

S

T

S

L

A

B



# FCC SAR TEST REPORT

**Report No: STS1511166H01**

**Issued for**

**UBIK Mobile Corporation**

**300 Sevilla Ave., Suite 216, Coral Gables, Fl. 33114 U.S.A**

<b>Product Name:</b>	4G smart phone
<b>Brand Name:</b>	UBIK
<b>Model No.:</b>	UNO
<b>Series Model:</b>	VS55
<b>FCC ID:</b>	2AGO5UNO201511
<b>Test Standard:</b>	ANSI/IEEE Std. C95.1
	FCC 47 CFR Part 2 ( 2.1093)
	IEEE 1528: 2013
<b>Max. Reported SAR (1g):</b>	Head:0.154 W/kg
	Body:0.372 W/kg

Any reproduction of this document must be done in full. No single part of this document may be reproduced without permission from STS, All Test Data Presented in this report is only applicable to presented Test sample.





## Test Report Certification

**Applicant's name** .....: UBIK Mobile Corporation

Address .....: 300 Sevilla Ave., Suite 216, Coral Gables, Fl. 33114 U.S.A

**Manufacture's Name**.....: Vitsmo Co., Ltd.

Address .....: 157-5 Samsung-dong, Gangnam-gu, Seoul, Korea

### Product description

Product name.....: 4G smart phone

Trademark .....: UBIK

Model and/or type reference .: UNO

Serial Model : VS55

**Standards** .....: ANSI/IEEE Std. C95.1-1992  
FCC 47 CFR Part 2 ( 2.1093)  
IEEE 1528: 2013

The device was tested by Shenzhen STS Test Services Co., Ltd. in accordance with the measurement methods and procedures specified in KDB 865664 The test results in this report apply only to the tested sample of the stated device/equipment. Other similar device/equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

**Date of Test**.....:

Date (s) of performance of tests.....: 18 Dec. 2015

Date of Issue.....: 22 Dec. 2015

Test Result.....: **Pass**

Testing Engineer :

*Allen Chen*

(Allen Chen)

Technical Manager :

*John Zou*

(John Zou)

Authorized Signatory :

*Bovey Yang*

(Bovey Yang)





## TABLE OF CONTENTS

1.	General Information	5
1.1	EUT Description	5
1.2	Test Environment	7
1.3	Test Facility	7
2.	Test Standards And Limits	8
3.	SAR Measurement System	9
3.1	Definition Of Specific Absorption Rate (SAR)	9
3.2	SAR System	9
3.2.1	Probe	10
3.2.2	Phantom	11
3.2.3	Device Holder	11
4.	Tissue Simulating Liquids	12
4.1	Simulating Liquids Parameter Check	12
5.	SAR System Validation	13
5.1	Validation System	13
5.2	Validation Result	13
6.	SAR Evaluation Procedures	14
7.	EUT Antenna Location Sketch	15
7.1	SAR TEST EXCLUSION CONSIDER TABLE	16
8.	EUT Test Position	18
8.1	Define Two Imaginary Lines On The Handset	18
8.2	Hotspot mode exposure position condition	19
9.	Uncertainty	20
9.1	Measurement Uncertainty	20
9.2	System validation Uncertainty	22
10.	Conducted Power Measurement	24
11.	EUT And Test Setup Photo	36
11.1	EUT Photo	36
11.2	Setup Photo	39
12.	SAR Result Summary	44
12.1	Head SAR	44
12.2	Body SAR And Hotspot	46
13.	Equipment List	50
	Appendix A. System Validation Plots	51
	Appendix B. SAR Test Plots	75



Appendix C. Probe Calibration And Dipole Calibration Report

147





## 1. General Information

Environmental evaluation measurements of specific absorption rate (SAR) distributions in emulated human head and body tissues exposed to radio frequency (RF) radiation from wireless portable devices for compliance with the rules and regulations of the U.S. Federal Communications Commission (FCC).

### 1.1 EUT Description

Equipment	4G smart phone			
Brand Name	UBIK			
Model No.	UNO			
Serial Model	VS55			
FCC ID	2AGO5UNO201511			
Model Difference	Only different in model name			
Adapter	Input: AC100-240V,500mA, 50/60Hz Output: DC 5V, 2000mA			
Battery	Rated Voltage: 3.8V Charge Limit: 4.35V Capacity: 3100mAh			
Hardware Version	Y991-07			
Software Version	UBIK_Uno_R002			
Frequency Range	GSM 850: 824.2~848.8MHz PCS1900: 1850.2~1909.8MHz WCDMA Band II:1852.4~1907.6MHz WCDMA Band V:826.4~846.6MHz LTE Band 2:1850.7~1909.3MHz LTE Band 4:1710.7~1754.3MHz		LTE Band 7:2502.5~2567.5MHz LTE Band 17:706.5~713.5MHz WLAN 802.11b/g/n(HT20):2412~2462MHz WLAN 802.11n(HT40):2422~2452MHz Bluetooth : 2402~ 2480MHz	
Transmit Power(MAX):	GSM 850: 29.83 dBm GSM 1900: 28.53 dBm WCDMA Band II: 22.93 dBm WCDMA Band V: 22.65 dBm LTE Band 2: 21.89 dBm LTE Band 4: 22.94 dBm		LTE Band 7: 22.58 dBm LTE Band 17: 22.76 dBm 802.11b: 13.35 dBm 802.11g: 12.16 dBm 802.11n(HT20): 12.15 dBm 802.11n(HT40): 10.33 dBm Bluetooth: 7.474 dBm	
Max. Reported SAR(1g):	Band	Mode	Head(W/kg)	Body-worn(W/kg)
	PCE	GSM 850	0.015	0.144
	PCE	GSM 1900	0.023	0.274
	PCE	WCDMA Band II	0.091	0.372
	PCE	WCDMA Band V	0.041	0.088
	PCE	LTE Band 2	0.077	0.249
	PCE	LTE Band 4	0.126	0.306
	PCE	LTE Band 7	0.082	0.206
	PCE	LTE Band 17	0.041	0.106
	DTS	WIFI	0.154	0.185
1-g Sum SAR(W/kg)			0.391	0.557
FCC Equipment Class	Licensed Portable Transmitter Held to Ear (PCE) Part 15 Spread Spectrum Transmitter (DSS) Digital Transmission System (DTS)			



Operating Mode:	GSM: GSM Voice; GPRS; EGPRS Class 12; WCDMA:RMC,HSDPA,HSUPA Release 6; LTE:QPSK,16QAM; WLAN: 802.11 b/g/n(HT20) /n(HT40); Bluetooth: V4.0 + EDR (GFSK + $\pi$ /4DQPSK+8DPSK) ;
Antenna Specification:	GSM,WCDMA,LTE: PIFA Antenna BT,WIFI: PIFA Antenna
SIM Card	Support dual-SIM, dual standby, the multiple SIM card with two lines cannot transmitting at the same time
Hotspot Mode:	Support
DTM Mode:	Not Support





## 1.2 Test Environment

Ambient conditions in the SAR laboratory:

Items	Required	Actual
Temperature (°C)	18-25	22~23
Humidity (%RH)	30-70	55~65

## 1.3 Test Facility

Shenzhen STS Test Services Co., Ltd.

Add. : 1/F, Building B, Zhuoke Science Park, No.190, Chongqing Road, Fuyong,  
Baoan District, Shenzhen, Guangdong, China

CNAS Registration No.: L7649;

FCC Registration No.: 842334; IC Registration No.: 12108A-1





## 2. Test Standards And Limits

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	ANSI/IEEE Std. C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	IEEE Std. 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
4	FCC KDB 447498 D01 v06	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
5	FCC KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
6	FCC KDB 865664 D02 v01r02	RF Exposure Reporting
7	FCC KDB 941225 D01 v03r01	SAR Measurement Procedures for 3G Devices
8	FCC KDB 941225 D05 v02r04	SAR for LTE Devices
9	FCC KDB 941225 D06 v02r01	Hotspot Mode SAR
10	FCC KDB 248227 D01 v02r02	SAR Considerations for 802.11 Devices
11	FCC KDB 648474 D04 v01r03	SAR evaluation consideration for wireless handsets

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. According to EN 50360 and 1999/519/EC the limit for General Population/Uncontrolled exposure should be applied for this device, it is 2.0 W/kg as averaged over any 10 gram of tissue.

(A). Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body   Partial-Body   Hands, Wrists, Feet and Ankles

0.4                      8.0                      20.0

(B). Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body   Partial-Body   Hands, Wrists, Feet and Ankles

0.08                      1.6                      4.0

NOTE: Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 10 gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

**Population/Uncontrolled Environments:**

are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

**Occupational/Controlled Environments:**

are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

**NOTE**

**GENERAL POPULATION/UNCONTROLLED EXPOSURE**

**PARTIAL BODY LIMIT**

**1.6 W/kg**



### 3. SAR Measurement System

#### 3.1 Definition Of Specific Absorption Rate (SAR)

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 higher than the limits for general population/uncontrolled.

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:

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

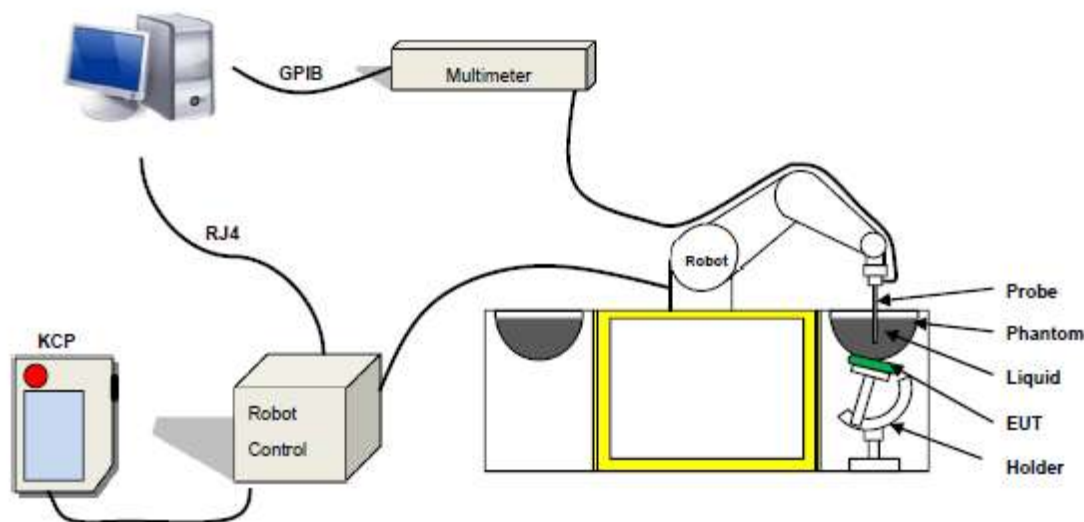
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

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

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

#### 3.2 SAR System

SATIMO SAR System Diagram:



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

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

The following figure shows the system.



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

### 3.2.1 Probe

For the measurements the Specific Dosimetric E-Field Probe SN 17/14 EP221 with following specifications is used

- Dynamic range: 0.01-100 W/kg
  - Tip Diameter :5 mm
  - Distance between probe tip and sensor center: 2.7mm
  - 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: 450MHz to 2600MHz for head & body simulating liquid.
- Angle between probe axis (evaluation axis) and surface normal line: less than 30°



Figure 1 – Satimo COMOSAR Dosimetric E field Dipole

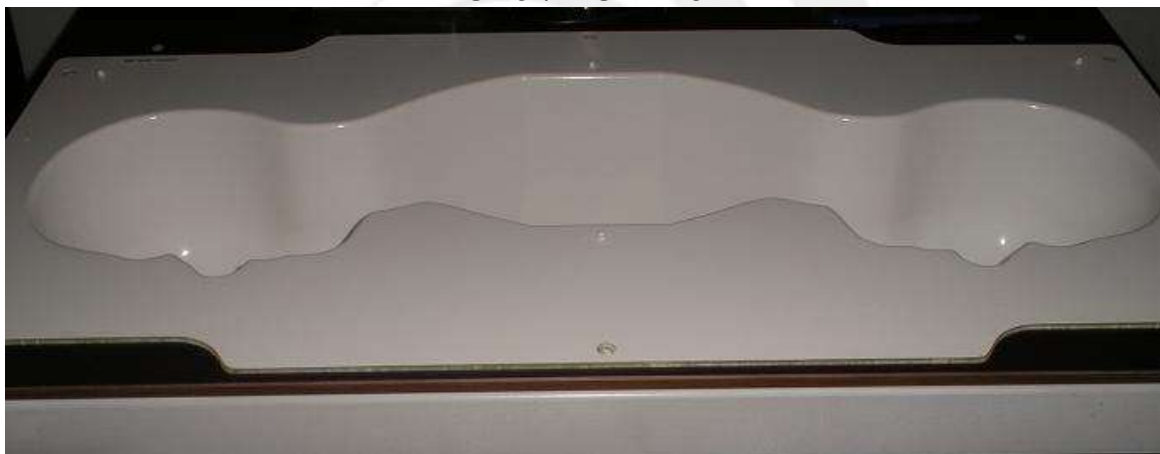
### 3.2.2 Phantom

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.

SN 32/14 SAM115



SN 32/14 SAM116



### 3.2.3 Device Holder



The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5 mm distance, a positioning uncertainty of  $\pm 0.5$  mm would produce a SAR uncertainty of  $\pm 20$  %. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.



## 4. Tissue Simulating Liquids

### 4.1 Simulating Liquids Parameter Check

The head tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 in P1528 have been incorporated in the following table. These head parameters are derived from planar layer models simulating the highest expected SAR for the dielectric properties and tissue thickness variations in a human head. Other head and body tissue parameters that have not been specified in P1528 are derived from the tissue dielectric parameters computed from the 4-Cole-Cole equations described in Reference [12] and extrapolated according to the head parameters specified in P1528.

#### LIQUID MEASUREMENT RESULTS

**Date:** Dec 18, 2015

**Ambient condition:** Temperature 22.7°C Relative humidity: 49%

Head Simulating Liquid		Parameters	Target	Measured	Deviation[%]	Limited[%]
Frequency	Temp. [°C]					
750 MHz	22.30	Permittivity:	41.9	41.3	-1.43	±5
		Conductivity:	0.89	0.92	3.37	± 5
835 MHz	22.30	Permittivity:	41.50	41.1	-0.96	±5
		Conductivity:	0.90	0.86	-4.44	± 5
1800 MHz	22.30	Permittivity:	40.10	40.6	1.25	±5
		Conductivity:	1.37	1.33	-2.92	± 5
1900 MHz	22.30	Permittivity:	40.00	39.5	-1.25	± 5
		Conductivity:	1.40	1.44	2.86	± 5
2450 MHz	22.30	Permittivity:	39.2	39.5	0.77	± 5
		Conductivity:	1.80	1.87	3.89	± 5
2600 MHz	22.30	Permittivity:	39.0	38.6	-1.03	± 5
		Conductivity:	1.96	1.93	-1.53	± 5

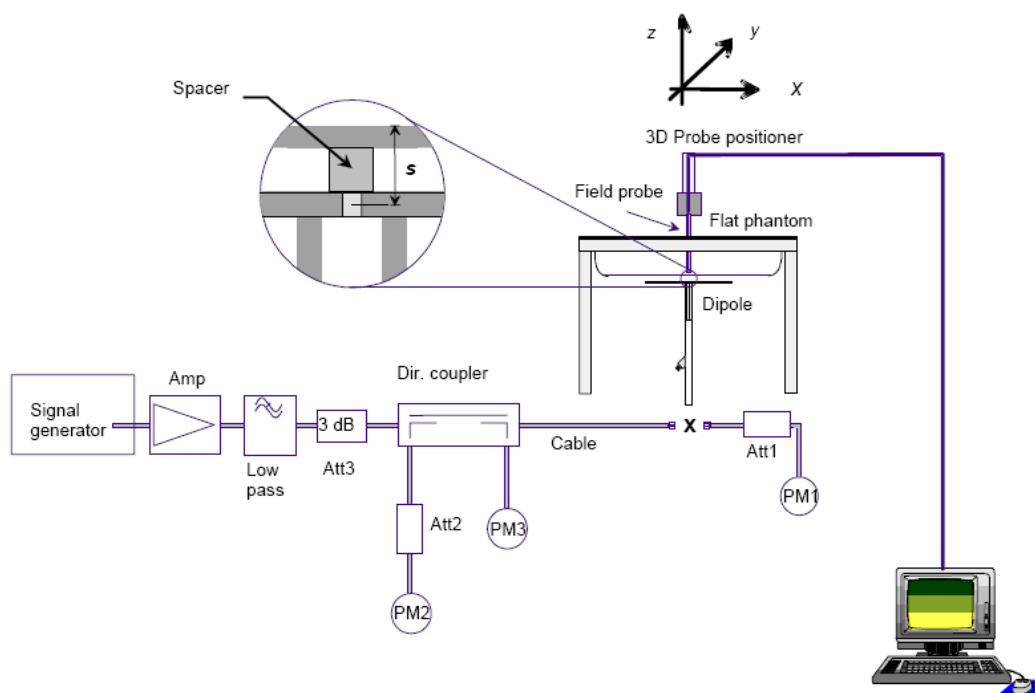
Body Simulating Liquid		Parameters	Target	Measured	Deviation[%]	Limited[%]
Frequency	Temp. [°C]					
750 MHz	22.30	Permittivity:	55.50	55.3	-0.36	± 5
		Conductivity:	0.96	0.95	-1.04	± 5
835 MHz	22.30	Permittivity:	55.20	54.6	-1.09	± 5
		Conductivity:	0.97	0.99	2.06	± 5
1800 MHz	22.30	Permittivity:	53.40	52.6	-1.50	± 5
		Conductivity:	1.49	1.45	-2.68	± 5
1900 MHz	22.30	Permittivity:	53.30	52.4	-1.69	± 5
		Conductivity:	1.52	1.46	-3.95	± 5
2450 MHz	22.30	Permittivity:	52.7	51.8	-1.71	± 5
		Conductivity:	1.95	1.92	-1.54	± 5
2600 MHz	22.30	Permittivity:	52.5	52.1	-0.76	± 5
		Conductivity:	2.16	2.17	0.46	± 5

## 5. SAR System Validation

### 5.1 Validation System

Each SATIMO system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the SATIMO software, enable the user to conduct the system performance check and system validation. System kit includes a dipole, and dipole device holder.

The system check verifies that the system operates within its specifications. It's performed daily or before every SAR measurement. The system check uses normal SAR measurement in the flat section of the phantom with a matched dipole at a specified distance. The system validation setup is shown as below.



### 5.2 Validation Result

Comparing to the original SAR value provided by SATIMO, the validation data should be within its specification of 10 %.

**Ambient condition:** Temperature 22.7°C **Relative humidity:** 49%

Freq.(MHz)	Power(mW)	Tested Value (W/Kg)	Normalized SAR (W/kg)	Target(W/Kg)	Tolerance(%)	Date
750 Head	100	0.837	8.37	8.49	-1.41	2015-12-18
750 Body	100	0.859	8.59	8.49	1.18	2015-12-18
835 Head	100	0.950	9.50	9.56	-0.63	2015-12-18
835 Body	100	0.948	9.48	9.56	-0.84	2015-12-18
1800 Head	100	3.770	37.70	38.40	-1.82	2015-12-18
1800 Body	100	3.750	37.50	38.40	-2.34	2015-12-18
1900 Head	100	3.860	38.60	39.80	-3.02	2015-12-18
1900 Body	100	3.987	39.87	39.80	0.18	2015-12-18
2450 Head	100	5.360	53.60	52.40	2.29	2015-12-18
2450 Body	100	4.980	49.80	52.40	-4.96	2015-12-18
2600 Head	100	5.490	54.90	55.30	-0.72	2015-12-18
2600 Body	100	5.570	55.70	55.30	0.72	2015-12-18

Note: The tolerance limit of System validation  $\pm 10\%$ .



## 6. SAR Evaluation Procedures

The procedure for assessing the average SAR value consists of the following steps:

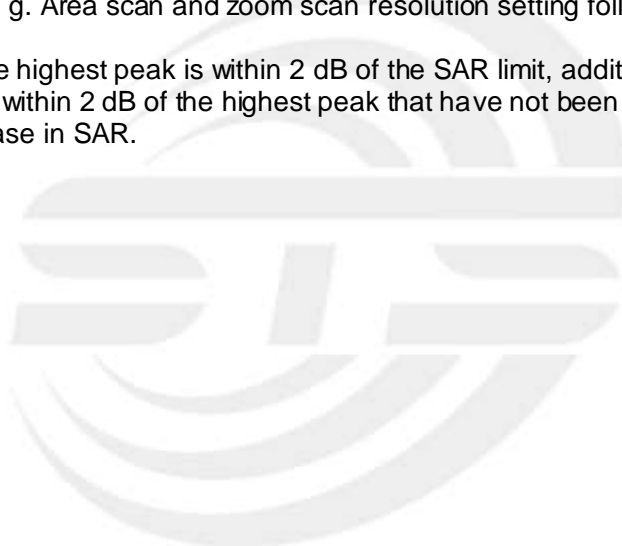
The following steps are used for each test position

- Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface
- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
- Measurement of the SAR distribution with a grid of 8 to 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.
- 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.

➤ Area Scan& Zoom Scan

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01v01r01 quoted below.

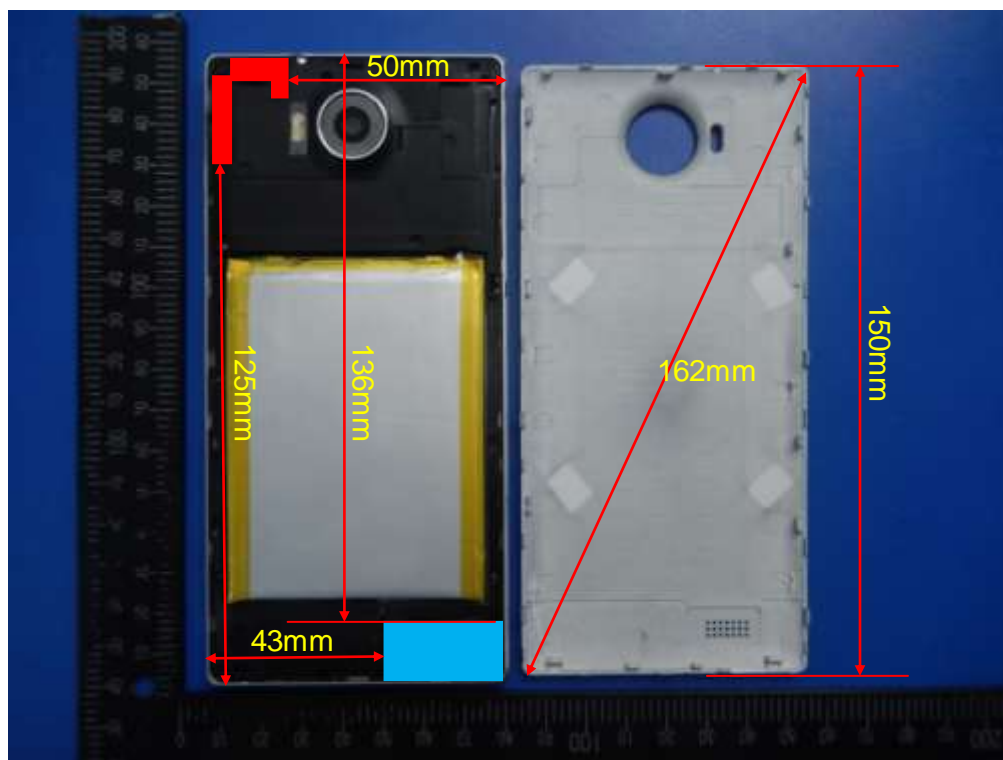
When the 1-g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.





## 7. EUT Antenna Location Sketch

It is a mobile phone, support GSM/WCDMA/LTE mode.



- WWAN Antenna
- WIF/BT Antenna



## 7.1 SAR TEST EXCLUSION CONSIDER TABLE

According with FCC KDB 447498 D01v05r02, appendix A, <SAR test exclusion thresholds for 100MHz~6GHz and≤50mm> table, this device SAR test configurations consider as following:

Band	Test position configurations					
	Front	Back	Right edge	Left edge	Top edge	Bottom edge
GSM850	<5mm	<5mm	43mm	<5mm	136mm	<5mm
	Yes	Yes	No	Yes	No	Yes
GSM1900	<5mm	<5mm	43mm	<5mm	136mm	<5mm
	Yes	Yes	No	Yes	No	Yes
WCDMA Band II	<5mm	<5mm	43mm	<5mm	136mm	<5mm
	Yes	Yes	No	Yes	No	Yes
WCDMA Band V	<5mm	<5mm	43mm	<5mm	136mm	<5mm
	Yes	Yes	No	Yes	No	Yes
LTE Band 2	<5mm	<5mm	43mm	<5mm	136mm	<5mm
	Yes	Yes	No	Yes	No	Yes
LTE Band 4	<5mm	<5mm	43mm	<5mm	136mm	<5mm
	Yes	Yes	No	Yes	No	Yes
LTE Band 7	<5mm	<5mm	43mm	<5mm	136mm	<5mm
	Yes	Yes	No	Yes	No	Yes
LTE Band 17	<5mm	<5mm	43mm	<5mm	136mm	<5mm
	Yes	Yes	No	Yes	No	Yes
WLAN	<5mm	<5mm	<5mm	50mm	<5mm	125mm
	Yes	Yes	Yes	No	Yes	No
Bluetooth	<5mm	<5mm	<5mm	<5mm	<5mm	125mm
	Yes	Yes	Yes	No	Yes	No

### Note:

1. maximum power is the source-based time-average power and represents the maximum RF output power among production units.
2. per KDB 447498 D01v05r02, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. per KDB 447498 D01v05r02, standalone SAR test exclusion threshold is applied; if the distance of the antenna to the user is <5mm, 5mm is user to determine SAR exclusion threshold
4. per KDB 447498 D01v05r02, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distance ≤50mm are determined by:  

$$[(\text{max.power of channel, including tune-up tolerance, Mw})/(\text{min. test separation distance, mm})] \cdot [f(\text{GHz})] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR}$$

f(GHz) is the RF channel transmit frequency in GHz



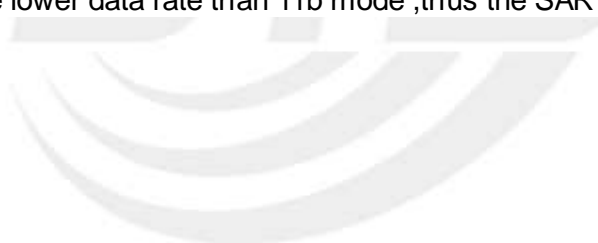


Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to one decimal place for comparison

For <50mm distance, we just calculate mW of the exclusion threshold value(3.0)to do compare

5. per KDB 447498 D01v05r02, at 100 MHz to 6GHz and for test separation distances >50mm, the SAR test exclusion threshold is determined according to the following
  - a)[threshold at 50mm in step 1]+(test separation distance -50mm)\*(f (MHz)/150)]mW, at 100 MHz to 1500 MHz
  - b) [threshold at 50mm in step1]+( test separation distance -50mm) \*10]mW at > 1500MHz and ≤6GHz
6. Per KDB 447498 D02v02r02,RMC 12.2kbps setting is used to evaluate SAR. If HSDPA/HSUPA/DC-HSDPA output power is<0.25db higher than RMC 12.2Kbps,or reported SAR with RMC 12.2kbps setting is ≤1.2W/Kg, HSDPA/HSUPA/DC-HSDPA SAR evaluation can be excluded.
7. Per KDB 248227 D01v01r02,choose the highest output power channel to test SAR and determine futher SAR exclusion 8.for each frequency band ,testing at higher data rates and higher order modulations is not required when the maximum average output power for each of each of these configurations is less than 1/4db higher than those measured at the lower data rate than 11b mode ,thus the SAR can be excluded.



## 8. EUT Test Position

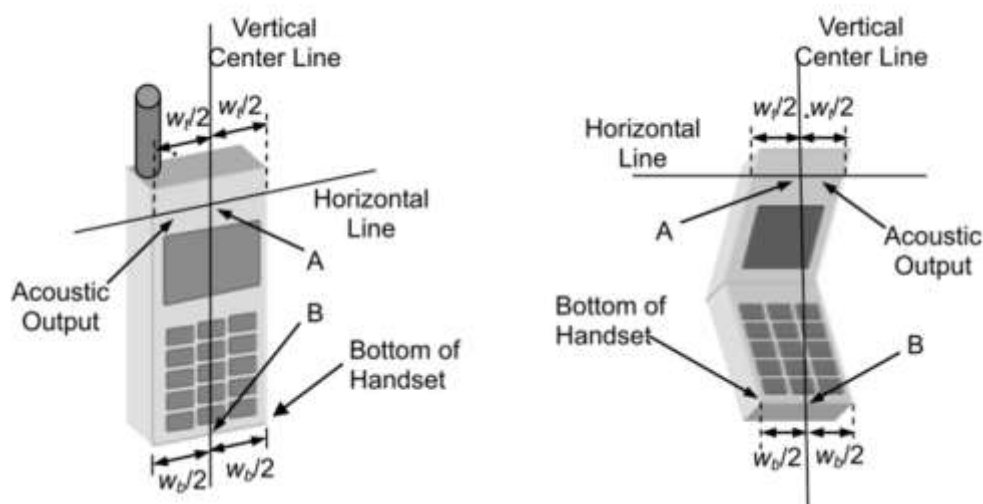
This EUT was tested in Right Cheek, Right Titled, Left Cheek, Left Titled, Front Face and Rear Face.

### 8.1 Define Two Imaginary Lines On The Handset

(1) The vertical centerline passes through two points on the front side of the handset the midpoint of the width  $w_t$  of the handset at the level of the acoustic output, and the midpoint of the width  $w_b$  of the handset.

(2) The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.

(3) The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.



#### Cheek Position

1) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.

2) To move the device towards the phantom with the ear piece aligned with the the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost



#### Title Position

(1) To position the device in the "cheek" position described above.

(2) While maintaining the device in the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until with the ear is lost.



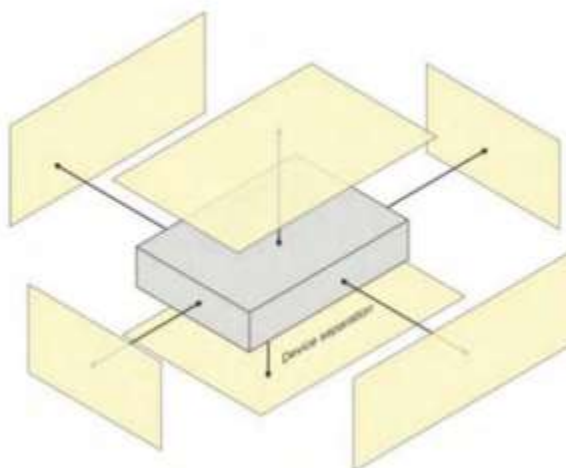
#### Body-worn Position Conditions

- (1) To position the EUT parallel to the phantom surface.
- (2) To adjust the EUT parallel to the flat phantom.
- (3) To adjust the distance between the EUT surface and the flat phantom to 5mm.



### 8.2 Hotspot mode exposure position condition

For handsets that support hotspot mode operations, with wireless router capabilities and various web browsing function, the relevant hand and body exposure condition are tested according to the hotspot SAR procedures in KDB 941225. A test separation distance of 10 mm is required between the phantom and all surface and edges with a transmitting antenna located within 25 mm from that surface or edge. When form factor of a handset is smaller than 9cm x 5cm, a test separation distance of 5mm (instead of 10mm) is required for testing hotspot mode. When the separate distance required for body-worn accessory testing is larger than or equal to that tested for hotspot mode, in the same wireless mode and for the same surface of the phone, the hotspot mode SAR data may be used to support body-worn accessory SAR compliance for that particular configuration (surface).





## 9. Uncertainty

### 9.1 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in IEEE 1528: 2003. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of  $k=2$ .

NO	Source	Tol(%)	Prob. Dist.	Div. k	ci (1g)	ci (10g)	1gUi	10gUi	Veff
Measurement System									
1	Probe calibration	5.8	N	1	1	1	5.8	5.8	$\infty$
2	Axial isotropy	3.5	R	$\sqrt{3}$	$(1-cp)^{1/2}$	$(1-cp)^{1/2}$	1.43	1.43	$\infty$
3	Hemispherical isotropy	5.9	R	$\sqrt{3}$	$\sqrt{C_p}$	$\sqrt{C_p}$	2.41	2.41	$\infty$
4	Boundary effect	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	$\infty$
5	Linearity	4.7	R	$\sqrt{3}$	1	1	2.71	2.71	$\infty$
6	System Detection limits	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	$\infty$
7	Readout electronics	0.5	N	1	1	1	0.50	0.50	$\infty$
8	Response time	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
9	Integration time	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	$\infty$
10	Ambient noise	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	$\infty$
11	Ambient reflections	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	$\infty$
12	Probe positioner mech. restrictions	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	$\infty$
13	Probe positioning with respect to phantom shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	$\infty$
14	Max.SAR evaluation	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
Test sample related									



15	Device positioning	2.6	N	1	1	1	2.6	2.6	11
16	Device holder	3	N	1	1	1	3.0	3.0	7
17	Drift of output power	5.0	R	√3	1	1	2.89	2.89	∞
Phantom and set-up									
18	Phantom uncertainty	4.0	R	√3	1	1	2.31	2.31	∞
19	Liquid conductivity (target)	2.5	N	1	0.78	0.71	1.95	1.78	5
20	Liquid conductivity (meas)	4	N	1	0.23	0.26	0.92	1.04	5
21	Liquid Permittivity (target)	2.5	N	1	0.78	0.71	1.95	1.78	∞
22	Liquid Permittivity (meas)	5.0	N	1	0.23	0.26	1.15	1.30	∞
Combined standard			RSS	$U_c = \sqrt{\sum_{i=1}^n C_i^2 U_i^2}$			10.63%	10.54%	
Expanded uncertainty (P=95%)		$U = k U_c, k=2$					21.26%	21.08%	



## 9.2 System validation Uncertainty

NO	Source	Tol(%)	Prob. Dist.	Div. k	ci (1g)	ci (10g)	1gUi	10gUi	Veff
Measurement System									
1	Probe calibration	5.8	N	1	1	1	5.8	5.8	$\infty$
2	Axial isotropy	3.5	R	$\sqrt{3}$	$(1-c_p)^{1/2}$	$(1-c_p)^{1/2}$	1.43	1.43	$\infty$
3	Hemispherical isotropy	5.9	R	$\sqrt{3}$	$\sqrt{C_p}$	$\sqrt{C_p}$	2.41	2.41	$\infty$
4	Boundary effect	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	$\infty$
5	Linearity	4.7	R	$\sqrt{3}$	1	1	2.71	2.71	$\infty$
6	System Detection limits	1.0	R	$\sqrt{3}$	1	1	0.58	0.58	$\infty$
7	Modulation response	0	N	1	1	1	0	0	$\infty$
8	Readout electronics	0.5	N	1	1	1	0.50	0.50	$\infty$
9	Response time	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
10	Integration time	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	$\infty$
11	Ambient noise	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	$\infty$
12	Ambient reflections	3.0	R	$\sqrt{3}$	1	1	1.73	1.73	$\infty$
13	Probe positioner mech. restrictions	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	$\infty$
14	Probe positioning with respect to phantom shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	$\infty$
15	Max.SAR evaluation	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
Dipole									
16	Deviation of experimental source from	4	N	1	1	1	4.00	4.00	$\infty$



17	Input power and SAR drift measurement	5	R	√3	1	1	2.89	2.89	∞
18	Dipole Axis to liquid Distance	2	R	√3	1	1			∞
Phantom and set-up									
19	Phantom uncertainty	4.0	R	√3	1	1	2.31	2.31	∞
20	Uncertainty in SAR correction for deviation(in sensitivity and distance)	2.0	N	1	1	0.84	2	1.68	∞
21	Liquid conductivity (target)	2	N	1	1	0.84	2.00	1.68	∞
22	Liquid conductivity (temperature uncertainty)	2.5	N	1	0.78	0.71	1.95	1.78	5
23	Liquid conductivity (meas)	4	N	1	0.23	0.26	0.92	1.04	5
24	Liquid Permittivity (target)	2.5	N	1	0.78	0.71	1.95	1.78	∞
25	Liquid Permittivity (temperature uncertainty)	2.5	N	1	0.78	0.71	1.95	1.78	5
26	Liquid Permittivity (meas)	5.0	N	1	0.23	0.26	1.15	1.30	∞
Combined standard			RSS	$U_c = \sqrt{\sum_{i=1}^n C_i^2 U_i^2}$			10.15%	10.05%	
Expanded uncertainty (P=95%)		$U = k U_c, k=2$					21.29%	21.10%	





## 10. Conducted Power Measurement

### Test Result:

Burst Average Power (dBm)						
Band	GSM 850			PCS 1900		
Channel	128	190	251	512	661	810
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880.0	1909.8
GSM(GMSK, 1-Slot)	29.09	29.83	28.97	28.30	28.53	28.01
GPRS (GMSK, 1-Slot)	29.03	29.81	28.97	28.27	28.44	27.97
GPRS (GMSK, 2-Slot)	28.23	28.86	28.01	27.33	27.64	27.16
GPRS (GMSK, 3-Slot)	26.84	27.58	26.67	26.11	26.43	25.82
GPRS (GMSK, 4-Slot)	26.16	26.95	26.10	25.53	25.91	25.18
EGPRS(8PSK, 1-Slot)	29.04	29.81	28.88	28.19	28.40	27.94
EGPRS(8PSK, 2-Slot)	28.10	28.83	28.11	27.41	27.49	27.06
EGPRS(8PSK, 3-Slot)	26.87	27.62	26.78	26.09	26.17	25.77
EGPRS(8PSK, 4-Slot)	26.23	27.11	26.20	25.47	25.67	25.17
Remark: GPRS, CS4 coding scheme. EGPRS, MCS9 coding scheme. Multi-Slot Class 8 , Support Max 4 downlink, 1 uplink , 5 working link Multi-Slot Class 10 , Support Max 4 downlink, 2 uplink , 5 working link Multi-Slot Class 12 , Support Max 4 downlink, 4 uplink , 5 working link						

Fram- Average Power(dBm)						
Band	GSM 850			PCS 1900		
Channel	128	190	251	512	661	810
Frequency (MHz)	824.2	836.6	848.8	1850.2	1880.0	1909.8
GSM(GMSK, 1-Slot)	20.09	20.83	19.97	19.30	19.53	19.01
GPRS (GMSK, 1-Slot)	20.03	20.81	19.97	19.27	19.44	18.97
GPRS (GMSK, 2-Slot)	22.23	22.86	22.01	21.33	21.64	21.16
GPRS (GMSK, 3-Slot)	22.58	23.32	22.41	21.85	22.17	21.56
GPRS (GMSK, 4-Slot)	23.16	23.95	23.10	22.53	22.91	22.18
EGPRS(8PSK, 1-Slot)	20.04	20.81	19.88	19.19	19.40	18.94
EGPRS(8PSK, 2-Slot)	22.10	22.83	22.11	21.41	21.49	21.06
EGPRS(8PSK, 3-Slot)	22.61	23.36	22.52	21.83	21.91	21.51
EGPRS(8PSK, 4-Slot)	23.23	24.11	23.20	22.47	22.67	22.17
Remark : 1. SAR testing was performed on the maximum frame-averaged power mode. 2. The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum burst-averaged power based on time slots. The calculated method is shown as below: Frame-averaged power = Burst averaged power (1 Tx Slot) - 9 dB Frame-averaged power = Burst averaged power (2 Tx Slots) - 6 dB Frame-averaged power = Burst averaged power (3 Tx Slots) - 4.26 dB Frame-averaged power = Burst averaged power (4 Tx Slots) - 3 dB						



**WCDMA**

Band	WCDMA Band V			WCDMA Band II		
Channel	4132	4182	4233	9263	9400	9537
Frequency (MHz)	826.4	836.6	846.6	1852.4	1880.0	1907.6
RMC 12.2Kbps	22.65	22.50	22.34	22.75	22.79	22.93
HSDPA Subtest-1	22.17	22.02	21.93	22.27	22.37	22.50
HSDPA Subtest-2	21.75	21.57	21.46	21.89	21.83	22.02
HSDPA Subtest-3	21.29	21.11	20.97	21.47	21.42	21.54
HSDPA Subtest-4	20.73	20.60	20.35	20.84	20.74	20.92
HSUPA Subtest-1	21.69	21.59	21.45	21.83	21.93	22.10
HSUPA Subtest-2	21.29	21.10	20.94	21.34	21.56	21.54
HSUPA Subtest-3	20.81	20.62	20.47	20.94	21.07	21.05
HSUPA Subtest-4	20.13	19.96	19.83	20.31	20.45	20.38
HSUPA Subtest-5	19.59	19.32	19.30	19.68	19.81	19.76

According to 3GPP 25.101 sub-clause 6.2.2 , the maximum output power is allowed to be reduced by following the table.

Table 6.1A: UE maximum output power with HS-DPCCH and E-DCH

UE Transmit Channel Configuration	CM(db)	MPR(db)
For all combinations of ,DPDCH,DPCCH HS-DPDCH,E-DPDCH and E-DPCCH	$0 \leq CM \leq 3.5$	$MAX(CM-1,0)$
Note: CM=1 for $\beta_c/\beta_d=12/15$ , $\beta_{hs}/\beta_c=24/15$ .For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.		

The device supports MPR to solve linearity issues (ACLR or SEM) due to the higher peak-to average ratios (PAR) of the HSUPA signal. This prevents saturating the full range of the TX DAC inside of device and provides a reduced power output to the RF transceiver chip according to the Cubic Metric (a function of the combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH).

When E-DPDCH channels are present the beta gains on those channels are reduced firsts to try to get the power under the allowed limit. If the beta gains are lowered as far as possible, then a hard limiting is applied at the maximum allowed level.

The SW currently recalculates the cubic metric every time the beta gains on the E-DPDCH are reduced. The cubic metric will likely get lower each time this is done .However, there is no reported reduction of maximum output power in the HSUPA mode since the device also provides a compensation for the power back-off by increasing the gain of TX\_AGC in the transceiver (PA) device.

The end effect is that the DUT output power is identical to the case where there is no MPR in the device.

**WIFI**

Mode	Channel Number	Frequency (MHz)	PEAK Power (dBm)
802.11b	1	2412	13.17
	6	2437	13.35
	11	2462	12.83
802.11g	1	2412	11.41
	6	2437	12.16
	11	2462	12.14
802.11n(HT 20)	1	2412	11.38
	6	2437	12.15
	11	2462	12.03
802.11n(HT 40)	3	2422	8.58
	6	2437	10.33
	9	2452	10.16

**Bluetooth**

Mode	Channel Number	Frequency (MHz)	PEAK Power (dBm)
GFSK(1Mbps)	0	2402	5.998
	39	2441	4.585
	78	2480	7.474
$\pi/4$ -DQPSK(2Mbps)	0	2402	6.882
	39	2441	6.128
	78	2480	6.226
8-DPSK(3Mbps)	0	2402	6.929
	39	2441	6.107
	78	2480	6.258

**BT 4.0**

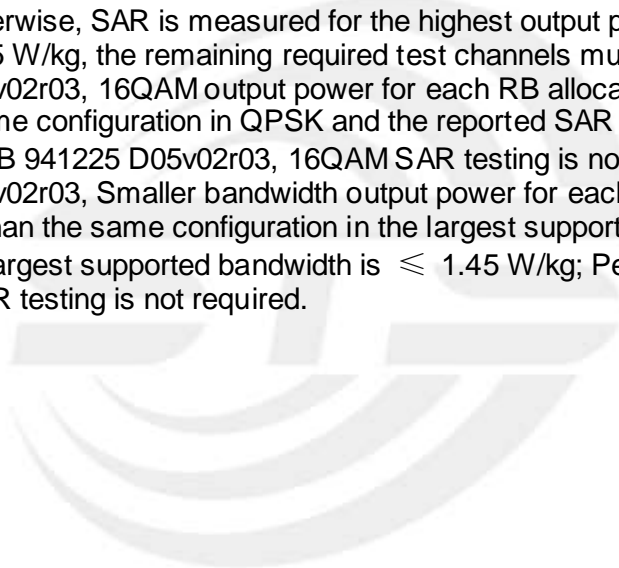
Mode	Channel Number	Frequency (MHz)	PEAK Power (dBm)
GFSK(1Mbps)	0	2402	0.114
	19	2422	0.608
	39	2442	-1.609



## LTE Conducted Power

### General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r03, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r03, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r03, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r03, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r03, 16QAM output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r03, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r03, Smaller bandwidth output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r03, smaller bandwidth SAR testing is not required.





## LTE Band 2

BW(MHz)	Modulation	RB Size	RB Offset	Power Low CH./Freq.	Power Middle CH./Freq.	Power High CH./Freq.
Channel				18700	18900	19100
Frequency(MHz)				1860	1880	1900
20	QPSK	1	0	21.71	21.51	21.54
20	QPSK	1	50	21.59	21.44	21.45
20	QPSK	1	99	21.56	21.54	21.89
20	QPSK	50	0	20.60	20.65	20.47
20	QPSK	50	24	21.56	20.72	20.58
20	QPSK	50	50	20.52	20.51	20.63
20	QPSK	100	0	20.53	20.50	20.58
20	16QAM	1	0	20.85	20.79	20.93
20	16QAM	1	50	20.65	20.76	20.86
20	16QAM	1	99	20.66	20.76	21.22
20	16QAM	50	0	21.01	20.92	21.10
20	16QAM	50	24	20.82	20.93	20.99
20	16QAM	50	50	20.81	20.87	21.41
20	16QAM	100	0	19.44	19.49	19.51
Channel				18675	18900	19125
Frequency(MHz)				1857.5	1880	1902.5
15	QPSK	1	0	21.61	21.47	21.49
15	QPSK	1	38	21.60	21.44	21.53
15	QPSK	1	75	21.52	21.51	21.90
15	QPSK	36	0	20.70	20.51	20.57
15	QPSK	36	18	20.81	20.62	20.68
15	QPSK	36	75	20.64	20.55	20.77
15	QPSK	75	0	20.68	20.57	20.72
15	16QAM	1	0	20.99	20.69	20.53
15	16QAM	1	38	20.94	20.84	20.62
15	16QAM	1	75	20.90	20.83	20.87
15	16QAM	36	0	21.10	20.82	20.63
15	16QAM	36	18	21.06	20.91	20.72
15	16QAM	36	75	21.02	21.01	20.95
15	16QAM	75	0	19.60	19.50	19.62
Channel				18650	18900	19150
Frequency(MHz)				1855	1880	1905
10	QPSK	1	0	21.64	21.34	21.50
10	QPSK	1	13	21.57	21.36	21.58
10	QPSK	1	24	21.57	21.39	21.96
10	QPSK	12	0	20.60	20.46	20.53
10	QPSK	12	6	20.60	20.54	20.63
10	QPSK	12	13	20.56	20.45	20.69
10	QPSK	25	0	20.58	20.48	20.62
10	16QAM	1	0	20.71	20.92	20.44
10	16QAM	1	13	20.65	20.91	20.54
10	16QAM	1	24	20.62	20.97	20.73
10	16QAM	12	0	20.81	20.95	20.52
10	16QAM	12	6	20.72	20.99	20.62
10	16QAM	12	13	20.68	21.05	20.81
10	16QAM	25	0	19.68	19.52	19.65



Channel				18625	18900	19175
Frequency(MHz)				1852.5	1880	1907.5
5	QPSK	1	0	21.65	21.41	21.66
5	QPSK	1	13	21.64	21.42	21.80
5	QPSK	1	24	21.61	21.36	21.90
5	QPSK	12	0	20.67	20.48	20.71
5	QPSK	12	6	20.70	20.52	20.71
5	QPSK	12	13	20.64	20.49	20.77
5	QPSK	25	0	20.60	20.45	20.70
5	16QAM	1	0	20.65	20.46	20.65
5	16QAM	1	13	20.59	20.44	20.76
5	16QAM	1	24	20.53	20.42	20.74
5	16QAM	12	0	20.70	20.54	20.68
5	16QAM	12	6	20.62	20.56	20.80
5	16QAM	12	13	20.63	20.54	20.71
5	16QAM	25	0	19.68	19.60	19.58
Channel				18615	18900	19185
Frequency(MHz)				1851.5	1880	1908.5
3	QPSK	1	0	21.54	21.34	21.69
3	QPSK	1	8	21.56	21.38	21.84
3	QPSK	1	14	21.53	21.35	21.91
3	QPSK	8	0	20.62	20.45	20.73
3	QPSK	8	4	20.70	20.51	20.68
3	QPSK	8	8	20.60	20.43	20.75
3	QPSK	15	0	20.61	20.42	20.74
3	16QAM	1	0	21.03	20.51	20.62
3	16QAM	1	8	21.02	20.54	20.67
3	16QAM	1	14	20.93	20.51	20.71
3	16QAM	8	0	21.01	20.54	20.63
3	16QAM	8	4	21.10	20.65	20.71
3	16QAM	8	8	20.91	20.58	20.81
3	16QAM	15	0	19.61	19.39	19.67
Channel				18607	18900	19193
Frequency(MHz)				1850.7	1880	1909.3
1.4	QPSK	1	0	21.56	21.33	21.78
1.4	QPSK	1	3	21.61	21.42	21.91
1.4	QPSK	1	5	21.57	21.36	21.88
1.4	QPSK	3	0	21.65	21.45	21.66
1.4	QPSK	3	1	21.70	21.52	21.69
1.4	QPSK	3	3	21.62	21.48	21.66
1.4	QPSK	6	0	20.57	20.35	20.89
1.4	16QAM	1	0	20.64	20.38	20.63
1.4	16QAM	1	3	20.73	20.46	20.72
1.4	16QAM	1	5	20.66	20.41	20.67
1.4	16QAM	3	0	20.75	20.46	20.68
1.4	16QAM	3	1	20.84	20.58	20.91
1.4	16QAM	3	3	20.87	20.64	20.86
1.4	16QAM	6	0	19.55	19.27	19.66



# LTE Band 4

BW(MHz)	Modulation	RB Size	RB Offset	Power Low CH./Freq.	Power Middle CH./Freq.	Power High CH./Freq.
Channel				20050	20175	20300
Frequency(MHz)				1720	1732.5	1745
20	QPSK	1	0	21.96	22.50	22.71
20	QPSK	1	50	21.99	22.63	22.83
20	QPSK	1	99	22.08	22.83	22.94
20	QPSK	50	0	21.01	21.46	22.21
20	QPSK	50	24	22.14	21.56	22.36
20	QPSK	50	50	21.28	21.74	22.13
20	QPSK	100	0	21.27	21.62	22.13
20	16QAM	1	0	21.53	21.59	22.13
20	16QAM	1	50	21.68	21.77	22.16
20	16QAM	1	99	21.83	22.15	22.44
20	16QAM	50	0	21.63	21.65	22.12
20	16QAM	50	24	21.78	21.89	22.35
20	16QAM	50	50	21.75	22.34	22.51
20	16QAM	100	0	20.24	20.60	21.15
Channel				20025	20175	20325
Frequency(MHz)				1717.5	1732.5	1747.5
15	QPSK	1	0	22.05	22.62	22.84
15	QPSK	1	38	22.24	22.72	22.93
15	QPSK	1	75	22.54	22.81	23.35
15	QPSK	36	0	21.20	21.67	22.01
15	QPSK	36	18	21.32	21.80	22.13
15	QPSK	36	75	21.37	21.84	22.21
15	QPSK	75	0	21.33	21.73	22.13
15	16QAM	1	0	21.56	21.66	21.93
15	16QAM	1	38	21.72	21.83	22.08
15	16QAM	1	75	21.80	22.11	22.39
15	16QAM	36	0	21.65	21.71	22.08
15	16QAM	36	18	21.82	21.93	22.14
15	16QAM	36	75	21.99	22.35	22.51
15	16QAM	75	0	21.30	22.67	21.02
Channel				20000	20175	20350
Frequency(MHz)				1715	1732.5	1750
10	QPSK	1	0	22.19	22.60	22.86
10	QPSK	1	13	22.17	22.65	22.94
10	QPSK	1	24	22.29	22.59	23.39
10	QPSK	25	0	21.10	21.59	22.90
10	QPSK	25	6	21.20	21.65	22.81
10	QPSK	25	13	21.23	21.73	22.12
10	QPSK	50	0	21.19	21.57	22.05
10	16QAM	1	0	21.15	21.83	21.86
10	16QAM	1	13	21.25	21.89	21.91
10	16QAM	1	24	21.32	21.14	22.25
10	16QAM	25	0	21.26	21.92	21.98
10	16QAM	25	6	21.36	21.99	21.98
10	16QAM	25	13	21.38	22.25	22.31
10	16QAM	50	0	21.17	20.59	21.06





