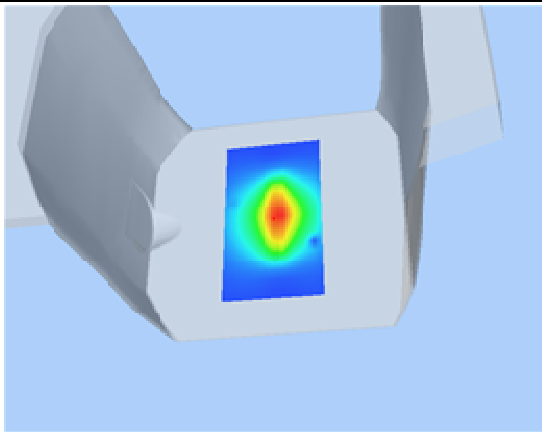
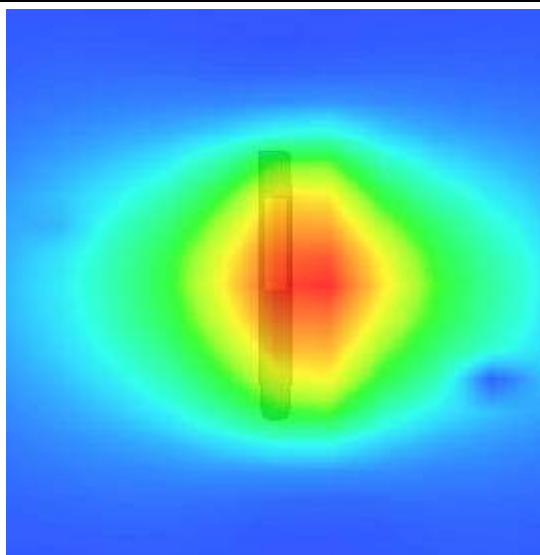
Maximum location: X=6.00, Y=1.00

SAR 10g (W/Kg)	2.377250
SAR 1g (W/Kg)	5.081074

### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	12.9615	6.2096	3.8187	2.4504	1.5036	1.0219



3D scene shot	Hot spot position
	

**System Performance Check Data(2600MHz Body)**

Type: Phone measurement (Complete)

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

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

Date of measurement: 2017.08.02

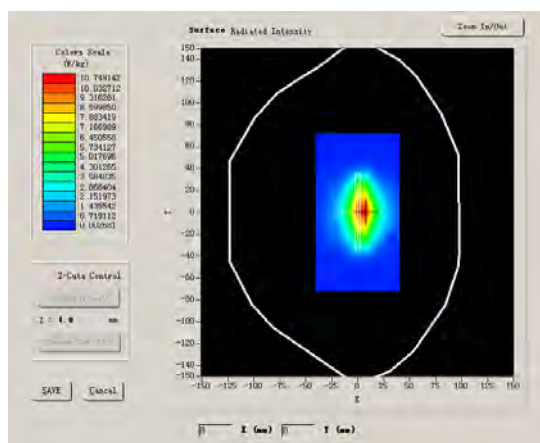
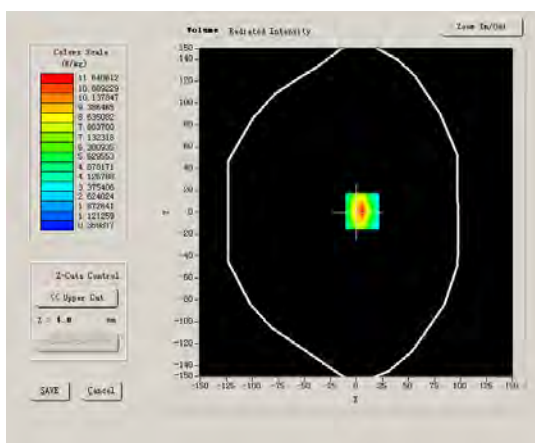
Measurement duration: 13 minutes 31 seconds

**A. Experimental conditions.**

Phantom File	surf_sam_plan.txt
Phantom	Flat
Device Position	
Band	2600MHz
Channels	
Signal	CW

**B. SAR Measurement Results****Band SAR**

Frequency (MHz)	2600.000000
Relative permittivity (real part)	52.362564
Conductivity (S/m)	2.105256
Power Drift (%)	1.380000
Ambient Temperature:	22.0°C
Liquid Temperature:	21.8°C
ConvF:	4.93
Crest factor:	1:1