Channel				19975	20175	20375
Frequency(MHz)				1712.5	1732.5	1752.5
5	QPSK	1	0	22.23	22.68	23.36
5	QPSK	1	13	22.21	22.71	23.38
5	QPSK	1	24	22.19	22.70	23.34
5	QPSK	12	0	21.16	21.57	22.11
5	QPSK	12	6	21.31	21.69	22.25
5	QPSK	12	13	21.07	21.60	22.04
5	QPSK	25	0	21.04	21.53	22.02
5	16QAM	1	0	21.08	21.50	22.08
5	16QAM	1	13	21.12	21.56	22.11
5	16QAM	1	24	21.13	21.55	22.07
5	16QAM	12	0	21.15	21.68	22.14
5	16QAM	12	6	21.25	21.65	22.35
5	16QAM	12	13	21.30	21.68	22.31
5	16QAM	25	0	20.24	20.57	21.15
Channel				19965	20175	20385
Frequency(MHz)				1711.5	1732.5	1753.5
3	QPSK	1	0	22.11	22.58	23.24
3	QPSK	1	8	22.13	22.63	23.31
3	QPSK	1	14	22.08	22.59	23.36
3	QPSK	6	0	22.14	21.53	22.20
3	QPSK	6	4	22.34	21.62	22.35
3	QPSK	6	8	22.16	21.54	22.54
3	QPSK	15	0	21.07	21.54	22.21
3	16QAM	1	0	21.09	21.84	22.17
3	16QAM	1	8	21.03	21.91	22.29
3	16QAM	1	14	21.05	21.89	22.32
3	16QAM	6	0	21.20	21.99	22.34
3	16QAM	6	4	21.20	22.08	22.35
3	16QAM	6	8	21.18	22.01	22.53
3	16QAM	15	0	20.13	20.53	21.11
Channel				19957	20175	20393
Frequency(MHz)				1710.7	1732.5	1754.3
1.4	QPSK	1	0	22.01	22.53	23.29
1.4	QPSK	1	3	22.00	22.59	23.36
1.4	QPSK	1	5	22.04	22.62	23.41
1.4	QPSK	3	0	22.12	22.54	23.25
1.4	QPSK	3	1	22.28	22.69	23.65
1.4	QPSK	3	3	22.13	22.49	23.25
1.4	QPSK	6	0	21.00	21.58	22.31
1.4	16QAM	1	0	21.13	21.42	22.20
1.4	16QAM	1	3	21.10	21.44	22.21
1.4	16QAM	1	5	21.14	21.46	22.27
1.4	16QAM	3	0	21.35	21.56	22.35
1.4	16QAM	3	1	21.24	21.68	22.50
1.4	16QAM	3	3	21.36	21.59	22.47
1.4	16QAM	6	0	20.03	20.50	21.12



# LTE Band 7

BW(MHz)	Modulation	RB Size	RB Offset	Power Low CH./Freq.	Power Middle CH./Freq.	Power High CH./Freq.
Channel				20850	21100	21350
Frequency(MHz)				2510	2535	2560
20	QPSK	1	0	21.73	22.22	22.31
20	QPSK	1	50	22.06	22.21	22.24
20	QPSK	1	99	22.28	22.34	22.41
20	QPSK	50	0	21.03	21.28	22.34
20	QPSK	50	24	21.12	21.41	22.58
20	QPSK	50	50	21.27	21.23	21.43
20	QPSK	100	0	21.14	21.22	21.33
20	16QAM	1	0	20.89	21.48	21.59
20	16QAM	1	50	21.19	21.43	21.67
20	16QAM	1	99	21.38	21.49	21.82
20	16QAM	50	0	21.01	21.52	21.68
20	16QAM	50	24	21.25	21.54	21.78
20	16QAM	50	50	21.45	21.57	21.89
20	16QAM	100	0	20.12	20.18	20.35
Channel				20825	21100	21350
Frequency(MHz)				2507.5	2535	2562.5
15	QPSK	1	0	21.70	22.24	22.24
15	QPSK	1	38	22.08	22.27	22.39
15	QPSK	1	75	22.18	22.35	22.43
15	QPSK	36	0	21.21	21.32	21.40
15	QPSK	36	18	21.30	21.40	21.51
15	QPSK	36	75	21.19	21.33	21.49
15	QPSK	75	0	21.18	21.34	21.46
15	16QAM	1	0	21.12	21.52	21.36
15	16QAM	1	38	21.44	21.44	21.39
15	16QAM	1	75	21.61	21.42	21.49
15	16QAM	36	0	21.35	21.62	21.52
15	16QAM	36	18	21.52	21.62	21.52
15	16QAM	36	75	21.70	21.52	21.62
15	16QAM	75	0	20.09	20.21	20.38
Channel				20800	21100	21400
Frequency(MHz)				2505	2535	2565
10	QPSK	1	0	21.65	22.27	22.30
10	QPSK	1	13	22.06	22.25	22.30
10	QPSK	1	24	21.89	22.28	22.43
10	QPSK	25	0	20.85	21.25	21.28
10	QPSK	25	6	20.93	21.36	21.72
10	QPSK	25	13	21.08	21.23	21.32
10	QPSK	50	0	21.01	21.22	21.34
10	16QAM	1	0	21.10	21.30	21.22
10	16QAM	1	13	21.35	21.24	21.19
10	16QAM	1	24	21.53	21.26	21.34
10	16QAM	25	0	21.20	21.41	21.35
10	16QAM	25	6	21.42	21.35	21.30
10	16QAM	25	13	21.68	21.35	21.42
10	16QAM	50	0	20.16	20.22	20.35





Channel				20775	21100	21425
Frequency(MHz)				2502.5	2535	2567.5
5	QPSK	1	0	21.71	22.30	22.30
5	QPSK	1	13	21.85	22.34	22.39
5	QPSK	1	24	21.91	22.29	22.39
5	QPSK	12	0	20.77	21.24	21.38
5	QPSK	12	6	20.82	21.36	21.54
5	QPSK	12	13	21.88	21.23	21.40
5	QPSK	25	0	20.80	21.19	21.32
5	16QAM	1	0	20.96	21.15	21.37
5	16QAM	1	13	21.07	21.17	21.39
5	16QAM	1	24	21.16	21.11	21.37
5	16QAM	12	0	21.05	21.30	21.42
5	16QAM	12	6	21.15	21.32	21.50
5	16QAM	12	13	21.36	21.25	21.48
5	16QAM	25	0	19.73	20.16	20.24

### LTE Band 17

BW(MHz)	Modulation	RB Size	RB Offset	Power Low CH./Freq.	Power Middle CH./Freq.	Power High CH./Freq.
Channel				23780	23790	23800
Frequency(MHz)				709	710	711
10	QPSK	1	0	22.44	22.59	22.73
10	QPSK	1	13	22.70	22.76	22.64
10	QPSK	1	24	22.57	22.35	22.18
10	QPSK	25	0	21.73	21.78	21.84
10	QPSK	25	6	21.82	21.86	21.92
10	QPSK	25	13	21.80	21.72	21.66
10	QPSK	50	0	21.72	21.69	21.57
10	16QAM	1	0	22.03	21.79	22.03
10	16QAM	1	13	22.29	21.96	22.11
10	16QAM	1	24	22.11	21.57	22.01
10	16QAM	25	0	22.10	21.87	22.12
10	16QAM	25	6	22.38	22.05	22.20
10	16QAM	25	13	22.19	21.68	22.11
10	16QAM	50	0	20.78	20.74	20.96
Channel				23755	23790	23825
Frequency(MHz)				706.5	710	713.5
5	QPSK	1	0	22.52	22.68	22.81
5	QPSK	1	13	22.82	22.76	22.55
5	QPSK	1	24	22.81	22.65	22.12
5	QPSK	12	0	21.68	21.81	21.81
5	QPSK	12	6	21.72	21.92	21.85
5	QPSK	12	13	21.81	21.82	21.41
5	QPSK	25	0	21.70	21.72	21.59
5	16QAM	1	0	21.85	21.69	22.04
5	16QAM	1	13	21.10	21.85	21.74
5	16QAM	1	24	22.13	21.76	21.36
5	16QAM	12	0	21.93	21.85	21.82
5	16QAM	12	6	22.34	21.96	21.85
5	16QAM	12	13	22.21	21.82	21.46
5	16QAM	25	0	20.70	21.91	20.54

**Turn Power**

Mode	GSM850(AVG)	GSM1900(AVG)
GSM/PCS	28.9±1dBm	27.6±1dBm
GPRS (1 Slot)	28.9±1dBm	27.5±1dBm
GPRS (2 Slot)	27.9±1dBm	26.7±1dBm
GPRS (3 Slot)	26.6±1dBm	25.5±1dBm
GPRS (4 Slot)	26.0±1dBm	25.0±1dBm
EDGE (1 Slot)	28.9±1dBm	27.5±1dBm
EDGE (2 Slot)	27.9±1dBm	26.5±1dBm
EDGE (3 Slot)	26.7±1dBm	25.2±1dBm
EDGE (4 Slot)	26.2±1dBm	24.7±1dBm

Mode	WCDMA Band V(AVG)	WCDMA Band II(AVG)
RMC	22.0±1dBm	22.0±1dBm
HSDPA Subtest-1	21.2±1dBm	22.0±1dBm
HSDPA Subtest-2	21.0±1dBm	21.0±1dBm
HSDPA Subtest-3	20.5±1dBm	21.0±1dBm
HSDPA Subtest-4	20.0±1dBm	20.0±1dBm
HSUPA Subtest-1	21.0±1dBm	21.2±1dBm
HSUPA Subtest-2	21.0±1dBm	21.0±1dBm
HSUPA Subtest-3	20.0±1dBm	21.0±1dBm
HSUPA Subtest-4	20.0±1dBm	20.0±1dBm
HSUPA Subtest-5	19.0±1dBm	19.0±1dBm

Mode	WIFI
IEEE 802.11b	13.0±1dBm
IEEE 802.11g	12.0±1dBm
IEEE 802.11n(HT 20)	12.0±1dBm
IEEE 802.11n(HT 40)	9.4±1dBm

Mode	BT		
	Low	Middle	High
GFSK	5±1dBm	4±1dBm	7±1dBm
π/4-DQPSK	6±1dBm	6±1dBm	6±1dBm
8DPSK	6±1dBm	6±1dBm	6±1dBm

Mode	BT 4.0		
	Low	Middle	High
GFSK	0±1dBm	0±1dBm	-1±1dBm



LTE

BW[MHz]	RB Size	Mode	Band II	Band IV	Band VII	Band XVII
1.4	1	QPSK	21±1dBm	23±1dBm	N/A	N/A
1.4	3		21±1dBm	23±1dBm	N/A	N/A
1.4	6		20±1dBm	22±1dBm	N/A	N/A
1.4	1	16-QAM	20±1dBm	22±1dBm	N/A	N/A
1.4	3		20±1dBm	22±1dBm	N/A	N/A
1.4	6		19±1dBm	21±1dBm	N/A	N/A
3	1	QPSK	21±1dBm	23±1dBm	N/A	N/A
3	6		20±1dBm	22±1dBm	N/A	N/A
3	15		20±1dBm	22±1dBm	N/A	N/A
3	1	16-QAM	21±1dBm	22±1dBm	N/A	N/A
3	6		21±1dBm	22±1dBm	N/A	N/A
3	15		19±1dBm	21±1dBm	N/A	N/A
5	1	QPSK	21±1dBm	23±1dBm	22±1dBm	22±1dBm
5	12		20±1dBm	22±1dBm	21±1dBm	21±1dBm
5	25		20±1dBm	22±1dBm	21±1dBm	21±1dBm
5	1	16-QAM	20±1dBm	22±1dBm	21±1dBm	22±1dBm
5	12		20±1dBm	22±1dBm	21±1dBm	22±1dBm
5	25		19±1dBm	21±1dBm	20±1dBm	21±1dBm
10	1	QPSK	21±1dBm	23±1dBm	22±1dBm	22±1dBm
10	25		20±1dBm	22±1dBm	21±1dBm	21±1dBm
10	50		20±1dBm	22±1dBm	21±1dBm	21±1dBm
10	1	16-QAM	20±1dBm	22±1dBm	21±1dBm	22±1dBm
10	25		21±1dBm	22±1dBm	21±1dBm	22±1dBm
10	50		19±1dBm	21±1dBm	20±1dBm	20±1dBm
15	1	QPSK	21±1dBm	23±1dBm	22.1±1dBm	N/A
15	36		20±1dBm	22±1dBm	21±1dBm	N/A
15	75		20±1dBm	22±1dBm	21±1dBm	N/A
15	1	16-QAM	20±1dBm	22±1dBm	21±1dBm	N/A
15	36		21±1dBm	22±1dBm	21±1dBm	N/A
15	75		19±1dBm	22±1dBm	20±1dBm	N/A
20	1	QPSK	21±1dBm	22±1dBm	21.5±1dBm	N/A
20	50		20.6±1dBm	21.4±1dBm	21.6±1dBm	N/A
20	100		20±1dBm	22±1dBm	20.4±1dBm	N/A
20	1	16-QAM	21±1dBm	22±1dBm	21±1dBm	N/A
20	50		21±1dBm	22±1dBm	21±1dBm	N/A
20	100		19±1dBm	21±1dBm	20±1dBm	N/A

## 11. EUT And Test Setup Photo

### 11.1 EUT Photo

Front side



Back side



Top side



Bottom side

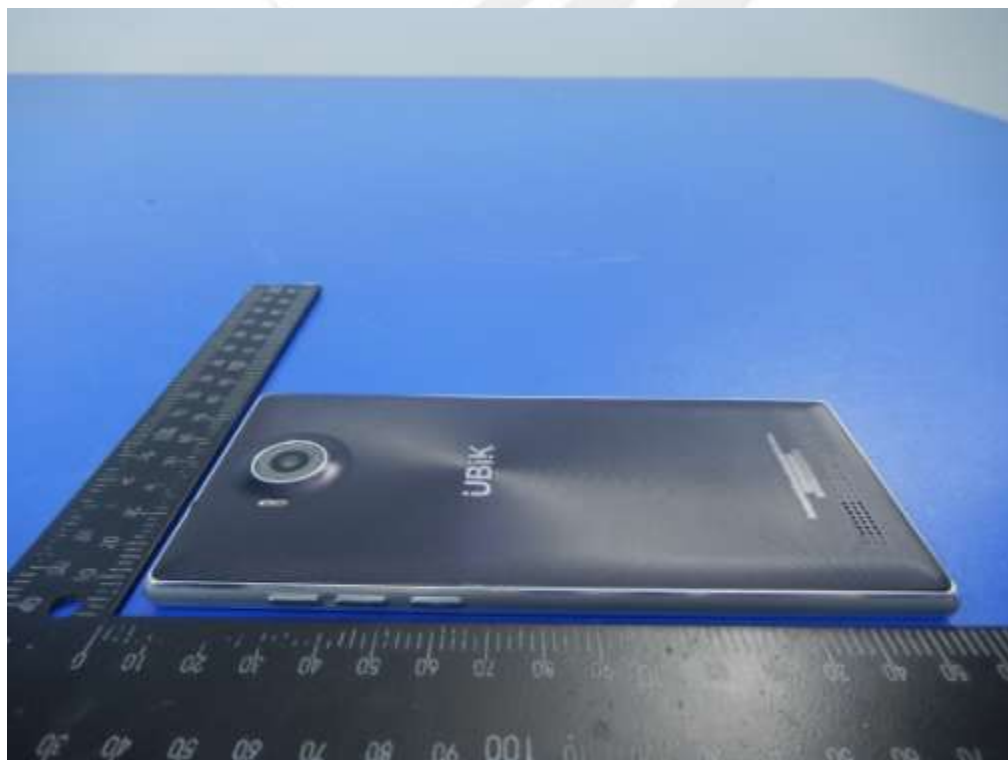




Left side

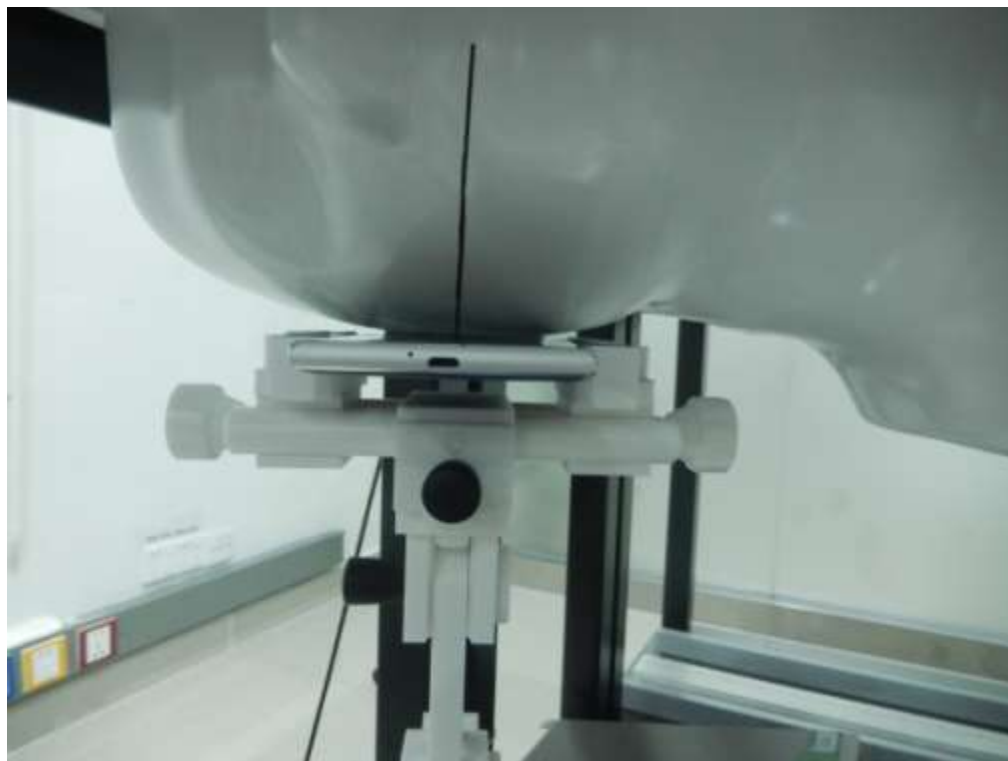


Right side

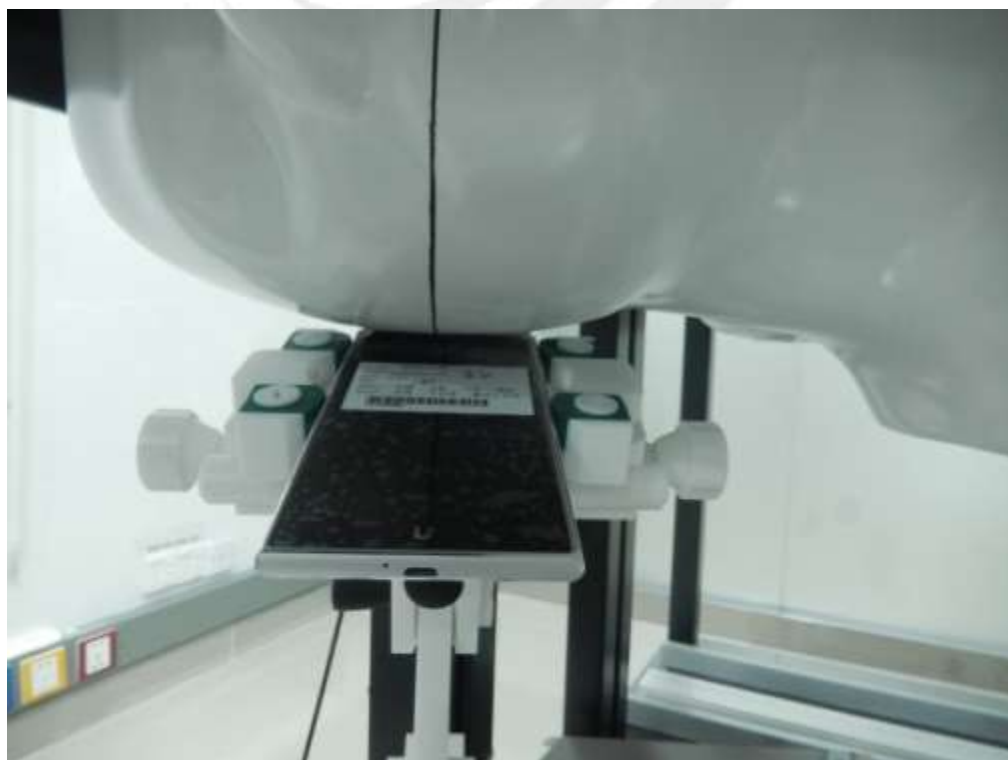


## 11.2 Setup Photo

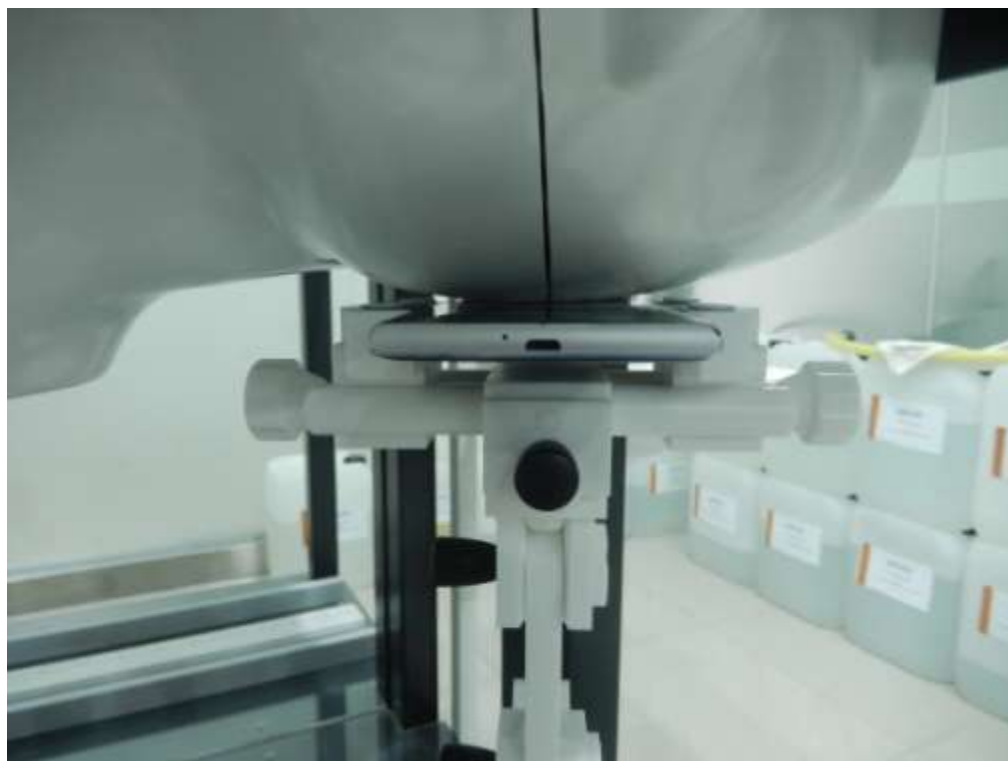
Right Touch



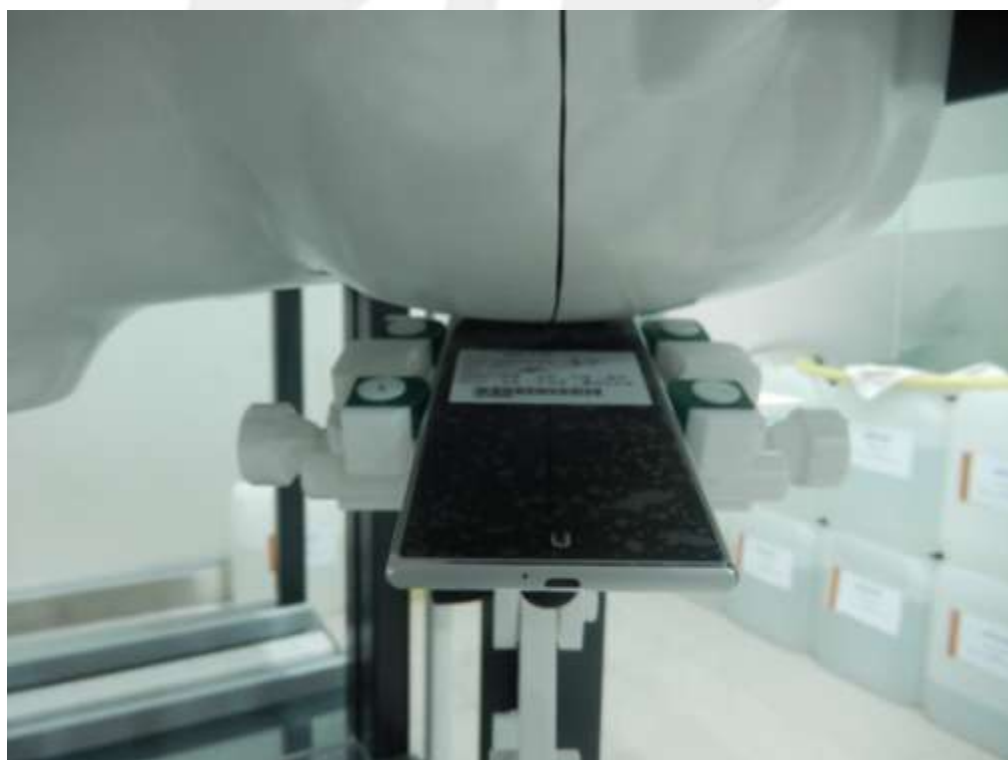
Right Tilt



Left Touch

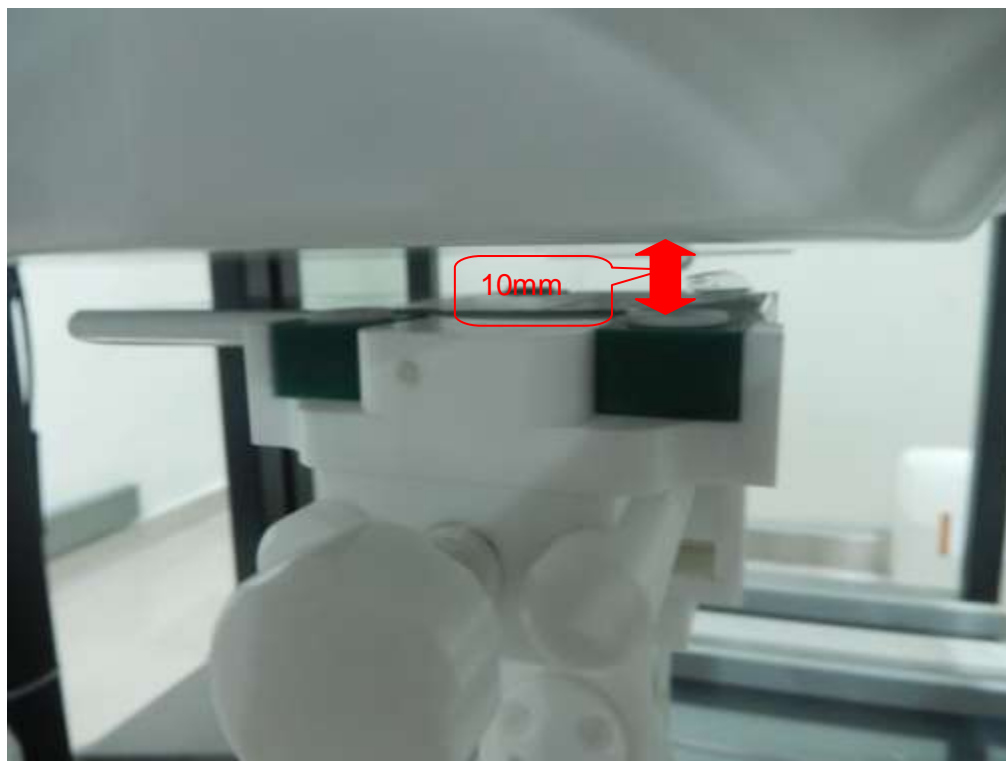


Left Tilt

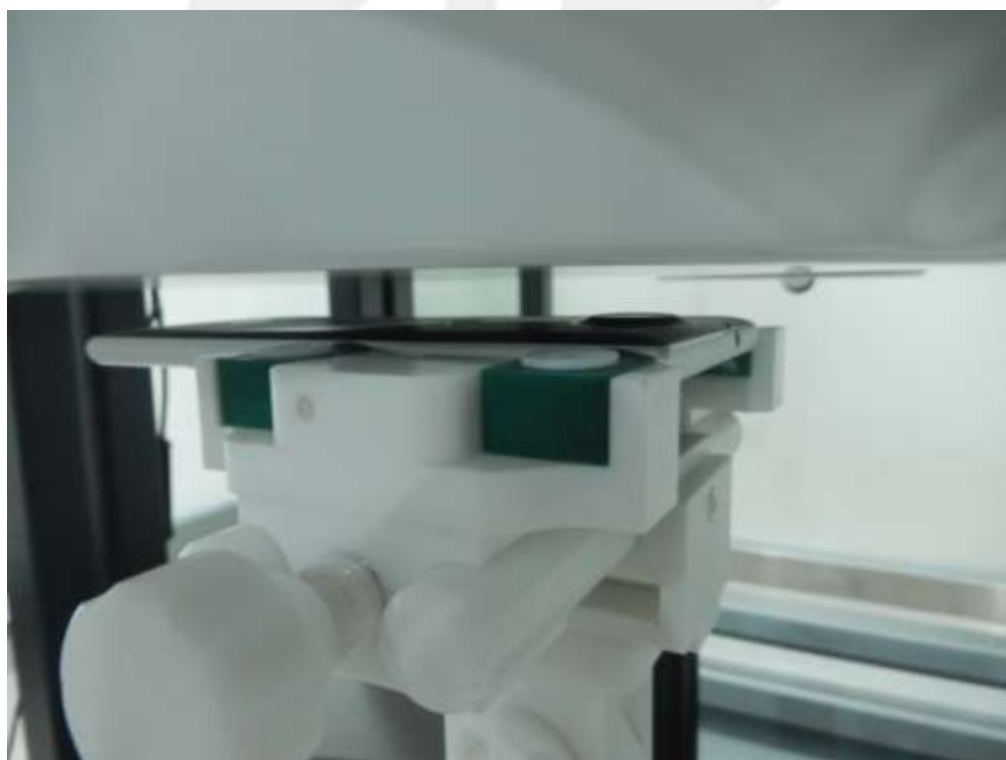




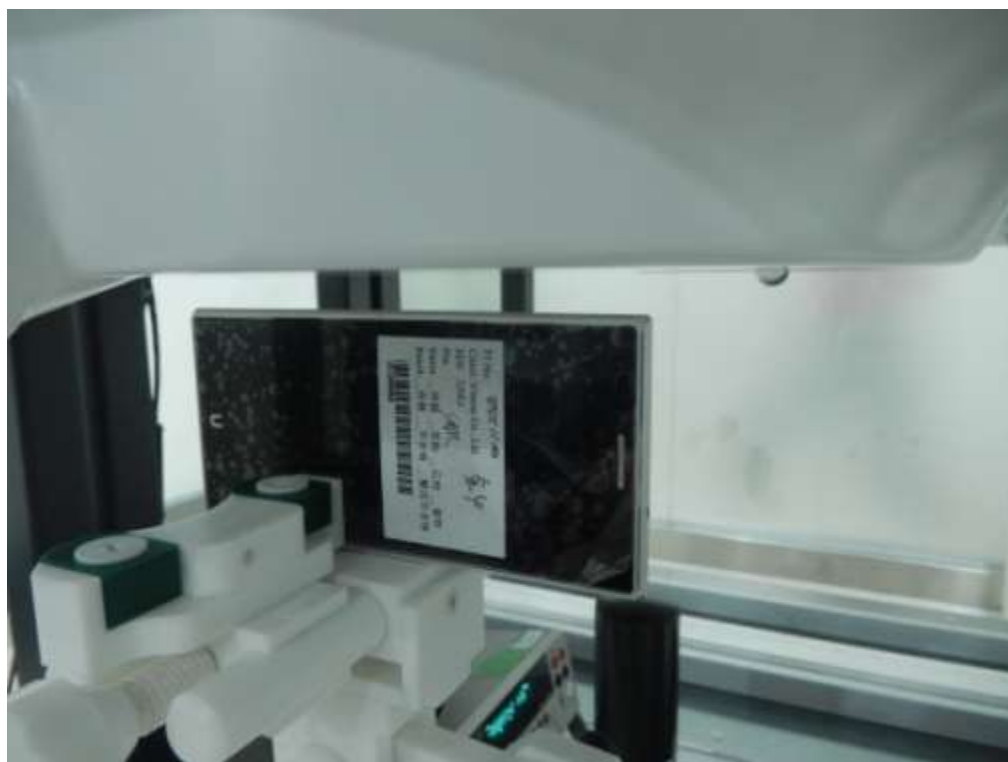
Body Front side



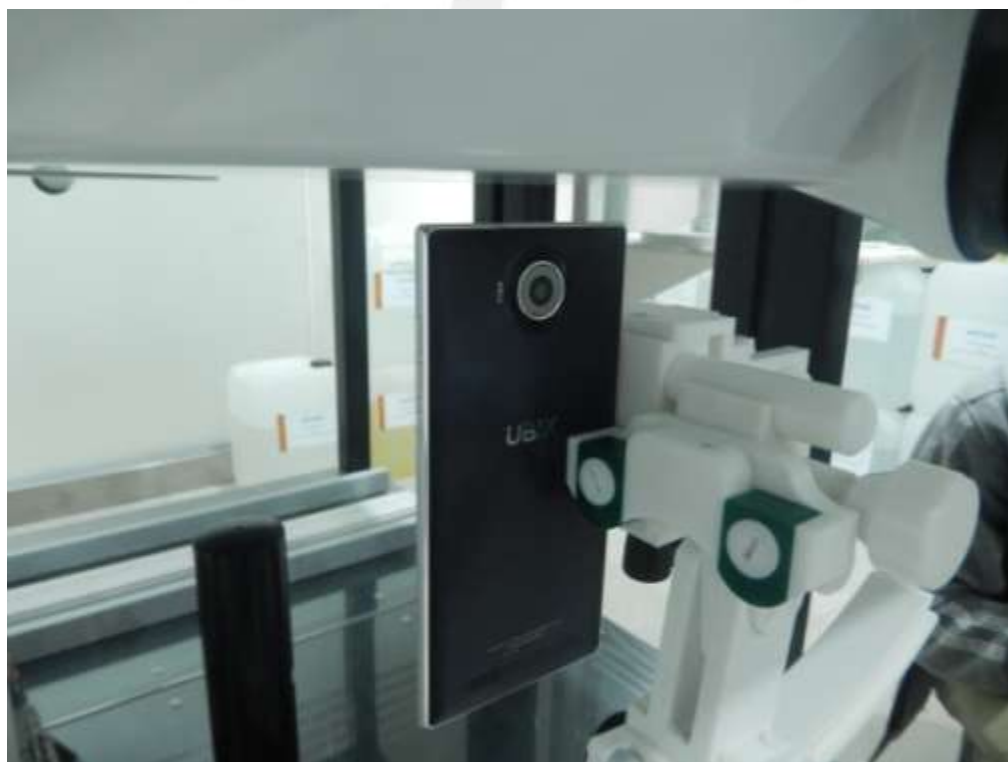
Body Back side



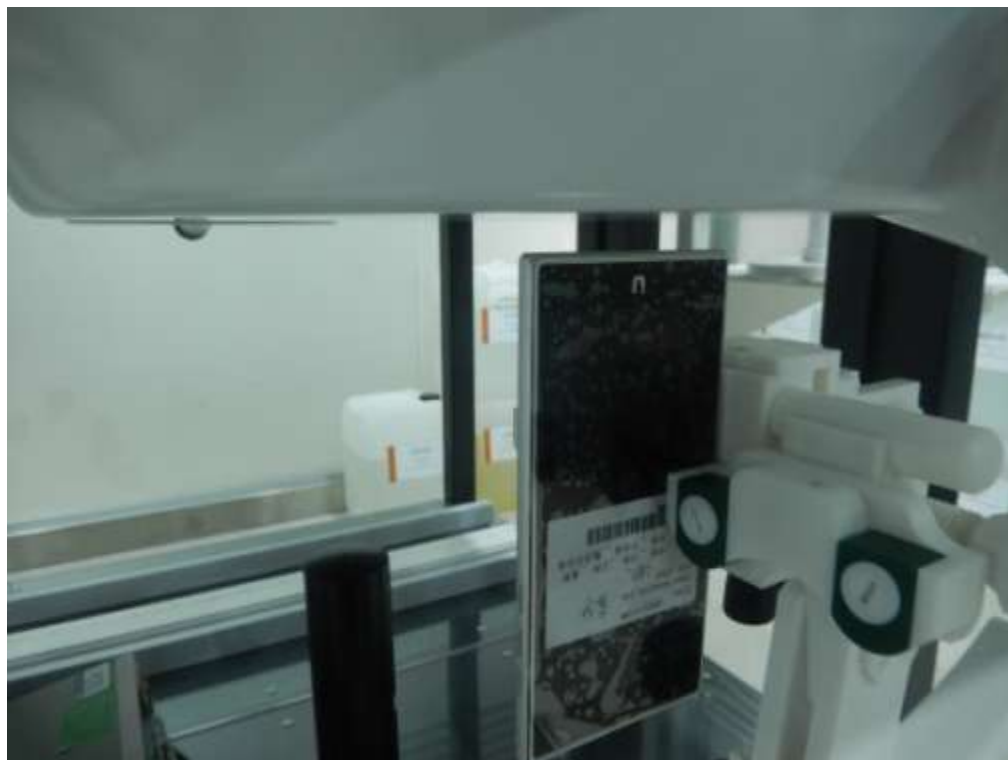
Body left side



Body top side



Body Bottom side



Liquid depth (15 cm)





## 12. SAR Result Summary

### 12.1 Head SAR

Band	Mode	Test Position	Channel	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
GSM 850	Voice	Right Cheek	CH 190	0.015	0.74	29.9	29.83	<b>0.015</b>	<b>1</b>
		Right Tilt	CH 190	0.009	1.12	29.9	29.83	0.009	2
		Left Cheek	CH 190	0.015	1.38	29.9	29.83	<b>0.015</b>	<b>3</b>
		Left Tilt	CH 190	0.010	-1.07	29.9	29.83	0.010	4
GSM1900	Voice	Right Cheek	CH 661	0.021	0.12	28.6	28.53	0.021	9
		Right Tilt	CH 661	0.011	0.67	28.6	28.53	0.011	10
		Left Cheek	CH 661	0.023	1.85	28.6	28.53	<b>0.023</b>	<b>11</b>
		Left Tilt	CH 661	0.011	-0.39	28.6	28.53	0.011	12
WCDMA II	RMC	Right Cheek	CH 9537	0.090	0.37	23	22.93	<b>0.091</b>	<b>17</b>
		Right Tilt	CH 9537	0.058	-0.39	23	22.93	0.059	18
		Left Cheek	CH 9537	0.087	0.62	23	22.93	0.088	19
		Left Tilt	CH 9537	0.063	-0.57	23	22.93	0.064	20
WCDMA V	RMC	Right Cheek	CH4132	0.038	0.05	23	22.65	<b>0.041</b>	<b>25</b>
		Right Tilt	CH4132	0.034	0.15	23	22.65	0.037	26
		Left Cheek	CH4132	0.038	0.10	23	22.65	<b>0.041</b>	<b>27</b>
		Left Tilt	CH4132	0.033	0.02	23	22.65	0.036	28

Band	Mode	Test Position	Channel	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Duty cycle(%)	Scaled SAR (W/Kg)	Meas. No.
WIFI	802.11b	Right Cheek	CH 6	0.089	-0.04	14	13.35	100	0.103	33
		Right Tilt	CH 6	0.091	0.12	14	13.35	100	0.106	34
		Left Cheek	CH 6	0.133	0.26	14	13.35	100	<b>0.154</b>	<b>35</b>
		Left Tilt	CH 6	0.120	-0.12	14	13.35	100	0.139	36



Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
LTE Band 2	20M	QPSK	1	99	Right Cheek	19100	0.075	-0.11	22	21.89	<b>0.077</b>	<b>41</b>
			50	24	Right Cheek	18700	0.062	0.35	21.6	21.56	0.063	/
			1	99	Right Tilt	19100	0.050	-0.18	22	21.89	0.051	42
			50	24	Right Tilt	18700	0.046	3.02	21.6	21.56	0.046	/
			1	99	Left Cheek	19100	0.064	-3.82	22	21.89	0.066	43
			50	24	Left Cheek	18700	0.051	0.68	21.6	21.56	0.051	/
			1	99	Left Tilt	19100	0.053	-1.06	22	21.89	0.054	44
			50	24	Left Tilt	18700	0.050	-0.60	21.6	21.56	0.050	/
LTE Band 4	20M	QPSK	1	99	Right Cheek	20300	0.123	-0.09	23	22.94	0.125	49
			50	24	Right Cheek	20300	0.095	0.03	22.4	22.36	0.096	/
			1	99	Right Tilt	20300	0.084	-0.48	23	22.94	0.085	50
			50	24	Right Tilt	20300	0.069	3.41	22.4	22.36	0.070	/
			1	99	Left Cheek	20300	0.124	0.45	23	22.94	<b>0.126</b>	<b>51</b>
			50	24	Left Cheek	20300	0.103	-1.20	22.4	22.36	0.104	/
			1	99	Left Tilt	20300	0.079	-0.19	23	22.94	0.080	52
			50	24	Left Tilt	20300	0.068	1.17	22.4	22.36	0.069	/

Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
LTE Band 7	20M	QPSK	1	99	Right Cheek	21350	0.080	-0.03	22.5	22.41	<b>0.082</b>	<b>57</b>
			50	24	Right Cheek	21350	0.071	3.07	22.6	22.58	0.071	/
			1	99	Right Tilt	21350	0.067	-0.11	22.5	22.41	0.068	58
			50	24	Right Tilt	21350	0.056	-2.61	22.6	22.58	0.056	/
			1	99	Left Cheek	21350	0.074	-0.17	22.5	22.41	0.076	59
			50	24	Left Cheek	21350	0.061	-0.43	22.6	22.58	0.061	/
			1	99	Left Tilt	21350	0.068	-0.02	22.5	22.41	0.069	60
			50	24	Left Tilt	21350	0.060	1.20	22.6	22.58	0.060	/
LTE Band 17	10M	QPSK	1	13	Right Cheek	23790	0.038	-0.16	23	22.76	0.040	65
			25	6	Right Cheek	23800	0.032	-0.03	22	21.92	0.033	/
			1	13	Right Tilt	23790	0.034	0.03	23	22.76	0.036	66
			25	6	Right Tilt	23800	0.028	1.98	22	21.92	0.029	/
			1	13	Left Cheek	23790	0.039	-0.05	23	22.76	<b>0.041</b>	<b>67</b>
			25	6	Left Cheek	23800	0.031	-2.03	22	21.92	0.032	/
			1	13	Left Tilt	23790	0.034	-0.05	23	22.76	0.036	68
			25	6	Left Tilt	23800	0.027	1.55	22	21.92	0.028	/

**12.2 Body SAR And Hotspot**

Band	Mode	Test Position	Channel	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
GSM 850	EGPRS Data-4 Slot ( hotspot )	Front side	CH 190	0.138	-1.37	27.2	27.11	0.141	5
		Back side	CH 190	0.141	-0.22	27.2	27.11	<b>0.144</b>	<b>6</b>
		Left side	CH 190	0.027	0.59	27.2	27.11	0.028	7
		Bottom side	CH 190	0.030	0.74	27.2	27.11	0.031	8
GSM1900	GPRS Data-4 Slot ( hotspot )	Front side	CH 661	0.145	0.06	26	25.91	0.148	13
		Back side	CH 661	0.268	-0.04	26	25.91	<b>0.274</b>	<b>14</b>
		Left side	CH 661	0.064	-1.16	26	25.91	0.065	15
		Bottom side	CH 661	0.115	-1.57	26	25.91	0.117	16
WCDMA II	RMC ( body-worn and hotspot )	Front side	CH9537	0.207	0.57	23	22.93	0.210	21
		Back side	CH9537	0.366	-0.09	23	22.93	<b>0.372</b>	<b>22</b>
		Left side	CH9537	0.104	-0.08	23	22.93	0.106	23
		Bottom side	CH9537	0.167	-0.05	23	22.93	0.170	24
WCDMA V	RMC ( body-worn and hotspot )	Front side	CH4132	0.078	0.29	23	22.65	0.085	29
		Back side	CH4132	0.081	-0.53	23	22.65	<b>0.088</b>	<b>30</b>
		Left side	CH4132	0.032	0.04	23	22.65	0.035	31
		Bottom side	CH4132	0.033	0.07	23	22.65	0.036	32

Band	Mode	Test Position	Channel	Result 1g (W/Kg)	Power Drift(%)	Max.Turn-up Power(dBm)	Meas.Output Power(dBm)	Duty cycle(%)	Scaled SAR (W/Kg)	Meas. No.
WIFI	802.11b	Front side	CH 6	0.073	0.06	14	13.35	100	0.085	37
		Back side	CH 6	0.159	-0.17	14	13.35	100	<b>0.185</b>	<b>38</b>
		Rightside	CH 6	0.074	-0.21	14	13.35	100	0.086	39
		Bottom side	CH 6	0.091	-0.10	14	13.35	100	0.106	40

Note:

1. Two card slot can't work at the same time.
2. The Body test separation of all above table is 10mm.
3. Per KDB 248227- When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is  $\leq 1.2$  W/kg. (The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power was **0.117** W/Kg for Head and **0.141** W/Kg for Body/Hotspot)





Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Ch.	Result 1g (W/Kg)	Power Drift(%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
LTE Band 2	20M	QPSK	1	99	Front	19100	0.103	0.82	22	21.89	0.106	45
			50	24	Front	18700	0.092	-2.03	21.6	21.56	0.093	/
			1	99	Back	19100	0.243	1.24	22	21.89	<b>0.249</b>	<b>46</b>
			50	24	Back	18700	0.226	0.14	21.6	21.56	0.228	/
			1	99	Left Side	19100	0.068	0.16	22	21.89	0.070	47
			50	24	Left Side	18700	0.057	0.46	21.6	21.56	0.058	/
			1	99	Bottom Side	19100	0.088	-0.19	22	21.89	0.090	48
			50	24	Bottom Side	18700	0.085	-1.62	21.6	21.56	0.086	/
LTE Band 4	20M	QPSK	1	99	Front	20300	0.224	-0.12	23	22.94	0.227	53
			50	24	Front	20300	0.216	1.55	22.4	22.36	0.218	/
			1	99	Back	20300	0.302	-0.10	23	22.94	<b>0.306</b>	<b>54</b>
			50	24	Back	20300	0.291	0.19	22.4	22.36	0.294	/
			1	99	Left Side	20300	0.078	-0.02	23	22.94	0.079	55
			50	24	Left Side	20300	0.064	-0.13	22.4	22.36	0.065	/
			1	99	Bottom Side	20300	0.080	-0.47	23	22.94	0.081	56
			50	24	Bottom Side	20300	0.071	0.43	22.4	22.36	0.072	/
LTE Band 7	20M	QPSK	1	99	Front	21350	0.202	-0.03	22.5	22.41	<b>0.206</b>	<b>61</b>
			50	24	Front	21350	0.188	-0.55	22.6	22.58	0.189	/
			1	99	Back	21350	0.159	-0.24	22.5	22.41	0.162	62
			50	24	Back	21350	0.138	3.22	22.6	22.58	0.139	/
			1	99	Left Side	21350	0.065	-0.03	22.5	22.41	0.066	63
			50	24	Left Side	21350	0.052	-2.05	22.6	22.58	0.052	/
			1	99	Bottom Side	21350	0.090	-0.12	22.5	22.41	0.092	64
			50	24	Bottom Side	21350	0.076	-0.97	22.6	22.58	0.076	/
LTE Band 17	10M	QPSK	1	13	Front	23790	0.100	0.07	23	22.76	<b>0.106</b>	<b>69</b>
			25	6	Front	23800	0.084	-2.79	22	21.92	0.086	/
			1	13	Back	23790	0.098	-0.28	23	22.76	0.104	70
			25	6	Back	23800	0.081	3.37	22	21.92	0.083	/
			1	13	Left Side	23790	0.042	-0.16	23	22.76	0.044	71
			25	6	Left Side	23800	0.030	-2.46	22	21.92	0.031	/
			1	13	Bottom Side	23790	0.035	-0.04	23	22.76	0.037	72
			25	6	Bottom Side	23800	0.029	1.19	22	21.92	0.030	/

**Simultaneous Multi-band Transmission Evaluation:**

Application Simultaneous Transmission information:

Position	Simultaneous state
Head	1. GSM + WIFI
	2. GSM + Bluetooth
	3. WCDMA + WIFI
	4. WCDMA + Bluetooth
	5. LTE + WIFI
	6. LTE + Bluetooth
Body	1. GSM + WIFI
	2. GSM + Bluetooth
	3. WCDMA + WIFI
	4. WCDMA + Bluetooth
	5. LTE + WIFI
	6. LTE + Bluetooth

NOTE:

1. Bluetooth and WIFI can't simultaneous transmission at the same time.
2. For simultaneous transmission at head and body exposure position, 2 transmitters simultaneous transmission was the worst state.
3. Based upon KDB 447498 D01 v05, BT SAR is excluded as below table.
4. If the test separation distance is <5mm, 5mm is used for excluded SAR calculation.
5. For minimum test separation distance  $\leq 50\text{mm}$ , Bluetooth standalone SAR is excluded according to  $[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f} (\text{GHz}) / x] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR
6. The reported SAR summation is calculated based on the same configuration and test position.
7. KDB 447498 / 4.3.2 (2) when standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:
  - a)  $(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm}) \cdot [\sqrt{f} (\text{GHz}) / x] \text{ W/kg}$  for test separation distances  $\leq 50 \text{ mm}$ ; Where  $x = 7.5$  for 1-g SAR, and  $x = 18.75$  for 10-g SAR.
  - b)  $0.4\text{W/Kg}$  for 1-g SAR and  $1.0\text{W/Kg}$  for 10-g SAR, when the separation distance is  $>50\text{mm}$ .

Estimated SAR		Maximum Average Power		Antenna to user(mm)	Frequency(GHz)	Stand alone SAR(1g) [W/kg]
		dBm	mW			
BT	Head	8	6.31	5	2.480	0.265
	Body			10	2.480	0.132



Simultaneous Mode	Position	Mode	Max. 1-g SAR (W/kg)	1-g Sum SAR (W/kg)
GSM + WIFI	Head	GSM Voice	0.023	0.177
		WIFI	0.154	
	Body	GSM Voice	0.274	0.459
		WIFI	0.185	
GSM + Bluetooth	Head	GSM Voice	0.023	0.288
		Bluetooth	0.265	
	Body	GSM Voice	0.274	0.406
		Bluetooth	0.132	
WCDMA + WIFI	Head	WCDMA RMC	0.091	0.245
		WIFI	0.154	
	Body	WCDMA RMC	0.372	<b>0.557</b>
		WIFI	0.185	
WCDMA + Bluetooth	Head	WCDMA RMC	0.091	0.356
		Bluetooth	0.265	
	Body	WCDMA RMC	0.372	0.504
		Bluetooth	0.132	
LTE + WIFI	Head	LTE RMC	0.126	0.280
		WIFI	0.154	
	Body	LTE RMC	0.306	0.491
		WIFI	0.185	
LTE + Bluetooth	Head	LTE RMC	0.126	<b>0.391</b>
		Bluetooth	0.265	
	Body	LTE RMC	0.306	0.438
		Bluetooth	0.132	

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna.

When the sum of SAR 1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR-1g 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR 1g is greater than the SAR limit (SAR-1g 1.6 W/kg), SAR test exclusion is determined by the SPLSR.