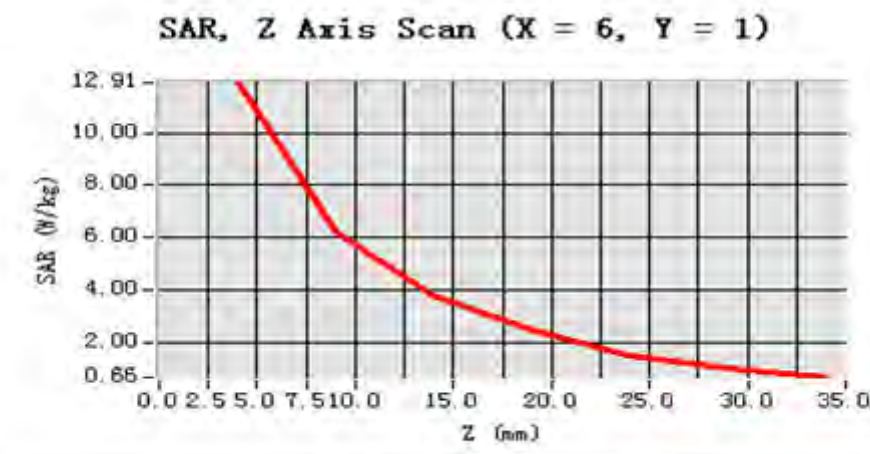
**SURFACE SAR****VOLUME SAR**

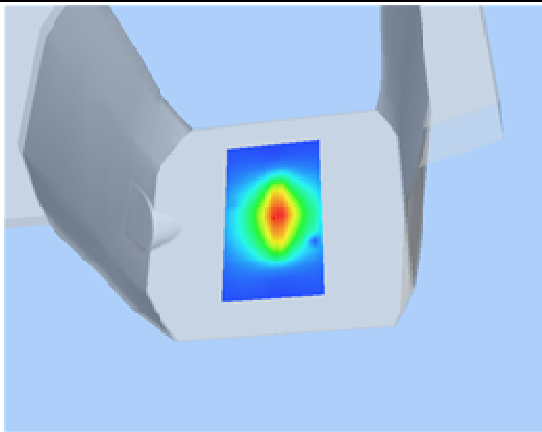
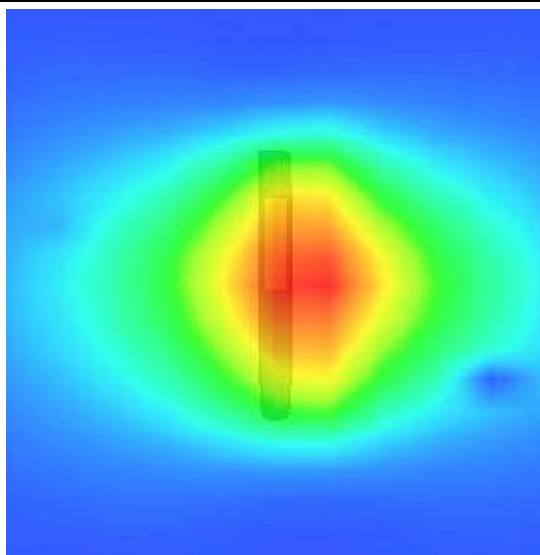
Maximum location: X=6.00, Y=1.00

SAR 10g (W/Kg)	2.569854
SAR 1g (W/Kg)	5.386472

### Z Axis Scan

Z (mm)	0.00	4.00	9.00	14.00	19.00	24.00	29.00
SAR (W/Kg)	0.0000	12.9745	6.2193	3.8245	2.4624	1.5033	1.0220



3D scene shot	Hot spot position
	

**System Performance Check Data(5200MHz Body)**

Type: Phone measurement (Complete)