### 13. Equipment List

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
750MHz Dipole	SATIMO	SID750	SN 30/14 DIP0G750-331	2014.09.01	2017.08.31
835MHz Dipole	SATIMO	SID835	SN 30/14 DIP0G835-332	2014.09.01	2017.08.31
1800MHz Dipole	SATIMO	SID1800	SN 30/14 DIP1G800-329	2014.09.01	2017.08.31
1900MHz Dipole	SATIMO	SID1900	SN 30/14 DIP1G900-333	2014.09.01	2017.08.31
2450MHz Dipole	SATIMO	SID2450	SN 30/14 DIP2G450-335	2014.09.01	2017.08.31
2600MHz Dipole	SATIMO	SID2600	SN 30/14 DIP2G600-336	2014.09.01	2017.08.31
E-Field Probe	SATIMO	SSE5	SN 17/14 EP221	2015.09.01	2016.08.31
Antenna	SATIMO	ANTA3	SN 07/13 ZNTA52	2014.09.01	2017.08.31
Waveguide	SATIMO	SWG5500	SN 13/14 WGA32	2014.09.01	2017.08.31
Phantom1	SATIMO	SAM	SN 32/14 SAM115	N/A	N/A
Phantom2	SATIMO	SAM	SN 32/14 SAM116	N/A	N/A
SAR TEST BENCH	SATIMO	GSM and WCDMA mobile phone POSITIONING SYSTEM	SN 32/14 MSH97	N/A	N/A
SAR TEST BENCH	SATIMO	LAPTOP POSITIONING SYSTEM	SN 32/14 LSH29	N/A	N/A
Dielectric Probe Kit	SATIMO	SCLMP	SN 32/14 OCPG52	2015.09.01	2016.08.31
Multi Meter	Keithley	Multi Meter 2000	4050073	2015.11.20	2016.11.19
Signal Generator	Agilent	N5182A	MY50140530	2015.11.18	2016.11.17
Power Meter	R&S	NRP	100510	2015.10.25	2016.10.24
Power Sensor	R&S	NRP-Z11	101919	2015.10.24	2016.10.23
Power Sensor	Anritsu	MA2411B	1027253	2015.10.10	2016.10.09
Power Sensor	R&S	NRP-Z21	103971	2015.12.12	2016.12.11
Network Analyzer	Agilent	5071C	EMY46103472	2015.12.12	2016.12.11
Attenuator 1	PE	PE7005-10	N/A	2015.10.25	2016.10.24
Attenuator 2	PE	PE7005-3	N/A	2015.10.24	2016.10.23
Attenuator 3	Woken	WK0602-XX	N/A	2015.12.12	2016.12.11
Dual Directional Coupler	Agilent	778D	50422	2015.11.18	2016.11.17



## Appendix A. System Validation Plots

### System Performance Check Data (750MHz Head)

Type: Phone measurement (Complete)

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

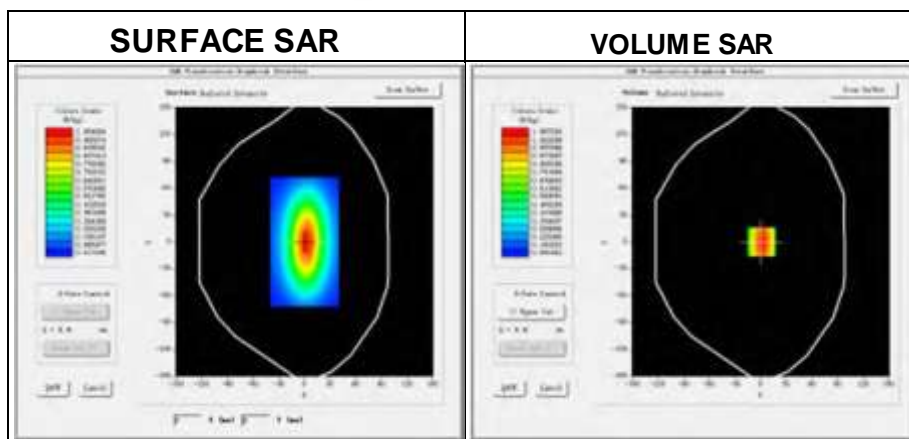
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2015-12-18

Measurement duration: 13 minutes 25 seconds

### Experimental conditions

Phantom	Validation plane
Device Position	-
Band	750MHz
Channels	-
Signal	CW
Frequency (MHz)	750MHz
Relative permittivity (real part)	41.2
Relative permittivity	20.8
Conductivity (S/m)	0.91
Power drift (%)	2.35
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	4.53
Crest factor:	1:1





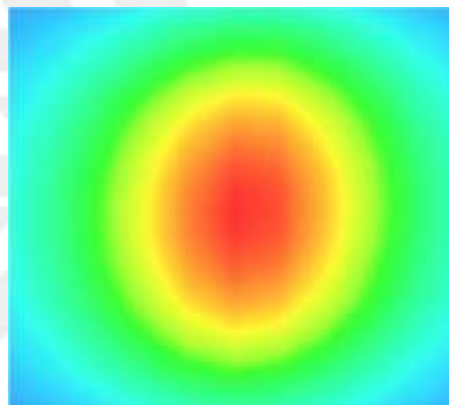
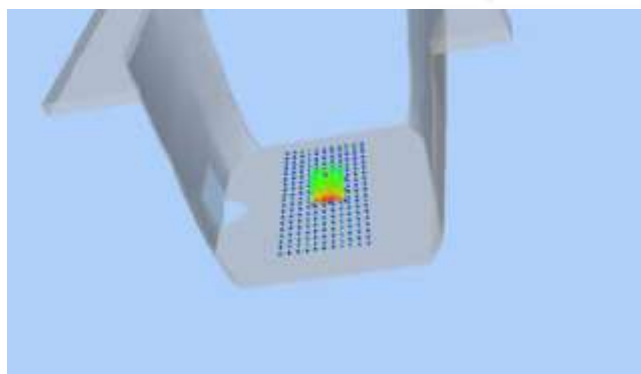
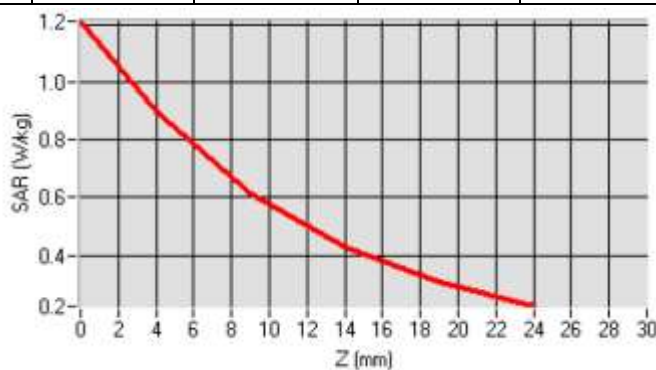
Maximum location: X=1.00, Y=0.00

SAR Peak: 1.30 W/kg

SAR 10g (W/Kg)	0.544560
SAR 1g (W/Kg)	0.838123

### Z Axis Scan

Z (mm)	0	4	9	14	19	24	29
SAR(W/Kg)	1.30322	0.86595	0.56114	0.49582	0.31352	0.24266	0.10359





**System Performance Check Data (835MHz Body)**

Type: Phone measurement (Complete)

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

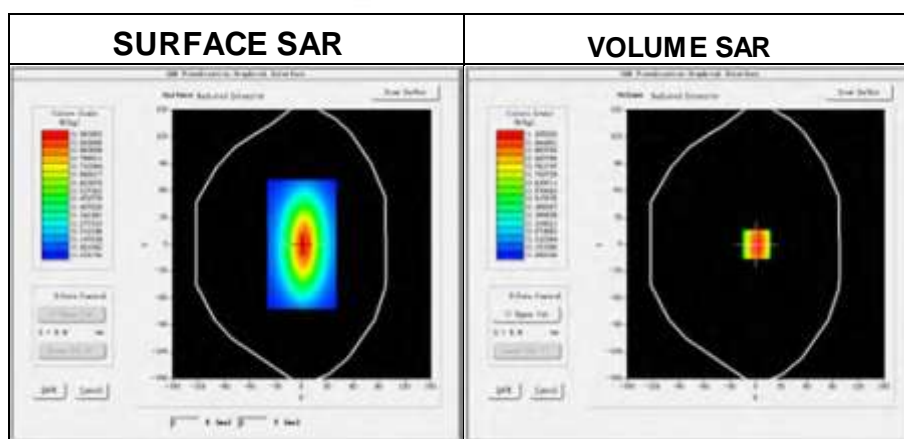
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2015-12-18

Measurement duration: 14 minutes 12 seconds

**Experimental conditions.**

Probe	
Phantom	Validation plane
Device Position	-
Band	750MHz
Channels	-
Signal	CW
Frequency (MHz)	750MHz
Relative permittivity (real part)	55.26
Relative permittivity	23.251187
Conductivity (S/m)	0.91
Power drift (%)	1.020000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	4.70
Crest factor:	1:1





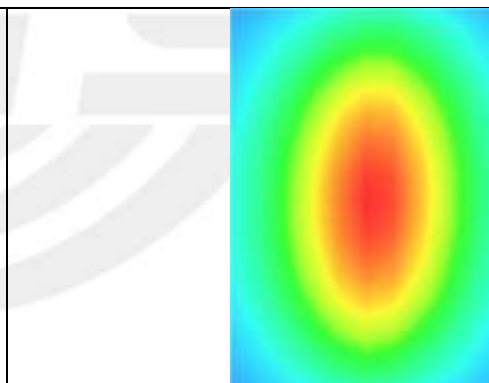
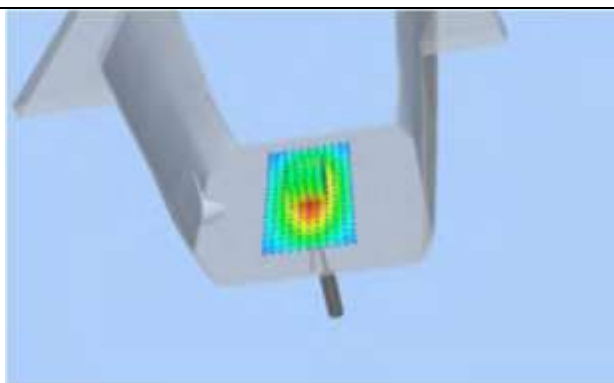
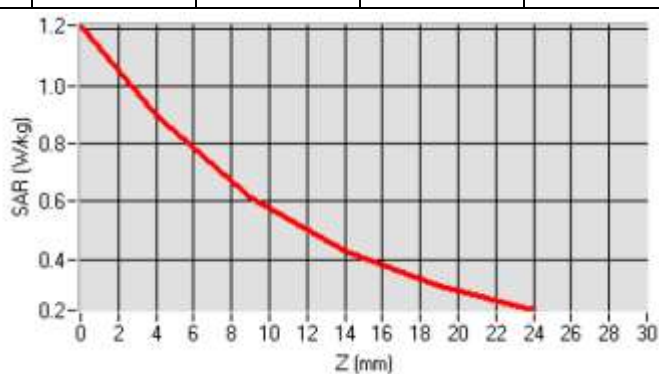
Maximum location: X=1.00, Y=0.00

SAR Peak: 1.30 W/kg

SAR 10g (W/Kg)	0.576142
SAR 1g (W/Kg)	0.856325

### Z Axis Scan

Z (mm)	0	4	9	14	19	24	29
SAR(W/Kg)	1.30254	0.85658	0.56325	0.49362	0.31412	0.24366	0.10355



**System Performance Check Data (835MHz Head)**

Type: Phone measurement (Complete)

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

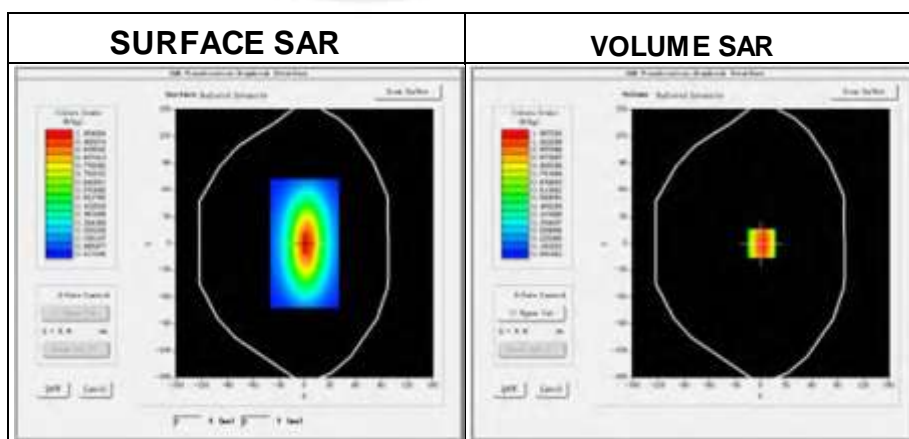
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2015-12-18

Measurement duration: 13 minutes 27 seconds

**Experimental conditions**

Phantom	Validation plane
Device Position	-
Band	835MHz
Channels	-
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity (real part)	41.00
Relative permittivity	18.72
Conductivity (S/m)	0.86
Power drift (%)	0.45
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	4.83
Crest factor:	1:1





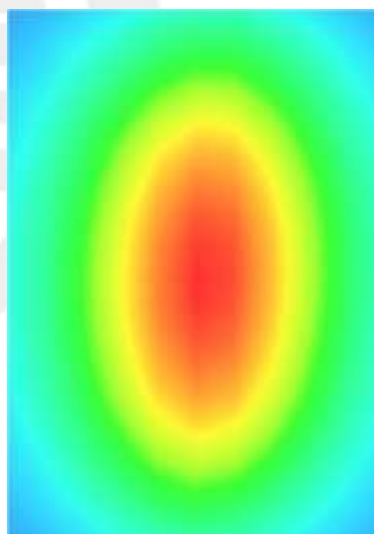
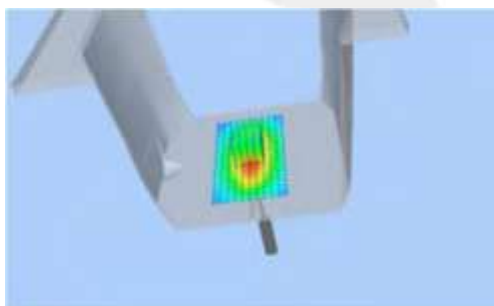
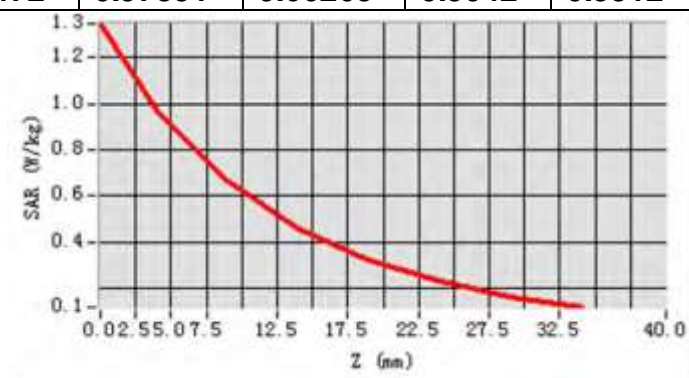
Maximum location: X=1.00, Y=0.00

SAR Peak: 1.39 W/kg

SAR 10g (W/Kg)	0.625623
SAR 1g (W/Kg)	0.937481

**Z Axis Scan**

Z (mm)	0	4	9	14	19	24	29
SAR(W/Kg)	1.3472	0.97891	0.66265	0.5042	0.3512	0.2505	0.11794



**System Performance Check Data (835MHz Body)**

Type: Phone measurement (Complete)

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

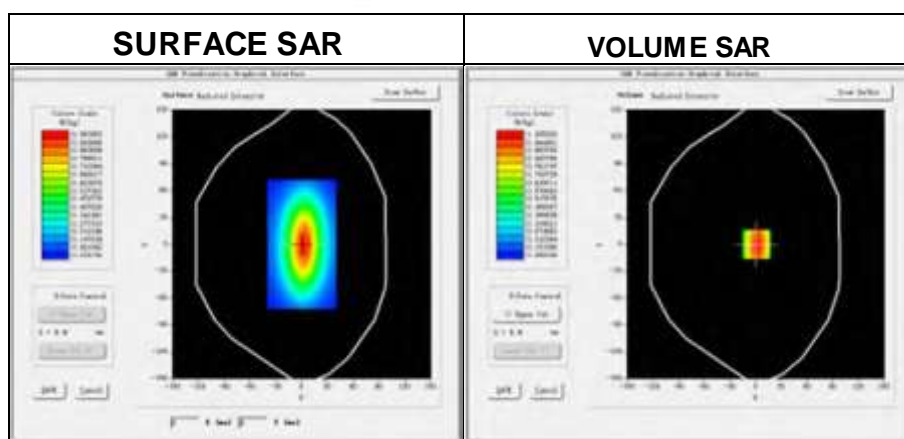
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2015-12-18

Measurement duration: 14 minutes 13 seconds

**Experimental conditions.**

Probe	
Phantom	Validation plane
Device Position	-
Band	835MHz
Channels	-
Signal	CW
Frequency (MHz)	835MHz
Relative permittivity (real part)	54.70
Relative permittivity	21.408187
Conductivity (S/m)	0.98
Power drift (%)	0.090000
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
ConvF:	5.02
Crest factor:	1:1



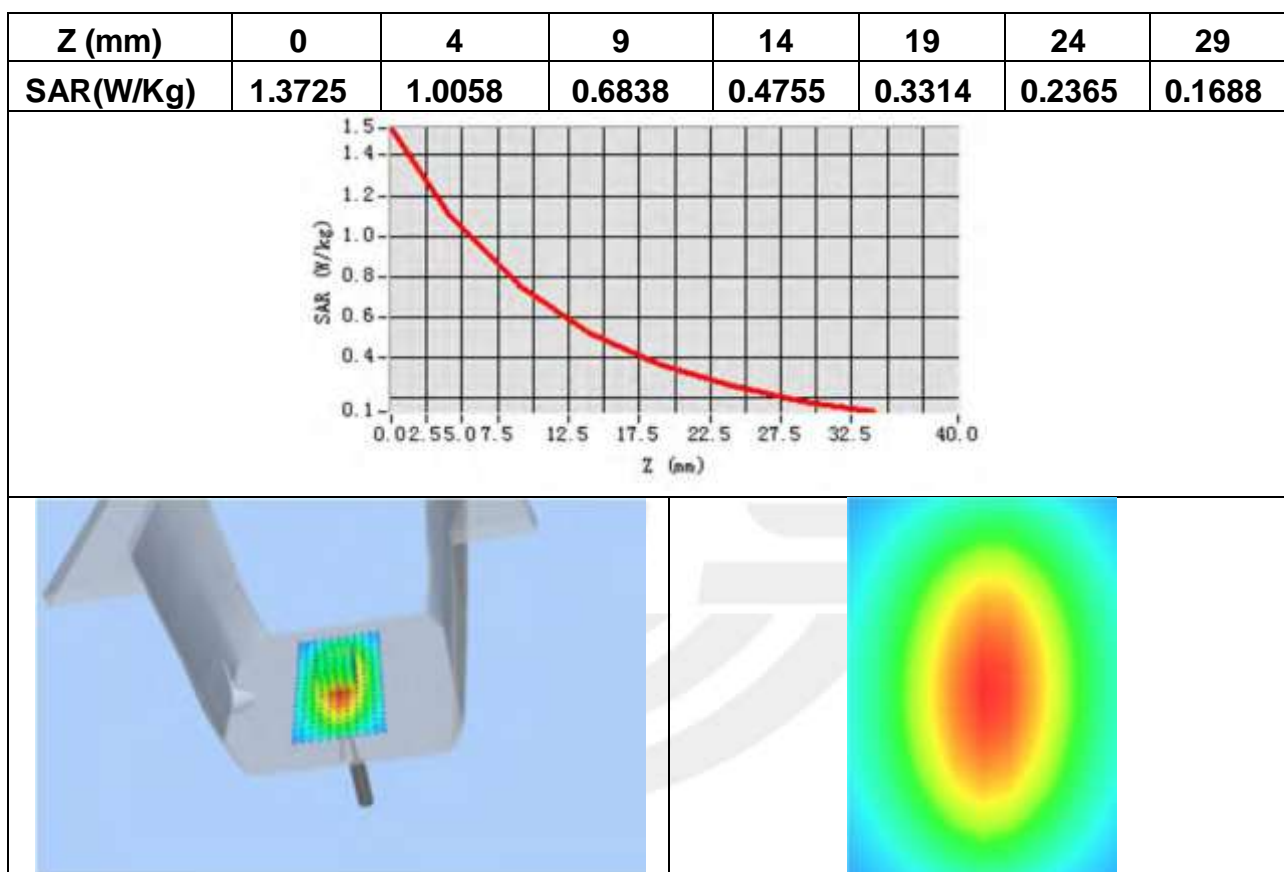


Maximum location: X=1.00, Y=0.00

SAR Peak: 1.50 W/kg

SAR 10g (W/Kg)	0.603221
SAR 1g (W/Kg)	0.946658

### Z Axis Scan





**System Performance Check Data(1800MHz Head)**

Type: Phone measurement (Complete)

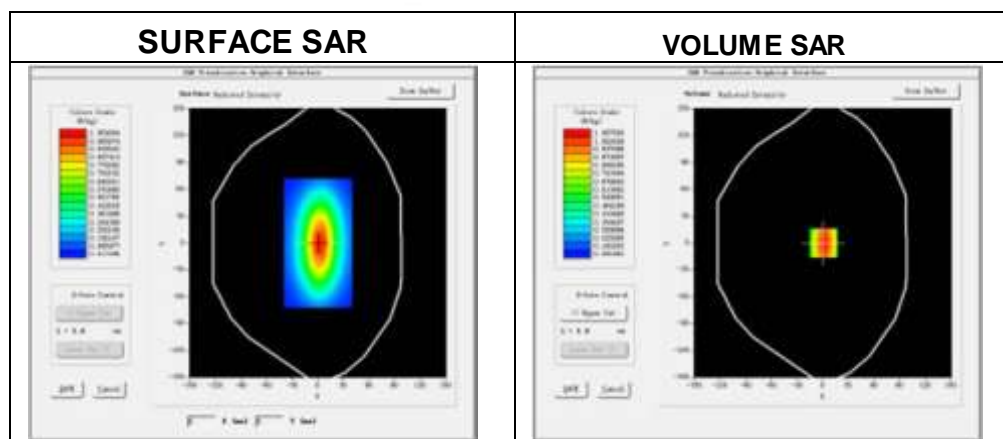
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2015-12-18

**Experimental conditions.**

Phantom	Validation plane
Device Position	-
Band	1800MHz
Channels	-
Signal	CW
Frequency (MHz)	1800MHz
Relative permittivity (real part)	40.20
Relative permittivity	14.096855
Conductivity (S/m)	1.308491
Power drift (%)	-1.390000
Ambient Temperature	22.7°C
Liquid Temperature	22.3°C
Probe	SN 17/14 EP221
ConvF	4.25
Crest factor:	1:1



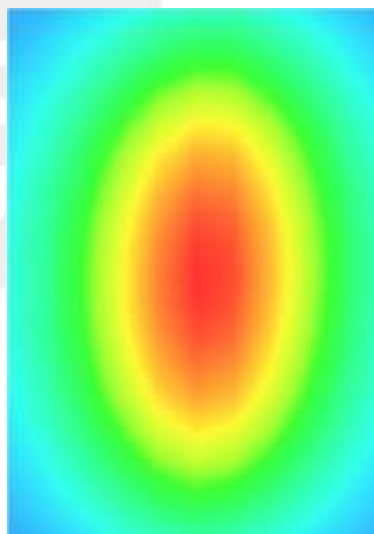
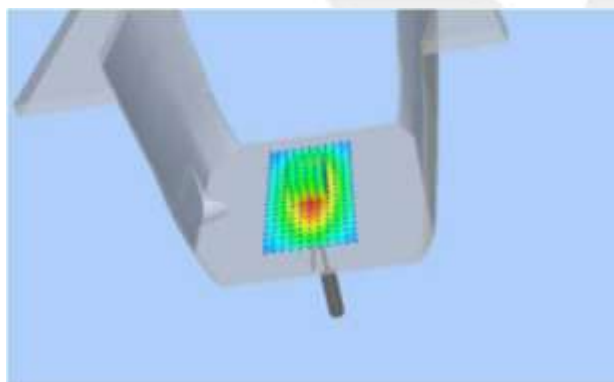
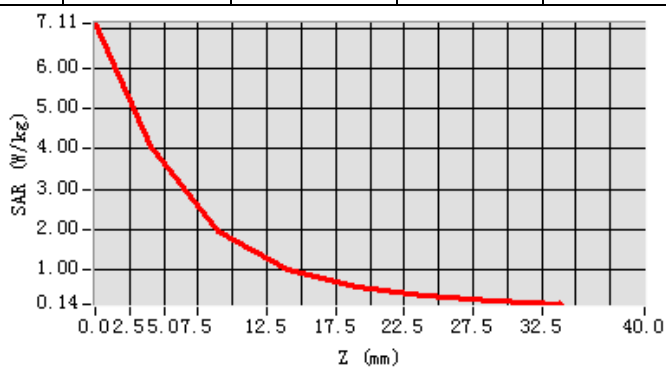


Maximum location: X=7.00, Y=-1.00

SAR 10g (W/Kg)	1.980247
SAR 1g (W/Kg)	3.760154

**Z Axis Scan**

Z (mm)	0	4	9	14	19	24	29
SAR(W/Kg)	7.1146	4.0782	1.9352	1.0130	0.5642	0.3334	0.2079



**System Performance Check Data(1800MHz Body)**

Type: Phone measurement (Complete)

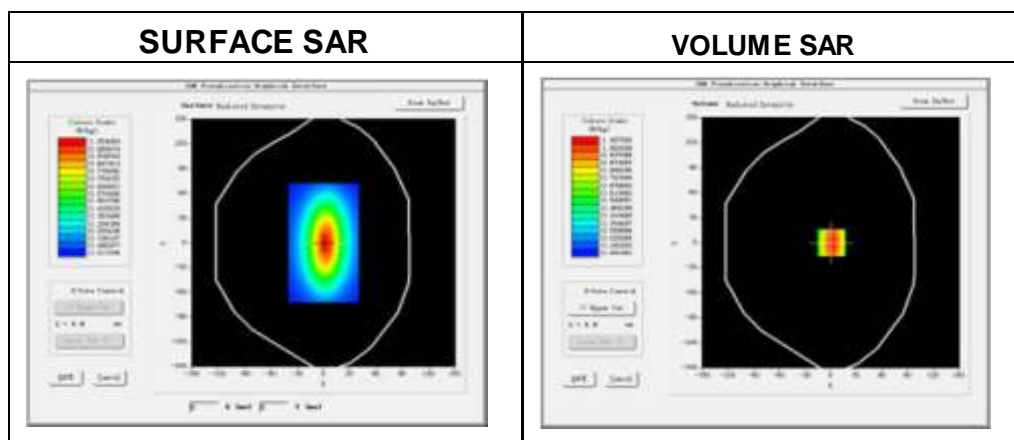
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2015-12-18

**Experimental conditions.**

Phantom	Validation plane
Device Position	-
Band	1800MHz
Channels	-
Signal	CW
Frequency (MHz)	1800MHz
Relative permittivity (real part)	52.6
Relative permittivity	15.08356
Conductivity (S/m)	1.376582
Power drift (%)	2.351
Ambient Temperature	22.7°C
Liquid Temperature	22.3°C
Probe	SN 17/14 EP221
ConvF	4.34
Crest factor:	1:1



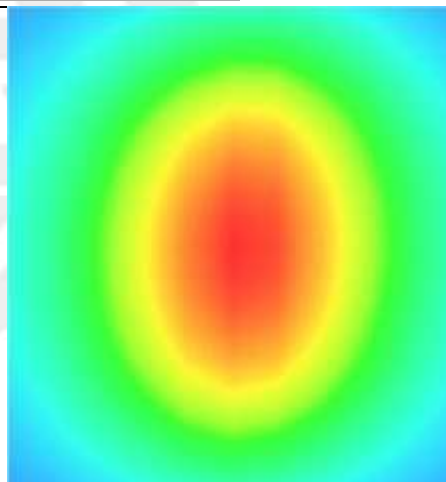
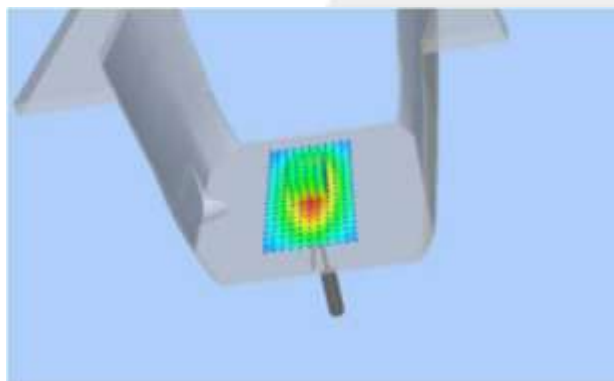
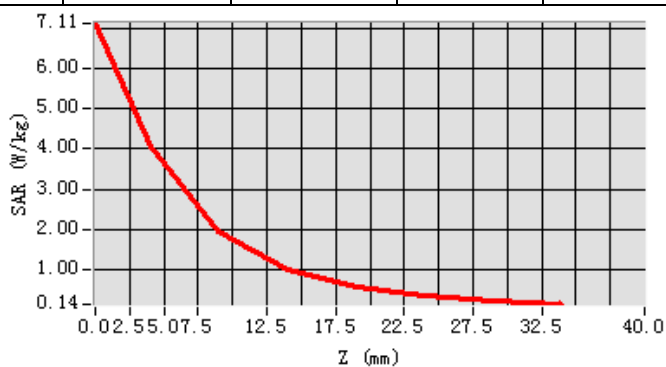


Maximum location: X=6.00, Y=2.00

SAR 10g (W/Kg)	1.99658
SAR 1g (W/Kg)	3.88325

### Z Axis Scan

Z (mm)	0	4	9	14	19	24	29
SAR(W/Kg)	7.2356	4.1258	1.9683	1.1253	0.6535	0.3652	0.2658



**System Performance Check Data (1900MHz Head)**

Type: Phone measurement (Complete)

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

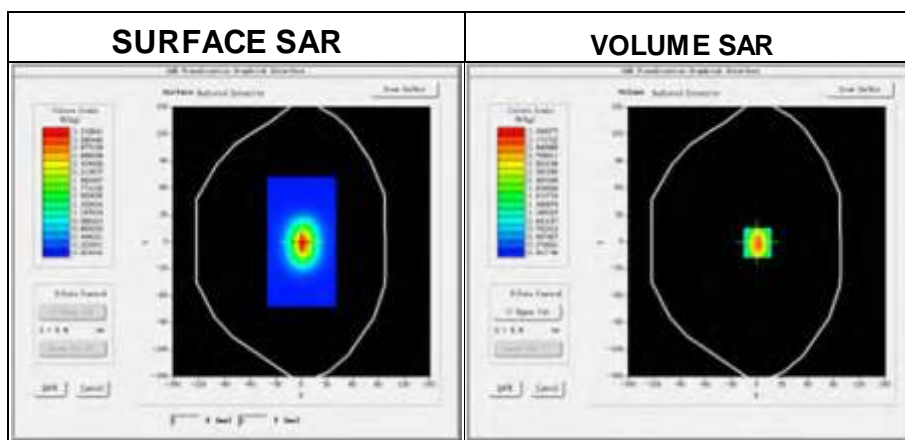
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2015-12-18

Measurement duration: 14 minutes 12 seconds

**Experimental conditions.**

Phantom	Validation plane
Device Position	-
Band	1900MHz
Channels	-
Signal	CW
Frequency (MHz)	1900MHz
Relative permittivity (real part)	39.50
Relative permittivity	13.26
Conductivity (S/m)	1.43
Power drift (%)	0.47
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
Probe	SN 17/14 EP221
ConvF:	4.71
Crest factor:	1:1





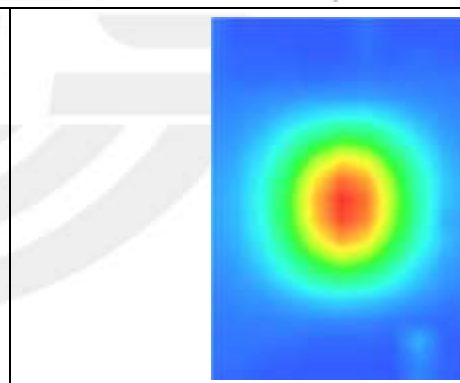
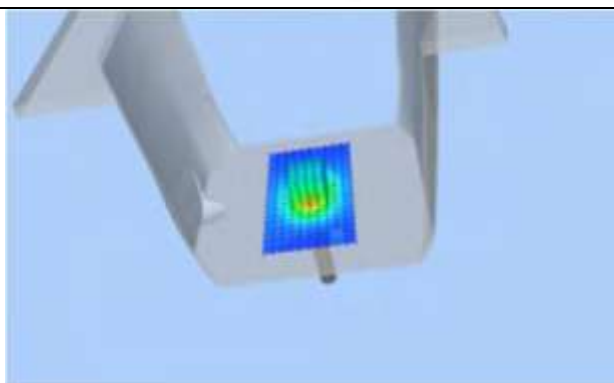
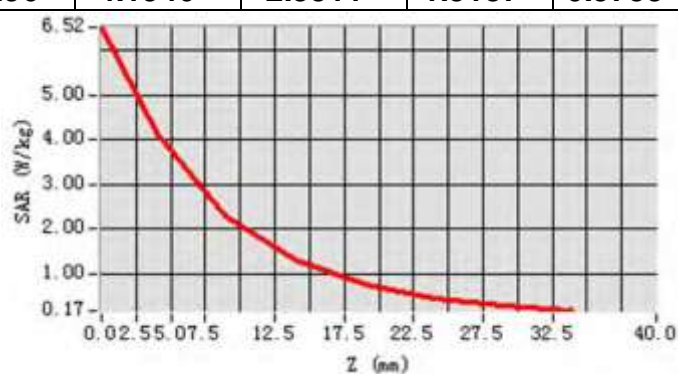
Maximum location: X=1.00, Y=0.00

SAR Peak: 5.41 W/kg

SAR 10g (W/Kg)	1.967525
SAR 1g (W/Kg)	3.856235

### Z Axis Scan

Z (mm)	0	4	9	14	19	24	29
SAR(W/Kg)	6.5296	4.1946	2.3311	1.3187	0.5733	0.3288	0.1617





**System Performance Check Data (1900MHz Body)**

Type: Phone measurement (Complete)

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

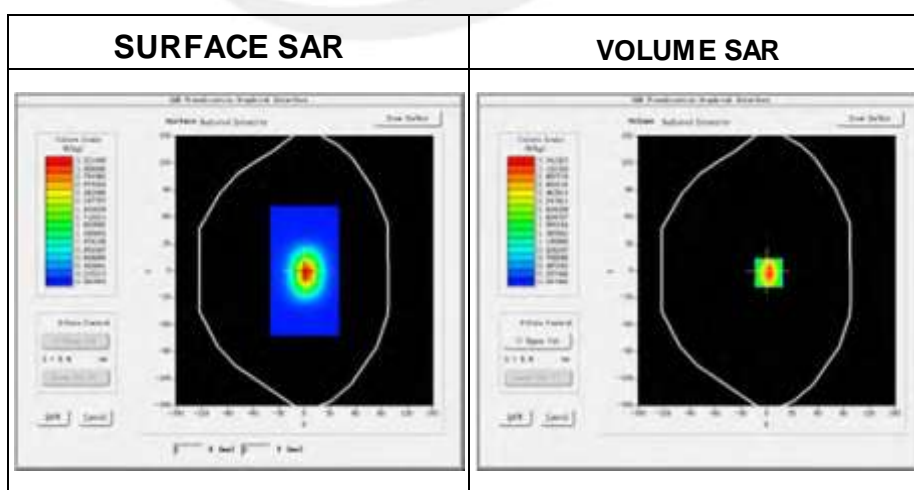
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2015-12-18

Measurement duration: 14 minutes 46 seconds

**Experimental conditions.**

Device Position	-
Band	1900MHz
Channels	-
Signal	CW
Frequency (MHz)	1900
Relative permittivity (real part)	52.31
Relative permittivity	12.87531
Conductivity (S/m)	1.5
Power drift (%)	0.37
Ambient Temperature:	22.7°C
Liquid Temperature:	22.3°C
Probe	SN 17/14 EP221
ConvF:	4.85
Crest factor:	1:1





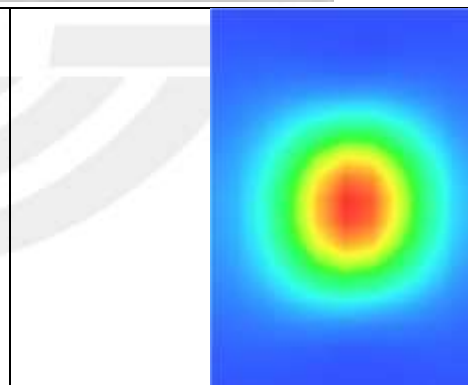
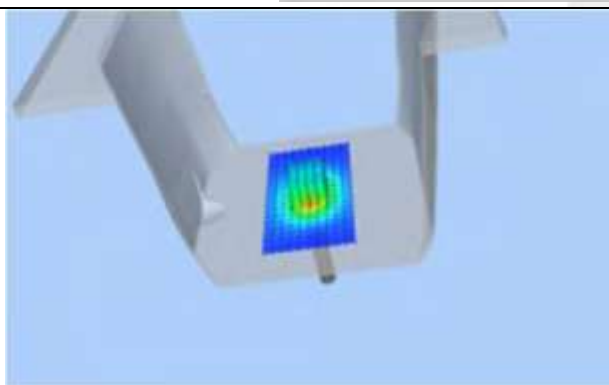
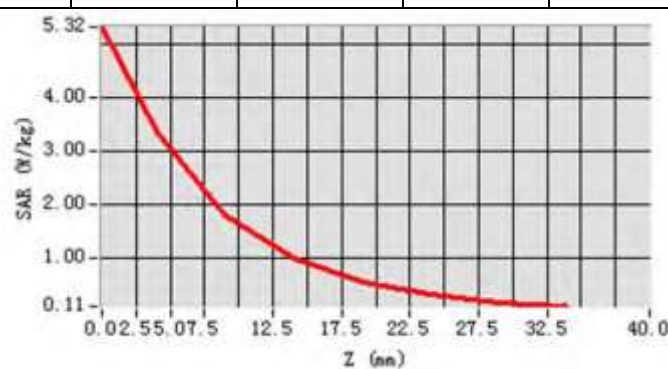
Maximum location: X=2.00, Y=2.00

SAR Peak: 5.27 W/kg

SAR 10g (W/Kg)	2.265354
SAR 1g (W/Kg)	3.986583

## Z Axis Scan

Z (mm)	0	4	9	14	19	24	29
SAR(W/Kg)	5.3196	3.3419	1.8167	1.0186	0.5752	0.3285	0.1898



**System Performance Check Data (2450MHz Head)**

Type: Phone measurement (Complete)

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

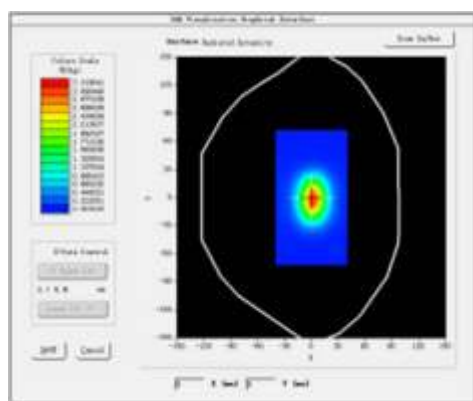
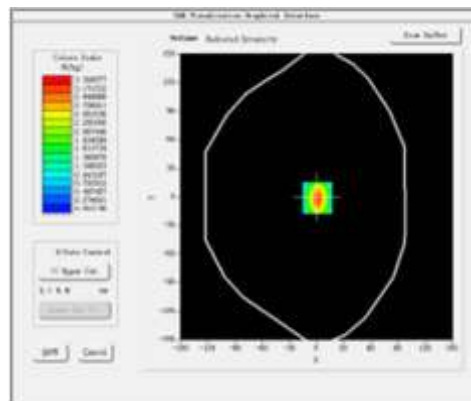
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2015-12-18

Measurement duration: 13 minutes 51seconds

**Experimental conditions.**

Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity (real part)	39.176002
Relative permittivity	12.930000
Conductivity (S/m)	1.88
Power drift (%)	-1.200000
Ambient Temperature	22.7°C
Liquid Temperature	22.3°C
Probe	SN 17/14 EP221
ConvF	4.11
Crest factor:	1:1

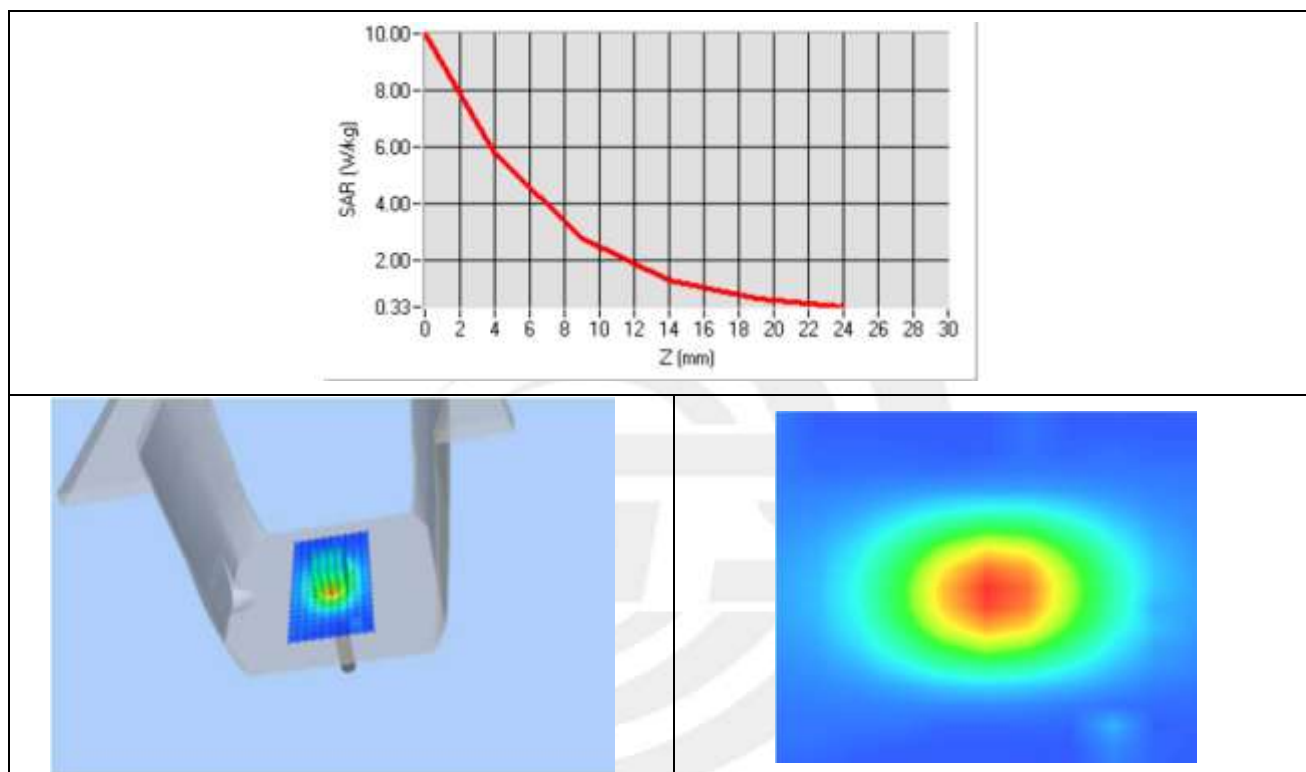
**SURFACE SAR****VOLUME SAR**



Maximum location: X=7.00, Y=6.00

SAR 10g (W/Kg)	2.659359
SAR 1g (W/Kg)	5.593465

## Z Axis Scan



**System Performance Check Data (2450MHz Body)**

Type: Phone measurement (Complete)

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

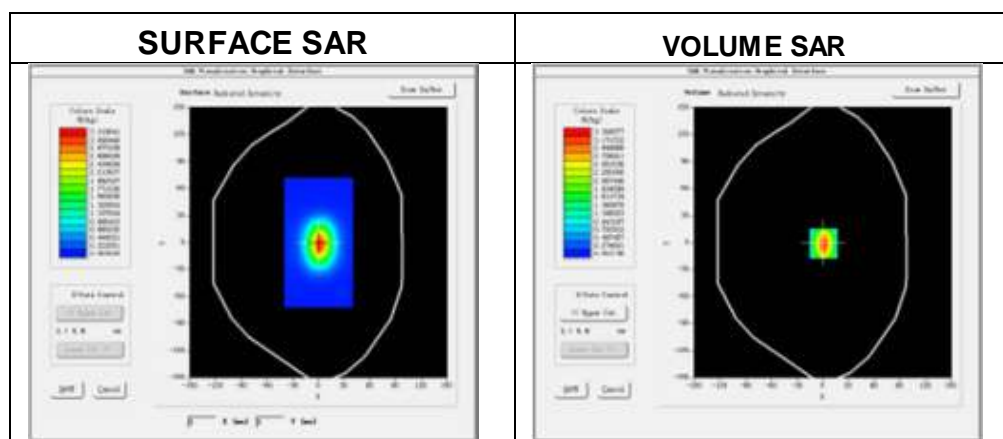
Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm

Date of measurement: 2015-12-18

Measurement duration: 14 minutes 23 seconds

**Experimental conditions.**

Device Position	Validation plane
Band	2450 MHz
Channels	-
Signal	CW
Frequency (MHz)	2450
Relative permittivity (real part)	52.316002
Relative permittivity	12.930000
Conductivity (S/m)	2.12
Power drift (%)	-1.200000
Ambient Temperature	22.7°C
Liquid Temperature	22.3°C
Probe	SN 17/14 EP221
ConvF	4.25
Crest factor:	1:1

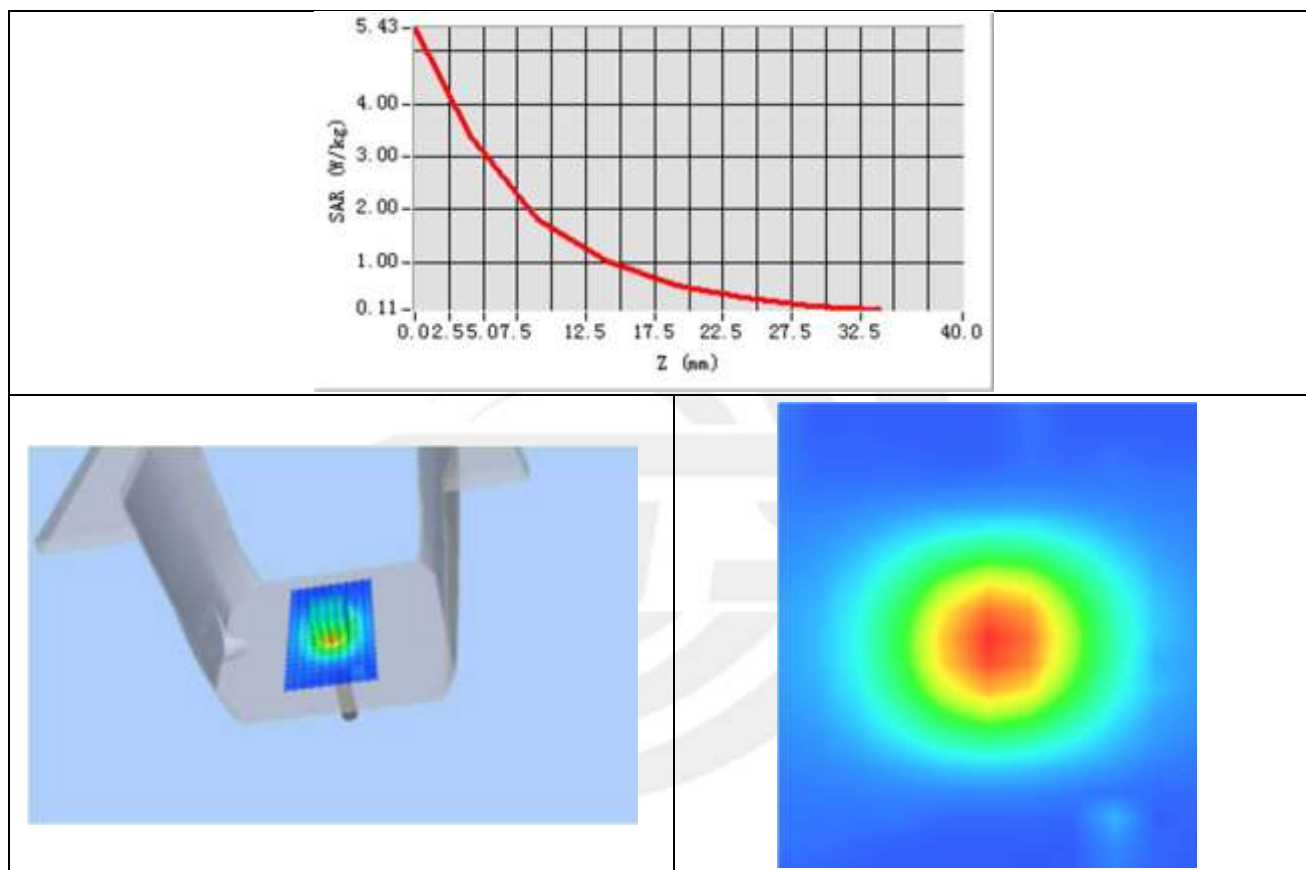




Maximum location: X=3.00, Y=1.00

SAR 10g (W/Kg)	2.156894
SAR 1g (W/Kg)	4.864392

### Z Axis Scan





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

Type: Phone measurement (Complete)

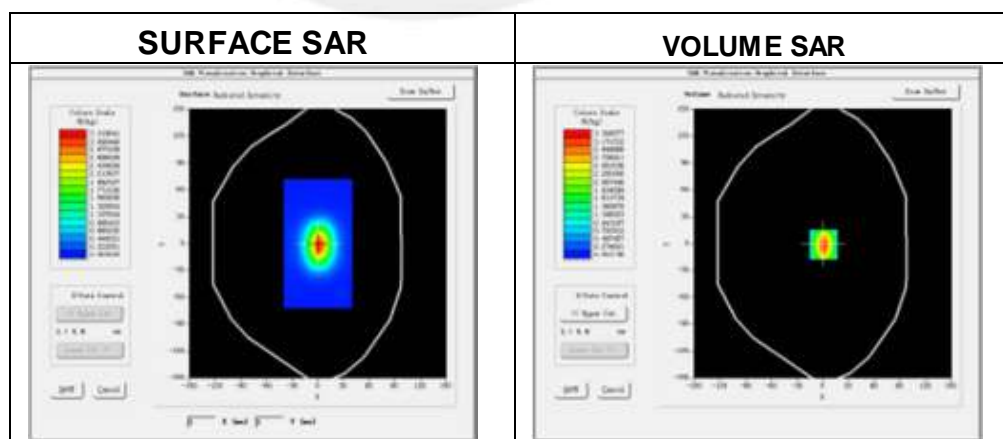
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2015-12-18

**Experimental conditions.**

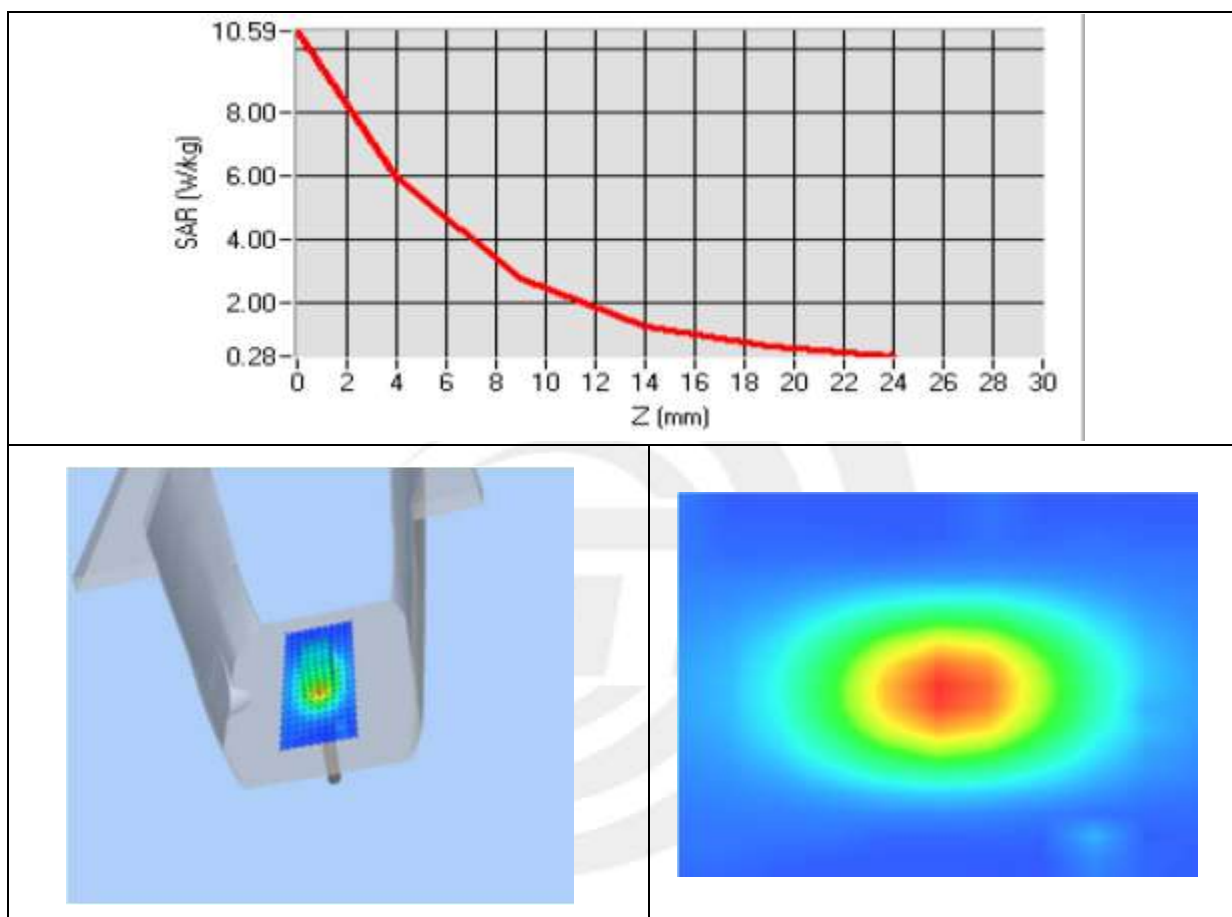
Device Position	Validation plane
Band	2600 MHz
Channels	-
Signal	CW
Frequency (MHz)	2600
Relative permittivity (real part)	38.52544
Relative permittivity	12.862300
Conductivity (S/m)	1.92000
Power drift (%)	-0.2600000
Ambient Temperature	22.7°C
Liquid Temperature	22.3°C
Probe	SN 17/14 EP221
ConvF	4.20
Crest factor:	1:1



Maximum location: X=3.00, Y=1.00

SAR 10g (W/Kg)	2.468341
SAR 1g (W/Kg)	5.452358

## Z Axis Scan



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

Type: Phone measurement (Complete)

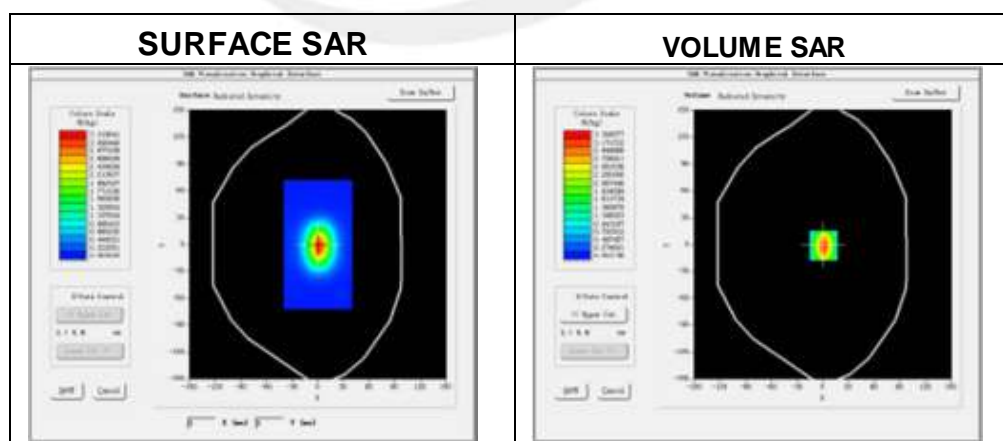
Area scan resolution: dx=8mm,dy=8mm

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

Date of measurement: 2015-12-18

**Experimental conditions.**

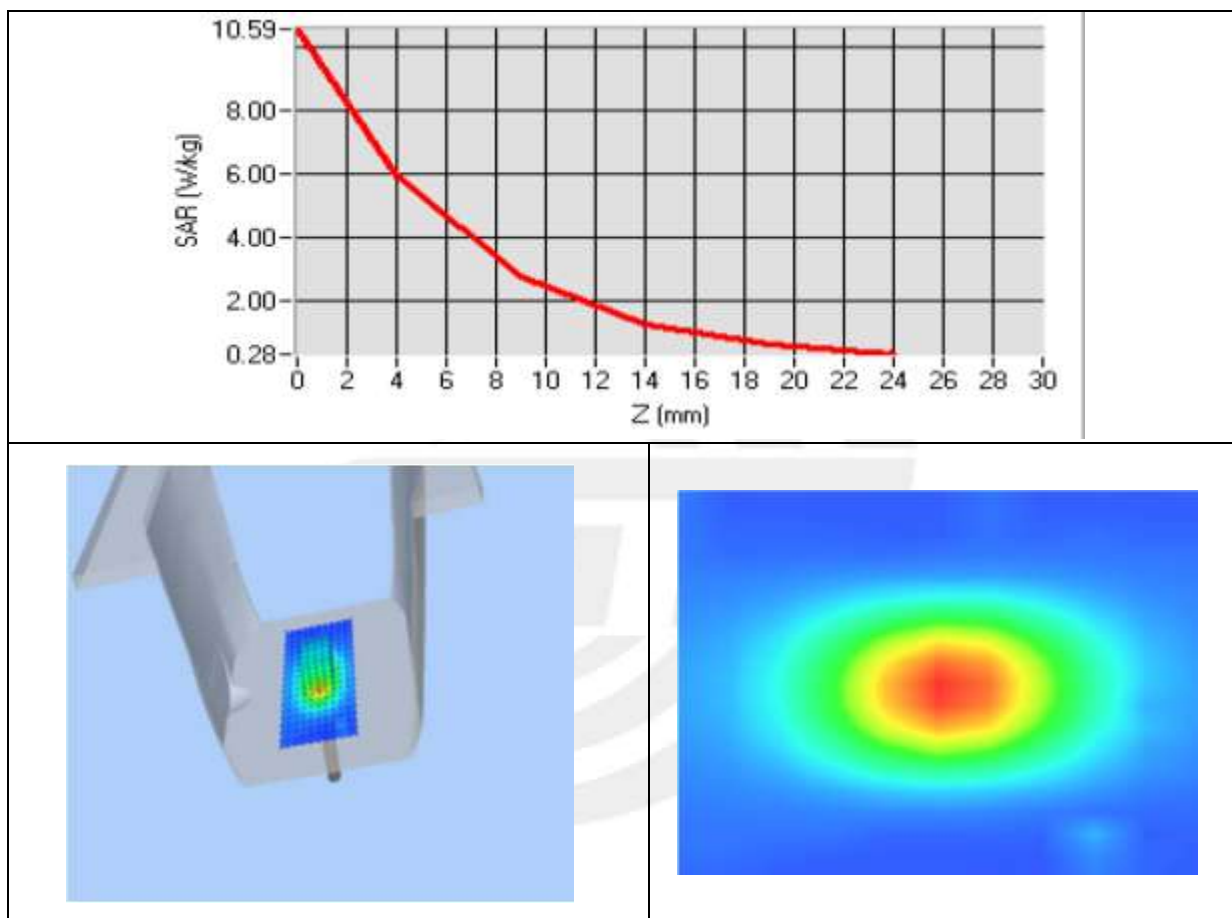
Device Position	Validation plane
Band	2600 MHz
Channels	-
Signal	CW
Frequency (MHz)	2600
Relative permittivity (real part)	52.36814
Relative permittivity	12.62485
Conductivity (S/m)	2.12000
Power drift (%)	2.31
Ambient Temperature	22.7°C
Liquid Temperature	22.3°C
Probe	SN 17/14 EP221
ConvF	4.32
Crest factor:	1:1



Maximum location: X=3.00, Y=1.00

SAR 10g (W/Kg)	2.398862
SAR 1g (W/Kg)	5.413682

## Z Axis Scan





## Appendix B. SAR Test Plots

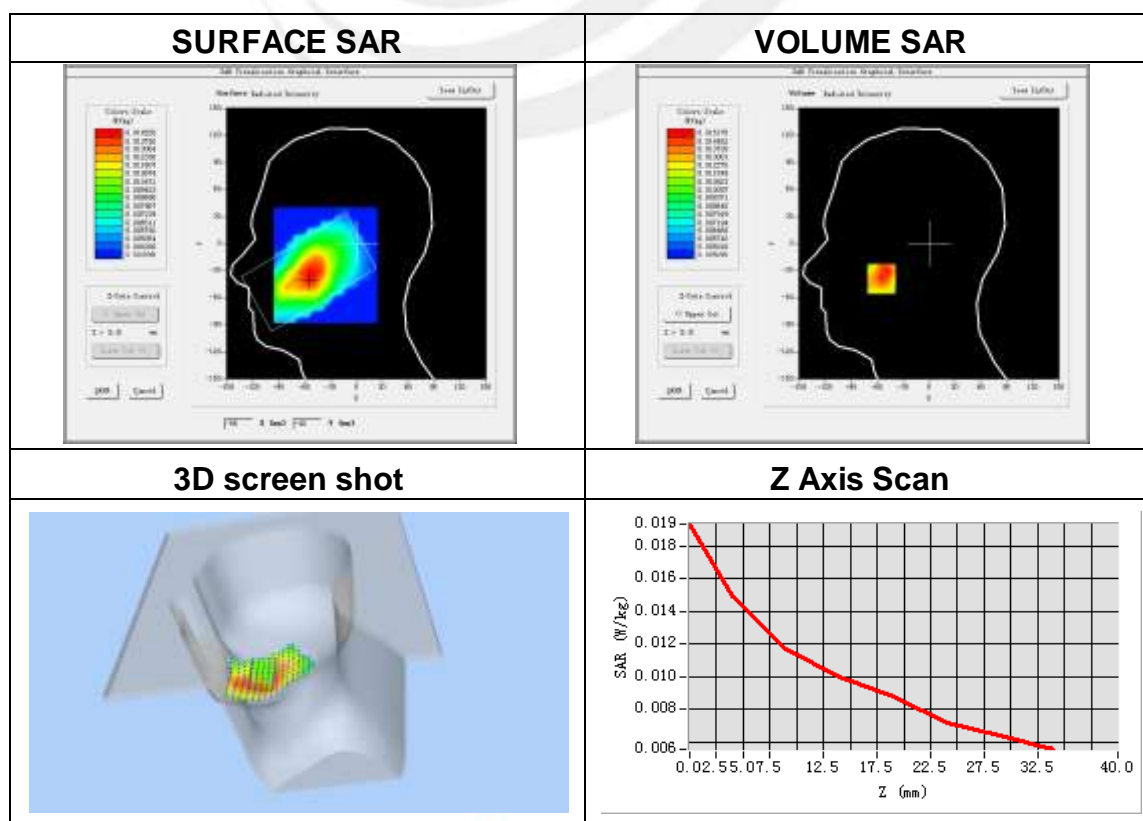
Plot 1: DUT: 4G smart phone; EUT Model: UNO

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	836.6
Relative permittivity (real part)	41.5
Conductivity (S/m)	0.90
Variation (%)	0.74

Maximum location: X=-55.00, Y=-39.00

SAR Peak: 0.02 W/kg

SAR 10g (W/Kg)	0.011269
SAR 1g (W/Kg)	0.014765



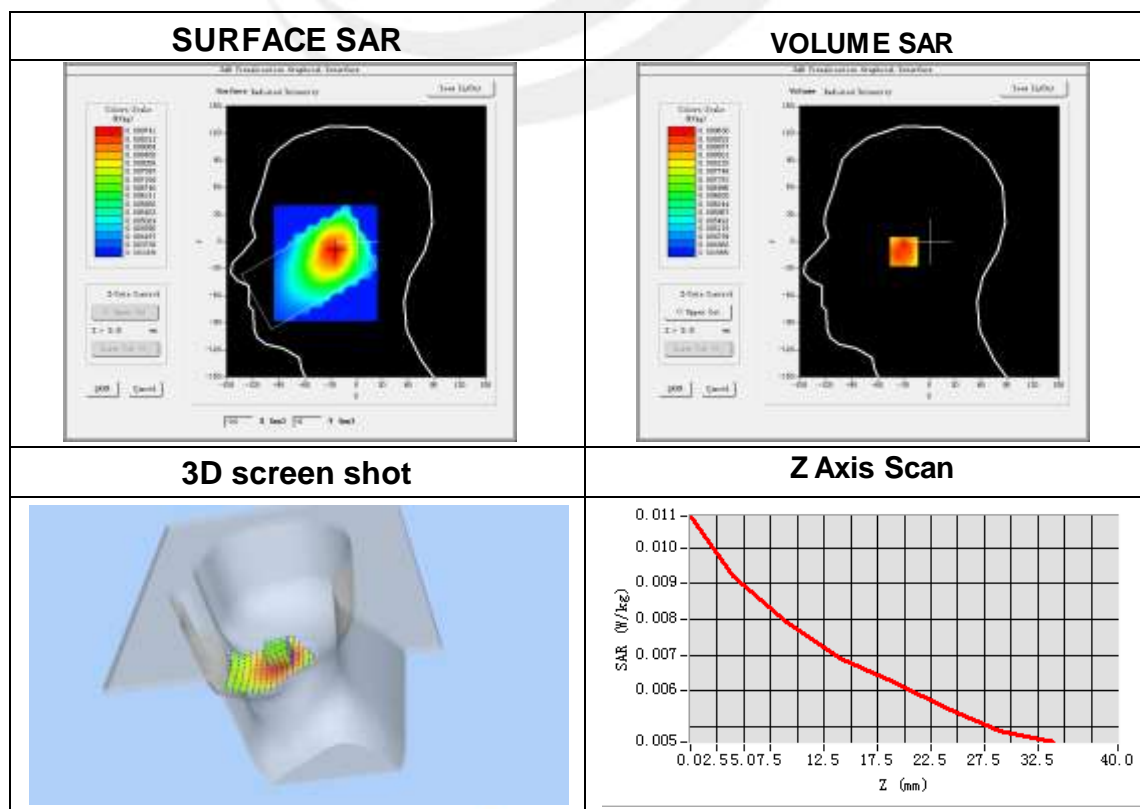
**Plot 2: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
Zoom Scan	5x5x7,dx=8mmdy=8mmdz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Tilt
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	836.6
Relative permittivity (real part)	41.5
Conductivity (S/m)	0.90
Variation (%)	1.12

Maximum location: X=-25.00, Y=-11.00

SAR Peak: 0.01 W/kg

SAR 10g (W/Kg)	0.007626
SAR 1g (W/Kg)	0.009374





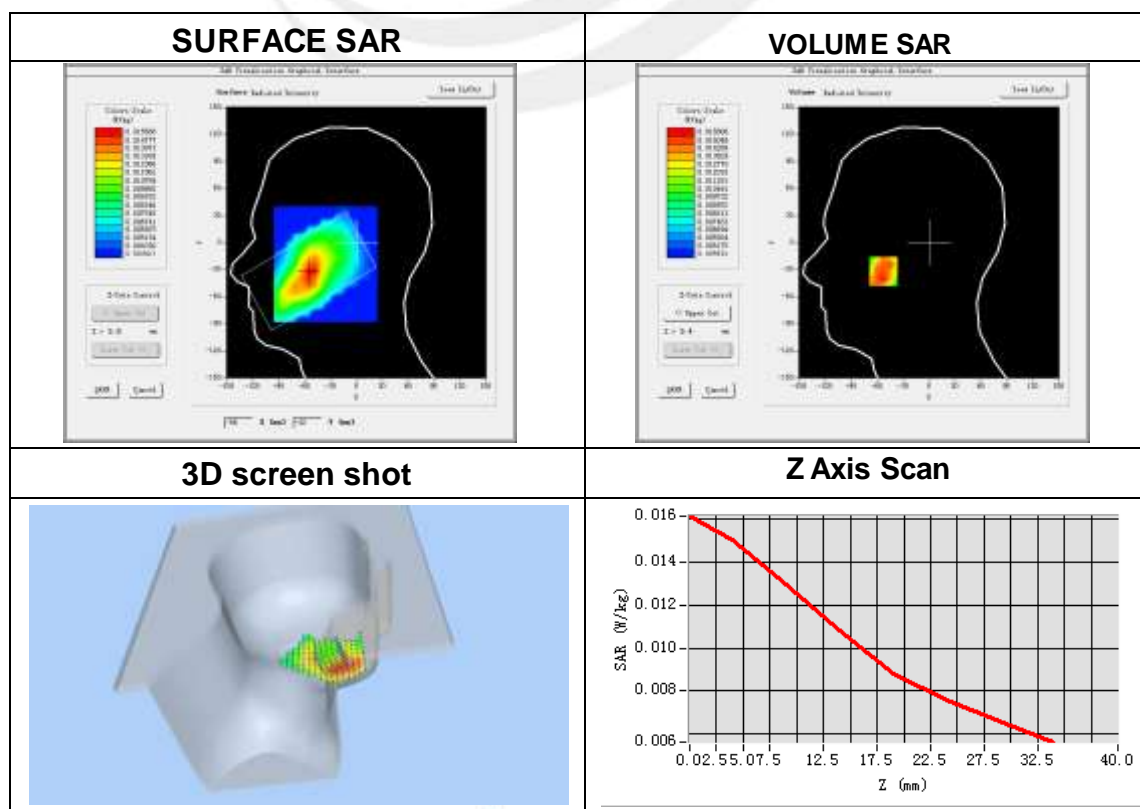
**Plot 3: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	836.6
Relative permittivity (real part)	41.5
Conductivity (S/m)	0.90
Variation (%)	1.38

Maximum location: X=-53.00, Y=-32.00

SAR Peak: 0.02 W/kg

SAR 10g (W/Kg)	0.011677
SAR 1g (W/Kg)	0.015373



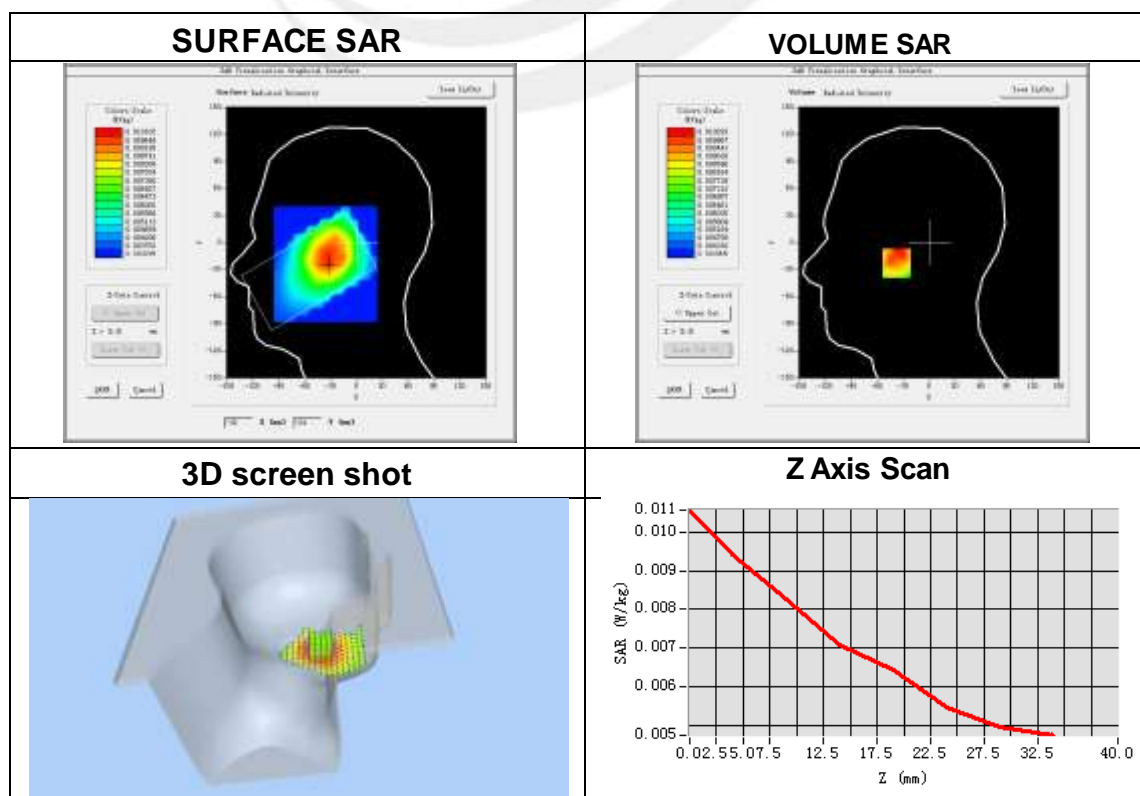
**Plot 4: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Tilt
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor: 8.32)
Frequency (MHz)	836.6
Relative permittivity (real part)	41.5
Conductivity (S/m)	0.90
Variation (%)	-1.07

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

SAR Peak: 0.01 W/kg

SAR 10g (W/Kg)	0.008029
SAR 1g (W/Kg)	0.010125



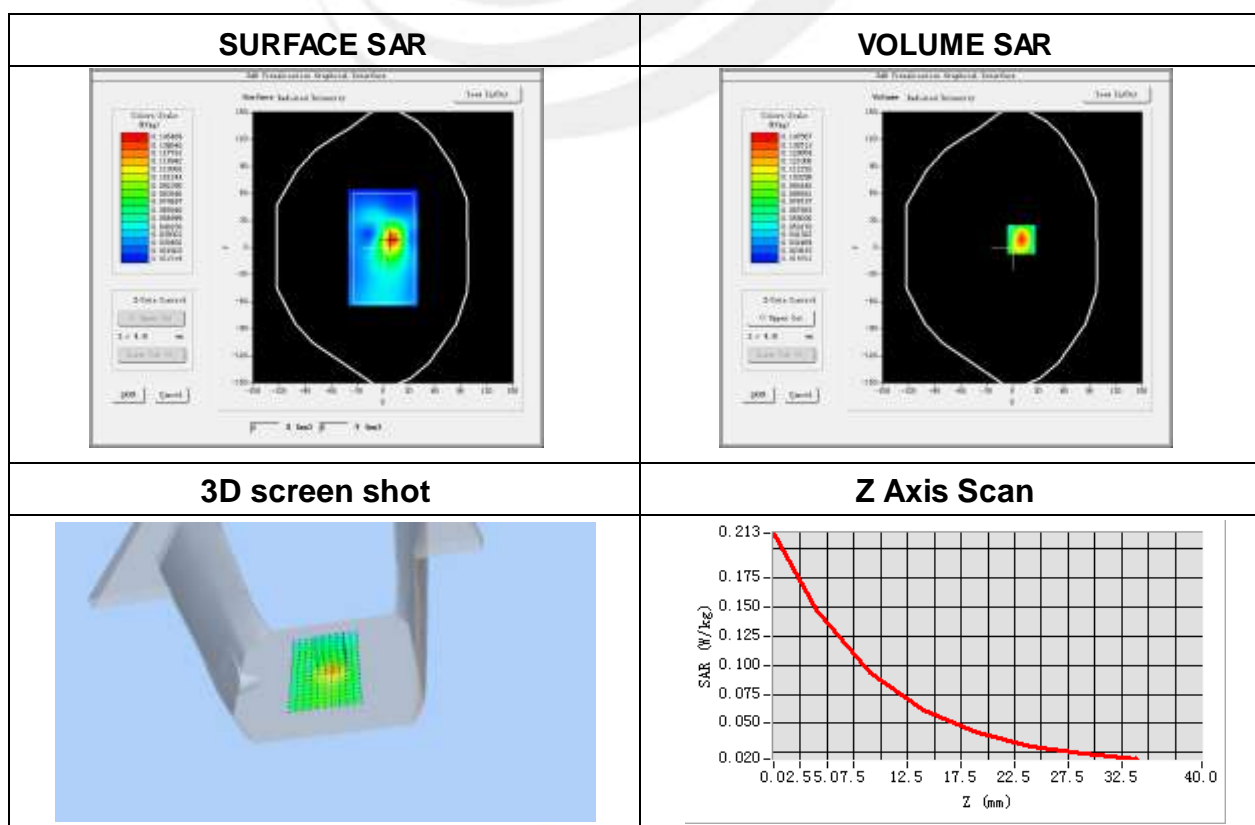
**Plot 5: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body Front
Band	EGPRS 850
Channels	Middle
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	-1.37

Maximum location: X=10.00, Y=9.00

SAR Peak: 0.22 W/kg

SAR 10g (W/Kg)	0.079324
SAR 1g (W/Kg)	0.138426



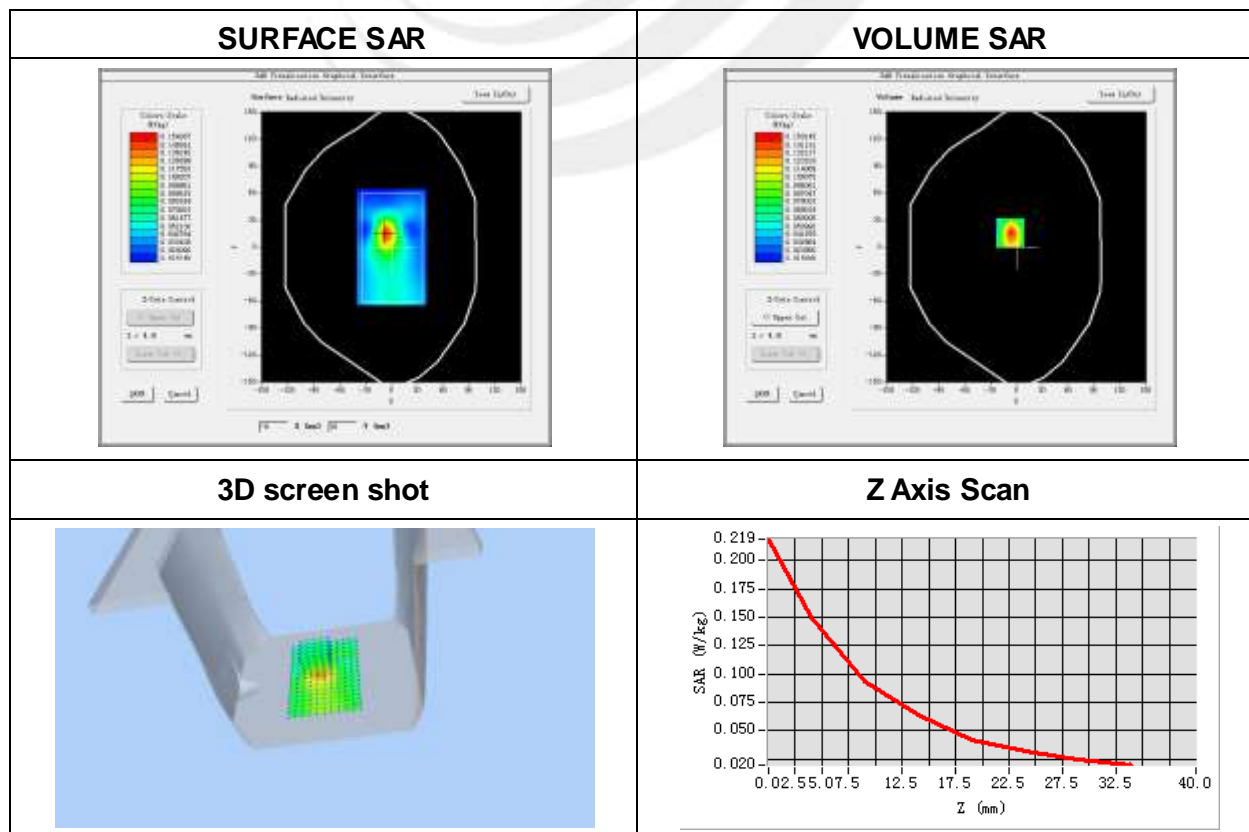
**Plot 6: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body Back
Band	EGPRS 850
Channels	Middle
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	-0.22

Maximum location: X=-7.00, Y=16.00

SAR Peak: 0.22 W/kg

SAR 10g (W/Kg)	0.082909
SAR 1g (W/Kg)	0.141157



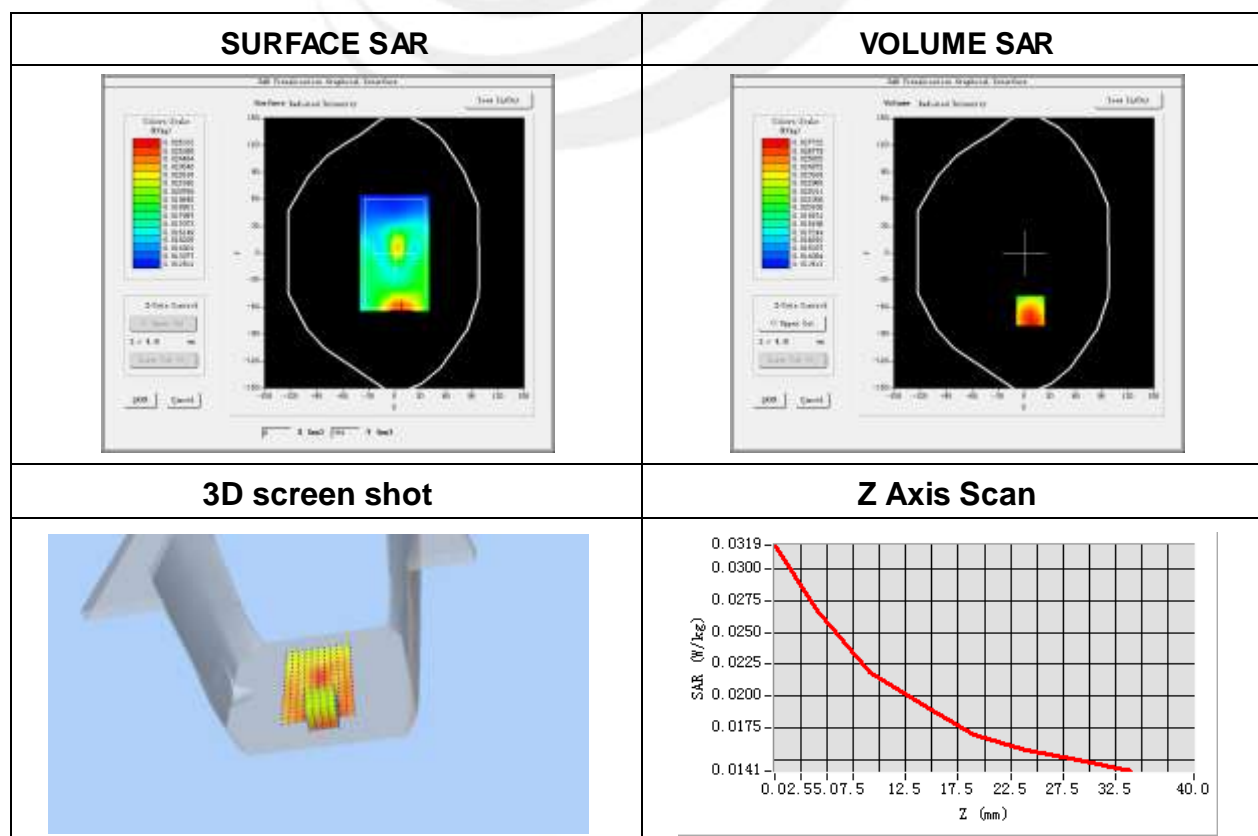
**Plot 7: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body lift side
Band	EGPRS 850
Channels	Middle
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	0.59

Maximum location: X=7.00, Y=-64.00

SAR Peak: 0.03 W/kg

SAR 10g (W/Kg)	0.021989
SAR 1g (W/Kg)	0.026938



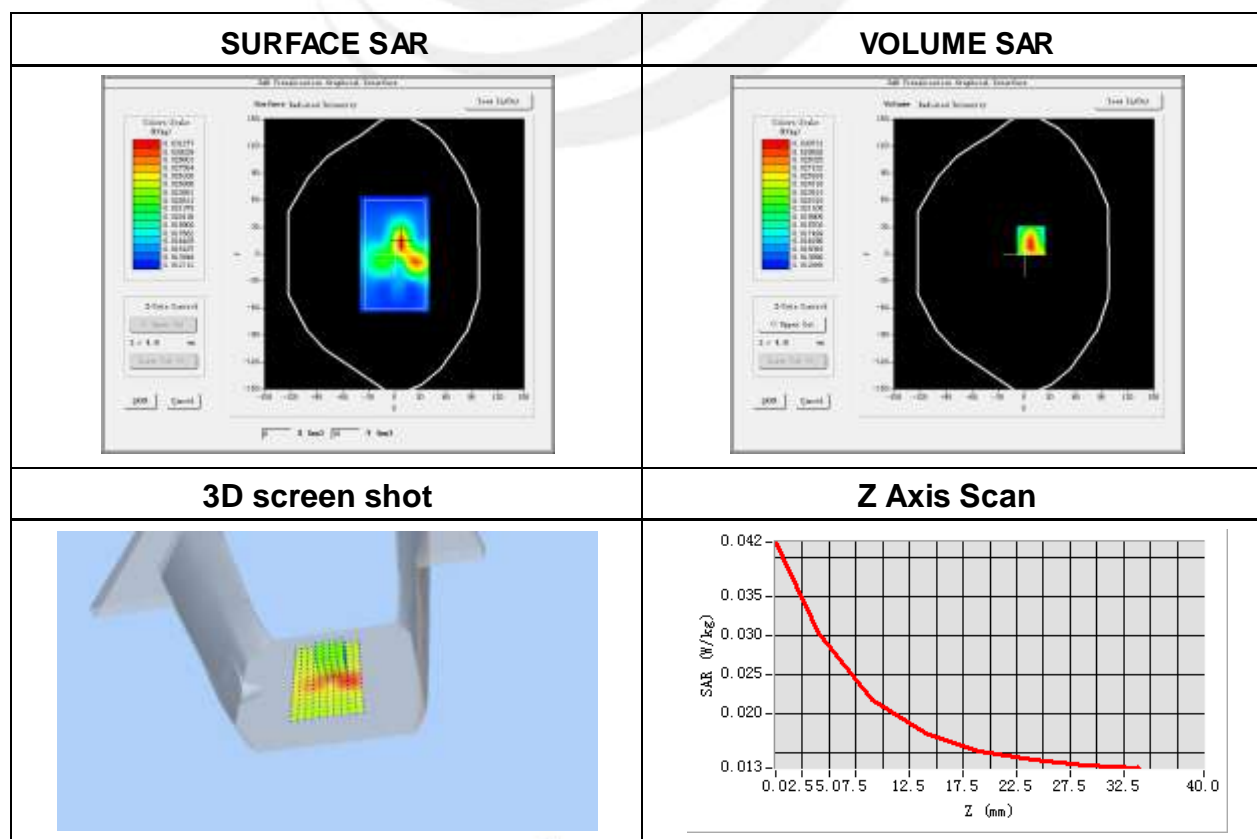
**Plot 8: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body bottom side
Band	EGPRS 850
Channels	Middle
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	836.6
Relative permittivity (real part)	55.20
Conductivity (S/m)	0.97
Variation (%)	0.74

Maximum location: X=8.00, Y=15.00

SAR Peak: 0.05 W/kg

SAR 10g (W/Kg)	0.010889
SAR 1g (W/Kg)	0.029960





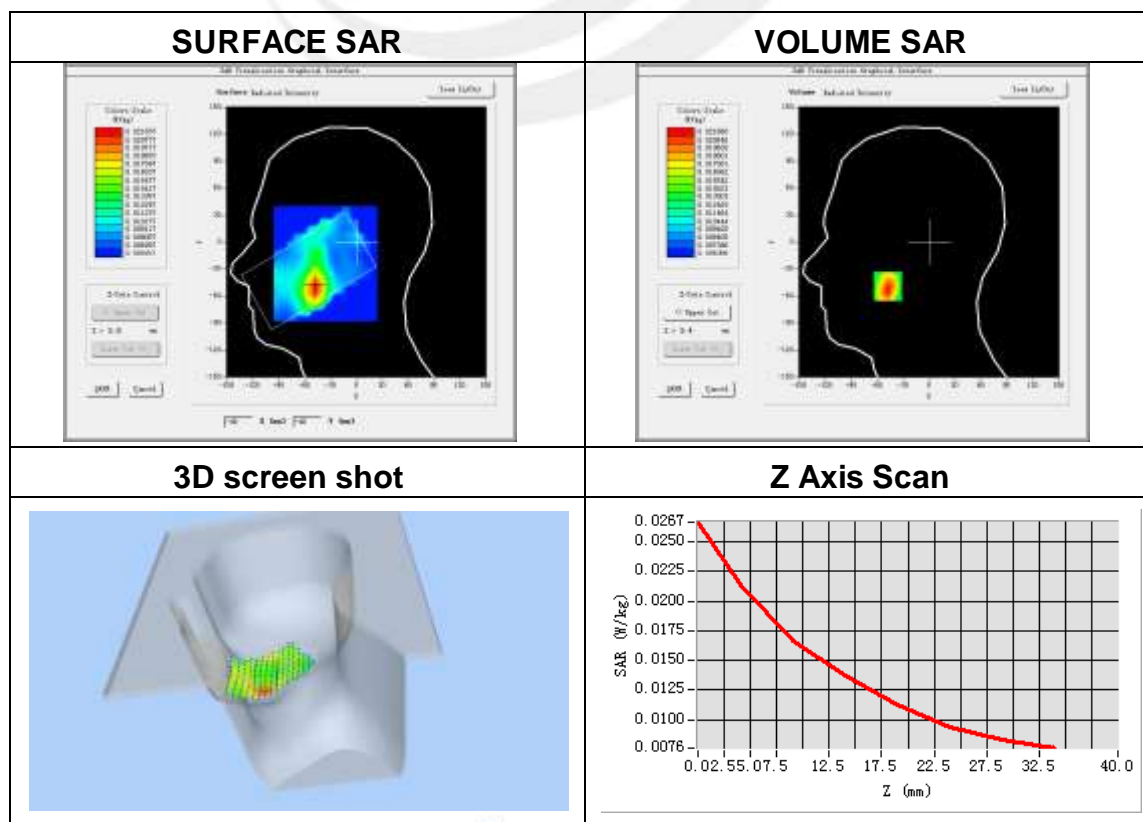
**Plot 9: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	GSM1900
Channels	Middle
Signal	TDMA (Crest factor: 4.0)
Frequency (MHz)	1880.0
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	0.12

Maximum location: X=-48.00, Y=-49.00

SAR Peak: 0.03 W/kg

SAR 10g (W/Kg)	0.015076
SAR 1g (W/Kg)	0.021171



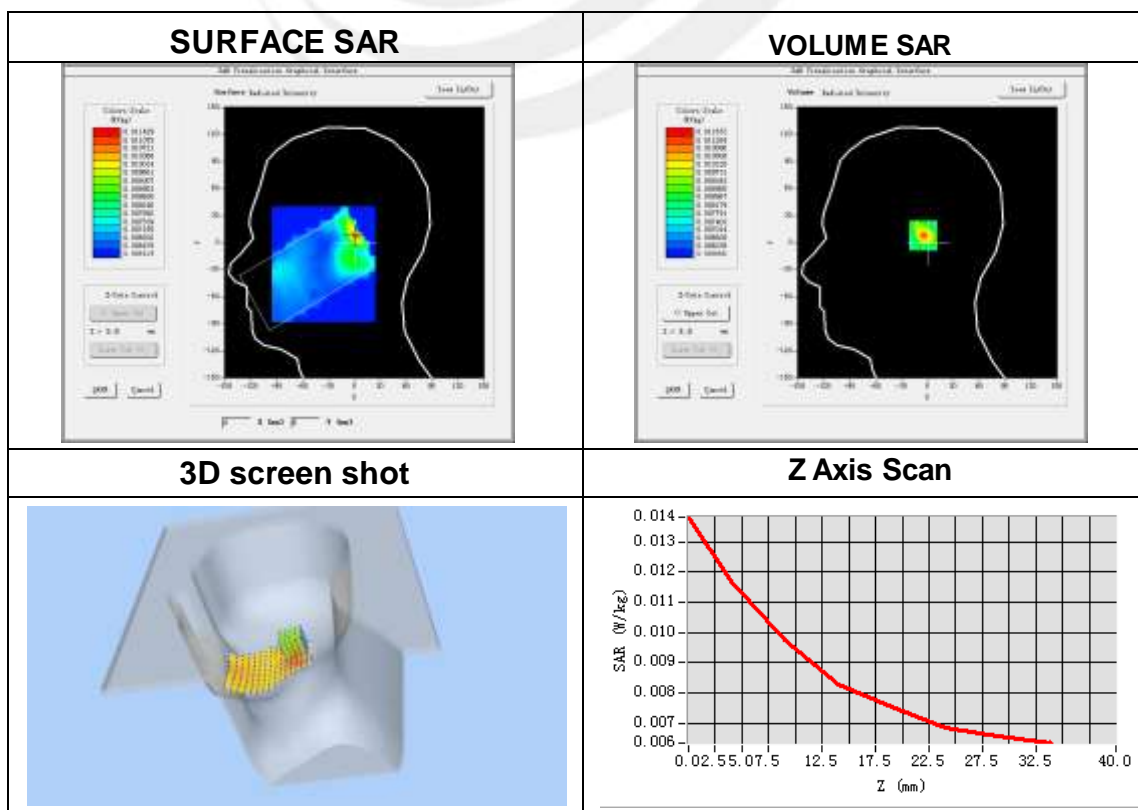
**Plot 10: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	Middle
Signal	TDMA (Crest factor: 4.0)
Frequency (MHz)	1880.0
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	0.67

Maximum location: X=1.00, Y=8.00

SAR Peak: 0.01 W/kg

SAR 10g (W/Kg)	0.008574
SAR 1g (W/Kg)	0.011001



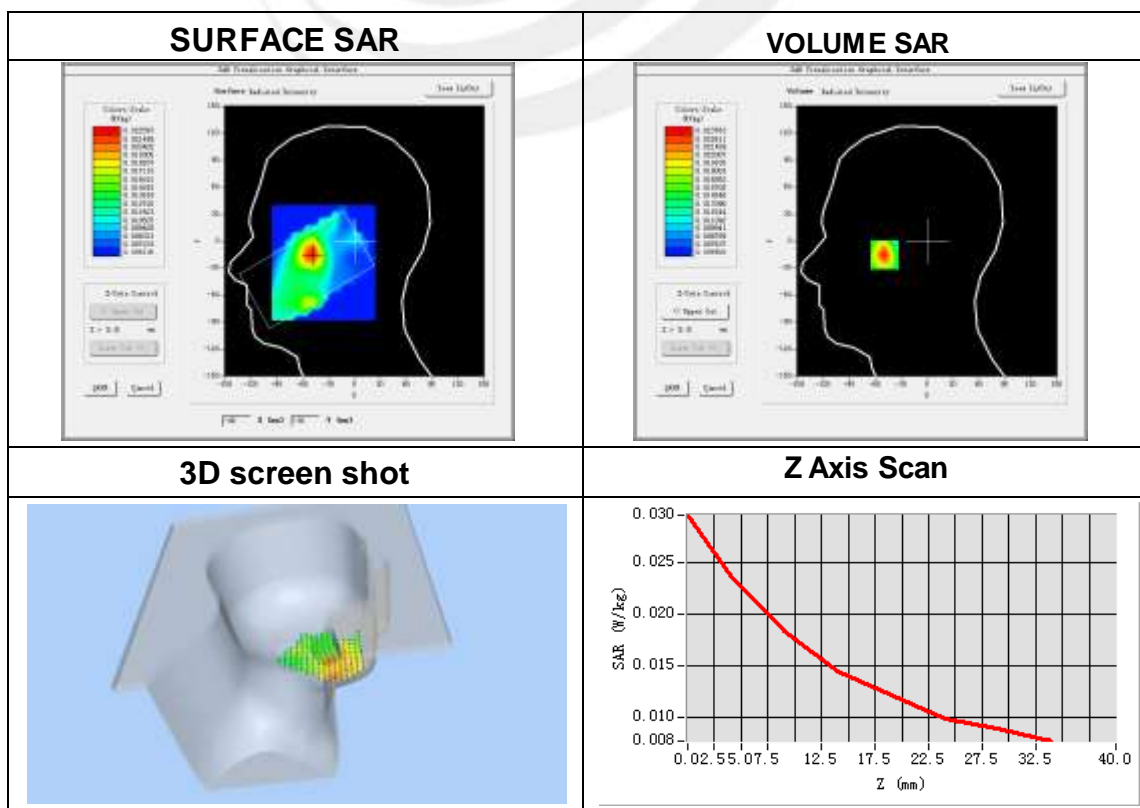
**Plot 11: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	GSM1900
Channels	Middle
Signal	TDMA (Crest factor: 4.0)
Frequency (MHz)	1880.0
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	1.85

Maximum location: X=-49.00, Y=-14.00

SAR Peak: 0.03 W/kg

SAR 10g (W/Kg)	0.015974
SAR 1g (W/Kg)	0.022604



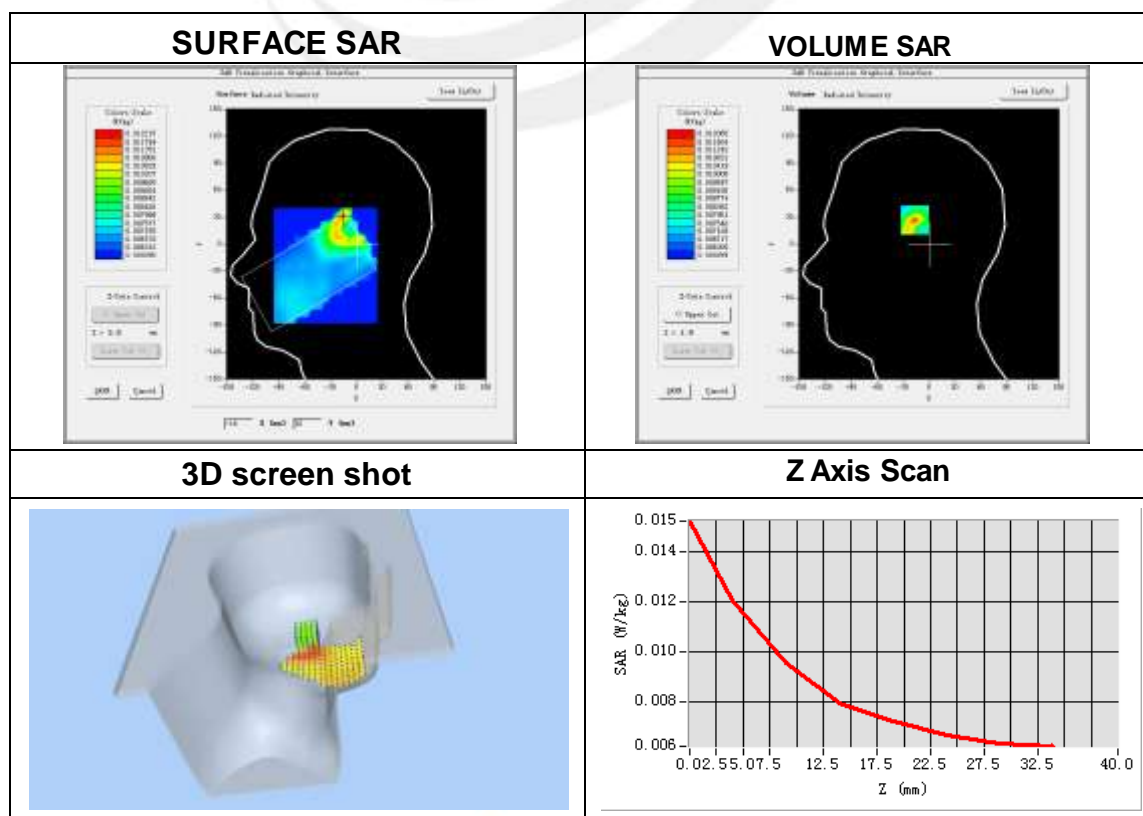
**Plot 12: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Tilt
Band	GSM1900
Channels	Middle
Signal	TDMA (Crest factor: 4.0)
Frequency (MHz)	1880.0
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	-0.39

Maximum location: X=-16.00, Y=32.00

SAR Peak: 0.02 W/kg

SAR 10g (W/Kg)	0.008570
SAR 1g (W/Kg)	0.011252



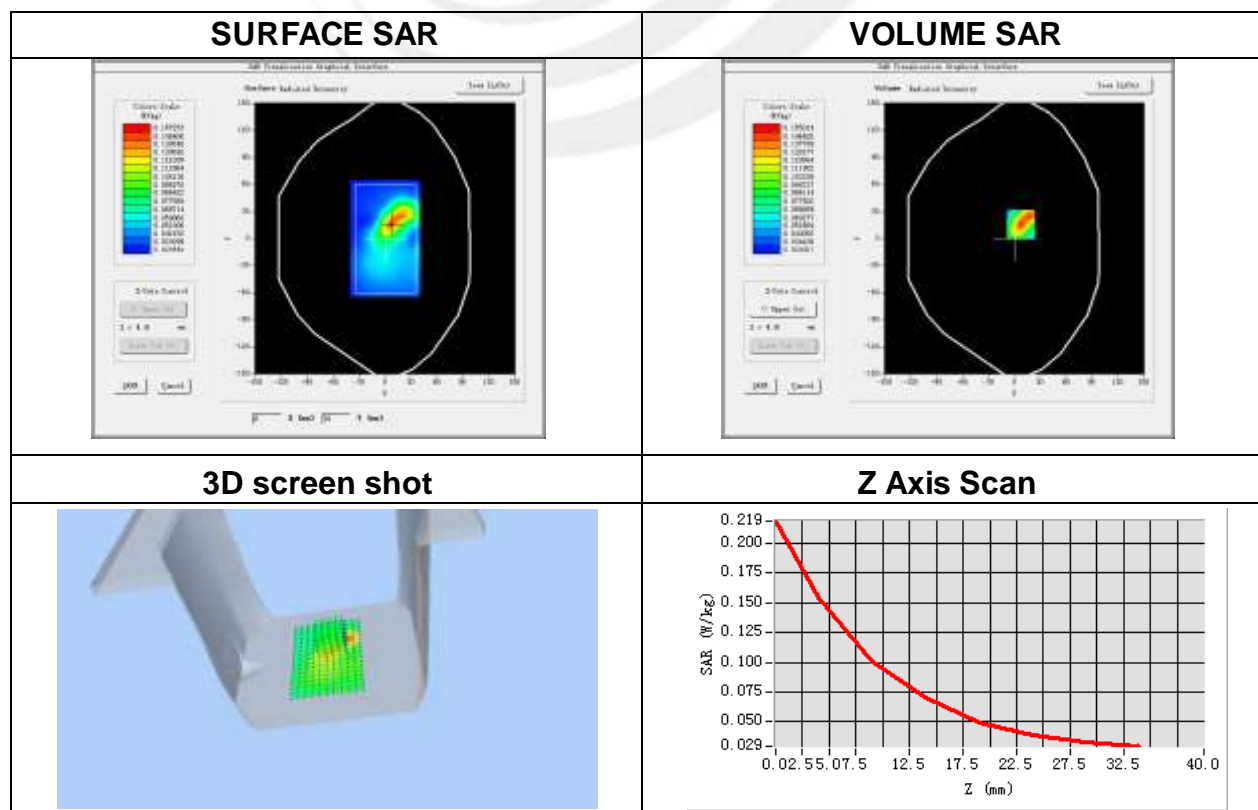
**Plot 13: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body front side
Band	GPRS 1900
Channels	Middle
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1880.0
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	0.06