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

Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm

Date of measurement: 2017.08.09

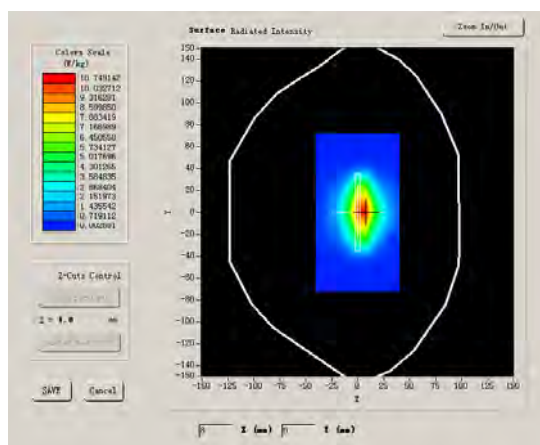
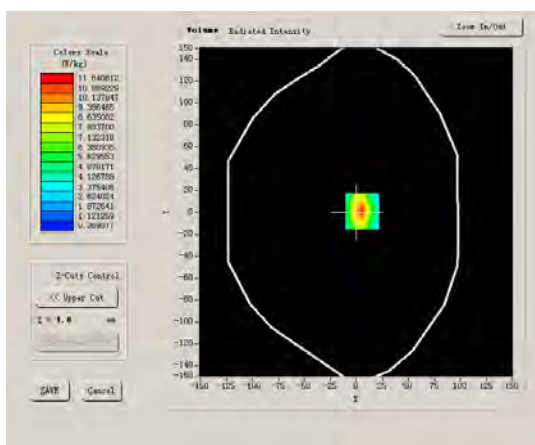
Measurement duration: 13 minutes 27 seconds

**A. Experimental conditions.**

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	
Band	5200MHz
Channels	
Signal	CW

**B. SAR Measurement Results****Band SAR**

Frequency (MHz)	5200.000000
Relative permittivity (real part)	48.273014
Conductivity (S/m)	5.543260
Power Drift (%)	2.310000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	22.11
Crest factor:	1:1

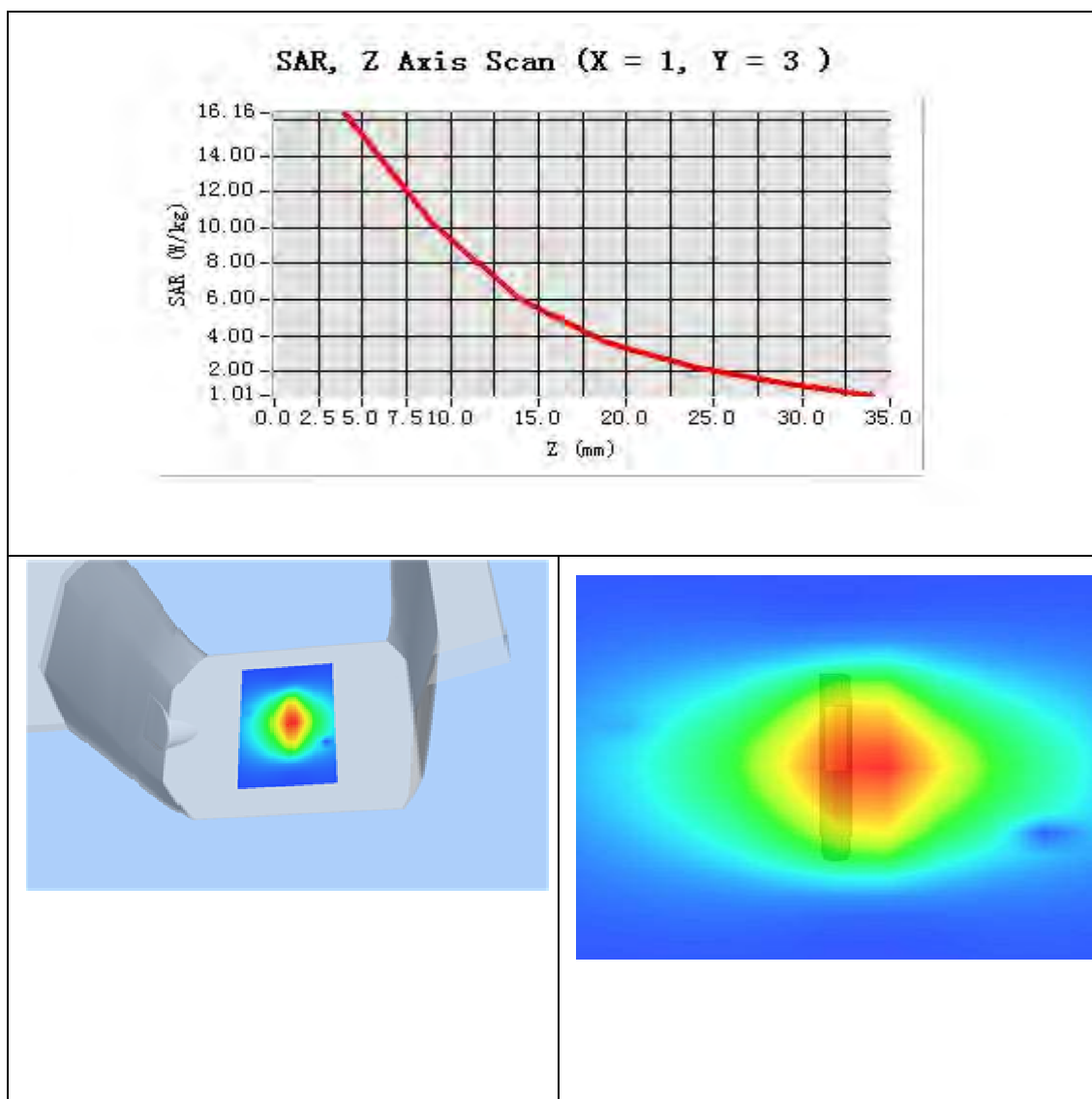
**SURFACE SAR****VOLUME SAR**



Maximum location: X=1.00, Y=3.00

SAR 10g (W/Kg)	8.024355
SAR 1g (W/Kg)	16.28442

### Z Axis Scan





**System Performance Check Data(5600MHz Body)**

Type: Phone measurement (Complete)

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

Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm

Date of measurement: 2017.08.09

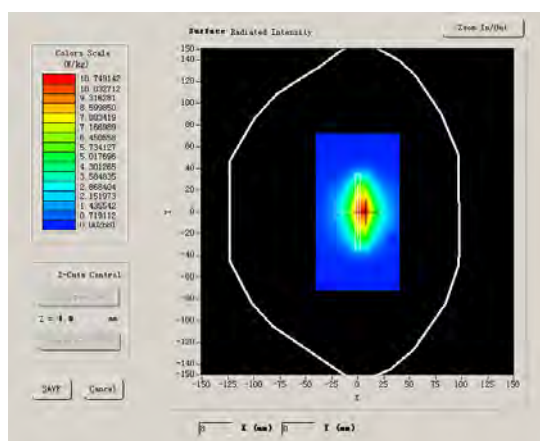
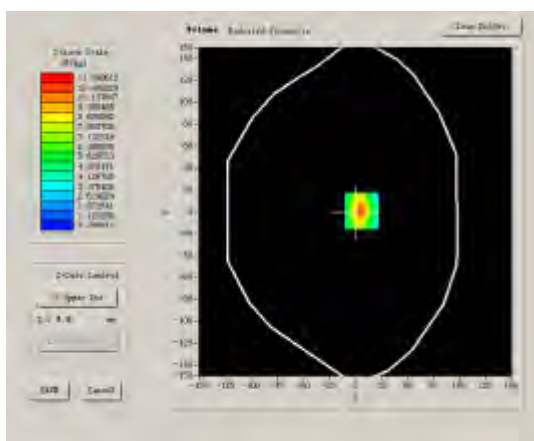
Measurement duration: 13 minutes 27 seconds

**A. Experimental conditions.**

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	
Band	5600MHz
Channels	
Signal	CW

**B. SAR Measurement Results****Band SAR**

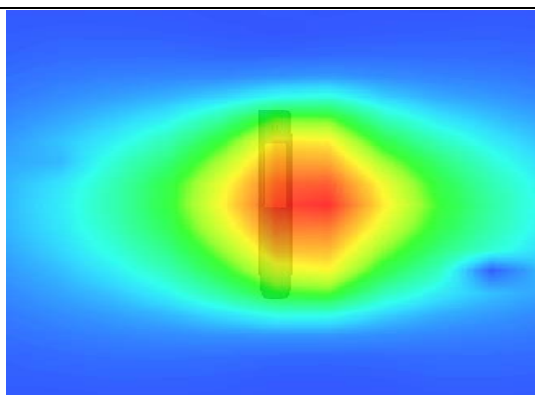
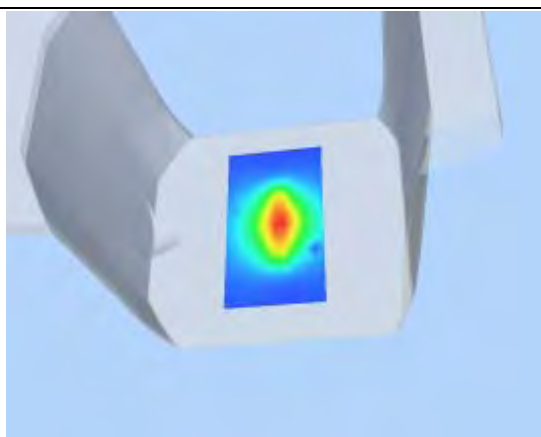
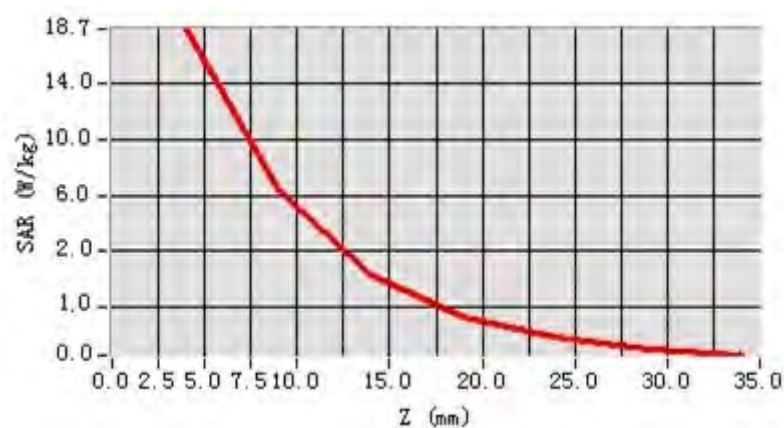
Frequency (MHz)	5600.000000
Relative permittivity (real part)	48.394381
Conductivity (S/m)	5.7432600
Power Drift (%)	1.080000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	23.69
Crest factor:	1:1