Maximum location: X=7.00, Y=16.00

SAR Peak: 0.23 W/kg

SAR 10g (W/Kg)	0.087319
SAR 1g (W/Kg)	0.144971



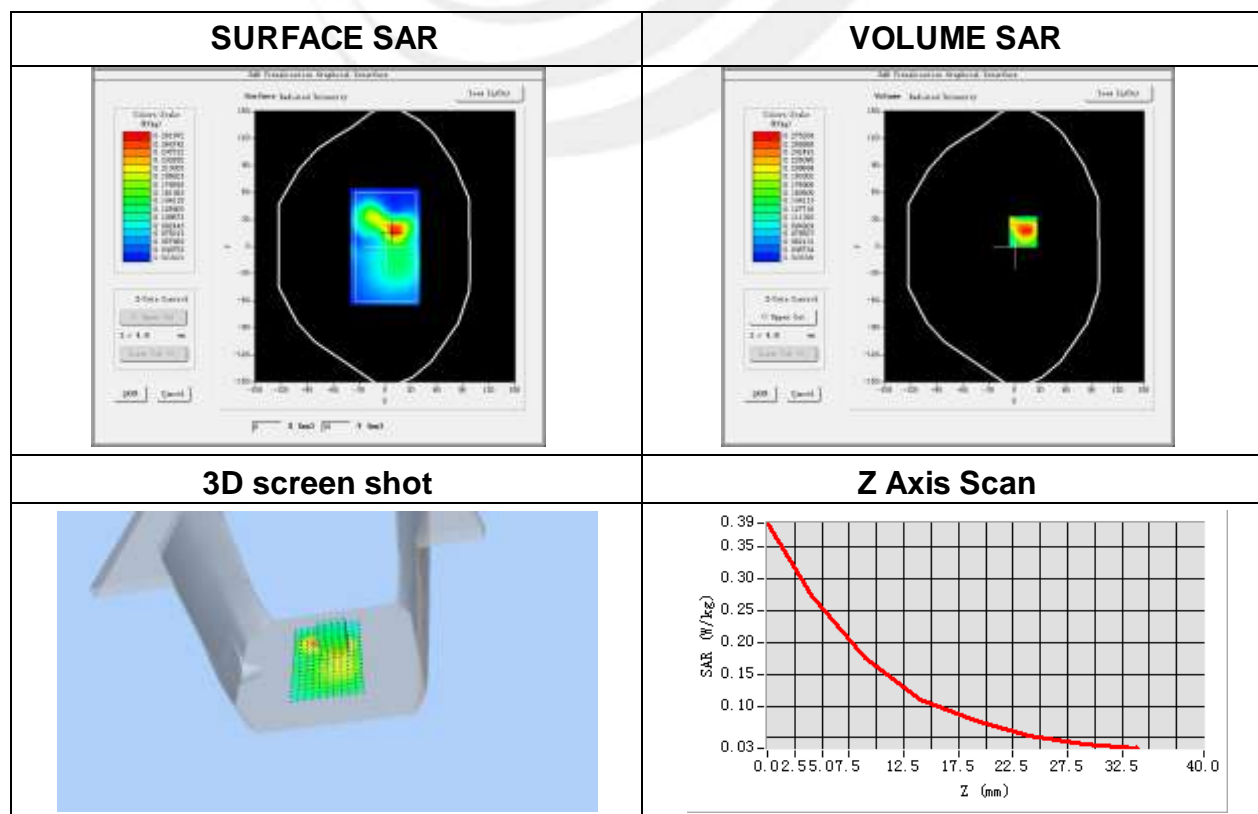
**Plot 14: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body Behind
Band	GPRS 1900
Channels	Middle
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1880.0
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-0.04

Maximum location: X=10.00, Y=17.00

SAR Peak: 0.43 W/kg

SAR 10g (W/Kg)	0.153473
SAR 1g (W/Kg)	0.268151





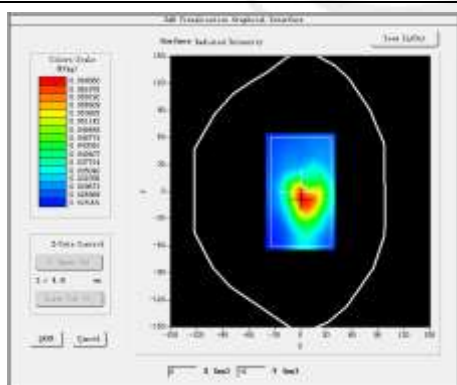
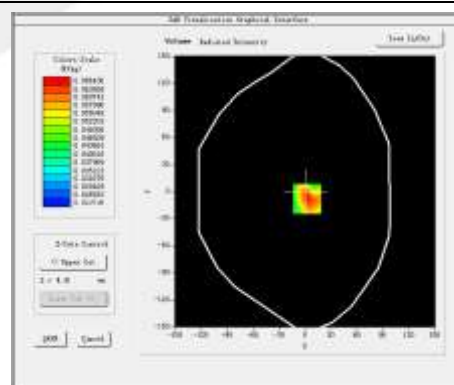
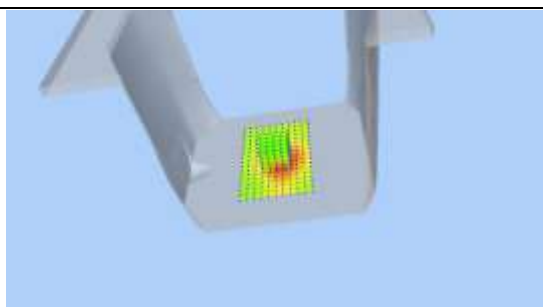
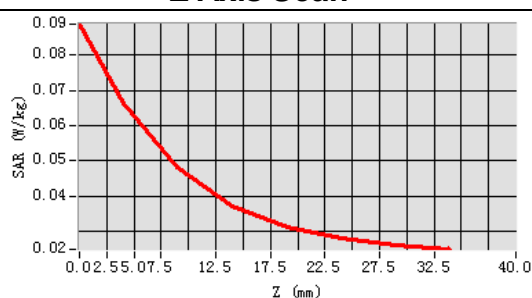
**Plot 15: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body lift side
Band	GPRS 1900
Channels	Middle
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1880.0
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-1.16

Maximum location: X=2.00, Y=-8.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.046104
SAR 1g (W/Kg)	0.064177

**SURFACE SAR**

**VOLUME SAR**

**3D screen shot**

**Z Axis Scan**


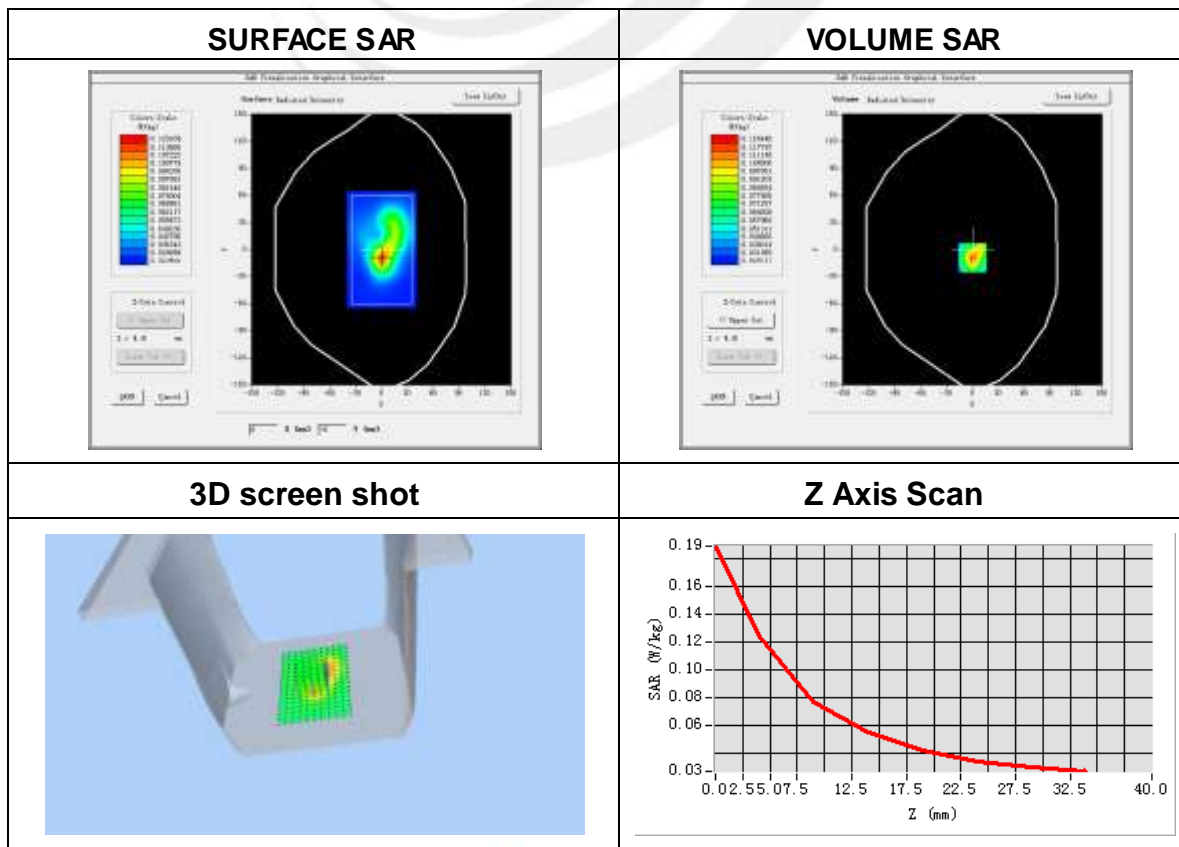
**Plot 16: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body bottom side
Band	GPRS 1900
Channels	Middle
Signal	Duty Cycle: 2.00 (Crest factor: 2.0)
Frequency (MHz)	1880.0
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-1.57

Maximum location: X=0.00, Y=-9.00

SAR Peak: 0.19 W/kg

SAR 10g (W/Kg)	0.068947
SAR 1g (W/Kg)	0.114958



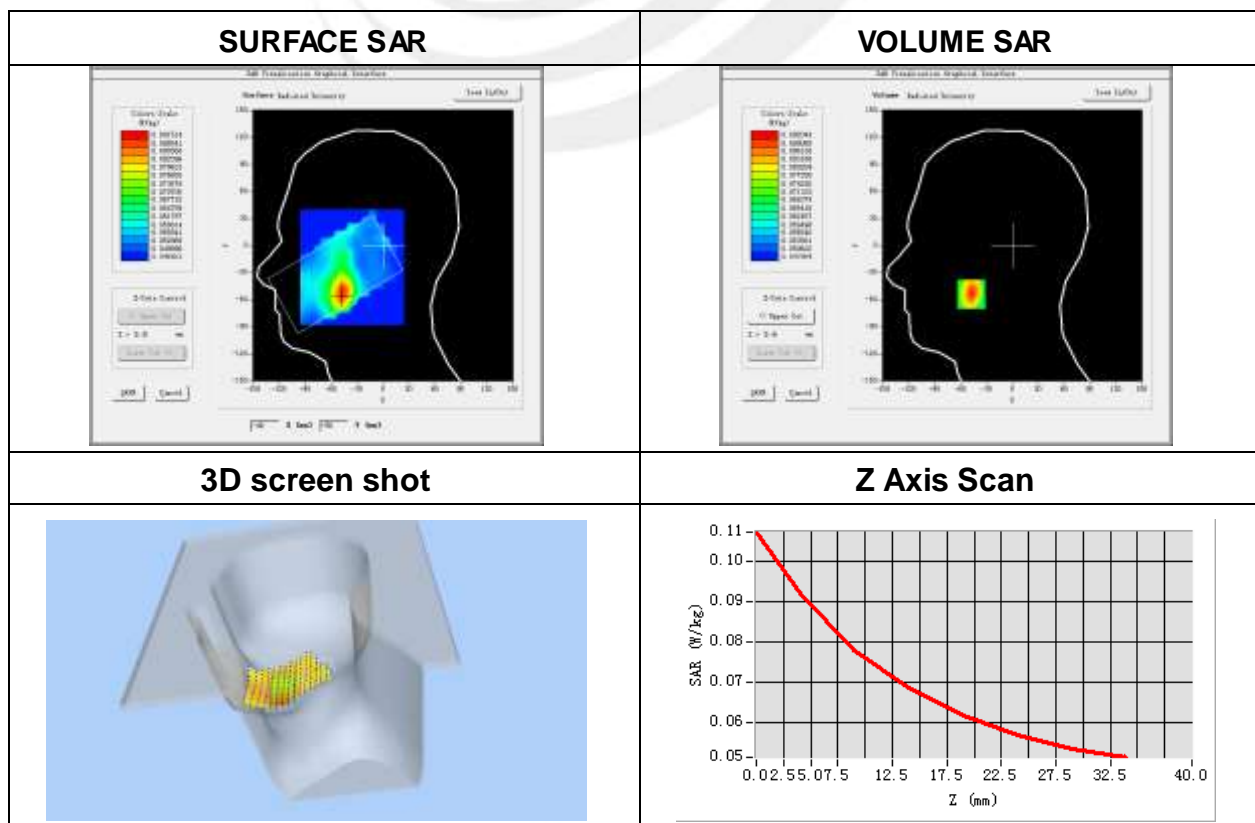
**Plot 17: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	0.37

Maximum location: X=-48.00, Y=-54.00

SAR Peak: 0.11 W/kg

SAR 10g (W/Kg)	0.072976
SAR 1g (W/Kg)	0.089986



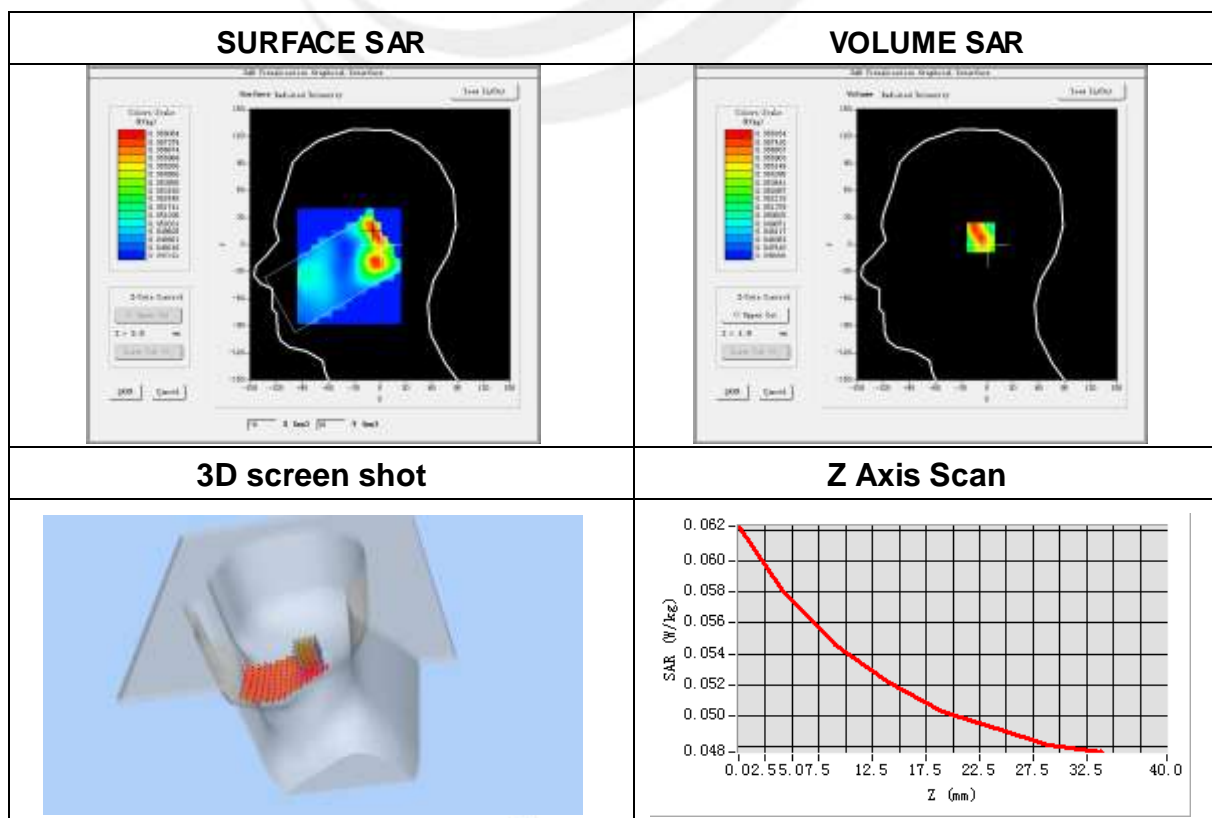
**Plot 18: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Tilt
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	-0.39

Maximum location: X=-2.00, Y=8.00

SAR Peak: 0.06 W/kg

SAR 10g (W/Kg)	0.043269
SAR 1g (W/Kg)	0.057905



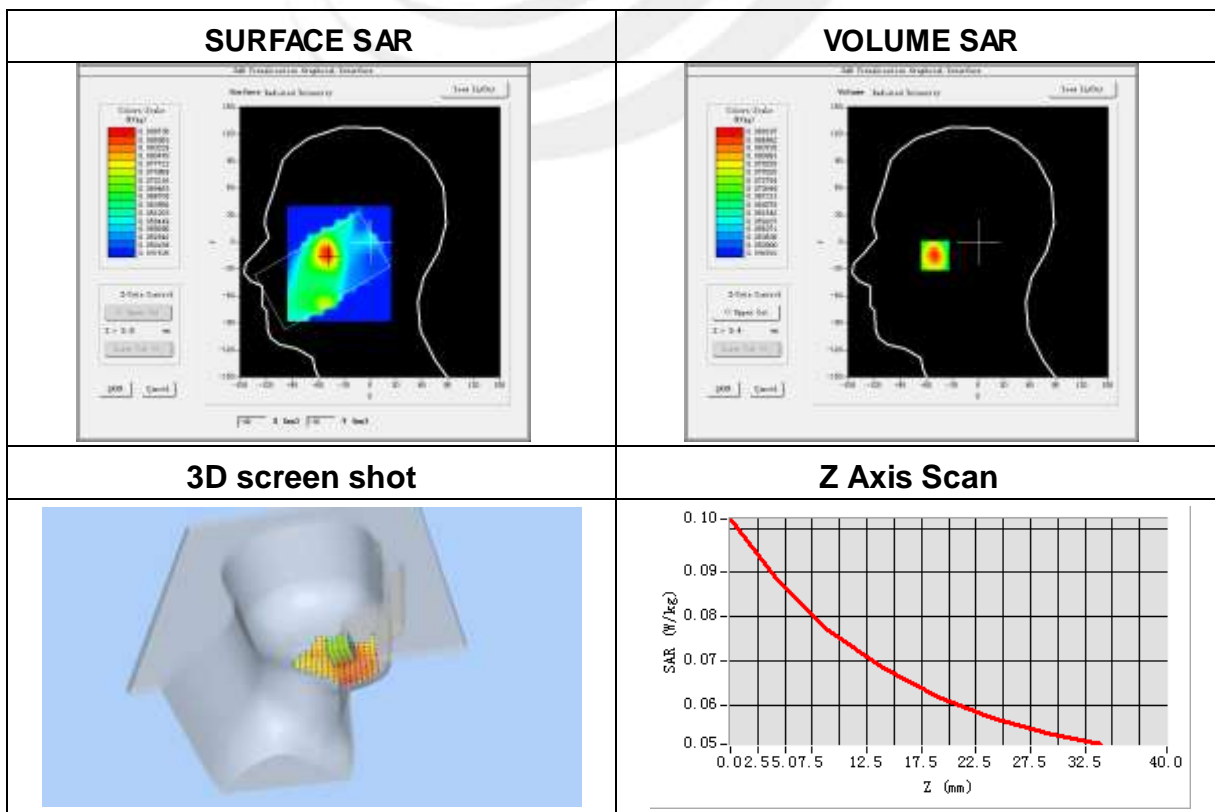
**Plot 19: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	0.62

Maximum location: X=-50.00, Y=-13.00

SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.071620
SAR 1g (W/Kg)	0.087099



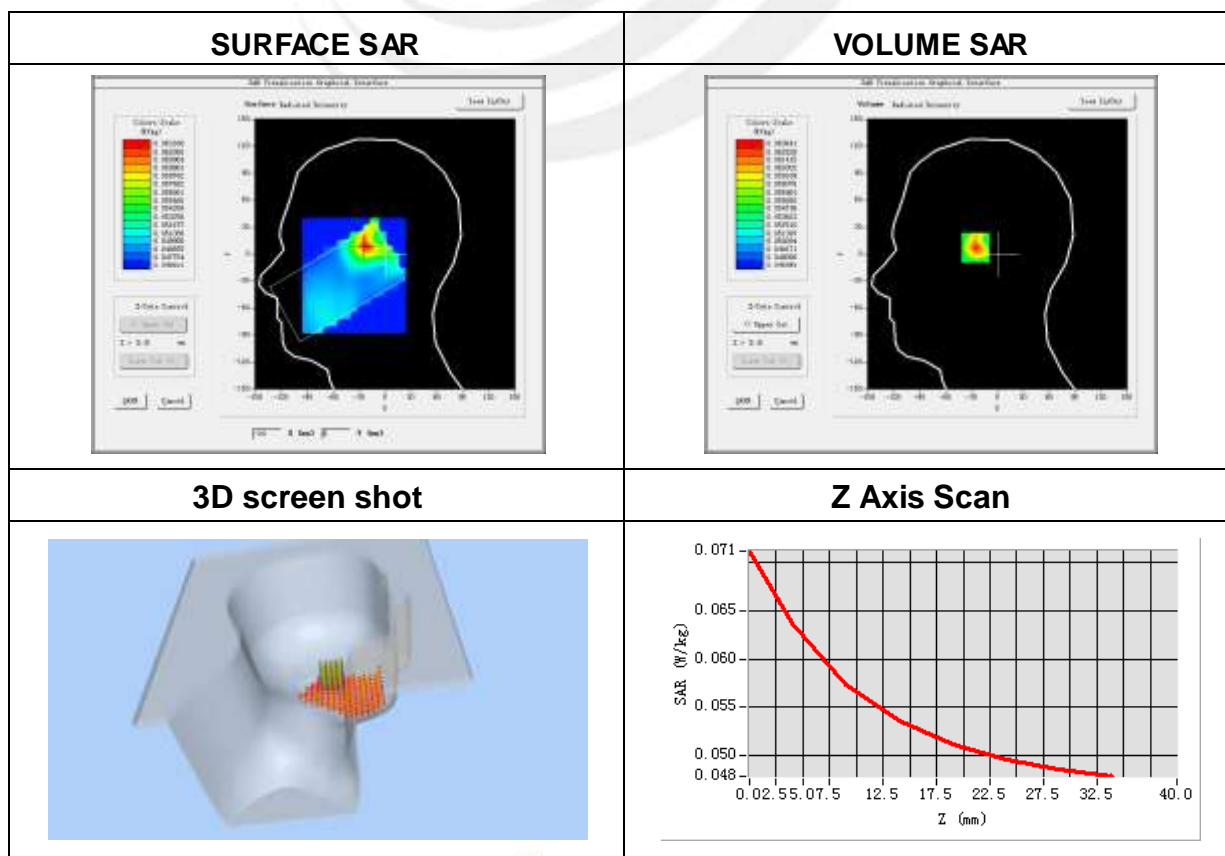
**Plot 20: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Tilt
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	40.00
Conductivity (S/m)	1.40
Variation (%)	-0.57

Maximum location: X=-23.00, Y=9.00

SAR Peak: 0.07 W/kg

SAR 10g (W/Kg)	0.055682
SAR 1g (W/Kg)	0.062724





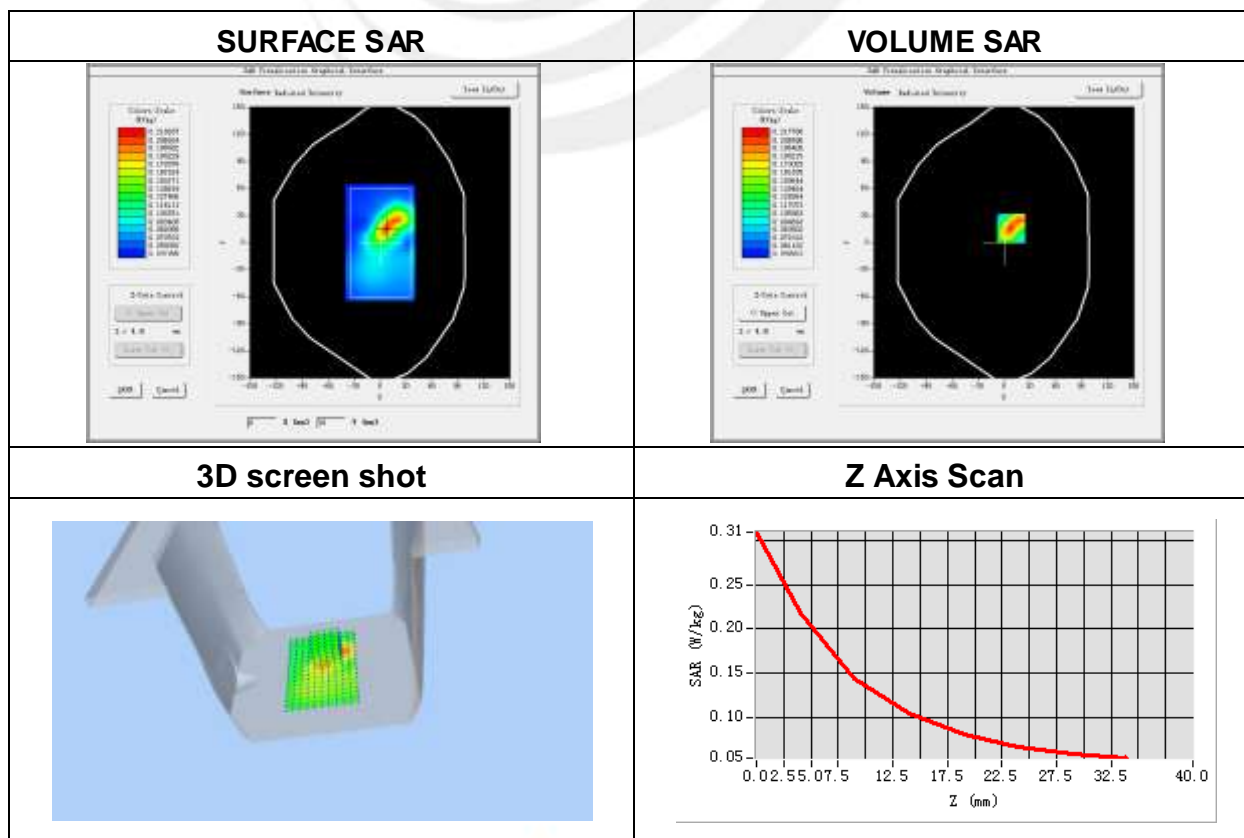
**Plot 21: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body Front
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	0.57

Maximum location: X=8.00, Y=16.00

SAR Peak: 0.31 W/kg

SAR 10g (W/Kg)	0.128708
SAR 1g (W/Kg)	0.206874



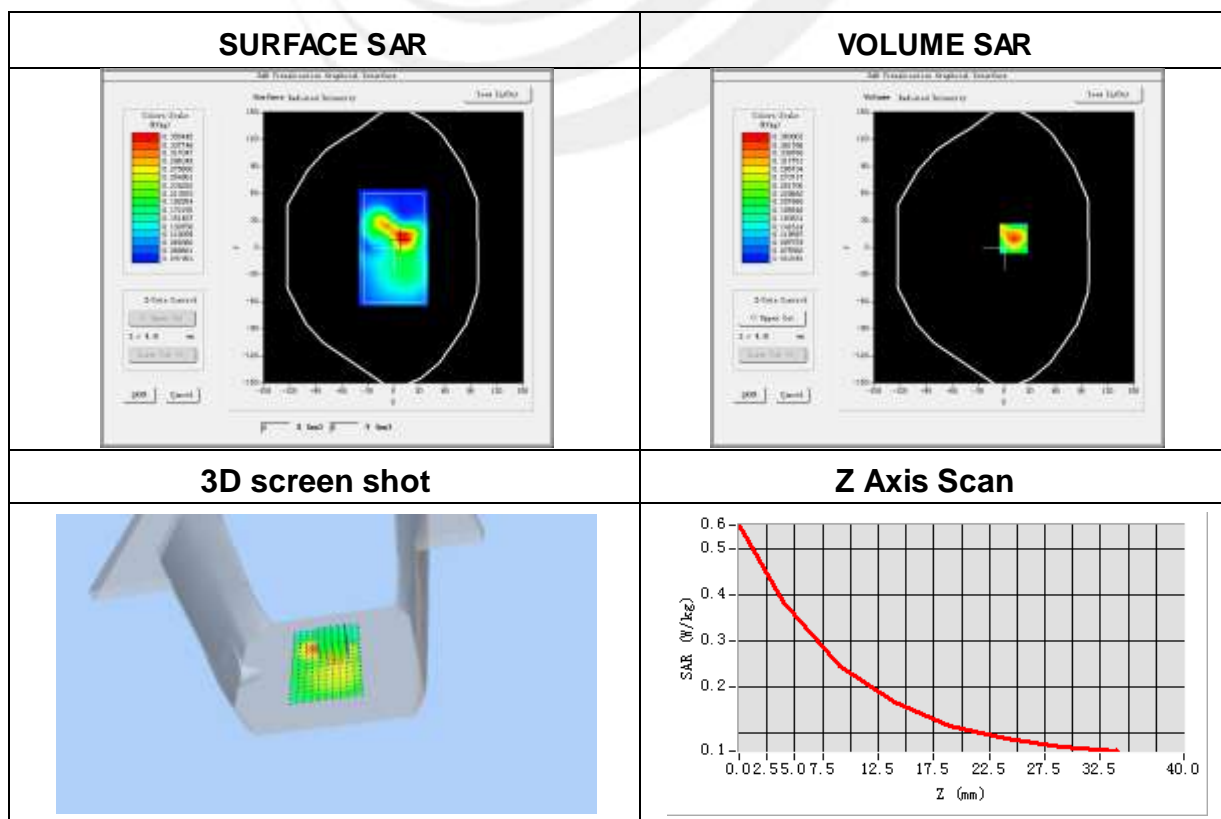
**Plot 22: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back side
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	39.71
Conductivity (S/m)	1.40
Variation (%)	-0.09

Maximum location: X=11.00, Y=10.00

SAR Peak: 0.57 W/kg

SAR 10g (W/Kg)	0.218591
SAR 1g (W/Kg)	0.365503



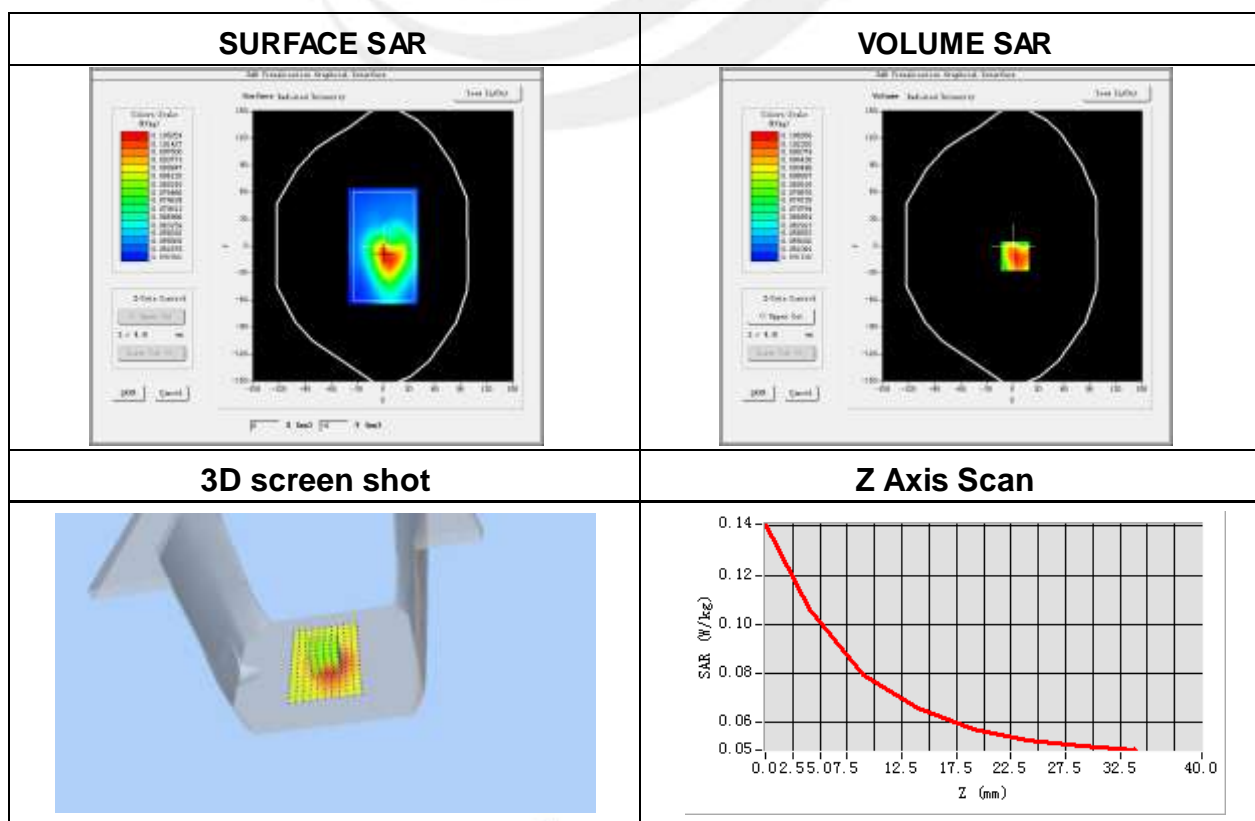
**Plot 23: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body left side
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-0.08

Maximum location: X=3.00, Y=-11.00

SAR Peak: 0.14 W/kg

SAR 10g (W/Kg)	0.079227
SAR 1g (W/Kg)	0.103929



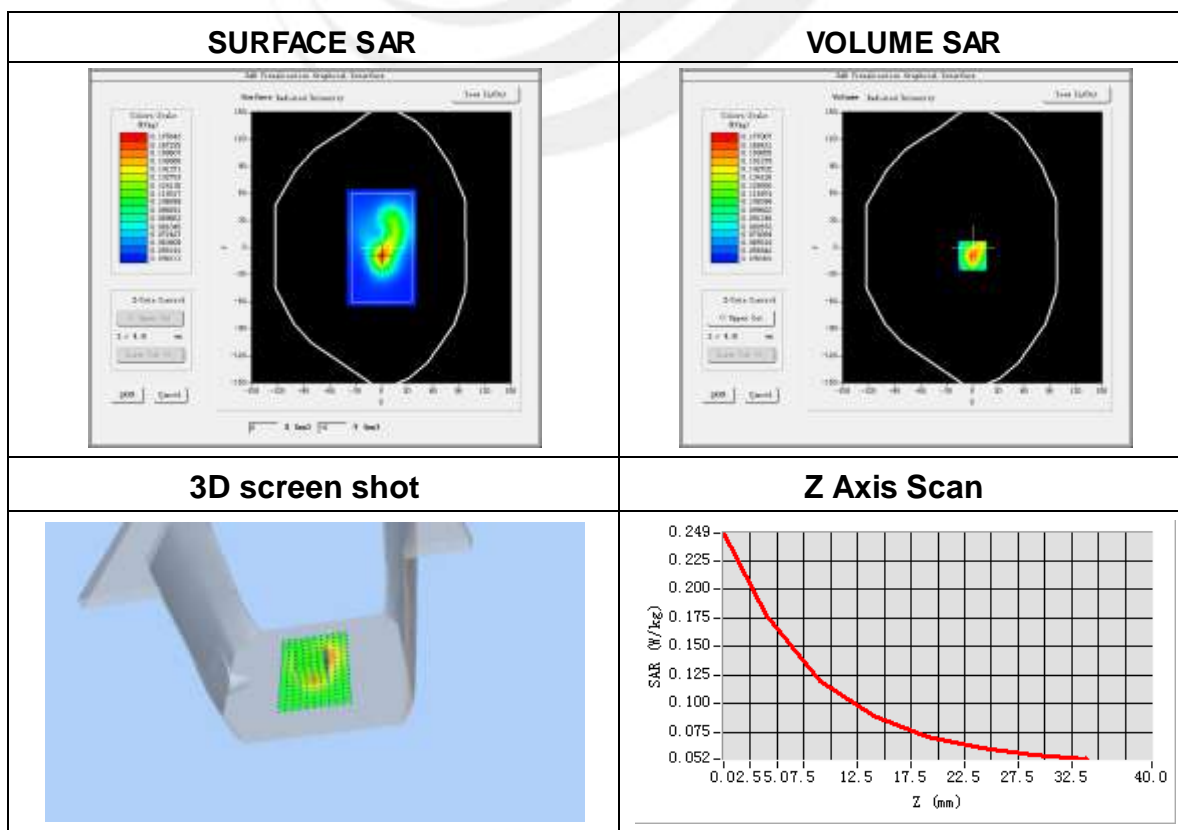
**Plot 24: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body Bottom side
Band	WCDMA II
Channels	High
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	1907.6
Relative permittivity (real part)	53.30
Conductivity (S/m)	1.52
Variation (%)	-0.05

Maximum location: X=0.00, Y=-0.00

SAR Peak:0.25W/kg

SAR 10g (W/Kg)	0.107639
SAR 1g (W/Kg)	0.167263



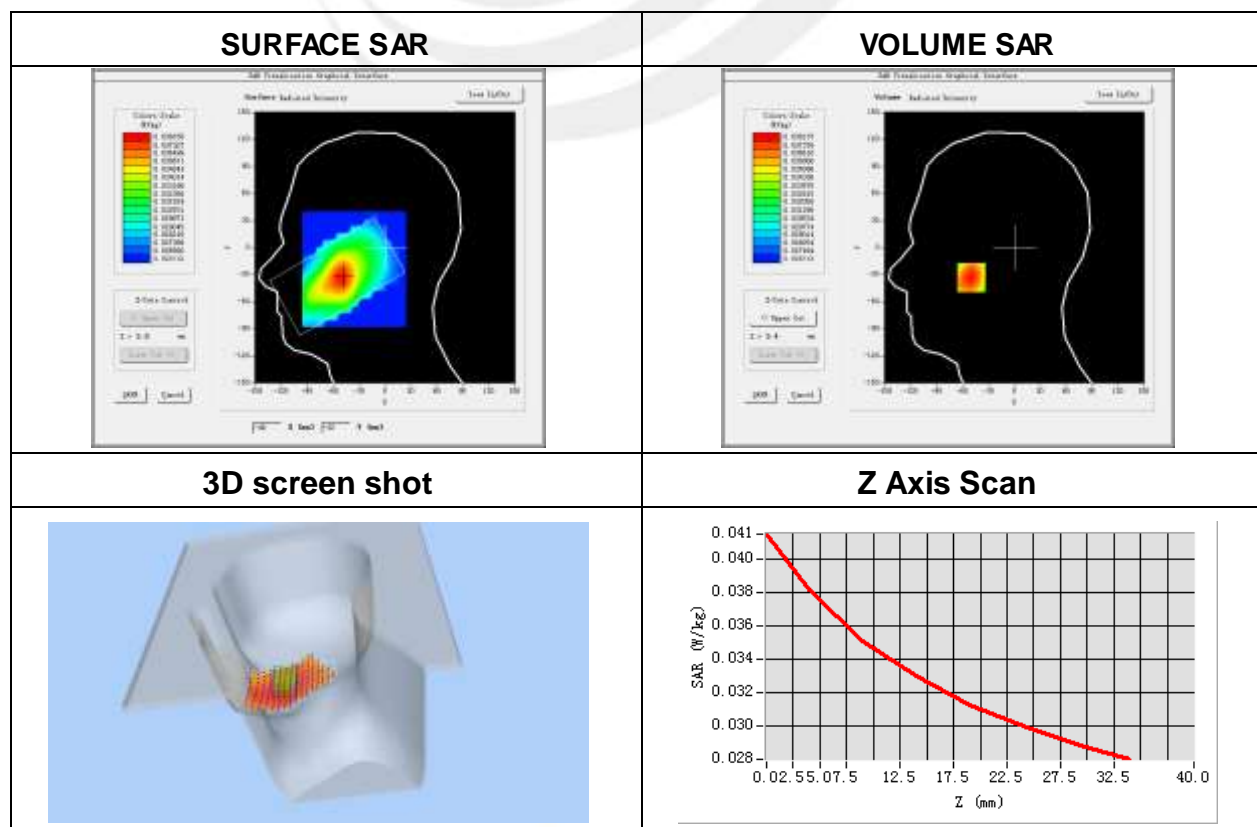
**Plot 25: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	42.27
Conductivity (S/m)	0.91
Variation (%)	0.05

Maximum location: X=-50.00, Y=-33.00

SAR Peak: 0.04 W/kg

SAR 10g (W/Kg)	0.024520
SAR 1g (W/Kg)	0.037977



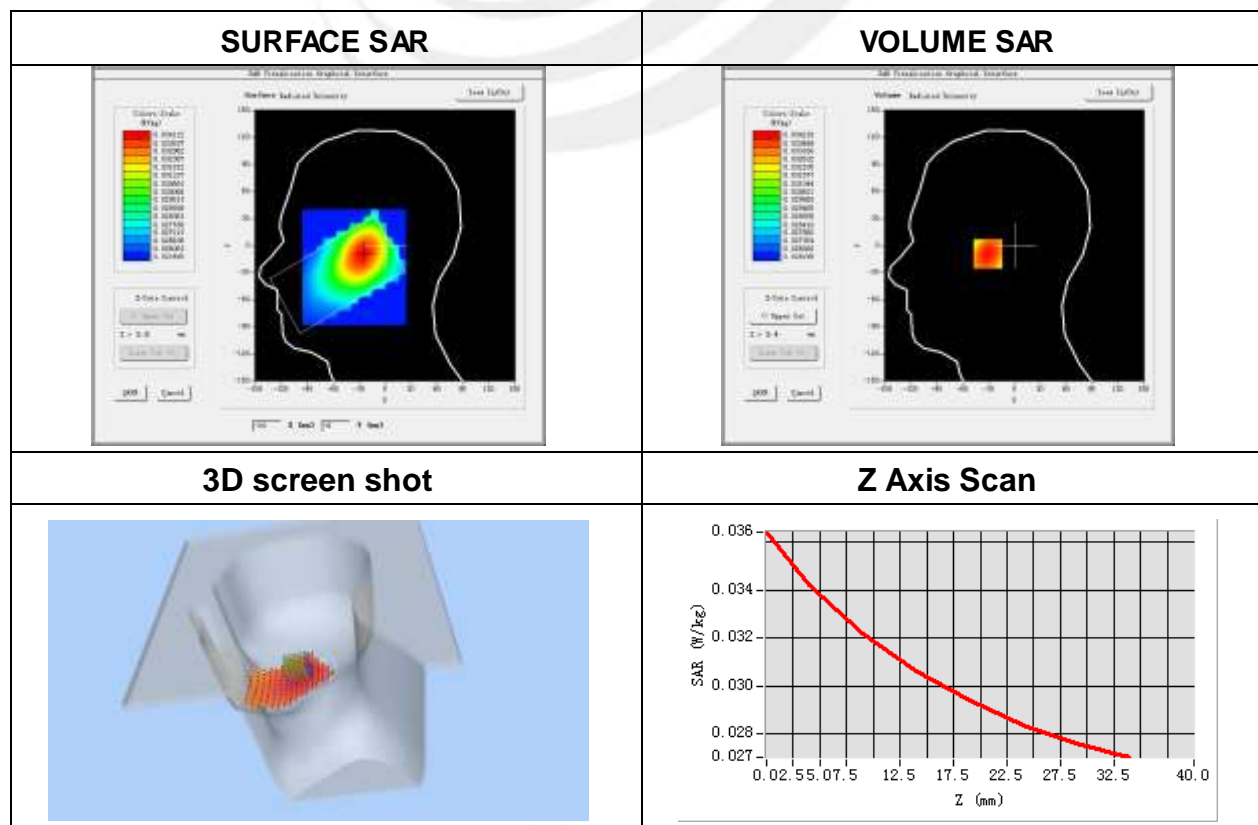
**Plot 26: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Tilt
Band	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	42.27
Conductivity (S/m)	0.91
Variation (%)	0.15

Maximum location: X=-26.00, Y=-9.00

SAR Peak: 0.04 W/kg

SAR 10g (W/Kg)	0.021807
SAR 1g (W/Kg)	0.034172





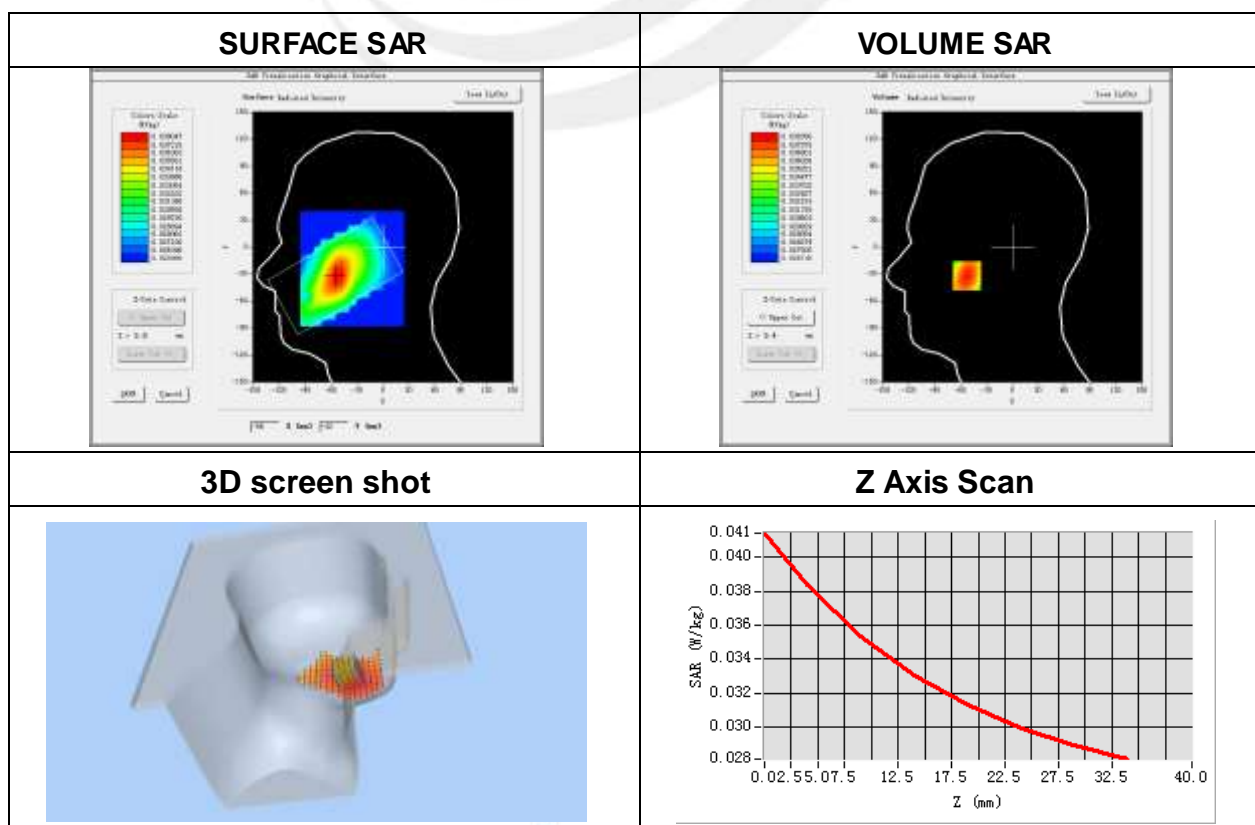
**Plot 27: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	42.27
Conductivity (S/m)	0.91
Variation (%)	0.10

Maximum location: X=-53.00, Y=-32.00

SAR Peak: 0.04 W/kg

SAR 10g (W/Kg)	0.024643
SAR 1g (W/Kg)	0.038106



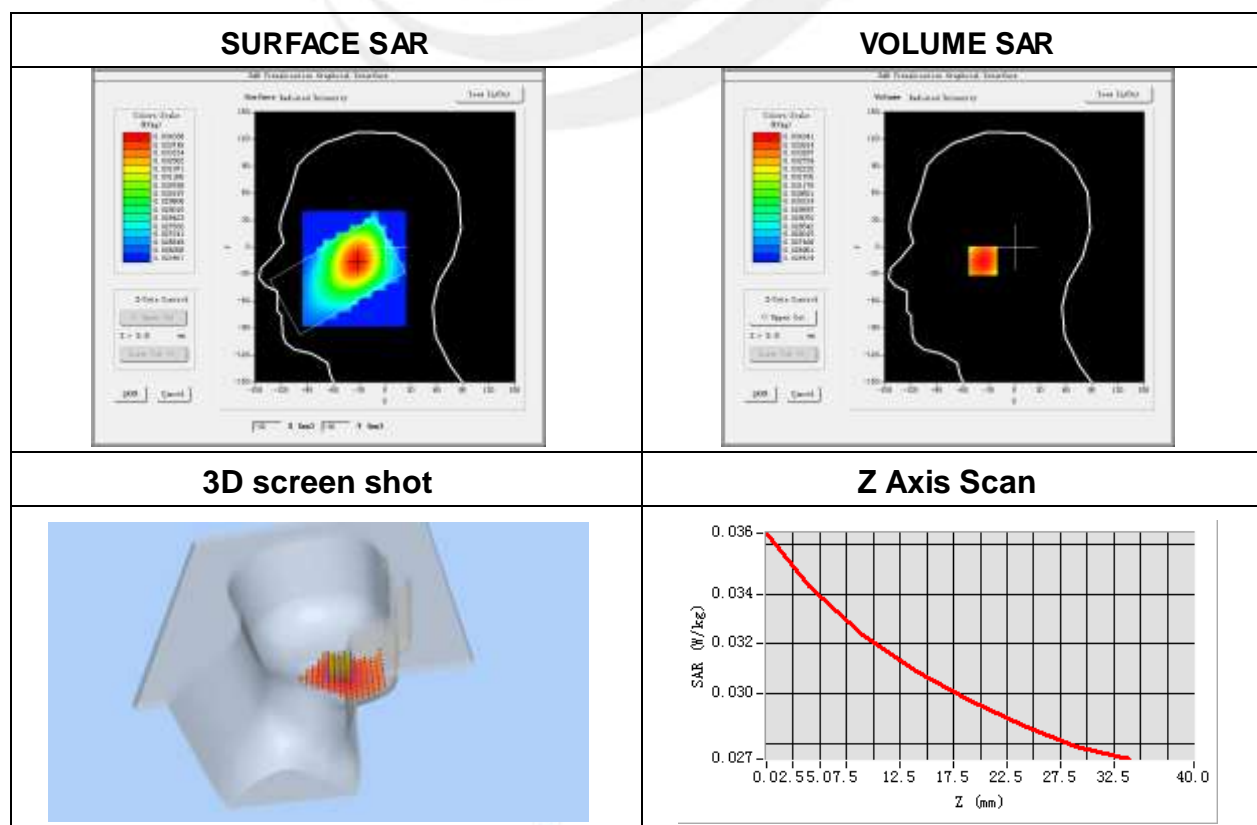
**Plot 28: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Tilt
Band	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	42.27
Conductivity (S/m)	0.91
Variation (%)	0.02

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

SAR Peak: 0.04 W/kg

SAR 10g (W/Kg)	0.022012
SAR 1g (W/Kg)	0.033431



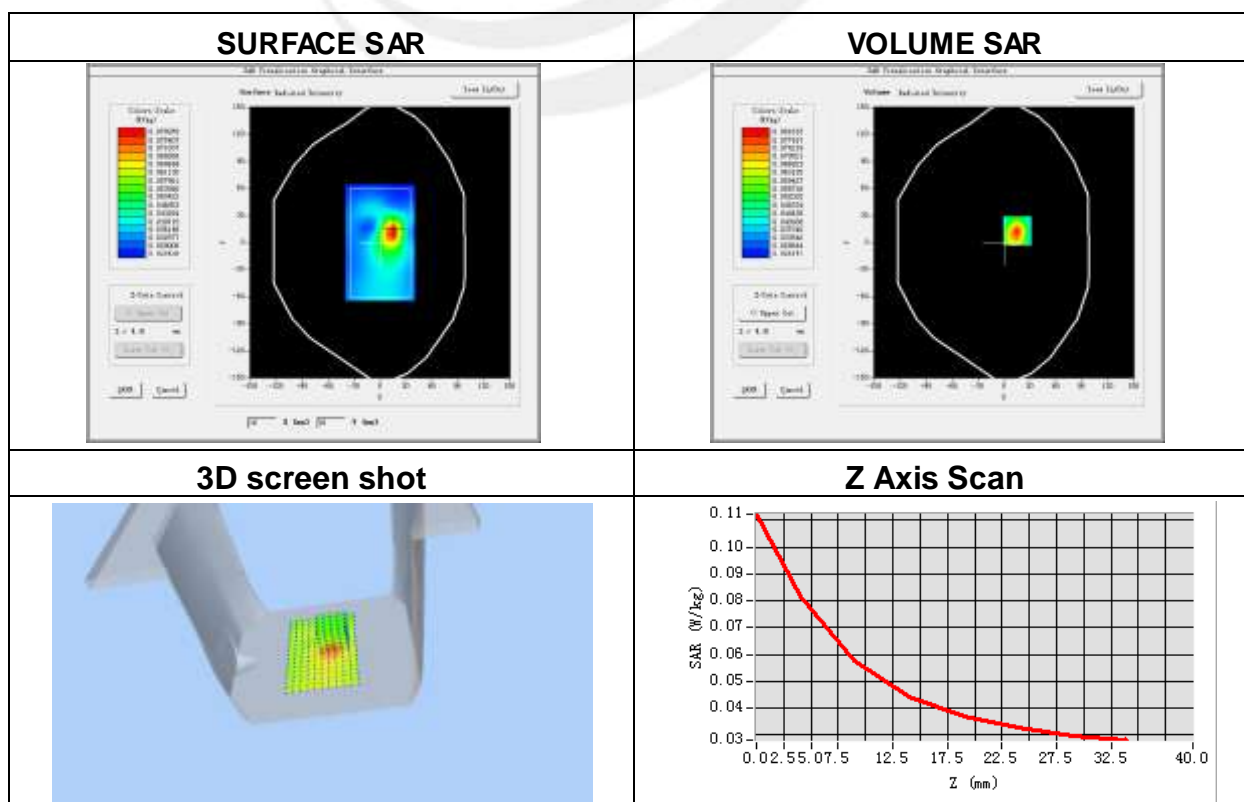
**Plot 29: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body front
Band	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	55.5
Conductivity (S/m)	0.96
Variation (%)	0.29

Maximum location: X=15.00, Y=13.00

SAR Peak: 0.11 W/kg

SAR 10g (W/Kg)	0.053695
SAR 1g (W/Kg)	0.078436



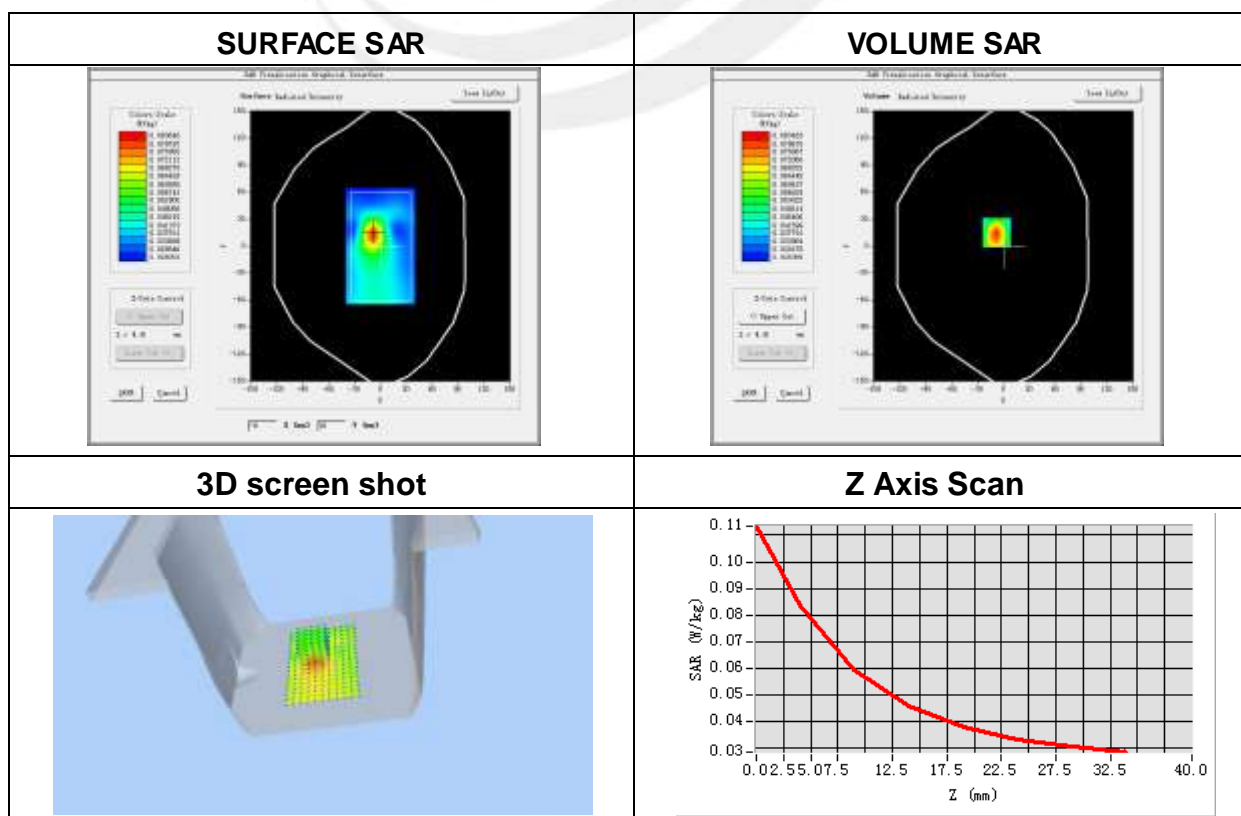
**Plot 30: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back
Band	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	55.5
Conductivity (S/m)	0.96
Variation (%)	-0.53

Maximum location: X=-8.00, Y=15.00

SAR Peak: 0.11 W/kg

SAR 10g (W/Kg)	0.055463
SAR 1g (W/Kg)	0.080587



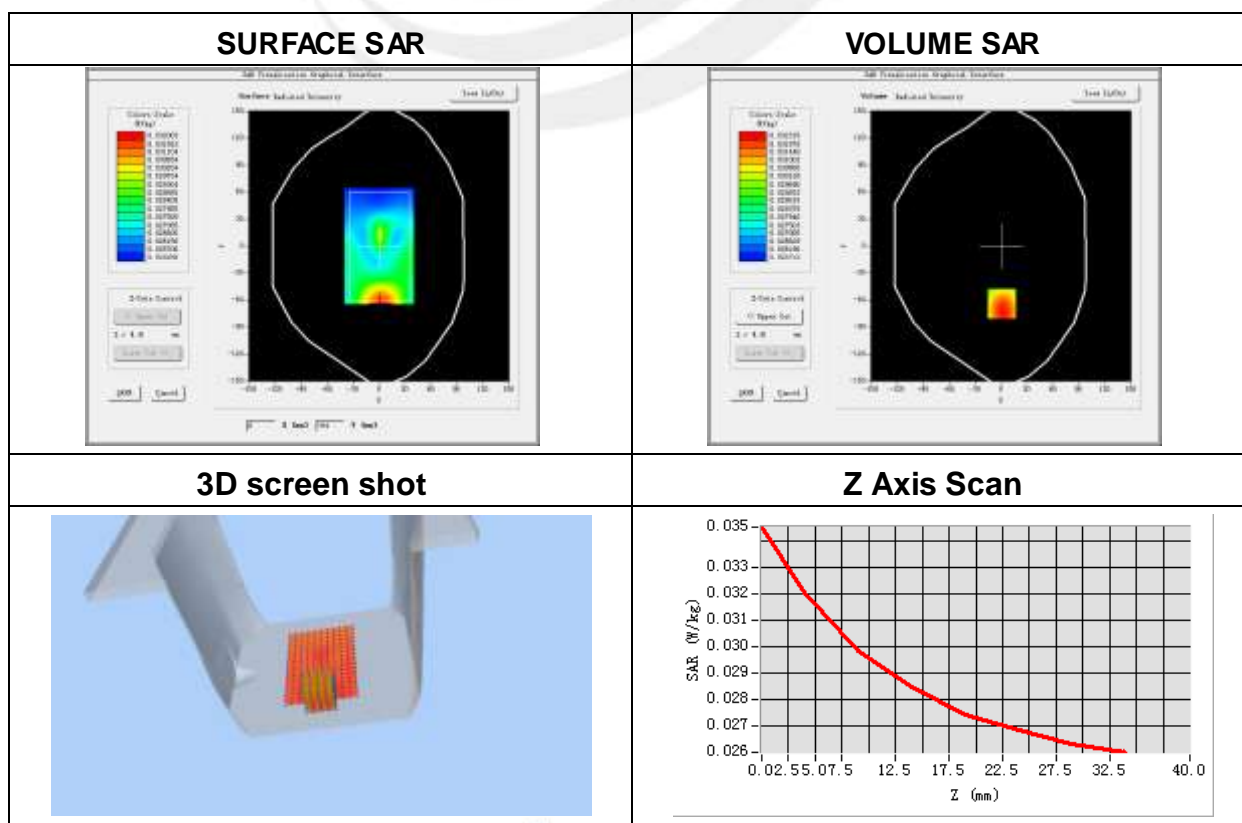
**Plot 31: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body left side
Band	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	55.5
Conductivity (S/m)	0.96
Variation (%)	-0.04

Maximum location: X=1.00, Y=-64.00

SAR Peak: 0.03 W/kg

SAR 10g (W/Kg)	0.029953
SAR 1g (W/Kg)	0.032235



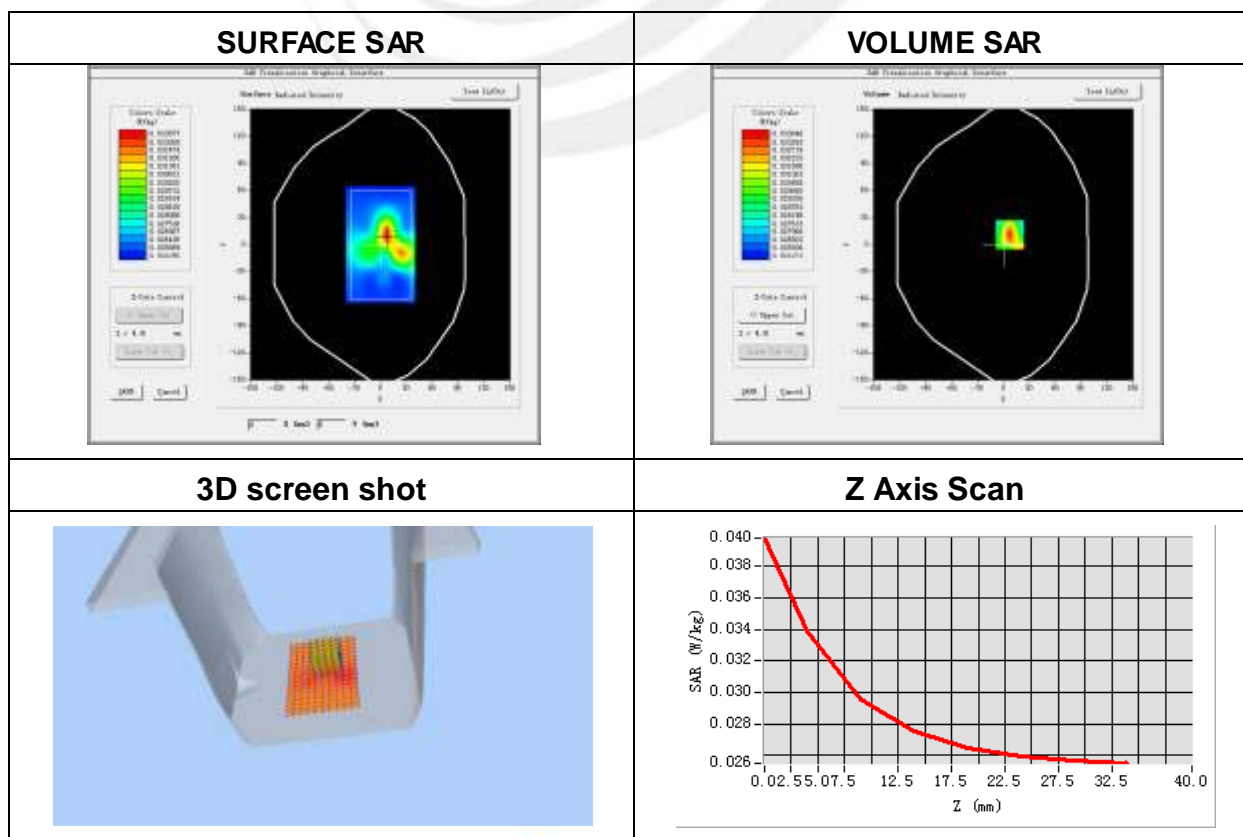
**Plot 32: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	5.02
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body bottom side
Band	WCDMA V
Channels	Low
Signal	WCDMA (Crest factor: 1.0)
Frequency (MHz)	826.4
Relative permittivity (real part)	55.5
Conductivity (S/m)	0.96
Variation (%)	0.07

Maximum location: X=7.00, Y=11.00

SAR Peak: 0.04 W/kg

SAR 10g (W/Kg)	0.029278
SAR 1g (W/Kg)	0.033448





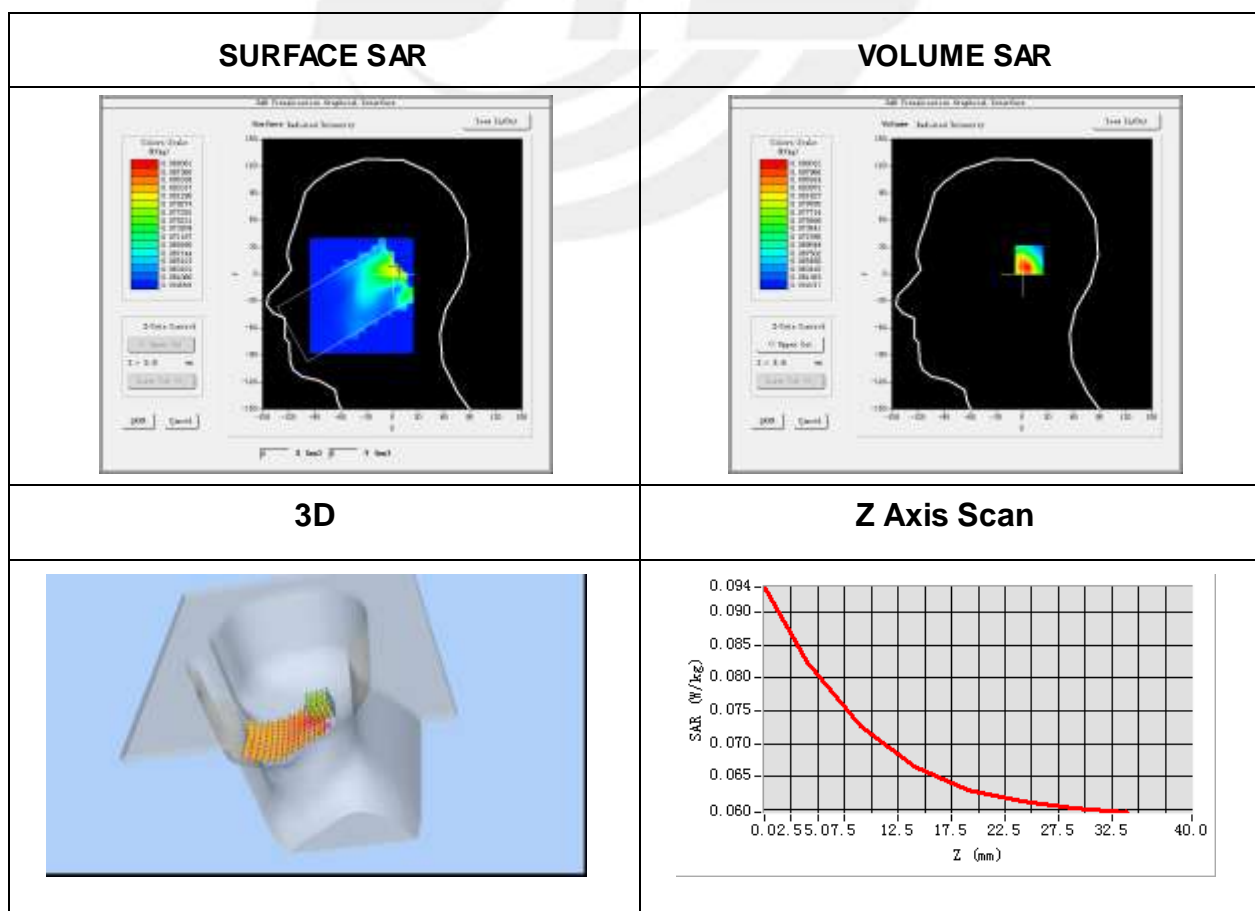
**Plot 33: DUT:smart phone; EUT Model: Ilium L200**

Test Data	2015-12-18
Probe	SN 17/14 EP221
ConvF	4.11
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	IEEE 802.11b ISM
Channels	Middle
Signal	<u>IEEE802.b (Crest factor: 1.0)</u>
Frequency (MHz)	2437
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79
Variation (%)	-0.04

Maximum location: X=16.00, Y=16.00

SAR Peak: 0.11 W/kg

SAR 10g (W/Kg)	0.073363
SAR 1g (W/Kg)	0.089124



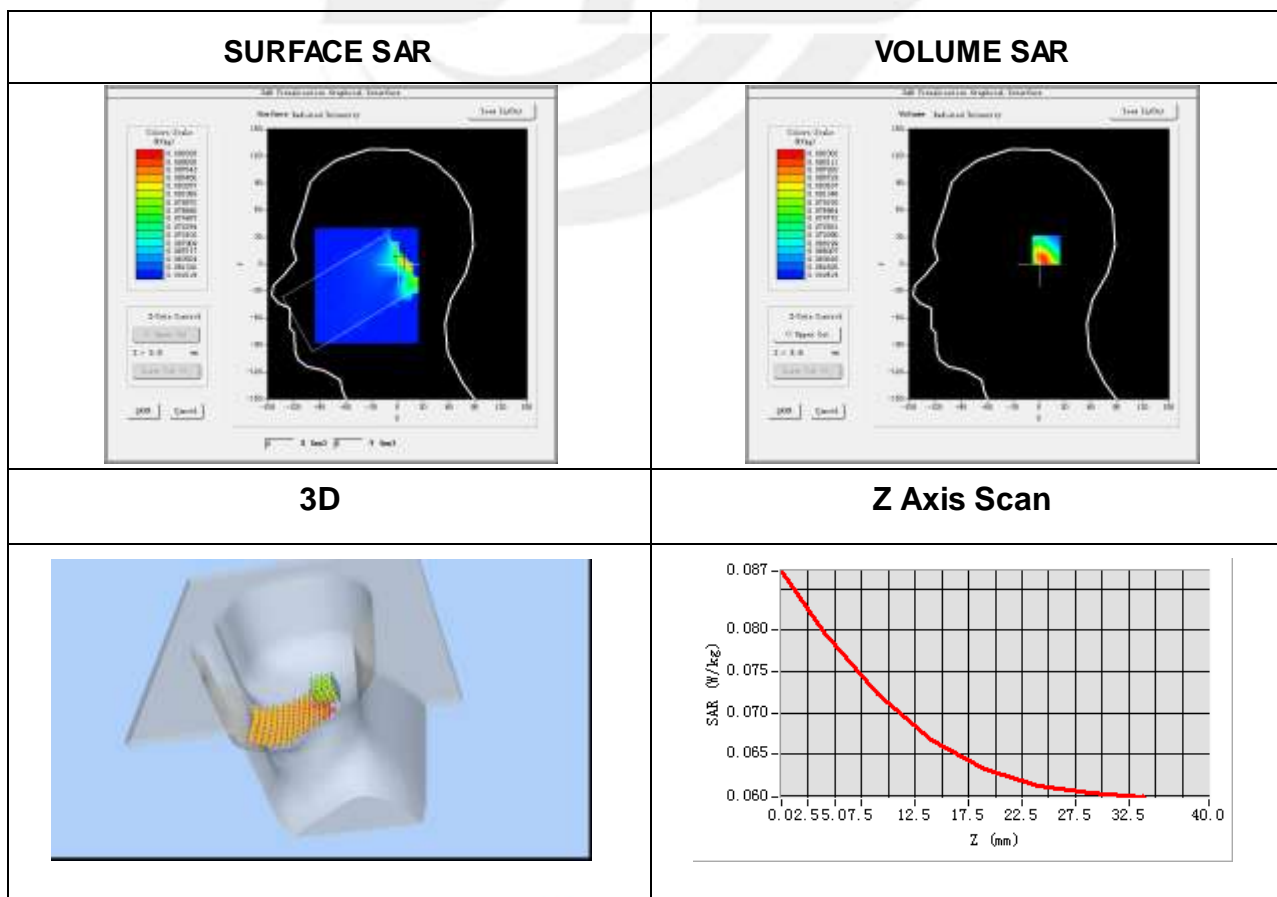
**Plot 34: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Probe	SN 17/14 EP221
ConvF	4.11
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Tilt
Band	IEEE 802.11b ISM
Channels	Middle
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2437
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79
Variation (%)	0.12

Maximum location: X=16.00, Y=16.00

SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.073713
SAR 1g (W/Kg)	0.090666

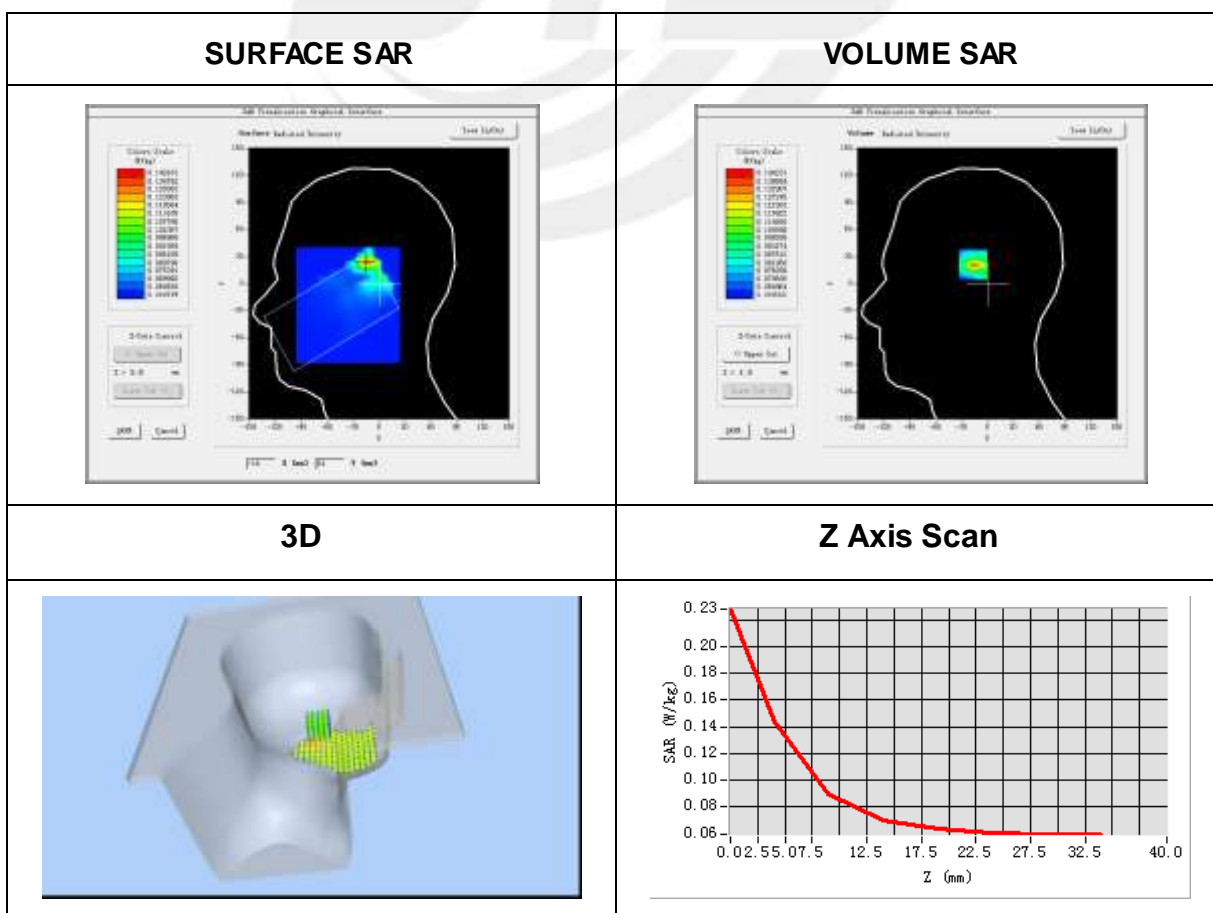


**Plot 35: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Probe	SN 17/14 EP221
ConvF	4.11
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	IEEE 802.11b ISM
Channels	Middle
Signal	IEEE802.b (Crest factor: 1.0)
Frequency (MHz)	2437
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79
Variation (%)	0.26

Maximum location: X=-15.00, Y=24.00  
SAR Peak: 0.23 W/kg

SAR 10g (W/Kg)	0.084926
SAR 1g (W/Kg)	0.132572

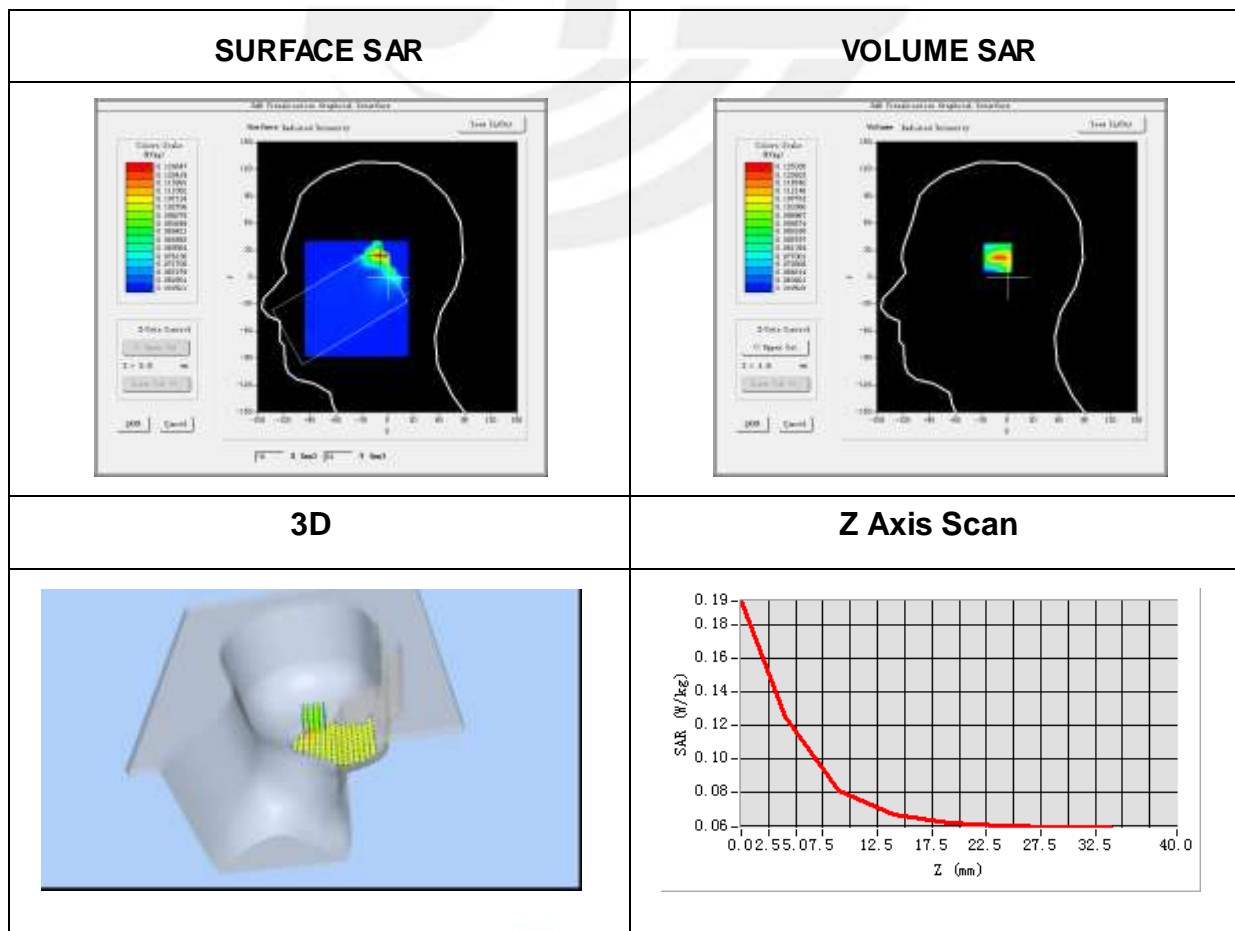


**Plot 36: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Probe	SN 17/14 EP221
ConvF	4.11
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Tilt
Band	IEEE 802.11b ISM
Channels	Middle
Signal	<u>IEEE802.b (Crest factor: 1.0)</u>
Frequency (MHz)	2437
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79
Variation (%)	-0.12

Maximum location: X=-8.00, Y=24.00  
SAR Peak: 0.19 W/kg

SAR 10g (W/Kg)	0.083590
SAR 1g (W/Kg)	0.120375

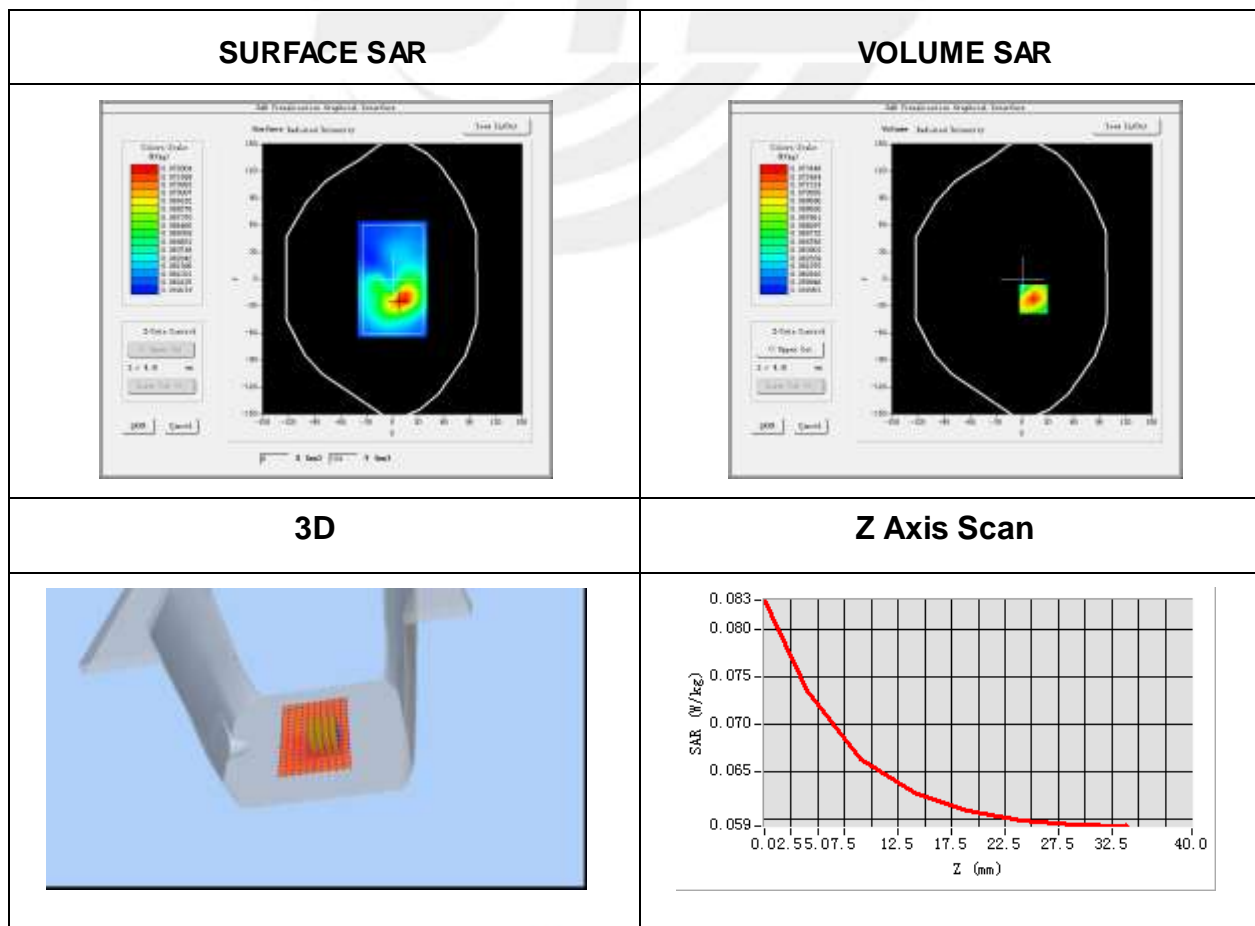


**Plot 37: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Probe	SN 17/14 EP221
ConvF	4.25
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body Front side
Band	IEEE 802.11b ISM
Channels	Middle
Signal	<u>IEEE802.b (Crest factor: 1.0)</u>
Frequency (MHz)	2437
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79
Variation (%)	0.06

Maximum location: X=13.00, Y=-22.00  
SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.065709
SAR 1g (W/Kg)	0.072550



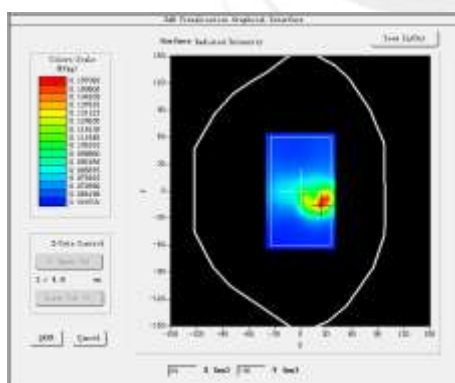
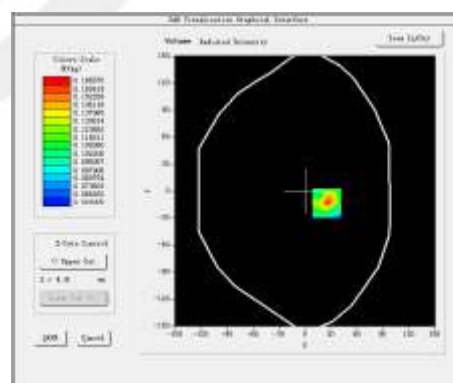
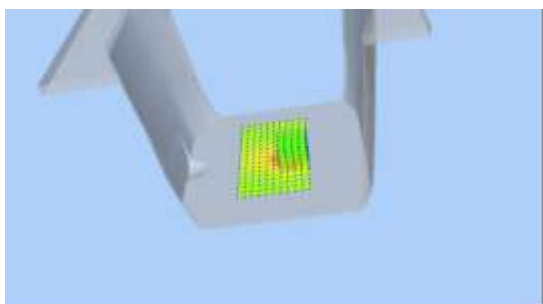
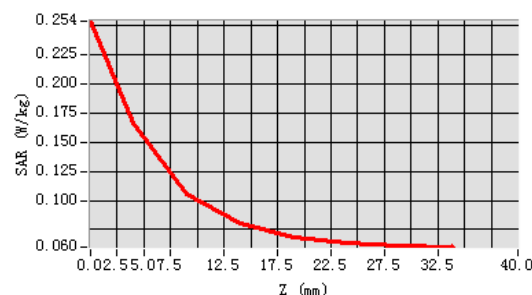
**Plot 38: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Probe	SN 17/14 EP221
ConvF	4.25
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back side
Band	IEEE 802.11b ISM
Channels	Middle
Signal	<u>IEEE802.b (Crest factor: 1.0)</u>
Frequency (MHz)	2437
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79
Variation (%)	-0.17

Maximum location: X=25.00, Y=-13.00

SAR Peak: 0.26 W/kg

SAR 10g (W/Kg)	0.101253
SAR 1g (W/Kg)	0.159482

**SURFACE SAR**

**VOLUME SAR**

**3D**

**Z Axis Scan**


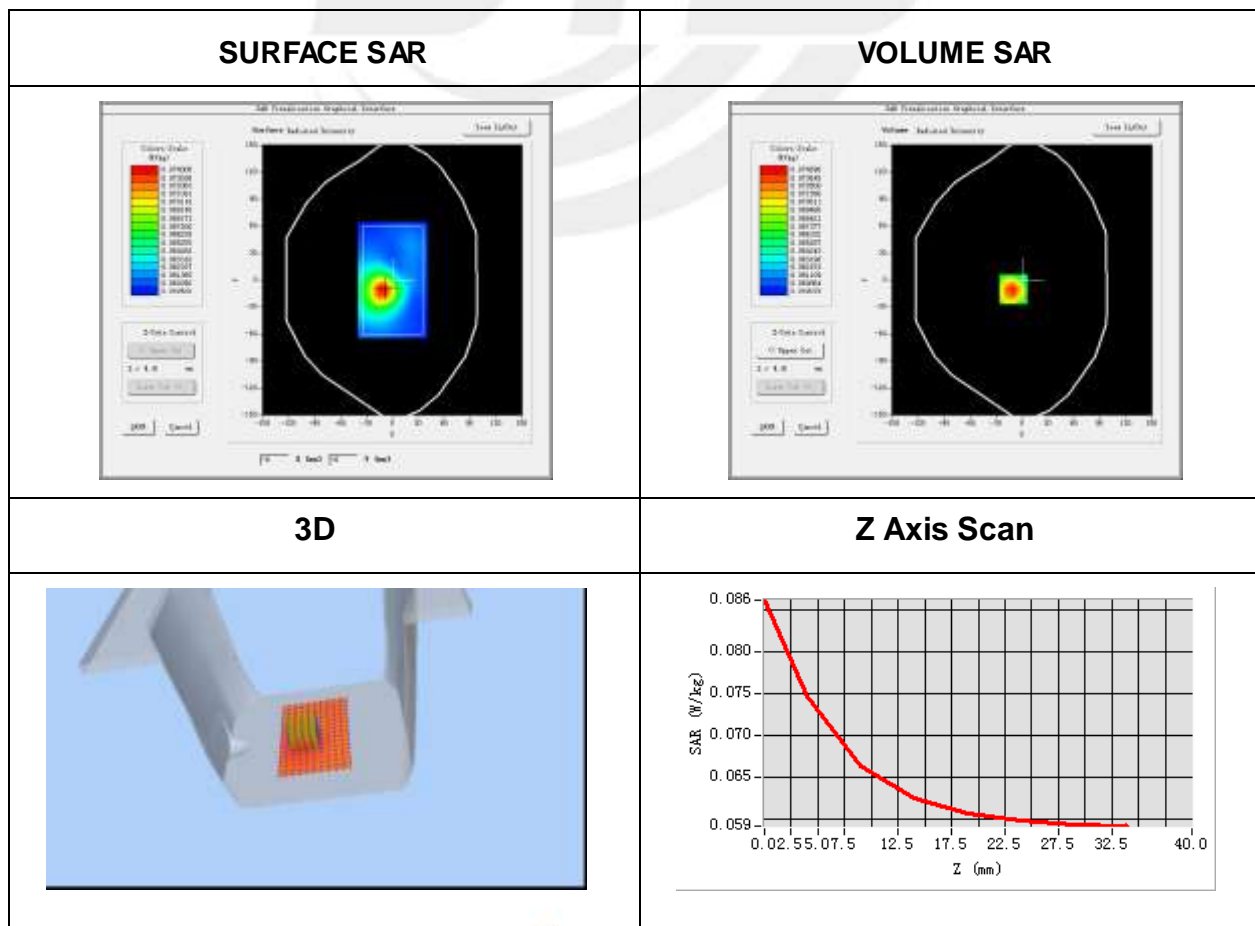


**Plot 39: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Probe	SN 17/14 EP221
ConvF	4.25
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body right side
Band	IEEE 802.11b ISM
Channels	Middle
Signal	<u>IEEE802.b (Crest factor: 1.0)</u>
Frequency (MHz)	2437
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79
Variation (%)	-0.21

Maximum location: X=-10.00, Y=-10.00  
SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.066415
SAR 1g (W/Kg)	0.074063



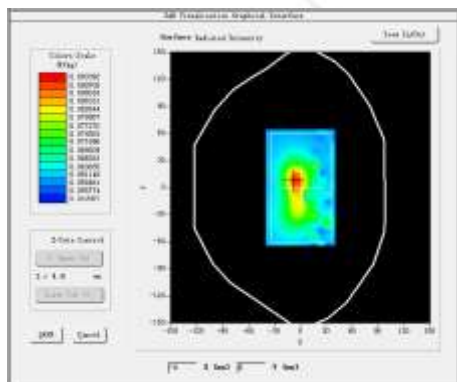
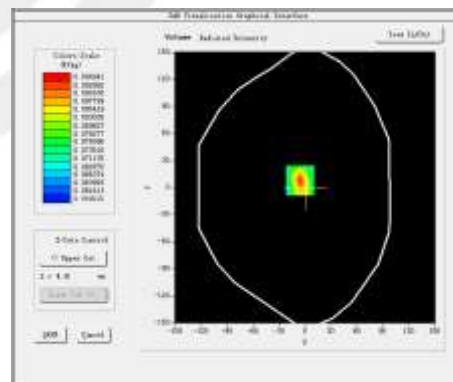
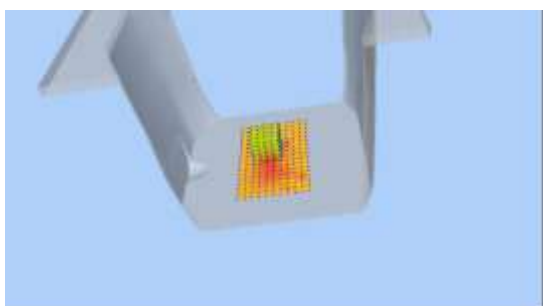
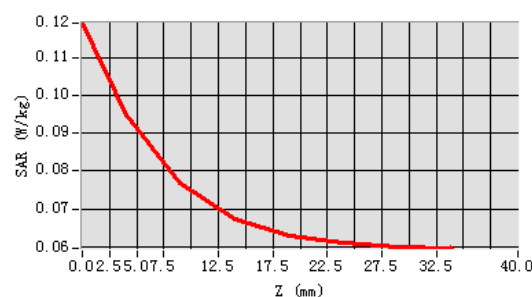
**Plot 40: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Probe	SN 17/14 EP221
ConvF	4.25
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body top side
Band	IEEE 802.11b ISM
Channels	Middle
Signal	<u>IEEE802.b (Crest factor: 1.0)</u>
Frequency (MHz)	2437
Relative permittivity (real part)	39.23
Conductivity (S/m)	1.79
Variation (%)	-0.10

Maximum location: X=-6.00, Y=8.00

SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.074178
SAR 1g (W/Kg)	0.091469

**SURFACE SAR**

**VOLUME SAR**

**3D**

**Z Axis Scan**


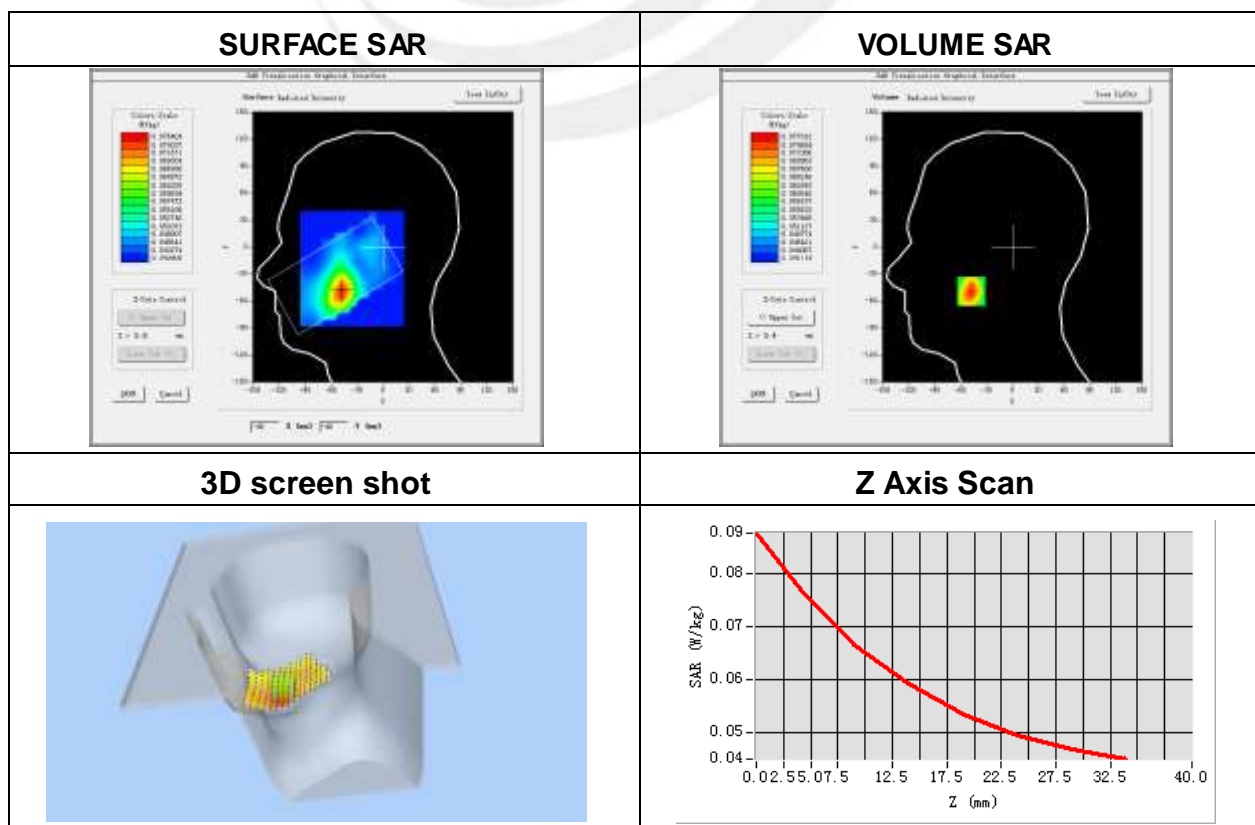
**Plot 41: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.71
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	LTE Band 2 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1900.0
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	-0.11

Maximum location: X=-48.00, Y=-49.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.062115
SAR 1g (W/Kg)	0.075022



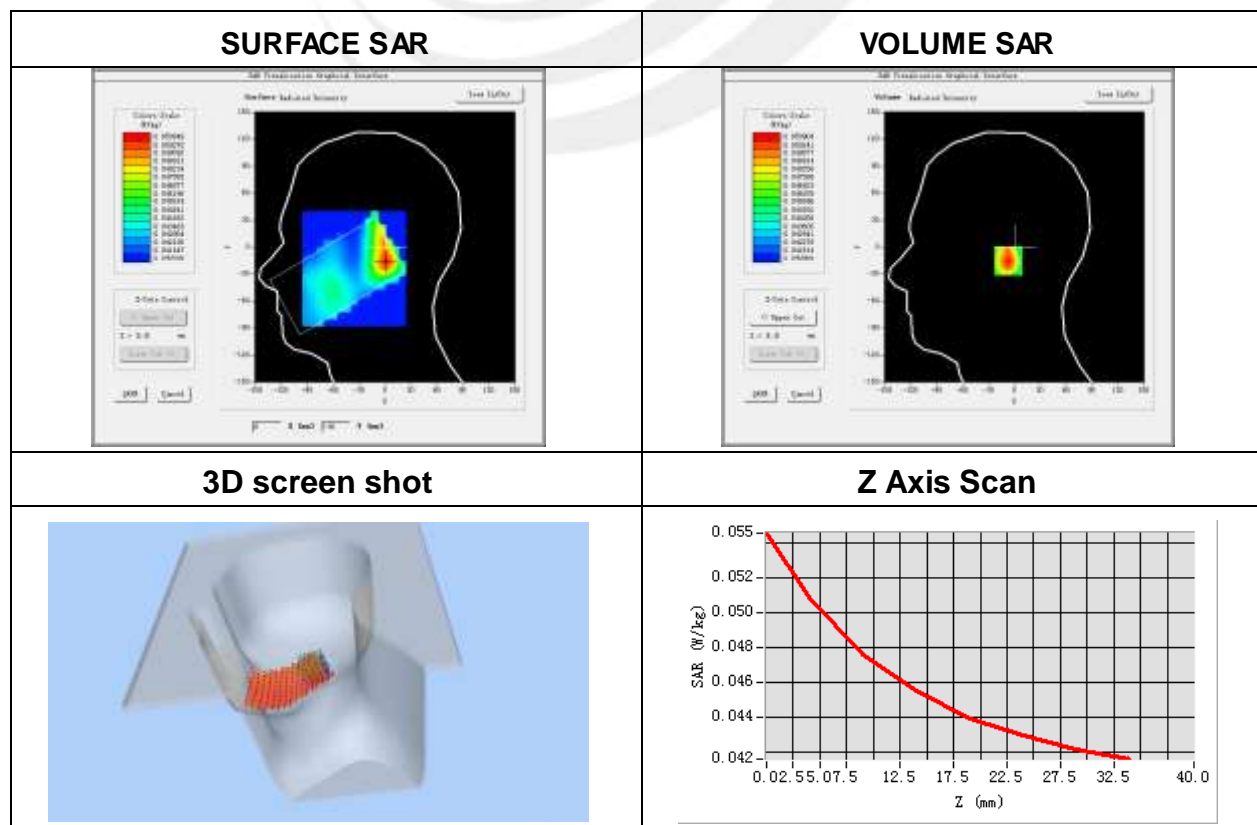
**Plot 42: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Tilt
Band	LTE Band 2 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1900.0
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	-0.18

Maximum location: X=1.00, Y=-15.00

SAR Peak: 0.05 W/kg

SAR 10g (W/Kg)	0.046586
SAR 1g (W/Kg)	0.050406



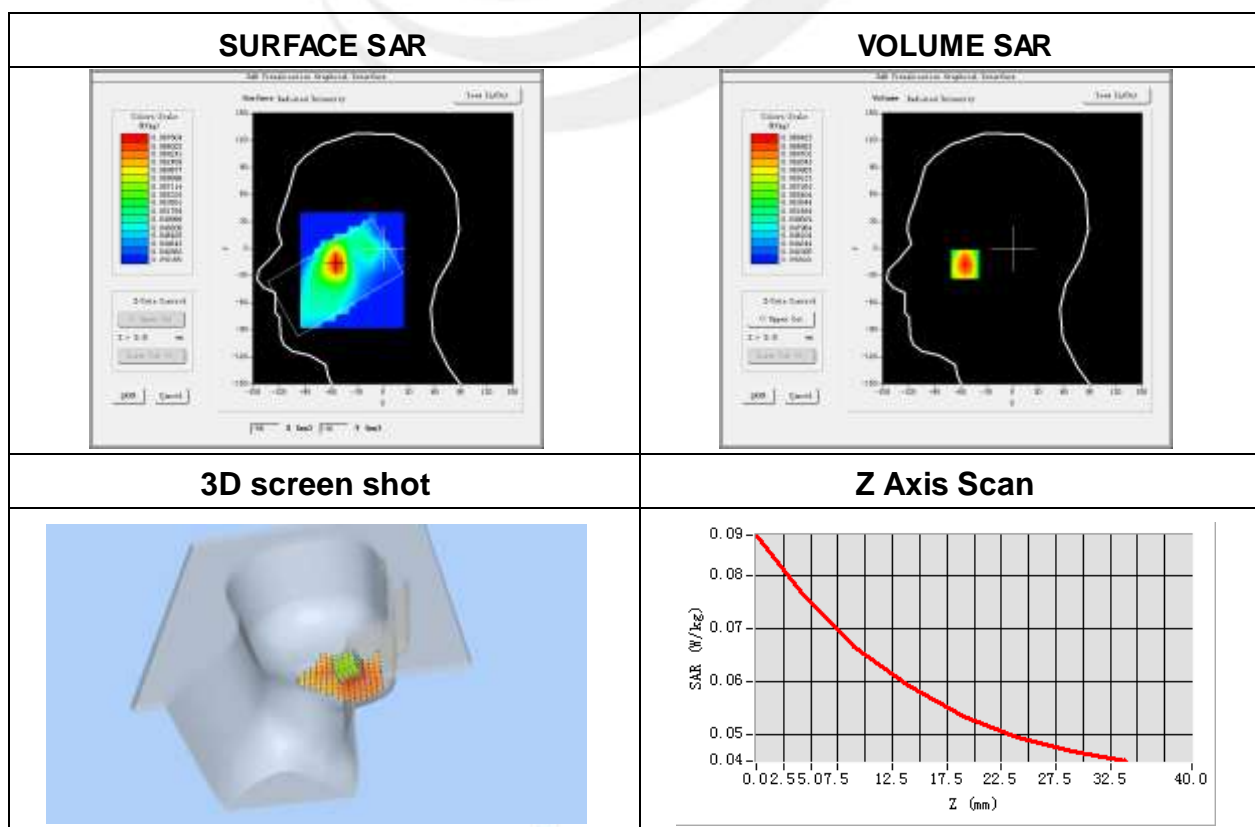
**Plot 43: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 2 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1900.0
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	-3.82

Maximum location: X=-55.00, Y=-16.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.052287
SAR 1g (W/Kg)	0.063520