**SURFACE SAR****VOLUME SAR**

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

SAR 10g (W/Kg)	9.406961
SAR 1g (W/Kg)	17.19624

### Z Axis Scan



**System Performance Check Data(5800MHz Body)**

Type: Phone measurement (Complete)

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

Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm

Date of measurement: 2017.08.09

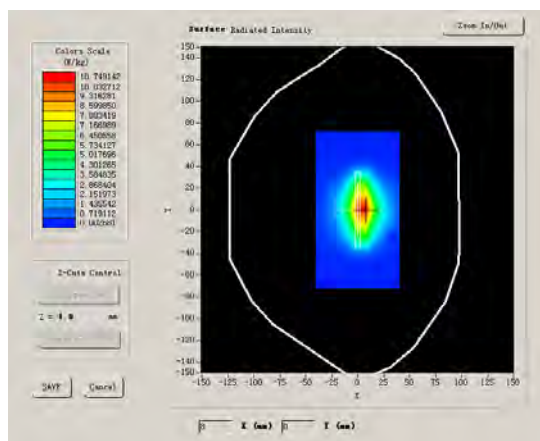
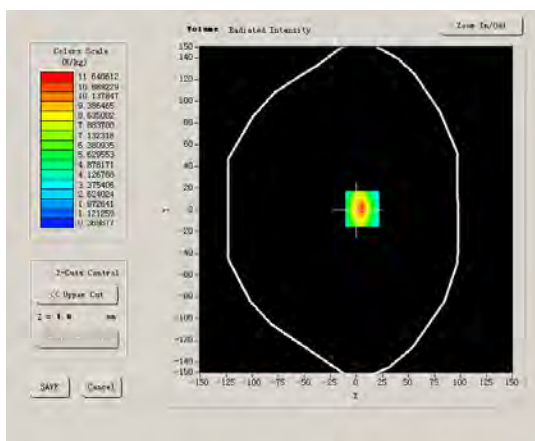
Measurement duration: 13 minutes 27 seconds

**A. Experimental conditions.**

Phantom File	surf_sam_plan.txt
Phantom	Validation plane
Device Position	
Band	5800MHz
Channels	
Signal	CW

**B. SAR Measurement Results****Band SAR**

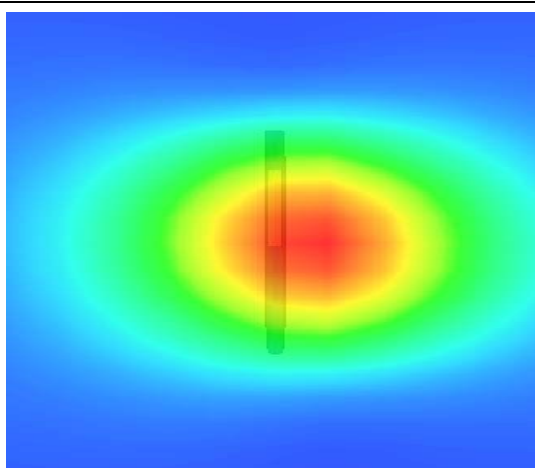
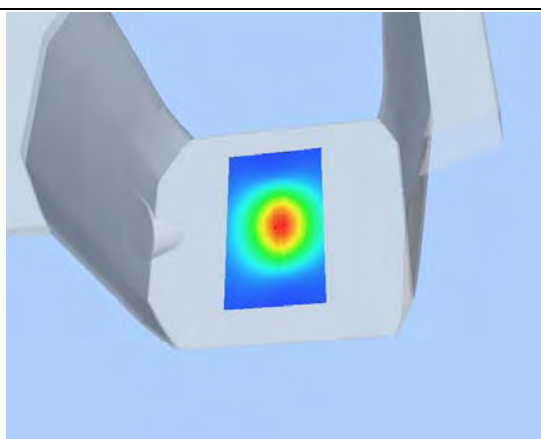
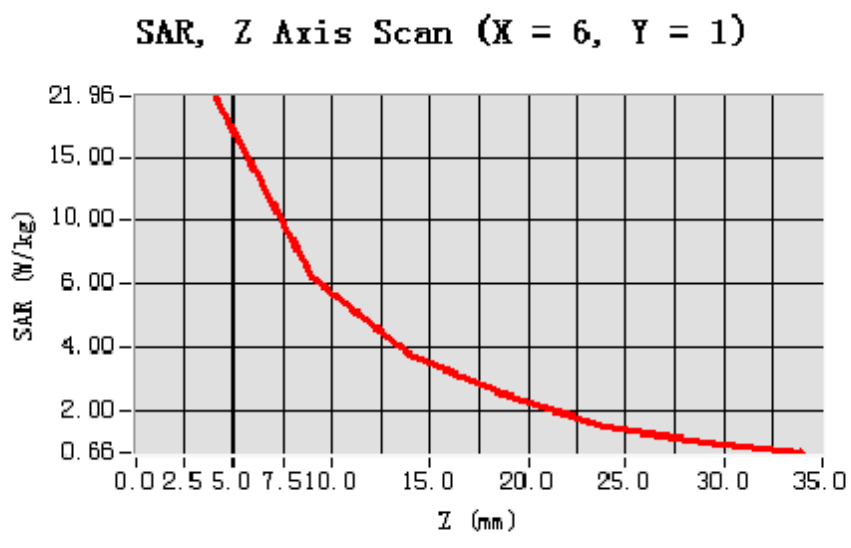
Frequency (MHz)	5800.000000
Relative permittivity (real part)	48.093428
Conductivity (S/m)	5.930716
Power Drift (%)	1.260000
Ambient Temperature:	22.9°C
Liquid Temperature:	22.1°C
ConvF:	23.02
Crest factor:	1:1

**SURFACE SAR****VOLUME SAR**

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

SAR 10g (W/Kg)	9.782634
SAR 1g (W/Kg)	17.695290

### Z Axis Scan





REPORT No. : SZ17080018S01

## ANNEX D 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

**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)	2017-5-24	1year
3	Network Analyzer	Agilent(E5071B ,SN:MY42404762 )	2017-5-25	1year
4	Voltmeter	Keithley (2000, SN:1000572)	2017-7-8	1year
5	Synthesizer	Rohde&Schwarz (SML_03, SN:101868)	2017-8-24	1year
6	Signal Generator	Rohde&Schwarz (SMP_02 )	2017-7-8	1year
7	Power Amplifier	PRANA (Ap32 SV125AZ)	2017-7-8	1year
8	Power Meter	Agilent (E4416A, SN:MY45102093)	2017-7-8	1year
9	Power Sensor	Agilent (N8482A, SN:MY41091706)	2017-7-8	1year
10	Power Meter	Rohde&Schwarz (NRVD, SN:101066)	2017-7-8	1year
11	Power Sensor	MA2411B	2017-7-8	1year
12	Directional coupler	Giga-tronics(SN:1829112)	2017-7-24	1year
13	Probe	Satimo (SN:SN 37/08 EP80)	2017-7-5	1year
14	Dielectric Probe Kit	Agilent (85033E )	2017-7-5	1year
15	Phantom	Satimo (SN:SN_36_08_SAM62)	N/A	N/A
16	Liquid	Satimo(Last Calibration: 2017-08-09)	N/A	N/A
17	Dipole 2450MHz	Satimo (SN 30/13 DIP2G450-263)	2017-7-5	1year
18	Dipole 5-6GHz	Satimo (SN 41/12 WGA21)	2017-7-5	1year
19	Thermo meter	KTJ(mode-01)	2017-5-10	1year
20	Probe	Satimo (SN:SN 37/13 EPG193)	2017-7-5	1year

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