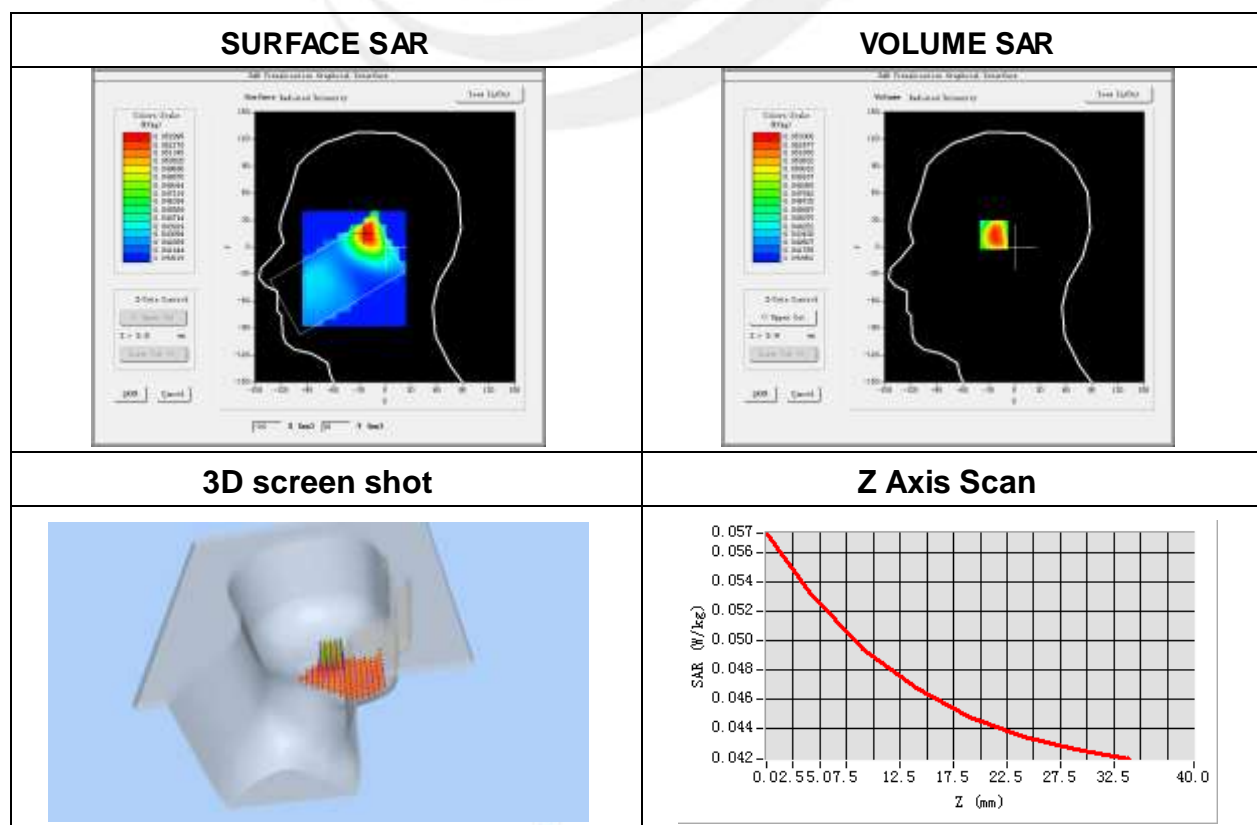
**Plot 44: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.83
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Tilt
Band	LTE Band 2(RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1900.0
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	-1.06

Maximum location: X=-22.00, Y=16.00

SAR Peak: 0.06 W/kg

SAR 10g (W/Kg)	0.048010
SAR 1g (W/Kg)	0.052667





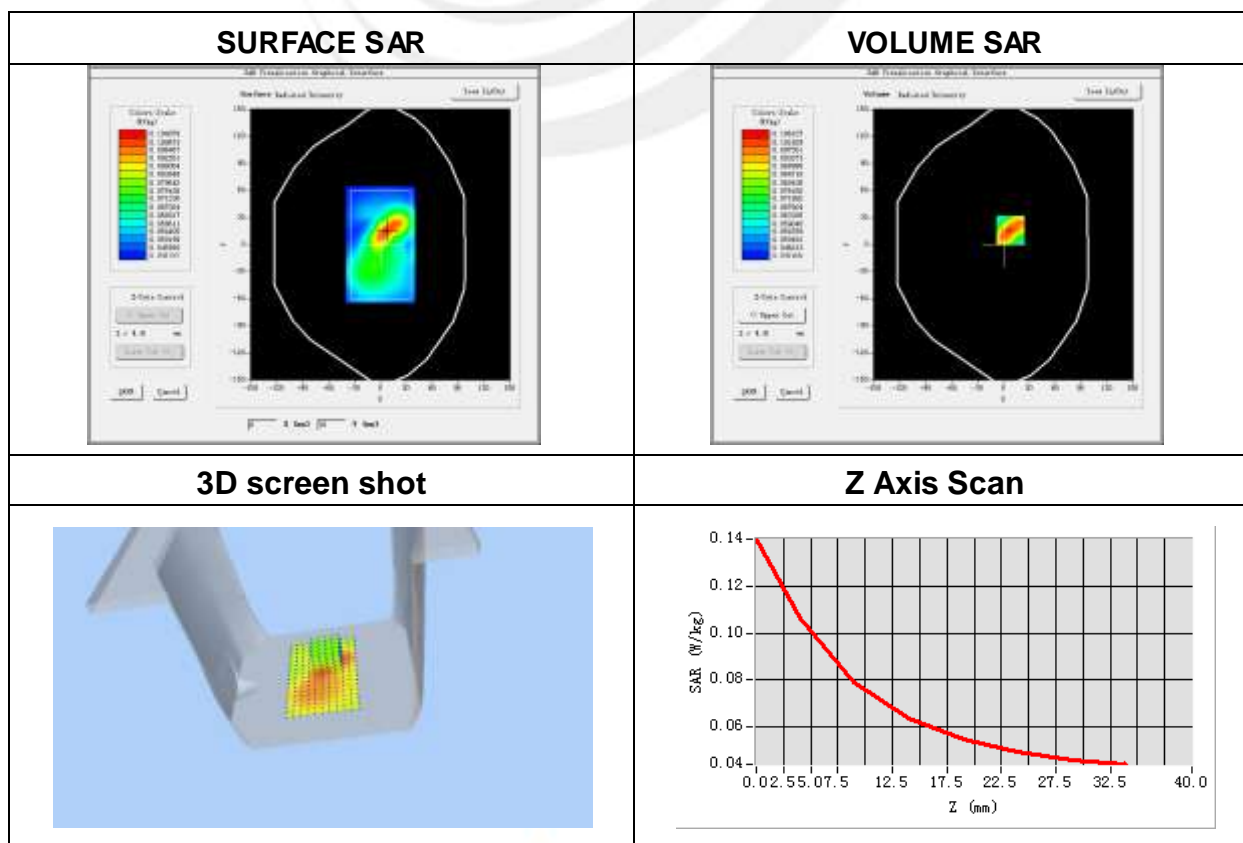
**Plot 45: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body front
Band	LTE Band 2(RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1900.0
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	0.82

Maximum location: X=8.00, Y=16.00

SAR Peak: 0.14 W/kg

SAR 10g (W/Kg)	0.074401
SAR 1g (W/Kg)	0.103145



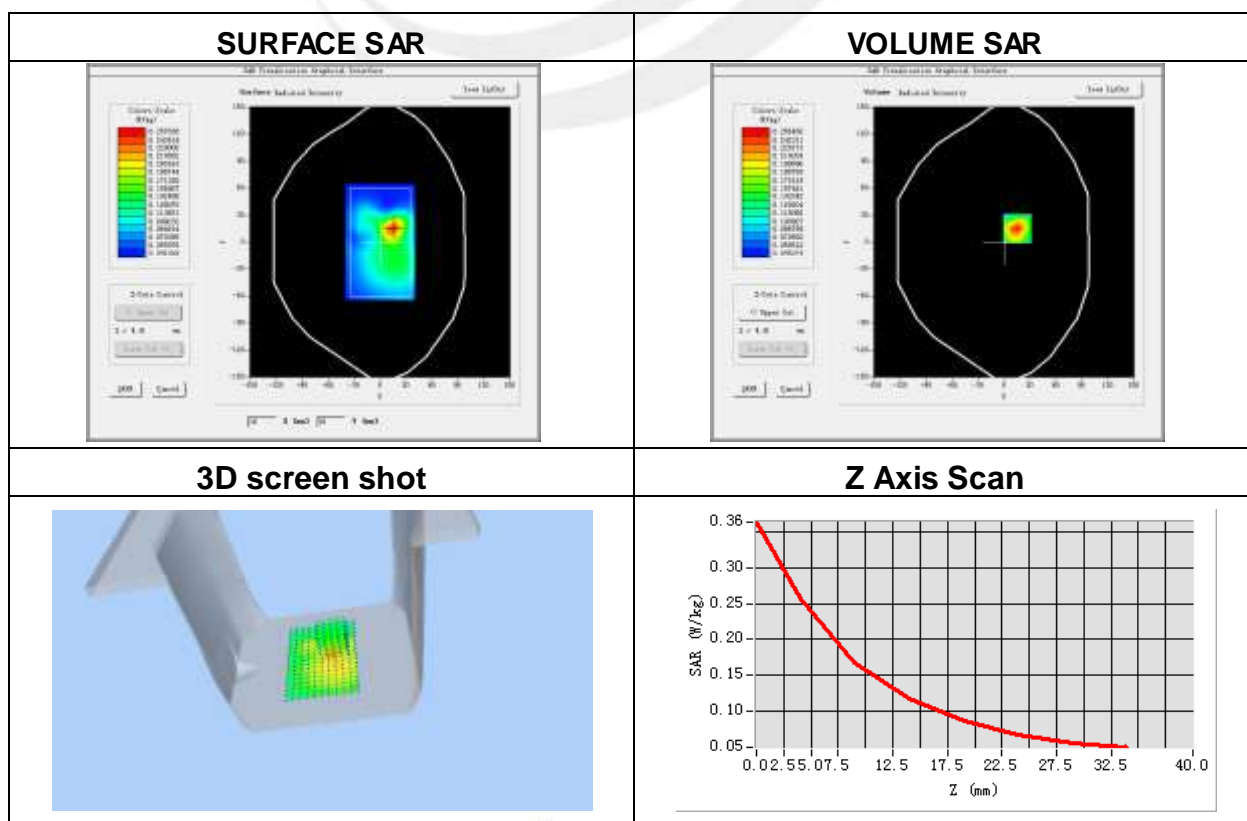
**Plot 46: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back
Band	LTE Band 2(RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1900.0
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	1.24

Maximum location: X=15.00, Y=15.00

SAR Peak: 0.37 W/kg

SAR 10g (W/Kg)	0.151235
SAR 1g (W/Kg)	0.243386



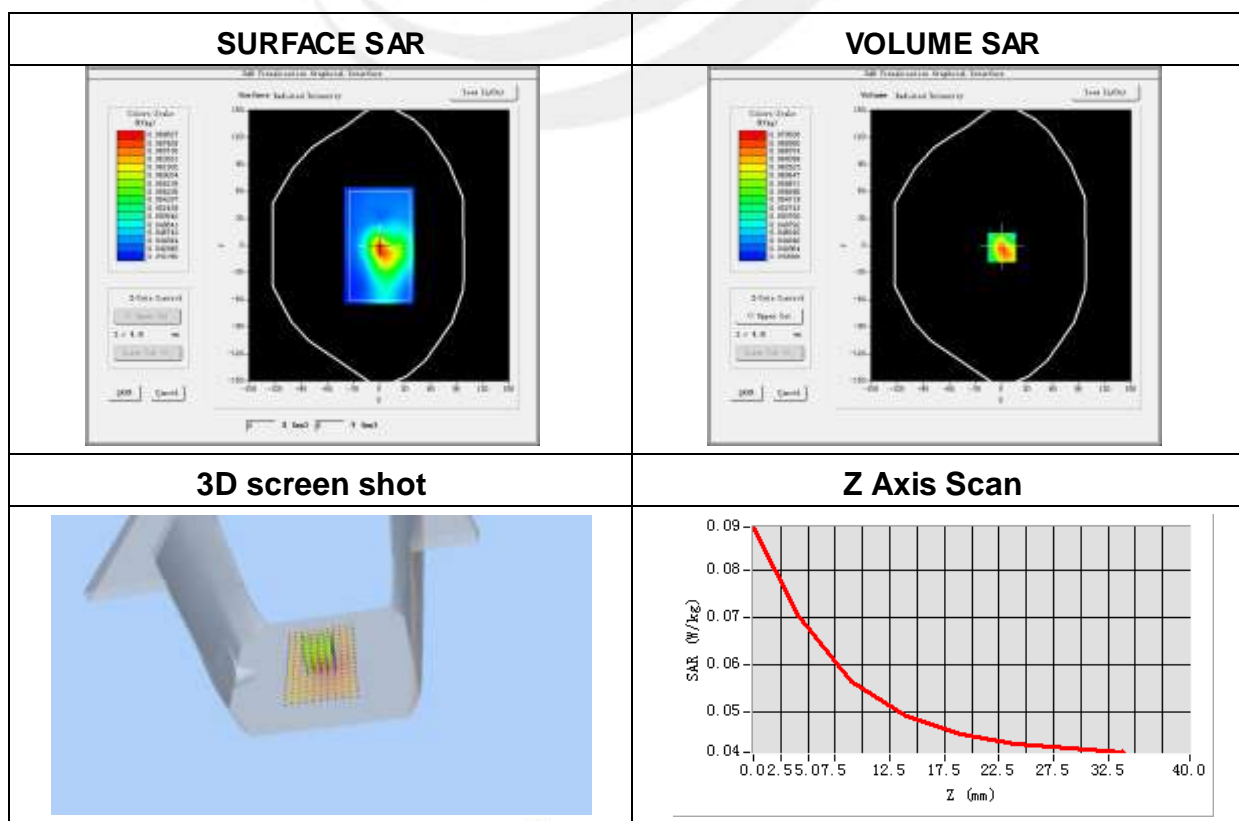
**Plot 47: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body left side
Band	LTE Band 2(RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1900.0
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	0.16

Maximum location: X=1.00, Y=-2.00

SAR Peak: 0.09 W/kg

SAR 10g (W/Kg)	0.054949
SAR 1g (W/Kg)	0.068122



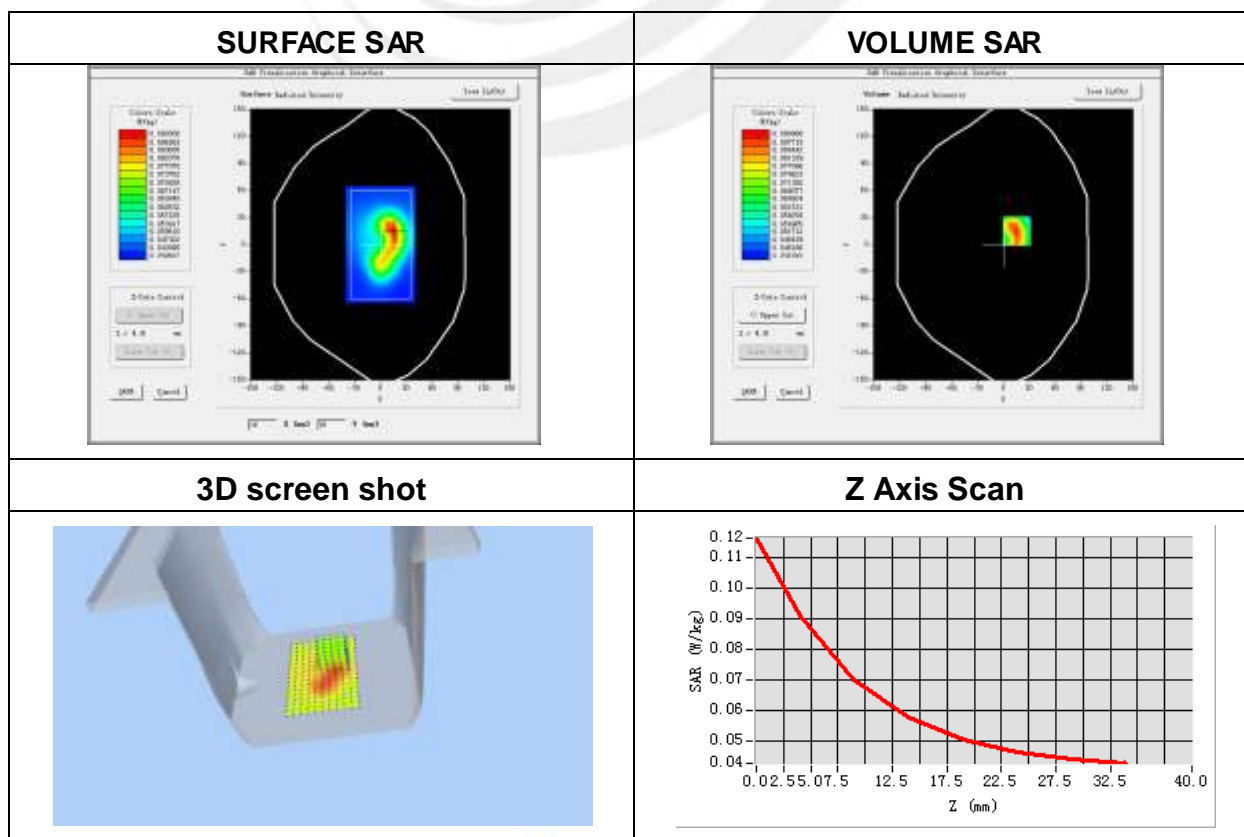
**Plot 48: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.85
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body bottom side
Band	LTE Band 2(RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1900.0
Relative permittivity (real part)	40.0
Conductivity (S/m)	0.91
Variation (%)	-0.19

Maximum location: X=15.00, Y=15.00

SAR Peak: 0.12 W/kg

SAR 10g (W/Kg)	0.065409
SAR 1g (W/Kg)	0.088167



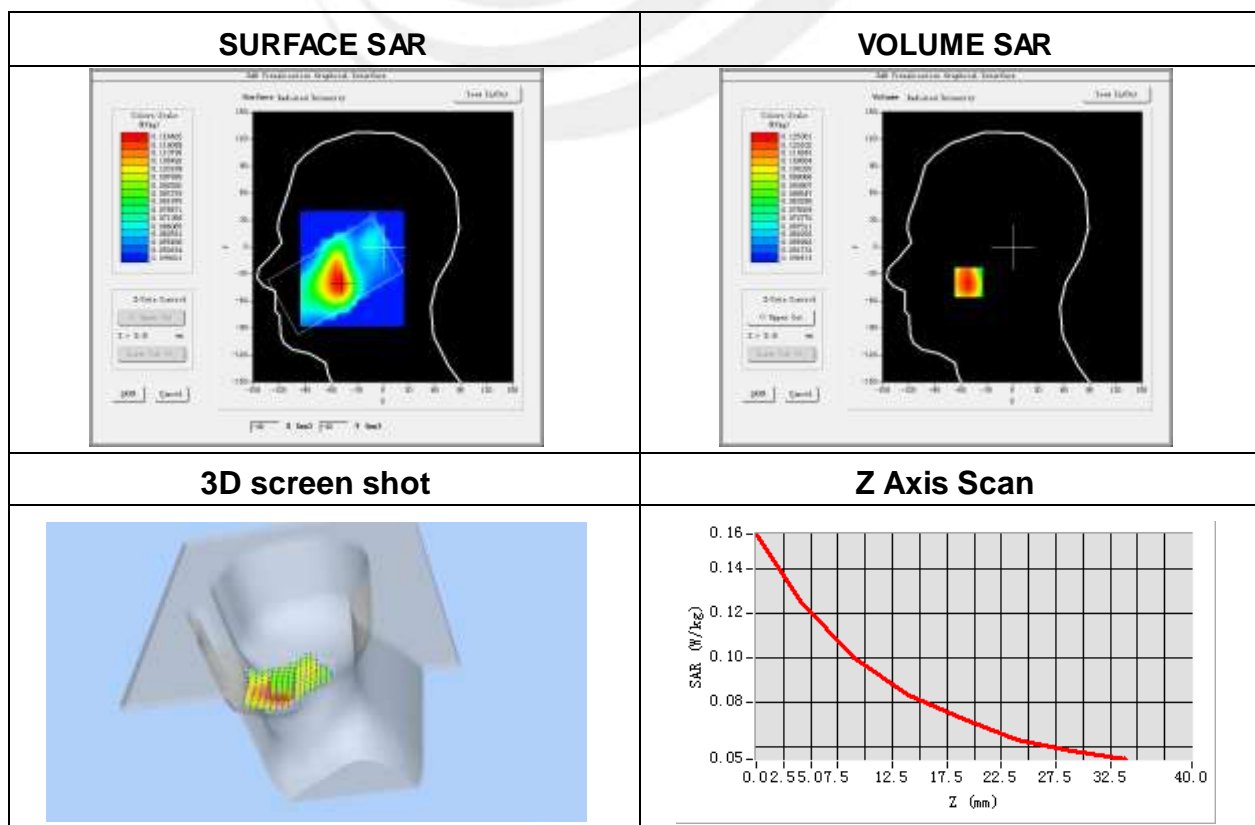

**Plot 49: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.25
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	LTE Band 4 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1745
Relative permittivity (real part)	40.2
Conductivity (S/m)	1.31
Variation (%)	-0.09

Maximum location: X=-51.00, Y=-39.00

SAR Peak: 0.15 W/kg

SAR 10g (W/Kg)	0.094826
SAR 1g (W/Kg)	0.122599



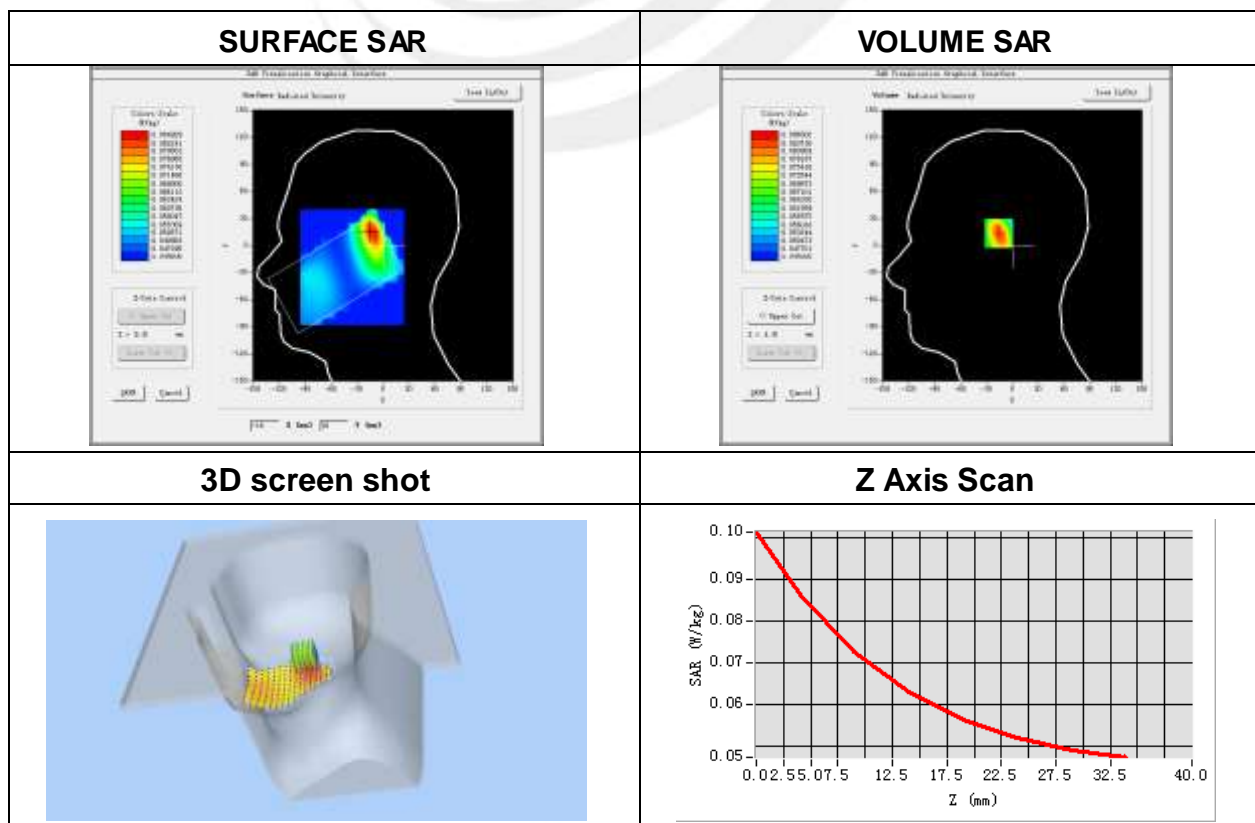
**Plot 50: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.25
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Tilt
Band	LTE Band 4 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1745
Relative permittivity (real part)	40.2
Conductivity (S/m)	1.31
Variation (%)	-0.18

Maximum location: X=-13.00, Y=15.00

SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.067669
SAR 1g (W/Kg)	0.083746





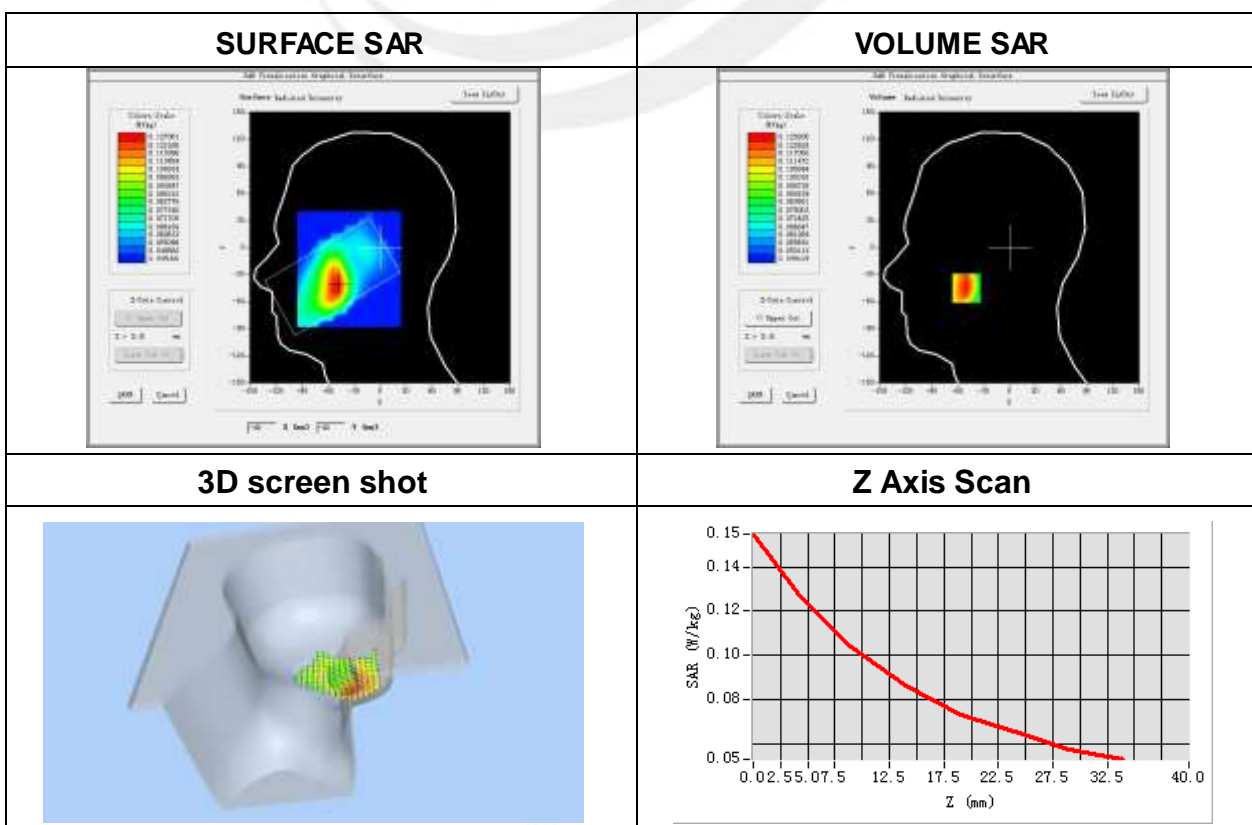
**Plot 51: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.25
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 4 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1745
Relative permittivity (real part)	40.2
Conductivity (S/m)	1.31
Variation (%)	0.45

Maximum location: X=-50.00, Y=-45.00

SAR Peak: 0.16 W/kg

SAR 10g (W/Kg)	0.095494
SAR 1g (W/Kg)	0.124408



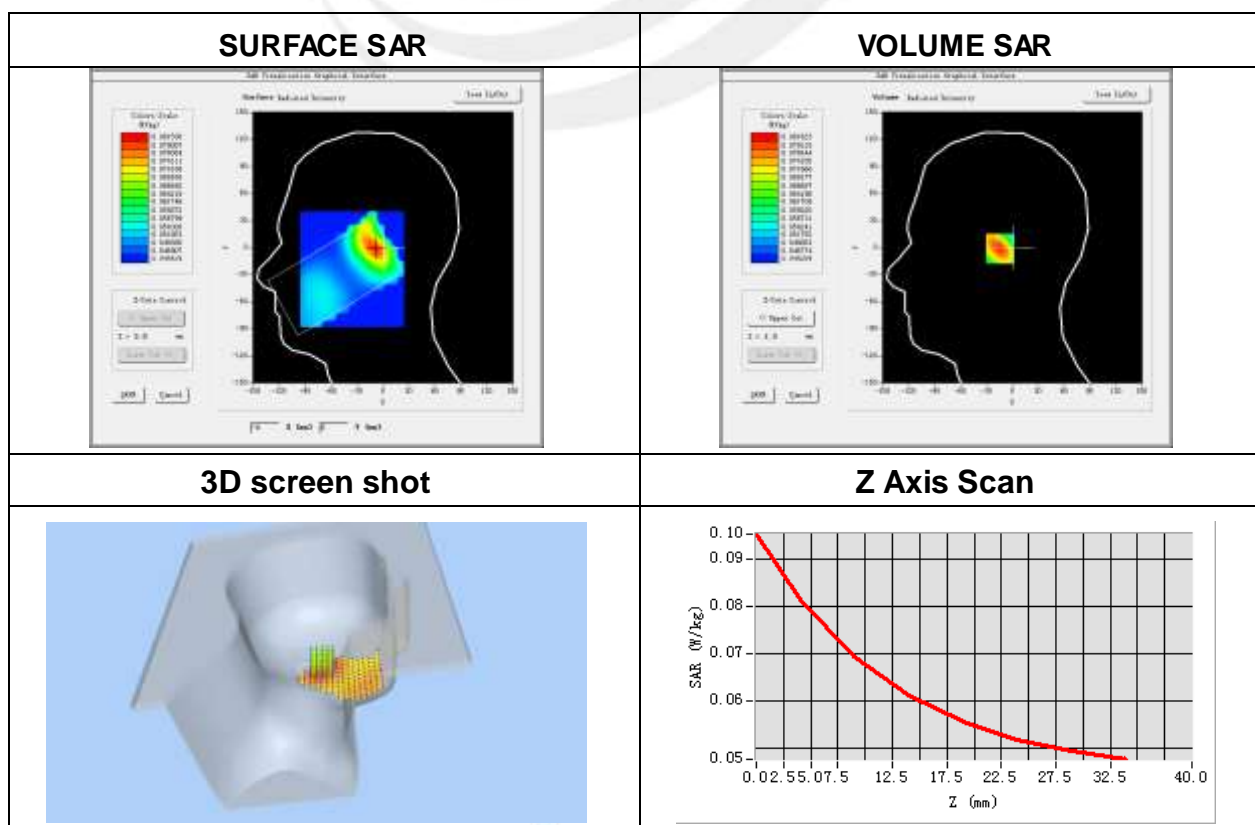
Plot 52: DUT: 4G smart phone; EUT Model: UNO

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.25
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Tilt
Band	LTE Band 4 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1745
Relative permittivity (real part)	40.2
Conductivity (S/m)	1.31
Variation (%)	-0.19

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

SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.065706
SAR 1g (W/Kg)	0.079488



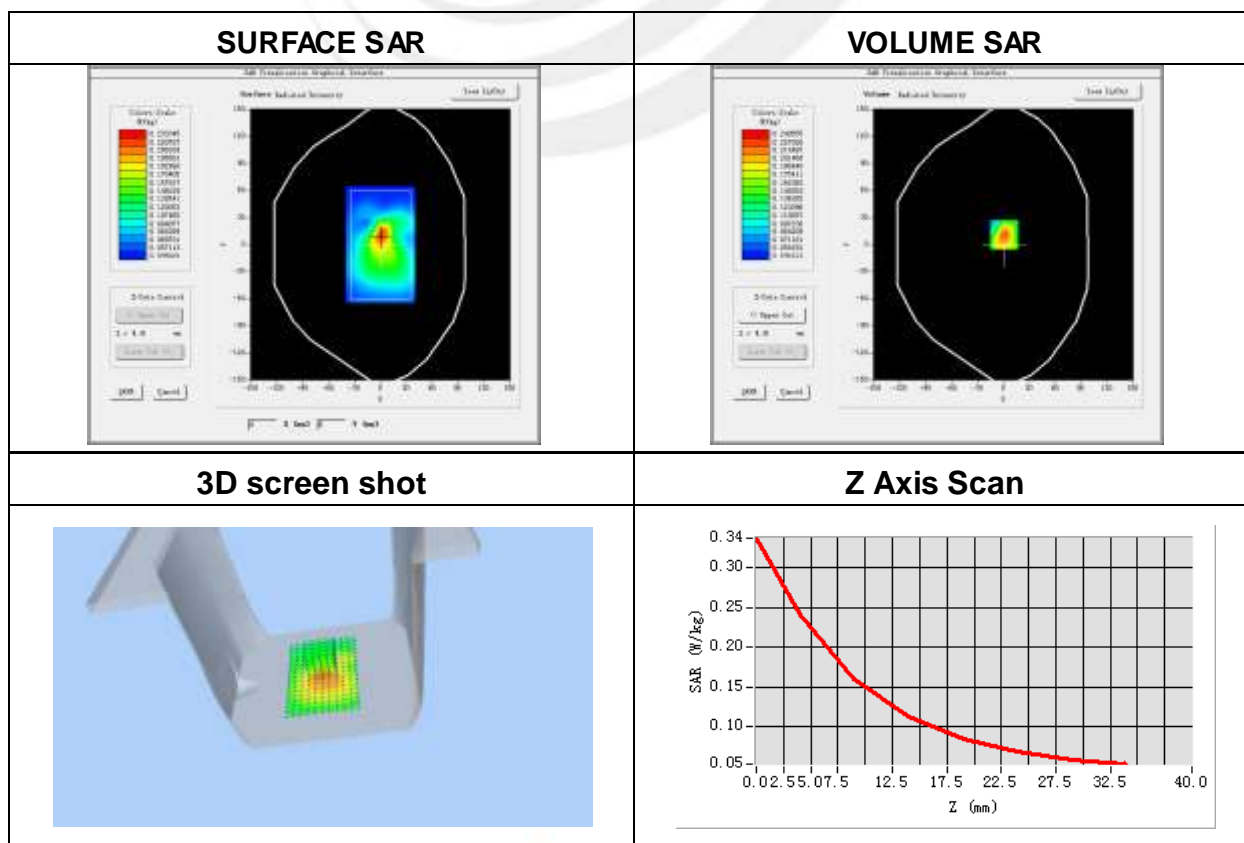
**Plot 71: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.34
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body front
Band	LTE Band 4 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1745
Relative permittivity (real part)	52.6
Conductivity (S/m)	1.38
Variation (%)	-0.12

Maximum location: X=1.00, Y=11.00

SAR Peak: 0.34 W/kg

SAR 10g (W/Kg)	0.141450
SAR 1g (W/Kg)	0.224330



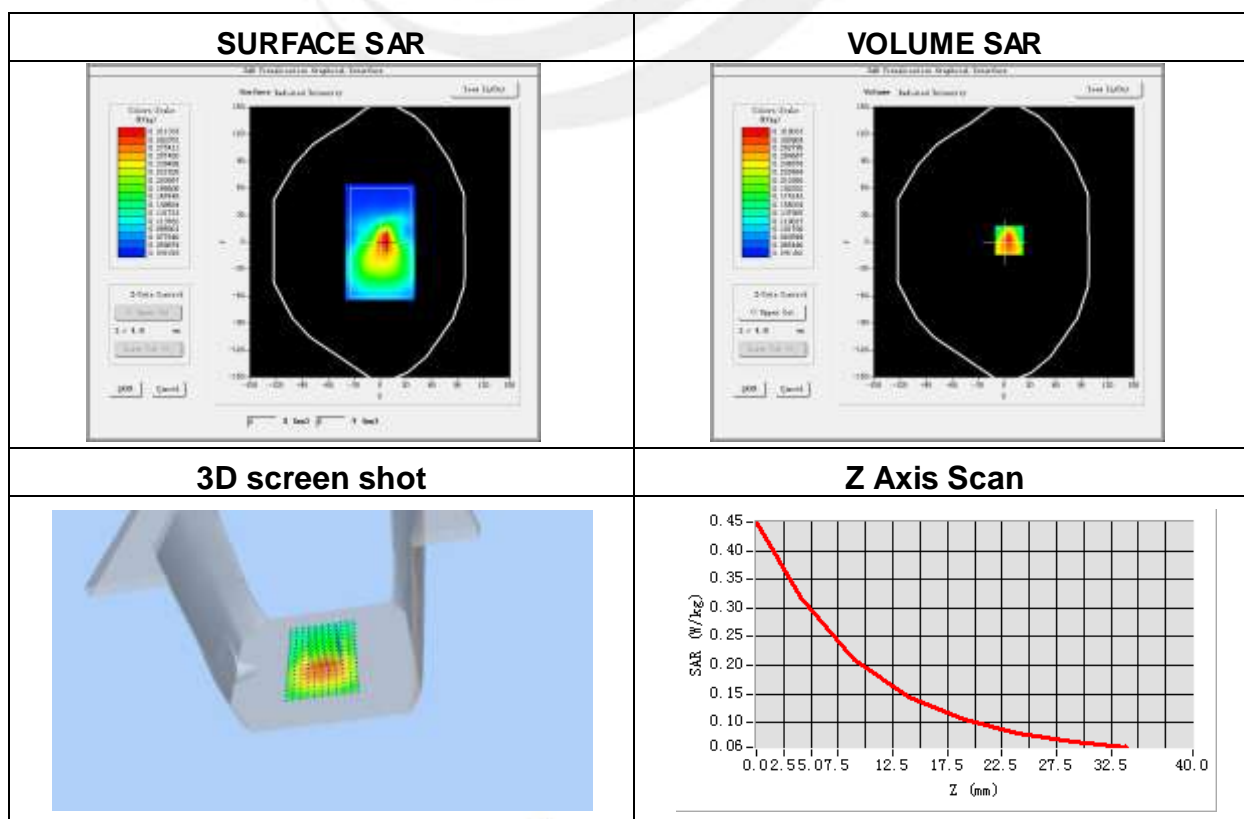
**Plot 54: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.34
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back
Band	LTE Band 4 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1745
Relative permittivity (real part)	52.6
Conductivity (S/m)	1.38
Variation (%)	-0.10

Maximum location: X=6.00, Y=2.00

SAR Peak: 0.47 W/kg

SAR 10g (W/Kg)	0.190729
SAR 1g (W/Kg)	0.301923



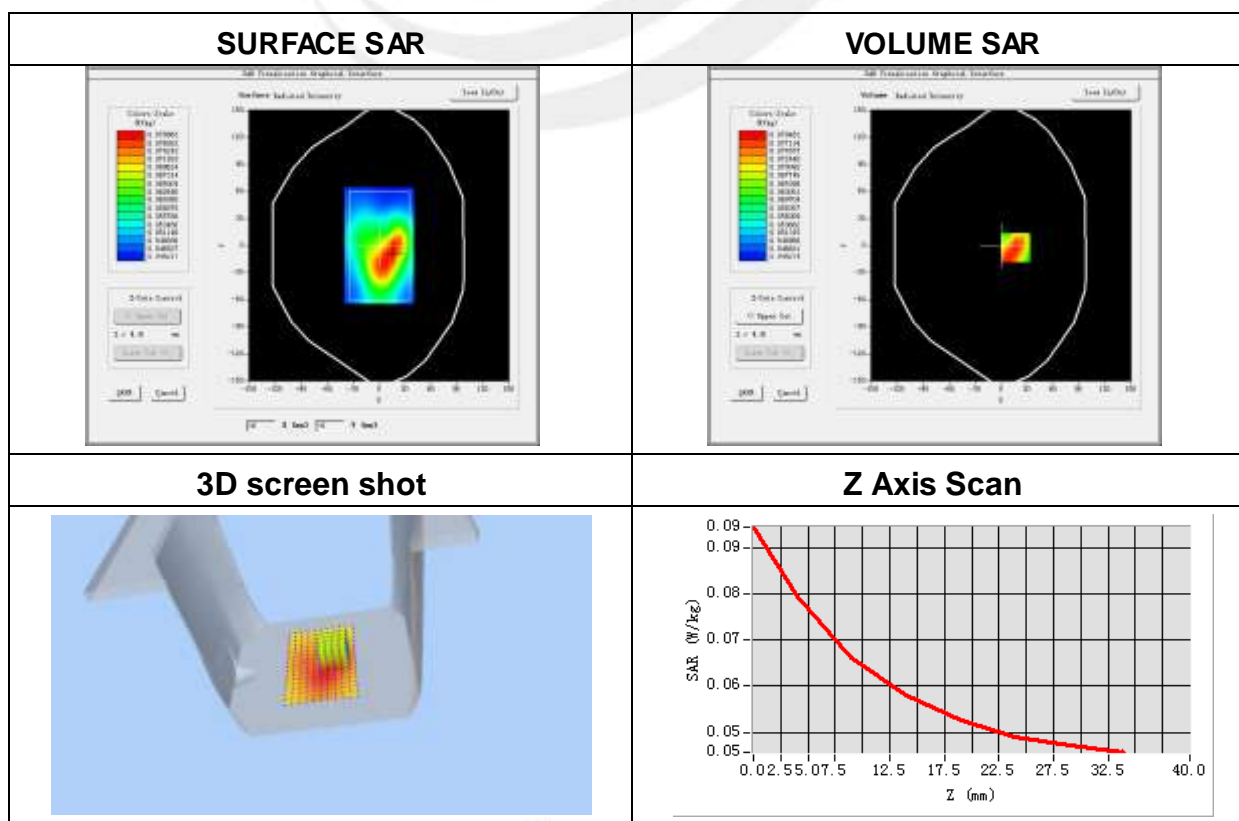
**Plot 55: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.34
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body left side
Band	LTE Band 4 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1745
Relative permittivity (real part)	52.6
Conductivity (S/m)	1.38
Variation (%)	-0.02

Maximum location: X=17.00, Y=-2.00

SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.064323
SAR 1g (W/Kg)	0.077653



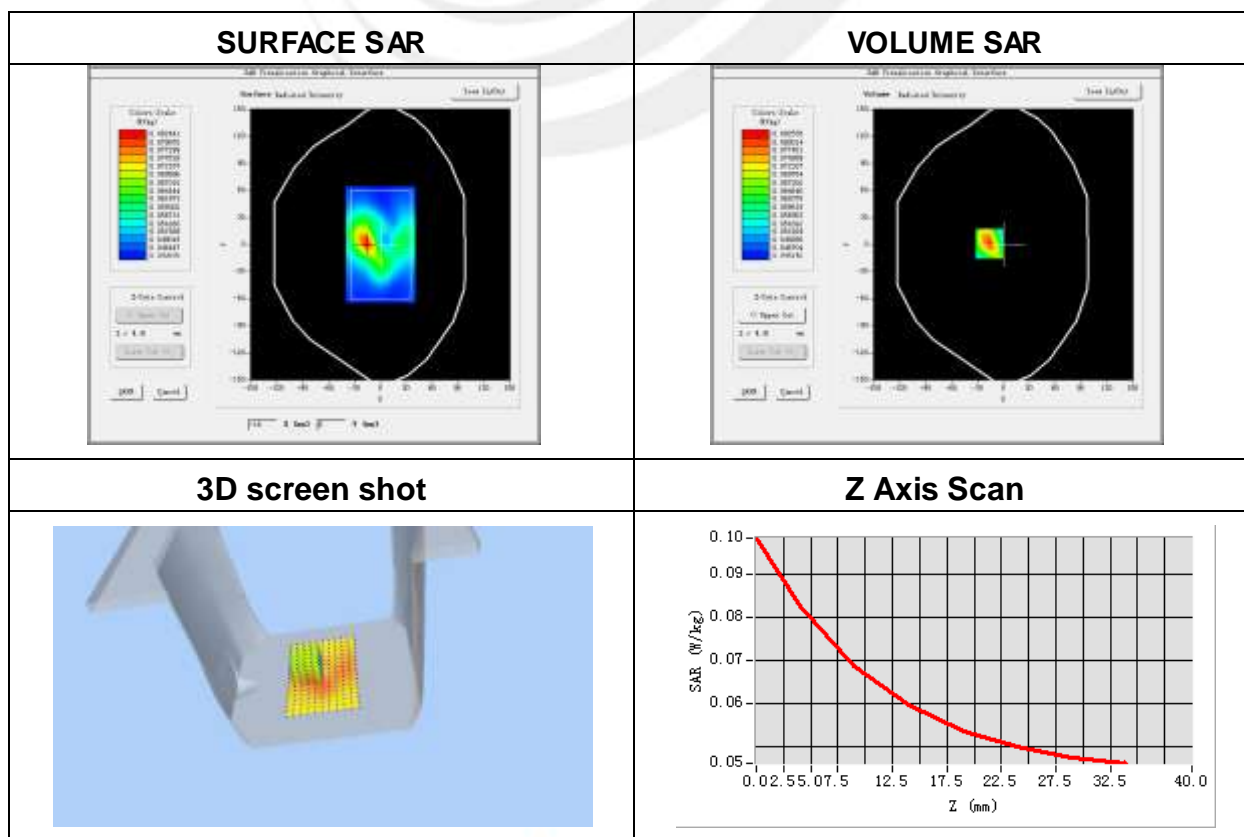
**Plot 56: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.34
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body bottom side
Band	LTE Band 4 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	1745
Relative permittivity (real part)	52.6
Conductivity (S/m)	1.38
Variation (%)	-0.47

Maximum location: X=-16.00, Y=1.00

SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.063733
SAR 1g (W/Kg)	0.079513





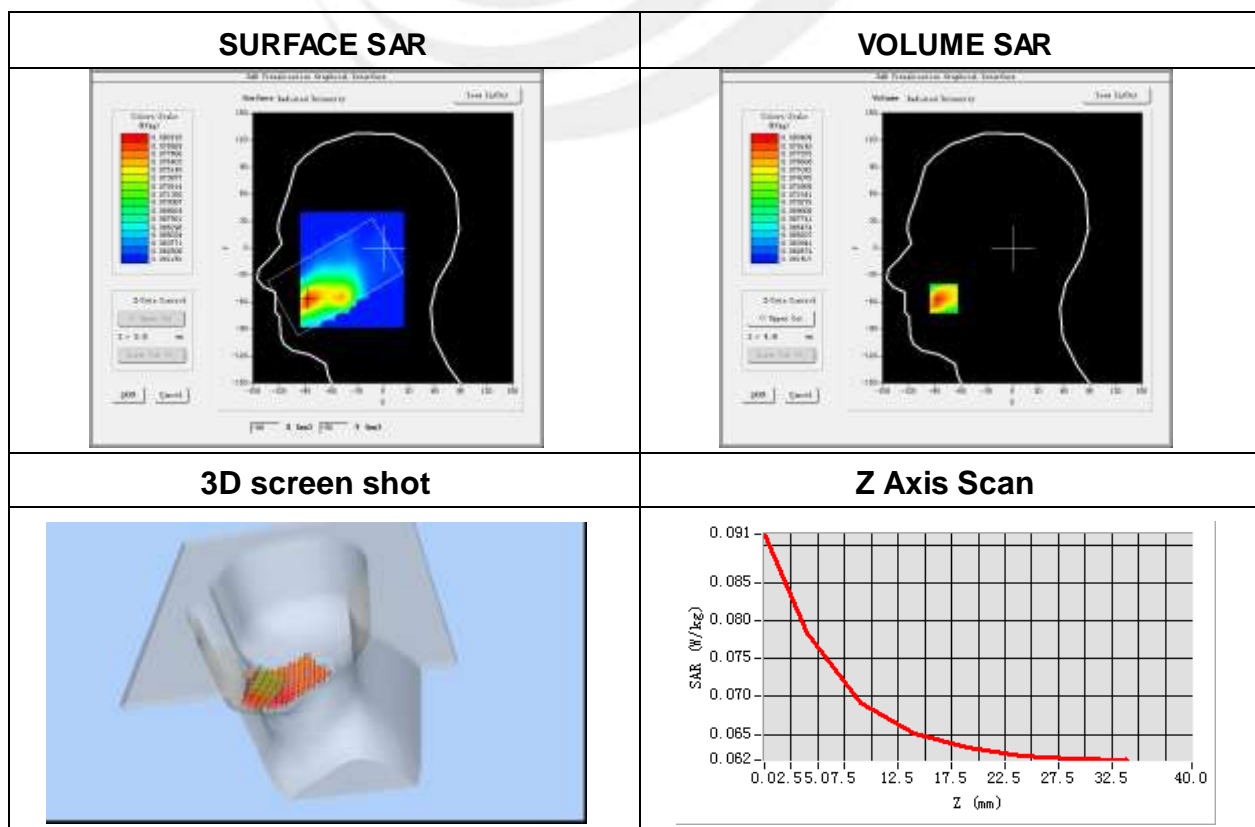
**Plot 57: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.20
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	LTE Band 7 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2560
Relative permittivity (real part)	38.5
Conductivity (S/m)	1.92
Variation (%)	-0.03

Maximum location: X=-80.00, Y=-56.00

SAR Peak: 0.10 W/kg

SAR 10g (W/Kg)	0.070335
SAR 1g (W/Kg)	0.079843



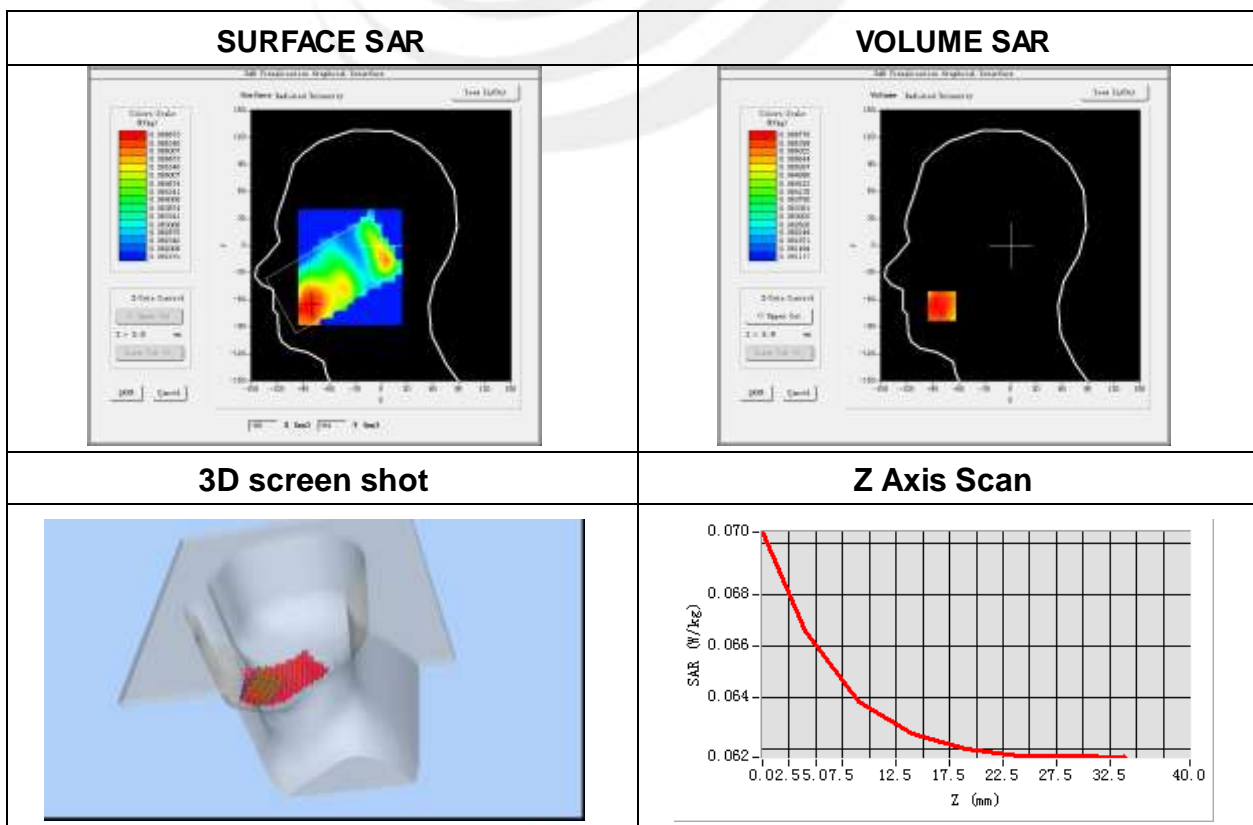
**Plot 58: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.20
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Tilt
Band	LTE Band 7 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2560
Relative permittivity (real part)	38.5
Conductivity (S/m)	1.92
Variation (%)	-0.11.

Maximum location: X=-80.00, Y=-67.00

SAR Peak: 0.07 W/kg

SAR 10g (W/Kg)	0.064229
SAR 1g (W/Kg)	0.066798



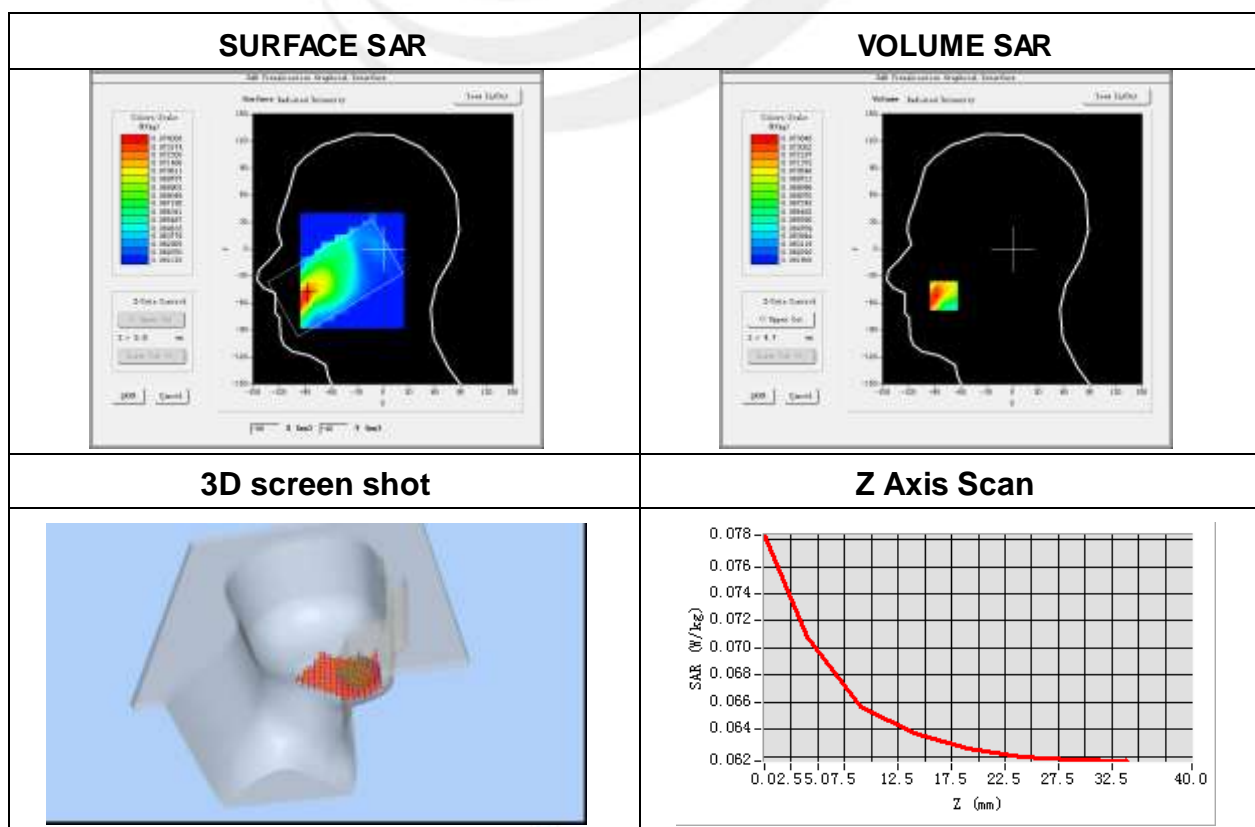
**Plot 59: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.20
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 7 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2560
Relative permittivity (real part)	38.5
Conductivity (S/m)	1.92
Variation (%)	-0.17

Maximum location: X=-80.00, Y=-52.00

SAR Peak: 0.08 W/kg

SAR 10g (W/Kg)	0.067328
SAR 1g (W/Kg)	0.073552



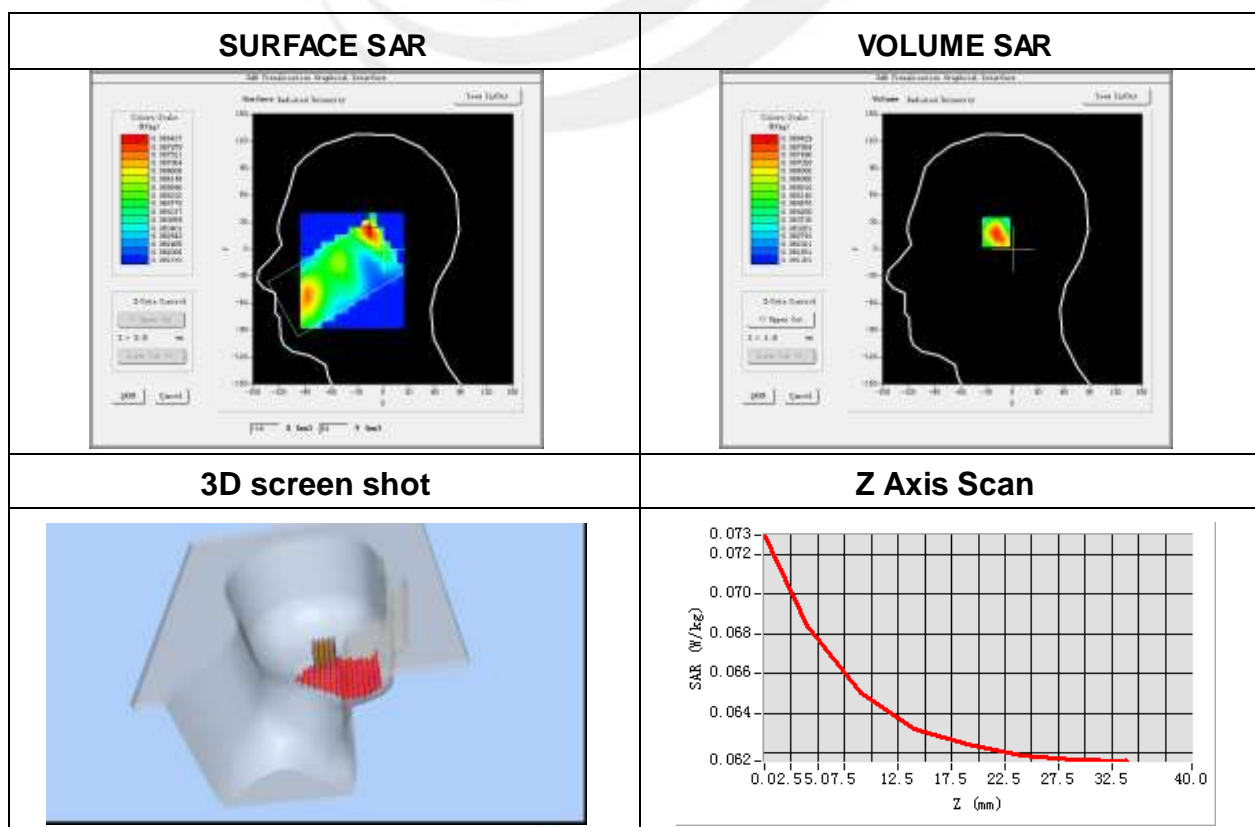
**Plot 60: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.20
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Tilt
Band	LTE Band 7 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2560
Relative permittivity (real part)	38.5
Conductivity (S/m)	1.92
Variation (%)	-0.02

Maximum location: X=-17.00, Y=22.00

SAR Peak: 0.07 W/kg

SAR 10g (W/Kg)	0.047646
SAR 1g (W/Kg)	0.068071



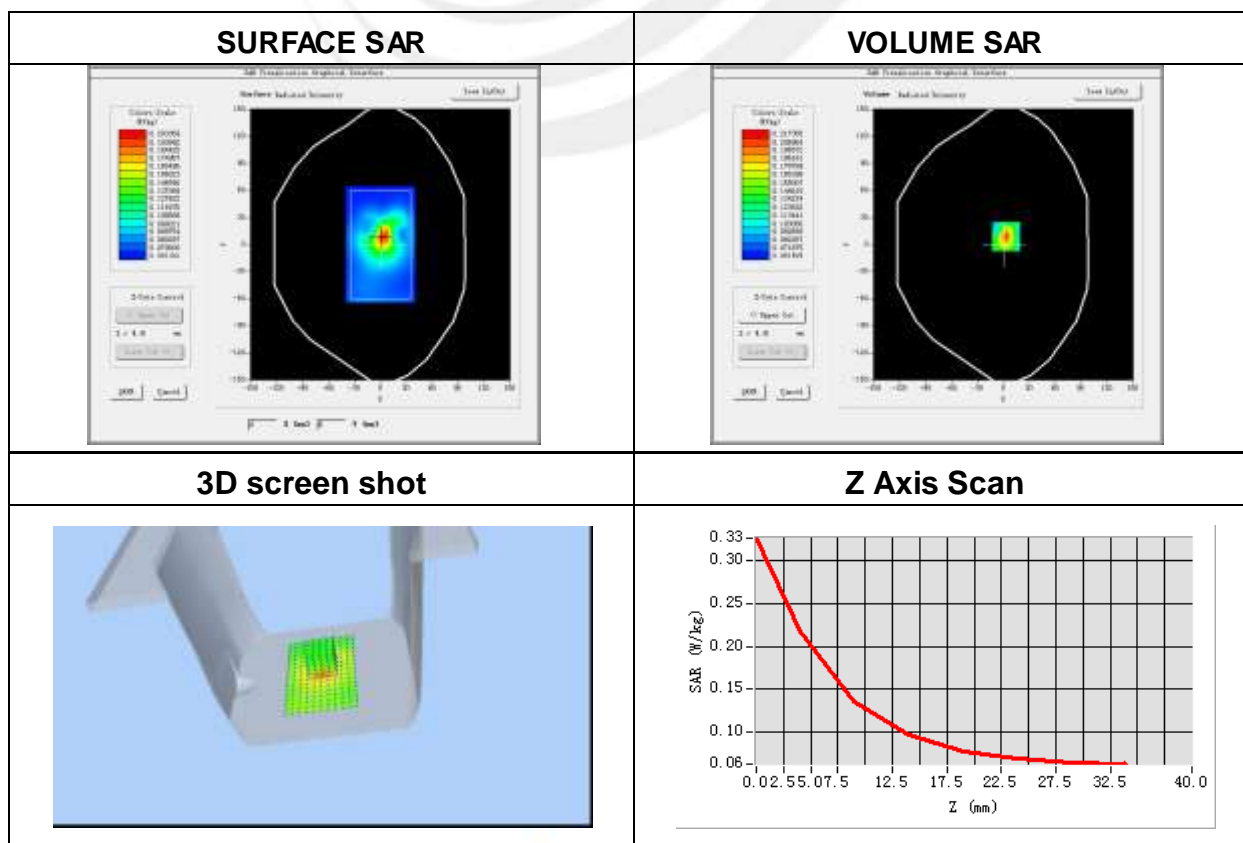
**Plot 61: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.32
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7, dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body front
Band	LTE Band 7 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2560
Relative permittivity (real part)	52.3
Conductivity (S/m)	2.12
Variation (%)	-0.03

Maximum location: X=3.00, Y=9.00

SAR Peak: 0.33 W/kg

SAR 10g (W/Kg)	0.123068
SAR 1g (W/Kg)	0.202338



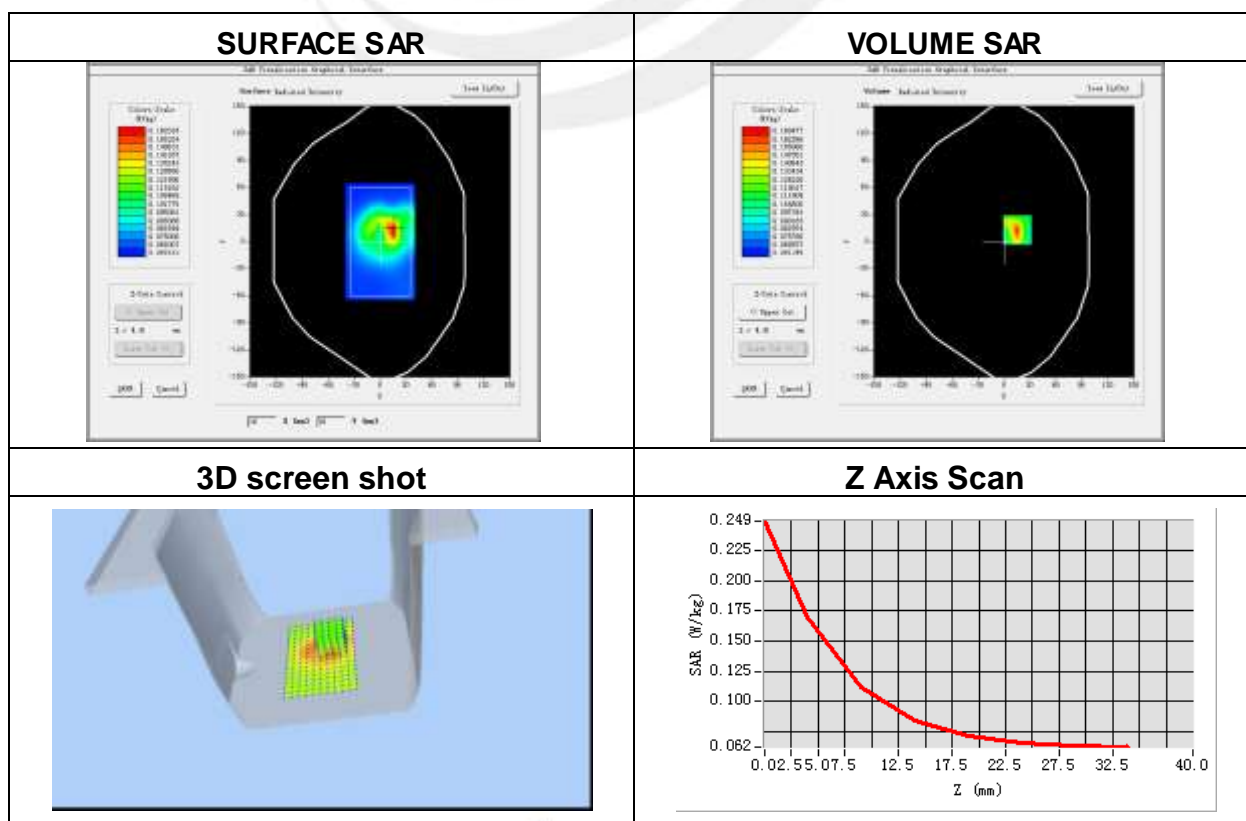
**Plot 62: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.32
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back
Band	LTE Band 7 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2560
Relative permittivity (real part)	52.3
Conductivity (S/m)	2.12
Variation (%)	-0.24

Maximum location: X=15.00, Y=13.00

SAR Peak: 0.25 W/kg

SAR 10g (W/Kg)	0.104427
SAR 1g (W/Kg)	0.159401





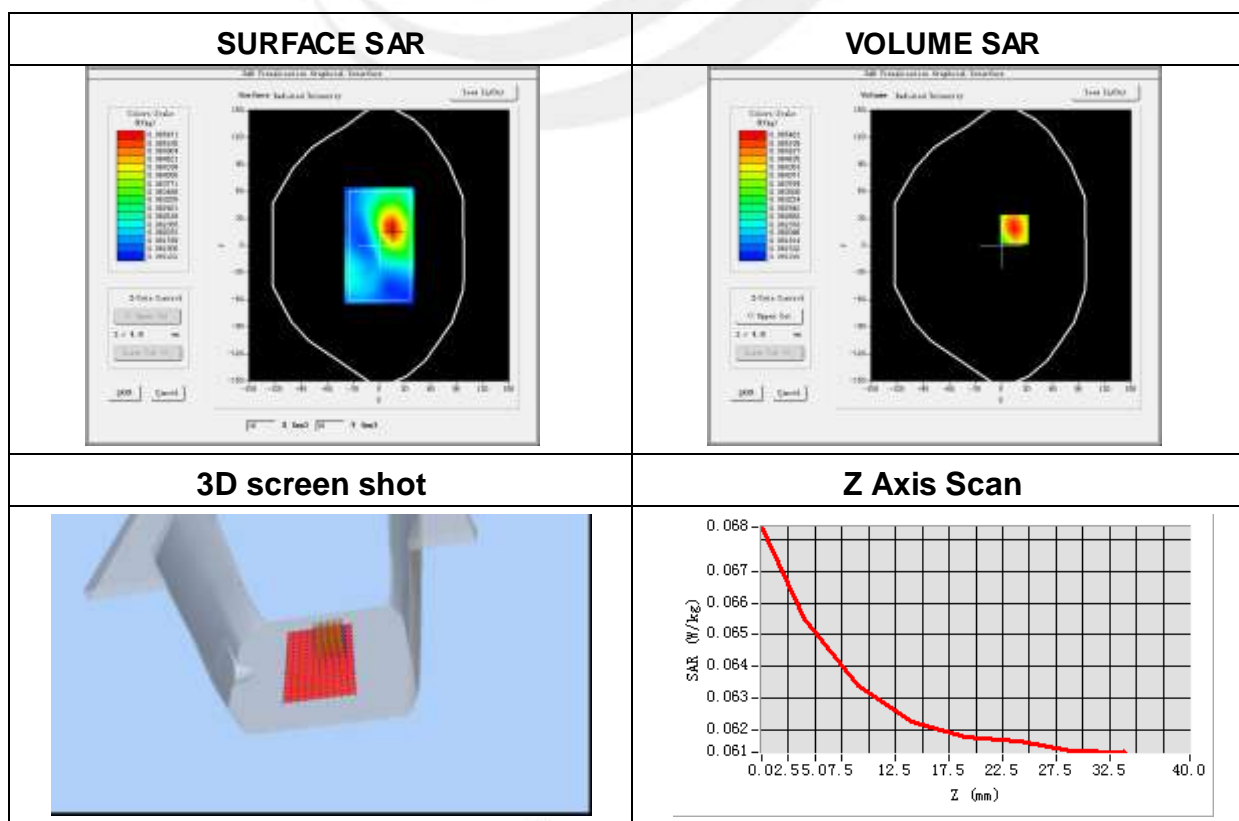
**Plot 63: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.32
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body left side
Band	LTE Band 7 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2560
Relative permittivity (real part)	52.3
Conductivity (S/m)	2.12
Variation (%)	-0.03

Maximum location: X=15.00, Y=18.00

SAR Peak: 0.07 W/kg

SAR 10g (W/Kg)	0.043341
SAR 1g (W/Kg)	0.065326



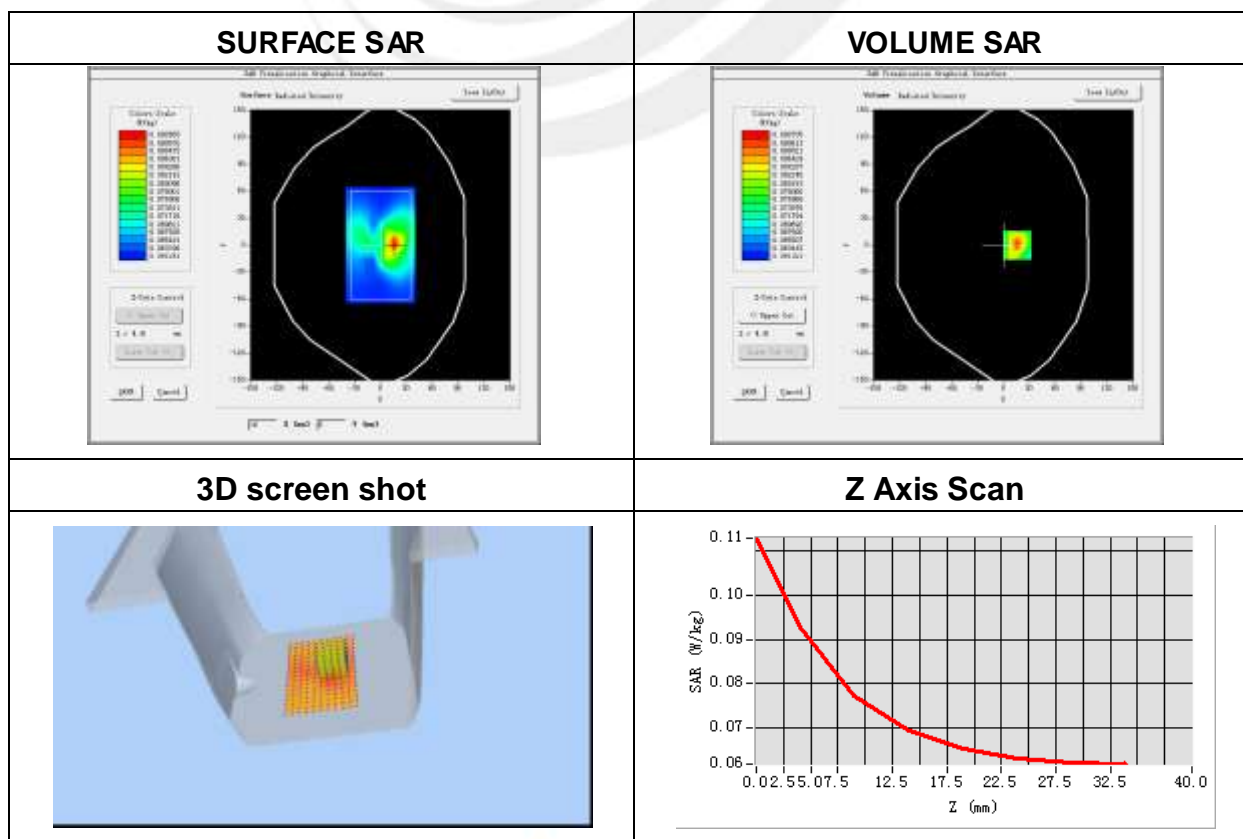
**Plot 64: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.32
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body bottom side
Band	LTE Band 7 (RB 1)
Channels	High
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	2560
Relative permittivity (real part)	52.3
Conductivity (S/m)	2.12
Variation (%)	-0.12

Maximum location: X=16.00, Y=0.00

SAR Peak: 0.11 W/kg

SAR 10g (W/Kg)	0.075039
SAR 1g (W/Kg)	0.090110



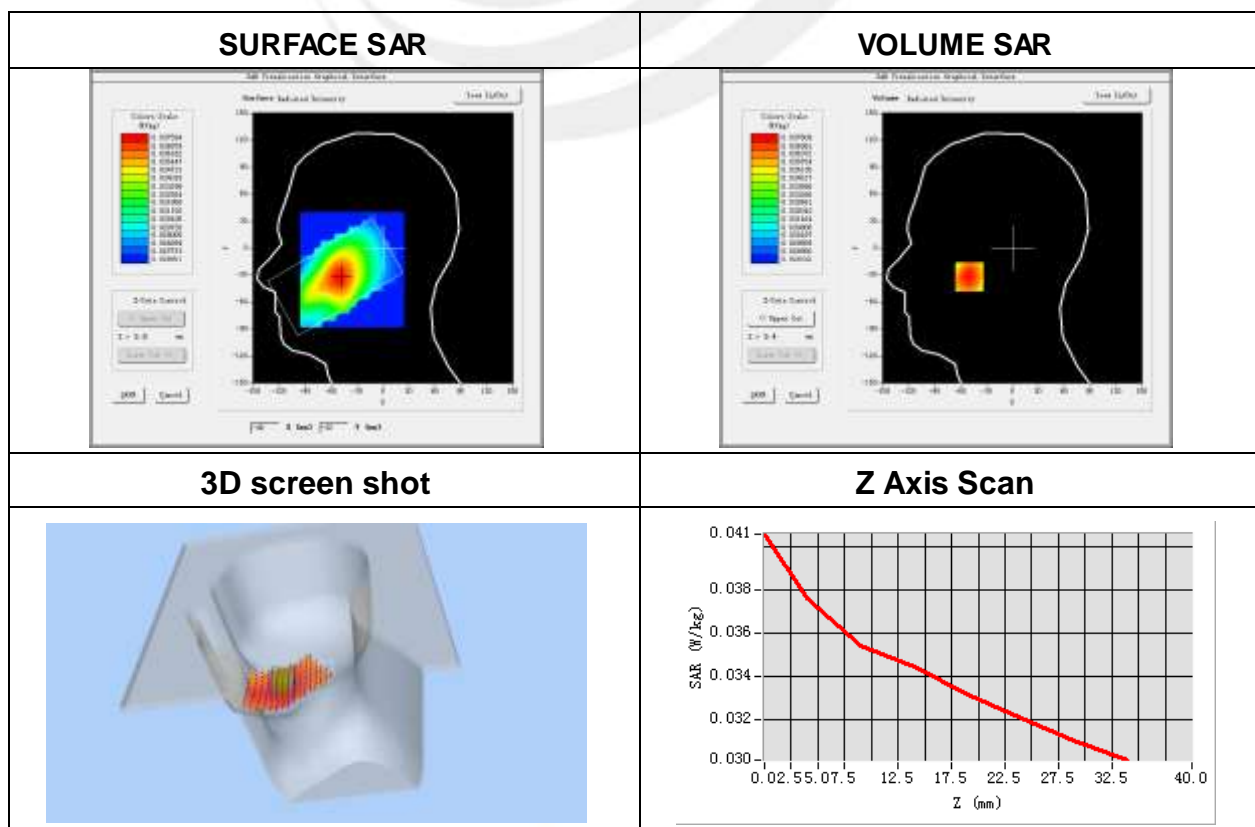
**Plot 65: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.53
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Cheek
Band	LTE Band 17 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	710
Relative permittivity (real part)	41.2
Conductivity (S/m)	0.91
Variation (%)	-0.16

Maximum location: X=-50.00, Y=-32.00

SAR Peak: 0.04 W/kg

SAR 10g (W/Kg)	0.035598
SAR 1g (W/Kg)	0.038178



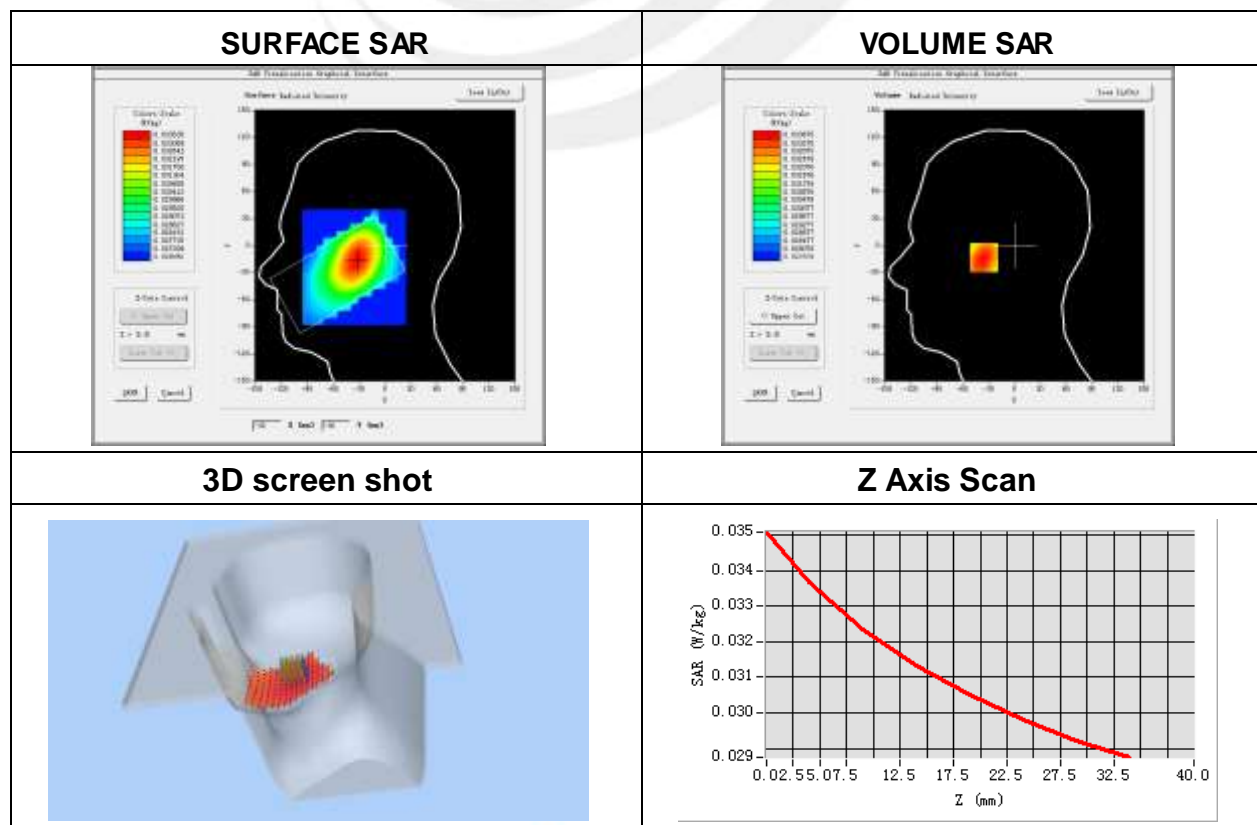
**Plot 66: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.53
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Right head
Device Position	Tilt
Band	LTE Band 17 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	710
Relative permittivity (real part)	41.2
Conductivity (S/m)	0.91
Variation (%)	0.03

Maximum location: X=-32.00, Y=-13.00

SAR Peak: 0.04 W/kg

SAR 10g (W/Kg)	0.022422
SAR 1g (W/Kg)	0.034184



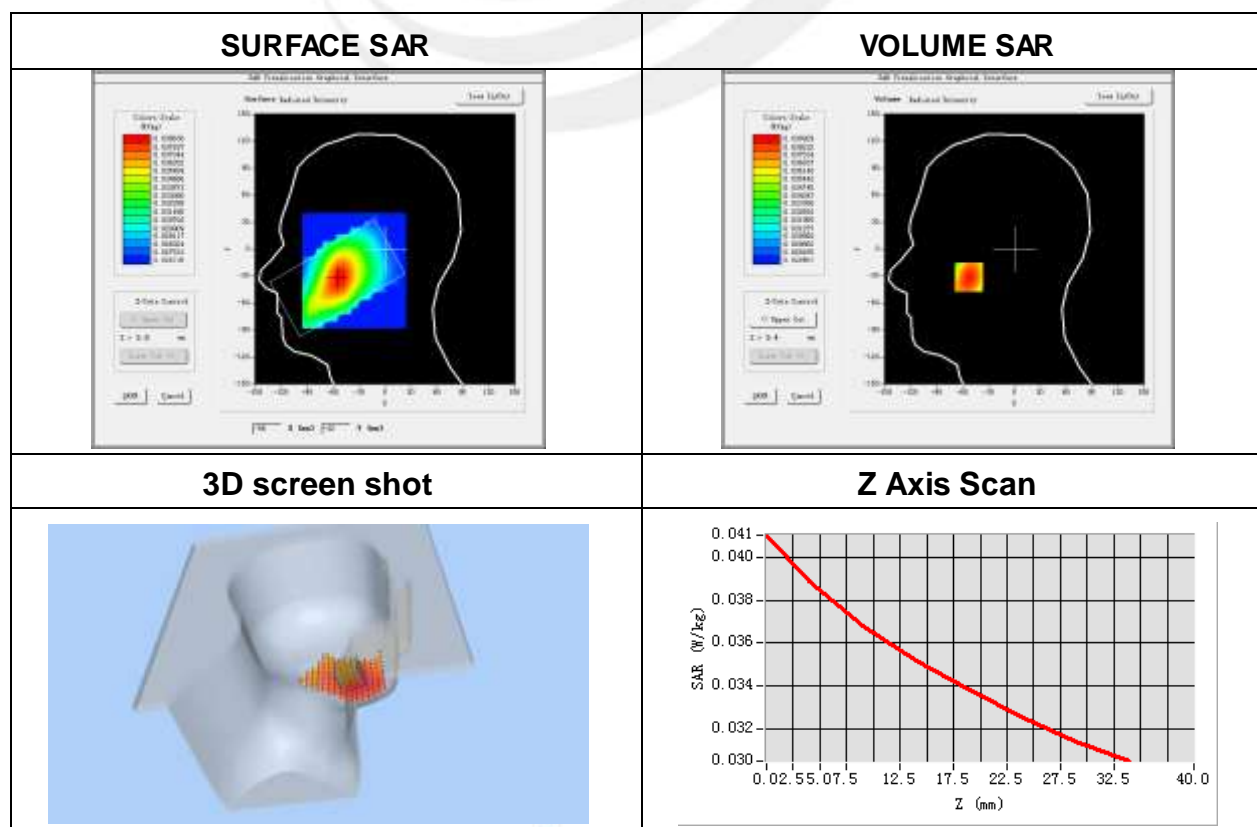
**Plot 67: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.53
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Cheek
Band	LTE Band 17 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	710
Relative permittivity (real part)	41.2
Conductivity (S/m)	0.91
Variation (%)	-0.05

Maximum location: X=-53.00, Y=-31.00

SAR Peak: 0.04 W/kg

SAR 10g (W/Kg)	0.036512
SAR 1g (W/Kg)	0.039348



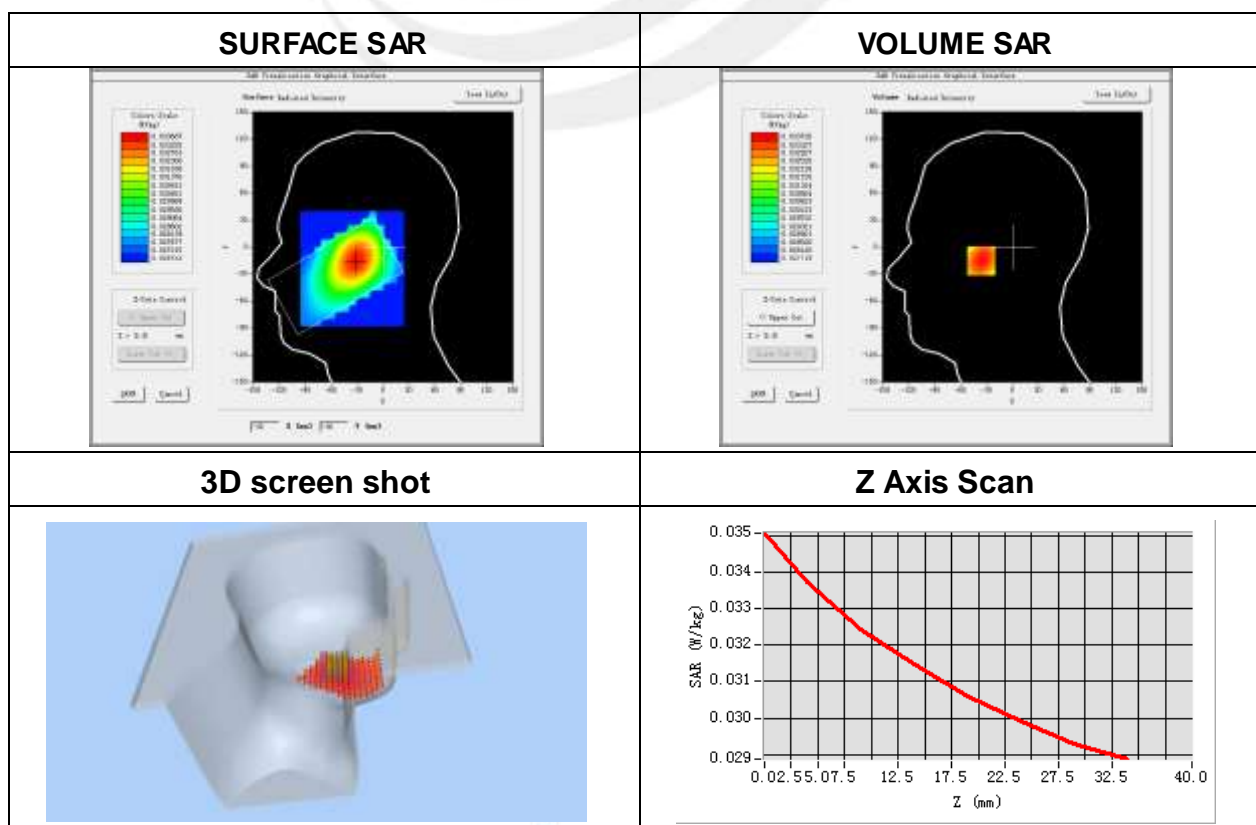
**Plot 68: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.53
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Left head
Device Position	Tilt
Band	LTE Band 17 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	710
Relative permittivity (real part)	41.2
Conductivity (S/m)	0.91
Variation (%)	-0.05

Maximum location: X=-32.00, Y=-15.00

SAR Peak: 0.04 W/kg

SAR 10g (W/Kg)	0.022489
SAR 1g (W/Kg)	0.034202





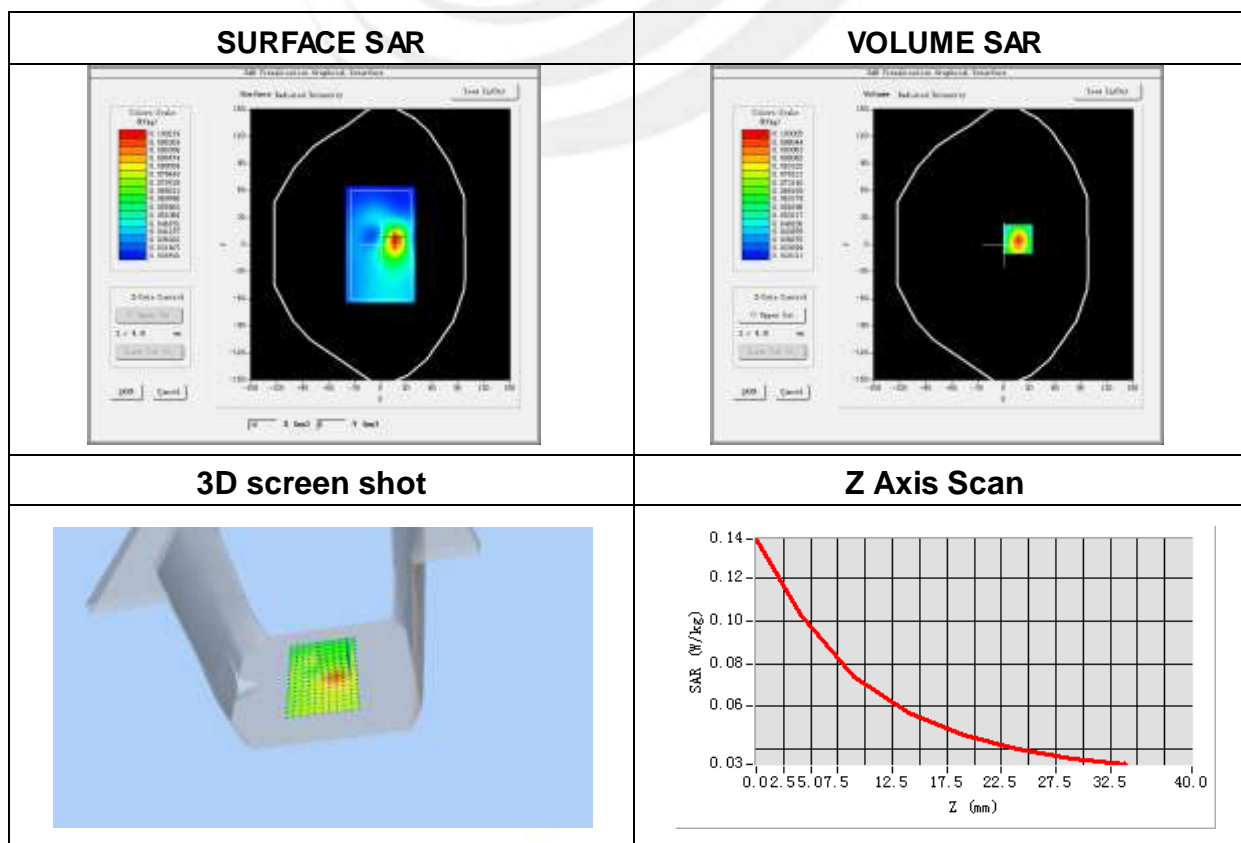
**Plot 69: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.70
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body front
Band	LTE Band 17 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	710
Relative permittivity (real part)	55.26
Conductivity (S/m)	0.91
Variation (%)	0.07

Maximum location: X=17.00, Y=6.00

SAR Peak: 0.14 W/kg

SAR 10g (W/Kg)	0.067680
SAR 1g (W/Kg)	0.099867



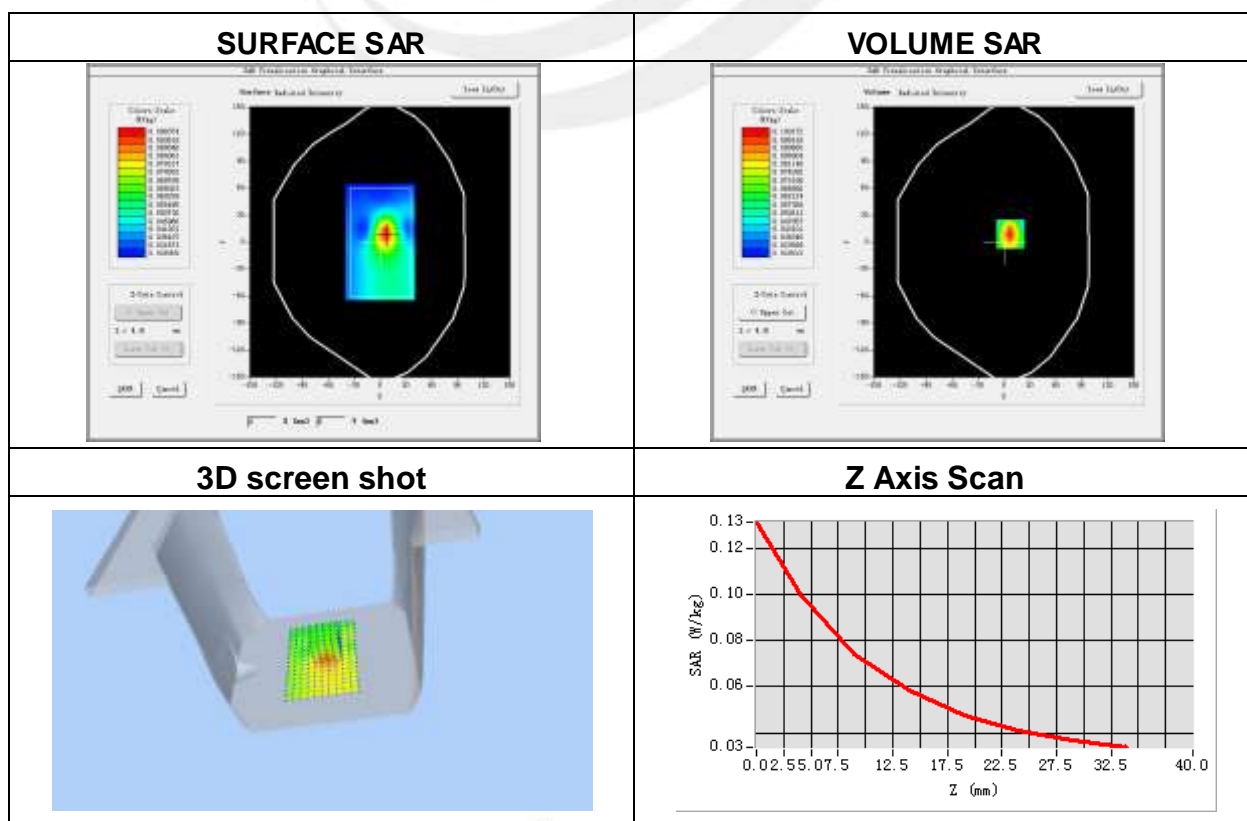
**Plot 70: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.70
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body back
Band	LTE Band 17 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	710
Relative permittivity (real part)	55.26
Conductivity (S/m)	0.91
Variation (%)	-0.28

Maximum location: X=7.00, Y=9.00

SAR Peak: 0.13 W/kg

SAR 10g (W/Kg)	0.067689
SAR 1g (W/Kg)	0.097624



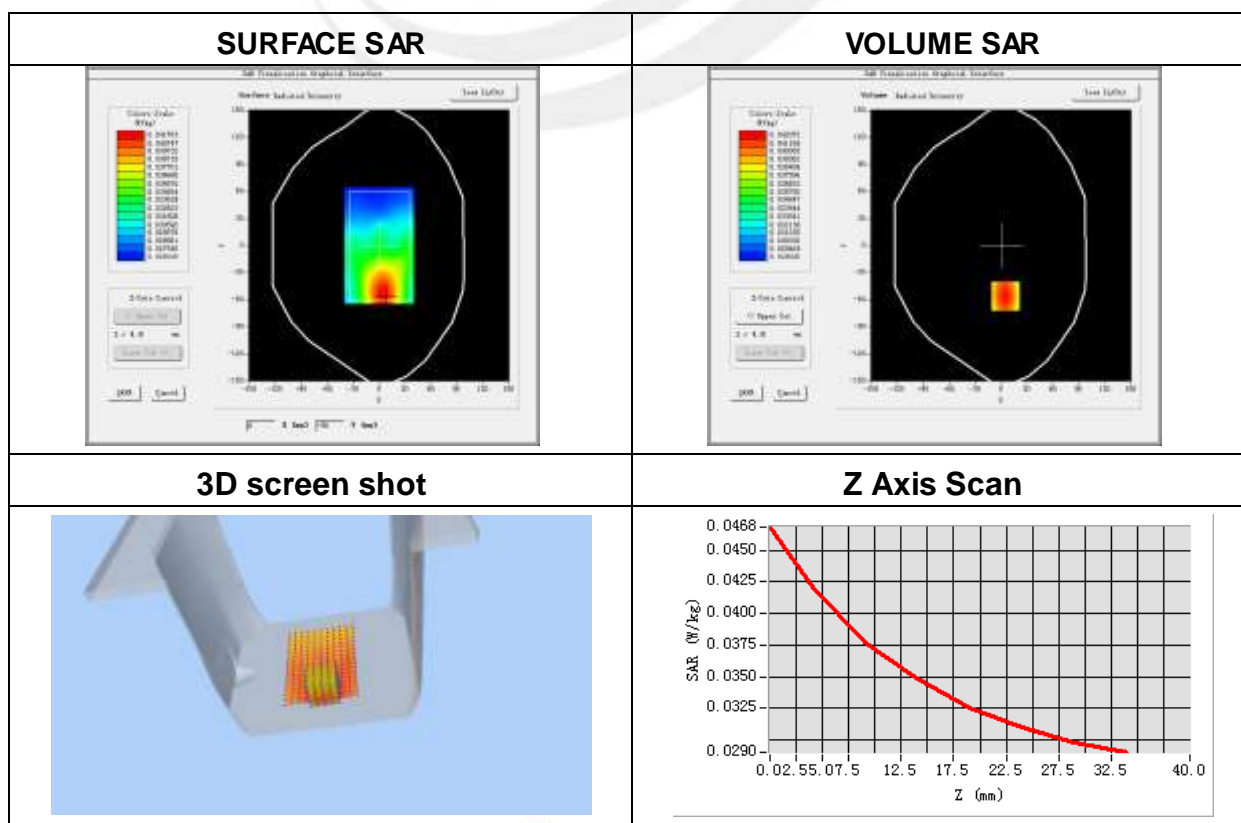
**Plot 71: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.70
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body left side
Band	LTE Band 17 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	710
Relative permittivity (real part)	55.26
Conductivity (S/m)	0.91
Variation (%)	-0.16

Maximum location: X=5.00, Y=-56.00

SAR Peak: 0.05 W/kg

SAR 10g (W/Kg)	0.037529
SAR 1g (W/Kg)	0.042332



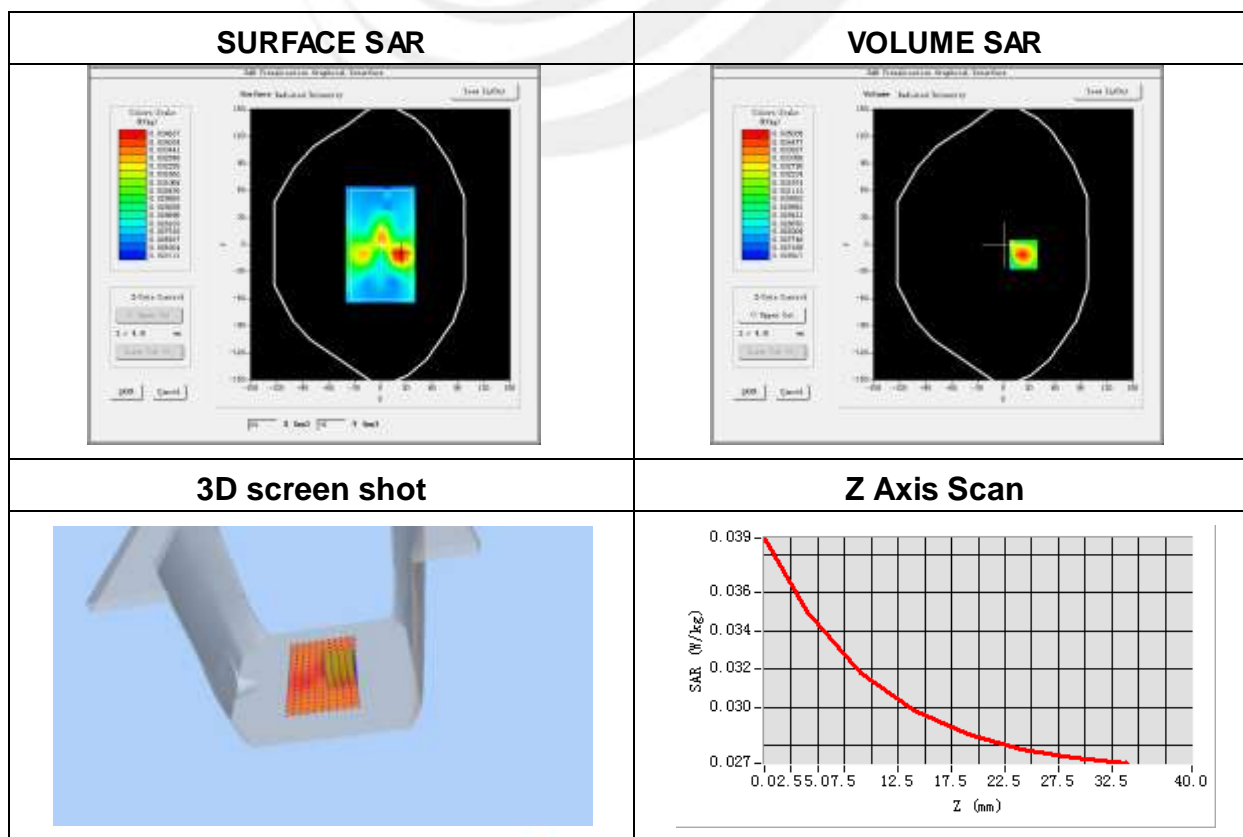
**Plot 72: DUT: 4G smart phone; EUT Model: UNO**

Test Data	2015-12-18
Ambient Temperature(°C)	22.70
Liquid Temperature(°C)	22.30
Probe	SN 17/14 EP221
ConvF	4.70
Area Scan	dx=8mm dy=8mm, h= 5.00 mm
ZoomScan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete/ndx=8mm dy=8mm, h= 5.00 mm
Phantom	Validation plane
Device Position	Body bottom side
Band	LTE Band 17 (RB 1)
Channels	Middle
Signal	LTE (Crest factor: 1.0)
Frequency (MHz)	710
Relative permittivity (real part)	55.26
Conductivity (S/m)	0.91
Variation (%)	-0.04

Maximum location: X=23.00, Y=-11.00

SAR Peak: 0.04 W/kg

SAR 10g (W/Kg)	0.021497
SAR 1g (W/Kg)	0.035434





## Appendix C. Probe Calibration And Dipole Calibration Report

Refer the appendix Calibration Report.

※※※※END OF THE REPORT※※※※

